



|         |                    |                              |              |          |
|---------|--------------------|------------------------------|--------------|----------|
| Section | Applicable Model/s | Subject                      | Bulletin No. | 001/00   |
| 00      | Multi              | TECHNICAL ASSISTANCE HOTLINE | Issued       | 11/20/00 |
|         |                    |                              | Revised      |          |

## BULLETIN NOTE

- This bulletin supersedes AD-002/97, issued 02/18/97. The toll free number for Midwest dealers (formerly known as Mazda Great Lakes) has been changed and a new Menu Selection has been added.

## APPLICABLE MODEL(S)/VINS

All models.

## DESCRIPTION

Mazda North American Operations has established a single toll free phone number to provide technical assistance in support of "Fix It Right The First Time." This toll free number is available nationwide to all Mazda dealer service departments. It also replaces the Midwest dealers (formerly known as Mazda Great Lakes) technical assistance phone number. Please be sure to review the following information before contacting the hotline.

### The Number

- (888) TEC-TIPS (832-8477)

### Note

- "888" is a toll free area code.

### Menu Selections

- Press:
  - To leave a voice-mail message to close an open file.
  - To speak to an English Speaking Technical Specialist.
  - To speak to a Spanish Speaking Technical Specialist.
  - (NEW) To obtain WDS Diagnostic Information.

### Note

- You may press your selection at any time during the introduction greeting.

### Time Available

- Monday through Friday, 6:00am to 5:00pm PST.

## IMPORTANT STEPS TO FOLLOW BEFORE CONTACTING THE TECHNICAL ASSISTANCE HOTLINE

- Perform related Workshop Manual diagnostic procedures and check related:
  - Service Bulletins
  - Electronic Service Information (ESI)
  - M-Tips On-Line information
  - Warranty history for previous related repair attempts
  - Special Service Messages
  - M-Tips News Letter articles
- Record all applicable specifications and have this information available for the Technical Hotline Specialist.

### EXAMPLES:

- Diagnostic Trouble Codes (DTCs)
- Parameter Identification Data (PID)

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.

**061081**

PAGE 1 OF 2

|                            |                              |                 |
|----------------------------|------------------------------|-----------------|
| <b>Number: 00 - 001/00</b> | <b>Date Issued: 11/20/00</b> | <b>Revised:</b> |
|----------------------------|------------------------------|-----------------|

- LA4A-EL Transmission Identification Number
- System Voltage/Resistance
- Freeze Frame Data
- Simulation Tests
- Automatic Transmission Diagnostic Sheet

#### **WHEN CONTACTING THE TECHNICAL ASSISTANCE HOTLINE**

Be prepared to provide the following information:

- Prior Reference Number (if available)
- Vehicle Identification Number (VIN)
- Dealer Code
- Current Vehicle Mileage
- Customer Concern/Symptoms/Conditions
- Results and Specification from Diagnostic Attempts
- Previous Repair Attempt Information

#### **CONTINUOUS IMPROVEMENT ACTIVITIES**

As part of our Continuous Improvement Activities, we have initiated a call quality follow-up phone survey. This survey is conducted three to five days after your initial call to the Hotline. You may be asked nine short questions on how your initial call was handled. These calls are made on a random basis, so you will not be surveyed on every call you make to the Hotline. Your input is very important to us and we will use it to improve the services that we provide.

Remember, the technical assistance hotline is established to HELP you "FIX IT RIGHT THE FIRST TIME." Technical assistance is available to authorized Mazda Dealer Technicians and Service Managers ONLY. This hotline is not for customer, parts, sales or warranty department personnel inquiries. Adhesive labels containing the Technical Assistance Hotline number are attached to this bulletin. Place one of these labels on or near each phone in the service department area.

## SAFETY-RELATED VEHICLE RECALLS

Vehicle manufacturers are required to mail a recall notice to all purchasers, owners and dealers when a safety defect or noncompliance with Federal safety standards is found.

This notice identifies the year, make, engine(s) and other information related to the vehicle(s) involved with this recall, along with a brief description of the problem, and other pertinent information. Not all vehicles of a particular year, make and model may be subject to the recall. Contact the manufacturer or one of the manufacturer's dealers with any questions regarding this recall.

### RECALL NOTICE SUMMARY

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Manufacturer: MAZDA NORTH AMERICAN OPERATIONS  
Campaign Number, Case: 00E069000,  
Defect Report:  
Recall Initiator: MFR  
Dates:  
Date Owner Notified: 1/12/2001  
Vehicles: 1992-1995 MAZDA RX7  
No. Vehicles Recalled: 80  
Noncompliance: EQUIPMENT DESCRIPTION: MAZDA SPEED RESINOUS HOODS, DESIGNED AND SOLD AS ACCESSORY PARTS FOR MODEL YEAR 1992-1995 RX7 VEHICLES, MANUFACTURED BETWEEN JUNE 1, 1997, THROUGH SEPTEMBER 19, 2000.  
Consequence: A HOOK ON A HOOD STRIKER FOR THE RESINOUS HOOD MAY SEPARATE FROM A BASE PLATE AT THE WELDED PORTION DUE TO INSUFFICIENT WELDING STRENGTH. THE HOOD MAY SUDDENLY OPEN DURING OPERATION, LOSING FRONT VISIBILITY, POSSIBLY RESULTING IN A VEHICLE CRASH.  
Corrective Action: MAZDA WILL NOTIFY THE RX7 VEHICLE CUSTOMERS TO BRING THEIR VEHICLE TO A MAZDA DEALER TO HAVE THE HOOD STRIKER REPLACED WITH A MODIFIED ONE.

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This recall summary reflects information submitted by the vehicle manufacturer. While it is an accurate reflection of the information submitted, the NHTSA and/or the vehicle manufacturer may make changes at any time. No warranty, expressed or implied, is made as to its accuracy or completeness, nor is any responsibility assumed by Tecfacts Services, LLC. for loss, damages (direct or indirect). consequential or compensatory, including without limitation, lost profits, breaches or defaults caused by reliance on the information in this summary.

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January 2001

**1993 - 1995 RX-7  
Mazdaspeed Carbon Fiber Hood  
[Recall #0100L]**

**TO:** All Mazda Dealers

**ATTENTION:** All General Managers, Service Managers, and Parts Managers

**SUBJECT:** Recall Campaign #0100L  
1993 -1995 RX-7 with Mazdaspeed Carbon Fiber Hood

Dear Mazda Dealer:

Mazda Motor Corporation has determined that a defect, which relates to motor vehicle safety, exists in certain 1993 through 1995 model year Mazda RX-7 vehicles accessorized with the Mazdaspeed Carbon Fiber Hood. **Only vehicles that had the original factory-equipped hood replaced with the accessory Mazdaspeed Carbon Fiber Hood are affected.** Originally equipped, factory-installed hoods are *not* included in this campaign.

On vehicles equipped with the accessory Mazdaspeed Carbon Fiber Hood, it was determined that the striker (a component of the hood that secures it to the vehicle's latch) may separate due to insufficient welding strength. In the worst case, the hood may suddenly open while driving and could result in a loss of front visibility.

Mazda has decided to conduct a recall campaign on the subject vehicles to replace the hood striker with a modified hood striker.

Owners will be notified by mail on January 12, 2001. Detailed information regarding this recall campaign is provided in Attachment I. The replacement procedure is provided in Attachment II. The owner notification letter is provided in Attachment III.

The National Traffic and Motor Vehicle Safety Act prohibits selling or leasing any subject vehicles without performing the necessary repair for defects or failures. Therefore, you must complete this recall for all vehicles in your inventory prior to sale or lease.

Please make certain that the appropriate personnel in your dealership are familiar with the details of this recall campaign before responding to customer inquiries. Should you have any questions please contact the Warranty Hotline at 800-662-6779.

We apologize for any inconvenience that this program may cause you and your customers. Your understanding and support in carrying out this campaign is greatly appreciated.

Sincerely,

MAZDA NORTH AMERICAN OPERATIONS



ATTACHMENT I

**1993 - 1995 RX-7  
Mazdaspeed Carbon Fiber Hood  
[Recall #0100L]**

**CONDITION OF CONCERN**

On vehicles equipped with the accessory Mazdaspeed Carbon Fiber Hood, it was determined that the striker (a component of the hood that secures it to the vehicle's latch) may separate due to insufficient welding strength. In the worst case, the hood may suddenly open while driving and could result in a loss of front visibility.

**SUBJECT VEHICLES**

| Model            | VIN Range                   |
|------------------|-----------------------------|
| 1993 - 1995 RX-7 | JM1FD33***0 200001 - 999999 |

Note: The asterisk symbol "\*" can be any letter or number.

**OWNER NOTIFICATION**

Owners of affected vehicles will be notified by mail on January 12, 2001.

**PARTS INFORMATION**

| Part Description              | Part Number       | Quantity |
|-------------------------------|-------------------|----------|
| Mazdaspeed Striker Repair Kit | N/A               | 1        |
| Campaign Label                | 9999-95-065A - 00 | 1        |

Due to a limited number of accessory hoods needing the modified striker, there are sixteen (16) Mazdaspeed Striker Repair Kits available. To order a repair kit, please obtain the vehicle identification number (VIN) and contact Mazda Motor Sports at (800) 435-2508.

Note: Mazdaspeed parts are only available by calling Mazda Motor Sports. Should you need assistance, please contact Mazda Motor Sports directly.

Campaign labels are supplied at no charge and are available in 8 1/2" X 11" sheets containing 18 labels. Please use M-Net for ordering additional labels.

**WARRANTY CLAIM PROCESSING INFORMATION**

|                        | Inspection and Repair |
|------------------------|-----------------------|
| Process Number         | A0247H                |
| Warranty Type Code     | 99                    |
| Damage Code            | 99                    |
| Part Number Main Cause | 5555-00-016A          |
| Quantity               | 0                     |
| Labor Operation Code   | XX240XRX              |
| Labor Hours            | 1.0 hr.               |

Note: There is no warranty reimbursement for inspection of the vehicle to determine if a carbon fiber hood has been installed.

**REPAIR PROCEDURES**

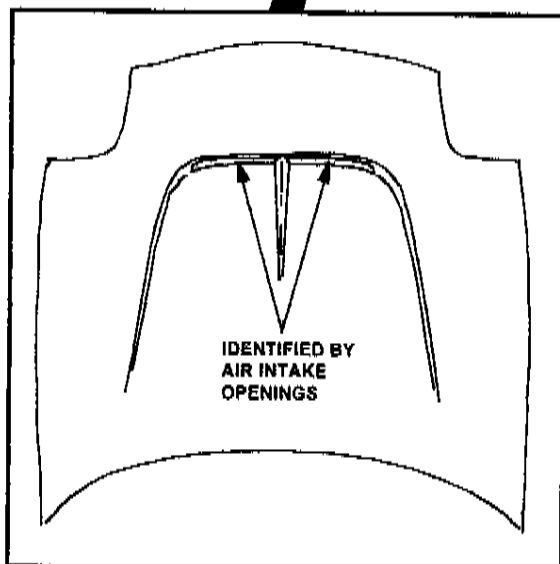
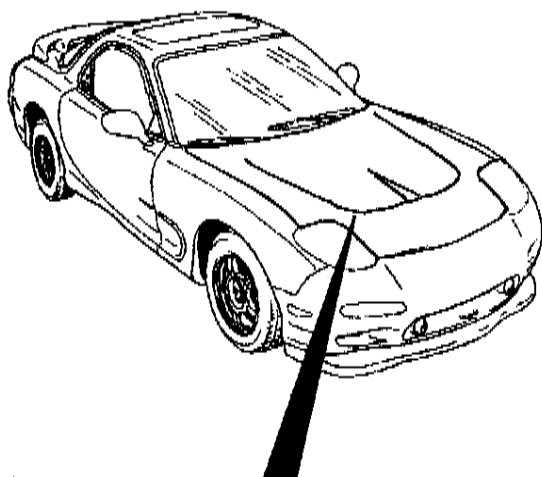
Refer to Attachment II.

1993-95 RX-7 MAZDASPEED CARBON FIBER HOOD (RECALL #0100L)

**A. VEHICLE INSPECTION PROCEDURE**

1. Verify that the vehicle has a MAZDASPEED HOOD using the illustration below.

**MAZDASPEED HOOD**

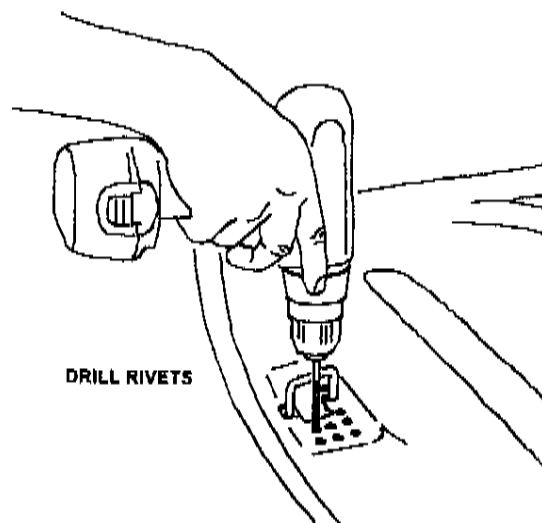


- If the vehicle **does not** have a MAZDASPEED HOOD, this campaign does not apply and no repair work is necessary. Return the vehicle to the customer or inventory.
- If the vehicle **does** have a MAZDASPEED HOOD, proceed to "B. REPAIR PROCEDURE."

**B. REPAIR PROCEDURE**

1. Remove the hood according to the Workshop Manual (Section S).
2. Lay the hood upside down on a clean blanket.
3. Locate the striker on the hood and cover the opening with masking tape. This will prevent aluminum shavings from falling inside the hood area while performing STEP 4.

4. Using the provided 4-mm drill bit (5/32"), drill off (2-3 mm) from the top of each rivet. It is not necessary to drill through the rivet.

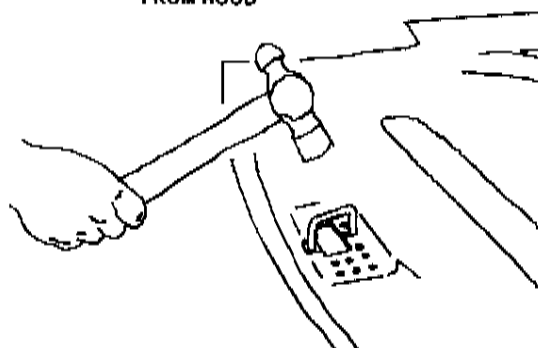


5. Using a ball-peen hammer, hit the striker a few times until it separates from the hood. Remove the masking tape and the striker.

**Note**

- The striker is epoxied onto the hood. A portion of the hood material may peel off together with the striker. Do not remove the material by force, but detach it by inserting a small screwdriver or scraper between the striker and the hood.

**USE HAMMER TO LOOSEN STRIKER FROM HOOD**



6. Using the sandpaper provided in the kit, sand the inside of the hood, where the striker was removed.

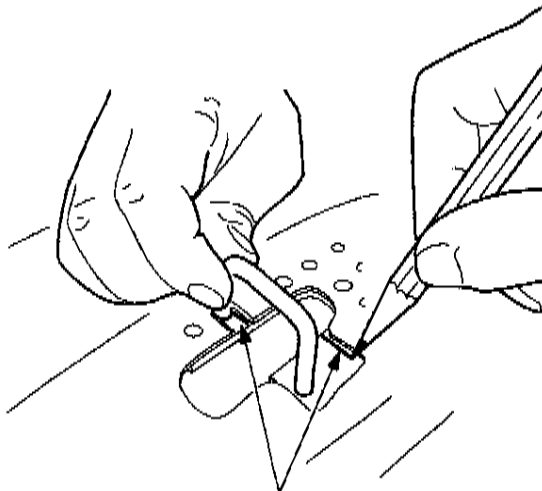
**Caution**

- **The inside of the hood is sharp. Be careful not to cut your hand.**

7. Using a shop vacuum, clean any debris and aluminum shavings from inside of the striker area.
8. Temporarily install the new striker onto the hood and align the holes on the striker to the holes on the

**1993-95 RX-7 MAZDASPEED CARBON FIBER HOOD (RECALL #0100L)**

hood. Then mark (using a grease pencil) the location per the following illustration.

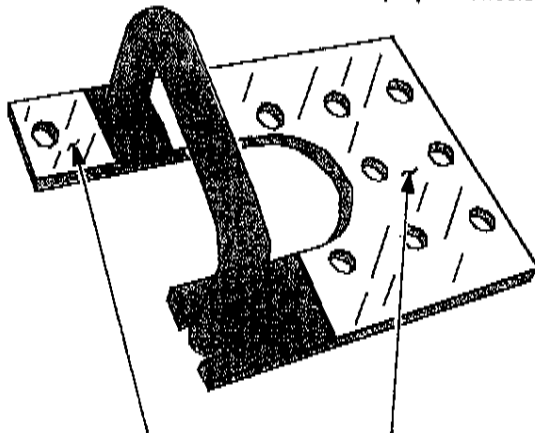


**PLACE MARKS ON STRIKER BASE FOR PROPER ALIGNMENT**

- Remove the striker and sand off the paint in the areas illustrated.

**Note**

- Be sure to sand to the metal for proper adhesion.



**SANDED AREAS ON STRIKER BASE**

- Retrieve the provided epoxy resin (large container) and the hardener (small container).
- Pour all of the contents of the hardener into the Epoxy Resin container and mix it well using the mixing stick provided in the kit.

**Caution**

- Be sure to work in a well-ventilated area.
- In case of eye contact, immediately flush with a large quantity of water, then get medical attention.
- Any spills on the skin should immediately be wiped off, then washed off with a large quan-

ty of water and soap. Lukewarm water may be used instead of cold water.

**Note**

- Mix the epoxy until it become soft. If bubbles develop during stirring, remove them by lightly tapping the bottom of the container against a hard surface.

- Apply an even layer of 1.5mm thick epoxy onto the sanded surface of the striker, then immediately install the striker to the hood.

**Note**

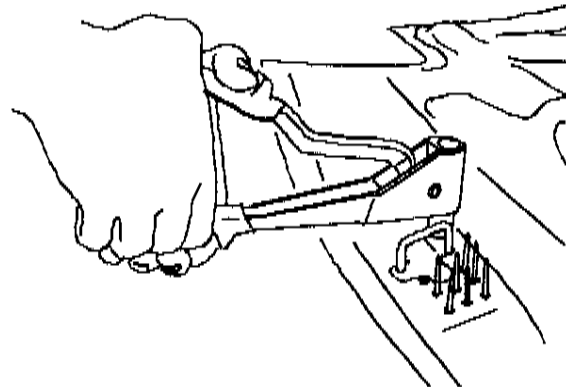
- Before applying the epoxy onto the striker, be sure the surface is clean from hand oils and debris.

- Install and collapse all nine (9) rivets.

**Note**

- First collapse the rivets closest the striker.

**COLLAPSE RIVETS STARTING CLOSEST TO STRIKER**



- Clean off any excess epoxy.

**Note**

- Allow the epoxy to dry 24 hours with hood upside down.

- Reinstall hood and check for proper operation. If necessary, adjust the latch according to the Workshop Manual.

- Properly dispose of all unused epoxy. Proceed to "C. AUTHORIZED MODIFICATION LABEL INSTALLATION."

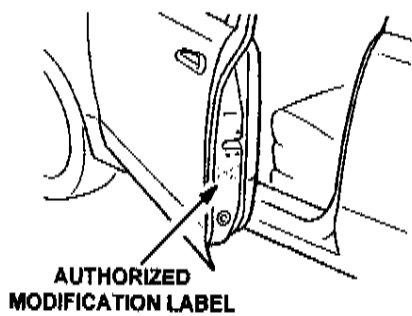
**C. AUTHORIZED MODIFICATION LABEL INSTALLATION**

- Complete an "Authorized Modification Label" with the recall number written on the sticker and affix it to driver's side door under the door latch.

**1993-95 RX-7 MAZDASPEED CARBON FIBER HOOD (RECALL #0100L)**

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Refer to illustration below.



ATTACHMENT III  
January 2001

**1993 - 1995 RX-7  
Mazdaspeed Carbon Fiber Hood  
[Recall #0100L]**

Dear Mazda Owner:

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

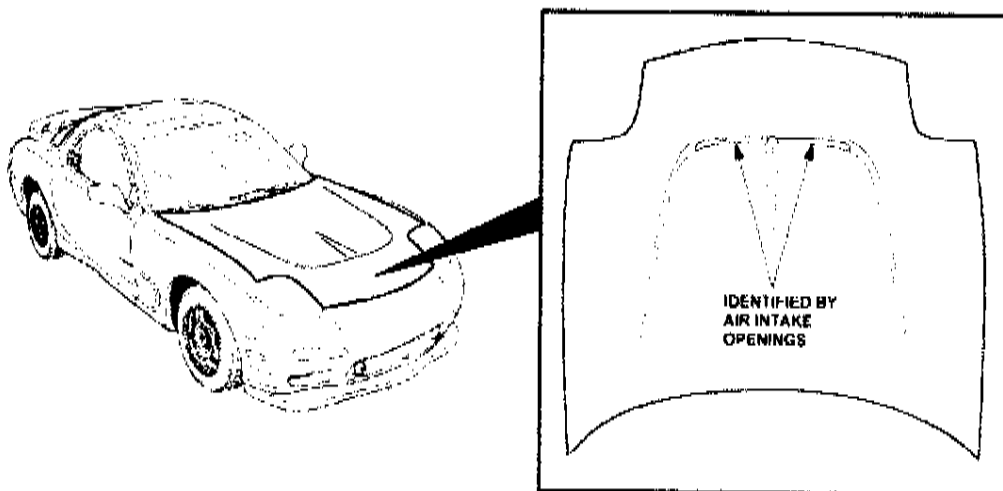
Mazda Motor Corporation has determined that a defect, which relates to motor vehicle safety, exists in certain 1993 through 1995 model year Mazda RX-7 vehicles accessorized with the Mazdaspeed Carbon Fiber Hood. **Only vehicles that had the original factory-equipped hood replaced with the accessory Mazdaspeed Carbon Fiber Hood are affected.** Originally equipped, factory-installed hoods are *not* included in this campaign.

**What is the problem?**

On vehicles equipped with the accessory Mazdaspeed Carbon Fiber Hood, it was determined that the striker (a component of the hood that secures it to the vehicle's latch) may separate due to insufficient welding strength. In the worst case, the hood may suddenly open while driving and could result in a loss of front visibility.

**How to Identify the Mazdaspeed Carbon Fiber Hood?**

Please reference the picture below to identify the Mazdaspeed Carbon Fiber Hood. In addition, a Mazdaspeed identification label is affixed underneath the hood. If you are still not sure that your hood is the Mazdaspeed Carbon Fiber Hood accessory, please contact your local Mazda dealer for verification.



**What will Mazda do?**

Your Mazda dealer will inspect and replace the hood striker with a modified one. This repair will be done at **no cost to you**. This inspection and repair should take approximately 1.0 hour to complete, however, this repair includes an application of epoxy that requires an additional 24 hours of curing time. Please allow one day for the repair.

**What should you do?**

Please make an appointment with any authorized Mazda dealer to have your vehicle inspected and repaired if you have the Mazdaspeed Carbon Fiber Hood accessory. You do not need to bring this notice to the dealer, but it may assist in the check-in process.

**Where is the closest Mazda dealer?**

To locate your nearest Mazda dealer, visit our web site and try our on-line dealer locator at [www.mazdausa.com/dealers](http://www.mazdausa.com/dealers) or consult your local yellow pages.

**Moved or no longer own this vehicle?**

If you have moved or no longer own your Mazda vehicle, it is customary for the current owner of record to be responsible for completing the enclosed "Change of Address/Ownership" prepaid postcard, so that we may update our records. Your cooperation and timely response would be greatly appreciated.

If you are the lessor of a subject Mazda vehicle, we strongly encourage you to forward this recall notification to the lessee, as it is critical that the current driver of the vehicle is notified of the recall program.

**Still have questions?**

If you have any questions regarding this campaign, please contact our Customer Assistance Center at (800) 222-5500.

If Mazda or its dealers do not repair the defect free of charge and within a reasonable amount of time, you may notify the Administrator of the National Highway Traffic Safety Administration, Washington, D.C. 20590. You may also call their toll-free Auto Safety Hotline at (888) 327-4236.

Your safety is a priority for Mazda. We actively work to improve our products and search for solutions to improve your ownership experience. Please accept our apologies for any inconvenience this program may have caused you.

Sincerely,

Mazda North American Operations

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                                  |                                                                                |                     |
|----------------|----------------------------------|--------------------------------------------------------------------------------|---------------------|
| Category<br>AD | Applicable Model/s<br>All Models | Subject<br>RECALL CAMPAIGN AND SPECIAL SERVICE<br>PROGRAM SERVICE REQUIREMENTS | Bulletin No. 002/96 |
|                |                                  |                                                                                | Issued 05/15/96     |
|                |                                  |                                                                                | Revised             |

## IMPORTANT NOTIFICATION

The following requirements pertain to all Recall Campaigns and Special Service Programs (SSP). Please ensure that dealer personnel responsible for performing these functions are also aware of these requirements.

**1. Dealers are required to perform all applicable Recall Campaign and SSP repairs to inventory vehicles or replacement parts prior to customer delivery through sale or lease.**

- Under the National Traffic and Motor Vehicle Safety Act and other Federal and State laws, if there has been a recall campaign, dealers must assure that all new vehicles and items or replacement equipment are free of safety defects and comply with applicable Federal Motor Vehicle Safety and Emission Standards at the time of delivery to the customer. These requirements are also applicable to all used vehicles.
- This does not prohibit offering for sales or lease such vehicles or items of equipment.

**2. Dealers must attach an "AUTHORIZATION NOTIFICATION" label to the designated location when Recall Campaign and SSP repairs are completed.**

- In most recall campaigns, Federal or State law requires attaching an "Authorization Modification" (Recall Completion) label to a designated location on the vehicle for future reference.
- Dealers must complete the label with necessary information (Campaign Number, Dealer Code and Repair Date). Refer to the label below.
- Failure to follow this requirement will result in dealer violation of Federal and State laws.
- These labels are available from Helm, Inc.

|                                |       |
|--------------------------------|-------|
| <b>AUTHORIZED MODIFICATION</b> |       |
| CAMPAIGN NO:                   | _____ |
| DEALER CODE:                   | _____ |
| DATE:                          | /  /  |
| P/N 9999-95-085A-00            |       |

060057

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

# Service Bulletin

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7755 Irvine Center Drive  
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|                |                                  |                                         |                     |
|----------------|----------------------------------|-----------------------------------------|---------------------|
| Category<br>AD | Applicable Model/s<br>All Models | Subject<br>TECHNICAL ASSISTANCE HOTLINE | Bulletin No. 002/97 |
|                |                                  |                                         | Issued 02/18/97     |
|                |                                  |                                         | Revised             |

## DESCRIPTION

Mazda Motor of America, Inc. has established a single toll free phone number to provide technical assistance in support of **"Fix It Right The First Time."** The toll free number is available nationwide to all Mazda dealer service departments and replaces the previous technical assistance phone numbers.

## The Number

- The new number is: **(888) TEC-TIPS (832-8477)** Effective February 24, 1997

**NOTE:** Toll free area code is "888."

This Technical Assistance Hotline number does not apply to the dealers within the Mazda Great Lakes Distributorship. Those dealers in this area should continue to call 1-800-748-0044.

## Time Available

- Hotline Assistance is available Monday through Friday, 8:30am to 5:00pm within your region.

## IMPORTANT STEPS PRIOR TO CONTACTING THE TECHNICAL ASSISTANCE HOTLINE

1. Perform related workshop manual diagnostic procedures and check for related:

*Service Bulletins*

*Special Service Messages*

*M-Tips On-Line information*

*M-Tips News Letter articles*

*Warranty history for previous related repair attempts*

2. Record all applicable specifications and have this information available for the Technical Hotline Specialist.

### EXAMPLES:

*Diagnostic Trouble Codes (DTCs)*

*Freeze Frame Data*

*Parameter Identification (PID)*

*Simulation Tests*

*LA4A-EL Transmission Identification Number*

*Automatic Transmission Diagnostic Sheet*

*System Voltage/Resistance*

## WHEN CONTACTING THE TECHNICAL ASSISTANCE HOTLINE

Provide the following information:

*Vehicle Identification Number (VIN)*

*Current Vehicle Mileage*

*Customer Concern/Symptoms/Conditions*

*Previous Repair Attempt Information*

*Results and Specification from Diagnostic Attempts*

Remember, the technical assistance hotline is established to **HELP** you **"FIX IT RIGHT THE FIRST TIME."** Technical assistance is available to authorized Mazda Dealer Technicians and Service Managers **ONLY**. This hotline is not for customer, parts, sales or warranty department personnel inquiries.

Adhesive labels containing the Technical Assistance Hotline number (excluding the Great Lakes area) are attached to this bulletin. Place one of these labels on or near each phone in the service department area.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.





# Service Bulletin

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7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                                 |                                      |                     |
|----------------|---------------------------------|--------------------------------------|---------------------|
| Category<br>AD | Applicable Model/s<br>1993 RX-7 | Subject<br>OWNER'S MANUAL CORRECTION | Bulletin No. 003/93 |
|                |                                 |                                      | Issued 3/8/93       |
|                |                                 |                                      | Revised             |

## AFFECTED VINS

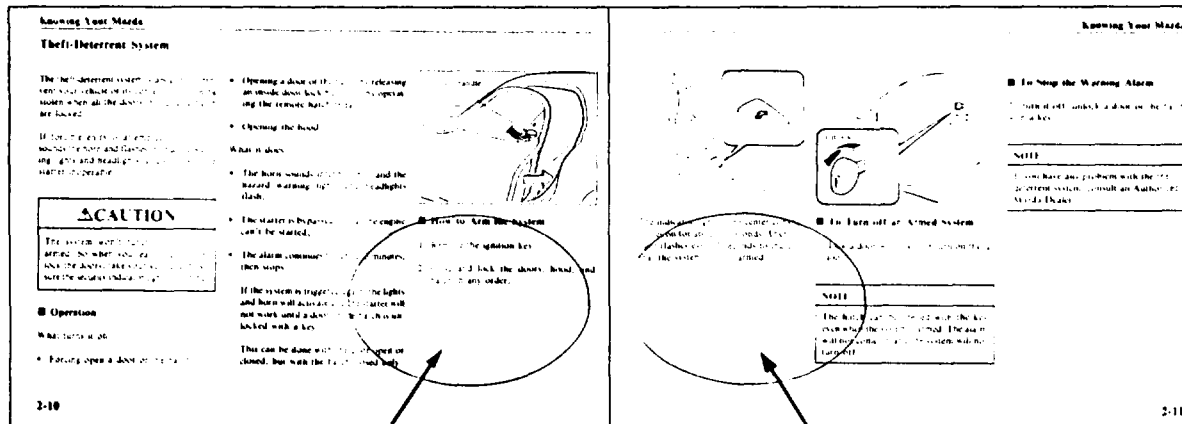
This bulletin applies to 1993 RX-7 models with a VIN of JM1FD331 ♦ P0207440 or lower.

This bulletin does not apply to 1993 RX-7 models with a VIN equal to or greater than of JM1FD331 ♦ P0207441.

## DESCRIPTION

If your dealership is servicing a 1993 RX-7 that is within the applicable VIN range (see above), update the owner's manual by attaching the correction stickers on pages 2-10 and 2-11. These stickers reflect revised Theft-Deterrent System information.

Attach the correction sticker on the affected pages as shown below.



Attach correction sticker  
2-10 on this column.

Attach correction sticker  
2-11 on this column.

### NOTE:

- This bulletin contains correction stickers for one owner's manual. To order additional correction stickers, please fax your requirements to:

MAZDA MOTOR OF AMERICA, INC.  
SUPPORT SERVICES DEPT.  
ATTN: SERVICE PUBLICATIONS COORDINATOR  
FAX #: (714) 454-7010

List the correction bulletin number (shown on upper right hand portion of this page), category and quantity required. A limited supply of correction stickers are on hand. Orders will be filled on a first come, first serve basis. Allow 5 working days for delivery.

- Reproductions of the manual will be updated prior to printing. Manuals purchased from current inventory at Helm, Inc. will be supplied with the applicable correction stickers.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
Service Manager

Signature \_\_\_\_\_  
Parts Manager

Index # **033252**

### ■ How to Arm the System

For vehicles produced up to June 7, 1992 (VIN Range: up to JM1FD331 ♦ P0207440) the following procedures apply.

1. Stop engine.
2. Remove key from the ignition switch. See NOTE.
3. Open door. Exit vehicle.
4. Close and lock driver's side door. Passenger door and hatch will lock automatically.
5. Center console indicator light will light for 10 seconds, then will continue to flash every 3 seconds. The theft-deterrent system is armed.

**NOTE:**

If any of the doors, hood and/or hatch are opened prior to removing the key from the ignition switch, the theft-deterrent system will not arm. The following procedures should be done to arm the system:

- A. Stop engine.
- B. Remove key from the ignition switch.
- C. Open door. Exit vehicle.
- D. Close and lock driver's side door. Passenger door and hatch will lock automatically.
- E. Unlock and open driver's side door.
- F. Close and lock driver's side door.
- G. Center console indicator light will light for 10 seconds, then will continue to flash every 3 seconds. The theft-deterrent system is armed.

For vehicles produced after June 7, 1992 (VIN Range: from JM1FD331 ♦ P0207441), the theft-deterrent system will arm even if the doors, hood and/or hatch are opened prior to removing the key from the ignition switch. Likewise, the center console indicator light will light for 10 seconds, then will continue to flash every 3 seconds to indicate the system is armed.

# Service Bulletin

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7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                                  |                                       |              |          |
|----------------|----------------------------------|---------------------------------------|--------------|----------|
| Category<br>AD | Applicable Model/s<br>All Models | Subject<br>VEHICLE TOWING PRECAUTIONS | Bulletin No. | 003/96   |
|                |                                  |                                       | Issued       | 07/12/96 |
|                |                                  |                                       | Revised      |          |

## APPLICABLE MODELS

All Models

## DESCRIPTION

Vehicle towing **MUST** be performed according to a defined procedure listed in each model's owner's manual. Deviating from this procedure may cause internal transmission/transaxle damage. Currently the number of repairs occurring due to improper tow techniques has increased.

All related dealer personnel must be aware of the proper towing procedure and ensure that towing service providers follow the procedure when towing is necessary. Dealer personnel responsible for towing arrangements should provide a copy of the owner's manual instructions to towing service providers.

**NOTE:** Damage due to improper towing is not a warrantable repair.

060058

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                                  |                                              |                     |
|----------------|----------------------------------|----------------------------------------------|---------------------|
| Category<br>AD | Applicable Model/s<br>All Models | Subject<br>SPEEDOMETER REPLACEMENT PROCEDURE | Bulletin No. 003/97 |
|                |                                  |                                              | Issued 02/25/97     |
|                |                                  |                                              | Revised             |

## DESCRIPTION

In accordance with Federal regulations, follow the procedures listed below when replacing a speedometer.

### NOTE:

1. Mazda vehicles are manufactured with tamper-proof speedometers and the mileage can not be altered or adjusted.
2. When a speedometer is replaced, the new speedometer will read zero (0).
3. This procedure is extremely important to accurately represent actual vehicle mileage.
4. The "Speedometer Replacement Label" referenced below is available through the Mazda Program Center for a limited time. Mazda Motor of America, Inc. is providing 1 sheet of 20 labels with this bulletin.

## REPLACEMENT PROCEDURE

1. Remove and replace the speedometer according to the workshop manual.
2. Complete the following information on the "Speedometer Replacement Label."
  - Mileage before speedometer replacement.
  - Date of replacement.
  - Dealer code.
3. Attach the label to the driver's side "B" pillar.
4. Complete the "Speedometer Replacement Record" in the Warranty Information Booklet referenced below.

|                                                                                                                                                                                                                                                                                                |                                |                                        |                               |                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------|-------------------------------|--------------------|
| <table border="1"><tr><td><b>SPEEDOMETER REPLACEMENT</b></td></tr><tr><td>Mileage: _____<br/>(Before Replacement)</td></tr><tr><td>Date Replaced: ____/____/____</td></tr><tr><td>Dealer Code: _____</td></tr></table> <p>Complete Information and Install<br/>On Driver's Side "B" Pillar</p> | <b>SPEEDOMETER REPLACEMENT</b> | Mileage: _____<br>(Before Replacement) | Date Replaced: ____/____/____ | Dealer Code: _____ |
| <b>SPEEDOMETER REPLACEMENT</b>                                                                                                                                                                                                                                                                 |                                |                                        |                               |                    |
| Mileage: _____<br>(Before Replacement)                                                                                                                                                                                                                                                         |                                |                                        |                               |                    |
| Date Replaced: ____/____/____                                                                                                                                                                                                                                                                  |                                |                                        |                               |                    |
| Dealer Code: _____                                                                                                                                                                                                                                                                             |                                |                                        |                               |                    |

|                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SPEEDOMETER REPLACEMENT RECORD</b>                                                                                                                              |
| Speedometer replaced on _____ with _____ miles                                                                                                                     |
| Dealer Name _____                                                                                                                                                  |
| Dealer Signature _____                                                                                                                                             |
| After the speedometer is replaced, total mileage should be determined by adding the mileage listed here to the current mileage shown on the speedometer installed. |

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|                |                                 |                                                            |                     |
|----------------|---------------------------------|------------------------------------------------------------|---------------------|
| Category<br>AD | Applicable Model/s<br>See Below | Subject<br>KEYLESS ENTRY SYSTEM TRANSMITTER<br>MISHANDLING | Bulletin No. 004/96 |
|                |                                 |                                                            | Issued 09/23/96     |
|                |                                 |                                                            | Revised             |

## APPLICABLE MODELS

All vehicles equipped with keyless entry systems.

## DESCRIPTION

Keyless entry transmitter claims due to customer mishandling are not warrantable. Mishandling includes exposure to outside influences such as:

- Heat or prolonged exposure to sunlight
- Dampness (getting the transmitter wet)
- Accidental Impacts (dropping etc.)

Service Advisers and Service Managers are asked to explain to customers that problems occurring from abuse and mishandling are not covered under Mazda's vehicle warranty.

060059

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Telephone (714) 727-1990



|                |                                  |                                                      |                      |
|----------------|----------------------------------|------------------------------------------------------|----------------------|
| Category<br>AD | Applicable Model/s<br>All Models | Subject<br>KEY REPLACEMENT (California Dealers Only) | Bulletin No. *005/94 |
|                |                                  |                                                      | Issued 7/5/94        |
|                |                                  |                                                      | Revised 7/5/94       |

The revised portion of this bulletin is indicated by an asterisk(\*). Replace the original bulletin with this revised copy.

## APPLICABLE MODELS

All Models

## DESCRIPTION

The following information should be communicated to all service and parts department personnel and/or locksmith and vendors supplying replacement keys to customers.

Customers requesting replacement keys for their vehicle that **do not have the original key for use in duplication**, must submit the information listed below.

This information must be kept on file at the dealership for a period of **one year**. The information must be made available for inspection by any peace officer or the Bureau Of Collections And Investigative Services during normal business hours or submitted to the bureau upon request.

Details of this requirement are outlined under California Penal Code No. 466.6.

### Information Required:

1. Customer Name
2. Address
3. Telephone Number (if any)
4. Date Of Birth
5. Driver's License Number (or I.D. No.)
6. VIN Of The Vehicle
7. Vehicle License Number
8. Vehicle Year
9. Vehicle Make
10. Vehicle Color
11. Date Of Key Duplication
12. Customer's Signature

We suggest this information be recorded on a repair order regardless of the department supplying the key. Service Managers are advised to make copies of this bulletin and post the information in the appropriate areas of the dealership

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_ Signature \_\_\_\_\_

Service Manager

Parts Manager

**059149**



# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                                  |                                                      |                      |
|----------------|----------------------------------|------------------------------------------------------|----------------------|
| Category<br>AD | Applicable Model/s<br>All Models | Subject<br>KEY REPLACEMENT (California Dealers Only) | Bulletin No. *005/94 |
|                |                                  |                                                      | Issued 6/10/94       |
|                |                                  |                                                      | Revised 7/5/94       |

The revised portion of this bulletin is indicated by an asterisk(\*). Replace the original bulletin with this revised copy

## APPLICABLE MODELS

All Models

## DESCRIPTION

The following information should be communicated to all service and parts department personnel and/or locksmith and vendors supplying replacement keys to customers.

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12. Customer's Signature

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.....  
Index # **039129**  
.....

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Signature \_\_\_\_\_ Signature \_\_\_\_\_

Service Manager

Parts Manager

# Service Bulletin

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7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                                  |                                                                     |                                                 |
|----------------|----------------------------------|---------------------------------------------------------------------|-------------------------------------------------|
| Category<br>AD | Applicable Model/s<br>All Models | Subject<br>NATIONAL HIGHWAY TRAFFIC SAFETY<br>ADMINISTRATION NOTICE | Bulletin No. 007/94<br>Issued 8/8/94<br>Revised |
|----------------|----------------------------------|---------------------------------------------------------------------|-------------------------------------------------|

## Important Notice

The National Highway Traffic Safety Administration (NHTSA) has amended Section 154 of the National Traffic and Motor Vehicle Safety Act.

The Amendment [Section 154 (d)] requires that dealers perform all recall campaign repairs to inventory vehicles or replacement parts prior to delivery to customers through sale or lease.

Under this Amendment, if there has been a recall campaign, dealers must assure that all new vehicles and new items or replacement equipment are free of safety defects and comply with all applicable Federal Motor Vehicle Safety Standards at the time of delivery to the consumer. It is also applicable to all used vehicles.

This does not prohibit offering for sale or lease such vehicles or items of equipment.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_ Signature \_\_\_\_\_  
Service Manager Parts Manager

**059150**

|                |                                  |                                                       |                     |
|----------------|----------------------------------|-------------------------------------------------------|---------------------|
| Category<br>AD | Applicable Model/s<br>All Models | Subject<br>SERVICE ADVISOR'S DIAGNOSTIC QUESTIONNAIRE | Bulletin No. 010/93 |
|                |                                  |                                                       | Issued 11/19/93     |
|                |                                  |                                                       | Revised             |

### DESCRIPTION

To help technicians diagnose vehicle problems, detailed descriptions of the symptoms are essential. Problems related to **driveability, noise, vibrations and harshness (NVH), steering stability** and the **audio system** are difficult to repair without enough proper information from the customer.

In many cases, the customers tell you only what they can explain about the vehicle problems. These explanations usually lack detail technicians need to make a proper diagnosis. Even if the customers can explain the problems in detail, they may lack the technical knowledge to describe problems in terms technicians can easily understand. Therefore, the service advisor must help the customers describe the vehicle condition so that technicians can fully understand it before starting repairs.

That's why Mazda has produced the attached Service Advisor Diagnostic Questionnaire (part No. 9999 95 DIAG 93). Its simple format allows the advisor to quickly and accurately gather key details from the customer about the vehicle's symptoms. We have provided 50 copies for your initial use.

### INSTRUCTIONS

1. Ensure an ample supply of questionnaire copies exists in the service reception area for service advisor use.
2. When customers complain of problems related to **NVH, driveability, steering stability or the audio system**, ask the applicable questions and check the boxes. Note additional customer comments or information, if necessary, on the lines provided.
3. After completing the questionnaire with the customer, attach it to the repair order and give both documents to the technician.
4. Using the questionnaire as a guide, the technicians should be able to diagnose the condition and record the repair result on the questionnaire.
5. After the repair is complete, keep the questionnaire with the repair order and retain the documents in your service files.

**NOTE:** You can order additional quantities (Part Number 9999 95 DIAG 93) free of charge by calling Helm, Inc. in Detroit, MI at (800) 782-4356, Monday through Friday, 9 a.m. to 5 p.m. (EST).

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager .....

Signature \_\_\_\_\_

Parts Manager

JFA

# Service Bulletin

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7755 Irvine Center Drive  
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Telephone (714) 727-1990



|                |                                  |                                                       |                     |
|----------------|----------------------------------|-------------------------------------------------------|---------------------|
| Category<br>AD | Applicable Model/s<br>All Models | Subject<br>1993 MODEL<br>PRE-DELIVERY INSPECTION FORM | Bulletin No. 025/92 |
|                |                                  |                                                       | Issued 5/8/92       |
|                |                                  |                                                       | Revised             |

## DESCRIPTION

In the interest of improving vehicle quality, a new model specific Pre-Delivery Inspection form is being introduced for all 1993 model vehicles.

We believe that by reformatting the inspection procedures, the technician will benefit from user friendly instructions that improve working efficiency and yield higher PDI quality.

The following items are the improvements to Pre-Delivery Inspection process:

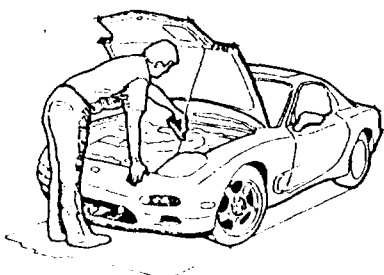
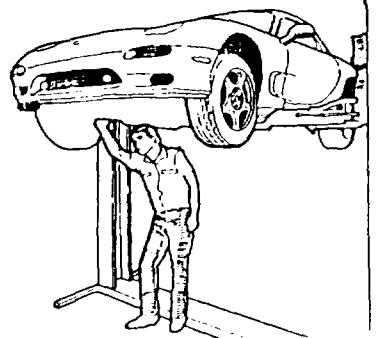
- A. Organized Movement
- B. Detailed Instructions
- C. Centralized Reference
- D. PDI Certification

This bulletin provides a detailed overview of these improvements.

### A. ORGANIZED MOVEMENT

To enhance technician efficiency, and improve overall mechanical operations, the Pre-Delivery Inspection process has been divided into 3 job specific categories.

#### Category 1: MECHANICAL PREPARATION (Step 1 & 2)

|                                                                                                                                                                                     |                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP 1</b><br><b>Under Hood</b><br><br>Operation of the hood, then all under hood inspection. | <b>STEP 2</b><br><b>On Hoist</b><br><br>Under carriage inspection. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|

**IMPORTANT :** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

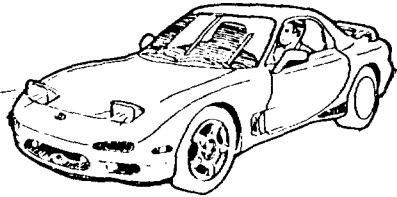
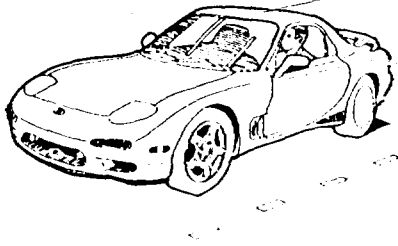
Signature \_\_\_\_\_  
Service Manager

Signature \_\_\_\_\_  
Parts Manager

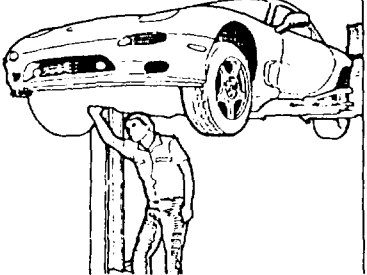
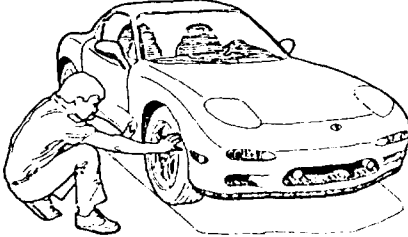
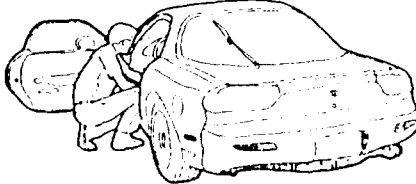
Index # **030204**

**ORGANIZED MOVEMENT (Cont'd)**

**Category 2: ROAD TEST (Step 3 & 4)**

|                                                                                                                              |                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <p><b>Step 3</b>    <b>Pre-Test Drive</b></p>                                                                                | <p><b>Step 4</b>    <b>Road Test</b></p>                                                                       |
|  <p>Operation of all interior functions</p> |  <p>Operation of Vehicle</p> |

**Category 3: VISUAL INSPECTION (Step 5, 6 & 7)**

|                                                                                                                                                                                |                                                                                                                                                                                                                                 |                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <p><b>Step 5</b>    <b>After Road Test</b></p>                                                                                                                                 | <p><b>Step 6</b>    <b>Exterior Inspection</b></p>                                                                                                                                                                              | <p><b>Step 7</b>    <b>Interior Inspection</b></p>                                    |
|  <p>Inspection (under carriage) for damage which may be visible only after a road test.</p> |  <p>Final inspection for exterior and interior damage which may have occurred from movement around the vehicle or during the road test.</p> |  |

**B. DETAILED INSTRUCTIONS**

Wording is now "operation specific". Terms such as "Test", "Adjust", "Install" and "Inspect" are added to give procedures greater definition.

**C. CENTRALIZED REFERENCE**

Detailed inspection instructions and specifications are listed on the back page of the Pre-Delivery Inspection form to eliminate the need for additional reference.

|                |                     |               |
|----------------|---------------------|---------------|
| Number: 025/92 | Date Issued: 5/8/92 | Date Revised: |
|----------------|---------------------|---------------|

**D. CERTIFICATION**

The form now provides a section to list any comments regarding the vehicle's condition or repairs required prior to PDI certification. Technicians **MUST** check the box indicating the vehicle "PASSED ALL INSPECTIONS" if no problems were found; or check both boxes if the vehicle had "REPAIRS/ADJUSTMENTS PERFORMED" (list those repairs in the comments section), then check the box indicating that the vehicle now "PASSED ALL INSPECTIONS".

For your reference, a sample of the 1993 RX-7 Model Pre-Delivery Inspection form is attached.



## Inspection & Adjustment Specifications

**Air Bag System** – Verify that air bag indicator light illuminates (for approximately six [6] seconds) when ignition is turned to the “on” position.

**Automatic Transmission Fluid** – Use Dexron II or M-III.

**Brake Fluid** – Use FMVSS 116 DOT-3.

**Bypass Air Control System** – Verify that engine idles smoothly after deceleration.

**Door Alignment** – Specified clearance: Door to Front Fender:  $6 \pm 2$  mm ( $0.3 \pm 0.07$  in)  
Door to Rear Quarter:  $4 \pm 1$  mm ( $0.2 \pm 0.04$  in)  
Door to Rocker Panel:  $6 \pm 2$  mm ( $0.3 \pm 0.07$  in)  
Door Hinge to Body Mounting Bolts Tightening Torque: 18–29 N·m (1.8–3.0 Kg·m, 14–21 ft-lbs)

**Door Lock Assembly** – If door does not close on striker easily or is loose when closed, adjust striker horizontally or vertically.  
Striker mounting screw tightening torque: 18–26 N·m (1.8–2.7 kg·m, 14–19 ft-lbs)

**Door Locks** – Lock and unlock driver's side door; both (driver's and passenger's) door locks should operate.

**Engine Oil** – Use API Service “SG” 10W-30 fuel efficient oil.

**Headlight Aim** – Adjust to local regulations using specification numbers “6H0V” and appropriate aimer.

**Heater and Air Conditioner** – Verify change in air flow as different modes are selected.

**Hood Alignment** – Specified clearance: Hood to Fender (right and left):  $4.0 \pm 1.0$  mm ( $0.16 \pm 0.04$  in)  
Hood to Front Bumper:  $4.5 \pm 1.0$  mm ( $0.18 \pm 0.04$  in)  
Hinge to Hood Mounting Nut Tightening Torque: 19–25 N·m (1.9–2.6 Kg·m, 14–18 ft-lbs)

**Hood Lock Assembly** – Adjust after aligning hood. Align lock with striker on hood.  
Lock mounting bolts and nuts tightening torque: 7.9–10.7 N·m (80–110 kg·cm, 70–95 in-lbs)

**Ignition Switch and Steering Lock** – Verify that steering wheel “locks” when ignition switch is in the “off” position and key is removed.  
Steering wheel “unlocks” when key is inserted and turned to the “on” position.

**Manual Transmission Oil** – Use API Service “GL-4” or “GL-5” (SAE 75W-90).

**Parking Brake** – Verify that parking brake extends 7–10 notches at 200 N (20 kg, 44 ft-lbs).

**Pedal Height** – Clutch pedal: Height: 183–193 mm (7.20–7.60 in) – with carpet  
Free Play: 0.6–3.0 mm (0.02–0.12 in)  
Brake pedal: Height: 184–189 mm (7.24–7.44 in) – with carpet  
Free Play: 3.0–8.0 mm (0.12–0.31 in)

**Power Steering** – Use ATF Dexron II or M-III.

**Radiator Coolant** – Mixture percentage: 45% antifreeze to 55% water

**Rear Differential Oil** – Use API Service “GL-4” or “GL-5” (SAE 90W).

**Rear Hatch Alignment** – Specified clearance: Hatch to Roof (lateral):  $7 \pm 1.5$  mm ( $0.3 \pm 0.06$  in)  
Hatch to Roof (vertical):  $1_{-1.5}^{+1.0}$  mm ( $0.04_{-0.06}^{+0.04}$  in)  
Hatch to Fender (lateral/right and left):  $4 \pm 2$  mm ( $0.16 \pm 0.08$  in)  
Hatch to Fender (vertical/right and left):  $1 \pm 2$  mm ( $0.04 \pm 0.08$  in)  
Hatch to Hinge Mounting Bolt Tightening Torque: 17–29 N·m (1.7–3.0 Kg·m, 17–21 ft-lbs)

**Rear Hatch Assembly** – Adjust after aligning hatch laterally and vertically. Align lock with striker.  
Lock assembly mounting bolt tightening torque: 16–22 N·m (1.6–2.3 kg·m, 12–19 ft-lbs)

**Seat Belt Retractor Operation** – Pull seat belt out slowly and release. Verify that it returns smoothly.  
Pull quickly on belt and verify that retractor locks.

**Shift-Lock System and Inhibitor Switch (A/T)** – Verify that transmission lever cannot be moved from “P” to “R” without engine started and foot on brake.

**Sound Warning System** – With the seat belt unbuckled, turn the key “on”, the warning light will come on and the buzzer will sound for six (6) seconds. With key in ignition, open door, buzzer will sound continuously. Turn lights on, open door, chimes will sound continuously..

**Starter Interlock System (M/T)** – Verify that engine will not start unless clutch pedal is depressed.

**Theft-Deterrent System** – With key removed from vehicle, lock and close doors, hood and hatch. Verify that indicator light in center console illuminates for approximately 10 seconds then flashes every three (3) seconds.

**Tire Inflation Pressure** – 32 psi

**Wheel Lug Nut & Lock** – Torque specifications: 89–117 N·m (9.0–12.0 kg·m, 66–86 ft-lb)



JFA

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|                |                                   |                                      |              |        |
|----------------|-----------------------------------|--------------------------------------|--------------|--------|
| Category<br>AD | Applicable Model/s<br>1993 Models | Subject<br>1993 SERVICE PUBLICATIONS | Bulletin No. | 026/92 |
|                |                                   |                                      | Issued       | 6/2/92 |
|                |                                   |                                      | Revised      |        |

## DESCRIPTION

All 1993 Model Service Publications, their part numbers, and available dates are listed on the attached pages.

These publications can be ordered from Helm Inc. by calling 1-800-782-4356 (Monday – Friday, 8:30 a.m. – 6:00 p.m. EST) or faxing 1-313-883-1041.

.....  
 Index # **030207**  
 .....

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

|                |                     |               |
|----------------|---------------------|---------------|
| Number: 026/92 | Date Issued: 6/2/92 | Date Revised: |
|----------------|---------------------|---------------|

**WORKSHOP MANUALS:**

| MODEL       | TYPE       | PART NUMBER     | AVAILABLE DATE |
|-------------|------------|-----------------|----------------|
| 323/Protegé | Large Size | 9999-95-017B-93 | 7/92           |
| 323/Protegé | Small Size | 9999-95-017S-93 | ★              |
| MX-3        | Large Size | 9999-95-056B-93 | 6/92           |
| MX-3        | Small Size | 9999-95-056S-93 | ★              |
| MX-5 Miata  | Large Size | 9999-95-042B-93 | 7/92           |
| MX-5 Miata  | Small Size | 9999-95-042S-93 | ★              |
| 626/MX-6    | Large Size | 9999-95-019B-93 | 4/92           |
| 626/MX-6    | Small Size | 9999-95-019S-93 | ★              |
| 929         | Large Size | 9999-95-025B-93 | 7/92           |
| 929         | Small Size | 9999-95-025S-93 | ★              |
| RX-7        | Large Size | 9999-95-018B-93 | 2/92           |
| RX-7        | Small Size | 9999-95-018S-93 | ★              |
| MPV         | Large Size | 9999-95-038B-93 | 7/92           |
| MPV         | Small Size | 9999-95-038S-93 | ★              |
| B-Series    | Large Size | 9999-95-022B-93 | 6/92           |
| B-Series    | Small Size | 9999-95-022S-93 | ★              |
| Navajo      | Large Size | 9999-95-052B-93 | 7/92           |
| Navajo      | Small Size | 9999-95-052S-93 | ★              |

★ Available 90-120 days after model introduction.

**WIRING DIAGRAMS:**

| MODEL       | PART NUMBER     | AVAILABLE DATE |
|-------------|-----------------|----------------|
| 323/Protegé | 9999-95-019G-93 | 7/92           |
| MX-3        | 9999-95-034G-93 | 6/92           |
| MX-5 Miata  | 9999-95-026G-93 | 7/92           |
| 626/MX-6    | 9999-95-021G-93 | 5/92           |
| 929         | 9999-95-023G-93 | 7/92           |
| RX-7        | 9999-95-022G-93 | 2/92           |
| MPV         | 9999-95-024G-93 | 7/92           |
| B-Series    | 9999-95-020G-93 | 5/92           |
| Navajo      | 9999-95-031G-93 | 7/92           |

|                |                     |               |
|----------------|---------------------|---------------|
| Number: 026/92 | Date Issued: 6/2/92 | Date Revised: |
|----------------|---------------------|---------------|

**BODY ELECTRICAL TROUBLESHOOTING MANUALS:**

| MODEL    | PART NUMBER     | AVAILABLE DATE |
|----------|-----------------|----------------|
| MX-3     | 9999-95-086F-93 | 7/92           |
| 626/MX-6 | 9999-95-084F-93 | 5/92           |
| 929      | 9999-95-087F-93 | 7/92           |
| RX-7     | 9999-95-085F-93 | 2/92           |

**SERVICE HIGHLIGHTS:**

| MODEL    | PART NUMBER     | AVAILABLE DATE |
|----------|-----------------|----------------|
| 626/MX-6 | 9999-95-039F-93 | 4/92           |
| RX-7     | 9999-95-045F-93 | 2/92           |

**BODY SHOP MANUALS:**

| MODEL    | PART NUMBER     | AVAILABLE DATE |
|----------|-----------------|----------------|
| 626/MX-6 | 9999-95-041F-93 | 1/92           |
| RX-7     | 9999-95-049F-93 | 1/92           |

**OWNER'S MANUALS:**

| MODEL      | PART NUMBER     | AVAILABLE DATE |
|------------|-----------------|----------------|
| 323        | 9999-95-033C-93 | 7/92           |
| Protegé    | 9999-95-038C-93 | 7/92           |
| MX-3       | 9999-95-043C-93 | 6/92           |
| MX-5 Miata | 9999-95-031C-93 | 7/92           |
| 626        | 9999-95-017C-93 | 2/92           |
| MX-6       | 9999-95-025C-93 | 2/92           |
| 929        | 9999-95-024C-93 | 7/92           |
| RX-7       | 9999-95-015C-93 | 2/92           |
| MPV        | 9999-95-029C-93 | 7/92           |
| B-Series   | 9999-95-023C-93 | 5/92           |
| Navajo     | 9999-95-037C-93 | 7/92           |

|                |                     |               |
|----------------|---------------------|---------------|
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|----------------|---------------------|---------------|

**OWNER'S MANUAL QUICK REFERENCE GUIDES:**

| MODEL      | PART NUMBER     | AVAILABLE DATE |
|------------|-----------------|----------------|
| 323        | 9999-95-058C-93 | 7/92           |
| Protegé    | 9999-95-059C-93 | 7/92           |
| MX-3       | 9999-95-060C-93 | 6/92           |
| MX-5 Miata | 9999-95-061C-93 | 7/92           |
| 626        | 9999-95-062C-93 | 4/92           |
| MX-6       | 9999-95-063C-93 | 4/92           |
| 929        | 9999-95-064C-93 | 7/92           |
| RX-7       | 9999-95-065C-93 | 2/92           |
| MPV        | 9999-95-066C-93 | 7/92           |
| B-Series   | 9999-95-067C-93 | 5/92           |
| Navajo     | 9999-95-068C-93 | 7/92           |

**OWNER'S MANUAL PAMPHLETS:**

| PAMPHLET                    | PART NUMBER     | AVAILABLE DATE |
|-----------------------------|-----------------|----------------|
| 626 Audio Anti-Theft        | 9999-95-050C-93 | 2/92           |
| MX-6 Audio Anti-Theft       | 9999-95-051C-93 | 2/92           |
| RX-7 Audio Anti-Theft       | 9999-95-052C-93 | 2/92           |
| MX-3 Audio Anti-Theft       | 9999-95-044C-93 | 6/92           |
| 929 Audio Anti-Theft        | 9999-95-045C-93 | 7/92           |
| MX-5 Miata Audio Anti-Theft | 9999-95-040C-93 | 7/92           |
| MPV 4WD                     | 9999-95-034C-93 | 7/92           |
| MPV Towing                  | 9999-95-046C-93 | 7/92           |
| Navajo 4WD/Towing           | 9999-95-047C-93 | 7/92           |
| RX-7 Roadside Assistance    | 9999-95-054C-93 | 3/92           |

|                |                     |               |
|----------------|---------------------|---------------|
| Number: 026/92 | Date Issued: 6/2/92 | Date Revised: |
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**PORTFOLIOS:**

| MODEL      | PART NUMBER     | AVAILABLE DATE |
|------------|-----------------|----------------|
| 323        | 9999-95-323P-93 | 7/92           |
| Protegé    | 9999-95-PROP-93 | 7/92           |
| MX-3       | 9999-95-MX3P-93 | 6/92           |
| MX-5 Miata | 9999-95-MX5P-93 | 7/92           |
| 626        | 9999-95-626P-93 | 4/92           |
| MX-6       | 9999-95-MX6P-93 | 4/92           |
| 929        | 9999-95-929P-93 | 7/92           |
| RX-7       | 9999-95-RX7P-93 | 2/92           |
| MPV        | 9999-95-MPVP-93 | 7/92           |
| B-Series   | 9999-95-TRKP-93 | 5/92           |
| Navajo     | 9999-95-NAVP-93 | 7/92           |

**PRE-DELIVERY INSPECTION FORMS:**

| MODEL      | PART NUMBER     | AVAILABLE DATE |
|------------|-----------------|----------------|
| 323        | 9999-95-026A-93 | 7/92           |
| Protegé    | 9999-95-034A-93 | 7/92           |
| MX-3       | 9999-95-040A-93 | 6/92           |
| MX-5 Miata | 9999-95-025A-93 | 7/92           |
| 626        | 9999-95-027A-93 | 4/92           |
| MX-6       | 9999-95-033A-93 | 4/92           |
| 929        | 9999-95-029A-93 | 7/92           |
| RX-7       | 9999-95-030A-93 | 2/92           |
| MPV        | 9999-95-028A-93 | 7/92           |
| B-Series   | 9999-95-031A-93 | 5/92           |
| Navajo     | 9999-95-032A-93 | 7/92           |

|                |                     |               |
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**SUGGESTED REPAIR TIMES (Microfiche):**

| MODEL       | PART NUMBER     | AVAILABLE DATE |
|-------------|-----------------|----------------|
| 323/Protegé | 9999-95-069J-93 | 7/92           |
| MX-3        | 9999-95-091J-93 | 6/92           |
| MX-5 Miata  | 9999-95-065J-93 | 7/92           |
| 626/MX-6    | 9999-95-073J-93 | 4/92           |
| 929         | 9999-95-075J-93 | 7/92           |
| RX-7        | 9999-95-071J-93 | 2/92           |
| MPV         | 9999-95-077J-93 | 7/92           |
| B-Series    | 9999-95-079J-93 | 5/92           |
| Navajo      | 9999-95-089J-93 | 7/92           |

**MANUFACTURER'S LIMITED WARRANTY:**

| MODEL           | PART NUMBER     | AVAILABLE DATE |
|-----------------|-----------------|----------------|
| RX-7 & 626/MX-6 | 9999-95-063J-93 | 4/92           |

**WARRANTY INFORMATION BOOKLET:**

| APPLICATION                                | PART NUMBER     | AVAILABLE DATE |
|--------------------------------------------|-----------------|----------------|
| California & Federal (RX-7, 626/MX-6 only) | 9999-95-067J-93 | 1/92           |
| California & Federal (all models)          | 9999-95-096J-93 | 5/92           |

**WARRANTY POLICIES & PROCEDURES MANUAL:**

| APPLICATION                                | PART NUMBER     | AVAILABLE DATE |
|--------------------------------------------|-----------------|----------------|
| California & Federal (all 1986-'93 models) | 9999-95-014J-93 | 5/92           |

# Service Bulletin *I*

Mazda Motor of America, Inc.  
 7755 Irvine Center Drive  
 Irvine, California 92718  
 Telephone (714) 727-1990



|                |                                  |                                                                         |                                                   |
|----------------|----------------------------------|-------------------------------------------------------------------------|---------------------------------------------------|
| Category<br>AD | Applicable Model/s<br>All Models | Subject<br>CERTIFICATION OF EMISSION-RECALLED<br>VEHICLES IN CALIFORNIA | Bulletin No. 028/92<br>Issued 11/30/92<br>Revised |
|----------------|----------------------------------|-------------------------------------------------------------------------|---------------------------------------------------|

## AFFECTED VINS

1. This bulletin applies only to California dealers and;
2. All models repaired after July 31, 1991 under an emission recall campaign.

## DESCRIPTION

The California Department of Motor Vehicles (DMV) and the California Air Resources Board (CARB) have launched a Registration Renewal/Recall Tie-In program.

1. California dealers repairing vehicles after July 31, 1991 under an emission recall campaign are required to issue the owner a "Proof of Correction" certificate. See example below. These certificates may be ordered free of charge by contacting the:

MMA - Pacific Region  
 Customer Relations Dept.  
 Tel. #: (714) 380-7705

Please provide the Recall Campaign number when placing an order.

2. Vehicle owners must be instructed to keep the certificate. During vehicle registration renewal and if the registration renewal form indicates a certification requirement, the owner must submit the "Proof of Correction" certificate (with the registration renewal form) to the DMV.

| Vehicle Emission Recall - Proof of Correction                                                                                                                  |                                   |                              |                     |                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------|---------------------|--------------------------------------------------|
| License Number                                                                                                                                                 | Make<br>Mazda                     | Year Model<br>1990           | Body Type<br>2-Door | Vehicle Identification Number<br>J M 1 N A 3 S 1 |
| Manufacturer<br>Mazda Motor Corporation                                                                                                                        |                                   | Recall Number<br># 45206     |                     |                                                  |
| The above described vehicle has been repaired, modified and/or equipped with new emission control devices to meet applicable California Emission Control Laws. |                                   |                              |                     |                                                  |
| Dealer's Name                                                                                                                                                  |                                   | Address, City, State and Zip |                     |                                                  |
| Date                                                                                                                                                           | Dealership's Authorized Signature |                              |                     |                                                  |
|                                                                                                                                                                | x                                 |                              |                     |                                                  |
| <b>This certificate must be returned to the DMV with your billing notice.</b>                                                                                  |                                   |                              |                     |                                                  |

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
 ..... Service Manager

Signature \_\_\_\_\_  
 Parts Manager

Index # **032164**  
 .....



## SPECIAL SERVICE TOOL BULLETIN

|                           |                                                                                         |                     |
|---------------------------|-----------------------------------------------------------------------------------------|---------------------|
| Applicable Model/s<br>ALL | Subject<br>NEW V9.0 NGS CARD (49T0-88-010K) AND REPROGRAMMING<br>OF V7.0 (49T0-88-010H) | Bulletin No. 001/00 |
|                           |                                                                                         | Issued 06/23/00     |
|                           |                                                                                         | Revised             |

### DESCRIPTION

Per Special Service Tool Bulletin 0004/99, issued 08/30/99, your service department currently has two reprogrammable New Generation Star (NGS) cards, an older Version 7.0 program (P/N 49T0-88-010H) and a current Version 8.0 program (49T0-88-010J). On July 26, 2000, V8.0 will supersede to V9.0 (P/N 49T0-88-010K) as a new Mazda Required Tool (MRT) to properly service MAZDA vehicles.

America Kowa Seiki is offering a reprogramming service beginning July 5, 2000, which will update your older NGS Version 7.0 to Version 9.0 at a substantial savings. America Kowa Seiki must receive your V7.0 no later than **July 26, 2000**. Follow the **REPROGRAMMING PROCEDURE** on page two to participate in this service.

#### Note

- If your service department chooses not to participate, or cannot participate in this reprogramming service, a new NGS V9.0 card will be automatically shipped to your service department after July 26, 2000. **DO NOT SEND YOUR NGS VERSION 7.0 CARD TO MNAO Technical Services Department.**

### APPLICATION

This card is used with your NGS Tester to properly service 1988 – 2001 Mazda Vehicles. Refer to your Workshop Manual for the application of this card and tester.

### MNET 2000 ORDER PROCEDURE

If you want to receive a new NGS V9.0 Card earlier before the cutoff date of July 26, 2000, please submit an order through M:NET, Mazda's computer-based information and order fulfillment system. You will find information describing the ordering process in the M:NET Operations Guide.

### PRICING

The price for the NGS V9.0 reprogramming exchange is \$279.07 plus shipping costs. If America Kowa Seiki does not receive your V7.0 card, or you miss the **June 26, 2000** cut-off date, the new card price is \$390.70 plus shipping costs.

### SHIPPING AND BILLING INFORMATION

Reprogrammed NGS V9.0 cards will be shipped back to your Service Department within a week. Your parts account will be billed for the appropriate amount. **DO NOT SEND PAYMENT TO AMERICA KOWA SEIKI, INC.**

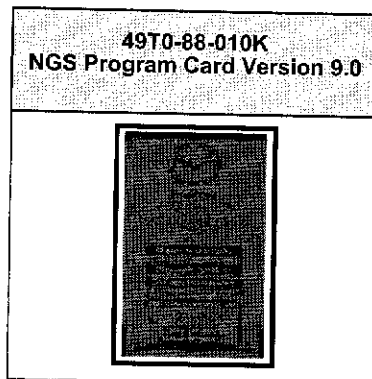
**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.

**061123**

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|                |                       |          |
|----------------|-----------------------|----------|
| Number: 001/00 | Date Issued: 06/23/00 | Revised: |
|----------------|-----------------------|----------|



## REPROGRAMMING PROCEDURE

Please use the following procedure to update your NGS Version 7.0 program card to NGS Version 9.0 program card.

**STEP 1:** Carefully inspect your V7.0 card for signs of damage (i.e. dents, cracks, fluid damage, etc.), since America Kowa Seiki will only accept cards that are reprogrammable.

**STEP 2:** Package your V7.0 card in small box with your Service Manager's business card taped to the NGS card. Send the package to the following address:

**America Kowa Seiki  
13939 Equitable Road  
Cerritos, CA. 90703**

### **RE: Mazda NGS Card Reprogramming**

**Step 3:** Send your package by Federal Express 2 day or UPS Blue label prepaid. It must arrive at America Kowa Seiki by July 26, 2000.

#### **Note**

- **DO NOT SEND YOUR V8.0 NGS CARD!** Use this V8.0 card until your new V9.0 card arrives at your Service Department.

Please contact your District Customer Support Manager or America Kowa Seiki Customer Service (562-407-5860) if you have any questions regarding this information.



## SPECIAL SERVICE TOOL BULLETIN

|                                  |                                                                                  |                                                   |
|----------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------|
| Applicable Model/s<br><b>ALL</b> | Subject<br><b>SHIPMENT OF MAZDA TERMINAL REPAIR<br/>KIT DURING FEBRUARY 2001</b> | Bulletin No. 001/01<br>Issued 02/14/01<br>Revised |
|----------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------|

### DESCRIPTION

This Service Bulletin is a follow-up to the Mazda Terminal Repair Kit Brochure sent last month which announced that this kit is a Mazda Required Tool for all Mazda Dealers. Automatic shipment of this kit will begin the week of February 26, 2001. Mazda's tool supplier, America Kowa Seiki, will provide sales and service support. The following table lists the individual part numbers for the kit and its components. The Mazda Terminal Repair Kit, replacement terminal pins, tools and connectors are only available through Mazda MNET 2000.

| PART NUMBER                                                             | DESCRIPTION                                                             | NOTES                                                                                                                                                                                                                                                                 | PRICE                         |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| 49 L088 0A0                                                             | MAZDA TRK                                                               |                                                                                                                                                                                                                                                                       | \$575.00                      |
| 49 L088 006                                                             | Cabinet (Plastic)                                                       | Compact, durable, complete system, which requires minimal space.                                                                                                                                                                                                      | \$405.95                      |
| 49 L088 0A1<br>49 L088 0A2<br>49 L088 0A3<br>49 L088 0A4<br>49 L088 0A5 | Drawer # 1<br>Drawer # 2<br>Drawer # 3<br>Drawer # 4<br>Drawer # 5      | Each drawer contains an outside face label identifying the drawers contents, as well as an actual size schematic of the drawer's contents on the inside top of each drawer. This system makes it easy to identify the correct location of replacement pins and tools. | Included in the above Cabinet |
| 49 L088 0A1 001<br>49 L088 0A2 001<br>49 L088 0A3 001                   | Pin Series<br>Pin Series<br>Pin Series                                  | 100 Pins with 3 1/2" Pigtaills that will cover over 95% of replacements for all Mazda vehicles. Each wire is printed with its correct part number                                                                                                                     | Included in the above Cabinet |
| 49 L088 002<br>49 L088 003<br>49 L088 004                               | Butt Connec. 22-24AGW<br>Butt Connec. 18-20AGW<br>Butt Connec. 10-12AGW | Waterproof Solder Butt Connectors for the positive connection needed to insure the best electrical contact, in order to provide accurate feedback through the vehicle's WDS & NGS Testing system.                                                                     | \$14.44<br>\$14.44<br>\$8.75  |
| 49 L088 001                                                             | Solder Heating Tool                                                     | Portable butane tool used to melt the Butt's connecting solder and shrink the plastic tube to fuse & waterproof the repair.                                                                                                                                           | \$28.00                       |
| 49 L088 005                                                             | Wire Stripper                                                           | Used to cut and strip the wire of the damaged pin that is being replaced                                                                                                                                                                                              | \$7.00                        |
| 49 L088 007                                                             | Instruction Book                                                        | Instruction on the proper usage of all of the products with-in this kit.                                                                                                                                                                                              | \$23.33                       |
| 49 L088 008                                                             | Pin Extractor Tool Set                                                  | Used to dislodge the damaged pin being replaced from the Terminal.                                                                                                                                                                                                    | \$31.50                       |
| 49 L088 009                                                             | Feeler Tool Kit                                                         | Used to check any pin with-in the terminals for holding ability                                                                                                                                                                                                       | \$21.87                       |

### APPLICATION

This kit provides technicians the ability to perform electrical harness repairs to OE standards and to reduce the need to replace complete harness assemblies on Mazda vehicles – which includes the Miata, Millenia, Protégé, MPV, 626, B-Series and Tribute. Please refer to the Terminal Repair Kit Instruction Book included with each kit for proper tool usage.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.

|                |                       |          |
|----------------|-----------------------|----------|
| Number: 001/01 | Date Issued: 02/14/01 | Revised: |
|----------------|-----------------------|----------|

### **PRICING**

The introductory price for this tool is \$575.00 plus applicable tax and shipping costs. The price of this kit will remain effective for the initial 120-day introduction when it will increase to the regular list price of \$739.00.

### **SHIPPING AND BILLING INFORMATION**

This kit will be shipped via UPS to your Service Department during the week of February 29, 2001. If necessary, please use Mazda MNET Order Tracker to track your shipment. Your dealer parts account will be automatically invoiced for this kit and if your Accounting Department has questions regarding this invoice, please call Mazda Special Service Tools (949-442-6597). **Do not send your payment to America Kowa Seiki, Inc. Please advise your shipping / receiving personnel of this tool shipment.**

### **MNET 2000 ORDER PROCEDURE**

Please submit any additional Mazda Special Service Tool orders through MNET 2000, Mazda's computer-based information and order fulfillment system. You will find information describing the ordering process in the MNET 2000 Operations Guide.

### **CUSTOMER SERVICE**

Mazda's tool supplier, America Kowa Seiki (800-824-9655), will ship the Terminal Repair Kit to your Service Department. Please call this toll-free number for warranty questions, product information, pricing, shipping, and ordering assistance. Customer Service Representatives are available from 9:00 AM until 5:00 PM PST, Monday through Friday.

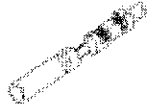
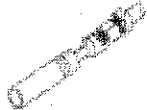
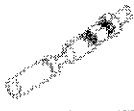
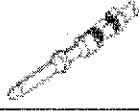

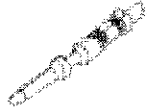
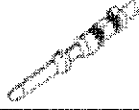

Please contact your District Customer Support Manager, America Kowa Seiki Customer Support (800-824-9655 or 562-407-5860) or Mazda Special Service Tools (949-442-6597 or [specialtoolsequipment@mazdausa.com](mailto:specialtoolsequipment@mazdausa.com)) if you have any questions regarding this information.

## SPECIAL SERVICE TOOL BULLETIN

|                           |                                                                                          |                                                   |
|---------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------|
| Applicable Model/s<br>All | Subject<br>SHIPMENT OF MAZDA TERMINAL REPAIR KIT<br>REPLACEMENT PINS DURING JANUARY 2002 | Bulletin No. 001/02<br>Issued 01/14/02<br>Revised |
|---------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------|

### DESCRIPTION

The Mazda Terminal Repair Kit Replacement Terminal Pins illustrated below will be automatically shipped to your Service Department by Mazda's tool supplier, America Kowa Seiki, Inc. The replacement terminal pins are the latest addition to the Mazda Terminal Repair Kit (MNET part number 49L0-88-0A0) which is a Mazda Required Tool (MRT) for all Mazda Dealers. The Mazda Terminal Repair Kit, replacement terminal pins, tools and connectors are only available through Mazda MNET 2000.

| PART NUMBER     | DESCRIPTION                            | PIN                                                                                 | PRICE   |
|-----------------|----------------------------------------|-------------------------------------------------------------------------------------|---------|
| 49L0-88-0A3-021 | Replacement Pin w/Pigtail<br>(10 Pack) |    | \$19.00 |
| 49L0-88-0A3-022 | Replacement Pin w/Pigtail<br>(10 Pack) |    | \$19.00 |
| 49L0-88-0A3-023 | Replacement Pin w/Pigtail<br>(10 Pack) |    | \$19.00 |
| 49L0-88-0A3-024 | Replacement Pin w/Pigtail<br>(10 Pack) |  | \$19.00 |
| 49L0-88-0A3-025 | Replacement Pin w/Pigtail<br>(10 Pack) |  | \$19.00 |
| 49L0-88-0A3-026 | Replacement Pin w/Pigtail<br>(10 Pack) |  | \$19.00 |
| 49L0-88-0A3-027 | Replacement Pin w/Pigtail<br>(10 Pack) |  | \$19.00 |
| 49L0-88-0A3-028 | Replacement Pin w/Pigtail<br>(10 Pack) |  | \$19.00 |

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.

|                |                       |          |
|----------------|-----------------------|----------|
| Number: 001-02 | Date Issued: 01/14/02 | Revised: |
|----------------|-----------------------|----------|

## APPLICATION

This kit provides technicians the ability to perform electrical harness repairs to OE standards and reduce the need to replace complete harness assemblies on Mazda vehicles - which includes the Miata, Millenia, Protégé, MPV, 626, B-Series and Tribute. Please refer to the Terminal Repair Kit Instruction Book included with each kit for proper tool usage.

## PRICING

This program kit price for the terminal pins is \$59.27 plus applicable tax and shipping costs. Each shipment has eight terminal pin packages (three pins in each pack) included in this program offer - normally ordered MNET terminal pin sets will have ten pins per package.

## MNET 2000 ORDER PROCEDURE

Please submit any additional Mazda Special Service Tool orders through MNET 2000, Mazda's computer-based information and order fulfillment system. You will find information describing the ordering process in the MNET 2000 Operations Guide or by using the MNET 2000 Help feature.

## SHIPPING AND BILLING INFORMATION

This kit will be shipped via RPS to your service department during the week of January 21, 2002. Your dealer parts account will be automatically invoiced for this kit and if your Accounting Department has questions regarding this invoice, please call Mazda Special Service Tools (949) 442-6596. **Do not send your payment to America Kowa Seiki, Inc. Please advise your shipping / receiving personnel of this tool shipment.**

## CUSTOMER SERVICE

Mazda's tool supplier, America Kowa Seiki (800) 824-9655, will ship the Terminal Repair Kit Replacement Terminal Pins to your service department. Please call this toll-free number for warranty questions, product information, pricing, shipping, and ordering assistance. Customer Service Representatives are available from 9:00 AM until 5:00 PM PST, Monday through Friday.

Please contact your District Customer Support Manager, America Kowa Seiki Customer Support (800) 824-9655 or (562) 407-5860 or Mazda Special Service Tools (949) 442-6596 or [specialtoolequipment@mazdausa.com](mailto:specialtoolequipment@mazdausa.com) if you have any questions regarding this information.



## SPECIAL SERVICE TOOL BULLETIN

|                              |                                                                                     |              |          |
|------------------------------|-------------------------------------------------------------------------------------|--------------|----------|
| Applicable Models<br><br>ALL | Subject<br><br>SST STORAGE CABINET SYSTEM (SST SCS)<br>APRIL 1, 2002 PRICE INCREASE | Bulletin No. | 002/02   |
|                              |                                                                                     | Issued       | 02/28/02 |
|                              |                                                                                     | Revised      |          |

### DESCRIPTION

Mazda has four different cabinet configurations to organize and secure your Mazda Required Tools. All cabinets are shipped with a pre-installed drawer liner organization system that includes drawer liners, partition/dividers and a Tool Location Index. This index allows users to efficiently locate and inventory Mazda Required Tools and other tools. Shipment of Mazda New Model Tool packages automatically order the latest drawer liner updates to be sent directly to SST SCS owners. Additional drawer liner updates (lost or missing) are only available on Mazda MNET 2000. For drawer liner update ordering procedure see new instructions below.

### MNET 2000 ORDER PROCEDURE

Order your SST Storage Cabinet System through **MNET 2000**, Mazda's computer-based information and order fulfillment system. You will find information describing the **MNET 2000** order process in the MNET 2000 Operations Guide or by using the MNET 2000 Help feature.

### PRICING

Current pricing is effective until March 31, 2002. **Beginning April 1, 2002, new pricing will take effect as shown in the table below.**

| SST Storage Cabinet System |                                                              | Current Price | New Price  |
|----------------------------|--------------------------------------------------------------|---------------|------------|
| MAZDA-01                   | 3 low cabinets with 21 drawers                               | \$2,629.00    | \$2,849.00 |
| MAZDA-02                   | 3 low cabinets with 21 drawers, and steel top                | \$2,849.00    | \$3,069.00 |
| MAZDA-03                   | 3 low cabinets with 21 drawers, shelf riser, and 3 bookcases | \$3,599.00    | \$3,819.00 |
| MAZDA-04                   | 2 high cabinets with 22 drawers                              | \$2,629.00    | \$2,849.00 |
| MAZDA-12                   | Opt. steel top addition to MAZDA-01 unit                     | \$500.00      | \$529.00   |
| MAZDA-13                   | Opt. 3 bookcases addition to MAZDA-02 unit                   | \$750.00      | \$789.00   |
| MAZDA-20                   | Replacement drawer pull inserts (pkg. 21)                    | \$20.00       | \$20.00    |

### SPECIAL "ORDER IN MARCH 2002 - PAYMENT IN OCTOBER 2002" DELAYED BILLING OPTION (Expires 03/31/02)

Mazda is offering dealers the option of ordering a new cabinet on MNET 2000 before March 31, 2002 and delay payment until their October 2002 parts account billing statement. This option is only available on the above four cabinet part numbers: MAZDA-01, MAZDA-02, MAZDA-03 and MAZDA-04. During this promotion Mazda MNET 2000 will automatically invoice the October 2002 dealer parts account for the full SST SCS amount. This offer ends on March 31, 2002 and all SST SCS orders placed after March 31<sup>st</sup> will receive the normal parts account paid in full monthly billing. For more information on this short term offer please call Mazda Special Service Tools (949) 442-6596 (Monday through Friday, 9:00 am to 5:00 pm PST).

### SHIPPING AND BILLING INFORMATION

Cabinet systems are shipped directly from Stanley Storage. After March 31, 2002, MNET 2000 will automatically invoice the dealer parts account for the full amount. All Mazda SST Storage Cabinet Systems are special build-to-order products and require three to four weeks for delivery. Please contact Stanley Customer Service (1-800-333-4444) for estimated shipping status.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.

## REPLACEMENT SST STORAGE CABINET SYSTEM DRAWER LINER UPDATES MNET 2000 ORDER PROCEDURE

### DESCRIPTION

The Mazda Special Service Tool Storage Cabinet System (SST SCS) has twenty one (21) individual drawer liners. SST SCS owners automatically receive a complete update package with detailed instructions for each New Model Tool package release. Replacement drawer liner updates (missing or lost) are only available on Mazda MNET 2000 – review the table below for part number, description and price information. The information is organized by SST Service Bulletin distribution and bulletin copies can be accessed through MNET 2000.

### PRICING

The price for each replacement drawer liner update is \$ 4.00 (order quantity 1-10) plus applicable tax and shipping costs. In addition, your total MNET order for the replacement SST SCS drawer liner updates requires a \$ 10.00 fulfillment fee. *Prices are subject to change.*

### SHIPPING AND BILLING INFORMATION

Shipment of replacement drawer liner updates is via UPS to your parts department. If necessary, please use MNET 2000 Order Tracker to track your shipment. Your dealer parts account will be automatically invoiced for these updates and if your Accounting Department has questions regarding this invoice please call Mazda Special Service Tools (949) 442-6596 (Monday through Friday, 9:00 am to 5:00 pm PST).

### SST STORAGE CABINET SYSTEM UPDATE INFORMATION

New Model Tool drawer liner updates are automatically sent to your Service Department enclosed in drawer numbered envelopes. This information consists of easy update instructions, drawer liner update stickers, storage cabinet drawer index and any necessary drawer dividers. If you are not receiving these drawer liner updates please contact Mazda Special Service Tools (949) 442-6596 or e-mail [specialtoolsequipment@mazdausa.com](mailto:specialtoolsequipment@mazdausa.com).

#### Service Bulletin 003/97, Issued 10/10/97

| MNET Part # | SST SCS Drawer # | Mazda Required Tool Number # | Special Tool Description           | MNET PRICE |
|-------------|------------------|------------------------------|------------------------------------|------------|
| MZ00397A    | 1                | 418-063                      | ABS Breakout Box Adapter           | \$4.00     |
| MZ00498A    | 7                | 49G0-88-0A0                  | PCM Flashing Kit                   | \$4.00     |
| MZ00397C    | 14               | 303-589                      | Engine Synchro Positioning Tool    | \$4.00     |
| MZ00397D    | 20               | 205-399                      | Vacuum Hub Seal Replacer/CV Tester | \$4.00     |
|             |                  | 205-401                      | Axle Hub Test Cap                  |            |
|             |                  | 205-402                      | Axle Hub Needle Bearing Replacer   |            |
|             |                  | 205-403                      | Axle Hub Snap-ring Sleeve          |            |
|             |                  | 205-404                      | Axle Hub Removal Clips             |            |
| MZ00397E    | 21               | 204-185                      | Suspension Torsion Bar Tool        | \$4.00     |

#### Service Bulletin 002/98, Issued 03/18/98

| MNET Part # | SST SCS Drawer # | Mazda Required Tool Number # | Special Tool Description       | MNET PRICE |
|-------------|------------------|------------------------------|--------------------------------|------------|
| MZ00298A    | 8                | 49N0-13-1A00                 | Engine Fuel Pressure Gauge Set | \$4.00     |
| MZ00298B    | 15               | 49N0-19-0010                 | Oil Seal Installer             | \$4.00     |
|             |                  | 49S0-19-0050                 | Oil Seal Puller                |            |
|             |                  | 49S0-19-0060                 | Oil Seal Installer             |            |

Service Bulletin 004/98, issued 08/05/98

| MNET Part # | SST SCS Drawer # | Mazda Required Tool Number # | Special Tool Description        | MNET PRICE |
|-------------|------------------|------------------------------|---------------------------------|------------|
| MZ00498A    | 7                | 49G0-88-0110                 | NGS In-Car Flashing Cable       | \$4.00     |
| MZ00498B    | 9                | 49HD-64-406A                 | A/T Line Pressure Adapter       | \$4.00     |
| MZ00498C    | 14               | 303-638                      | Engine Synchro Positioning Tool | \$4.00     |
| MZ00498D    | 15               | 49B0-19-0090                 | A/T Oil Pump Puller Adapter     | \$4.00     |
| MZ00498E    | 18               | 205-129                      | Differential Gauge Disc         | \$4.00     |

Service Bulletin 002/99, issued 05/12/99

| MNET Part # | SST SCS Drawer # | Mazda Required Tool Number # | Special Tool Description      | MNET PRICE |
|-------------|------------------|------------------------------|-------------------------------|------------|
| MZ00299A    | 12               | 303-009                      | Crankshaft Damper Remover     | \$4.00     |
|             |                  | 303-456                      | Water Pump Pulley Plate       |            |
|             |                  | 303-457                      | Shaft Protector               |            |
| MZ00299B    | 12               | 211-185                      | Pump Pulley Replacer          | \$4.00     |
|             |                  | 303-463                      | Camshaft Seal Protector       |            |
|             |                  | 303-464                      | Camshaft Seal Replacer        |            |
|             |                  | 303-384                      | Rear Crankshaft Adapter Bolts |            |
|             |                  | 49L0-18-001                  | O2 Sensor Wrench              |            |
| MZ00299C    | 15               | 49L0-14-001                  | Pressure Gauge Adapter        | \$4.00     |
| MZ00299D    | 19               | 303-335                      | Crankshaft Seal Installer     | \$4.00     |

Service Bulletin 005/99, issued 10/14/99

| MNET Part # | SST SCS Drawer # | Mazda Required Tool Number # | Special Tool Description              | MNET PRICE |
|-------------|------------------|------------------------------|---------------------------------------|------------|
| MZ00599A    | 3                | 49G0-66-001                  | ABS Harness Adapter                   | \$4.00     |
| MZ00599B    | 8                | 310-075                      | Fuel Tank Lock Ring Wrench            | \$4.00     |
| MZ00599C    | 12               | 49UN-01-160                  | A/C 5/8" Female Quick Coupler Fitting | \$4.00     |
| MZ00599D    | 14               | 211-016                      | Pump Pulley Remover                   | \$4.00     |
| MZ00599E    | 15               | 205-495                      | Output Flange Installer               | \$4.00     |

Service Bulletin 001/00, issued 06/23/00

| MNET Part # | SST SCS Drawer # | Mazda Required Tool Number # | Special Tool Description | MNET PRICE |
|-------------|------------------|------------------------------|--------------------------|------------|
| MZ00199C    | 7                | 49T0-88-010K                 | NGS Program Card V9.0    | \$4.00     |



Service Bulletin 002/00, Issued 06/23/00

| MNET Part # | SST SCS Drawer # | Mazda Required Tool Number # | Special Tool Description                | MNET PRICE |
|-------------|------------------|------------------------------|-----------------------------------------|------------|
| MZ00200A    | 2                | 418-F468                     | Restraint System Diagnostic Simulator   | \$4.00     |
|             |                  | 418-F470                     | Restraint System Diagnostic Simulator   |            |
| MZ00200D    | 8                | 310-069                      | Fuel Tank Unit Sender Wrench            | \$4.00     |
| MZ00200E    | 10               | 303-465                      | Camshaft Alignment Plate                | \$4.00     |
|             |                  | 303-098                      | Camshaft Pulley Remover                 |            |
|             |                  | 303-164                      | Crankshaft Front Oil Seal Installer     |            |
|             |                  | 303-328                      | Crankshaft Rear Main Oil Seal Installer |            |
|             |                  | 303-329                      | Crankshaft Rear Main Oil Seal Installer |            |
|             |                  | 303-574                      | Crankshaft TDC Timing Peg               |            |
|             |                  | 303-050                      | Engine Lifting Bracket                  |            |
|             | 303-673          | Flywheel Holder              |                                         |            |
| MZ00200F    | 13               | 205-001-01                   | Differential Housing Spreader Adapters  | \$4.00     |
| MZ00200G    | 14               | 211-009                      | Power Steering Pump Pulley Remover      | \$4.00     |
| MZ00200H    | 14               | 307-351                      | TRS Alignment Tool                      | \$4.00     |
| MZ00200I    | 16               | 303-577                      | Camshaft Holding Tool                   | \$4.00     |
|             |                  | 303-576                      | Camshaft Holding Tool Adapter           |            |

Service Bulletin 002/00, issued 06/23/00

| MNET Part # | SST SCS Drawer # | Mazda Required Tool Number # | Special Tool Description                 | MNET PRICE |
|-------------|------------------|------------------------------|------------------------------------------|------------|
| MZ00200K    | 21               | 307-428                      | RH Half shaft Fluid Seal Installer       | \$4.00     |
|             |                  | 307-429                      | RH Half shaft Fluid Seal Remover         |            |
|             |                  | 308-427                      | PTO Shaft Inner/Outer Oil Seal Installer |            |
|             |                  | 308-428                      | PTO Driven Gear Oil Seal Remover         |            |
|             |                  | 308-429                      | PTO Driven Gear Oil Seal Installer       |            |
|             |                  | 308-430                      | PTO Drive Gear Oil Seal Installer        |            |
|             |                  | 308-431                      | Halfshaft Oil Seal Installer             |            |

Service Bulletin 005/00, issued 08/25/00

| MNET Part # | SST SCS Drawer # | Mazda Required Tool Number # | Special Tool Description           | MNET PRICE |
|-------------|------------------|------------------------------|------------------------------------|------------|
| MZ00200B    | 4                | 205-213                      | 7.5" Differential Clutch Gauge     | \$4.00     |
|             |                  | 205-270                      | 8.8" Differential Clutch Gauge     |            |
|             |                  | 205-013                      | Traction Lock Torque Tool          |            |
| MZ00200E    | 10               | 303-673                      | Flywheel Holder                    | \$4.00     |
| MZ00200G    | 14               | 211-009                      | Power Steering Pump Pulley Remover | \$4.00     |
| MZ00200I    | 16               | 303-576                      | Camshaft Holding Tool Adapter      | \$4.00     |
|             |                  | 303-577                      | Camshaft Holding Tool              |            |
| MZ00200J    | 21               | 308-024                      | Remover / Replacer Tube            | \$4.00     |
|             |                  | 308-058                      | Bearing Puller                     |            |
|             |                  | 308-092                      | Forcing Screw                      |            |
|             |                  | 303-573                      | Crankshaft TDC Timing Tool         |            |
| MZ00200K    | 21               | 205-503                      | Drive Pinion Nut Holding Tool      | \$4.00     |

Service Bulletin 002/01, issued 02/14/01

| MNET Part # | SST SCS Drawer # | Mazda Required Tool Number # | Special Tool Description          | MNET PRICE |
|-------------|------------------|------------------------------|-----------------------------------|------------|
| MZ00201A    | 2                | 49D0-66-002                  | Airbag Deployment Harness Adapter | \$4.00     |
|             |                  | 49E0-66-001                  | Airbag Deployment Harness Adapter |            |
| MZ00201B    | 15               | 49N0-61-0A0                  | A/C Cooler Pipe Remover Set       | \$4.00     |

Service Bulletin 003/01, issued 06/06/01

| MNET Part # | SST SCS Drawer #   | Mazda Required Tool Number # | Special Tool Description | MNET PRICE |
|-------------|--------------------|------------------------------|--------------------------|------------|
| MZ00301A    | 11                 | 49N0-17-101                  | Plate                    | \$4.00     |
|             |                    | 49N0-17-102                  | Plate                    |            |
| MZ00301B    | 11                 | 49N0-17-001                  | Bearing Installer        | \$4.00     |
|             |                    | 49N0-17-103                  | Gear Installer           |            |
|             |                    | 49N0-17-104                  | Joint Installer          |            |
|             |                    | 49N0-17-105                  | Shaft                    |            |
|             |                    | 49N0-17-201                  | Setting Plate            |            |
|             |                    | 49N0-17-202                  | Handle                   |            |
|             |                    | 49N0-17-203                  | Stopper                  |            |
|             |                    | 49N0-17-204                  | Setting Plate            |            |
|             |                    | 49N0-17-207                  | Shaft Stopper            |            |
|             |                    | 49N0-17-208                  | Guide Pin                |            |
| 49N0-17-209 | Oil Seal Installer |                              |                          |            |
| MZ00301C    | 16                 | 49N0-17-2A0                  | Clutch Hub Installer Set | \$4.00     |
| MZ00301D    | 16                 | 49N0-17-2A1                  | Clutch Hub Puller Set    | \$4.00     |

Service Bulletin 005/01, issued 06/06/01

|          |    |              |                    |        |
|----------|----|--------------|--------------------|--------|
| MZ00501A | 14 | 49B0-66-8010 | Radio Removal Tool | \$4.00 |
|          |    | 49B0-66-8020 | Radio Removal Tool |        |

Service Bulletin 008/01, issued 10/15/01

|          |    |            |                                    |        |
|----------|----|------------|------------------------------------|--------|
| MZ00801A | 9  | 205-126    | Holding Tool                       | \$4.00 |
|          |    | 204-069    | Front Wheel Hub Installer          |        |
| MZ00801B | 14 | 303-507    | Crankshaft TDC Timing Peg          | \$4.00 |
| MZ00801C | 16 | 308-153    | Differential Bearing Cup Adapter   | \$4.00 |
|          |    | 308-388    | Countershaft Bearing Cup Installer |        |
| MZ00801D | 16 | 204-161    | Halfshaft Installer                | \$4.00 |
|          |    | 205-193    | Axle Bearing Remover               |        |
| MZ00801E | 16 | 303-674    | Crankshaft Holding Tool            | \$4.00 |
|          |    | 205-072-02 | Crankshaft Holding Tool Pins       |        |
| MZ00801F | 19 | 303-473    | Valve Spring Compressor            | \$4.00 |
|          |    | 303-581    | Valve Spring Compressor            |        |
| MZ00801G | 20 | 205-137    | Drive Pinion Oil Seal Installer    | \$4.00 |
| MZ00801H | 20 | 205-014    | Drive Pinion Bearing Cup Installer | \$4.00 |
| MZ00801I | 21 | 308-059    | Mainshaft Bearing Remover          | \$4.00 |



## SPECIAL SERVICE TOOL BULLETIN

|                           |                                                                        |                     |
|---------------------------|------------------------------------------------------------------------|---------------------|
| Applicable Model/s<br>ALL | Subject<br>RECOMMENDED SPECIAL SERVICE TOOL STORAGE<br>CABINET SYSTEMS | Bulletin No. 003/00 |
|                           |                                                                        | Issued 08/14/00     |
|                           |                                                                        | Revised             |

### DESCRIPTION

The Mazda SST Storage Cabinet System has proven to be an effective means of organizing and securing Mazda's Special Tools. There are four different configurations of cabinets available to fit your needs.

All configurations are shipped with a pre-installed drawer liner organization method that includes drawer liners, partition/dividers and a Tool Location Index. This index allows users to efficiently locate and inventory Mazda Required Tools and Optional Tools.

The cabinet systems are easily updated. When a new SST(s) is shipped to your service department, drawer liner update information is sent separately to your service department. This information consists of update instructions, drawer liner/index update stickers, and any necessary drawer dividers. See attached brochure for further details.

### APPLICATION

Each of the four cabinet systems is designed to store all your Mazda Required Tools with additional space available for other tools and equipment.

### MNET 2000 ORDER PROCEDURE

Order your SST Storage Cabinet System order through **MNET 2000**, Mazda's computer-based information and order fulfillment system. You will find information describing the process of using **MNET 2000** in the MNET 2000 Operations Guide.

### PRICING

#### October 2000 Price Increase

Units can be ordered at the existing prices, however, **effective October 1, 2000** new prices will take effect as shown in the table below.

| SST Storage Cabinet System |                                                              | Current Price | New Price  |
|----------------------------|--------------------------------------------------------------|---------------|------------|
| Mazda 01                   | 3 low cabinets with 21 drawers                               | \$2,395.00    | \$2,629.00 |
| Mazda 02                   | 3 low cabinets with 21 drawers, and steel top                | \$2,595.00    | \$2,849.00 |
| Mazda 03                   | 3 low cabinets with 21 drawers, shelf riser, and 3 bookcases | \$3,195.00    | \$3,599.00 |
| Mazda 04                   | 2 high cabinets with 22 drawers                              | \$2,395.00    | \$2,629.00 |

### SHIPPING AND BILLING INFORMATION

Your order will be shipped directly from the manufacturer and your parts account invoiced upon receipt.

Please contact your District Customer Support Manager or Tools/Equipment Manager (949-442-6531 or [specialtoolequipment@mazdausa.com](mailto:specialtoolequipment@mazdausa.com)) if you have any questions regarding this information.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.

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## SPECIAL SERVICE TOOL BULLETIN

|                               |                                                |                                                   |
|-------------------------------|------------------------------------------------|---------------------------------------------------|
| Applicable Model/s<br><br>ALL | Subject<br><br>MAZDA SERVICE EQUIPMENT PROGRAM | Bulletin No. 003/02<br>Issued 04/19/02<br>Revised |
|-------------------------------|------------------------------------------------|---------------------------------------------------|

### DESCRIPTION

The Mazda Service Equipment is the program Mazda dealers chose for purchasing equipment. Our partnership with Equipment Solutions, a division of Snap-on Incorporated, gives dealers the easiest, most efficient and cost-effective method of equipping a Mazda Service Department. Ordering is now even easier with Mazda MStore – using your Web Single Logon provides a secure, quick, convenient, and reliable method of purchasing products. Of course, dealers can order by phone (877) 768-6577 to talk to a MSE Customer Service Representative.

### APPLICATION

The Mazda Service Equipment 2002 Catalog features a range of manufacturers who have been evaluated and monitored by Equipment Solutions. This initiative provides dealers the ability to purchase competitively priced equipment tested and approved on Mazda vehicles.

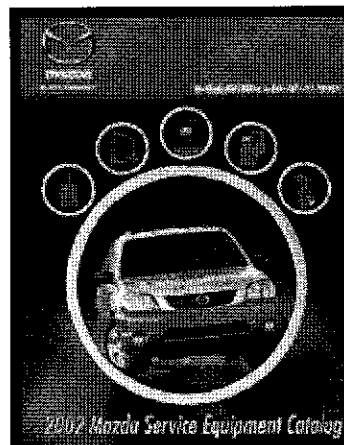
### PRICING

Equipment pricing is divided into two types:

- Mazda Service Equipment Program Pricing – program pricing appears in the Mazda Service Equipment 2002 Catalog and Mazda MStore.
- Special Promotional Pricing – pricing appears in Mazda Service Equipment Quarterly Brochures, NADA Show promotions and Mazda Equipment Special Programs. Mazda MStore shows this special pricing as the Dealer Cost.

### SHIPPING AND BILLING INFORMATION

The equipment supplier determines the shipping method. Equipment shall be sold F.O.B. Manufacturer's shipping point commercial carrier freight pre-paid. Equipment and shipping charges will be automatically invoiced to your dealer parts account. Questions regarding this invoice should be directed to Mazda Special Service Tools & Equipment (949) 442-6596. **Do not send your payment to Equipment Solutions and advise your shipping / receiving personnel of this equipment shipment.**



**MAZ-02-632-0203**

Mazda Service Equipment Catalog

### LEASING OPTION

We offer competitive equipment Lease rates on orders over \$2,000.00. Call a Mazda Service Equipment Customer Service Representative (877) 768-6657 for leasing details.

### INSTALLATION CHARGES

Equipment installed through the program will be automatically invoiced to your dealer parts account and questions regarding this invoice should be directed to Mazda Special Service Tools & Equipment (949) 442-6596.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.

**FACILITY ACTION PLANNING**

Facility Action Coordinators are available to assist construction, expansion or renovation of your Mazda Service, Parts or Body Shop department. Our Mazda Service Equipment representatives have the expertise to help you avoid costly construction errors in selecting the right equipment. We offer the following services:

- Comprehensive equipment list using Mazda approved products.
- Installation bids on selected equipment using supplier trained and approved installers.
- Technical assistance provided for: architect, mechanical, electrical and general contractors.
- Total support in facility layout drawing of equipment.
- Coordinate equipment shipment and installation to meet your project timetable.

**CUSTOMER SERVICE**

Customer Service Representatives (877) 768-6657 (pick 1 for English or pick 2 for Spanish) are available from 7:30 AM until 7:00 PM CST, Monday through Saturday. Please call this toll-free number for warranty questions, product information, shipping and ordering assistance.

To arrange a dealer equipment consultation with a Mazda Service Equipment Area Sales Manager please call our Customer Service Representatives (877) 768-6657 to set up an appointment. Area Sales Managers are an important link between your dealership and MazdaApproved equipment suppliers. They will be calling on you to help determine your equipment needs, answer any product questions and assist in submitting your order on MStore.

**MAZDA MSTORE ORDER PROCEDURE – 24 / 7 / 365**

Please submit all Mazda Service Equipment orders through Mazda MStore - <http://dealers.mazdausa.com>, it is covered by Web Security Logon (WSL) and authorization is required for access. If you have questions regarding Mazda MStore please contact the Mazda Systems Help Center at (800) 421-6507.

Please contact Mazda Service Equipment (877) 768-6657, Mazda Special Service Tools & Equipment (949) 442-6596, or [specialtoolsequipment@mazdausa.com](mailto:specialtoolsequipment@mazdausa.com) if you have any questions regarding this information.

## SPECIAL SERVICE TOOL BULLETIN

|                           |                                            |                     |
|---------------------------|--------------------------------------------|---------------------|
| Applicable Model/s<br>All | Subject<br>MAZDA SERVICE EQUIPMENT PROGRAM | Bulletin No. 004/01 |
|                           |                                            | Issued 06/6/01      |
|                           |                                            | Revised             |

### DESCRIPTION

Mazda North American Operations is introducing a new program to support Dealers in purchasing service equipment. We have partnered with Equipment Solutions, a division of Snap-on Incorporated, in launching Mazda Service Equipment. This service assures Mazda dealers of receiving the easiest, most efficient and cost-effective method of equipping a Mazda Service Department. Dealers now have the opportunity to place their orders via Mazda MNET 2000 or by phone (877-768-6657). Use Mazda MNET 2000 to order additional Mazda Service Equipment Catalogs (part number MAZCAT001).

### APPLICATION

The Mazda Service Equipment 2001 Catalog features a range of manufacturers who have been evaluated and monitored by Equipment Solutions. This initiative provides dealers the ability to purchase competitively priced equipment tested and approved on Mazda vehicles.

### PRICING

Equipment pricing is divided into two types:

- Mazda Service Equipment Program Pricing – This program pricing appears in the Mazda Service Equipment 2001 Catalog and Mazda MNET 2000.
- Special Promotional Pricing – This pricing appears in Mazda Service Equipment Quarterly Brochures, NADA Show promotions and Mazda Equipment Special Programs. Mazda MNET 2000 shows this special pricing as the Dealer Cost.

### SHIPPING AND BILLING INFORMATION

The equipment supplier determines the shipping method. If necessary, please use Mazda MNET 2000 Order Tracker to track your shipment. Equipment shall be sold F.O.B. Manufacturer's shipping point commercial carrier freight pre-paid.

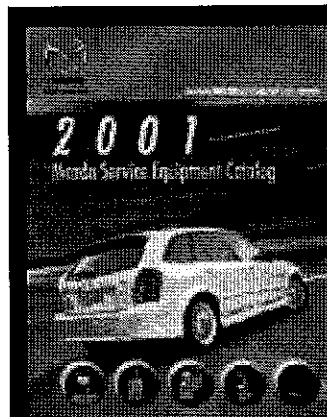
Your dealer parts account will be automatically invoiced for the equipment and shipping charges. Questions regarding this invoice should be directed to Mazda Special Service Tools & Equipment (949-442-6596). **Do not send your payment to Equipment Solutions and advise your shipping / receiving personnel of this equipment shipment.**

### LEASING OPTION

We offer competitive equipment Lease rates on orders over \$2,000.00. Call a Mazda Service Equipment Customer Service Representative (877-768-6657) for leasing details.

### INSTALLATION CHARGES

Equipment installed through the program will be automatically invoiced to your dealer parts account and questions regarding this invoice should be directed to Mazda Special Service Tools & Equipment (949-442-6596).



**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.

|                |                      |          |
|----------------|----------------------|----------|
| Number: 004/01 | Date Issued: 06/6/01 | Revised: |
|----------------|----------------------|----------|

### **FACILITY ACTION PLANNING**

Facility Action Coordinators are available to assist construction, expansion or renovation of your Mazda Service, Parts or Body Shop department. Our Mazda Service Equipment representatives have the expertise to help you avoid costly construction errors in selecting the right equipment. We offer the following services:

- Comprehensive equipment list using Mazda approved products.
- Installation bids on selected equipment using supplier trained and approved installers.
- Technical assistance provided for: architect, mechanical, electrical and general contractors.
- Total support in facility layout drawing of equipment.
- Coordinate equipment shipment and installation to meet your project timetable.

### **CUSTOMER SERVICE**

Customer Service Representatives (877-768-6657, pick 1 for English or pick 2 for Spanish) are available from 7:30 AM until 7:00 PM CST, Monday through Saturday. Please call this toll-free number for warranty questions, product information, shipping and ordering assistance.

To arrange a dealer equipment consultation with a Mazda Service Equipment Area Sales Manager please call our Customer Service Representatives (877-768-6657) to set up an appointment. Area Sales Managers are an important link between your dealership and Mazda approved equipment suppliers. They will be calling on you to help determine your equipment needs, answer any product questions and assist in submitting your order on MNET 2000.

### **MNET 2000 ORDER PROCEDURE -- 24 / 7 / 365**

Please submit all Mazda Service Equipment orders through MNET 2000, Mazda's computer-based information and order fulfillment system available 24 hours a day, 7 days a week, 365 days a year. You will find information describing the ordering process in the MNET 2000 Operations Guide or use the on-line MNET 2000 tool bar Help system.

Please contact your District Customer Support Manager, Mazda Service Equipment (877-768-6657) or Mazda Special Service Tools & Equipment (949-442-6596 or [specialtoolsequipment@mazdausa.com](mailto:specialtoolsequipment@mazdausa.com)) if you have any questions regarding this information.



## SPECIAL SERVICE TOOL BULLETIN

|                           |                                                           |                                                   |
|---------------------------|-----------------------------------------------------------|---------------------------------------------------|
| Applicable Model/s<br>ALL | Subject<br>WDS Service Replacement - Return Freight Costs | Bulletin No. 005/02<br>Issued 12/06/02<br>Revised |
|---------------------------|-----------------------------------------------------------|---------------------------------------------------|

### DESCRIPTION

All Worldwide Diagnostic System (WDS) service replacement units will be shipped free of any freight charges from the WDS distribution center to your dealership. However, your dealership is responsible for all freight expenses to return the WDS unit requiring service to the distribution center.

### SHIPPING AND BILLING INFORMATION

There are two options for returning a WDS which requires service to the WDS distribution center:

1. Dealer uses a pre-printed airway bill, which is included with each WDS service replacement. Using this method the dealer will be billed for the actual cost of return freight to the dealer's parts account statement. This billing will be listed as MT02-Z2-005 - WDS SERVICE RETURN FREIGHT.
2. The dealer pays for the return freight by using the dealer's freight account and shipping agent.

### CUSTOMER SERVICE

To obtain a WDS service replacement, please contact the WDS Hotline (877) 722-8336. For return freight billing questions, please contact Mazda Special Tools and Equipment at (949) 442-6596 or e-mail [specialtoolsequipment@mazdausa.com](mailto:specialtoolsequipment@mazdausa.com).

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.



## SPECIAL SERVICE TOOL BULLETIN

|                                         |                                                                                                    |                                                            |
|-----------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| Applicable Model/s<br><b>ALL MODELS</b> | Subject<br><b>SHIPMENT OF MAZDA MICRO491 BATTERY TESTER<br/>                 DURING APRIL 2002</b> | Bulletin No. 006/01<br>Issued 10/24/01<br>Revised 04/08/02 |
|-----------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------|

### DESCRIPTION

Many Mazda Dealers have ordered and used the Mazda Micro491 Battery Tester (MNET part # 162-00015) announced October 2001. This battery tester is the latest addition to the Mazda Required Equipment (MRE) list and will be automatically shipped to all dealers during the week of April 29, 2002 (dealers who have already ordered the tester on Mazda MNET will not receive an additional unit). Due to the large quantity order, Mazda will include the Micro491 IR Printer and Case for the package price of \$599.95 - a savings of \$195.05.

### APPLICATION

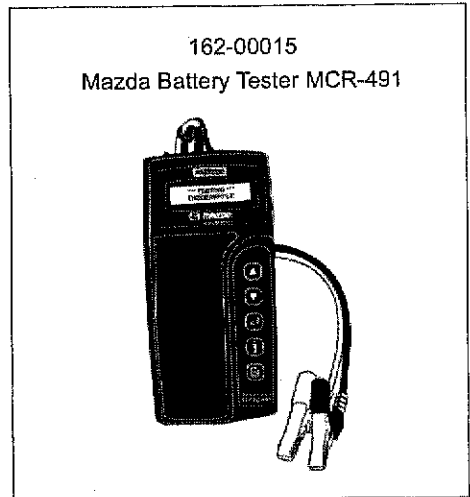
This equipment properly services the Miata, Millenia, Protégé, Protégé 5, MPV, 626, Truck and Tribute. Please refer to the Workshop Manual for the application of this equipment.

### SPECIAL PRICING OFFER

**Mazda is providing dealers a one-time introductory special on the Mazda Micro491 Battery Tester, IR Printer and Case Kit for only \$599.95 - individual component list price is \$795.00.** The introductory price of \$599.95 plus applicable taxes and shipping is effective until May 15, 2002.

### MNET 2000 ORDER PROCEDURE

Please submit any additional Mazda Battery Testers (part number 162-00015) or accessories orders through MNET 2000, Mazda's information and order fulfillment system.



| MNET Part # | Description                        | Introductory Price | Program Price |
|-------------|------------------------------------|--------------------|---------------|
| 162-00015   | Mazda Micro 491 Battery Tester     | \$524.00           | \$575.00      |
| 162-00016   | Mazda IR Printer and Carrying Case | \$220.00           | \$220.00      |

### SHIPPING AND BILLING INFORMATION

Automatic shipment should occur during the week of April 29, 2002. Your dealer parts account will be automatically invoiced for this tester kit and if your Accounting Department has questions regarding this invoice please call Mazda Special Service Tools (949) 442-6596. **Please advise your shipping/receiving personnel of this valuable equipment shipment.**

### CUSTOMER SERVICE

Mazda Special Service Tools and Equipment is shipping the tester kit to your service department. For more information on this offer please call (949) 442-6596, Monday through Friday 9:00 AM until 5:00 PM PST or e-mail Mazda Special Service Tools and Equipment (specialtoolsequipment@mazdausa.com). If you encounter problems with the Micro491 please contact Midtronics Customer Service (800) 776-1995 to speak to a Customer Service Representative.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.

# Service Bulletin

1 rev

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                 |                                                         |                     |
|---------------|---------------------------------|---------------------------------------------------------|---------------------|
| Category<br>B | Applicable Model/s<br>1993 RX-7 | Subject<br>UNUSUAL NOISE FROM THE RIGHT<br>ENGINE MOUNT | Bulletin No. 002/93 |
|               |                                 |                                                         | Issued 2/26/93      |
|               |                                 |                                                         | Revised             |

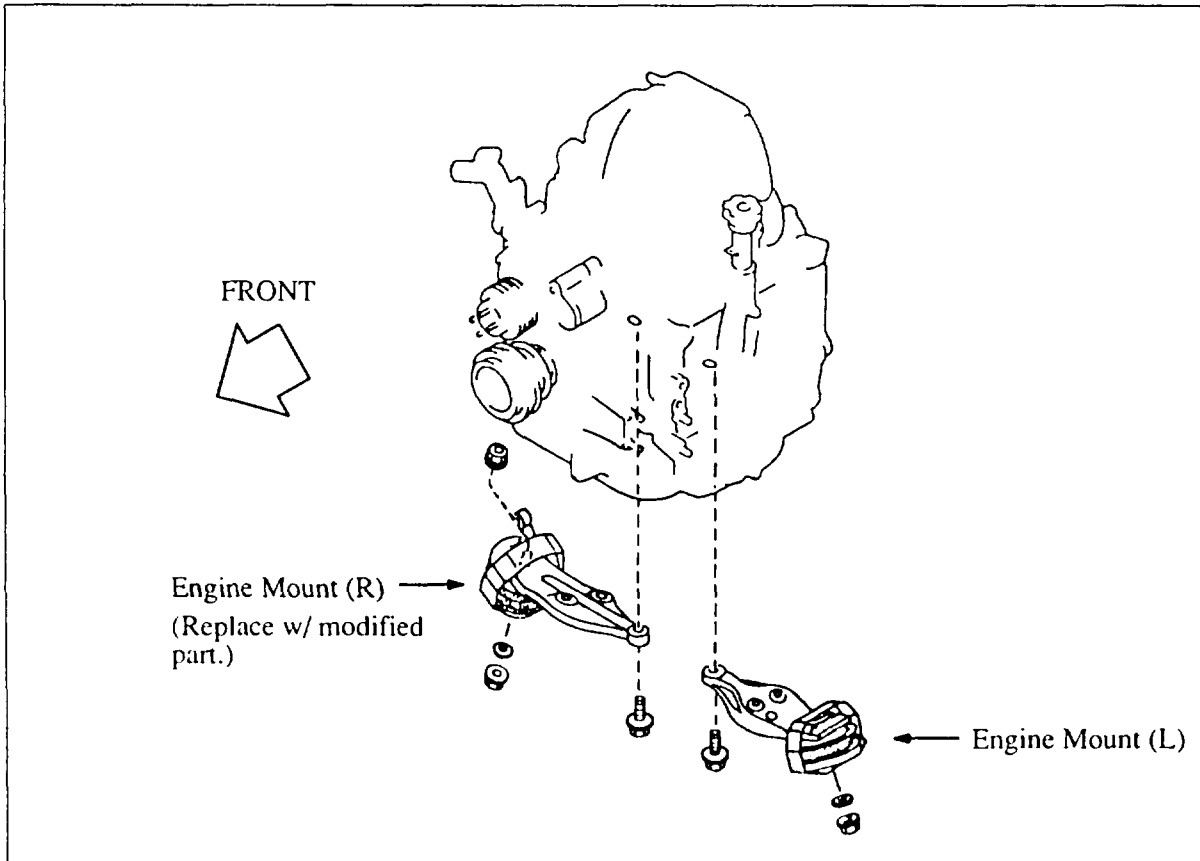
## AFFECTED VINS

This bulletin applies to 1993 vehicles with a VIN of JM1FD3♦♦♦P0207061 or lower produced through May 31, 1992.

This bulletin does not apply to vehicles with a VIN equal to or greater than JM1FD3♦♦♦P0207062 and produced after May 31, 1992.

## DESCRIPTION

On some vehicles, an unusual noise may be heard from the right engine mount. This noise is most evident during idle or when driving on rough roads and/or speed bumps.



**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Signature \_\_\_\_\_

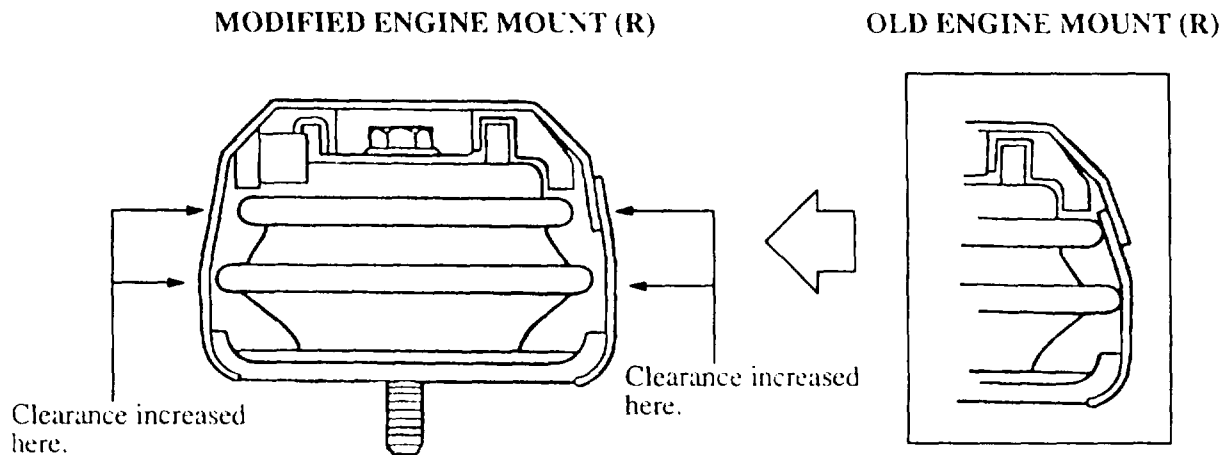
Service Manager

Parts Manager

Index # **032670**

**REPAIR PROCEDURE**

If the above condition occurs, replace the right engine mount with a modified part. The clearance between the rubber mount and mount housing has been increased to eliminate the noise.



Vehicles produced after the May 31, 1992 production date come with the modified right engine mount.

Removal and installation procedures are outlined in Section B of the applicable Workshop Manual.

**PARTS INFORMATION**

| PART NUMBER  | DESCRIPTION      | QTY |
|--------------|------------------|-----|
| FD01 39 040C | Engine Mount (R) | 1   |

**NOTE:** Although the part has been modified, the part number is the same.

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty.)*

Warranty Type Code: A  
 Customer Comment Code: 82  
 Damage Code: 97  
 Part No. of Main Cause: FD01 39 040C  
 Operation No.: C0601ARX  
 Labor Hours: 3.2 Hrs.

|                    |                                    |                                                                                     |                                                   |
|--------------------|------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------|
| Category<br>B (01) | Applicable Model/s<br>1979-95 RX-7 | Subject<br>OIL LEAK AT REAR STATIONARY GEAR O-RING/<br>ON-CAR REPLACEMENT PROCEDURE | Bulletin No. 003/98<br>Issued 07/18/98<br>Revised |
|--------------------|------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------|

### APPLICABLE MODEL(S)/VINS

All 1979 - 95 RX-7.

### DESCRIPTION

The following procedure is for on-car rear stationary (RS) gear o-ring replacement. This procedure is not included in the Workshop Manual.

When the RS gear O-ring is leaking, use the following on-car procedure.

### REPAIR PROCEDURE

1. Verify customer complaint.
2. Remove the flywheel (M/T) or counterweight (A/T). Refer to the Workshop Manual section C and H
3. Set the front rotor to TDC (top dead center) per the Workshop Manual section C.
4. Remove the six bolts from the RS gear.

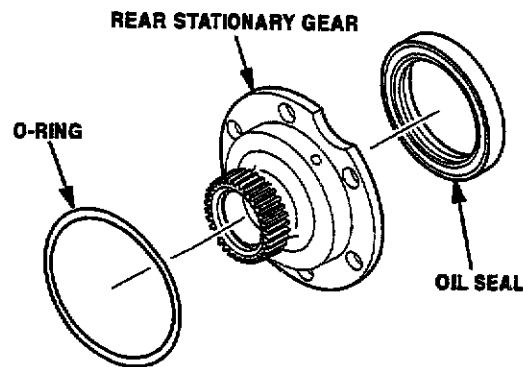
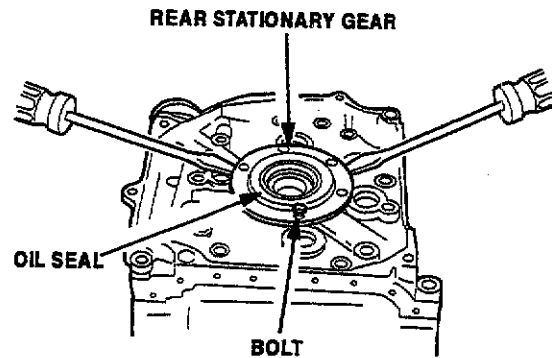
#### Note

- If the eccentric shaft and rotor are rotated with the RS gear removed, they cannot be re-used. The engine will require overhauling.

5. Insert two screwdrivers or pry bars as shown in the illustration and pry out the RS gear.

#### Caution

- **To prevent the (RS) gear from falling out, loosely re-install one of the bolts back into the gear. This will hold the gear in place while prying.**
6. After the (RS) gear is pried loose, remove the one bolt used to hold it in place, and remove the (RS) gear assembly.
  7. Remove the O-ring and oil seal, and clean the (RS) gear. After (RS) gear is cleaned, use shop air to remove any remaining debris.
  8. Apply a small amount of oil to the new O-ring and oil seal and install.



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|                |                      |          |
|----------------|----------------------|----------|
| Number: 003/98 | Date issued: 7/16/98 | Revised: |
|----------------|----------------------|----------|

9. Install the (RS) gear.

**Tightening torque**

**16 - 22 Nm**

10. Install remaining parts in the reverse order of removal.

11. Verify repair.

**PART(S) INFORMATION**

| Part Number  | Description | Qty. | Applicable Models |
|--------------|-------------|------|-------------------|
| 0813-10-555A | O-Ring      | 1    | Rotary Engine     |

**WARRANTY INFORMATION**

**Note**

- This information applies to verified customer complaints on vehicles covered under normal warranty. Refer to the SRT microfiche for warranty term information.
- The Operation Numbers / Labor Hours below include complete transmission R&R, flywheel or counterweight R&R, and road test.

|                                |                                                                                                                  |
|--------------------------------|------------------------------------------------------------------------------------------------------------------|
| Warranty Type                  | A                                                                                                                |
| Symptom Code                   | 76                                                                                                               |
| Damage Code                    | Use Code Applicable To Problem                                                                                   |
| Part Number Main Cause         | 0813-10-555A                                                                                                     |
| Quantity                       | 1                                                                                                                |
| Operation Number / Labor Hours | XX012XR1 / 2.9 (FC - M/T)<br>XX012XR2 / 3.6 (FC - A/T)<br>XX012XR3 / 3.7 (FD - M/T)<br>XX012XR4 / 4.7 (FD - A/T) |

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                  |                                                        |                     |
|---------------|----------------------------------|--------------------------------------------------------|---------------------|
| Category<br>B | Applicable Model/s<br>All Models | Subject<br>PARTIAL ENGINE (LONG BLOCK)<br>AVAILABILITY | Bulletin No. 004/94 |
|               |                                  |                                                        | Issued 3/9/94       |
|               |                                  |                                                        | Revised 6/21/94     |

## DESCRIPTION

Partial engines are available as repair components and will replace the need to replace the entire engine. When installing a partial engine, the following components must be utilized from the original engine:

1. Engine Electrical Parts
2. Cooling System Parts
3. Intake And Exhaust System Parts
4. Fuel And Emission Control Parts
5. Clutch And/Or Flywheel

## PART INFORMATION

See the following pages for applicable models and part numbers.

## WARRANTY INFORMATION

Partial engines are warranted for the remainder of the original vehicle warranty or the first 12 months after installation of the partial engine, whichever is longer. **All warranty repairs of the partial engine replacement will require prior authorization from the DCSM.**

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**Index # 039131**  
.....

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_ Signature \_\_\_\_\_

Service Manager

Parts Manager

## NEW ENGINE (LONG BLOCK) REPLACEMENT PROGRAM

**B-TRUCKS**

| YEAR / MODEL                            | ENGINE P/N  | GASKET P/N  | REMARKS                                                        |
|-----------------------------------------|-------------|-------------|----------------------------------------------------------------|
| 1979-84 B2000                           | HEA4-23-800 | 8AU1-23-900 |                                                                |
| 1986-87 B2000                           | FEY3-02-300 | 8AU1-02-310 | Requires the replacement of the Heat Gauge Unit - G607-18-510. |
| 1987-89 B2200                           | F2Y3-02-300 | 8AU2-02-310 |                                                                |
| 1990-93 B2200<br>(CAL)<br>(FED)         | F2Y6-02-300 | 8AU5-02-310 |                                                                |
|                                         | F2Y7-02-300 | 8AU2-02-310 |                                                                |
| 1990-93 B2600 (4 x 4)<br>(A/T)<br>(M/T) | G6Y1-02-300 | 8AU3-02-310 |                                                                |
|                                         | G6Y2-02-300 | 8AU3-02-310 |                                                                |
| 1990-93 B2600 (4 x 2)<br>(A/T)<br>(M/T) | G6Y3-02-300 | 8AU3-02-310 |                                                                |
|                                         | G6Y4-02-300 | 8AU3-02-310 |                                                                |
| 1994 B-TRUCKS                           | NONE        | NONE        |                                                                |

**MPV**

| YEAR / MODEL                             | ENGINE P/N  | GASKET P/N  | REMARKS |
|------------------------------------------|-------------|-------------|---------|
| 1989-94 MPV (2.6L)                       | G6Y5-02-300 | 8AL1-02-310 |         |
| 1989-94 MPV (3.0L)<br>(4 X 2)<br>(4 X 4) | JE57-02-300 | 8AL2-02-310 |         |
|                                          | JE58-02-300 | 8AL2-02-310 |         |

**NAVAJO**

| YEAR / MODEL   | ENGINE P/N | GASKET P/N | REMARKS |
|----------------|------------|------------|---------|
| 1991-93 NAVAJO | NONE       | NONE       |         |

**323**

| YEAR / MODEL                                   | ENGINE P/N         | GASKET P/N  | REMARKS                               |
|------------------------------------------------|--------------------|-------------|---------------------------------------|
| 1986-89 323 (1.6L, 4 x 2)                      | B630-02-300        | 8AB1-02-310 | Does Not Fit 86-87 w/ Std. Strg & A/C |
| 1988-89 323 (1.6L TURBO)<br>(4 x 2)<br>(4 x 4) | WILL BE AVAILABLE. | 8AB2-02-310 |                                       |
|                                                | WILL BE AVAILABLE. | 8AB2-02-310 |                                       |
| 1990-92 323 (1.6L, 4 x 2)                      | B6AL-02-300        | 8AB9-02-310 |                                       |
| 1993-94 323 (1.6L, 4 x 2)<br>(FED)<br>(CAL)    | B6AL-02-300        | 8AB9-02-310 |                                       |
|                                                | B6BN-02-300        | 8AB8-02-310 |                                       |

**PROTEGE**

| YEAR / MODEL                                  | ENGINE P/N  | GASKET P/N  | REMARKS |
|-----------------------------------------------|-------------|-------------|---------|
| 1990-94 PROTEGE (1.8L DOHC)<br>(M/T)<br>(A/T) | BP05-02-300 | 8ABA-02-310 |         |
|                                               | BP06-02-300 | 8ABA-02-310 |         |
| 1990-94 PROTEGE (1.8L SOHC)<br>(M/T)<br>(A/T) | BP01-02-300 | 8ABB-02-310 |         |
|                                               | BP02-02-300 | 8ABB-02-310 |         |

## NEW ENGINE (LONG BLOCK) REPLACEMENT PROGRAM

**626 / MX-6**

| YEAR / MODEL                      | ENGINE P/N   | GASKET P/N  | REMARKS                                                        |
|-----------------------------------|--------------|-------------|----------------------------------------------------------------|
| 1981-82 626                       | HE41-02-300  | 8AU1-02-310 |                                                                |
| 1983-85 626                       | FE01-02-300  | 8AG1-02-310 |                                                                |
| 1986-87 626<br>(NON-TURBO)        | FEY1-02-300  | 8AG2-02-310 | Requires the replacement of the Heat Gauge Unit - G607-18-510. |
|                                   | (TURBO)      | FEY2-02-300 |                                                                |
| 1988-89 626 / MX-6<br>(NON-TURBO) | F2Y1-02-300  | 8AG4-02-310 |                                                                |
|                                   | (TURBO)      | F2Y2-02-300 | 8AG5-02-310                                                    |
| 1990-92 626 / MX-6<br>(NON-TURBO) | F2Y4-02-300  | 8AG4-02-310 |                                                                |
|                                   | (TURBO)      | F2Y5-02-300 | 8AG5-02-310                                                    |
| 1993-94 626 / MX-6 (2.0L)<br>(MT) | FS01-02-300A | 8AGB-02-310 |                                                                |
| 1993 626 / MX-6 (2.0L)<br>(AT)    | FS01-02-300A | 8AGB-02-310 |                                                                |
| 1994 626 / MX-6 (2.0L)<br>(AT)    | FS71-02-300A | 8AGB-02-310 |                                                                |
| 1993-94 626 / MX-6 (2.5L)         | KLY1-02-300A | 8AE3-02-310 |                                                                |

**929**

| YEAR / MODEL                 | ENGINE P/N   | GASKET P/N  | REMARKS                        |
|------------------------------|--------------|-------------|--------------------------------|
| 1988-89 929 (3.0L SOHC)      | JE15-02-300  | 8AH1-02-310 |                                |
| 1990-91 929 (3.0L)<br>(SOHC) | JE39-02-300  | 8AJA-02-310 |                                |
|                              | (DOHC)       | JE27-02-300 | 8AJB-02-310                    |
| 1992-93 929 (3.0L DOHC)      | NONE         | NONE        | Use JE48-02-200B (Short Block) |
| 1994 929 (3.0L DOHC)         | JE74-02-300A | 8AH3-02-310 |                                |

**RX-7**

| YEAR / MODEL | ENGINE P/N | GASKET P/N | REMARKS                                              |
|--------------|------------|------------|------------------------------------------------------|
| ALL RX-7     | ---        | ---        | See Parts Bulletin R-6 - MANA Rebuilt Rotary Engines |

**MIATA**

| YEAR / MODEL                 | ENGINE P/N  | GASKET P/N  | REMARKS     |
|------------------------------|-------------|-------------|-------------|
| 1990-93 MIATA (1.6L)<br>(MT) | B61P-02-300 | 8AN1-02-310 |             |
|                              | (AT)        | B64J-02-300 | 8AN1-02-310 |
| 1994 MIATA (1.8L)            | BPE8-02-300 | 8ABC-02-310 |             |



### NEW ENGINE (LONG BLOCK) REPLACEMENT PROGRAM

**MX-3**

| YEAR / MODEL             | ENGINE P/N  | GASKET P/N  | REMARKS |
|--------------------------|-------------|-------------|---------|
| 1992-93 MX-3 (1.6L, I-4) | B66S-02-300 | 8AE2-02-310 |         |
| 1994 MX-3 (1.6L, I-4)    | B6DC-02-300 | 8ABD-02-310 |         |
| 1992-94 MX-3 (1.8L, V-6) | K8Y1-02-300 | 8AE3-02-310 |         |

**MILLENNIA**

| YEAR / MODEL                         | ENGINE P/N  | GASKET P/N   | REMARKS |
|--------------------------------------|-------------|--------------|---------|
| 1994 MILLENNIA<br>(2.3L, V-6 MILLER) | KJY2-02-300 | 8AK1-02-310A |         |
| (2.5L, V-6)                          | KL47-02-300 | 8AK2-02-310  |         |

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                  |                                                        |                     |
|---------------|----------------------------------|--------------------------------------------------------|---------------------|
| Category<br>B | Applicable Model/s<br>All Models | Subject<br>PARTIAL ENGINE (LONG BLOCK)<br>AVAILABILITY | Bulletin No. 004/94 |
|               |                                  |                                                        | Issued 3/9/94       |
|               |                                  |                                                        | Revised             |

## DESCRIPTION

Partial engines are available as repair components and will replace the need to replace the entire engine. When installing a partial engine, the following components must be utilized from the original engine:

1. Engine Electrical Parts
2. Cooling System Parts
3. Intake And Exhaust System Parts
4. Fuel And Emission Control Parts
5. Clutch And/Or Flywheel

## PARTS INFORMATION

See the following pages for applicable models and part numbers

## WARRANTY INFORMATION

Partial engines are warranted for the remainder or the original vehicle warranty or for the first 12 months after installation of the partial engine, whichever is longer. **All warranty repairs of partial engine replacement will require prior authorization form the DCSM.**

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Index # 037856  
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**IMPORTANT: Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.**

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

Number: 004/94

Date Issued: 3/9/94

Revised:

**NEW ENGINE (LONG BLOCK) REPLACEMENT PROGRAM****B-TRUCKS**

| YEAR / MODEL                            | ENGINE P/N  | GASKET P/N  | REMARKS                                                        |
|-----------------------------------------|-------------|-------------|----------------------------------------------------------------|
| 1979-84 B2000                           | HEA4-23-800 | 8AU1-23-900 |                                                                |
| 1986-87 B2000                           | FEY3-02-300 | 8AU1-02-310 | Requires the replacement of the Heat Gauge Unit - G607-18-510. |
| 1987-89 B2200                           | F2Y3-02-300 | 8AU2-02-310 |                                                                |
| 1990-93 B2200<br>(CAL)<br>(FED)         | F2Y6-02-300 | 8AU5-02-310 |                                                                |
|                                         | F2Y7-02-300 | 8AU2-02-310 |                                                                |
| 1990-93 B2600 (4 x 4)<br>(A/T)<br>(M/T) | G6Y1-02-300 | 8AU3-02-310 |                                                                |
|                                         | G6Y2-02-300 | 8AU3-02-310 |                                                                |
| 1990-93 B2600 (4 x 2)<br>(A/T)<br>(M/T) | G6Y3-02-300 | 8AU3-02-310 |                                                                |
|                                         | G6Y4-02-300 | 8AU3-02-310 |                                                                |
| 1994 B-TRUCKS                           | NONE        | NONE        |                                                                |

**MPV**

| YEAR / MODEL       | ENGINE P/N | GASKET P/N | REMARKS                        |
|--------------------|------------|------------|--------------------------------|
| 1989-94 MPV (2.6L) | NONE       | NONE       | Use G601-02-200 (Short Block)  |
| 1989-94 MPV (3.0L) | NONE       | NONE       | Use JE22-02-200B (Short Block) |

**NAVAJO**

| YEAR / MODEL   | ENGINE P/N | GASKET P/N | REMARKS |
|----------------|------------|------------|---------|
| 1991-93 NAVAJO | NONE       | NONE       |         |

**323**

| YEAR / MODEL                                   | ENGINE P/N         | GASKET P/N  | REMARKS |
|------------------------------------------------|--------------------|-------------|---------|
| 1986-89 323 (1.6L, 4 x 2)                      | B630-02-300        | 8AB1-02-310 |         |
| 1988-89 323 (1.6L TURBO)<br>(4 x 2)<br>(4 x 4) | WILL BE AVAILABLE. | 8AB2-02-310 |         |
|                                                | WILL BE AVAILABLE. | 8AB2-02-310 |         |
| 1990-92 323 (1.6L, 4 x 2)                      | B6AL-02-300        | 8AB9-02-310 |         |
| 1993-94 323 (1.6L, 4 x 2)<br>(FED)<br>(CAL)    | B6AL-02-300        | 8AB9-02-310 |         |
|                                                | B6BN-02-300        | 8AB8-02-310 |         |

**PROTEGE**

| YEAR / MODEL                                  | ENGINE P/N  | GASKET P/N  | REMARKS |
|-----------------------------------------------|-------------|-------------|---------|
| 1990-94 PROTEGE (1.8L DOHC)<br>(M/T)<br>(A/T) | BP05-02-300 | 8ABA-02-310 |         |
|                                               | BP06-02-300 | 8ABA-02-310 |         |
| 1990-94 PROTEGE (1.8L SOHC)<br>(M/T)<br>(A/T) | BP01-02-300 | 8ABB-02-310 |         |
|                                               | BP02-02-300 | 8ABB-02-310 |         |

|                |                     |          |
|----------------|---------------------|----------|
| Number: 004/94 | Date Issued: 3/9/94 | Revised: |
|----------------|---------------------|----------|

## NEW ENGINE (LONG BLOCK) REPLACEMENT PROGRAM

### 626 / MX-6

| YEAR / MODEL                       | ENGINE P/N                    | GASKET P/N  | REMARKS                                                        |
|------------------------------------|-------------------------------|-------------|----------------------------------------------------------------|
| 1981-82 626                        | HE41-02-300                   | 8AU1-02-310 |                                                                |
| 1983-85 626                        | FE01-02-300                   | 8AG1-02-310 |                                                                |
| 1986-87 626<br>(NON-TURBO)         | FEY1-02-300                   | 8AG2-02-310 | Requires the replacement of the Heat Gauge Unit - G607-18-510. |
|                                    | (TURBO)<br>FEY2-02-300        | 8AG3-02-310 |                                                                |
| 1988-89 626 / MX-6<br>(NON-TURBO)  | F2Y1-02-300                   | 8AG4-02-310 |                                                                |
|                                    | (TURBO)<br>F2Y2-02-300        | 8AG5-02-310 |                                                                |
| 1990-92 626 / MX-6<br>(NON-TURBO)  | F2Y4-02-300                   | 8AG4-02-310 |                                                                |
|                                    | (TURBO)<br>WILL BE AVAILABLE. | 8AG5-02-310 |                                                                |
| 1993-94 626 / MX-6 (2.0L)<br>(M/T) | WILL BE AVAILABLE.            | 8AGB-02-310 |                                                                |
| 1993 626 / MX-6 (2.0L)<br>(A/T)    | WILL BE AVAILABLE.            | 8AGB-02-310 |                                                                |
| 1994 626 / MX-6 (2.0L)<br>(A/T)    | WILL BE AVAILABLE.            | 8AGB-02-310 |                                                                |
| 1993-94 626 / MX-6 (2.5L)          | WILL BE AVAILABLE.            | 8AE3-02-310 |                                                                |

### 929

| YEAR / MODEL                 | ENGINE P/N         | GASKET P/N  | REMARKS                        |
|------------------------------|--------------------|-------------|--------------------------------|
| 1988-89 929 (3.0L SOHC)      | JE15-02-300        | 8AH1-02-310 |                                |
| 1990-91 929 (3.0L)<br>(SOHC) | JE39-02-300        | 8AJA-02-310 |                                |
|                              | (DOHC)<br>NONE     | NONE        | Use JE48-02-200B (Short Block) |
| 1992-93 929 (3.0L DOHC)      | NONE               | NONE        | Use JE48-02-200B (Short Block) |
| 1994 929 (3.0L DOHC)         | WILL BE AVAILABLE. | 8AH3-02-310 |                                |

### RX-7

| YEAR / MODEL | ENGINE P/N | GASKET P/N | REMARKS                                              |
|--------------|------------|------------|------------------------------------------------------|
| ALL RX-7     | ---        | ---        | See Parts Bulletin R-6 - MANA Rebuilt Rotary Engines |

### MIATA

| YEAR / MODEL                  | ENGINE P/N           | GASKET P/N  | REMARKS |
|-------------------------------|----------------------|-------------|---------|
| 1990-93 MIATA (1.6L)<br>(M/T) | B61P-02-300          | 8AN1-02-310 |         |
|                               | (A/T)<br>B64J-02-300 | 8AN1-02-310 |         |
| 1994 MIATA (1.8L)             | WILL BE AVAILABLE.   | 8ABC-02-310 |         |

Number: 004/94

Date Issued: 3/9/94

Revised:

**NEW ENGINE (LONG BLOCK) REPLACEMENT PROGRAM*****MX-3***

| YEAR / MODEL             | ENGINE P/N         | GASKET P/N  | REMARKS |
|--------------------------|--------------------|-------------|---------|
| 1992-93 MX-3 (1.6L, I-4) | B66S-02-300        | 8AE2-02-310 |         |
| 1994 MX-3 (1.6L, I-4)    | WILL BE AVAILABLE. | 8ABD-02-310 |         |
| 1992-94 MX-3 (1.8L, V-6) | WILL BE AVAILABLE. | 8AE3-02-310 |         |

***MILLENNIA***

| YEAR / MODEL                         | ENGINE P/N         | GASKET P/N   | REMARKS |
|--------------------------------------|--------------------|--------------|---------|
| 1994 MILLENNIA<br>(2.3L, V-6 MILLER) | WILL BE AVAILABLE. | 8AK1-02-310A |         |
| (2.5L, V-6)                          | WILL BE AVAILABLE. | 8AK2-02-310  |         |

# Service Bulletin

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Telephone (714) 727-1990



|               |                                      |                                         |                     |
|---------------|--------------------------------------|-----------------------------------------|---------------------|
| Category<br>B | Applicable Model/s<br>All HLA Models | Subject<br>HLA NOISE AFTER LONG STORAGE | Bulletin No. 005/95 |
|               |                                      |                                         | Issued 3/28/95      |
|               |                                      |                                         | Revised             |

## APPLICABLE MODELS/VINS

A primary cause of HLA noise is the result of oil draining back to the crankcase during long periods of storage. Category B of the applicable workshop manual contains diagnostic information to determine if the HLA is normal or requires replacement. The following information will update the procedure listed in the manual. Follow this procedure to determine if the HLA requires replacement. Instructions in the manual will be revised in the 1996 manual.

**NOTE: Service Managers should make a reference to this bulletin in the applicable workshop manuals.**

## DIAGNOSTIC PROCEDURE

1. Check engine oil and replenish if necessary.

**NOTE: If the oil is dirty or a service interval has been missed, replace the oil. Inform the customer of the need to change oil and that this is not covered under the normal vehicle warranty.**

2. Run the engine to normal operating temperature.
3. Increase the idle to 2,000 - 3,000rpm and maintain this speed until HLA noise stops or 20 minutes.

**NOTE: Do not exceed 20 minutes.** Currently the workshop manual states 10 minutes, this will be revised in the 1996 workshop manual.

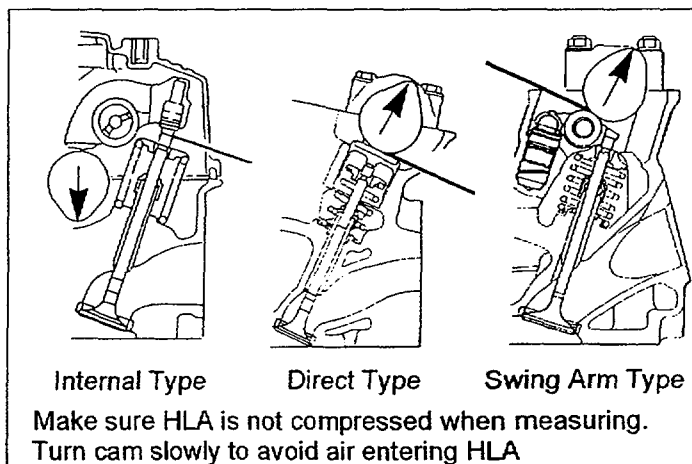
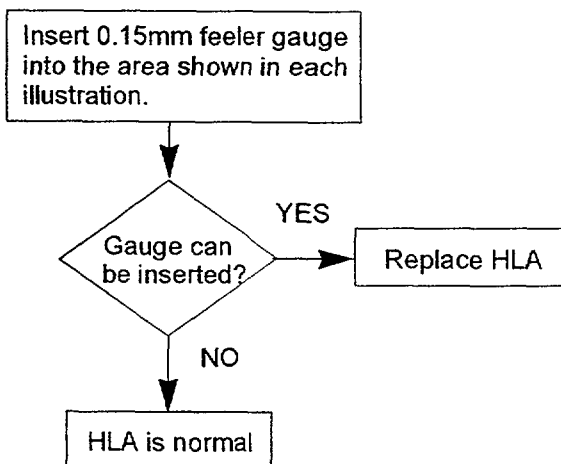
**Watch the engine temperature during this operation. If the temperature exceeds normal range, reduce the engine speed to idle until the temperature returns to normal.**

If the above method does not eliminate the HLA noise, the following may be the cause of the noise:

- a) Low oil pressure due to clogged oil pump strainer
- b) Oil pump internal problems
- c) Faulty HLA

Refer to the workshop manual for additional troubleshooting information for items "a" and "b" above.

If the HLA is suspected as the cause of the noise item "c", identify the faulty HLA and replace **only those that require replacement**. Use the method below to determine which HLA requires replacement.



**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
Service Manager

Signature \_\_\_\_\_  
Parts Manager

Index # 042423

# Service Bulletin

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# MAZDA

|               |                                      |                                                                                                   |                     |
|---------------|--------------------------------------|---------------------------------------------------------------------------------------------------|---------------------|
| Category<br>B | Applicable Model/s<br>1993 - 95 RX-7 | Subject<br>LEFT ENGINE MOUNT INTERFERES WITH<br>OIL PAN BOLT - Remanufactured Engine Installation | Bulletin No. 008/97 |
|               |                                      |                                                                                                   | Issued 11/18/97     |
|               |                                      |                                                                                                   | Revised             |

## APPLICABLE MODELS

1993 - 95 RX-7 with a VIN of JM1FD333\*S0400027 and lower.

## DESCRIPTION

During remanufactured rotary engine installation, the left rubber engine mount may interfere with an oil pan installation bolt. To prevent this concern, follow the procedures below.

## INSTALLATION PROCEDURE

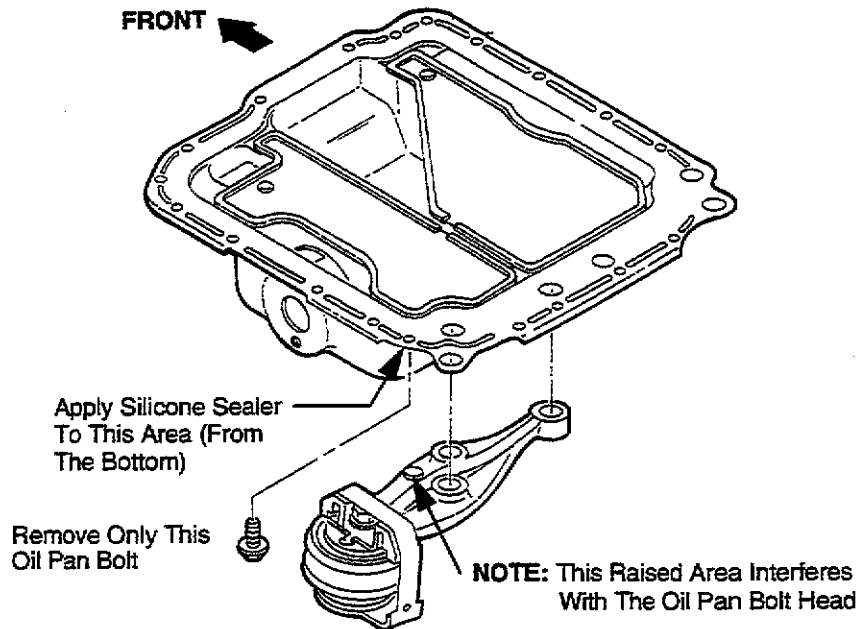
1. Verify concern.
2. Remove oil pan bolt and discard. Refer to the illustration below.
3. Apply silicone sealer to the bolt hole and pan area.

**NOTE:** ThreeBond TB1207D, Loctite Ultra Gray 599 (or equivalent)

4. Install engine mounts according to section C of the workshop manual.

**Tightening Torque:** 75 - 93Nm (7.6 - 9.5 Kgfm, 55 - 68 ft-lbsf).

5. Operate engine to normal temperature and inspect oil pan area for leaks.
  - If no leaks are present, return vehicle to customer.
  - If leaks occur, repair as necessary.



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|               |                                  |                                           |                     |
|---------------|----------------------------------|-------------------------------------------|---------------------|
| Category<br>E | Applicable Model/s<br>All Models | Subject<br>PROPYLENE GLYCOL BASED COOLANT | Bulletin No. 001/94 |
|               |                                  |                                           | Issued 10/21/94     |
|               |                                  |                                           | Revised             |

## AFFECTED MODELS

All Mazda Vehicles

## DESCRIPTION

Mazda does not recommend propylene glycol coolants. Available information indicates the following characteristics regarding propylene glycol coolants:

- Provides less heat transfer
- May not provide adequate corrosion protection (to meet Mazda specifications)
- Freezing temperature is 10 - 20% higher than ethylene glycol based coolants

Mazda recommends ethylene glycol and water mixture. Customer's with questions regarding coolant should be directed to the information in Section 7 of their owner's manual.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_ Signature \_\_\_\_\_

Service Manager

Parts Manager

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059151



# Service Bulletin

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|               |                                  |                                      |                     |
|---------------|----------------------------------|--------------------------------------|---------------------|
| Category<br>E | Applicable Model/s<br>All Models | Subject<br>RECONDITIONED ANTI-FREEZE | Bulletin No. 002/96 |
|               |                                  |                                      | Issued 06/27/96     |
|               |                                  |                                      | Revised             |

## AFFECTED MODELS

All Models

## DESCRIPTION

Mazda does not recommend the use of reconditioned anti-freeze. Mazda recommends ethylene glycol base coolants for all Mazda aluminum engines.

Although reconditioned anti-freeze is available, this product may contain silicon particles which may be abrasive to the water pump seal. Additionally, reconditioned anti-freeze may contain chemicals (alcohol or methanol) that erode metal parts.

Service Managers should inform customers that Mazda does not recommend reconditioned anti-freeze and that problems (mechanical and otherwise) related to the use of reconditioned anti-freeze are not warrantable.

**Caution: Anti-freeze is considered a hazardous and toxic substance. Handled and disposed must be done in accordance with local, state and federal laws.**

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# Service Bulletin

LJA

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|               |                                                         |                                         |              |         |
|---------------|---------------------------------------------------------|-----------------------------------------|--------------|---------|
| Category<br>F | Applicable Model/s<br>All EFI Models<br>(Except DIESEL) | Subject<br><b>FUEL INJECTOR CLEANER</b> | Bulletin No. | 001/93  |
|               |                                                         |                                         | Issued       | 1/11/93 |
|               |                                                         |                                         | Revised      |         |

**DESCRIPTION**

To improve fuel injection performance, Mazda has tested and approved a highly effective FUEL INJECTOR CLEANER. The kit and cleaner is recommended for all Mazda fuel injection systems. Mazda's Fuel Injector Cleaner uses a chemical "reducing agent" rather than the common solvent used in the typical aftermarket cleaners. As a result, in tests against aftermarket competitors, Mazda's cleaner outperformed all others and was the only one to restore the fuel injector's flow rate to the original factory specifications.

Dirty fuel injectors are an increasing common problem. Many cases are due to gasoline deposits such as gum, resin and sulfur. These deposits can cause stalling, difficult starting, rough idle and diminished power.

Mazda's Fuel Injector Cleaner and Fuel Injection Tool Kit are available through the Parts Department. Also available is a Fuel Injector Service Brochure that is free of charge from Helm, Inc. (1-800-782-4356). This brochure outlines to your customer the importance and advantages of a clean fuel injection system. Refer to the following part numbers when ordering:

| <u>DESCRIPTION</u>                 | <u>PART NUMBER</u> | <u>REMARKS</u>                                       |
|------------------------------------|--------------------|------------------------------------------------------|
| Fuel Injector Cleaner              | 0000 77 2019       | case of 12 cans                                      |
| Tool Kit                           | 0000 77 2026       | w/ instructions<br>(Req'd for use with the cleaner.) |
| Fuel Injector Service<br>Brochures | 9999 95 043N 92    | QTY: 1 package = 50 brochures                        |

We recommend that you offer Mazda's Fuel Injector Cleaner as part of your routine maintenance menu. Mazda's fuel injectors should be cleaned every 15,000 miles.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Signature \_\_\_\_\_

..... Service Manager

Parts Manager

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# Service Bulletin

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v

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|               |                                  |                                                                                   |                     |
|---------------|----------------------------------|-----------------------------------------------------------------------------------|---------------------|
| Category<br>F | Applicable Model/s<br>All Models | Subject<br>PROPER PREPARATION FOR STATE<br>EMISSION INSPECTION & MAINTENANCE TEST | Bulletin No. 005/93 |
|               |                                  |                                                                                   | Issued 4/28/93      |
|               |                                  |                                                                                   | Revised             |

## DESCRIPTION

Some vehicles with properly functioning emission control systems may fail certain states' emission inspection and maintenance test(s) (tailpipe emission tests).

In order to avoid the above mentioned condition, make sure the following items are observed before conducting the test:

- Engine should be warmed up but not overheating (as indicated by gauge or warning light).
- All electrical loads and A/C should be turned off.
- For 5-speed models: Neutral range should be selected.
- For automatic transmission models: "N" or "P" range should be selected.

**NOTE:** All Mazda vehicles meet the U.S. EPA and California emission standards when tested under the EPA certification test procedure.

## PREPARATION PROCEDURE

Perform the following before conducting the emission inspection and maintenance test:

1. Before testing, bring the engine's operating temperature to normal by operating the engine for approximately 3 minutes at 2500-3000 rpm.

**NOTE:** When the cooling fan has cycled on and off twice, the engine has reached its normal operating temperature.

2. Test the vehicle as soon as possible after the engine has warmed up. Keep the engine at operating temperature during the test.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

..... Service Manager

Signature \_\_\_\_\_

Parts Manager

Index # **033546**

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# Service Bulletin

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|               |                                    |                                                  |                     |
|---------------|------------------------------------|--------------------------------------------------|---------------------|
| Category<br>F | Applicable Model/s<br>1986-94 RX-7 | Subject<br>INTAKE MANIFOLD GASKET<br>PRECAUTIONS | Bulletin No. 005/95 |
|               |                                    |                                                  | Issued 3/15/95      |
|               |                                    |                                                  | Revised 3/28/95     |

The revised portion of this bulletin is indicated by an asterisk (\*). Replace the original bulletin with this revised copy.

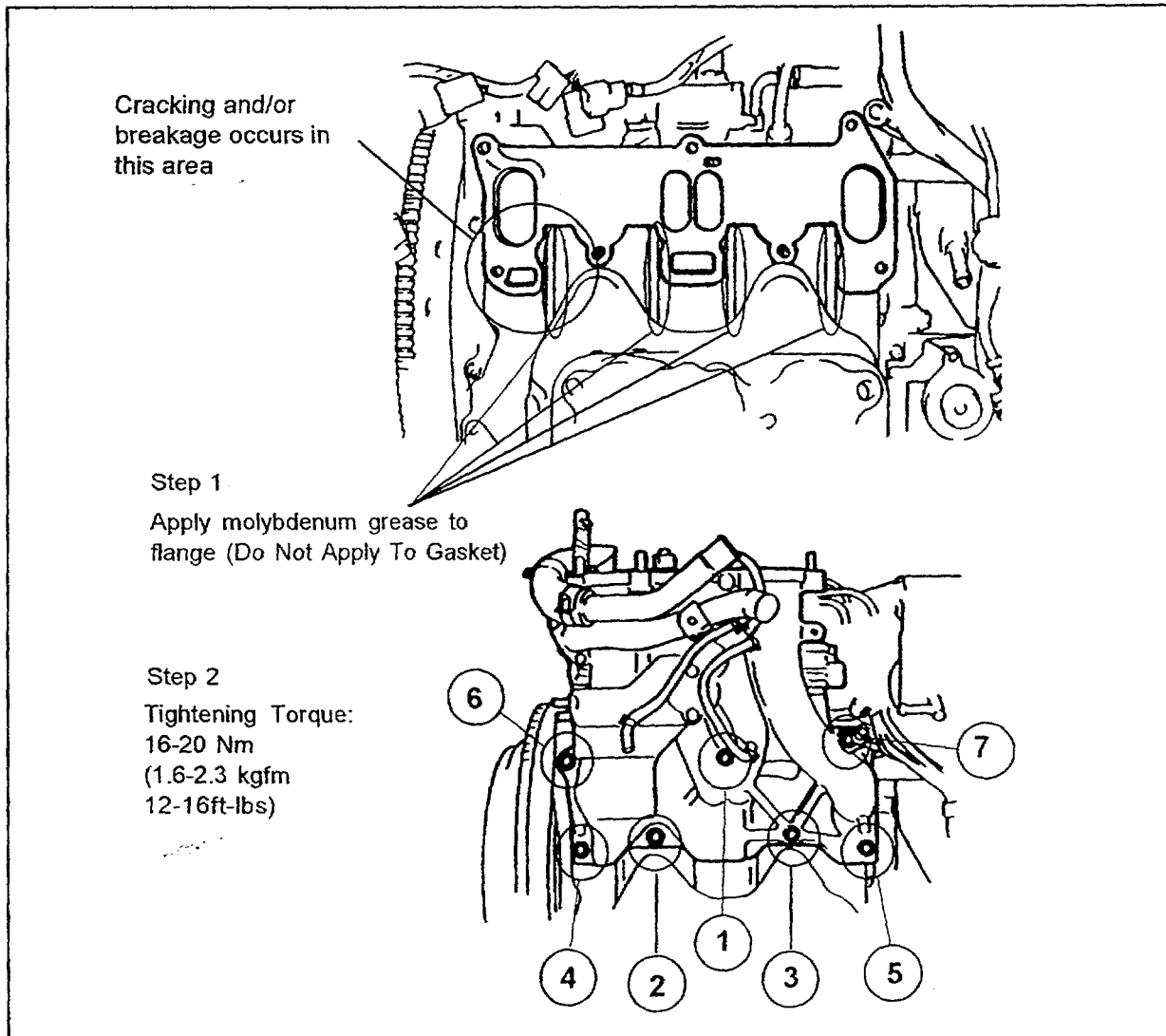
**APPLICABLE MODELS/VINS**  
1986 - 94 RX-7 Model Vehicles

## DESCRIPTION

Rough idle that occurs after replacing an intake manifold gasket may be caused by damage to the gasket. If the proper torque tightening sequence is not followed, cracks and/or breakage may occur.

## INSTALLATION PROCEDURE

Refer to the instructions and tightening sequences shown below when installing the gasket. Make a note in the applicable workshop manuals to avoid problems during installation.



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Signature \_\_\_\_\_ Signature \_\_\_\_\_

|               |                                    |                                                  |              |         |
|---------------|------------------------------------|--------------------------------------------------|--------------|---------|
| Category<br>F | Applicable Model/s<br>1986-94 RX-7 | Subject<br>INTAKE MANIFOLD GASKET<br>PRECAUTIONS | Bulletin No. | 005/95  |
|               |                                    |                                                  | Issued       | 3/15/95 |
|               |                                    |                                                  | Revised      | 6/16/95 |

The illustration in this bulletin is revised. Replace the original bulletin with this revised copy.

### APPLICABLE MODELS/VINS

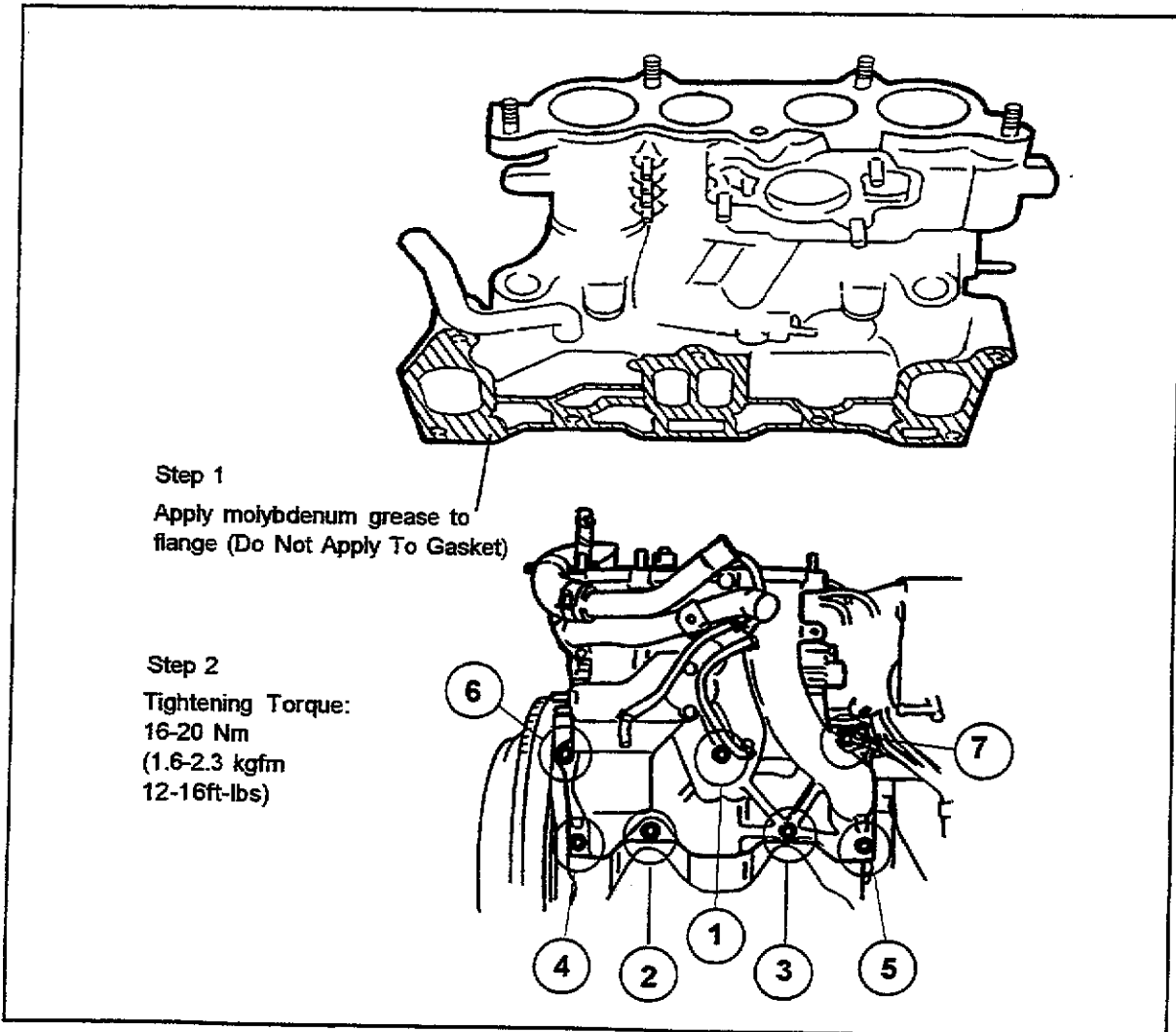
1986 - 94 RX-7 Model Vehicles

### DESCRIPTION

Rough idle that occurs after replacing an intake manifold gasket may be caused by damage to the gasket. If the proper torque tightening sequence is not followed, cracks and/or breakage may occur.

### INSTALLATION PROCEDURE

Refer to the instructions and tightening sequences shown below when installing the gasket. Make a note in the applicable workshop manuals to avoid problems during installation.



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Signature \_\_\_\_\_ Signature \_\_\_\_\_

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# MAZDA

|               |                                    |                                                              |                                                   |
|---------------|------------------------------------|--------------------------------------------------------------|---------------------------------------------------|
| Category<br>F | Applicable Model/s<br>1993-94 RX-7 | Subject<br>SERVICE POINTS FOR FUEL<br>LEAKAGE RECALL VEHICLE | Bulletin No. 005/96<br>Issued 03/12/96<br>Revised |
|---------------|------------------------------------|--------------------------------------------------------------|---------------------------------------------------|

## APPLICABLE MODELS

1993 - 1994 RX-7 vehicles with a VIN of JM1FD33\*\*P0303550 and lower.

## DESCRIPTION

Under the repair for vehicles subject to recall campaign No. 60504, the fuel pipe is adhered at three (3) points ("A", "B" and "C") as shown below. The following procedures may be used when removing the fuel hose and the fuel pipe from these points.

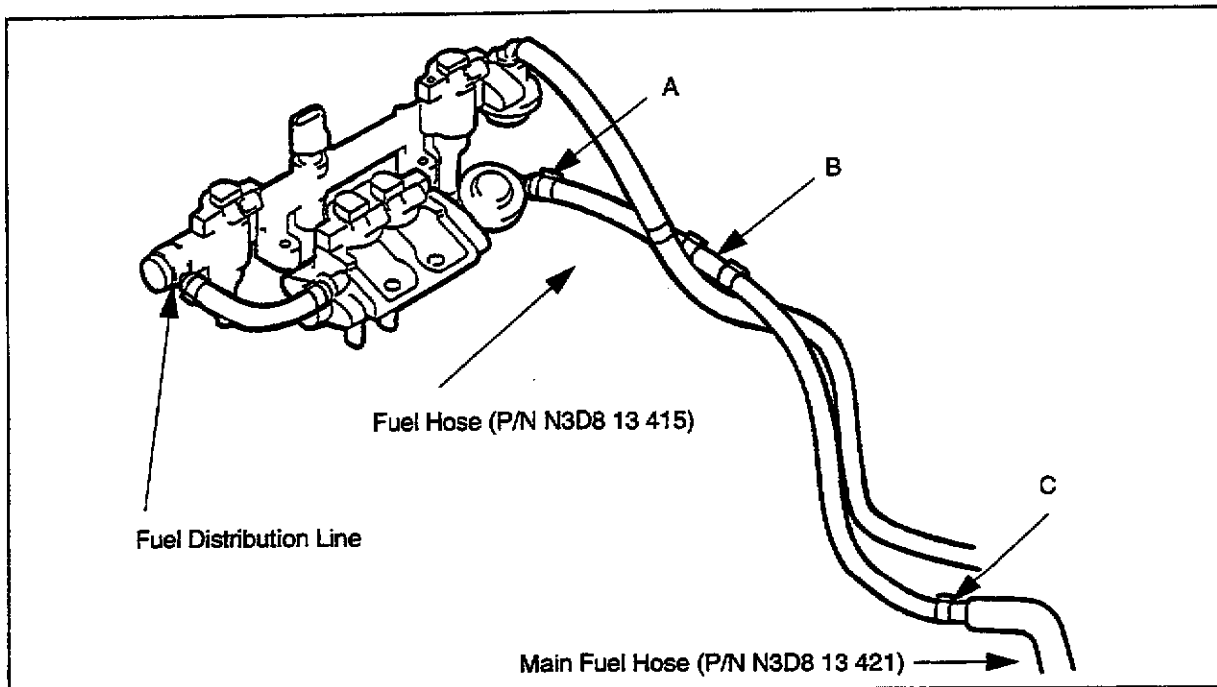
## SERVICE POINTS

1. Once the fuel hose is removed from any of the three (3) points, do not reuse the hose.
2. Install a new hose supplied in the campaign kit.
3. Install new clips.

**NOTE:** It is not necessary to apply adhesive to the new hoses for the following reasons:

- The adhesive (supplied with the campaign repair kit) is a curing solution used to accelerate drying time.
- The adhesive is primarily used as a lubricant to facilitate installation.
- New hoses have adhesive applied and do not require additional adhesive.
- Availability and maintenance of the adhesive at the dealer level.

When removing an engine from any of the above mentioned vehicles, disconnect the main fuel line from the other side of the adhered spot (Refer to area "C").



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059906

# Service Bulletin

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# MAZDA

|               |                                    |                                                          |                                                   |
|---------------|------------------------------------|----------------------------------------------------------|---------------------------------------------------|
| Category<br>F | Applicable Model/s<br>1993-95 RX-7 | Subject<br>HESITATION (JERKING/BUCKING)<br>WHILE DRIVING | Bulletin No. 005/97<br>Issued 03/10/97<br>Revised |
|---------------|------------------------------------|----------------------------------------------------------|---------------------------------------------------|

## APPLICABLE MODELS

1993 - 95 RX-7

## DESCRIPTION

A jerk or bucking condition may occur under any of the following conditions:

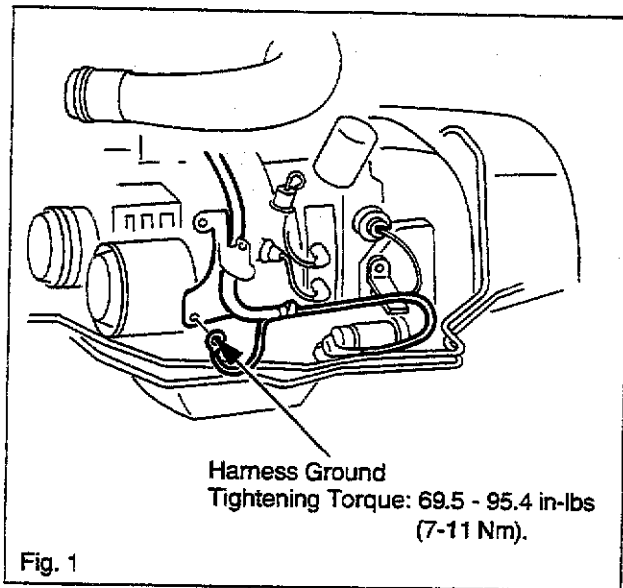
- Under light to moderate acceleration
- Cruising at engine speed of 2000 - 2200 rpm
- A/C ON

This concern may be caused by improperly grounded engine harness, creating high resistance in the engine ground circuits. This condition affects the fuel control system.

Customers complaining of this concern should have the vehicle inspected and if necessary, repaired according to this bulletin.

## REPAIR PROCEDURE

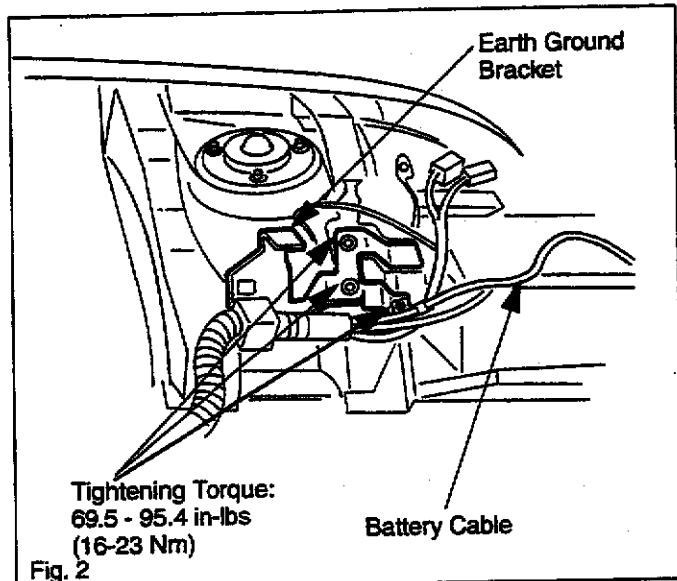
1. Clean and retorque harness ground.
  - Locate ground on left side of engine, mounted to bracket behind A/C compressor. Refer to the applicable BETM or wiring diagram.
  - Tightening Torque: 69.5 - 95.4 in-lbs (7-11 Nm).



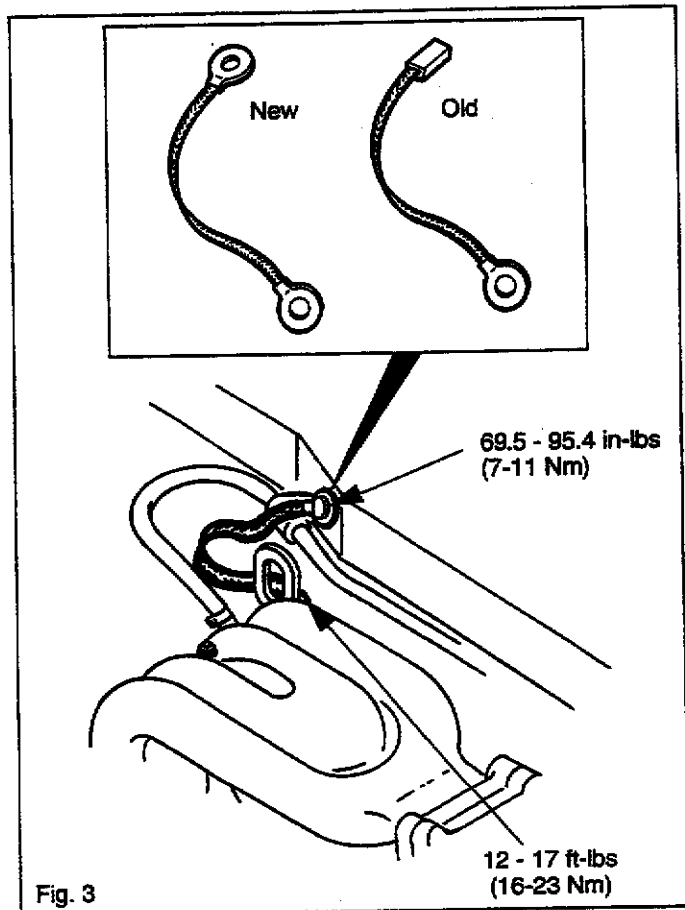
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2. Clean and retorque main battery ground and bracket mounting bolts (bracket used for mounting the ground).

- Tightening Torque:  
69.5 - 95.4 in-lbs  
(7-11 Nm)



- Remove the original ground strap and terminal bracket between the engine hanger and the bulkhead.
- Install new styie ground strap using the original bolts.
- Tighten Torque:  
12 - 17 ft-lbs (engine hanger side) (16-23 Nm)  
69.5 - 95.4 in-lbs (7-11 Nm) (engine room bulk-head side)



3. Verify repair.



|                |                       |          |
|----------------|-----------------------|----------|
| Number: 005/97 | Date Issued: 03/10/97 | Revised: |
|----------------|-----------------------|----------|

**PARTS INFORMATION**

| Part Number |              | Description | Qty | Inter. |
|-------------|--------------|-------------|-----|--------|
| New         | Old          |             |     |        |
| FD02-67-E70 | FD01-67-E70A | Earth Wire  | 1   | A      |

**Interchangeability "A"** = The new part can be used in place of the old part but the old part can not be used in place of the new part.

**WARRANTY INFORMATION**

*(Applies To Verified Customer Complaints On Vehicles Covered Under Normal Warranty. Refer To The SRT Microfiche For Warranty Term Information.)*

Warranty Type: A  
Symptom Code: 08  
Damage Code: 9S  
Part Number Main Cause: FD02-67-E70  
Quantity: 1  
Operation Number: XX899XRX  
Labor Hours: 0.2 Hrs.

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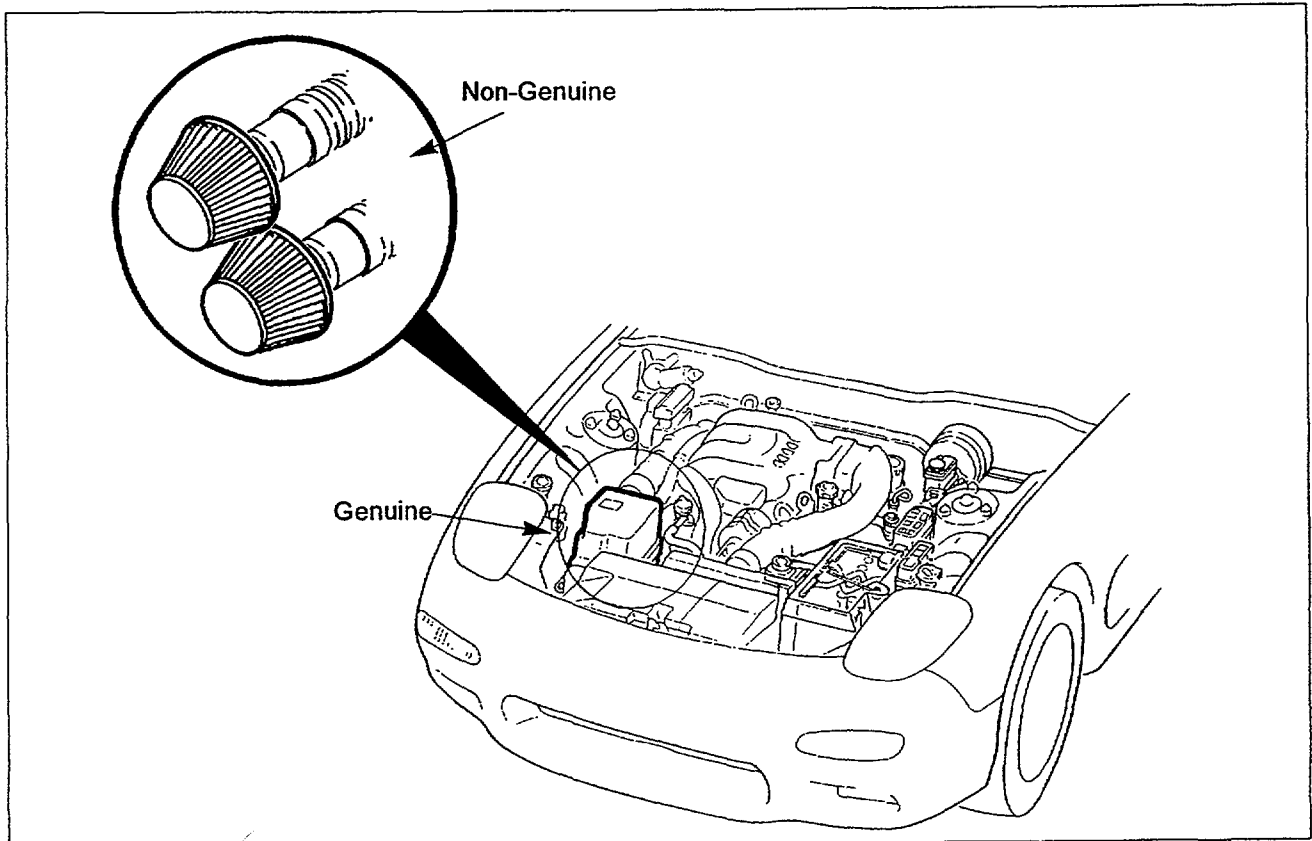


|               |                                    |                                                                                |                     |
|---------------|------------------------------------|--------------------------------------------------------------------------------|---------------------|
| Category<br>F | Applicable Model/s<br>1993-95 RX-7 | Subject<br>AIR PUMP FAILURE DUE TO INSTALLATION<br>OF NON-GENUINE AIR CLEANERS | Bulletin No. 006/95 |
|               |                                    |                                                                                | Issued 4/5/95       |
|               |                                    |                                                                                | Revised             |

Installing non-genuine air cleaners may lead to air pump failure.

Unlike the original design, non-genuine air cleaners (as shown below) draw heated, engine compartment air into the air pump. This air increases pump temperature which may result in lubrication loss and bearing failure. Customers should be informed that the vehicle warranty prohibits alteration of the emission control system as well as other components.

Recommend that the customer have the original air cleaner installed to prevent non-warrantable component failure.



Index # 042725

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_ Signature \_\_\_\_\_  
Service Manager Parts Manager

# Service Bulletin

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|               |                                  |                                                                |                     |
|---------------|----------------------------------|----------------------------------------------------------------|---------------------|
| Category<br>F | Applicable Model/s<br>All Models | Subject<br>DRIVEABILITY CONCERNS<br>RELATED TO FUEL VOLATILITY | Bulletin No. 013/96 |
|               |                                  |                                                                | Issued 05/24/96     |
|               |                                  |                                                                | Revised             |

## APPLICABLE MODELS

All Models

## DESCRIPTION

Some driveability concerns are related to fuel volatility. This bulletin briefly describes some of the symptoms and causes.

## SYMPTOM

1. Unleaded gasoline with volatility too high for ambient temperatures may cause the following concerns during warmed-up driving and hot restarts:

- No Start
- Rough Idle
- Surging
- Vapor Lock

**NOTE:** These symptoms are most typical during spring and summer months when winter gasoline may still be available.

2. Unleaded gasoline with volatility too low for ambient temperatures may cause the following concerns:

- Long Crank Time
- Rough Idle
- Hesitation
- Poor Throttle Response
- Induction Backfire
- Stalls
- Similar symptoms caused by lean operation during initial cold starts and drive-away.

**NOTE:** Gasoline's volatility is higher (vaporizes easily) in the winter and lower in the summer.

## REPAIR PROCEDURE

1. Verify the concern.
2. Perform the diagnostics in section F of the workshop manual.

**NOTE:** Often, no trouble codes are found if the concern(s) are caused by gasoline.

3. If the concern(s) is still present, the fuel volatility may be the cause. Refer to the appropriate condition on page 2 for diagnostic information.

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|                |                       |          |
|----------------|-----------------------|----------|
| Number: 013/96 | Date Issued: 05/24/96 | Revised: |
|----------------|-----------------------|----------|

#### **WARM ENGINE - WARM / HOT AMBIENT TEMPERATURES**

- Recommend that the customer try to identify a source of fresh, good quality gasoline. A station which receives frequent shipments of fuel will likely be a source of fresh, good quality gasoline.
- Using such gasoline may be more appropriate for these ambient temperatures.

#### **COLD ENGINE - COLD AMBIENT TEMPERATURES**

- Advise customer's using a higher than recommended octane to switch to the recommendations in the owner's manual.
  - Do not advise using a higher octane than recommended for that engine. Premium octane grade unleaded gasoline does not provide better fuel economy or performance than regular octane grade gasoline. **Only** advise using a higher octane grade gasoline to avoid potentially damaging "spark knock" or "ping." Recommend this octane only after diagnostic procedures are ineffective.
  - Advise customers using the recommended octane grade unleaded gasoline to try another brand.
  - If customers are using a gasoline containing an oxygenate, advise them to try another brand of oxygenated gasoline. If possible, advise customers in this category to try a gasoline which is not oxygenated.
- NOTE:** The oxygenate type should be posted on the pumps.

#### **GENERAL INFORMATION**

- No fuel additives will resolve this concern(s).
- Always use a gasoline with a "In-tank System Deposit Control" detergent that helps maintain proper operation of fuel injectors and keeps valves clean.
- This information may be used on any model year vehicles exhibiting these concerns.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                  |                                                                                              |                                                   |
|---------------|----------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------|
| Category<br>F | Applicable Model/s<br>All Models | Subject<br>CALIFORNIA REFORMULATED GASOLINE<br>(Effect On Vehicle Performance, Fuel Economy) | Bulletin No. 014/96<br>Issued 06/06/96<br>Revised |
|---------------|----------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------|

## DESCRIPTION

This bulletin is issued to provide service personnel with information to answer commonly asked questions regarding California Reformulated Gasoline (CaRFG). Please use this information to address customer concerns.

## BACKGROUND

- The purpose of CaRFG is to reduce emissions.
- CaRFG replaces the traditionally high pollution generating gasoline distributed in Northern California.
- CaRFG improves the reformulated gasoline distributed in Southern California.

The California Air Resources Board (CARB) expects smog forming emissions from motor vehicles to decrease by approximately 15% due to CaRFG.

## MAZDA'S POSITION ON CaRFG

- CaRFG does not affect the new vehicle or emission warranty.
- Mazda recommends the use of CaRFG as a cost effective means of reducing emissions to provide cleaner air.
- Vehicle and laboratory testing of CaRFG ensures that CaRFG is acceptable for customer use.
- Based on the above studies, no unusual vehicle performance concerns are expected.

## DIFFERENCE BETWEEN CaRFG AND OTHER GASOLINES

CaRFG consists of the same basic components as other gasoline but, pollutes less due to cleaner burning components and fewer toxic components. These components provide:

- Reduced aromatic hydrocarbons to form less smog emissions.
- Added oxygenates to reduce emissions.
- Decreases the amount of vehicle fuel evaporation.
- Lower sulfur to provide more efficient catalytic converter operation.
- Reduced benzene by approximately 50%.

## CaRFG AFFECT ON VEHICLE PERFORMANCE

Properly blended CaRFG should have no adverse affect on vehicle performance, engine durability or fuel system components. Basic components of CaRFG are not significantly different from other cleaner burning gasoline used in the United States for several years.

If the vehicle is a California calibrated 1996 or later model, the vehicle will:

- Operate satisfactorily on gasoline in the other 49 states but the emission control system performance may be effected.
- Using gasoline other than CaRFG may cause the Malfunction Indicator Light (MIL) to illuminate or cause the vehicle to fail an emission test.

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|                |                       |          |
|----------------|-----------------------|----------|
| Number: 014/96 | Date Issued: 06/06/96 | Revised: |
|----------------|-----------------------|----------|

**CaRFG AFFECT ON FUEL ECONOMY**

A very small reduction in MPG (less than one-half MPG) is possible if the customer uses gasoline without oxygenates. This is attributed to the lower energy content of oxygenates, which have been included in all Southern California gasoline since January 1995 and some gasoline since the 1970s.

**NOTE:** Driving habits, vehicle maintenance and weather conditions all affect fuel economy. Fuel economy may vary more than 1 MPG from one fill up to the next using the same gasoline.

**NO SPECIAL ADDITIVES ARE NECESSARY WHEN USING CaRFG.**

It is not necessary to add anything to the vehicle's fuel tank after CaRFG is purchased from the service station. California regulations require deposit control additives in CaRFG to avoid port fuel injector and valve deposits.

**OLDER VEHICLE'S PERFORMANCE USING CaRFG**

Older vehicles are expected to operate satisfactorily on CaRFG because these vehicles have been operating on gasoline similar to CaRFG for a number of years.

However, considerable testing indicates that older, high mileage vehicles are more susceptible to fuel system problems due to age and normal wear and tear regardless of whether they are operated on conventional or CaRFG gasoline.

**NOTE:** Owners of older vehicles are encouraged to have their vehicle's fuel systems inspected periodically and to follow their vehicle manufacturers recommendations regarding vehicle maintenance.

**ODOR EMMITTED FROM CaRFG**

CaRFG is not expected to smell different from gasoline most vehicles currently use. If unusual odor is noticed, it is probably be from oxygenates. Most service stations use vapor recovery systems to minimize gasoline vapor release to the atmosphere during refueling.

**ADDITIONAL INFORMATION REGARDING CaRFG**

Customers can receive more information on CaRFG from the California Air Resources Board at the following toll-free number: 1-800-922-7349.

|                    |                                 |                                                          |                     |
|--------------------|---------------------------------|----------------------------------------------------------|---------------------|
| Category<br>F (01) | Applicable Model/s<br>See Below | Subject<br>TAS (THROTTLE ADJUSTMENT SCREW)<br>ADJUSTMENT | Bulletin No. 014/98 |
|                    |                                 |                                                          | Issued 12/09/98     |
|                    |                                 |                                                          | Revised             |

### APPLICABLE MODEL(S)/VINS

All fuel injected models.

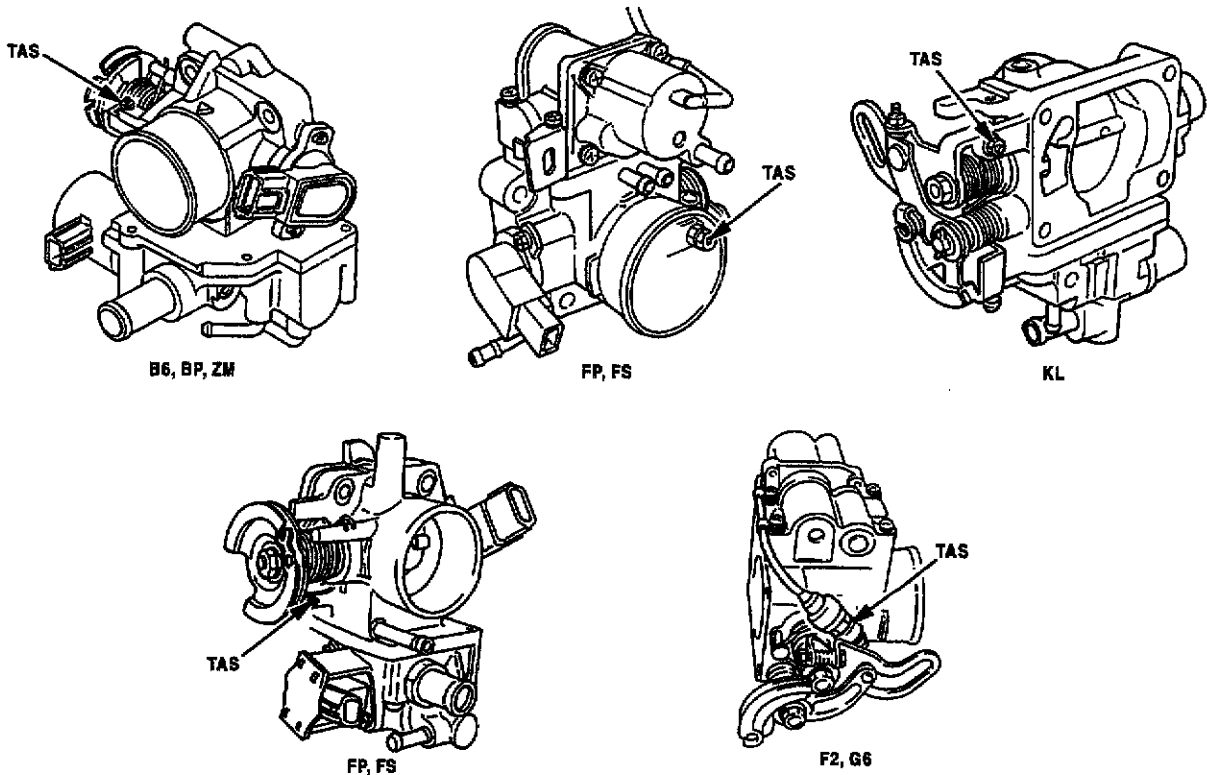
### DESCRIPTION

Fuel injected vehicles with idle speed control motors should NOT have the TAS (Throttle Adjustment Screw) adjusted for any reason. Refer to illustration below. The TAS functions as a stopper when the throttle valve is fully closed. During production, the TAS is accurately set by measuring the airflow rate past a closed throttle plate. Any adjustment to this screw will affect PCM control of idle speed.

Customers complaining of low idle speed should have their vehicle repaired using the Workshop Manual.

#### Note

- Tampering with this screw will affect the idle contact switch and/or throttle position sensor settings. This can lead to rough idle and difficulty in diagnosis of idle quality concerns.
- The TAS locations on the examples below may vary depending on model year of vehicle.



**060391**

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JFA

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|               |                                   |                                        |                     |
|---------------|-----------------------------------|----------------------------------------|---------------------|
| Category<br>F | Applicable Model/s<br>(see below) | Subject<br>PREMIUM FUEL RECOMMENDATION | Bulletin No. 018/92 |
|               |                                   |                                        | Issued 5/13/92      |
|               |                                   |                                        | Revised             |

## DESCRIPTION

If the following problems are encountered on the models shown below, it may be the result of using a lower octane, non-premium fuel.

| MODELS                                                                 | PROBLEMS                                                                                                                         |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 1992 929<br>1993 RX-7<br>1993 626 (V6 Engine)<br>1993 MX-6 (V6 Engine) | <ul style="list-style-type: none"> <li>• Engine Detonation (pinging)</li> <li>• Engine Knock</li> <li>• Lack of Power</li> </ul> |

### NOTE:

Problems listed are not model specific.

Customers experiencing any of the above symptoms should be referred to page 3-2 (or the back cover) of their Owner's Manuals. The information states; "Your Mazda vehicle will perform best with premium unleaded fuel having an octane rating (anti-knock index) of at least 91."

Dealers providing a full tank of fuel to customers upon delivery of new vehicles should use premium unleaded fuel of 91 octane or higher.

.....  
Index # **030191**  
.....

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager



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# MAZDA

|               |                                 |                                                           |                                                   |
|---------------|---------------------------------|-----------------------------------------------------------|---------------------------------------------------|
| Category<br>F | Applicable Model/s<br>See Below | Subject<br>VANE TYPE AIR FLOW METER<br>CONNECTOR HANDLING | Bulletin No. 028/96<br>Issued 12/26/96<br>Revised |
|---------------|---------------------------------|-----------------------------------------------------------|---------------------------------------------------|

## APPLICABLE MODELS

All models with vane type air flow meters.

## DESCRIPTION

Vane type air flow meters disconnected during driveability problem diagnostics may become damaged during connector disconnection.

To avoid unnecessary replacement, follow the procedures below to properly remove vane type air flow meter connections.

Service Managers should place a copy of this bulletin in section F of the applicable workshop manuals.

**NOTE:** Air flow meter replacement due to connector circuit damage may result in warranty claim denial.

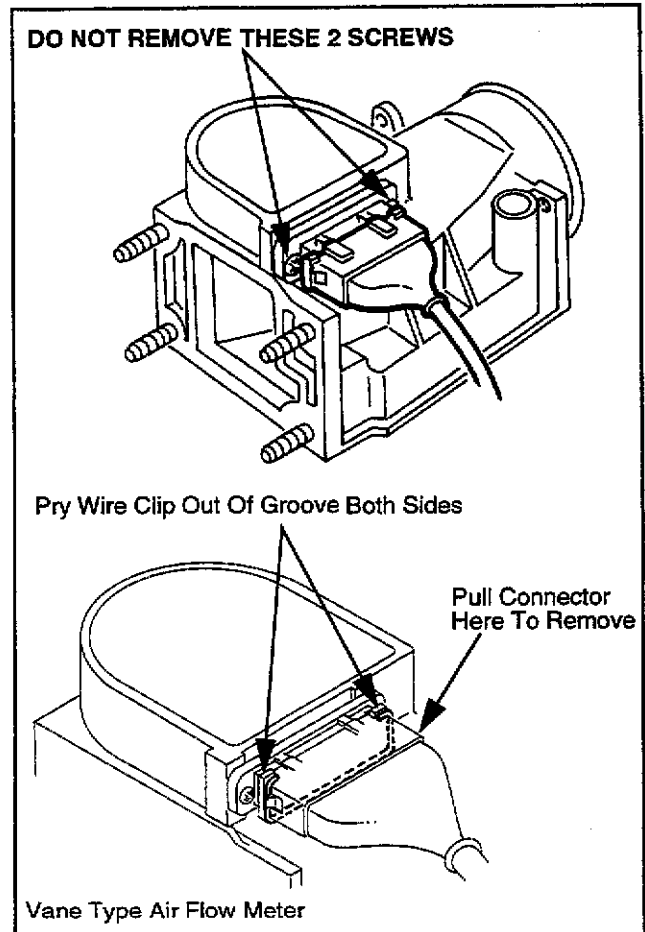
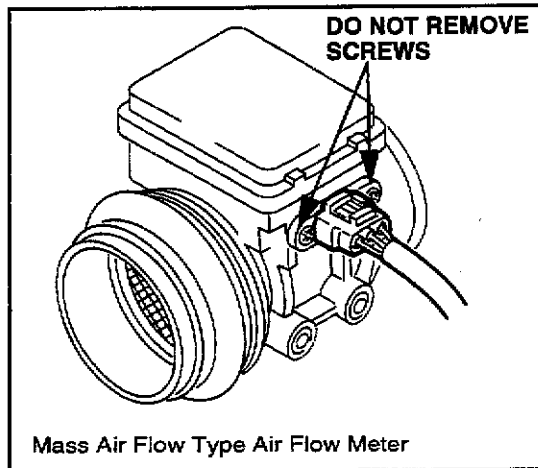
## CONNECTOR REMOVAL PROCEDURE

**CAUTION: DO NOT** remove the two (2) screws on the air flow meter. Removing these screws and pulling on the connector will damage the air flow meter circuitry.

**This instruction applies to other type air flow meters as well.**

1. Remove wire clip from groove at both sides using a small screwdriver.
2. Remove connector.

**NOTE:** Connector may be hard to remove, apply steady force on connector body **NOT** harness wiring.



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|               |                                 |                                                              |                     |
|---------------|---------------------------------|--------------------------------------------------------------|---------------------|
| Category<br>F | Applicable Model/s<br>1993 RX-7 | Subject<br>ENGINE STALLS DURING WARM-UP/<br>IDLE FLUCTUATION | Bulletin No. 032/92 |
|               |                                 |                                                              | Issued 12/23/92     |
|               |                                 |                                                              | Revised             |

## AFFECTED VINS

This bulletin applies to 1993 RX-7 M/T models with a VIN of JM1FD3312P0208703 or lower produced through July 2, 1992.

This bulletin does not apply to 1993 RX-7 M/T models with a VIN equal to or greater than JM1FD3312P0208704 and produced after July 2, 1992.

This bulletin applies to 1993 RX-7 A/T models with a VIN of JM1FD331XP0210513 or lower produced through September 30, 1992.

This bulletin does not apply to 1993 RX-7 A/T models with a VIN equal to or greater than JM1FD331XP0210514 and produced after September 30, 1992.

## DESCRIPTION

Some 1993 RX-7 vehicles may experience stalling during deceleration with the throttle released, approaching a stop. This occurs during initial warm-up and, sometimes, after reaching normal operating temperature. The engine will then restart easily and stalling may not reoccur until the next cold engine start.

Also, when idling with the A/C on, engine speed decreases as the A/C compressor engages and idle fluctuation may occur.

The ECU has been modified as a countermeasure. If any of the above symptoms are encountered, replace the ECU. The modified ECU is designed to:

1. Make necessary air-fuel ratio adjustments to maintain stable idle at all temperatures (for A/T & M/T).
2. Turn off the A/C compressor when the clutch pedal is depressed or when the accelerator pedal is released (for M/T).

## REPAIR PROCEDURE

Removal & installation procedures are shown in Section F of the Workshop Manual. See Parts Information for list of replacement parts.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
Service Manager

Signature \_\_\_\_\_  
Parts Manager

|                         |                  |          |
|-------------------------|------------------|----------|
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|-------------------------|------------------|----------|

**PARTS INFORMATION**

| PART NUMBER  | DESCRIPTION          |
|--------------|----------------------|
| N3A1 18 881R | ECU (Federal M/T)    |
| N3A2 18 881R | ECU (Federal A/T)    |
| N3A3 18 881R | ECU (California M/T) |
| N3A4 18 881R | ECU (California A/T) |

**CORE RETURN PROCEDURES**

1. Fill out a Warranty Shipping Record form.
2. Ship the old ECU to:
 

MMA – Customer Support  
2 Cromwell  
Irvine, CA 92718  
ATTN: Warranty Dept.
3. Failure to ship the old ECU will result in the denial of the warranty claim.
4. Refer to Parts Bulletin No. R-11 for details.

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty.)*

Warranty Type Code: A  
 Customer Comment Code: 03  
 Damage Code: 99  
 Part No. of Main Cause: N3A1 18 881R  
                                   N3A2 18 881R  
                                   N3A3 18 881R  
                                   N3A4 18 881R  
 Operation No: F0812XRX  
 Labor Hours: 0.3 hrs.

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|               |                                     |                                     |                     |
|---------------|-------------------------------------|-------------------------------------|---------------------|
| Category<br>G | Applicable Model/s<br>1993 RX-7 A/T | Subject<br>NO START AFTER HEAT SOAK | Bulletin No. 001/93 |
|               |                                     |                                     | Issued 7/2/93       |
|               |                                     |                                     | Revised             |

## APPLICABLE MODELS/VINS

1993 RX-7

Automatic transmission vehicles with a VIN of JM1FD3\*\*\*P0200001 through JM1FD3\*\*\*P0210498.

## DESCRIPTION

Hard restart after running the vehicle at high speeds on hot days. Vehicle restarts easily after engine compartment cools down.

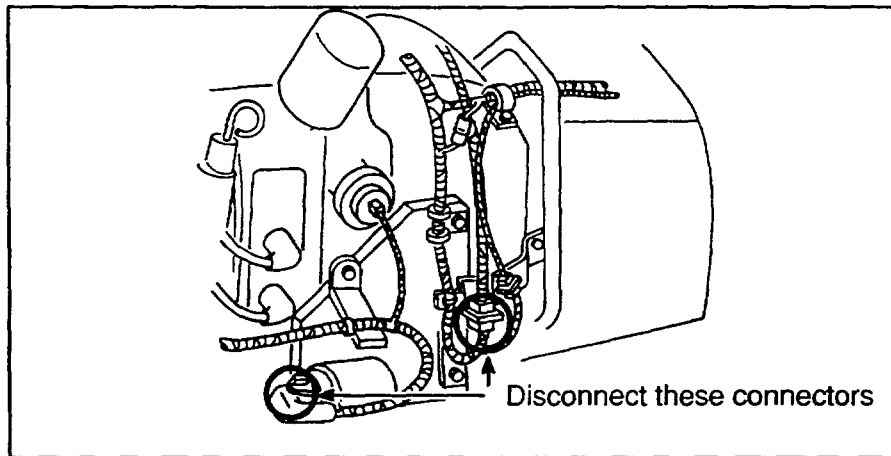
This hard start condition is caused when heat from the engine increases the electrical resistance in the starter wire. This decreases the amount current received at the "S" terminal on the starter.

To correct this problem, the starter harness length has been changed and the amount of current applied to the "S" terminal during starting increased.

## REPAIR PROCEDURE

If the condition exists, install the countermeasure starter wire harness.

1. Disconnect the vehicle battery.
2. Raise the vehicle on a hoist or raise the front end with ramps.
3. Disconnect the connectors at the starter.



**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

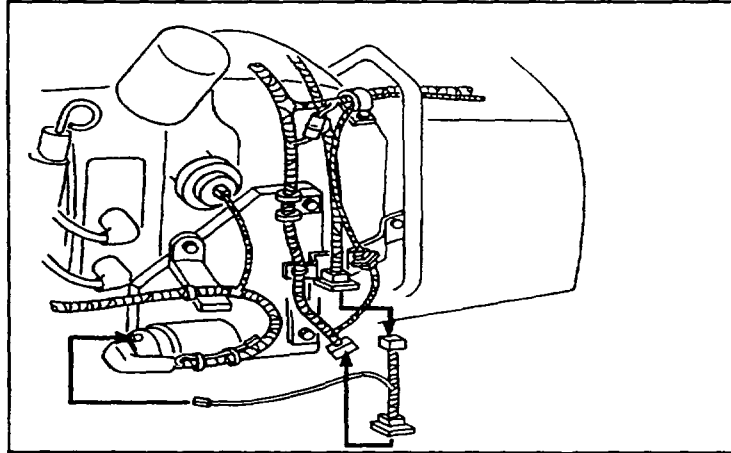
Parts Manager

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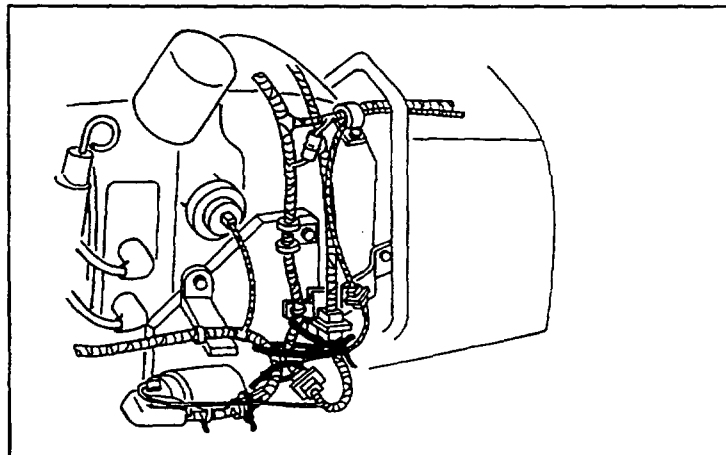
Page 1 of 2

|                |                     |               |
|----------------|---------------------|---------------|
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|----------------|---------------------|---------------|

4. Connect countermeasure harness FDY1 67 SH0 as shown.



5. Tape off OEM starter solenoid wire. Secure countermeasure harness with 4 tie-wraps E018 67C92. Confirm there is no interference between the brake and fuel lines.



**PARTS INFORMATION**

| PART NUMBER | DESCRIPTION          | QTY |
|-------------|----------------------|-----|
| FDY1 67 SH0 | Starter Wire Harness | 1   |
| E018 67 C92 | Tie-Wrap             | 4   |

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty.)*

Warranty Type Code: A  
Customer Comment Code: 02  
Damage Code: 99  
Part No. of Main Cause: FDY1 67 SH0  
Operation No.: XX0568RX  
Labor Hours: 0.4 Hrs.

# Service Bulletin

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|               |                                  |                                                                          |                                                            |
|---------------|----------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------|
| Category<br>G | Applicable Model/s<br>All Models | Subject<br>MAINTENANCE FREE BATTERY<br>DIAGNOSTIC AND CHARGING PROCEDURE | Bulletin No. 001/97<br>Issued 04/08/97<br>Revised 06/19/97 |
|---------------|----------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------|

**NOTE:** The information in this bulletin has changed. Replace the original bulletin with this revised copy.

## APPLICABLE MODELS

All Models

## DESCRIPTION

The information in this bulletin describes:

- Conditions that may lead to battery failure
- Correct servicing and inspection procedures
- Samples of current inspection sheets and maintenance records
- Requirements for Warranty submission

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**Attachments:** Sample of battery Maintenance Records and Battery Check Sheet

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| Number:001/97 | Date Issued: 04/08/97 | Revised: 06/19/97 |
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**1. CONDITIONS LEADING TO BATTERY PROBLEMS**

If a customer complains of poor battery performance (i.e. slow start, no start) perform the following quick check prior to detailed diagnostics or part replacement.

| Item                               | Check                                                                             |
|------------------------------------|-----------------------------------------------------------------------------------|
| Condition Prior To Battery Problem | Door Open, Lights Left On, Radio On Etc.                                          |
| Vehicle Condition                  | Add-On Accessories Installed Properly (Alarms, Cellular Phones, Stereo Amp. Etc.) |
| Battery Condition                  | Correct Fluid Level. Check Indicator "Eye" (If Equipped) And Note Color           |
| Cable Condition                    | Must Be Free Of Corrosion, Terminals Tight                                        |
| Vehicle Wiring Grounds             | Check By Voltage Drop Measures                                                    |
| Alternator                         | Check Alternator Output (Between 13.5 And 15.5 Volts)                             |
| Alternator Drive Belt              | Must Be Set To Correct Tension And In Good Condition                              |

A preliminary check of these items will, in most cases, reveal the problem without time consuming detailed diagnostics.

**NOTE:** As a result of the product testing on returned parts, 60% of the returned alternators and 20% of the returned batteries are classified NTF (No Trouble Found).

**2. BATTERY MAINTENANCE RESPONSIBILITY**

Mazda Motor of America has instituted a comprehensive battery maintenance program at port facilities to maintain peak battery performance until delivery to the dealer. After wholesale delivery, it is the dealer's responsibility to maintain the condition of the batteries in new Mazda vehicles while in inventory and at the time of new car delivery.

**Batteries must be periodically recharged to maintain a measured 12.4 volts or better. Loss of battery voltage is dependent on ambient temperature, demo use and time in inventory.**

Mazda recommends voltage checks at one month intervals and just prior to retail delivery. The maintenance and inspection process will vary based on dealer inventory and environmental factors that affect battery life (i.e. extreme temperatures).

**3. BATTERY MAINTENANCE RECORD**

Mazda has installed a "Battery Check Tag" on the mirror of all vehicles (except B-Series and Miata) starting June 1, 1996. The tag will document the maintenance efforts of the port personnel and subsequent maintenance at the dealership.

A sample of the "Battery Check Tag" is attached to this bulletin. **Do not remove this tag from the mirror until retail delivery.**

The dealership is responsible for entering the vehicle's battery voltage onto the tag on the following occasions:

- Wholesale Delivery
- Planned Dealer Inventory Maintenance
- Retail Delivery

**NOTE:** Entries must be identified by the dealership employee number for quality tracking purposes. After retail delivery, the tag must be kept with the vehicle's service file.

If a battery claim is made on the vehicle while in inventory, a copy of the "Battery Check Tag" must be attached to the repair order.

|               |                       |                   |
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#### 4. SERVICING EQUIPMENT REQUIREMENTS

In order to accurately and quickly check the condition of maintenance-free batteries, you should have available a digital volt meter capable of reading to 0.01V and a battery tester utilizing load cells (VAT 40, or equivalent) or electronic testing (Midtronics Power Sensor Plus).

- VAT 40 testers require the battery to be charged to 12V or higher.
- Midtronics testers require 10.2V or higher to test and provides an indicator lamp confirming that the battery is OK to test. See Service Bulletin ST, 003/95 for Midtronics purchase information.

#### 5. CHARGING AND LOAD TESTING INFORMATION

The chart below gives specific charging amps, times and load test amps for 1993 - 97 vehicles. Refer to the applicable workshop manual for other model year vehicles and additional troubleshooting information.

##### FACTORY INSTALLED BATTERIES

| Model            | Battery    | Max. Charge Current (AMP) | Charge Time (Min.) | Load Test (AMP) |
|------------------|------------|---------------------------|--------------------|-----------------|
| Protege / 323    | 55D23L     | 30                        | 30                 | 180             |
| 626 / MX-6       | GROUP58R   | 30                        | 30                 | 174             |
| 929              | 55D23L     | 30                        | 30                 | 180             |
|                  | 80D26L     | 35                        | 30                 | 195             |
| Millenia         | 75D26L     | 35                        | 30                 | 195             |
|                  | 80D26L     |                           |                    |                 |
| MX-3             | 50D20L     | 25                        | 30                 | 150             |
|                  | 55D23L     | 30                        | 30                 | 180             |
|                  | 65D23L     | 30                        | 30                 | 165             |
| MX-5 Miata       | S46A24L    | 20                        | 30                 | 105             |
| RX-7             | 55D23L     | 30                        | 30                 | 180             |
|                  | 65D23L     | 30                        | 30                 | 165             |
|                  | 75D26L     | 35                        | 30                 | 195             |
| MPV              | 50D20L     | 25                        | 30                 | 150             |
|                  | 80D26L     | 35                        | 30                 | 195             |
| B-Series         | 50D20L     | 25                        | 30                 | 150             |
|                  | 75D26L     | 35                        | 30                 | 195             |
|                  | 80D26L     | 35                        | 30                 | 195             |
| 1994-97 B-Series | BX-58C     | 35                        | 20                 | 270             |
|                  | BXT-65-650 | 35                        | 20                 | 325             |
| Navajo           | BXT-65-650 | 35                        | 20                 | 325             |



**6. BATTERY DIAGNOSTIC PROCEDURES (USING LOAD TESTER VAT-40 or equivalent on Lead-Acid Batteries)**

1. Start engine and confirm that the alternator warning light is not illuminated.

**NOTE:** If the warning light is illuminated, the self-diagnostic function is operating. Check the alternator and related harness. Refer to the instructions in section G of the workshop manual.

2. Check the alternator belt tension and condition.
3. Turn the vehicle headlights "ON." Check the engine belt and alternator bearing for unusual noise by raising and lowering the engine RPM.
4. Turn the ignition and all accessories "OFF."
5. Connect the load tester.
6. Apply the load tester referring to the table on page 3 and the flow charts on page 5 or 7 (depending on the test equipment. The final voltage must be above the minimum value shown in the table. Record the voltage on the "Battery Check Sheet."
  - If the voltage is more than the minimum, measure the open circuit voltage. Charge the battery is less than 12.4V.
  - If the voltage is less than the minimum, "quick" or "boost" charge the battery for 30 minutes.

**CAUTION: DO NOT** "quick" or "boost" charge MX-5 Miata batteries. These batteries are gel type and must not be charged at more than 20 amps.

- Perform a load test again. If the battery is still below the minimum, replace the battery and proceed to step 8.

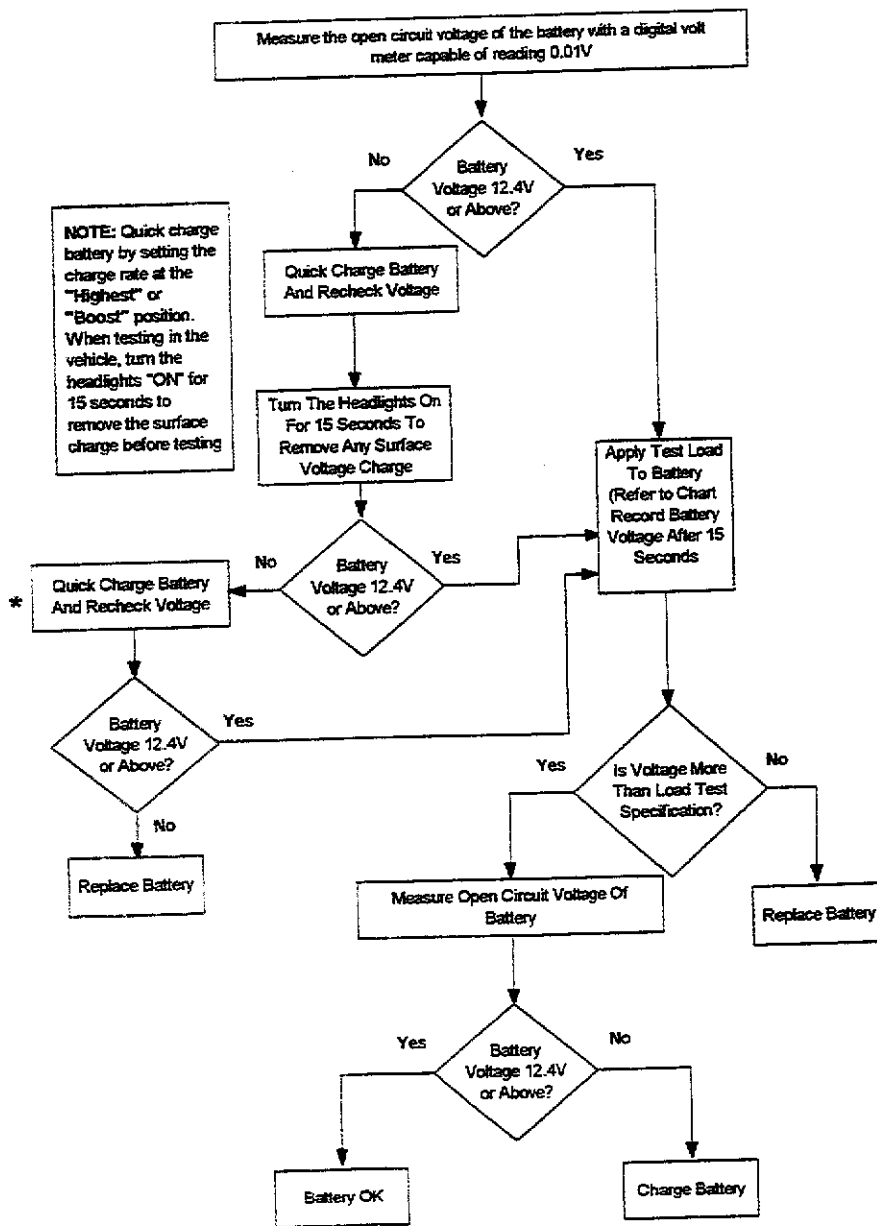
7. Start the vehicle and raise the RPM to 2500.
8. Connect the battery load tester and apply a load equal to the alternator rating.
  - If the voltage is 13.5V to 15.0V the alternator and battery are functioning correctly.
  - If the voltage is more than 15.0V replace the alternator.
  - If the voltage is 13.5V or under, check for resistance between the battery and terminals "B" and "S." Inspect the harness for damage. Repair as necessary. Retest the alternator. If the voltage is still less than 13.5V

**CAUTION: Diagnostic procedures for lead-acid battery performance are different for those used for maintenance-free batteries (lithium hybrid batteries). Incorrect diagnostics will result in false readings and unnecessary battery replacement is the wrong procedure is followed.**

*Use "Flow Chart" on Page 5*

**6.1 BATTERY DIAGNOSTIC PROCEDURES (Using Load Tester VAT-40 or Equivalent on Maintenance-Free Batteries)**

Diagnostic procedures used for testing lead-acid batteries provide false reading leading to unnecessary replacement if used on maintenance-free batteries. The information below is provided for diagnosing maintenance-free batteries.



**\*CAUTION : DO NOT BOOST OR QUICK CHARGE MX-5 MIATA "GEL TYPE" BATTERIES.**

**6.2 BATTERY DIAGNOSTIC PROCEDURES (Using Midtronics PowerSensor Plus Tester on Lead-Acid Batteries)**

1. Connect the Midtronics PowerSensor Plus tester, if low voltage is found (less than 10.2V) charge the battery for two (2) hours and recheck. If the voltage is greater than 10.2V, test battery condition without precharging. If low voltage is still found after a two (2) hour charge, replace the battery according to the information in the warranty section of this bulletin.
2. If the tester indicates that the battery is not at fault, refer to the appropriate workshop manual or BETM (Body Electrical Troubleshooting Manual) for troubleshooting and repair information.

The following are additional Midtronics PowerSensor Plus tester features:

Position "A" will test for an open circuit (bad cell or broken internal circuit). This is indicated by a "Red" LED light. If an open circuit is indicated, replace the battery using the criteria described in the warranty section of this bulletin.

Position "B" a "green" LED indicated that the battery has at least 10.2V and can therefore be tested without pre-charging. This position requires that the CCA rating (for the specific battery type under test) be set on the Midtronics PowerSensor Plus Tester dial. Refer to the attached chart (on page 3 of 9) to determine actual CCA. The Midtronics PowerSensor Plus Tester then determines actual CCA by measuring the condition of the battery voltage and plate condition.

Position "C" measures the alternator output when the engine is running and also indicated "Open Circuit Voltage".

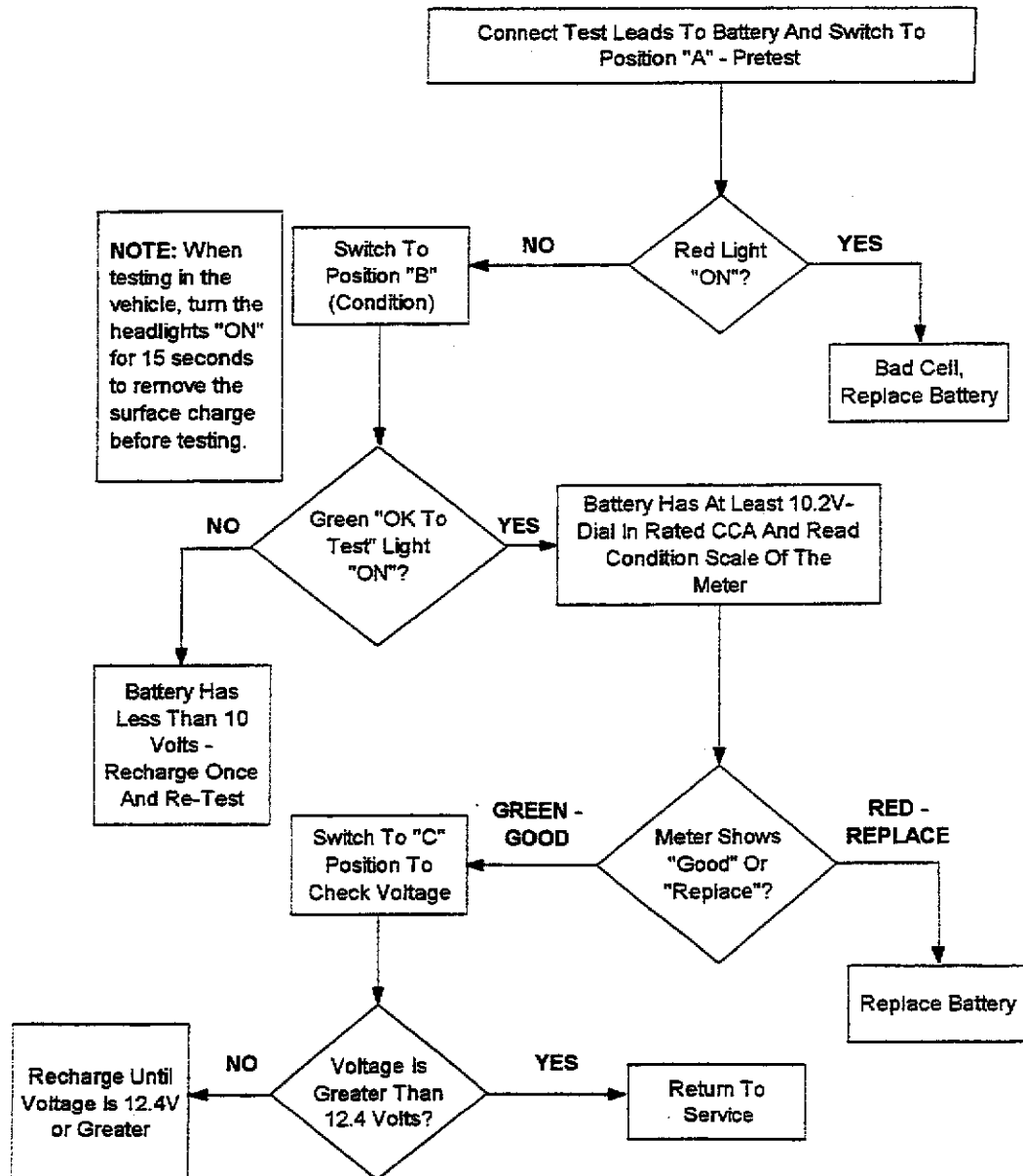
Position "D" Indicates actual CCA condition of the battery. By comparing the indicated reading to the battery's rated CCA, the battery condition is determined (ex. indicated CCA of 400 for a battery with a 600 rating indicated that the battery is 2/3 down on capacity). This decline will occur through normal aging and does not necessarily indicate that the battery requires replacement. It provides a general indication of the battery "health" for your customer.

**IMPORTANT**

**Diagnostic procedures for lead-acid batteries performance are different than those used for maintenance-free batteries (lithium hybrid type). Incorrect diagnosis will result in false readings and unnecessary battery replacement if the wrong procedure is followed.**

**6.3 BATTERY DIAGNOSTIC PROCEDURES (Using Midtronics PowerSensor Plus Tester on Maintenance-Free Batteries)**

Diagnostic procedures used for testing lead-acid batteries provide false readings leading to unnecessary replacement if used on maintenance-free batteries. The information below is provided for diagnosing maintenance-free batteries.



**7. PARTS INFORMATION (Mazda Finish Line Batteries)**

| Make                | Year    | Model                             | O.E.M. CCA | Part Number     | CCA |
|---------------------|---------|-----------------------------------|------------|-----------------|-----|
| GLC                 | 1981-85 | FWD                               | 320        | 0000-80-026R-WB | 525 |
|                     | 1981-85 | Optinal For Above                 | 360        | 0000-80-0035-WB | 550 |
|                     | 1977-80 | RWD                               | 320        | 0000-80-0024-WB | 460 |
| MX-3                | 1992-95 | All 1.6L                          | 310        | 0000-80-026R-WB | 525 |
|                     | 1992-95 | Optional For Above                | 360        | 0000-80-0035-WB | 550 |
|                     | 1992-95 | All V6 1.8L                       | 415        | 0000-80-024F-WB | 525 |
| 626/MX-6            | 1993-97 | All                               | 582        | 0000-80-058R-WB | 582 |
|                     | 1983-92 | All Except Diesel                 | 320        | 0000-80-026R-WB | 525 |
|                     | 1983-92 | Optional For Above                | 360        | 0000-80-0035-WB | 550 |
|                     | 1984-85 | Diesel                            | 620        | 0000-80-124F-WB | 700 |
|                     | 1979-82 | All                               | 235        | 0000-80-0024-WB | 460 |
| RX-7                | 1993-95 | A/T                               | 490        | 0000-80-224F-WB | 625 |
|                     | 1993-95 | M/T                               | 420        | 0000-80-026R-WB | 525 |
|                     | 1984-92 | All                               | 320        | 0000-80-026R-WB | 525 |
|                     | 1979-83 | All                               | 370        | 0000-80-0024-WB | 460 |
| 323/Protege         | 1988-97 | All                               | 310        | 0000-80-026R-WB | 525 |
|                     | 1988-97 | Optional For Above                | 585        | 0000-80-0035-WB | 525 |
| 929                 | 1988-95 | All w/o Cold Package              | 320        | 0000-80-0035-WB | 550 |
|                     | 1988-95 | All w/ Cold Packages              | 585        | 0000-80-124F-WB | 700 |
| Millenia            | 1995-97 | All                               | 490        | 0000-80-124F-WB | 700 |
| B2000, B2200        | 1973-93 | All Except Diesel                 | 375        | 0000-80-0024-WB | 460 |
|                     | 1973-93 | Optional For Above                | 375        | 0000-80-026R-WB | 525 |
|                     | 1982-84 | Diesel                            | 600        | 0000-80-0124-WB | 675 |
| B2300, B3000, B4000 | 1994-97 | B2300, B3000 Std. Cab             | 540        | 0000-80-58HD-WB | 582 |
|                     | 1994-97 | B23090, B3000 Optional Cold Spec. | 650        | 0000-80-0065-WB | 875 |
|                     | 1994-97 | B4000 Cab Plus                    | 850        | 0000-80-0065-WB | 875 |
| B2600, B2600i       | 1989-93 | All                               | 310        | 0000-80-0024-WB | 460 |
|                     | 1987-88 | All B2600                         | 320        | 0000-80-026R-WB | 525 |
|                     | 1987-88 | Optional For Above                | 390        | 0000-80-224F-WB | 525 |
| Navajo              | 1991-94 | All                               | 650        | 0000-80-0065-WB | 875 |
| MPV                 | 1991-97 | All                               | 310        | 0000-80-026R-WB | 525 |
|                     | 1991-97 | Optional Cold Package             | 585        | 0000-80-124F-WB | 700 |

|               |                      |                   |
|---------------|----------------------|-------------------|
| Number:001/97 | Date Issued:04/08/97 | Revised: 06/19/97 |
|---------------|----------------------|-------------------|

### 8. WARRANTABLE CHARGING AND/OR REPLACEMENT

The information below outlines when battery charging or replacement is covered under vehicle warranty.

- Charging / Testing

Charging or testing is not covered under vehicle warranty and is considered part of normal dealer processing responsibility. Boost charging is covered within 48 hours of vehicle delivery.

**NOTE:** This operation will require completion of the Battery Check Sheet.

- Wholesale Delivery Inspection

Battery replacement requires DCSM authorization. Additionally, the Battery Check Sheet and Battery Check Tag must be completed and attached to the repair order. **If the documents are not attached to the repair order, the claim is subject to debit.**

- After Retail Delivery

Replacement is covered under normal warranty if the battery is judged defective after charging and diagnosing the battery according to the procedures in this bulletin. The Battery Check Sheet must be completed and attached to the repair order. **If the documents are not attached to the repair order, the claim is subject to debit.**

### 9. WARRANTY CLAIM SUBMISSION

Dealers submitting warranty claims must retain copies of the Battery Check Tag and the Battery Check Sheet. The operation number listed below is used for Battery Inspection, Charging and Testing. This includes:

- Battery Load Test
- Battery Replacement
- Charging and Capacity Testing
- Charging Test
- Dark Current Test

### 10. WARRANTY INFORMATION (For testing, charging and replacement)

|                         |                                    |
|-------------------------|------------------------------------|
| Symptom Code:           | Complete Actual Code               |
| Damage Code:            | Complete Actual Code               |
| Part Number Main Cause: | Complete Actual Part Number        |
| Operation Number:       | G0501ACX                           |
| Labor Hours:            | 0.5 Hrs. (All vehicles except 929) |
|                         | 0.6 Hrs. (929)                     |

|                    |                                                            |                                                             |                                                   |
|--------------------|------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------|
| Category<br>G (01) | Applicable Model/s<br>All Models except<br>B-Series & Nav. | Subject<br>DEAD BATTERY<br>(INSPECTING FOR BACK-UP CURRENT) | Bulletin No. 001/98<br>Issued 10/22/98<br>Revised |
|--------------------|------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------|

### APPLICABLE MODEL(S)/VINS

All models except B-Series and Navajo.

### DESCRIPTION

Battery is dead after vehicle sits overnight or for a short period of time. This could be caused by excessive back-up current drawn through the battery after the engine is shut off.

#### Note

- Back-up current is defined as the current that flows to the memory circuits (i.e. radio, PCM) while the key is out of the ignition and doors are closed with all lights turned off.

Customers complaining of this concern should have their vehicle repaired using the following procedure.

### REPAIR PROCEDURE

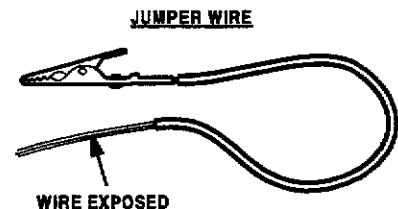
1. Verify customer complaint.

2. Turn off all electrical loads (including accessories), remove key from ignition, and close all doors.

#### Note

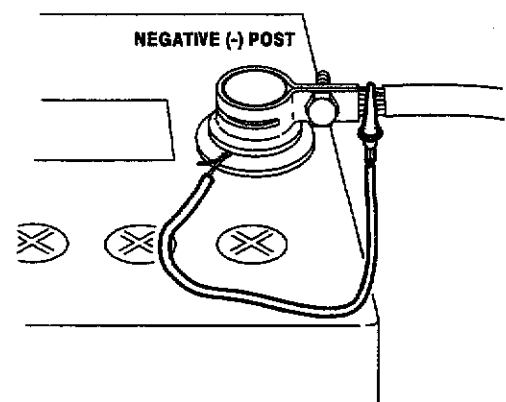
- Disable hood light (if equipped).

3. To avoid deleting the audio memory presets or OBD-II fault memory, prepare a jumper wire as shown.



4. Carefully loosen the negative battery clamp without disconnecting it from the post.

5. Slightly lift clamp and wrap the jumper wire around the bottom of the post and attach the alligator clip to the cable clamp.

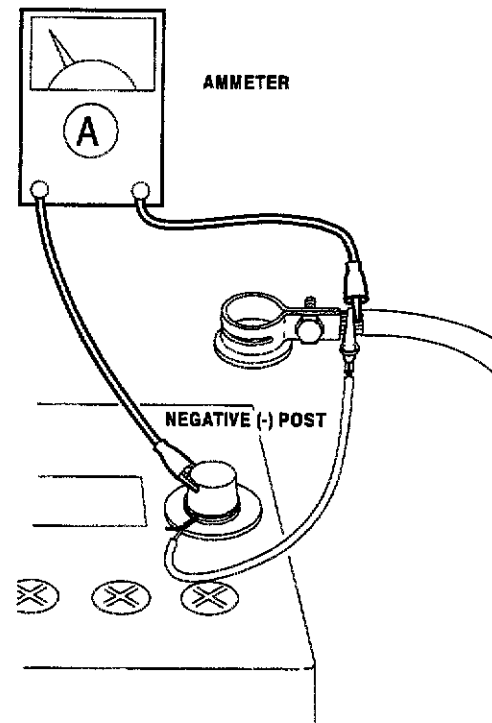


**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.

6. Remove the clamp from post then connect an ammeter as shown.

**Note**

- Be sure ammeter fuse is good. If fuse is blown, it will create an open circuit which will defeat the purpose of this procedure.



7. Remove the alligator clip from the cable clamp and measure the back-up current.

**Specification**

**20mA (0.020A)**

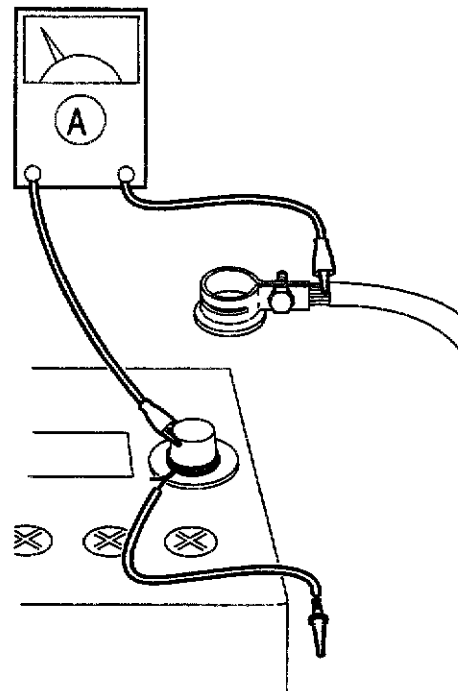
- It is necessary to wait a minimum of one (1) minute after removing the key from the ignition and closing all doors before measuring back-up current. This is the time necessary for dome lights and CPU's to shut down and back-up current to achieve specification.

If back-up current exceeds specification, a short exists or a defective component is causing excessive current flow.

Locate the source of excessive current draw and repair as necessary. Then proceed to STEP 8.

If the current draw is within specification, refer to Workshop Manual for diagnostics.

8. Verify repair.





# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California  
Telephone (714) 727-1990



|               |                                  |                                                               |                     |
|---------------|----------------------------------|---------------------------------------------------------------|---------------------|
| Category<br>G | Applicable Model/s<br>All Models | Subject<br>DIAGNOSTIC PROCEDURES<br>(See Itemized List Below) | Bulletin No. 002/93 |
|               |                                  |                                                               | Issued 9/16/93      |
|               |                                  |                                                               | Revised             |

## APPLICABLE MODELS

All 1988 model vehicles through 1994 model vehicles except Navajo and 1994 B-Series.

## DESCRIPTION

This bulletin contains diagnostic and repair procedures for the following components:

- Engine Control Units (ECU)
- Air Flow Meters
- Fuel Pumps
- Alternators

Each procedure includes the following:

1. **Outline Of Diagnostics, Parts Requirements and Warranty Application** - Illustrates the steps from diagnostics through parts return and warranty submission.
2. **Diagnostic Procedures** - Step by step testing of the component and circuit.
3. **Component Check Sheet** - Details of the customer complaint and events leading to the repair.  
**NOTE:** Proper completion of the check sheets are required for warranty claim submission.

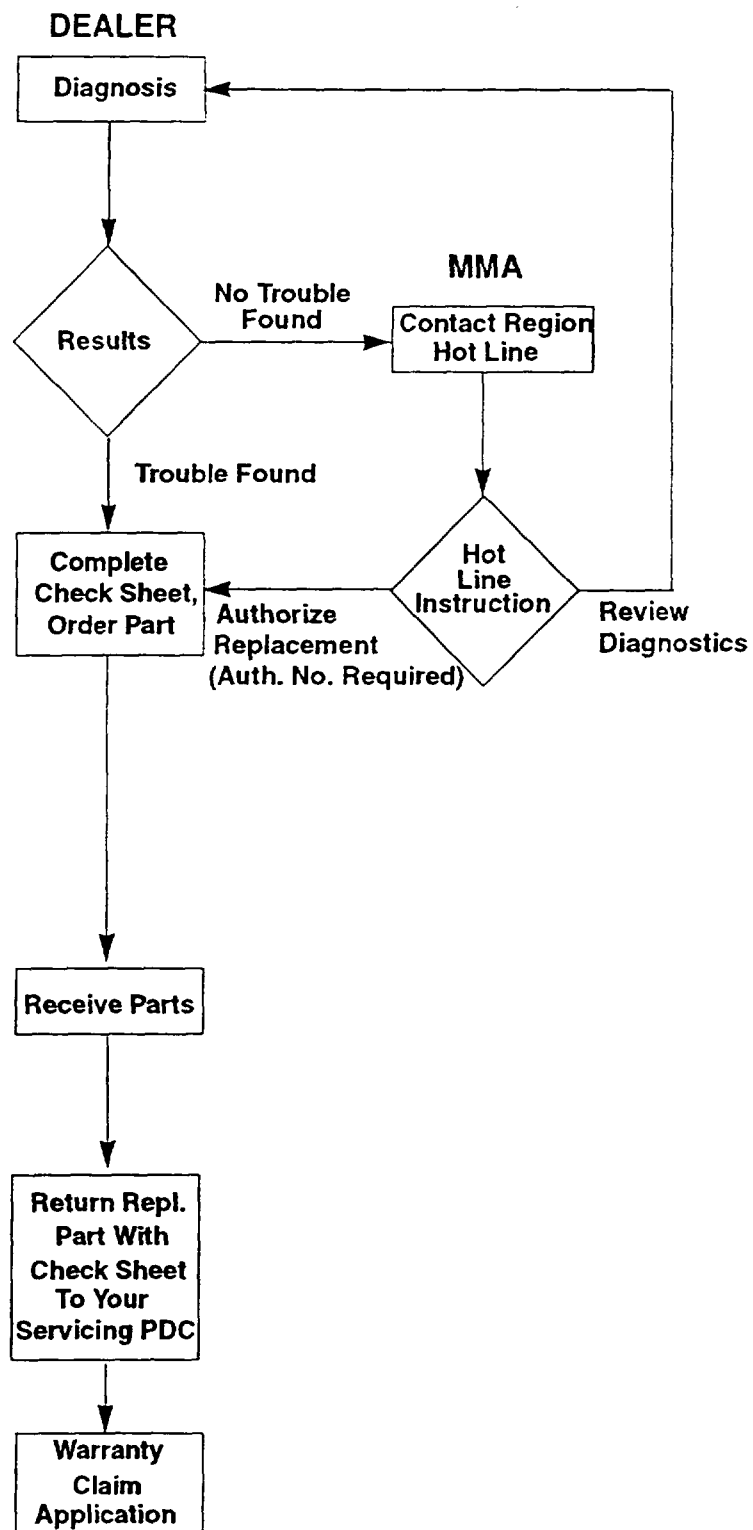
**NOTE:** See page two of this bulletin for an individual component index.

Index # **035697**

|                                    |             |
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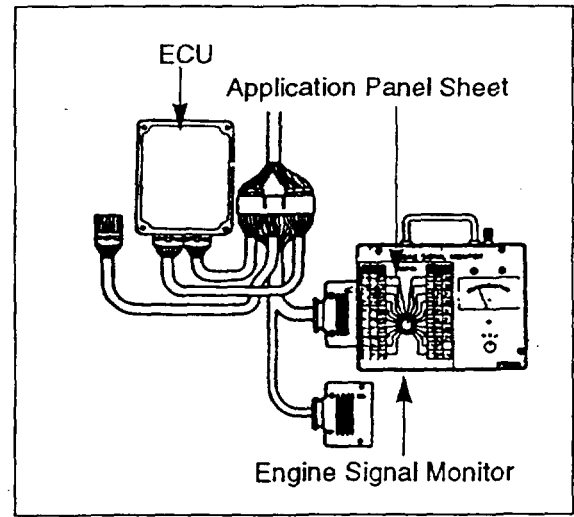
Refer to the applicable workshop manual for symptoms not described in this bulletin. If further reference is required, contact the Technical Hotline in your area.

ECU - OUTLINE OF DIAGNOSTICS, PARTS ORDERING AND WARRANTY APPLICATION



## Section 1- ECU DIAGNOSTICS PROCEDURE

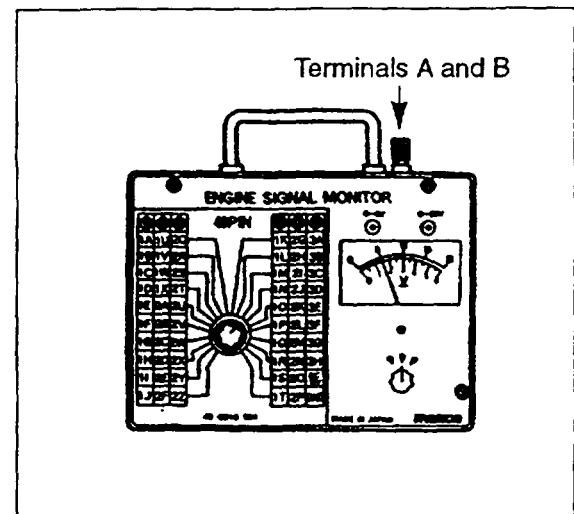
1. Disconnect ECU connectors
2. Connect SST (Engine Signal Monitor and Adapter) as shown. Place application panel sheet on the Engine Signal Monitor.



3. Measure the voltage according to the specifications in the workshop manual.
4. If the voltage is different than specified, check the related input and output devices and wiring for damage. If no problem is found and the reading remains out of specification, replace the ECU.
5. If the voltage is within specification and the problem still exists, contact the Technical Hotline for assistance.

**CAUTION:** Terminals A&B are for external voltmeter connections. Use these terminal to attach a digital voltmeter or oscilloscope for precise volt readings.

**Never apply current to these terminals, damage to the ECU will result.**



Number: 002/93

Date Issued: 9/16/93

Revised:

**ECU CHECK SHEET**

Dealer Name \_\_\_\_\_ Technician Number: \_\_\_\_\_

Vehicle Year: \_\_\_\_\_ Model: \_\_\_\_\_ M/T: \_\_\_\_\_ A/T: \_\_\_\_\_ VIN: \_\_\_\_\_

Repair Date: \_\_\_/\_\_\_/\_\_\_ Mileage: \_\_\_\_\_ Repair Order Number: \_\_\_\_\_

1. Customer Complaint: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Was the customer's complaint verified: \_\_\_\_\_ Yes \_\_\_\_\_ No

3. Reason for replacement:

Terminal Voltage Out Of Specification: \_\_\_\_\_ Yes \_\_\_\_\_ No

| Terminal Number | Voltage Reading | Factory Specifications |
|-----------------|-----------------|------------------------|
|                 |                 |                        |
|                 |                 |                        |
|                 |                 |                        |
|                 |                 |                        |

According to Service Bulletin instructions: \_\_\_\_\_ Category \_\_\_\_\_ Number

According to DSM or Hot Line Authorization: \_\_\_\_\_ (Authorization Number)

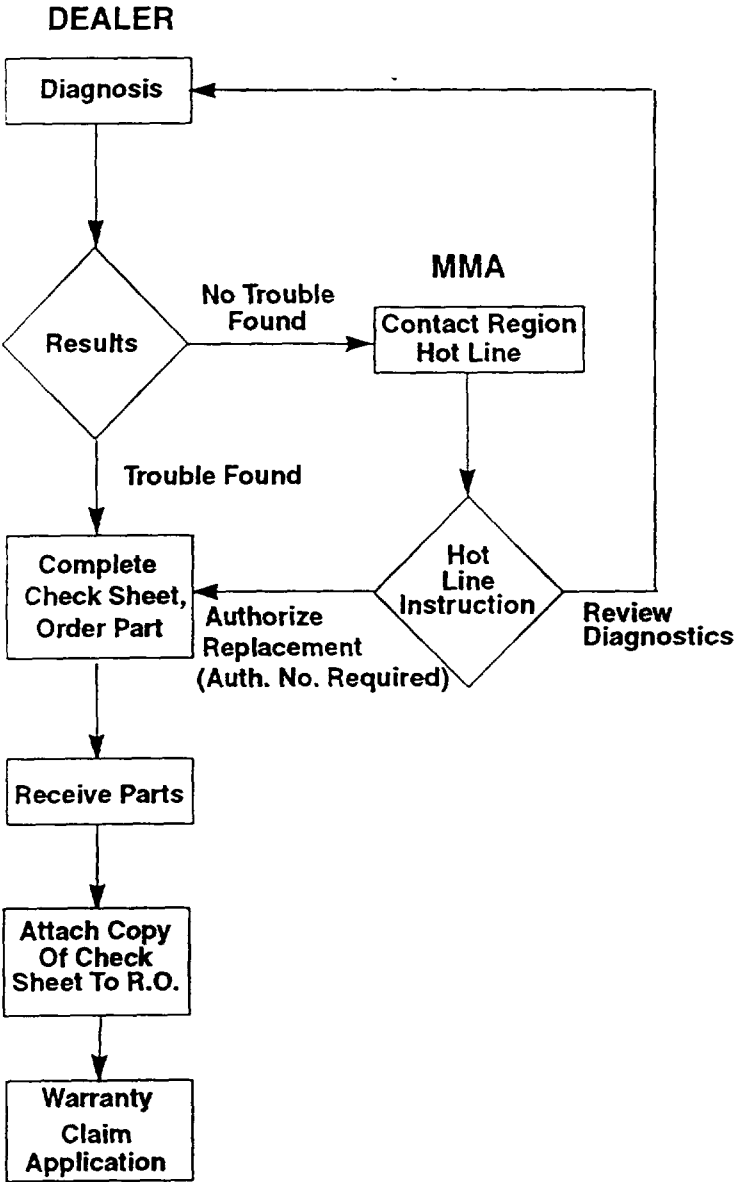
Other: \_\_\_\_\_  
\_\_\_\_\_

4. Repair Type: \_\_\_\_\_ Warranty \_\_\_\_\_ Customer Pay

Technician's Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**NOTE:** This check sheet must be returned with the replaced part to your servicing PDC

**AIR FLOW METER - OUTLINE OF DIAGNOSTICS, PARTS ORDERING AND WARRANTY APPLICATION**



**Section 2 - AIR FLOW METER DIAGNOSTIC PROCEDURES**

**NOTE:** Procedures listed below do not apply to the following model/year vehicles:

**1988 - 92 B2600**

**1989 - 90 RX-7 (up to and including vehicles with a VIN of JM1FC3\*\*\*L0806489**

**1993 RX-7**

1. Check the air intake temperature sensor resistance.

- a) Remove air flow meter and allow to sit until its temperature is the same as the ambient temperature.
- b) Using a multi tester, measure and record the resistance of the intake air temperature sensor terminals (THAA-E2) and the atmospheric temperature at that time.

**NOTE:** Use a multi tester with an accuracy equivalent of the FLUK 70 series.

**CAUTION:** Refer to the illustration at the right and the "Standard Values" table when measuring resistance.

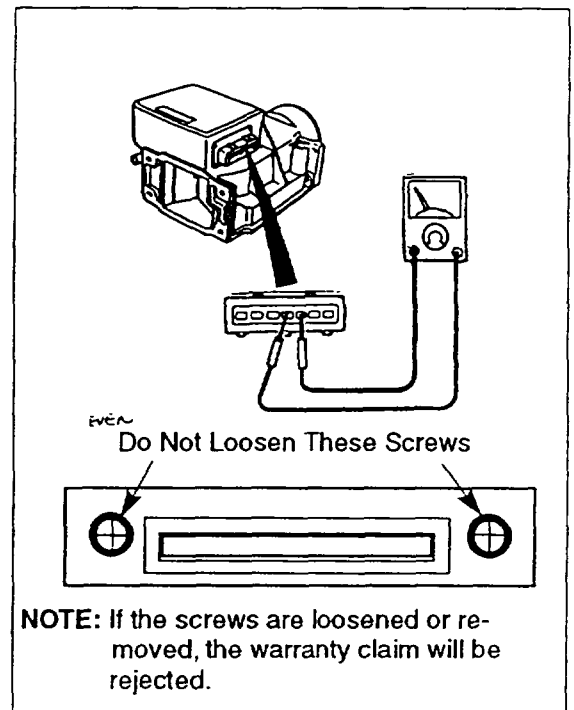
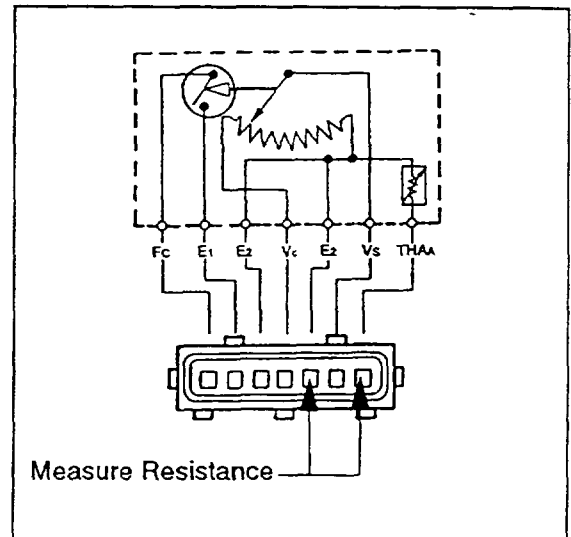
**Standard Values**

| Ambient Temp. (F) | Resistance (K, Ohms) | Ambient Temp. (F) | Resistance (K, Ohms) |
|-------------------|----------------------|-------------------|----------------------|
| 0                 | 11.1 - 18.7          | 70                | 1.9 - 2.9            |
| 10                | 8.2 - 13.7           | 80                | 1.5 - 2.3            |
| 20                | 6.4 - 10.3           | 90                | 1.2 - 1.9            |
| 30                | 4.9 - 7.9            | 100               | 0.9 - 1.5            |
| 40                | 3.8 - 6.0            | 110               | 0.8 - 1.3            |
| 50                | 3.0 - 4.7            | 120               | 0.6 - 1.1            |
| 60                | 2.4 - 3.7            |                   |                      |

2. Check resistance between E2 and Vc.

2. Standard Value= 200 - 400 ohms

**NOTE:** Use a multi-tester with the accuracy equivalent of a FLUK 70 Series.

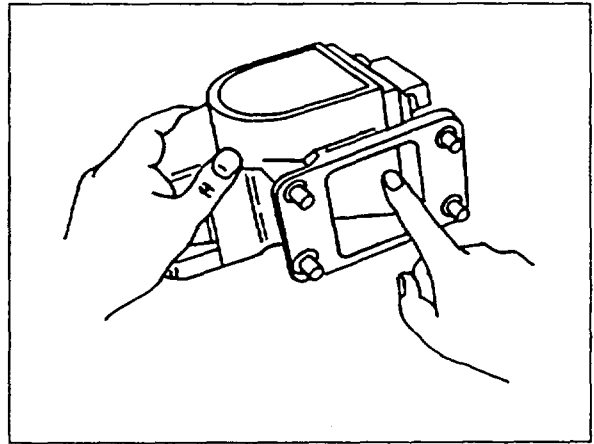


**Section 2 - AIR FLOW METER DIAGNOSTIC PROCEDURES CONT'D.**

**NOTE:** The following models have air flow meters with measuring plates and should be diagnosed using the method listed below:

**1986 - 89 323****1990 - 93 323/Protege****1990 - 92 626/MX-6****1990 - 91 929****1988 - 93 MPV****1990 - 93 MX-5****1993 MX-3 (1.6 Litre)**

1. Check for smooth movement of the measuring plate.  
If no problem is found, reinstall the air flow meter.
2. If no problem is found in the air flow meter, contact the Technical Hotline for assistance.





|                |                      |          |
|----------------|----------------------|----------|
| Number: 002/93 | Date Issued: 9/16/93 | Revised: |
|----------------|----------------------|----------|

**AIR FLOW METER CHECK SHEET**

Dealer Name \_\_\_\_\_ Technician Number: \_\_\_\_\_

Vehicle Year: \_\_\_\_\_ Model: \_\_\_\_\_ M/T: \_\_\_\_\_ A/T: \_\_\_\_\_ VIN: \_\_\_\_\_

Repair Date: \_\_\_/\_\_\_/\_\_\_ Mileage: \_\_\_\_\_ Repair Order Number: \_\_\_\_\_

1. Customer Complaint: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2. Was the customer's complaint verified: \_\_\_ Yes \_\_\_ No

3. Reason for replacement:

Air Flow Meter Out Of Specification: \_\_\_ Yes \_\_\_ No

|                               | Measurement | Factory Specifications |
|-------------------------------|-------------|------------------------|
| Intake Air Temperature Sensor |             |                        |
| Base Resistance (E2-VC)       |             |                        |

Measuring Plate Does Not Move Smoothly \_\_\_ Yes \_\_\_ No

According to Service Bulletin instructions: \_\_\_\_\_ Category \_\_\_\_\_ Number

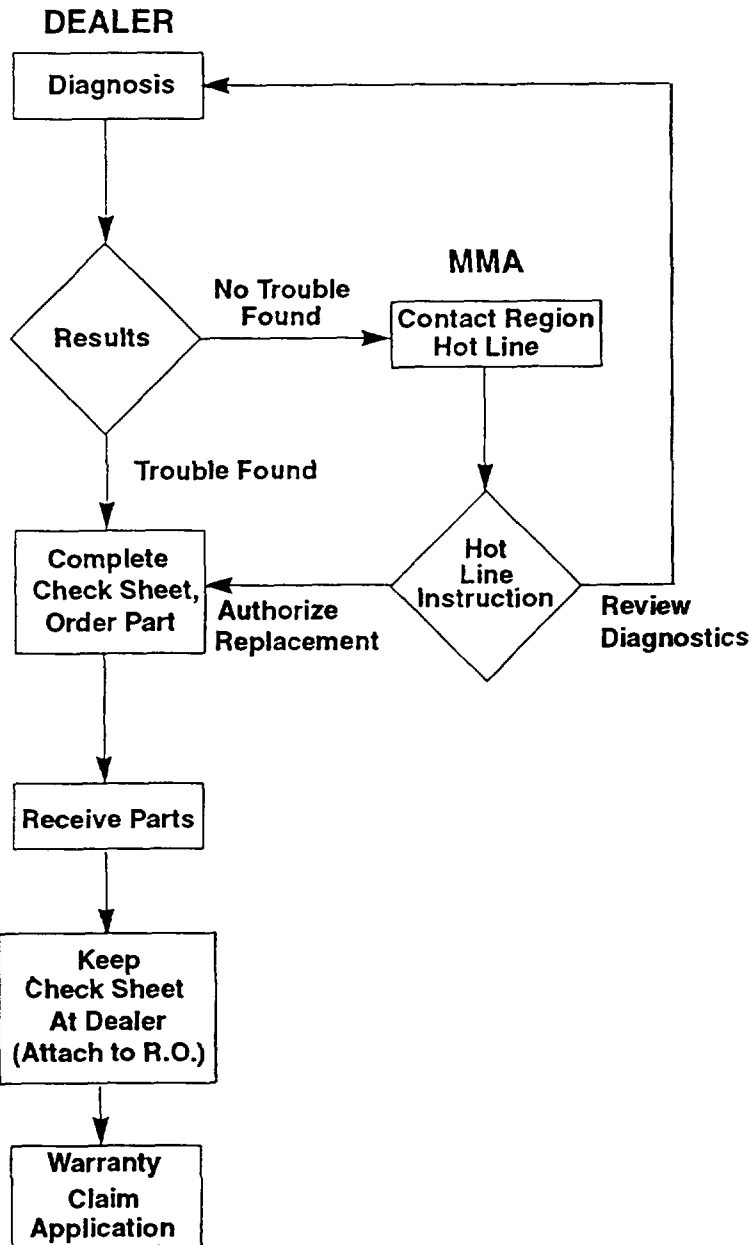
According to DSM or Hot Line Authorization: \_\_\_\_\_ (Authorization Number)

Other: \_\_\_\_\_  
 \_\_\_\_\_

Technician's Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**NOTE:** Attach the check sheet to the repair order. If requested to return the failed air flow meter to Mazda, attach a copy of the check sheet and repair order.

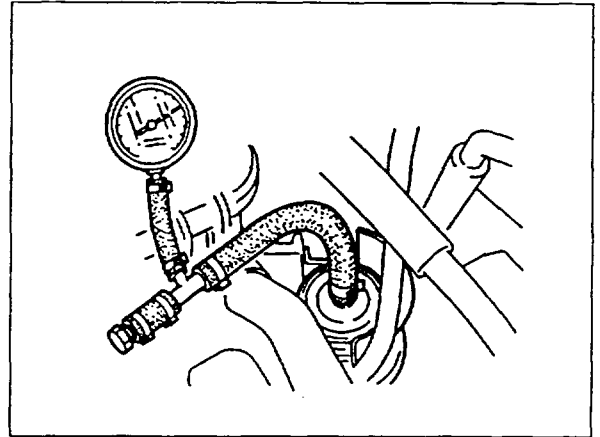
**FUEL PUMP - OUTLINE OF DIAGNOSTICS, PARTS ORDERING AND WARRANTY APPLICATION**



**Section 3 - FUEL PUMP DIAGNOSTIC PROCEDURES**

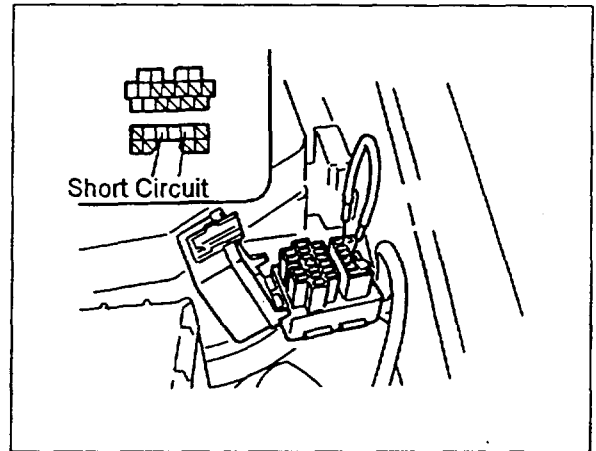
1. Disconnect negative terminal and check battery voltage. Voltage should be 12.4V or more. Reconnect terminal.
2. Start engine and run at idle.
3. Disconnect circuit opening relay. Engine will continue to run until all fuel in the supply line is used.

**WARNING:** Step 3 is designed to eliminate fuel in the supply line and enable safe installation of the fuel pressure gauge. Refer to the workshop manual for further instructions.



4. Disconnect the negative battery terminal.
5. Install the fuel pressure gauge on the outlet side of the fuel filter.
6. Short circuit the fuel pump test terminals (yellow 2 pin connector) with a jumper wire on the following vehicles.

- |                |                 |
|----------------|-----------------|
| 1988 - 89 323  | 1993 - 626/MX-6 |
| 1990 - 91 929  | 1989 - 92 MPV   |
| 1989 - 91 RX-7 |                 |



7. Short circuit the fuel pump check terminal and the ground terminal of the diagnostic connector with a jumper wire on the following vehicles.

- |                       |                |
|-----------------------|----------------|
| 1990 - 93 323/Protege | 1993 626/MX-6  |
| 1992 - 93 929         | 1992 - 93 MX-3 |
| 1990 - 93 MX-5        | 1993 RX-7      |

8. Turn the ignition switch on and measure the maximum fuel pressure. Turn the ignition switch off and remove the jumper wires.

| Year/Model                                                                 | Standard Value (PSI) |
|----------------------------------------------------------------------------|----------------------|
| 1988-89 323, 1990-91 323/Protege, 1990-92 626/MX-6, 1990-91 929, MPV (All) | 49 or Over           |
| 1992-93 323/Protege, 1992-93 929, 1993 626/MX-6, MX-3 (All), MX-5 (All)    | 52 or Over           |
| 1989-91 RX-7                                                               | 56 or Over           |
| 1993 RX-7                                                                  | 53 or Over           |

**FUEL PUMP DIAGNOSTIC PROCEDURES CONT'D.**

9. If the value of fuel pressure (Max.) is below standard, measure the voltage at the fuel pump connector (vehicle side) using the procedures below.

a) Reinstall the jumper wire and turn the Ignition on. Refer to steps 6 and 7 of the previous page.

b) Connect test leads to the fuel pump positive and negative terminals and measure the voltage at the fuel pump connector (vehicle side).

**NOTE:** Do not disconnect the fuel pump connector.

If the voltage is above the standard value, replace the fuel pump.

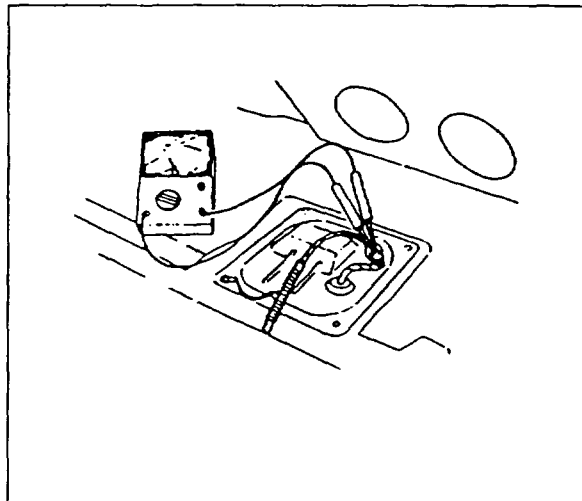
If the voltage is below standard, check for a damaged harness, relay or a poor ground at the pump.

**Standard Value: 8.5V and over (93 RX-7)**

**9.5V and over (Other Models)**

10. After restoring the standard voltage value, measure the fuel pump pressure (Max.). If pressure is not to specification, replace the fuel pump.

11. If no trouble is found with the fuel pump and the problem still exists, contact the Technical Hotline for assistance.



|                |                      |          |
|----------------|----------------------|----------|
| Number: 002/93 | Date Issued: 9/16/93 | Revised: |
|----------------|----------------------|----------|

**FUEL PUMP CHECK SHEET**

Dealer Name \_\_\_\_\_ Technician Number: \_\_\_\_\_

Vehicle Year: \_\_\_\_\_ Model: \_\_\_\_\_ M/T: \_\_\_ A/T: \_\_\_ VIN: \_\_\_\_\_

Repair Date: \_\_\_/\_\_\_/\_\_\_ Mileage: \_\_\_\_\_ Repair Order Number: \_\_\_\_\_

1. Customer Complaint: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2. Was the customer's complaint verified: \_\_\_ Yes \_\_\_ No

3. Reason for replacement:

Fuel Pump Did Not Operate: \_\_\_ Yes \_\_\_ No

Insufficient Fuel Pressure: \_\_\_ Yes \_\_\_ No

Maximum Fuel Pump Pressure: \_\_\_\_\_(PSI) Factory Specification: \_\_\_\_\_

According to Service Bulletin instructions: \_\_\_\_\_ Category \_\_\_\_\_ Number

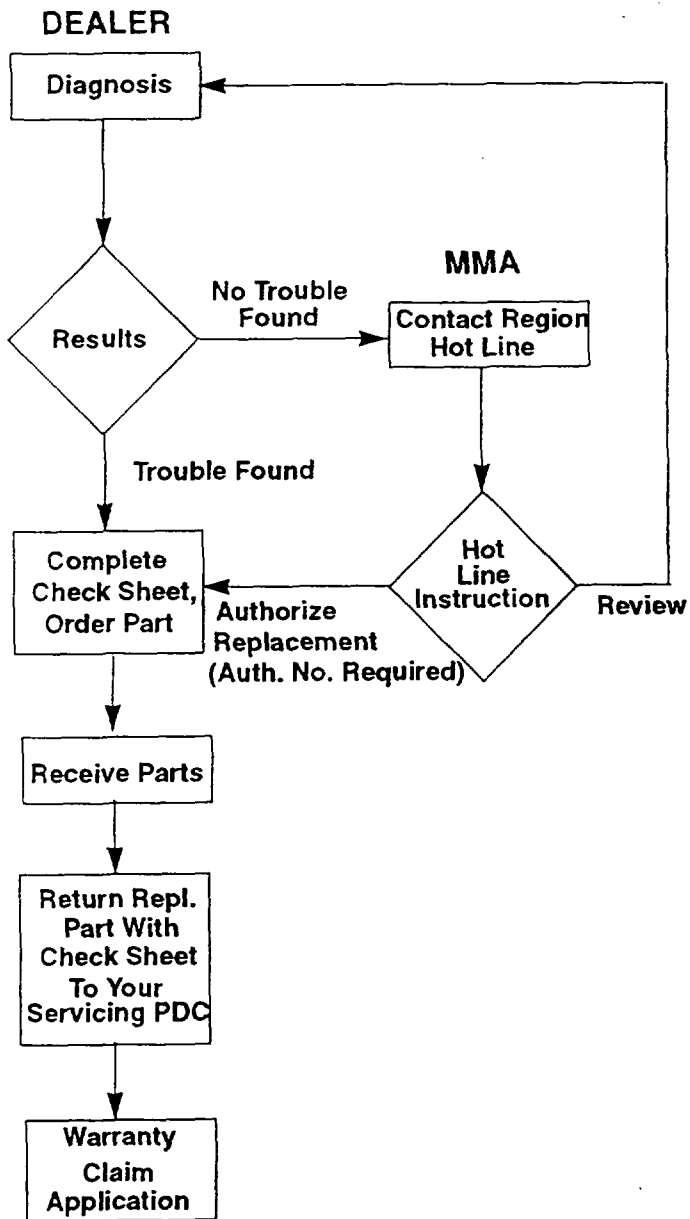
According to DSM or Hot Line Authorization: \_\_\_\_\_(Authorization Number)

Other: \_\_\_\_\_  
 \_\_\_\_\_

Technician's Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**NOTE:** Attach the check sheet to the repair order. If requested to return the failed fuel pump to Mazda, attach a copy of the check sheet and repair order.

**CHARGING SYSTEM - OUTLINE OF DIAGNOSTICS, PARTS ORDERING AND WARRANTY APPLICATION**



**Section 4 - CHARGING SYSTEM DIAGNOSTIC PROCEDURES**

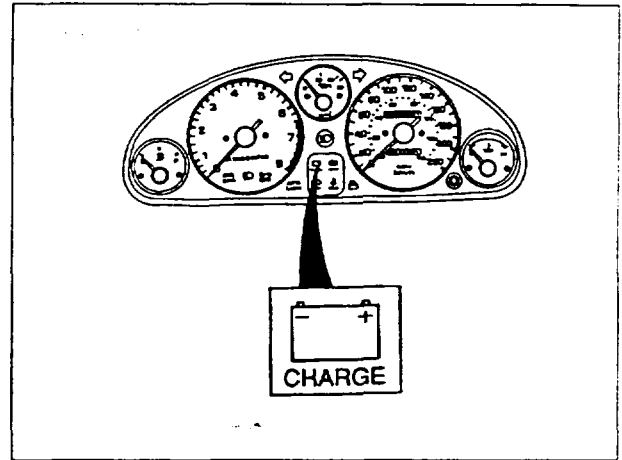
1. Start the engine and confirm that the alternator warning light is not illuminating.

**NOTE:** If the warning light is illuminated, the self diagnosis operation is functioning. Check the alternator and related harness' according to section "G" of the workshop manual.

2. Fluctuate the engine RPM and listen for alternator bearing or engine belt noise. If noise is present, inspect for loose or damaged belt or damage to the alternator bearing.

**NOTE:** Perform the above inspection with the vehicle headlights illuminated.

3. Turn off the ignition and all accessories. Connect a load tester (VAT-40 or equivalent).
4. Apply the load test referring to the chart to the right. The final voltage must be above the standard minimum value shown below.



**STANDARD MINIMUM VOLTAGE**

| Approx Battery Temperature | Minimum Voltage |
|----------------------------|-----------------|
| 70F (21C)                  | 9.6V            |
| 60F (15C)                  | 9.5V            |
| 50F (10C)                  | 9.4V            |
| 40F (4C)                   | 9.3V            |
| 30F (-1C)                  | 9.1V            |
| 20F (-7C)                  | 8.9V            |

If the voltage measures at or above the minimum, proceed to step 4.

If the voltage is below the minimum, quick charge the battery for 30 minutes and load test. If the battery remains below the minimum, replace the battery and proceed to step 4.

**NOTE:** Battery inspection and charging procedures for Navajo vehicles are different than those outlined in this bulletin. Refer to the workshop manual for instructions.

**LOAD TEST CHART**

| Model     | Test Load (Amps)  |
|-----------|-------------------|
| 323/Prot. | 180               |
| 626/MX-6  | 174               |
| 929       | 180<br>195        |
| MX-3      | 150<br>180<br>165 |
| MX-5      | 105               |
| RX-7      | 180<br>165<br>195 |
| MPV       | 150<br>195        |
| B-Series  | 150<br>195<br>195 |

**Section 4 - CHARGING SYSTEM DIAGNOSTICS CONT'D.**

4. Start the vehicle and raise the RPM to 2500.
5. Connect a battery load tester (VAT 40/70 or equivalent)
6. Apply a load equal to the alternator rating. The generated voltage should be 14.1V to 14.7V.

**LOAD TEST RESULTS**

**Over 14.7V** - Replace Alternator

**Under 14.1V** - Check for resistance between the battery and terminals "B" and "S". If resistance is present, repair the damaged harness and retest. If the voltage is still below 14.1V, replace the alternator.

**14.1V to 14.7V** - No trouble with the alternator or battery.



Number: 002/93

Date Issued: 9/16/93

Revised:

**ALTERNATOR AND BATTERY CHECK SHEET**

Dealer Name \_\_\_\_\_ Technician Number: \_\_\_\_\_

Vehicle Year: \_\_\_\_\_ Model: \_\_\_\_\_ M/T: \_\_\_\_\_ A/T: \_\_\_\_\_ VIN: \_\_\_\_\_

Repair Date: \_\_\_/\_\_\_/\_\_\_ Mileage: \_\_\_\_\_ Repair Order Number: \_\_\_\_\_

1. Customer Complaint: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Was the customer's complaint verified: \_\_\_ Yes \_\_\_ No

3. Reason for replacement:

Alternator output or battery voltage was out of specification: \_\_\_ Yes \_\_\_ No

|                                 | Reading | Factory Spec. |
|---------------------------------|---------|---------------|
| Output Voltage                  |         |               |
| Output Amp.                     |         |               |
| Instrument Used                 |         |               |
| Battery Voltage (Open Terminal) |         |               |
| Battery Voltage (Load Test)     |         |               |

According to Service Bulletin instructions: \_\_\_ Category \_\_\_ Number

According to DSM or Hot Line Authorization: \_\_\_\_\_ (Authorization Number)

Other: \_\_\_\_\_  
\_\_\_\_\_

4. Repair Type: \_\_\_ Warranty \_\_\_ Customer Pay

Technician's Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

|                 |                   |
|-----------------|-------------------|
| MELA Comments:  |                   |
| _____           |                   |
| _____           |                   |
| _____           |                   |
| Signature _____ | Date: ___/___/___ |

Number: 002/93

Date Issued: 9/16/93

Revised:

**Section 5 - WARRANTY INFORMATION**

Symptom Code: Complete Applicable Code

Damage Code: Complete Applicable Code

Part Number Main Cause: Complete Applicable Part Number

Operation Number and Labor Hours:

|                                     | <b>Operation Number</b> | <b>Labor Hours</b> |
|-------------------------------------|-------------------------|--------------------|
| Engine Control Unit(ECU), Diagnosis | F0005XDX                | 0.9                |
| Air Flow Sensor (AFM), Diagnosis    | F0006XDX                | 0.4                |
| Fuel Pump, Diagnosis                | F0007XDX                | 0.5                |
| Charging System, Diagnosis          | G0003XDX                | 1.4                |

**NOTE:** Labor hours shown are the maximum allowable time. Claim only the actual time used for these operations.

# Service Bulletin

Mazda Motor of America, Inc.  
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 Telephone (714) 727-1990



|                      |                                  |                                                                                  |                     |
|----------------------|----------------------------------|----------------------------------------------------------------------------------|---------------------|
| Category<br><b>G</b> | Applicable Model/s<br>All Models | Subject<br><b>MAINTENANCE FREE BATTERY<br/>DIAGNOSTIC AND CHARGING PROCEDURE</b> | Bulletin No. 002/95 |
|                      |                                  |                                                                                  | Issued 4/5/95       |
|                      |                                  |                                                                                  | Revised             |

## DESCRIPTION

The following information describes the correct inspection and servicing procedures for original equipment Mazda batteries. This bulletin replaces the previously released bulletin Cat. G, No. 003/93

**NOTE:** Diagnostic procedures used for lead-acid batteries provide false readings and contribute to unnecessary replacement if used on maintenance free batteries.

The instructions in this bulletin apply to wholesale delivery vehicles, vehicles in dealer inventory and retailed vehicles. The instructions include:

- |                                                   |                                                                      |
|---------------------------------------------------|----------------------------------------------------------------------|
| 1. Inspection Procedures                          | 2. Battery Charging Information                                      |
| 3. Battery Diagnostic Procedure<br>(Flow Chart)   | 4. Charging System Diagnostic Procedures<br>(Equipment Requirements) |
| 5. Cold Cranking Amperage<br>(CCA) Specifications | 6. Warranty Information                                              |
| 8. Battery Check Sheet                            | 7. Battery Maintenance Record                                        |

Both the "Battery Check Sheet" and the "Battery Maintenance Record" are available in pad form from HELM Inc..

## 1. INSPECTION

### A) At Wholesale Delivery

- Measure the voltage with a digital voltmeter. If the voltage is 12.4 V or more, the battery is normal. If the battery is less than 12.4V, refer to the table on page 2 for "boost" and "quick" charging specifications.

Or

- Test the battery with a load or electronic tester (i.e. VAT 40 or MIDTRONICS PowerSensor Plus). Refer to the table on page 3 or 4 (depending on test equipment) for minimum voltage specifications.
- If the battery is not within the minimum specification, contact your DCSM for authorization prior to replacing the battery. See the Warranty Information on page 7.

**NOTE:** Do not install the "ROOM" fuse until retail delivery. Following this procedure will minimize the amount of dark current drawn from the battery. Dark current is current drawn by various electronic circuits which are constantly "ON". Examples of these circuits are engine and transmission CPUs, alarm systems and radio memories.

### B) Vehicles In Dealer Inventory

- All batteries require periodic maintenance and, if necessary, supplemental charging to maintain battery performance.
- Measure the amount of battery voltage once a month. If the voltage is less than 12.4V, perform a "quick" or "boost" charge according to the instructions on page 2 and complete the Battery Maintenance Record.

**NOTE:** Run the vehicle's engine 20-30 minutes once per week (with A/C "ON", if equipped). Running the engine will charge the battery and circulate the A/C refrigerant oil to maintain seals. If possible, periodically relocate the vehicle to keep brake rotor surfaces free of rust.

### C) Just Prior To Retail Delivery

- Measure the battery voltage with a digital voltmeter or use the MIDTRONICS PowerSensor Plus tester in the "C" position for a voltage check or the "D" position to provide battery CCA rating. If the voltage is 12.4 V or more, the battery is normal and the vehicle may be delivered.

**NOTE:** MIDTRONICS PowerSensor Plus requires only 10.2V to accurately test battery condition.

- If the voltage is less than 12.4V, refer to the table on page 2 for "boost" and "quick" charging specifications prior to delivery.

**NOTE:** If the battery power level is significantly low, driving the vehicle will not sufficiently restore battery charge. Install the "ROOM" fuse just prior to vehicle delivery.

Signature \_\_\_\_\_ Signature \_\_\_\_\_ Index # 0A2727



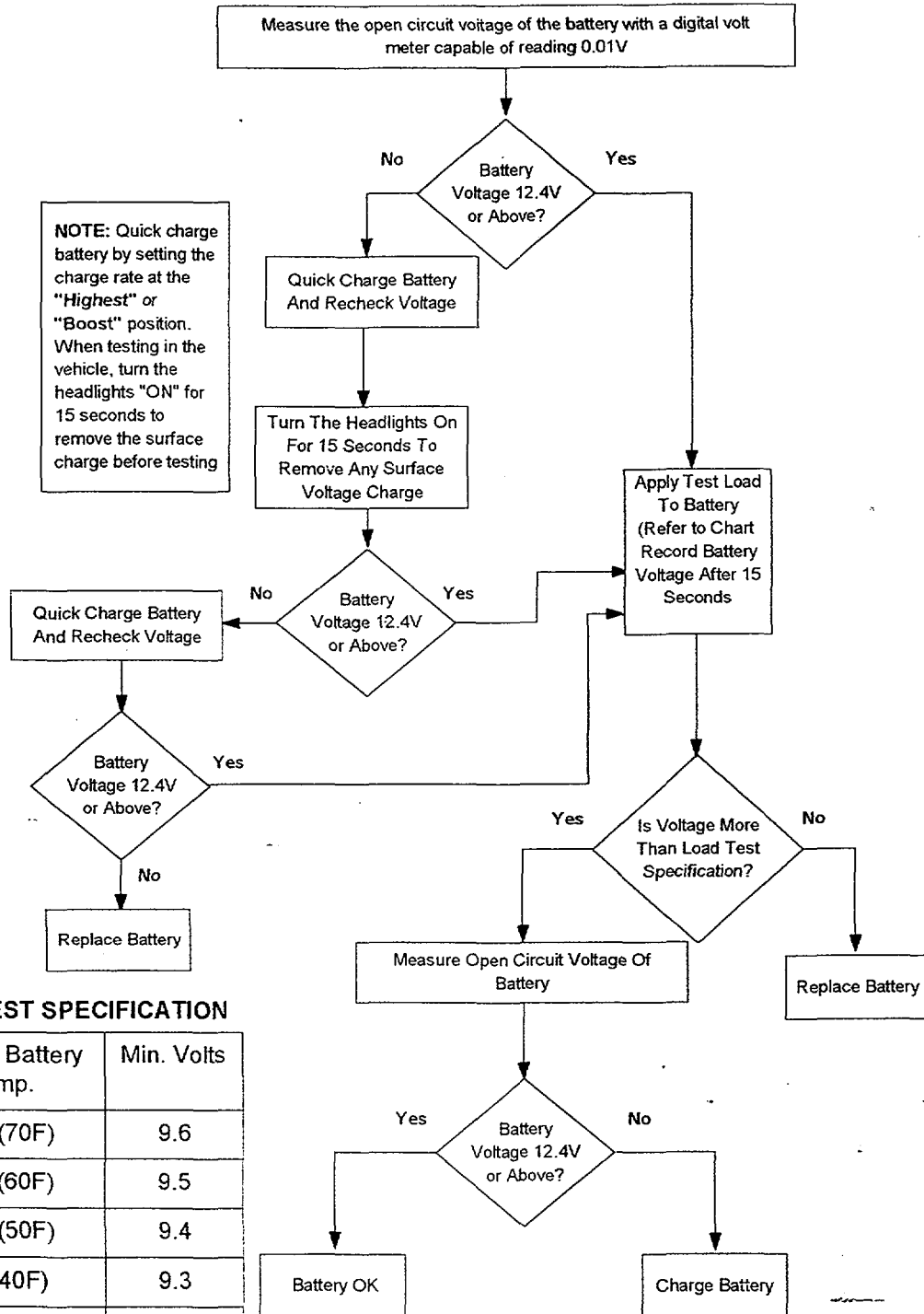
**2. CHARGING INFORMATION**

The chart below gives specific charging amps, times and load test amps for 1993 -'95 vehicles. Refer to the applicable workshop manual for other model year vehicles and additional troubleshooting information.

| Model          | Battery    | Max. Charge Current (AMP) | Charge Time (Min.) | Load Test (AMP) |
|----------------|------------|---------------------------|--------------------|-----------------|
| Protege/323    | 55D23L     | 30                        | 30                 | 180             |
| 626/MX-6       | GROUP58R   | 30                        | 30                 | 174             |
| 929            | 55D23L     | 30                        | 30                 | 180             |
|                | 80D26L     | 35                        | 30                 | 195             |
| Millenia       | 75D26L     | 35                        | 30                 | 195             |
|                | 80D26L     |                           |                    |                 |
| MX-3           | 50D20L     | 25                        | 30                 | 150             |
|                | 55D23L     | 30                        | 30                 | 180             |
|                | 65D23L     | 30                        | 30                 | 165             |
| MX-5           | S46A24L    | 20                        | 30                 | 105             |
| RX-7           | 55D23L     | 30                        | 30                 | 180             |
|                | 65D23L     | 30                        | 30                 | 165             |
|                | 75D26L     | 35                        | 30                 | 195             |
| MPV            | 50D20L     | 25                        | 30                 | 150             |
|                | 80D26L     | 35                        | 30                 | 195             |
| B-Series       | 50D20R     | 25                        | 30                 | 150             |
|                | 75D26R     | 35                        | 30                 | 195             |
|                | 80D26R     | 35                        | 30                 | 195             |
| 94-95 B-Series | BX-58C     | 35                        | 20                 | 270             |
|                | BXT-65-650 | 35                        | 20                 | 325             |
| Navajo         | BXT-65-650 | 35                        | 20                 | 325             |

### 3. BATTERY DIAGNOSTIC PROCEDURES (Load Test Using VAT-40 or Equivalent)

Diagnostic procedures used for testing lead-acid batteries provide false readings leading to unnecessary replacement if used on maintenance-free batteries. Follow the table below when diagnosing systems with maintenance-free batteries.



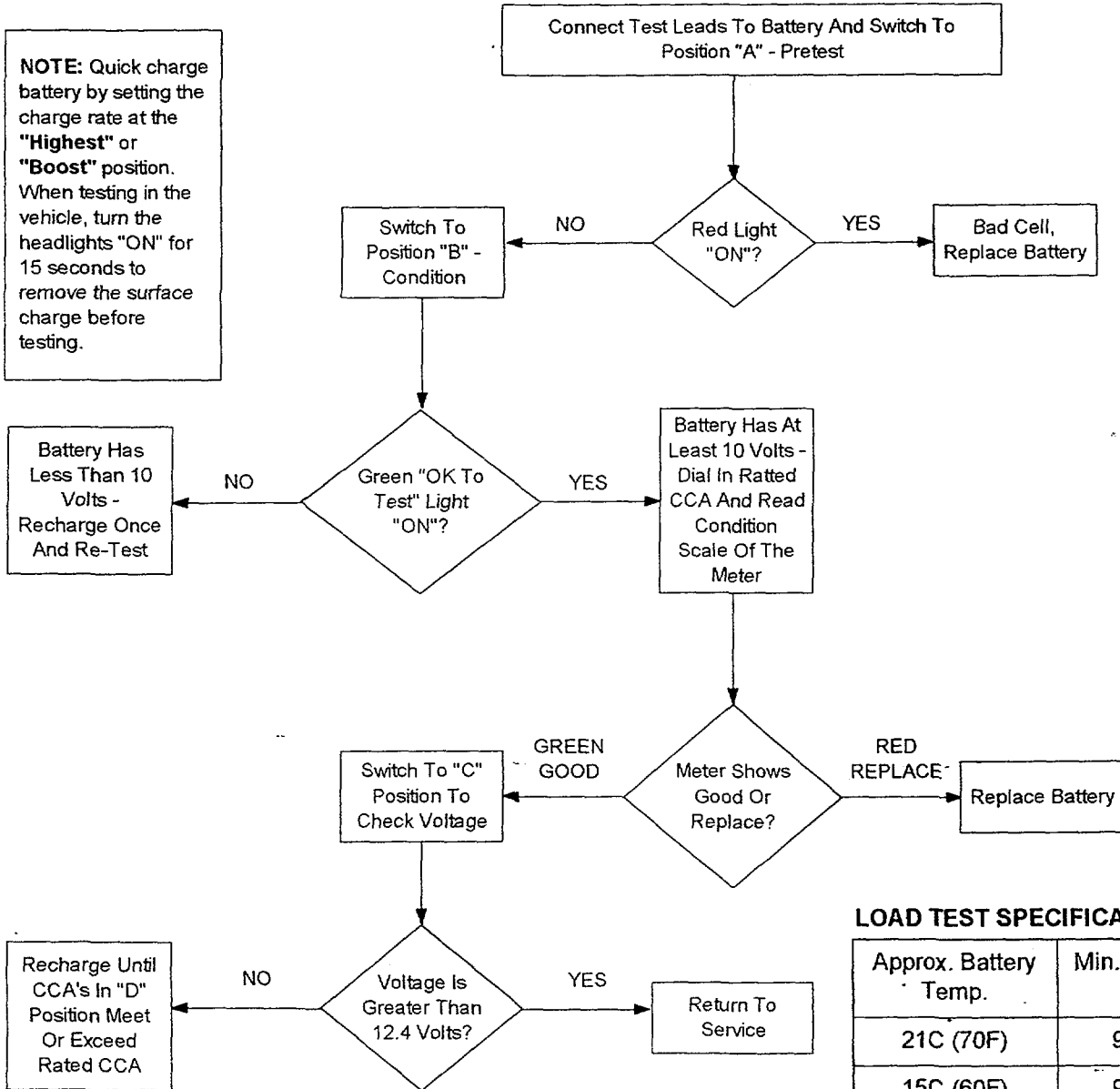
**NOTE:** Quick charge battery by setting the charge rate at the "Highest" or "Boost" position. When testing in the vehicle, turn the headlights "ON" for 15 seconds to remove the surface charge before testing

#### LOAD TEST SPECIFICATION

| Approx. Battery Temp. | Min. Volts |
|-----------------------|------------|
| 21C (70F)             | 9.6        |
| 15C (60F)             | 9.5        |
| 10C (50F)             | 9.4        |
| 4C (40F)              | 9.3        |
| -1C (30F)             | 9.1        |
| -7C (20F)             | 8.9        |
| -12C (10F)            | 8.7        |
| -18C (0F)             | 8.5        |

### 3. BATTERY DIAGNOSTIC PROCEDURES (Using *Midtronics PowerSensor Plus*)

Diagnostic procedures used for testing lead-acid batteries provide false readings leading to unnecessary replacement if used on maintenance-free batteries. Follow the table below when diagnosing systems with maintenance-free batteries.



#### LOAD TEST SPECIFICATION

| Approx. Battery Temp. | Min. Volts |
|-----------------------|------------|
| 21C (70F)             | 9.6        |
| 15C (60F)             | 9.5        |
| 10C (50F)             | 9.4        |
| 4C (40F)              | 9.3        |
| -1C (30F)             | 9.1        |
| -7C (20F)             | 8.9        |
| -12C (10F)            | 8.7        |
| -18C (0F)             | 8.5        |

This flow chart is not available in pad form. Dealers are requested to make copies at the dealership. This chart will be provided in pad form at the next printing.

#### 4. CHARGING SYSTEM DIAGNOSTIC PROCEDURE (Equipment Procedures)

1. Check the following:

- Connectors
- Grounds
- Alternator Condition
- Fuses

#### (USING VAT-40 OR EQUIVALENT)

2. Start engine and confirm that alternator warning light is not illuminated.

**NOTE:** If the warning light is illuminated, the self diagnostic function is operating. Check the alternator and related harness. Refer to the instructions in section G of the applicable workshop manual.

3. Check the alternator belt tension and condition.

4. Turn the vehicle headlights "ON". Check engine belt and alternator bearing for unusual noise by raising and lowering the engine RPM.

5. Turn ignition and all accessories "OFF".

6. Connect a load tester.

7. Apply the load test referring to the table and flow chart on page 3 or 4 (depending on the test equipment). The final voltage must be above the minimum value shown in the table. Record the voltage on the "Battery Check Sheet".

- If the voltage is more than the minimum, measure the open circuit voltage. Charge the battery if less than 12.4V.
- If the voltage is less than the minimum, "quick" or "boost" charge the battery for 30 minutes. Perform a load test again. If the battery is still below the minimum, replace the battery and proceed to step 8.

8. Start the vehicle and raise the RPM to 2500.

9. Connect the battery load tester and apply a load equal to the alternator rating.

- If the voltage is 13.5V to 15.0V, the alternator and battery are functioning correctly.
- If the voltage is more than 15.0V, replace the alternator.
- If the voltage is 14.1V or under, check for resistance between the battery and terminals "B" and "S". Inspect the harness for damage. Repair as necessary. Retest the alternator. If the voltage is still less than 14.1V, replace the alternator.

#### (USING MIDTRONICS PowerSensor Plus TESTER)

1. Connect the MIDTRONICS PowerSensor Plus tester. If low voltage is found (less than 10.2V) charge the battery for two (2) hours and recheck. If the voltage is greater than 10.2V, test battery condition without pre-charging. If low voltage is still found, replace the battery according to the information in the warranty section of this bulletin.

2. If the tester indicates that the battery is not at fault, refer to the appropriate workshop manual or BETM (Body Electrical Troubleshooting Manual) for troubleshooting and repair information.

The following are additional MIDTRONICS PowerSensor Plus tester features:

**Position "A"** will test for an open circuit (bad cell or broken internal circuit). This is indicated by a "Red" LED light. If an open circuit is indicated, replace the battery using the criteria described in the warranty section of this bulletin.

**Position "B"** a "green" LED indicates that the battery has at least 10.2V and can therefore be tested without pre-charging. This position indicates battery cold cranking amperage (CCA). This position requires that the CCA rating be set on the MIDTRONICS PowerSensor Plus Tester dial. Refer to the attached chart to determine CCA. The MIDTRONICS PowerSensor Plus tester then determines actual CCA by measuring the actual condition of the battery voltage and plate condition.

**Position "C"** measures the alternator output when the engine is started and also indicates "Open-Circuit Voltage"

**Position "D"** indicates actual CCA condition of the battery. By comparing the indicated reading to the battery's rated CCA, the battery capacity is determined (ex. Indicated CCA of 400 for a battery with a 600 rating = the battery is 2/3 down on capacity). This decline will occur through normal aging and does not necessarily indicate that the battery requires replacement.

See page 6 for the appropriate ratings.

|                |                     |          |
|----------------|---------------------|----------|
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### 5. BATTERY COLD CRANKING AMPERAGE (CCA) RATINGS

NOTE: CCA Rating Numbers (stamped on battery covers) are required for use with MIDTRONICS PowerSensor Plus Battery Tester.

## WET BATTERY APPLICATION GUIDE

| Model / Year           | Factory Battery (JIS) Number | Group Size** | OEM Battery CCA | Replacement Battery CCA | Replacement Battery Part Number |
|------------------------|------------------------------|--------------|-----------------|-------------------------|---------------------------------|
| <b>323 / PROTEGE</b>   |                              |              |                 |                         |                                 |
| 1982-86                | 50D20L                       | GR24         | 280             | 460                     | 0000 80 024R WB                 |
| 1986 - 91              | 50D20L                       | GR26R        | 320             | 525                     | 0000 80 026R WB                 |
| 1988 - 95*             | 55D23L                       | GR35         | 360             | 525                     | 0000 80 035R WB                 |
| <b>626 / MX-6</b>      |                              |              |                 |                         |                                 |
| 1980-92                | 50D20L                       | GR26R        | 410             | 525                     | 0000 80 026R WB                 |
| 1983-91*               | 55D23L                       | GR35         | 360             | 525                     | 0000 80 035R WB                 |
| 1992-95                | 582, 540                     | GR58R        | 582             | 582                     | 0000 80 058R WB                 |
| <b>MILLENNIA</b>       |                              |              |                 |                         |                                 |
| 1995                   | 75D26L, 490                  | GR24         | 490             | 675                     | 0000 80 124F WB                 |
| <b>929</b>             |                              |              |                 |                         |                                 |
| 1988-95                | 50D20L                       | GR26R        | 310             | 525                     | 0000 80 026R WB                 |
| 1988-91*               | 80D26L, 582                  | GR24         | 585             | 675                     | 0000 80 124R WB                 |
| <b>MPV</b>             |                              |              |                 |                         |                                 |
| 1989-95                | 50D20L, 306                  | GR26R        | 310             | 525                     | 0000 80 026R WB                 |
| 1989-95<br>(Cold Pack) | 80D26L, 582                  | GR58R        | 585             | 675                     | 0000 80 124F WB                 |
| <b>RX-7</b>            |                              |              |                 |                         |                                 |
| 1986-88                | 50D20L, 306                  | GR26R        | 310             | 460                     | 0000 80 0024 WB                 |
| 1989-93                | 55D23L, 356                  | GR35         | 360             | 525                     | 0000 80 0035 WB                 |
| 1986-93                | 65D23L, 420                  | GR35         | 420             | 460                     | 0000 80 0024 WB                 |
| 1992-95                | 75D26L                       | GR24         | 415             | 500                     | 0000 80 224F WB                 |
| 1992-95                |                              | 24F          | 490             | 675                     | 0000 80 124F WB                 |
| <b>MX-3</b>            |                              |              |                 |                         |                                 |
| 1992-93 (I-4)          | 50D23L                       | GR26R        | 310             | 525                     | 0000 80 026R WB                 |
| 1992-95 (V6)           | 55D23L                       | GR35         | 360             | 525                     | 0000 80 035R WB                 |
| 1992-95<br>(ALL)       |                              | GR24F        | 415             | 500                     | 0000 80 224F WB                 |
| <b>B-SERIES</b>        |                              |              |                 |                         |                                 |
| 1986-91                | 50D20L                       | GR26R        | 320             | 525                     | 0000 80 026R WB                 |
| 1986-95<br>(Cold Pack) | 75D26L                       | GR24         | 390             | 500                     | 0000 80 224F WB                 |
| 1988                   |                              | GR26R        | 390             | 500                     | 0000 80 224F WB                 |
| 1995                   | 582, 540                     | GR58R        | 540             | 540                     | 0000 80 58HD WB                 |
| 1995*                  |                              | GR65R        | 650             | 875                     | 0000 80-0065 WB                 |
| <b>NAVAJO</b>          |                              |              |                 |                         |                                 |
| 1991-94                | 650                          | GR65R        | 650             | 875                     | 0000 80 0065 WB                 |

**NOTE:**

\* Indicates optional batteries to those listed just above.

\*\* The "GROUP" size refers to the battery external dimensions and **not** the CCA rating. Batteries can have the same group size and different CCA ratings.



|                |                     |          |
|----------------|---------------------|----------|
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|----------------|---------------------|----------|

## 6. WARRANTY INFORMATION

### Charging System Diagnosis

|                         |                                                           |
|-------------------------|-----------------------------------------------------------|
| Symptom Code:           | Complete Actual Code                                      |
| Damage Code:            | Complete Actual Code                                      |
| Part Number Main Cause: | Complete Actual Part Number                               |
| Operation Number:       | G0501ACX                                                  |
| Labor Hours:            | 0.5Hrs (Vehicles other than 929)<br>0.6Hrs (929 Vehicles) |

**NOTE:** The above operation number is used for **Battery Inspection, Charging and Testing. This includes:**

- Battery Load Test
- Battery Replenishment
- Charging and Capacity Test
- Charging Test
- Dark Current Test

**NOTE:** If a charging problem still exists after battery charging and/or replacement, follow the charging diagnostic procedures covered under operation number G0001\*DX to identify the problem. Basic diagnostic operations require separate punch/flag time. Hours shown on the SRT microfiche are the maximum allowable times.

The information below outlines when battery charging or replacement is covered under vehicle warranty.

#### • Wholesale Delivery Inspection

**Charging/testing** is not covered under vehicle warranty and is considered part of normal dealer processing responsibility. Boost charging is covered within 48 hours of vehicle delivery. **This operation will require completion of the Battery Check Sheet.**

**Replacement** requires DCSM authorization. Additionally, **the Battery Check Sheet must be completed** and attached to the repair order. If the check sheet is not attached to the repair order, the claim will be denied.

#### • Vehicles In Dealer Inventory

Maintenance of vehicles in dealer inventory is the responsibility of the dealer and is not covered under vehicle warranty. If a battery problem results from defects in material/workmanship, battery replacement is covered under vehicle warranty with DCSM authorization. Maintain the battery according to the schedules and procedures listed on page 1 of this bulletin. **Complete the Battery Maintenance Record** and attach a copy of the completed record to the repair order. If a copy is not attached to the repair order, the claim will be denied.

#### • After Retail Delivery (First Ninety (90) Days After Retail Delivery)

**Charging/testing** is not covered under vehicle warranty unless accompanied by a related repair (i.e. alternator failure). **This operation will require completion of the Battery Check Sheet.**

**Replacement** is covered with DCSM authorization only if the battery has been properly maintained while in inventory. **A copy of the Battery Maintenance Record and Battery Check Sheet** must be completed and attached to the repair order. If copies are not attached to the repair order, the claim will be denied.

#### After Retail Delivery (After Ninety (90) Days From Retail Delivery)

**Charging/testing** is not covered under the vehicle warranty unless accompanied by a related repair (i.e. alternator failure). **This operation will require completion of the Battery Check Sheet.**

**Replacement** is covered under normal warranty if the battery is judged defective after charging and diagnosing the battery according to the procedure in this bulletin.

**The Battery Check Sheet must be completed and attached to the repair order. If copies are not attached to the repair order, the claim will be denied.**

## BATTERY CHECK SHEET

**NOTE: Attach this Check Sheet to the reverse side of the Repair Order.**

1. Was the customer's complaint verified? \_\_\_\_ Yes \_\_\_\_ No

2. Battery Inspection Results

| Information                     | Reading |
|---------------------------------|---------|
| Instrument Used For Test        |         |
| Battery Voltage (Open Terminal) |         |
| Battery Voltage (Load Test)     |         |

3. Authorization Number \_\_\_\_\_ *(If battery was replaced prior to retail sale or within 90 days of retail sale)*

*See Reverse Side For Battery Diagnostic Flow Chart*

## BATTERY MAINTENANCE RECORD

VIN: \_\_\_\_\_

| Inspection |         |                      | Charging and Load Test if the battery voltage measures less than 12.4V |           | Signature |
|------------|---------|----------------------|------------------------------------------------------------------------|-----------|-----------|
| Date       | Voltage | Removal of ROOM Fuse | After Charging                                                         | Load Test |           |
|            |         |                      |                                                                        |           |           |
|            |         |                      |                                                                        |           |           |
|            |         |                      |                                                                        |           |           |
|            |         |                      |                                                                        |           |           |
|            |         |                      |                                                                        |           |           |
|            |         |                      |                                                                        |           |           |

- Battery voltage should be checked according to the Service Bulletin Cat. G, No. 002/95.
- Removal of the ROOM fuse should be confirmed. Check the column ("Removal of ROOM Fuse") during inspection.
- Date, voltage and signature must be filled out on inspection.
- The record should be retained at the dealer when the vehicle is retailed.

**NOTE:**

- If the battery voltage measures less than 12.4V, driving the vehicle will not sufficiently charge the battery. Do not release a vehicle with a battery that is below full charge.
- Install the ROOM fuse just prior to vehicle delivery.
- Removing the ROOM fuse reduces the amount of "dark-current" voltage that is drained from the battery.

*See Reverse Side For Battery Diagnostic Flow Chart*

# Service Bulletin

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Irvine, California 92718  
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|               |                                  |                                                                          |                     |
|---------------|----------------------------------|--------------------------------------------------------------------------|---------------------|
| Category<br>G | Applicable Model/s<br>All Models | Subject<br>MAINTENANCE FREE BATTERY DIGNOSTIC<br>AND CHARGING PROCEDURES | Bulletin No. 003/93 |
|               |                                  |                                                                          | Issued 9/15/93      |
|               |                                  |                                                                          | Revised             |

## APPLICABLE MODELS/VINS

All Mazda vehicles

## DESCRIPTION

Vehicles in dealer inventory require periodic battery inspection and if necessary, supplemental charging.

**NOTE:** If the vehicle's maintenance free battery is excessively discharged, conventional charging procedures will not return the battery to full power.

This bulletin contains the following:

- Inspection Recommendations
- Diagnostic Procedures
- Charging Information
- Warranty Information
- Battery Diagnostic Check Sheet

## INSPECTION RECCOMMENDATIONS

### AT WHOLESALE DELIVERY

1. Measure the voltage with a digital voltmeter.
2. If the voltage is 12.4V or more, the battery is in normal condition.
3. If the voltage is less than 12.4V, the battery requires a quick charge prior to load testing. Quick charge by setting the charge rate of the battery charge to the "highest" or "boost" position. Refer to the table on page 3.
4. Load test the battery. Refer to the table on page 2 for minimum voltage specifications.
5. If not within specification, contact your DCSM for authorization prior to replacing the battery. See warranty information on page 3.
6. Do not install the "ROOM" fuse. This will minimize the drainage on the battery from the CPU, instrument panel, etc.

**NOTE:** Remove "ROOM" fuse on Navajo and B-Series vehicles.

### VEHICLES IN DEALER INVENTORY

Measure the battery voltage at least once per month. If the voltage is less than 12.4V, perform a quick charge according to the table on page 3.

### RETAIL DELIVERY

1. Measure the battery voltage.
2. If the voltage is 12.4V or more, the battery is in normal condition and the vehicle may be delivered.
3. If the voltage is less than 12.4V perform a quick charge according to the table on page 3 prior to delivery.

**NOTE:** Reinstall the ROOM fuse just prior to delivery. This will decrease the amount of "key off" voltage that is drained from the battery.

If the battery voltage measured less than 12.4V, driving the vehicle will not sufficiently charge the battery.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Signature \_\_\_\_\_

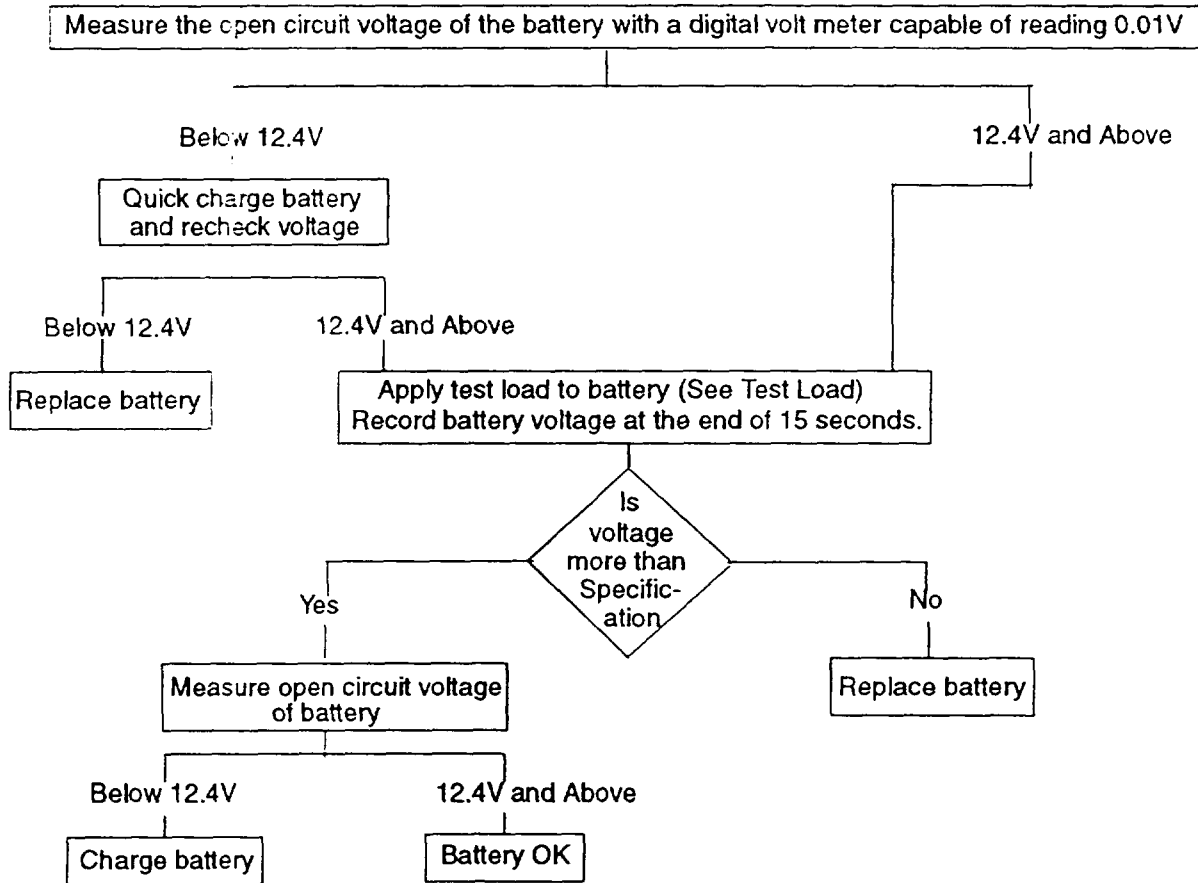
Service Manager

Parts Manager

**DIAGNOSTIC PROCEDURES**

Because of their design, maintenance free batteries must not be diagnosed using procedures developed for lead storage batteries. This will provide a false reading and result in unnecessary replacement.

The table below should be followed when diagnosing maintenance free batteries.



**LOAD TEST SPECIFICATION**

| Approx. Battery Temp. | Min. Volts |
|-----------------------|------------|
| 21C (70F)             | 9.6        |
| 15C (60F)             | 9.5        |
| 10C (50F)             | 9.4        |
| 4C (40F)              | 9.3        |
| -1C (30F)             | 9.1        |
| -7C (20F)             | 8.9        |
| -12C (10F)            | 8.7        |
| -18C (0F)             | 8.5        |

**NOTE:** Quick charge the battery by setting the charge rate at the "highest" or "boost" position.

|                |                      |          |
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|----------------|----------------------|----------|

## CHARGING INFORMATION

The chart below gives specific charging amps, charging times and test load amps for 1993 model year vehicles and their original batteries. Refer to the applicable workshop manual for other model years.

| Model        | Battery    | Max. Charge Current (AMPs.) | Charge Time (Min.) | Test Load (AMPs.) |
|--------------|------------|-----------------------------|--------------------|-------------------|
| 323/Prot.    | 55D23L     | 30                          | 30                 | 180               |
| 626/MX-6     | GROUP58R   | 30                          | 30                 | 174               |
| 929          | 55D23L     | 30                          | 30                 | 180               |
|              | 80D26L     | 35                          | 30                 | 195               |
| MX-3         | 50D20L     | 25                          | 30                 | 150               |
|              | 55D23L     | 30                          | 30                 | 180               |
|              | 65D23L     | 30                          | 30                 | 165               |
| MX-5         | S46A24L    | 20                          | 30                 | 105               |
| RX-7         | 55D23L     | 30                          | 30                 | 180               |
|              | 65D23L     | 30                          | 30                 | 165               |
|              | 75D26L     | 35                          | 30                 | 195               |
| MPV          | 50D20L     | 25                          | 30                 | 150               |
|              | 80D26L     | 35                          | 30                 | 195               |
| B-Series     | 50D20R     | 25                          | 30                 | 150               |
|              | 75D26R     | 35                          | 30                 | 195               |
|              | 80D26R     | 35                          | 30                 | 195               |
| '94 B-Series | BX-58C     | 35                          | 20                 | 270               |
|              | BXT-65-650 | 35                          | 20                 | 325               |
| Navajo       | BXT-65-650 | 35                          | 20                 | 325               |

## WARRANTY INFORMATION

The information below outlines when charging or replacement is covered under warranty.

### 1. WHOLESALE DELIVERY INSPECTION

Charging - Testing is not covered under warranty and is considered part of normal dealer processing responsibility. Boost charging is covered. This will require completion of the inspection sheet.

Replacement - Requires DCSM authorization. Additionally, the diagnostic check sheet must be completed and attached to the repair order. If the inspection sheet is not attached, the claim may be denied.

### 2. VEHICLES IN DEALER INVENTORY

Battery problems that occur after the wholesale delivery inspection are not subject to warranty. Maintenance of vehicles in dealer inventory is the responsibility of the dealer.

If the battery problem results from defects in material/manufacturing, replacement is covered with the authorization of the DCSM. Check the battery according to the diagnostics described in this bulletin and complete the battery diagnostic check sheet. Attach the diagnostic check sheet to the repair order.

### 3. AFTER RETAIL

Charging - Not covered under normal warranty unless accompanied by a related repair.

Replacement - The battery is covered under normal warranty if it is judged defective after diagnosing and charging according to the procedures listed in this bulletin. A battery diagnostic check sheet must be completed and attached to the repair order.

## BATTERY CHECK SHEET FOR INVENTORY VEHICLES

1. Was the customer's complaint verified? \_\_\_\_ Yes \_\_\_\_ No

2. Battery Inspection Results

|                                 | Reading |
|---------------------------------|---------|
| Instrument Used                 |         |
| Battery Voltage (Open Terminal) |         |
| Battery Voltage (Load Test)     |         |

3. Authorization number if battery was replaced prior to retail sale of the vehicle: \_\_\_\_\_

**NOTE:** This check sheet must be attached to the reverse side of the repair order.

*Copy this check sheet at the dealer and keep in file for future use.*

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990

# MAZDA

|               |                                 |                                             |                     |
|---------------|---------------------------------|---------------------------------------------|---------------------|
| Category<br>G | Applicable Model/s<br>See Below | Subject<br>CHECKING POINTS FOR DEAD BATTERY | Bulletin No. 003/96 |
|               |                                 |                                             | Issued 12/26/96     |
|               |                                 |                                             | Revised             |

## APPLICABLE MODELS

All models except M - Edition MX-5 Miata

## DESCRIPTION

The following information provides basic instructions for measuring dark current and guidelines to determine if the current is excessive.

## DARK CURRENT

Current which flows from the battery even when the ignition is in the OFF position and the key removed. This current is used to maintain memory functions in the radio, clock, CPU and other electronic equipment. Current will vary depending on the vehicle's electronic components.

**Average Dark Current = Less than 20 mA.**

**NOTE:** If the ignition key is in the ACC position, current flow may be up to 250 mA. This amount of current is capable of draining the battery within 2 - 3 days.

## DARK CURRENT CHECKING PROCEDURE

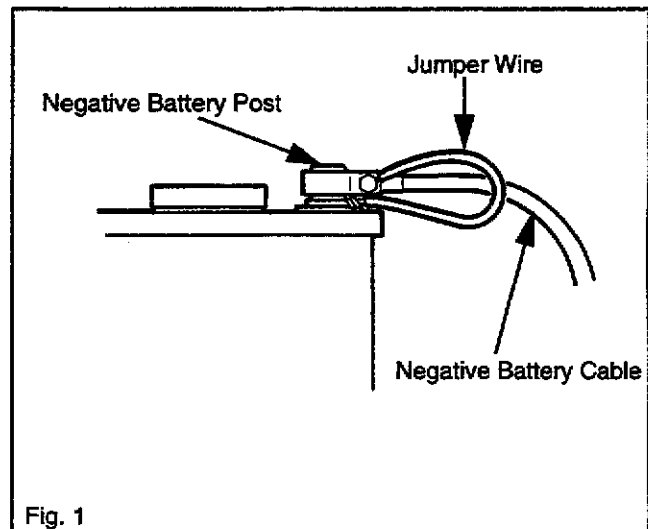
1. Turn ignition OFF and remove key from ignition.
2. Turn off all electrical loads and confirm that doors and trunk lid are completely closed.
3. Measure voltage from the battery.
  - If less than 10V, connect a fully charged battery parallel to the vehicle battery using a booster cable.

**NOTE:** Do not disconnect the battery cables during this step (if the battery cables are disconnected with any circuits which still operate when the ignition switch is removed, the problem symptom may not be duplicated and the correct dark current can not be measured even if the cable is reconnected).

4. Use a jumper wire to connect the negative battery cable to the negative battery post. Refer to Fig. 1.
5. Confirm that jumper wire is connected and disconnect the negative battery cable.

### NOTES:

- **Vehicles with Anti-Theft Devices** - Open hood and disconnect coupler from the hood switch so that the warning light on the theft deterrent system does not illuminate.
  - **Vehicles with Anti-Theft Audio Systems** - Confirm that the customer has the personal code number.
6. Select "Maximum Amperage Range" (1A or 3A) on the circuit tester and connect tester. Refer to Fig. 2
    - "RED" positive probe (+) - Connect to negative cable.
    - "BLACK" negative probe (-) - Connect to negative battery post.



**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

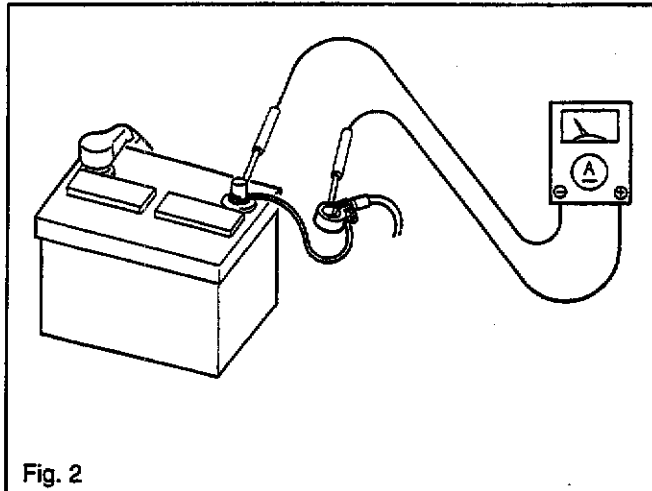


7. Disconnect the jumper wire and measure current.

**CAUTION:** Do not open doors or trunk lid during this measurement. Excessive current will damage the tester.

**NOTE:** If the measurement range of the tester is not high enough to measure this current, connect the jumper wire first (otherwise the conductivity between the battery cable and the battery is shut off momentarily when the measurement range is changed).

Change setting to 100 mA or 30 mA, disconnect the jumper wire and measure current.



8. If the current is more than 20 mA, perform the following:
- Disconnect the "ROOM" fuse and measure dark current.
  - Reconnect "ROOM" fuse to determine if current has changed.
    - If the current measurement is more than 2.5 mA, disconnect and connect each fuse to determine which circuit is drawing abnormal current.
9. Repair or replace faulty component(s) according to the workshop manual.

#### CHECKING POINT FOR DEAD BATTERY

1. Measure the dark current according to the instructions on page 1 of 2 and above.

**NOTE:** If the dark current is higher than specified, especially if the vehicle has accessories that may draw excessive current, investigate the cause.
2. Measure the open circuit voltage of the battery and/or load test according to the instructions in the workshop manual (Battery, "Charging System").

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
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Telephone (714) 727-1990



|               |                                                       |                                                                  |                                                   |
|---------------|-------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------|
| Category<br>G | Applicable Model/s<br>All except<br>B-Series & Navajo | Subject<br>WIPER MOTOR INOPERATIVE<br>CIRCUIT BREAKER ACTIVATION | Bulletin No. 003/97<br>Issued 05/19/97<br>Revised |
|---------------|-------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------|

**NOTE:** This bulletin is superseded by T013/97.

**APPLICABLE MODELS:**

All except B-Series and Navajo.

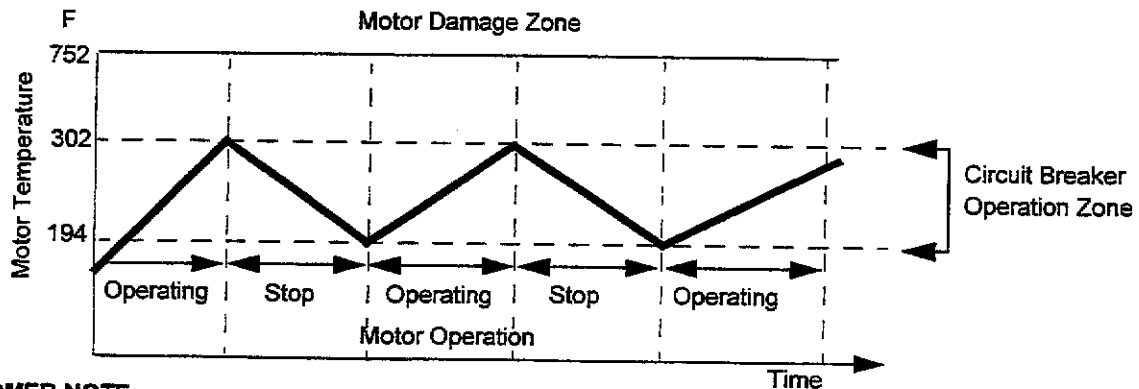
**DESCRIPTION:**

The wiper motor is equipped with a built-in circuit breaker to protect the circuit and motor from over heating due to motor overloading. Overload may occur when:

- Motor temperature exceeds 150 degrees (C) [302 degrees (F)].
- Wipers are frozen to the windshield.
- Wiper motion is restricted due to heavy loads (snow or mud build-up).

**NOTE:** Circuit automatically resets when motor temperature decreases below 90 degrees C ( 194 degrees F).

The information in this bulletin is provided to answer customer questions regarding occasional wiper motor perceived problems and prevent unnecessary wiper motor replacement.



**CUSTOMER NOTE:**

To prevent wiper motor binding:

- Remove ice or snow build-up from windshield with a suitable tool.
- Confirm the wiper is free by carefully raising blades from glass.
- **NEVER** operate wipers on dry windshield.

If the wiper operation stops:

- Guide the vehicle to the side of road and stop.
- Turn wipers "OFF".
- Wait approximately 5 minutes and turn the wiper switch "ON".
  - If the wipers activate, the wiper motor and circuitry are functioning properly (circuit breaker activated).
  - If the wipers fail to activate, proceed to your nearest dealer when you can safely drive the vehicle.

**Technician's Note:** If the wiper motor does not operate, check the wiper motor circuit (Refer to Workshop Manual for the specific model) and replace wiper motor if necessary.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

# Service Bulletin

Mazda Motor of America, Inc.  
 7755 Irvine Center Drive  
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 Telephone (714) 727-1990



|               |                                     |                            |                     |
|---------------|-------------------------------------|----------------------------|---------------------|
| Category<br>H | Applicable Models<br>1993 - 94 RX-7 | Subject<br>Clutch Slippage | Bulletin No. 001/93 |
|               |                                     |                            | Issued 12/17/93     |
|               |                                     |                            | Revised             |

## APPLICABLE MODELS/VINS

RX-7

1993 - Vehicles with a VIN of JM1FD333\*P0200001 through JM1FD333\*P0299999

1994 - Vehicles with a VIN of JM1FD333\*R0300001 through JM1FD333\*R0300031

**NOTE:** The asterisk (\*) in the VIN range can be any number (0 through 9) or "X".

## DESCRIPTION

Customers with the following driving habits may experience clutch slippage or have premature clutch wear:

Starting from a stop in 2nd gear

Hard acceleration/deceleration cycles

To improve the clutch for these conditions, the facing material of the clutch discs has been changed. These clutches have been used in production since October 8, 1993.

## PARTS INFORMATION

| Part Number  |              | Description | Quantity | Interchangeability |
|--------------|--------------|-------------|----------|--------------------|
| New          | Old          |             |          |                    |
| N315 16 460B | N315 16 460A | Clutch Disc | 1        | AN                 |

**Interchangeability AN=** New and old parts are fully interchangeable

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

# Service Bulletin

Mazda Motor of America, Inc.  
 7755 Irvine Center Drive  
 Irvine, California 92718  
 Telephone (714) 454-7129



|               |                                 |                                    |                     |
|---------------|---------------------------------|------------------------------------|---------------------|
| Category<br>J | Applicable Model/s<br>1993 RX-7 | Subject<br>5th GEAR SHIFTING NOISE | Bulletin No. 001/94 |
|               |                                 |                                    | Issued 1/7/94       |
|               |                                 |                                    | Revised             |

### APPLICABLE MODELS/VINS

1993 RX-7 - Vehicles with a VIN of JM1FD332\*P0100001 through JM1FD332\*P0210508

**NOTE:** The asterisk (\*) in the VIN range can be any number (0 through 9) or "X".

### DESCRIPTION

If grinding occurs when shifting to 5th gear, a 5th gear synchronizer ring, damaged by mis-shifting, may be the cause. To correct this concern, the shift select spindle has been modified to increase accuracy of the shift pattern.

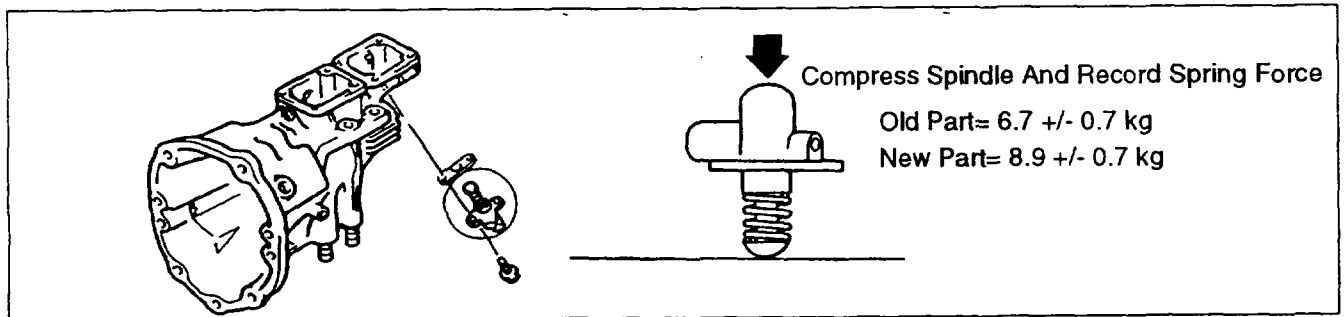
### REPAIR PROCEDURE

1. Verify complaint.
2. Replace the shift select spindle and 5th gear synchronizer ring (refer to page 2 for identification of parts).
3. Inspect related parts for damage. Replace as necessary.

### PARTS INFORMATION

| Part Number  | Description           |
|--------------|-----------------------|
| R503 17 550  | Shift Select Spindle  |
| W501 17 725B | 5th Gear Synchronizer |

**NOTE:** The part number of the spindle has not changed. Parts in your facing PDC are new. Dealers with spindles existing in inventory should check the spindle using the method shown below.



### WARRANTY INFORMATION

(Applies to vehicles covered under normal warranty)

Warranty Type: A  
 Symptom Code: 82  
 Damage Code: 24  
 Part Number Main Cause: R503 17 550  
 Operation Number: J0306ARX  
 Labor Hours: 4.8Hrs.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
 (Service Manager)

Signature \_\_\_\_\_  
 (Parts Manager)

Index # 036949

# Service Bulletin

Mazda Motor of America, Inc. **MAZDA**  
 7755 Irvine Center Drive  
 Irvine, California 92718  
 Telephone (714) 454-7129

|               |                                 |                                    |                     |
|---------------|---------------------------------|------------------------------------|---------------------|
| Category<br>J | Applicable Model/s<br>1993 RX-7 | Subject<br>5th GEAR SHIFTING NOISE | Bulletin No. 001/94 |
|               |                                 |                                    | Issued 1/7/94       |
|               |                                 |                                    | Revised 1/27/94     |

The revised portion of this bulletin is indicated by an asterisk (\*). Replace the original copy with this revised bulletin.

### APPLICABLE MODELS/VINS

1993 RX-7 - Vehicles with a VIN of JM1FD332\*P0100001 through JM1FD332\*P0210508

**NOTE:** The asterisk (\*) in the VIN range can be any number (0 through 9) or "X".

### DESCRIPTION

If grinding occurs when shifting to 5th gear, a 5th gear synchronizer ring, damaged by mis-shifting, may be the cause. To correct this concern, the shift select spindle has been modified to increase accuracy of the shift pattern.

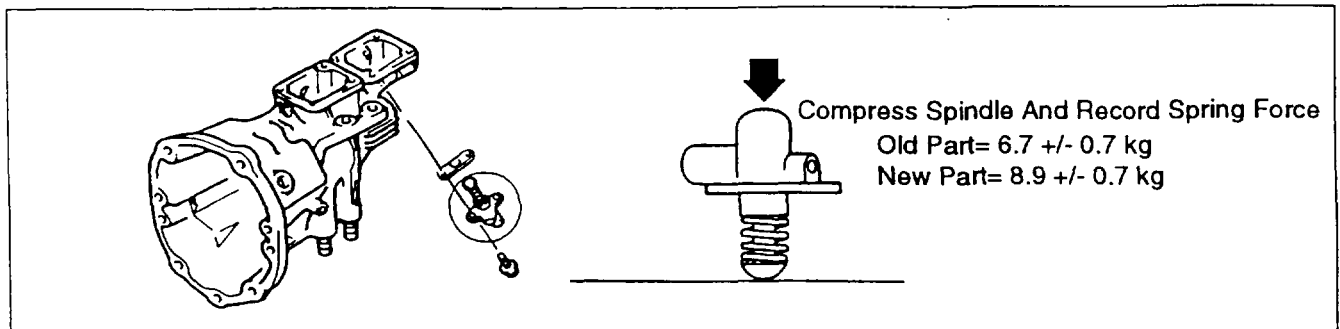
### REPAIR PROCEDURE\*

1. Verify complaint.
2. Replace the shift select spindle and 5th gear synchronizer ring.
3. Inspect related parts for damage. Replace as necessary.

### PARTS INFORMATION

| Part Number  | Description           |
|--------------|-----------------------|
| R503 17 550  | Shift Select Spindle  |
| W501 17 725B | 5th Gear Synchronizer |

**NOTE:** The part number of the spindle has not changed. Parts in your facing PDC are new. Dealers with spindles existing in inventory should check the spindle using the method shown below.



### WARRANTY INFORMATION\*

(Applies to vehicles covered under normal warranty)

Warranty Type: A  
 Symptom Code: 82  
 Damage Code: 24  
 Part Number Main Cause: R503 17 550  
 Operation Number: J0312XRX  
 Labor Hours: 4.8Hrs.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
 (Service Manager)

Signature \_\_\_\_\_  
 (Parts Manager)

Index # 036950

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                    |                                           |                     |
|---------------|------------------------------------|-------------------------------------------|---------------------|
| Category<br>J | Applicable Model/s<br>1993-94 RX-7 | Subject<br>1st AND 2nd GEAR HARD TO SHIFT | Bulletin No. 002/94 |
|               |                                    |                                           | Issued 1/20/94      |
|               |                                    |                                           | Revised             |

## APPLICABLE MODELS/VINS

RX-7

1993 - Vehicles with a VIN of JM1FD\*\*\*\*P0200001 through JM1FD\*\*\*\*R0299999

1994 - Vehicles with a VIN of JM1FD\*\*\*\*R0300001 through JM1FD\*\*\*\*R0300031

**NOTE:** The asterisk (\*) in the VIN range can be any number (0 through 9) or "X".



## DESCRIPTION

When shifting into 1st and/or 2nd gear, the shift movement may be stiff or binding may be felt. This is caused by the chamfer on the tips of the clutch hub sleeve.

To improve the shift feeling, since August 1, 1993 production, the chamfer on the tips of the clutch hub sleeves are formed using a press. This process increases the accuracy and consistency of the chamfer.

## REPAIR PROCEDURE

1. Verify the customer complaint.
2. Replace the 1st and 2nd clutch hub set and synchronizer ring according to the instructions in section J of the workshop manual.

## PARTS INFORMATION

| Part Number  |             | Description        | Quantity | Interchangeability |
|--------------|-------------|--------------------|----------|--------------------|
| New          | Old         |                    |          |                    |
| R523 17 260A | R523 17 260 | 1-2 Clutch Hub Set | 1        | AN                 |

## WARRANTY INFORMATION

*(Applies To Vehicles Covered Under Normal Warranty)*

Warranty Type: A  
Customer Comment Code: 24  
Damage Code: 9M  
Part Number Main Cause: R523 17 260A  
Quantity: 1  
Operation Number: J0304BRX  
Labor Hours: 7.2 Hrs.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

..... Service Manager

Signature \_\_\_\_\_

Parts Manager

Index # **036951**

.....

# Service Bulletin

Mazda Motor of America, Inc.  
 7755 Irvine Center Drive  
 Irvine, California 92718  
 Telephone (714) 727-1990



|               |                                                     |                                                            |                     |
|---------------|-----------------------------------------------------|------------------------------------------------------------|---------------------|
| Category<br>K | Applicable Model/s<br>All Models With<br>A/T or ATX | Subject<br>AUTOMATIC TRANSMISSION DIAGNOSTIC<br>PROCEDURES | Bulletin No. 002/94 |
|               |                                                     |                                                            | Issued 10/4/94      |
|               |                                                     |                                                            | Revised             |

## APPLICABLE MODELS

All vehicles with automatic transmissions or automatic transaxles

## DESCRIPTION

Follow the information listed in this bulletin when diagnosing automatic transmission/transaxle problems or after installing a new or rebuilt transmission/transaxle

### Contents:

- Service Advisor / Technician Check Sheet & Diagnostic Flow Chart
- Power Flushing Equipment Recommendations

A supply of fifty (50) Service Advisor / Technician Check Sheets & Diagnostic Flow Charts are provided with this bulletin. These are useful tools in preventing unnecessary replacement of transmissions, illustrating step by step diagnostics and are required for replacement authorization.

Additional pads of fifty (50) are available free of charge from Helm, Inc.

For additional information regarding transmission/transaxle diagnostics, refer to the applicable workshop manual and/or contact your regional/distributor hot line.

**NOTE:** If the transmission oil cooler is not cleaned with the proper power flushing equipment prior to repair completion, and comeback problems occur due to clogged oil cooler circuits, the repair cost will not be warrantable.

## RECOMMENDED POWER FLUSHING MANUFACTURERS / EQUIPMENT

| Manufacturer / Telephone Number | Part Number / Description                            |
|---------------------------------|------------------------------------------------------|
| OTC / (800) 533-0492            | 60081 / Portable Torque Converter Oil Cooler Cleaner |

**NOTE:** 1) Power flushers require installation of a 5 micron filter.

2) All of the above flushers require adapters / attachments for Mazda vehicle applications.

3) Questions regarding usage and applications should be directed to the flusher manufacturer.

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 Index # **040346**  
 .....

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
 Service Manager

Signature \_\_\_\_\_  
 Parts Manager

**AUTOMATIC TRANSMISSION CHECK SHEET**

Dealer: \_\_\_\_\_

R.O.# \_\_\_\_\_

SERVICE ADVISOR

Service Writer: \_\_\_\_\_ Dealer No. \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Customer's Name: \_\_\_\_\_ Dealer Telephone No. (\_\_\_\_) \_\_\_\_\_

Model \_\_\_\_\_ Year \_\_\_\_\_ Engine \_\_\_\_\_ Mileage \_\_\_\_\_ VIN \_\_\_\_\_

Aftermarket Parts Installed? Yes \_\_\_ No \_\_\_ (list, if yes) \_\_\_\_\_

Customer Description Of Problem: \_\_\_\_\_

**WHEN DOES PROBLEM OCCUR?**

|                                                    |                                                        |
|----------------------------------------------------|--------------------------------------------------------|
| Test Drive Vehicle? Yes ___ No ___                 | No Movement: 1 ___ 2 ___ 3 ___ 4 ___ R ___             |
| Engine Temperature? Cold ___ Hot ___ All ___       | Noise: 1 ___ 2 ___ 3 ___ 4 ___ R ___                   |
| Road Condition? Flat ___ Hilly ___                 | Slip: 1-2 ___ 2-3 ___ 3-4 ___ 4-3 ___ 3-2 ___ 2-1 ___  |
| Vehicle Speed? High ___ Cruise ___ Low ___ All ___ | Shock: 1-2 ___ 2-3 ___ 3-4 ___ 4-3 ___ 3-2 ___ 2-1 ___ |
| Is The Problem Intermittent? Yes ___ No ___        | Flare: 1-2 ___ 2-3 ___ 3-4 ___ 4-3 ___ 3-2 ___ 2-1 ___ |
| Is The Problem Occurring Now? Yes ___ No ___       |                                                        |

SERVICE TECH / SERVICE MGR

**PROBLEM DESCRIPTION / DIAGNOSIS**

Description: \_\_\_\_\_

Problem Duplicated? Yes \_\_\_ No \_\_\_ Test Drive? Yes \_\_\_ No \_\_\_ Serv. Bulletin Relating To Problem? \_\_\_\_\_ / \_\_\_\_\_  
(list, if yes)

Trans. Fluid Cond.: Milky \_\_\_ Burnt \_\_\_ Particles/Sludge \_\_\_ Normal \_\_\_ Trans Fluid Level: High \_\_\_ Low \_\_\_ Normal \_\_\_

Trans. Leaks? Yes \_\_\_ No \_\_\_  
(list area(s), if yes)

Engine Electrical System: Battery Voltage (engine running) \_\_\_\_\_ Volts  
 KOEO: \_\_\_\_\_ (Key On Engine Off) KOER: \_\_\_\_\_ (Key On Engine Running)  
**LA4A-EL Transmission Only**

**TEST RESULTS**

Problem Category: Codes \_\_\_\_\_ Leaks \_\_\_ Fluid Cond. \_\_\_ Driveability \_\_\_ Unusual Noise \_\_\_  
(list codes, if yes)

**Line Pressure/Stall Test Results:**

| Range          | Line Pressure Kg/f ___ psi ___ |       |     |
|----------------|--------------------------------|-------|-----|
|                | Idle                           | Stall | RPM |
| Park / Neutral |                                |       |     |
| D, S, L        |                                |       |     |
| Reverse        |                                |       |     |

**RECOMMENDATIONS**

Did You Use The "Quick Diagnostic Chart II" In The WSM? Yes \_\_\_ No \_\_\_ Was It Useful? Yes \_\_\_ No \_\_\_

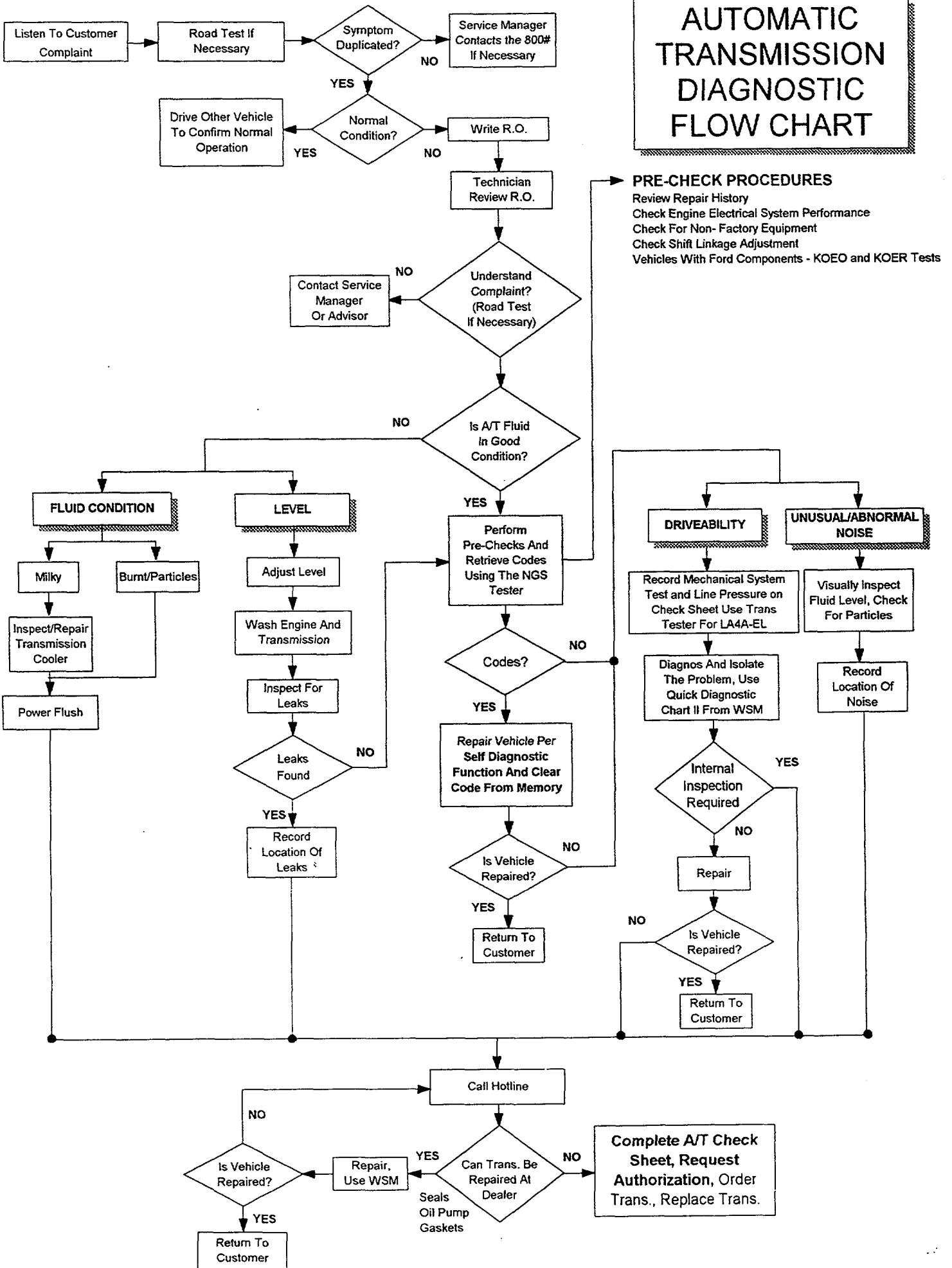
Contact Regional Hotline For Assistance? Yes \_\_\_ No \_\_\_  
(list person contacted, if yes) \_\_\_\_\_ (date) \_\_\_/\_\_\_/\_\_\_

Recommendation: Normal Condition \_\_\_ Repair Trans. \_\_\_ Exchange \_\_\_  
(MASH Authorization Number) \_\_\_\_\_ (date) \_\_\_/\_\_\_/\_\_\_





# AUTOMATIC TRANSMISSION DIAGNOSTIC FLOW CHART



# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                                     |                                                            |                     |
|---------------|-----------------------------------------------------|------------------------------------------------------------|---------------------|
| Category<br>K | Applicable Model/s<br>All Models With<br>A/T or ATX | Subject<br>AUTOMATIC TRANSMISSION DIAGNOSTIC<br>PROCEDURES | Bulletin No. 002/94 |
|               |                                                     |                                                            | Issued 10/4/94      |
|               |                                                     |                                                            | Revised             |

## APPLICABLE MODELS

All vehicles with automatic transmissions or automatic transaxles

## DESCRIPTION

Follow the information listed in this bulletin when diagnosing automatic transmission/transaxle problems or after installing a new or rebuilt transmission/transaxle

### Contents:

Service Advisor / Technician Check Sheet & Diagnostic Flow Chart

Power Flushing Equipment Recommendations

A supply of fifty (50) Service Advisor / Technician Check Sheets & Diagnostic Flow Charts are provided with this bulletin. These are useful tools in preventing unnecessary replacement of transmissions, illustrating step by step diagnostics and are required for replacement authorization.

Additional pads of fifty (50) are available free of charge from Helm, Inc.

For additional information regarding transmission/transaxle diagnostics, refer to the applicable workshop manual and/or contact your regional/distributor hot line.

**NOTE:** If the transmission oil cooler is not cleaned with the proper power flushing equipment prior to repair completion, and comeback problems occur due to clogged oil cooler circuits, the repair cost will not be warrantable.

## RECOMMENDED POWER FLUSHING MANUFACTURERS / EQUIPMENT

| Manufacturer / Telephone Number | Part Number / Description                               |
|---------------------------------|---------------------------------------------------------|
| OTC / (800) 533-0492            | 60081 / Portable Torque Converter<br>Oil Cooler Cleaner |

**NOTE:** 1) Power flushers require installation of a 5 micron filter.

2) All of the above flushers require adapters / attachments for Mazda vehicle applications.

3) Questions regarding usage and applications should be directed to the flusher manufacturer.

.....  
Index # **040346**  
.....

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

**AUTOMATIC TRANSMISSION CHECK SHEET**

Dealer: \_\_\_\_\_

R.O.# \_\_\_\_\_

SERVICE ADVISOR

Service Writer: \_\_\_\_\_ Dealer No. \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Customer's Name: \_\_\_\_\_ Dealer Telephone No. (\_\_\_\_) \_\_\_\_\_

Model \_\_\_\_\_ Year \_\_\_\_\_ Engine \_\_\_\_\_ Mileage \_\_\_\_\_ VIN \_\_\_\_\_

Aftermarket Parts Installed? Yes \_\_\_ No \_\_\_ (list, if yes) \_\_\_\_\_

Customer Description Of Problem: \_\_\_\_\_

**WHEN DOES PROBLEM OCCUR?**

|                                                    |                                                        |
|----------------------------------------------------|--------------------------------------------------------|
| Test Drive Vehicle? Yes ___ No ___                 | No Movement: 1 ___ 2 ___ 3 ___ 4 ___ R ___             |
| Engine Temperature? Cold ___ Hot ___ All ___       | Noise: 1 ___ 2 ___ 3 ___ 4 ___ R ___                   |
| Road Condition? Flat ___ Hilly ___                 | Slip: 1-2 ___ 2-3 ___ 3-4 ___ 4-3 ___ 3-2 ___ 2-1 ___  |
| Vehicle Speed? High ___ Cruise ___ Low ___ All ___ | Shock: 1-2 ___ 2-3 ___ 3-4 ___ 4-3 ___ 3-2 ___ 2-1 ___ |
| Is The Problem Intermittent? Yes ___ No ___        | Flare: 1-2 ___ 2-3 ___ 3-4 ___ 4-3 ___ 3-2 ___ 2-1 ___ |
| Is The Problem Occurring Now? Yes ___ No ___       |                                                        |

SERVICE TECH / SERVICE MGR

**PROBLEM DESCRIPTION / DIAGNOSIS**

Description: \_\_\_\_\_

Problem Duplicated? Yes \_\_\_ No \_\_\_ Test Drive? Yes \_\_\_ No \_\_\_ Serv. Bulletin Relating To Problem? \_\_\_\_\_ / \_\_\_\_\_  
(list, if yes)

Trans. Fluid Cond.: Milky \_\_\_ Burnt \_\_\_ Particles/Sludge \_\_\_ Normal \_\_\_ Trans Fluid Level: High \_\_\_ Low \_\_\_ Normal \_\_\_

Trans. Leaks? Yes \_\_\_ No \_\_\_ \_\_\_\_\_  
(list area(s), if yes)

Engine Electrical System: Battery Voltage (engine running) \_\_\_\_\_ Volts  
 KOEO: \_\_\_\_\_ (Key On Engine Off) KOER: \_\_\_\_\_ (Key On Engine Running)  
**LA4A-EL Transmission Only**

**TEST RESULTS**

Problem Category: Codes \_\_\_\_\_ Leaks \_\_\_ Fluid Cond. \_\_\_ Driveability \_\_\_ Unusual Noise \_\_\_  
(list codes, if yes)

**Line Pressure/Stall Test Results:**

| Range          | Line Pressure Kg/f ___ psi ___ |       |     |
|----------------|--------------------------------|-------|-----|
|                | Idle                           | Stall | RPM |
| Park / Neutral |                                |       |     |
| D, S, L        |                                |       |     |
| Reverse        |                                |       |     |

**RECOMMENDATIONS**

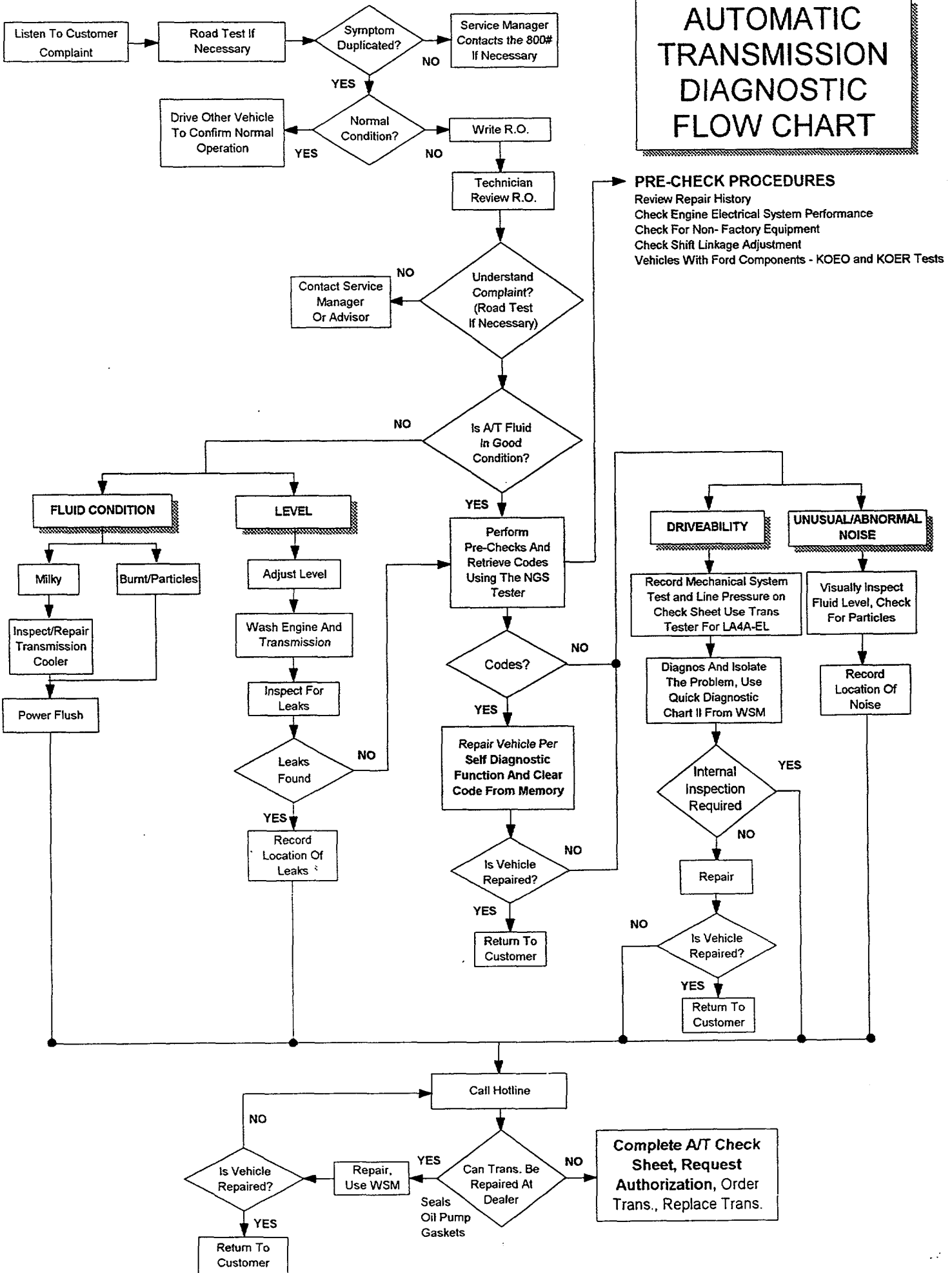
Did You Use The "Quick Diagnostic Chart II" In The WSM? Yes \_\_\_ No \_\_\_ Was It Useful? Yes \_\_\_ No \_\_\_

Contact Regional Hotline For Assistance? Yes \_\_\_ No \_\_\_ \_\_\_\_\_ / \_\_\_\_\_  
(list person contacted, if yes) (date)

Recommendation: Normal Condition \_\_\_ Repair Trans. \_\_\_ Exchange \_\_\_ \_\_\_\_\_ / \_\_\_\_\_  
(MASH Authorization Number) (date)



# AUTOMATIC TRANSMISSION DIAGNOSTIC FLOW CHART



### PRE-CHECK PROCEDURES

- Review Repair History
- Check Engine Electrical System Performance
- Check For Non- Factory Equipment
- Check Shift Linkage Adjustment
- Vehicles With Ford Components - KOEO and KOER Tests

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                  |                                                 |                     |
|---------------|----------------------------------|-------------------------------------------------|---------------------|
| Category<br>K | Applicable Model/s<br>All Models | Subject<br>AUTOMATIC TRANSMISSION REPAIR POLICY | Bulletin No. 002/95 |
|               |                                  |                                                 | Issued 8/10/95      |
|               |                                  |                                                 | Revised 10/31/95    |

## APPLICABLE MODELS/VINS

All Models Currently Under Warranty.

## DESCRIPTION

Policies of the Remanufactured Automatic Transmission Program have changed. The contents in this bulletin describe the new and carryover features of this program as well as diagnostic applications. Service Managers are requested to inform the necessary dealer personnel of these changes.

## HOW THIS BULLETIN WORKS

This bulletin has been developed to assist the technician to accurately diagnose and repair automatic transmissions. This bulletin includes the following:

- Policy Page 2
- Repair Process Overview Page 2
- Automatic Transmission Diagnostic Flow Chart Page 3
- Automatic Transmission Application Chart Page 4
- Automatic Transmission Warranty Repair Guide Page 5
- MASH Authorization Process Page 6
- Transmission Ordering Information Page 7
- Core Return Preparation Page 7
- Transmission Flushing Equipment Page 9
- Automatic Transmission Diagnostic Sheet (ECAT) Page 10  
(Sample)
- Automatic Transmission Diagnostic Sheet (LA4A-EL) Page 11  
(Sample)

**NOTE:** Automatic Transmission Diagnostic Sheets are available from Helm, Inc. in pads of 100.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

**POLICY**

- Adjustments, repairs or component replacement for each transmission are limited to those items listed on the **"APPLICABLE WARRANTY REPAIR/PART GUIDE."**
- Any vehicle (within warranty) that requires internal transmission repairs or rebuilding will be replaced with a **MANA Remanufactured assembly.**

**NOTE: MASH authorization is required prior to replacing an automatic transmission assembly.** Transmissions replaced without prior authorization will not be considered for warranty reimbursement.

**REPAIR PROCESS OVERVIEW**

1. Record the customer concern and the conditions when the concern exists. Validate by duplicating the customers concern.
  - If the concern cannot be duplicated, check M-Tips On Line (MTO) for service information. If no MTO information exists, return the vehicle to the customer with an explanation of your attempts to duplicate the concern. Request the customer demonstrate the condition to service management.
  - If a concern exists:
    - Determine the transmission type using the **AUTOMATIC TRANSMISSION APPLICATION CHART.**
    - Perform the diagnosis as described in the **AUTOMATIC TRANSMISSION DIAGNOSTIC FLOW CHART** (on page 8) and record the data.

**NOTE:**

- A) The Automatic Transmission Diagnostic Sheets (ATDS) are available from Helm, Inc. in pad form. Each pad contains 100 sheets. The part number for the pad is 9999 95 TRNS 95.
- B) Warranty claims submitted for A/T Performance Tests must have a copy of the **AUTOMATIC TRANSMISSION DIAGNOSTIC SHEET (ATDS)** (on pages 10 and 11) retained with the R.O

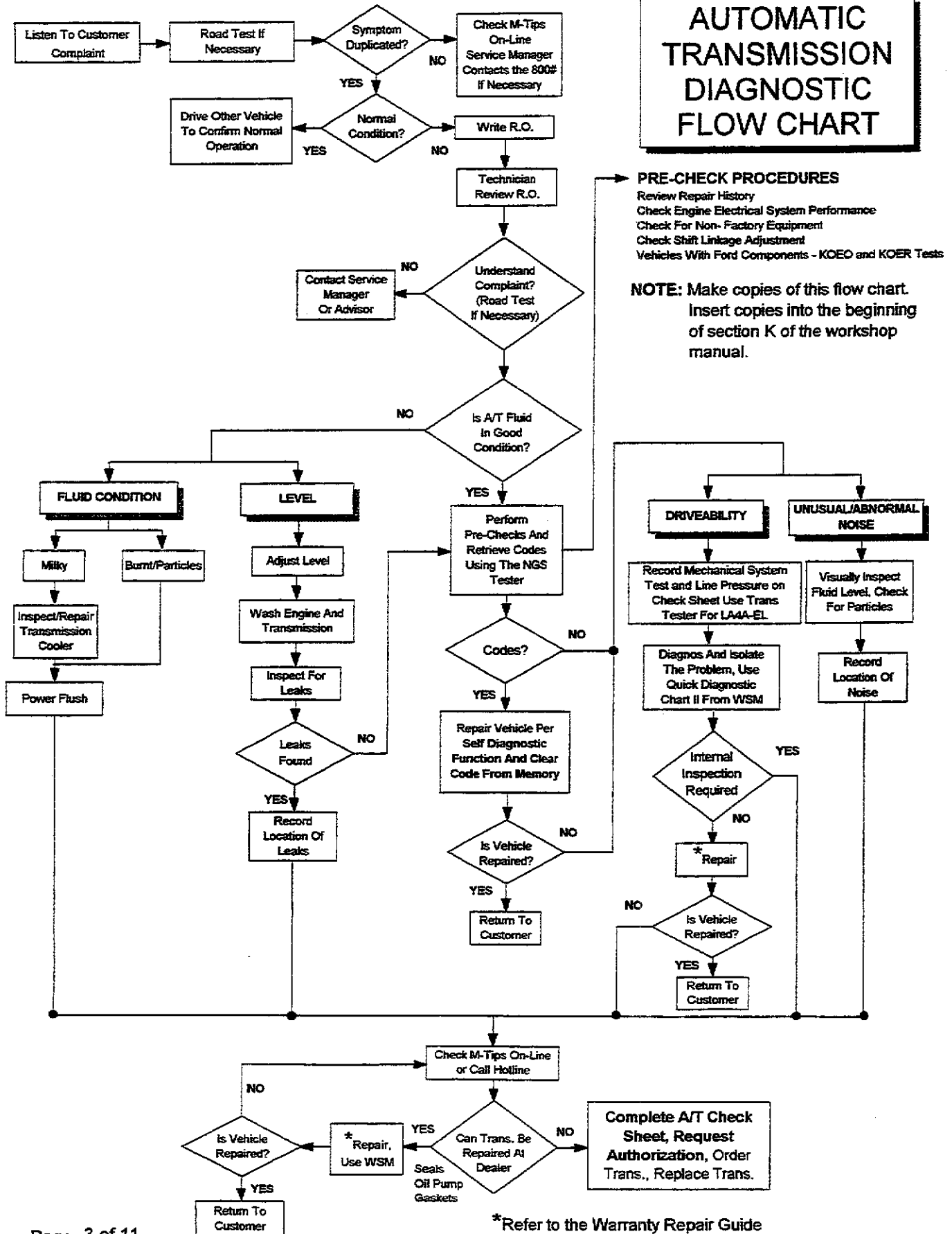
2. Using the **WARRANTY REPAIR GUIDE**, determine if the concern can be corrected by performing allowable adjustments, repairs or component part replacement listed on the guide. Perform the adjustments, repairs or component replacements.

**IMPORTANT NOTE:**

- **If the transmission or components are replaced, flush the transmission cooler prior to installation.**
- **If an internal part is suspected, call the MASH hotline for assembly authorization.**

3. Prepare the core for return shipment to MANA in the **"original"** shipping container. This includes:
  - draining the fluid
  - replacing the hole plugs and torque convertor retaining strap
  - completing and attaching the core tag and a copy of the ATDS
4. Perform a quality check (thorough road test and visual inspection) after repairs are made to ensure complete customer satisfaction. Including the customer in the road test is recommended.

# AUTOMATIC TRANSMISSION DIAGNOSTIC FLOW CHART



**PRE-CHECK PROCEDURES**  
 Review Repair History  
 Check Engine Electrical System Performance  
 Check For Non-Factory Equipment  
 Check Shift Linkage Adjustment  
 Vehicles With Ford Components - KOEO and KOER Tests

**NOTE:** Make copies of this flow chart.  
 Insert copies into the beginning  
 of section K of the workshop  
 manual.

\*Refer to the Warranty Repair Guide

**MAZDA AUTOMATIC TRANSMISSION  
APPLICATION CHART**

| MODEL                                              | YEAR                  |                       |                       |                       |                       |                       |                       | TRANS<br>TYPE                                     | ENGINE<br>TYPE                                   | MFG                                      | FWD                   | RWD         | 4WD    | ECAT                  | HAT         |
|----------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------|-------------|--------|-----------------------|-------------|
|                                                    | 90                    | 91                    | 92                    | 93                    | 94                    | 95                    | 96                    |                                                   |                                                  |                                          |                       |             |        |                       |             |
| 929<br>929                                         | X                     | X                     |                       | X                     | X                     | X                     | X                     | NA4A-EL<br>RA4A-EL                                | 3.0 JE/D<br>3.0 JED                              | JATCO<br>JATCO                           |                       | X<br>X      |        | X<br>X                |             |
| Millenia S<br>Millenia                             |                       |                       |                       |                       |                       | X<br>X                | X<br>X                | LJ4A-EL<br>GF4A-EL                                | 2.3 KJ<br>2.5 KL                                 | JATCO<br>MAZDA                           | X<br>X                |             |        | X<br>X                |             |
| MPV<br>MPV<br>MPV                                  | X<br>X<br>X           | X<br>X<br>X           | X<br>X<br>X           | X<br>X<br>X           | X<br>X<br>X           | X<br>X<br>X           | X<br>X<br>X           | RA4A-EL<br>RA4AX-EL<br>NA4A-HL                    | 3.0 JE<br>3.0 JE<br>2.6 G6                       | JATCO<br>JATCO<br>JATCO                  |                       | X<br>X<br>X | X      | X<br>X<br>X           | X           |
| RX7<br>RX7                                         | X<br>X                | X<br>X                | X<br>X                | X<br>X                | X<br>X                | X<br>X                | *                     | NA4A-EL<br>RB4A-EL                                | RE 13B<br>RE 13B                                 | JATCO<br>JATCO                           |                       | X<br>X      |        | X<br>X                |             |
| 626/MX6<br>626/MX6<br>626MX6<br>626/MX6<br>626/MX6 | X<br>X<br>X<br>X<br>X | X<br>X<br>X<br>X<br>X | X<br>X<br>X<br>X<br>X | X<br>X<br>X<br>X<br>X | X<br>X<br>X<br>X<br>X | X<br>X<br>X<br>X<br>X | X<br>X<br>X<br>X<br>X | G4A-EL<br>G4A-EL<br>GF4A-EL<br>GF4A-EL<br>LA4A-EL | 2.2 F2<br>2.2 TRBO<br>2.0 FS<br>2.5 KL<br>2.0 FS | MAZDA<br>MAZDA<br>MAZDA<br>MAZDA<br>FORD | X<br>X<br>X<br>X<br>X |             |        | X<br>X<br>X<br>X<br>X |             |
| Protege<br>Protege<br>Protege<br>Protege           | X<br>X<br>X<br>X      | X<br>X<br>X<br>X      | X<br>X<br>X<br>X      | X<br>X<br>X<br>X      | X<br>X<br>X<br>X      | X<br>X<br>X<br>X      | X<br>X<br>X<br>X      | FA4A-EL<br>FA4A-EL<br>FA4A-EL<br>G4AX-EL          | 1.8 BP<br>1.8 BPD<br>1.5 ZSD<br>1.8 BP           | MAZDA<br>MAZDA<br>MAZDA<br>MAZDA         | X<br>X<br>X<br>X      |             | X      | X<br>X<br>X<br>X      |             |
| Miata<br>Miata                                     | X<br>X                | X<br>X                | X<br>X                | X<br>X                | X<br>X                | X<br>X                | X<br>X                | NA4A-HL<br>NC4A-EL                                | 1.6 B6<br>1.8 BPD                                | JATCO<br>JATCO                           |                       | X<br>X      |        | X<br>X                | X           |
| MX3                                                |                       |                       | X                     | X                     | X                     | X                     | X                     | FA4A-EL                                           | ALL                                              | MAZDA                                    | X                     |             |        | X                     |             |
| 323                                                | X                     | X                     | X                     | X                     | X                     |                       |                       | FA4A-EL                                           | ALL                                              | MAZDA                                    | X                     |             |        | X                     |             |
| B2200<br>B2600<br>B2600                            | X<br>X<br>X           | X<br>X<br>X           | X<br>X<br>X           | X<br>X<br>X           |                       |                       |                       | NA4A-HL<br>NA4A-HL<br>RA4AX-EL                    | 2.2 F2<br>2.6 G6<br>2.6 G6                       | JATCO<br>JATCO<br>JATCO                  |                       | X<br>X<br>X | X      | X<br>X<br>X           | X<br>X<br>X |
| Navajo<br>B-Series                                 |                       | X<br>X                | X<br>X                | X<br>X                | X<br>X                |                       |                       | A4LD<br>A4LD                                      | 4.0<br>ALL                                       | FORD<br>FORD                             |                       | X<br>X      | X<br>X |                       | X<br>X      |

\* A/T not available

ECAT= Electronically Controlled Automatic Transmission

HAT= Hydraulically Controlled Automatic Transmission

\* MASH Hotline will provide information regarding transmission availability for 1995-96 B-Series vehicles.



**MAZDA AUTOMATIC TRANSMISSION  
WARRANTY REPAIR GUIDE**

| TRANSMISSION TYPE           |                    |                                |         |                              |         |         |         |      |                |
|-----------------------------|--------------------|--------------------------------|---------|------------------------------|---------|---------|---------|------|----------------|
|                             | NA4A-EL<br>NC4A-EL | RA4A-EL<br>RB4A-EL<br>RA4AX-EL | LA4A-EL | GF4A-EL<br>G4A-EL<br>G4AX-EL | FA4A-EL | NA4A-HL | LA4A-EL | A4LD | 4R44E<br>4R55E |
| <b>External Adjustments</b> |                    |                                |         |                              |         |         |         |      |                |
| 2-4 band                    | ADJ                | ADJ                            | ADJ     | ADJ                          | ADJ     | ADJ     | ADJ     | ---  | ---            |
| OD band                     | ADJ                | ---                            | ---     | ---                          | ---     | ADJ     | ---     | ADJ  | ADJ            |
| INT band                    | ---                | ---                            | ---     | ---                          | ---     | ---     | ---     | ADJ  | ADJ            |
| Low/Rev band                | ---                | ---                            | ---     | ---                          | ---     | ---     | ---     | ADJ  | ADJ            |
| T/R sensor                  | ADJ                | ADJ                            | ADJ     | ADJ                          | ADJ     | ADJ     | ADJ     | ADJ  | ADJ            |
| Throttle cable/pressure     | ---                | ---                            | ---     | ADJ (1)                      | ADJ     | ---     | ---     | ---  | ---            |
| Modulator pin               | ADJ                | ---                            | ---     | ---                          | ---     | ADJ     | ---     | ADJ  | ---            |
| External linkage            | ADJ                | ADJ                            | ADJ     | ADJ                          | ADJ     | ADJ     | ADJ     | ADJ  | ADJ            |
| <b>External Components</b>  |                    |                                |         |                              |         |         |         |      |                |
| Control valve body          | RPL                | RPL                            | RPL     | RPL                          | RPL     | RPL     | RPL     | RPL  | RPL            |
| Torque converter (2)        | RPL                | RPL                            | RPL     | RPL                          | RPL     | RPL     | RPL     | RPL  | RPL            |
| Spool valve                 | ---                | ---                            | ---     | RPL                          | RPL     | ---     | ---     | ---  | ---            |
| Oil pump gasket             | CMH                | CMH                            | CMH     | RPL                          | RPL     | CMH     | RPL     | CMH  | CMH            |
| Hydraulic governor          | ---                | ---                            | ---     | ---                          | ---     | CMH     | ---     | CMH  | ---            |
| Vacuum modulator            | RPL                | ---                            | ---     | ---                          | ---     | RPL     | ---     | RPL  | ---            |
| Front seal                  | RPL                | RPL                            | RPL     | RPL                          | RPL     | RPL     | RPL     | RPL  | RPL            |
| Ext. hsg. seal              | RPL                | RPL                            | ---     | ---                          | ---     | RPL     | ---     | RPL  | RPL            |
| Pan gasket                  | RPL                | RPL                            | RPL     | RPL                          | RPL     | RPL     | RPL     | RPL  | RPL            |
| Axle seals                  | ---                | ---                            | RPL     | RPL                          | RPL     | ---     | RPL     | ---  | ---            |
| Oil filter/strainer         | RPL                | RPL                            | RPL     | RPL                          | RPL     | RPL     | CMH     | RPL  | RPL            |
| Electrical solenoids        | RPL                | RPL                            | RPL     | RPL                          | RPL     | RPL     | RPL     | RPL  | RPL            |
| Electrical switches         | RPL                | RPL                            | RPL     | RPL                          | RPL     | RPL     | RPL     | RPL  | RPL            |
| Vehicle speed sensor        | RPL                | RPL                            | RPL     | RPL                          | RPL     | ---     | RPL     | RPL  | RPL            |
| Turbine speed sensor        | RPL                | RPL                            | RPL     | ---                          | ---     | ---     | RPL     | ---  | CMH            |
| Pulse generator             | ---                | RPL                            | ---     | RPL                          | RPL     | ---     | ---     | ---  | ---            |
| ATF thermo sensor           | RPL                | RPL                            | RPL     | RPL                          | RPL     | ---     | RPL     | ---  | RPL            |
| Accumulators                | ---                | RPL                            | RPL     | RPL (3)                      | CMH     | ---     | ---     | ---  | ---            |
| <b>Internal Components</b>  |                    |                                |         |                              |         |         |         |      |                |
| Oil pump                    | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Clutches                    | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Pistons                     | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Gears                       | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Shafts                      | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Bearings                    | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Sealrings                   | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| O-rings                     | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Bands                       | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Drums                       | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Brakes                      | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Park pawl                   | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Int. linkage                | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Hydraulic governor          | ---                | ---                            | ---     | ---                          | ---     | CMH     | ---     | CMH  | ---            |
| Servo pistons               | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Differential                | ---                | ---                            | CMH     | CMH                          | CMH     | ---     | CMH     | ---  | ---            |
| 2-3 Accumulator             | ---                | ---                            | ---     | CMH                          | ---     | ---     | ---     | ---  | ---            |
| T/C housing (4)             | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |
| Main case (4)               | CMH                | CMH                            | CMH     | CMH                          | CMH     | CMH     | CMH     | CMH  | CMH            |

**LEGEND**

- ADJ Adjust as needed per W/M (authorization not required)
- RPL Repair or replace as needed per W/M (authorization not required)
- CMH Call MASH Hotline for REMAN ASSEMBLY authorization (do not repair or replace component)

(1) Throttle cable not used on GF4A-EL  
 (2) Do not replace converter if oil pan is full of debris, CALL MASH HOTLINE  
 (3) 2-3 accumulator is internal and not serviceable, CALL MASH HOTLINE  
 (4) If cracked, porous (leakage), damaged, other, CALL MASH HOTLINE

## MASH AUTHORIZATION

Before replacing a transmission assembly, authorization must be obtained from the **Major Assembly Service Hotline (MASH)**. This authorization is required for warranty reimbursement.

When it is necessary to contact MASH, the information from the **Automatic Transmission Diagnostic Sheet (ATDS)** will be **required** by the hotline specialist before the situation can be reviewed.

The ATDS is used for documenting diagnostic finding for all transmission concerns.

### Authorization Process

1. Dealer technician diagnoses the problem to determine if a complete assembly is required.
2. Technician completes the ATDS.
3. Dealer Service Manager calls the MASH Hotline (800) 832-4940
  - Service Manager selects "2" for the Major Assembly Service Hotline (as prompted by phone voice mail).
  - Service Manager provides all information from the ADTS
  - Service Manager provides an estimated cost for assembly replacement. Cost includes:
    - a) Replacement Part
    - b) SRT or Dealership Labor Rate (if applicable)
    - c) Sublet description and cost (if applicable)

**NOTE:** Dealerships can fax the ATDS to MASH at (714) 442-6598. The MASH specialist will contact the dealer regarding the fax request.

4. The Hotline specialist will review the request and determine if:
  - Additional repair information will eliminate the need for complete assembly replacement. If this is determined, the dealer will be requested to perform additional steps to repair the vehicle. In this circumstance no authorization number is issued.
  - Complete assembly replacement is the best alternative. In this circumstance, an authorization number is issued for warranty reimbursement.

### Hotline Hours

Operation hours are 9am to 4pm (for each continental time zone), Monday through Friday. (9am to 3pm in Hawaii). Fax transmission is available 24 hours a day, seven days a week. Responses to fax will occur during regular business hours.

|                |                      |                   |
|----------------|----------------------|-------------------|
| Number: 002/95 | Date Issued: 8/10/95 | Revised: 10/31/95 |
|----------------|----------------------|-------------------|

**TRANSMISSION ORDERING INFORMATION**

If the vehicle is within warranty, MASH authorization must be obtained before ordering a transmission for replacement under normal warranty conditions.

After obtaining authorization, the transmission must be ordered from the MANA Remanufacturing Operation office servicing your dealer. MANA will require the following information before releasing a transmission:

- MASH Authorization Number
- Vehicle retail date if under original warranty
- Repair date and mileage at the time of replacement if under parts warranty

**Dealer Inventory**

Transmission assemblies will be available for dealer stocking on November 1, 1995.

**Ordering Locations:**

**MANA Irvine Branch**

1424 McGaw Ave.  
Irvine, CA. 92714  
Order Telephone: (714) 261-9429  
or (714) 852-7225  
FAX: (714) 261-6573

**MANA Jacksonville Branch**

8601 Youngerman Court, Unit 9  
Jacksonville, Florida 32244  
Order Telephone: (904) 779-5996  
FAX: (904) 779-5889

**NOTE:** Dealers in **TEXAS** should order transmission assemblies from the **MANA Jacksonville Branch**.

**Transmission Delivery**

Normal delivery for transmissions ordered before 12pm is two (2) full working days. Example: Order received before 12pm Monday will be delivered Wednesday.

**Part Number Information:**

See Parts Flash (95-20) for detailed applications and part numbers.

**CORE RETURN PREPARATION**

To ensure your dealer receives the \$600.00 core credit the unit must be returned properly. Failure to return a complete core and the required information will result in no core charge refund.

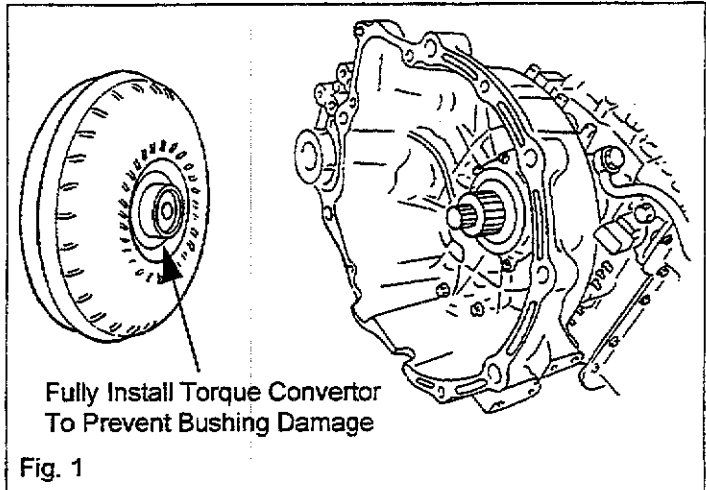
To receive core credit you must:

- Return the transmission within **30 days** of the vehicle repair date.
- Return it in the special shipping container.
- Completely drain the transmission fluid.
- Assemble all components and install hole plugs, differential side gear and torque convertor holding devices.
- Complete and attach the core return tag.
- Complete and attach a copy of the Automatic Transmission Diagnostic Sheet.

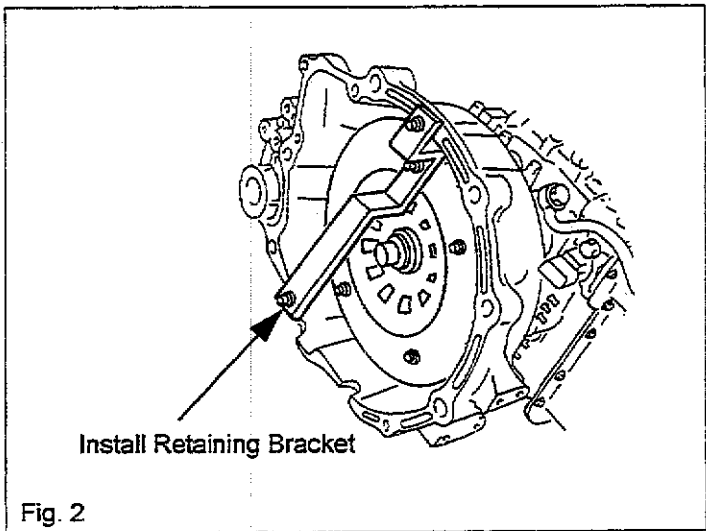
**IMPORTANT NOTE:** The \$600 core charge will not be refunded if the dealer fails to perform these tasks or if the transmission is damaged during shipping (due to improper preparation).

**Core Component details:**

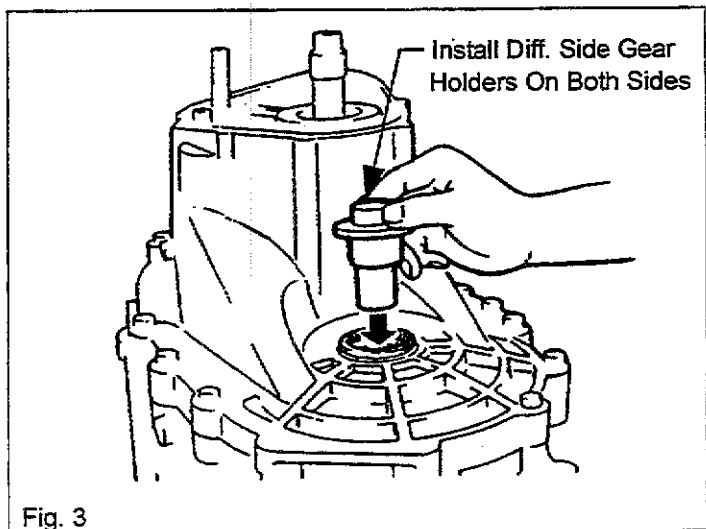
**Figure 1.** Install the torque converter by rotating it to align the splines of the bearing cover, turbine shaft and oil pump. Ensure the torque converter is fully installed to prevent bushing damage during shipping.



**Figure 2.** Install torque converter retaining bracket.



**Figure 3.** Install differential side gear holders.



**AUTOMATIC TRANSMISSION FLUSHING EQUIPMENT**

The automatic transmission oil cooler must be flushed whenever performing a major transmission repair or replacement. If the cooler is not flushed properly, residual friction material and metal may become dislodged and affect the new transmission's operation.

A labor operation is established to cover the use of flushing equipment. If the transmission oil cooler is not flushed with the proper flushing equipment prior to repair completion, and a comeback repair occurs due to clogged oil cooler circuits, the repair cost is not warrantable.

**Recommended Power Flushing Manufacturers and Equipment**

| Manufacturer / Telephone Number | Part Number  | Description                                  |
|---------------------------------|--------------|----------------------------------------------|
| Kent Moore / (800)345-2233      | J 35944-AMAZ | Flushing Kit                                 |
| OTC / (800) 533-0492            | 60081        | Portable Torque Converter Oil Cooler Cleaner |

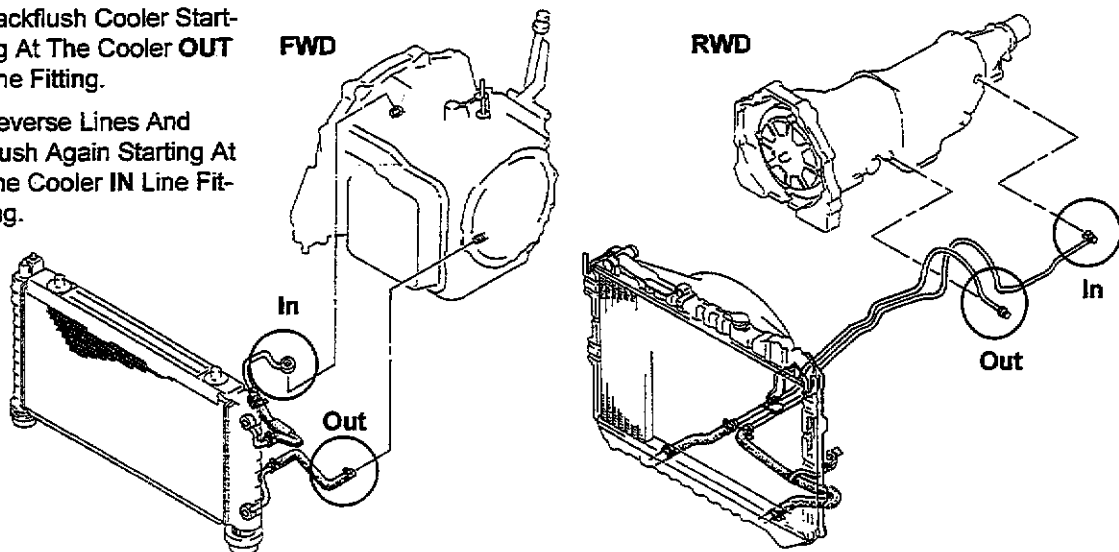
The Kent Moore flushing equipment will be available soon. A Special Tools Bulletin will be released which will contain further details.

**NOTE:**

1. Power flushers require a 5 Micron filter installed.
2. The above flushers require adapters / attachments for Mazda vehicle applications.
3. Direct all questions regarding usage and application to the flusher manufacturer.
4. Flush in reverse direction of normal operation. Refer to the workshop manual for normal flow.

**Flushing Procedure**

- 1) Backflush Cooler Starting At The Cooler **OUT** Line Fitting.
- 2) Reverse Lines And Flush Again Starting At The Cooler **IN** Line Fitting.



**NOTE:** Refer to the workshop manual for cooler location fittings on A4LD, 4R44E and LA4A-EL transmissions.

**WARRANTY INFORMATION**

Applicable warranty information will be included in the 1996 SRT microfiche.

# AUTOMATIC TRANSMISSION DIAGNOSTIC SHEET

**ECAI**

Dealer Code:     R.O.#:     Date:     Your Name: \_\_\_\_\_  
 Phone #: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

## 1. VEHICLE INFORMATION

VIN:                      Mileage:

- Transmission Unit #: \_\_\_\_\_ Original Unit \_\_\_\_\_ Rerman. Unit \_\_\_\_\_ Replaced New Unit
- Retail Date:     • Date of first repair:     • Was the vehicle towed in? \_ No \_ Yes
- Has the A/T been previously repaired or replaced? \_ No \_ Yes *If Yes, When:*     *What:* \_\_\_\_\_
- Are there any aftermarket parts installed (Alarm, Phone, ETC)? \_ No \_ Yes *If Yes, Product Name:* \_\_\_\_\_

## 2. CUSTOMER CONCERN

- Test drive vehicle? \_ No \_ Yes
- Problem duplicated? \_ No \_ Yes

• Symptom(s) (Choose all that apply):

- |                                                |                                                                    |
|------------------------------------------------|--------------------------------------------------------------------|
| <input type="checkbox"/> No movement           | <input type="checkbox"/> Shift shock                               |
| <input type="checkbox"/> Clutch slippage       | <input type="checkbox"/> Noise: ( _ Whine _ Clunk _ Other: _____ ) |
| <input type="checkbox"/> Flare                 | <input type="checkbox"/> Shudder /Vibration                        |
| <input type="checkbox"/> Doesn't shift         | <input type="checkbox"/> Oil leakage Location: _____               |
| <input type="checkbox"/> Delayed engagement    | <input type="checkbox"/> Hold/OD off light flashing                |
| <input type="checkbox"/> Erratic Shift/Hunting | <input type="checkbox"/> Other: _____                              |

- Shifter range? \_\_\_\_\_  
 \_ P \_ R \_ N \_ D \_ 2(S) \_ 1(L)  
 \_ When shifting from \_\_\_\_\_ to \_\_\_\_\_
- In what gear does it occur?  
 \_ 1st \_ 2nd \_ 3rd \_ 4th \_ N  
 \_ From gear \_\_\_\_\_ to \_\_\_\_\_
- Vehicle speed? \_\_\_\_\_ MPH to \_\_\_\_\_ MPH
- Throttle position:  
 \_ Acceleration \_ Kick down  
 \_ Decelerating \_ Any Position  
 \_ Steady Position: \_\_\_\_\_ %
- Engine temperature: \_\_\_\_\_ Cold \_\_\_\_\_ Hot \_\_\_\_\_ Any Temp.
- Road condition: \_\_\_\_\_ Flat \_\_\_\_\_ Uphill \_\_\_\_\_ Downhill
- A/C switch position: \_\_\_\_\_ On \_\_\_\_\_ Off
- Frequency: \_\_\_\_\_ Intermittent \_\_\_\_\_ Always
- Description of other symptom: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## 3. TECHNICIAN DIAGNOSIS

- Trans fluid condition: \_ Normal \_ Milky \_ Burnt \_ Particles/Sludge
- Trans fluid level: \_ Normal \_ High \_ Low
- Throttle cable adjustment (If applicable): \_ Normal \_ Tight \_\_\_\_\_ mm out of spec. \_ Loose \_\_\_\_\_ mm out of spec.
- Shift linkage setting: \_ Normal \_ Out of spec. Describe: \_\_\_\_\_
- Trans range sensor: \_ Normal \_ Out of spec. Describe: \_\_\_\_\_
- Diagnostic Trouble Code (DTC): \_ None \_ Code: \_\_\_\_\_
- Throttle position sensor voltage: Steady? \_ Yes \_ No Open: \_\_\_\_\_ V Closed \_\_\_\_\_ V
- Line pressure/Stall test results:

| Range | Line Pressure _ psi _ kg/cm <sup>2</sup> |             |
|-------|------------------------------------------|-------------|
|       | Idle                                     | Stall (RPM) |
| P     |                                          |             |
| R     |                                          | @           |
| D     |                                          | @           |

- Other findings from diagnosis:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

• Fax this sheet to M.A.S.H. (714) 442-6598 prior to requesting authorization for replacement.  
 • A copy of this diagnostic sheet and the R.O. must be attached to the old A/T unit when returning it to Mazda.  
 • M.A.S.H. phone number: (800) 832-4940  
 Page 10 of 11 (SEE OTHER SIDE FOR LA4AEL & A4LD DIAGNOSTIC SHEET) p/n 9999 95 TRNS 95

# AUTOMATIC TRANSMISSION DIAGNOSTIC SHEET LA4A-EL & A4L

1. **Dealer**            
 P&A Code     R.O.#         Date          
 VIN                       
 Mileage (No Tenths)

**2. CUSTOMER CONCERN:** (Check Appropriate Box)

|                              |                                       |                                 |                               |                          |
|------------------------------|---------------------------------------|---------------------------------|-------------------------------|--------------------------|
| <b>Shifting/Engagements:</b> | <b>Does Not Occur</b>                 | <b>Slips</b>                    | <b>Delayed</b>                | <b>Harsh</b>             |
| A. Engagements into Drive    | <input type="checkbox"/>              | <input type="checkbox"/>        | <input type="checkbox"/>      | <input type="checkbox"/> |
| B. Engagements into Reverse  | <input type="checkbox"/>              | <input type="checkbox"/>        | <input type="checkbox"/>      | <input type="checkbox"/> |
| C. 1-2 Upshift               | <input type="checkbox"/>              | <input type="checkbox"/>        | <input type="checkbox"/>      | <input type="checkbox"/> |
| D. 2-3 Upshift               | <input type="checkbox"/>              | <input type="checkbox"/>        | <input type="checkbox"/>      | <input type="checkbox"/> |
| E. 3-4 Upshift               | <input type="checkbox"/>              | <input type="checkbox"/>        | <input type="checkbox"/>      | <input type="checkbox"/> |
| F. Downshifts                | <input type="checkbox"/>              | <input type="checkbox"/>        | <input type="checkbox"/>      | <input type="checkbox"/> |
| G. Kickdowns                 | <input type="checkbox"/>              | <input type="checkbox"/>        | <input type="checkbox"/>      | <input type="checkbox"/> |
| Noise/Vibration:             | <input type="checkbox"/> Clunk        | <input type="checkbox"/> Whine  | <input type="checkbox"/> Buzz | Other: _____             |
| Condition Occurs:            | <input type="checkbox"/> Hot          | <input type="checkbox"/> Cold   |                               |                          |
| Frequency:                   | <input type="checkbox"/> Intermittent | <input type="checkbox"/> Always |                               |                          |
| Other: _____                 |                                       |                                 |                               |                          |

**3. TECHNICIAN DIAGNOSES:**

Are There Any Vehicle Modifications?  Yes  No

If Yes, describe: \_\_\_\_\_

Visual Inspection: (Note Leaks) \_\_\_\_\_

Fluid Condition:  Burnt  Normal

Fluid Level:  Correct  High  Low

| <p><b>A. Self Test Codes Before Repair</b></p> <p>KOEO: _____</p> <p>CONT: _____</p> <p>KOER: _____</p>                                                                                                                                                                                           | <p><b>B. TP (FIPL) Gage Block Setting</b></p> <p><input type="checkbox"/> Solid Tone (OK)</p> <p><input type="checkbox"/> Slow Beep (Low Adjustment)</p> <p><input type="checkbox"/> Fast Beep (High Adjustment)</p> | <p><b>C. Line Pressure</b> (Record Applicable Data)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>IDLE</th> <th>WOT</th> </tr> </thead> <tbody> <tr> <td>P</td> <td>_____</td> <td>N/A</td> </tr> <tr> <td>R</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>N</td> <td>_____</td> <td>N/A</td> </tr> <tr> <td>OD</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>D</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>2</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>1</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table> |  | IDLE | WOT | P | _____ | N/A | R | _____ | _____ | N | _____ | N/A | OD | _____ | _____ | D | _____ | _____ | 2 | _____ | _____ | 1 | _____ | _____ |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------|-----|---|-------|-----|---|-------|-------|---|-------|-----|----|-------|-------|---|-------|-------|---|-------|-------|---|-------|-------|
|                                                                                                                                                                                                                                                                                                   | IDLE                                                                                                                                                                                                                 | WOT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |      |     |   |       |     |   |       |       |   |       |     |    |       |       |   |       |       |   |       |       |   |       |       |
| P                                                                                                                                                                                                                                                                                                 | _____                                                                                                                                                                                                                | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |      |     |   |       |     |   |       |       |   |       |     |    |       |       |   |       |       |   |       |       |   |       |       |
| R                                                                                                                                                                                                                                                                                                 | _____                                                                                                                                                                                                                | _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |      |     |   |       |     |   |       |       |   |       |     |    |       |       |   |       |       |   |       |       |   |       |       |
| N                                                                                                                                                                                                                                                                                                 | _____                                                                                                                                                                                                                | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |      |     |   |       |     |   |       |       |   |       |     |    |       |       |   |       |       |   |       |       |   |       |       |
| OD                                                                                                                                                                                                                                                                                                | _____                                                                                                                                                                                                                | _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |      |     |   |       |     |   |       |       |   |       |     |    |       |       |   |       |       |   |       |       |   |       |       |
| D                                                                                                                                                                                                                                                                                                 | _____                                                                                                                                                                                                                | _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |      |     |   |       |     |   |       |       |   |       |     |    |       |       |   |       |       |   |       |       |   |       |       |
| 2                                                                                                                                                                                                                                                                                                 | _____                                                                                                                                                                                                                | _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |      |     |   |       |     |   |       |       |   |       |     |    |       |       |   |       |       |   |       |       |   |       |       |
| 1                                                                                                                                                                                                                                                                                                 | _____                                                                                                                                                                                                                | _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |      |     |   |       |     |   |       |       |   |       |     |    |       |       |   |       |       |   |       |       |   |       |       |
| <p>Was Transmission Tester used for Diagnostic <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Shift Linkage TR/MLPS Setting <input type="checkbox"/> Correct <input type="checkbox"/> Incorrect</p> <p>Metal In Pan <input type="checkbox"/> Yes <input type="checkbox"/> No</p> |                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |      |     |   |       |     |   |       |       |   |       |     |    |       |       |   |       |       |   |       |       |   |       |       |

**4. OTHER POWERTRAIN / ELECTRICAL / EEC SERVICE PERFORMED:** \_\_\_\_\_

**5. TRANSMISSION IDENTIFICATION** (Removed From Vehicle)

Original Unit  Reman Unit

Part No. \_\_\_\_\_ Serial No. \_\_\_\_\_ Model No. \_\_\_\_\_

**6. REPLACEMENT TRANSMISSION IDENTIFICATION** (Installed Into Vehicle)

Installation Date: \_\_\_\_\_

Service Part No. \_\_\_\_\_ Serial No. \_\_\_\_\_

**BEFORE REQUIRED ROAD TEST OF VEHICLE WITH REPLACEMENT TRANSMISSION, ALL SELF TEST ERROR CODES MUST BE REPAIRED/CLEARED.**

Test Drive Results After Service:  Acceptable  Unacceptable

Service Test Error Codes After Required Road Test Evaluation:

KOEO: \_\_\_\_\_ CONT: \_\_\_\_\_ KOER: \_\_\_\_\_

|                    |                                  |                                                                     |                     |
|--------------------|----------------------------------|---------------------------------------------------------------------|---------------------|
| Category<br>K (05) | Applicable Model/s<br>All Models | Subject<br>AUTOMATIC TRANSMISSION COOLER/LINE<br>FLUSHING PROCEDURE | Bulletin No. 005/98 |
|                    |                                  |                                                                     | Issued 04/22/98     |
|                    |                                  |                                                                     | Revised 12/31/98    |

### BULLETIN NOTE

- This bulletin supersedes K 005/98 dated 04/22/98. The REPAIR PROCEDURE and WARRANTY INFORMATION has been revised.

### APPLICABLE MODEL(S)/VINS

All models with automatic transmission.

### DESCRIPTION

Automatic transmission (A/T) oil cooler/lines must be power flushed completely before an overhauled or replacement A/T is installed. One of the causes of repeat A/T failures is an internal automatic transmission fluid (ATF) restriction at the inlet side of the oil cooler. This restriction is usually caused by an accumulation of metal particles and debris (from a previous A/T failure) on the internal mesh type baffle of the oil cooler. Power flushing will remove the restriction by back flushing the cooler/lines followed by forward flushing to ensure full ATF flow. See **FIGURE 1** of a typical ATF cooler.

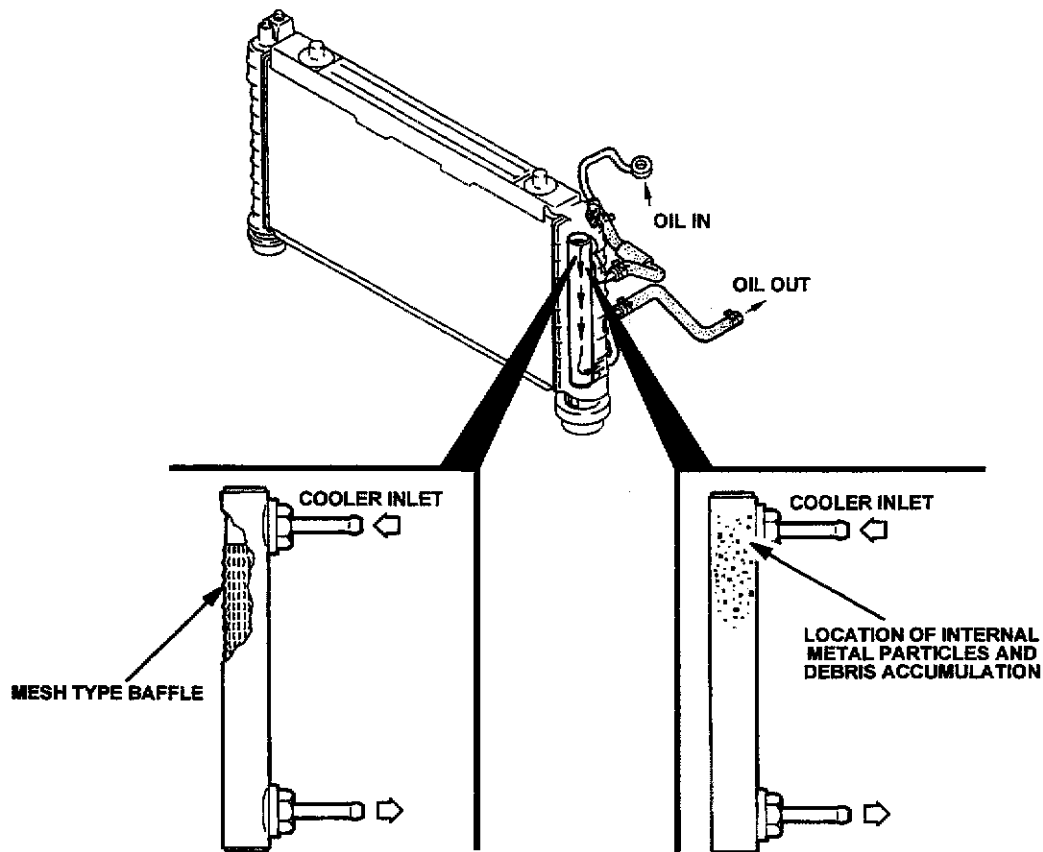


FIGURE 1

**060403**

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.



|                |                       |                   |
|----------------|-----------------------|-------------------|
| Number: 005/98 | Date Issued: 04/22/98 | Revised: 12/31/98 |
|----------------|-----------------------|-------------------|

**Caution**

- Repeat repairs caused by improper or lack of cooler line flushing will not be covered under warranty.

**Recommended Power Flushing Equipment**

| Part Number | Description                         |
|-------------|-------------------------------------|
| J35944-AMAZ | Kent-Moore Flusher w/Mazda Adaptors |
| 60081-M     | OTC Flusher w/Mazda Adaptors        |

**REPAIR PROCEDURE**

Before power flushing, inspect the hoses/lines and clamps. Power flushing must begin with back flushing followed by forward flushing to quickly dislodge the restriction. If back flushing is not performed before forward flushing, the restriction could further reduce the ATF flow through the internal mesh type baffle of the cooler and flushing will not be effective or possible.

**Inspecting Oil Lines & Clamps**

Be sure to inspect the lines (hoses/pipes) for cuts, crimps (pinched), cracks or any other damage before reusing them. If any problem exists or the hose comes off when applying oil pressure, replace it.

**Caution**

- Always use new clamps when replacing hoses.

**Back Flushing**

1. Using the Power Flushing Equipment manufacturer's instructions, connect equipment so the flushing fluid flows in the opposite direction of normal fluid flow. Refer to page 4 to determine normal fluid flow. See typical example of back flushing flow in *Figure 2*.
2. Flush oil cooler/lines until discharge fluid is clean.

**Caution**

- If the cooler can not be properly flushed using recommended equipment, send the radiator out for sublet cleaning or replace.

**Note**

- Refer to the WSM or Automatic Transmission Quick Reference Guide (P/N 9999-95-4501-96) for exact location of cooler line inlet./ outlet fittings.

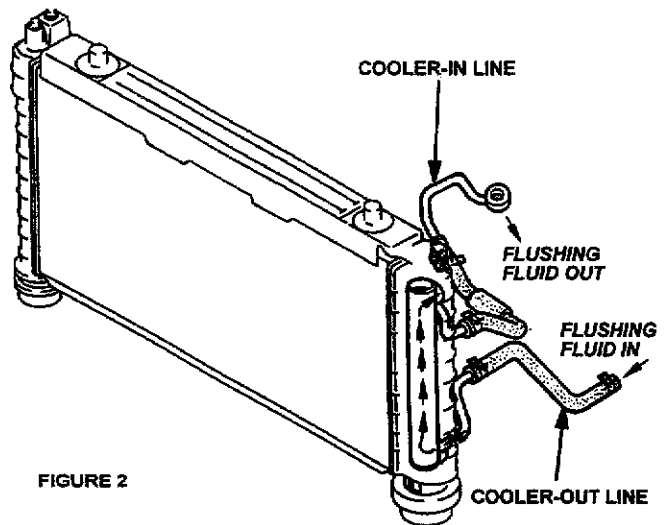


FIGURE 2

**Forward Flushing**

3. Connect power flushing equipment so the flushing fluid flows in the direction of normal fluid flow. Refer to page 4 to determine fluid flow. See typical example of forward flushing flow in **FIGURE 3**.
4. Flush oil cooler/lines until discharge fluid is clean.

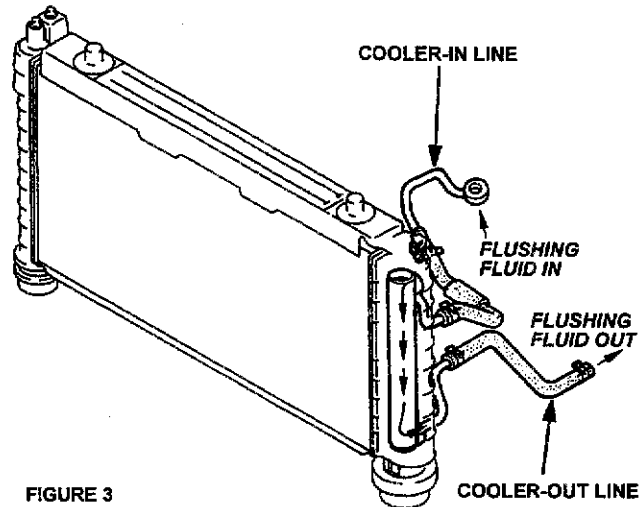


FIGURE 3

**WARRANTY INFORMATION****Note**

- This information applies to verified customer complaints on vehicles covered under normal warranty. Refer to the SRT microfiche for warranty term information.
- When you submit a warranty claim on automatic transmission complete replacement, add any of the following operation numbers and labor hours to the operation number and labor hours for automatic transmission complete R&R.

**Operation Number / Labor Hours:**

MPV L4 = K0101XRU/0.4

MPV V6 2WD = K0101XRU/0.4

MPV V6 4WD = K0101XRU/0.4

Millenia 2.3L = K0101XRU/0.4

Millenia 2.5L = K0101XRU/0.4

RX-7 = K0101XRU/0.4

MX-5 = K0101XRU/0.4

MX-3 L4 = K0101ARU/0.4

MX-3 V6 = K0101BRU/0.4

929 = K0101XRU/0.4

626/MX-6 L4 = K0101XRU/0.4

626/MX-6 V6 = K0101XRU/0.4

Protege/323 2WD, 1.6L &amp; 1.8L = K0101XRU/0.4

Protege/323 2WD, 1.5L = K0101XRU/0.4

Protege/323 4WD = K0101XRU / 0.4

B-Series 2.3L = K0101ARU / 0.4

B-Series 2.5L = K0101BRU / 0.4

B-Series 3.0L (4X4) = K0101CRU / 0.4

B-Series 3.0L (4X2) = K0101DRU / 0.4

B-Series 4.0L (4X4) = K0101ERU / 0.4

B-Series 4.0L (4X2) = K0101FRU / 0.4

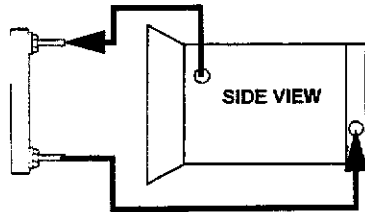
Navajo (4X4) = K0101ERU / 0.4

Navajo (4X2) = K0101FRU / 0.4

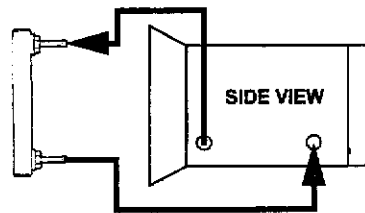
## **Typical Automatic Transmission/Transaxle Normal Fluid Flow & Cooler Line Fitting Locations**

(Refer to applicable WSM for specific details.)

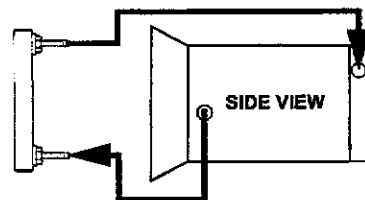
### **FRONT WHEEL DRIVE (TRANSAXLE)**



PROTEGE, MILLENIA (KL), 626 (FS)

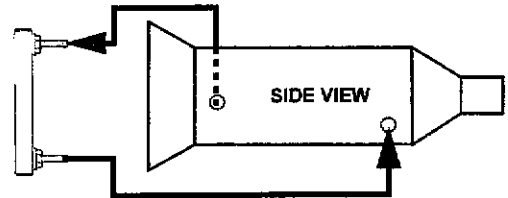


MILLENIA (KJ)

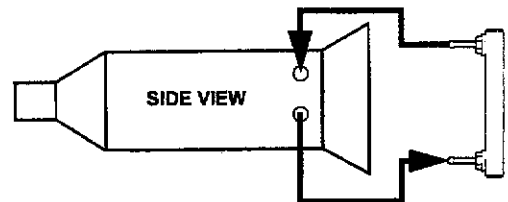


626 (KL)

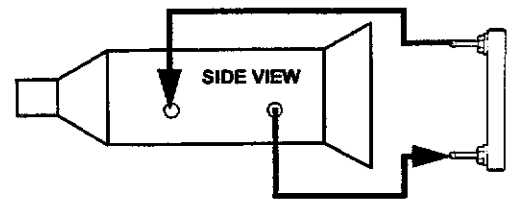
### **REAR WHEEL DRIVE**



MPV, RX-7, 929, MIATA (NA)



B-TRUCKS



MIATA (NB)

# Service Bulletin

Mazda Motor of America, Inc.  
 7755 Irvine Center Drive  
 Irvine, California 92718  
 Telephone (714) 727-1990



|               |                                 |                                           |                     |
|---------------|---------------------------------|-------------------------------------------|---------------------|
| Category<br>K | Applicable Model/s<br>1993 RX-7 | Subject<br>"HOLD" INDICATOR LIGHT FLASHES | Bulletin No. 012/92 |
|               |                                 |                                           | Issued 7/15/92      |
|               |                                 |                                           | Revised             |

## DESCRIPTION

On some 1993 RX-7 vehicles, the torque reduction control fail diagnostic system may start working without any failure and cause the "hold" light to flash while the vehicle is running.

Beginning May 11, 1992, the circuit logic of the torque reduction control has been changed to eliminate this possibility.

## VIN OF PRODUCTION CHANGE

JM1FD♦♦♦♦P0205980      May 11, 1992

## INSPECTION & REPLACEMENT PROCEDURE

If you encounter a complaint that the "hold" light starts flashing while the vehicle is running, and torque reduction control fail code is 57, follow this procedure.

1. Are any short circuits, damaged wiring, or bad coupler contacts present?
  - If yes, repair circuit.
  - If no, proceed to Step 2.
2. Replace EC-AT control unit with a modified unit.

## PARTS INFORMATION

| PART NUMBER  |             | DESCRIPTION        | INTERCHANGEABILITY |
|--------------|-------------|--------------------|--------------------|
| NEW          | OLD         |                    |                    |
| N3A2 18 9E1B | N3A2 18 9E1 | EC-AT Control Unit | NEW ↔ OLD          |

## WARRANTY INFORMATION

*(Applies to vehicles covered under warranty.)*

Warranty Type Code:      A  
 Customer Comment Code: 62  
 Damage Code:            9W  
 Part No. of Main Cause: N3A2 18 9E1B  
 Quantity:                1  
 Operation No.:          K0404XRX  
 Labor Hours:            0.3 Hr.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Signature \_\_\_\_\_

-----Service Manager

Parts Manager

Index #      **030177**

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 7755 Irvine Center Drive  
 Irvine, California 92718  
 Telephone (714) 727-1990



|               |                                                         |                                               |                     |
|---------------|---------------------------------------------------------|-----------------------------------------------|---------------------|
| Category<br>N | Applicable Model/s<br>All Models<br>(Ex. Nav. & B-Ser.) | Subject<br>STEERING WHEEL SLIGHTLY OFF CENTER | Bulletin No. 001/96 |
|               |                                                         |                                               | Issued 11/07/96     |
|               |                                                         |                                               | Revised             |

**NOTE:** This bulletin replaces bulletin 001/94 and 005/95 (both in Category N). Please make a note of this in your respective bulletin books.

**APPLICABLE MODELS**

All Models except the Navajo and B-Series.

**DESCRIPTION**

Some vehicles may have an off center steering wheel but no right or left hand pulling. Customers complaining of this concern should have the vehicle inspected and if necessary, repaired according to this bulletin.

**REPAIR PROCEDURE**

1. Test drive the vehicle on a straight road.
2. Place the steering wheel in a neutral position.
  - If the vehicle tracks straight and the steering wheel is NOT in a centered position, proceed to step 3.
3. Use the outside circumference of the steering wheel to measure the distance between the center position and the neutral position.
  - If the measurement is more than 30mm (1.18in) remove the steering wheel and install it in the centered position. Refer to the workshop manual for removal and installation procedures.
  - If the measurement is less than 30mm (1.18in):
    - a) Loosen both right and left hand tie-rod end lock nuts.
    - b) Turn the tie-rod ends in **opposite directions by equal amounts**, until the steering wheel is centered.
3. Verify the repair.

The chart below shows the approximate distance the outside diameter will move for every 1/4 (90 degree) turn of the tie-rod end.

| Model                | Approximate Distance                  |
|----------------------|---------------------------------------|
| 1990 -97 323/Protege | 8mm (with PS)<br>11-12mm (without PS) |
| 1992 - 95 MX-3       | 8mm (4cyl.)<br>7mm (6 cyl.)           |
| 1993 - 95 RX-7       | 7mm                                   |
| 1993 - 97 626 / MX-6 | 9 - 10mm                              |
| 1992-95 929          | 11mm                                  |
| 1989 - 97 MPV        | 13mm (4x2)<br>12mm (4x4)              |
| 1990 - 97 MX-5       | 8mm (with PS)<br>10mm (without PS)    |
| 1995 - 97 Millenia   | 10mm                                  |

**WARRANTY INFORMATION**

*(Applies To Verified Customer Complaints On Vehicles Covered Under Normal Warranty. Refer To The SRT Microfiche For Warranty Term Information.)*

Warranty Type: A  
 Symptom Code: 30  
 Damage Code: 9H  
 Part Number Main Cause: 5555-FE-001  
 Quantity: 0  
 Operation Number: XX0640RX  
 Labor Hours: 0.5 Hrs.

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# Service Bulletin

Mazda Motor of America, Inc.  
 7755 Irvine Center Drive  
 Irvine, California 92718  
 Telephone (714) 727-1990



+

|               |                                  |                                               |                     |
|---------------|----------------------------------|-----------------------------------------------|---------------------|
| Category<br>N | Applicable Model/s<br>All Models | Subject<br>STEERING WHEEL SLIGHTLY OFF CENTER | Bulletin No. 001/94 |
|               |                                  |                                               | Issued 2/18/94      |
|               |                                  |                                               | Revised             |

## DESCRIPTION

The steering wheel on some vehicles may be off center even though the drives straight and no left or right pulling occurs.

If a customer complains about the position of the steering wheel, confirm that the vehicle is not pulling and repair as described in this bulletin.

## REPAIR PROCEDURE

1. While driving on a straight road, place the steering wheel in a neutral position. If the steering wheel is not centered, go to step 2.
2. Using the outside circumference of the steering wheel, measure the distance between the steering wheel's neutral position and a centered position. If it is more than 30mm (1.18in.) remove the steering wheel and install in the correct position. If the steering wheel is still off center, go to step 3.
3. Measure the distance as shown in step 2. If less than 30mm (1.18in), loosen both left and right tie rod end lock nuts. Turn the tie rods in opposite directions **by the same amount** until the steering wheel is centered.
4. Road test the vehicle to confirm the steering wheel is centered. If not centered, repeat step 3.

The chart below shows the approximate distance the outside circumference of the steering wheel will move per 90 degree turn of the tie rod (both left and right, in opposite directions).

| Model               | Type                    | Approximate Distance |
|---------------------|-------------------------|----------------------|
| 1990-94 323/Protege | With P/S<br>Without P/S | 8mm<br>12mm          |
| 1992-94 MX-3        | 4cyl.<br>6cyl.          | 8mm<br>7mm           |
| 1993-94 RX-7        |                         | 7mm                  |
| 1993-94 626/MX-6    |                         | 9mm                  |
| 1992-94 929         |                         | 11mm                 |
| 1989-94 MPV         | 4x2<br>4x4              | 13mm<br>12mm         |
| 1990-94 MX-5 MIATA  |                         | 10mm                 |
| 1995 Millenia       |                         | 10 mm                |

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
 Service Manager

Signature \_\_\_\_\_  
 Parts Manager

|                |                      |          |
|----------------|----------------------|----------|
| Number: 001/94 | Date Issued: 2/18/94 | Revised: |
|----------------|----------------------|----------|

**WARRANTY INFORMATION**

*(Applies To Vehicles Covered Under Normal Warranty)*

Warranty Type: A  
Customer Comment Code: 30  
Damage Code: 9H  
Part Number Main Cause: 5555 FE 001  
Operation Number: XX0640RX  
Labor Hours: 0.5Hr.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                 |                                     |              |         |
|---------------|---------------------------------|-------------------------------------|--------------|---------|
| Category<br>N | Applicable Model/s<br>See Below | Subject<br>ALIGNMENT SPECIFICATIONS | Bulletin No. | 001/95  |
|               |                                 |                                     | Issued       | 1/19/95 |
|               |                                 |                                     | Revised      |         |

**NOTE:** This bulletin was originally released as Cat. N, #003/94. Replace the original bulletin with this revised copy.

## APPLICABLE MODELS

All models except Navajo and 1994 and on B-Series

## DESCRIPTION

This bulletin provides background information on standard specification and measuring conditions for wheel alignment.

Measured values are not absolute. Variations occur between technician, equipment and the condition of the vehicle at the time of measurement. To avoid unnecessary adjustments, specifications and measurement conditions have been changed in the workshop manual. These changes are described below.

**NOTE:** Changes in the specifications do not imply that alignment tolerances have increased during production.

*Vehicle alignment is set to the median specifications during production and technicians should also use median specifications during alignment adjustment.*

## NEW SPECIFICATIONS

| ITEMS |                                            | STANDARD TOLERANCE                          | NOTE                                              |
|-------|--------------------------------------------|---------------------------------------------|---------------------------------------------------|
| Front | Camber (Difference between right and left) | +/- 1 (+/-1.5) degrees                      |                                                   |
|       | Caster (Difference between right and left) | +/- 1 (+/-1.5) degrees                      |                                                   |
|       | Toe (Total toe-in)                         | +/- 4mm (Angle indicated is also described) | One side toe is not mentioned. (No specification) |
| Rear  | Camber (Difference between right and left) | +/- 1 (+/-1.5) degrees                      |                                                   |
|       | Toe (Total toe-in)                         | +/- 4mm (Angle indicated is also described) | One side toe is not mentioned. (No specification) |
|       | Thrust Angle                               | +/-0.8 degrees                              |                                                   |

**NOTE:** Each vehicle varies in specification median. Refer to the workshop manual for each vehicle's specification.

## VEHICLE PREPARATION AND CONDITION

1. The vehicle should have:

- No Passengers
- No Luggage
- Gas Tank Full, Radiator and Engine Oil To The Specified Levels
- Spare Tire, Jack And Tools Stored In Designated Areas
- Tire Pressure Checked And, If Necessary, Adjusted.

**NOTE:** If the specifications are different (depending on load conditions), adjust the pressure for the lightest load.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

\*Service Manager\*

Signature \_\_\_\_\_

Parts Manager



Number: 001/95

Date Issued: 1/19/95

Revised:

2. The table below contains examples of front caster specifications based on fuel tank level.

| Fuel Gauge Indication | Front Caster (Shown in degrees, minutes) |
|-----------------------|------------------------------------------|
| Empty                 | 3 degrees 05' to 5 degrees 05"           |
| 1/4                   | 3 degrees 10' to 5 degrees 10"           |
| 1/2                   | 3 degrees 15' to 5 degrees 15"           |
| 3/4                   | 3 degrees 20' to 5 degrees 20"           |
| Full                  | 3 degrees 25' to 5 degrees 25"           |

**NOTE:** Specifications may differ between models.

3. Follow the operating procedures specified for the alignment equipment being used.
4. Prior to measuring the current settings, firmly push the vehicle bumper up and down to stabilize the vehicle's height.

Mazda Motor of America, Inc.  
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|               |                                                         |                                               |                     |
|---------------|---------------------------------------------------------|-----------------------------------------------|---------------------|
| Category<br>N | Applicable Model/s<br>All Models<br>(Ex. Nav. & B-Ser.) | Subject<br>STEERING WHEEL SLIGHTLY OFF CENTER | Bulletin No. 001/96 |
|               |                                                         |                                               | Issued 11/07/96     |
|               |                                                         |                                               | Revised             |

**NOTE:** This bulletin replaces bulletin 001/94 and 005/95 (both in Category N). Please make a note of this in your respective bulletin books.

**APPLICABLE MODELS**

All Models except the Navajo and B-Series.

**DESCRIPTION**

Some vehicles may have an off center steering wheel but no right or left hand pulling. Customers complaining of this concern should have the vehicle inspected and if necessary, repaired according to this bulletin.

**REPAIR PROCEDURE**

1. Test drive the vehicle on a straight road.
2. Place the steering wheel in a neutral position.
  - If the vehicle tracks straight and the steering wheel is NOT in a centered position, proceed to step 3.
3. Use the outside circumference of the steering wheel to measure the distance between the center position and the neutral position.
  - If the measurement is more than 30mm (1.18in) remove the steering wheel and install it in the centered position. Refer to the workshop manual for removal and installation procedures.
  - If the measurement is less than 30mm (1.18in):
    - a) Loosen both right and left hand tie-rod end lock nuts.
    - b) Turn the tie-rod ends in **opposite directions by equal amounts**, until the steering wheel is centered.
3. Verify the repair.

The chart below shows the approximate distance the outside diameter will move for every 1/4 (90 degree) turn of the tie-rod end.

| Model                | Approximate Distance                  |
|----------------------|---------------------------------------|
| 1990 -97 323/Protege | 8mm (with PS)<br>11-12mm (without PS) |
| 1992 - 95 MX-3       | 8mm (4cyl.)<br>7mm (6 cyl.)           |
| 1993 - 95 RX-7       | 7mm                                   |
| 1993 - 97 626 / MX-6 | 9 - 10mm                              |
| 1992-95 929          | 11mm                                  |
| 1989 - 97 MPV        | 13mm (4x2)<br>12mm (4x4)              |
| 1990 - 97 MX-5       | 8mm (with PS)<br>10mm (without PS)    |
| 1995 - 97 Millenia   | 10mm                                  |

**WARRANTY INFORMATION**

*(Applies To Verified Customer Complaints On Vehicles Covered Under Normal Warranty. Refer To The SRT Microfiche For Warranty Term Information.)*

Warranty Type: A  
 Symptom Code: 30  
 Damage Code: 9H  
 Part Number Main Cause: 5555-FE-001  
 Quantity: 0  
 Operation Number: XX0640RX  
 Labor Hours: 0.5 Hrs.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.



|                    |                                                         |                                               |                     |
|--------------------|---------------------------------------------------------|-----------------------------------------------|---------------------|
| Category<br>N (06) | Applicable Model/s<br>All Models<br>(Ex. Nav. & B-Ser.) | Subject<br>STEERING WHEEL SLIGHTLY OFF CENTER | Bulletin No. 001/98 |
|                    |                                                         |                                               | Issued 04/15/98     |
|                    |                                                         |                                               | Revised             |

**NOTE:** This bulletin replaces bulletin 001/94, 005/95 and 001/96(all in Category N). Please make a note of this in your respective bulletin books.

### APPLICABLE MODELS

All Models except the Navajo and B-Series.

### DESCRIPTION

Some vehicles may have an off center steering wheel but no right or left hand pulling. Customers complaining of this concern should have the vehicle inspected and if necessary, repaired according to this bulletin.

### REPAIR PROCEDURE

1. Test drive the vehicle on a straight road.
2. Place the steering wheel in a neutral position. Do not apply any turning effort.
  - If the vehicle tracks straight and the steering wheel is NOT in a centered position, proceed to step 3.
3. Use the outside circumference of the steering wheel to measure the distance between the center position and the neutral position.
  - If the measurement is more than 30mm (1.18in) remove the steering wheel and install it in the centered position. Refer to the workshop manual for removal and installation procedures.
  - If the measurement is less than 30mm (1.18in):
    - a) Loosen both right and left hand tie-rod end lock nuts.
    - b) Turn the tie-rod ends **in opposite directions by equal amounts**, until the steering wheel is centered.
3. Verify the repair.

The chart below shows the approximate distance the outside diameter will move for every 1/4 (90 degree) turn of the tie-rod end.

| Model                            | Approximate Distance                  |
|----------------------------------|---------------------------------------|
| 1990 -98 323/Protege             | 8mm (with PS)<br>11-12mm (without PS) |
| 1992 - 95 MX-3                   | 8mm (4cyl.)<br>7mm (6 cyl.)           |
| 1993 - 95 RX-7                   | 7mm                                   |
| 1993 - 97 626 / MX-6<br>1998 626 | 9 - 10mm                              |
| 1992-95 929                      | 11mm                                  |
| 1989 - 98 MPV                    | 13mm (4x2)<br>12mm (4x4)              |
| 1990 - 98 MX-5<br>1999 MX-5      | 8mm (with PS)<br>10mm (without PS)    |
| 1995 - 98 Millenia               | 10mm                                  |

### WARRANTY INFORMATION

*(Applies To Verified Customer Complaints On Vehicles Covered Under Normal Warranty. Refer To The SRT Microfiche For Warranty Term Information.)*

Warranty Type: A  
Symptom Code: 30  
Damage Code: 9H  
Part Number Main Cause: 5555-FE-001  
Quantity: 0  
Operation Number: XX0640RX  
Labor Hours: 0.5 Hrs.

## 060417

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

**N****Steering  
System**

|               |                                 |                                                                        |                                                   |
|---------------|---------------------------------|------------------------------------------------------------------------|---------------------------------------------------|
| Category<br>N | Applicable Model/s<br>1993 RX-7 | Subject<br>NOISE FROM FRONT OF VEHICLE<br>WHILE TURNING STEERING WHEEL | Bulletin No. 002/93<br>Issued 10/21/93<br>Revised |
|---------------|---------------------------------|------------------------------------------------------------------------|---------------------------------------------------|

**APPLICABLE MODELS/VINS**

1993 RX-7 - Vehicles with a VIN of JM1FD33\*\*P0200001 through JM1FD33\*\*P0210661.

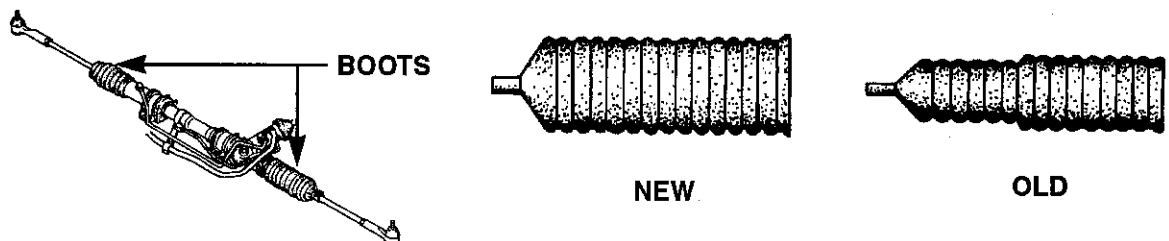
**NOTE:** The asterisk (\*) in the VIN range can be any number (0 through 9) or "X".

**DESCRIPTION**

Turning the steering wheel while the vehicle is stationary may produce an unusual noise from the front of the vehicle. This noise is generated from the steering linkage boots. The diameter of the boots have been increased to correct this problem.

**REPAIR PROCEDURE**

1. Confirm the noise. If the noise is coming from another source, refer to the section M or R of the workshop manual for troubleshooting information. If the noise is coming from the boots, proceed to step 2.
2. Replace the boots with the redesigned boot.

**PARTS INFORMATION****059139**

| Part Number  |             | Description        | Quantity |
|--------------|-------------|--------------------|----------|
| NEW          | OLD         |                    |          |
| FD01 32 125A | FD01 32 125 | Boot, Rack (Left)  | 1        |
| FD02 32 125A | FD02 32 125 | Boot, Rack (Right) | 1        |

**WARRANTY INFORMATION**

*(Applies To Vehicles Covered Under Normal Warranty)*

Warranty Type: A  
Customer Comment Code: 82  
Damage Code: 9B  
Part Number Main Cause: See Parts Information  
Related Parts: See Parts Information  
Quantity: See Parts Information  
Operation Number: N0205BRX  
Labor Hours: 2.3 Hrs. (Includes front wheel alignment and adjustment)

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# Service Bulletin

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 Telephone (714) 727-1990



✱

|                      |                                  |                                     |                     |
|----------------------|----------------------------------|-------------------------------------|---------------------|
| Category<br><b>N</b> | Applicable Model/s<br>All Models | Subject<br>ALIGNMENT SPECIFICATIONS | Bulletin No. 003/94 |
|                      |                                  |                                     | Issued 12/23/94     |
|                      |                                  |                                     | Revised             |

## DESCRIPTION

This bulletin provides background information on standard specification and measuring conditions for wheel alignment.

Measured values are not absolute. Variations occur between technician, equipment and the condition of the vehicle at the time of measurement. To avoid unnecessary adjustments, specifications and measurement conditions have been changed in the workshop manual. These changes are described below.

**NOTE:** Changes in the specifications do not imply that alignment tolerances have increased during production.

Vehicle alignment is set to the median specifications during production and technicians should also use median specifications during alignment adjustment.

## NEW SPECIFICATIONS

| ITEMS |                                            | STANDARD TOLERANCE                          | NOTE                                              |
|-------|--------------------------------------------|---------------------------------------------|---------------------------------------------------|
| Front | Camber (Difference between right and left) | +/- 1 (+/-1.5) degrees                      |                                                   |
|       | Caster (Difference between right and left) | +/- 1 (+/-1.5) degrees                      |                                                   |
|       | Toe (Total toe-in)                         | +/- 4mm (Angle indicated is also described) | One side toe is not mentioned. (No specification) |
| Rear  | Camber (Difference between right and left) | +/- 1 (+/-1.5) degrees                      |                                                   |
|       | Toe (Total toe-in)                         | +/- 4mm (Angle indicated is also described) | One side toe is not mentioned. (No specification) |
|       | Thrust Angle                               | +/-0.8 degrees                              |                                                   |

**NOTE:** Each vehicle varies in specification median. Refer to the workshop manual for each vehicle's specification.

## VEHICLE PREPARATION AND CONDITION

1. The vehicle should have:

- No Passengers
- No Luggage
- Gas Tank Full, Radiator and Engine Oil To The Specified Levels
- Spare Tire, Jack And Tools Stored In Designated Areas
- Tire Pressure Checked And, If Necessary, Adjusted.

**NOTE:** If the specifications are different (depending on load conditions), adjust the pressure for the lightest load.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Signature \_\_\_\_\_

Service Manager  
 Index # **040959**

Parts Manager

Number: 003/94

Date Issued: 12/23/94

Revised:

2. The table below contains examples of front caster specifications based on fuel tank level.

| Fuel Gauge Indication | Front Caster (Shown in degrees, minutes) |
|-----------------------|------------------------------------------|
| Empty                 | 3 degrees 05' to 5 degrees 05"           |
| 1/4                   | 3 degrees 10' to 5 degrees 10"           |
| 1/2                   | 3 degrees 15' to 5 degrees 15"           |
| 3/4                   | 3 degrees 20' to 5 degrees 20"           |
| Full                  | 3 degrees 25' to 5 degrees 25"           |

**NOTE:** Specifications may differ between models.

3. Follow the operating procedures specified for the alignment equipment being used.
4. Prior to measuring the current settings, firmly push the vehicle bumper up and down to stabilize the vehicle's height.

# Service Bulletin

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Irvine, California 92718  
Telephone (714) 727-1990

|               |                                                      |                                                                  |                                                   |
|---------------|------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------|
| Category<br>N | Applicable Model/s<br>All Models<br>With Rack/Pinion | Subject<br>CHECKING PROCEDURE FOR POWER<br>STEERING BOOT LEAKAGE | Bulletin No. 004/97<br>Issued 12/28/97<br>Revised |
|---------------|------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------|

## DESCRIPTION

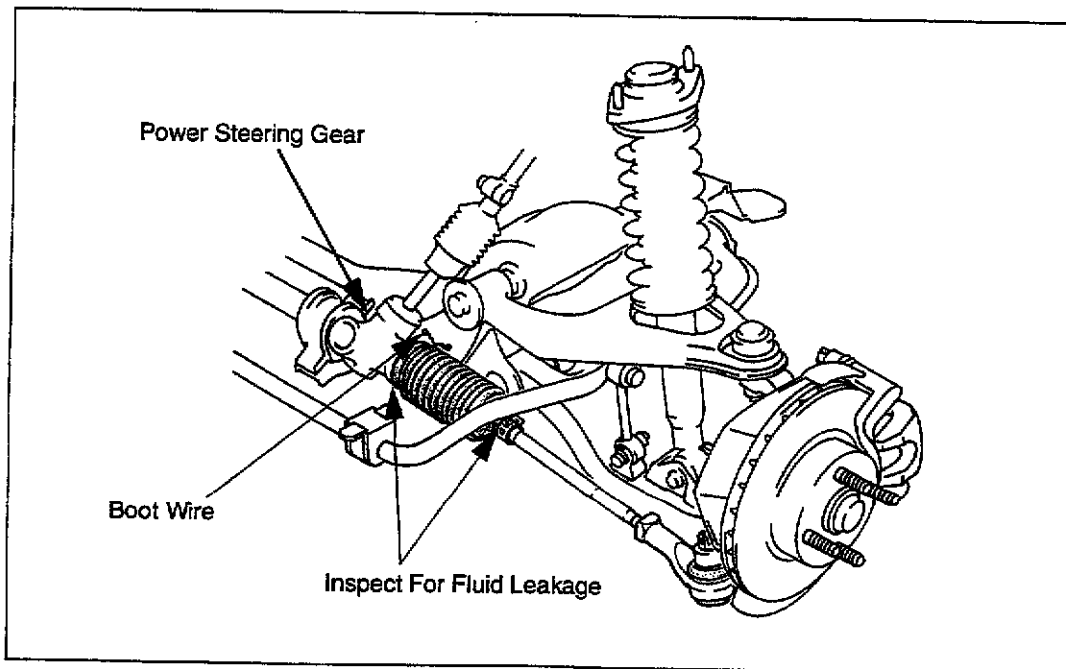
Customers complaining of problems associated with power steering fluid loss should have the vehicle inspected according to the instructions in section N of the workshop manual. If the leak is determined to be coming from the power steering gear, follow the procedures listed below.

**NOTE:** Service Managers should place a copy of this bulletin in section N of the workshop manual.

## INSPECTION PROCEDURE

1. Check the color of the fluid that is leaking.
  - If the fluid is red, proceed to step 3.
  - If the fluid is any color other than red, (i.e. yellow, colorless), this is grease and no problem exists with the power steering gear. Proceed to step 2.
2. Inspect the boot for damage (i.e. cracks or tears).
3. Remove the boot wire and inspect the inside of the boot for contamination (dirt, water, etc.).
  - If there is a large quantity of red fluid inside the boot, this indicates insufficient sealing. Replace the side seal and the power steering gear according to section N of the workshop manual.
  - If a minimal quantity of red fluid is present, proceed to step 4.
4. Start the engine and turn the steering wheel right and left, lock to lock.
  - If the fluid is leaking, replace the side seal and the power steering gear according to section N of the workshop manual.
  - If no fluid is leaking, no problem exists in the power steering gear.

**CAUTION: DO NOT keep the steering wheel fully turned to the locked position for more than five (5) seconds. Power steering system damage may occur.**



**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

060301



# Service Bulletin

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Telephone (714) 727-1990



|               |                                                       |                                               |                     |
|---------------|-------------------------------------------------------|-----------------------------------------------|---------------------|
| Category<br>N | Applicable Model/s<br>All Models<br>Ex. B-Ser. & Nav. | Subject<br>STEERING WHEEL SLIGHTLY OFF CENTER | Bulletin No. 005/95 |
|               |                                                       |                                               | Issued 3/15/95      |
|               |                                                       |                                               | Revised             |

## DESCRIPTION

The steering wheel on some models may be slightly off center. The vehicle still drives straight and does not pull right or left.

IF a customer complains of the position of the steering wheel, confirm that the vehicle is not pulling and repair according to the instructions in this bulletin.

## REPAIR PROCEDURE

1. Drive on a straight road and place the steering wheel in a neutral position. If the steering wheel is not centered, go to step 2.
2. Using the outside circumference of the steering wheel, measure the distance between the neutral position and the center position.

NOTE: If the distance is larger than 30mm (1.18in.) remove the steering wheel and reinstall in the correct position. If the steering wheel is still off center, proceed to step 3.

3. Measure the distance described in step 2. If less than 30mm (1.18in) loosen both left and right tie rod end lock nuts. Turn the rods in the opposite directions **by the same amount** until the steering wheel is centered.
4. Road test the the vehicle to confirm the steering wheel is centered. If not centered, repeat step 3.

The chart below shows the approximate distance that the outside circumference will move per 90 degree turn on the tie rod (both left and right in opposite directions).

| Model                                | Type        | Approx. Distance |
|--------------------------------------|-------------|------------------|
| 1990-94 323/Protege,<br>1995 Protege | With P/S    | 8mm              |
|                                      | Without P/S | 12mm             |
| 1992-95 MX-3                         | 4 cyl.      | 8mm              |
|                                      | 6 cyl.      | 7mm              |
| 1993-95 RX-7                         | All         | 7mm              |
| 1992-95 626/MX-6                     | All         | 9mm              |
| 1992-95 929                          | All         | 11mm             |
| 1989-95 MPV                          | 4 x 2       | 13mm             |
|                                      | 4 x 4       | 12mm             |
| 1990-95 MX-5 Miata                   | All         | 10mm             |
| 1995 Millenia                        | All         | 10mm             |

## WARRANTY INFORMATION

*(Applies To Verified Customer Complaints On Vehicles Covered Under Normal Warranty. Refer To The SRT Microfiche For Current Warranty Term Information)*

Warranty Type: A  
Symptom Code: 30  
Damage Code: 9H  
Part Number Main Cause: 5555 FE 001  
Operation Number: XX0640RX  
Labor Hours: 0.5Hrs.

Index # 042428

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all informaton to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

# Service Bulletin

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 Irvine, California 92718  
 Telephone (714) 727-1990



|                      |                                  |                                       |                     |
|----------------------|----------------------------------|---------------------------------------|---------------------|
| Category<br><b>P</b> | Applicable Model/s<br>All Models | Subject<br><b>BRAKE JUDDER REPAIR</b> | Bulletin No. 001/95 |
|                      |                                  |                                       | Issued 4/27/95      |
|                      |                                  |                                       | Revised             |

The revised portion of this bulletin is indicated by an asterisk (\*). Replace the original bulletin with this revised copy. This bulletin was originally released in Sept. 1994 as Cat P, 006/94.

## DESCRIPTION

Customers who complain of vibration or pulsation in the steering wheel, brake pedal, floor or seat while applying the brakes may be experiencing symptoms of brake judder. Judder is caused by:

- Disk Thickness Variation (DTV)
- rotor run-out and/or
- rotor surface rust (which leads to DTV)

This bulletin describes the causes and corrections for each condition.

## CAUSES OF JUDDER

1. Disc Thickness Variation (DTV) - DTV creates a vibration/pulsation during application of the brakes. DTV will increase with mileage accumulation if the run-out of the disc is excessive.
2. Disc Rotor Run-Out - Run-out, or rotor "wobble", leads to DTV. It is corrected by precision machining to bring the run-out within specification.
3. Rotor Surface Rust - Under certain conditions (storage or use in extreme environments), the surface of the brake rotors may become rusted in the pad non-contact area. If this corrosion penetrates the rotor surface deeply enough, it will not wear or rub off during normal use. This will cause DTV.

## CORRECTION

In order to effectively correct brake judder, rotor surfaces must be precisely machined. Mazda Motor of America has evaluated both on and off-car brake lathes and has determined that on-car lathes are more precise and greatly reduce comeback repairs.

The steps necessary for correction of brake judder are as follows:

1. If the vehicle is in dealer inventory and the condition is rotor rust:
  - a. Clean the rotor surface by driving the vehicle several miles while frequently applying the brakes.
  - b. If vibration/pulsation is still felt, proceed to step "c".
  - c. Machine the rotor surface enough to remove all rust or surface staining (generally 0.1mm per side).  
**NOTE:** If machining is performed, the Service Manager's signature must appear on the repair order.
2. If the vehicle has been in service:
  - a. Verify customer's complaint with a test drive.
  - b. If brake judder is felt, proceed to step c. If brake judder is not felt, refer to the workshop manual or the NVH manual for additional troubleshooting information.
  - c. Mark the **front** wheel(s) and the lug nut stud with chalk. This will determine the original position of the wheel to the rotor. Remove the **front** wheel(s).  
**NOTE:** A high majority of brake judder is due to DTV of the **front rotors**. Customer complaints of brake judder are most often corrected by **machining the front rotors only**.
  - d. Measure the remaining front rotor thickness and run-out. Determine if sufficient rotor material remains to allow machining. **Limit: Stated minimum thickness for the model plus 0.8mm.**
  - e. If machining can be achieved, an on-car brake lathe is recommended and will be required for all warranty repairs after January 1, 1995 to ensure a precise rotor surface.

Continued On Next Page

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
 Service Manager

Signature \_\_\_\_\_  
 Parts Manager

Index # 142729

|                |                      |          |
|----------------|----------------------|----------|
| Number: 001/95 | Date Issued: 4/27/95 | Revised: |
|----------------|----------------------|----------|

**After machining rotor(s) with an on-car brake lathe, you must remove all metal cuttings (particles) from the ABS "toothed ring" (the reluctor) and the ABS sensor. Failure to remove these particles will prevent proper function of the ABS system.**

- f. If machining can not be achieved due to rotor thickness limitations, the dealer should replace the rotor. To ensure a successful repair, run-out and/or DTV must be removed by on-car machining, even on new rotor(s).
- g. Install the wheel in the same location relative to the hub as it was originally positioned.
- h. Torque wheel lug nuts to the specifications in the service manual.
- i. Test drive the vehicle to confirm repair.
- j. If the brake judder is still felt, correct the rear rotor(s) using steps "c" through "i".

**SERVICE TOOLS**

The Accu-Turn (model 8750) On-Car Brake Lathe is recommended by Mazda Motor of America. The brake lathe will be available soon from MMA's National Accounts Program at a substantial savings. When the national account is established, a Special Tools Service Bulletin will be released which will contain further details. However, if you wish to receive a brochure on this brake lathe, please call Accu-Turn at (800) 551-2228.

**\*WARRANTY INFORMATION\***

*Applies To Vehicles Covered Under Normal Warranty*

Warranty Type Code: A  
 Customer Comment Code: 83  
 Damage Code: 9B  
 Parts No. Of Main Cause: \*\*\*\* 33 25\*  
 \*\*\*\* 26 25\* (Rear of Vehicle - Rear Wheel Drive Only)

| Location |            | Operation Number | Labor Hours |
|----------|------------|------------------|-------------|
| Front    | One Side   | P0113AMX         | 0.7         |
|          | Both Sides | P0113BMX         | 1.2         |
| Rear*    | One Side   | P0214AMX         | 0.7         |
|          | Both Sides | P0214BMX         | 1.2         |

**NOTE:**

1. Unnecessary replacement of rotors will result in warranty claim denial.
2. Brake pad replacement costs will not be warrantable for brake judder repair.
3. If an on-car lathe is used, apply the labor time from the table above.

**NOTE:** Warranty policy does not permit using an off-car brake lathe after January 1, 1995. The next issue of the SRT microfiche will be revised to show new labor times.

**Brake Drums  
SRT  
1993-1995**

| Description                          | Labor Operation | 626/MX-6 | MPV 1993 only | 323/PRO  | MX-3 | 93 B-series and earlier | Labor Operation | Navajo | 94 B-series and later |
|--------------------------------------|-----------------|----------|---------------|----------|------|-------------------------|-----------------|--------|-----------------------|
| Rear Brakes                          |                 |          |               |          |      |                         |                 |        |                       |
| Brake Drum(s), R&R                   |                 |          |               |          |      |                         |                 |        |                       |
| one side                             | P0201ARX        | 0.3      | 0.3           | 0.3      | 0.3  | 0.3                     |                 | 0.5    | 0.4                   |
| both sides                           | P0201BRX        | 0.4      | 0.6           | 0.6      | 0.4  | 0.6                     |                 | 0.7    | 0.6                   |
|                                      |                 |          | 1995 0.3      |          |      |                         |                 |        |                       |
| Brake Drum(s), Machine               |                 |          |               |          |      |                         |                 |        |                       |
| one side                             | P0201AMX        | MAX      | MAX           | MAX      | MAX  | MAX                     |                 | MAX    | MAX                   |
| both sides                           | P0201BMX        | 0.5      | 0.3           | 0.3      | 0.3  | 0.8                     |                 | 0.2    | 0.2                   |
|                                      |                 |          |               |          |      |                         |                 |        |                       |
| Brake Shoc(s), R&R                   |                 |          |               |          |      |                         |                 |        |                       |
| one side                             | P0204ARX        | 0.4      | 0.5           | 0.5      | 0.4  | 0.7                     | P0204XRX        | 1.0    | 1.0                   |
| both sides                           | P0204BRX        | 0.6      | 0.8           | 0.8      | 0.6  | 1.3                     | P0204XRX        | 1.0    | 1.0                   |
|                                      |                 |          | 1995 0.5      | 1995 0.5 |      |                         |                 |        |                       |
| <i>includes brake drums, R&amp;R</i> |                 |          |               |          |      |                         |                 |        |                       |

To submit for reimbursement on warranty brake repairs follow these examples:

**1. Machine brake drums and replace brake shoes**

| Labor Operation | Time      | Description of Repair |
|-----------------|-----------|-----------------------|
| P0201BRX        | per chart | brake drums, R&R      |
| P0201BMX        | per chart | brake drums, machine  |

**2. Replace brake shoes**

| Labor Operation | Time      | Description of Repair |
|-----------------|-----------|-----------------------|
| P0204BRX        | per chart | brake shoes, R&R      |

**3. Replace brake drums and replace brake shoes**

| Labor Operation | Time      | Description of Repair |
|-----------------|-----------|-----------------------|
| P0201BRX        | per chart | brake shoes, R&R      |

**4. Replace brake drums only**

| Labor Operation | Time      | Description of Repair |
|-----------------|-----------|-----------------------|
| P0201BRX        | per chart | brake drums, R&R      |

Rear Disc Brakes  
SRT  
1993-1995

| Description                                                                   | Labor Operation | Millenia | 626/MX-6 | RX-7 | MX-5 | MPV 94 - 95 | MX-3 | 929 | Labor Operation | 323/PRO           |
|-------------------------------------------------------------------------------|-----------------|----------|----------|------|------|-------------|------|-----|-----------------|-------------------|
| Rear Brakes                                                                   |                 |          |          |      |      |             |      |     |                 |                   |
| Disc Plate(s), R&R<br>one side                                                | P0208ARX        | 0.3      | 0.4      | 0.3  | 0.4  | 0.6         | 0.4  | 0.4 | P0208ARX        | 0.5               |
| both sides<br>Includes pads R&R                                               | P0208BRX        | 0.4      | 0.6      | 0.4  | 0.5  | 0.8         | 0.6  | 0.6 | P0208GRX        | 0.4<br>0.9<br>0.6 |
| Disc Plate(s), Machine<br>on vehicle                                          |                 |          |          |      |      |             |      |     |                 |                   |
| one side                                                                      | P0214AMX        | 0.7      | 0.7      | 0.7  | 0.7  | 0.7         | 0.7  | 0.7 |                 | 0.7               |
| both sides<br>Includes: brake pads, R&R and brake caliper, R&R<br>Pad(s), R&R | P0214BMX        | 1.2      | 1.2      | 1.2  | 1.2  | 1.2         | 1.2  | 1.2 |                 | 1.2               |
| one side                                                                      | P0209ARX        | 0.3      | 0.4      | 0.3  | 0.4  | 0.5         | 0.5  | 0.3 |                 | 0.4<br>0.3        |
| both sides                                                                    | P0209BRX        | 0.5      | 0.5      | 0.5  | 0.5  | 0.6         | 0.9  | 0.5 |                 | 0.5<br>0.5        |

NOTE: After February 1, 1995, the on vehicle lathe will be required for disc rotor machining.

To submit for reimbursement on warranty brake repairs follow these examples:

1. Replace brake pads

| Labor Operation | Time      | Description of Repair |
|-----------------|-----------|-----------------------|
| P0209BRX        | per chart | pads, R&R             |

3. Replace disc plates and replace brake pads

| Labor Operation | Time      | Description of Repair |
|-----------------|-----------|-----------------------|
| P0208BRX        | per chart | disc plates, R&R      |

2. Machine disc plates on the vehicle and replace brake pads

| Labor Operation | Time      | Description of Repair |
|-----------------|-----------|-----------------------|
| P0214BMX        | per chart | on vehicle lathe      |

4. Replace disc plates only

| Labor Operation | Time      | Description of Repair |
|-----------------|-----------|-----------------------|
| P0208BRX        | per chart | disc plates, R&R      |

Front Brakes  
SRT  
1993-1995

| Description                                      | Labor Operation | Millenia | 626/MX-6 | RX-7 | MX-5 | MPV | 323/PRO | MX-3 | 929 | Labor Operation | Nevejo             | 94 B-series and later | Labor Operation | 93 B-series and earlier |
|--------------------------------------------------|-----------------|----------|----------|------|------|-----|---------|------|-----|-----------------|--------------------|-----------------------|-----------------|-------------------------|
| Front Brakes                                     |                 |          |          |      |      |     |         |      |     |                 |                    |                       |                 |                         |
| Disc Plate(s), R&R                               |                 |          |          |      |      |     |         |      |     |                 |                    |                       |                 |                         |
| one side                                         | P010ZARX        | 0.5      | 0.3      | 0.3  | 0.5  | 0.6 | 0.5 0.3 | 0.3  | 0.4 | P010ZARX        | 2wd 0.8<br>4wd 0.8 | 2wd 0.5<br>4wd 0.7    | P010ZARX        | 2wd 0.6<br>4wd 0.9      |
| both sides                                       | P010ZBRX        | 0.6      | 0.5      | 0.5  | 0.6  | 0.9 | 0.9 0.4 | 0.5  | 0.7 | P010ZCRX        | 2wd 0.9<br>4wd 1.2 | 2wd 0.8<br>4wd 1.1    | P010ZCRX        | 2wd 1.1<br>4wd 1.6      |
| includes pads R&R                                |                 |          |          |      |      |     |         |      |     |                 |                    |                       |                 |                         |
| Disc Plate(s), Machine on vehicle                |                 |          |          |      |      |     |         |      |     |                 |                    |                       |                 |                         |
| one side                                         | P0113AMX        | 0.7      | 0.7      | 0.7  | 0.7  | 0.7 | 0.7     | 0.7  | 0.7 | P0113AMX        | 2wd 0.8<br>4wd 0.6 | 2wd 0.8<br>4wd 0.6    | P0113AMX        | 2wd 0.8<br>4wd 0.6      |
| both sides                                       | P0113BMX        | 1.2      | 1.2      | 1.2  | 1.2  | 1.2 | 1.2     | 1.2  | 1.2 | P0113CMX        | 2wd 1.5<br>4wd 1.1 | 2wd 1.5<br>4wd 1.1    | P0113DMX        | 2wd 1.5<br>4wd 1.1      |
| includes: brake pads, R&R and brake caliper, R&R |                 |          |          |      |      |     |         |      |     |                 |                    |                       |                 |                         |
| one side                                         | P0104ARX        | 0.5      | 0.4      | 0.3  | 0.4  | 0.4 | 0.4     | 0.5  | 0.4 | P0113DMX        | 2wd 1.1<br>4wd 1.1 | 2wd 1.1<br>4wd 1.1    | P0113DMX        | 2wd 1.1<br>4wd 1.1      |
| both sides                                       | P0104BRX        | 0.6      | 0.5      | 0.4  | 0.6  | 0.5 | 0.5 0.4 | 0.5  | 0.6 |                 | 0.4<br>0.7         | 0.4<br>0.7            |                 | 0.4<br>0.6              |

NOTE: After February 1, 1995, the on vehicle lathe will be required for disc rotor machining.

To submit for reimbursement on warranty brake repairs follow these examples:

1. Replace brake pads

| Labor Operation | Time      | Description of Repair |
|-----------------|-----------|-----------------------|
| P0104BRX        | per chart | pads, R&R             |

2. Machine disc plates on the vehicle and replace brake pads

| Labor Operation | Time      | Description of Repair |
|-----------------|-----------|-----------------------|
| P0113BMX        | per chart | on vehicle lathe      |

3. Replace disc plates and replace brake pads

| Labor Operation | Time      | Description of Repair |
|-----------------|-----------|-----------------------|
| P0102BRX        | per chart | disc plates, R&R      |

4. Replace disc plates only

| Labor Operation | Time      | Description of Repair |
|-----------------|-----------|-----------------------|
| P0102BRX        | per chart | disc plates, R&R      |

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
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|               |                                  |                                                              |                                                   |
|---------------|----------------------------------|--------------------------------------------------------------|---------------------------------------------------|
| Category<br>P | Applicable Model/s<br>All Models | Subject<br>BRAKE ROTOR MACHINING AND<br>REPLACEMENT CRITERIA | Bulletin No. 001/96<br>Issued 02/07/96<br>Revised |
|---------------|----------------------------------|--------------------------------------------------------------|---------------------------------------------------|

## APPLICABLE MODELS

All Models with Disc Brakes

## DESCRIPTION

Policies for warrantable repair and replacement of brake rotors are described in this bulletin. Follow these guidelines to ensure proper repairs for brake problems.

### Brake Judder:

1. Measure the thickness of the rotor.
  - If, after machining, the remaining thickness will be below the minimal allowable thickness, replace the rotor. Refer to the workshop manual for allowable thickness.
  - If the rotor thickness meets or exceeds allowable thickness, proceed to step 2.
2. Machine the rotors using an "on-the-car" brake lathe.
3. Follow the detailed repair procedures located in Service Bulletin, Category P, 001/95 and the applicable workshop manual.

### Other Than Brake Judder:

1. Inspect the rotor(s) for cracks.
  - If cracks are **not found**, refer to the table on page 2 for repair/replacement criteria. Do not replace the rotor(s).
  - If cracks are **found**, replace the rotor.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_ Signature \_\_\_\_\_

Service Manager

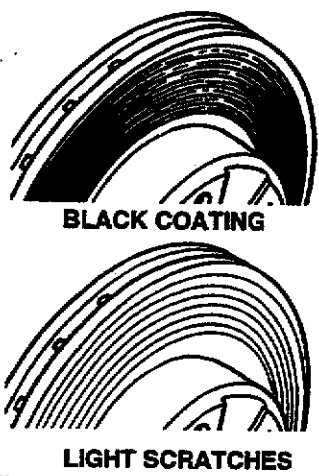
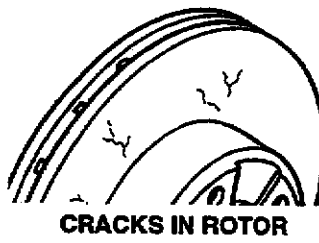
Parts Manager

Number: 001/96

Date Issued: 02/07/96

Revised:

**ROTOR MACHINING AND REPLACEMENT CRITERIA**

| Concern                                                                                                                                                                                                                                   | Example                                                                                                                                     | Operation |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------|
|                                                                                                                                                                                                                                           |                                                                                                                                             | Machine   | Replace             |
| <b>Brake Judder</b>                                                                                                                                                                                                                       | N/A                                                                                                                                         | Yes       | No                  |
| <b>Other Than Brake Judder</b> <ul style="list-style-type: none"> <li>• <b>Black Coating</b> from abrasion powder adhering to rust spots on the disc.</li> <li>• <b>Light Scratches</b> similar to grooves on an audio record.</li> </ul> |  <p><b>BLACK COATING</b></p> <p><b>LIGHT SCRATCHES</b></p> | No        | No                  |
| <b>Cracks In Rotor</b>                                                                                                                                                                                                                    |  <p><b>CRACKS IN ROTOR</b></p>                            | No        | Yes<br>(See Note 1) |
| <b>Rotor Thickness Will Be Less Than Specified (After Machining). Refer to the WSM for limit specifications.</b>                                                                                                                          | N/A                                                                                                                                         | No        | Yes<br>(See Note 1) |
| <b>New Rotor Replacement (See Note 1)</b>                                                                                                                                                                                                 | N/A                                                                                                                                         | Yes       | —                   |

**NOTE:**

1. When rotor replacement is necessary, machine the newly installed disc with an on the car brake lathe.
2. MMA may request (within 30 days after the claim has been paid) that replaced rotors be returned for inspection and product evaluation.



# Service Bulletin

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|               |                                  |                                |                                                          |
|---------------|----------------------------------|--------------------------------|----------------------------------------------------------|
| Category<br>P | Applicable Model/s<br>All Models | Subject<br>BRAKE JUDDER REPAIR | Bulletin No. 006/94<br>Issued 9/1/94<br>Revised 12/23/94 |
|---------------|----------------------------------|--------------------------------|----------------------------------------------------------|

The revised portion of this bulletin is indicated by an asterisk (\*). Replace the original bulletin with this revised copy.

## DESCRIPTION

Customers who complain of vibration or pulsation in the steering wheel, brake pedal, floor or seat while applying the brakes may be experiencing symptoms of brake judder. Judder is caused by:

- Disk Thickness Variation (DTV)
- rotor run-out and/or
- rotor surface rust (which leads to DTV)

This bulletin describes the causes and corrections for each condition.

## CAUSES OF JUDDER

1. Disc Thickness Variation (DTV) - DTV creates a vibration/pulsation during application of the brakes. DTV will increase with mileage accumulation if the run-out of the disc is excessive.
2. Disc Rotor Run-Out - Run-out, or rotor "wobble", leads to DTV. It is corrected by precision machining to bring the run-out within specification.
3. Rotor Surface Rust - Under certain conditions (storage or use in extreme environments), the surface of the brake rotors may become rusted in the pad non-contact area. If this corrosion penetrates the rotor surface deeply enough, it will not wear or rub off during normal use. This will cause DTV.

## CORRECTION

In order to effectively correct brake judder, rotor surfaces must be precisely machined. Mazda Motor of America has evaluated both on and off-car brake lathes and has determined that on-car lathes are more precise and greatly reduce comeback repairs.

The steps necessary for correction of brake judder are as follows:

1. If the vehicle is in dealer inventory and the condition is rotor rust:
  - a. Clean the rotor surface by driving the vehicle several miles while frequently applying the brakes.
  - b. If vibration/pulsation is still felt, proceed to step "c".
  - c. Machine the rotor surface enough to remove all rust or surface staining (generally 0.1mm per side).  
**NOTE:** If machining is performed, the Service Manager's signature must appear on the repair order.
2. If the vehicle has been in service:
  - a. Verify customer's complaint with a test drive.
  - b. If brake judder is felt, proceed to step c. If brake judder is not felt, refer to the workshop manual or the NVH manual for additional troubleshooting information.
  - c. Mark the front wheel(s) and the lug nut stud with chalk. This will determine the original position of the wheel to the rotor. Remove the front wheel(s).  
**NOTE:** A high majority of brake judder is due to DTV of the front rotors. Customer complaints of brake judder are most often corrected by machining the front rotors only.
  - d. Measure the remaining front rotor thickness and run-out. Determine if sufficient rotor material remains to allow machining. Limit: **Stated minimum thickness for the model plus 0.8mm.**
  - e. If machining can be achieved, an on-car brake lathe is recommended and will be required for all warranty repairs after January 1, 1995 to ensure a precise rotor surface.

Continued On Next Page

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Index # 040960

Signature \_\_\_\_\_

Parts Manager

Number: 006/94

Date Issued: 9/1/94

Revised: 12/23/94

After machining rotor(s) with an on-car brake lathe, you **must remove all metal cuttings (particles)** from the ABS "toothed ring" (the reluctor) and the ABS sensor. Failure to remove these particles will prevent proper function of the ABS system.

- f. If machining can not be achieved due to rotor thickness limitations, the dealer should replace the rotor. To ensure a successful repair, run-out and/or DTV **must be** removed by on-car machining, even on new rotor(s).
- g. Install the wheel in the same location relative to the hub as it was originally positioned.
- h. Torque wheel lug nuts to the specifications in the service manual.
- i. Test drive the vehicle to confirm repair.
- j. If the brake judder is still felt, correct the rear rotor(s) using steps "c" through "i".

### SERVICE TOOLS

The Accu-Turn (model 8750) On-Car Brake Lathe is recommended by Mazda Motor of America. The brake lathe will be available soon from MMA's National Accounts Program at a substantial savings. When the national account is established, a Special Tools Service Bulletin will be released which will contain further details. However, if you wish to receive a brochure on this brake lathe, please call Accu-Turn at (800) 551-2228.

### \*WARRANTY INFORMATION

*Applies To Vehicles Covered Under Normal Warranty*

Warranty Type Code: A  
Customer Comment Code: 83  
Damage Code: 9B  
Parts No. Of Main Cause: \*\*\*\* 33 25\*  
\*\*\*\* 26 25\* (Rear of Vehicle - Rear Wheel Drive Only)

| Location |            | Operation Number | Labor Hours |
|----------|------------|------------------|-------------|
| Front    | One Side   | P0113AMX         | 0.7         |
|          | Both Sides | P0113BMX         | 1.2         |
| Rear     | One Side   | P0214ARX         | 0.7         |
|          | Both Sides | P0214BRX         | 1.2         |

### NOTE:

1. Unnecessary replacement of rotors will result in warranty claim denial.
2. Brake pad replacement costs will not be warrantable for brake judder repair.
3. If an Accur-Turn on-car lathe is used, apply the labor time from the table above. If an off-car lathe is used (until Jan.1, 1995), use the labor times from the 1994 SRT. The next issue of the SRT microfiche will be revised to show the new labor times.

# Service Bulletin

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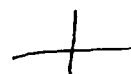


|               |                                  |                                |                     |
|---------------|----------------------------------|--------------------------------|---------------------|
| Category<br>P | Applicable Model/s<br>All Models | Subject<br>BRAKE JUDDER REPAIR | Bulletin No. 006/94 |
|               |                                  |                                | Issued 9/1/94       |
|               |                                  |                                | Revised             |

## DESCRIPTION

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In order to effectively correct brake judder, rotor surfaces must be precisely machined. Mazda Motor of America has evaluated both on and off-car brake lathes and has determined that on-car lathes are more precise and greatly reduce comeback repairs.

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**NOTE:** If machining is performed, the Service Manager's signature must appear on the repair order.
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  - d. Measure the remaining front rotor thickness and run-out. Determine if sufficient rotor material remains to allow machining. **Limit: Stated minimum thickness for the model plus 0.8mm.**
  - e. If machining can be achieved, an on-car brake lathe is recommended and will be required for all warranty repairs after January 1, 1995 to ensure a precise rotor surface.

Index # 040049

Continued On Next Page

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_ Signature \_\_\_\_\_

Service Manager

Parts Manager

|                |                     |          |
|----------------|---------------------|----------|
| Number: 006/94 | Date Issued: 9/1/94 | Revised: |
|----------------|---------------------|----------|

**After machining rotor(s) with an on-car brake lathe, you must remove all metal cuttings (particles) from the ABS "toothed ring" (the reluctor) and the ABS sensor. Failure to remove these particles will prevent proper function of the ABS system.**

- f. If machining can not be achieved due to rotor thickness limitations, the dealer should replace the rotor. To ensure a successful repair, run-out and/or DTV **must be** removed by on-car machining, even on new rotor(s).
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**SERVICE TOOLS**

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**WARRANTY INFORMATION**

*Applies To Vehicles Covered Under Normal Warranty*

- Warranty Type Code: A
- Customer Comment Code: 83
- Damage Code: 9B
- Parts No. Of Main Cause: \*\*\*\* 33 25\*
- \*\*\*\* 26 25\* (Rear of Vehicle - **Rear Wheel Drive Only**)

| Location |            | Operation Number | Labor Hours |
|----------|------------|------------------|-------------|
| Front    | One Side   | P0113CMX         | 0.7         |
|          | Both Sides | P0113DMX         | 1.2         |
| Rear     | One Side   | P0113EMX         | 0.7         |
|          | Both Sides | P0113FMX         | 1.2         |

**NOTE:**

1. Unnecessary replacement of rotors will result in warranty claim denial.
2. Brake pad replacement costs will not be warrantable for brake judder repair.
3. The '95 SRT Microfiche (for the MX-3, RX-7, 929, MPV, MIATA, etc.) shows labor times for on-car rotor machining are 0.8 Hrs. Max for one side and 1.5 Hrs. Max. for both sides.
4. If an Accur-Turn on-car lathe is used, apply the labor time from the table above. If an off-car lathe is used (until Jan.1, 1995), use the labor times from the 1994 SRT. The next issue of the SRT microfiche will be revised to show the new labor times.

# Service Bulletin

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Telephone (714) 727-1990



|               |                                       |                         |                     |
|---------------|---------------------------------------|-------------------------|---------------------|
| Category<br>Q | Applicable Model/s<br>All 1993 Models | Subject<br>RIDE QUALITY | Bulletin No. 002/91 |
|               |                                       |                         | Issued 7/16/92      |
|               |                                       |                         | Revised             |

## DESCRIPTION

Vehicle tires are inflated with excessive air pressure during assembly in order to properly seat the tire bead and to prevent flat-spotting during storage.

Excessive tire pressures can increase steering wheel vibration and effect overall ride of the vehicle.

## INSPECTION & ADJUSTMENT PROCEDURE

Check and adjust the tire pressure at pre-delivery inspection and any other service interval. The proper tire inflation values are shown below and can also be found on the vehicle certification label located on the driver's side door.

| Model       | Front | Rear  |
|-------------|-------|-------|
| 323/Protegé | 32psi | 32psi |
| 626/MX-6    | 32psi | 26psi |
| 929         | 28psi | 28psi |
| MX-3:       |       |       |
| 1.6L        | 32psi | 32psi |
| 1.8L        | 28psi | 28psi |
| MX-5 Miata  | 26psi | 26psi |
| RX-7        | 32psi | 32psi |
| Navajo      | 26psi | 26psi |
| B-Series:   |       |       |
| 4 x 2       | 26psi | 35psi |
| 4 x 4       | 28psi | 31psi |
| MPV         | 35psi | 32psi |

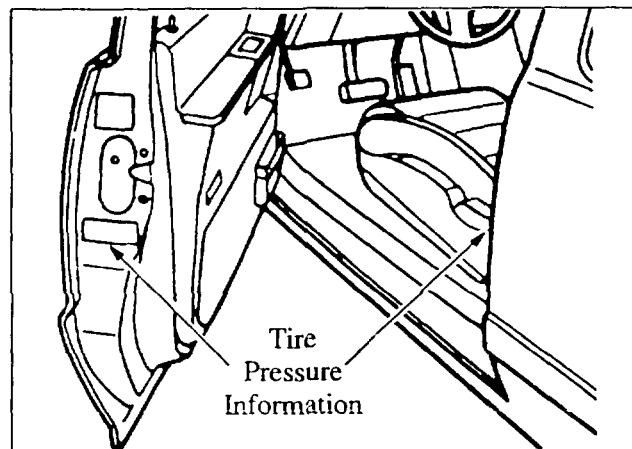


Figure 1: Location of Vehicle Certification Label

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

Index # **030137**

|                      |                                       |                                |                     |
|----------------------|---------------------------------------|--------------------------------|---------------------|
| Category<br><b>Q</b> | Applicable Model/s<br>All 1993 Models | Subject<br><b>RIDE QUALITY</b> | Bulletin No. 002/91 |
|                      |                                       |                                | Issued 7/16/92      |
|                      |                                       |                                | Revised             |

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| 1.6L        | 32psi | 32psi |
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| 4 x 2       | 26psi | 35psi |
| 4 x 4       | 28psi | 31psi |
| MPV         | 35psi | 32psi |

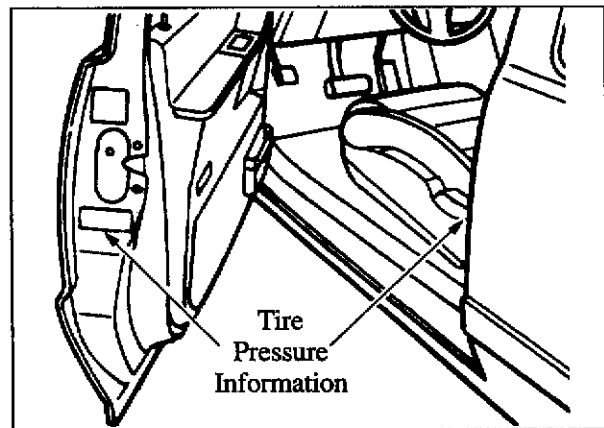


Figure 1: Location of Vehicle Certification Label

**Q**  
Wheels  
& Tires

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714)727-1990



|               |                                 |                                        |                     |
|---------------|---------------------------------|----------------------------------------|---------------------|
| Category<br>Q | Applicable Model/s<br>1993 RX-7 | Subject<br>WHEEL CENTER CAP STICKS OUT | Bulletin No. 003/92 |
|               |                                 |                                        | Issued 9/14/92      |
|               |                                 |                                        | Revised             |

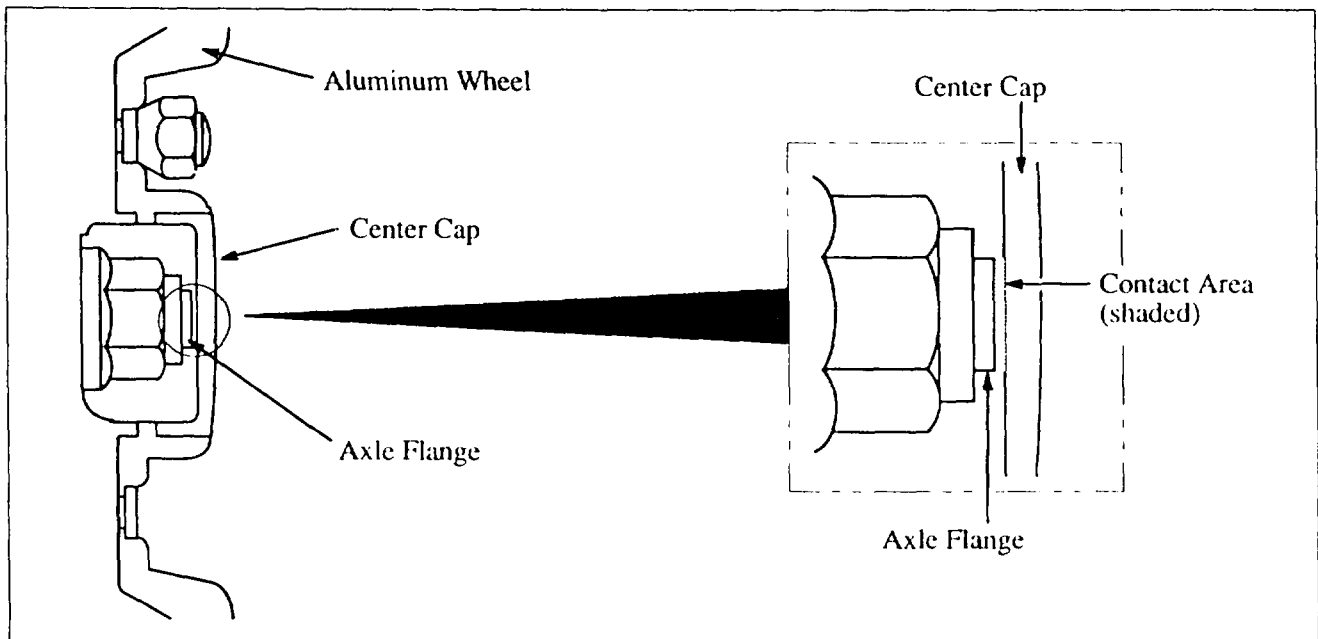
## AFFECTED VINS

-JM1FD331 ♦ P0201892

February 10, 1992

## DESCRIPTION

Some vehicles may have aluminum wheel center cap(s) that do not fit flush with the wheel. This is caused by the contact between the cap and the axle flange. See figure below.



## REPAIR PROCEDURE

If this condition occurs, the center cap(s) should be replaced with a modified one.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
..... Service Manager

Signature \_\_\_\_\_  
Parts Manager

Index # 030843

|                |                      |               |
|----------------|----------------------|---------------|
| Number: 003/92 | Date Issued: 9/14/92 | Date Revised: |
|----------------|----------------------|---------------|

**PARTS INFORMATION**

| PART NUMBER  |              | DESCRIPTION | INT | QUANTITY |
|--------------|--------------|-------------|-----|----------|
| NEW          | OLD          |             |     |          |
| FD01 37 191B | FD01 37 191A | Cap, Center | A   | 4        |

**NOTE:** Interchangeability code "A" means that a new part can be used in place of an old one, but an old part cannot be used in place of a new one

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty.)*

Warranty Type Code: A  
Customer Comment Code: 90  
Damage Code: 97  
Part No. of Main Cause: FD01 37 191B  
Operation No: Q0102XRX (Inspection)  
Q0105CRX (Removal and Installation)  
Labor Hours: 0.2 Hr. (Inspection)  
0.6 Hr. (Removal and Installation)



# Service Bulletin

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|               |                                  |                                        |                     |
|---------------|----------------------------------|----------------------------------------|---------------------|
| Category<br>Q | Applicable Model/s<br>All Models | Subject<br>INSTALLATION OF TIRE CHAINS | Bulletin No. 005/93 |
|               |                                  |                                        | Issued 6/3/93       |
|               |                                  |                                        | Revised             |

## DESCRIPTION

Tire chains may scratch or chip aluminum wheels. **If chains are to be installed, aluminum wheels should be changed to steel wheels.**

Please remind your customers of the following instructions when installing tire chains on their vehicle. These recommendations are also explained in the vehicles owner's manual.

1. Investigate local regulations before using tire chains.
2. Use only SAE Class "S" chains, and make sure they fit the vehicle's tires.
3. Follow the chain manufacturer's instructions.
4. Remove the steel wheel covers (if equipped) to avoid scratches or damage.
5. **Front Wheel Drive Vehicles**— Secure the chains on the front tires as tightly as possible. Retighten after one-half mile of driving.  
**Rear Wheel Drive**— Secure the chains to the rear wheels as tightly as possible. Retighten after one-half mile of driving.

## CAUTION:

- CHAINS MAY AFFECT VEHICLE HANDLING.
- DO NOT GO FASTER THAN 30 MPH OR THE MANUFACTURER'S RECOMMENDED SPEED, WHICHEVER IS LOWER.
- DRIVE CAREFULLY AND AVOID BUMPS, HOLES AND SHARP TURNS.
- AVOID LOCKED-WHEEL BRAKING.
- DO NOT USE CHAINS ON THE TEMPORARY TIRE. THEY MAY DAMAGE THE VEHICLE AND THE TIRE.

# Service Bulletin

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7755 Irvine Center Drive  
Irvine, California  
Telephone (714) 727-1990



|               |                                 |                                      |                     |
|---------------|---------------------------------|--------------------------------------|---------------------|
| Category<br>R | Applicable Model/s<br>1993 RX-7 | Subject<br>FRONT UPPER BUSHING NOISE | Bulletin No. 004/93 |
|               |                                 |                                      | Issued 5/19/93      |
|               |                                 |                                      | Revised             |

## APPLICABLE VINS

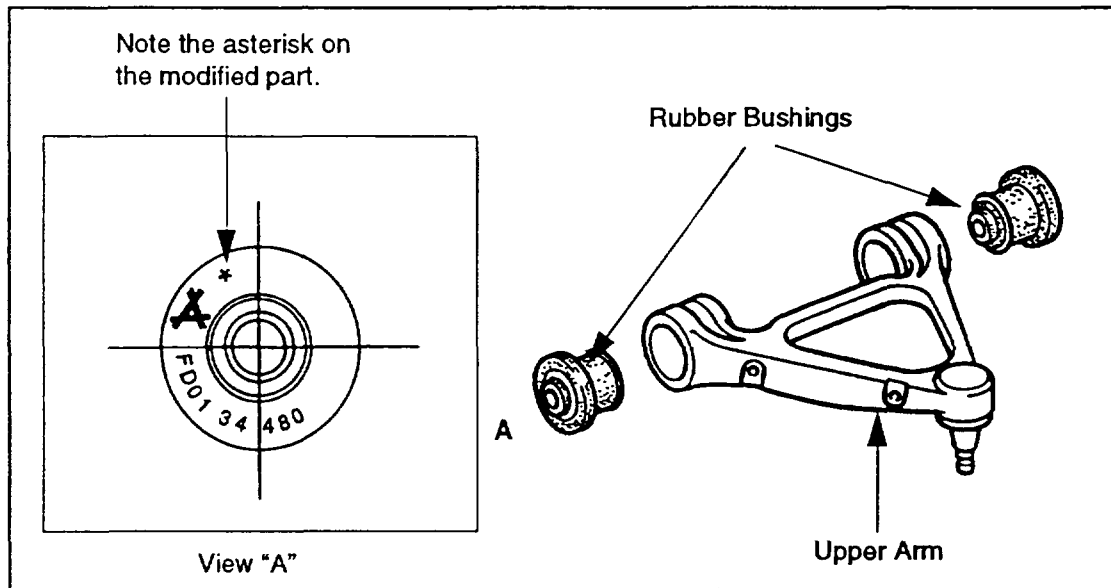
1993 RX-7 Models - Vehicles with a VIN of JM1FD33\*\*P0200001 through JM1FD33\*\* P0204513

## DESCRIPTION

A customer may complain of a thumping noise from the front suspension upper arm bushing when the vehicle moves from a stop. Turning the steering wheel when the vehicle is stationary may also produce the noise.

## REPAIR PROCEDURES

Verify the condition and replace the upper arm rubber bushing with a modified one designed to eliminate the noise. Refer to section "R" in the Workshop Manual for replacement procedures.



## PARTS INFORMATION (part number remains the same)

| Part Number  | Description    | Quantity     |
|--------------|----------------|--------------|
| FD01 34 480A | Rubber Bushing | 2 (one side) |

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Signature \_\_\_\_\_

.....Service Manager

.....Parts Manager

index # 034327

|                |                      |          |
|----------------|----------------------|----------|
| Number: 004/93 | Date Issued: 5/19/93 | Revised: |
|----------------|----------------------|----------|

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty)*

|                        |                                                |
|------------------------|------------------------------------------------|
| Warranty Type Code     | A                                              |
| Customer Comment Code  | 82                                             |
| Damage Code            | 9E                                             |
| Part No. of Main Cause | FD01 34 480A                                   |
| Quantity               | 2 (one side)<br>4 (both sides)                 |
| Operation No.          | XX0556R1 (one side)<br>XX0556R2 (both sides)   |
| Labor Hours            | 2.0 Hours (one side)<br>2.9 Hours (both sides) |

# Service Bulletin

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 Telephone (714) 727-1990



|               |                                 |                                      |                     |
|---------------|---------------------------------|--------------------------------------|---------------------|
| Category<br>R | Applicable Model/s<br>1993 RX-7 | Subject<br>FRONT UPPER BUSHING NOISE | Bulletin No. 004/93 |
|               |                                 |                                      | Issued 5/19/93      |
|               |                                 |                                      | Revised 9/22/93     |

The revised portion of this bulletin is indicated by an asterisk (\*). Replace your original copy with these revised pages.

## APPLICABLE MODELS

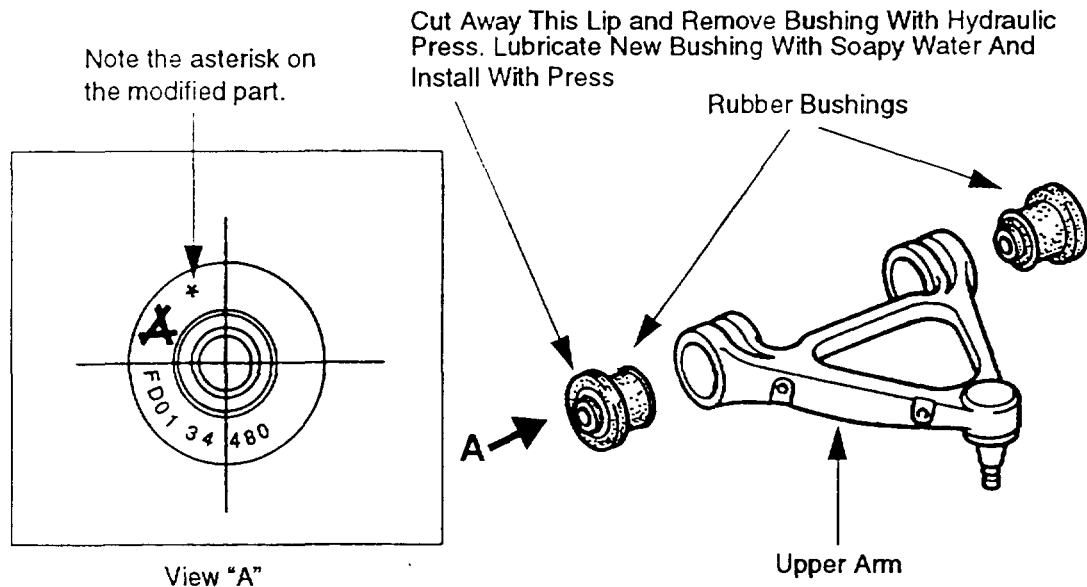
1993 RX-7 Models - Vehicles with a VIN of JM1FD33\*\*P0200001 through JM1FD33\*\*P0204513.

## DESCRIPTION

A customer may complain of an unusual noise from the front suspension upper arm bushing when the vehicle moves from a stop. Turning the steering wheel when the vehicle is stationary may also produce the noise.

## REPAIR PROCEDURE

Verify the condition and replace the upper arm rubber bushing with a modified one designed to eliminate the noise.



**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

Index #

**035702**

|                |                      |                 |
|----------------|----------------------|-----------------|
| Number: 004/93 | Date Issued: 5/19/93 | Revised:9/22/93 |
|----------------|----------------------|-----------------|

**PARTS INFORMATION** (part number remains the same)

| Part Number  | Description    | Quantity     |
|--------------|----------------|--------------|
| FD01 34 480A | Rubber Bushing | 2 (one side) |

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty)*

|                        |                                                |
|------------------------|------------------------------------------------|
| Warranty Type Code     | A                                              |
| Customer Comment Code  | 82                                             |
| Damage Code            | 9E                                             |
| Part No. of Main Cause | FD01 34 480A                                   |
| Quantity               | 2 (one side)<br>4 (both sides)                 |
| Operation No.          | XX0556R1 (one side)<br>XX0556R2 (both sides)   |
| Labor Hours            | 2.0 Hours (one side)<br>2.9 Hours (both sides) |

# Service Bulletin

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Telephone (714) 727-1990



|               |                                                        |                                          |                     |
|---------------|--------------------------------------------------------|------------------------------------------|---------------------|
| Category<br>S | Applicable Model/s<br>1993-94 RX-7 and<br>1990-94 MX-5 | Subject<br>SEAT BELT CAUTION LABEL COVER | Bulletin No. 001/94 |
|               |                                                        |                                          | Issued 1/5/94       |
|               |                                                        |                                          | Revised             |

## APPLICABLE MODELS/VINS

### RX-7

1993 - All Vehicles

1994 - Vehicles with a VIN of JM1FD333\*R0300001 through JM1FD333\*R0301350

### MX-5 MIATA

1993 - All Vehicles

1994 - Vehicles with a VIN of JM1NA353\*R0500001 through JM1NA353\*R0506949

**NOTE:** The asterisk (\*) in the VIN can be any number (0 - 9) or "X".

## DESCRIPTION

If the sleeve covering the seat belt label has dropped, the caution label becomes exposed. If this is found, the seat belt should be inspected as described below to determine if replacement is necessary.

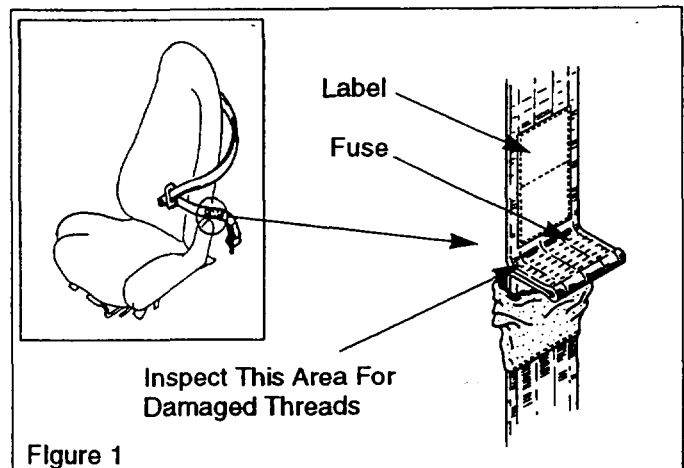
If the seat belt is not damaged, the sleeve should be sewn in place according to the instructions in this bulletin.

**NOTE:** It is important that the sleeve be sewn correctly. If the repair is being performed by an outside upholsterer, provide the instructions in this bulletin.

## SEAT BELT INSPECTION PROCEDURE

1. Slide the sleeve down to expose the fuse portion of the seat belt.
2. Inspect the area for frayed or broken stitching (See Figure 1).
3. If stitching is damaged, seat belt replacement is necessary. If the stitching is not damaged, the seat belt caution label cover should be stitched in place.

**NOTE:** If the seat belt was damaged as result of an accident, the replacement is not a warrantable item.



**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

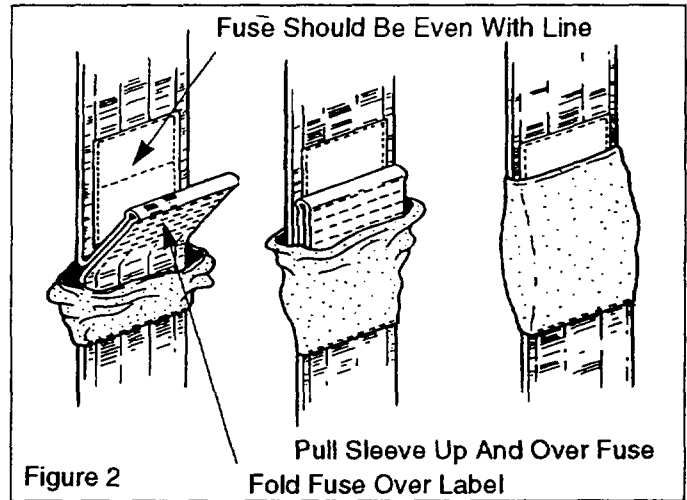
Service Manager

Signature \_\_\_\_\_

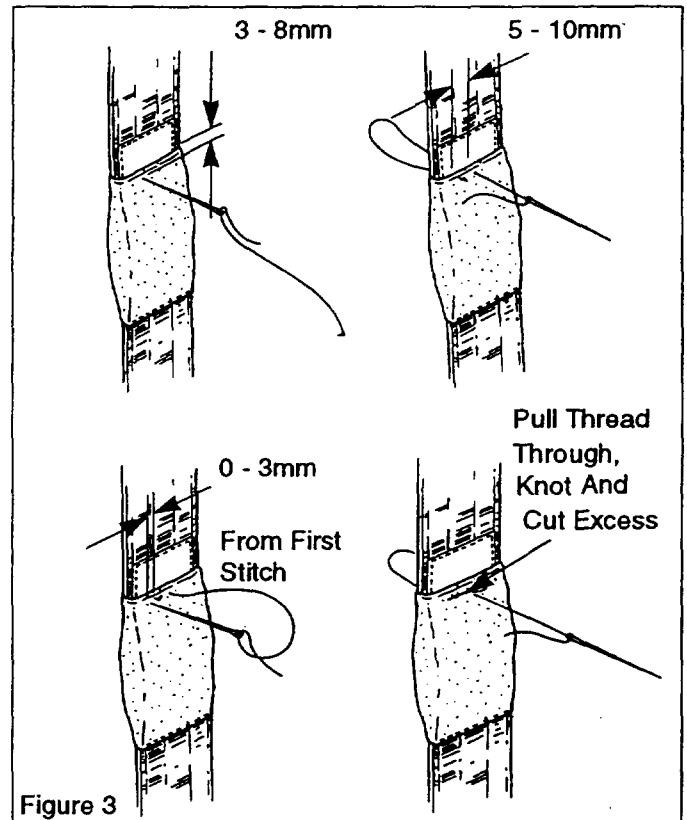
Parts Manager

**SLEEVE SEWING PROCEDURE**

1. Fold the seat belt fuse over the caution label as shown.
2. Slide the sleeve over the seat belt fuse.



3. Sew the sleeve in place as shown (Figure 3).
- NOTE:** The sleeve should be sewn above the seat



**WARRANTY INFORMATION**

*(Applies To Vehicles Covered Under Normal Warranty)*

Warranty Type: A  
 Customer Comment Code: 87  
 Damage Code: 99  
 Part Number Main Cause: **RX-7** FD01 57 630E 00, FD01 57 630E 17, FD01 57 630E 33  
**MX-5** NA01 57 630D 00, NA01 57 630D 17, NA01 57 630D 88  
 Operation Number: XX0619RX  
 Labor Hours: 0.3Hrs.

# Service Bulletin

*gjt*

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7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990

RVB



|               |                                 |                                             |              |        |
|---------------|---------------------------------|---------------------------------------------|--------------|--------|
| Category<br>S | Applicable Model/s<br>1993 RX-7 | Subject<br>WIND NOISE FROM THE DOOR WINDOWS | Bulletin No. | 002/93 |
|               |                                 |                                             | Issued       | 2/5/93 |
|               |                                 |                                             | Revised      |        |

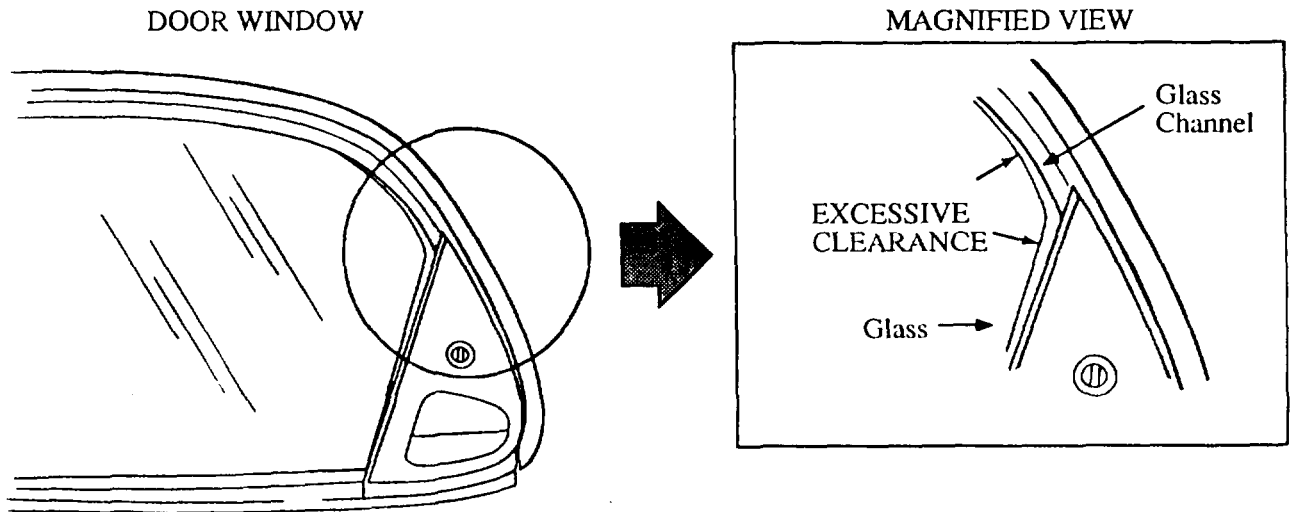
## AFFECTED VINS

This bulletin applies to 1993 vehicles with a VIN of JM1FD3◆◆◆P0205708 or lower produced through April 30, 1992.

This bulletin does not apply to vehicles with a VIN equal to or greater than VIN of JM1FD3◆◆◆P0205709 and produced after April 30, 1992.

## DESCRIPTION

Some vehicles may experience a wind noise from the right and left door windows (near the outside door handles). This noise is due to air entering the cabin area. When completely rolled up, the windows do not fit flush against the glass channel.



## REPAIR INFORMATION

Inspect the vehicle for excessive clearance. See figure above. If the above condition exists, replace the affected glass guide(s) with a modified part. See figure on next page. The glass guide has been modified to reduce the sliding resistance between the glass and glass channel. This modification makes the glass fit flush against the glass channel.

Removal and installation procedures are outlined in Section S of the applicable Workshop Manual.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
Service Manager

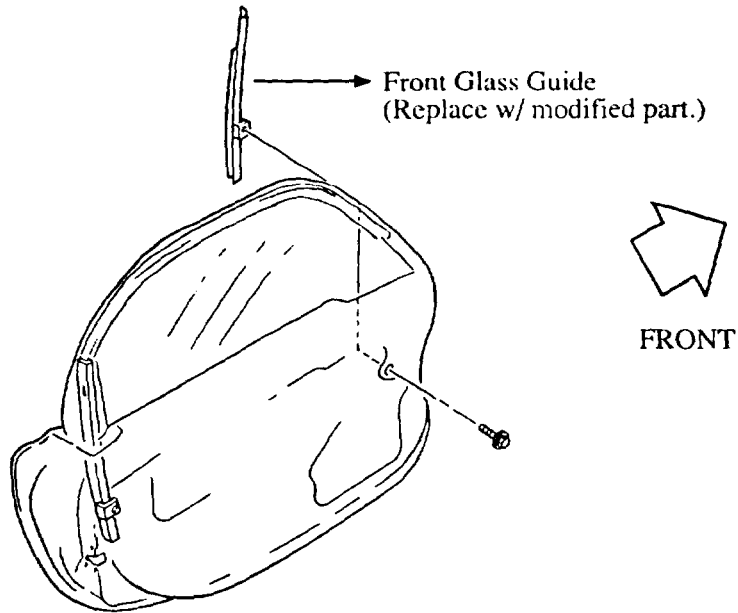
Signature \_\_\_\_\_  
Parts Manager

Index # **032676**



|                |                     |               |
|----------------|---------------------|---------------|
| Number: 002/93 | Date Issued: 2/5/93 | Date Revised: |
|----------------|---------------------|---------------|

**REPAIR INFORMATION (CONT'D)**



**PARTS INFORMATION**

| PART NUMBER  |              | DESCRIPTION           | INT | QTY |
|--------------|--------------|-----------------------|-----|-----|
| NEW          | OLD          |                       |     |     |
| FD01 58 601B | FD01 58 601A | Front Glass Guide (R) | A   | 1   |
| FD01 59 601B | FD01 59 601A | Front Glass Guide (L) | A   | 1   |

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty.)*

Warranty Type Code: A  
 Customer Comment Code: 82  
 Damage Code: 97  
 Part No. of Main Cause: FD01 58 601B, FD01 59 601B  
 Operation No: S1004XRX  
 Labor Hours: 0.6 hrs. (one side)

|                    |                                 |                                |                     |
|--------------------|---------------------------------|--------------------------------|---------------------|
| Category<br>S (08) | Applicable Model/s<br>See Below | Subject<br>SEAT BELT EXTENDERS | Bulletin No. 005/98 |
|                    |                                 |                                | Issued 04/22/98     |
|                    |                                 |                                | Revised 08/05/98    |

### BULLETIN REVISION NOTE

- The PART(S) INFORMATION section of this bulletin has been corrected and revised to include 1999 models.

### AFFECTED MODELS

See Parts Information

### DESCRIPTION

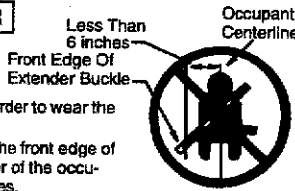
If a fully extended seat belt will not reach across the lap of the vehicle occupant, a seat belt extender may be available which can lengthened a seat belt by 8, 9 or 12 inches. Refer to the Parts Information on page two for applicable models and available lengths.

The following "Warning Label" is affixed to the seat belt extender. The proper usage and safety related warnings listed on the extender must be explained to the customer when the extender is delivered.

| LAP BELT EXTENDER                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NEVER USE:</b>                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>When lap strap will not adjust snugly to hips.</li> <li>When intersection of lap and upper torso straps (measured along the lap strap) is less than 6 inches from an imaginary center line of occupant's body.</li> </ul> |

NAVAJO and B-SERIES

| SEAT BELT EXTENDER                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>WARNING</b>                                                                                                                                                                                                                                                                                              |
| <p>Do Not Use Extender:</p> <ul style="list-style-type: none"> <li>Unless it is physically required in order to wear the vehicle's safety belt.</li> <li>If it causes the distance between the front edge of the extender buckle and the center of the occupant's body to be less than 6 inches.</li> </ul> |
| <p>Incorrect use of the extender may cause a serious injury. Use extender only in the vehicle and seating position it was provided for. Remove and stow when not in use by person it was provided for.</p>                                                                                                  |



ALL OTHER MODELS

It is also the dealer's responsibility to explain the following Owners Manual warning information to the customer:

### Warning

- Using a seat belt extender when not necessary is dangerous. The seat belt will be too long and not fit properly. In an accident, the seat belt will not provide adequate protection and you (customer) could be seriously injured. Only use the extender when it is required to fasten the seat belt properly.
- Using an extender that is too long is dangerous. The seat belt will not fit properly. In an accident, the seat belt will not provide adequate protection and you could be seriously injured. Do not use the seat belt extender or choose one shorter in length if the distance between the extender's buckle and the center of the user's body is less than 6 inches.
- Using a seat belt extender that is for another person or a different vehicle or seat is dangerous. The seat belt will not provide adequate protection and the user can be seriously injured in an accident. Only use the extender provided for you and for the particular vehicle and seat. Never use an extender in a different vehicle or seat.

### PARTS INFORMATION

(See table on page two.)

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

**PARTS INFORMATION - Seat Belt Extender Availability/Application**

| Yr./Model       | VIN                            | Seat Position |            |   |         |               |          |                 |                 |                  |    | Part Number |         |  |  |  |  |  |  |
|-----------------|--------------------------------|---------------|------------|---|---------|---------------|----------|-----------------|-----------------|------------------|----|-------------|---------|--|--|--|--|--|--|
|                 |                                | front seat    | 2nd seat   |   |         | separate seat | 3rd seat | 9 inch Extender | 9 inch Extender | 12 inch Extender |    |             |         |  |  |  |  |  |  |
|                 |                                |               | bench seat |   | 3 pass. |               |          |                 |                 |                  | LH | RH          | 3 pass. |  |  |  |  |  |  |
|                 |                                | 2 pass.       | L          | R | L       | R             | L        | R               | L               | R                |    |             |         |  |  |  |  |  |  |
| 89-90 MPV       | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 91-92 MPV       | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          | X | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 93-95 MPV       | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          | X | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 96-98 MPV       | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 95 PROTEGE      | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 96 PROTEGE      | JM1BB14**T0300001-<br>T0349419 | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 | JM1BB14**T0349420              | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 97-98 PROTEGE   | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 1989 PROTEGE    | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 94-95 MX-3      | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 94-97 MIATA     | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 99 MIATA        | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 93-97 G26/MX-6  | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 98-99 G26       | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 93-95 RX-7      | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 88-89 929       | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 92-95 929       | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 95-99 MILLENNIA | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 91-94 NAVAJAO   | (bright, side release buckle)  | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 91-94 NAVAJAO   | (black buckle)                 | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 94-97 B-SERIES  | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
| 98 B-SERIES     | ALL                            | X             |            |   |         |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |
|                 |                                |               | X          |   | X       |               |          |                 |                 |                  |    |             |         |  |  |  |  |  |  |

NOTE: It is the dealer's responsibility to explain to the customer that the extender should be used only at the designated seat position(s) as shown above.

|                |                       |                  |
|----------------|-----------------------|------------------|
| Number: 005/98 | Date Issued: 04/22/98 | Revised:08/05/98 |
|----------------|-----------------------|------------------|

**WARRANTY INFORMATION**

|                        |                            |
|------------------------|----------------------------|
| Warranty Type          | A                          |
| Symptom Code           | 99                         |
| Damage Code            | 99                         |
| Part Number Main Cause | Refer to Parts Information |
| Quantity               | 1                          |
| Operation Number       | N/A                        |
| Labor Hours            | N/A                        |

# Service Bulletin

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Telephone (714) 727-1990



|               |                                 |                                            |              |         |
|---------------|---------------------------------|--------------------------------------------|--------------|---------|
| Category<br>S | Applicable Model/s<br>1993 RX-7 | Subject<br>NOISE FROM THE REAR HATCH HINGE | Bulletin No. | 010/93  |
|               |                                 |                                            | Issued       | 2/26/93 |
|               |                                 |                                            | Revised      |         |

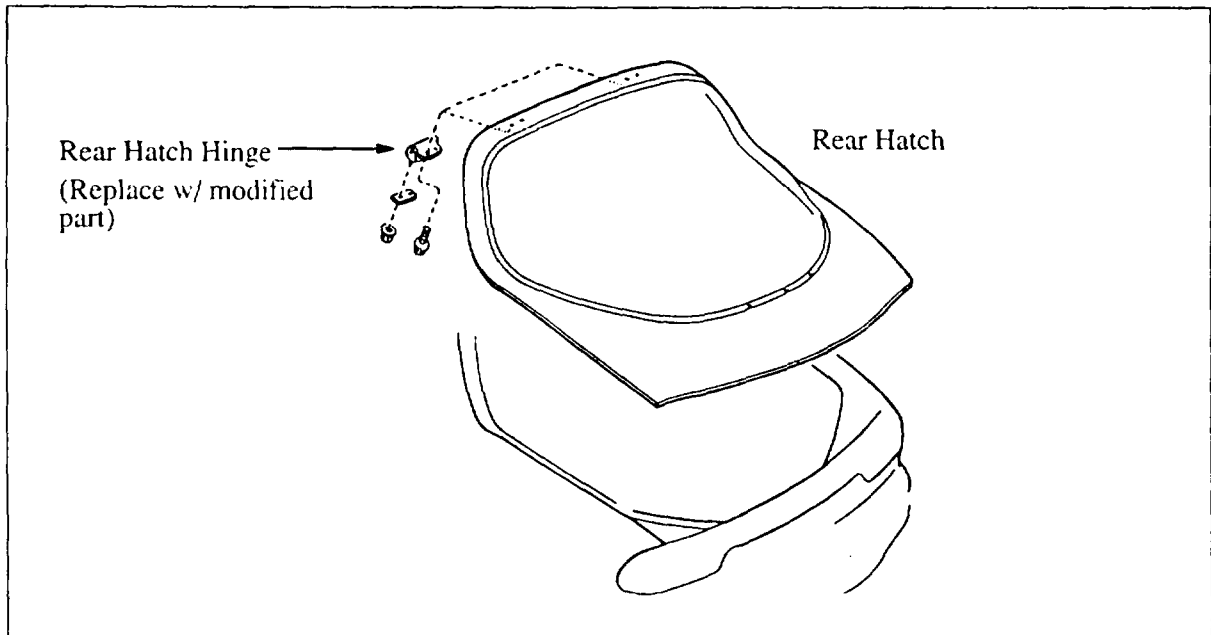
## AFFECTED VINS

This bulletin applies to vehicles with a VIN of JM1FD◆◆◆◆P0210513 or lower produced through November 30, 1992.

This bulletin does not apply to vehicles with a VIN equal to or greater than JM1FD◆◆◆◆P0210514 and produced after November 30, 1992.

## DESCRIPTION

On some vehicles, noise may be heard from the rear hatch hinges. This noise is most evident when driving on rough roads or going over bumps.



## REPAIR PROCEDURE

If the above condition exists, replace the rear hatch hinges with a modified part. The modified part has been improved to eliminate the noise.

Removal and Installation procedures are outlined in Section S of the applicable Workshop Manual.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Signature \_\_\_\_\_

Service Manager

Parts Manager

|                |                      |               |
|----------------|----------------------|---------------|
| Number: 010/93 | Date Issued: 2/26/93 | Date Revised: |
|----------------|----------------------|---------------|

**PARTS INFORMATION**

| PART NUMBER  |              | DESCRIPTION      | QTY | INT. CODE |
|--------------|--------------|------------------|-----|-----------|
| NEW          | OLD          |                  |     |           |
| FD01 62 210C | FD01 62 210A | Rear Hatch Hinge | 2   | AN        |

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty.)*

Warranty Type Code: A  
Customer Comment Code: 82  
Damage Code: 98  
Part No. of Main Cause: FD01 62 210C  
Operation No.: S1203XRX  
Labor Hours: 1.3 Hrs.

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|               |                                 |                                                            |              |         |
|---------------|---------------------------------|------------------------------------------------------------|--------------|---------|
| Category<br>S | Applicable Model/s<br>1993 RX-7 | Subject<br>SQUEAKING NOISE WHEN OPENING<br>OR CLOSING DOOR | Bulletin No. | 010/94  |
|               |                                 |                                                            | Issued       | 2/11/94 |
|               |                                 |                                                            | Revised      |         |

### APPLICABLE MODELS/VINS

1993 RX-7 - Vehicles with a VIN of JM1FD33\*\*P0200001 through JM1FD33\*\*P0210664

**NOTE:** The asterisk (\*) in the VIN range can be any number (0 through 9) or "X".

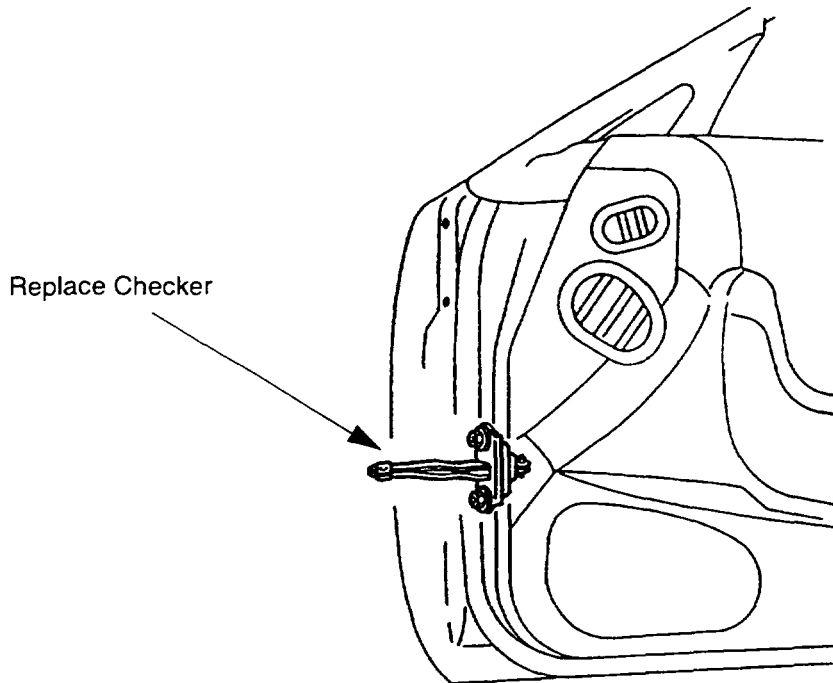
+

### DESCRIPTION

When opening or closing the door a squeaking sound may be heard. This is caused by the door checker.

To correct this problem, the checker has been modified.

Follow the procedures listed in section S of the workshop manual to replace the door checker for customers complaining of this noise.



### PARTS INFORMATION

| Part Number  |              | Description  | Qty. | Applicable |
|--------------|--------------|--------------|------|------------|
| New          | Old          |              |      |            |
| FD01 58 270B | FD01 58 270A | Door Checker | 2    | RX-7       |

Index # **037574**

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

|                |                      |          |
|----------------|----------------------|----------|
| Number: 010/94 | Date Issued: 2/11/94 | Revised: |
|----------------|----------------------|----------|

**WARRANTY INFORMATION**

*(Applies To Vehicles Covered Under Normal Warranty)*

Warranty Type: A  
Customer Comment Code: 72  
Damage Code: 92  
Part Number Main Cause: FD01 58 270B  
Quantity: 1  
Operation Number: S1006XRX (one side)  
Labor Hours: 0.5 Hrs.  
Location Code: RHD (right side)  
LHD (left side)

**NOTE:** If both door checkers are replaced, 2 claims will be required. Use the above Operation Number and Location Code when submitting the claims.



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# MAZDA

|               |                                    |                                                                         |                                                   |
|---------------|------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------|
| Category<br>S | Applicable Model/s<br>1993-95 RX-7 | Subject<br>RATTLING NOISE FROM DASHBOARD<br>AT IDLE WITH BRAKES APPLIED | Bulletin No. 011/97<br>Issued 05/19/97<br>Revised |
|---------------|------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------|

## DESCRIPTION

A rattling noise may be heard from the dashboard when pressing the brake pedal at idle. This noise is transmitted through the body by the check valve operating in the brake vacuum line. Customers complaining of this noise should have the vehicle inspected and if necessary, repaired according to this bulletin.

**NOTE:** This noise may occur after performing "Brake Vacuum Hose" recall campaign #65609.

## REPAIR PROCEDURE

1. Verify the concern.
2. Loosen the two (2) bolts attaching the vacuum pipe to the cowl panel.
  - Remove and discard brake booster side bolt only.
3. Install a rubber mount into the attaching bolt hole.
4. Tighten rubber mount into the firewall.  
**Tightening Torque:** 0.7 - 1.1 kgf-m (5 - 8 ft-lbs)
5. Install vacuum pipe to the rubber mount, retighten bolt loosened in step 2.  
**Tightening Torque:** 0.7 - 1.1 kgf-m (5 - 8 ft-lbs)

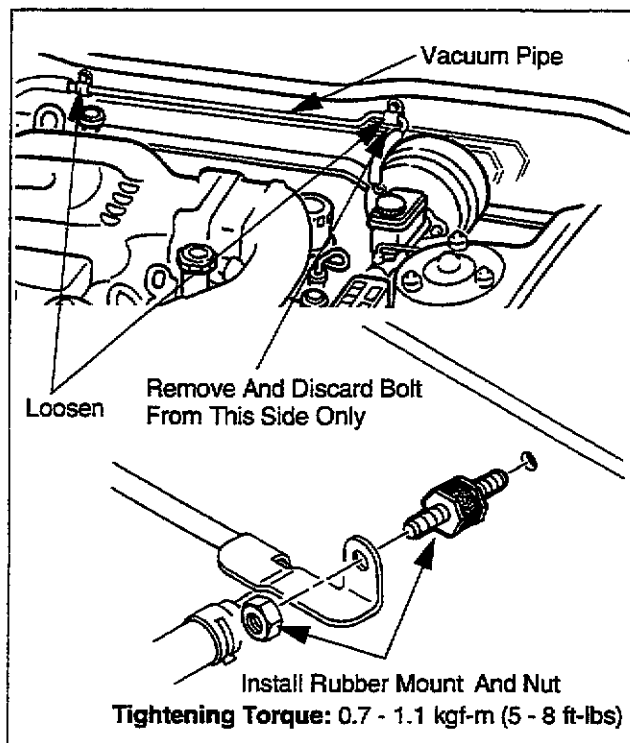
## PARTS INFORMATION

| Part Number | Description      | Qty. |
|-------------|------------------|------|
| F285-13-363 | Rubber, Mounting | 1    |
| 9994-00-600 | Nut, Flange      | 1    |

## WARRANTY INFORMATION

*(Applies To Verified Customer Complaints On Vehicles Covered Under Normal Warranty. Refer To The SRT Microfiche For Warranty Term Information).*

Warranty Type: A  
Symptom Code: 80  
Damage Code: 9G  
Part Number Main Cause: F285-13-363  
Quantity: 1  
Operation Number: XX921XRX  
Labor Hours: 0.2 Hrs.



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|                    |                                 |                                    |                                                   |
|--------------------|---------------------------------|------------------------------------|---------------------------------------------------|
| Category<br>S (09) | Applicable Model/s<br>SEE BELOW | Subject<br>WIND NOISE AROUND DOORS | Bulletin No. 018/98<br>Issued 07/29/98<br>Revised |
|--------------------|---------------------------------|------------------------------------|---------------------------------------------------|

### APPLICABLE MODEL(S)/VINS

All models except Miata and MX-6.

### DESCRIPTION

Wind noise around doors may occur with some vehicles. This may be caused by the door weather-strip seal.

Customers complaining of this should have their vehicle inspected and repaired according to this service bulletin.

### REPAIR PROCEDURE

1. Verify customer complaint.
2. Examine weather-strip for the following conditions:
  - Rips, tears, cuts
  - Loose or falling off
  - Excessive deterioration
  - If the weather-strip has any of the above conditions, replace it. Go to step 3.
  - If weather-strip does not have any of the above conditions, but wind noise still exists, proceed to the "Card Test" below.

#### Card Test

- A. Open the door and insert a business card (0.2MM thickness) between the door and the weather-strip at the base of the A-pillar. Close the door.
- B. Slide the business card up along the A-pillar.
  - If the card slides easily at any location along the A-pillar, the sealing contact between the door is insufficient and requires adjustment. Proceed to "DOOR ADJUSTMENT".
  - If there is consistent resistance, proceed to the "White Grease Test".

#### **Note**

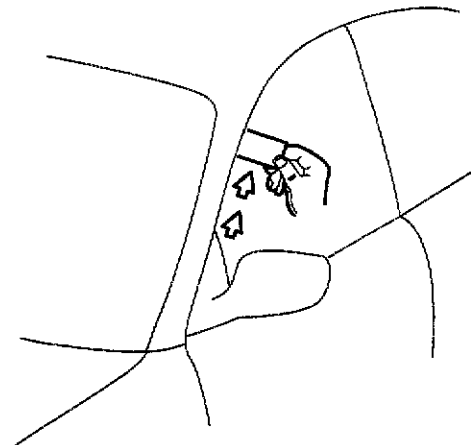
- The card test can only be used to evaluate the A-pillar sealing contact. Use the following "White Grease Test" to evaluate the rest of the weather-strip.

#### White Grease Test

- A. Roll down windows and adequately cover all interior surfaces to prevent contact with grease.
- B. Thoroughly and evenly spray the sheet metal surface of the body that seals against the weather-strip on the door.

#### **Note**

- It is recommended that you use KAR Products #78620 "Multi-purpose white grease (aerosol spray)" or equivalent.
- Do not spray the weather-strip.



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- C. Using only the door handle, very gently close the door. This will prevent over-slam which could result in an inaccurate reading.
- D. Open the door and measure the width of the grease pattern that is left along the length of the weather-strip (check for any unevenness in width).
- If 4mm or more, sealing contact is adequate if door closing effort is acceptable. Clean grease from vehicle.
  - If 3mm or less, sealing contact is insufficient. Clean grease from vehicle and proceed to "DOOR ADJUSTMENT".

#### **Door Adjustment**

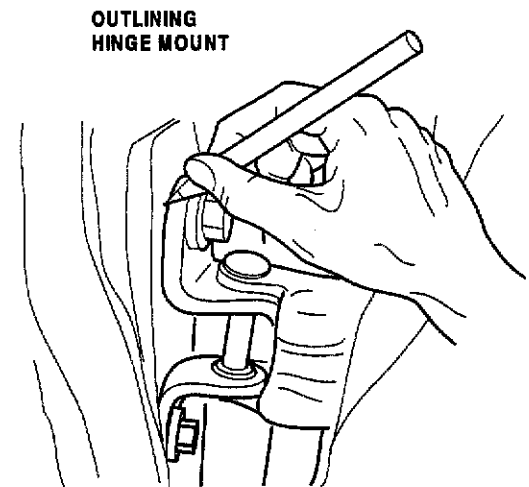
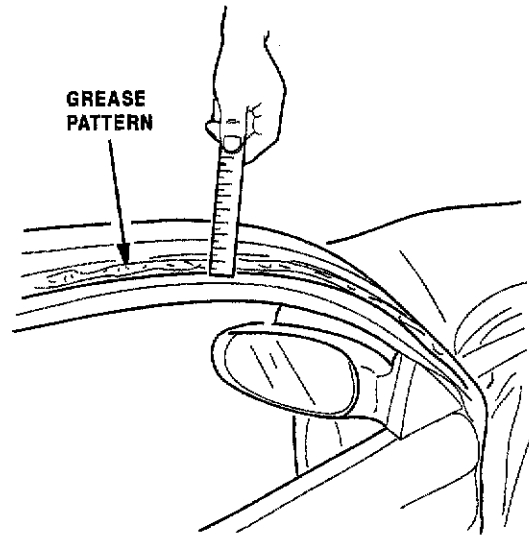
The door should be adjusted to obtain the proper seal compression while maintaining proper door alignment. The hinges control the in/out location of the door at the front as well as overall tip or tilt of the door when viewed from the front or rear. The door striker controls the in/out location of the door at the rear latch.

#### **Caution**

- **Do not pry or force the door into alignment.**

In addition to Workshop Manual procedures for door alignment, the following information tips are provided

- As a guideline, if the weather-strip contact is insufficient, the door hinge(s) should be adjusted 2-4 mm inward. Determine the amount of movement by outlining the hinge mount area before door adjustment and after.
- Adjusting one hinge at a time will prevent any extreme door movement. This is done by loosening the hinge bolts and moving the door with a padded pry bar just enough to permit movement of the door.
- Hinges should be adjusted first, followed by the striker.
- Adjustment to the rear door(s), if applicable, may require adjustments to the front door and possibly to the front fender to maintain alignment.
- Door closing effort should be checked to ensure that it remains acceptable after adjustments are completed. If any doors are too difficult to close, the seal compression may be excessive and adjustment will need to be repeated.
- After completing adjustments, verify seal compression by using the card test and white grease test.



### 3. Verify repair.

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|               |                                    |                                  |                     |
|---------------|------------------------------------|----------------------------------|---------------------|
| Category<br>S | Applicable Model/s<br>1993-94 RX-7 | Subject<br>DOOR MIRROR VIBRATION | Bulletin No. 020/95 |
|               |                                    |                                  | Issued 6/16/95      |
|               |                                    |                                  | Revised             |

## APPLICABLE MODELS/VINS

RX-7 model vehicles with a VIN of JM1FD333\*R0301491 and lower.

## DESCRIPTION

The door mirror may vibrate while driving on bumpy roads. This vibration may be caused by loose mirror mounting screws. To prevent the screws from loosening, a thread locking agent has been added during mass production. Customers complaining of this concern should have the vehicle repaired according to this bulletin.

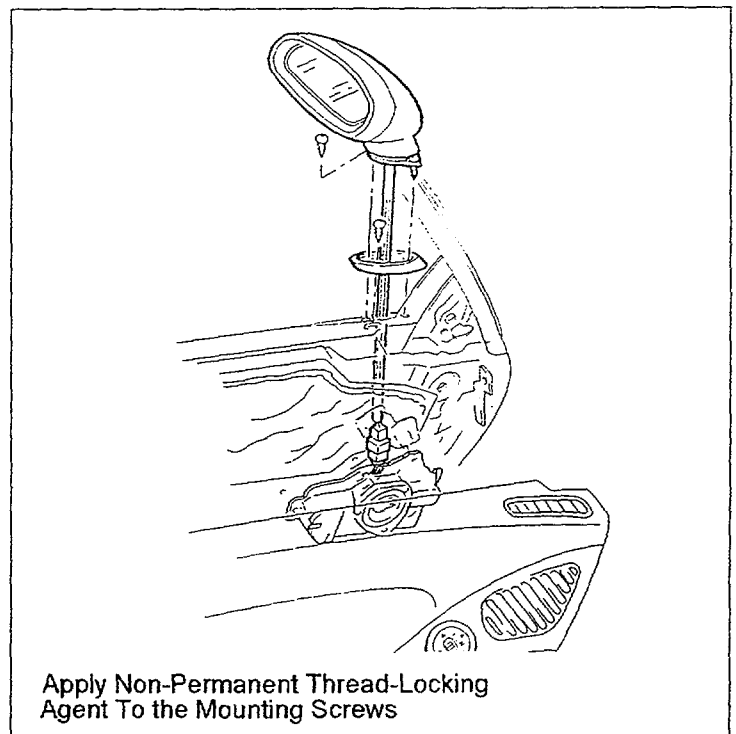
**NOTE:** Place a copy of this bulletin in your edition of the NVH manual for future reference.

## REPAIR PROCEDURES

1. Verify the complaint.
2. Remove the mirror from the door. Refer to section S of the workshop manual for removal instructions.

**NOTE:** Mirror wiring harness removal is not necessary.

3. Apply a non-permanent thread locking compound (Loctite 242 or equivalent) to the three (3) mounting screws and install the mirror.
4. Verify the repair.



## WARRANTY INFORMATION

*(Applies To Verified Customer Complaints On Vehicles Covered Under Normal Warranty. Refer To The SRT Micofiche For Warranty Term Information).*

Warranty Type: A  
 Symptom Code: 83  
 Damage Code: 9G  
 Part Number Main Cause: FD01 76 120 \*\* (Right Door)  
 FD01 76 180 \*\* (Left Door)  
 Quantity: 0  
 Operation Number: XX0739RX  
 Labor Hours: 0.3 (both sides)

**NOTE:** \*\* in the PNMC designates the applicable color code

Index # 043190

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

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|               |                                                  |                                                                   |                     |
|---------------|--------------------------------------------------|-------------------------------------------------------------------|---------------------|
| Category<br>S | Applicable Model/s<br>1989 to 1998<br>All Models | Subject<br>PRE-PAINTING PREPARATION FOR<br>FRONT AND REAR BUMPERS | Bulletin No. 020/97 |
|               |                                                  |                                                                   | Issued 10/23/97     |
|               |                                                  |                                                                   | Revised             |

**NOTE:** This bulletin replaces the previously issued bulletin (Cat. S 031/95).

## APPLICABLE MODELS/VINS

All 1989 - 98 model vehicles

## DESCRIPTION

Prepare replacement bumpers for painting according to the instructions in this bulletin.

**NOTE:** Service Managers are requested to distribute these instructions to bodyshop personnel.

## PREPARATION PROCEDURE

1. Soak a terry cloth towel in isopropyl alcohol.

**CAUTION:** Grease / Wax remover that contains "Naptha" based solvent (ex. PPG DX-330) may remove the bumper's factory primer. If this occurs, the bumper will require primer application prior to painting.

2. Clean the entire surface with the alcohol soaked towel.
3. Allow bumper to air dry.

**NOTE:** The bumper must be completely dry before painting.

4. Remove any lint threads remaining on the bumper with compressed air.
5. Paint the bumper according to the paint manufacturer's instructions.

**NOTE:** A sample of painting procedure is attached. Bodyshops using other paint manufacturers should follow their bumper painting procedures.

## SUPPLIES REQUIRED

|                        |                                                                    |
|------------------------|--------------------------------------------------------------------|
| Terry Cloth Towel      | Available Locally                                                  |
| Isopropyl Alcohol      | Available Locally                                                  |
| PPG Multi-Prep (DX103) | Optional - Available through authorized PPG distribution locations |

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# Service Bulletin

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|               |                                |                                    |                     |
|---------------|--------------------------------|------------------------------------|---------------------|
| Category<br>S | Applicable Model/s<br>1992-'93 | Subject<br>TRANSIT COATING REMOVAL | Bulletin No. 026/92 |
|               |                                |                                    | Issued 4/2/92       |
|               |                                |                                    | Revised             |

## DESCRIPTION

1992 and 1993 model year vehicles will be delivered to the dealerships with a water soluble transit coating to protect the vehicle's finish from environmental damage.

Coated vehicles are identified by a label attached inside the windshield on the passenger side. This label contains the date the transit coating must be removed (90 days from the time of application). Leaving coating on for extended periods is not advised.

A special solution must be used to remove this transit coating. Removal instructions are included in this bulletin.

## PARTS INFORMATION

| PART NUMBER     | DESCRIPTION             | QUANTITY                          |
|-----------------|-------------------------|-----------------------------------|
| 0000 77 0092 TC | Transit Coating Remover | 1 = 5 gals. (approx. 40 vehicles) |

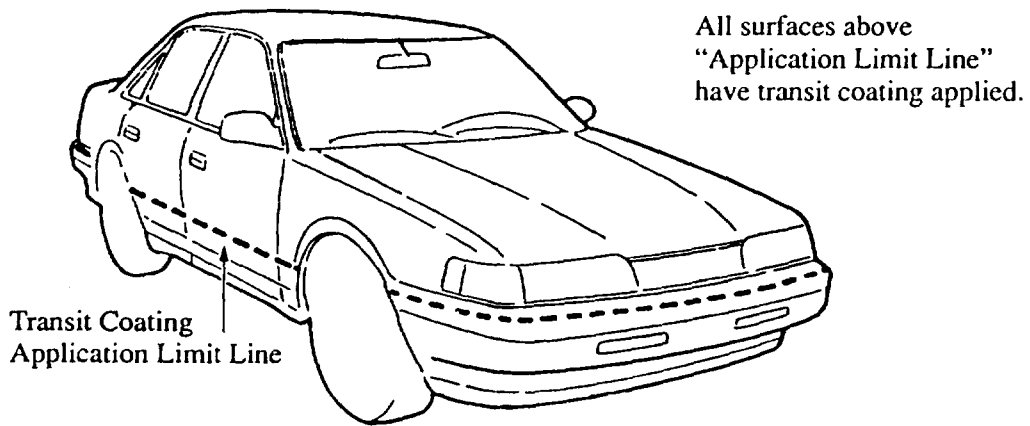


Figure 1: Transit Coating Protection

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Signature \_\_\_\_\_

.....  
Service Manager

Parts Manager

Index # **029143**  
.....

|                |                     |               |
|----------------|---------------------|---------------|
| Number: 026/92 | Date Issued: 4/2/92 | Date Revised: |
|----------------|---------------------|---------------|

## GENERAL INFORMATION

Read all product safety labels before using transit coating remover. Refer to Material Safety Data Sheet (attached) for special safety and handling precautions.

This coating is water based, not wax or cosmoline, and is biodegradable. However, the remover is a highly caustic substance requiring strict safety procedures. Also, wastewater discharge regulations in your area may require special treatment or handling of this product before discharge into local sewer systems. Be sure to check local regulations to see if a special permit is required.

## REQUIRED MATERIALS

- Hand-held container sprayer (2–3 gallon capacity)
- Clean, dry towels
- Clean, soft, fibrous wash mitten
- Full face splash shield (this material is highly irritating to skin as well as eyes)
- Long sleeve shirt, long pants and rubber protective apron
- Rubber gloves – to prevent drying on skin
- Garden hose hooked up to clear water supply for rinsing
- Pressure washer system (if available)

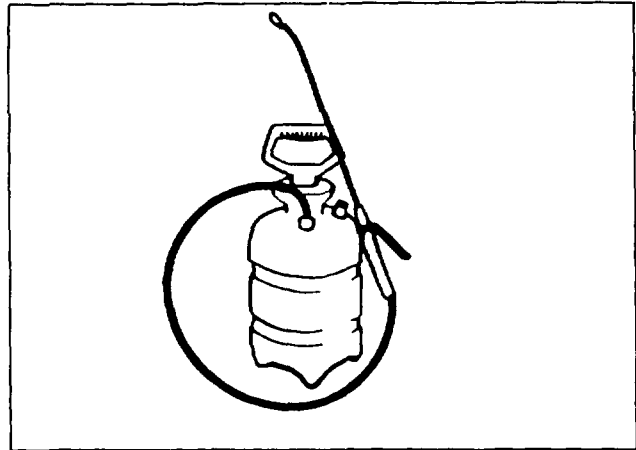


Figure 2: Container Sprayer

## COATING REMOVAL

### Step 1 – Work Area:

Work area should be protected from the wind and sun (preferably inside). If outside, work area must be shaded. The area must be well ventilated (inhalation of concentrated amounts can cause irritation to mucous membranes).

### CAUTION:

It is very important that the remover does not evaporate while on the vehicle.  
Keep the surface wet at all times.

### Step 2 – Mixing Instructions:

Fill the sprayer with eight (8) quarts of cold water. Pour one (1) quart of transit coating remover into the sprayer and mix the solution. If more solution is required, maintain a mixture ratio of 8:1.

**ALWAYS POUR TRANSIT COATING REMOVER INTO A CONTAINER OF WATER. NEVER POUR WATER INTO THE TRANSIT COATING REMOVER. FACE PROTECTION AND PROTECTIVE CLOTHING SHOULD BE WORN WHILE MIXING THE TRANSIT COATING REMOVER WITH WATER.**

### WARNING:

Observe the cautions on the transit coating remover label to prevent eye, skin or other injuries.

### Step 3 – Vehicle Preparation:

Make sure the sheet metal temperature of the vehicle is 21–29°C (70–85°F) during the removal procedure. If vehicle is too cold, remover reacts very slowly. If vehicle is too hot, remover will evaporate.

|                |                     |               |
|----------------|---------------------|---------------|
| Number: 026/92 | Date Issued: 4/2/92 | Date Revised: |
|----------------|---------------------|---------------|

**Step 4 – Removal Procedure:**

**CAUTION:**

**Do not apply the remover solution with a wash mitten, use only the sprayer. Using a mitten to apply the remover will cause paint scratching.**

1. Thoroughly rinse the vehicle to remove loose dirt and grit.

If vehicle has been in inventory and is extremely dirty, wash with automotive detergent and water. Thoroughly rinse with clear water.

**NOTE:**

If available use pressure washer spray system.

2. Using the sprayer, apply the remover to the transit coating. Start at the roof and work down. Make sure all surfaces including glass, rubber and trim are completely saturated.
3. After making one (1) complete pass over the vehicle, continue with a second pass.
4. This second pass should remove all traces of the coating along with debris embedded in the coating. Each pass should take about 2-1/2 minutes.

**CAUTION:**

**Do not allow the remover to dry.**

**If the remover dries, it will be much harder to remove the transit coating.**

5. Using a soft, fibrous wash mitten, immediately start to rub the remover (IN GENTLE CIRCULAR MOTIONS) into the transit coating. Do this quickly before the remover dries.
6. Immediately rinse off the remover and dry the vehicle to prevent water spots.

**CAUTION:**

**Inspect vehicle to make sure all traces of transit coating are rinsed off. Pay particular attention to trunk lid, grill and hood areas.**

7. To remove any remaining transit coating, mix a stronger 1:1 ratio of solution (1 part water to 1 part remover).
8. Using this stronger solution, apply it directly to the affected areas. Allow the remover to soak for about one (1) minute. Repeat steps 5 and 6.

**DO NOT USE EXCESSIVE PRESSURE TO REMOVE TRANSIT COATING.**

**NOTE:**

Isopropyl Alcohol may be used to remove small spots of transit coating.

**WARRANTY INFORMATION**

Established PDI time covers transit coating removal.



# MATERIAL SAFETY DATA SHEET

## Section I

|                                                                                                                             |                                                   |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| <b>Product Name or Number (as it appears on label)</b><br>YUMAGE ST-210                                                     | <b>Date</b><br>February, 1991                     |
| <b>Manufacturer's Name</b><br>YUMA INDUSTRIES INCORPORATED                                                                  | <b>Emergency Phone #</b><br>CHEMTREC 800-424-9300 |
| <b>Address (Number, Street, City, State, &amp; Zip Code)</b><br>Road One Hundred North, Shelbyville, IN 46176-9720          |                                                   |
| <b>Hazardous Material Description, Proper Shipping Name</b><br>Corrosive Liquid n.o.s., (contains monoethanolamine), UN1760 |                                                   |
| <b>Additional Hazard Classes (as applicable)</b><br>None                                                                    |                                                   |
| <b>Chemical Family</b><br>Water Miscible Cleaner                                                                            | <b>Formula</b><br>See Section II                  |

## Section II – Ingredients

| CAS<br>REGISTRY # | WT%   | CHEMICAL NAME (S)                                      | Listed as a carcinogen in<br>NTP, IARC, or OSHA 1910(z)<br>(specify) |
|-------------------|-------|--------------------------------------------------------|----------------------------------------------------------------------|
| 141-43-5          | 20-39 | Monoethanolamine<br>ACGIH-TLV/TWA=8mg/m3, STEL=15mg/m3 | Not listed                                                           |
| 25322-68-3        | 1-9   | Polyethylene glycol                                    | Not listed                                                           |
| 68511-39-7        | 1-9   | Anionic surfactant                                     | Not listed                                                           |
| 5131-66-8         | 1-9   | Ampholyic solvent                                      | Not listed                                                           |
| 1310-58-3         | 1-9   | Potassium hydroxide                                    | Not listed                                                           |
| 64-02-8           | 1-9   | Tetrasodium ethylenediaminetetraacetate                | Not listed                                                           |
| Balance Water     |       |                                                        |                                                                      |

## Section III – Physical Data

|                                                       |                                                             |                                                          |
|-------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------|
| <b>Boiling Point</b><br>Not available                 | <b>Specific Gravity</b><br>(H <sub>2</sub> O=1) @ 15°C 1.04 | <b>Odor Threshold (ppm)</b><br>Not available             |
| <b>Vapor Pressure</b><br>Not available                | <b>Percent Volatile (Vol.%)</b><br>Not available            | <b>Percent Solid (Wt.%)</b><br>Not available             |
| <b>Vapor Density</b><br>Not available                 | <b>Evaporation Rate</b><br>Not available                    | <b>Freezing Point (°C)</b><br>Not available              |
| <b>Solubility in Water</b><br>100%                    | <b>pH=</b><br>13.5                                          | <b>Material is</b><br>Liquid                             |
| <b>Appearance &amp; Odor</b><br>Clear with amine odor |                                                             | <b>Volatile Organic Compounds (VOC)</b><br>Not available |

## Section IV – Fire & Explosion Hazard Data

|                                                                   |                                |                                                  |                                                        |
|-------------------------------------------------------------------|--------------------------------|--------------------------------------------------|--------------------------------------------------------|
| <b>Flash Point</b><br>Not applicable                              | <b>Method Used</b><br>P.M.C.C. | <b>Flammable Limits</b><br>LEL/UEL Not available | <b>Auto-ignition Temperature</b><br>(°C) Not available |
| <b>Extinguishing Media</b><br>As appropriate for surrounding fire |                                |                                                  |                                                        |
| <b>Special Fire Fighting Procedures</b><br>None                   |                                |                                                  |                                                        |
| <b>Unusual Fire &amp; Explosion Hazards</b><br>None               |                                |                                                  |                                                        |

## Section V – Health Hazard Data

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Threshold Limit Value</b><br>See Section II                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Effects of Overexposure – Conditions to Avoid</b><br>Contact with eyes may cause severe irritation with corneal injury. Short single contact with the skin may cause burns. Ingestion may cause gastrointestinal irritation and burns to mouth and throat.                                                                                                                                                                                                  |
| <b>Primary Routes of Entry</b><br>Inhalation [ ]    Eye Contact [ ]    Skin Contact [ X ]    Ingestion [ ]                                                                                                                                                                                                                                                                                                                                                     |
| <b>Emergency &amp; First Aid Procedures</b><br>Eyes:        Immediate and continuous flushing with water for at least 30 minutes is imperative. Get medical attention immediately.<br>Skin:        Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Call physician if irritation persists.<br>Inhalation:    Remove to fresh air.<br>Ingestion:    If large quantities are ingested, pump stomach. |
| In every case get medical attention as required.                                                                                                                                                                                                                                                                                                                                                                                                               |

## Section VI – Reactivity Data

|                                                                                                                                          |                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>Stability</b><br>Unstable [ ]    Stable [ X ]                                                                                         | <b>Hazardous Polymerization</b><br>May Occur [ ]    Will Not Occur [ X ] |
| <b>Conditions to Avoid</b><br>None                                                                                                       |                                                                          |
| <b>Incompatibility (materials to avoid)</b><br>Avoid strong oxidizing agents, strong acid and nitrites.                                  |                                                                          |
| <b>Hazardous Decomposition Products</b><br>Thermal decomposition may produce CO, CO <sub>2</sub> , NO <sub>x</sub> and SO <sub>x</sub> . |                                                                          |

## Section VII – Spill or Leak Procedures

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**Steps To Be Taken In Case Material Is Released Or Spilled**

Mop up or use dry absorbent.

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**Waste Disposal Method**

Dispose of in accordance with local, state and federal regulations.

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## Section VIII – Special Protection Information

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**Respiratory Protection (specify type)**

None

---

**Ventilation****Local Exhaust (specify rate)**

Not normally required

**Special**

None

---

**Mechanical (general) (specify rate)**

General room ventilation should be sufficient.

**Other**

None

---

**Protective Gloves (specify type)**

Neoprene or rubber

**Eye Protection (specify type)**

Chemical goggles

---

**Other Protective Equipment**

Wear protective clothing as required to minimize contact.

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## Section IX – Special Precautions

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**Precautions To Be Taken In Handling & Storing**

Keep container closed. Wear protective gloves and chemical goggles. Wash thoroughly after handling.

---

**Other Precautions**

None

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# Service Bulletin

T

Mazda Motor of America, Inc.  
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Irvine, California 92718  
Telephone (714) 727-1990



|               |                                 |                                      |                     |
|---------------|---------------------------------|--------------------------------------|---------------------|
| Category<br>S | Applicable Model/s<br>1993 RX-7 | Subject<br>OUTER DOOR HANDLE RATTLES | Bulletin No. 026/93 |
|               |                                 |                                      | Issued 5/26/93      |
|               |                                 |                                      | Revised             |

## APPLICABLE VINS

1993 RX-7 – Vehicles with a VIN of JM1FD332\*P0200001 through JM1FD332\*P0210577

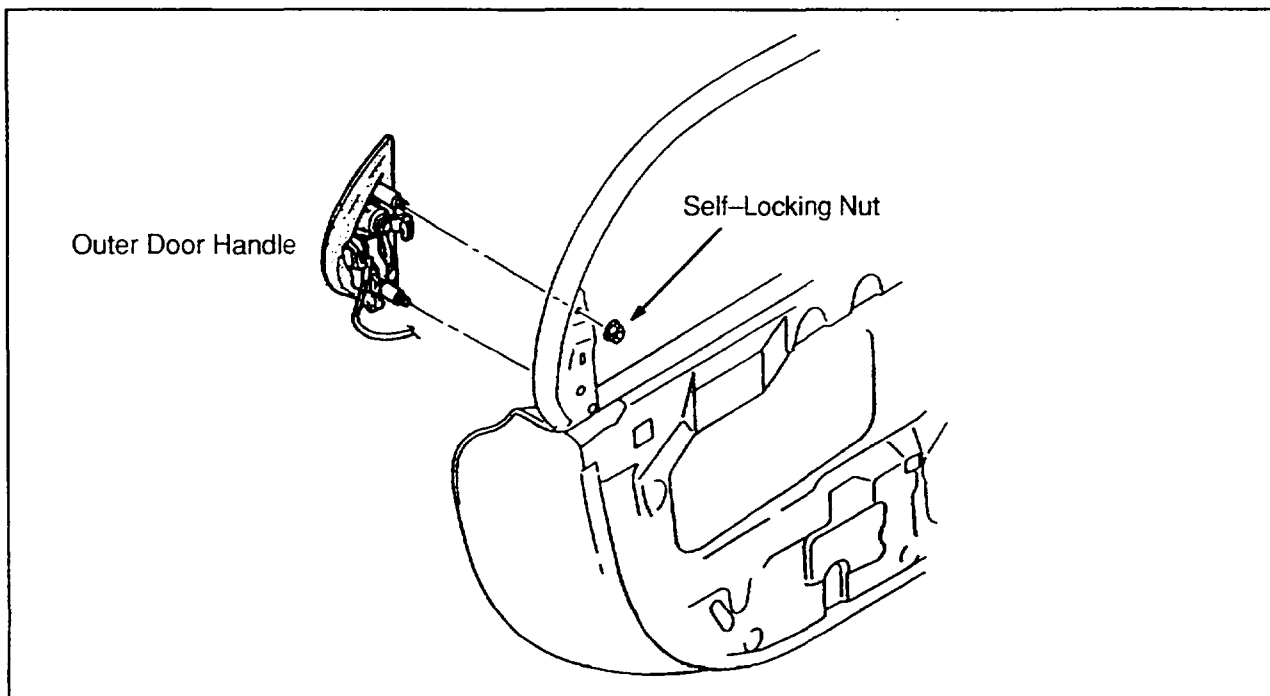
## DESCRIPTION

A rattling noise may be heard around the outer door handle area while the vehicle is being driven. This is caused by loose door handle nuts.

## REPAIR PROCEDURE

If a rattling noise is heard, replace the original door handle nuts with the replacement parts (self-locking type nuts).

Removal and Installation procedures are outlined in Section S of the applicable Workshop Manual.



**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Signature \_\_\_\_\_

..... Service Manager

Parts Manager

Index # 034335

|                |                      |               |
|----------------|----------------------|---------------|
| Number: 026/93 | Date Issued: 5/26/93 | Date Revised: |
|----------------|----------------------|---------------|

**PARTS INFORMATION**

| PART NUMBER | DESCRIPTION      | QTY | REMARKS  |
|-------------|------------------|-----|----------|
| 9YB0 40 603 | Self Locking Nut | 2   | One Door |

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty.)*

Warranty Type Code: A  
 Customer Comment Code: 82  
 Damage Code: 99  
 Part No. of Main Cause: 9YB0 40 603  
 Operation No.: XX0566R1 (One Door)  
                                   XX0566R2 (Two Doors)  
 Labor Hours: 0.3 Hrs. (One Door)  
                                   0.4 Hrs. (Two Doors)

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# MAZDA

|               |                                 |                                         |                     |
|---------------|---------------------------------|-----------------------------------------|---------------------|
| Category<br>S | Applicable Model/s<br>See Below | Subject<br>DIRT ON SEAT BELT AND ANCHOR | Bulletin No. 028/96 |
|               |                                 |                                         | Issued 06/27/96     |
|               |                                 |                                         | Revised             |

## AFFECTED MODELS

All Models except Navajo and B-Series

## DESCRIPTION

Dirt accumulating on the seat belt anchor or webbing may restrict seat belt travel over the anchor. This may cause some customers to complain that the seat belt will not retract or requires effort to pull out. Customers with this concern should have the belt inspected and serviced according to this bulletin.

## SERVICE PROCEDURE

1. Clean the seat belt contact area and sash guide.

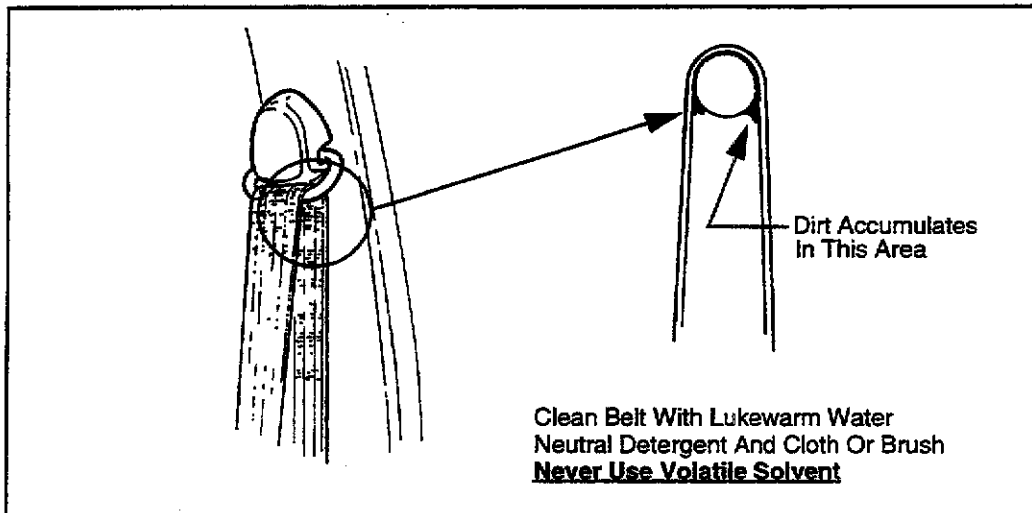
**NOTE:** Use a brush or cloth, lukewarm water and neutral detergent.

**CAUTION:** Do not use volatile solvent for cleaning, this substance may affect the seat belt strength.

2. Verify seat belt operation.

- If the seat belt is not operating smoothly, refer to the workshop manual for troubleshooting procedures.

**NOTE:** The seat belt will not retract smoothly while wet. Allow seat belt to dry before verifying operation.



**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

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|               |                                 |                                         |                     |
|---------------|---------------------------------|-----------------------------------------|---------------------|
| Category<br>S | Applicable Model/s<br>1993 RX-7 | Subject<br>POWER WINDOW OPERATION NOISE | Bulletin No. 031/93 |
|               |                                 |                                         | Issued 6/16/93      |
|               |                                 |                                         | Revised             |

## APPLICABLE MODEL/VINS

1993 RX-7

Vehicles with a VIN of JM1FD33\*\*P0200001 through JM1FD33\*\*P0210508

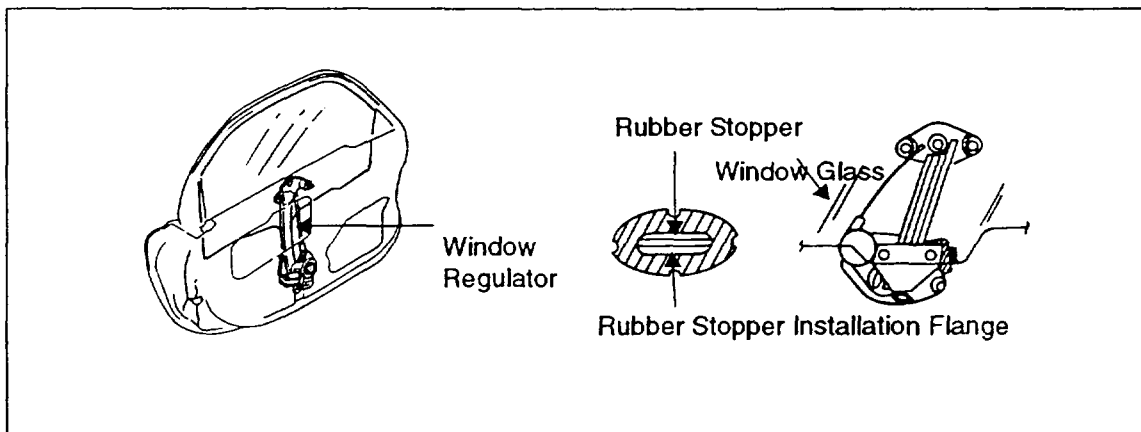
## DESCRIPTION

A bumping noise may be heard inside the door panel when the power window is fully opened.

A rubber stopper at the bottom of the window regulator has been modified to prevent this noise.

## REPAIR PROCEDURE

If this bumping noise is heard, replace the rubber stopper with a modified stopper.



## PARTS INFORMATION

| PART NUMBER | DESCRIPTION    | QTY. |
|-------------|----------------|------|
| FD01 58 565 | Stopper Rubber | 1    |

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Signature \_\_\_\_\_

----- Service Manager

Parts Manager

Index # **034340**

Number: 031/93

Date Issued: 6/16/93

Revised:

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty)*

|                         |             |
|-------------------------|-------------|
| Warranty Type Code:     | A           |
| Customer Comment Code:  | 82          |
| Damage Code:            | 9A          |
| Part No. of Main Cause: | FD01 58 565 |
| Quantity:               | 1           |
| Operation No.:          | S1015XRX    |
| Labor Hours:            | 0.7Hr.      |



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|               |                                             |                                                                   |                                                   |
|---------------|---------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------|
| Category<br>S | Applicable Model/s<br>1989-96<br>All Models | Subject<br>PRE-PAINTING PREPARATION FOR<br>FRONT AND REAR BUMPERS | Bulletin No. 031/95<br>Issued 10/17/95<br>Revised |
|---------------|---------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------|

## APPLICABLE MODELS

All 1989 to 1996 vehicles.

## DESCRIPTION

Prepare replacement bumpers for painting according to the instructions in this bulletin.

**NOTE:** Service Managers are requested to distribute this information to body shop personnel.

## PREPARATION PROCEDURE

1. Soak terry cloth towel in isopropyl alcohol (or equivalent solvent).

**CAUTION:** Grease / Wax remover that contains "Naphtha" based solvents (ex. PPG DX-330) may remove the bumper's factory primer. If this occurs, the bumper will require primer application prior to painting.

2. Clean entire surface with alcohol soaked towel (or equivalent solvent).
3. Allow bumper to air dry.

**NOTE:** The bumper must be completely dry prior to painting.

4. Remove any lint threads remaining on bumper with compressed air.
5. Paint bumper according to paint manufacturer's recommendations.

## SUPPLIES REQUIRED

|                         |                                                               |
|-------------------------|---------------------------------------------------------------|
| Terry Cloth Towel       | Available Locally                                             |
| Isopropyl Alcohol       | Available Locally                                             |
| PPG Multi-Prep (DX-103) | Optional - Available at authorized PPG distribution locations |

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature **059743** \_\_\_\_\_

Parts Manager

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|               |                                 |                                |                                                            |
|---------------|---------------------------------|--------------------------------|------------------------------------------------------------|
| Category<br>S | Applicable Model/s<br>See Below | Subject<br>SEAT BELT EXTENDERS | Bulletin No. 032/96<br>Issued 06/27/96<br>Revised 12/26/96 |
|---------------|---------------------------------|--------------------------------|------------------------------------------------------------|

**NOTE:** The revised portion of this bulletin is indicated by a change bar. Replace the original bulletin with this revised copy.

**AFFECTED MODELS**  
See Parts Information

## DESCRIPTION

A fully extended seat belt that will not reach across the lap of the vehicle occupant, can be lengthened by 8, 9 or 12 inches using a seat belt extender. Seat belt extenders are now available through your facing PDC. The following "Warning Label" is affixed to the seat belt extender. The proper usage and safety related warning listed on the extender must be explained to the customer when the extender is delivered.

| LAP BELT EXTENDER                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NEVER USE:</b>                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>When lap strap will not adjust snugly to hips.</li> <li>When intersection of lap and upper torso straps (measured along the lap strap) is less than 6 inches from an imaginary center line of occupant's body.</li> </ul> |

NAVAJO and B-SERIES

| SEAT BELT EXTENDER                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>WARNING</b>                                                                                                                                                                                                                                                                                              |
| <p>Do Not Use Extender:</p> <ul style="list-style-type: none"> <li>Unless it is physically required in order to wear the vehicle's safety belt.</li> <li>If it causes the distance between the front edge of the extender buckle and the center of the occupant's body to be less than 6 inches.</li> </ul> |
|                                                                                                                                                                                                                                                                                                             |
| <p>Incorrect use of the extender may cause a serious injury. Use extender only in the vehicle and seating position it was provided for. Remove and stow when not in use by person it was provided for.</p>                                                                                                  |

## PARTS INFORMATION

ALL OTHER MODELS

| CHANGE      | Part Number           |             | Yr./Model                                                  | VIN                                                    | Seat Position                  |
|-------------|-----------------------|-------------|------------------------------------------------------------|--------------------------------------------------------|--------------------------------|
|             | 9 Inch                | 12 Inch     |                                                            |                                                        |                                |
|             | ZZL0-57-660<br>(8in.) | —           | 91-94 Navajo<br>94-97 B-Series                             | All                                                    | Driver's and Front Passenger's |
|             | BCYM-57-63X           | BCYN-57-63X | 95-96 Protege                                              | JM1BA14**S0100001 -<br>JM1BB14**T0300001 -<br>T0349419 | Driver's and Front Passenger's |
|             | BEYH-57-63X           | BEYJ-57-63X | 96 Protege                                                 | JM1BB14**T0349420 -                                    | Driver's and Front Passenger's |
|             |                       |             | 97 Protege                                                 | All                                                    | Driver's and Front Passenger's |
|             | FDY5-57-63X           | FDY6-57-63X | 94-95 MX-3<br>90-97 MX-5 Miata<br>93-95 RX-7<br>92-95 929  | All                                                    | Driver's and Front Passenger's |
|             | LBY2-57-63X           | LBY3-57-63X | 93-97 626/MX-6<br>95-97 Millenia<br>89-97 MPV<br>88-89 929 | All                                                    | Driver's and Front Passenger's |
| LBY4-57-63X | LBY5-57-63X           | 89-97 MPV   | All                                                        | 2nd & 3rd Seat Position                                |                                |

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|               |                                 |                                            |                     |
|---------------|---------------------------------|--------------------------------------------|---------------------|
| Category<br>S | Applicable Model/s<br>1993 RX-7 | Subject<br>BROKEN PASSENGER SIDE DOOR GRIP | Bulletin No. 033/93 |
|               |                                 |                                            | Issued 7/2/93       |
|               |                                 |                                            | Revised             |

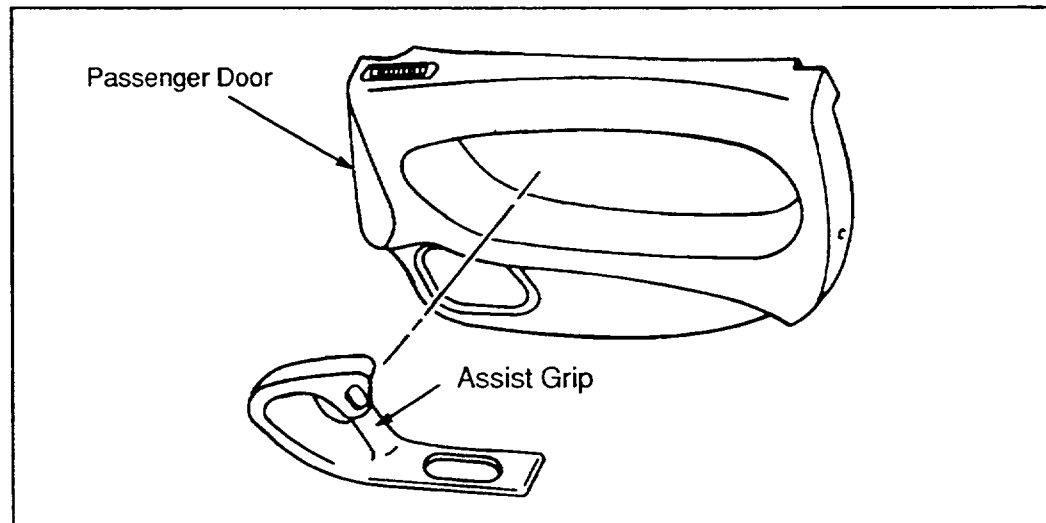
## APPLICABLE MODELS/VINS

1993 RX-7  
Vehicles with a VIN of JM1FD331\*P0200001 through JM1FD331\*P0210623.

## DESCRIPTION

On some vehicles, the passenger door grip may break or become loose. This is due to the constant pulling force when closing the door.

The material used to manufacture the door grip has been improved to reduce the possibility of breakage



## REPAIR PROCEDURE

If the above condition occurs, replace the door grip with a modified part. Refer to the workshop manual , section S for removal and installation procedures.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

Index # **034342**

Page 1 of 2

|                |                     |               |
|----------------|---------------------|---------------|
| Number: 033/93 | Date Issued: 7/2/93 | Date Revised: |
|----------------|---------------------|---------------|

**PARTS INFORMATION**

| PART NUMBER     |                 | DESCRIPTION                | QTY | INT. CODE |
|-----------------|-----------------|----------------------------|-----|-----------|
| NEW             | OLD             |                            |     |           |
| FD01 69 44XB 00 | FD01 69 44XA 00 | Passenger Door Assist Grip | 1   | A         |

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty.)*

Warranty Type Code: A  
Customer Comment Code: 92  
Damage Code: 99  
Part No. of Main Cause: FD01 69 44XB 00  
Operation No.: XX0552RX  
Labor Hours: 0.4 Hrs.

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|               |                                    |                                                 |                     |
|---------------|------------------------------------|-------------------------------------------------|---------------------|
| Category<br>S | Applicable Model/s<br>All Vehicles | Subject<br>WINDSHIELD STONE CHIPPING INSPECTION | Bulletin No. 037/96 |
|               |                                    |                                                 | Issued 08/10/96     |
|               |                                    |                                                 | Revised             |

## AFFECTED MODELS

All Vehicles

## DESCRIPTION

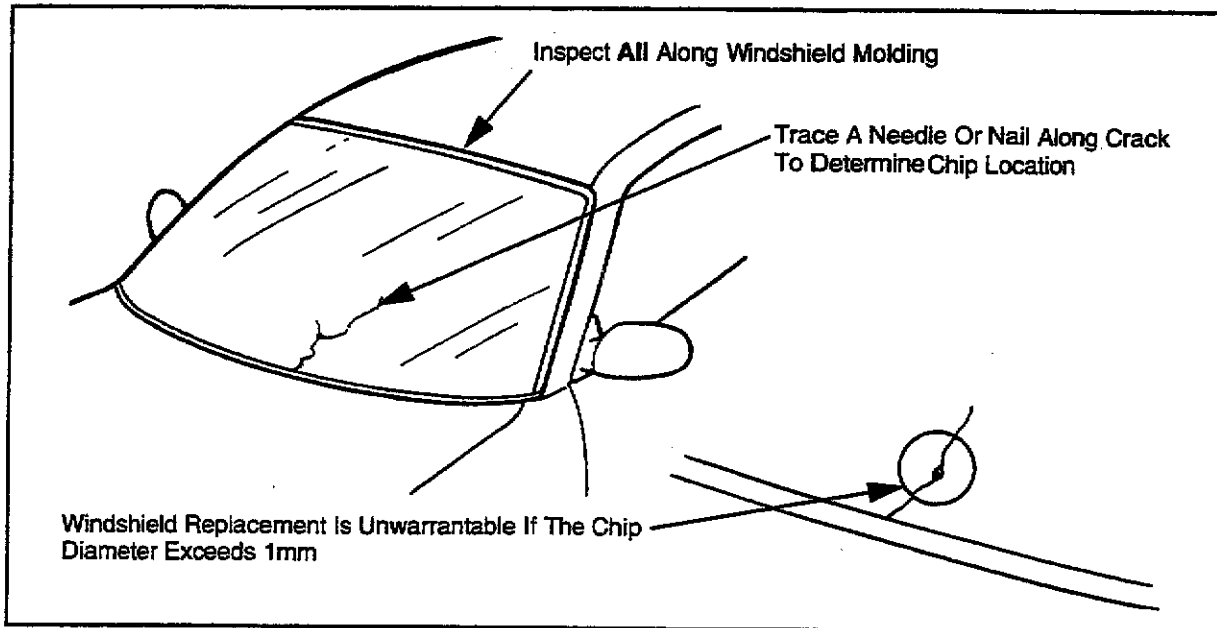
Windshield cracks caused by stone chips are **not covered** under the new vehicle warranty. Service Advisors and Service Managers should review the criteria below for addressing customer complaints regarding cracked windshields. If possible, customers should be present when the inspection is performed.

## INSPECTION PROCEDURE

1. Visually inspect the length of the crack and the windshield molding for signs of stone contact.
2. Trace the length of the crack with a needle or small nail to determine chipping location.

## IMPORTANT

Windshield replacement is not warrantable if a chip larger than 1mm in diameter exists along the length of the crack.



**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

|          |                    |                         |                     |
|----------|--------------------|-------------------------|---------------------|
| Category | Applicable Model/s | Subject                 | Bulletin No. 042/93 |
| S        | 1993 RX-7          | GLOVE BOX LAMP STAYS ON | Issued 10/21/93     |
|          |                    |                         | Revised             |

**APPLICABLE MODELS/VINS**

Vehicles with a VIN of JM1FD332\*P0200001 through JM1FD332\*P0210624.

**NOTE:** The asterisk (\*) in the VIN range can be any number (0 through 9) or "X".

**DESCRIPTION**

The glove box lamp may stay on when the glove box door is closed.

The lamp cover has been modified to prevent this condition. If this condition exists, replace the glove box lamp cover with the modified lamp cover according to the instructions listed below.

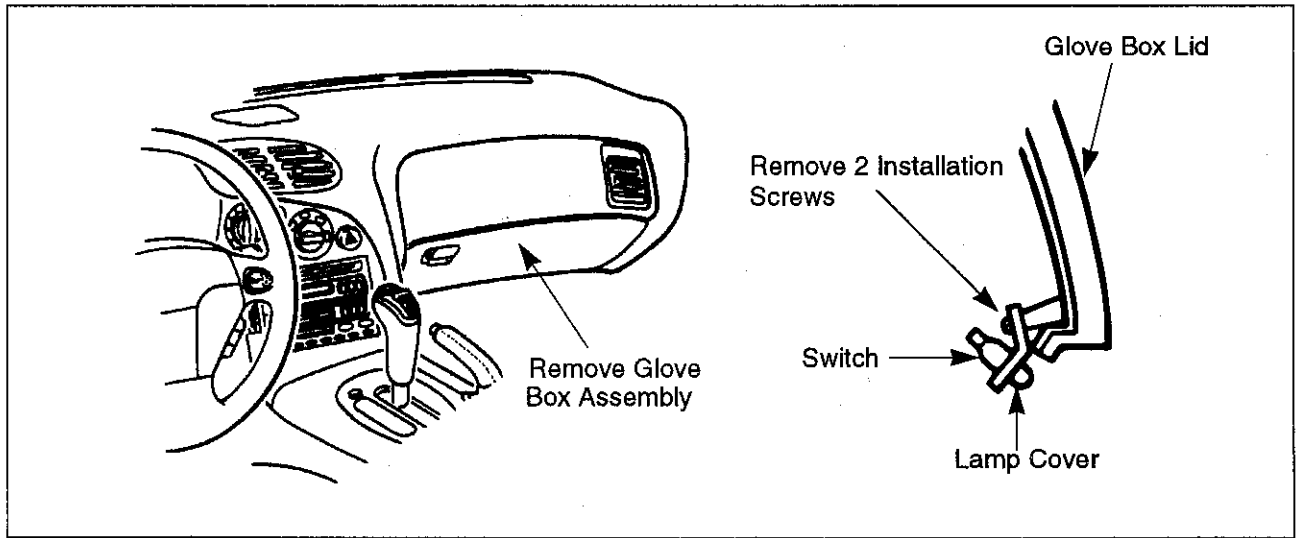
**REPAIR PROCEDURE**

1. Remove the glove box.
2. Remove the two installation screws for the lamp assembly and remove the lamp cover.
3. Install the modified lamp cover and glove box.

**S**

**Body**

**059145**



**PARTS INFORMATION**

| Part Number  |             | Description | Quantity |
|--------------|-------------|-------------|----------|
| New          | Old         |             |          |
| FD01 64 170A | FD01 64 170 | Lamp Cover  | 1        |

**WARRANTY INFORMATION**

*(Applies To Vehicles Covered Under Normal Warranty)*

Warranty Type: A  
 Customer Comment Code: 62  
 Damage Code: 97  
 Part Number Main Cause: FD01 64 170A  
 Quantity: 1  
 Operation Number: T0416XRX  
 Labor Hours: 0.3 Hrs.

# Service Bulletin

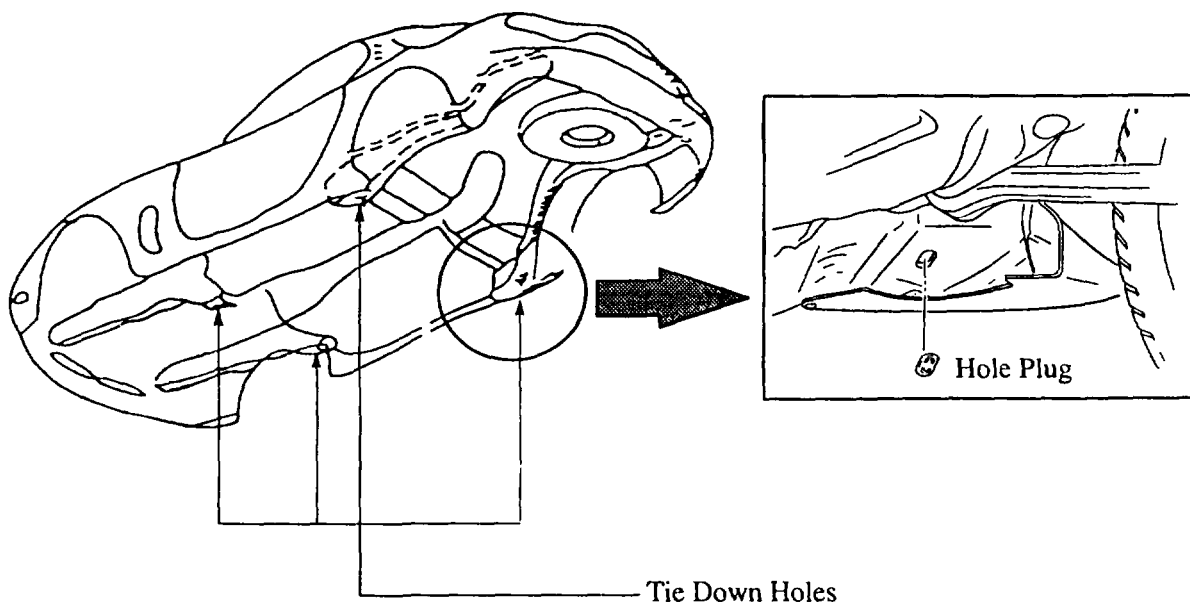
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 Irvine, California 92718  
 Telephone (714) 727-1990



|               |                                 |                                                          |                     |
|---------------|---------------------------------|----------------------------------------------------------|---------------------|
| Category<br>S | Applicable Model/s<br>1993 RX-7 | Subject<br>INSTALLATION OF TIE-DOWN<br>HOLE PLUGS AT PDI | Bulletin No. 050/92 |
|               |                                 |                                                          | Issued 10/19/92     |
|               |                                 |                                                          | Revised             |

## DESCRIPTION

Tie-down hole plugs need to be installed at PDI on vehicles produced after May 20, 1992. These tie-down holes are used during vehicle transportation. The plugs will reinforce anti-perforation; preventing water and mud from penetrating the body which may result in rust.



The package of plugs and installation diagram can be found in the vehicle's cargo area.

The above information is also outlined in the 1993 RX-7's Service Pre-Delivery Inspection (PDI) Sheet; under the "Mechanical Preparation/Exterior-On Hoist" procedures.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

..... Service Manager

Signature \_\_\_\_\_

..... Parts Manager

Index # **032172**



# Service Bulletin

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|               |                                 |                                                    |                     |
|---------------|---------------------------------|----------------------------------------------------|---------------------|
| Category<br>S | Applicable Model/s<br>1993 RX-7 | Subject<br>BLACK FINISH PEELING FROM INTERIOR TRIM | Bulletin No. 056/92 |
|               |                                 |                                                    | Issued 12/15/92     |
|               |                                 |                                                    | Revised             |

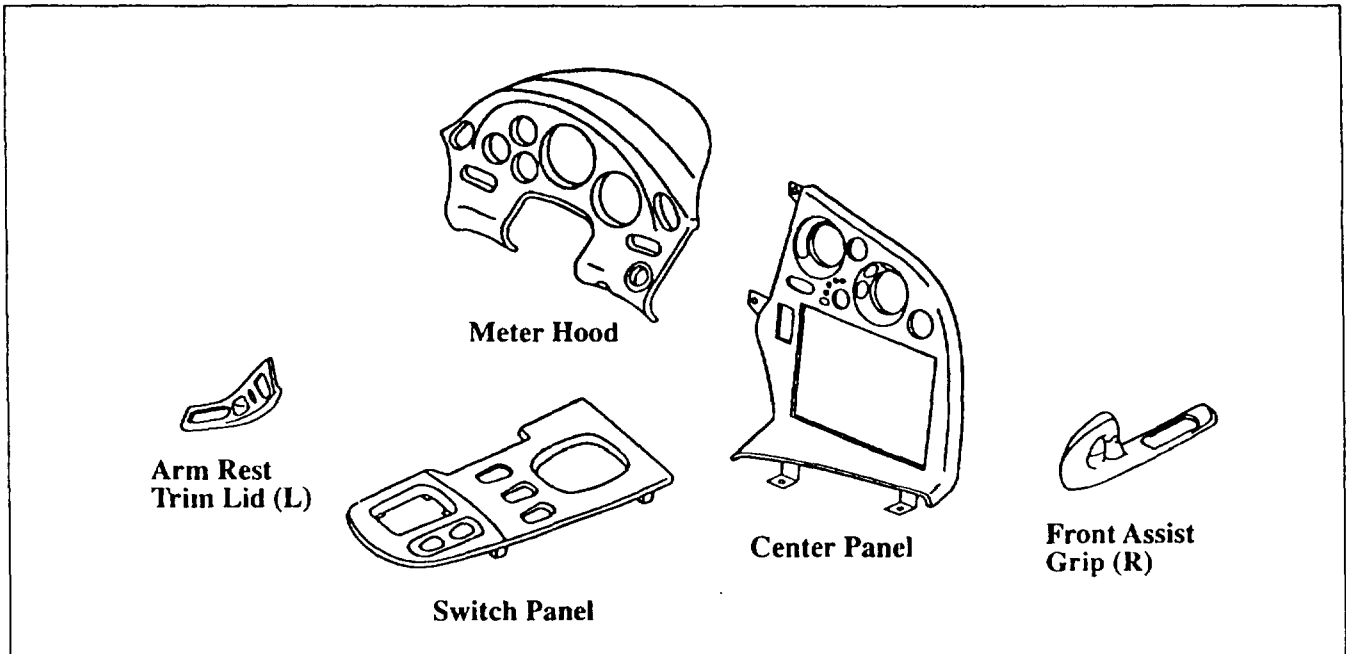
## AFFECTED VINS

This bulletin applies to vehicles with a VIN of JM1FD331♦P0207441 or lower produced through August 4, 1992

This bulletin does not apply to vehicles with a VIN equal to or greater than JM1FD331♦P0207442 and produced after August 4, 1992.

## DESCRIPTION

Some vehicles may experience the black finish peeling from certain interior trim parts. The figure below illustrates the affected parts.



This condition is caused by poor adhesion of the black finish to the trim parts.

## REPAIR PROCEDURE

The adhesive element has been strengthened to prevent the interior trim black finish from peeling. If peeling occurs, replace the affected parts. See PARTS INFORMATION for list of modified parts.

Refer to the applicable workshop manual for removal and installation procedures.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Signature \_\_\_\_\_

.....Service Manager

Parts Manager

Index # **032598**

|                |                       |               |
|----------------|-----------------------|---------------|
| Number: 056/92 | Date Issued: 12/15/92 | Date Revised: |
|----------------|-----------------------|---------------|

**PARTS INFORMATION**

| PART NUMBER     | DESCRIPTION           | QUANTITY |
|-----------------|-----------------------|----------|
| FD01 55 210B 00 | Center Panel          | 1        |
| FD01 55 420E 00 | Meter Hood            | 1        |
| FD01 64 471D 00 | Switch Panel          | 1        |
| FD01 68 4LY 00  | Switch Panel (L)      | 1        |
| FD01 68 4M0A 00 | Arm Rest Trim Lid (L) | 1        |
| FD01 69 44XA 00 | Front Assist Grip (R) | 1        |

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty.)*

Warranty Type Code: A  
Customer Comment Code: 45  
Damage Code: 9X

| <u>Part No. of Main Cause:</u> | <u>Operation No:</u> | <u>Labor Hours</u> |
|--------------------------------|----------------------|--------------------|
| FD01 55 210B 00                | S0702XRX             | 0.9 hrs.           |
| FD01 55 420E 00                | T0602XRX             | 0.6 hrs.           |
| FD01 64 471D 00                | S0805XRX             | 0.2 hrs.           |
| FD01 68 4LY 00                 | XX0510R1             | 0.5 hrs.           |
| FD01 68 4M0A 00                | XX0510R2             | 0.5 hrs.           |
| FD01 69 44XA 00                | XX0510R3             | 0.4 hrs.           |

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7 JFA

|               |                                 |                                          |                     |
|---------------|---------------------------------|------------------------------------------|---------------------|
| Category<br>S | Applicable Model/s<br>1993 RX-7 | Subject<br>SQUEAKING SOUND FROM THE HOOD | Bulletin No. 057/92 |
|               |                                 |                                          | Issued 12/15/92     |
|               |                                 |                                          | Revised             |

## AFFECTED VINS

This bulletin applies to 1993 RX-7 models produced through July 2, 1992 and with a VIN of JM1FD33♦♦P0208750 and lower.

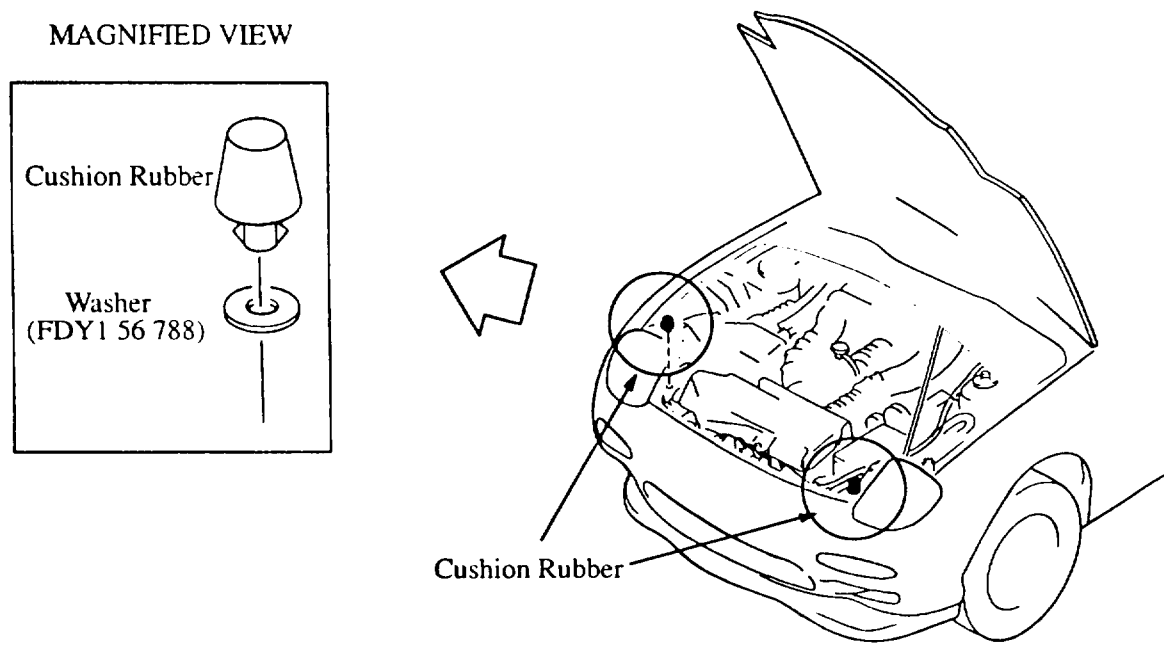
This bulletin does not apply to 1993 RX-7 models with a VIN equal to or greater than JM1FD33♦♦P0208751 and produced after July 2, 1992.

## DESCRIPTION

Some vehicles may experience a squeaking sound from the hood when driving on normal road surfaces. After July 2, 1992, the hood was modified to eliminate this condition.

## REPAIR PROCEDURE

If the above condition occurs, install a washer between the two cushion rubbers under the hood.



**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
..... Service Manager

Signature \_\_\_\_\_  
Parts Manager

Index # **032599**  
.....

|                |                       |               |
|----------------|-----------------------|---------------|
| Number: 057/92 | Date Issued: 12/15/92 | Date Revised: |
|----------------|-----------------------|---------------|

**PARTS INFORMATION**

| PART NUMBER | DESCRIPTION | QTY |
|-------------|-------------|-----|
| FDY1 56 788 | Washer      | 2   |

**NOTE:** If the hood is replaced with a modified part, the washers do not need to be installed.

**WARRANTY INFORMATION**

*(Applies to vehicles covered under warranty.)*

Warranty Type Code:  
 Customer Comment Code: 82  
 Damage Code: 99  
 Part No. of Main Cause: FDY1 56 788  
 Operation No: XX0523RX  
 Labor Hours: 0.2 Hrs.

# Service Bulletin

Mazda Motor of America, Inc.  
 7755 Irvine Center Drive  
 Irvine, California 92718  
 Telephone (714) 727-1990



|                 |                                 |                                                    |                     |
|-----------------|---------------------------------|----------------------------------------------------|---------------------|
| Category<br>SST | Applicable Model/s<br>See Below | Subject<br>SEPTEMBER 1995<br>SPECIAL TOOL SHIPMENT | Bulletin No. 006/95 |
|                 |                                 |                                                    | Issued 9/21/95      |
|                 |                                 |                                                    | Revised             |

## DESCRIPTION

The Special Service Tools (SSTs) illustrated below are Mazda Required Tools (MRTs) and will automatically be shipped to dealers by Mazda's tool vendor, America Kowa Seiki, Inc.

## APPLICATION

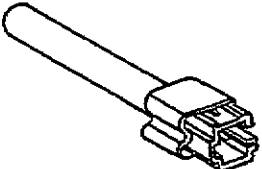
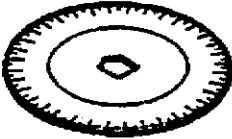

The air bag simulator tool is used to properly service the 1996 B-Series truck. The protractor and hexagon wrench tools are used on various year/models for servicing steering components. Refer to the Workshop Manual for the application(s) of these tools.

## PRICING

The total price for these tools is \$28.75. Individual prices are illustrated below.

## SHIPPING & BILLING INFORMATION

These tools will be shipped prepaid via UPS to dealers during the specified week as shown in the illustration. Your parts account will be billed for this tool upon its receipt. Please advise your shipping/receiving personnel of this tool shipment.

| 49UN-01-1500<br>Air Bag Simulator<br>\$6.74                                         | 49D0-32-316<br>Protractor<br>\$8.04                                                 | 49H0-32-321A<br>Hex Wrench<br>\$13.97                                                 |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |
| Ship Date: Week of 9/25/95                                                          | Ship Date: Week of 9/25/95                                                          | Ship Date: Week of 9/25/95                                                            |

If you have any questions regarding this information contact your District Customer Support Manager, America Kowa Seiki (800-824-9655 or 800-535-5455) or Tools/Development Manager (714-588-5059).

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

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Signature \_\_\_\_\_

Signature \_\_\_\_\_

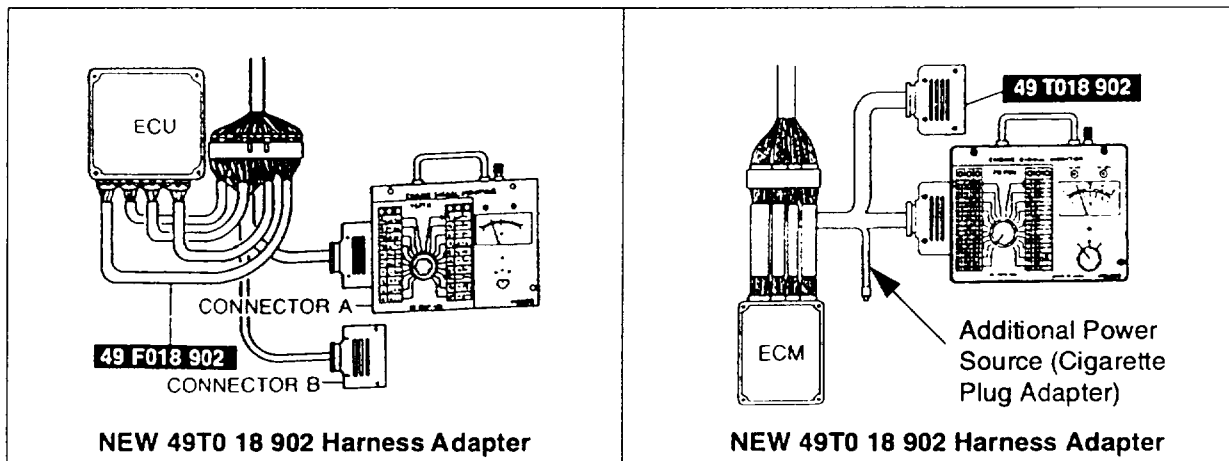
|                |                                                       |                                                       |                     |
|----------------|-------------------------------------------------------|-------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>1993 - 94 RX-7<br>1995 Millenia | Subject<br>ANNOUNCEMENT OF SST UPDATE PROGRAM<br>#001 | Bulletin No. 001/94 |
|                |                                                       |                                                       | Issued 6/22/94      |
|                |                                                       |                                                       | Revised             |

### APPLICABLE MODELS/VINS

All 1993 - 94 RX-7 Vehicles  
All 1995 Millenia Vehicles

### DESCRIPTION

The Special Service Tool (SST) involved in this program is the **RX-7 harness adapter (49F0-18-902)**. It was a Minimum Required Tool (MRT). This harness adapter has been discontinued by Mazda's tool vendor (America Kowa Seiki, Inc.) and has been **replaced by a new harness adapter (49T0-18-902)** which is applicable to both the RX-7 and the new 1995 Millenia. This new tool is now a MRT. The cost of this new harness adapter is \$457.71. The visible difference between the two harness adapters is that the new harness adapter has an added power source (a cigarette plug adapter).



### PARTS INFORMATION

| Part Number |             | Description     | Cost                         |
|-------------|-------------|-----------------|------------------------------|
| New         | Old         |                 |                              |
| 49F0 18 902 | 49T0 18 902 | Harness Adapter | \$457.71 See "Benefit" Below |

### Purpose of Program

The purpose of this program is to offer your dealer an opportunity to have the old 49F0-18-902 harness adapter updated to the new 49T0-18-902 harness adapter specifications. The update includes the relabeling if the harness adapter with the new part number.

### Benefit

Your dealer's cost for this update is \$50.00 as opposed to purchasing the new harness adapter for \$457.71. The result is a savings's of \$407.71 to your dealer.

*Cont'd. On Page 2*

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_ Signature \_\_\_\_\_

Service Manager  
Index # **039140**

Parts Manager

### Program Implementation

1. Your Mazda Regional Office has an update harness adapter available to loan to you during the implementation of this program. Therefore, in the event your dealer has a need for the new harness adapter for a critical repair and you do not have one available, contact your regional office. They can loan an updated harness adapter to your dealer.
2. This program has been developed with a tracking system that will ensure the original harness adapter that your dealer submitted is the same one returned back to you.
3. Since Mazda cannot update all 900+ dealer harness adapters at once, the program will be implemented one region at a time. This will help alleviate potential confusion and delays. The following table lists each regional office and the date their dealers will be sent a Fed Ex box for them to begin participating in the program. Be sure to note when your dealer will be shipped its Fed Ex box.

| Mazda Office      | Implementation Date |
|-------------------|---------------------|
| Mazda Great Lakes | 7/11/94             |
| Gulf              | 7/18/94             |
| Northeast         | 7/5/94              |
| Northwest         | 7/25/94             |
| Pacific           | 6/27/94             |
| Southeast         | 7/25/94             |

The program will take approximately seven weeks to complete. After that time, the program will be terminated and no further updates will be performed. Therefore, if your dealer does not respond to the program within 2 weeks of receipt of its box, or does not have a serviceable 49F0-18-902 harness adapter, you will automatically be shipped a new 49T0-18-902 harness adapter. Your parts account will then be billed \$457.71.

#### 4. Detailed Procedures:

STEP 1: MONDAY - A Fed Ex box is shipped (Economy - 2nd day) to your dealer on the implementation date illustrated in the above table. The box will contain an instruction/order form, return label with vendor's address, and a return Fed Ex box.

STEP 2: WEDNESDAY - Your dealer receives and unpacks the box.

If your dealer elects to participate in the program, you:

- A. Complete the instruction/order form and inserts into the return Fed Ex box with their old 49F0-18-902.
- B. Complete the enclosed return label and applies it to the return box. The box is then sealed.
- C. Your dealer telephones Fed Ex (800-238-5355) to pick-up the sealed box the next day (Thursday).

If your dealer elects not to participate in the program, disregard the box (see note below).

**NOTE:** If 1) your dealer's old harness adapter is not received within 2 weeks of your receipt of the box, or 2) your old harness adapter is non-serviceable, a new harness adapter will be shipped to you. Your dealer's parts account will then be debited for \$457.71.

STEP 3: FOLLOWING THURSDAY - Your dealer receives its updated harness adapter.

STEP 4: Your dealer's parts account is debited for \$50.00.

If there are any questions regarding this program be sure to contact Special Tools Manager at (714) 442-6520.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                                                       |                                                       |                     |
|----------------|-------------------------------------------------------|-------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>1993 - 94 RX-7<br>1995 Millenia | Subject<br>ANNOUNCEMENT OF SST UPDATE PROGRAM<br>#001 | Bulletin No. 001/94 |
|                |                                                       |                                                       | Issued 6/22/94      |
|                |                                                       |                                                       | Revised 7/5/94      |

The revised portion of this bulletin is indicated by an asterisk(\*) and change bar. Replace the original bulletin with this revised copy

## APPLICABLE MODELS/VINS

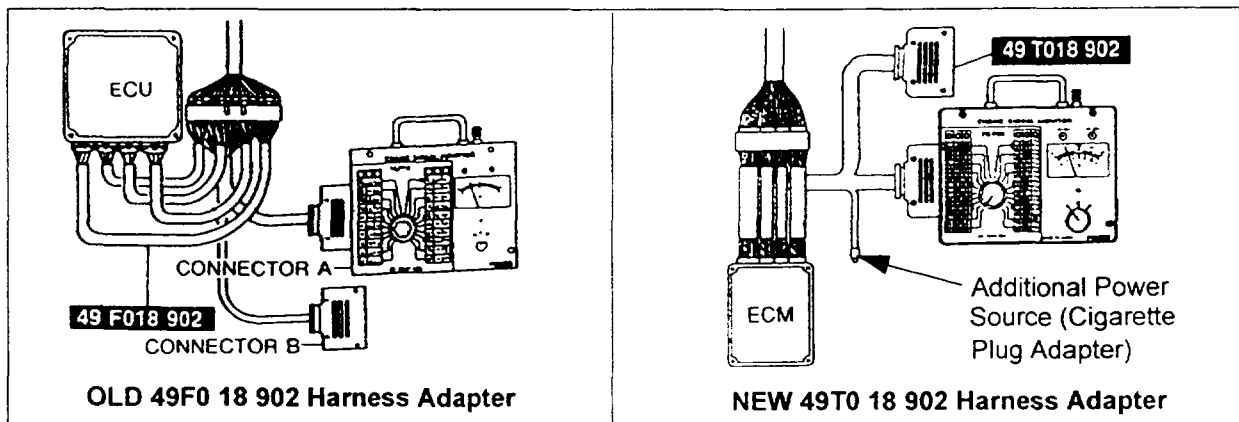
All 1993 - 94 RX-7 Vehicles and All 1995 Millenia Vehicles

## DESCRIPTION\*

The Special Service Tool (SST) involved in this program is the **RX-7 harness adapter (49F0-18-902)**. It was a Minimum Required Tool (MRT). This harness adapter has been discontinued by Mazda's tool vendor (America Kowa Seiki, Inc.) and has been **replaced by a new harness adapter (49T0-18-902)** which is applicable to both the RX-7 and the new 1995 Millenia. This new tool is now a MRT. The cost of this new harness adapter is \$457.71. The visible difference between the two harness adapters is that the new harness adapter has an added power source (a cigarette plug adapter).

**NOTE:** You have already received the harness adapter for the 2.3L Millenia (Miller Cycle Engine) (P/N 49T0 18 906). This program will update your current RX-7 harness (P/N 49F0 18 902) for use on the 2.5L Millenia engine.

CHANGE



CHANGE

## PARTS INFORMATION\*

| Part Number |             | Description     | Cost                         |
|-------------|-------------|-----------------|------------------------------|
| New         | Old         |                 |                              |
| 49T0 18 902 | 49F0 18 902 | Harness Adapter | \$457.71 See "Benefit" Below |

CHANGE

## Purpose of Program

The purpose of this program is to offer your dealer an opportunity to have the old 49F0-18-902 harness adapter updated to the new 49T0-18-902 harness adapter specifications. The update includes the relabeling of the harness adapter with the new part number.

## Benefit

Your dealer's cost for this update is \$50.00 as opposed to purchasing the new harness adapter for \$457.71. The result is a savings of \$407.71 to your dealer.

Cont'd. On Page 2

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Index # **039141**

\_\_\_\_ Signature \_\_\_\_\_

Parts Manager



## Program Implementation

1. Your Mazda Regional Office has an update harness adapter available to loan to you during the implementation of this program. Therefore, in the event your dealer has a need for the new harness adapter for a critical repair and you do not have one available, contact your regional office. They can loan an updated harness adapter to your dealer.
2. This program has been developed with a tracking system that will ensure the original harness adapter that your dealer submitted is the same one returned back to you.
3. Since Mazda cannot update all 900+ dealer harness adapters at once, the program will be implemented one region at a time. This will help alleviate potential confusion and delays. The following table lists each regional office and the date their dealers will be sent a Fed Ex box for them to begin participating in the program. Be sure to note when your dealer will be shipped its Fed Ex box.

| Mazda Office      | Implementation Date |
|-------------------|---------------------|
| Mazda Great Lakes | 7/11/94             |
| Gulf              | 7/18/94             |
| Northeast         | 7/5/94              |
| Northwest         | 7/25/94             |
| Pacific           | 6/27/94             |
| Southeast         | 7/25/94             |

The program will take approximately seven weeks to complete. After that time, the program will be terminated and no further updates will be performed. Therefore, if your dealer does not respond to the program within 2 weeks of receipt of its box, or does not have a serviceable 49F0-18-902 harness adapter, you will automatically be shipped a new 49T0-18-902 harness adapter. Your parts account will then be billed \$457.71.

#### 4. Detailed Procedures:

STEP 1: MONDAY - A Fed Ex box is shipped (Economy - 2nd day) to your dealer on the implementation date illustrated in the above table. The box will contain an instruction/order form, return label with vendor's address, and a return Fed Ex box.

STEP 2: WEDNESDAY - Your dealer receives and unpacks the box.

If your dealer elects to participate in the program, you:

- A. Complete the instruction/order form and inserts into the return Fed Ex box with their old 49F0-18-902.
- B. Complete the enclosed return label and applies it to the return box. The box is then sealed.
- C. Your dealer telephones Fed Ex (800-238-5355) to pick-up the sealed box the next day (Thursday).

If your dealer elects not to participate in the program, disregard the box (see note below).

**NOTE:** If 1) your dealer's old harness adapter is not received within 2 weeks of your receipt of the box, or 2) your old harness adapter is non-serviceable, a new harness adapter will be shipped to you. Your dealer's parts account will then be debited for \$457.71.

STEP 3: FOLLOWING THURSDAY - Your dealer receives its updated harness adapter.

STEP 4: Your dealer's parts account is debited for \$50.00.

If there are any questions regarding this program be sure to contact Special Tools Manager at (714) 442-6520.

# Service Bulletin

Mazda North American Operations  
Irvine, CA 92718-2906



|                |                           |                                                                                         |                                                   |
|----------------|---------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------|
| Category<br>ST | Applicable Model/s<br>ALL | Subject<br>NEW V5.0 NGS CARD (49T0-88-010F) AND<br>REPROGRAMMING OF V3.0 (49T0-88-010D) | Bulletin No. 001/98<br>Issued 02/23/98<br>Revised |
|----------------|---------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------|

## DESCRIPTION

Per Service Bulletin Cat. ST 004/97, issued 10/10/97, your service department currently has two reprogrammable New Generation Star (NGS) cards, an older Version 3.0 program (P/N 49T0-88-010D) and a current Version 4.0 program (P/N 49T0-88-010E). On March 25, 1998, V4.0 will supersede to V5.0 (P/N 49T0-88-010F) as a new Mazda Required Tool (MRT) to properly service MAZDA vehicles.

Mazda's tool vendor, America Kowa Seiki, Inc. (AKS), is offering a reprogramming service which will update your older Version 3.0 to Version 5.0 at a substantial savings. Your V3.0 card must be received by AKS no later than **March 4, 1998**. Follow the **REPROGRAMMING PROCEDURE** on page two to participate in this service.

**Note:** If your service department chooses not to participate, or cannot participate in this reprogramming service, a new V5.0 card will be automatically shipped to your service department.

## APPLICATION

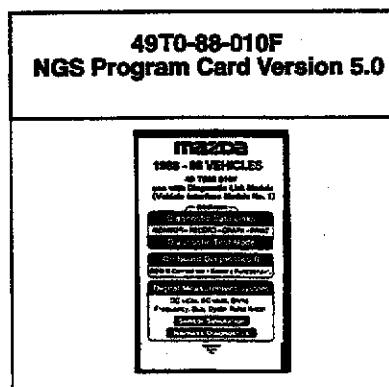
This card is used with your NGS Tester to properly service 1988 - 1999 Mazda Vehicles. Refer to your Workshop Manual for the application of this card and tester.

## PRICING

The price for the V5.0 reprogramming exchange is \$216.09 plus shipping costs. If AKS does not receive your V3.0 card, or you miss the **March 4, 1998** cut-off date, the new card price is \$316.57 plus shipping costs.

## SHIPPING AND BILLING INFORMATION

Your NGS card with V5.0 will be shipped to you by March 25, 1998. Your parts account will be billed for the appropriate amount. **DO NOT SEND PAYMENT TO AMERICA KOWA SEIKI, INC.**



**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
Service Manager

Signature \_\_\_\_\_  
Parts Manager

060465

Number: 001/98

Date Issued: 2/23/98

Revised:

## REPROGRAMMING PROCEDURE

Please use the following procedure to update your NGS Version 3.0 card to Version 5.0 card.

STEP 1: Carefully inspect your V3.0 card for signs of damage (i.e. dents, cracks, etc.), since America Kowa Seiki will only accept cards that are reprogrammable.

STEP 2: Package your V3.0 card in a small box with your Service Manager's business card taped to the NGS card. Send the package to the following address:

**America Kowa Seiki, Inc.  
20013 S. Rancho Way  
Rancho Dominguez, CA. 90220**

**RE: Mazda NGS Card Reprogramming**

STEP 3: Send your package by Federal Express 2 day or UPS Blue label prepaid. It must arrive at America Kowa Seiki, Inc. by **March 4, 1998**.

Note:

**DO NOT SEND YOUR V4.0 NGS CARD!** Use this V4.0 card until your new V5.0 card arrives at your service department.

Please contact your District Customer Support Manager, America Kowa Seiki (800-824-9655 or 310-638-1000, ext. 211.) or the Tools/Equipment Manager (714-442-6531) if you have any questions regarding this information.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                                             |                                                        |                     |
|----------------|---------------------------------------------|--------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>All 1988-95<br>Models | Subject<br>SHIPMENT OF NGS<br>PROGRAM CARD VERSION 2.0 | Bulletin No. 002/94 |
|                |                                             |                                                        | Issued 10/25/94     |
|                |                                             |                                                        | Revised 11/16/94    |

The revised portion of this bulletin is indicated by an asterisk (\*). Replace the original bulletin with this revised copy

## DESCRIPTION

The "NGS Program Card" (P/N 49T0-88-010) used with your New Generation Star tester has been discontinued. The card is replaced with a new card that includes all 1995 model information.

This new program card "Version 2.0" (P/N 49T0-88-010A) is a MRT (Minimum Required Tool) and will automatically be shipped to all dealers on October 26, 1994 by Mazda's tool vendor, America Kowa Seiki, Inc. The cost of the new card is \$235.75. This cost will be charged to your parts account upon its receipt.

**NOTE:** 1) Please advise your shipping/receiving personnel of this shipment.

- 2) **This program card is small.** Therefore, we recommend that your service manager, shop foreman, or lead technician install this card in your NGS tester and discard the discontinued card immediately. This will prevent misapplication or misdiagnosis when using the NGS tester to service a Mazda vehicle.

## APPLICATION

Refer to the attached table for applications of this new card.

If you have any questions regarding this information contact your District Customer Support Manager or Tools/Development Manager at (714) 588-5059.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
Service Manager

Signature \_\_\_\_\_  
Parts Manager

Page 1 of 2

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|                |                       |                   |
|----------------|-----------------------|-------------------|
| Number: 002/94 | Date Issued: 10/25/94 | Revised: 11/16/94 |
|----------------|-----------------------|-------------------|

**\*APPLICATION TABLE FOR NGS PROGRAM CARD VERSION 2.0 (P/N 49T0-88-010A)**

| NOTE | APPLICABLE MODEL                       | PCM* <sup>1</sup> | TCM* <sup>2</sup> | ABS             | A/C | CCM* <sup>3</sup> |
|------|----------------------------------------|-------------------|-------------------|-----------------|-----|-------------------|
|      | 1995 MILLENIA                          | O* <sup>4</sup>   | (O)               | O* <sup>5</sup> | O   | O                 |
| X    | 1995 PROTEGE                           | O* <sup>4</sup>   | (O)               | O               | -   | O                 |
| X    | 1995 626/MX-6 WITH FS ENGINE           | O                 | -                 | O               | -   | O                 |
| X    | 1995 626/MX-6 WITH KL ENGINE           | O                 | O                 | O               | -   | O                 |
| X    | 1995 929                               | O                 | O                 | O               | O   | O                 |
| X    | 1995 MX-3                              | O                 | O                 | O               | -   | -                 |
| X    | 1995 MIATA                             | O                 | O                 | O               | -   | -                 |
| X    | 1995 RX-7                              | O                 | O                 | O               | -   | O                 |
| X    | 1995 MPV                               | O                 | O                 | -               | -   | -                 |
| X    | 1995 B2300, B3000, B4000               | O* <sup>4</sup>   | (O)               | O               | -   | -                 |
|      | 1994 323/PROTEGE                       | O                 | O                 | -               | -   | -                 |
|      | 1994 626/MX-6 WITH FS ENGINE (EC-AT)   | O                 | (O)               | O               | -   | O                 |
|      | 1994 626/MX-6 WITH FS ENGINE (MT)      | O                 | -                 | O               | -   | O                 |
|      | 1994 626/MX-6 WITH KL ENGINE           | O                 | O                 | O               | -   | O                 |
|      | 1994 929                               | O                 | O                 | -               | O   | O                 |
|      | 1994 MX-3                              | O                 | O                 | O               | -   | -                 |
|      | 1994 MIATA                             | O                 | O                 | O               | -   | -                 |
|      | 1994 RX-7                              | O                 | O                 | -               | -   | -                 |
|      | 1994 MPV WITH G6 ENGINE                | O                 | O                 | -               | -   | O                 |
|      | 1994 MPV WITH JE ENGINE                | O                 | O                 | -               | -   | -                 |
|      | 1994 NAVAJO                            | O                 | (O)               | -               | -   | -                 |
|      | 1994 B2300 2.3L (49S)                  | O                 | (O)               | O               | -   | -                 |
|      | 1994 B2300 2.3L (CAL)                  | O                 | (O)               | -               | -   | -                 |
|      | 1994 B3000 & B4000                     | O                 | (O)               | -               | -   | -                 |
|      | 1993 NAVAJO                            | O                 | -                 | O               | -   | -                 |
|      | 1992 - 1993 ALL VEHICLES EXCEPT NAVAJO | O                 | O                 | O               | O   | O                 |
|      | 1991 - 1992 NAVAJO                     | O                 | -                 | -               | -   | -                 |
|      | 1991 ALL VEHICLES EXCEPT NAVAJO        | O                 | O                 | -               | -   | -                 |
|      | 1988 - 1990 ALL VEHICLES               | O                 | O                 | -               | -   | -                 |

\*1: PCM= Power Control Module

\*2: TCM= Transmission Control Module

\*3: CCM= Cruise Control Module

\*4: on-vehicle control unit equipped with OBD-II

\*5: include Traction Control System

(O): means there is no TCM, but it is possible to diagnose the TCM from the PCM menu.

X: means these year/models are newly added to the program card.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                                             |                                                        |                     |
|----------------|---------------------------------------------|--------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>All 1988-95<br>Models | Subject<br>SHIPMENT OF NGS<br>PROGRAM CARD VERSION 2.0 | Bulletin No. 002/94 |
|                |                                             |                                                        | Issued 10/25/94     |
|                |                                             |                                                        | Revised 11/16/94    |

The revised portion of this bulletin is indicated by an asterisk (\*). Replace the original bulletin with this revised copy

## DESCRIPTION

The "NGS Program Card" (P/N 49T0-88-010) used with your New Generation Star tester has been discontinued. The card is replaced with a new card that includes **all** 1995 model information.

This new program card "Version 2.0" (P/N 49T0-88-010A) is a MRT (Minimum Required Tool) and will automatically be shipped to all dealers on October 26, 1994 by Mazda's tool vendor, America Kowa Seiki, Inc. The cost of the new card is \$235.75. This cost will be charged to your parts account upon its receipt.

**NOTE:** 1) Please advise your shipping/receiving personnel of this shipment.

- 2) **This program card is small.** Therefore, we recommend that your service manager, shop foreman, or lead technician install this card in your NGS tester and discard the discontinued card immediately. This will prevent misapplication or misdiagnosis when using the NGS tester to service a Mazda vehicle.

## APPLICATION

Refer to the attached table for applications of this new card.

If you have any questions regarding this information contact your District Customer Support Manager or Tools/Development Manager at (714) 588-5059.

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Index # **040969**  
.....

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
Service Manager

Signature \_\_\_\_\_  
Parts Manager

## \*APPLICATION TABLE FOR NGS PROGRAM CARD VERSION 2.0 (P/N 49T0-88-010A)

| NOTE | APPLICABLE MODEL                       | PCM* <sup>1</sup> | TCM* <sup>2</sup> | ABS             | A/C | CCM* <sup>3</sup> |
|------|----------------------------------------|-------------------|-------------------|-----------------|-----|-------------------|
|      | 1995 MILLENIA                          | O* <sup>4</sup>   | (O)               | O* <sup>5</sup> | O   | O                 |
| X    | 1995 PROTEGE                           | O* <sup>4</sup>   | (O)               | O               | -   | O                 |
| X    | 1995 626/MX-6 WITH FS ENGINE           | O                 | -                 | O               | -   | O                 |
| X    | 1995 626/MX-6 WITH KL ENGINE           | O                 | O                 | O               | -   | O                 |
| X    | 1995 929                               | O                 | O                 | O               | O   | O                 |
| X    | 1995 MX-3                              | O                 | O                 | O               | -   | -                 |
| X    | 1995 MIATA                             | O                 | O                 | O               | -   | -                 |
| X    | 1995 RX-7                              | O                 | O                 | O               | -   | O                 |
| X    | 1995 MPV                               | O                 | O                 | -               | -   | -                 |
| X    | 1995 B2300, B3000, B4000               | O* <sup>4</sup>   | (O)               | O               | -   | -                 |
|      | 1994 323/PROTEGE                       | O                 | O                 | -               | -   | -                 |
|      | 1994 626/MX-6 WITH FS ENGINE (EC-AT)   | O                 | (O)               | O               | -   | O                 |
|      | 1994 626/MX-6 WITH FS ENGINE (MT)      | O                 | -                 | O               | -   | O                 |
|      | 1994 626/MX-6 WITH KL ENGINE           | O                 | O                 | O               | -   | O                 |
|      | 1994 929                               | O                 | O                 | -               | O   | O                 |
|      | 1994 MX-3                              | O                 | O                 | O               | -   | -                 |
|      | 1994 MIATA                             | O                 | O                 | O               | -   | -                 |
|      | 1994 RX-7                              | O                 | O                 | -               | -   | -                 |
|      | 1994 MPV WITH G6 ENGINE                | O                 | O                 | -               | -   | O                 |
|      | 1994 MPV WITH JE ENGINE                | O                 | O                 | -               | -   | -                 |
|      | 1994 NAVAJO                            | O                 | (O)               | -               | -   | -                 |
|      | 1994 B2300 2.3L (49S)                  | O                 | (O)               | O               | -   | -                 |
|      | 1994 B2300 2.3L (CAL)                  | O                 | (O)               | -               | -   | -                 |
|      | 1994 B3000 & B4000                     | O                 | (O)               | -               | -   | -                 |
|      | 1993 NAVAJO                            | O                 | -                 | O               | -   | -                 |
|      | 1992 - 1993 ALL VEHICLES EXCEPT NAVAJO | O                 | O                 | O               | O   | O                 |
|      | 1991 - 1992 NAVAJO                     | O                 | -                 | -               | -   | -                 |
|      | 1991 ALL VEHICLES EXCEPT NAVAJO        | O                 | O                 | -               | -   | -                 |
|      | 1988 - 1990 ALL VEHICLES               | O                 | O                 | -               | -   | -                 |

\*1: PCM= Power Control Module

\*2: TCM= Transmission Control Module

\*3: CCM= Cruise Control Module

\*4: on-vehicle control unit equipped with OBD-II

\*5: include Traction Control System

(O): means there is no TCM, but it is possible to diagnose the TCM from the PCM menu.

X: means these year/models are newly added to the program card.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



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|                |                                   |                                                        |                     |
|----------------|-----------------------------------|--------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>ALL CURRENT | Subject<br>MAZDA REQUIRED TOOL (MRT)<br>INVENTORY LIST | Bulletin No. 002/95 |
|                |                                   |                                                        | Issued 4/27/95      |
|                |                                   |                                                        | Revised             |

## DESCRIPTION

Attached is a "Mazda Required Tool (MRT) Inventory List". It contains all Special Service Tools your dealer is currently required to have to properly service Mazda vehicles.

As needed, Mazda will issue Special Tool Service Bulletins to address any updates\* to this list. A new list will be issued annually incorporating all applicable updates from the previous year.

\* NOTE: Updates will not include price changes. Prices are subject to change without notice. Use the toll free telephone numbers listed below "ORDERING TOOLS" to contact America Kowa Seiki, Inc., Mazda's tool vendor, for current pricing.

## APPLICATION

This inventory list is to be used by your dealer to assist you with maintaining a complete inventory of these required tools.

## ORDERING TOOLS

Directly contact America Kowa Seiki, Inc. using the toll free telephone numbers listed below to order any Mazda Special Service Tool.

**(800) 824-9655 OR (800) 535-5455**

**Hours: Monday - Friday**

**9:00 AM - 5:00 PM (Pacific Standard Time)**

## BILLING FOR TOOLS

Your dealer will be billed directly by America Kowa Seiki. YOU CANNOT BILL TOOL ORDERS TO YOUR PARTS ACCOUNT.

If you have any questions regarding this information contact your District Customer Support Manager or Tools/ Development Manager at (714) 588-5059.

If you have any questions regarding this information contact your District Customer Support Manager or Tools/

**IMPORTANT: Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.**

Signature \_\_\_\_\_

Service Manager

Signature **Index # 042733**

.....Parts Manager.....



# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Note

Page 1

| PART NUMBER  | DESCRIPTION                       | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|-----------------------------------|--------------|---|---|-------------|
| 0000-42-0010 | ANTI-LOCK BRAKE SYSTEM CHECKER    | \$1,957.58   |   |   |             |
| 4901-80-321A | MAIN DRIVE GEAR BEARING INSTALLER | \$25.60      |   |   |             |
| 4901-80-510B | BEARING PRELOAD MEAS. ATTACHMENT  | \$9.80       |   |   |             |
| 4902-23-630B | REAR AXLE SHAFT PULLER            | \$50.40      |   |   |             |
| 4902-59-4400 | MAINSHAFT HOLDER                  | \$25.25      |   |   |             |
| 4902-59-7200 | SIDE BEARING NUT WRENCH           | \$40.90      |   |   |             |
| 4902-59-7450 | BEARING SEPARATOR                 | \$62.15      |   |   |             |
| 4903-05-4300 | MAIN DRIVESHAFT PUSHER            | \$60.86      |   |   |             |
| 4903-78-3750 | CLUTCH SPRING COMPRESSOR          | \$31.70      |   |   |             |
| 4903-78-3900 | OIL PUMP PULLER                   | \$35.91      |   |   |             |
| 4903-78-400B | OIL PRESSURE GAUGE SET            | \$117.16     |   |   |             |
| 4905-00-3300 | TRANSMISSION BEARING INSTALLER    | \$23.70      |   |   |             |
| 4906-03-635A | REAR SHAFT BEARING NUT WRENCH     | \$71.95      |   |   |             |
| 4906-36-100B | VALVE SPRING LIFTER ARM & PIVOT   | \$56.09      |   |   |             |
| 4907-27-4150 | BEARING INSTALLER                 | \$22.45      |   |   |             |
| 4908-23-072A | ECCENTRIC SHAFT BEARING INSTALLER | \$20.80      |   |   |             |
| 4908-39-305A | COUNTERWEIGHT PULLER (A/T)        | \$63.85      |   |   |             |
| 4908-39-425C | BEARING PULLER SET                | \$203.95     |   |   |             |
| 4912-32-670A | P/S OIL PRESSURE GAUGE SET        | \$246.10     |   |   |             |
| 4912-43-465A | MAINSHAFT LOCK NUT WRENCH         | \$41.05      |   |   |             |
| 4912-85-0710 | ECCENTRIC SHAFT BEARING PULLER    | \$42.20      |   |   |             |
| 4918-81-055A | COUNTERWEIGHT STOPPER             | \$40.71      |   |   |             |
| 4985-01-631A | REAR AXLE SHAFT PULLER ATTACHMEN  | \$71.55      |   |   |             |
| 4985-31-5550 | GAUGE BLOCK                       | \$62.16      |   |   |             |
| 4985-31-5650 | MIDDLE PINION                     | \$196.62     |   |   |             |
| 4992-00-162A | ENGINE SIGNAL MONITOR             | \$346.28     |   |   |             |
| 4992-00-1630 | ADAPTOR HARNESS                   | \$166.45     |   |   |             |
| 4992-00-1670 | ADAPTOR HARNESS                   | \$158.98     |   |   |             |
| 4992-00-4430 | IGNITER CHECKER ADAPTOR HARNESS   | \$27.30      |   |   |             |
| 4992-02-0100 | PRESSURE PLATE HOLDER BAR         | \$42.90      |   |   |             |
| 4992-02-0200 | PRESSURE PLATE REMOVER            | \$20.81      |   |   |             |
| 4992-02-0300 | SEAL PLATE REMOVER                | \$94.41      |   |   |             |
| 4992-02-0400 | SHAFT SEAL REMOVER                | \$51.40      |   |   |             |

4/5/95

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# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Note

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| PART NUMBER  | DESCRIPTION                     | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|---------------------------------|--------------|---|---|-------------|
| 49B0-01-7270 | SPACER SELECTOR FR. WHEEL HUB   | \$25.90      |   |   |             |
| 49B0-12-0060 | VALVE SPRING LIFTER ARM & PIVOT | \$14.40      |   |   |             |
| 49B0-12-0110 | H-L-A HOLE PROTECTOR            | \$5.20       |   |   |             |
| 49B0-12-0A20 | PIVOT                           | \$45.43      |   |   |             |
| 49B0-17-1020 | PRELOAD ADAPTOR                 | \$20.45      |   |   |             |
| 49B0-17-1A00 | BEARING REMOVER SET             | \$191.80     |   |   |             |
| 49B0-19-0020 | BODY (RETURN SPRING COMPRESSOR) | \$59.23      |   |   |             |
| 49B0-19-0040 | ECAT BRAKE BAND ADAPTOR         | \$6.50       |   |   |             |
| 49B0-19-0050 | ECAT BRAKE BAND ADAPTOR         | \$6.50       |   |   |             |
| 49B0-19-0070 | PRELOAD ADAPTOR                 | \$26.45      |   |   |             |
| 49B0-19-0080 | LEAK CHECKER                    | \$53.69      |   |   |             |
| 49B0-19-9010 | OIL PRESSURE GAUGE              | \$89.13      |   |   |             |
| 49B0-19-9040 | PANEL (MMC)                     | \$31.05      |   |   |             |
| 49B0-19-9080 | HARNES ADAPTOR                  | \$270.25     |   |   |             |
| 49B0-19-9A00 | SYSTEM SELECTOR                 | \$102.93     |   |   |             |
| 49B0-19-9A10 | ECAT SELECTOR                   | \$402.50     |   |   |             |
| 49B0-25-0010 | DUST SEAL INSTALLER             | \$23.40      |   |   |             |
| 49B0-26-1A00 | REAR HUB PULLER                 | \$98.90      |   |   |             |
| 49B0-27-0010 | DIFFERENTIAL SIDE GEAR HOLDER   | \$10.90      |   |   |             |
| 49B0-27-0030 | ATTACHMENT "M"                  | \$17.60      |   |   |             |
| 49B0-27-0040 | MEASURING PLATE                 | \$26.70      |   |   |             |
| 49B0-27-0060 | DIFFERENTIAL SIDE GEAR HOLDER   | \$9.70       |   |   |             |
| 49B0-32-3040 | POWER STEERING GAUGE ADAPTOR    | \$49.45      |   |   |             |
| 49B0-43-0010 | ADJUST GAUGE                    | \$63.25      |   |   |             |
| 49B0-43-0020 | BEARING INSTALLER               | \$9.40       |   |   |             |
| 49B0-61-0050 | A/C SEAL PLATE REMOVER          | \$14.95      |   |   |             |
| 49B0-92-9530 | INJECTOR CHECKER "M"            | \$17.74      |   |   |             |
| 49D0-19-0010 | BOLT, SHIM SELECTOR SET         | \$8.70       |   |   |             |
| 49D0-19-9020 | HARNES ADAPTOR                  | \$197.80     |   |   |             |
| 49E0-10-1A10 | HANGER SET, ENGINE              | \$71.08      |   |   |             |
| 49E0-11-0010 | GUIDE, PISTON PIN               | \$7.94       |   |   |             |
| 49E0-11-0020 | SCREW                           | \$17.25      |   |   |             |
| 49E0-11-1A10 | HOLDER SET                      | \$58.31      |   |   |             |

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# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Note

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| PART NUMBER  | DESCRIPTION                    | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|--------------------------------|--------------|---|---|-------------|
| 49E0-18-9A00 | INJECTOR CHECKER               | \$184.00     |   |   |             |
| 49E0-43-0010 | GAUGE, PUSH ROD                | \$74.75      |   |   |             |
| 49E0-43-0020 | INSTALLER, RETAINER            | \$23.23      |   |   |             |
| 49E0-43-003A | TURNING LOCK TOOL              | \$72.86      |   |   |             |
| 49E3-01-0600 | RING GEAR BRAKE                | \$17.50      |   |   |             |
| 49F0-11-1010 | RING GEAR BRAKE                | \$52.90      |   |   |             |
| 49F0-11-1A10 | BEARING INSTALLER SET          | \$25.27      |   |   |             |
| 49F0-17-1010 | SYNCHRONIZER RING HOLDER "M"   | \$26.25      |   |   |             |
| 49F0-17-1A00 | UNIVERSAL WRENCH               | \$73.03      |   |   |             |
| 49F0-18-0020 | IGNITER CHECKER                | \$57.50      |   |   |             |
| 49F0-18-0030 | ADAPTOR HARNESS                | \$50.60      |   |   |             |
| 49F0-18-9030 | SHEET                          | \$5.75       |   |   |             |
| 49F0-19-0010 | OIL SEAL INSTALLER             | \$22.42      |   |   |             |
| 49F0-19-0A00 | ADAPTOR SET                    | \$49.03      |   |   |             |
| 49F0-19-901A | ECAT HARNESS                   | \$182.07     |   |   |             |
| 49F0-19-9020 | PANEL (MMC)                    | \$31.05      |   |   |             |
| 49F0-26-1020 | BEARING INSTALLER              | \$22.45      |   |   |             |
| 49F0-26-1030 | WHEEL HUB PULLER               | \$69.00      |   |   |             |
| 49F0-26-1040 | SENSOR ROTOR INSTALLER         | \$48.30      |   |   |             |
| 49F0-27-0A00 | PINION HEIGHT ADJ. GAUGE       | \$557.80     |   |   |             |
| 49F0-27-0A10 | BEARING INSTALLER SET          | \$126.50     |   |   |             |
| 49F0-28-2A00 | RUBBER BUSHING PLR/INST. SET   | \$149.50     |   |   |             |
| 49F0-33-0010 | DISC BRAKE PISTON STOPPER      | \$31.10      |   |   |             |
| 49F0-43-0010 | ADJUST GAUGE                   | \$19.00      |   |   |             |
| 49F0-61-0010 | LOGICON CHECKER ADAPTOR        | \$16.30      |   |   |             |
| 49F4-01-330B | BEARING INSTALLER SET          | \$56.95      |   |   |             |
| 49F4-01-380E | SHIM SELECTOR SET              | \$1,059.14   |   |   |             |
| 49F4-01-4400 | PRIMARY SHAFT HOLDER           | \$15.10      |   |   |             |
| 49FT-01-3610 | BEARING REMOVER                | \$32.15      |   |   |             |
| 49FT-01-3740 | ONE-WAY CLUTCH POSITION HOLDER | \$22.43      |   |   |             |
| 49FT-01-3760 | SERVO PISTON TOOL              | \$14.65      |   |   |             |
| 49FT-01-3770 | LOW/REVERSE PISTON REPLACER    | \$48.45      |   |   |             |
| 49FT-01-4390 | IDLER GEAR SHAFT HOLDER        | \$11.40      |   |   |             |

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# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Note

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| PART NUMBER  | DESCRIPTION                      | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|----------------------------------|--------------|---|---|-------------|
| 49FT-01-515A | PRELOAD ADAPTOR                  | \$15.70      |   |   |             |
| 49G0-17-1010 | ATTACHMENT "N"                   | \$20.35      |   |   |             |
| 49G0-17-1A00 | BEARING REMOVER SET              | \$285.00     |   |   |             |
| 49G0-17-2020 | ATTACHMENT PRELOAD ADAPTOR       | \$22.75      |   |   |             |
| 49G0-17-2030 | ATTACHMENT "P"                   | \$20.35      |   |   |             |
| 49G0-18-9010 | THROTTLE SENSOR ADAPTOR HARNESS  | \$11.40      |   |   |             |
| 49G0-18-9030 | ADAPTOR HARNESS                  | \$316.25     |   |   |             |
| 49G0-18-9040 | SHEET                            | \$5.17       |   |   |             |
| 49G0-19-0110 | BEARING INSTALLER "M"            | \$15.40      |   |   |             |
| 49G0-19-0120 | LEAK CHECKER "M"                 | \$43.43      |   |   |             |
| 49G0-19-0130 | BEARING REMOVER "M"              | \$46.20      |   |   |             |
| 49G0-19-0170 | OIL SEAL INSTALLER "M"           | \$25.70      |   |   |             |
| 49G0-19-0180 | SHIM SELECTOR SET "M"            | \$161.90     |   |   |             |
| 49G0-19-0200 | PRELOAD ADAPTOR                  | \$21.70      |   |   |             |
| 49G0-19-0220 | ATTACHMENT "K"                   | \$20.00      |   |   |             |
| 49G0-19-0300 | PLATE                            | \$9.70       |   |   |             |
| 49G0-19-0310 | WRENCH                           | \$20.59      |   |   |             |
| 49G0-19-0A00 | TRANSAXLE HANGER                 | \$264.50     |   |   |             |
| 49G0-19-0A20 | TURBINE SHAFT HOLDER SET         | \$31.40      |   |   |             |
| 49G0-19-0A7A | RETURN SPRING COMPRESSOR SET     | \$159.85     |   |   |             |
| 49G0-19-9110 | ADAPTOR HARNESS                  | \$139.65     |   |   |             |
| 49G0-19-9120 | PANEL                            | \$27.80      |   |   |             |
| 49G0-19-9150 | PANEL (MMC)                      | \$31.06      |   |   |             |
| 49G0-19-9180 | HARNESS                          | \$258.75     |   |   |             |
| 49G0-25-0010 | DRIVESHAFT SENSOR ROTOR INSTALLE | \$37.15      |   |   |             |
| 49G0-26-1010 | BEARING REPLACER                 | \$13.30      |   |   |             |
| 49G0-26-1020 | BEARING REPLACER                 | \$23.95      |   |   |             |
| 49G0-26-1030 | SUPPORT BLOCK                    | \$29.35      |   |   |             |
| 49G0-27-0010 | SELECTOR-0-75                    | \$191.75     |   |   |             |
| 49G0-27-0020 | BEARING REMOVER                  | \$95.25      |   |   |             |
| 49G0-27-0030 | DIFFERENTIAL SIDE GEAR HOLDER    | \$9.60       |   |   |             |
| 49G0-30-2220 | VALVE SPRING LIFTER ARM & PIVOT  | \$13.15      |   |   |             |
| 49G0-30-3380 | ATTACHMENT "D"                   | \$9.90       |   |   |             |

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# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Note

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| PART NUMBER  | DESCRIPTION                      | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|----------------------------------|--------------|---|---|-------------|
| 49G0-30-3700 | REMOVING PLATE                   | \$37.05      |   |   |             |
| 49G0-30-380C | SHIM SELECTOR SET                | \$734.55     |   |   |             |
| 49G0-30-4400 | PRIMARY SHAFT HOLDER             | \$16.90      |   |   |             |
| 49G0-30-4550 | DIFFERENTIAL SIDE GEAR HOLDER    | \$1.85       |   |   |             |
| 49G0-30-7000 | SHOCK ABSORBER BOX WRENCH SET    | \$24.40      |   |   |             |
| 49G0-30-7250 | FRONT HUB PULLER                 | \$53.00      |   |   |             |
| 49G0-30-7950 | OIL SEAL INSTALLER               | \$22.25      |   |   |             |
| 49G0-32-3550 | ADJUST GAUGE                     | \$6.00       |   |   |             |
| 49G0-33-1070 | KNUCKLE DUST COVER INSTALLER     | \$13.55      |   |   |             |
| 49G0-33-1A10 | FRONT HUB PULLER SET             | \$142.00     |   |   |             |
| 49G7-10-2810 | OIL PRESSURE GAUGE ADAPTOR       | \$13.80      |   |   |             |
| 49H0-02-6710 | POWER STEERING GAUGE ADAPTOR     | \$112.40     |   |   |             |
| 49H0-10-4010 | OIL SEAL INSTALLER & REMOVER     | \$18.98      |   |   |             |
| 49H0-11-001B | SUPPORT BLOCK HEAD               | \$29.89      |   |   |             |
| 49H0-12-0100 | BOX WRENCH                       | \$35.80      |   |   |             |
| 49H0-17-1010 | HOOK                             | \$70.40      |   |   |             |
| 49H0-17-5010 | ENGINE SUPPORT                   | \$24.73      |   |   |             |
| 49H0-18-0010 | KNOCK SENSOR WRENCH              | \$22.20      |   |   |             |
| 49H0-18-9100 | ADAPTOR HARNESS                  | \$37.38      |   |   |             |
| 49H0-18-9120 | INJECTOR CHECK HARNESS           | \$16.68      |   |   |             |
| 49H0-18-9A10 | SELF DIAGNOSIS CHECKER           | \$244.00     |   |   |             |
| 49H0-19-0020 | ADAPTOR                          | \$23.05      |   |   |             |
| 49H0-19-9050 | ADAPTOR HARNESS                  | \$197.80     |   |   |             |
| 49H0-19-9080 | ADAPTOR HARNESS                  | \$194.35     |   |   |             |
| 49H0-19-9090 | PANEL                            | \$35.08      |   |   |             |
| 49H0-19-9A10 | ECAT TESTER                      | \$803.74     |   |   |             |
| 49H0-25-0010 | BEARING INSTALLER                | \$13.35      |   |   |             |
| 49H0-25-0020 | DUST SEAL INSTALLER              | \$16.40      |   |   |             |
| 49H0-25-0030 | BEARING INSTALLER                | \$18.40      |   |   |             |
| 49H0-25-0040 | BEARING INSTALLER                | \$14.55      |   |   |             |
| 49H0-26-101A | FRONT HUB SENSOR ROTOR INSTALLER | \$43.10      |   |   |             |
| 49H0-26-1020 | BEARING REMOVER                  | \$44.90      |   |   |             |
| 49H0-26-1030 | SUPPORT BLOCK                    | \$26.35      |   |   |             |

4/5/95

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# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

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| PART NUMBER  | DESCRIPTION                       | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|-----------------------------------|--------------|---|---|-------------|
| 49H0-26-1040 | GUIDE BLOCK                       | \$34.60      |   |   |             |
| 49H0-26-1080 | REMOVING PLATE                    | \$99.60      |   |   |             |
| 49H0-27-0010 | COLLAR "M"                        | \$11.50      |   |   |             |
| 49H0-27-0020 | BEARING REMOVER "M"               | \$63.55      |   |   |             |
| 49H0-28-3010 | DUST BOOT INSTALLER               | \$20.00      |   |   |             |
| 49H0-32-3220 | ADAPTOR                           | \$44.85      |   |   |             |
| 49H0-33-1010 | BEARING REMOVER                   | \$16.05      |   |   |             |
| 49H0-33-1020 | INSTALLER, SENSOR ROTOR           | \$25.88      |   |   |             |
| 49H0-61-0030 | ATTACHMENT, A/C                   | \$16.50      |   |   |             |
| 49H0-61-0040 | A/C SEAL SEAT REPLACER, A/C       | \$10.80      |   |   |             |
| 49H0-66-0020 | DEPLOYMENT TOOL                   | \$116.72     |   |   |             |
| 49H0-66-0030 | HARNES ADAPTOR                    | \$39.10      |   |   |             |
| 49H0-66-0040 | SHORT CIRCUIT CONNECTOR           | \$27.35      |   |   |             |
| 49H0-75-280A | COMPRESSION TESTER                | \$822.14     |   |   |             |
| 49H0-75-4060 | ADAPTOR                           | \$9.70       |   |   |             |
| 49H0-80-7400 | PRESSURE TESTER                   | \$66.15      |   |   |             |
| 49J0-19-0020 | CAP                               | \$13.22      |   |   |             |
| 49J0-27-0010 | BEARING INSTALLER                 | \$19.55      |   |   |             |
| 49J0-27-0020 | COLLAR                            | \$24.56      |   |   |             |
| 49L0-11-0A0B | PISTON PIN SETTING TOOL SET       | \$240.36     |   |   |             |
| 49L0-11-2A00 | BALANCE SHAFT BUSHING REPLACER S  | \$102.12     |   |   |             |
| 49L0-12-0A00 | VALVE SEAL/GUIDE INSTALLER SET    | \$47.69      |   |   |             |
| 49L0-17-3020 | ADAPTOR, CHANGE MOTOR             | \$11.27      |   |   |             |
| 49L0-19-0010 | BOLT, A/T CLUTCH SPRING COMPRESSO | \$21.53      |   |   |             |
| 49L0-19-9020 | PANEL                             | \$29.81      |   |   |             |
| 49L0-28-0A00 | AIR PRESSURE GAUGE SET            | \$171.67     |   |   |             |
| 49L0-33-1010 | INSTALLER, OIL SEAL               | \$26.04      |   |   |             |
| 49M0-05-5610 | CARRIER HANGER                    | \$250.00     |   |   |             |
| 49M0-05-7960 | OIL SEAL INSTALLER BODY "M"       | \$23.40      |   |   |             |
| 49N0-18-0010 | ADAPTOR HARNES                    | \$50.03      |   |   |             |
| 49N0-27-0010 | GAUGE BLOCK                       | \$41.40      |   |   |             |
| 49N0-34-2130 | DIFFERENTIAL BUSHING INSTALLER    | \$31.63      |   |   |             |
| 49S1-20-520A | REAR AXLE SHAFT BEARING PULLER    | \$143.80     |   |   |             |

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# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

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| PART NUMBER  | DESCRIPTION                       | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|-----------------------------------|--------------|---|---|-------------|
| 49S1-20-645A | REAR AXLE SHAFT HOLDER            | \$36.80      |   |   |             |
| 49S1-20-7480 | ATTACHMENT                        | \$10.25      |   |   |             |
| 49S2-31-3950 | CHAIN EXPANSION TOOL              | \$65.55      |   |   |             |
| 49S2-31-6350 | LOCKNUT WRENCH "M"                | \$42.90      |   |   |             |
| 49S2-31-6600 | NEEDLE BEARING PULLER             | \$108.05     |   |   |             |
| 49SE-01-310A | CLUTCH DISC CENTERING TOOL        | \$33.70      |   |   |             |
| 49T0-12-0A00 | TAPPET HOLDER SET                 | \$194.25     |   |   |             |
| 49T0-18-9020 | ADAPTOR HARNESS                   | \$457.71     |   |   |             |
| 49T0-18-9050 | SHEET                             | \$7.81       |   |   |             |
| 49T0-18-9060 | HARNESS ADAPTOR                   | \$557.31     |   |   |             |
| 49T0-88-010A | ROM CARD VER 2                    | \$290.56     |   |   |             |
| 49T0-88-0A00 | NGS, DELUXE SET (W/O ROM CD)      | \$1,058.44   | * | * |             |
| 49U0-14-0010 | AIR PRESSURE TESTER               | \$41.44      |   |   |             |
| 49U0-17-3A0A | SHIM SELECTOR GAUGE SET           | \$266.45     |   |   |             |
| 49U0-18-0010 | ADAPTOR HARNESS "A"               | \$151.60     |   |   |             |
| 49U0-19-0A0A | TRANSMISSION HANGER               | \$451.75     |   |   |             |
| 49U0-25-0010 | PROTECTOR INSTALLER               | \$47.05      |   |   |             |
| 49U0-27-0010 | COLLAR "M"                        | \$14.55      |   |   |             |
| 49U0-27-0030 | OIL SEAL INSTALLER "M"            | \$27.55      |   |   |             |
| 49U0-27-0050 | BEARING INSTALLER                 | \$20.13      |   |   |             |
| 49U0-27-0060 | BEARING & OIL SEAL INSTALLER      | \$19.55      |   |   |             |
| 49U0-27-0070 | OIL SEAL INSTALLER                | \$24.54      |   |   |             |
| 49U0-33-1010 | BEARING INSTALLER "M"             | \$16.05      |   |   |             |
| 49U0-34-2A00 | LOWER ARM BUSHING PULLER/INSTALLE | \$91.70      |   |   |             |
| 49U0-43-0030 | ANGLE GAUGE                       | \$35.10      |   |   |             |
| 49UB-39-585A | ADJUST WRENCH                     | \$33.40      |   |   |             |
| 49UN-01-0010 | CRANKSHAFT DAMPER REMOVER         | \$33.18      |   | * |             |
| 49UN-01-0020 | CRANKSHAFT DAMPER REPLACER        | \$35.06      |   | * |             |
| 49UN-01-0030 | FRONT COVER SEAL REMOVER          | \$67.88      |   | * |             |
| 49UN-01-0040 | FRONT COVER ALIGNER               | \$43.07      |   | * |             |
| 49UN-01-0050 | FRONT CRANK SEAL INSTALLER        | \$13.41      |   | * |             |
| 49UN-01-0060 | FUEL LINE COUPLING TOOL           | \$11.66      |   | * |             |
| 49UN-01-0070 | CLUTCH HOLDING TOOL               | \$22.66      |   | * |             |

4/5/95

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# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Note

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| PART NUMBER  | DESCRIPTION                       | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|-----------------------------------|--------------|---|---|-------------|
| 49UN-01-0080 | FAN CLUTCH NUT WRENCH             | \$13.38      |   | * |             |
| 49UN-01-0090 | REAR OIL SEAL REPLACER            | \$50.13      |   | * |             |
| 49UN-01-0100 | FUEL PRESSURE GAUGE               | \$106.47     | * | * |             |
| 49UN-01-0110 | MAINSHAFT LOCKNUT WRENCH          | \$40.19      |   | * |             |
| 49UN-01-0120 | BELL HOUSING SEAL REPLACER        | \$19.63      |   | * |             |
| 49UN-01-0130 | COUNTER LEVER WRENCH              | \$13.77      |   | * |             |
| 49UN-01-0140 | BALL DETENT INSTALLER             | \$9.06       |   | * |             |
| 49UN-01-0150 | FRONT PUMP ALIGNMENT SET          | \$133.45     |   | * |             |
| 49UN-01-0160 | SERVO ROD SELECTING GAUGE         | \$41.22      |   | * |             |
| 49UN-01-0170 | LIP SEAL PROTECTOR                | \$6.46       |   | * |             |
| 49UN-01-0180 | SEAL PROTECTOR                    | \$9.45       |   | * |             |
| 49UN-01-0190 | FRONT PUMP SEAL REPLACER          | \$11.18      |   | * |             |
| 49UN-01-0200 | FRONT PUMP SEAL STAKING TOOL      | \$44.91      |   | * |             |
| 49UN-01-0210 | A/T TEST PLATE                    | \$21.12      |   | * |             |
| 49UN-01-0220 | COLLET                            | \$61.94      |   | * |             |
| 49UN-01-0230 | ACTUATOR PIN                      | \$24.95      |   | * |             |
| 49UN-01-0240 | FRONT SHAFT NEEDLE BEARING REPLA  | \$11.45      |   | * |             |
| 49UN-01-0250 | INPUT SHAFT BUSH/BEARING REPLACER | \$34.31      |   | * |             |
| 49UN-01-0260 | DIFFERENTIAL HOUSING SPREADER     | \$265.00     |   | * |             |
| 49UN-01-0270 | SPREADER ADAPTORS                 | \$66.23      |   | * |             |
| 49UN-01-0280 | AXLE BEARING SEAL INSTALLER       | \$39.20      |   | * |             |
| 49UN-01-0290 | PINION/CARRIER BEARING PULLER     | \$451.02     |   | * |             |
| 49UN-01-0300 | DUMMY BEARING SET                 | \$105.10     |   | * |             |
| 49UN-01-0310 | DIFFERENTIAL BEARING REPLACER     | \$12.05      |   | * |             |
| 49UN-01-0320 | AXLE BEARING REMOVER              | \$41.43      |   | * |             |
| 49UN-01-0330 | AXLE BEARING REMOVER              | \$28.47      |   | * |             |
| 49UN-01-0340 | SHIM DRIVER                       | \$12.22      |   | * |             |
| 49UN-01-0350 | PINION BEARING CUP REPLACER       | \$65.08      |   | * |             |
| 49UN-01-0360 | PINION BEARING CONE REPLACER      | \$54.40      |   | * |             |
| 49UN-01-0370 | HEX LOCKNUT WRENCH                | \$16.90      |   | * |             |
| 49UN-01-0380 | SPINDLE BEARING REPLACER          | \$17.35      |   | * |             |
| 49UN-01-0400 | SEAL REPLACER                     | \$27.29      |   | * |             |
| 49UN-01-0410 | BEARING CUP REPLACER              | \$19.03      |   | * |             |

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# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Note

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| PART NUMBER    | DESCRIPTION                     | DEALER PRICE | 1 | 2 | INV. YES/NO |
|----------------|---------------------------------|--------------|---|---|-------------|
| 49UN-01-0420   | LOCKNUT WRENCH                  | \$24.95      |   | * |             |
| 49UN-01-0430   | SHAFT SEAL INSTALLER            | \$10.88      |   | * |             |
| 49UN-01-0440   | SHAFT SEAL REMOVER              | \$26.22      |   | * |             |
| 49UN-01-0450   | SHAFT SEAL PROTECTOR            | \$6.98       |   | * |             |
| 49UN-01-0460   | COIL PRESSING TOOL              | \$25.90      |   | * |             |
| 49UN-01-0470   | COIL REMOVER SHAFT PROTECTOR    | \$22.95      |   | * |             |
| 49UN-01-0480   | PRESSURE TEST PLATE             | \$20.11      |   | * |             |
| 49UN-01-0490   | SNAP RING PLIERS                | \$27.19      |   | * |             |
| 49UN-01-0500   | RADIO REMOVING TOOL X 2 SETS    | \$28.94      |   |   |             |
| 49UN-01-0510   | 3/8" FUEL LINE DISCONNECT TOOL  | \$6.55       |   | * |             |
| 49UN-01-0520   | 1/2" FUEL LINE DISCONNECT TOOL  | \$6.55       |   | * |             |
| 49UN-01-0530   | 5/16" FUEL LINE DISCONNECT TOOL | \$4.40       |   | * |             |
| 49UN-01-0540   | 3/8" FUEL LINE DISCONNECT TOOL  | \$4.40       |   | * |             |
| 49UN-01-0570   | EDIS DIAGNOSTIC CABLE           | \$557.00     |   | * |             |
| 49UN-01-0580   | 60 PIN BREAKOUT BOX             | \$477.00     | * | * |             |
| 49UN-01-0580-1 | BREAKOUT BOX OVERLAY            | \$15.95      |   |   |             |
| 49UN-01-0590   | MAP/BP SENSOR TESTER            | \$81.00      |   | * |             |
| 49UN-01-0600   | FIXED ORIFICE TUBE TOOLS        | \$16.54      |   | * |             |
| 49UN-01-0610   | BROKEN ORIFICE TUBE EXTRACTOR   | \$9.23       |   | * |             |
| 49UN-01-0620   | TEVES ABS ADAPTOR (BLEEDER)     | \$248.58     |   |   |             |
| 49UN-01-0630   | TEVES ABS ADAPTOR (JUMPER)      | \$155.72     |   |   |             |
| 49UN-01-0640   | REAR MAIN SEAL INSTALLER        | \$59.82      | * | * |             |
| 49UN-01-0650   | VALVE SPRING COMPRESSOR         | \$36.42      | * | * |             |
| 49UN-01-0660   | VALVE STEM SEAL INSTALLER       | \$18.89      | * | * |             |
| 49UN-01-0670   | CAMSHAFT BELT TENSION TOOL      | \$34.79      | * | * |             |
| 49UN-01-0680   | FRONT COVER ALIGNMENT TOOL      | \$52.12      | * | * |             |
| 49UN-01-0690   | CRANKSHAFT H.E. SENSOR POSIT.   | \$5.22       | * | * |             |
| 49UN-01-0700   | 2.3L CRANK SEAL INSTALLER       | \$61.27      | * | * |             |
| 49UN-01-0710   | MAZDA A/T TESTER SET W/CASE     | \$624.39     | * | * |             |
| 49UN-01-0720   | LIP SEAL PROTECTOR              | \$4.71       | * | * |             |
| 49UN-01-0730   | BEARING CONE REPLACER           | \$19.72      | * | * |             |
| 49UN-01-0740   | DIFFERENTIAL SIDE BRG REPLACER  | \$55.40      | * | * |             |
| 49UN-01-0760   | SPINDLE/AXLE BRG REPLACER       | \$95.45      | * | * |             |

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# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Note

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| PART NUMBER  | DESCRIPTION                  | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|------------------------------|--------------|---|---|-------------|
| 49UN-01-0770 | SYNCHRO POSITIONER TOOL      | \$12.32      | * | * |             |
| 49UN-01-0780 | DIS DIAGNOSTIC HARNESS       | \$443.19     | * | * |             |
| 49UN-01-0790 | TFI-BOB ADAPTOR              | \$262.57     | * | * |             |
| 49UN-01-0800 | SEAL PULLER                  | \$65.70      | * | * |             |
| 49UN-01-0850 | SHIFTER SHAFT ALIGNMENT TOOL | \$12.45      |   |   |             |
| 49UN-01-0860 | MLPS ALIGNMENT TOOL          | \$21.76      |   |   |             |
| 49UN-01-0870 | CONVERTER SEAL REMOVER       | \$47.45      |   |   |             |
| 49UN-01-0890 | CD4E CABLE, OVERLAY          | \$54.48      | * | * |             |
| 49UN-01-0910 | CD4E MLP CABLE, MANUAL       | \$43.14      | * | * |             |
| 49UN-01-1040 | SERVO COVER REM./REPL.       | \$32.21      |   |   |             |
| 49UN-01-1280 | ADAPTOR (ATF OIL PRESSURE)   | \$44.86      |   |   |             |
| 49UN-01-1290 | SEAL REPLACER                | \$11.65      |   |   |             |
| 49UN-01-1300 | 104 PIN BREAKOUT BOX         | \$540.93     | * | * |             |
| 49UN-01-1310 | AIR BAG SIMULATOR            | \$10.63      | * | * |             |
| 49UN-01-1320 | 4R44E/4R55E CABLE/OVERLAY    | \$78.33      | * | * |             |
| 49UN-01-1360 | REAR MAIN SEAL INSTALLER     | \$54.71      |   |   |             |
| 49UN-11-1010 | THREADED ADAPTOR             | \$22.31      |   | * |             |
| 49UN-17-1010 | BEARING DRIVER ATTACHMENT    | \$31.90      |   | * |             |
| 49UN-27-0010 | GAUGE BLOCK (FRONT)          | \$55.04      |   | * |             |
| 49UN-27-0020 | GAUGE BLOCK (REAR)           | \$44.39      |   | * |             |
| 49UN-27-0030 | COLLAR "A"                   | \$26.04      |   | * |             |
| 49UN-27-0040 | COLLAR B                     | \$23.31      |   | * |             |
| 49W0-27-0010 | OIL SEAL INSTALLER "M"       | \$38.30      |   |   |             |

4/5/95

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# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                                     |                                                                         |                     |
|----------------|-------------------------------------|-------------------------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>ALL<br>MODELS | Subject<br>EXCHANGE PROGRAM<br>NGS CARD VERSION 2.02 (P/N 49T0-88-010C) | Bulletin No. 002/96 |
|                |                                     |                                                                         | Issued 02/23/96     |
|                |                                     |                                                                         | Revised 06/06/96    |

**NOTE:** This is a revision to an existing Service Bulletin. Please replace the original copy with this revised copy.

## Background

Mazda distributed NGS Card version 2.01 (49T0-88-010B) to all dealers during the week of October 23, 1995. This card is used with the NGS tester (49T0-88-0A0). The card has several problems when used on specific Mazda models. The table below lists the models, problems, causes, as well as the actions to correct them:

| ITEM # | APPLICABLE MODELS                                | PROBLEM                                                                      | CAUSE                                                      | ACTION                                         |
|--------|--------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------|
| 1      | 1996 Protege<br>(Z5 & BP - A/T only)             | Unable to communicate with PCM.                                              | NGS card vehicle ID information is different from vehicle. | Corrected with updated card version 2.02.      |
| 2      | 1996 B-Series<br>(ABS, Air Bag)                  | Unable to communicate with C/U.                                              | Communication method of card is different from vehicle.    | Corrected with updated card version 2.02.      |
| 3      | 1995 Protege<br>1995 Millenia<br>1996 All Models | When displaying memory data, time scale is different from actual time scale. | Time scale method is incorrect.                            | Modify software for next card version.         |
| 4      | 1996 Miata, 929, MPV, Millenia                   | Unable to retrieve DTCs from ABS (Bosch manufactured).                       | Mismatch of NGS/Bosch specifications.                      | Modify software for next card version.         |
| 5      | 1996 626/MX-6<br>(FS - A/T only)                 | DTCs are displayed by performing "quick test".                               | Quick test procedures missing from Workshop Manual.        | WSM correction sent to dealers April 18, 1996. |

## The Exchange Program

Mazda is implementing an exchange program to provide dealers an updated card version 2.02 that will resolve items 1 and 2. The remainder of the items will be resolved with the next version of the card due Fall 1996. On specific dates, dealers will automatically be shipped an updated card with shipping materials to return their old NGS card version 2.01 (49T0-88-010B). **An updated card will be identified by its new version (2.02) and part number (49T0-88-010C) located on the card's label.**

## Benefit

This program is free of charge to dealers. However, **if a dealer does not send their old card version 2.01 within 2 days of receipt, their parts account will be debited \$235.75.**

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

**Program Implementation**

1. The program will be implemented one region at a time. The table below lists each regional office and the date their dealers will be sent a RPS envelope containing an updated card and the shipping materials to return their old card. It is the dealers' responsibility to note when they should expect their envelope.

| Mazda Office      | Implementation Date |
|-------------------|---------------------|
| Northeast         | 6/11/96             |
| Southeast         | 6/21/96             |
| Western           | 7/3/96              |
| Mazda Great Lakes | 7/15/96             |
| Gulf              | ALREADY UPDATED     |

2. Detailed Procedures:

STEP 1: A RPS envelope is shipped (Economy - 2nd day) to a Region's dealers on the implementation date illustrated in the above table. The envelope will contain the following:

- A. Instruction sheet.
- B. Updated NGS card version 2.02.
- C. Pre-addressed stay-flat (return shipping carton) with dealer return address and RPS bar code.
- D. Completed RPS Vendor Return Pick-up Record (form).

STEP 2: Dealers receive and unpack the envelope. The dealer then:

- A. Puts their old NGS card version 2.01 in stay-flat and seals stay-flat. **DO NOT ENCLOSE THE RPS VENDOR RETURN PICK-UP RECORD!**
- B. Telephones RPS for next day pick-up (800) 937-4587.

**NOTE: 1. THE DEALER MUST SEND THEIR EXISTING CARD 2.01 WITHIN 2 DAYS OF RECEIPT OF THE ENVELOPE OTHERWISE THEIR PARTS ACCOUNT WILL BE DEBITED \$235.75!**

**NOTE: 2.** The dealer is to contact Hickok, Inc. (800) 342-5080 if they do not receive an envelope.

STEP 3: RPS arrives for pick-up. The RPS driver receives the stay-flat and RPS Vendor Return Pick-up Record.

3. During the implementation of this program, a dealer can contact their regional office to borrow an updated card for a critical repair if they have not received their updated card at that time.
4. This program has a tracking system that will identify dealers that did not return their old card. These dealers' parts accounts will be debited accordingly.

If a dealer experiences problems other than those listed in the table on page one, they should contact America Kowa Seiki (800-824-9655). If there are any questions regarding this program contact your District Customer Support Manager or Tools/Equipment Manager (714) 442-6564.

# Service Bulletin

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7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                           |                                                       |                     |
|----------------|---------------------------|-------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>ALL | Subject<br>RECOMMENDED SST STORAGE CABINET<br>SYSTEMS | Bulletin No. 002/97 |
|                |                           |                                                       | Issued 03/27/97     |
|                |                           |                                                       | Revised             |

## DESCRIPTION

Mazda has developed and is now offering new SST Storage Cabinet Systems. To meet the various dealer storage needs there are four different systems available. Each of these systems contain the same organization method. This organization method is intended to efficiently locate and inventory your SSTs.

## APPLICATION

The cabinet systems are designed to store all your MRTs for all models. These systems also have additional space for your other SSTs.

## PRICING

See attached brochure.

**NOTE:** It is not necessary to provide a P.O. # on the brochure's order form. Your parts account will be debited.

## SHIPPING & BILLING INFORMATION

See attached brochure.

Please contact your District Customer Support Manager, America Kowa Seiki (800-824-9655 or 800-535-5455) or Tools/Equipment Manager (714-442-6564) if you have any questions regarding this information.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

# Service Bulletin

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7755 Irvine Center Drive  
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Telephone (714) 727-1990



|                |                                   |                                                                    |                                                   |
|----------------|-----------------------------------|--------------------------------------------------------------------|---------------------------------------------------|
| Category<br>ST | Applicable Model/s<br>All Current | Subject<br>BRAKE JUDDER REPAIR<br>ACCU INDUSTRIES NATIONAL ACCOUNT | Bulletin No. 003/94<br>Issued 10/28/94<br>Revised |
|----------------|-----------------------------------|--------------------------------------------------------------------|---------------------------------------------------|

## DESCRIPTION

Mazda's engineers have concluded that the rotor surfaces must be precisely machined to effectively correct brake judder. They also conclude that on-car brake lathes are more precise than off-car brake lathes for machining rotor surfaces. Therefore, an on-car brake lathe is recommended and **will be required for all rotor machining done under warranty after January 1, 1995** (see Service Bulletin Category P #006/94, Issue Date 9/1/94).

After an extensive evaluation, it became evident that the Accu-Turn On-Car brake lathe manufactured by Accu Industries demonstrated the following advantages:

1. Accuracy
2. Easy to use (specially designed Mazda adapters allows even easier installation)
3. Cost effective (lathe can adapt to any vehicle)
4. Strong field support network

Mazda specifically recommends the Accu-Turn On-Car brake lathe. To support your purchase of this lathe, a national account has been established which allows you to order it directly from the manufacturer at a substantial savings. This lathe is available at a **special introductory price of \$2995 until December 15, 1994**. This price includes the lathe with universal adapters, Mazda specially designed adapters, and in-dealer training. After December 15, 1994, the price will go to \$3850. Attached is a flyer that gives more details and the ordering procedures. If you want to order this lathe, be sure to note the following:

1. You can pre-order your lathe with Accu Industries immediately. Due to the anticipated demand, it is recommended that you order now. All lathes will be shipped on a first come, first serve basis.
2. Accu Industries will begin shipping lathes 11/1/94. Shipments will include the specially designed Mazda adapters.
3. You must place your order by December 15, 1994 to be guaranteed delivery before the January 1, 1995 warranty deadline. **THERE ARE NO EXCEPTIONS!**
4. After the delivery of the lathe, your parts account will be debited accordingly.

If you have any questions regarding this information contact your District Customer Support Manager or Tools/Development Manager at (714) 588-5059.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

871650

|                |                       |                   |
|----------------|-----------------------|-------------------|
| Number: 002/94 | Date Issued: 10/25/94 | Revised: 11/16/94 |
|----------------|-----------------------|-------------------|

**\*APPLICATION TABLE FOR NGS PROGRAM CARD VERSION 2.0 (P/N 49T0-88-010A)**

| NOTE | APPLICABLE MODEL                       | PCM* <sup>1</sup> | TCM* <sup>2</sup> | ABS             | A/C | CCM* <sup>3</sup> |
|------|----------------------------------------|-------------------|-------------------|-----------------|-----|-------------------|
|      | 1995 MILLENIA                          | O* <sup>4</sup>   | (O)               | O* <sup>5</sup> | O   | O                 |
| X    | 1995 PROTEGE                           | O* <sup>4</sup>   | (O)               | O               | -   | O                 |
| X    | 1995 626/MX-6 WITH FS ENGINE           | O                 | -                 | O               | -   | O                 |
| X    | 1995 626/MX-6 WITH KL ENGINE           | O                 | O                 | O               | -   | O                 |
| X    | 1995 929                               | O                 | O                 | O               | O   | O                 |
| X    | 1995 MX-3                              | O                 | O                 | O               | -   | -                 |
| X    | 1995 MIATA                             | O                 | O                 | O               | -   | -                 |
| X    | 1995 RX-7                              | O                 | O                 | O               | -   | O                 |
| X    | 1995 MPV                               | O                 | O                 | -               | -   | -                 |
| X    | 1995 B2300, B3000, B4000               | O* <sup>4</sup>   | (O)               | O               | -   | -                 |
|      | 1994 323/PROTEGE                       | O                 | O                 | -               | -   | -                 |
|      | 1994 626/MX-6 WITH FS ENGINE (EC-AT)   | O                 | (O)               | O               | -   | O                 |
|      | 1994 626/MX-6 WITH FS ENGINE (MT)      | O                 | -                 | O               | -   | O                 |
|      | 1994 626/MX-6 WITH KL ENGINE           | O                 | O                 | O               | -   | O                 |
|      | 1994 929                               | O                 | O                 | -               | O   | O                 |
|      | 1994 MX-3                              | O                 | O                 | O               | -   | -                 |
|      | 1994 MIATA                             | O                 | O                 | O               | -   | -                 |
|      | 1994 RX-7                              | O                 | O                 | -               | -   | -                 |
|      | 1994 MPV WITH G6 ENGINE                | O                 | O                 | -               | -   | O                 |
|      | 1994 MPV WITH JE ENGINE                | O                 | O                 | -               | -   | -                 |
|      | 1994 NAVAJO                            | O                 | (O)               | -               | -   | -                 |
|      | 1994 B2300 2.3L (49S)                  | O                 | (O)               | O               | -   | -                 |
|      | 1994 B2300 2.3L (CAL)                  | O                 | (O)               | -               | -   | -                 |
|      | 1994 B3000 & B4000                     | O                 | (O)               | -               | -   | -                 |
|      | 1993 NAVAJO                            | O                 | -                 | O               | -   | -                 |
|      | 1992 - 1993 ALL VEHICLES EXCEPT NAVAJO | O                 | O                 | O               | O   | O                 |
|      | 1991 - 1992 NAVAJO                     | O                 | -                 | -               | -   | -                 |
|      | 1991 ALL VEHICLES EXCEPT NAVAJO        | O                 | O                 | -               | -   | -                 |
|      | 1988 - 1990 ALL VEHICLES               | O                 | O                 | -               | -   | -                 |

\*1: PCM= Power Control Module

\*2: TCM= Transmission Control Module

\*3: CCM= Cruise Control Module

\*4: on-vehicle control unit equipped with OBD-II

\*5: include Traction Control System

(O): means there is no TCM, but it is possible to diagnose the TCM from the PCM menu.

X: means these year/models are newly added to the program card.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



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|                |                           |                                                                   |                     |
|----------------|---------------------------|-------------------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>ALL | Subject<br>BATTERY TESTER RECOMMENDATION/<br>NEW NATIONAL ACCOUNT | Bulletin No. 003/95 |
|                |                           |                                                                   | Issued 4/27/95      |
|                |                           |                                                                   | Revised             |

## RECOMMENDATION

After completing an extensive battery tester evaluation, Mazda recommends the Midtronics PowerSensor Plus electronic battery tester. It is used for diagnosing batteries as outlined in Service Bulletin Category G 002/95, issue date April 5, 1995.

Please refer to the attached flyer for the benefits of this tester.

## NEW NATIONAL ACCOUNT

Mazda has established a national account with Midtronics, Inc. which allows you to directly order from them a special package containing this tester. The following are highlights of this account. For further details refer to the attached flyer.

### Pricing

The special package is available at the introductory price of \$598.50. This price is effective up to and including July 31, 1995. After this date the price will be \$680.00. THERE ARE NO EXCEPTIONS!

### Order Information

Use the easy ordering procedures on the attached flyer to order your tester package.

### Shipping & Billing Information

Your order will be shipped prepaid via UPS. Your parts account will be billed upon delivery.

Your District Customer Support Manager will be offering a demonstration of this tester during their next dealer visit. If you have any questions regarding this information contact your District Customer Support Manager or Tools/Development Manager at (714) 588-5059.

.....  
Index # 042734  
.....

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager





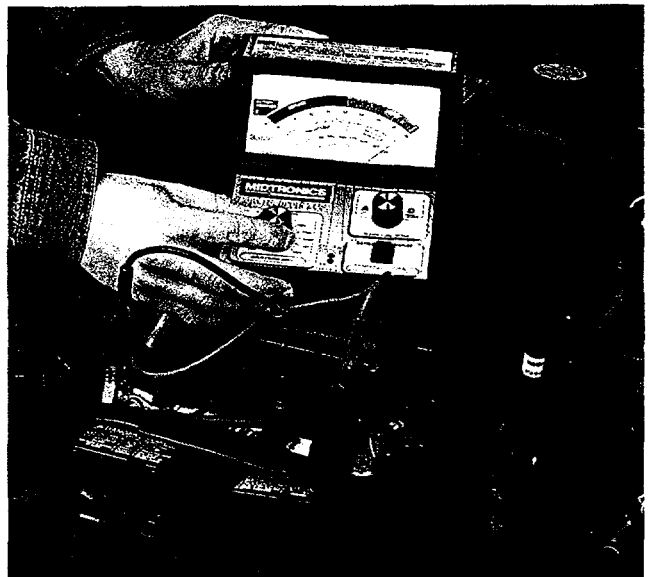
## POWERSENSOR PLUS ELECTRONIC BATTERY TESTER

Mazda is proud to introduce the Midtronics PowerSensor Plus electronic battery tester as recommended service equipment for all dealers. This electronic battery tester has been evaluated extensively by Mazda. It is to be used for the maintenance free battery diagnostic and charging procedures outlined in Service Bulletin Category G 002 / 95, issue date April 5, 1995. This tester will also be used by Mazda when testing batteries.

Your District Customer Support Manager will be offering a demonstration on this tester during their next dealer visit. To assist you with the purchase of this recommended equipment, we are offering a special introductory price which is only available until July 31, 1995.

### Benefits:

- No need to pre-charge battery, tests batteries as low as 10.2 volts.
- Fast - less than 10 seconds for a complete battery test.
- Locates "discharged only" and "marginal" batteries that will fail soon.
- Compensates for low temperature - no need for the battery to be at room temperature.
- Portability - tests batteries in or out of the vehicle.
- Test is repeatable - it does not apply a load on the battery.
- Safety - no sparks or heat, locates batteries with a "bad" cell.



(tear along perforation)



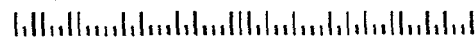
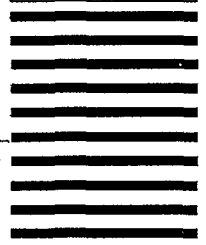
NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**BUSINESS REPLY MAIL**  
FIRST CLASS MAIL PERMIT NO. 386 BURR RIDGE, IL

POSTAGE WILL BE PAID BY ADDRESSEE

ATTN: ORDER DEPARTMENT  
**Midtronics, Inc.**

8230 S. Madison Street  
Burr Ridge, IL 60521-9756



# THE SPECIAL MAZDA PACKAGE INCLUDES:

- Battery Tester
- Carrying Case
- Battery Side Post Adapters
- Extra Fuses
- Instruction Card



**Special Introductory Price of: \$598.50** (taxes not included)

- After July 31, 1995, the price will be \$680.00.
- Your order will be billed to your parts account upon delivery.

## Three Easy Ways to Order:



**MAIL**  
Order Form



**Phone**  
(800) 776-1995



**Fax**  
(708) 323-2844

(tear along perforation)

### BUSINESS REPLY FORM

Please send me 1 Mazda Package.

Dealer Name: \_\_\_\_\_ Dealer No.: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Please contact me about the battery tester.

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ County: \_\_\_\_\_

State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Phone No.: ( \_\_\_\_\_ ) \_\_\_\_\_ Ext. \_\_\_\_\_ Dealer P.O. No.: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

# Service Bulletin

Mazda North American Operations  
Irvine, CA 92718-2906



|                |                                  |                                                                        |                                                  |
|----------------|----------------------------------|------------------------------------------------------------------------|--------------------------------------------------|
| Category<br>ST | Applicable Model/s<br>All Models | Subject<br>RECOMMENDED SPECIAL SERVICE TOOL<br>STORAGE CABINET SYSTEMS | Bulletin No. 003/98<br>Issued 7/16/98<br>Revised |
|----------------|----------------------------------|------------------------------------------------------------------------|--------------------------------------------------|

## DESCRIPTION

The Mazda SST Storage Cabinet System has proven to be an effective means of organizing and securing Mazda's Special Tools. There are four different configurations of cabinets available to fit your needs.

All configurations are shipped with a pre-installed drawer liner organization method that includes drawer liners, partition/dividers and a Tool Location Index. This index allows users to efficiently locate and inventory Mazda Required Tools and Optional Tools.

The cabinet systems are easily updated. When a new SST(s) is shipped to your service department, drawer liner update information is enclosed for the SST. This information consists of update instructions, drawer liner/index update stickers, and any necessary drawer dividers. See attached brochure for further details.

## APPLICATION

Each of the four cabinet systems is designed to store all your Mazda Required Tools with additional space available for other tools and equipment.

## ORDER PROCEDURE - MAZDA M:NET

Order your SST Storage Cabinet System order through M:NET, Mazda's computer-based information and order fulfillment system. You will find information describing the process of using M:NET in the M:NET Operations Guide.

## PRICING

### Summer 1998 Promotional Pricing

During July, August, and September, you can order cabinets at the discounted prices listed below. In addition, the cabinet manufacturer, Stanley Storage Systems, is providing free shipping during this promotion. Your parts account will be billed over a three month period.

| SST Storage Cabinet System |                                                              | Summer 1998 Price | Dealer Price |
|----------------------------|--------------------------------------------------------------|-------------------|--------------|
| Mazda 01                   | 3 low cabinets with 21 drawers                               | \$2,195.00        | \$2,395.00   |
| Mazda 02                   | 3 low cabinets with 21 drawers, and steel top                | \$2,395.00        | \$2,595.00   |
| Mazda 03                   | 3 low cabinets with 21 drawers, shelf riser, and 3 bookcases | \$2,995.00        | \$3,195.00   |
| Mazda 04                   | 2 high cabinets with 22 drawers                              | \$2,195.00        | \$2,395.00   |

## SHIPPING AND BILLING INFORMATION

Your order will be shipped directly from the manufacturer and your parts account billing will begin upon receipt. Again, your parts account will be billed over a three month period.

Please contact your District Customer Support Manager, America Kowa Seiki (800-824-9655 or 310-638-1000 ext. 211) or Tools/Equipment Manager (714-442-6531) if you have any questions regarding this information.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

060467

Page 1 of 1

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                                   |                                                        |                     |
|----------------|-----------------------------------|--------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>ALL CURRENT | Subject<br>MAZDA REQUIRED TOOL (MRT)<br>INVENTORY LIST | Bulletin No. 004/96 |
|                |                                   |                                                        | Issued 08/21/96     |
|                |                                   |                                                        | Revised             |

## DESCRIPTION

Attached is a "Mazda Required Tool (MRT) Inventory List". It contains all Special Service Tools your dealer is currently required to have to properly service Mazda vehicles.

As needed, Mazda will issue Special Tool Service Bulletins to address any updates\* to this list. A new list will be issued annually incorporating all applicable updates from the previous year.

\* NOTE: Updates will not include price changes. Use the toll free telephone numbers listed below "ORDERING TOOLS" to contact America Kowa Seiki, Inc., Mazda's tool vendor, for current pricing.

## APPLICATION

This inventory list is to be used by your dealer to assist you with maintaining a complete inventory of these required tools.

## ORDERING TOOLS

Directly contact America Kowa Seiki, Inc. using the toll free telephone numbers listed below to order any Mazda Special Service Tool.

**(800) 824-9655 OR (800) 535-5455**

## BILLING FOR TOOLS

Your dealer will be billed directly by America Kowa Seiki. **YOU CANNOT BILL TOOL ORDERS TO YOUR PARTS ACCOUNT.**

If you have any questions regarding this information contact your District Customer Support Manager or Tools/ Equipment Manager at (714) 442-6465.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Notes

Pg. 1

| TOOL NUMBER  | DESCRIPTION                       | DEALER PRICE | Notes |   | INV. YES/NO |
|--------------|-----------------------------------|--------------|-------|---|-------------|
|              |                                   |              | 1     | 2 |             |
| 0000-42-0010 | ANTI-LOCK BRAKE SYSTEM CHECKER    | \$1,957.58   |       |   |             |
| 4901-80-321A | MAIN DRIVE GEAR BEARING INSTALLER | \$32.00      |       |   |             |
| 4901-80-510B | BEARING PRELOAD MEAS. ATTACHMENT  | \$12.25      |       |   |             |
| 4902-23-630B | REAR AXLE SHAFT PULLER            | \$63.00      |       |   |             |
| 4902-59-4400 | MAINSHAFT HOLDER                  | \$31.56      |       |   |             |
| 4902-59-7200 | SIDE BEARING NUT WRENCH           | \$51.13      |       |   |             |
| 4903-05-4300 | MAIN DRIVESHAFT PUSHER            | \$76.08      |       |   |             |
| 4903-78-3750 | CLUTCH SPRING COMPRESSOR          | \$39.63      |       |   |             |
| 4903-78-3900 | OIL PUMP PULLER                   | \$44.89      |       |   |             |
| 4903-78-400B | OIL PRESSURE GAUGE SET            | \$146.45     |       |   |             |
| 4905-00-3300 | TRANSMISSION BEARING INSTALLER    | \$29.63      |       |   |             |
| 4906-03-635A | REAR SHAFT BEARING NUT WRENCH     | \$89.94      |       |   |             |
| 4906-36-100B | VALVE SPRING LIFTER ARM & PIVOT   | \$70.11      |       |   |             |
| 4907-27-4150 | BEARING INSTALLER                 | \$28.06      |       |   |             |
| 4908-39-305A | COUNTERWEIGHT PULLER (A/T)        | \$79.81      |       |   |             |
| 4908-39-425C | BEARING PULLER SET                | \$254.94     |       |   |             |
| 4912-32-670A | P/S OIL PRESSURE GAUGE SET        | \$307.63     |       |   |             |
| 4912-43-465A | MAINSHAFT LOCK NUT WRENCH         | \$51.31      |       |   |             |
| 4912-85-0710 | ECCENTRIC SHAFT BEARING PULLER    | \$52.75      |       |   |             |
| 4918-81-055A | COUNTERWEIGHT STOPPER             | \$50.89      |       |   |             |
| 4985-01-631A | REAR AXLE SHAFT PULLER ATTACHMENT | \$89.44      |       |   |             |
| 4985-31-5550 | GAUGE BLOCK                       | \$77.70      |       |   |             |
| 4985-31-5650 | MIDDLE PINION                     | \$245.78     |       |   |             |
| 4992-00-162A | ENGINE SIGNAL MONITOR             | \$432.85     |       |   |             |
| 4992-00-1670 | ADAPTOR HARNESS                   | \$198.73     |       |   |             |
| 4992-02-0200 | PRESSURE PLATE REMOVER            | \$26.01      |       |   |             |
| 4992-02-0300 | SEAL PLATE REMOVER                | \$118.01     |       |   |             |
| 4992-02-0400 | SHAFT SEAL REMOVER                | \$64.25      |       |   |             |
| 49B0-12-0060 | VALVE SPRING LIFTER ARM & PIVOT   | \$18.00      |       |   |             |
| 49B0-12-0A20 | PIVOT                             | \$56.79      |       |   |             |
| 49B0-17-1020 | PRELOAD ADAPTOR                   | \$25.56      |       |   |             |
| 49B0-17-1A00 | BEARING REMOVER SET               | \$239.75     |       |   |             |
| 49B0-19-0020 | BODY (RETURN SPRING COMPRESSOR)   | \$74.04      |       |   |             |
| 49B0-19-0040 | ECAT BRAKE BAND ADAPTOR           | \$8.13       |       |   |             |
| 49B0-19-0050 | ECAT BRAKE BAND ADAPTOR           | \$8.13       |       |   |             |
| 49B0-19-0070 | PRELOAD ADAPTOR                   | \$33.06      |       |   |             |
| 49B0-19-0080 | LEAK CHECKER                      | \$67.11      |       |   |             |
| 49B0-19-9010 | OIL PRESSURE GAUGE                | \$111.41     |       |   |             |
| 49B0-19-9040 | PANEL (MMC)                       | \$38.81      |       |   |             |
| 49B0-19-9080 | HARNESS ADAPTOR                   | \$337.81     |       |   |             |
| 49B0-19-9A00 | SYSTEM SELECTOR                   | \$128.66     |       |   |             |
| 49B0-19-9A10 | ECAT SELECTOR                     | \$503.13     |       |   |             |
| 49B0-25-0010 | DUST SEAL INSTALLER               | \$29.25      |       |   |             |
| 49B0-26-1A00 | REAR HUB PULLER                   | \$123.63     |       |   |             |
| 49B0-32-3040 | POWER STEERING GAUGE ADAPTOR      | \$61.81      |       |   |             |
| 49B0-43-0010 | ADJUST GAUGE                      | \$79.06      |       |   |             |
| 49B0-43-0020 | BEARING INSTALLER                 | \$11.75      |       |   |             |
| 49B0-61-0050 | A/C SEAL PLATE REMOVER            | \$18.69      |       |   |             |

Notes: (1) This tool is required by Lincoln/Mercury and therefore not required by Mazda if the service area is combined at one location.  
 (2) This tool is required by Ford or Ford/Lincoln/Mercury and therefore not required by Mazda if the service area is combined at one location.

8/15/96

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# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Notes

Pg. 2

| TOOL NUMBER  | DESCRIPTION                       | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|-----------------------------------|--------------|---|---|-------------|
| 49D0-19-0010 | BOLT, SHIM SELECTOR SET           | \$10.88      |   |   |             |
| 49D0-19-9020 | HARNESS ADAPTOR                   | \$247.25     |   |   |             |
| 49D0-32-3160 | PROTRACTOR                        | \$8.78       |   |   |             |
| 49E0-11-0010 | GUIDE, PISTON PIN                 | \$9.93       |   |   |             |
| 49E0-11-0020 | SCREW                             | \$21.56      |   |   |             |
| 49E0-11-1A10 | HOLDER SET                        | \$72.89      |   |   |             |
| 49E0-43-001A | GAUGE, PUSH ROD                   | \$120.22     |   |   |             |
| 49E0-43-0020 | INSTALLER, RETAINER               | \$29.04      |   |   |             |
| 49E0-43-003A | TURNING LOCK TOOL                 | \$91.08      |   |   |             |
| 49F0-11-1A10 | BEARING INSTALLER SET             | \$31.59      |   |   |             |
| 49F0-17-1010 | SYNCHRONIZER RING HOLDER "M"      | \$32.81      |   |   |             |
| 49F0-17-1A00 | UNIVERSAL WRENCH                  | \$91.29      |   |   |             |
| 49F0-18-0020 | IGNITER CHECKER                   | \$71.88      |   |   |             |
| 49F0-18-0030 | ADAPTOR HARNESS                   | \$63.25      |   |   |             |
| 49F0-18-9030 | SHEET                             | \$7.19       |   |   |             |
| 49F0-19-0010 | OIL SEAL INSTALLER                | \$28.03      |   |   |             |
| 49F0-19-0A00 | ADAPTOR SET                       | \$61.29      |   |   |             |
| 49F0-19-901A | ECAT HARNESS                      | \$227.59     |   |   |             |
| 49F0-26-1020 | BEARING INSTALLER                 | \$28.06      |   |   |             |
| 49F0-26-1030 | WHEEL HUB PULLER                  | \$86.25      |   |   |             |
| 49F0-26-1040 | SENSOR ROTOR INSTALLER            | \$60.38      |   |   |             |
| 49F0-27-0A00 | PINION HEIGHT ADJ. GAUGE          | \$697.25     |   |   |             |
| 49F0-27-0A10 | BEARING INSTALLER SET             | \$158.13     |   |   |             |
| 49F0-43-0010 | ADJUST GAUGE                      | \$23.75      |   |   |             |
| 49F4-01-330B | BEARING INSTALLER SET             | \$71.19      |   |   |             |
| 49F4-01-4400 | PRIMARY SHAFT HOLDER              | \$18.88      |   |   |             |
| 49FT-01-3610 | BEARING REMOVER                   | \$40.19      |   |   |             |
| 49FT-01-4390 | IDLER GEAR SHAFT HOLDER           | \$14.25      |   |   |             |
| 49G0-17-1A00 | BEARING REMOVER SET               | \$356.25     |   |   |             |
| 49G0-17-2020 | ATTACHMENT PRELOAD ADAPTOR        | \$28.44      |   |   |             |
| 49G0-18-9010 | THROTTLE SENSOR ADAPTOR HARNESS   | \$14.25      |   |   |             |
| 49G0-18-9030 | ADAPTOR HARNESS                   | \$395.31     |   |   |             |
| 49G0-18-9040 | SHEET                             | \$6.46       |   |   |             |
| 49G0-18-9060 | SHEET                             | \$16.61      |   |   |             |
| 49G0-19-0110 | BEARING INSTALLER "M"             | \$19.25      |   |   |             |
| 49G0-19-0120 | LEAK CHECKER "M"                  | \$54.29      |   |   |             |
| 49G0-19-0130 | BEARING REMOVER "M"               | \$57.75      |   |   |             |
| 49G0-19-0170 | OIL SEAL INSTALLER "M"            | \$32.13      |   |   |             |
| 49G0-19-018A | SHIM SELECTOR SET "M"             | \$202.38     |   |   |             |
| 49G0-19-0200 | PRELOAD ADAPTOR                   | \$27.13      |   |   |             |
| 49G0-19-0220 | ATTACHMENT "K"                    | \$25.00      |   |   |             |
| 49G0-19-0310 | WRENCH                            | \$25.74      |   |   |             |
| 49G0-19-0A7A | RETURN SPRING COMPRESSOR SET      | \$199.81     |   |   |             |
| 49G0-25-0010 | DRIVESHAFT SENSOR ROTOR INSTALLER | \$46.44      |   |   |             |
| 49G0-26-1020 | BEARING REPLACER                  | \$29.94      |   |   |             |
| 49G0-26-1030 | SUPPORT BLOCK                     | \$36.69      |   |   |             |
| 49G0-30-2220 | VALVE SPRING LIFTER ARM & PIVOT   | \$16.44      |   |   |             |
| 49G0-30-3380 | ATTACHMENT "D"                    | \$12.38      |   |   |             |

Notes: (1) This tool is required by Lincoln/Mercury and therefore not required by Mazda if the service area is combined at one location.  
 ◆ (2) This tool is required by Ford or Ford/Lincoln/Mercury and therefore not required by Mazda if the service area is combined at one location.

8/15/96

kk@mist

# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Notes

Pg. 3

| TOOL NUMBER  | DESCRIPTION                        | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|------------------------------------|--------------|---|---|-------------|
| 49G0-30-3700 | REMOVING PLATE                     | \$46.31      |   |   |             |
| 49G0-30-380C | SHIM SELECTOR SET                  | \$918.19     |   |   |             |
| 49G0-30-4400 | PRIMARY SHAFT HOLDER               | \$21.13      |   |   |             |
| 49G0-30-7950 | OIL SEAL INSTALLER                 | \$27.81      |   |   |             |
| 49G0-32-3550 | ADJUST GAUGE                       | \$7.50       |   |   |             |
| 49G0-33-1070 | KNUCKLE DUST COVER INSTALLER       | \$16.94      |   |   |             |
| 49G0-33-1A10 | FRONT HUB PULLER SET               | \$177.50     |   |   |             |
| 49H0-02-6710 | POWER STEERING GAUGE ADAPTOR       | \$140.50     |   |   |             |
| 49H0-10-4010 | OIL SEAL INSTALLER & REMOVER       | \$23.73      |   |   |             |
| 49H0-11-001B | SUPPORT BLOCK HEAD                 | \$37.36      |   |   |             |
| 49H0-12-0100 | BOX WRENCH                         | \$44.75      |   |   |             |
| 49H0-17-1010 | HOOK                               | \$88.00      |   |   |             |
| 49H0-18-9100 | ADAPTOR HARNESS                    | \$46.73      |   |   |             |
| 49H0-18-9A10 | SELF DIAGNOSIS CHECKER             | \$305.00     |   |   |             |
| 49H0-19-0020 | ADAPTOR                            | \$28.81      |   |   |             |
| 49H0-19-9050 | ADAPTOR HARNESS                    | \$247.25     |   |   |             |
| 49H0-19-9080 | ADAPTOR HARNESS                    | \$242.94     |   |   |             |
| 49H0-19-9090 | PANEL                              | \$43.85      |   |   |             |
| 49H0-19-9A10 | ECAT TESTER                        | \$1,004.68   |   |   |             |
| 49H0-25-0010 | BEARING INSTALLER                  | \$16.69      |   |   |             |
| 49H0-25-0020 | DUST SEAL INSTALLER                | \$20.50      |   |   |             |
| 49H0-25-0030 | BEARING INSTALLER                  | \$23.00      |   |   |             |
| 49H0-25-0040 | BEARING INSTALLER                  | \$18.19      |   |   |             |
| 49H0-26-101A | FRONT HUB SENSOR ROTOR INSTALLER   | \$53.88      |   |   |             |
| 49H0-26-1040 | GUIDE BLOCK                        | \$43.25      |   |   |             |
| 49H0-26-1080 | REMOVING PLATE                     | \$124.50     |   |   |             |
| 49H0-27-0010 | COLLAR "M"                         | \$14.38      |   |   |             |
| 49H0-27-0020 | BEARING REMOVER "M"                | \$79.44      |   |   |             |
| 49H0-28-3010 | DUST BOOT INSTALLER                | \$25.00      |   |   |             |
| 49H0-32-321A | HEX WRENCH                         | \$13.99      |   |   |             |
| 49H0-32-3220 | ADAPTOR                            | \$56.06      |   |   |             |
| 49H0-33-1010 | BEARING REMOVER                    | \$20.06      |   |   |             |
| 49H0-33-1020 | INSTALLER, SENSOR ROTOR            | \$32.35      |   |   |             |
| 49H0-61-0040 | A/C SEAL SEAT REPLACER, A/C        | \$13.50      |   |   |             |
| 49H0-66-0020 | DEPLOYMENT TOOL                    | \$145.90     |   |   |             |
| 49H0-66-0030 | HARNESS ADAPTOR                    | \$48.88      |   |   |             |
| 49H0-66-0040 | SHORT CIRCUIT CONNECTOR            | \$34.19      |   |   |             |
| 49H0-75-280A | COMPRESSION TESTER                 | \$1,027.68   |   |   |             |
| 49H0-75-4060 | ADAPTOR                            | \$12.13      |   |   |             |
| 49H0-80-7400 | PRESSURE TESTER                    | \$82.69      |   |   |             |
| 49J0-19-0020 | CAP                                | \$16.53      |   |   |             |
| 49J0-27-0010 | BEARING INSTALLER                  | \$24.44      |   |   |             |
| 49J0-27-0020 | COLLAR                             | \$30.70      |   |   |             |
| 49L0-11-0A0B | PISTON PIN SETTING TOOL SET        | \$300.45     |   |   |             |
| 49L0-11-2A00 | BALANCE SHAFT BUSHING REPLACER SET | \$127.65     |   |   |             |
| 49L0-12-0A00 | VALVE SEAL/GUIDE INSTALLER SET     | \$59.61      |   |   |             |
| 49L0-17-3020 | ADAPTOR, CHANGE MOTOR              | \$14.09      |   |   |             |
| 49L0-19-0010 | BOLT, A/T CLUTCH SPRING COMPRESSOR | \$26.91      |   |   |             |

Notes: (1) This tool is required by Lincoln/Mercury and therefore not required by Mazda if the service area is combined at one location.  
 (2) This tool is required by Ford or Ford/Lincoln/Mercury and therefore not required by Mazda if the service area is combined at one location.

8/15/96

kk@milst

# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Notes

Pg. 4

| TOOL NUMBER  | DESCRIPTION                        | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|------------------------------------|--------------|---|---|-------------|
| 49L0-19-9020 | PANEL                              | \$37.26      |   |   |             |
| 49L0-33-1010 | INSTALLER, OIL SEAL                | \$32.55      |   |   |             |
| 49L0-33-1030 | SENSOR ROTOR INSTALLER             | \$31.25      |   |   |             |
| 49M0-05-7960 | OIL SEAL INSTALLER BODY "M"        | \$29.25      |   |   |             |
| 49N0-18-0010 | ADAPTOR HARNESS                    | \$62.54      |   |   |             |
| 49N0-27-0010 | GAUGE BLOCK                        | \$51.75      |   |   |             |
| 49N0-34-2130 | DIFFERENTIAL BUSHING INSTALLER     | \$39.54      |   |   |             |
| 49S0-26-0010 | INSTALLER                          | \$28.67      |   |   |             |
| 49S1-20-520A | REAR AXLE SHAFT BEARING PULLER     | \$179.75     |   |   |             |
| 49S1-20-645A | REAR AXLE SHAFT HOLDER             | \$46.00      |   |   |             |
| 49S1-20-7480 | ATTACHMENT                         | \$12.82      |   |   |             |
| 49S2-31-6350 | LOCKNUT WRENCH "M"                 | \$53.63      |   |   |             |
| 49S2-31-6600 | NEEDLE BEARING PULLER              | \$135.06     |   |   |             |
| 49T0-12-0A00 | TAPPET HOLDER SET                  | \$242.81     |   |   |             |
| 49T0-18-9020 | ADAPTOR HARNESS                    | \$572.14     |   |   |             |
| 49T0-18-9050 | SHEET                              | \$9.76       |   |   |             |
| 49T0-18-9060 | HARNESS ADAPTOR                    | \$696.64     |   |   |             |
| 49T0-88-010C | ROM CARD VER. 2.02                 | \$290.56     |   |   |             |
| 49T0-88-0A00 | NGS, DELUXE SET W/O ROM CARD       | \$1,362.22   | ◆ | ◆ |             |
| 49U0-14-0010 | AIR PRESSURE TESTER                | \$41.44      |   |   |             |
| 49U0-18-0010 | ADAPTOR HARNESS "A"                | \$189.50     |   |   |             |
| 49U0-25-0010 | PROTECTOR INSTALLER                | \$58.81      |   |   |             |
| 49U0-27-0010 | COLLAR "M"                         | \$18.19      |   |   |             |
| 49U0-27-0030 | OIL SEAL INSTALLER "M"             | \$34.44      |   |   |             |
| 49U0-27-0050 | BEARING INSTALLER                  | \$25.16      |   |   |             |
| 49U0-27-0060 | BEARING & OIL SEAL INSTALLER       | \$24.44      |   |   |             |
| 49U0-27-0070 | OIL SEAL INSTALLER                 | \$30.68      |   |   |             |
| 49U0-33-1010 | BEARING INSTALLER "M"              | \$20.06      |   |   |             |
| 49U0-34-2A00 | LOWER ARM BUSHING PULLER/INSTALLER | \$114.63     |   |   |             |
| 49UB-39-585A | ADJUST WRENCH                      | \$41.75      |   |   |             |
| 49UN-01-0010 | CRANKSHAFT DAMPER REMOVER          | \$39.16      |   | ◆ |             |
| 49UN-01-0020 | CRANKSHAFT DAMPER REPLACER         | \$41.37      |   | ◆ |             |
| 49UN-01-0030 | FRONT COVER SEAL REMOVER           | \$80.10      |   | ◆ |             |
| 49UN-01-0040 | FRONT COVER ALIGNER                | \$50.82      |   | ◆ |             |
| 49UN-01-0050 | FRONT CRANK SEAL INSTALLER         | \$14.90      |   | ◆ |             |
| 49UN-01-0060 | FUEL LINE COUPLING TOOL            | \$12.96      |   | ◆ |             |
| 49UN-01-0070 | CLUTCH HOLDING TOOL                | \$22.66      |   | ◆ |             |
| 49UN-01-0080 | FAN CLUTCH NUT WRENCH              | \$29.03      |   | ◆ |             |
| 49UN-01-0100 | FUEL PRESSURE GAUGE                | \$125.63     | ◆ | ◆ |             |
| 49UN-01-0110 | MAINSHAFT LOCKNUT WRENCH           | \$47.42      |   | ◆ |             |
| 49UN-01-0120 | BELL HOUSING SEAL REPLACER         | \$23.17      |   | ◆ |             |
| 49UN-01-0130 | COUNTER LEVER WRENCH               | \$16.24      |   | ◆ |             |
| 49UN-01-0140 | BALL DETENT INSTALLER              | \$10.69      |   | ◆ |             |
| 49UN-01-0150 | FRONT PUMP ALIGNMENT SET           | \$157.47     |   | ◆ |             |
| 49UN-01-0160 | SERVO ROD SELECTING GAUGE          | \$48.64      |   | ◆ |             |

Notes: (1) This tool is required by Lincoln/Mercury and therefore not required by Mazda if the service area is combined at one location.  
 ◆ (2) This tool is required by Ford or Ford/Lincoln/Mercury and therefore not required by Mazda if the service area is combined at one location.

8/15/96

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# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Notes

Pg. 5

| TOOL NUMBER  | DESCRIPTION                        | DEALER PRICE | Notes |   | INV. YES/NO |
|--------------|------------------------------------|--------------|-------|---|-------------|
|              |                                    |              | 1     | 2 |             |
| 49UN-01-0170 | LIP SEAL PROTECTOR                 | \$7.62       |       | ◆ |             |
| 49UN-01-0180 | SEAL PROTECTOR                     | \$11.16      |       | ◆ |             |
| 49UN-01-0190 | FRONT PUMP SEAL REPLACER           | \$13.19      |       | ◆ |             |
| 49UN-01-0200 | FRONT PUMP SEAL STAKING TOOL       | \$52.99      |       | ◆ |             |
| 49UN-01-0210 | A/T TEST PLATE                     | \$24.92      |       | ◆ |             |
| 49UN-01-0220 | COLLET                             | \$90.13      |       | ◆ |             |
| 49UN-01-0230 | ACTUATOR PIN                       | \$27.60      |       | ◆ |             |
| 49UN-01-0240 | FRONT SHAFT NEEDLE BEARING REPLACE | \$13.51      |       | ◆ |             |
| 49UN-01-0250 | INPUT SHAFT BUSH/BEARING REPLACER  | \$34.31      |       | ◆ |             |
| 49UN-01-0260 | DIFFERENTIAL HOUSING SPREADER      | \$276.08     |       | ◆ |             |
| 49UN-01-0270 | SPREADER ADAPTORS                  | \$78.16      |       | ◆ |             |
| 49UN-01-0280 | AXLE BEARING SEAL INSTALLER        | \$46.26      |       | ◆ |             |
| 49UN-01-0290 | PINION/CARRIER BEARING PULLER      | \$689.00     |       | ◆ |             |
| 49UN-01-0300 | DUMMY BEARING SET                  | \$135.15     |       | ◆ |             |
| 49UN-01-0310 | DIFFERENTIAL BEARING REPLACER      | \$14.22      |       | ◆ |             |
| 49UN-01-0320 | AXLE BEARING REMOVER               | \$48.89      |       | ◆ |             |
| 49UN-01-0330 | AXLE BEARING REMOVER               | \$33.60      |       | ◆ |             |
| 49UN-01-0340 | SHIM DRIVER                        | \$14.42      |       | ◆ |             |
| 49UN-01-0350 | PINION BEARING CUP REPLACER        | \$75.58      |       | ◆ |             |
| 49UN-01-0360 | PINION BEARING CONE REPLACER       | \$54.40      |       | ◆ |             |
| 49UN-01-0370 | HEX LOCKNUT WRENCH                 | \$16.90      |       | ◆ |             |
| 49UN-01-0380 | SPINDLE BEARING REPLACER           | \$20.48      |       | ◆ |             |
| 49UN-01-0400 | SEAL REPLACER                      | \$32.20      |       | ◆ |             |
| 49UN-01-0410 | BEARING CUP REPLACER               | \$22.46      |       | ◆ |             |
| 49UN-01-0420 | LOCKNUT WRENCH                     | \$24.95      |       | ◆ |             |
| 49UN-01-0430 | SHAFT SEAL INSTALLER               | \$12.83      |       | ◆ |             |
| 49UN-01-0440 | SHAFT SEAL REMOVER                 | \$30.32      |       | ◆ |             |
| 49UN-01-0450 | SHAFT SEAL PROTECTOR               | \$8.23       |       | ◆ |             |
| 49UN-01-0460 | COIL PRESSING TOOL                 | \$30.32      |       | ◆ |             |
| 49UN-01-0470 | COIL REMOVER SHAFT PROTECTOR       | \$26.84      |       | ◆ |             |
| 49UN-01-0480 | PRESSURE TEST PLATE                | \$23.73      |       | ◆ |             |
| 49UN-01-0500 | RADIO REMOVING TOOL X 2            | \$17.77      |       | ◆ |             |
| 49UN-01-0570 | EDIS DIAGNOSTIC CABLE              | \$600.00     |       | ◆ |             |
| 49UN-01-0580 | 60 PIN BREAKOUT BOX                | \$492.95     | ◆     | ◆ |             |
| 49UN-01-0590 | MAP/BP SENSOR TESTER               | \$81.00      |       | ◆ |             |
| 49UN-01-0600 | FIXED ORIFICE TUBE TOOLS           | \$19.52      |       | ◆ |             |
| 49UN-01-0610 | BROKEN ORIFICE TUBE EXTRACTOR      | \$10.89      |       | ◆ |             |
| 49UN-01-0620 | TEVES ABS ADAPTOR (BLEEDER)        | \$259.13     |       | ◆ |             |
| 49UN-01-0630 | TEVES ABS ADAPTOR (JUMPER)         | \$156.64     |       | ◆ |             |
| 49UN-01-0640 | REAR MAIN OIL SEAL INSTALLER       | \$59.82      | ◆     | ◆ |             |

Notes: (1) This tool is required by Lincoln/Mercury and therefore not required by Mazda if the service area is combined at one location.  
 ◆ (2) This tool is required by Ford or Ford/Lincoln/Mercury and therefore not required by Mazda if the service area is combined at one location.

8/15/96

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# MAZDA REQUIRED TOOL (MRT) INVENTORY LIST

Notes

Pg. 6

| TOOL NUMBER  | DESCRIPTION                    | DEALER PRICE | 1 | 2 | INV. YES/NO |
|--------------|--------------------------------|--------------|---|---|-------------|
| 49UN-01-0650 | VALVE SPRING COMPRESSOR        | \$36.42      | ◆ | ◆ |             |
| 49UN-01-0660 | VALVE STEM SEAL INSTALLER      | \$20.26      | ◆ | ◆ |             |
| 49UN-01-0670 | CAMSHAFT BELT TENSION TOOL     | \$34.79      | ◆ | ◆ |             |
| 49UN-01-0680 | FRONT COVER ALIGNMENT TOOL     | \$52.12      | ◆ | ◆ |             |
| 49UN-01-0690 | CRANKSHAFT H.E. SENSOR POSIT.  | \$6.16       | ◆ | ◆ |             |
| 49UN-01-0700 | 2.3L CRANK SEAL INSTALLER      | \$61.27      | ◆ | ◆ |             |
| 49UN-01-0710 | MAZDA A/T TESTER SET W/CASE    | \$728.89     | ◆ | ◆ |             |
| 49UN-01-0720 | LIP SEAL PROTECTOR             | \$5.48       | ◆ | ◆ |             |
| 49UN-01-0730 | BEARING CONE REPLACER          | \$19.72      | ◆ | ◆ |             |
| 49UN-01-0740 | DIFFERENTIAL SIDE BRG REPLACER | \$61.34      | ◆ | ◆ |             |
| 49UN-01-0760 | SPINDLE/AXLE BRG REPLACER      | \$95.45      | ◆ | ◆ |             |
| 49UN-01-0770 | SYNCHRO POSITIONER TOOL        | \$12.32      | ◆ | ◆ |             |
| 49UN-01-0780 | DIS DIAGNOSTIC HARNESS         | \$443.19     | ◆ | ◆ |             |
| 49UN-01-0790 | TFI-BOB ADAPTOR                | \$262.57     | ◆ | ◆ |             |
| 49UN-01-0800 | SEAL PULLER                    | \$65.70      | ◆ | ◆ |             |
| 49UN-01-0850 | SHIFTER SHAFT ALIGNMENT TOOL   | \$20.59      |   |   |             |
| 49UN-01-0860 | MLPS ALIGNMENT TOOL            | \$25.96      |   |   |             |
| 49UN-01-0870 | CONVERTER SEAL REMOVER         | \$55.99      |   |   |             |
| 49UN-01-0880 | SEAL REPLACER                  | \$20.89      |   |   |             |
| 49UN-01-0890 | CD4E CABLE, OVERLAY            | \$72.22      | ◆ | ◆ |             |
| 49UN-01-0910 | CD4E MLP CABLE, MANUAL         | \$63.33      | ◆ | ◆ |             |
| 49UN-01-1040 | SERVO COVER REMOVER/REPLACER   | \$33.24      |   |   |             |
| 49UN-01-1280 | ADAPTOR (ATF OIL PRESSURE)     | \$54.20      |   |   |             |
| 49UN-01-1290 | SEAL REPLACER                  | \$13.74      |   |   |             |
| 49UN-01-1300 | 104 PIN BREAKOUT BOX           | \$540.93     | ◆ | ◆ |             |
| 49UN-01-1310 | AIR BAG SIMULATOR              | \$10.63      | ◆ | ◆ |             |
| 49UN-01-1320 | 4R44E/4R55E CABLE/OVERLAY      | \$78.33      | ◆ | ◆ |             |
| 49UN-01-1340 | VALVE SEAL REPLACER            | \$26.25      |   |   |             |
| 49UN-01-1350 | VALVE SPRING COMPRESSOR        | \$54.58      |   |   |             |
| 49UN-01-1360 | REAR MAIN SEAL REPLACER        | \$56.47      |   |   |             |
| 49UN-01-1440 | SERVO COVER COMPRESSOR         | \$45.00      |   |   |             |
| 49UN-01-1470 | 4R44E/4R55E MLP CABLE          | \$103.05     |   |   |             |
| 49UN-01-1480 | SYNCHRO POSITIONING TOOL       | \$59.12      |   |   |             |
| 49UN-01-1500 | AIR BAG SIMULATOR              | \$10.97      |   |   |             |
| 49UN-11-1010 | THREADED ADAPTOR               | \$27.89      |   | ◆ |             |
| 49UN-17-1010 | BEARING DRIVER ATTACHMENT      | \$39.88      |   | ◆ |             |
| 49UN-27-0010 | GAUGE BLOCK (FRONT)            | \$68.80      |   | ◆ |             |
| 49UN-27-0020 | GAUGE BLOCK (REAR)             | \$55.49      |   | ◆ |             |
| 49UN-27-0030 | COLLAR "A"                     | \$32.55      |   | ◆ |             |
| 49UN-27-0040 | COLLAR "B"                     | \$29.14      |   | ◆ |             |
| 49W0-27-0010 | OIL SEAL INSTALLER "M"         | \$47.88      |   |   |             |

Notes: (1) This tool is required by Lincoln/Mercury and therefore not required by Mazda if the service area is combined at one location.  
 ◆ (2) This tool is required by Ford or Ford/Lincoln/Mercury and therefore not required by Mazda if the service area is combined at one location.

8/15/96

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# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                           |                                                                                          |                                                   |
|----------------|---------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------|
| Category<br>ST | Applicable Model/s<br>ALL | Subject<br>NEW V4.0 NGS CARD (49T0-88-010E) AND<br>REPROGRAMMING OF V2.02 (49T0-88-010E) | Bulletin No. 004/97<br>issued 10/10/97<br>Revised |
|----------------|---------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------|

## DESCRIPTION

Per Special Tool Service Bulletin 006/96, issued 11/21/96, your dealer should currently have two reprogrammable New Generation Star (NGS) cards. One card contains an older Version 2.02 (P/N 49T0-88-010C) and the other card contains your most current Version 3.0 (P/N 49-T0-88-010D).

Your most current Version 3.0 has been supersede to Version 4.0 (P/N 49T0-88-010E). It includes new 1998 service information. This new version is a Mazda Required Tool (MRT) since it is used with the NGS tester to properly service MAZDA vehicles.

Mazda's tool vendor, America Kowa Seiki, Inc. (AKS), is offering a reprogramming service which will update your older Version 2.02 to Version 4.0 at a substantial savings. Follow the REPROGRAMMING PROCEDURE on page two to participate in this service.

### NOTE:

If your dealer chooses not to participate, or cannot participate in this reprogramming service, a new card with V4.0 will automatically be shipped to your dealer at a substantially higher price.

## APPLICATION

This card is used with your NGS tester to properly service 1988-1998 Mazda Vehicles. Refer to your Workshop Manual for the application of this card and the tester.

## PRICING

The price for the V4.0 reprogramming service is \$210.00 plus return shipping costs. If you do not participate in the V4.0 reprogramming, or miss the October 31, 1997 cut-off date, your cost will be \$313.32 plus shipping costs.

## SHIPPING & BILLING INFORMATION

Your NGS card with V4.0 will be shipped to you by November 14, 1997. DO NOT SEND PAYMENT TO AMERICA KOWA SEIKI, INC. Your parts account will be billed for the appropriate amount.

Please contact your District Customer Support Manager, America Kowa Seiki (800-824-9655 or 310-638-1000) or Tools/Equipment Manager (714-442-6531) if you have any questions regarding this information.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

Number:

Date issued:

Revised:

## REPROGRAMMING PROCEDURE

Use the following procedure to have your Version 2.02 card updated to Version 4.0:

**STEP 1:** Identify your card by using ball-point pen or permanent marker and enter your dealer information as shown in the following example:

The diagram shows a rectangular card with a black border. At the top, there are four bullet points: "Store card in plastic cover", "Keep card dry", "Do not expose card to direct sunlight or extreme temperature", and "Do not bend or drop". Below these, there are three lines of handwritten text: "82396", "XYZ MAZDA", and "ANYTOWN, MA". Arrows point from the labels "YOUR DEALER CODE", "DEALER NAME", and "CITY, STATE" to these respective lines. At the bottom of the card, there is a logo for "NEW GENERATION STAR TESTER" and the text "Made in the U.S.A. by Hitachi Incorporated".

**NOTE:**

We recommend that you identify your card to ensure that you will receive the same card that you submitted for reprogramming.

**STEP 2:** Carefully package your card and address it to the following address:

**America Kowa Seiki, Inc.  
20013 S. Rancho Way  
Rancho Dominguez, CA 90220**

**RE: MAZDA NGS CARD REPROGRAMMING**

**STEP 3:** Send your package prepaid. Your dealer is responsible for shipping costs. Be sure it arrives at America Kowa Seiki, Inc. no later than October 31, 1997.

**NOTE:**

1. **DO NOT SEND YOUR V3.0 CARD!** You are to use this card with your NGS tester while your older card is being updated.
2. Your older card will be returned to you if you miss the October 31, 1997 cut-off date and a new card with V4.0 will automatically be shipped to you .

Your reprogrammed V4.0 card will be shipped to you no later than November 14, 1997.



|                |                           |                                                                                         |                     |
|----------------|---------------------------|-----------------------------------------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>ALL | Subject<br>NEW V6.0 NGS CARD (49T0-88-010G) AND<br>REPROGRAMMING OF V4.0 (49T0-88-010E) | Bulletin No. 005/98 |
|                |                           |                                                                                         | Issued 08/25/98     |
|                |                           |                                                                                         | Revised             |

## DESCRIPTION

Per Service Bulletin Cat. ST 001/98, issued 02/23/98, your service department currently has two reprogrammable New Generation Star (NGS) cards, an older Version 4.0 program (P/N 49T0-88-010E) and a current Version 5.0 program (49T0-88-010F). On September 11, 1998, V5.0 will supersede to V6.0 (P/N 49T0-88-010G) as a new Mazda Required Tool (MRT) to properly service MAZDA vehicles.

MNAO Technical Services Department is offering a reprogramming service which will update your older Version 4.0 to Version 6.0 at a substantial savings. Your V4.0 must be received by MNAO Technical Services Department no later than **September 4, 1998**. Follow the **REPROGRAMMING PROCEDURE** on page two to participate in this service.

### Note

- Be sure to send your V4.0 card to MNAO Technical Services Department. **DO NOT SEND YOUR VERSION 4.0 CARD TO AMERICA KOWA SEIKI, INC.**
- If your service department chooses not to participate, or cannot participate in this reprogramming service, a new V6.0 card will be automatically shipped to your service department.

## APPLICATION

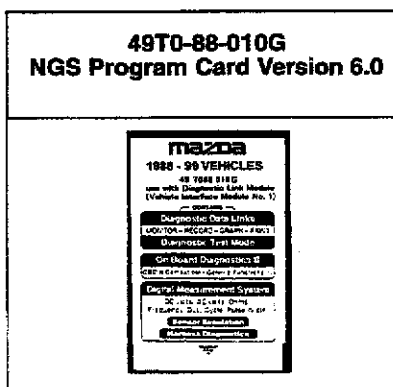
This card is used with your NGS Tester to properly service 1988 – 1999 Mazda Vehicles. Refer to your Workshop Manual for the application of this card and tester.

## PRICING

The price for the V6.0 reprogramming exchange is \$216.09 plus shipping costs. If MNAO Technical Services Department does not receive your V4.0 card, or you miss the **September 4, 1998** cut-off date, the new card price is \$316.57 plus shipping costs.

## SHIPPING AND BILLING INFORMATION

Your NGS card with V6.0 will be shipped to you by September 11, 1998. Your parts account will be billed for the appropriate amount. **DO NOT SEND PAYMENT TO AMERICA KOWA SEIKI, INC.**



**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.

|                |                        |          |
|----------------|------------------------|----------|
| Number: 005/98 | Date Issued: 08/025/98 | Revised: |
|----------------|------------------------|----------|

## REPROGRAMMING PROCEDURE

Please use the following procedure to update your NGS Version 4.0 program card to Version 6.0 program card.

STEP 1: Carefully inspect your V4.0 card for signs of damage (i.e. dents, cracks, fluid damage, etc.), since MNAO Technical Services Department will only accept cards that are reprogrammable.

STEP 2: Package your V4.0 card in a small box with your Service Manager's business card taped to the NGS card. Send the package to the following address:

**MNAO Technical Services Department  
1444 McGaw Avenue  
Irvine, CA. 92614**

**RE: Mazda NGS Card Reprogramming**

Step 3: Send your package by Federal Express 2 day or UPS Blue label prepaid. It must arrive at MNAO Technical Services Department by September 4, 1998.

**NOTE:**

**DO NOT SEND YOUR V5.0 NGS CARD!** Use this V5.0 card until your new V6.0 card arrives at your Service Department.

Please contact your District Customer Support Manager or Tools / Equipment Manager (949-442-6531) if you have any questions regarding this information.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990

# MAZDA

|                |                                             |                                                              |                     |
|----------------|---------------------------------------------|--------------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>ALL 1988-96<br>MODELS | Subject<br>SHIPMENT OF SPECIAL TOOLS DURING<br>NOVEMBER 1996 | Bulletin No. 006/96 |
|                |                                             |                                                              | Issued 11/21/96     |
|                |                                             |                                                              | Revised             |

## DESCRIPTION

Your NGS program card version 2.02 (p/n 49T0-88-010C) used with your New Generation Star tester has been superceded to version 3.0 (p/n 49T0-88-010C). Version 3.0 includes 1997 new model information.

**IMPORTANT: DO NOT LOSE OR DISPOSE OF YOUR OLD VERSION 2.02 CARD! Both the 2.02 and 3.0 cards are reprogrammable. All future versions of the NGS program card will be available via reprogramming. Next year Mazda will request you to return your old version 2.02 card so that it can be reprogrammed to version 4.0 while you continue to use your 3.0 card. Reprogramming reduces your cost for future versions by charging you only for reprogramming instead of the card plus reprogramming and eliminates NGS down time.**

**If you lose or dispose of your card, you will be required to purchase both a new card and programming at a substantially higher price.**

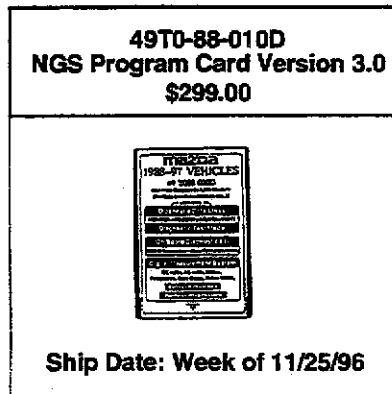
Below is an illustration of this new card. It is a Mazda Required Tool (MRT) and will be automatically shipped to your dealer by Mazda's tool vendor, America Kowa Seiki, Inc.

## APPLICATION

Refer to the attached table for the application of this card.

## PRICING

The price of this card is \$299.00.



**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

|                |                       |          |
|----------------|-----------------------|----------|
| Number: 006/96 | Date Issued: 11/21/96 | Revised: |
|----------------|-----------------------|----------|

**SHIPPING AND BILLING INFORMATION**

This tool will be shipped prepaid via UPS to your dealer during the week of November 25 ,1996. Your parts account will be billed for this tool upon its receipt. Please advise your shipping/receiving personnel of this tool shipment.

NOTE: This program card is small. Therefore, we recommend that your service manager, shop foreman, or lead technician install this card in the NGS tester. This will prevent misapplication or misdiagnosis when using the NGS tester to service a Mazda vehicle.

If you have any questions regarding this information contact your District Customer Support Manager or Tools/ Equipment Manager at (714) 442-6564.



**APPLICATION TABLE FOR NGS PROGRAM CARD VERSION 3.0(P/N 49T0-88-010D)**

| NOTE | APPLICABLE MODEL                  | PCM*1 | TCM*2 | ABS | A/C | CCM*3 | GEM*4 | IABM*5 | RAP*6 |
|------|-----------------------------------|-------|-------|-----|-----|-------|-------|--------|-------|
| X    | 1997 PROTEGE with Z5 engine (MT)  | O     |       | O   |     |       |       |        |       |
| X    | 1997 PROTEGE with Z5 engine (AT)  | O     | (O)   | O   |     |       |       |        |       |
| X    | 1997 PROTEGE with BP engine (MT)  | O     |       | O   |     |       |       |        |       |
| X    | 1997 PROTEGE with BP engine (AT)  | O     | (O)   | O   |     |       |       |        |       |
| X    | 1997 626/MX-6 with FS engine (MT) | O     |       | O   |     | O     |       |        |       |
| X    | 1997 626/MX-6 with FS engine (AT) | O     | (O)   | O   |     | O     |       |        |       |
| X    | 1997 626/MX-6 with KL engine (MT) | O     |       | O   |     | O     |       |        |       |
| X    | 1997 626/MX-6 with KL engine (AT) | O     | (O)   | O   |     | O     |       |        |       |
| X    | 1997 MIATA with BP engine (MT)    | O     |       | O   |     | O     |       |        |       |
| X    | 1997 MIATA with BP engine (AT)    | O     | (O)   | O   |     | O     |       |        |       |
| X    | 1997 MPV with JE engine (AT)      | O     | (O)   | O   |     | O     |       |        |       |
| X    | 1997 MILLENIA with KL engine (AT) | O     | (O)   | O*7 | O   | O     |       |        |       |
| X    | 1997 MILLENIA with KJ engine (AT) | O     | (O)   | O*7 | O   | O     |       |        |       |
| X    | 1997 B2300 (AT)                   | O     | (O)   | O   |     |       | O     | O      | O     |
| X    | 1997 B2300 (MT)                   | O     |       | O   |     |       | O     | O      | O     |
| X    | 1997 B4000 (AT)                   | O     | (O)   | O   |     |       | O     | O      | O     |
| X    | 1997 B4000 (MT)                   | O     |       | O   |     |       | O     | O      | O     |
|      | 1995-96 MILLENIA                  | O*8   | (O)   | O*8 | O   | O     |       |        |       |
|      | 1996 PROTEGE (MT)                 | O*8   |       | O   |     | O     |       |        |       |
|      | 1996 PROTEGE (AT)                 | O*8   | (O)   | O   |     | O     |       |        |       |
|      | 1996 626/MX-6 (MT)                | O*8   |       | O   |     | O     |       |        |       |
|      | 1996 626/MX-6 (AT)                | O*8   | (O)   | O   |     | O     |       |        |       |
|      | 1996 MIATA (MT)                   | O*8   |       | O   |     |       |       |        |       |
|      | 1996 MIATA (AT)                   | O*8   | (O)   | O   |     |       |       |        |       |
|      | 1996 MPV                          | O*8   | (O)   | O   |     | O     |       |        |       |
|      | 1996 B2300, B3000, B4000 (MT)     | O*8   |       | O   |     |       |       |        |       |
|      | 1996 B2300, B3000, B4000 (AT)     | O*8   | (O)   | O   |     |       |       |        |       |
|      | 1995 PROTEGE                      | O*8   | (O)   | O   | -   | O     |       |        |       |
|      | 1995 626/MX-6 with FS engine      | O     | -     | O   | -   | O     |       |        |       |
|      | 1995 626/MX-6 with KL engine      | O     | O     | O   | -   | O     |       |        |       |
|      | 1995 929                          | O     | O     | O   | O   | O     |       |        |       |
|      | 1995 MX-3                         | O     | O     | O   | -   | -     |       |        |       |

|                |                       |          |
|----------------|-----------------------|----------|
| Number: 006/96 | Date Issued: 11/21/96 | Revised: |
|----------------|-----------------------|----------|

| NOTE | APPLICABLE MODEL                                  | PCM*1 | TCM*2 | ABS | A/C | CCM*3 | GEM*4 | IABM*5 | RAP*6 |
|------|---------------------------------------------------|-------|-------|-----|-----|-------|-------|--------|-------|
|      | 1995 MIATA                                        | 0     | 0     | 0   | -   | -     |       |        |       |
|      | 1995 RX-7                                         | 0     | 0     | 0   | -   | 0     |       |        |       |
|      | 1995 MPV                                          | 0     | 0     | -   | -   | -     |       |        |       |
|      | 1995 B2300, B3000, B4000                          | 0*8   | (0)   | 0   | -   | -     |       |        |       |
|      | 1994 323/PROTEGE                                  | 0     | 0     | -   | -   | -     |       |        |       |
|      | 1994 626/MX-6 with FS engine (EC-AT)              | 0     | (0)   | 0   | -   | 0     |       |        |       |
|      | 1994 626/MX-6 with FS engine (MT)                 | 0     | -     | 0   | -   | 0     |       |        |       |
|      | 1994 626/MX-6 with KL engine                      | 0     | 0     | 0   | -   | 0     |       |        |       |
|      | 1994 929                                          | 0     | 0     | -   | 0   | 0     |       |        |       |
|      | 1994 MX-3                                         | 0     | 0     | 0   | -   | -     |       |        |       |
|      | 1994 MIATA                                        | 0     | 0     | 0   | -   | -     |       |        |       |
|      | 1994 RX-7                                         | 0     | 0     | -   | -   | -     |       |        |       |
|      | 1994 MPV with G6 engine                           | 0     | 0     | -   | -   | 0     |       |        |       |
|      | 1994 MPV with JE engine                           | 0     | 0     | -   | -   | -     |       |        |       |
|      | 1994 NAVAJO                                       | 0     | (0)   | -   | -   | -     |       |        |       |
|      | 1994 B2300 2.3L (49S)<br>(SEE SERVICE NOTE BELOW) | 0     | (0)   | 0   | -   | -     |       |        |       |
|      | 1994 B2300 2.3L (CAL)                             | 0     | (0)   | -   | -   | -     |       |        |       |
|      | 1994 B3000 & B4000<br>(SEE SERVICE NOTE BELOW)    | 0     | (0)   | -   | -   | -     |       |        |       |
|      | 1993 NAVAJO                                       | 0     | -     | 0   | -   | -     |       |        |       |
|      | 1992 - 1993 ALL EXCEPT<br>NAVAJO                  | 0     | 0     | 0   | 0   | 0     |       |        |       |
|      | 1991 - 1992 NAVAJO                                | 0     | -     | -   | -   | -     |       |        |       |
|      | 1991 ALL EXCEPT NAVAJO                            | 0     | 0     | -   | -   | -     |       |        |       |
|      | 1988 - 1990 ALL                                   | 0     | 0     | -   | -   | -     |       |        |       |

\*1: PCM= Powertrain Control Module  
 \*2: TCM= Transmission Control Module  
 \*3: CCM= Cruise Control Module  
 \*4: GEM = Generic Electronic Module  
 \*5: IABM = Integrated Air Bag Module

\*6: RAP = Remote Anti Theft Module  
 \*7: Include Traction Control System  
 \*8: on-vehicle control unit equipped with OBD-II  
 \*9: includes Traction Control System

(O): means there is no TCM, but it is possible to diagnose the TCM from the PCM menu.  
 X: means these year/models are newly added to the program card.

**SERVICE NOTE**

**When using the NGS tester's "PID/DATA MONITOR AND RECORD" function on 1994 B2300 & B4000 Federal-specification vehicles, a "LINK COMMUNICATION ERROR" message may be shown on the NGS tester screen. If this occurs, be sure to follow the procedure below.**

- 1. When choosing the applicable model on the NGS screen, select the California-specification model instead of Federal-specification model.**
- 2. Then use the "PID/DATA MONITOR AND RECORD" function.**

**Be sure to enter the Federal-specification model on the tester's screen ("B2300 49S" or "B4000 49S") when using other NGS functions.**

|                |                                  |                                                                |                     |
|----------------|----------------------------------|----------------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>All Models | Subject<br>INSPECTION PROCEDURE FOR TEST LEAD OF<br>NGS TESTER | Bulletin No. 006/98 |
|                |                                  |                                                                | Issued 09/30/98     |
|                |                                  |                                                                | Revised             |

### APPLICABLE MODEL(S)/VINS

All models

### DESCRIPTION

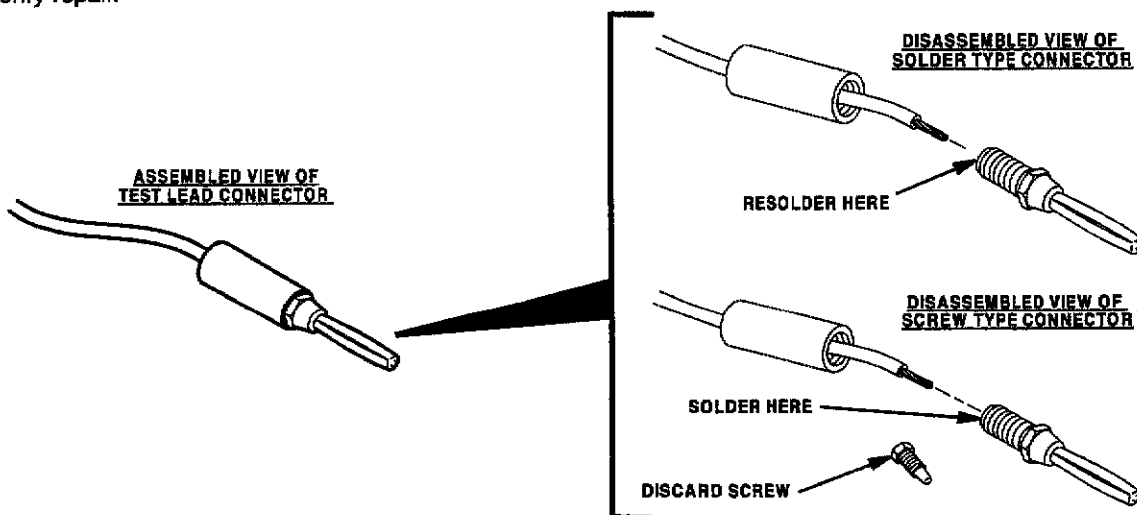
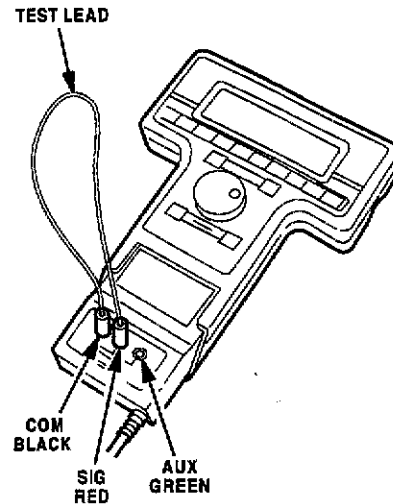
The NGS test lead connectors may become loose or corroded causing incorrect readings. Before using the ohm meter function of the NGS tester for diagnosing electrical circuits, check for excessive resistance in the test leads and connectors and repair them if necessary.

#### Note

- Two types of connectors (screw and solder) are used on the NGS test leads.

### INSPECTION PROCEDURE

1. Verify concern.
2. Select "Ohm Meter" on the tester and connect a test lead between the COM (black) and SIG (red) terminal on the NGS tester and note the reading.
  - A reading of 0 ohms indicates that the test lead and connections do not have excess resistance.
  - A reading other than 0 ohms may indicate a poor connection (go to STEP 3).
3. Disassemble the connectors and check for corrosion, solder breakage, or looseness. Resolder connections to repair as necessary. Refer to illustration below.
4. Verify repair.



**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Consumers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, consumers should contact their nearest authorized Mazda dealership.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990

# MAZDA

|                |                                             |                                                          |                                                   |
|----------------|---------------------------------------------|----------------------------------------------------------|---------------------------------------------------|
| Category<br>ST | Applicable Model/s<br>All 1988-96<br>Models | Subject<br>SPECIAL TOOLS SHIPMENT DURING<br>OCTOBER 1995 | Bulletin No. 007/95<br>Issued 10/24/95<br>Revised |
|----------------|---------------------------------------------|----------------------------------------------------------|---------------------------------------------------|

## DESCRIPTION

The NGS Program Card (P/N 49T0-88-010A; version 2.0) used with your New Generation Star tester has been discontinued. It has been replaced by a revised card (P/N 49T0-88-010B; version 2.01) that includes all 1996 model information.

Below is an illustration of this new Special Service Tool (SST). It is a Mazda Required Tool (MRT) and will be automatically shipped to your dealer by Mazda's tool vendor, America Kowa Seiki, Inc.

## APPLICATION

Refer to the attached table for the application of this revised card.

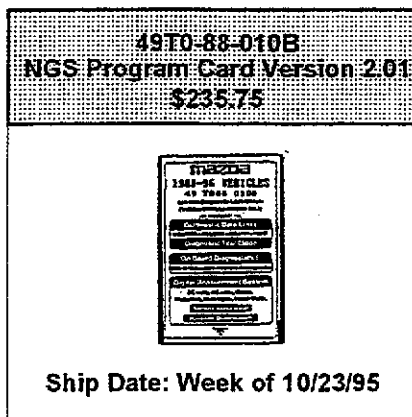
## PRICING

The price of this tool is \$235.75 as illustrated below.

## SHIPPING AND BILLING INFORMATION

This tool will be shipped prepaid via UPS to your dealer during the week of October 23, 1995. Your parts account will be billed for this tool upon its receipt. Please advise your shipping/receiving personnel of this tool shipment.

**NOTE:** This program card is small. Therefore, we recommend that your service manager, shop foreman, or lead technician install this card in the NGS tester and discard the discontinued card immediately. This will prevent misapplication or misdiagnosis when using the NGS tester to service a Mazda vehicle.



If you have any questions regarding this information contact your District Customer Support Manager or Tools/Development Manager at (714) 588-5059.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature 059764

Parts Manager

Number: 007/95

Date issued: 10/24/95

Revised:

**APPLICATION TABLE FOR NGS PROGRAM CARD VERSION 2.01 (P/N 49T0-88-010B)**

| NOTE | APPLICABLE MODEL                       | PCM*1 | TCM*2 | ABS | A/C | CCM*3 |
|------|----------------------------------------|-------|-------|-----|-----|-------|
| X    | 1995-96 MILLENIA                       | O*4   | (O)   | O*5 | O   | O     |
| X    | 1996 PROTEGE (MT)                      | O*4   |       | O   |     | O     |
| X    | 1996 PROTEGE (AT)                      | O*4   | (O)   | O   |     | O     |
| X    | 1996 626/MX-6 (MT)                     | O*4   |       | O   |     | O     |
| X    | 1996 626/MX-6 (AT)                     | O*4   | (O)   | O   |     | O     |
| X    | 1996 MIATA (MT)                        | O*4   |       | O   |     |       |
| X    | 1996 MIATA (AT)                        | O*4   | (O)   | O   |     |       |
| X    | 1996 MPV                               | O*4   | (O)   | O   |     | O     |
| X    | 1996 B2300, B3000, B4000 (MT)          | O*4   |       | O   |     |       |
| X    | 1996 B2300, B3000, B4000 (AT)          | O*4   | (O)   | O   |     |       |
|      | 1995 PROTEGE                           | O*4   | (O)   | O   | -   | O     |
|      | 1995 626/MX-6 WITH FS ENGINE           | O     | -     | O   | -   | O     |
|      | 1995 626/MX-6 WITH KL ENGINE           | O     | O     | O   | -   | O     |
|      | 1995 929                               | O     | O     | O   | O   | O     |
|      | 1995 MX-3                              | O     | O     | O   | -   | -     |
|      | 1995 MIATA                             | O     | O     | O   | -   | -     |
|      | 1995 RX-7                              | O     | O     | O   | -   | O     |
|      | 1995 MPV                               | O     | O     | -   | -   | -     |
|      | 1995 B2300, B3000, B4000               | O*4   | (O)   | O   | -   | -     |
|      | 1994 323/PROTEGE                       | O     | O     | -   | -   | -     |
|      | 1994 626/MX-6 WITH FS ENGINE (EC-AT)   | O     | (O)   | O   | -   | O     |
|      | 1994 626/MX-6 WITH FS ENGINE (MT)      | O     | -     | O   | -   | O     |
|      | 1994 626/MX-6 WITH KL ENGINE           | O     | O     | O   | -   | O     |
|      | 1994 929                               | O     | O     | -   | O   | O     |
|      | 1994 MX-3                              | O     | O     | O   | -   | -     |
|      | 1994 MIATA                             | O     | O     | O   | -   | -     |
|      | 1994 RX-7                              | O     | O     | -   | -   | -     |
|      | 1994 MPV WITH G6 ENGINE                | O     | O     | -   | -   | O     |
|      | 1994 MPV WITH JE ENGINE                | O     | O     | -   | -   | -     |
|      | 1994 NAVAJO                            | O     | (O)   | -   | -   | -     |
|      | 1994 B2300 2.3L (49S)                  | O     | (O)   | O   | -   | -     |
|      | 1994 B2300 2.3L (CAL)                  | O     | (O)   | -   | -   | -     |
|      | 1994 B3000 & B4000                     | O     | (O)   | -   | -   | -     |
|      | 1993 NAVAJO                            | O     | -     | O   | -   | -     |
|      | 1992 - 1993 ALL VEHICLES EXCEPT NAVAJO | O     | O     | O   | O   | O     |
|      | 1991 - 1992 NAVAJO                     | O     | -     | -   | -   | -     |
|      | 1991 ALL VEHICLES EXCEPT NAVAJO        | O     | O     | -   | -   | -     |

\*1: PCM= Powertrain Control Module

\*2: TCM= Transmission Control Module

\*3: CCM= Cruise Control Module

\*4: On-vehicle control unit equipped with OBD-II

5: Includes Traction Control System

(O): Means there is no TCM, but it is possible to diagnose the TCM from the PCM menu.

X: Means these year/models are newly added to the program card.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                |                                  |                                                                                         |                     |
|----------------|----------------------------------|-----------------------------------------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>All Models | Subject<br>REQUIREMENT OF HFC-134a A/C RECOVERY<br>AND RECYCLING TRAINING AND EQUIPMENT | Bulletin No. 008/95 |
|                |                                  |                                                                                         | Issued 10/24/95     |
|                |                                  |                                                                                         | Revised             |

## DESCRIPTION

A new law by the United States Environmental Protection Agency (EPA) requires all dealers who work with and make A/C repairs to have:

- Technicians trained and certified by an EPA approved organization.
- EPA approved HFC-134a recover/recycling or recover-only equipment.

**These requirements become effective November 15, 1995.**

To become more familiar with this new law, review the attached EPA fact sheet. It further explains this law and addresses some general concerns. For your convenience, the lists of approved certifying training organizations and approved equipment referenced in the fact sheet are also attached.

If your dealership works with and makes A/C repairs, be sure you have the approved training and equipment to conform to this new law by November 15, 1995.

If you have any questions concerning this information, please contact:

- The EPA's Stratospheric Ozone Information Hotline at 1-800-296-1996 (10am-4pm EST, Monday-Friday, except federal holidays).
- Your District Customer Support Manager or Tools/Development Manager (714-588-5059).

**IMPORTANT: Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.**

Signature \_\_\_\_\_

Service Manager

Signature **059765** \_\_\_\_\_

Parts Manager



## RECYCLING REFRIGERANT FROM MOTOR VEHICLE AIR CONDITIONERS

A regulation signed in July, 1992 by the Administrator of the United States Environmental Protection Agency (EPA), requires that motor vehicle air conditioning refrigerant be recycled. This fact sheet will help you become familiar with this law and address some of your concerns.

### Our Threatened Ozone Layer

The stratospheric ozone layer shields the earth from harmful ultraviolet (UV) radiation. Scientists worldwide believe that synthetic chemicals such as chlorofluorocarbons (CFCs, also known by the trade name Freon) are rapidly destroying this layer of gas 10 to 30 miles above the earth's surface. Ozone loss of 3.5% globally has already been recorded and is greatest over Antarctica, where a seasonal ozone "hole" occurs. Recent data strongly suggests that substantial losses may also develop over the North Pole, exposing parts of the U.S. to increasing levels of UV radiation.

Ozone loss in the atmosphere is likely to lead to an increase in skin cancer and cataracts and could weaken the human immune system. Agriculture, as well as plant and animal life, may also be dramatically affected.

### Impact of Motor Vehicle Air Conditioners

One of the single largest uses of CFCs in the U.S. is as a refrigerant in automobile air conditioners. CFC-12 in motor vehicles accounts for over 20% of all CFC use in this country.

Commonly released into the air when car or truck air conditioners are serviced, CFCs rise to the strat-

osphere where they can remain active for up to 120 years. Solar rays break these molecules apart, releasing chlorine. A single chlorine atom can destroy over one hundred thousand ozone molecules.

### Worldwide Action to Protect the Ozone Layer

The United States has joined over 135 other countries in a global effort to protect the ozone layer as a Party to the international treaty known as the Montreal Protocol. In 1990, these countries agreed to phase out production of ozone-depleting substances, including CFC-12, by the year 2000. The 1990 Clean Air Act Amendments (the Act) incorporated this production phaseout date and also addressed the use and emission of these chemicals. President Bush later pledged to halt almost all U.S. production of CFCs by the end of 1995.

Section 609 of the Act gives the EPA the authority to establish requirements to prevent the release of refrigerants during the servicing of motor vehicle air conditioners. Recycling of CFCs can occur at minimal cost and without damaging motor vehicle A/C systems. The following sections describe the requirements of the law and its potential impact on the service industry.

### Clean Air Act Requirements

#### Approved Equipment

Technicians repairing or servicing motor vehicle air conditioners must use either refrigerant recover/recycle or recover-only equipment approved by EPA. Recover/recycle equipment both recovers the refrigerant from the motor vehicle and

processes it through an oil separator, a filter, and a dryer. Approved recover/recycle machines meet the technical specifications of SAE Standard J-1990 and must have the capacity to purify used refrigerant to SAE Standard J-1991 for safe and direct return to the air conditioner following repairs.

Recover-only equipment removes the refrigerant from the A/C unit as specified by SAE Standard J-2209 and transfers it into a holding tank. Technicians are then required by law either to recycle the used refrigerant on site or send it to an off-site reclamation facility to be purified to ARI Standard 700 before it can be used to recharge A/C equipment.

A list of approved equipment is available from EPA at the address on the back of this fact sheet. Most certified equipment will be labeled as "design-certified to SAE standards."

#### Technician Training and Certification

Technicians who repair or service motor vehicle air conditioners must be trained and certified by an EPA-approved organization. Training programs must cover use of recycling equipment in compliance with SAE Standard J-1989, the regulatory requirements, the importance of refrigerant containment, and the effects of ozone depletion. To be certified, technicians must pass a test demonstrating their knowledge in these areas. A list of approved testing programs is available from EPA at the address on the back of this fact sheet.

#### Sales Restrictions

The sale of any size containers of CFCs to anyone other than certified

technicians is prohibited after November 14, 1994. This provision is intended to discourage "do-it-yourselfers" who recharge their own air conditioners. Such individuals often release refrigerant because they typically do not have access to recycling equipment. The Agency encourages "do-it-yourselfers" to bring their cars to certified technicians who can properly fix air conditioners using approved equipment. This avoids damage to a/c equipment by improper charging and helps protect the environment.

#### ***Recordkeeping Requirements***

Service shops must certify to EPA that they own approved equipment. If refrigerant is recovered and sent to a reclamation facility, the name and address of that facility must be retained.

#### ***Impacts on A/C Service***

Because of the planned CFC phase-out and the tax on CFCs, shops that service air conditioners can expect the price of CFC-12 to increase and its availability to decrease. Widespread refrigerant recycling, however, reduces the need for virgin CFC-12 and thus helps keep costs down. Refrigerant recycling is an important step towards the goal of eliminating CFC use. It means that car owners can have their air conditioners fixed until alternatives to CFC-12 are developed.

#### ***Refrigerant in New Cars***

Automobile manufacturers are responding to the CFC phaseout by producing new vehicles with an alternative refrigerant called HFC-134a. This refrigerant does not deplete the ozone layer because it does not contain chlorine. About half of 1993 model year cars and almost all 1994 model year cars are equipped with HFC-134a air conditioning systems.

#### ***Choices for Older Car Owners***

As for existing cars, when the supply of CFC-12 is no longer available, owners may modify their a/c systems to accept the HFC-134a. Since the HFC-134a works at a higher pressure than the CFC-12, retrofitting will require that some

#### **Important Dates**

|                   |                                                                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| July 14, 1992     | EPA final regulations published                                                                                                                                    |
| November 15, 1992 | Small container sales restriction goes into effect                                                                                                                 |
| November 15, 1994 | Sales restriction expands to include all sizes of containers                                                                                                       |
| November 15, 1995 | CFC-12 regulations, including recovery and recycling requirements and certification of both technicians and equipment, expand to affect all substitutes for CFC-12 |

components be replaced. EPA estimates that retrofits will cost between \$100 and \$800. The specific requirements will vary depending on the make, model and age of the car, and on the car's history of air-conditioning servicing. If you are having major service performed on your CFC-12 air-conditioning system, modifying the system may be appropriate. Auto manufacturers are currently working to identify retrofit procedures. Most manufacturers have toll-free consumer hotlines which you can call to determine if retrofit procedures have been developed for your automobile.

#### ***Alternative Refrigerants***

EPA's Significant New Alternatives Policy (SNAP) program reviews alternatives to CFC-12 to determine the risks posed to human health and the environment by that alternative. HFC-134a has been approved under the SNAP program. Some refrigerant manufacturers and distributors are conducting research to determine if other substitutes exist which will cool adequately, work compatibly with the components in a/c systems with minimal retrofit procedures. These substitutes must be reviewed under the SNAP program. It is important to keep in mind that the SNAP program does not evaluate the effect of a substitute refrigerant on the life or performance of the components in your car's a/c system, or the effect of a substitute

on the system's cooling capacity.

By November 15, 1995, all substitute refrigerants will have to be recovered and recycled, technicians handling those substitutes will have to be certified, and equipment used to service those substitutes will have to be approved.

By complying with these regulations, you will help preserve the ozone layer for future generations.

For further information, please contact the Stratospheric Ozone Information Hotline at 1-800-296-1996 (10am-4pm EST, Monday-Friday, except federal holidays), or you may write:

MVACs Recycling Program Manager  
Stratospheric Protection Division  
6205J  
U.S. Environmental Protection  
Agency  
401 M Street, S.W.  
Washington, D.C. 20460





United States  
Environmental  
Protection Agency

Office of Air and Radiation  
Stratospheric Protection Division  
6205J

August 16, 1995

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## Section 609 Approved Refrigerant Recover/Recycle and Recover-Only Equipment

The following lists contain the section 609 approved refrigerant recover/recycle and recover-only equipment.

- Table I - contains recover/recycle equipment approved by Underwriters Laboratory (UL) and ETL Testing Laboratories, Inc.
- Table II - contains recover/recycle equipment determined to be substantially identical to approved equipment.
- Table III - contains recover-only equipment approved by Underwriters Laboratory (UL) and ETL Testing Laboratories, Inc.
- Table IV - contains recover-only equipment determined to be substantially identical to approved equipment.

All lists will be updated as equipment is approved. **Models listed for the first time in this update are in bold type.**

TABLE 1

| Manufacturer                                        | Model                                                                                                                            | Remarks *                |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| A. Gramkow                                          | RRC                                                                                                                              |                          |
| AES NTRON                                           | Retriever 2.2AC and 2.2A                                                                                                         |                          |
| Airosol Company, Inc                                | Chargette RC2000, RC2200                                                                                                         |                          |
| American ThermoFlo                                  | 18000                                                                                                                            | Dual refrigerant         |
| Applied Ecological Systems                          | 2.2c                                                                                                                             |                          |
| Assemblies Systems Corp.                            | NS-2000                                                                                                                          |                          |
| Atlas Supply Company                                | EAC-205, -250, -750, -1400, -1500                                                                                                | Multiple Listing         |
| Atlas/SPX - Robinair                                | EAC-125, EAC-370, 679125, 679137                                                                                                 |                          |
| Automotive Diagnostics, Division of SPX Corporation | 40-375                                                                                                                           | Multiple Listing         |
| Bear/SPX - Robinair                                 | 40-310, 17352C/17352, 17355C, 40-327, 40-370                                                                                     |                          |
| Belco Controls Inc.                                 | 08                                                                                                                               |                          |
| Carquest Corporation                                | 209990                                                                                                                           | Multiple Listing         |
| Carrier                                             | 12RA001100                                                                                                                       |                          |
| Caterpillar Inc/ SPX -Robinair                      | 4C8754, 4C8755, 905786, 905787, 905788, 905789, 905790                                                                           |                          |
| Century Mfg. Co.                                    | MR-1991-A, -R, ME-1991-A, 160-002, -003, -004, -005, -013, -014, -015, -016. Solar 5090, -5100, -5110, 7100, 8100, 85100, 86100. |                          |
| Chrysler/SPX-Robinair                               | OT-17350, OT-17400, OT-17700                                                                                                     |                          |
| Classic Tool Design, Inc.                           | FBR-11#                                                                                                                          | # certified by ETL, Inc. |

| Manufacturer                               | Model                                                                               | Remarks *                                    |
|--------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------|
| Cornwell/SPX-Robinair                      | RA-17350C, RA-17400, RA-17500B, RA-17700                                            |                                              |
| Diavia/SPX-Robinair                        | 17705                                                                               |                                              |
| D.W. Myers Enterprises, Inc.               | AM 6000, MR-1991-A, MR-1991-R, ME-1991-A                                            |                                              |
| Downmar Solvent Recovery Systems, Inc.     | DR12R                                                                               | Multiple Listing                             |
| Draf Industries                            | 1400                                                                                |                                              |
| Enspeco, Inc.                              | RMS-3112                                                                            |                                              |
| Environmental Products Amalgamated Pty.Ltd | SKYE.EP3, SKYE.EP-4/5                                                               |                                              |
| Environmental Systems Products, Inc.       | FICS 9000                                                                           | Multiple Listing                             |
| Environmental Technologies Corporation     | SYSTEM I 102-12                                                                     |                                              |
| Everco/SPX-Robinair                        | A9990                                                                               |                                              |
| Everco Industries, Inc                     | A9950                                                                               |                                              |
| Firestone/SPX-Robinair                     | TE 48-30-960-7                                                                      |                                              |
| Fluoro Tech, Inc.                          | Fluoromizer 3000R (FM3000R), FM3000 with RM3 module (Fluoromizer, 3000), FM4000-12⊕ | ⊕ Certified by ETL, Inc.<br>Multiple Listing |
| Ford Motor Company                         | 158-00001,-00002, 01400900, 02300100                                                | Multiple Listing                             |
| Ford-New Holland/SPX-Robinair              | FNH00140, FNH00141, FNH00335                                                        |                                              |
| Four Seasons                               | 59870                                                                               | Multiple Listing                             |
| Four Seasons                               | 59900, 59901                                                                        |                                              |
| General Motors/SPX-Robinair                | 17250B                                                                              |                                              |
| Honda/SPX-Robinair                         | J-3810-CH                                                                           |                                              |

| Manufacturer                                                                           | Model                                                                                                                                                   | Remarks *                                           |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| IG-LO, Inc; Subsidiary of Valvoline, Inc                                               | 1400, 1500                                                                                                                                              |                                                     |
| IG-LO, Inc.; Subsidiary of Valvoline, Inc.                                             | 1000                                                                                                                                                    | Multiple Listing                                    |
| Infiniti/SPX4-Robinair                                                                 | J-38100-INF                                                                                                                                             |                                                     |
| International Carbonics Inc. (now The Youngstown Research and Development Company YRD) | RRR-SS, BH-RRR                                                                                                                                          |                                                     |
| James Kamm Technologies, Inc.                                                          | K-3333, K3333-TB, AC-3333                                                                                                                               |                                                     |
| John Deere/SPX-Robinair                                                                | JTO 2020, JTO 2021, JTO 2052                                                                                                                            |                                                     |
| Kent Moore/SPX-Robinair                                                                | J-38100-C, J-38100-B, J-38750, J-38550-B, J-39770, 42-17400, 43-40015-HDE, 43-40018-HDE, 42-175250-C, 43-40017-HDE, 42-17350-C, 43-40014-HDE, J-38100-D |                                                     |
| Kolpak Mfg. Co.                                                                        | ZRM2000                                                                                                                                                 |                                                     |
| Lexus/SPX-Robinair                                                                     | 00002-01396-02                                                                                                                                          |                                                     |
| MAC Tools Inc                                                                          | ACRRRC-750, AC650, AC751, AC760<br>AC600*, AC700*, AC800*                                                                                               | Multiple Listing<br>* Multiple listing by ETL, Inc. |
| MAC Tools, Inc/SPX-Robinair                                                            | AC17350C, AC17400, AC17500B, AC17700, AM 6000                                                                                                           |                                                     |
| Matco Tools Corp.                                                                      | ACRM120, ACRM3412                                                                                                                                       | Multiple Listing                                    |
| MATCO Tools/SPX-Robinair                                                               | AC17350, AC17400, AC17500B, AC17700                                                                                                                     |                                                     |
| Mastercool, U.S.A. Inc                                                                 | Supervamp 62000, 65000, 65500                                                                                                                           |                                                     |
| Mazda/SPX-Robinair                                                                     | 17401MAZ                                                                                                                                                |                                                     |
| MDI                                                                                    | 1/2 HPCA                                                                                                                                                |                                                     |
| Mitsubishi/SPX-Robinair                                                                | 17400MIT, 17401MIT                                                                                                                                      |                                                     |

| Manufacturer                                            | Model                                                                              | Remarks *                          |
|---------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------|
| Moog Automotive, Inc                                    | 209990                                                                             | Multiple Listing                   |
| Murray Corporation                                      | ATC-1000, -1100, -5000                                                             |                                    |
| Myers Enterprises                                       | MR-1991-A, MR-1991-R, ME-1991-A                                                    |                                    |
| NAPA                                                    | 209990                                                                             | Multiple Listing                   |
| NAPA Temp. Products                                     | ATC1100, -5000                                                                     | Multiple Listing                   |
| Nissan/SPX-Robinair                                     | J-38100-NI, 17400NIS, 42-17250-NI, 17401NIS, 17403NIS                              |                                    |
| OTC/SPX-Robinair                                        | OEM-1380, -1396, -1412, -1420, -48158, -48463                                      |                                    |
| Ozone Environmental Industries Inc.                     | R-6A, OS-1000, OS-4000, OS-2000                                                    |                                    |
| P&F Technologies                                        | PF-8                                                                               |                                    |
| Power Manufacturing                                     | R-12a                                                                              |                                    |
| Promax Industries, Inc                                  | Roger-1 (front and back), Roger 1B                                                 | Consists of front and back systems |
| R & D Fountain Industries                               | AM6000                                                                             |                                    |
| Refrigerant Recovery Systems, Inc                       | ST100A                                                                             |                                    |
| Refrigerant Recovery Technologies, Inc                  | Fluoromizer 3000R (FM3000R), FM3000 with RM3 module (Fluoromizer 3000), FM4000-12* | * Certified by ETL, Inc.           |
| Refrigerant Technologies, Inc                           | RRC-1000, RRC-750, RRC-750X, RRC-751, TC-700*, TX-600*, AC-800*, TX-200*           | * Certified by ETL, Inc.           |
| Refrigeration Transfer Systems/Justice Supply and Glass | RFT-2212, RFT-2234                                                                 |                                    |
| Rolo Inc.                                               | 91R12                                                                              |                                    |
| Rotunda/Ford (Sun & SPX)                                | 158-00001, 158-00002, 014-00900, 023-00100, 078-00802, 078-00800, 078-00801        |                                    |

| Manufacturer                             | Model                                                                                                                                                                                                                                                                                                                                              | Remarks *        |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| R.S.I.                                   | Port-O-Zone, Automotive                                                                                                                                                                                                                                                                                                                            |                  |
| Saturn/SPX-Robinair                      | 42-A7250, 17400ASAT                                                                                                                                                                                                                                                                                                                                |                  |
| Snap-On Tools Company                    | ACT2500, ACT3000, ACT3300, ACTR3000, ACTH3400                                                                                                                                                                                                                                                                                                      | Multiple Listing |
| SPX Corporation; Robinair Division       | 12134A, 12135A, 17251C, 014-00900, AC17145, GM17250B, J38100B, -C, 17400A, 17401A, 17500B, 17501B, 17503B, 17300, -01, -03, -50, -50C, -51, -51C, -52, -52C, -53, -53C, -54, -54C, -55C, 17400, -01, -03, -25, 17666, 17700, -01, -03, -15, -25, 17800, 17150, 17151A (for use with models 17350C, 17351C, 17500, 17500B, 17501B, and 17625A only) |                  |
| Sun Electric Corporation                 | MRC-150, -300, -312, -400, -500, MTC-4000, NAPA-1100, -5000, -A9950, ATC-1000, -1100, -5000, -078-00800, -00801, -00802, -00805, ACT-3120, -3540, -4100.                                                                                                                                                                                           |                  |
| Technical Chemical Company               | SERCON -8000 (-M, -A, -MA, -MAH, -MV, -MAV, -H), -9000 (-M, -A, -MA, -MV, -MAH, -MAV, -H), -9220, -9220M, -5000H with -SR4000 or 4000A filter unit, -5000A, -5000AB, -5000MB or -5000MBJ with SR4000, 4000A or -4000H filter unit.                                                                                                                 |                  |
| Toyota/SPX-Robinair                      | TOY-01380, TOY-01396, 00002-01396-01, 42-17400, 17400TOYJ, 17401TOYJ, 17404TOYJ                                                                                                                                                                                                                                                                    |                  |
| Trane Division of American Standard, Inc | RRPC                                                                                                                                                                                                                                                                                                                                               | Multiple Listing |
| Van Steenburgh Engineering Lab, Inc      | JV90-4, -3, -2, -1, LV30-4, -3, -2, -1, CV15-4, -3, -2, -1                                                                                                                                                                                                                                                                                         |                  |

| Manufacturer                                                                           | Model                                            | Remarks *        |
|----------------------------------------------------------------------------------------|--------------------------------------------------|------------------|
| Watsco Components, Inc.                                                                | WC-2                                             | Multiple Listing |
| White Industries; Division of K-Whit Tools                                             | 01050, 01060, 01061, 01080, 01095, 01075, 01234a |                  |
| Wynn's Climate Systems                                                                 | 90-0001A, -0458A, -1100A, -1300A, -1500A         |                  |
| The Youngstown Research and Development Company YRD (formerly International Carbonics) | RRR-SS, BH-RRR                                   |                  |

\* A UL Multiple Listing (referred to as private labeling by the industry) is the formal publication of the name of company that appears on equipment that is basically UL Listed for another company. It would be similar to a private brand except that the basic company name need not appear anywhere on the product. This equipment has been evaluated to determine the minimum purity specifications for recycled CFC-12 for use in mobile automotive air conditioning systems. Such equipment is provided with the following auxiliary marking "Design Certified by Underwriters Laboratories for Compliance with \* \_\_\_\_\_ (date) to indicate that the equipment has been investigated for compliance with the applicable SAE requirements.

Table II.

Substantially Identical Recover/Recycle Equipment

|                                                                                                                                                                                                     |                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>REJUVENATOR ST-100 and ST-1000<br/>Refrigerant Recovery Systems, Inc.<br/>P.O. Box 360298<br/>Tampa, Florida 33673<br/>(800)327-9142</p>                                                         | <p>White Industries Model 01050<br/>K-Whit Tools, Inc.<br/>100 Visionary Way<br/>Fishers, IN 46038<br/>(800)849-6830</p>                                 |
| <p>R-12 Recover-Recycle Machine<br/>Justice Glass and Supply Company<br/>2445 Third Avenue<br/>Huntington, West Virginia 25703<br/>(800)624-3420</p>                                                | <p>NAPA TEMP ATC-1000<br/>Murray/Division of Moog Automotive, Inc<br/>P.O. Box 7224<br/>St. Louis, MO 63177<br/>(314) 385-3400</p>                       |
| <p>CFC-SAV-R (with Robinair retrofit kit<br/>17217)<br/>LSK, Inc<br/>Mcpherson, KS 67460</p>                                                                                                        | <p>Everco A9989 (with Robinair retrofit kits<br/>17217 and 17216)<br/>Everco Industries<br/>P.O. Box 7224<br/>St. Louis, MO 63177<br/>(314) 385-3400</p> |
| <p>Robinair 17200 (with retrofit kits 17216 and<br/>17217), 17500, RTB17200, RTB17500.<br/>Robinair Division, SPX Corporation<br/>Robinair Way<br/>Montpelier, OH 43543-0193<br/>(419) 485-8300</p> | <p>MODEL K-3330<br/>James Kamm Technologies, Inc.<br/>P.O. Box 8961<br/>4730 W. Bancroft A-3<br/>Toledo, Ohio 43615<br/>(419) 531-3313</p>               |
| <p>Space Age Air Products, Inc.<br/>Model 010 (with retrofit kit Robinair<br/>17217)</p>                                                                                                            | <p>AES-Ntron Models 2.2 and 2.4<br/>456 Creamery Way<br/>Exton, PA 19341<br/>(215)594-9309</p>                                                           |



TABLE III

| Manufacturer                                          | Model                      | Remarks *                |
|-------------------------------------------------------|----------------------------|--------------------------|
| AES NTRON                                             | R1.1AC                     |                          |
| Assemblies Systems Corp.                              | NS750A                     | no longer manufactured   |
| Clardy Manufacturing Co.                              | CP4MA                      |                          |
| C Mar Industries Inc.                                 | CM20-12A                   |                          |
| DAVECO Recovery Division of<br>DAVECO Industries Inc. | 41250, 41250-2             |                          |
| Econozone, Inc. (RSB Engineering)                     | Econozone 29A              |                          |
| Environmental Products Amalgamated<br>PTY Ltd.        | EP10A                      |                          |
| Environmental Technologies Corp.                      | The-Pro-A                  |                          |
| Fluoro Tech, Inc.                                     | FM3000                     | * Certified by ETL, Inc. |
| MDI                                                   | 5150D                      |                          |
| National Refrigeration Products, Inc.                 | UL.V63                     |                          |
| Power Manufacturing, Inc.                             | 012B-FRSPORT-01 (Power R1) |                          |
| Refrigerant Recovery Systems, Inc.                    | RC-1-A                     |                          |
| Refrigerant Recovery Technologies,<br>Inc.            | FM3000                     | * Certified by ETL, Inc. |
| Refrigerant Technologies, Inc.                        | TX 200                     | * Certified by ETL, Inc. |

| Manufacturer                               | Model                                                           | Remarks * |
|--------------------------------------------|-----------------------------------------------------------------|-----------|
| R.S.I.                                     | Mini-Sucker1 Automotive Recovery System, RSI Part Number 600075 |           |
| SPX Corporation, Robinair Division         | 17625A                                                          |           |
| Technical Chemical                         | SR5000MBJ, SR1000MBJ                                            |           |
| Watsco Components Inc.                     | WC1S-A                                                          |           |
| White Industries Div. of K-Whit Tools Inc. | 01055                                                           |           |

\* A UL Multiple Listing (referred to as private labeling by the industry) is the formal publication of the name of company that appears on equipment that is basically UL Listed for another company. It would be similar to a private brand except that the basic company name need not appear anywhere on the product. This equipment has been evaluated to determine the minimum purity specifications for recycled CFC-12 for use in mobile automotive air conditioning systems. Such equipment is provided with the following auxiliary marking "Design Certified by Underwriters Laboratories for Compliance with \* \_\_\_\_\_ (date) to indicate that the equipment has been investigated for compliance with the applicable SAE requirements.

**Table IV. Substantially Identical Recover-only Equipment**

| (None approved as of this date) |  |  |
|---------------------------------|--|--|
|                                 |  |  |
|                                 |  |  |
|                                 |  |  |
|                                 |  |  |



United States  
Environmental Protection  
Agency

Office of Air and Radiation  
Stratospheric Protection Division  
6205J

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## LIST OF APPROVED SECTION 609 CERTIFYING ORGANIZATIONS

OZONE PROTECTION HOTLINE TOLL-FREE (800) 296-1996

EPA'S OZONE DEPLETION WORLD WIDE WEB SITE:

<http://www.epa.gov/docs/ozone/index.html>

September 22, 1995

(This list will be updated when other technician certification programs are approved. Section 609 covers technician certification in the motor vehicle sector only.)

An asterisk (\*) indicates that the program offers home study.

Note: Ryder Trucks formerly offered a certification program. Retailers should continue to accept Ryder cards.

C.F.C. Reclamation and Recycling Service, Inc.  
P.O. Box 560  
Abilene, Texas 79604  
(915) 675-5311

*approval date:* 3/31/93

\*The Greater Cleveland Automobile Dealers'  
Association  
6100 Rockside Woods Boulevard, Suite 235  
Independence, Ohio 44131  
(216) 328-1500

*approval date:* 8/12/92

\*International Mobile Air Conditioning  
Association  
P.O. Box 9000  
Fort Worth, TX 76147-2000  
(817) 338-1100

*approval date:* 6/29/92

Mechanic's Education Association  
10 Main Street  
Netcong, New Jersey 07857-1111  
(201) 426-9001

*approval date:* 3/30/93

\*Mobile Air Conditioning Society  
P.O. Box 97  
East Greenville, PA 18041  
(215) 679-2220

*approval date:* 6/12/92

\*National Institute of Automotive Service  
Excellence  
13505 Dulles Technology Drive  
Herndon, Virginia 22071-3415  
(703) 713-3800

*approval date:* 6/29/92

New York State Association of Service Stations  
and Repair Shops, Inc.  
Automotive Technician Training Program  
8 Elk Street  
Albany, New York 12207  
(518) 434-6102

*approval date:* 8/12/92

Rancho Santiago College  
1530 West 17th  
Santa Ana, California 92706  
(714) 564-6661

*approval date:* 8/12/92

\*Refrigerant Certification Services  
8203 Willow Place South  
Houston, Texas 77070-9998  
(800) 597-9291

*approval date:* 4/19/93

NOTE: Only RCS technicians with credentials  
dated after April 19, 1993 will be considered  
trained by an EPA-approved certifying program.

Snap-on Tools Corporation  
2801 80th Street  
Kenosha, Wisconsin 53141-1410  
(414) 656-5200

*approval date:* 3/30/93

Texas Engineering Extension Service  
San Antonio Training Division  
The Texas A & M University System  
9350 South Presa  
San Antonio, Texas 78223-4799  
(512) 633-1000

*approval date:* 3/30/93

\*Waco Chemicals, Inc.,  
12306 Montague Street  
Pacoima, California 91331  
(818) 897-3018

*approval date:* 7/13/93

\*ESCO Institute  
1350 West Northwest Highway  
Suite 205  
Mount Prospect, IL 60056  
(800) 726-9696

*approval date:* 12/27/94

New York State Department of Motor Vehicles,  
Division of Vehicle Safety - Technical Training  
Unit  
Empire State Plaza  
Swan Street Building, Room 111  
Albany, New York 12228  
(518) 474-4049

*approval date:* 5/10/95

\*Air Conditioning Contractors of  
America/Ferris State University  
1712 New Hampshire Avenue, NW  
Washington, D.C. 20009  
(202) 483-9370

*approval date:* 9/22/95

(The programs listed below are intended specifically for the employees of these companies)

Geneva Steel  
P.O. Box 2500  
Provo, Utah 84603  
(801) 227-9000

*approval date:* 2/4/93

Jiffy Lube International  
P.O. Box 2967  
Houston, Texas 77252-2967  
(713) 546-4100

*approval date:* 9/14/93

Kmart Corporation  
East/Central Regional Office  
Auto Training Center  
551 North Hicks Road  
Palatine, Illinois 60067  
(708)358-3205

*approval date:* 8/12/92

Los Angeles County Metropolitan  
Transportation Authority (MTA)  
900 Lyon Street  
Los Angeles, California 90012  
(213) 972-5159

*approval date:* 2/1/94

Minnesota Department of Transportation  
Central Services Building  
Central Shop Unit  
6000 Minnehaha Avenue South  
St. Paul Minnesota 55111  
(612) 725-2345

*approval date:* 2/1/94

Potomac Electric Power Company  
8400-B Old Marlboro Pike  
Upper Marlboro, Maryland 20772  
(301) 967-5294

*approval date:* 8/12/92

Whayne Supply Company  
P.O. Box 35900  
Louisville, KY 40323-5900  
(502)774-4441

*approval date:* 7/19/93

U.S. Army Ordnance Center and School  
Attn: TP-SB-TSED-C10 (SFC Powell)  
Aberdeen Proving Ground  
Aberdeen, Maryland 21005-5201  
(410) 278-4099

*approval date:* 8/12/92

Yellow Freight System, Inc.  
10990 Roe Avenue  
P.O. Box 7270  
Overland Park, Kansas 66207  
(913) 345-3000

*approval date:* 8/12/92

# Service Bulletin

Mazda Motor of America, Inc.  
 7755 Irvine Center Drive  
 Irvine, California 92718  
 Telephone (714) 727-1990



|                |                                                      |                                                                                     |                     |
|----------------|------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------|
| Category<br>ST | Applicable Model/s<br>All Models with<br>A/T and ATX | Subject<br>RECOMMENDED A/T COOLER-LINE FLUSHING<br>EQUIPMENT / NEW NATIONAL ACCOUNT | Bulletin No. 009/95 |
|                |                                                      |                                                                                     | Issued 11/14/95     |
|                |                                                      |                                                                                     | Revised             |

## RECOMMENDATION

Service Bulletin Category K 002/95, issue date 8/10/95, states that **the automatic transmission oil cooler and lines must be flushed whenever performing a major transmission repair or replacement.**

MMA has evaluated flushing equipment and is recommending Kent-Moore's and OTC's products. Both pieces of equipment provide effective cleaning results and adapt to other manufacturer's vehicles.

There is a difference in procedures and costs between these two pieces of equipment. MMA is offering you the choice of two recommended pieces of equipment so that you can best decide which piece of equipment fits your needs. To assist in your decision, the chart below lists the advantages and disadvantages between the Kent-Moore and OTC flushers:

| MANUFACTURER/<br>MODEL                                                | ADVANTAGES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DISADVANTAGES                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Kent-Moore<br>J-35944-MAZ<br>A/T Oil Cooler & Line<br>Flusher         | <ul style="list-style-type: none"> <li>• Inexpensive.</li> <li>• Requires little storage space.</li> <li>• Does not requires periodic filter replacements (has no filters).</li> </ul>                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Not as easy to use.</li> <li>• Requires shop water and air hoses for flushing procedure.</li> <li>• Does not recycle its flushing fluid. Each flushing procedure requires the disposal of 18-20 gallons of waste (water/ATF/flushing fluid) that cannot be dumped in shop drain. Dealer must consult state and local authorities for proper disposal of waste.</li> </ul> |
| OTC<br>60081-M<br>Portable Oil Cooler/<br>Torque Converter<br>Cleaner | <ul style="list-style-type: none"> <li>• Cleaner recycles its solvent. Therefore, it does not require the disposal of flushing solvent after each procedure.</li> <li>• Requires only 5 gallons of flushing solvent which can be used for several flushing procedures (actual number of flushing procedures is dependant on how contaminated the cooler/lines are).</li> <li>• Easier to use.</li> <li>• Does not require shop water and air hoses for flushing procedure.</li> <li>• Also cleans torque converters.</li> </ul> | <ul style="list-style-type: none"> <li>• More expensive.</li> <li>• Requires more storage space.</li> <li>• Requires periodic filter and solvent replacement. Solvent cannot be dumped in shop drain. Dealer must consult state and local authorities for proper disposal of solvent.</li> </ul>                                                                                                                   |

## NEW NATIONAL ACCOUNT

MMA has established national accounts with Kent-Moore and OTC to allow direct ordering of a special Mazda package at a discounted price. The following are highlights of this account. For further details, refer to the attached flyers.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
 Service Manager

Signature 059766  
 Parts Manager

|                |                       |          |
|----------------|-----------------------|----------|
| Number: 009/95 | Date Issued: 11/14/95 | Revised: |
|----------------|-----------------------|----------|

**Pricing**

The special Mazda packages from Kent-Moore and OTC are available with introductory pricing. **The introductory prices are effective through December 31, 1995.** After this date the prices increase (see below).  
**THERE ARE NO EXCEPTIONS!**

| MANUFACTURER/MODEL                                       | INTRODUCTORY PRICE<br>(expires after 12/31/95) | FOLLOW-UP PRICE<br>(effective 1/1/96) |
|----------------------------------------------------------|------------------------------------------------|---------------------------------------|
| Kent-Moore J35944-MAZ A/T Oil Cooler and Line Flusher    | \$226.00                                       | \$272.55                              |
| OTC 60081-M Portable Oil Cooler/Torque Converter Cleaner | \$2,151.65                                     | \$2,541.00                            |

**Order Information**

Use the easy ordering procedures in the attached flyers.

**Shipping and Billing Information**

Your order will be shipped directly from the manufacturer. **Your parts account will be billed upon receipt.**

**NOTE: ONLY THE INTRODUCTORY PRICE OF THE KENT-MOORE EQUIPMENT INCLUDES FREIGHT.**

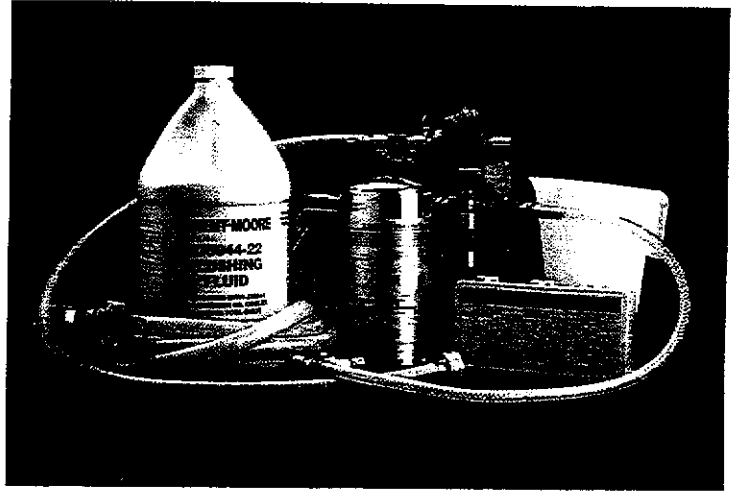
If you have any questions regarding this information contact your District Customer Support Manager or Tools/Development Manager at (714) 588-5059.



# THIS SPECIAL MAZDA PACKAGE INCLUDES:

**J 35944-A A/T Flusher** which includes:

- chrome plated brass tank
- one gallon of J 35944-22 flushing fluid (enough for six flushing operations; additional fluid can be purchased directly from Kent-Moore).
- complete operating instructions.



• **J 41763 Adapter Kit - A/T Oil Cooler And Line Flusher** (for Mazda Vehicles)

**NOTE:** For those dealers that already have a Kent-Moore A/T Cooler Flusher, an adapter kit can be purchased from Kent-Moore for \$36.65

**Special Introductory Price of: \$226<sup>00</sup>** (freight included)

- Upon receipt of your order, your parts account will be billed \$226 + applicable taxes. After the introductory price expires, you will be billed directly by Kent-Moore.
- After December 31, 1995, this introductory price expires. The package will then be available directly from Kent-Moore for the price of \$272.55 (freight not included).

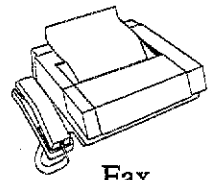
## Three Easy Ways to Order:



Mail  
Order Form



Phone  
(800) 345-2233



Fax  
(800) 578-7375

(tear along perforation)

### BUSINESS REPLY FORM

Please send me 1 Mazda Package.

Dealer Name: \_\_\_\_\_ Dealer No.: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Please contact me about the Mazda Package.

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ County: \_\_\_\_\_

Please send me 1 Adapter Kit only.

State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Phone No.: ( \_\_\_\_\_ ) \_\_\_\_\_ Ext. \_\_\_\_\_ Dealer P.O. No.: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_



## KENT-MOORE

### J 35944-AMAZ Automatic Transmission Oil Cooler And Line Flusher

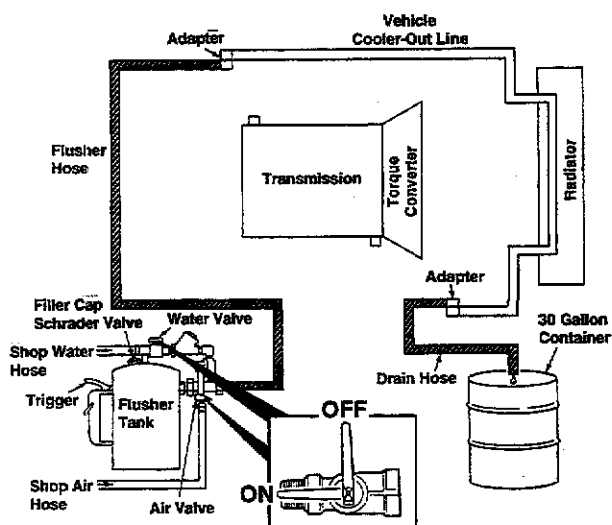
Mazda is proud to introduce Kent-Moore's A/T Oil Cooler And Line Flusher as recommended service equipment for all dealers. It has been evaluated by Mazda. As stated in Service Bulletin Category K 002/95, issue date 8/10/95, the A/T oil cooler and lines must be flushed whenever performing a major transmission repair or replacement.

As shown in the illustration below, the flusher flows a water/flushing fluid mixture through the vehicle cooler/line circuit and drains to a container for disposal. To dislodge debris, short blasts of shop air are injected into the circuit while the mixture is flowing. The flusher/cooler line connections are then reversed to perform a back flush. Shop air is used to dry the circuit.

To assist you with the purchase of this recommended equipment, we are offering a special introductory price which is only good until December 31, 1995.

#### Benefits:

- **Cost Effective** - This flusher is one of the less expensive flushers available in today's market.
- **Time Efficient** - The actual flushing procedure takes approximately 10 minutes.
- **Excellent Performance** - Intermittent blasts of regular shop air, as high as 120 PSI, creates a dramatic surge of water/flushing fluid which dislodges foreign materials in the cooler and lines.



MZ95-208

(tear along perforation)



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

#### BUSINESS REPLY MAIL

FIRST-CLASS MAIL

PERMIT NO 292

WARREN MICHIGAN

POSTAGE WILL BE PAID BY ADDRESSEE

ATTENTION: ORDER DEPARTMENT

**KENT-MOORE SPECIAL TOOLS**  
28635 MOUND RD  
WARREN MI 48092-9923



# The Special Mazda Package Includes

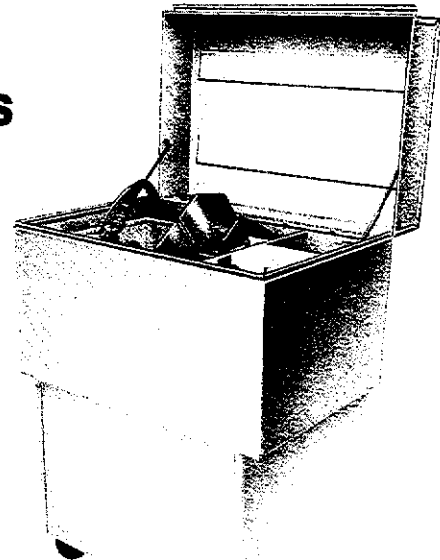
- **No. 60081 Portable Oil Cooler/Torque Converter Cleaner**

Approved solvents (requires 5 gal., not included):

- Ashland 140, Ashland 140 Solvent-K, Ashland 140 Solvent-L
- Ker-Mac 142 Flash Solvent (Kerr-McGee)
- Shell-Sol 140 (Shell)

- **J41763 Adapter Kit — A/T Oil Cooler and Line Flusher (for Mazda Vehicles)**

NOTE: For those dealers that already have an OTC No. 60081 Portable Oil Cooler/Torque Converter Cleaner, an adapter kit can be purchased directly from OTC for \$36.65.

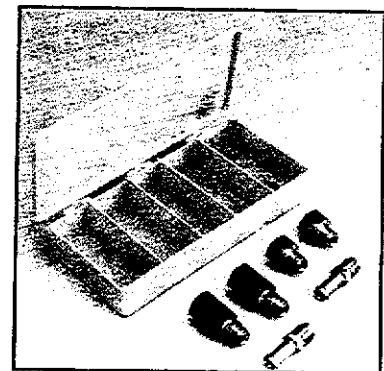


**Special Introductory Price of: \$2151.65**

(freight not included)

- Upon receipt of your order, your parts account will be billed \$2151.65 + freight & applicable taxes. After the introductory price expires, you will be billed directly by OTC.

- After December 31, 1995, this introductory price expires. The package will then be available directly from OTC for the price of \$2541.00 (freight & taxes not included).



## Three Easy Ways to Order:



**MAIL**  
Order Form



**PHONE**  
(800) 533-0492



**FAX**  
(507) 455-7240

(tear along perforation)

## BUSINESS REPLY FORM

Please send me one Mazda Package.  
Dealer Name: \_\_\_\_\_ Dealer No.: \_\_\_\_\_  
Contact Name: \_\_\_\_\_

Please contact me about the Mazda Package.  
Street Address: \_\_\_\_\_  
City: \_\_\_\_\_ County: \_\_\_\_\_

Please send me one Adapter Kit only.  
State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Phone No.: ( \_\_\_\_\_ ) \_\_\_\_\_ Ext. \_\_\_\_\_ Dealer P.O. No.: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

# MAZDA

# OTC

## No. 60081-M Portable Oil Cooler/Torque Converter Cleaner

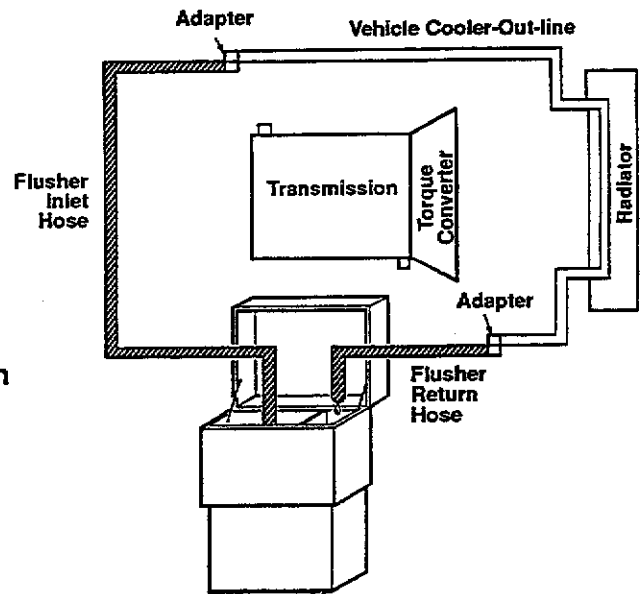
Mazda is proud to introduce OTC's Portable Oil Cooler/Torque Converter Cleaner as recommended service equipment for all dealers. As stated in Service Bulletin Category K 002/95, issue date 8/10/95, the A/T oil cooler and lines must be flushed whenever performing a major transmission repair or replacement.

Though this equipment may be perceived as expensive, it will save money in the long run because it recycles its cleaning solvent. Therefore, it does not require the disposal of used cleaning solvent after each flushing. As shown in the illustration below, this cleaner is connected to the vehicle cooler lines. The cleaner circulates cleaning solvent through the cooler/lines and returns it to the cleaner to be recycled through a 5 micron filter that is located within the cleaner. The solvent continues to be re-circulated until the flow from the cooler/lines is clear.

To assist you with the purchase of this recommended equipment, we are offering a special introductory price which is only good until December 31, 1995.

### Benefits:

- **Saves Money** — The cleaner has an internal 5 micron filter, which allows its 5 gallons of solvent to be recycled and reused. Therefore, solvent costs and waste disposal costs are reduced.
- **Easy to Use** — Just connect the hoses, electrical cord, and turn on. No back flushing required.
- **Easy to Store** — The cleaner is contained within its own roll-around cabinet.
- **Easy to Maintain** — The cleaner requires the periodic replacement of solvent and filter.
- **Versatile** — Adapts to other OEM's vehicles. Also, flushes torque converters.



Litho in U.S.A.  
10-95/95-163

(tear along perforation)



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

### BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO 72 OWATONNA, MN 55060-9911

POSTAGE WILL BE PAID BY ADDRESSEE

Attn: Ms. Jan Fandel  
OTC, A division of SPX Corporation  
655 Eisenhower Drive  
Owatonna, MN 55060-9911



# National Parts Department Parts Bulletin



Keep it genuine.

Distribution:

Initial

|                  |                                     |       |
|------------------|-------------------------------------|-------|
| Dealer Principal | <input checked="" type="checkbox"/> | _____ |
| Parts Manager    | <input checked="" type="checkbox"/> | _____ |
| Service Manager  | <input checked="" type="checkbox"/> | _____ |

Bulletin No. M03/61  
Date: 17.09.03  
Page: 1 of 2

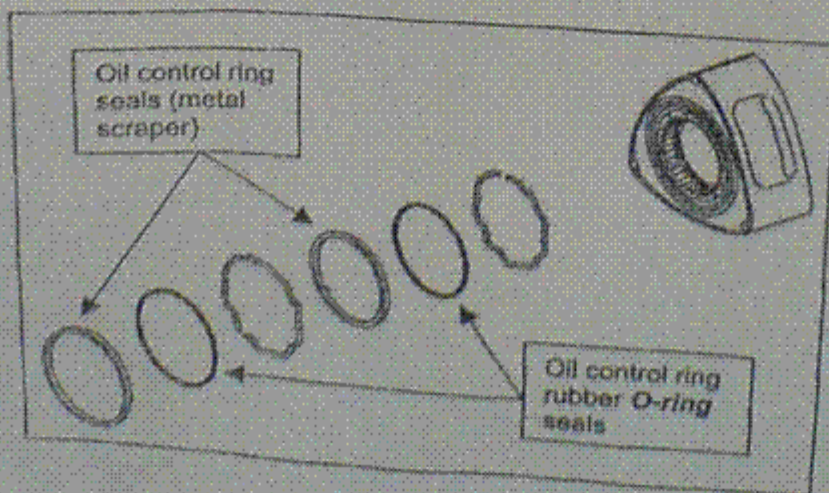
Phone: (03) 8540 1800  
Fax: (03) 8540 1850

## RX8 Rotary Oil

Due to some misunderstandings in the field in relation to the use of Synthetic and Mineral engine oils in Rotary engines, National Technical Department have created this Tech Tip in order to assist your staff with enquiries.

### Pre-Renesis Rotary Engines

All Pre-Renesis engines have a set of oil control seals in the sides of the rotors (refer diagram below), which are designed to keep the oil from the lubrication system out of the combustion chambers. Each seal consists of a metal 'scraper' with a rubber o-ring within. MC advise this o-ring is not compatible with synthetic oils (or synthetic/mineral blends) and that such oils can attack the material in the o-rings, causing them to break down and deteriorate. Should this occur, excessive amounts of oil would be drawn into the combustion chambers causing high oil consumption, smoke from the exhaust, fouled spark plugs and reduced engine life. **Therefore, synthetic oils or blends are prohibited and only mineral oils must be used in early Rotary engines.**





# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990

# MAZDA

|               |                                 |                                           |                     |
|---------------|---------------------------------|-------------------------------------------|---------------------|
| Category<br>T | Applicable Model/s<br>See Below | Subject<br>POWER ANTENNA MAST REPLACEMENT | Bulletin No. 005/95 |
|               |                                 |                                           | Issued 3/28/95      |
|               |                                 |                                           | Revised             |

## APPLICABLE MODELS/VINS

All vehicles equipped with a power operated antenna.

## DESCRIPTION

It is not necessary to replace the entire antenna assembly if an antenna mast is damaged. Follow the procedures below to replace only the mast portion of the assembly.

**NOTE:** Bent or broken antenna masts (i.e. damage not due to defects in material and workmanship) are not covered under vehicle warranty.

## REPAIR PROCEDURES

1. Remove the mounting nut with snap ring pliers or a spanner wrench.
2. Hold the mast and have an assistant turn the radio "ON". If the antenna mast does not pop up, use slip joint pliers to pull the mast up.  
**NOTE:** Holding the antenna mast is necessary to prevent paint damage.
3. Remove any debris from the ground plate, rubber bushing and mounting nut.
4. Apply a small amount of lubricant to these pieces.
5. Bend the plastic rack as shown. This will facilitate installation.
6. Insert plastic rack into assembly until contact is made.
7. Have an assistant turn the radio "OFF" to retract the antenna mast into the assembly.
8. Assemble rubber bushing and mounting nut. Tighten nut.
9. Verify operation.

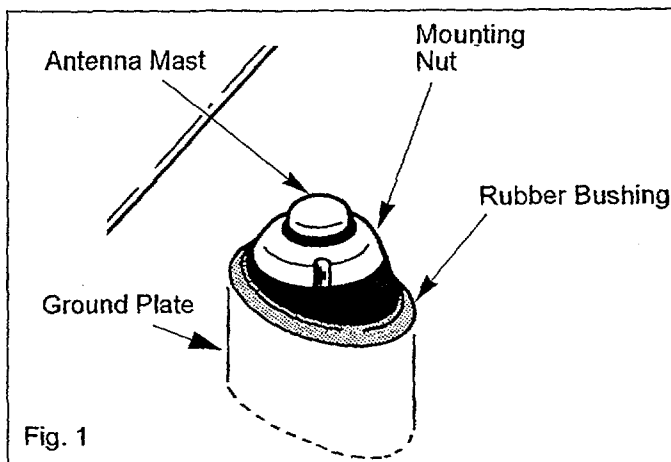


Fig. 1

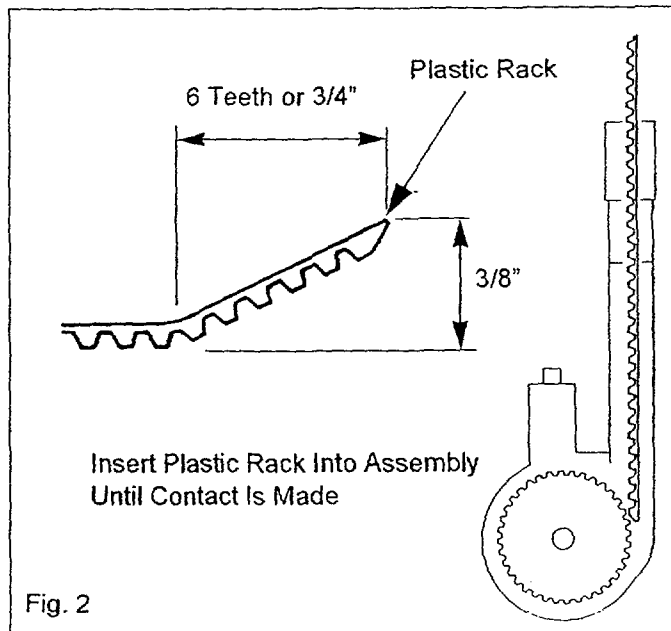


Fig. 2

Index # 042431

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_ Signature \_\_\_\_\_  
Service Manager Parts Manager

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                                       |                                                         |                     |
|---------------|-------------------------------------------------------|---------------------------------------------------------|---------------------|
| Category<br>T | Applicable Model/s<br>All Models<br>(Ex. Nav. B-Ser.) | Subject<br>PARTS REPLACEMENT AFTER AIRBAG<br>DEPLOYMENT | Bulletin No. 007/97 |
|               |                                                       |                                                         | Issued 04/25/97     |
|               |                                                       |                                                         | Revised             |

## APPLICABLE MODELS

1988 - 97 models except Navajo and B-Series

## DESCRIPTION

If you repair a vehicle in which the driver's side and/or passenger side air bag deployed due to collision, **always replace the SAS or Diagnostic Module** in addition to damaged components. Replacement will ensure the system is completely operational.

Use the table below to determine which system is installed in the vehicle.

| SAS Unit   |           | Diagnostic Module |                        |
|------------|-----------|-------------------|------------------------|
| Model      | Year      | Model             | Year                   |
| MPV        | 1996 - 97 | MPV               | 1993 - 95 (See Note 1) |
| 626 / MX-6 | 1995 - 97 | 626 / MX-6        | 1993 - 94              |
| MX-5 Miata | 1995 - 97 | MX-5 Miata        | 1990 - 94              |
| Protege    | 1995 - 97 | RX-7 (Conv.)      | 1988 - 91 (See Note 2) |
| Millenia   | 1995 - 97 | RX-7              | 1993 - 95              |
|            |           | 929               | 1992 - 95              |
|            |           | MX-3              | 1994 - 95              |

**CAUTION:** Never attempt to repair the air bag system wiring; always replace any damaged wiring.

### NOTE:

1. 1993 MPV incorporated air bag systems during a mid-year production change.
2. 1992 RX-7 convertibles were available only in the Canadian market.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990

# MAZDA

|               |                                                       |                                                                  |                                                   |
|---------------|-------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------|
| Category<br>T | Applicable Model/s<br>All except<br>B-Series & Navajo | Subject<br>WIPER MOTOR INOPERATIVE<br>CIRCUIT BREAKER ACTIVATION | Bulletin No. 013/97<br>Issued 06/19/97<br>Revised |
|---------------|-------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------|

**NOTE:** This bulletin replaces previous service bulletins Cat. 15-070/88 and Cat. G 003/97. Remove Cat. G 003/97 from your files.

**APPLICABLE MODELS:**

All except B-Series and Navajo.

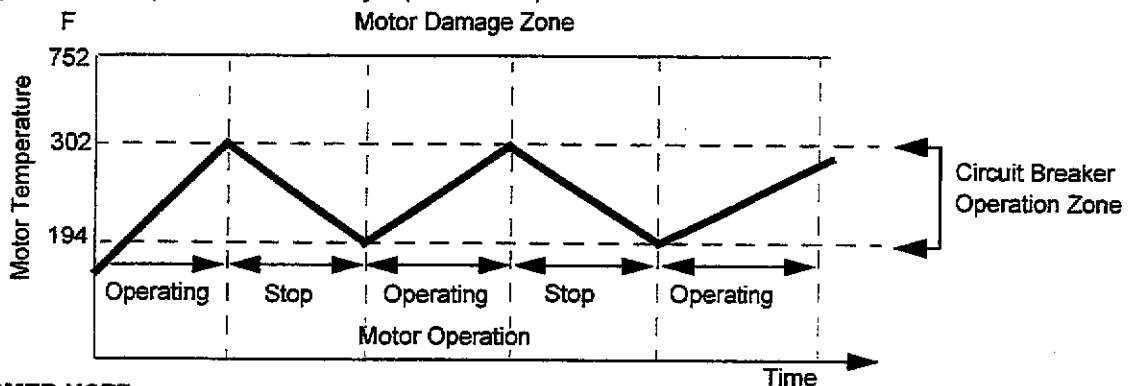
**DESCRIPTION:**

The wiper motor is equipped with a built-in circuit breaker to protect the circuit and motor from over heating due to motor overloading. Overload may occur when:

- Motor temperature exceeds 150 degrees (C) [302 degrees (F)].
- Wipers are frozen to the windshield.
- Wiper motion is restricted due to heavy loads (snow or mud build-up).

**NOTE:** Circuit automatically resets when motor temperature decreases below 90 degrees C ( 194 degrees F).

The information in this bulletin is provided to answer customer questions regarding occasional wiper motor perceived problems and prevent unnecessary wiper motor replacement.



**CUSTOMER NOTE:**

To prevent wiper motor binding:

- Remove ice or snow build-up from windshield with a suitable tool.
- Confirm the wiper is free by carefully raising blades from glass.
- **NEVER** operate wipers on dry windshield.

If the wiper operation stops:

- Guide the vehicle to the side of road and stop.
- Turn wipers "OFF".
- Wait approximately 5 minutes and turn the wiper switch "ON".
  - If the wipers activate, the wiper motor and circuitry are functioning properly (circuit breaker activated).
  - If the wipers fail to activate, proceed to your nearest dealer when you can safely drive the vehicle.

**Technician's Note:** If the wiper motor does not operate, check the wiper motor circuit (Refer to Workshop Manual for the specific model) and replace wiper motor if necessary.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.



|                |                       |          |
|----------------|-----------------------|----------|
| Number: 013/97 | Date Issued: 06/19/97 | Revised: |
|----------------|-----------------------|----------|

3. To prevent wiper motor binding:

- When wiper blades become stuck to the windshield due to freezing, heavy snow build-up or nonuse for long period, follow the procedures described below.

| Condition                                                              | Action                                                               |
|------------------------------------------------------------------------|----------------------------------------------------------------------|
| Wiper blades will not move because of freezing or heavy snow build-up. | Remove ice or snow. Confirm that blades are free.                    |
| Wiper blades stuck to windshield because of long-term nonuse.          | Carefully raise blades from glass, being careful not to damage them. |

**CAUTION: Never operate the wipers when the windshield is dry. Squirt washer fluid on the glass before using the wipers to clean the windshield.**

**Service Managers and Service Advisors should relay the following to customers with this concern.**

**CUSTOMER NOTE:**

- If the circuit breaker opens and stops operation of the wiper motor, operation will resume once the circuit resets itself (approx. 5 minutes).
- If while the circuit breaker is open, the wiper switch is turned "OFF", the wiper will automatically move to the "PARK" position once the circuit breaker resets.

If the wiper motor stops while the vehicle is in motion:

- Carefully guide the vehicle off the road and stop. Turn the wiper switch "OFF".
- Wait approximately 5 minutes then turn the wiper switch "ON" to verify wiper operation. If the wipers operate, the wiper motor is functioning correctly (circuit breaker opened momentarily).

**Technician's Note:** If the wiper motor does not operate, check the wiper motor circuit (Refer to Workshop Manual or specific model) and replace wiper motor if necessary.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                  |                                                                |                     |
|---------------|----------------------------------|----------------------------------------------------------------|---------------------|
| Category<br>T | Applicable Model/s<br>All Models | Subject<br>REAR WINDOW DEFROSTER GRID LINE<br>REPAIR PROCEDURE | Bulletin No. 015/95 |
|               |                                  |                                                                | Issued 11/14/95     |
|               |                                  |                                                                | Revised 12/21/95    |

The "Description" and "Warranty" portion of this bulletin are revised. Changes are highlighted by bold print. Replace the original bulletin with this revised copy.

## APPLICABLE MODELS

All Models

## DESCRIPTION

The following procedure should be used to repair broken grid lines on rear window defrosters. Place a copy of these procedures in the appropriate section of the workshop manual.

## REPAIR PROCEDURE

1. Turn the defroster switch On with the ignition in the On position.
2. Determine the broken grid line visually or with a test light or voltage meter.
3. Turn the defroster and ignition Off.
4. Clean the area with a glass cleaner.
5. Remove the protective backing from the stencil.
6. Align both ends of the broken grid line with the opening in the stencil and press firmly to attach.

**NOTE:** Make sure both ends are aligned prior to attaching.

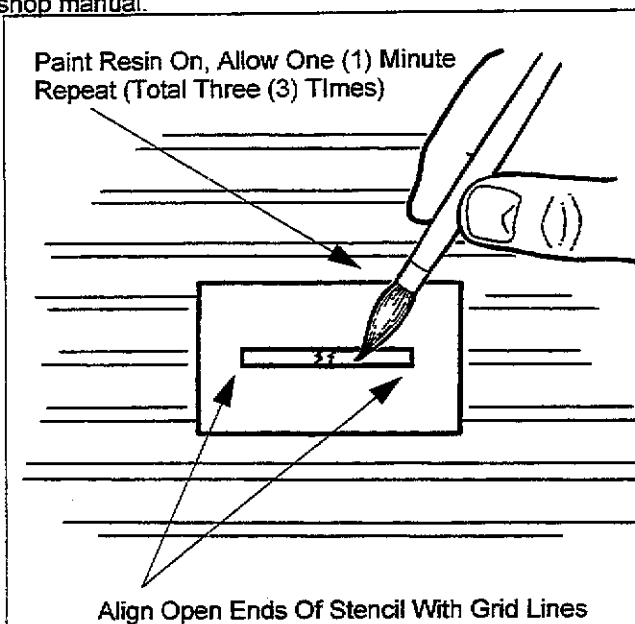
7. Shake the bottle of resin well.

**CAUTION:** Continuity failure will occur if the ingredients are not mixed completely.

8. Brush on the resin overlapping both ends of the broken grid line.

**NOTE:** Use paint remover to clean brush for future applications.

9. Repeat application (total of 3 times) when the surface is tack-free (approximately one (1) minute).
10. Allow to dry twenty (20) minutes.
11. Carefully peel stencil from glass.
12. Allow twenty-four (24) hours before activating rear defroster.



## WARRANTY INFORMATION

*(Applies To Verified Customer Complaints On Vehicles Covered Under Normal Warranty. Refer To The SRT Microfiche For Warranty Term Information. Damage Which Occurs Through Customer Misuse Or Abuse Is Not Considered A Warrantable Repair.)*

Warranty Type: A  
Symptom Code: D5  
Damage Code: AA  
Part Number Main Cause: 0000 88 5067  
Quantity: 0  
Operation Number: XX0777RX  
Labor Hours: 0.3Hrs.

**NOTE:** Labor Hours includes the cost of resin.

## PARTS INFORMATION

| Part Number  | Description |
|--------------|-------------|
| 0000 88 5067 | Resin       |

**NOTE:** Product will repair grid scratches up to 4in.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature **059756** \_\_\_\_\_

Parts Manager

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



WA

|               |                                   |                                                |                     |
|---------------|-----------------------------------|------------------------------------------------|---------------------|
| Category<br>T | Applicable Model/s<br>(see below) | Subject<br>ANTENNA MAST<br>REPLACEMENT/SERVICE | Bulletin No. 017/92 |
|               |                                   |                                                | Issued 9/22/92      |
|               |                                   |                                                | Revised             |

## APPLICABLE MODEL/S

1992 929  
1993 MX-6, 626 & RX-7

## DESCRIPTION

Vehicles specified in "Applicable Model/s" have antenna masts available as replacement parts. It is not necessary to replace the entire antenna assembly (motor and mast) when only a mast is required. Refer to the parts microfiche or Accessory Bulletin No. XS-1 for parts information.

At times, the mast does not retract fully due to dirt build-up around the mast area. Periodic cleaning of the mast with a moist wash cloth is recommended.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

Parts Manager

Index # 030853

|               |                                 |                                                         |                     |
|---------------|---------------------------------|---------------------------------------------------------|---------------------|
| Category<br>T | Applicable Model/s<br>1993 RX-7 | Subject<br><b>RADIO REMOVAL TIPS<br/>(W/ CD PLAYER)</b> | Bulletin No. 018/92 |
|               |                                 |                                                         | Issued 11/9/92      |
|               |                                 |                                                         | Revised             |

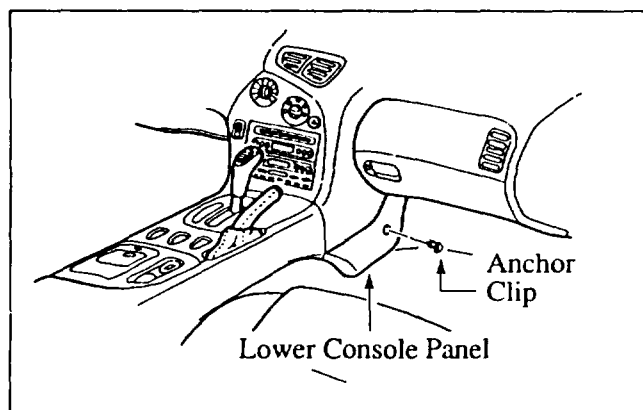
## DESCRIPTION

Some 1993 RX-7 radios have been returned for service with damaged antenna leads. This is caused by improper radio removal. The removal procedures below should be followed to avoid damage to the antenna leads.

**NOTE:** After installing the replacement radio, advise vehicle owner to input the radio's anti-theft code. If needed, refer to the owner's manual for details.

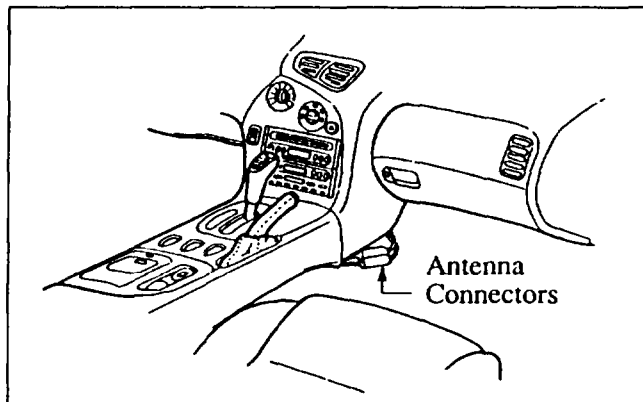
## REMOVAL PROCEDURE

1. Remove the anchor clip from the right lower console panel. **Figure 1.**
2. Remove the right lower console panel. **Figure 1.**



**Figure 1: Console Panel Removal**

3. Fold back the carpeting and pull down the antenna connectors. **Figure 2.**



**Figure 2: Exposing Antenna Connectors**

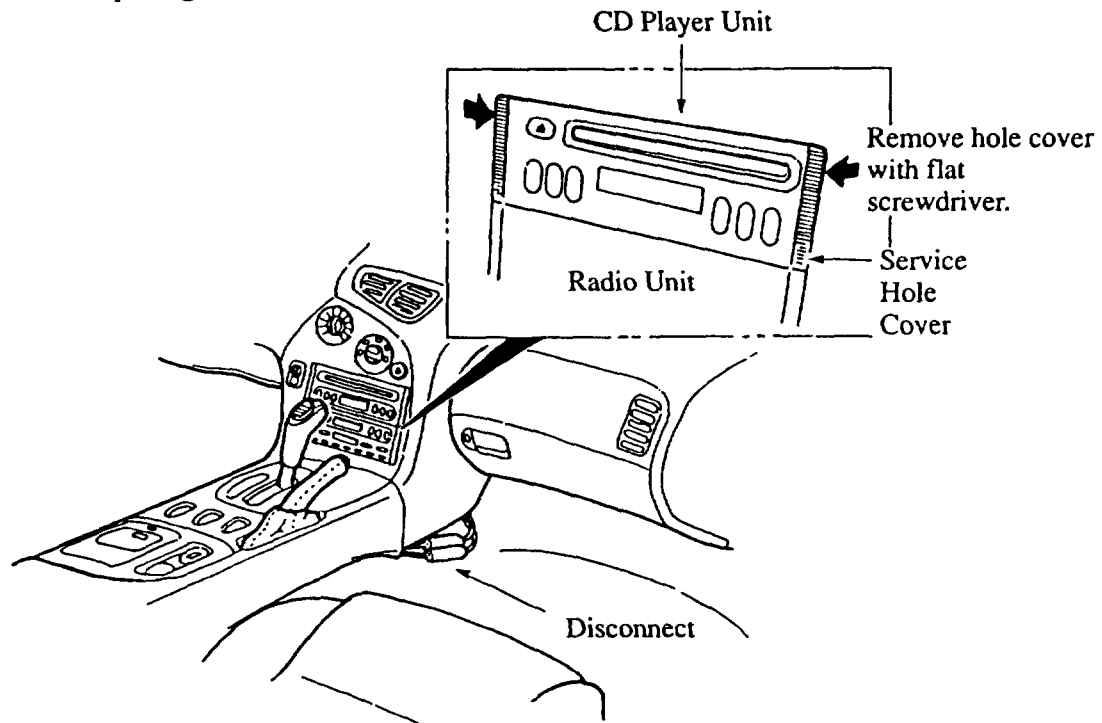
**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
 Service Manager

Signature \_\_\_\_\_  
 Parts Manager

Index # **032177**

4. Disconnect the antenna connectors.
5. Remove the service hole covers from both the radio and CD player using a small, flat blade screwdriver wrapped with tape. **Figure 3.**



**Figure 3:** *Hole Cover Removal*

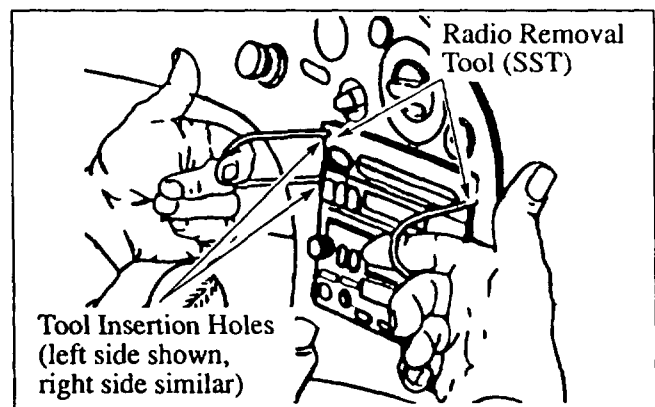
6. Push the stereo removal tool, SST (Part No. 49 UN01 050), into the holes on the sides of the CD player until it locks firmly. **Figure 4.**

**NOTE:**

This tool is used on the following models:

- |                |                  |
|----------------|------------------|
| -1992-'93 MX-3 | -1993 RX-7       |
| -1992-'93 MX-6 | -1991-'92 Navajo |
| -1992-'93 626  | -1992 929        |

7. Spread the SST toward the outside and pull the CD player straight out.

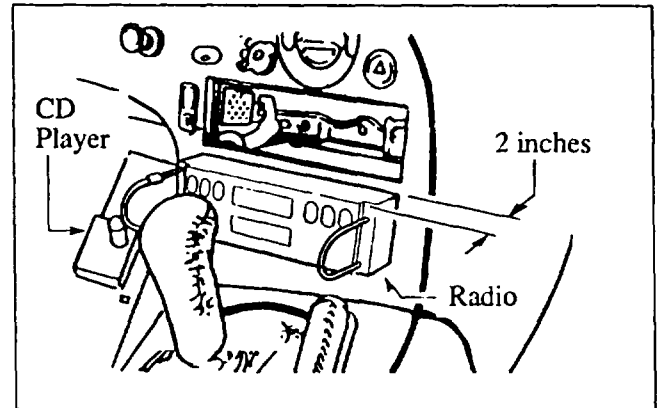


**Figure 4:** *CD Player Removal*

8. The CD player should hang to the left of the radio.

**NOTE:** Prop up the CD player so there is no unnecessary tension on the CD player wiring.

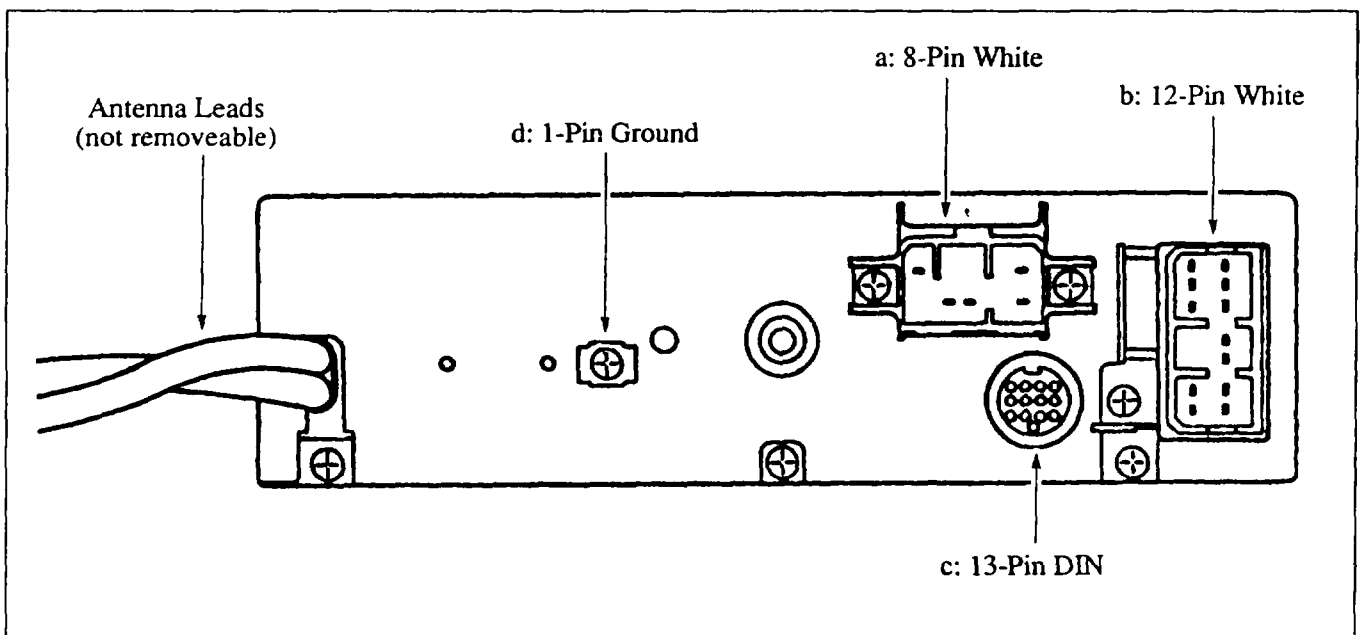
9. Push the SST into the holes on the sides of the radio until it locks. **Figure 5.**
10. Pull the stereo out about two inches.



**Figure 5: Radio Disconnection**

11. The electrical connectors must now be removed from the back of the radio. Since it is not possible to see the connectors, refer to **Figure 6.** Remove the connectors in the order shown below and note the locations of the locking tabs.
- 8-Pin White connector: locking tab is on top and should be pressed down.
  - 12-Pin White connector: locking tab is on the passenger's side (right) of the connector and should be pressed towards the driver's side (left).
  - 13-Pin DIN connector: has no locking tab and should be pulled straight out.
  - 1-Pin Ground connector: locking tab is on top and should be pressed down.

**NOTE:** The antenna leads going into the back of the radio are not removeable.



**Figure 6: Rear View of Radio**

12. Pull the radio straight out. Make sure that you carefully feed the antenna leads through the radio opening as you pull out the radio.  
Figure 7.

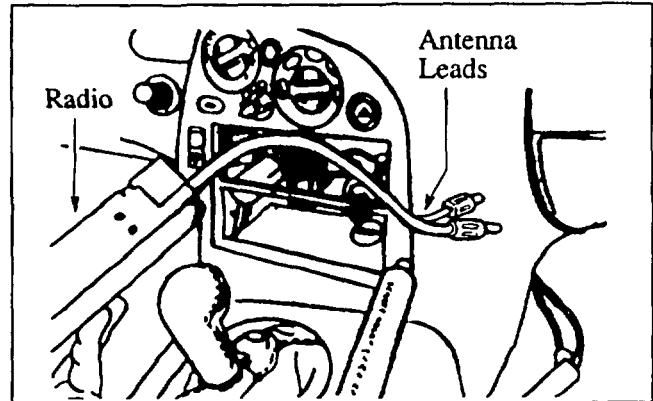


Figure 7: Radio Removal

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                                   |                                                                 |                                                   |
|---------------|---------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------|
| Category<br>T | Applicable Model/s<br>All Models<br>With Air Bags | Subject<br>NON GENUINE ACCESSORIES<br>AFFECT ON AIR BAG SYSTEMS | Bulletin No. 023/96<br>Issued 12/26/96<br>Revised |
|---------------|---------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------|

## APPLICABLE MODELS

All models with air bag systems.

## DESCRIPTION

### Front Protection Bars

Addition of after-market accessories on Mazda vehicles equipped with Supplement Restraint Systems SRS units may affect air bag deployment.

SRS operates by electronic signals produced by impact sensors. Adding front protection bars that mount directly to the frame may transfer even slight impact energy through the frame to the sensor, rather than allowing the bumper to absorb the impact. This energy transfer may result in air bag deployment when the impact is less than specified for normal deployment.

### Non Approved Electronic Accessories

Installing non-approved electronic equipment around the SRS unit can affect operation. The electronic energy of accessories mounted near SRS sensors could inadvertently induce an impact sensor signal.

## RECOMMENDATIONS

Mazda approved accessories are carefully designed and tested under many different conditions to ensure they do not affect proper air bag system operation. After-market accessories may not be compatible with Mazda SRS.

**Service Managers and Service Advisors should inform customers that Mazda does not recommend installing after-market accessories to the front of the vehicle or anywhere near SRS components.**

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.



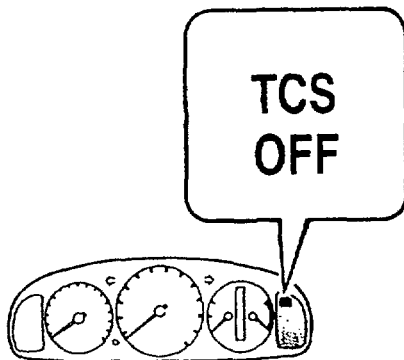
# Mazda Tips

February 1995

Timely Repair Information for Mazda Dealer Service Personnel

## TCS Indicator Light (\*95 Millenia)

The traction control system (TCS) will not operate until the engine coolant temperature reaches 32 degrees F., even though the TCS is activated. The "TCS OFF" indicator light on the dash will remain on until the coolant temperature rises above 32 degrees F., the "TCS OFF SWITCH" will have no effect on the light.



Please explain this function to customers so they don't become alarmed by the light in this situation.

## Interior "C" Pillar Lights (\*95 Millenia)

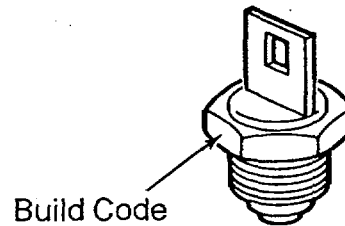
With the interior light switch in the door position, (on vehicles produced on or after 11/94) the "C" pillar lights no longer illuminate when a door is opened. This change was done at the production line in October 94. If a customer complains about this condition, please explain this change. The lights still operate when the manual switch is pressed.

The wiring diagram and owners manual will be modified to reflect this change in the 1996 issue.

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## Low or Erratic Temperature Gauge Reading (\*94 B4000/NAVAJO)

If a customer complains of low or erratic temperature gauge reading inspect all wiring for shorts or opens. If all is normal, replace the temperature sensor with P/N ZZL0-18-840. **IMPORTANT** - The new sensor must have a build code greater than 2774, which can be found on one of the faces where a wrench is used to install the sensor. Do not replace the thermostat unless the above steps have been followed.



## Static Electricity (All Models)

Sometimes customers may feel a static shock when getting out of the vehicle. This shock is the result of static electricity build-up. (This phenomenon occurs more frequently in the winter season or in dry weather.)

The following two procedures are effective in preventing static shock. Please suggest these methods to your customers.

1. Touching a metal panel while exiting the vehicle is a very effective way to eliminate static shock. After opening the door touch or hold on to a metal panel (example: a door sash).
2. Touch the static electricity ground pad: (Equipped on the following vehicles)

## Static Electricity -Cont.

| MODEL    | YEAR    |
|----------|---------|
| 929      | '92-'94 |
| 626/MX-6 | '92-'94 |
| Protege  | '91-'94 |
| MX-3     | '92-'94 |

NOTE: This feature has been eliminated from the '95 model year.

## Hood Release ('93-'95 RX-7)

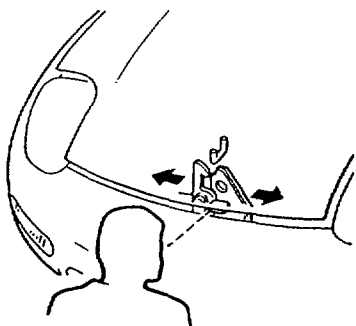
If the hood release is inoperative or very difficult to pull, even though the release knob moves all the way out, you do not need to replace the cable or the lock. The problem is caused by poor adjustment of the hood lock.

Follow the procedure listed below to remedy the situation.

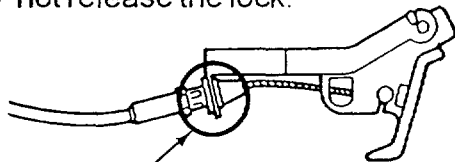
NOTE: If the hood will not open, remove the release knob bracket from the dashboard. separate the cable end and the knob, then firmly pull the inner cable.

1. Adjust the location of the hood lock.

Latch the striker into the center of the lock. Check the clearance of the striker latch to the lock. (You can see the lock between the hood and bumper fascia), then adjust the location of the lock to the right or left until the clearance is even.



2. Correct the angle of the hood release knob bracket. Adjust the bracket angle to 90 degrees. If this angle is not at 90 degrees, the release cable may not pull out fully and therefore may not release the lock.



Check angle here  
(Incorrect angle shown)

## Transit Coating Removal

Damage in the form of cracks to some plastic parts such as headlights, rear combination lens or body moldings may develop if Transit Coating Remover is used improperly. Please pay close attention to the following cautions:

### 626/MX-6:

- Use only Mazda approved Transit Coating Remover P/N 0000-77-0092-TC.
- Use the correct mixture ratio of 8:1 (8 quarts water to 1 quart remover).
- If a stronger mixture ratio must be used to remove stubborn transit coating, do not apply the solution directly to any plastic parts, such as headlights or rear combination lenses.

Complete removal instructions are found in Service Bulletin S 026/92.

### All vehicles with Rappguard:

- Transit Coating Remover should never be used to remove Rappguard residue. If it is used, even if heavily diluted, it will cause cracks in plastic body parts (including license plate lamp lens, mirrors, etc.). Only Isopropyl Alcohol should be used to remove stubborn Rappguard adhesive residue.

## Recall Completion (All Models)

If there is any doubt whether a vehicle entering your service department has an outstanding recall that needs to be performed, make sure to use the M-Tips Online **Vehicle, Recall and Warranty Information** section. This will list all recalls that apply to the vehicle which have not been completed.

# mazda

Mazda Tips  
Mazda Motor of America, Inc. (MMA)  
Customer Support Division

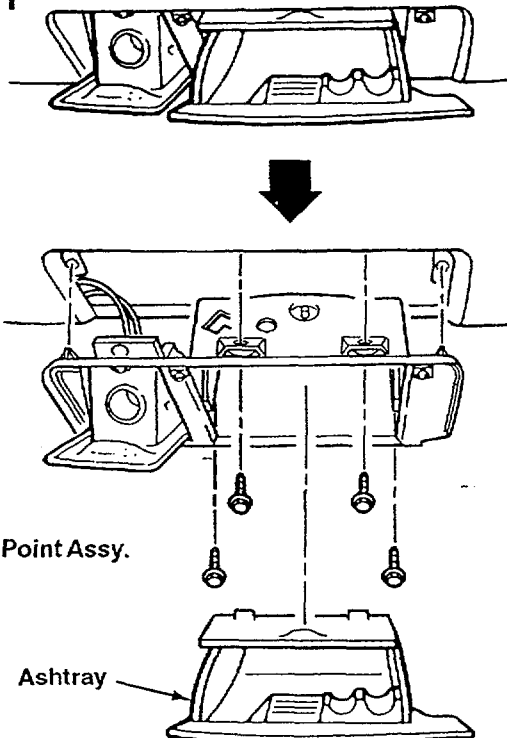
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## Power Point ('95 B-Series)

The power point (accessory cigarette lighter socket) on some 1995 B-Series trucks may not stay either fully open, fully closed or both.

To repair the problem of a power point that won't fully open, remove the power point/ashtray assembly and disconnect the electrical connector (FIG. 1). Reroute the harness by removing the loop from the harness and reinstall.

FIG. 1



To repair the problem of the power point won't stay fully closed, remove the power point/ashtray assembly and disconnect the electrical connector. Remove the harness from the retainer clip at the top of the power point (FIG. 2), then remove the crossbar with the retainer clip and discard. Turn the power point socket so that the terminals are in the position shown (FIG. 3). Take the wires and tape them to the top of the connector as shown in the illustration, and reinstall.

See illustration, above right

FIG. 2

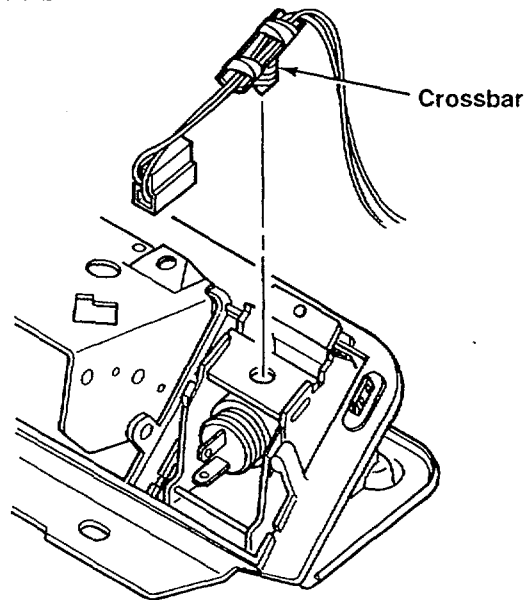
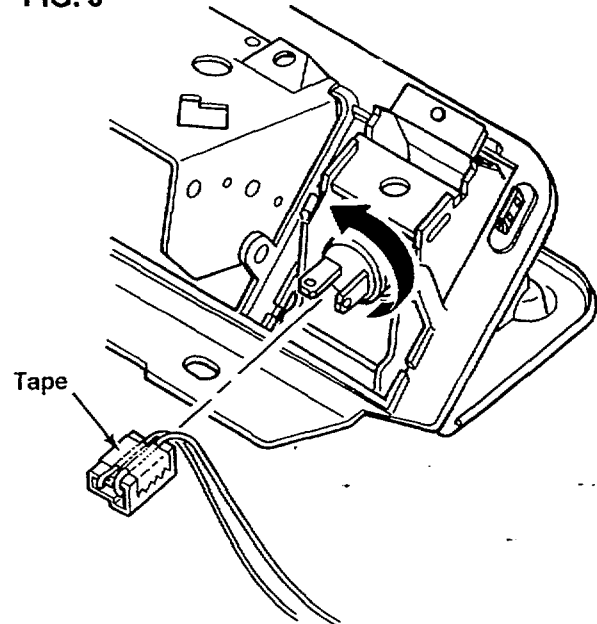


FIG. 3



## Coolant System ('95 B2300)

Due to coolant filling procedures at the assembly plant, the 1995 B2300 may have air bubbles in the heater core. These bubbles may cause a gurgling noise from the heater case. This noise

Index # 042739

may be noted when the vehicle has low mileage and should be eliminated after approximately five warm-up/cool-down cycles.

If a customer has this complaint with low miles, it will probably go away after additional driving. If it does not, bleed the air from the cooling system (refer to the '95 Workshop Manual Page E1-5 for procedure.)

## Relay Box Mounting ('95 B-Series)

The washer pump and/or blower motor function may be affected by the Relay Box (located behind the front headlamp) filling with water because of being mounted upside down. Please check vehicles for this condition at PDI and regular servicing.

If the relay box has been mounted upside down:

1. Remove the relay box from the sheet metal, remove cover and inspect for corrosion. Replace relays as necessary.
2. Reinstall the relay box right side up, making sure the cover is on top and the harness enters the relay box from the RH fender side.

## A/C Troubleshooting ('95 B-Series)

The 1995 B-Series has incorporated a R134a fluorescent tracer dye into the A/C system. The tracer dye is an alternative to leak checking using an electronic leak detector.

The location of a leak can be pinpointed by a bright yellow-green glow of the tracer dye when scanning with a UV lamp. If you need to check areas that cannot be reached with a UV lamp, wipe the area with a shop towel and check the towel with the UV lamp for traces of dye.

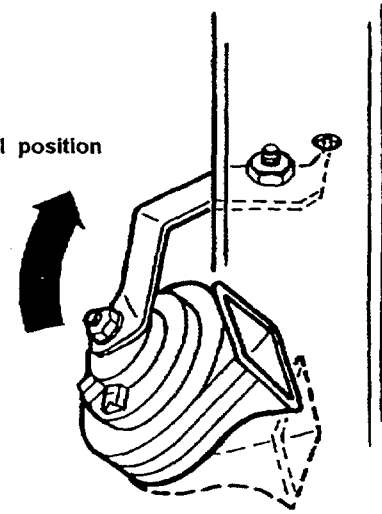
The traces of dye can be removed from the previously leaking area by using any general purpose solvent.

## Horn Sound ('95 B-Series)

When sounding the horn, it may have an unusual or poor sound. This may be caused by the horn contacting the inner fender, OR water entry into the horn because the horn is not in its normal horizontal position.

To repair, bend the horn bracket to a position so that the horn is nearly horizontal to the ground but still 2mm away from the inner fender.

Set to horizontal position



## Oil Pressure Gauge ('91-'94 Navajo, '94 B4000)

Some vehicles may have a concern with an oil pressure gauge that fluctuates or reads low in the normal operating band. This may be due to a concern with the oil pressure switch.

To correct, replace the switch with modified part P/N ZZLO-18-501. These are identified by a white splash cap. Do not replace with a part having a gray splash cap (they are not modified).

If the concern still exists after replacement, follow the diagnostics as outlined in the workshop manual.

## Turbocharger ('93-'95 RX-7)

During engine replacement or other engine disassembly, cracks on the turbocharger exhaust manifold may be present. Due to the high heat concentration existing in the turbocharger and manifold, some cracks (in the shaded areas) are considered normal, and the turbo does not need to be replaced.

**NOTE:** Cracks will not extend in length because the outer wall temperature is comparatively low.

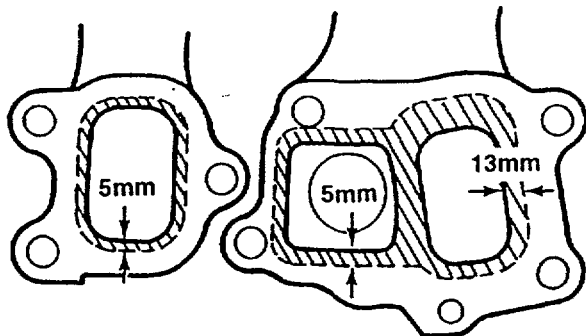
The following are acceptable conditions and the turbo does not need to be replaced.

1. Cracks of 5mm or less in length that do not pierce the housing, EXCEPT:
2. At the top of the secondary turbo flange,

See Illustration on next page

**"Turbo," Cont.'d**

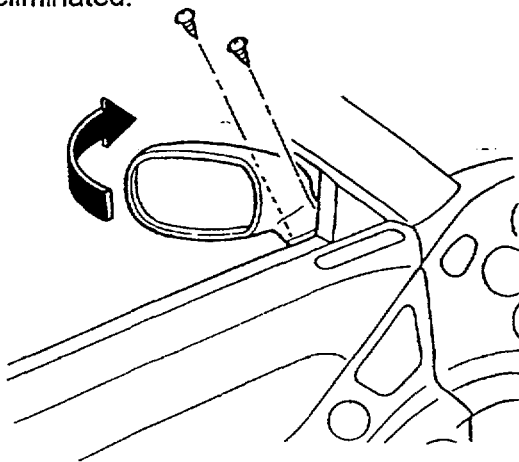
next to the turbo pre-control valve, cracks of 13mm or less are acceptable.



**Door Mirror Vibration ('93-'95 RX-7)**

If the left or right door mirrors shake or vibrate under normal driving conditions, or on rough roads, do not replace the door mirror.

Twist the mirror downward to expose the two (2) mounting screws that attach the mirror to the body. Remove the mounting screws and apply loc-tite (blue type) to the threads and reinstall the screws very firmly to ensure the vibration has been eliminated.



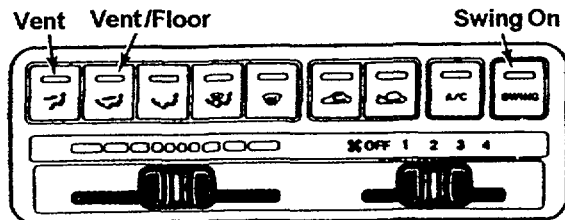
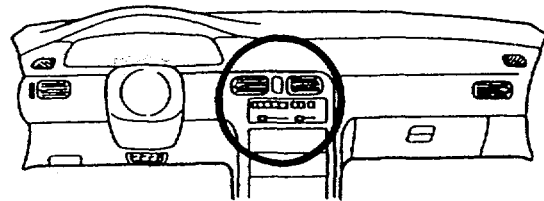
**Swing Louver ('93-'95 626)**

If you encounter a customer complaint of a inoperative center swing louver on a 1993-95 626 vehicle, before replacing the part, you should verify its proper operation by the following method:

Verify that the "swing" switch is 'on' and the function selector is in the "vent" or "vent-floor" mode position (these selectors can be found on the logicon).

In any other position, the swing function is

disabled. The next printing of the owners manual will contain detailed operating instructions.



**Camshaft Friction Gear (V-6 626/MX-6, V-6 MX-3, Millenia)**

If a customer complains of an engine noise (clicking) that generally starts when the engine is at normal operating temperature and seems to come and go in three second intervals, it may be caused by the camshaft friction gear.

If the noise is determined to be friction gear noise, install the modified friction gear spring P/N KLY1-12-417 according to the workshop manual.

**NOTE:** Before attempting any repairs make sure that the noise is correctly diagnosed. Please use the following noise comparison chart as a guideline.

**FRICION GEAR NOISE** - A engine noise (clicking) that generally starts when engine is at normal operating temperature and seems to come and go in three seconds intervals. The noise may be heard near the cam gear on either cylinder head.

**CARBON KNOCK NOISE** - This noise is similar to a diesel engine. It is loudest when the engine is cold, and diminishes as the engine reaches normal operating temperature.

**HLA NOISE** - A "ticking" noise that may occur on a cold or warm engine. It is present at engine start or may be noticed after the engine returns to idle after a hard run.

**✓ CPU Replacement ('92-'95 929)**

The part number for the 1994 929 CPU is incorrect in the EPC and the parts microfiche. If an incorrect part is installed, it may cause the

keyless entry or rear defroster to function improperly. Make sure to check that the correct CPU has been installed.

Please refer to the following chart for the correct part number until corrections can be made.

| MODEL YR | VIN RANGE          | PART NO.     |
|----------|--------------------|--------------|
| 92-93    | N0100001- P0200006 | HG30-67-580A |
| 93-93    | P0200007- P0299999 | HG30-67-580B |
| 94-95    | R0300001- S0499999 | HG54-67-580  |

## Intermediate Shaft ('95 Millennia)

A click or thump noise may be heard from the driver's side floor or felt through the brake pedal and the steering wheel. This occurs when the steering wheel is turned in either direction.

**NOTE:** Don't confuse this with the clicking noise from the front wheels (Oct. '94 M-TIP).

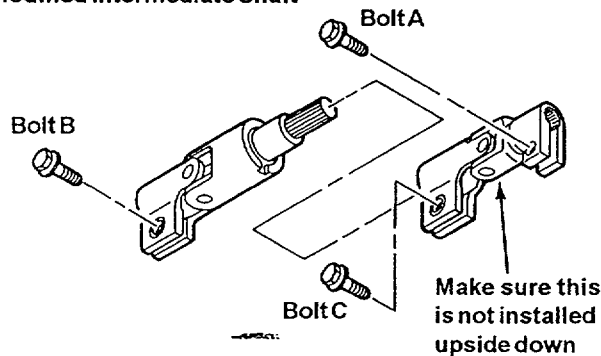
An intermediate shaft spline that needs lubrication may cause this noise. To correct it, refer to M-TIPS, Nov. '94 Issue, "Steering Shaft" for repair procedure.

If the noise is still present after lubricating the spline, follow the repair procedure below:

A modified steering shaft TA02-32-090E has been made available for customers complaining of this noise.

**NOTE:** The steering shaft as well as the installation procedure is different from the previous steering shaft (TA02-32-090D). If the shaft is installed incorrectly, the steering wheel effort will feel uneven (hard then easy) while turning. To avoid this uneven steering feel, closely follow the steps below and refer to the illustrations in the April 1995 issue of the M-Tips Newsletter.

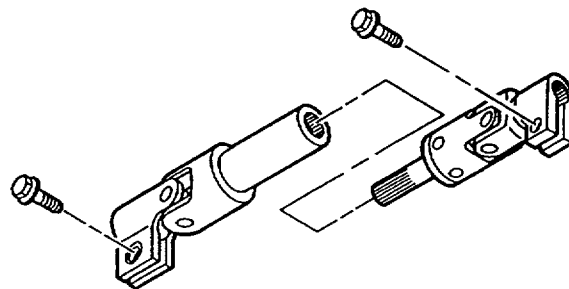
### Modified Intermediate Shaft



1. Make sure the upper portion of the intermediate shaft is not assembled upside-down on the lower portion of the intermediate shaft spline.
2. When installing the shaft, loosen bolt "C" but

DO NOT remove it from the shaft, It is difficult to assemble the spline and the upper portion of the intermediate shaft straight after either part has been installed in the vehicle.

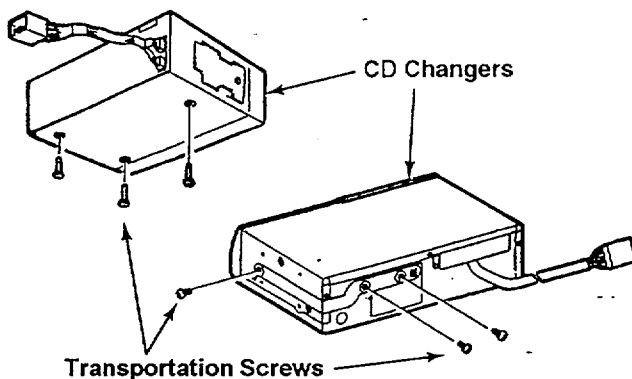
3. Ensure that bolts "A", "B" and "C" are tightened to 14-19 ft. lbs.



Previous Intermediate Shaft

## Exchange CD Changer (All Models Equipped)

When you return a CD changer core unit to an audio vendor, please make sure to install the transportation screws. Before installing the exchange CD changer in a customer's car, remove these screws and install them in the defective unit. If the transportation screws are not installed in the defective units, severe mechanical damage will occur during shipment (many units have been damaged because transportation screws were not installed).



**mazda**<sup>®</sup>

Mazda Tips  
Mazda Motor of America, Inc. (MMA)  
Customer Support Division

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# Mazda Tips

June 1994

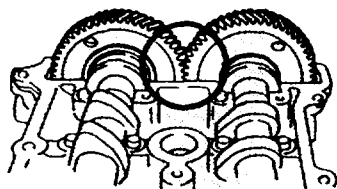
Timely Repair Information for Mazda Dealer Service Personnel

## **Cam Gear (1995 Millenia)**

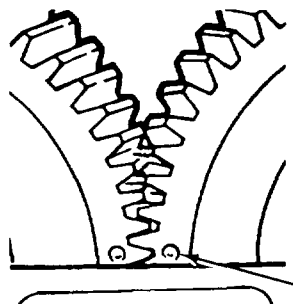
Both Millenia engines (2.5-liter/KL, 2.3-liter/KJ) have the same camshaft gears, but different timing marks are used to set valve timing.

Stamp marks (dots) appear on the KL camshaft gears, while paint lines *and the dots* appear on the KJ gears. Align the stamp marks to adjust valve timing on the KL model and use the paint lines for the KJ model.

Camshaft Gears

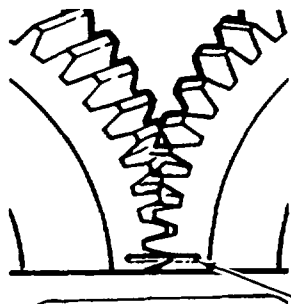


KL



Stamp Marks

KJ



Paint Lines

## **Keyless Entry System (1995 Millenia; 1994 929)**

Here's some information to help you better understand keyless entry system operating conditions, reprogramming and transmitter operation.

### **Operating Conditions**

- The system may not always work in some customers' garages that use garage door openers. The reason: garage door openers can interfere with the system's transmitter signal - even if the door openers are not in use. Don't replace the system (or parts of it) if this happens to a customer. The system will start working again if the car is moved away from the door opener unit.

- Metal wall surroundings and fluorescent lights - common in service shops - may also interfere with the system's function. You may need to move the car to an open area if you're re-programming the transmitter.

Mazda is currently working to improve the system's operation in these circumstances.

### **Re-programming an Inoperative Transmitter**

1. Confirm the transmitter is inoperative. Test this outside of the shop, just in case it might not function correctly inside (see above).
2. Re-program the system - outside, if necessary - according to the **April Mazda Tips** procedure (pages 1 & 2).
3. If the system is still inoperative, check the transmitter battery. Replace it if necessary.
4. If this fails to correct the condition, call your regional technical hotline.

### **Transmitter Operation Highlights**

- Pressing the "Unlock" button will unlock the driver's door immediately.
- Holding that button down for one second will unlock all of the doors.
- To unlock the trunk or activate the panic mode, hold down the appropriate button **for at least one second**.
- After the transmitter unlocks the doors, all doors will lock again in 30 seconds if one of them is not opened.

Continued

Index • **039144**

Questions? Contact your regional technical hotline.

Page 1

**"Keyless Entry System," cont.'d**

•**Important:** If one transmitter operates two vehicles, it was mistakenly programmed. Re-program both vehicles with their own transmitters.

**929 Keyless Entry System**

The 929's keyless entry system design is similar to the Millenia system design, but the conditions we've mentioned do not occur as often. This is because the keyless receiver is in a different location on the 929.

**Driveability (1995 Millenia)**

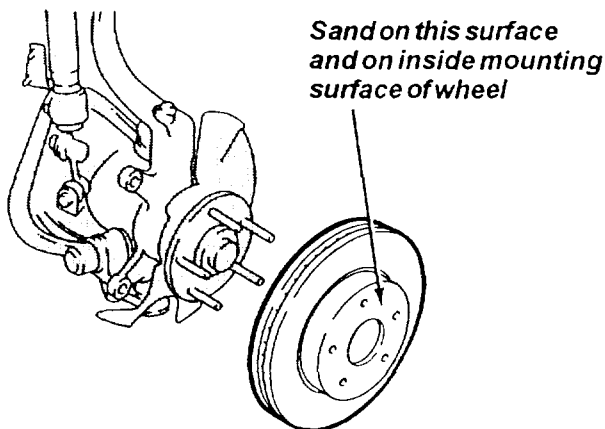
Before replacing components to correct driveability problems, check for loose connections at the PCME or other components. The loose connections may also prevent the NGS tester's diagnostic operation.

Besides the PCME, inspect connectors at the air flow meter, TPS, ignitor, boost sensor, etc. See the back page for more information on causes of NGS tester malfunction ("NGS System Messages").

**Front Wheel (1995 Millenia)**

A clicking sound from the outside of either front wheel may occur when the vehicle is moving slowly and turning to the left or right. You may hear several clicks each time the wheel goes round, but they occur irregularly.

To get rid of this condition, remove the wheel and use rough sand paper to clean the disc plate and wheel mounting surface (see illustration). Carefully remove abrasive dust that's produced from sanding and install the wheel. Tighten the lug nuts to 94 ft. lbf.

**Hotline Call Requirements (1995 Millenia)**

We want the Millenia Powertrain Technical Hotline to be the most helpful possible tool for you. So when you call the Hotline with *transaxle* questions, please be prepared to offer the following information:

- Dealer code, VIN and mileage.
- Customer complaint and problem condition.
- Transmission fluid level and condition.
- Trouble codes (pages K1-3 to K1-6 in the Millenia Workshop Manual).
- System Voltages (pages K1-100 to K1-103 in Millenia Workshop Manual).
- Line pressure and stall speed reading at operation temperature in all gears.

Also, you should have this same information handy when you call your Regional Technical Hotline with transmission questions about other models.

**Questions about the Millenia powertrain?  
Remember to call the national Millenia Powertrain  
Technical Hotline: 1-800-TECH-940 (832-4940)**

**Illuminated Entry System (1995 Millenia - Both Models)**

Page Z-86 of the Wiring Diagram incorrectly labels a normally open switch as "Outer Door Handle Switch." It should be labeled as the "Key Cylinder Switch" because the key cylinder - not the door handle - activates the illuminated entry system.

Here's how the system works: If the dome light switch is in the "Door" position, unlocking the passenger or driver's-side door (with a key or remote) triggers the dome light and C-pillar lights to come on.

Please note that the Millenia does not use the key cylinder illumination feature found in some other models.

**CD Player/Random Feature (1995 Millenia)**

The owner's manual incorrectly states that pressing the random play button activates the feature "from the next selection."

For vehicles with a trunk-mounted CD changer,

*Continued*



**"CD Player/Random Feature," cont.'d.**

pressing the button will activate random play immediately, cancelling the current track.

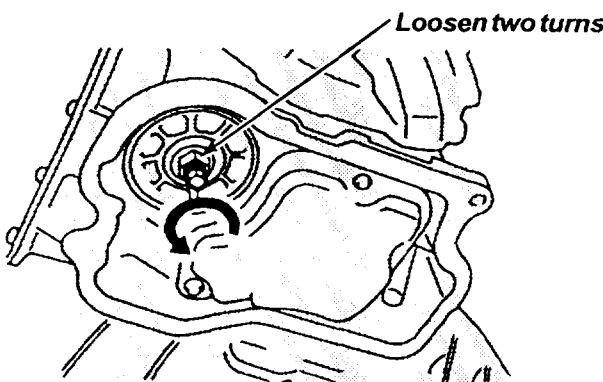
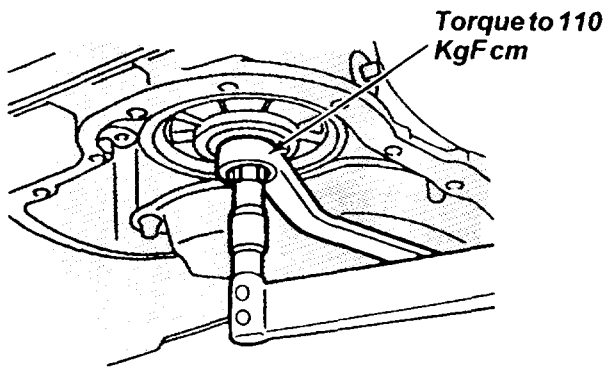
This is a normal function on these models, so don't replace the CD player - it's not defective. The owner's manual will be corrected to clarify this function.

**Shift Feel (1995 Millenia-2.5-liter GF4A-EL)**

A harsh shift from first to second and second to third may be the result of a tight 2-4 brake band adjustment. To confirm the condition, test drive two equally equipped vehicles and compare shift quality. If you verify the condition, adjust the band according to the Workshop Manual procedure on page K1-111, using the following new specifications for steps 10 and 11:

Step 10 - Torque piston stem to **110 KgF cm**.

Step 11 - Loosen piston stem **two turns**.



Reassemble components and test drive vehicle again, checking this time for shift flare. If flare exists:

1. Remove transmission oil pan, drain fluid and loosen piston stem locknut.

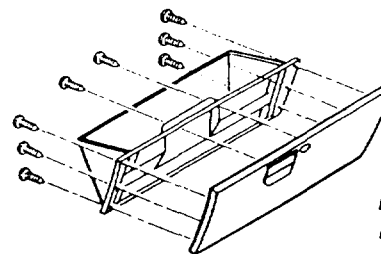
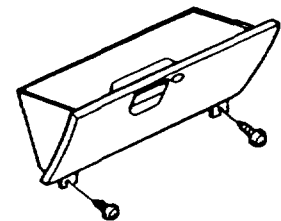
2. Tighten piston stem 1/4 turn. Tighten locknut, reassemble components and test drive one last time.

Look for a service bulletin and a Workshop Manual correction on this subject in the near future.

**Glovebox Door (1993-'94 626/MX-6)**

A glovebox door and hinge that rattles or squeaks may be a result of loose screws. To eliminate this condition, make sure the two hinge screws and the eight inner glove box lid screws are adequately tight.

Hinge Screws (2 total)



Inner Glove Box Lid Screws (8 total)

**Window Weatherstripping (1993-'94 MX-6)**

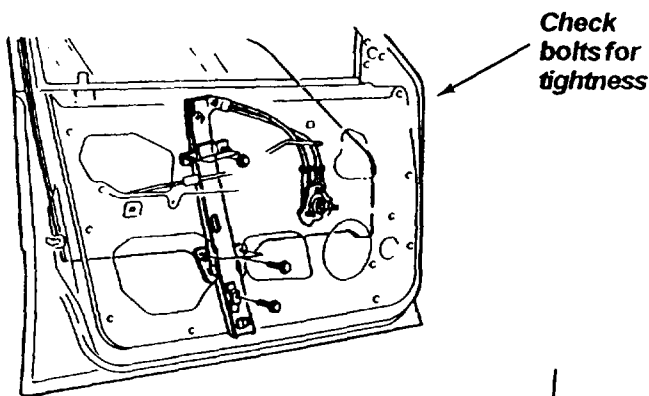
A squeaking noise from the front driver and passenger-side windows may occur when the windows rub against the weatherstripping. To stop the squeaking, spray silicone lubricant on a rag and wipe all the weatherstripping where it touches the window.

**Window Regulator Bolts (1990-'94 323/Protegé)**

Do not simply replace the window regulator (manual or power) if the door rattles or if it's difficult to roll a manual window up and down. First check for loose window regulator mounting bolts. Remove the door panel and ensure the bolts are tightened to 61-87 in.-lbs., 6.9-9.8 N.m. (illustration, next pg.).

Continued

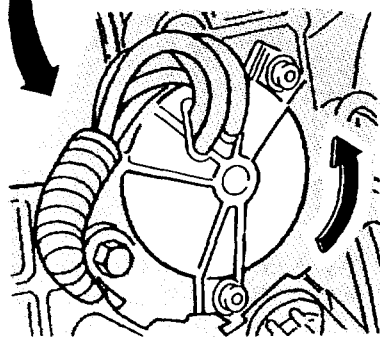
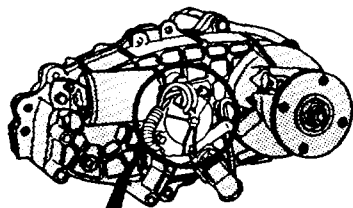
**"Window Regulator Bolts," Cont. 'd**



+

**Shift To 4WD (1991-1994 Navajo)**

An open electrical contact in the change motor position plate may prevent shifts into or out of four wheel drive intermittently. To correct this condition, rotate the plate cover one notch counterclockwise after loosening the three cover screws.



Rotate one notch

**Spark Plug Variations (1990-'94 Navajo/ 1994 B-4000)**



+

Do not replace 4.0-liter engine spark plugs if you notice different identification numbers stamped on the right side and left side plugs. For example, the the number "42P" may ap-

pear on the left plug, while "42PG" is stamped on the right one. This a normal numbering system used in mass production.

All spark plugs you order from the PDCs, however, will have the same numbers on them.

**NGS System Messages**

If the NGS screen displays "DATA LINK ERROR," check for:

- Loose link adaptor/power cable connections;
- Incorrect vehicle and engine selection.
- Tightness of NGS data link connector terminal;
- Tightness of X-13 connector terminal (you'll find this terminal under the plastic carpet protector just below the left side of the radio);
- Tightness of PCME connector(s) terminal (PCME is under the radio).

If "DATA LINK ERROR" still appears after you cycle the ignition key, check whether the NGS tester is operating properly by testing it on a known good vehicle (same model).

If the "DATA LINK ERROR" appears on this vehicle, the NGS tester could be defective. Call Kowa Seiki for questions at 1-800-535-5455 (Calif. only) or 1-800-824-9655 (outside Calif.) Monday through Friday, 9:00 A.M. to 5:00 P.M. (Pacific Time).



Mazda Tips  
Mazda Motor of America, Inc. (MMA)  
Customer Support Division

An editorial board comprising MMA service staff members generates and verifies information for this publication. To contribute a newsletter item, contact your regional service department. All contributions become property of MMA, which assumes permission to publish them without further consideration. For comments, suggestions or questions, write to:

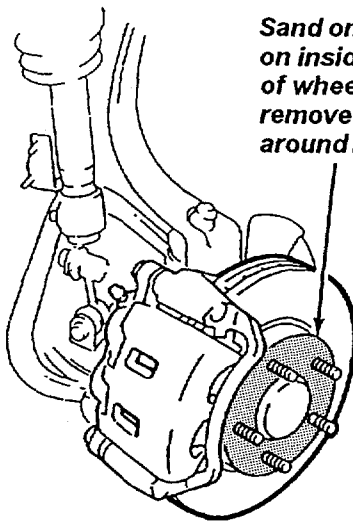
Mazda Motor of America  
Parts/Service Publications  
#2 Holland  
Irvine, Calif. 92718

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## 🔧 **Front Wheel ('95 Millenia)**

You probably don't need to replace any parts if a customer complains the vehicle's front wheels make a clicking sound. Often, several clicks can be heard from the outside wheel during a slow turn.

We featured this concern in the June issue of *Mazda Tips* and the fix still applies: remove the wheel, then use coarse sandpaper to clean the disc plate's contact area and the wheel mounting surface (see illustration). Carefully remove the abrasive dust produced from sanding and re-install the wheel. Tighten lug nuts to a maximum torque of 94 ft. lbs.



*Sand on this surface and on inside mounting surface of wheel. You don't need to remove brake rotor (sand around bolts).*

## 🚗 **Fuse Box Cover ('95 Millenia)**

In September, the Mazda factory began placing the cabin fuse box cover in the glove box instead of installing it. The reason: the cover gets scuffed up during transport if it's installed.

Please retrieve the cover from the glove box and install it during PDI.

.....  
**040355**  
.....

Index #

## ✓ **Owner's Manual ('95 Millenia)**

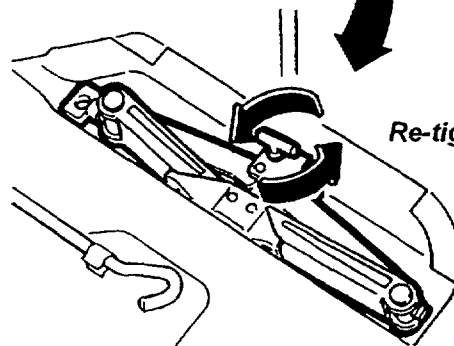
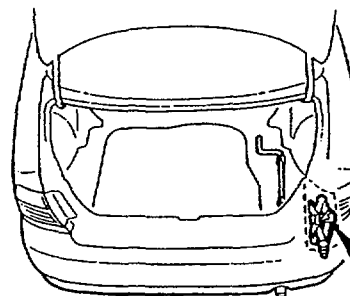
Page 4-50 of the Owner's Manual offers information about the Solar Ventilation System.

This option does not exist for U.S.-distributed models, so please disregard the information.

Mazda has revised this page in the most recent edition of the Owner's Manual.

## 🚗 **Tire Jack Wing Bolt ('95 Protegé)**

The spare tire jack wing bolt may be too tight. During PDI, make sure you can loosen the bolt by hand. If you can't, loosen it with a suitable tool and re-tighten it by hand until it is finger tight. Then, tighten it another eighth of a turn by hand.



*Re-tighten by hand*

## Code P1797 ('95 Protegé)

The '95 Workshop Manual (page F1-59) incorrectly states that Diagnostic Trouble Code P1797 applies to "ATX vehicles only."

This code is also used on MTX vehicles. If you find it in the Power Control Module (PCM) memory on an MTX vehicle, check the clutch switch circuit (Workshop Manual pages F1-53 and F2-53).

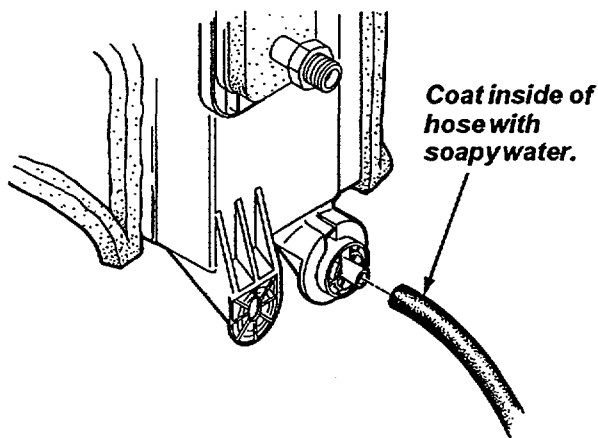
Mazda will issue a service bulletin with a correction page in the near future.

## A/C Evaporator Hose ('93-'95 626/MX-6)

Water from the air conditioning evaporator case could leak onto the front passenger's side carpet because the case's drain hose may fall off.

Before you attach the end of the hose onto the case, coat the first 40 mm of the inside of it with soapy water. This will create a bond with the case's spout that is sticky enough to prevent the hose from falling off again.

Be sure to re-insert the hose completely and check that the other end is routed through the firewall grommet.



## Timing Belt ('92-'94 929)

The engine may have a rough idle, lose power below 4500 rpm or stall, but it doesn't misfire and there are no codes. Your next step? See if the

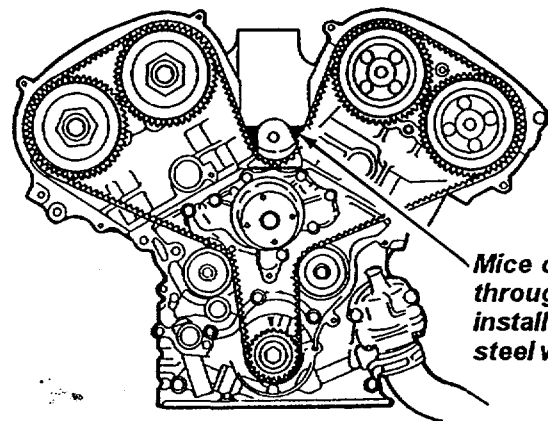
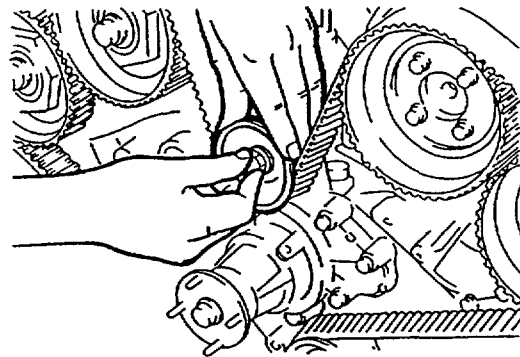
timing belt has jumped one or more teeth.

Mice may cause the belt to jump teeth. In cold climates especially, they can crawl through a gap between the two cylinder heads and possibly build a nest on the belt. When the engine starts up, this interference may force the belt off track.

If you discover this condition, you can prevent it by cleaning and re-setting the belt, then putting stainless steel wool in the gap. You must remove the No. 2 Idler Pulley to get to the gap (see WSM pages B12 to B15). Don't use plain steel wool because it will rust.

Next, clean the engine surfaces around the wool and apply high-temperature silicone around it. This will form a seal to the surface and reinforce the blockage.

*Remove No. 2 Idler Pulley to see gap.*



## Wind Leaks ('92-'94 929)

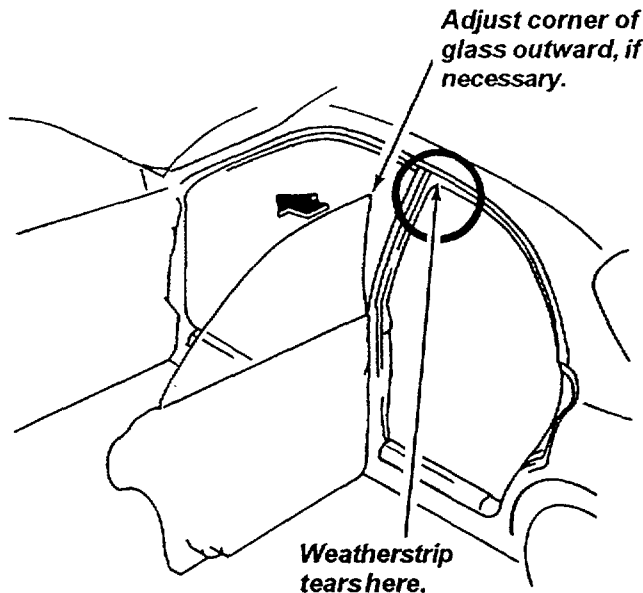
A torn weatherstrip at the rear door's upper front corner may cause wind or water leaks. In

*Continued, next page*

**"Wind Leaks," cont.'d.**

time, the weatherstrip could tear if a slightly misaligned door glass digs into it when the door is closed.

If the weatherstrip is torn, install a new one, but ensure the door glass is properly adjusted. If the glass is set too far inward, adjust the corner slightly outward, according to the Workshop Manual procedure (page S-22). Be careful not to adjust it too far outward or you'll create another wind or water leak.



**CD Player (Miata)**

The compact disc player may skip while the vehicle travels over railroad tracks or other severe bumps.

To correct this condition, the manufacturer (Pioneer) added rubber cushions to the bottom of the players installed in vehicles built after September 8, 1993.

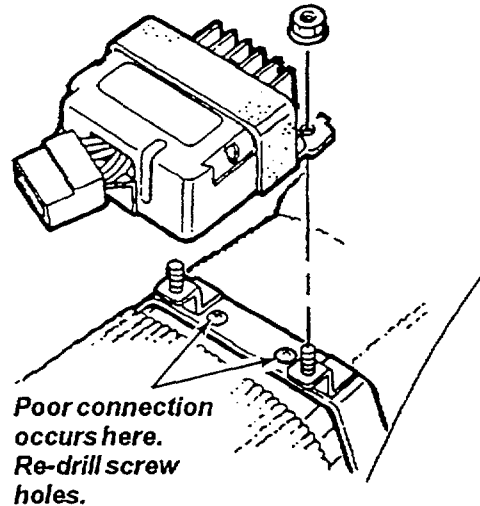
A field service repair kit is not available, so call Pioneer's service center at 1-800-553-3756 for a modified exchange unit.

**Audio System Speaker ('94 RX-7)**

On some '94 vehicles, the front center speaker may work intermittently because of a poor ground connection at the speaker's amplifier mounting bracket. The amplifier is located

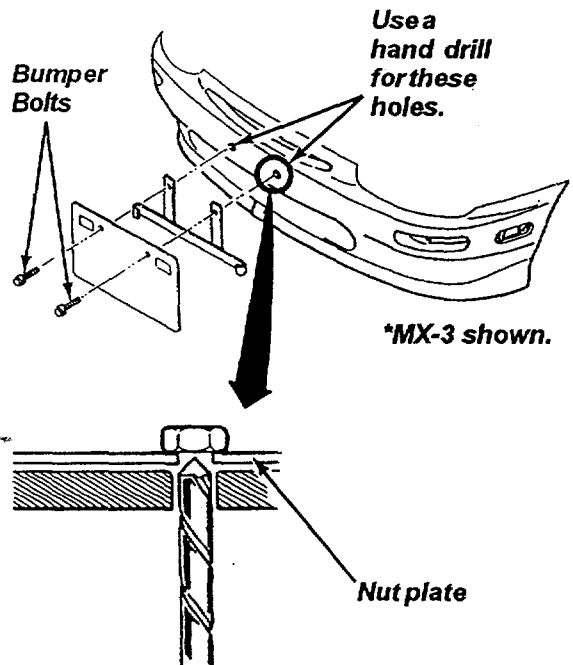
behind the gear shift lever.

The poor connection results from stripped screw holes on the bracket. Redrill the screw holes and use either larger machine screws or rivets. You might also consider installing a separate ground wire to the vehicle body.



**License Plate Installation (929,626/MX-6, Protegé, MX-3, Millenia)**

When you drill the holes to install the license plate frame, do it by hand. If you use a power drill, the nut plate attached to the inside of the bumper could come off.



Continued, next page

**"License Plate Installation," cont.'d.**

The nuts on this plate anchor the bumper bolts you use to install the license plate frame. And if the nut plate comes off, you must remove the bumper to repair it.

If you don't have a hand drill, you can turn a power drill by hand.

**A/C Spring Lock Couplers ('94 Navajo and B-Series)**

Don't automatically replace spring lock couplers, fittings and hoses if you see refrigerant oil around them. What appears to be oil leaking from the couplers could simply be oil residue used to aid assembly at the factory.

To check, wipe the couplers and the fittings clean, then use an electronic leak detector or R-134a fluorescent tracer dye. Be sure to follow the instructions provided for these tools.

**Lug Nut Torque (All Models)**

Use a torque wrench to re-install the wheel after brake or suspension servicing. Tighten lug nuts to Workshop Manual specifications to avoid warping brake rotors.

**✓ Mazda Tips Online Update**

*Mazda Tips Online* disks to will be distribute to dealers with the fourth-quarter MDCS release in mid-November. Here's what's included on the disks:

- A service bulletin index with short descriptions.
- *Mazda Tips* newsletter articles from past months.
- New information provided exclusively for *Mazda Tips Online*.
- Special service messages.
- Vehicle warranty history, pending recalls, etc.
- A "Dealer Comments" feature.

**✓ Millenia "Best in Class"**

Mazda will soon launch a new program to help dealers make the Millenia "Best in Class"

on the upcoming J.D. Power customer satisfaction surveys. The program aims to establish the industry's highest quality pre-delivery service and the most thorough new delivery for the Millenia.

Look for special program instructions, materials and promotional tools in the mail.

**✓ Warranty Codes**

Starting this month, Mazda requests that technicians verify the warranty Customer Comment codes that apply to a vehicle condition. The reason is simple: technicians are the most qualified to make a technical judgement. However, technicians still need to get proper input from customers.

By the end of October, technicians should receive the "Technician's Quick Reference to Mazda Warranty," a handy two-panel card that lists warranty "Symptom" and "Damage" codes. On the card, "Customer Comment" codes are called "Symptom" codes. The new name is more appropriate since technicians will make the final evaluation of the vehicle's condition.

Mazda Tips  
Mazda Motor of America, Inc. (MMA)  
Customer Support Division

An editorial board comprising MMA service staff members generates and verifies information for this publication. To contribute a newsletter item, contact your regional service department. All contributions become property of MMA, which assumes permission to publish them without further consideration. For comments, suggestions or questions, write to:

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# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                  |                                   |                     |
|---------------|----------------------------------|-----------------------------------|---------------------|
| Category<br>U | Applicable Model/s<br>All Models | Subject<br>A/C O-RING REPLACEMENT | Bulletin No. 001/94 |
|               |                                  |                                   | Issued 2/28/94      |
|               |                                  |                                   | Revised             |

## APPLICABLE MODELS/VINS

All Models

## DESCRIPTION

Refer to the illustrations on the attached pages and chart below when replacing air conditioning system o-rings. These o-rings are designed for use in both R12 and R134 air conditioning systems.

| O-Ring No. | Pipe Size  | O-Ring Size | Part Number | 89-94 323/Prot. | 92-94 MX-3 | 90-93 MX-5 | 94 MX-5 | 89-94 RX-7 | 95 RX-7 | 89-93 MPV (S) | 94 MPV (S) | 88-92 626/MX-6 | 93-94 626/MX-6 | 90-93 B-Series | * 94 -Series | * 91-94 Navajo |
|------------|------------|-------------|-------------|-----------------|------------|------------|---------|------------|---------|---------------|------------|----------------|----------------|----------------|--------------|----------------|
| 1          | 6mm        | 6.9x1.78    | LB51 61 J1X | 6               | 5          | 4          | 4       | 6          | 6       |               |            | 5              | 5              |                |              |                |
| 2          | 5/16in     | 6.8x1.5     | LB52 61 J1X |                 |            |            |         |            |         | 3             | 3          |                |                |                |              |                |
| 3          | 3/8in      | 7.65x1.78   | LB53 61 J1X |                 |            |            |         |            |         | 1             | 1          |                |                | 4              |              |                |
| 4          | 12mm       | 10.8x1.78   | LB54 61 J1X | 3               | 3          | 3          | 1       | 2          | 1       | 3             | 2          | 2              | 2              | 2              |              |                |
| 5          | 12mm axial | 10.8x2.4    | LB55 61 J1X |                 |            |            | 1       |            | 1       |               | 1          | 1              |                |                |              |                |
| 6          | 16mm       | 14.0x1.78   | LB56 61 J1X | 2               | 2          | 3          | 2       | 3          | 2       | 2             | 1          | 3              | 3              | 4              |              |                |
| 7          | 16mm axial | 13.4x2.4    | LB57 61 J1X |                 |            |            | 1       |            | 1       |               | 1          |                |                |                |              |                |
| 8          |            | 3/8         | ZZL0 61 J19 |                 |            |            |         |            |         |               |            |                |                |                | 3            | 3              |
| 9          |            | 1/2         |             |                 |            |            |         |            |         |               |            |                |                |                | 4            | 4              |
| 10         |            | 5/8         |             |                 |            |            |         |            |         |               |            |                |                |                | 3            | 3              |

**NOTE:** Part numbers ending in "J1X" are delivered in quantities of 10.

\* These vehicles are equipped with Ford air conditioning systems. O-Rings for these systems are supplied as a kit (P/N ZZL0 61 J19). The kit contains 96 o-rings (24 o-rings each of the sizes listed above and 24, 3/4inch o-rings).

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

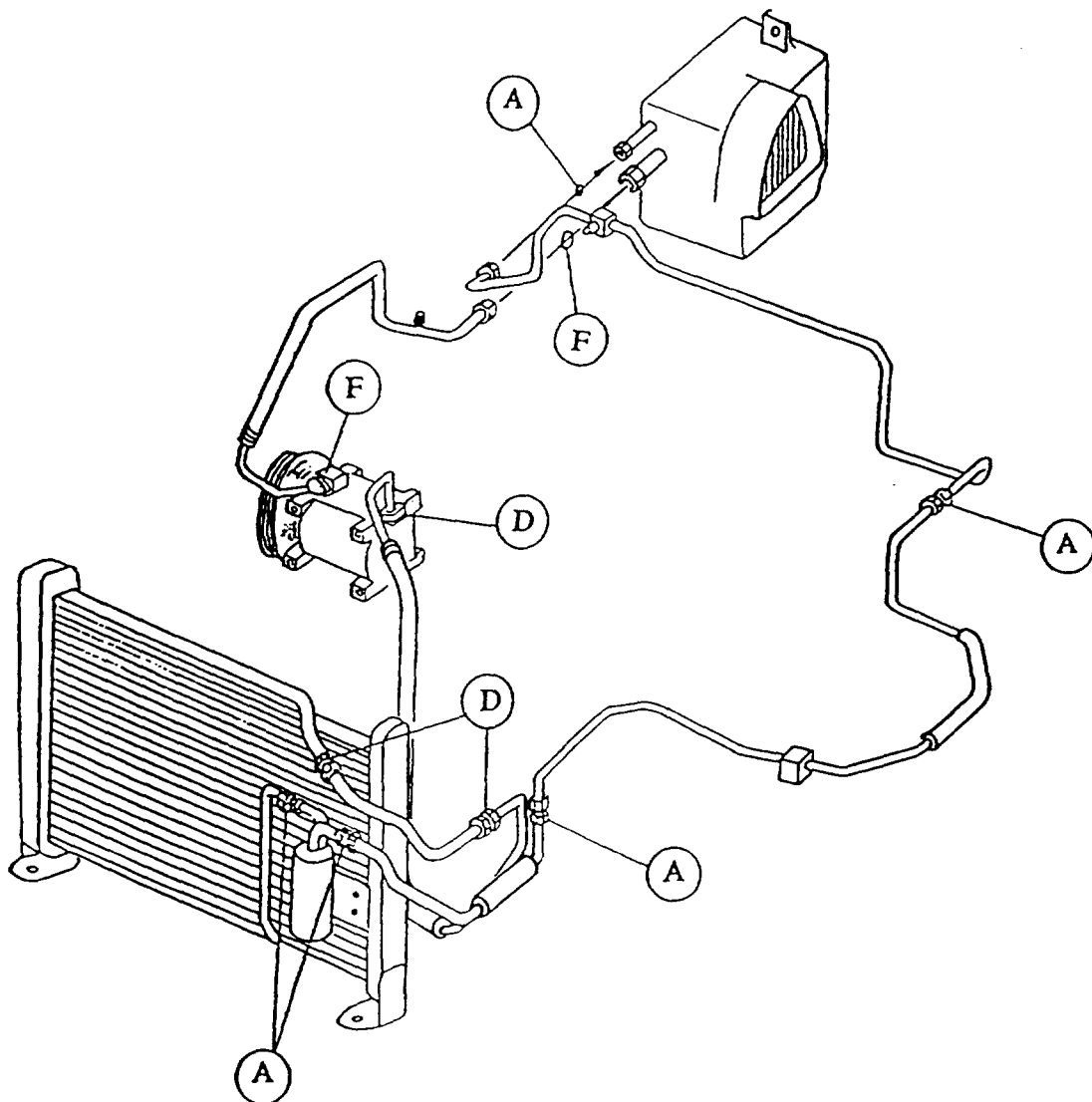
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Service Manager.....

Signature \_\_\_\_\_

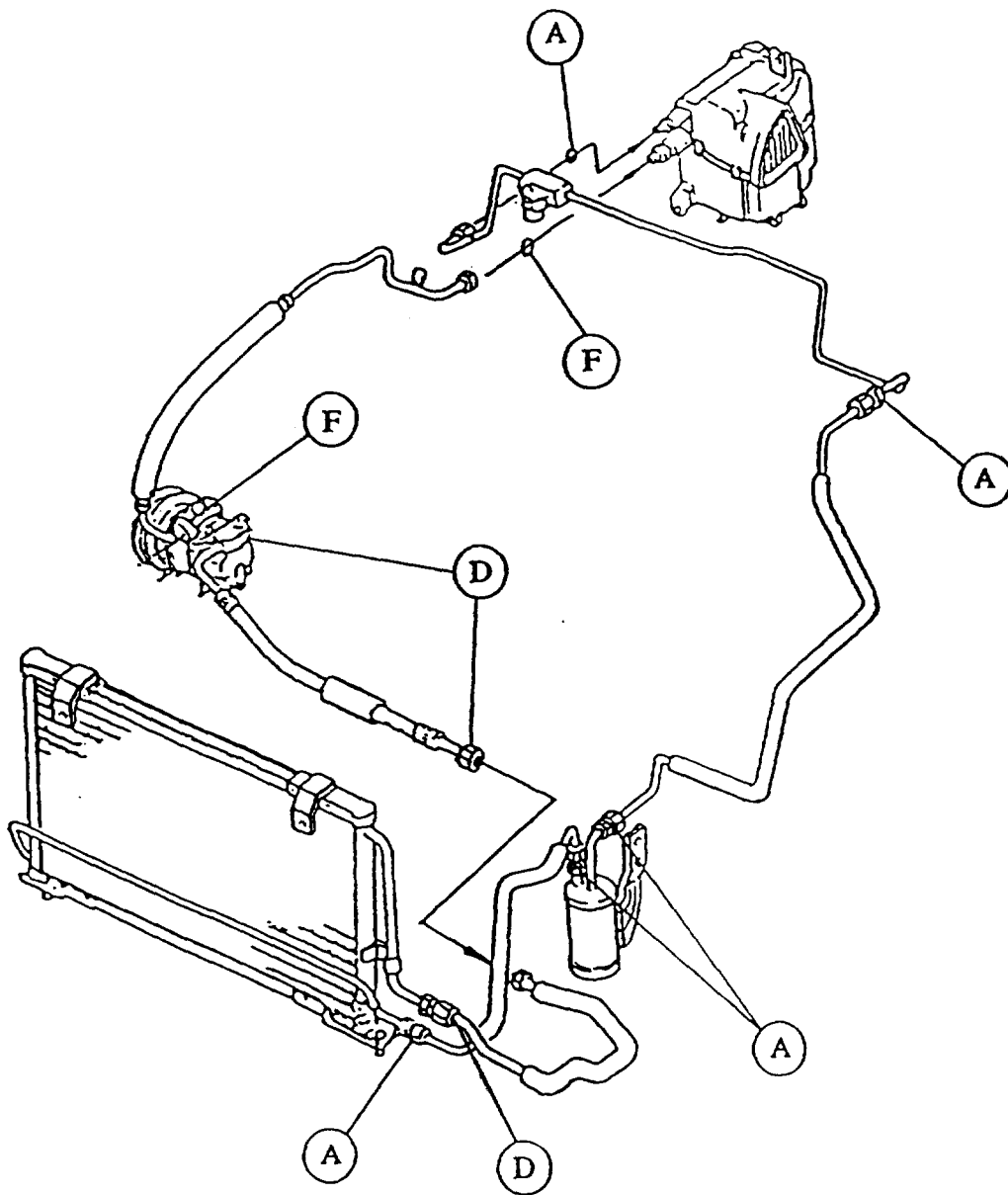
Parts Manager

323/PROTEGE

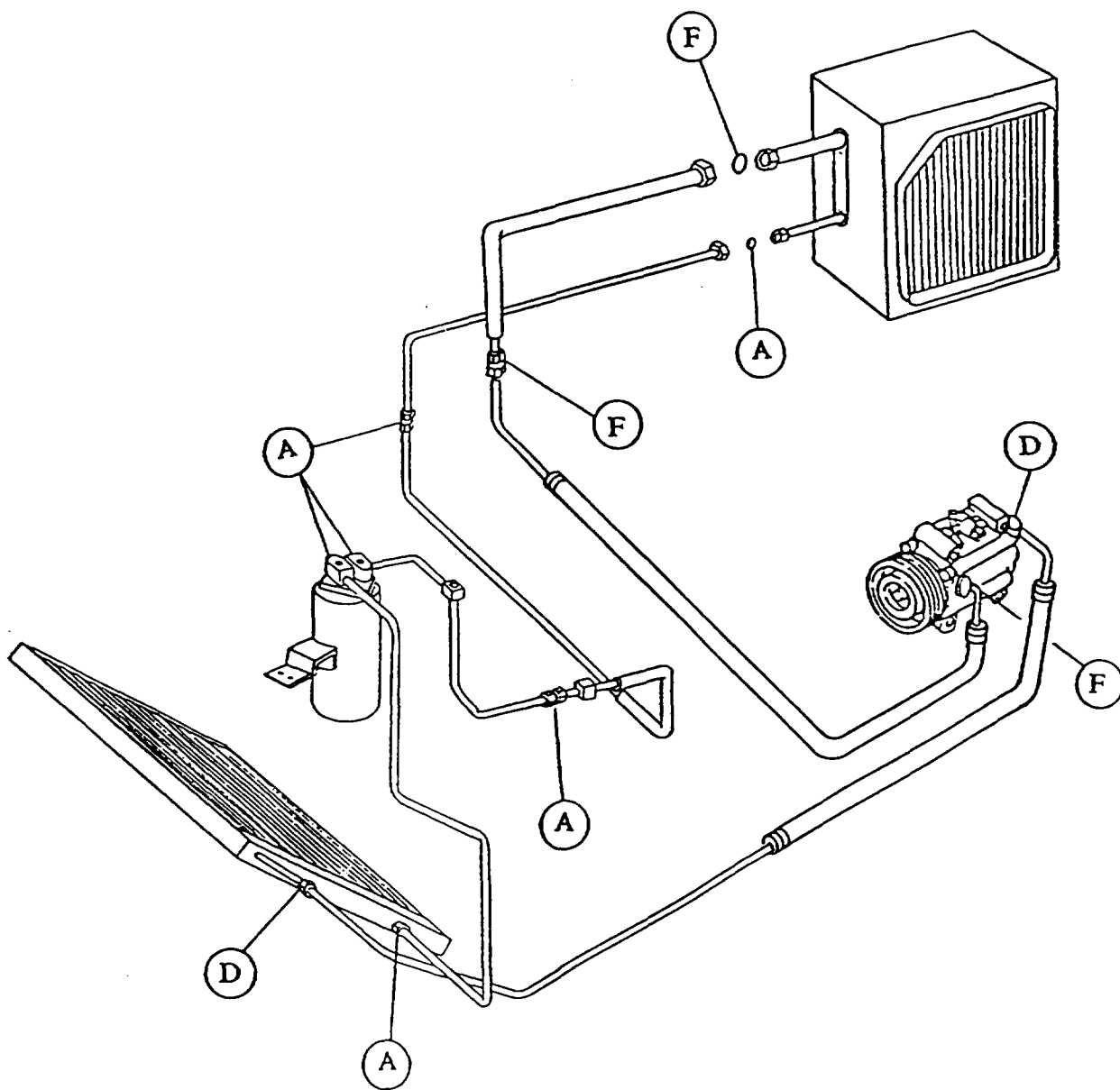




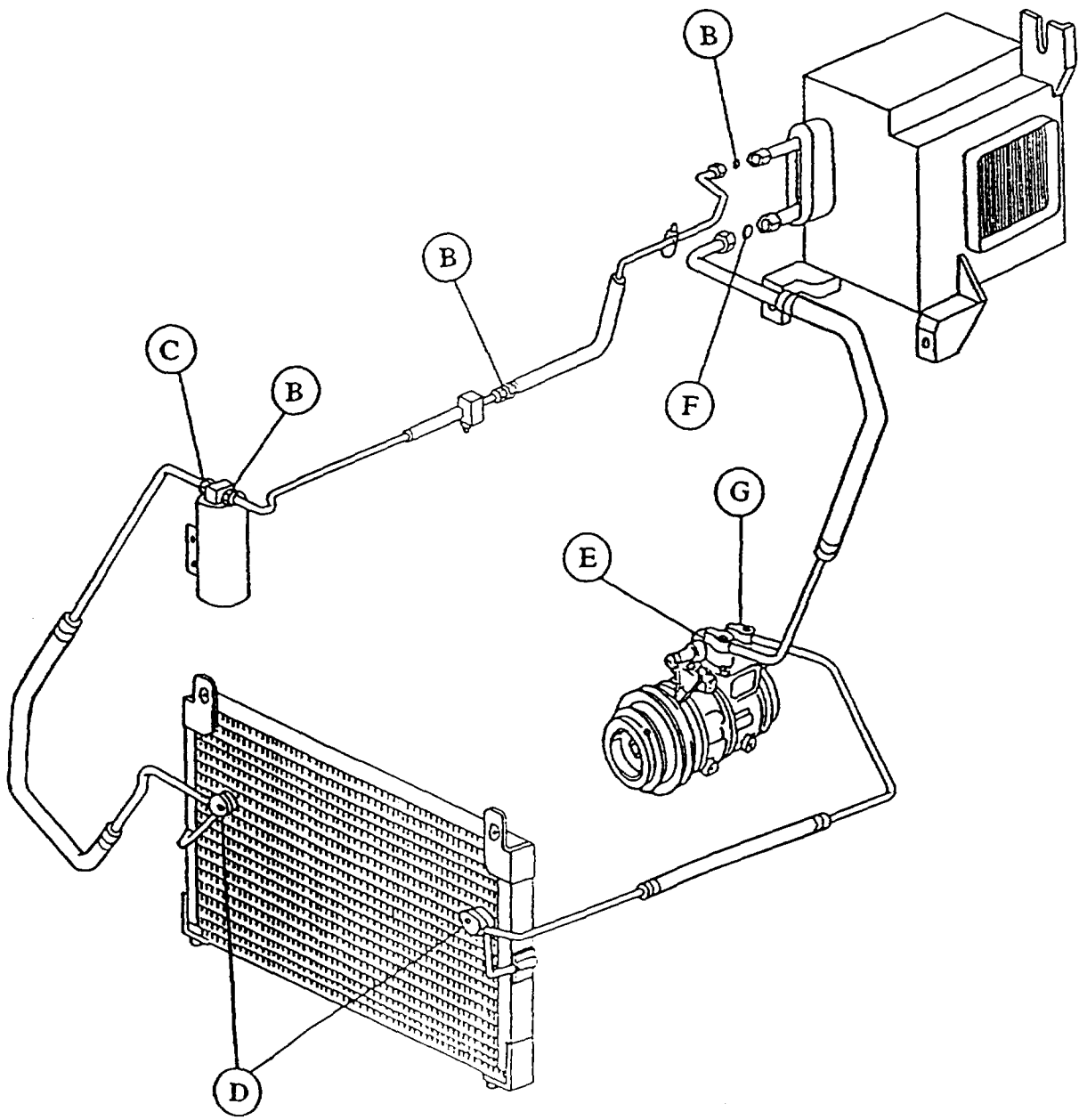
MX-3



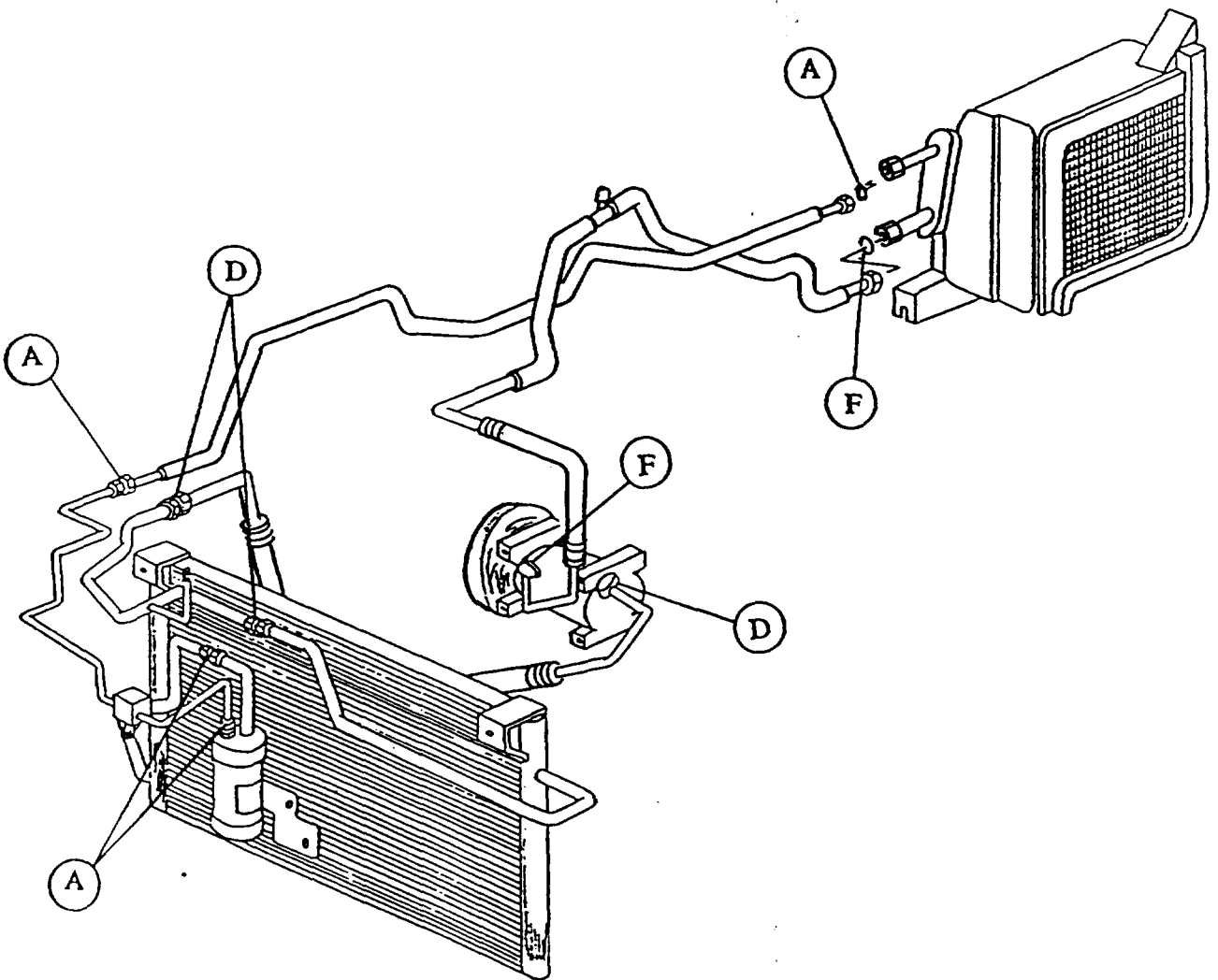
RX-7



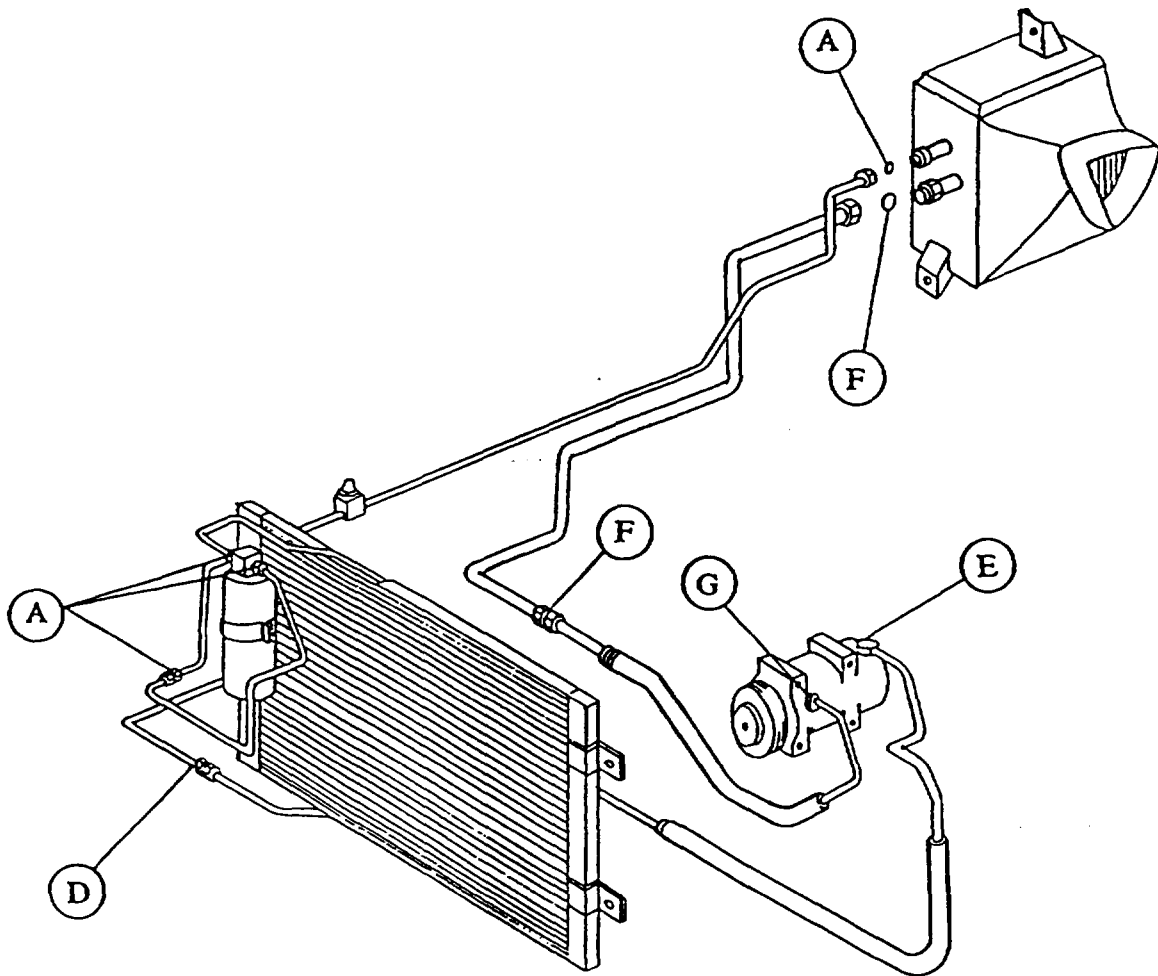
MPV



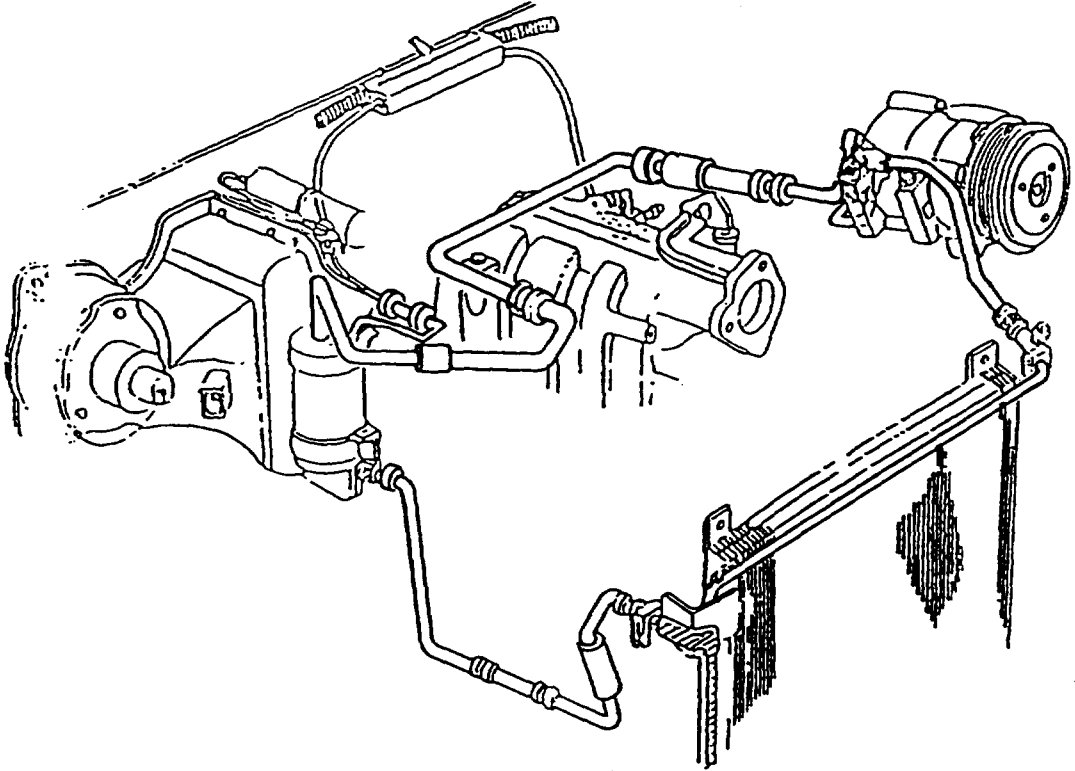
626/MX-6



### MIATA



**NAVAJO/94' B-TRUCK**



# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



# MAZDA

|               |                                  |                                   |                     |
|---------------|----------------------------------|-----------------------------------|---------------------|
| Category<br>U | Applicable Model/s<br>All Models | Subject<br>A/C O-RING REPLACEMENT | Bulletin No. 001/94 |
|               |                                  |                                   | Issued 2/28/94      |
|               |                                  |                                   | Revised 4/28/94     |

Pages 1 of 8 and 8 of 8 have been revised. Replace the original pages of your bulletin with the revised pages.

### APPLICABLE MODELS/VINS

All Models

### DESCRIPTION

Refer to the illustrations on the attached pages and chart below when replacing air conditioning system o-rings. These o-rings are designed for use in both R12 and R134 air conditioning systems.

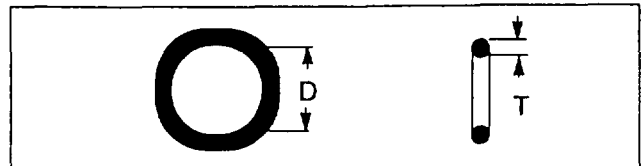
\*

| O-Ring Description |            |                   |                          | O-Ring Quantity Per Vehicle |            |            |         |            |         |               |            |                |                |                |             |                |
|--------------------|------------|-------------------|--------------------------|-----------------------------|------------|------------|---------|------------|---------|---------------|------------|----------------|----------------|----------------|-------------|----------------|
| O-Ring Code        | Pipe Size  | O-Ring Size D x T | Part Number & Kit Number | 89-94 323/Prot.             | 92-94 MX-3 | 90-93 MX-5 | 94 MX-5 | 89-94 RX-7 | 95 RX-7 | 89-93 MPV (S) | 94 MPV (S) | 88-92 626/MX-6 | 93-94 626/MX-6 | 90-93 B-Series | * 94-Series | * 91-94 Navajo |
| A                  | 6mm        | 6.9x1.78          | LB51 61 J1X              | 5                           | 5          | 4          | 4       | 6          | 6       |               |            | 5              | 5              |                |             |                |
| B                  | 5/16in     | 6.8x1.5           | LB52 61 J1X              |                             |            |            |         |            |         | 3             | 3          |                |                |                |             |                |
| C                  | 3/8in      | 7.65x1.78         | LB53 61 J1X              |                             |            |            |         |            |         | 1             | 1          |                |                | 4              |             |                |
| D                  | 12mm       | 10.8x1.78         | LB54 61 J1X              | 3                           | 3          | 3          | 1       | 2          | 1       | 3             | 2          | 2              | 2              | 2              |             |                |
| E                  | 12mm axial | 10.8x2.4          | LB55 61 J1X              |                             |            |            | 1       |            | 1       |               | 1          | 1              |                |                |             |                |
| F                  | 16mm       | 14.0x1.78         | LB56 61 J1X              | 2                           | 2          | 3          | 2       | 3          | 2       | 2             | 1          | 3              | 3              | 4              |             |                |
| G                  | 16mm axial | 13.4x2.4          | LB57 61 J1X              |                             |            |            | 1       |            | 1       |               | 1          |                |                |                |             |                |
| H                  |            | 3/8               | ZZL0 61 J19 (Kit)        |                             |            |            |         |            |         |               |            |                |                |                | 3           | 3              |
| -J                 |            | 1/2               |                          |                             |            |            |         |            |         |               |            |                |                |                | 4           | 4              |
| K                  |            | 5/8               |                          |                             |            |            |         |            |         |               |            |                |                |                | 3           | 3              |

**NOTE:** Part numbers ending in "J1X" are delivered in quantities of 10.

\* These vehicles are equipped with Ford air conditioning systems. O-Rings for these systems are supplied as a kit (P/N ZZL0 61 J19). The kit contains 96 o-rings (24 o-rings each of the sizes listed above and 24, 3/4inch o-rings).

The illustration to the right indicates where the o-ring is measured to determine diameter and thickness. Use this information and the chart above to identify the proper part if o-rings are accidentally mixed.



**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

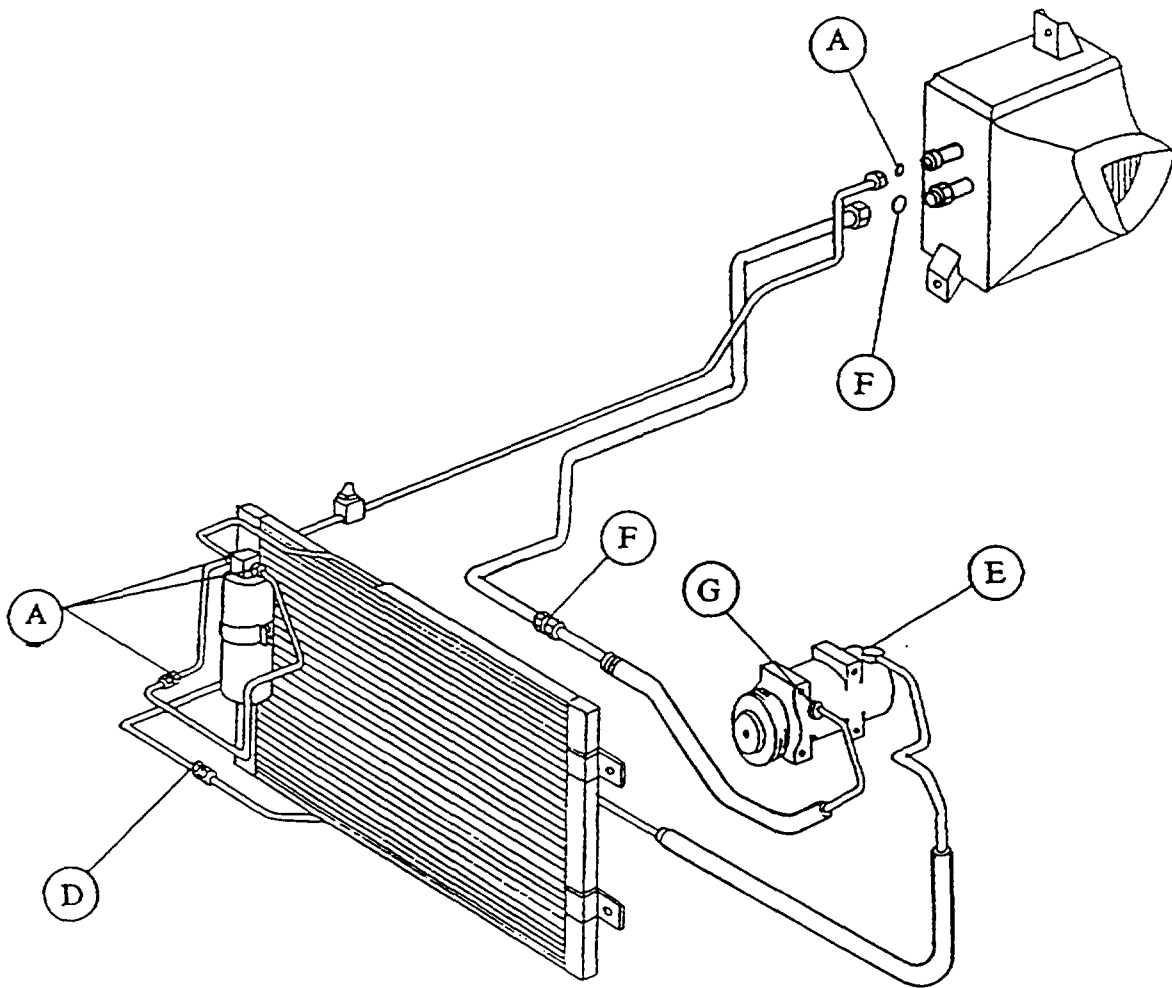
Signature \_\_\_\_\_

Service Manager

Signature \_\_\_\_\_

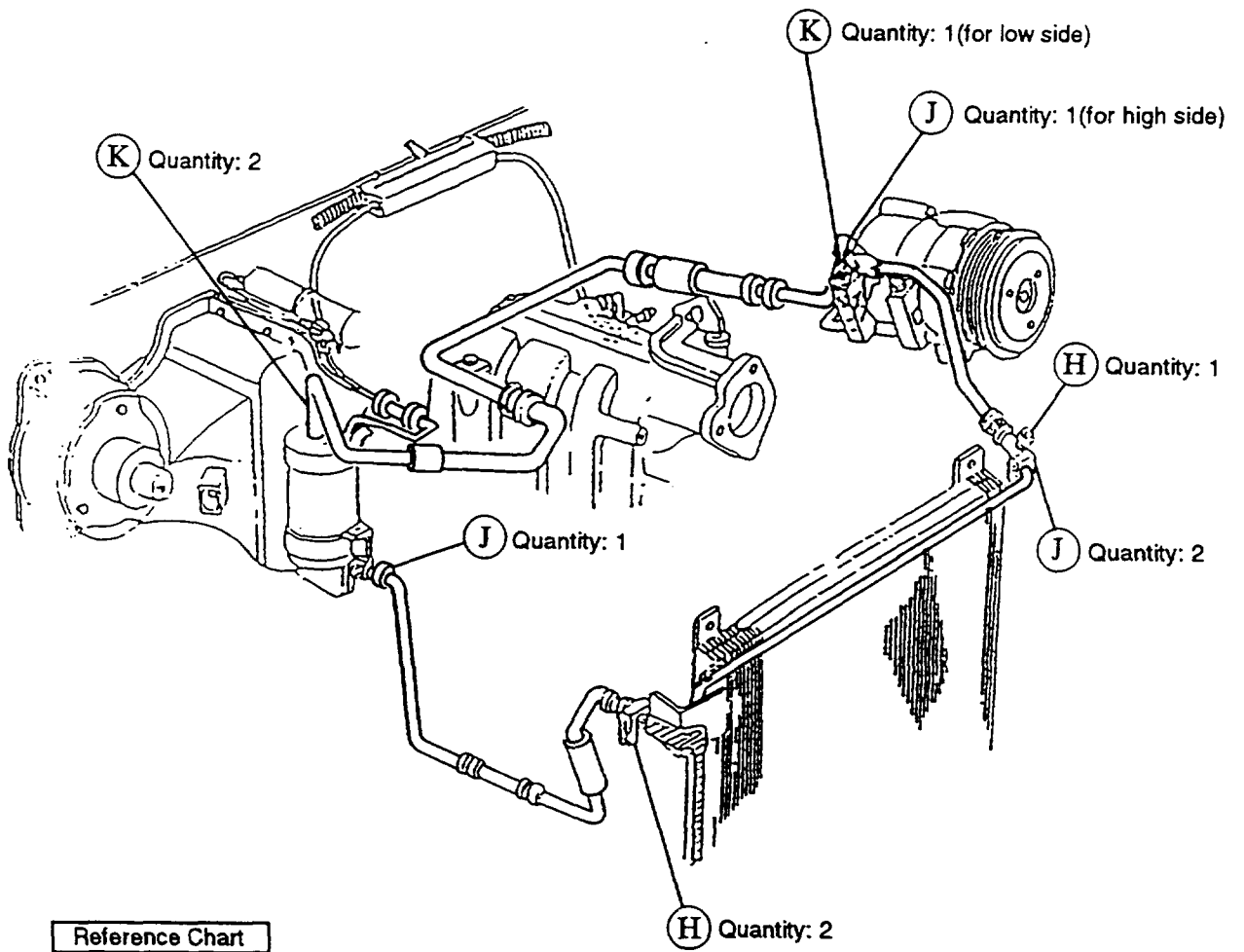
Parts Manager

# MIATA





### NAVAJO/94' B-TRUCK



| Reference Chart |      |      |
|-----------------|------|------|
| Code            | Size | Q'ty |
| H               | 3/8" | 3    |
| J               | 1/2" | 4    |
| K               | 5/8" | 3    |

# Service Bulletin

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7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|                      |                                 |                                                                                               |                     |
|----------------------|---------------------------------|-----------------------------------------------------------------------------------------------|---------------------|
| Category<br><b>U</b> | Applicable Model/s<br>See Below | Subject<br><b>RECEIVER DRIER REPLACEMENT CRITERIA<br/>WHEN REPLACING OTHER A/C COMPONENTS</b> | Bulletin No. 001/95 |
|                      |                                 |                                                                                               | Issued 2/15/95      |
|                      |                                 |                                                                                               | Revised             |

## APPLICABLE MODELS/VINS

All models equipped with R12 and R134a (Except Navajo and 1994 and later B-Series vehicles).

## DESCRIPTION

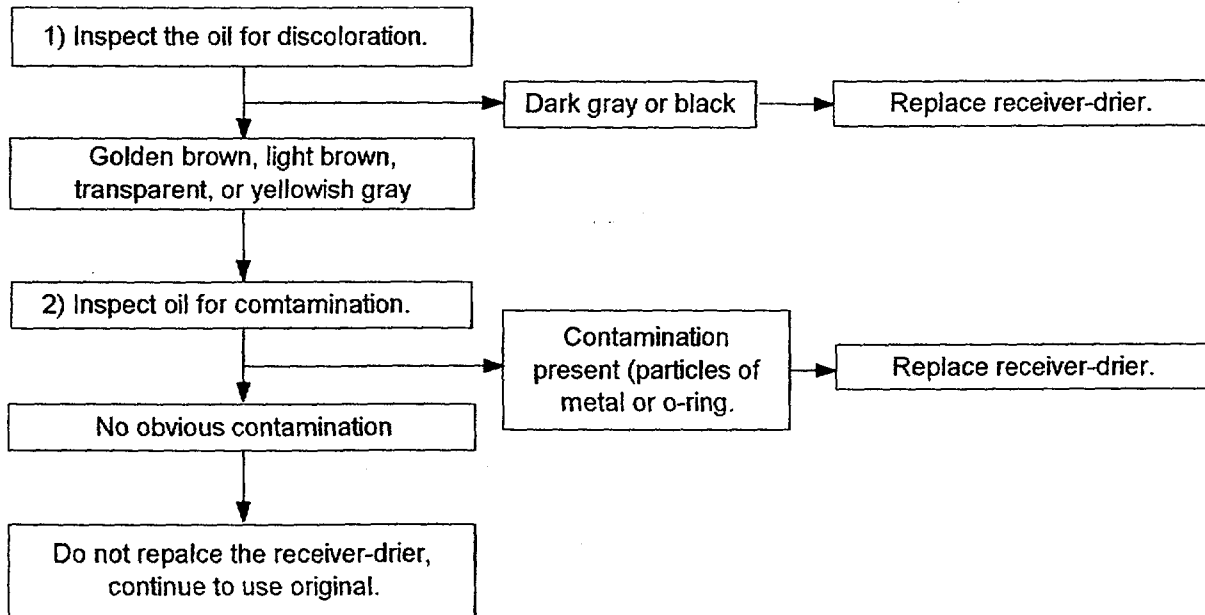
The following information is designed to assist dealers in determining when to replace the receiver-drier when replacing other A/C components. Do not replace the receiver-drier unless the following criteria has been met.

## RECEIVER-DRIER REPLACEMENT CRITERIA WHEN REPLACING OTHER A/C SYSTEM COMPONENTS:

Replace the receiver-drier when the A/C system has been ruptured and ALL system pressure is lost. Receiver-drier will require replacement if the compressor oil becomes discolored or foreign substances become visible as indicated in the flow chart below.

**NOTE:** Refer to section U of the workshop manual for additional receiver-drier diagnostic procedures.

If an A/C component has failed, extract the compressor oil from the failed part and inspect the oil according to the procedure below. Follow the procedure to determine if the receiver-drier requires replacement as a precaution.



**CAUTION:** Before charging, always evacuate the A/C system thoroughly to remove air and moisture. Use a vacuum pump to evacuate the system. Hold vacuum at 29 inches (740mm Hg) for 5 - 10 minutes

Index # **041590**

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_ Signature \_\_\_\_\_

# Service Bulletin



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Irvine, California  
Telephone (714) 727-1990



|               |                                      |                                     |                     |
|---------------|--------------------------------------|-------------------------------------|---------------------|
| Category<br>U | Applicable Model/s<br>See List Below | Subject<br>R-12 (CFC) WARNING LABEL | Bulletin No. 002/93 |
|               |                                      |                                     | Issued 7/30/93      |
|               |                                      |                                     | Revised             |

## APPLICABLE MODELS/VINS

All vehicles produced after May 15, 1993 that do not have R-134A air conditioning units.

## DESCRIPTION

Since May 15, 1993, government regulations mandate warning labels for vehicles fitted with R-12 (CFC) based air conditioning units.

Air conditioning units supplied from MANA as of MAY 17, 1993 contain these labels. **The label must be attached to the vehicle window glass at the time of air conditioning kit installation and can only be removed by the retail buyer of the vehicle.** Refer to the diagram on page 2 to determine label installation location.

NOTE: Depending on model, the label can be installed in 3 different locations.

Additional labels can be ordered through the Mazda parts department using the parts information below.

## INSTALLATION PROCEDURES

Labels are not self adhering and must be attached using tape. Apply the tape to the back side of the label and attach so that the front of the label faces the window.

## PARTS INFORMATION

| Part Number | Description |
|-------------|-------------|
| BR70 61 438 | Label       |

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

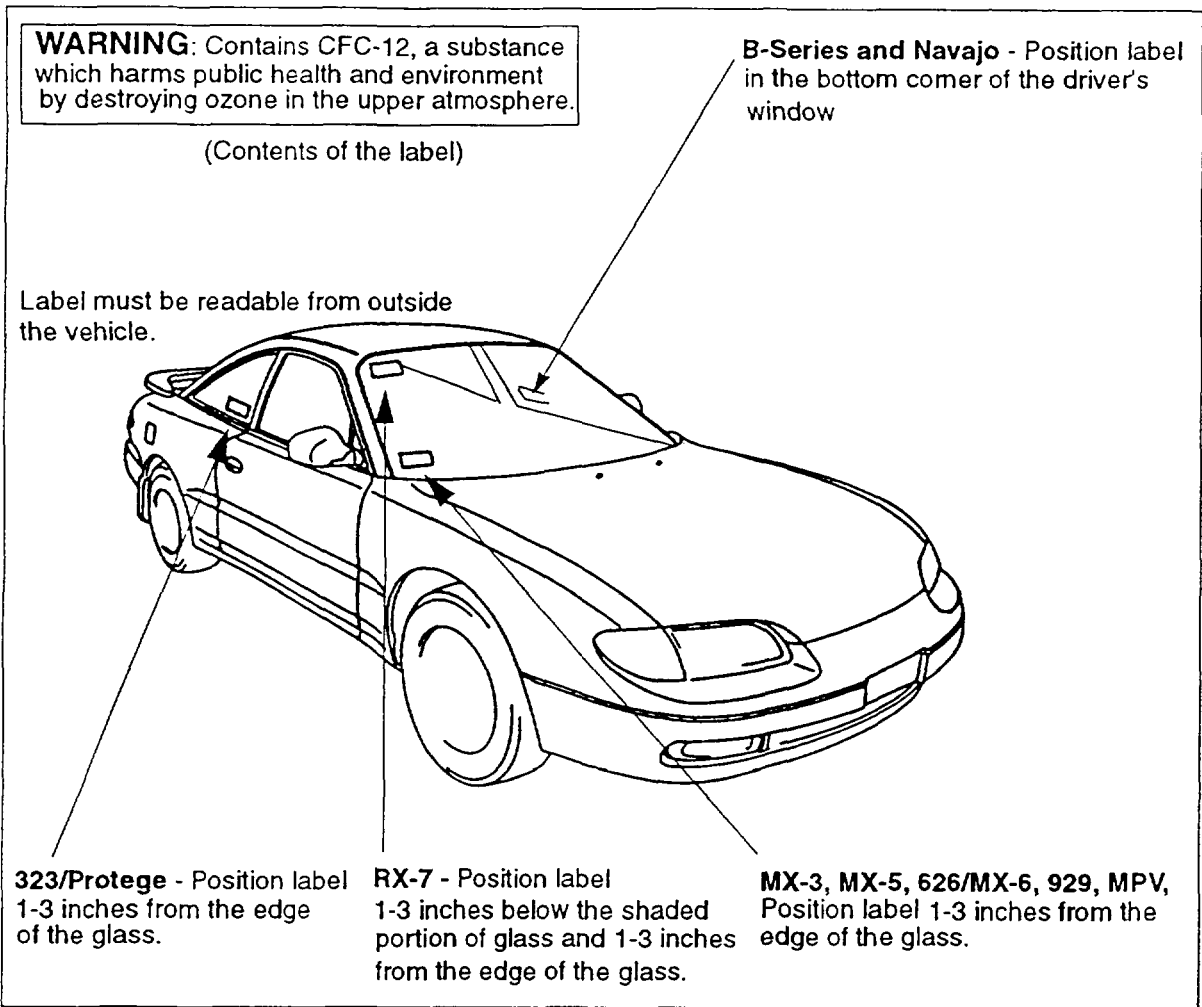
Signature \_\_\_\_\_

Signature \_\_\_\_\_

..... Service Manager

Parts Manager

Index # **034642**



# Service Bulletin



Mazda Motor of America, Inc.  
 7755 Irvine Center Drive  
 Irvine, California 92718  
 Telephone (714)727-1990



|               |                                 |                                                              |                     |
|---------------|---------------------------------|--------------------------------------------------------------|---------------------|
| Category<br>U | Applicable Model/s<br>See Below | Subject<br>R134a SERVICE PRECAUTIONS<br>AND PARTS COMPARISON | Bulletin No. 003/93 |
|               |                                 |                                                              | Issued 9/7/93       |
|               |                                 |                                                              | Revised             |

## APPLICABLE MODELS/VINS

This bulletin contains information on R134a air conditioning systems. Vehicles produced prior to the dates listed below have R12 systems. Refer to this chart to determine the vehicle's system.

| Model    | Date Of Production | Beginning VIN                                               |
|----------|--------------------|-------------------------------------------------------------|
| 626      | June 1993          | 1YVGE22C*R5100001<br>1YVGE22D*R5100001                      |
| MX-6     | Aug. 1993          | 1YVGE31C*R5100001<br>1YVGE31D*R5100001                      |
| 929      | Aug. 1993          | JM1HD461*R0300001                                           |
| MX-3     | Oct. 1993          | JM1EC435*R0300001<br>JM1EC436*R0300001                      |
| MX-5     | Aug. 1993          | JM1NA353*R*500001                                           |
| B-Series | Oct. 1993          | Not Available                                               |
| Navajo   | Sept. 1993         | Not Available                                               |
| MPV      | Aug. 1993          | JM3LV521*R0600001<br>JM3LV522*R0600001<br>JM3LV523*R0600001 |
| 323/Pro  | 1995 Model         | Not Available                                               |
| RX-7     | Jan. 1993          | Not Available                                               |

## DESCRIPTION

Starting with the 1994 626 model, Mazda will install air conditioning systems that contain R134a refrigerant.

This bulletin will describe key differences between the R134a and R12 refrigerants and oils. Where possible, the bulletin also explains how to identify R134a components from R12 components.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
 Service Manager

Signature \_\_\_\_\_  
 Parts Manager

**ALPHABETICAL INDEX**

| <b>Component</b>     | <b>Page</b> |
|----------------------|-------------|
| Accidental Discharge | 2           |
| Charging Valves      | 3           |
| Compressor Oil       | 3 & 4       |
| Evaporator           | 4           |
| Expansion Valve      | 4           |
| Flexible Hose        | 5           |
| Oil Seal/O-Ring      | 5           |
| Piping               | 5           |
| Pressure Switch      | 6           |
| Receiver/Drier       | 6           |
| Refrigerant          | 6           |
| Service Equipment    | 7           |

**OVERVIEW**

R12 is currently being used in all Mazda air conditioning systems. The 1994 model 626 will be produced with R134a air conditioning.

R12 refrigerant contains the chemical "chlorine". Chlorine is a contributor to ozone depletion. R134a does not contain chlorine and is considered ozone friendly.

**WARNING**

If accidental discharging occurs, ventilate the work area immediately before servicing. Additional health and safety information can be obtained from the refrigerant manufacturer.

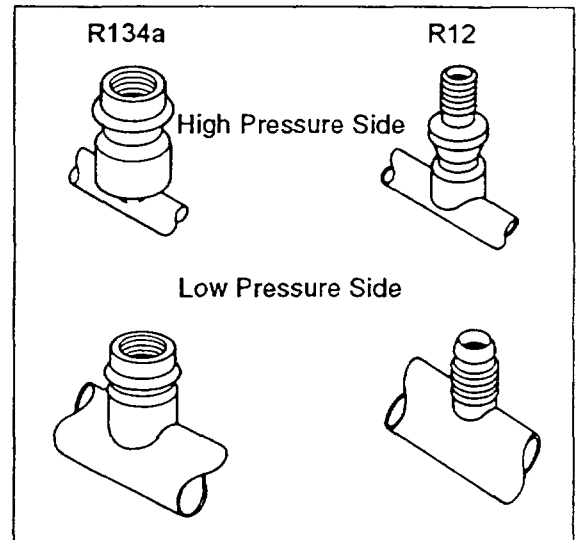
Exposure to air conditioning refrigerant, lubricant vapor or mist can irritate eyes, nose and throat. Avoid breathing air conditioning refrigerant, lubricant vapor or mist.

## 1.CHARGING VALVES

Charge ports have been redesigned to prevent refrigerant charging errors.

### Identification:

R134a ports are female connectors, manufactured with no threads (quick connectors) and are larger in diameter than R12 ports.



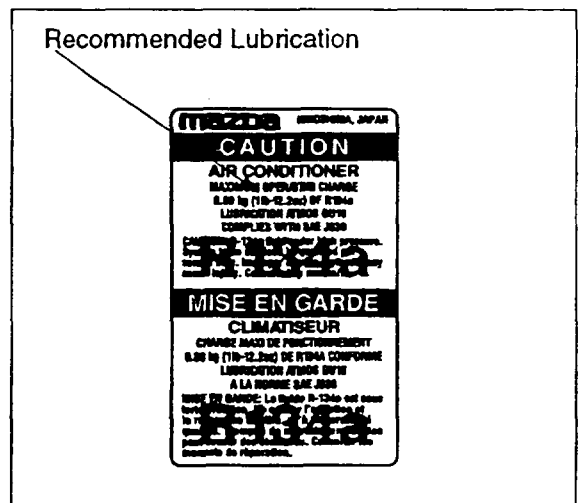
## 2.COMPRESSOR OIL

R12 compressor oil is mineral based and R134a compressor oil is synthetic.

### Identification:

Refer to the labeling on the compressor oil container.

**NOTE:** Each compressor has a label identifying which type compressor oil is required. Failure to follow this instruction can result in damage to the compressor and components



Compressor oil continued on next page.

|               |                     |          |
|---------------|---------------------|----------|
| Number:003/93 | Date Issued: 9/7/93 | Revised: |
|---------------|---------------------|----------|

| Compressor              | Models                  | Compressor Oil |
|-------------------------|-------------------------|----------------|
| Sanden Scroll           | 1995 323/Protege        | Sp10           |
| Panasonic Rotary Vane   | 1994 MX-3, 626/MX-6,929 | ATMOS GU10     |
| Nippondenso Rotary      | 1994 MX-5,RX-7 (R1)     | Densoil 9      |
| Nippondenso Swash Plate | 1994 MPV                | Densoil 8      |

Before recharging a R134a system, add the same amount of compressor oil that was removed during servicing.

R134a refrigerants and compressor oils attract and absorb moisture rapidly. Be careful to plug or cap lines, ports and containers after disconnection or opening. This will keep moisture and dust out of the system and container.

**WARNING:** Never place used oil into a container with unused oil.

Never place used oil into an air conditioning system.

Do not reuse oil in the recovery/recycling/charging equipment.

R134a compressor oil will cause damage if allowed to stay in contact with a painted surface. If compressor oil does get on a painted surface, wipe it off immediately and flush the surface with water.

### 3.EVAPORATOR

No operational changes.

**Identification:**

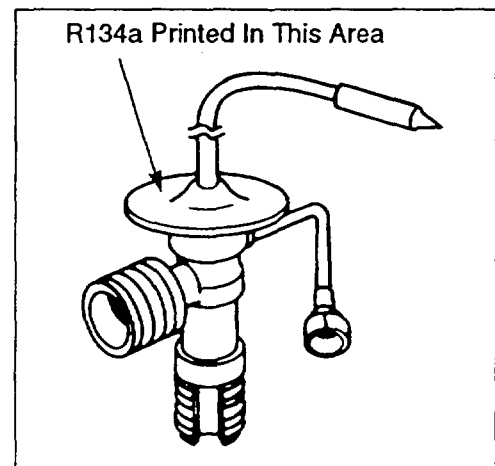
R134a evaporators are manufactured with metric threads on the connectors.

### 4.EXPANSION VALVE

The expansion valve settings have been altered to maintain proper cooling.

**Identification:**

R134a expansion valves have "R134a" printed on the top.





## 5.FLEXIBLE HOSE

R134a air conditioning flexible hoses are made from nylon.

### Identification:

**Panasonic** - R134a hoses have a green label at the end. R12 hoses have no marking.

**Nippondenso** - R134a hoses have the letters "LR" at the end. R12 hoses have no marking.

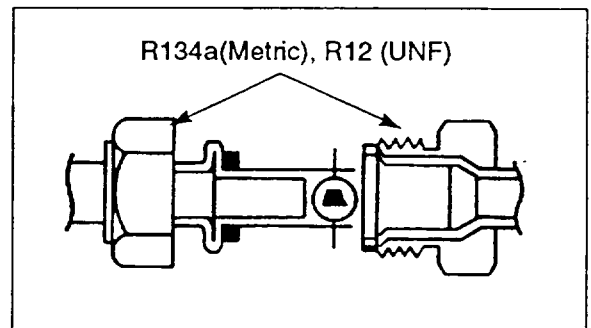
**MANA AC Kits** - R134a hoses have a blue label with "R134a" on the hose. R12 hoses have no marking.

## 6.JOINTS (Only for factory and Nippon Denso A/C)

R134a components are redesigned to prevent R12 components from being installed in R134a systems.

### Identification:

R134a joints are manufactured with a metric thread and larger diameters.



## 7.OIL SEAL/O-RING

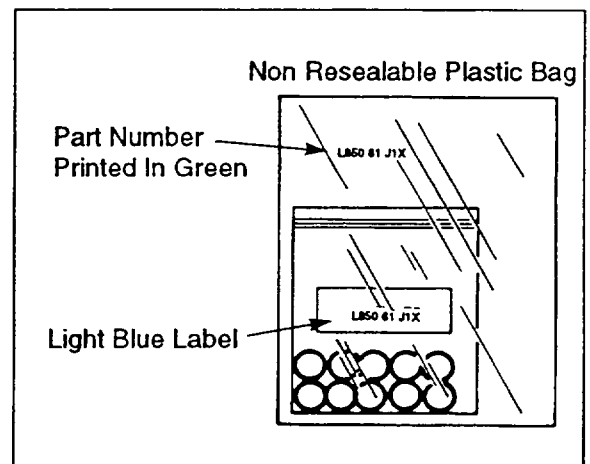
The material used for R134a oil seal/o-ring production has changed from the R12 air conditioning systems.

### Identification:

An R134a label appears on all parts packages.

**NOTE:** To avoid system contamination, keep oil seals and o-rings in the package until installation.

R134a orings may be used in R12 systems but R12 orings **can not** be used in R134a systems.



## 8.PIPING

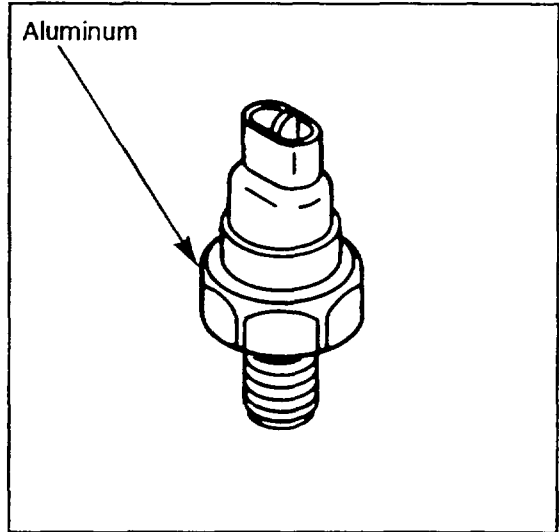
No operational change.

### Identification:

All R134a piping with charge ports and/or pressure switches are tagged with a light blue label.

**9.PRESSURE SWITCH**

R134a air conditioning systems operating pressures are higher than R12. The pressure switch for the R134a is calibrated for this higher pressure.



**10.RECEIVER/DRIER**

The moisture absorbing material used in the R134a receiver/drier is different than the R12 receiver/drier.

**NOTE:** Due to the absorbing properties of the receiver/drier, sealing caps should be left in place until installation.

**Identification:**

**Panasonic** - R134a receiver/drier has larger diameter connectors and a green label on the receiver/drier. R12 receiver/drier has no markings.

**Nippondenso** - R134a receiver/drier has no identification marks or labels. R134a does have larger diameter connectors with metric threads. R12 receiver/drier has no markings.

**MANA AC Kits** - R134a receiver/drier has a "R134a" designation. R12 receiver/drier has no markings.

**11.REFRIGERANT**

The chart below identifies some of the differences in refrigerant designations, formula and containers.

| ITEM                   | R134a                     | R12                       |
|------------------------|---------------------------|---------------------------|
| Designation            | HFC-134A Hydrofluorcarbon | CFC-12 Chlorofluorocarbon |
| Chemical Formula       | $CH_2FCF^3$               | $CCl_2F^2$                |
| Container Fitting Size |                           |                           |
| Container Color        | Light Blue                | White                     |

**12.SERVICE EQUIPMENT**

Use only equipment which is U.L. listed and is certified to meet the requirements of SAE J2210 to remove R134a refrigerant from air conditioning systems.

**NOTE:** Information on recommended R134a equipment is attached.

**WARNING:** Some mixtures of air and R134a can be combustible at elevated pressures and can result in fire or explosion leading to injury and/or property damage. Never use compressed air for pressure testing R134a equipment.

**Service Equipment Cont'd.****Leak Detectors**

R12 leak detectors are not calibrated to detect R134a refrigerant. Use only leak detectors designed for R134a systems to detect a R134a refrigerant leak.

**Manifold Gauges**

Use only manifold gauges designed for R134a systems. Never try to interchange parts between R134a and R12 gauges.

**Vacuum Pumps**

If a vacuum pump is used instead of the recovery/recycle/charging equipment, it must have a check valve installed to prevent the pump oil from back-flowing into the air conditioning system.

# Service Bulletin P

Mazda Motor of America, Inc.  
 7755 Irvine Center Drive  
 Irvine, California 92718  
 Telephone (714)727-1990



|                      |                                 |                                                                      |                            |
|----------------------|---------------------------------|----------------------------------------------------------------------|----------------------------|
| Category<br><b>U</b> | Applicable Model/s<br>See Below | Subject<br><b>R134a SERVICE PRECAUTIONS<br/>AND PARTS COMPARISON</b> | Bulletin No. <b>003/93</b> |
|                      |                                 |                                                                      | Issued <b>9/7/93</b>       |
|                      |                                 |                                                                      | Revised <b>11/26/93</b>    |

The revised portion of this bulletin is indicated by asterisk(s). Replace the original bulletin with this revised copy.

**\*APPLICABLE MODELS/VINS**

This bulletin contains information on R134a air conditioning systems. Vehicles produced prior to the dates listed below have R12 systems. Refer to this chart to determine the vehicle's system.

| Model       | Date Of Production | Beginning VIN                                               |
|-------------|--------------------|-------------------------------------------------------------|
| 626         | June 1993          | 1YVGE22C*R5100001<br>1YVGE22D*R5100001                      |
| MX-6        | Aug. 1993          | 1YVGE31C*R5100001<br>1YVGE31D*R5100001                      |
| 929         | Aug. 1993          | JM1HD461*R0300001                                           |
| MX-3        | Oct. 1993          | JM1EC435*R0300001<br>JM1EC436*R0300001                      |
| MX-5        | Aug. 1993          | JM1NA353*R*500001                                           |
| B-Series    | Sept. 1993         | Vehicle built 9/20/93 or later                              |
| Navajo      | Sept. 1993         | From 1994 Model                                             |
| MPV         | Aug. 1993          | JM3LV521*R0600001<br>JM3LV522*R0600001<br>JM3LV523*R0600001 |
| 323/Protege | 1995 Model         | Not Available                                               |
| RX-7        | Mid 1994           | Not Available                                               |

**DESCRIPTION**

Starting with the 1994 626 model, Mazda will install air conditioning systems that contain R134a refrigerant.

This bulletin will describe key differences between the R134a and R12 refrigerants and oils. Where possible, the bulletin also explains how to identify R134a components from R12 components.

Information is listed in alphabetical order, refer to the index on page 2 for specific bulletin items.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_  
 Service Manager

Signature \_\_\_\_\_  
 Parts Manager

**\*ALPHABETICAL INDEX**

| Component                     | Page  |
|-------------------------------|-------|
| Accidental Discharge          | 2     |
| Charging Valves               | 3     |
| Compressor and Compressor Oil | 3 & 4 |
| Evaporator                    | 4     |
| Expansion Valve               | 4     |
| Flexible Hose                 | 5     |
| Oil Seal/O-Ring               | 5     |
| Piping                        | 5     |
| Pressure Switch               | 6     |
| Receiver/Drier                | 6     |
| Refrigerant                   | 6     |
| Service Equipment             | 7     |

**OVERVIEW**

R12 is currently being used in all Mazda air conditioning systems. The 1994 model 626 will be produced with R134a air conditioning.

R12 refrigerant contains the chemical "chlorine". Chlorine is a contributor to ozone depletion. R134a does not contain chlorine and is considered ozone friendly.

**WARNING**

If accidental discharging occurs, ventilate the work area immediately before servicing. Additional health and safety information can be obtained from the refrigerant manufacturer.

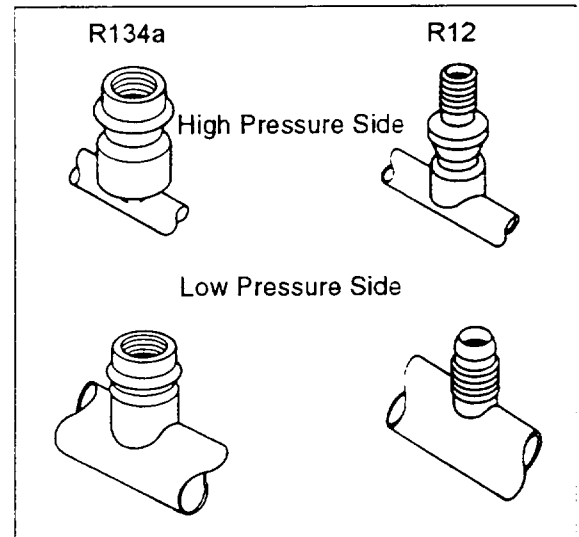
Exposure to air conditioning refrigerant, lubricant vapor or mist can irritate eyes, nose and throat. Avoid breathing air conditioning refrigerant, lubricant vapor or mist.

## 1.CHARGING VALVES

Charge ports have been redesigned to prevent refrigerant charging errors.

### Identification:

R134a ports are female connectors, manufactured with no threads (quick connectors) and are larger in diameter than R12 ports.



## 2.COMPRESSORS AND COMPRESSOR OIL

R134a compressors have identification labels on the compressor body.

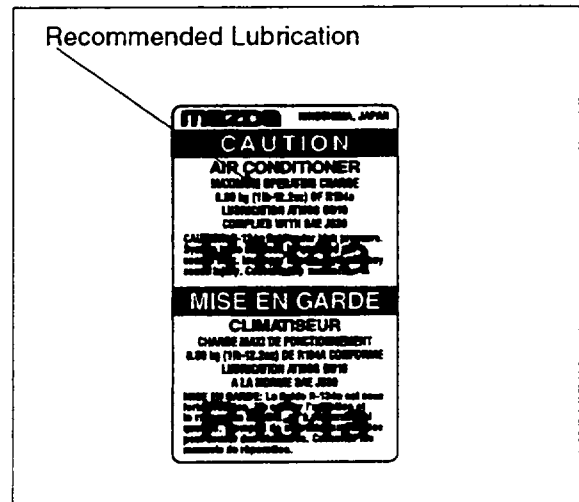
**NOTE: DO NOT** use R12 compressor parts to repair R134a compressors, A/C system failure will result.

R12 compressor oil is mineral based and R134a compressor oil is synthetic.

### Identification:

Refer to the labeling on the compressor oil container.

**NOTE:** Each compressor has a label identifying which type compressor oil is required. Failure to follow this instruction can result in damage to the compressor and components



Compressor oil continued on next page.

**Compressor Oil Cont'd.**

**R134a COMPRESSOR OILS ARE NOT IDENTICAL.** Use only the R134a compressor oil specified for the compressor you are servicing. Refer to the lubrication requirements specified by the compressor manufacturer (see table below).

| Compressor              | Models                  | Compressor Oil* |
|-------------------------|-------------------------|-----------------|
| Sanden Scroll           | 1995 323/Protege        | Sp10            |
| Panasonic Rotary Vane   | 1994 MX-3, 626/MX-6.929 | ATMOS GU10      |
| Nippondenso Rotary      | 1994 MX-5,RX-7 (R1)     | ND-Oil 9        |
| Nippondenso Swash Plate | 1994 MPV                | ND-Oil 8        |

Before recharging a R134a system, add the same amount of compressor oil that was removed during servicing.

R134a refrigerants and compressor oils attract and absorb moisture rapidly. Be careful to plug or cap lines, ports and containers after disconnection or opening. This will keep moisture and dust out of the system and container.

**WARNING:** Never place used oil into a container with unused oil.

Never place used oil into an air conditioning system.

Do not reuse oil in the recovery/recycling/charging equipment.

R134a compressor oil will cause damage if allowed to stay in contact with a painted surface. If compressor oil does get on a painted surface, wipe it off immediately and flush the surface with water.

**3.EVAPORATOR**

No operational changes.

**Identification:**

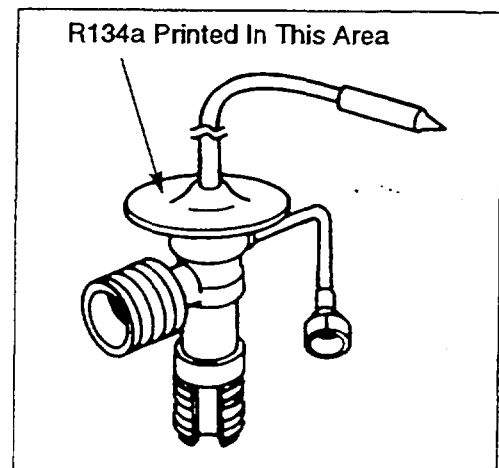
R134a evaporators are manufactured with metric threads on the connectors.

**4.EXPANSION VALVE**

The expansion valve settings have been altered to maintain proper cooling.

**Identification:**

R134a expansion valves have "R134a" printed on the top.



## 5.FLEXIBLE HOSE

R134a air conditioning flexible hoses are made from nylon.

### Identification:

**Panasonic** - R134a hoses have a green label at the end. R12 hoses have no marking.

**Nippondenso** - R134a hoses have the letters "LR" at the end. R12 hoses have no marking.

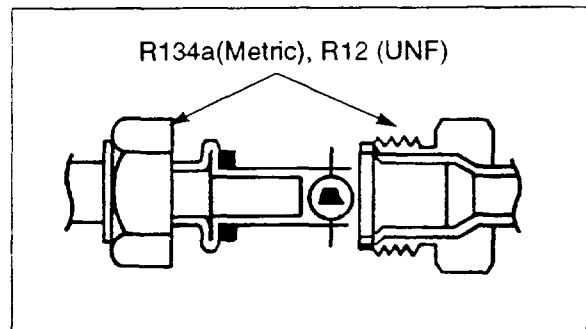
**MANA AC Kits** - R134a hoses have a blue label with "R134a" on the hose. R12 hoses have no marking.

## 6.JOINTS (Only for factory and Nippondenso A/C)

R134a components are redesigned to prevent R12 components from being installed in R134a systems.

### Identification:

R134a joints are manufactured with a metric thread and larger diameters.



## 7.OIL SEAL/O-RING

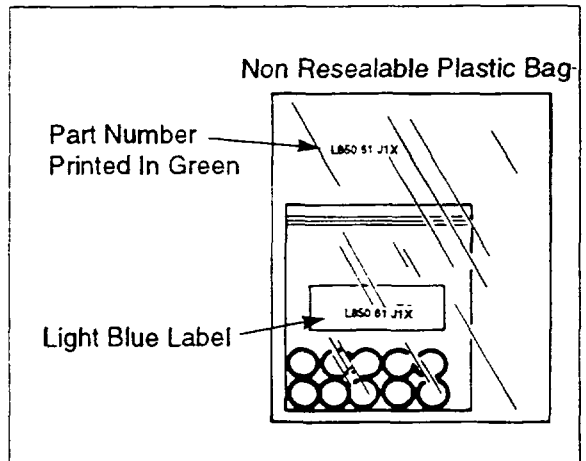
The material used for R134a oil seal/o-ring production has changed from the R12 air conditioning systems.

### Identification:

An R134a label appears on all parts packages.

**NOTE:** To avoid system contamination, keep oil seals and o-rings in the package until installation.

R134a orings may be used in R12 systems but R12 orings **can not** be used in R134a systems.



## 8.PIPING

No operational change.

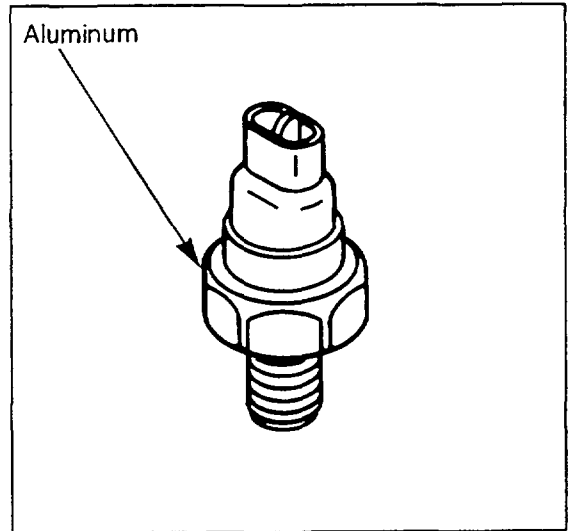
### Identification:

All R134a piping with charge ports and/or pressure switches are tagged with a light blue label.



**9.PRESSURE SWITCH**

R134a air conditioning systems operating pressures are higher than R12. The pressure switch for the R134a is calibrated for this higher pressure.



**10.RECEIVER/DRIER**

The moisture absorbing material used in the R134a receiver/drier is different than the R12 receiver/drier.

**NOTE:** Due to the absorbing properties of the receiver/drier, sealing caps should be left in place until installation.

**Identification:**

**Panasonic** - R134a receiver/drier has larger diameter connectors and a green label on the receiver/drier. R12 receiver/drier has no markings.

**Nippondenso** - R134a receiver/drier has no identification marks or labels. R134a does have larger diameter connectors with metric threads. R12 receiver/drier has no markings.

**MANA AC Kits** - R134a receiver/drier has a "R134a" designation. R12 receiver/drier has no markings.

**11.REFRIGERANT**

The chart below identifies some of the differences in refrigerant designations, formula and containers.

| ITEM                   | R134a                     | R12                       |
|------------------------|---------------------------|---------------------------|
| Designation            | HFC-134A Hydrofluorcarbon | CFC-12 Chlorofluorocarbon |
| Chemical Formula       | CH FCF                    | CCI F                     |
| Container Fitting Size |                           |                           |
| Container Color        | Light Blue                | White                     |

**12.SERVICE EQUIPMENT**

Use only equipment which is U.L. listed and is certified to meet the requirements of SAE J2210 to remove R134a refrigerant from air conditioning systems.

**NOTE:** Information on recommended R134a equipment is attached.

**WARNING:** Some mixtures of air and R134a can be combustible at elevated pressures and can result in fire or explosion leading to injury and/or property damage. Never use compressed air for pressure testing R134a equipment.

**Service Equipment Cont'd.****Leak Detectors**

R12 leak detectors are not calibrated to detect R134a refrigerant. Use only leak detectors designed for R134a systems to detect a R134a refrigerant leak.

**Manifold Gauges**

Use only manifold gauges designed for R134a systems. Never try to interchange parts between R134a and R12 gauges.

**Vacuum Pumps**

If a vacuum pump is used instead of the recovery/recycle/charging equipment, it must have a check valve installed to prevent the pump oil from back-flowing into the air conditioning system.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                  |                                   |                     |
|---------------|----------------------------------|-----------------------------------|---------------------|
| Category<br>U | Applicable Model/s<br>All Models | Subject<br>A/C O-RING REPLACEMENT | Bulletin No. 005/97 |
|               |                                  |                                   | Issued 03/10/97     |
|               |                                  |                                   | Revised             |

## APPLICABLE MODELS

All Models

## DESCRIPTION

Refer to the appropriate illustration on the attached pages and the chart below when replacing A/C system o-rings. These o-rings are designed for use in both R-12 and R-134a systems.

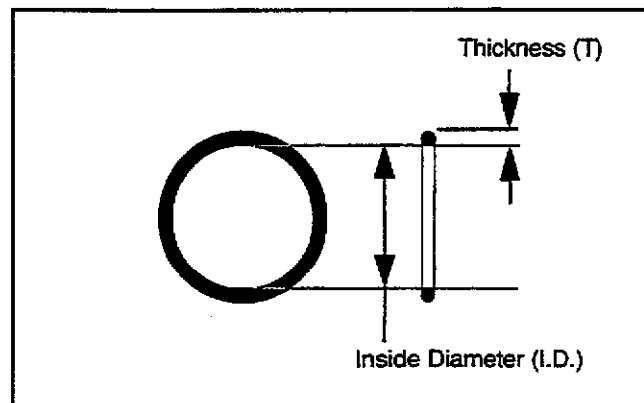
| Code | Pipe Size  | O-Ring Size IDxT | Part and Kit Numbers | O-Ring Quantity Per Vehicle |            |            |            |                       |         |               |               |                |                |                |                |              |               |                 |           |           |                  |                  |                  |
|------|------------|------------------|----------------------|-----------------------------|------------|------------|------------|-----------------------|---------|---------------|---------------|----------------|----------------|----------------|----------------|--------------|---------------|-----------------|-----------|-----------|------------------|------------------|------------------|
|      |            |                  |                      | 89-94 323/Protege           | 90-93 MX-5 | 92-95 MX-3 | 94-97 MX-5 | 89-94 RX-7 (See Note) | 95 RX-7 | 89-93 MPV (S) | 94-97 MPV (S) | 89-92 626/MX-6 | 93-97 626/MX-6 | 90-93 B-Series | 94-97 B-Series | 91-94 Navajo | 95-97 Protege | 96-97 Millennia | 92-93 929 | 94-95 929 | 89-93 MPV (Dual) | 94-95 MPV (Dual) | 89-97 MPV (Dual) |
| A    | 8mm        | 6.9x1.76         | LB51-61-J1X          | 6                           | 4          | 5          | 4          | 6                     | 6       |               |               |                |                |                |                | 5            |               |                 |           |           | 7                |                  |                  |
| B    | 5/16in     | 6.8x1.5          | LB52-61-J1X          |                             |            |            |            |                       |         | 3             | 3             |                |                |                |                |              |               |                 |           |           |                  | 10               |                  |
| C    | 3/8in      | 7.65x1.78        | LB53-61-J1X          |                             |            |            |            |                       |         | 1             | 1             |                |                | 4              |                |              |               |                 |           |           | 3                |                  |                  |
| D    | 12mm       | 10.8x1.78        | LB54-61-J1X          | 3                           | 2          | 3          | 1          | 2                     | 1       | 3             | 2             | 2              | 3              | 2              |                | 2            |               |                 |           |           |                  | 3                |                  |
| E    | 12mm axial | 10.8x2.4         | LB55-61-J1X          |                             | 1          |            | 1          | 1                     | 1       |               | 1             |                |                |                |                |              |               |                 |           |           | 6                |                  |                  |
| F    | 16mm       | 14.0x1.78        | LB56-61-J1X          | 2                           | 2          | 2          | 2          | 3                     | 2       | 2             | 1             | 3              | 2              | 4              |                | 3            |               |                 |           |           |                  | 7                |                  |
| G    | 16mm axial | 13.4x2.4         | LB57-61-J1X          |                             | 1          |            | 1          | 1                     | 1       |               | 1             |                |                |                |                | 3            | 2             | 3               |           |           |                  |                  |                  |
| H    | 3/8in      | 7.36x1.8         | 9XG0-19-8300         |                             |            |            |            |                       |         |               |               |                |                |                | 2              | 2            |               | 2               |           |           |                  |                  |                  |
| J    | 1/2in      | 10.16x1.85       | 9XG0-19-8201         |                             |            |            |            |                       |         |               |               |                |                |                | 3              | 3            |               | 2               |           |           |                  |                  |                  |
| K    | 5/8in      | 12.95x1.85       | 9XG0-19-8400         |                             |            |            |            |                       |         |               |               |                |                |                | 2              | 2            |               | 3               |           | 2         |                  |                  |                  |
| L    | 5/8in      | 6.07x1.78        | C003-61-J17          |                             |            |            |            |                       |         |               |               |                |                |                |                |              | 4             | 2               | 5         |           |                  |                  |                  |
| M    | 18mm axial | 14x1.78          | C004-61-J17          |                             |            |            |            |                       |         |               |               |                |                |                |                |              |               |                 |           |           |                  |                  |                  |
| N    | 5/8in      | 10.8x1.78        | C005-61-J17          |                             |            |            |            |                       |         |               |               |                |                |                |                |              |               |                 |           |           |                  |                  |                  |
| P    | 12mm       | 10.8x2.4         | W257-61-J17          |                             |            |            |            |                       |         |               |               |                |                |                |                |              |               |                 |           |           |                  | 3                |                  |
| Q    | 5/16in     | 6.7x1.8          | W326-61-J17          |                             |            |            |            |                       |         |               |               |                |                |                |                |              |               |                 |           |           |                  |                  | 10               |
| R    | 16mm       | 13.4x2.4         | W329-61-J17          |                             |            |            |            |                       |         |               |               |                |                |                |                |              |               |                 |           |           |                  |                  | 5                |

**NOTE:** Part numbers ending with "J1X" are delivered in quantities of ten (10).

\*These vehicles are equipped with Ford air conditioning systems.

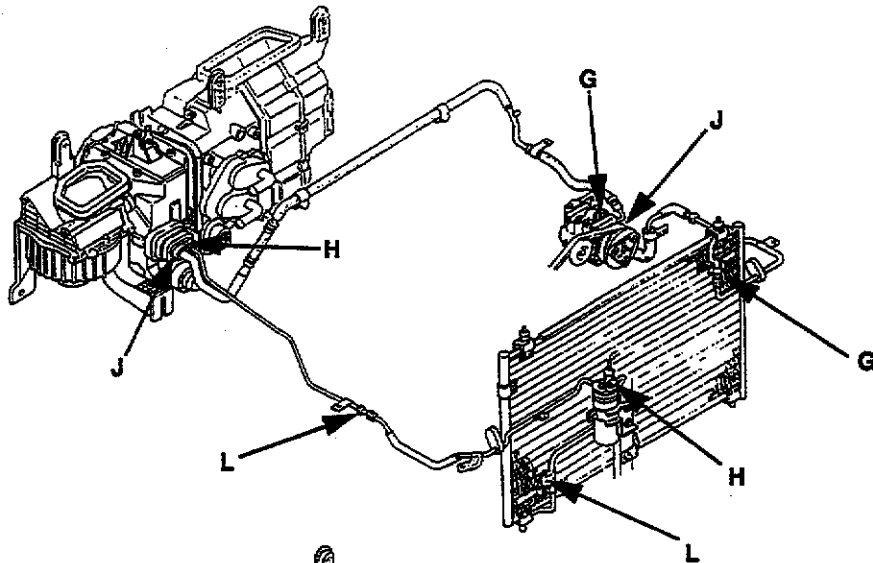
The illustration to the right indicates where the o-ring must be measured to determine diameter and thickness. Use this information and the chart above to identify the proper part if the o-rings are accidentally mixed.

**NOTE:** Illustration not available for 1989-94 RX-7

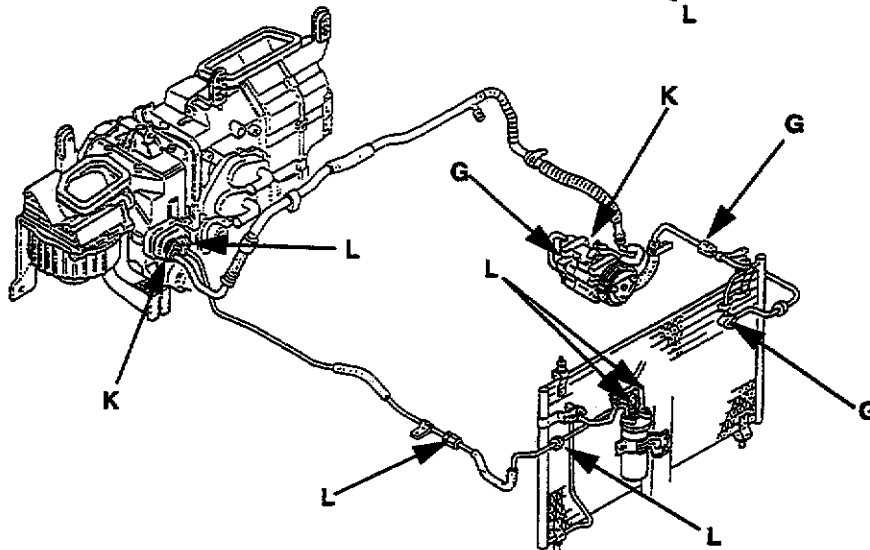


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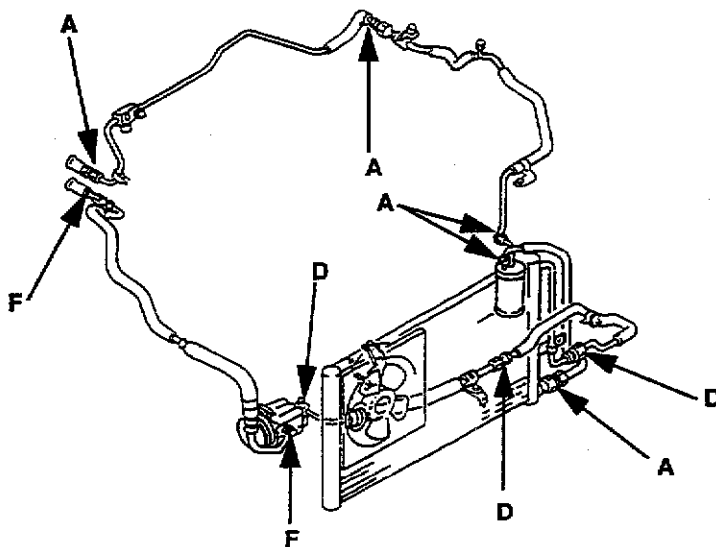
1992 - 93 929



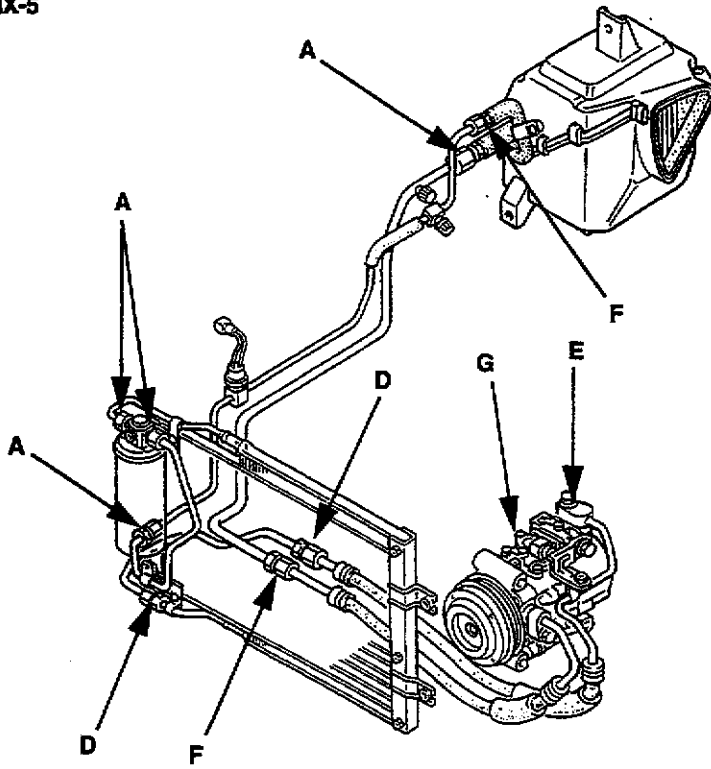
1994 - 95 929



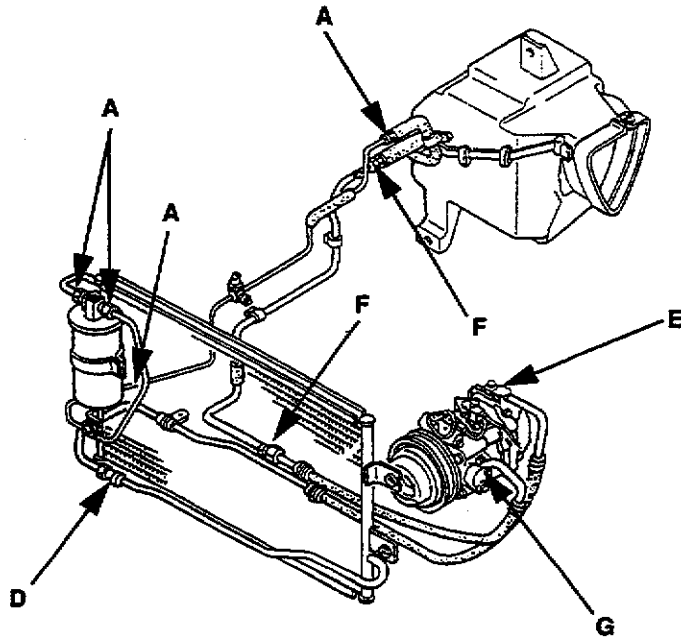
1992 - 95 MX-3



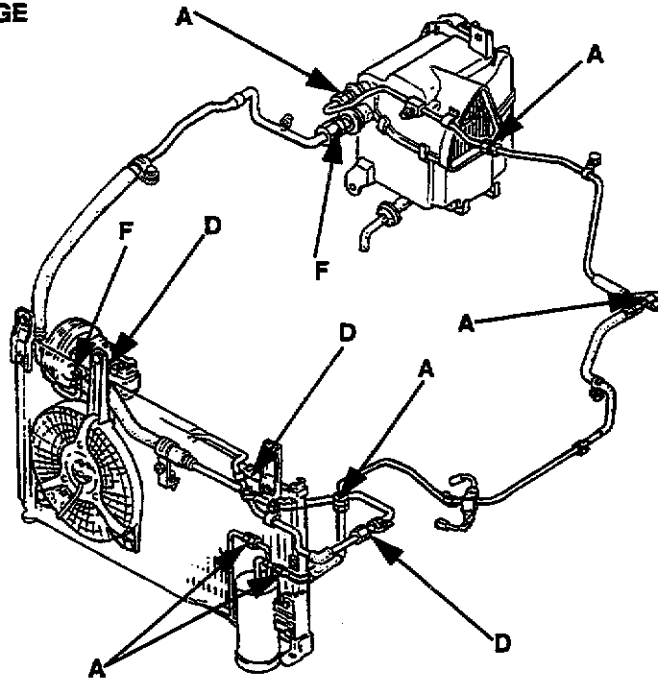
1990 - 93 MX-5



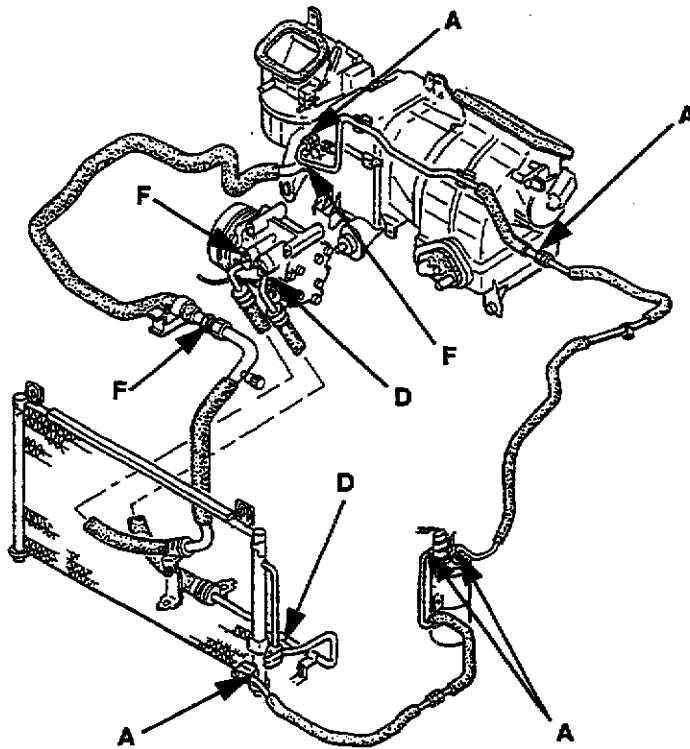
1994 - 97 MX-5



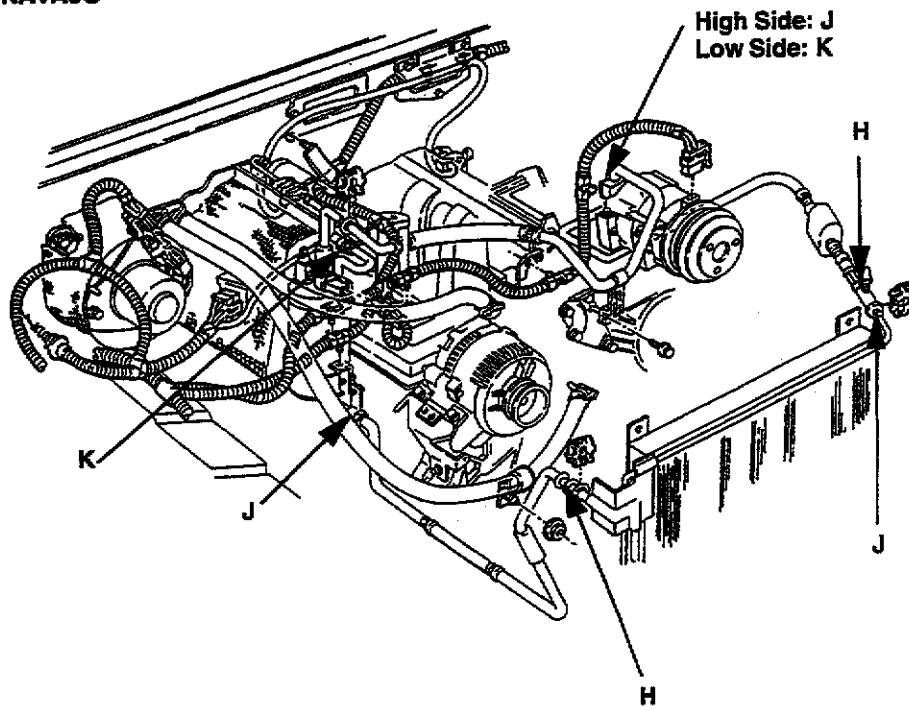
1989 - 94 323/PROTEGE



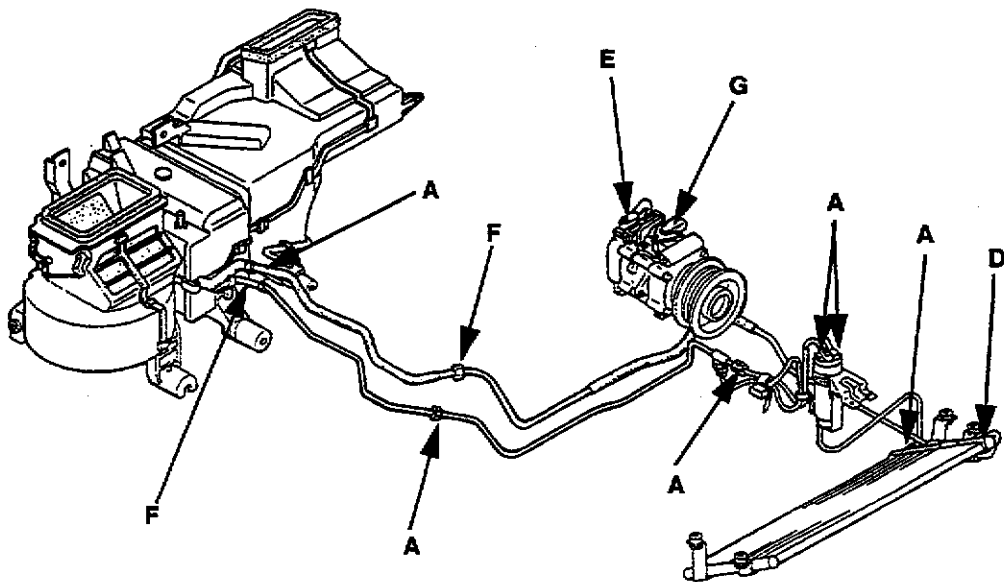
1995 - 97 PROTEGE



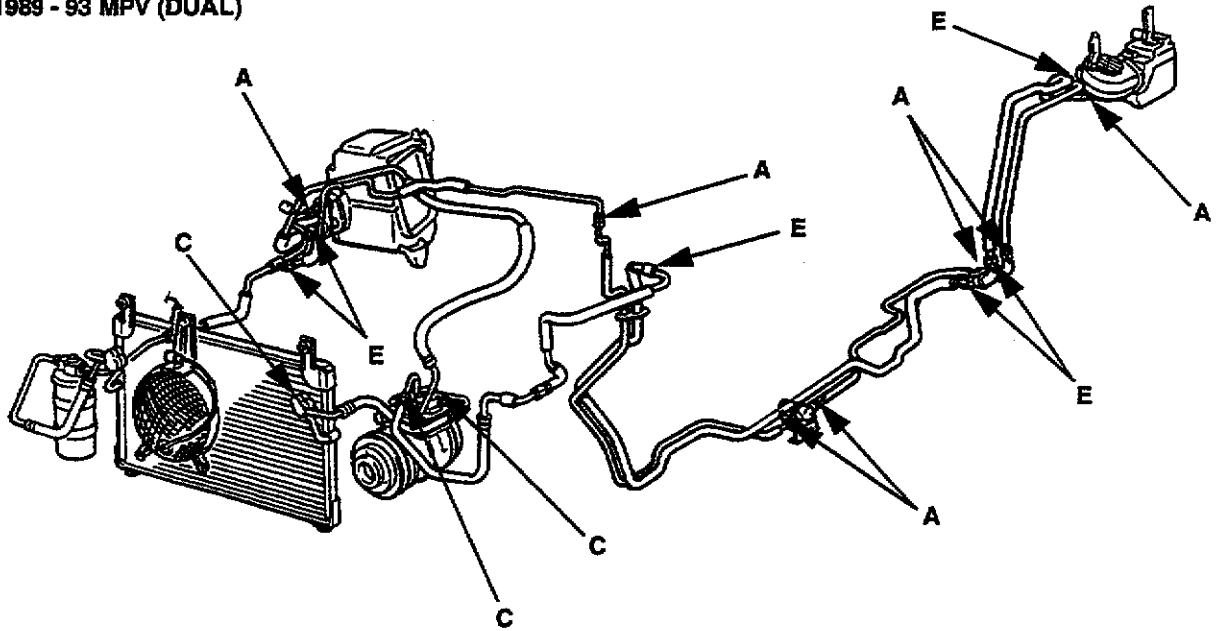
1991 - 94 NAVAJO



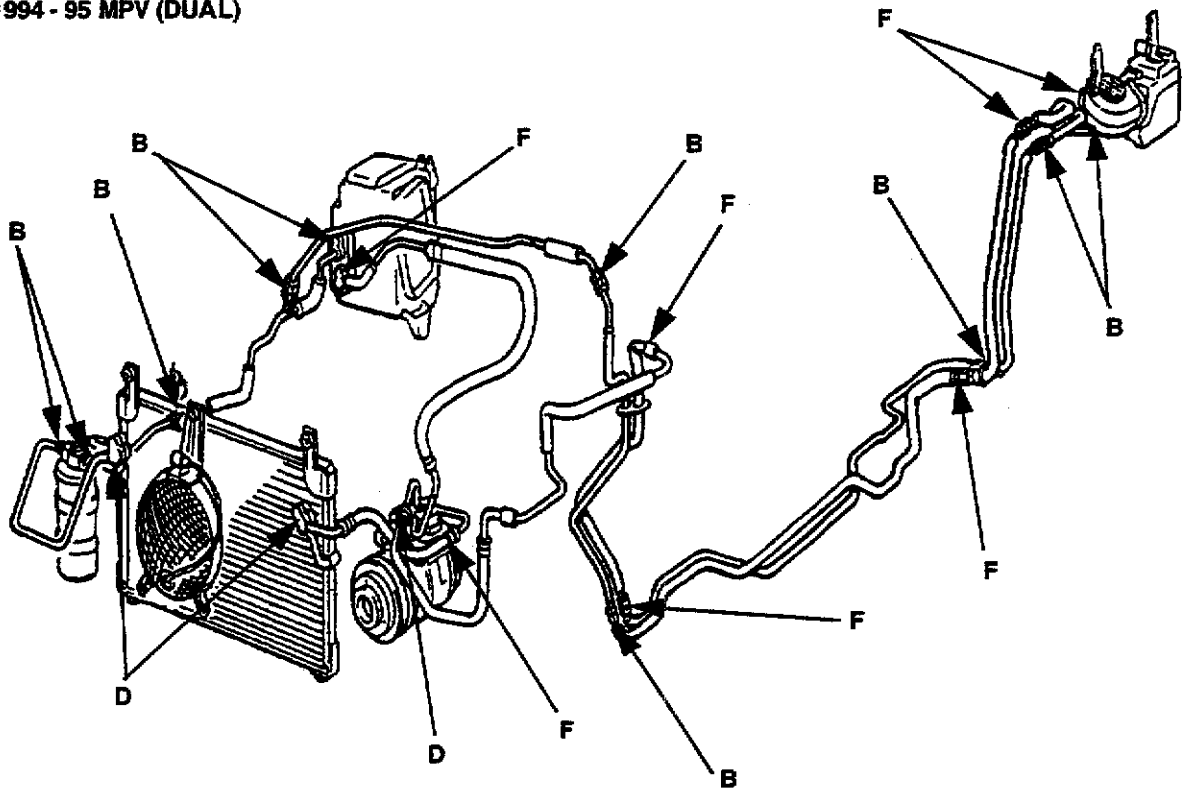
1995 RX-7



1989 - 93 MPV (DUAL)

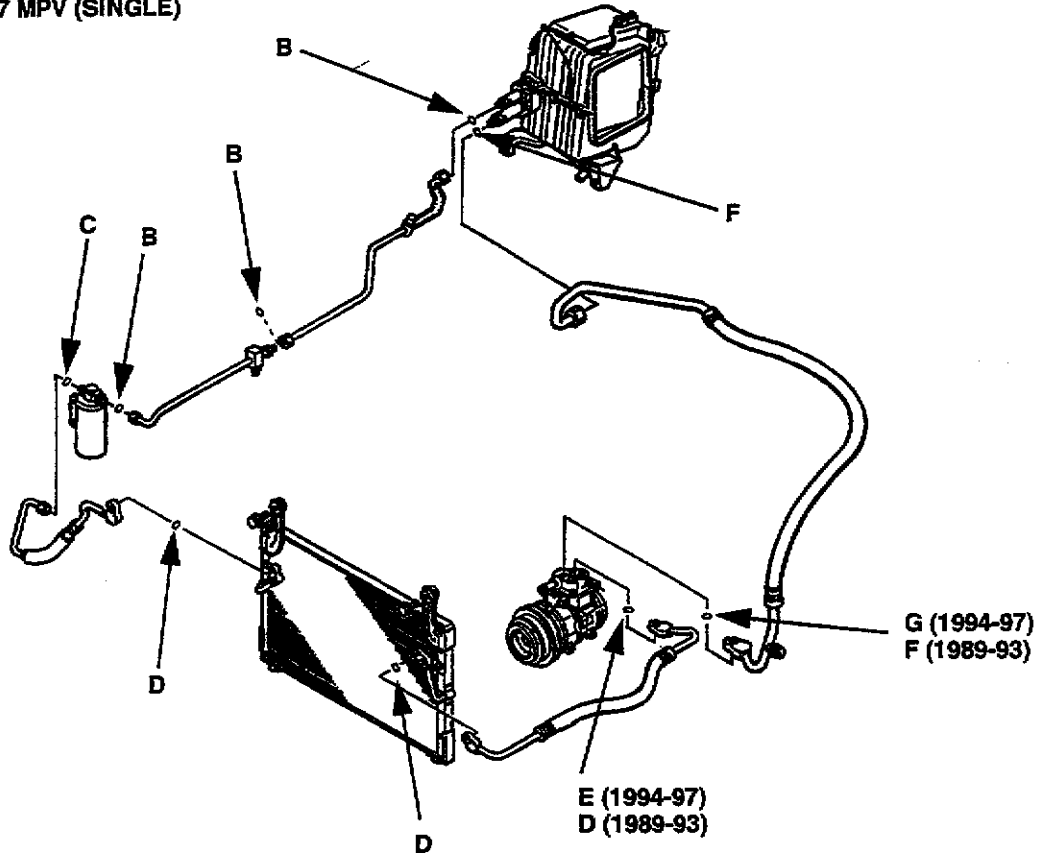


1994 - 95 MPV (DUAL)

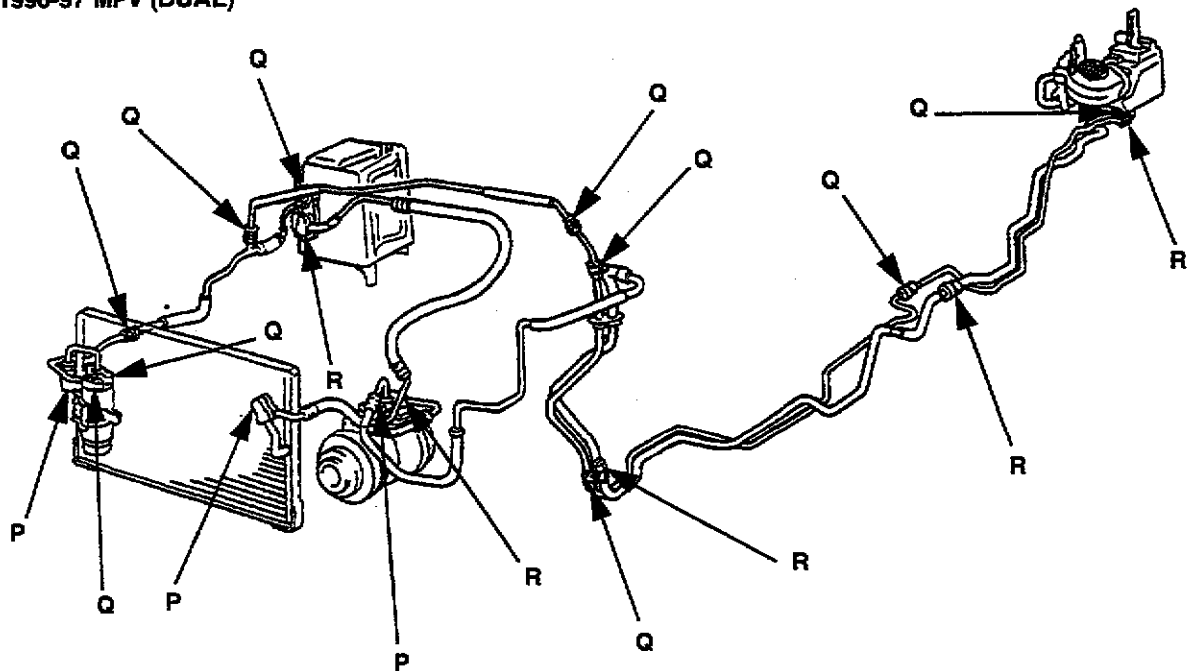




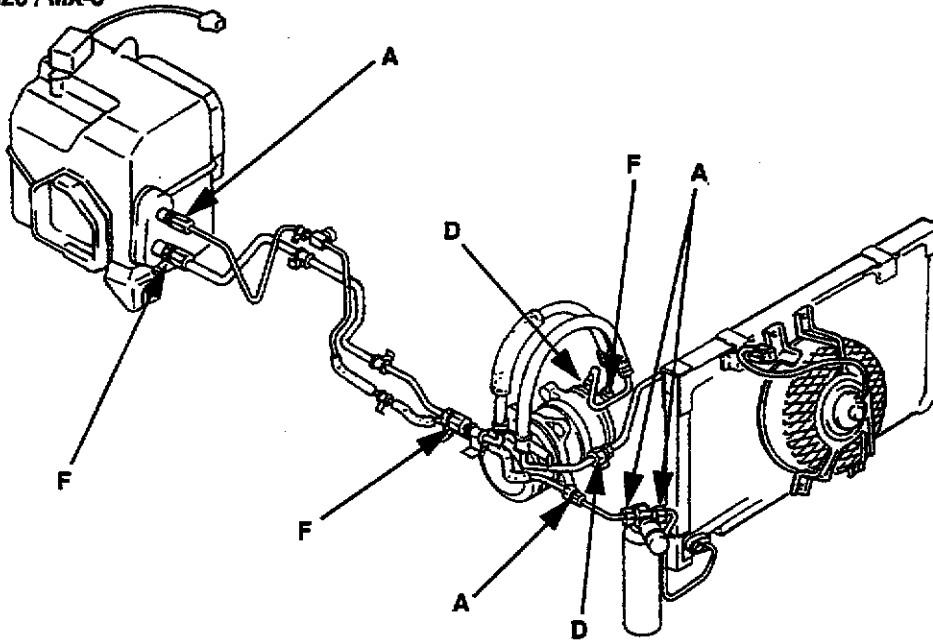
1989 - 97 MPV (SINGLE)



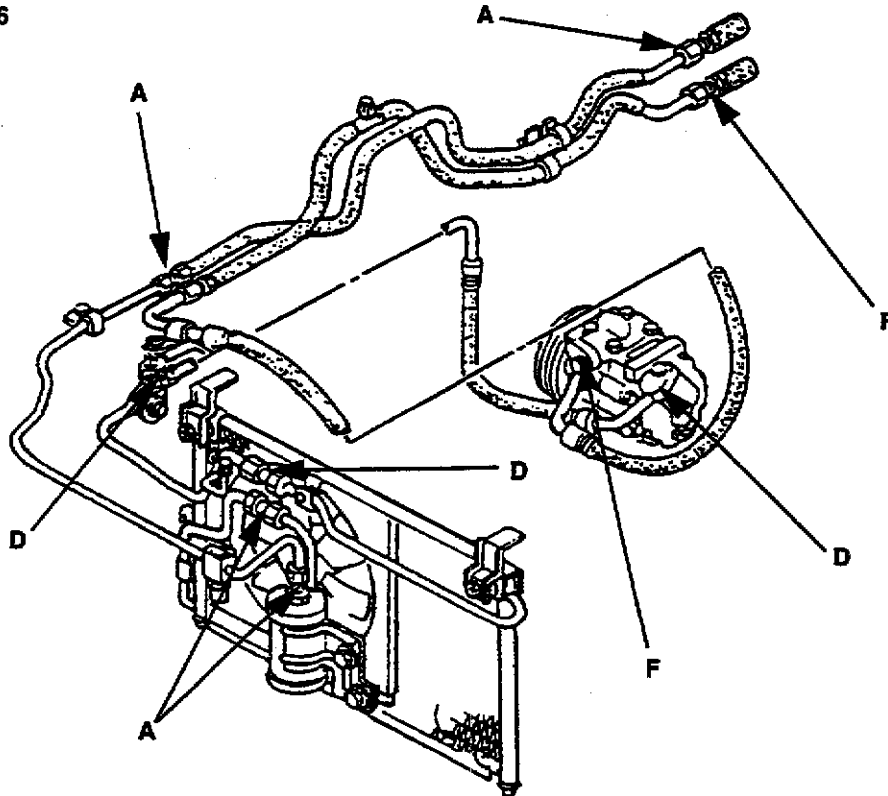
1996-97 MPV (DUAL)



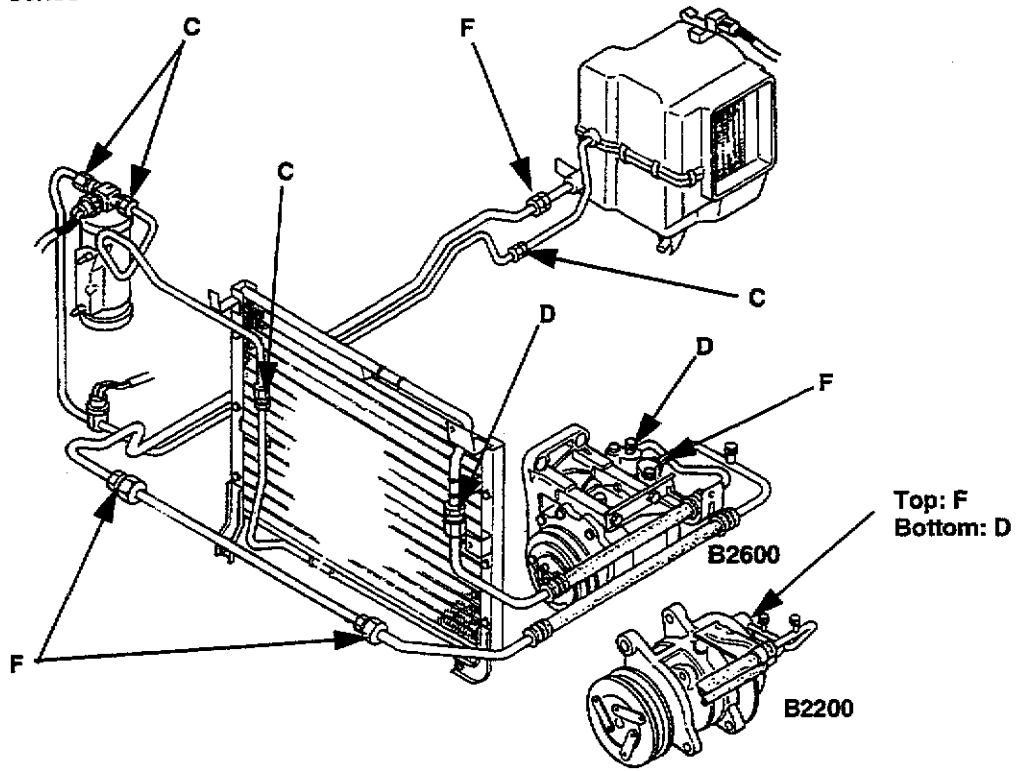
1988 - 92 626 / MX-6



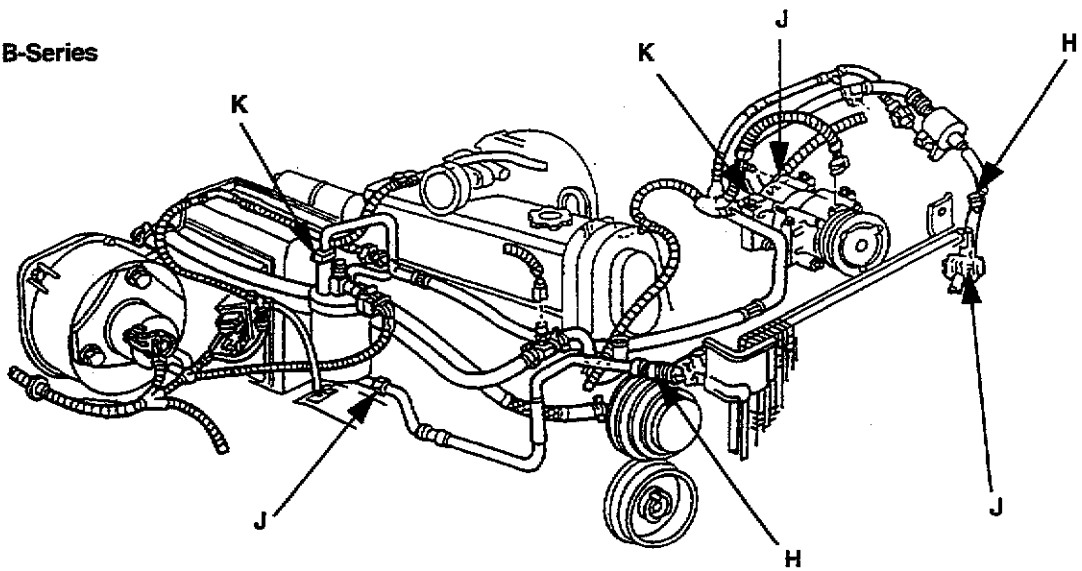
1993 - 97 626 / MX-6



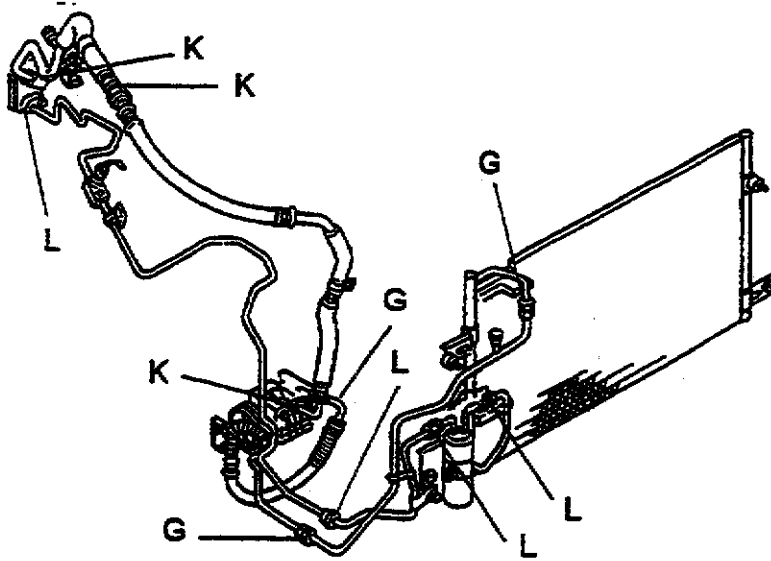
**1990 - 93 B-Series**



**1994 - 97 B-Series**



1995 - 97 Millenia



# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990

# MAZDA

|               |                                      |                                         |                     |
|---------------|--------------------------------------|-----------------------------------------|---------------------|
| Category<br>U | Applicable Model/s<br>1993 - 95 RX-7 | Subject<br>AIR CONDITIONING MALFUNCTION | Bulletin No. 008/95 |
|               |                                      |                                         | Issued 7/25/95      |
|               |                                      |                                         | Revised             |

## APPLICABLE MODELS/VINS

All 1993 - 95 RX-7 vehicles with a VIN of JM1FD333\*S0400026 and lower.

## DESCRIPTION

Either of the follow conditions may occur when the air conditioning system is operated:

- No compressor engagement when a/c is switched on
- Air flow mode switch fixed in defrost position

These conditions may be caused by insufficient contact at the hazard switch connector (1994-95 - G-06, 1993 - G-01).

**NOTE:** The hazard switch harness also contains the A/C control connector.

**This improper connection does not affect the hazard switch operation.**

Changes in the production process have eliminated this problem. Customers complaining of the above symptoms should have the problem verified and if necessary, corrected.

## REPAIR PROCEDURE

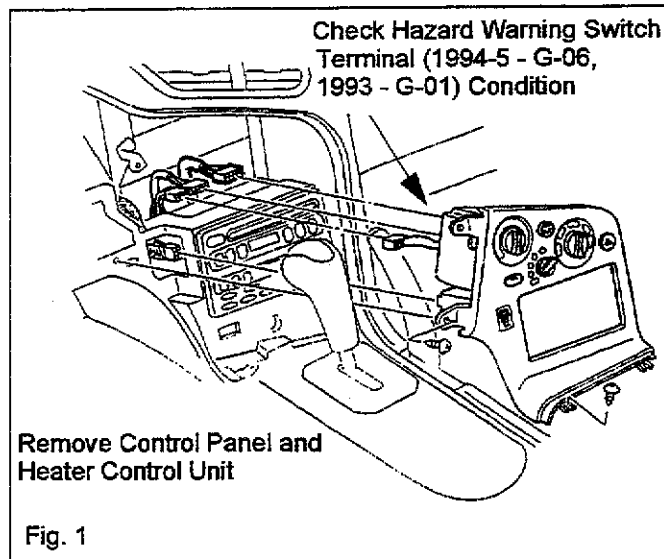
1. Verify the complaint.
2. Remove the control panel and the heater control unit. Refer to section G of the BETM for removal instructions.
3. Check the hazard warning switch terminals. Refer to page 2 of 2 for problem examples.
  - If the female terminals are damaged (expanded), remove the switch from the A/C control unit and replace it with a new part.
  - If the terminals are normal, re-assemble and test. If problems still exist, refer to the BETM or workshop manual for troubleshooting information.

**CAUTION:** Avoid damage to pins by inserting the connectors straight. Refer to page 2 of 2.

## WARRANTY INFORMATION

*(Applies to verified customer complaints on vehicles covered under normal warranty. Refer to the SRT Microfiche for warranty term information).*

Warranty Type: A  
Symptom Code: 60  
Damage Code: 9G  
Part Number Main Cause: FD01 66 4H0  
Quantity: 1  
Operation Number: T0204XRX  
Labor Hours: 0.3Hrs.



**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Service Manager

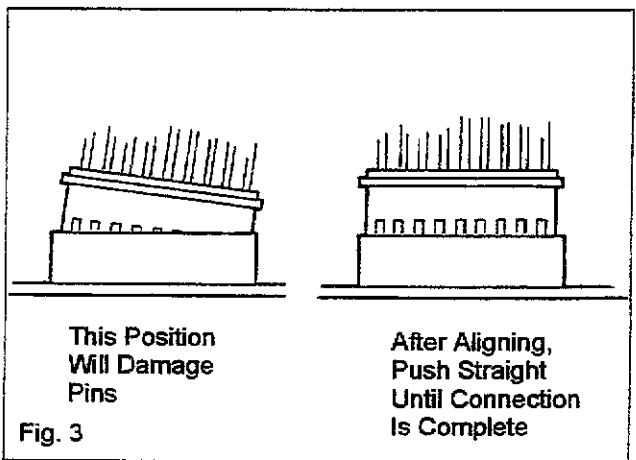
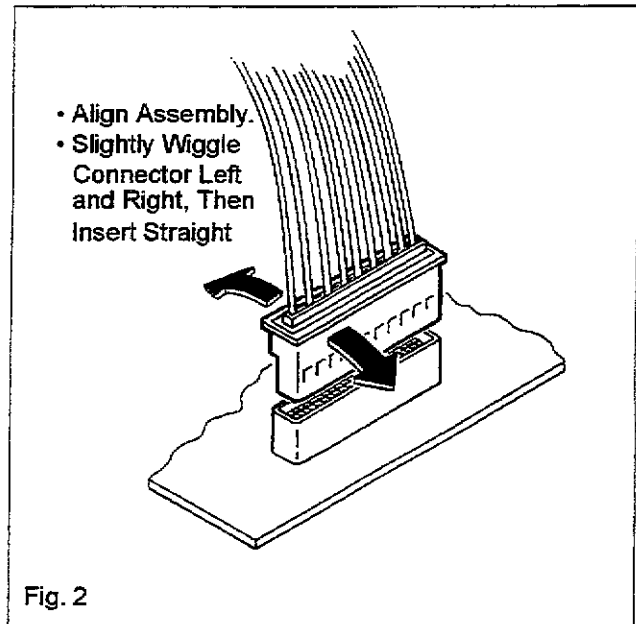
Signature **059758** \_\_\_\_\_

Parts Manager

**Terminal Connection Examples**

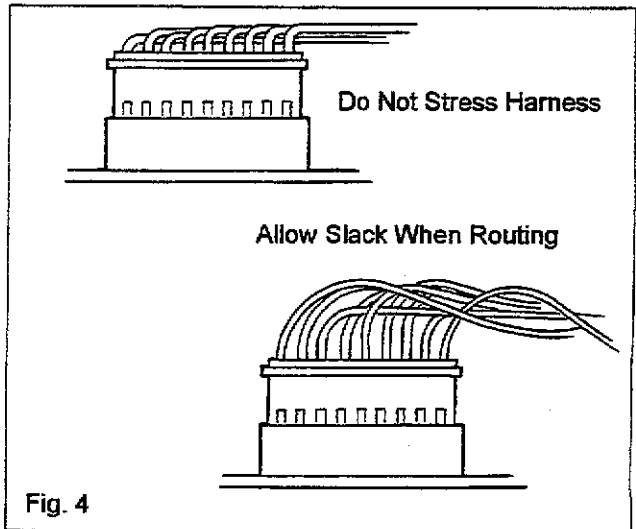
**Male Connectors**

1. Hold the housing when connecting and disconnecting.
2. To avoid connector pin damage:
  - align the connector and housing at the appropriate angle.
  - Slightly wiggle the connector right and left then slowly insert **straight** into the assembly Refer to Fig. 2 and 3.
  - Avoid forcing the connection or mis-alignment.



**Harnesses**

1. **Do Not Stretch** harnesses to connect connectors.
2. Route harnesses to provide slack in harness and no stress on connector. Refer to Fig 4.



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|               |                                  |                                  |                     |
|---------------|----------------------------------|----------------------------------|---------------------|
| Category<br>U | Applicable Model/s<br>ALL MODELS | Subject<br>USE OF A/C TRACER DYE | Bulletin No. 008/97 |
|               |                                  |                                  | Issued 05/19/97     |
|               |                                  |                                  | Revised             |

## AFFECTED MODELS

All models.

## DESCRIPTION

Use a florescent A/C leak detecting tracer dye and light for finding minute, intermittent leaks.

**NOTE:** Most electronic leak detectors can detect small steady leaks, but are ineffective on minute, intermittent leaks.

## WHEN USING A/C TRACER DYE METHOD:

1. Follow the A/C tracer dye manufacturers instructions.

**NOTE:** Different manufacturers have different methods for installing, measuring and diagnosing with their particular product.

## CAUTION:

- Use only a tracer dye that is compatible with the type of refrigerant and oil in the vehicle's A/C system.
- Tracer dye can lead to misdiagnosis and unnecessary parts replacement if used improperly.

2. After repairing the leak, clean the area that is covered with A/C tracer dye.

**NOTE:** This will prevent a future technician from mistaking this residue as a current leak.

3. When diagnosing an A/C leak on a vehicle that previously had tracer dye installed, thoroughly clean the suspected area and re-verify the leak prior to repairing.
4. After repairing the leak, evacuate and recharge the system as outlined in the workshop manual.

**NOTE: DO NOT** add additional A/C tracer dye when recharging the system.

- Flushing or changing the A/C oil is not necessary.
- Small amounts of the tracer dye will be found in the Recovery / Recycling tank, if recovery is necessary.

## Tracer Dye Suppliers:

| Supplier                | Available At   | Part Number | Note            |
|-------------------------|----------------|-------------|-----------------|
| Spectronics Corporation | (800) 641-1133 | -----       | (Or Equivalent) |
| Ford - Rotunda          | See Dealer     | 112-R0027   | (Or Equivalent) |

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Number:008/97

Date Issued: 05/19/97

Revised:

**Refrigerant / Compressor Oil Reference Chart**

| Model      | Model Year           | Refrigerant | Compressor Oil Type |
|------------|----------------------|-------------|---------------------|
| MX-6 / 626 | 93' and prior        | R12         | ATMOS S150          |
|            | 94' and after        | R134a       | ATMOS GU10          |
| PROTEGE    | 94' and prior        | R12         | ATMOS S150          |
|            | 95' and after        | R134a       | SP10                |
| MIATA      | 93' and prior        | R12         | ND7                 |
|            | 94' and after        | R134a       | ND9                 |
| RX-7       | 94' and prior'       | R12         | ND7                 |
|            | 95'and after         | R134a       | ND9                 |
| MX-3       | 93' and prior        | R12         | ATMOS S150          |
|            | 94' and after        | R134a       | ATMOS GU10          |
| MPV        | 93' and prior        | R12         | ND6                 |
|            | 94' and after        | R134a       | ND8                 |
| MILLENIA   | 95' and after        | R134a       | ATMOS GU10          |
| 929        | 93' and prior        | R12         | ATMOS S150          |
|            | 94' and after        | R134a       | ATMOS GU10          |
| NAVAJO     | 93' and prior        | R12         | ESHM2C31A2          |
|            | 94' and after        | R134a       | WSHM1C231B          |
| B-SERIES   | Built before 9/20/93 | R12         | ESHM2C31A2          |
|            | Built after 9/20/93  | R134a       | WSHM1C231B          |



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|                      |                                         |                                          |                            |
|----------------------|-----------------------------------------|------------------------------------------|----------------------------|
| Category<br><b>U</b> | Applicable Model/s<br><b>All Models</b> | Subject<br><b>A/C O-RING REPLACEMENT</b> | Bulletin No. <b>009/95</b> |
|                      |                                         |                                          | Issued <b>9/21/95</b>      |
|                      |                                         |                                          | Revised                    |

## APPLICABLE MODELS/VINS

All Models

## DESCRIPTION

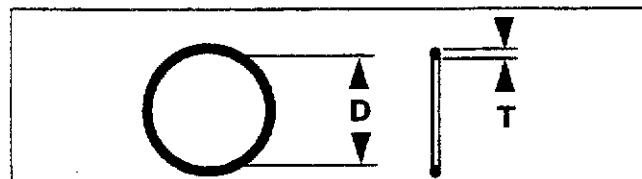
Refer to the illustrations on the attached pages and the chart below when replacing air conditioning system O-rings. These O-rings are designed for use in both R12 and R134 air conditioning systems.

| O-Ring Description |            |                   |                              | O-Ring Quantity Per Vehicle |            |            |            |            |            |               |               |                |                |                |                 |               |               |             |           |           |                  |                  |    |  |
|--------------------|------------|-------------------|------------------------------|-----------------------------|------------|------------|------------|------------|------------|---------------|---------------|----------------|----------------|----------------|-----------------|---------------|---------------|-------------|-----------|-----------|------------------|------------------|----|--|
| O-Ring Code        | Pipe Size  | O-Ring Size D X T | Part Numbers and Kit Numbers | 89-94 323/Protege           | 92-96 MX-3 | 90-93 MX-5 | 94-96 MX-5 | 89-94 RX-7 | 95-96 RX-7 | 89-93 MPV (S) | 94-95 MPV (S) | 88-92 626/MX-6 | 93-96 626/MX-6 | 90-93 B-Series | *94-96 B-Series | *91-94 Navajo | 95-96 Protege | 95 Millenia | 92-93 929 | 94-95 929 | 89-93 MPV (DUAL) | 94-95 MPV (DUAL) |    |  |
| A                  | 8mm        | 6.9 x 1.78        | LB51 61 J1X                  | 5                           | 5          | 4          | 4          | 6          | 6          |               |               | 5              | 5              |                |                 |               | 6             |             |           |           |                  | 14               |    |  |
| B                  | 5/16in     | 6.8 x 1.5         | LB52 61 J1X                  |                             |            |            |            |            |            | 3             | 3             |                |                |                |                 |               |               |             |           |           |                  |                  | 13 |  |
| C                  | 3/8in      | 7.65 x 1.78       | LB53 61 J1X                  |                             |            |            |            |            |            | 1             | 1             |                |                | 4              |                 |               |               |             |           |           |                  | 3                |    |  |
| D                  | 12mm       | 10.8 x 1.78       | LB54 61 J1X                  | 3                           | 3          | 3          | 1          | 2          | 1          | 3             | 2             | 1              | 2              | 2              |                 |               | 2             |             |           |           |                  |                  | 3  |  |
| E                  | 12mm axial | 10.8 x 2.4        | LB55 61 J1X                  |                             |            |            | 1          | 1          |            | 1             |               |                |                |                |                 |               |               |             |           |           |                  | 11               |    |  |
| F                  | 16mm       | 14.0 x 1.78       | LB56 61 J1X                  | 2                           | 2          | 3          | 2          | 3          | 2          | 2             | 1             | 3              | 3              | 4              |                 |               | 3             |             |           |           |                  |                  | 9  |  |
| G                  | 16mm axial | 13.4 x 2.4        | LB57 61 J1X                  |                             |            |            | 1          | 1          |            | 1             |               |                |                |                |                 |               |               | 3           | 3         | 3         |                  |                  |    |  |
| H                  | 3/8in      | 7.36 x 1.80       | ZZL0 61 J19 (KIT)            |                             |            |            |            |            |            |               |               |                |                |                | 3               | 3             |               |             | 3         |           |                  |                  |    |  |
| J                  | 1/2in      | 10.16 x 1.85      |                              |                             |            |            |            |            |            |               |               |                |                |                |                 | 4             | 4             |             |           | 2         |                  |                  |    |  |
| K                  | 5/8in      | 12.95 x 1.85      |                              |                             |            |            |            |            |            |               |               |                |                |                |                 | 3             | 3             |             | 3         | 2         | 2                |                  |    |  |
| L                  | 5/8in      | 6.1 x 1.8         | C003 61 J17                  |                             |            |            |            |            |            |               |               |                |                |                |                 |               |               | 4           |           | 5         |                  |                  |    |  |

**NOTE:** Part numbers ending in "J1X" are delivered in quantities of 10.

\* These vehicles are equipped with Ford air conditioning systems. O-rings for these systems are supplied as a kit (P/N ZZL0 61 J19). The kit contains 96 O-rings (24 o-rings each of the sizes listed above and 24, 3/4 inch O-rings).

The illustration to the right indicates where the O-ring is measured to determine diameter and thickness. Use this information and the chart above to identify the proper part if the O-rings are accidentally mixed.



**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

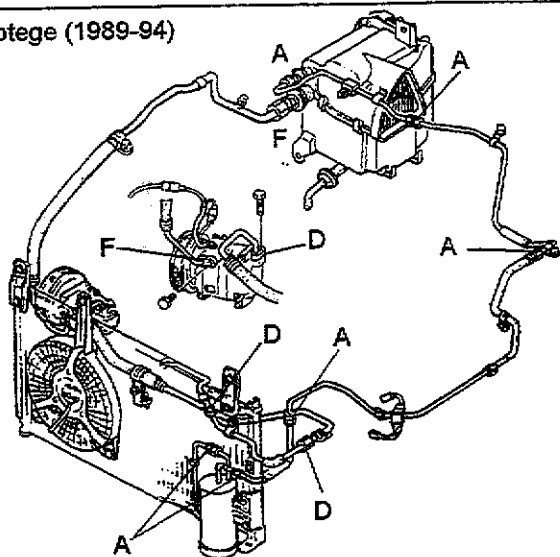
Service Manager

Signature \_\_\_\_\_

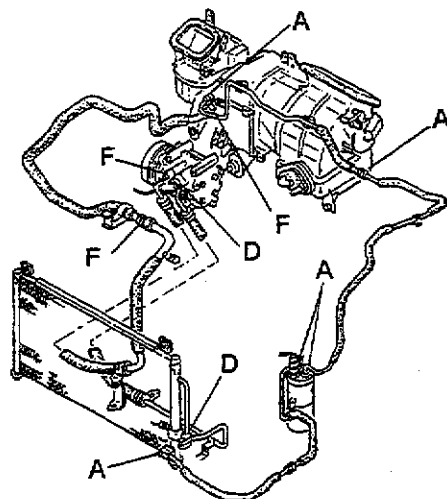
Parts Manager

**059759**

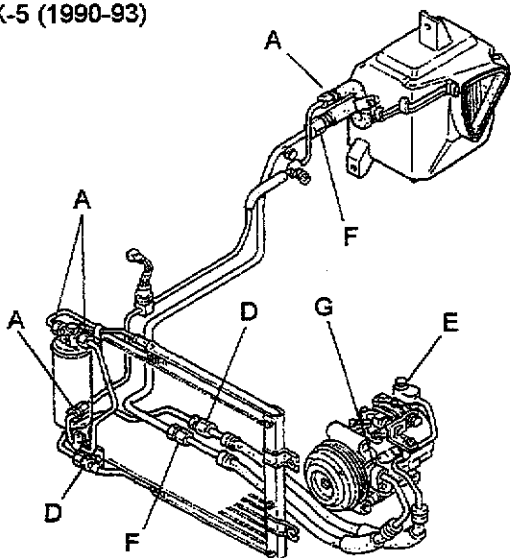
Protege (1989-94)



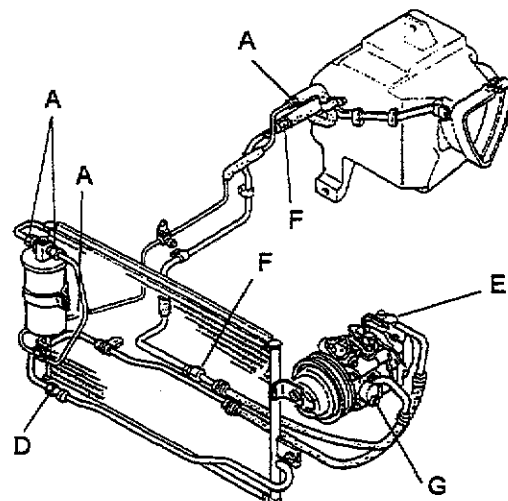
Protege (1995)



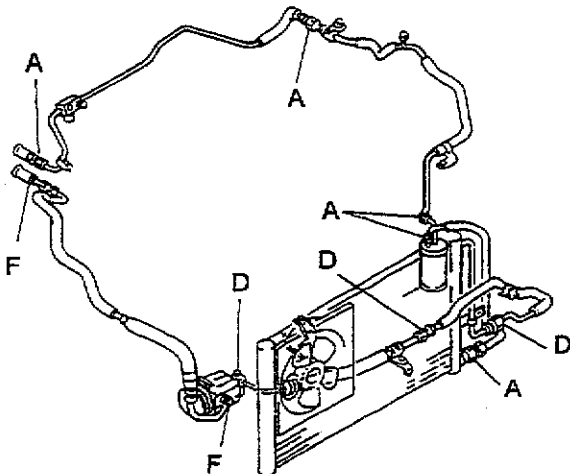
MX-5 (1990-93)



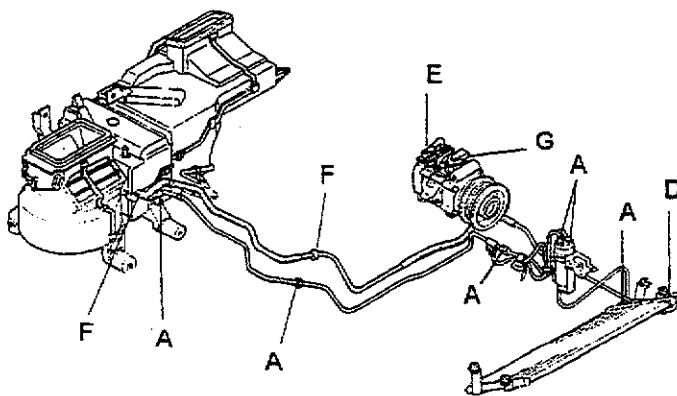
MX-5 (1994-95)



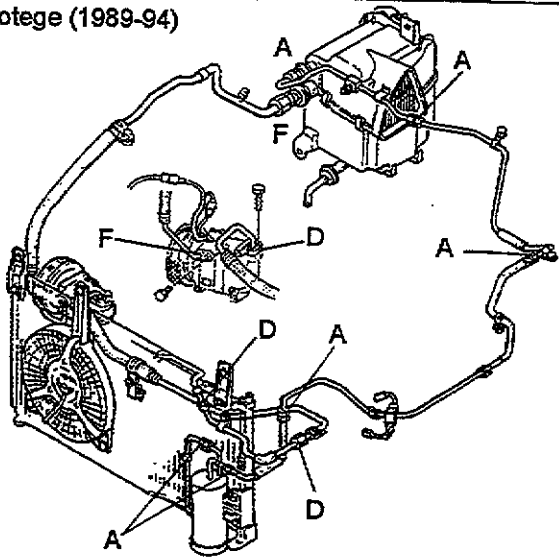
MX-3 (1992-96)



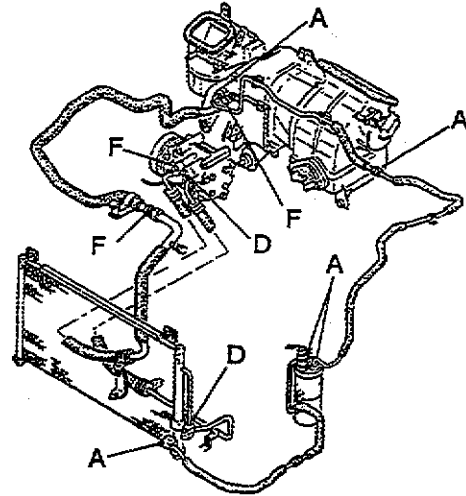
RX-7 (1993-96)



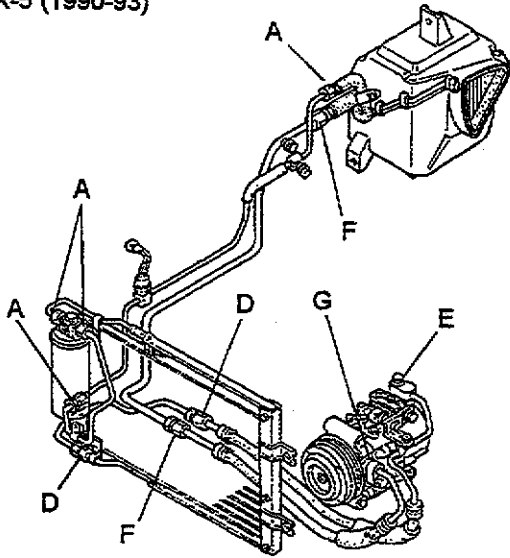
Protege (1989-94)



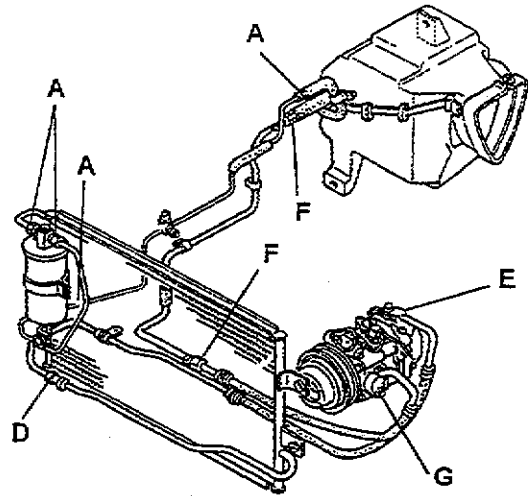
Protege (1995-96)



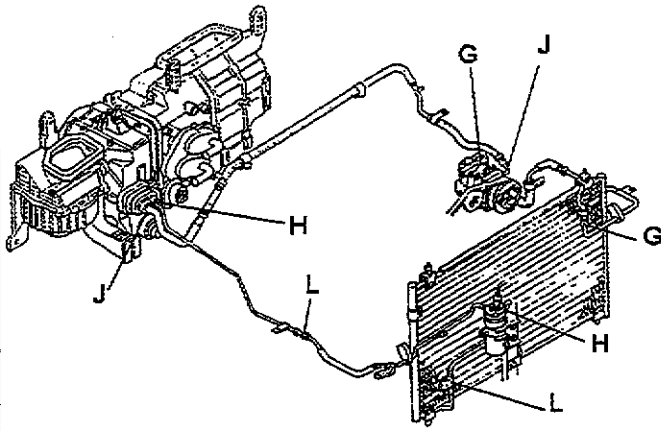
MX-5 (1990-93)



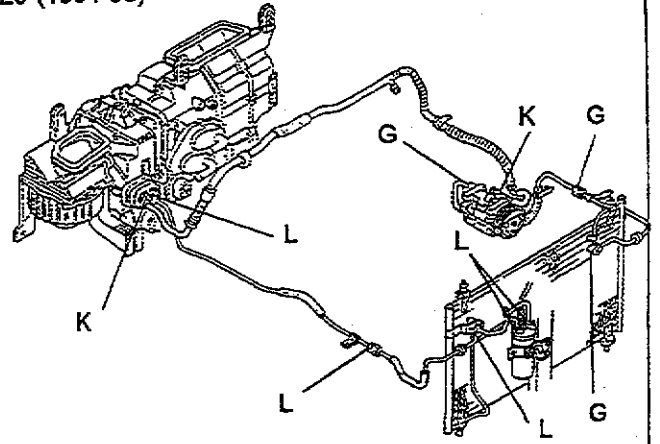
MX-5 (1994-96)



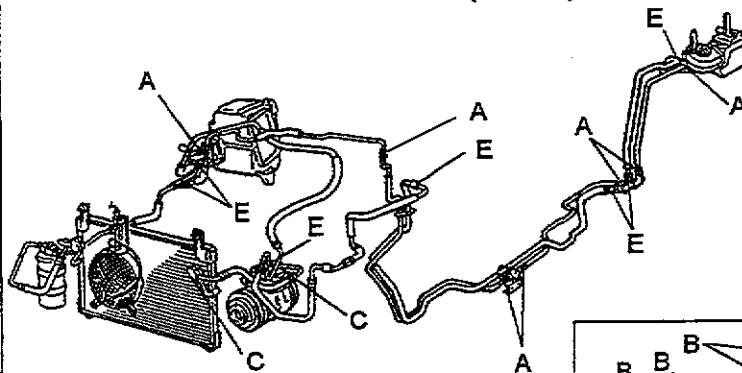
929 (1992-93)



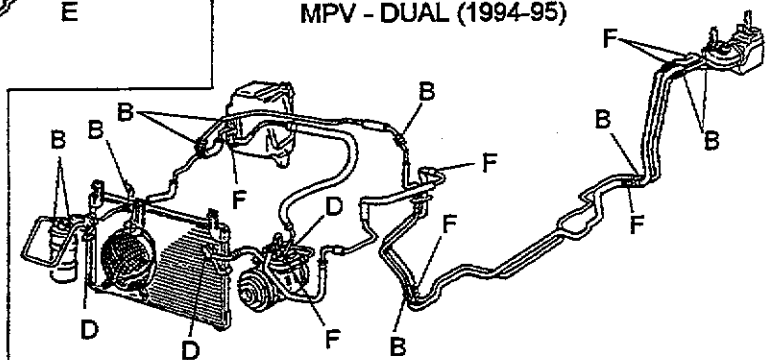
929 (1994-95)



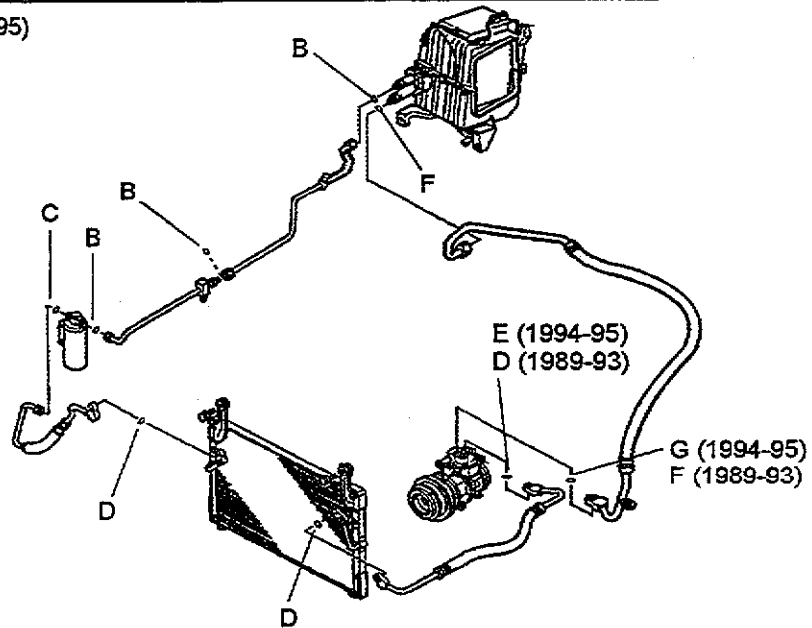
MPV - DUAL (1989-93)



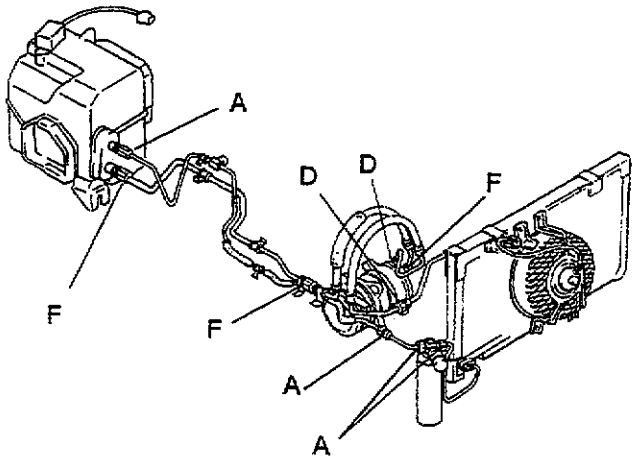
MPV - DUAL (1994-95)



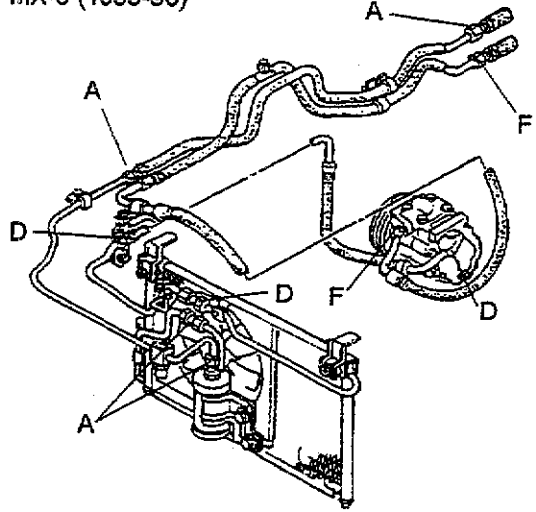
MPV Single A/C (1989 - 1995)



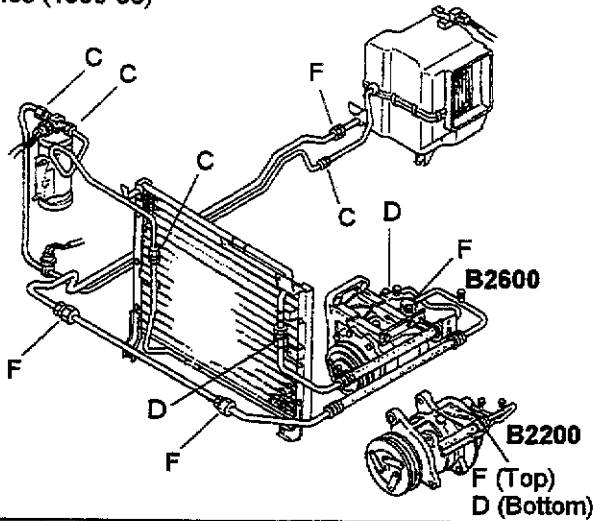
626 / MX-6 (1988-92)



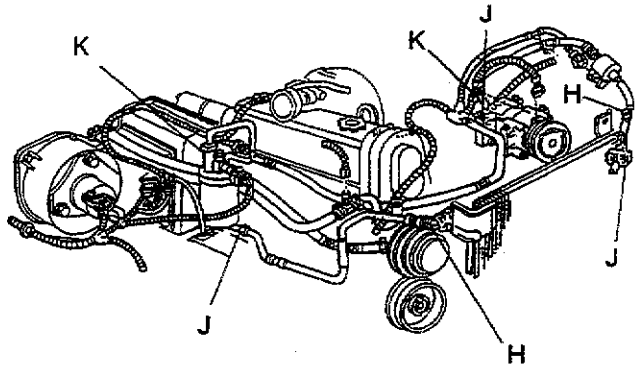
626 / MX-6 (1993-96)



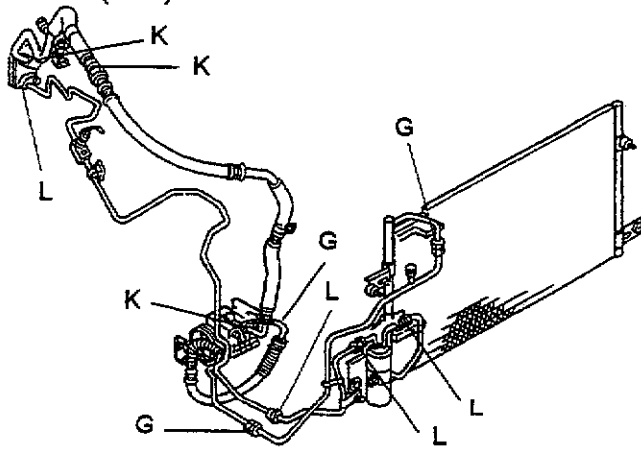
B-Series (1990-93)



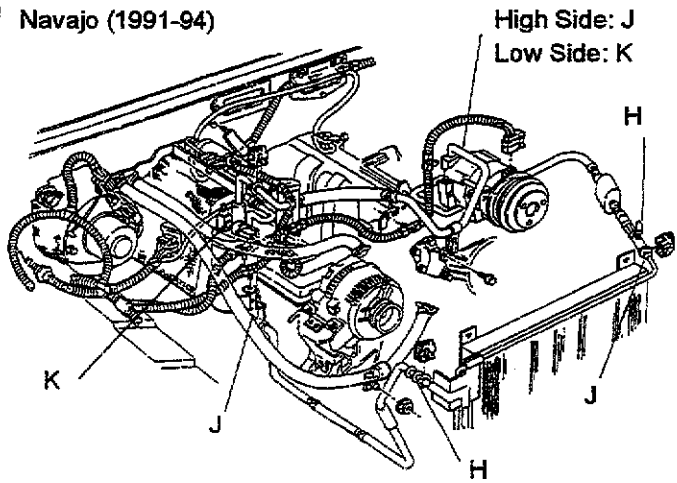
B-Series (1994-96)



Millenia (1995)



Navajo (1991-94)



# Service Bulletin

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Telephone (714) 727-1990



|               |                                  |                                                |                     |
|---------------|----------------------------------|------------------------------------------------|---------------------|
| Category<br>U | Applicable Model/s<br>All Models | Subject<br>USE OF R-12 REFRIGERANT SUBSTITUTES | Bulletin No. 009/96 |
|               |                                  |                                                | Issued 10/21/96     |
|               |                                  |                                                | Revised             |

## APPLICABLE MODELS

All Models

## DESCRIPTION

Mazda Corporation does not approve of using substitute R-12 refrigerants when an A/C system requires charging. Use of these products may result in component damage and loss of warranty.

If service is required on a vehicle with an R-12 system, use only new or known good recycled refrigerant.

**NOTE:** A/C systems designed to operate on R-134a can be recharged using only HFC-134a.

Using R-12 substitutes may result in a hazardous condition and/or A/C component damage.

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools / equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership.

# Service Bulletin

Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
Telephone (714) 727-1990



|               |                                              |                                       |                     |
|---------------|----------------------------------------------|---------------------------------------|---------------------|
| Category<br>W | Applicable Model/s<br>1986-'88 & '93<br>RX-7 | Subject<br>WORKSHOP MANUAL CORRECTION | Bulletin No. 028/92 |
|               |                                              |                                       | Issued 7/23/92      |
|               |                                              |                                       | Revised             |

## DESCRIPTION

Attached are pages for the 1986-'88 RX-7 Workshop Manuals which provide clear fuel system inspection procedures.

Please replace the current pages with the replacement pages provided.

- 1986 RX-7  
4-50  
4-50-1
- 1987 RX-7  
4A-68
- 1988 RX-7  
4A-68-1

Also attached are pages for the 1993 RX-7 Workshop Manual which required corrections for the reasons listed.

Please replace the current pages with the replacements provided.

- 1993 RX-7  
J-16 - New extension housing disassembly instructions.  
J-59 - PPF inspection dimensions provided.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

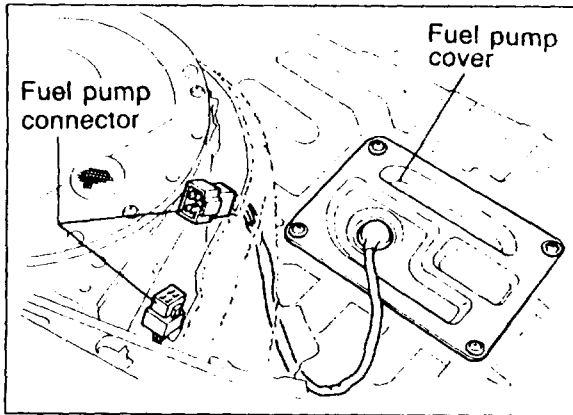
Signature \_\_\_\_\_

Signature \_\_\_\_\_

-----Service Manager

Parts Manager

Index # **030212**



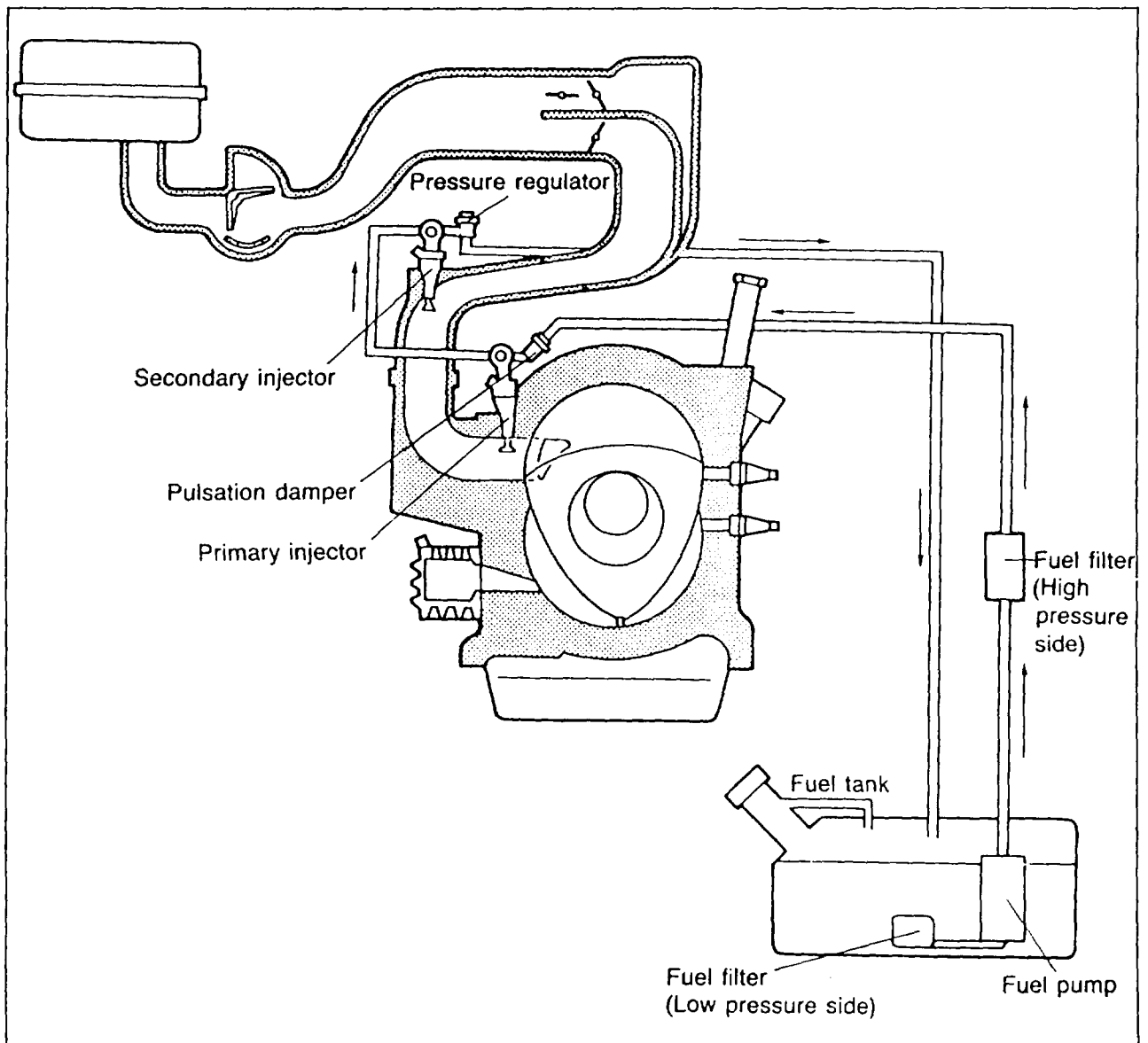
77U04A 255

## FUEL SYSTEM

### FUEL PRESSURE RELEASE AND SERVICING FUEL SYSTEM

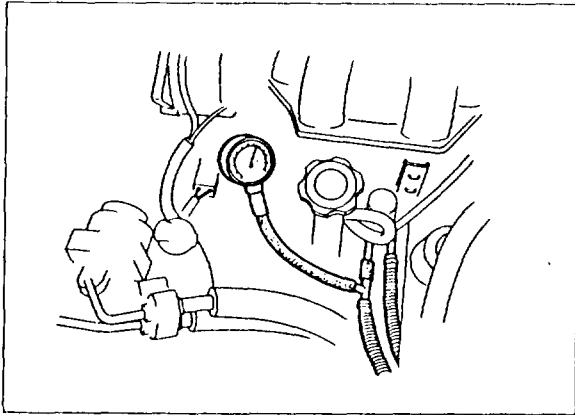
Fuel in the fuel lines remains under high pressure even when the engine is not running.

- a) Before disconnecting a fuel line, release fuel pressure from the fuel lines to eliminate the possibility of injury or fire.
  1. Start the engine.
  2. Disconnect the fuel pump connector with the engine running.
  3. Allow the engine to stall, then turn the ignition switch OFF.
- b) Use a rag to protect from fuel spraying out when disconnecting the hoses, and plug the hoses after removal to prevent leakage.

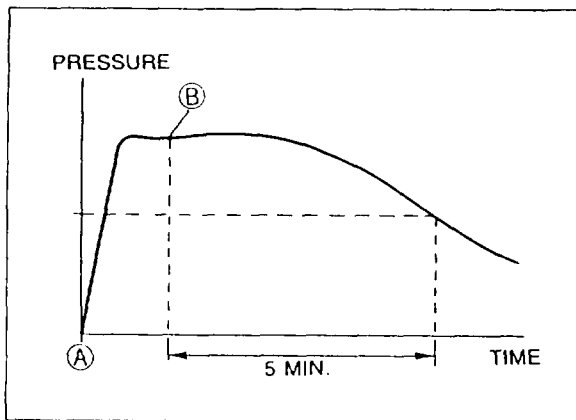


77U04A-227





97U0F1-059



97U0F1-060

## SYSTEM OPERATION

### Warning

Before disconnecting any fuel line, release the fuel pressure from the fuel system to reduce the possibility of injury or fire. (Refer to Page 4-50)

### Hold Pressure Inspection

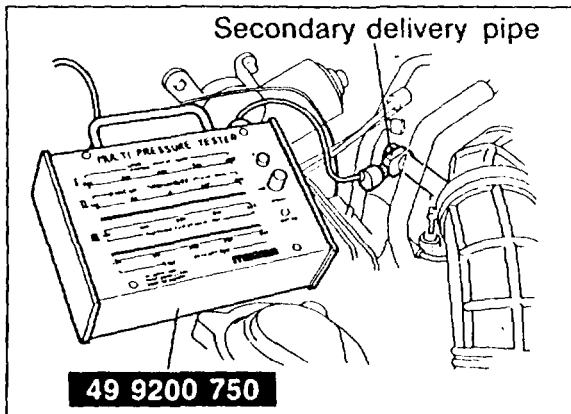
1. Release the fuel pressure from the fuel system.
2. Disconnect the negative battery terminal.
3. Install a fuel pressure gauge between the fuel filter and the pulsation damper.
4. Connect the negative battery terminal.
5. Connect the terminals of the check connector (Yellow: 2-pin) with a jumper wire.
6. Turn the ignition switch ON for 10 sec. to operate the fuel pump (Point A).
7. Turn the ignition switch OFF and disconnect the jumper wire (Point B).
8. Observe the fuel pressure after 15 minutes.

### Fuel pressure

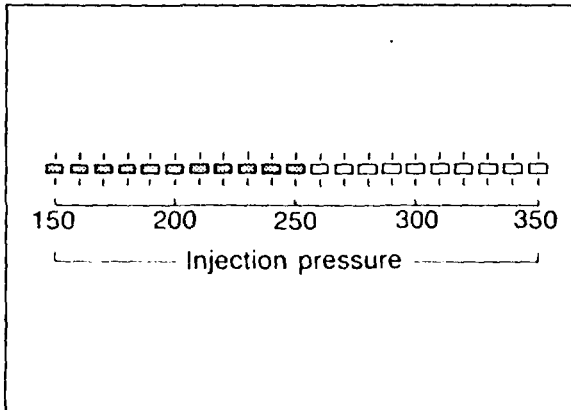
Drop less than 20 Kpa (0.2 kg/cm - 2.8 psi)

9. If not as specified, perform the following inspection.
  - Fuel pump on vehicle inspection. (Refer to page 4-51)
  - Pressure regulator inspection. (Refer to page 4-52)
  - Injector on vehicle inspection. (Refer to page 4-53)

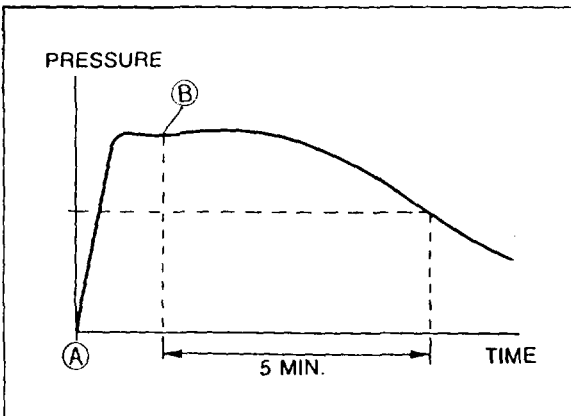
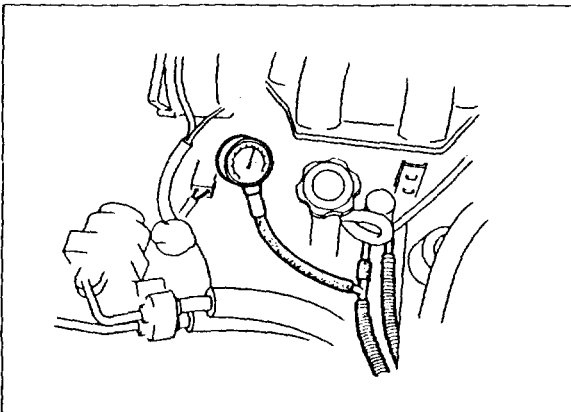
# 4A FUEL SYSTEM



77U04A-250



77U04A-251



97U0F1-060

## Inspection of Injection Pressure

When the trouble is poor acceleration or hesitation, check the injection pressure.

### Warning

- Before performing following procedures, release the fuel pressure to reduce the possibility of injury or fire. (Refer to page 4A-65)
- Check for fuel leakage.

- Connect the multi-pressure tester (49 9200 750)
- Run the vehicle and measure the injection pressure at "III" range of the multi-pressure tester.

### Fuel pressure (Injection pressure)

Approx. 245~255 kPa  
(2.5~2.6 kg/cm<sup>2</sup>, 35.6~37.0 psi)

- If the injection pressure is lower than specifications, check the following points.
  - Fuel pump outlet pressure
  - Fuel filter clog
- If the injection pressure is higher than specifications, check the following points.
  - Fuel return pipe clog
  - Fuel line pressure

## SYSTEM OPERATION

### Warning

Before disconnecting any fuel line, release the fuel pressure from the fuel system to reduce the possibility of injury or fire. (Refer to Page 4A-65)

### Hold Pressure Inspection

- Release the fuel pressure from the fuel system.
- Disconnect the negative battery terminal.
- Install a fuel pressure gauge between the fuel filter and the pulsation damper.
- Connect the negative battery terminal.
- Connect the terminals of the check connector (Yellow: 2-pin) with a jumper wire.
- Turn the ignition switch ON for 10 sec. to operate the fuel pump (Point A).
- Turn the ignition switch OFF and disconnect the jumper wire (Point B).
- Observe the fuel pressure after 15 minutes.

### Fuel pressure

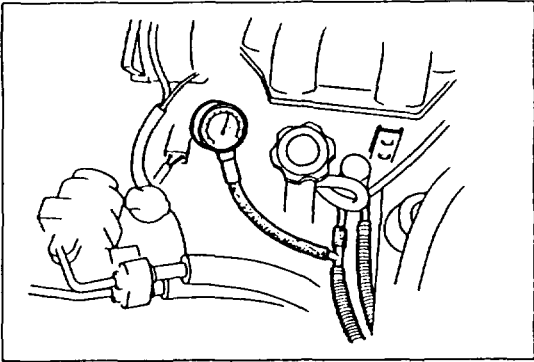
Drop less than 20 Kpa (0.2 kg/cm - 2.8 psi)

- If not as specified, perform the following inspection.
  - Fuel pump hold pressure inspection. (Refer to page 4A-66)
  - Pressure regulator fuel pressure drop. (Refer to page 4A-67)
  - Injector fuel leakage. (Refer to page 4A-70)

## SYSTEM OPERATION

**Warning**

Before disconnecting any fuel line, release the fuel pressure from the fuel system to reduce the possibility of injury or fire. ( Refer to Page 4A-65 )



97U0F1-059

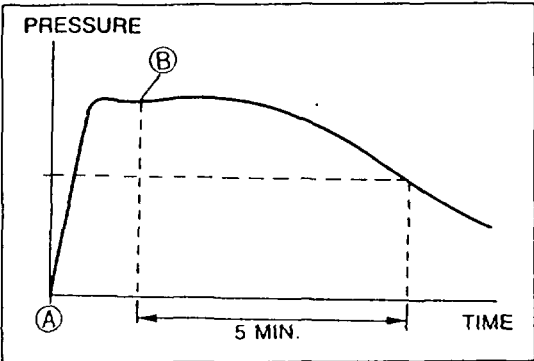
**Hold Pressure Inspection**

1. Release the fuel pressure from the fuel system.
2. Disconnect the negative battery terminal.
3. Install a fuel pressure gauge between the fuel filter and the pulsation damper.
4. Connect the negative battery terminal.
5. Connect the terminals of the check connector (Yellow: 2-pin) with a jumper wire.
6. Turn the ignition switch ON for **10 sec.** to operate the fuel pump (Point A).
7. Turn the ignition switch OFF and disconnect the jumper wire (Point B).
8. Observe the fuel pressure **after 15 minutes**

**Fuel pressure:**

**Drop less than 20 Kpa (0.2 kg/cm<sup>2</sup>- 2.8 psi)**

9. If not as specified, perform the following inspection.
  - Fuel pump hold pressure inspection. (Refer to page 4A-66)
  - Pressure regulator fuel pressure drop. (Refer to page 4A-68)
  - Injector fuel leakage. (Refer to page 4A-70)



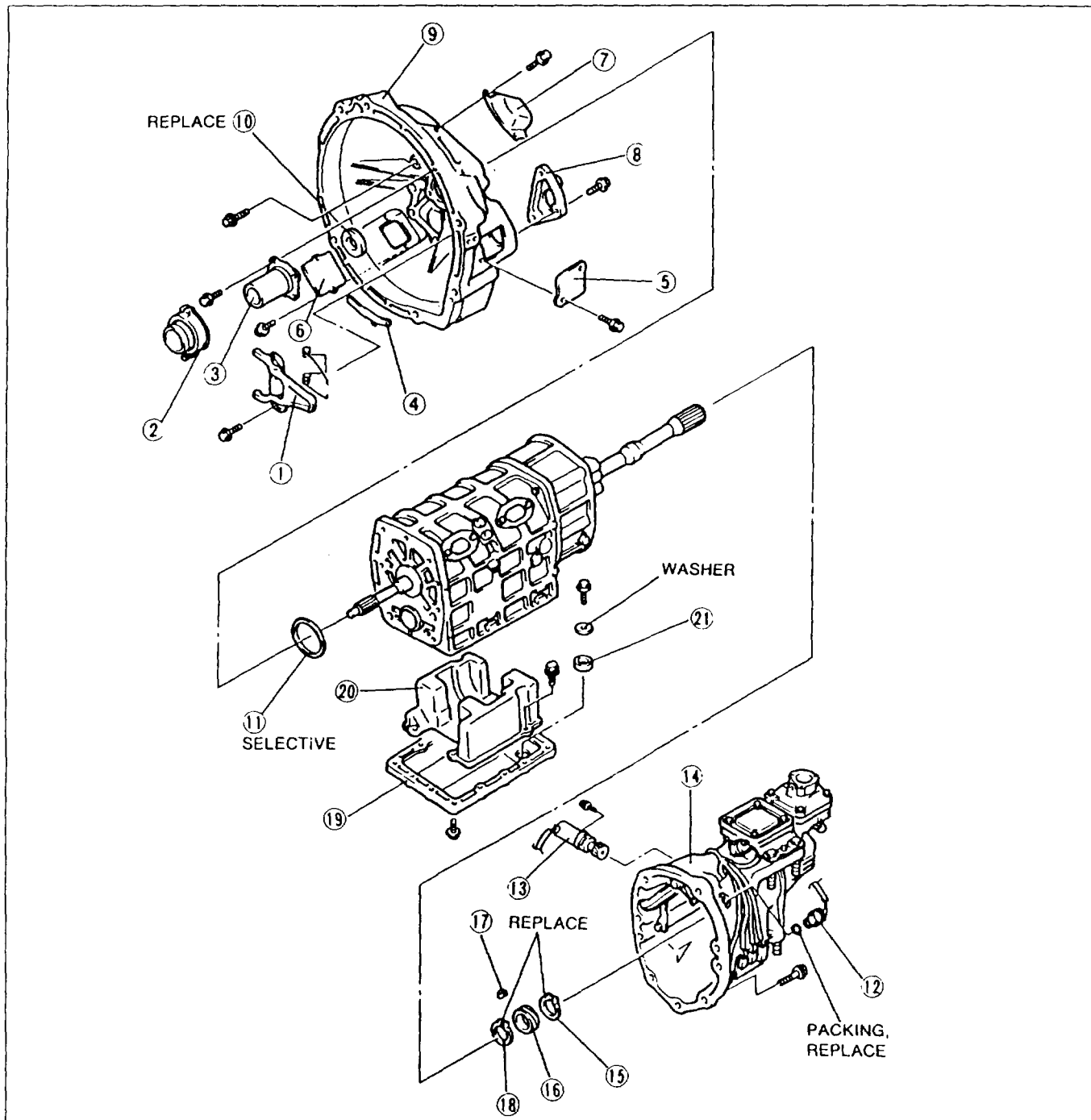
97U0F1-060

Clutch Housing and Extension Housing Components

Note

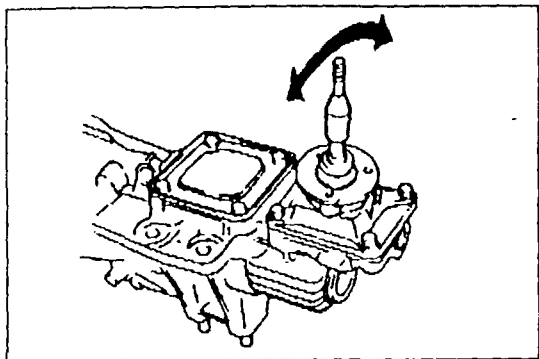
- Do not remove the front and rear oil seals unless necessary.

Disassemble in the order shown in the figure, referring to **Disassembly Note**.



37U0JX-030

- |                             |                                                     |                            |
|-----------------------------|-----------------------------------------------------|----------------------------|
| 1. Release fork assembly    | 10. Oil seal (clutch housing)                       | 16. Speedometer drive gear |
| 2. Release collar           | 11. Adjustment shim                                 | 17. Key                    |
| 3. Front cover              | 12. Back-up light switch                            | 18. Snap ring              |
| 4. Dust cover               | 13. Speedometer sensor<br>(Speedometer driven gear) | 19. Undercover             |
| 5. Service hole A cover     | 14. Extension housing                               | 20. Oil baffle             |
| 6. Service hole B cover     | Disassembly note                                    | 21. Magnet                 |
| 7. Vent cover               | ..... page J-16                                     |                            |
| 8. Release cylinder support |                                                     |                            |
| 9. Clutch housing           | 15. Snap ring                                       |                            |



37U0JX-031

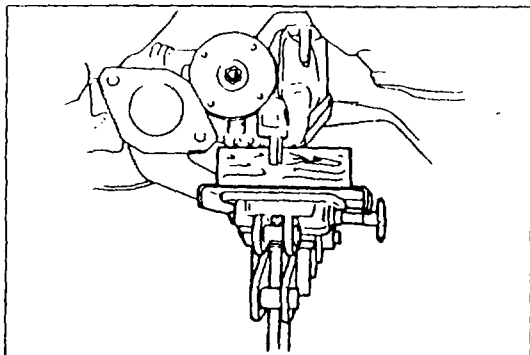
**Disassembly note**  
**Extension Housing**

1. Temporarily reinstall the shift lever, and move the control rod end to the neutral position.
2. Remove the shift lever.
3. Remove the extension housing installation bolts.

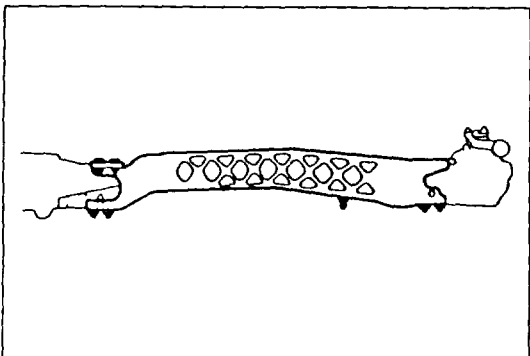
**Caution**

- When removing the extension housing, be careful that the control lever is not pulled into or pushed against the shift rod gates.

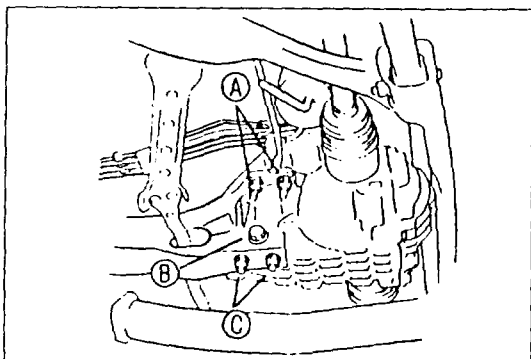
4. Lift up on and remove the extension housing from the center housing.



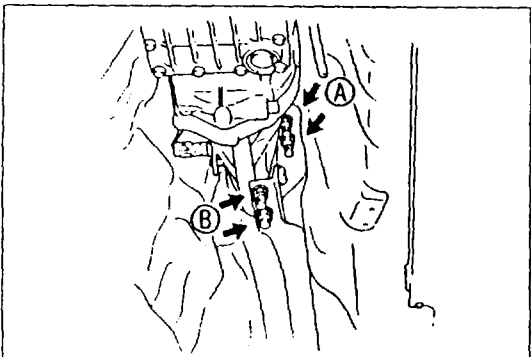
37U0JX-163



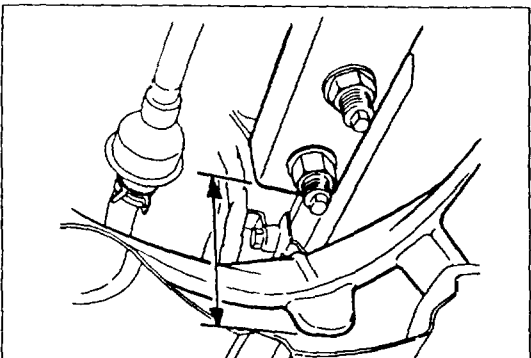
37U0JX-164



37U0JX-165



37U0JX-166



37U0JX-167

**Power plant frame (PPF)**

**Caution**

- Do not reuse PPF installation nuts.

1. Hold the differential at a 0° angle by using the transmission jack.
2. Hold the PPF in place with a new bolt and 8 new nuts.

**Caution**

- Tighten the differential-side PPF installation bolt/nuts first.

3. Tighten the differential-side PPF installation bolt and nuts in the order shown.

**Tightening torque:**

- A, C: 148–176 N·m {15.0–18.0 kgf·m, 109–130 ft·lbf}
- B: 75–93 N·m {7.6–9.5 kgf·m, 55–68 ft·lbf}

4. Tighten the transmission-side PPF installation nuts in the order shown.

**Tightening torque:**

- 148–176 N·m {15.0–18.0 kgf·m, 109–130 ft·lbf}

5. Remove the transmission jack.
6. Lower the vehicle to the ground, and remove the SST (engine supports).

**PPF Measurement Procedure**

Measure the distance from the bottom of the front tunnel reinforcement to the point directly above it on the PPF.

**Standard**

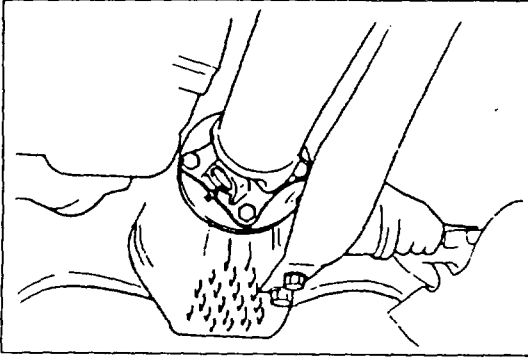
77.1 mm (3.04 in)

**Acceptable range**

72 – 79 mm (2.83 – 3.11 in)

**Caution**

If the distance is not within the acceptable range, readjust the PPF.



37UCJX-168

**Propeller shaft**

1. Align the marks on the flanges (made during removal).
2. Install the propeller shaft.

**Tightening torque:****50–58 N·m {5.0–6.0 kgf·m, 37–43 ft·lbf}**

# Service Bulletin

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Mazda Motor of America, Inc.  
7755 Irvine Center Drive  
Irvine, California 92718  
✓ Telephone (714) 727-1990



|               |                                 |                                                                  |                                                  |
|---------------|---------------------------------|------------------------------------------------------------------|--------------------------------------------------|
| Category<br>Z | Applicable Model/s<br>1993 RX-7 | Subject<br>BODY ELECTRICAL TROUBLESHOOTING<br>MANUAL CORRECTIONS | Bulletin No. 001/93<br>Issued 1/11/93<br>Revised |
|---------------|---------------------------------|------------------------------------------------------------------|--------------------------------------------------|

## DESCRIPTION

Attached are pages for the 1993 RX-7 Body Electrical Troubleshooting Manual which required corrections for the reasons listed below:

### 1993 RX-7

G-38-1 – new page – addition of Heater Control Unit exploded view

J1-46 – revision of the entire page

J1-46-1 – new page – additional audio information

Attach “stick-on” replacement page J1-46 over the old page. Attach “stick-on” new pages G-38-1 and J1-46-1 over the previous pages. The adhesive tape on one side allows the addition of a new page without covering the previous page.

## **NOTE:**

- This bulletin contains replacement pages for one manual. If your dealership has additional manuals in inventory or the service area, replacement pages may be obtained by faxing your requirements to:

MAZDA MOTOR OF AMERICA, INC.  
SUPPORT SERVICES DEPT.  
ATTN: SERVICE PUBLICATIONS COORDINATOR  
FAX #: (714) 454-7010

List the correction bulletin number (shown on upper right hand portion of this page) and quantity required. A limited supply of replacement pages are on hand. Orders will be filled on a first come, first serve basis. Allow 5 working days for delivery.

- Reproductions of the manual will be updated prior to printing. Manuals purchased from current inventory at Helm, Inc. will be supplied with the applicable replacement pages.

**IMPORTANT:** Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

Signature \_\_\_\_\_

Signature \_\_\_\_\_

.....Service Manager

Parts Manager

Index # **034345**

.....

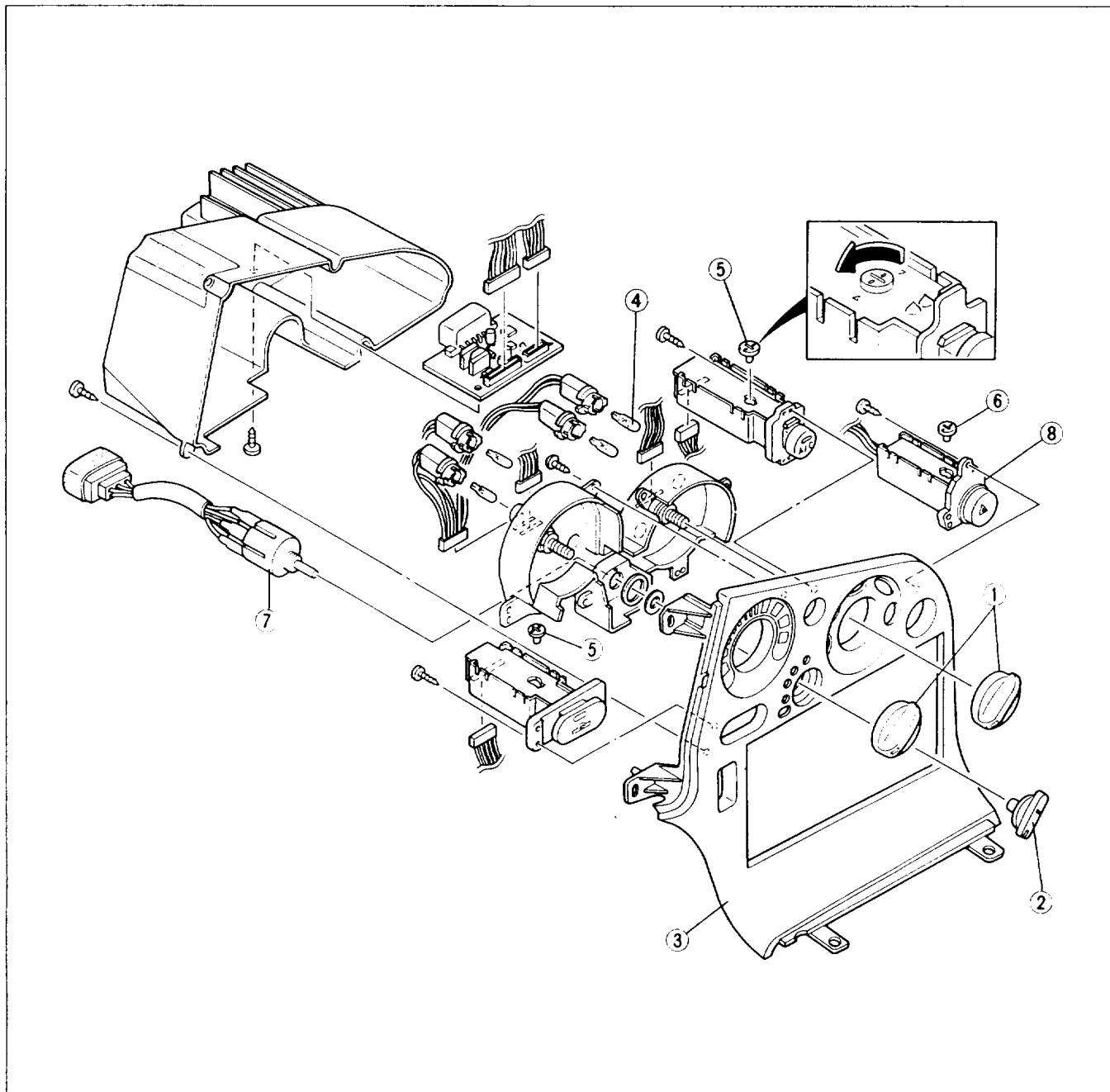


**HEATER CONTROL UNIT****Disassembly / Assembly**

1. Disassemble in the order shown in the figure.
2. Assemble in the reverse order of removal.

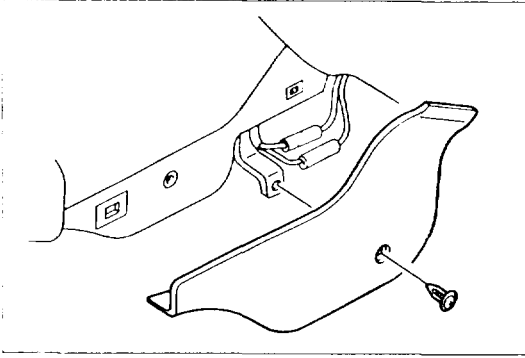
**Caution**

- The Hazard switch must be removed together with the wiring harness after disconnecting the connectors.
- When removing the bulb, turn the socket connector clockwise and pull it straight out.



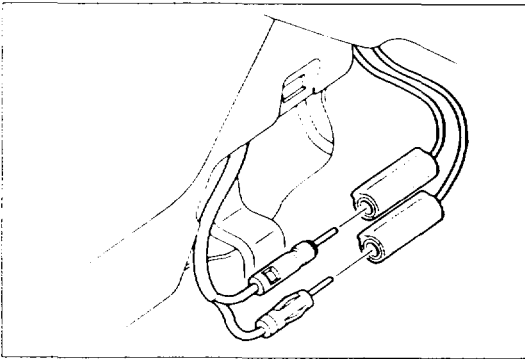
1. Knob No.1 × 2
2. Fan switch knob
3. Panel
4. Bulb (transparent) × 4
5. Bulb (orange) × 2

6. Bulb (red) × 1
7. Fan switch
8. Hazard switch

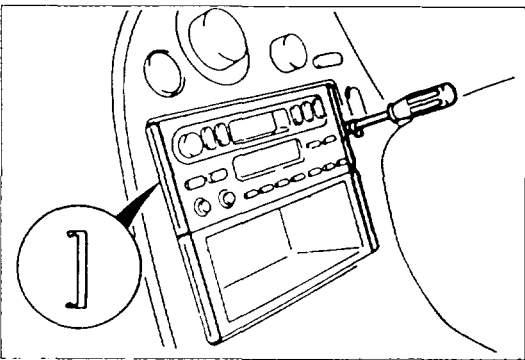


### AUDIO UNIT Removal

1. Remove the right side wall.



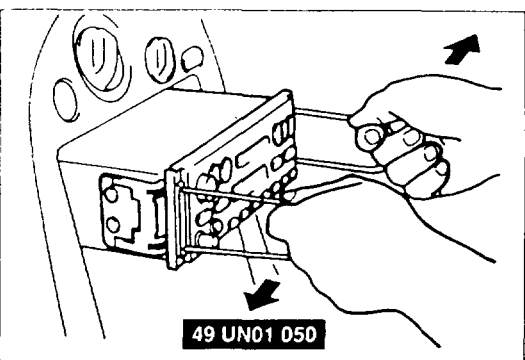
2. Disconnect the two antenna jacks



3. Remove the audio unit service hole covers by using a tape-wrapped screwdriver.

#### Note

- Reuse the service hole covers.



4. While expanding the **SST** outward, pull the audio unit out of the center console.

#### Note

- Remove the audio unit carefully to avoid damaging the wiring harness.

5. Disconnect the connectors and remove the audio unit.

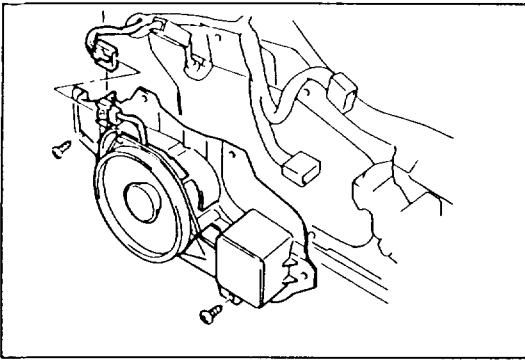
### Installation

1. Install the audio unit service hole covers.  
2. Connect the audio unit connectors and insert the audio unit.

#### Note

- Do not trap the wiring harness.

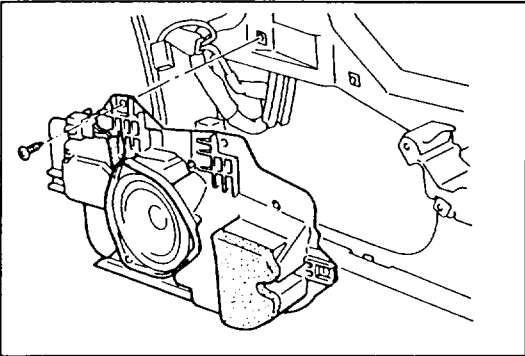
3. Connect the antenna jacks and install the side wall.



37U0T1-844

**DOOR SPEAKER (TYPE 1)****Removal / Installation**

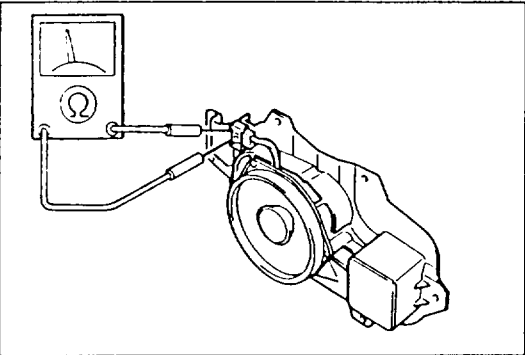
1. Remove the door trim. (Refer to 1993 RX-7 Workshop Manual Section S.)
2. Remove the screws and the door speaker.
3. Install in the reverse order of removal.



37U0T1-845

**DOOR SPEAKER/AMP MODULE (TYPE 2)****Removal / Installation**

1. Remove the door trim. (Refer to 1993 RX-7 Workshop Manual Section S.)
2. Remove the screws and the door speaker/amp module.
3. Install in the reverse order of removal.



37U0T1-846

**Inspection****(Type 1)**

1. Measure resistance between terminals of the speaker.

**Resistance:  $4\Omega$**

2. Touch the ohmmeter leads to the speaker terminals several times and verify that the speaker clicks.

**Range  $\times 1\Omega$**

3. If not as specified, replace the speaker.