

BODY ELECTRICAL SYSTEM

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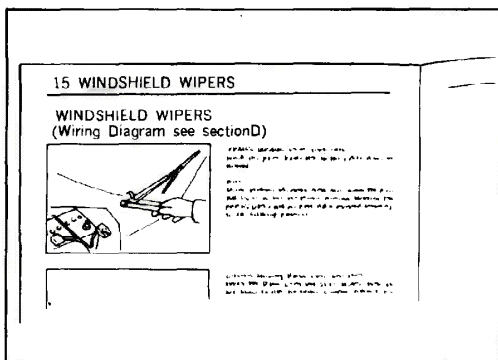
INTRODUCTION

HOW TO USE THIS SECTION

Information regarding removal and installation of electrical equipment is given in **SECTION 14**. Understanding will be easier if this section is used in conjunction with the **1984 MAZDA RX-7 WIRING DIAGRAMS (5026-10-83G)**.

Precaution and electrical symbols are given on pages 15-4 to 15-6, and information regarding fusible links and fuses can be found on page 15-13. It is suggested that the appropriate pages be read carefully before any inspection or other work is attempted.

47U15X-001



57U15X-002

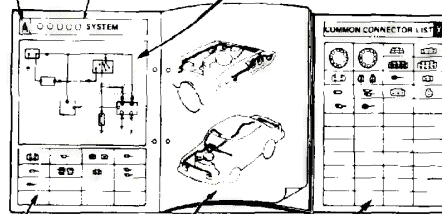
To use this section, first find in the contents the system related to the problem you have, and turn to that page.

There you will find the section guide for the system's wiring diagram and the system title.

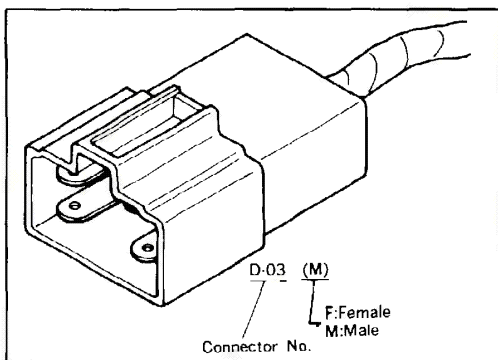
When inspecting the system, open to that section for reference concerning the circuit and connector locations.

WIRING DIAGRAM (An extra manual)

Section mark System name System circuit diagram



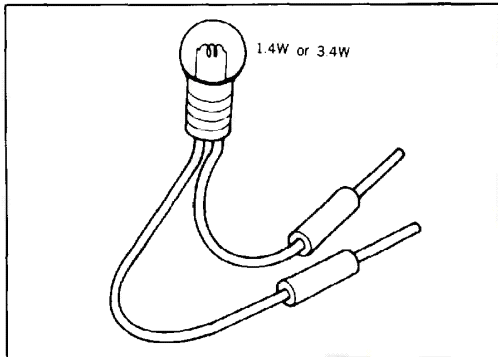
- Connector diagram identifies the exclusive applicable connectors for the circuit.
- Right page illustrates the actual location of each connector and the routing diagram of the harness.
- The last page, "Section X", illustrates common connectors related to each system.



57U15X-003

Next, referring to either the Troubleshooting Guide or the troubleshooting section for the system, you will find one or more probable causes of the problem. After reading, check the applicable circuit and parts.

Connector numbers shown in figures and in the text are the same as those shown in the wiring diagram. By knowing the connector number, therefore, the location of the connector itself can then be determined.



57U15X-004

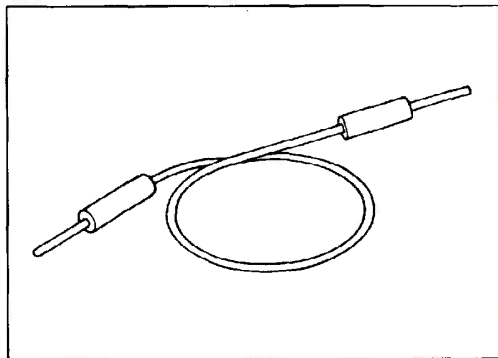
ELECTRICAL TROUBLESHOOTING TOOLS

Test Light

The test light, as shown in the figure, uses a 12-V bulb. The two lead wires should be connected to probes. The test light is used for simple voltage checks and to check for short circuits.

Caution

When checking the control unit, never use over a 3.4W bulb.



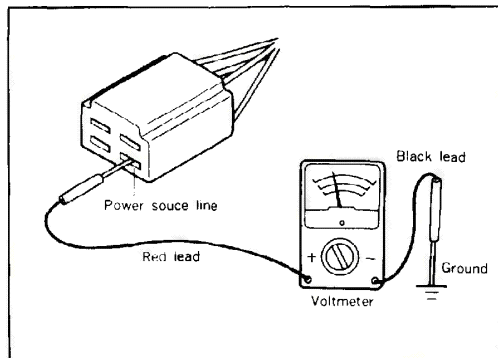
47U15X-005

Jump Wire

The jump wire is used for testing by short-circuiting switch terminals and to verify the condition of ground connections.

Caution

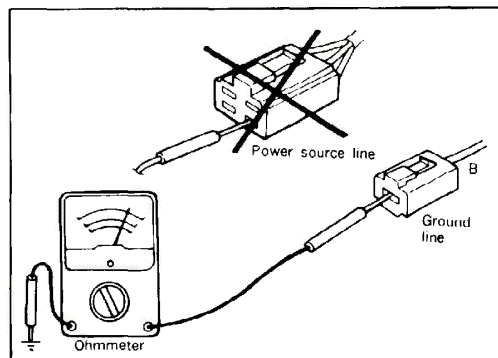
Do not connect the jump wire between the power source line and the body ground, because doing so may cause burning or other damage of harnesses.



47U15X-006

Voltmeter

The DC voltmeter is used for measurement of circuit voltage. A voltmeter with a range of 15 V or more is used. It is used by connecting the positive (+) probe (the red lead wire) to the point where voltage is to be measured and connecting the negative (-) probe (the black lead wire) to the body ground.



47U15X-007

Ohmmeter

The ohmmeter is used to measure the resistance between two points in a circuit, and is also used to check for continuity. It is also used for diagnosis of short circuits.

Caution

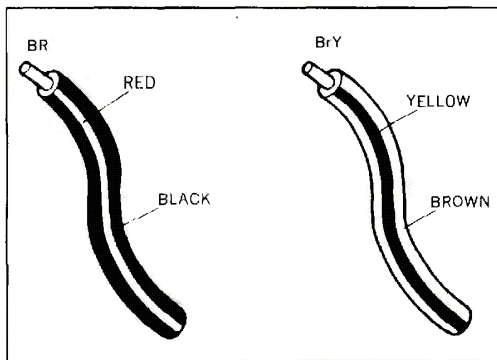
Do not attempt to connect the ohmmeter to any circuit to which voltage is applied, because doing so may burn or otherwise damage the ohmmeter.

PRECAUTIONS

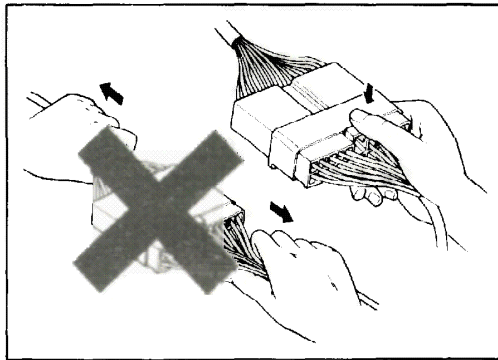
Wiring Color Codes

Two-color wires are indicated by a 2-letter symbol. The first letter indicates the base color of the wire and the second indicates the color of the stripe.

CODE	COLOR
B	BLACK
Br	BROWN
G	GREEN
L	BLUE
Lb	LIGHT BLUE
Lg	LIGHT GREEN
O	ORANGE
R	RED
Y	YELLOW
W	WHITE



47U15X-008



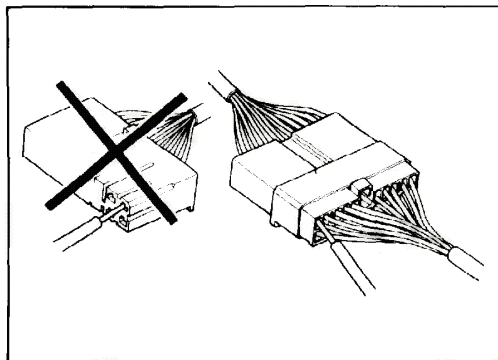
47U15X-009

Handling of Bulkhead-Type Connectors

Removal of the connector

The connector can be removed by pressing the lock lever.

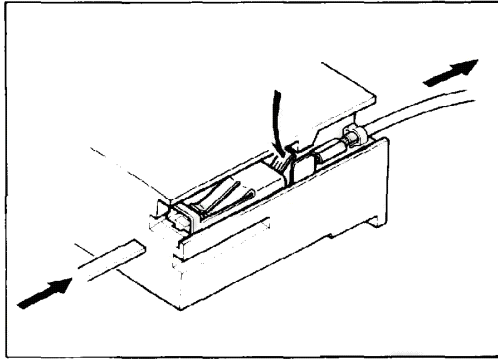
Do not pull the wire when removing the connector; be careful to hold the connector itself when removing it.



47U15X-110

Inspection notes

When a tester is used to check the continuity or to check the voltage, insert the tester probe from the wire harness side.



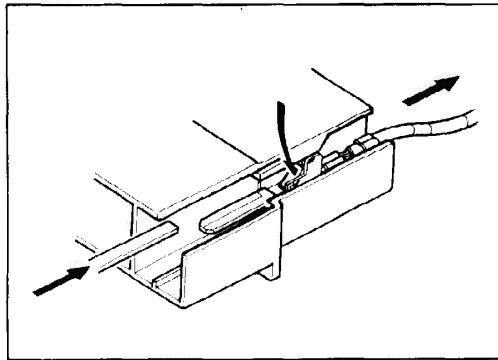
47U15X-011

Replacement of terminals

Use the appropriate tools to remove the terminal, as shown in the figure.
When installing a terminal, be sure to press it in until it locks securely.

< Female type >

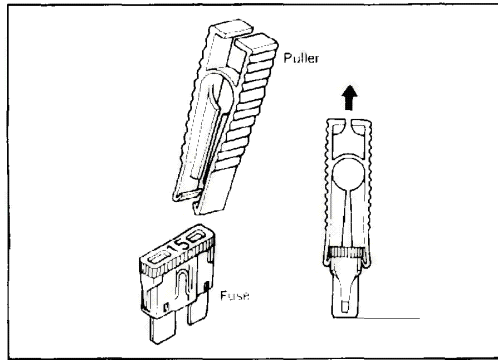
Insert a push-tool or thin piece of metal from the terminal side of the connector, and then, with the locking tabs of the terminal pressed down, pull the terminal out from the rear side.



57U15X-012

< Male type >

Same as the female type.



Replacement of Fuses

When replacing a fuse, be sure to replace it with one of the specified capacity.

If after a fuse has been replaced it fails again, there is probable a short in the circuit, therefore the wiring should be checked.

Cautions

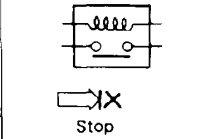
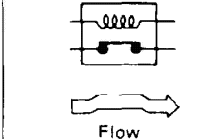
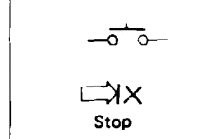
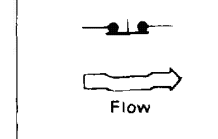
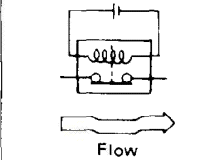
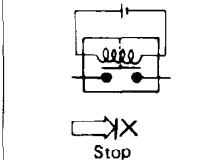
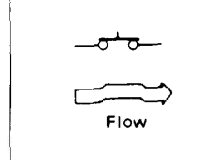
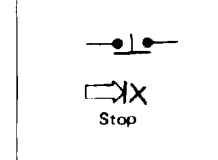
- a) Be sure the ignition key is switched OFF before replacing a fuse.
- b) The included fuse puller should be used when replacing a fuse.

15 INTRODUCTION

ELECTRICAL SYMBOLS



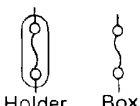



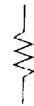
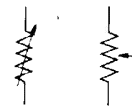
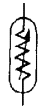



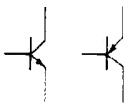



Switch and Relay

There is a NC (normally closed) and NO (normally open) indication for switches and relays; this indication indicates the condition when there has been no change of operation conditions.

	Relay		Switch	
	NO type relay	NC type relay	NO switch	NC switch
Not in operation (No power supply)				
In operation (Power supply)				

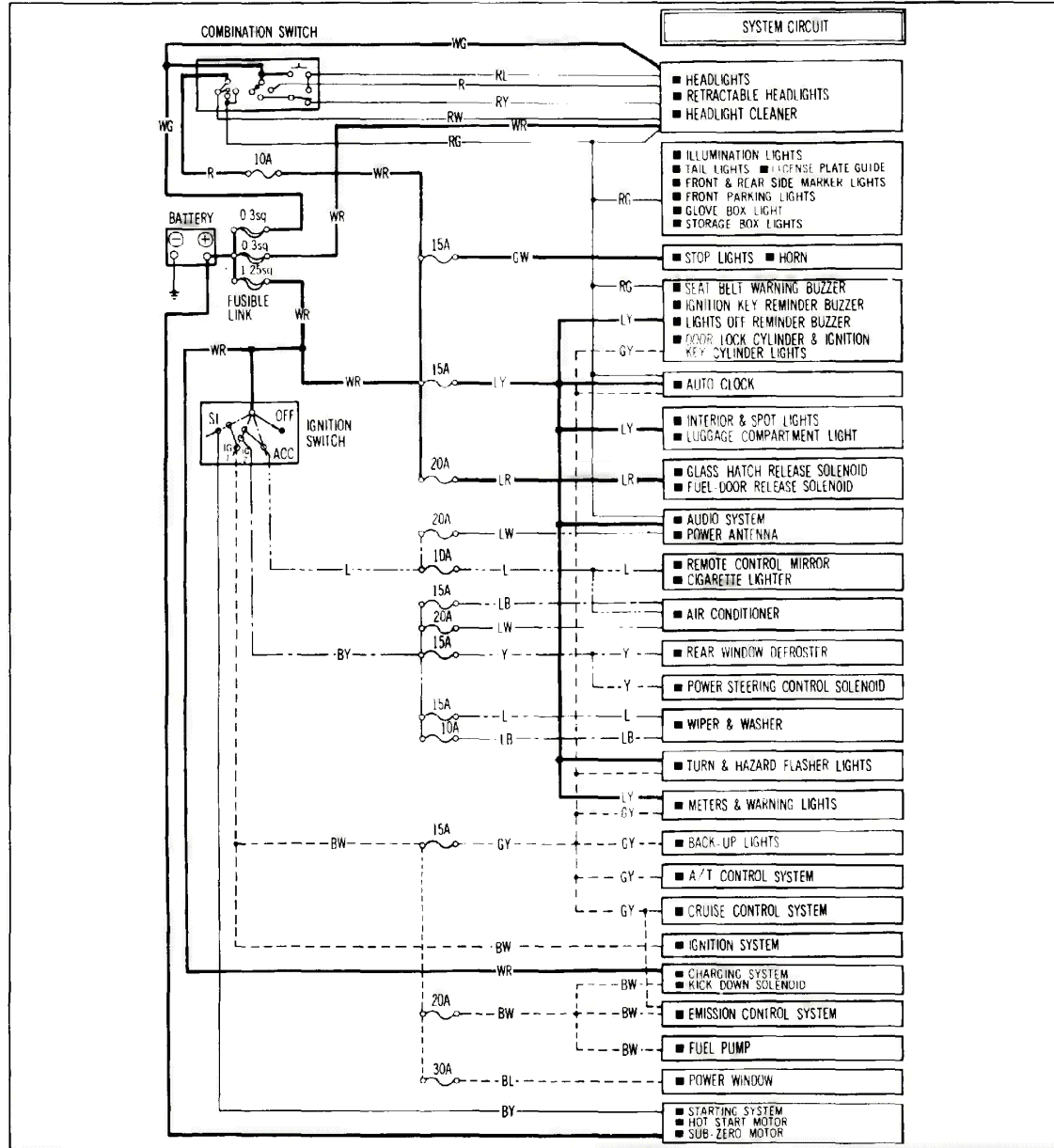
57U15X-013

Other Electrical Symbols

			
BATTERY	BODY GROUND	FUSE	FUSIBLE LINK
			
MOTOR	COIL, SOLENOID	RESISTOR	VARIABLE RESISTOR
			
THERMISTER	DIODE	CONDENSER	LIGHT
			
TRANSISTOR	SPEAKER	CIGARETTE LIGHTER	HEATER

OUTLINE

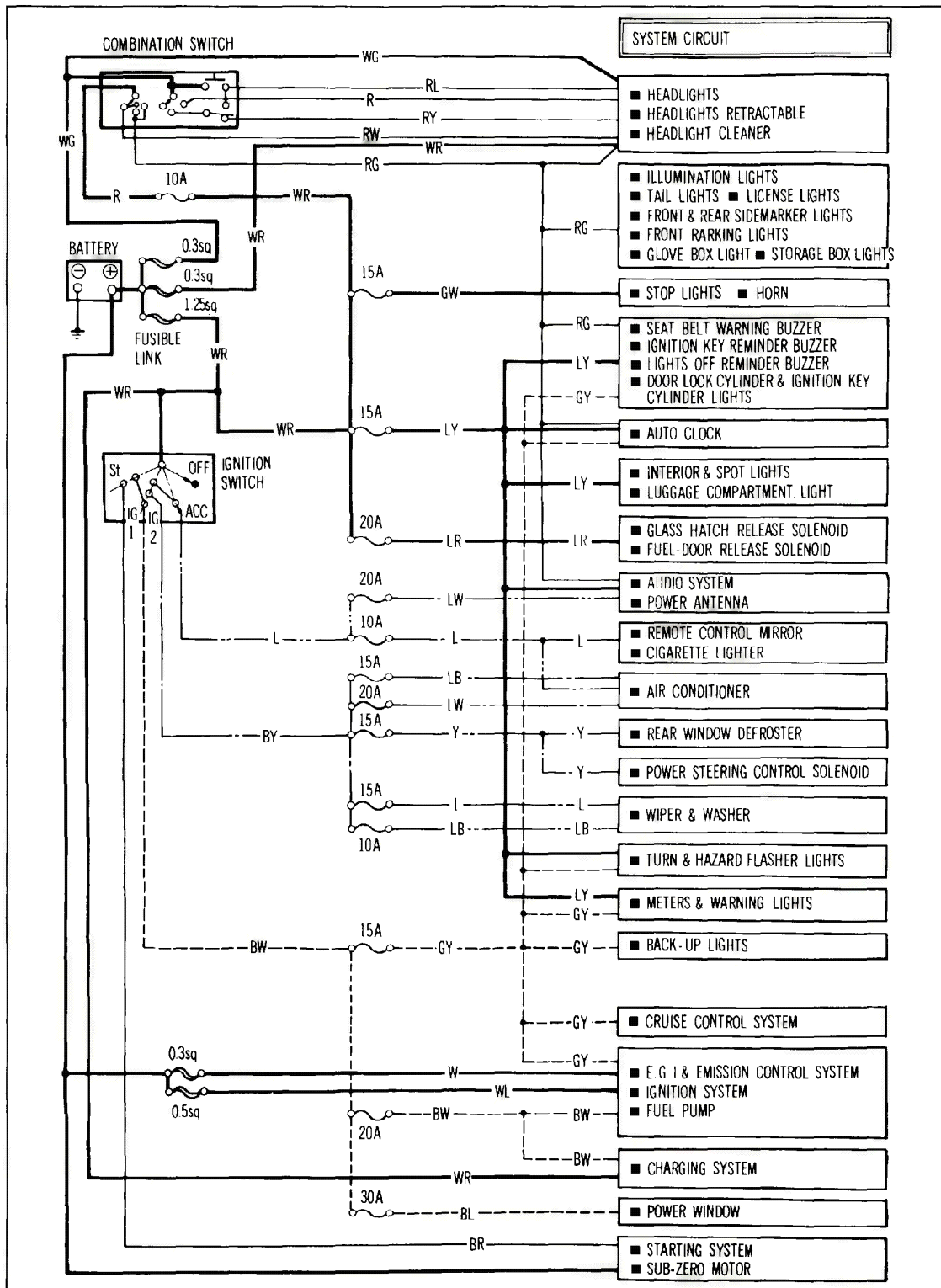
ELECTRICAL WIRING SCHEMATIC (For 12A engine vehicles)



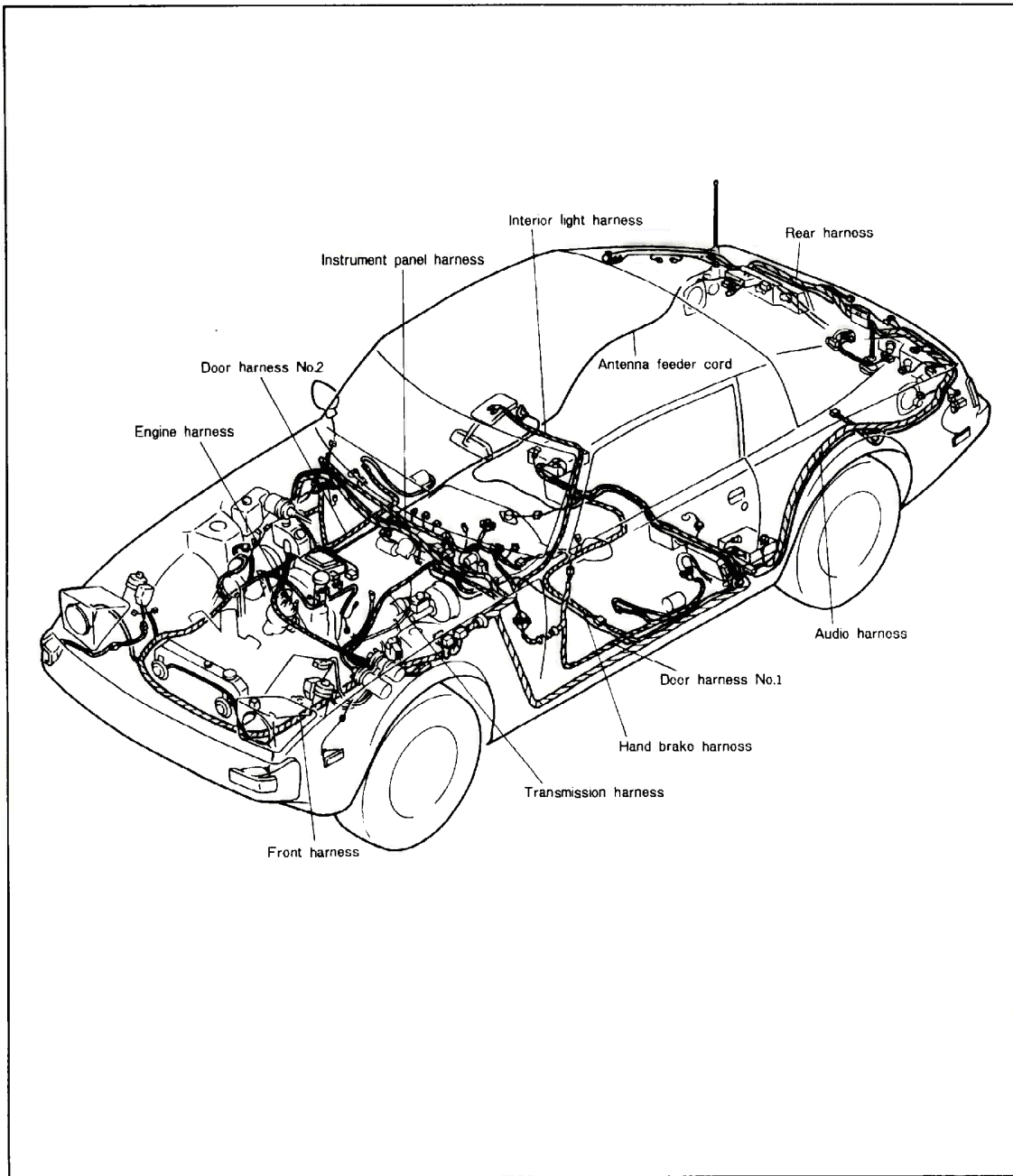
DESCRIPTION OF WIRING HARNESS	SYMBOL
Front harness	[F]
Instrument panel harness	[I]
Rear harness	[R]
Dash harness	[D]
Interior light harness	[In]
Floor harness	[Fr]

- Current from battery
- - - Current from IG terminal of ignition switch
- · - · - Current from ACC terminal of ignition switch
- - - - Others

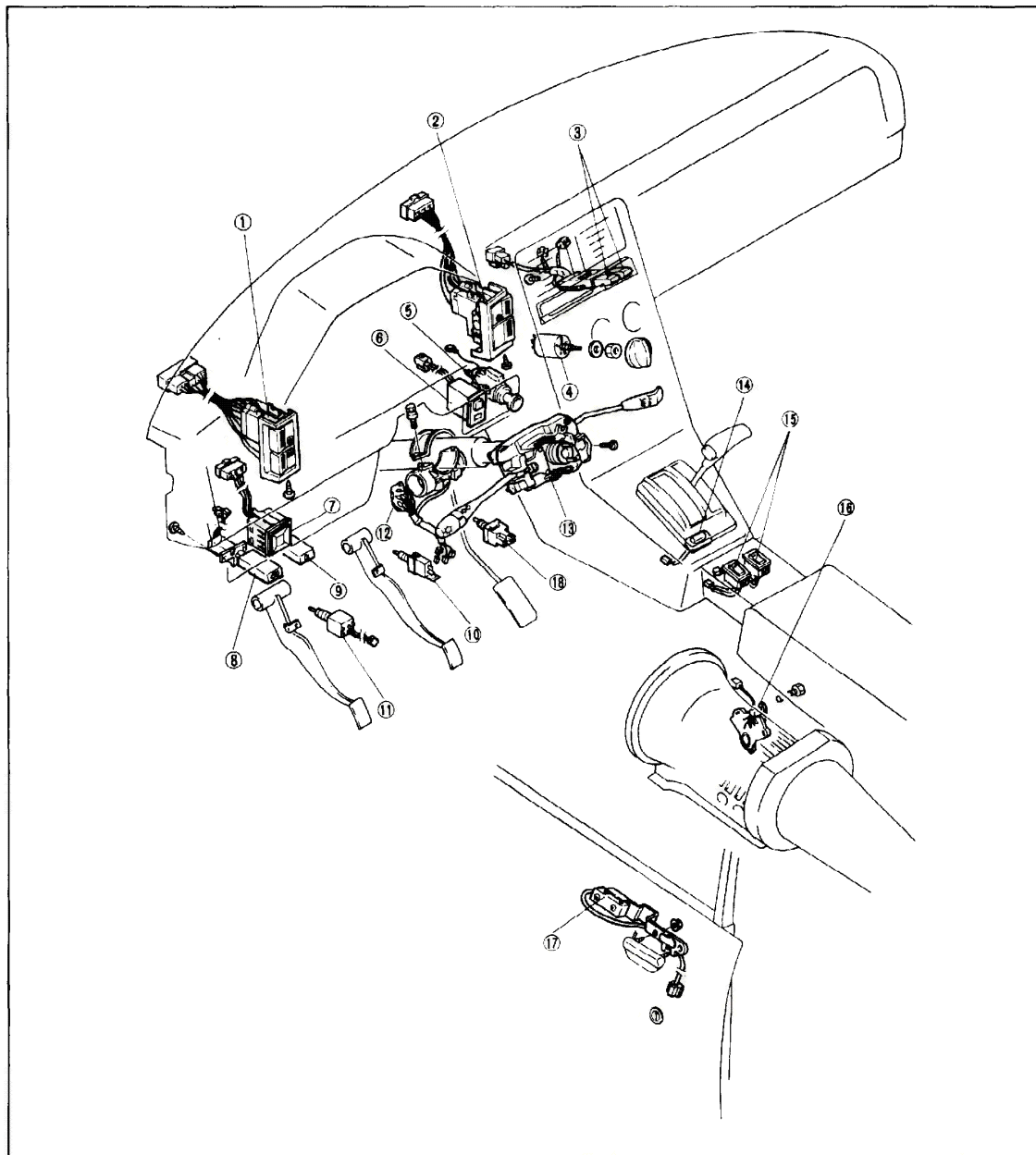
ELECTRICAL WIRING SCHEMATIC (For 13B engine vehicles)



LOCATION OF WIRE HARNESSSES



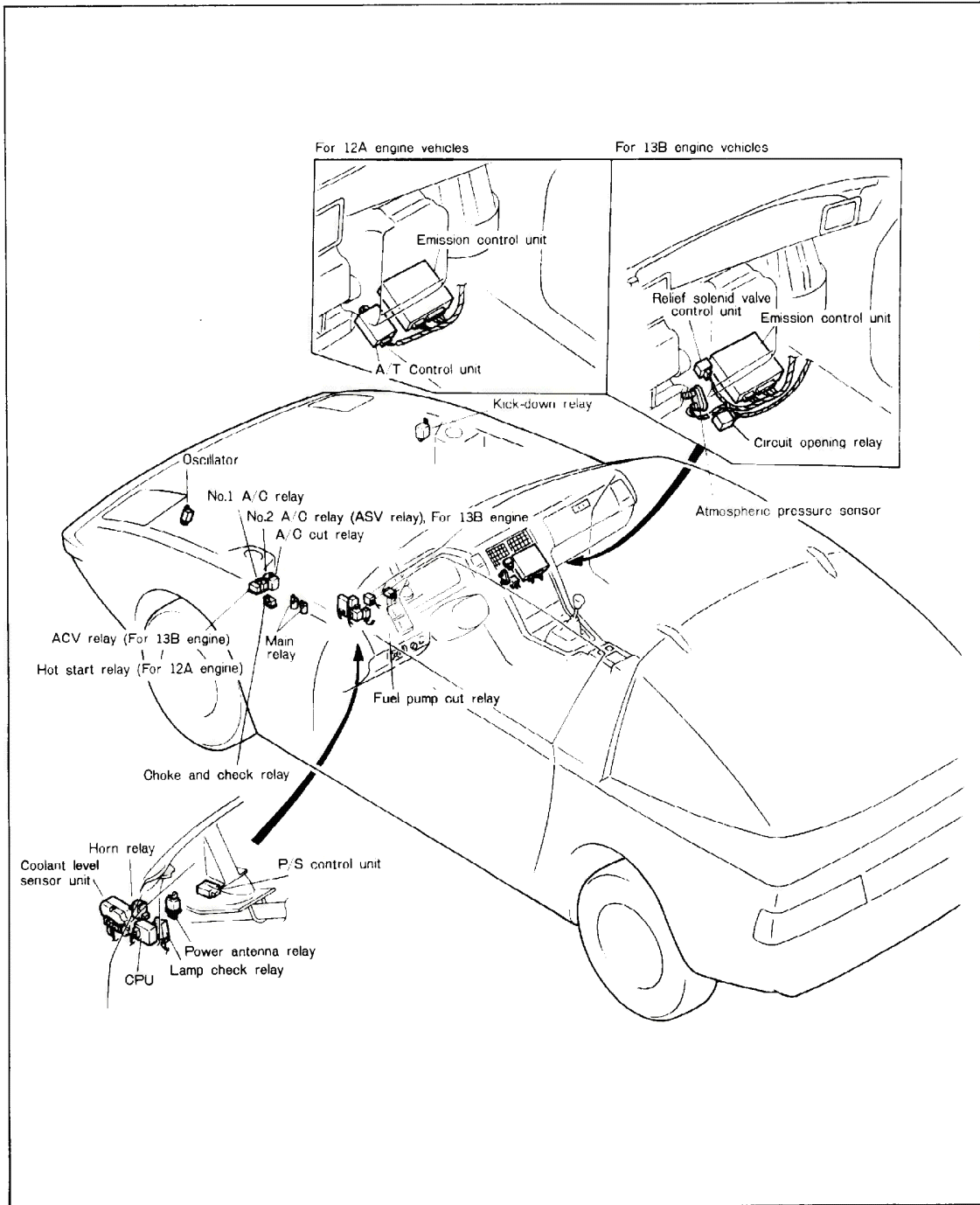
LOCATION OF SWITCHES



- 1 Cluster switch (Hazard, retractable light & head light cleaner)
- 2 Cluster switch (Rear defroster, rear wiper & washer)
- 3 Air con. & mode control switch
- 4 Blower switch
- 5 Cigarette lighter
- 6 Cruise control main switch
- 7 Remote control mirror switch
- 8 Remote glass hatch back release switch
- 9 Remote fuel door release switch

- 10 Stop light switch
- 11 Clutch switch
- 12 Ignition key switch
- 13 Combination switch (Light, turn, wiper & washer, horn)
- 14 Over drive switch (For 4AT vehicle)
- 15 Power window switches
- 16 Inhibitor switch
- 17 Outer door handle switch
- 18 Kick-down switch

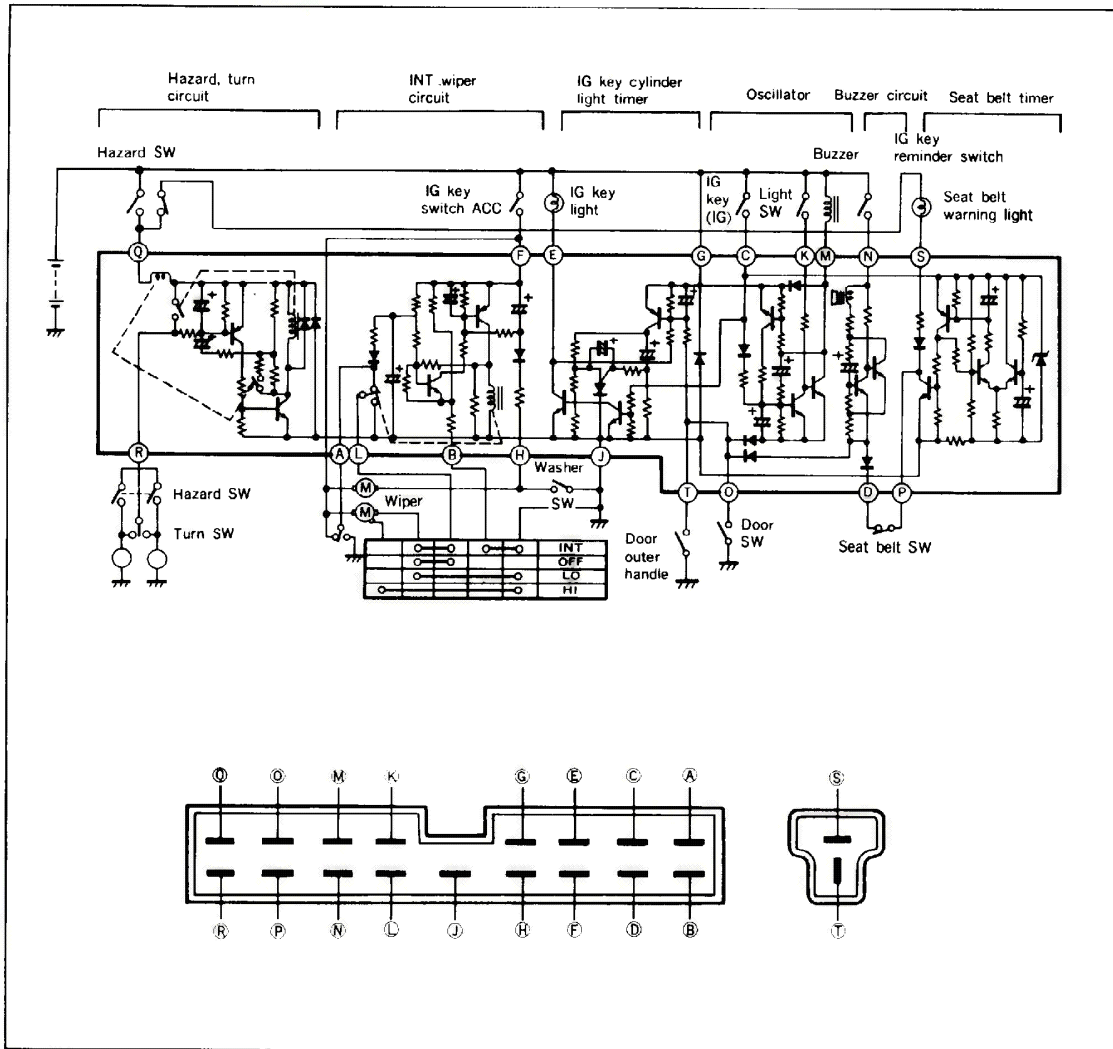
LOCATION OF RELAYS AND SENDER UNITS



15 CENTRAL PROCESSING UNIT

CENTRAL PROCESSING UNIT (CPU)

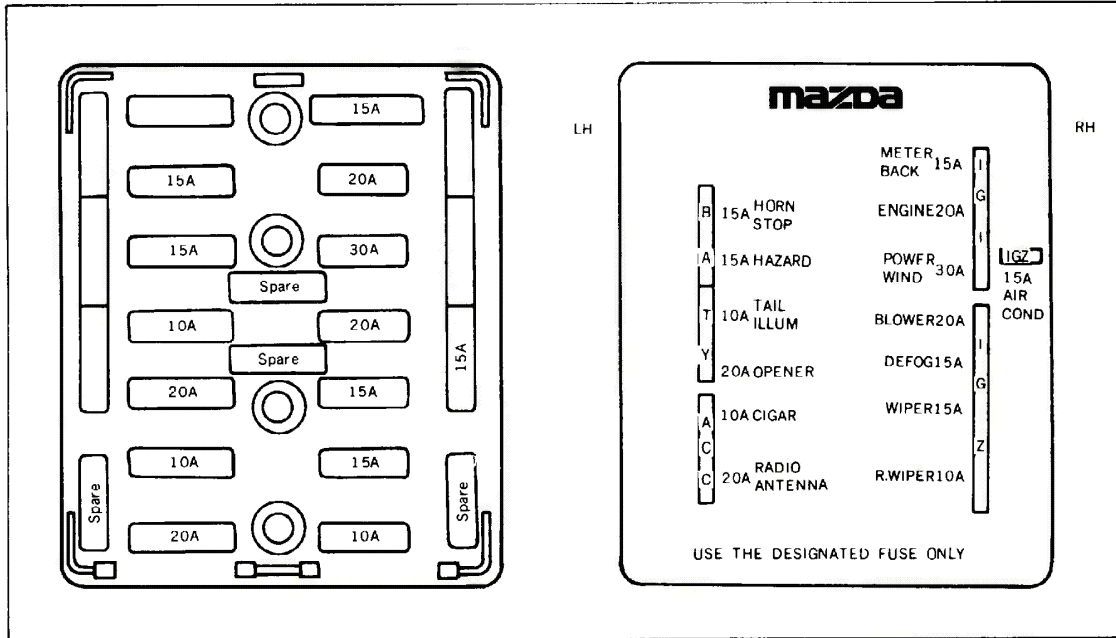
INTER CONNECTING DIAGRAM OF CENTRAL PROCESSING UNIT



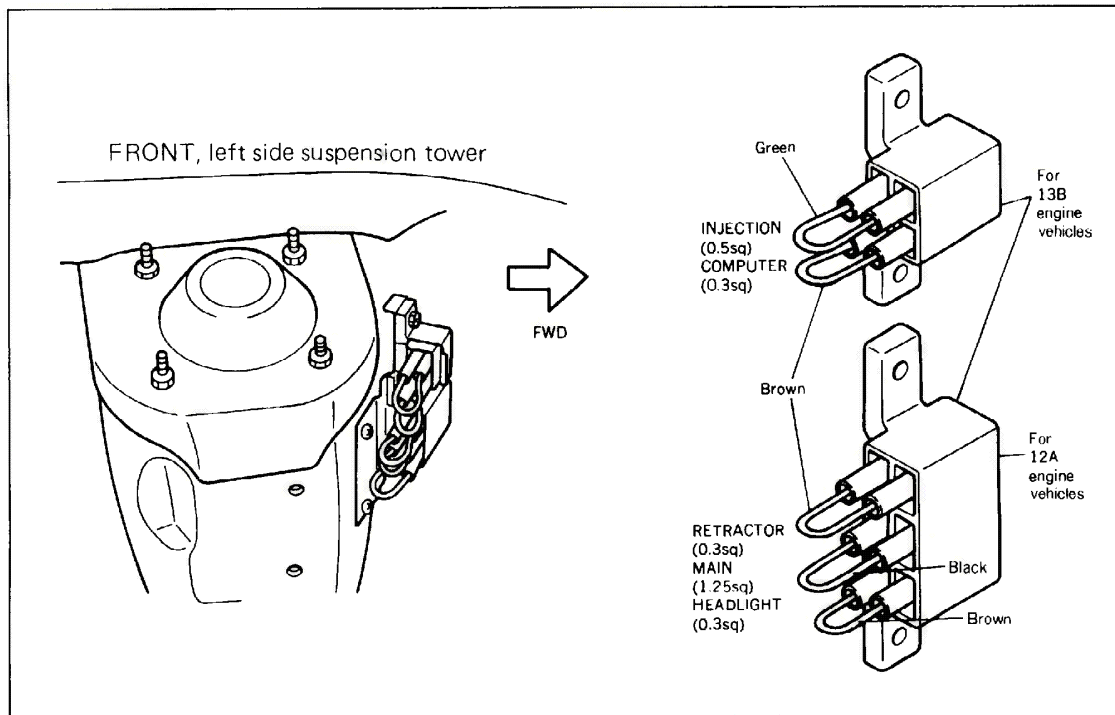
	Wiring color	Connecting to ~		Wiring color	Connecting to ~
A	LB	Wiper motor	L	LG	Combination switch
B	LO	Combination switch	M	G	Buzzer (in the meter)
C	GY	Ignition key switch (IG)	N	G	Ignition key reminder switch
D	Br	Seat belt switch	O	RY	Door switch
E	GL	Door lock cylinder light	P	BrW	Seat belt switch
F	L	Wiper motor	Q	GW	Hazard switch
G	Y	Battery	R	GB	Hazard switch
H	LY	Combination switch	S	GB	Seat belt warning light
J	B	Ground	T	W	Door handle switch
K	RG	Light switch	—	—	—

FUSES, FUSIBLE LINKS

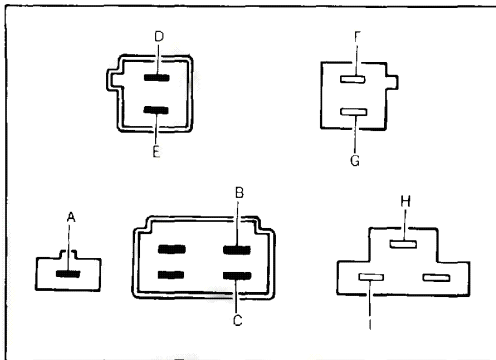
FUSE BLOCK AND SPECIFICATIONS



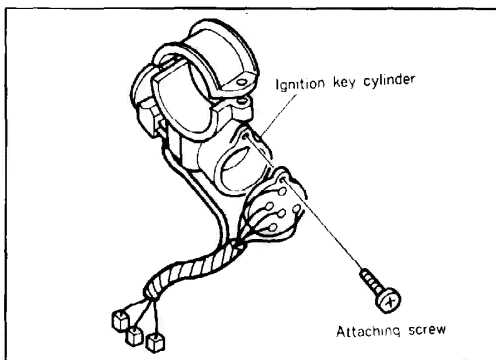
FUSIBLE LINK LOCATION AND SPECIFICATIONS



15 IGNITION KEY SWITCH, COMBINATION SWITCH



47U15X-014



57U15X-015

IGNITION KEY SWITCH

INSPECTION

1. Use an ohmmeter to check the continuity of each terminal of the switch.
If the continuity is not as specified, replace the switch.

Terminal	B	C	A	D	E	F	G	H	I
Position									
LOCK								○—○	○—○
ACC				○—○	○—○	○—○	○—○	○—○	○—○
ON				○—○	○—○	○—○	○—○	○—○	○—○
START	○—○	○—○	○—○	○—○	○—○	○—○	○—○	○—○	○—○

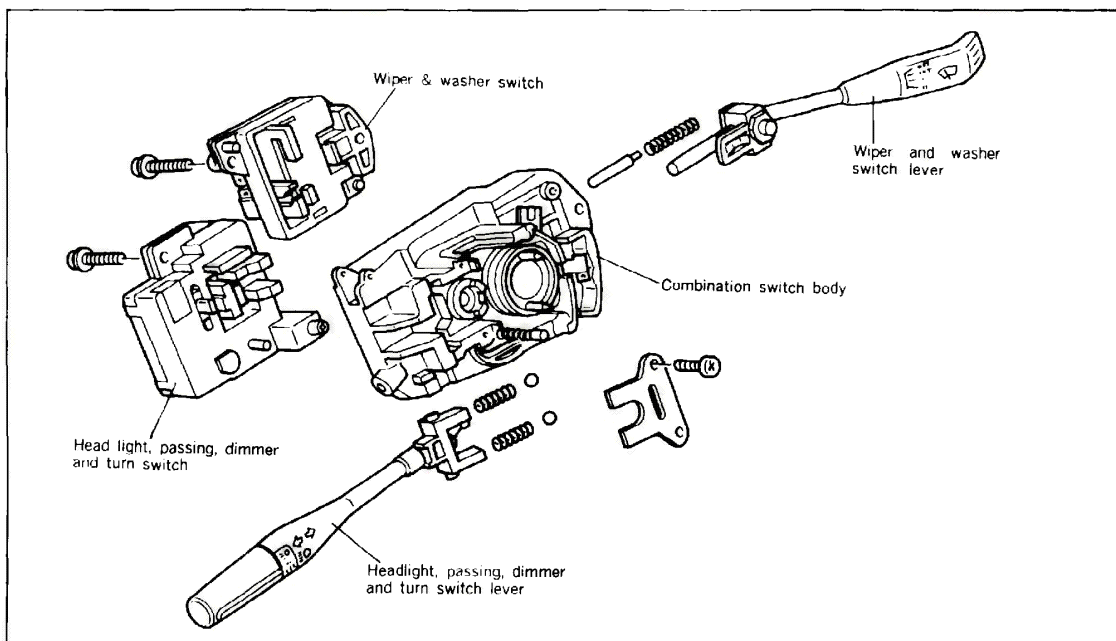
○—○ : Indicates continuity

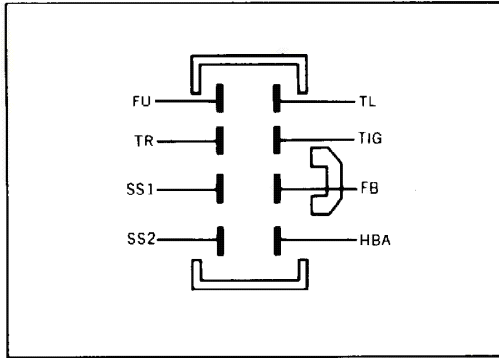
REPLACING IGNITION SWITCH

1. Disconnect the battery (-) terminal.
2. Remove the column covers.
3. Disconnect the connectors from the wiring harness.
4. Loosen the attaching screw.
5. Installation is the reverse order of removal.

COMBINATION SWITCH

STRUCTURAL VIEW





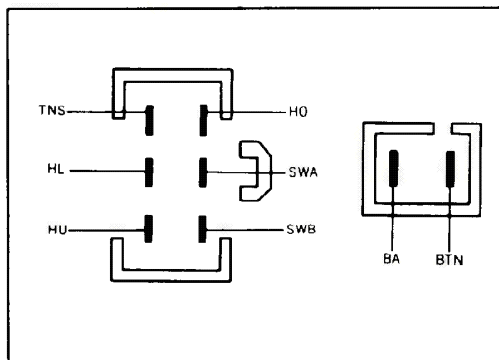
47U15X-016

INSPECTION

Use an ohmmeter to check the continuity of each terminal of the switch. If continuity is not as specified, replace the switch.

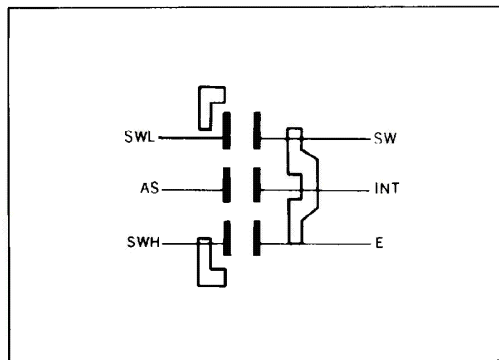
Turn signal and hazard switch

Terminal		FU	TL	TR	TIG	HBA	FB	SS1	SS2
		Hazard/ Turn							
OFF	Left	○—○				○—○	○—○		
	N					○—○	○—○		
	Right	○—○		○—○		○—○	○—○		
ON		○—○	○—○	○—○			○—○	○—○	○—○



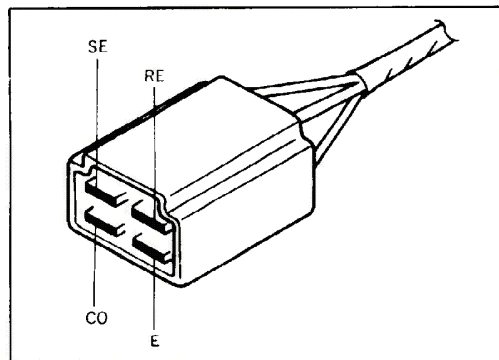
Light, dimmer and passing switch

Terminal		BTN	TNS	SWB	BA	HU	HL	SWA
		Position						
OFF		○—○	○—○	○—○				
Tail, parking		○—○	○—○	○—○				
Head-light	Low beam	○—○	○—○		○—○	○—○	○—○	○—○
	High beam	○—○	○—○		○—○	○—○	○—○	○—○
Passing	Light switch OFF	○—○	○—○	○—○	○—○			
	Tail, parking	○—○	○—○	○—○	○—○			



Windshield wiper and washer switch

Terminal		AS	SWL	SWH	INT	E	SW
		Position					
Wiper switch	OFF	One-touch OFF	○—○				
		One-touch ON		○—○			○—○
	INT	ON	○—○			○—○	
	I	Low		○—○			○—○
		High			○—○		○—○
Washer switch ON						○—○	



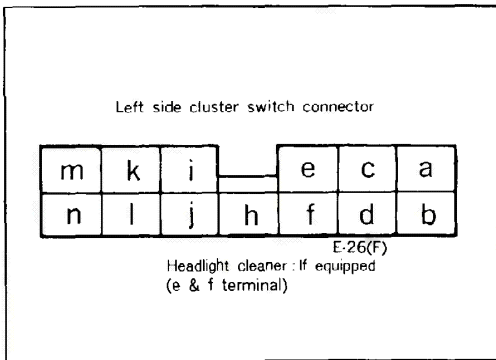
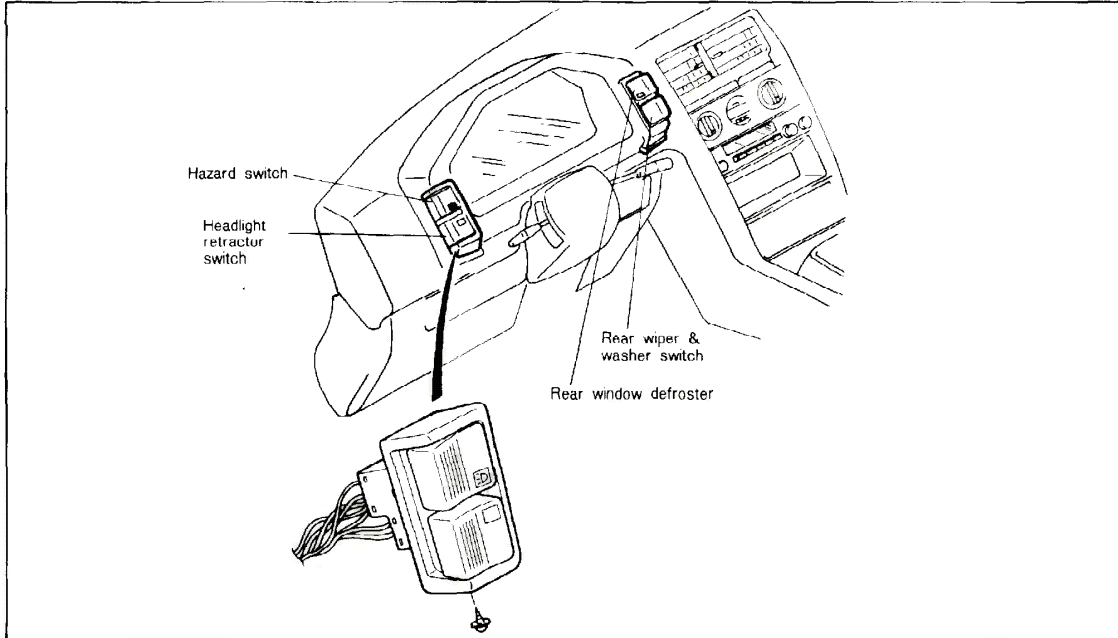
Cruise control switch (for vehicles so equipped)

Position	Terminal		SE	RE	CO	E
	Switch					
SET	ON		○—○			○—○
RESUME	ON			○—○		○—○
COAST	ON				○—○	○—○

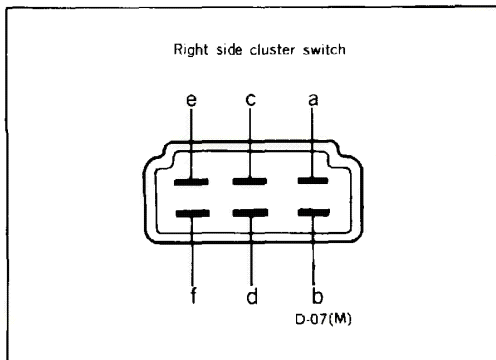
○—○ : Indicates continuity

CLUSTER SWITCHES

STRUCTURAL VIEW



47U15X-017



INSPECTION

Use an ohmmeter to check the continuity of each terminal of the switches.

If continuity is not as specified, replace the switch.

Left side cluster switch

Terminal	a	b	c	d	e	f	h	i	j	k	l	m	n
Switch position													
Headlights up			○	○									
Headlights up and cleaner ON			○	○	○	○							
Headlights down	○	○											
Head lights down and cleaner ON					○	○							
Hazard ON								○	○	○	○	○	○
Hazard OFF								○	○				

Right side cluster switch

Terminal	a	b	c	d	e	f
Switch position						
Rear wiper ON	○	○				
Rear wiper ON and washer ON	○	○	○			
Rear wiper OFF						
Rear wiper OFF and washer ON		○	○			
Rear defroster ON					○	○
Rear defroster OFF						

○—○ : Indicates continuity

METERS AND SENDER UNITS

(Wiring diagram see section C)

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Remedy	Page
Speedometer does not work	Faulty speedometer cable	Replace	15-21
	Faulty speedometer	Replace	15-22
Indicator fluctuation (speedometer)	Faulty speedometer cable	Replace	15-21
	Faulty speedometer	Replace	15-22
Tachometer does not work	METER fuse blown	Replace fuse and check for short	15-13
	Faulty tachometer	Check or replace tachometer	15-18
	Faulty wiring	Repair as necessary	15-21
Fuel gauge does not work	METER fuse blown	Replace fuse and check for short	15-13
	Faulty fuel gauge	Check fuel gauge	15-19
	Faulty fuel tank unit	Check fuel tank unit	15-19
	Faulty ground or wiring	Repair as necessary	
Water temperature gauge does not work	METER fuse blown	Replace fuse and check for short	15-13
	Faulty water temperature gauge	Check water temperature gauge	15-20
	Faulty water temperature gauge unit	Check water temperature gauge unit	15-20
	Faulty wiring	Repair as necessary	
Voltmeter does not work	METER fuse blown	Replace fuse and check for short	15-13
	Faulty voltmeter	Check voltmeter	15-18
	Faulty wiring or ground	Repair as necessary	
Oil pressure gauge does not work	METER fuse blown	Replace fuse and check for short	15-13
	Faulty oil gauge	Check oil pressure gauge	15-20
	Faulty oil gauge unit	Check oil pressure gauge unit	15-21
	Faulty wiring	Repair as necessary	

47U15X-018

15 METERS AND SENDER UNITS

Standard indication (km/h)	Allowable range (km/h)
20	18.0 ~ 23.0
40	36.0 ~ 46.0
60	54.0 ~ 69.0
80	72.0 ~ 92.0
100	90.0 ~ 115.0
120	108.0 ~ 138.0
140	126.0 ~ 161.0
160	144.0 ~ 184.0
180	162.0 ~ 207.0

Standard indication (mph)	Allowable range (mph)
10	9.0 ~ 11.5
30	27.0 ~ 34.5
60	54.0 ~ 69.0
90	81.0 ~ 103.5

57U15X-019

ON-VEHICLE INSPECTION

Speedometer

1. Using a speedometer tester, test the speedometer for allowable indication error, and check the operation of the odometer.
2. Check the speedometer for indicator fluctuation and/or abnormal noise.

Caution

- a) If significant indicator fluctuation occurs or the indicator is not moving at all, remove the speedometer cable, if normal, replace the speedometer assembly.
- b) Tire wear and tire over or under inflation will increase the indicating error.

Standard indication (rpm)	Allowable range (rpm)
1000	880 ~ 1060
2000	1970 ~ 2150
3000	2964 ~ 3216
4000	3976 ~ 4264
5000	4988 ~ 5312
6000	6000 ~ 6360
7000	6965 ~ 7455

at 20°C (68°F)

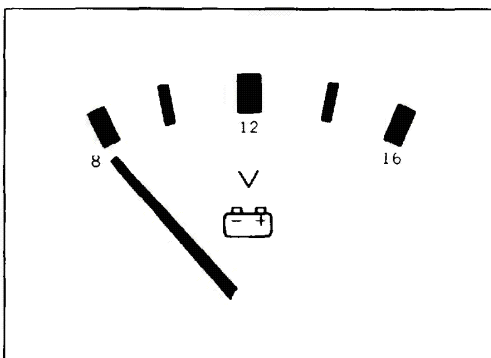
47U15X-020

Tachometer

1. Connect a tachometer to the negative - terminal of the ignition coil, and then start the engine.
2. Compare the tester and tachometer indications. If there is significant error, replace the tachometer.

Caution

When removing or installing the tachometer, be careful not to drop it or subject it to sharp impact.



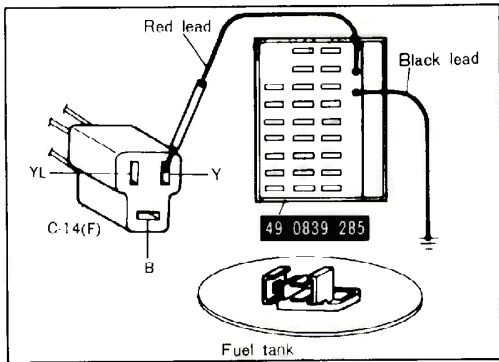
57U15X-021

Voltmeter

1. Connect a voltage tester to the battery terminals and then start the engine.
2. Compare the voltage tester and voltmeter indications. If there is significant error, replace the voltmeter.

Note

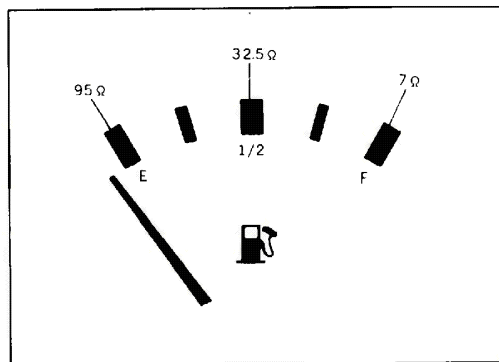
The allowable indication error is twice the width of the needle.



47U15X-022

Fuel Gauge

1. Remove the connector from the fuel tank unit.
2. Connect the red lead wire of the **checker** (49 0839 285) to the connector, and the black lead wire to a body ground.

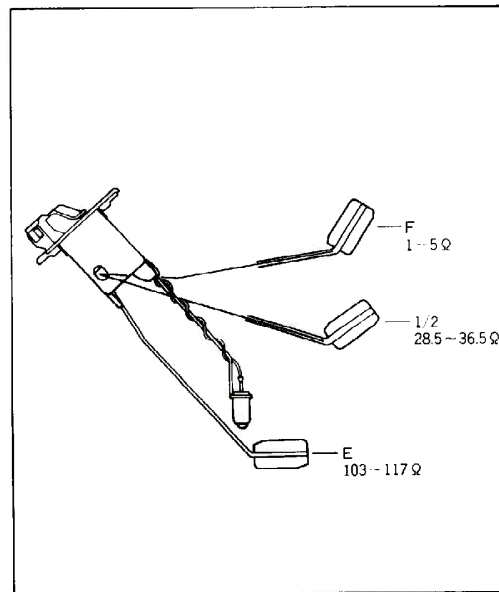


57U15X-023

3. Set the checker to the resistance values shown in the figure.
4. Turn on the ignition switch and check to confirm that the needle indicator displays the correct values.
If the needle displays the correct values, the trouble is in the gauge unit; if not, the trouble is in the meter.

Note

- a) Continue the above inspections for at least two minutes each to correctly judge the condition.
- b) The allowable indication error is twice the width of the needle.

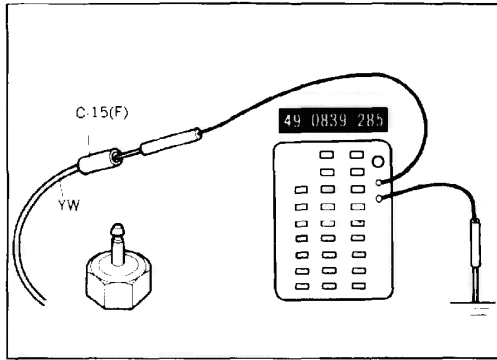


47U15X-024

Fuel Tank Unit

1. Connect an ohmmeter to the tank unit.
2. Move the unit arm slowly from point E to point F and read the resistance value. If this value is outside the standard range, replace the unit.

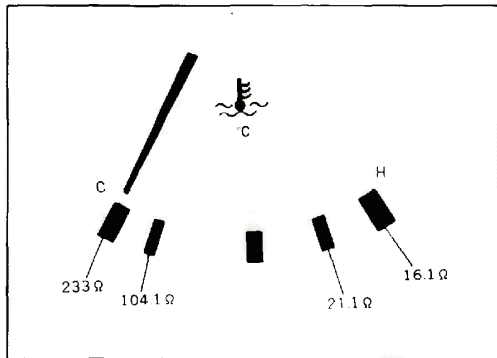
15 METERS AND SENDER UNITS



47U15X-025

Water Temperature Gauge

1. Remove the connector from the gauge unit.
2. Connect the red lead wire of the **checker** (49 0839 285) to the connector, and the black lead wire to a body ground.

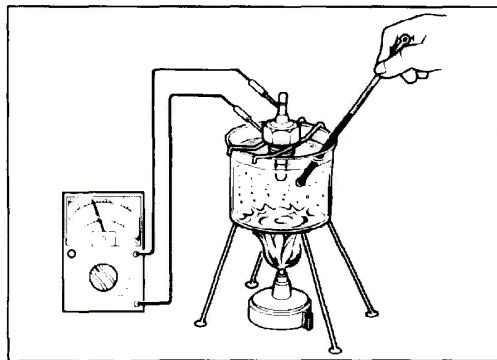


57U15X-026

3. Set the checker to the resistance values shown in the figure.
4. Turn on the ignition switch and check to confirm that the needle indicator displays the correct values. If the needle displays the correct values, the trouble lies in the gauge unit; if not, the trouble lies in the meter.

Note

- a) Continue the above inspections for at least two minutes each to correctly judge the condition.
- b) The allowable indication error is twice the width of the needle.

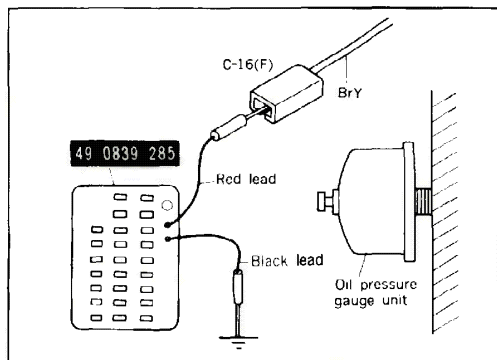


47U15X-027

Water Temperature Gauge Unit

1. Remove the gauge unit.
2. Place the gauge unit in a container of water, and heat the water to 80°C (176°F).
3. Use an ohm tester to measure the resistance.

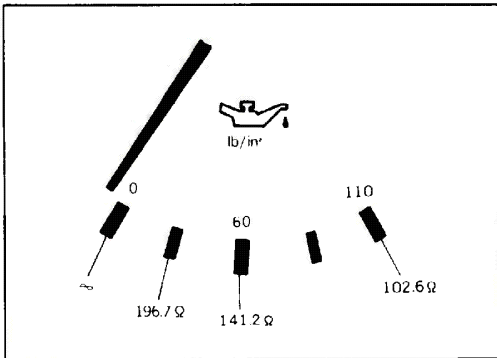
Water temperature	Resistance (Ω)
80°C (176°F)	53.5 ± 4.2



47U15X-028

Oil Pressure Gauge

1. Remove the connector from the gauge unit.
2. Connect the red lead wire of the **checker** (49 0839 285) to the connector, and the black lead wire to a body ground.



57U15X-029

3. Set the checker to the resistance values shown in the figure.

4. Turn on the ignition key switch and check to confirm that the needle indicator displays the correct values.

If the needle displays the correct values, the trouble lies in the gauge unit; if not, the trouble lies in the meter.

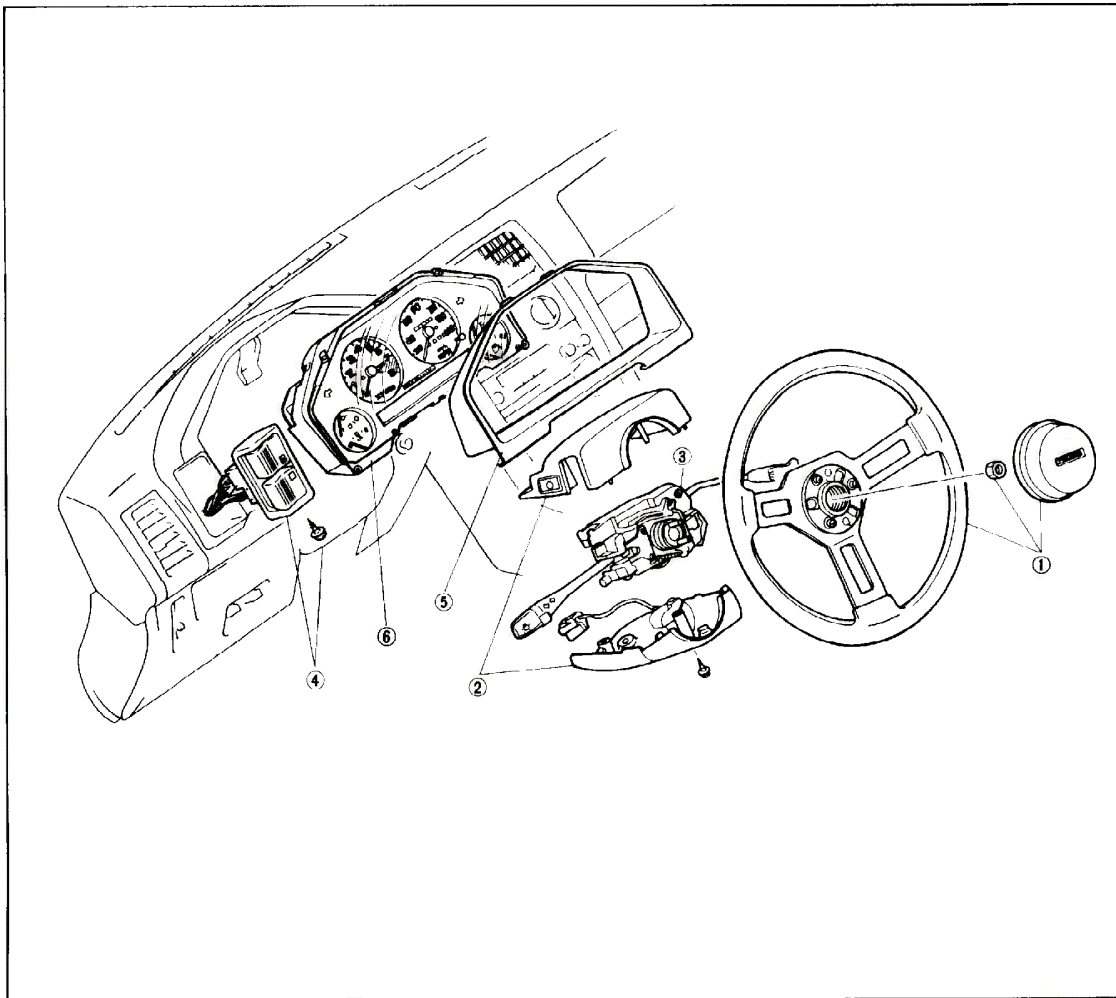
Note

a) Continue the above inspections for at least two minutes each to correctly judge the condition.

b) The allowable indication error is twice the width of the needle.

REMOVAL AND INSTALLATION

After disconnecting the battery cables, remove parts in the numbered order shown in the figure. Installation is the reverse order of removal.



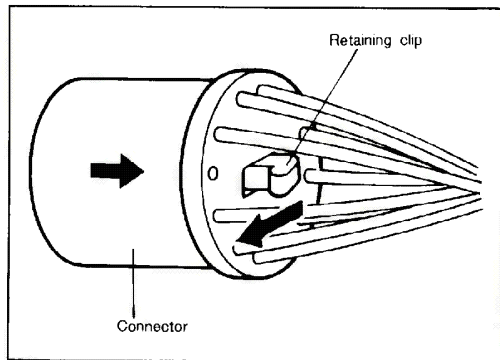
47U15X-030

- 1 Horn cap & Steering wheel
- 2 Clumn covers

- 3 Combination switch
- 4 Cluster switches

- 5 Meter hood
- 6 Combination meter assembly

15 METERS AND SENDER UNITS



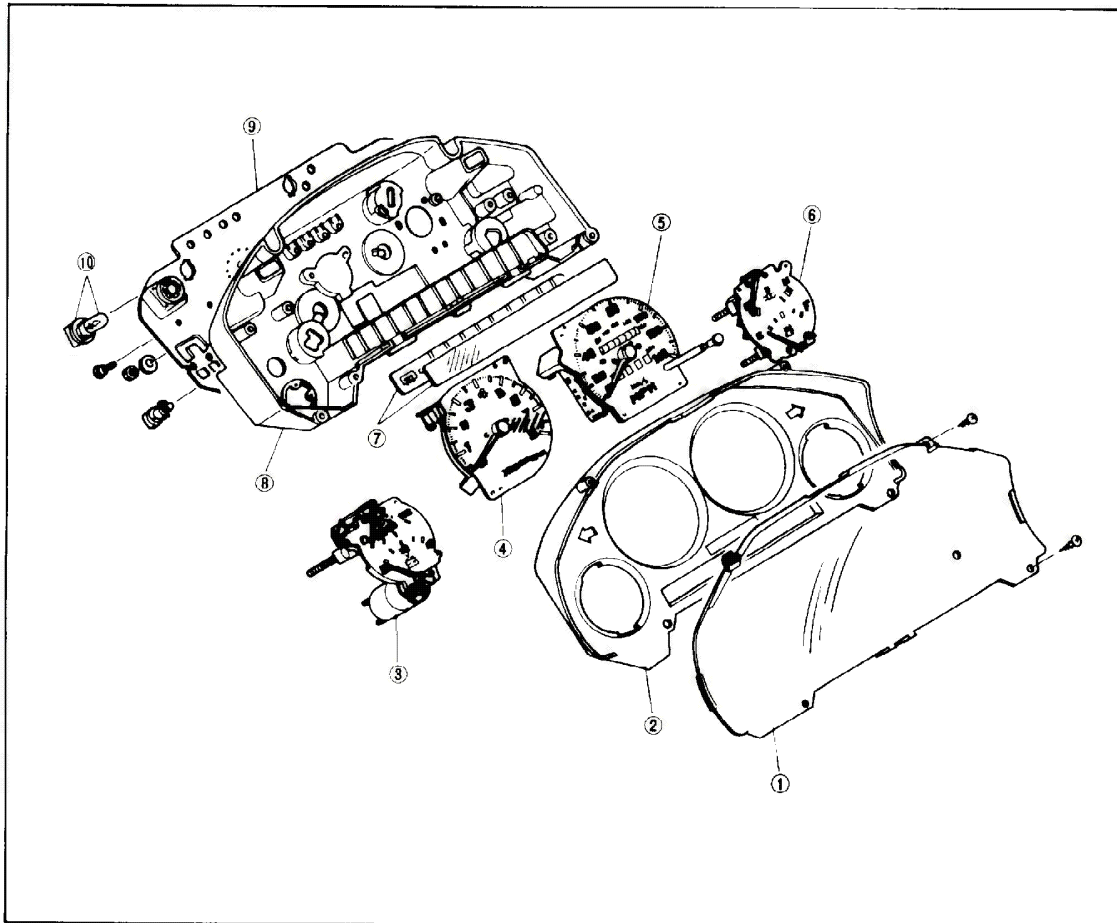
47U15X-031

Connectors

To disconnect a connector from a meter, press the retaining clip as shown in the figure.

DISASSEMBLY AND ASSEMBLY

Disassemble in the numbered order shown in the figure. Assembly is the reverse order of disassembly.

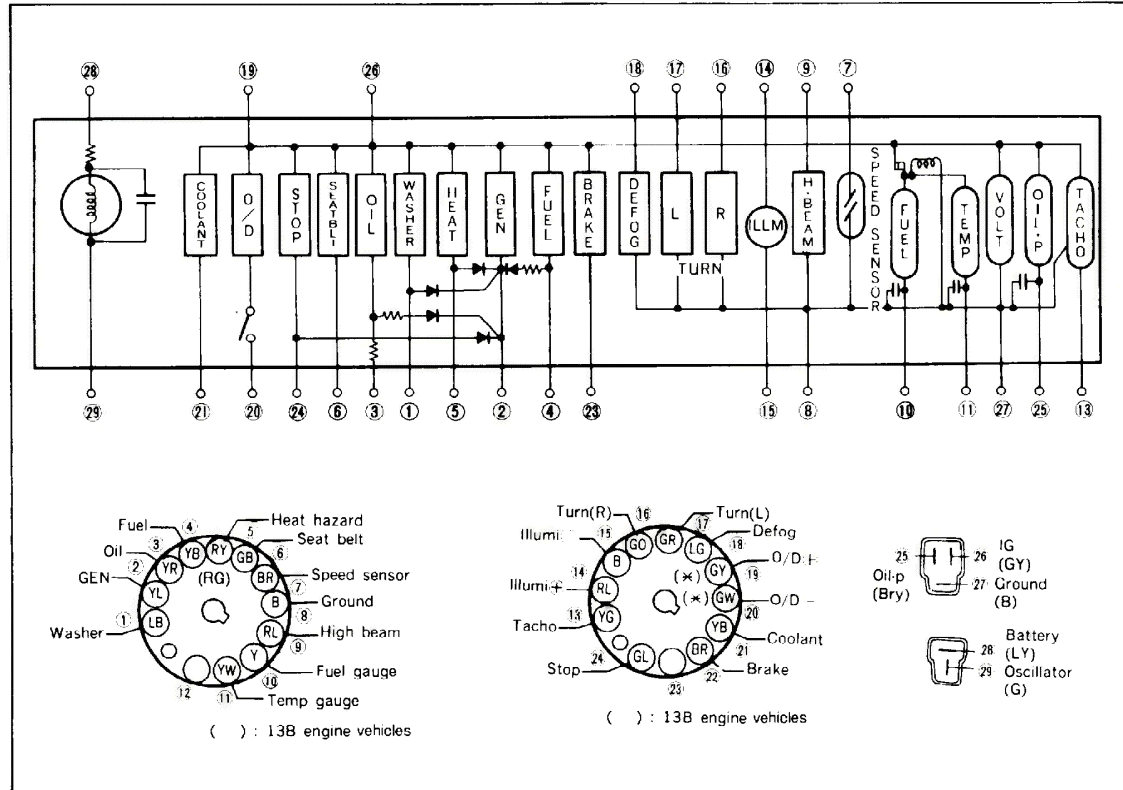


47U15X-032

- | | |
|----------------------------------|----------------------------|
| 1 Front lens | 6 Fuel & Water temp. gauge |
| 2 Plate | 7 Warning lights lens |
| 3 Voltmeter & Oil pressure gauge | 8 Meter case |
| 4 Tachometer | 9 Printed plate |
| 5 Speedometer | 10 Bulb & Socket |

PRINTED METER CIRCUIT BOARD INSPECTION

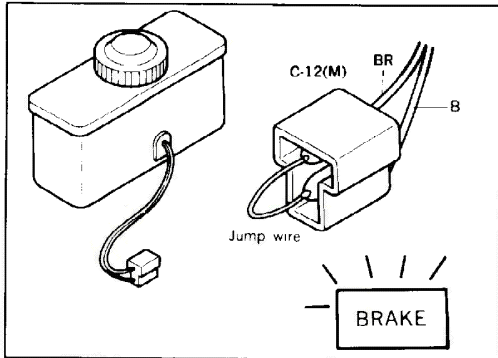
1. Check the printed circuit board for damage or rust.
2. Use an ohmmeter to check for continuity in the connector terminal and warning lights.



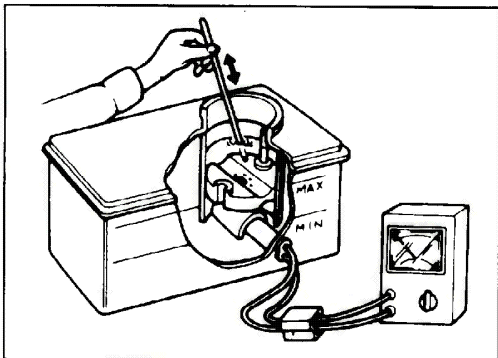
57U15X-033

No.	Wiring color	Connecting to ~	No.	Wiring color	Connecting to ~
1	LB	Washer fluid level sensor	16	GO	Turn switch
2	YL	Choke and check relay	17	GR	Turn switch
3	YR	Oil level sensor	18	LG	Rear defroster switch
4	YB	Fuel tank unit	19	GY	Ignition switch (IG)
5	RY	Heat hazard switch	20	GW	Transmission oil pressure switch
6	GB	CPU	21	YB	Coolant level unit
7	BR	A/T, cruise, P/S, E/M cont. unit	22	BR	Brake fluid level switch
8	B	Ground	23	-	-
9	RL	Light switch	24	GL	Stop light checker
10	Y	Fuel tank unit	25	BrY	Oil pressure gauge unit
11	YW	Water temperature gauge	26	GY	Ignition switch
12	-	-	27	B	Ground
13	YG	Ignition switch	28	LY	Battery
14	RL	Panel light control	29	G	Oscillator
15	B	Ground	-	-	-

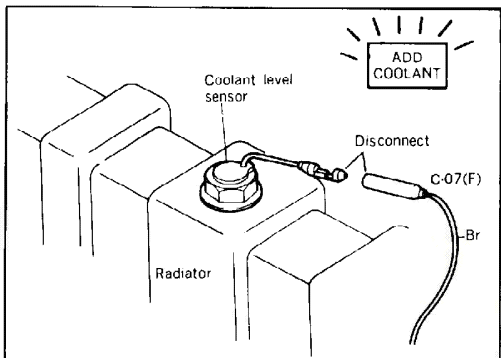
A/T : Automatic transmission
 P/S : Power steering
 E/M : Emission
 CPU : Central processing unit



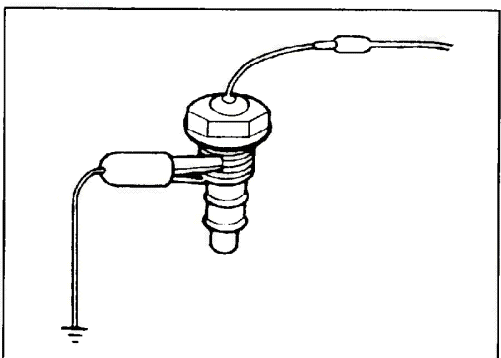
47U15X-034



47U15X-035



47U15X-036



57U15X-037

WARNING LIGHTS AND SENDER UNITS

INSPECTION OF CIRCUIT AND PARTS

Brake System Warning Light

1. Disconnect the connector from the brake fluid level sensor.
2. Connect a jump wire between (BR) and (B) terminal (body ground).
3. Start the engine and check to be sure that the BRAKE warning light illuminates.

Note

Be sure that the parking brake is fully released before checking.

4. If there is no illumination, check the fuse, bulb and wiring harness.

Brake Fluid Level Sensor

Connect an ohmmeter to each terminal of the brake fluid level sensor connector.

Check for continuity when the float is moved up and down. The sensor is good if there is continuity when the float is below the "MIN" mark, and if there is no continuity when the float is above the "MAX" mark.

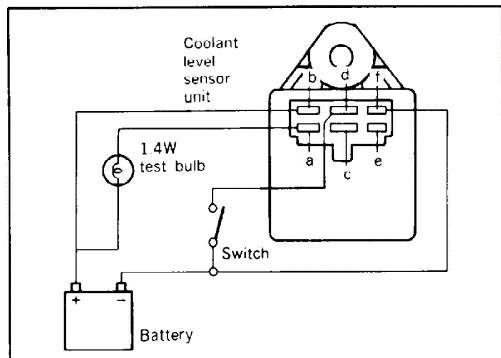
If the sensor does not pass this test, replace it.

Coolant Level Warning Light

1. Disconnect the connector from the coolant level sensor.
2. Start the engine and check to be sure that the coolant warning light illuminates in 9 ~ 16 seconds after starting the engine.
3. If there is no illumination, check the fuse, bulb, coolant level sensor unit, and wiring harness.

Checking the Sensor

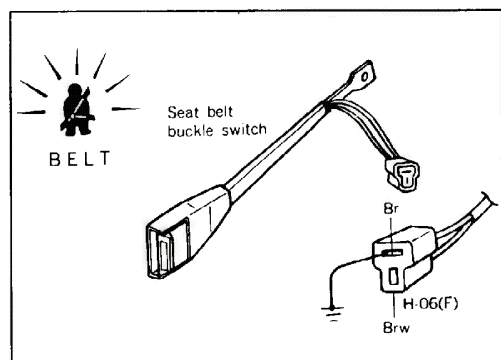
1. Remove the level sensor and connect the connector.
2. With the sensor not grounded to the body, start the engine.
3. After checking to be sure that the warning light illuminates, ground the threaded part of the sensor.
4. If the warning light remains illuminated, the sensor is normal.
If it does not, the sensor is faulty and should be replaced.



47U15X-038

Coolant Level Sensor Unit

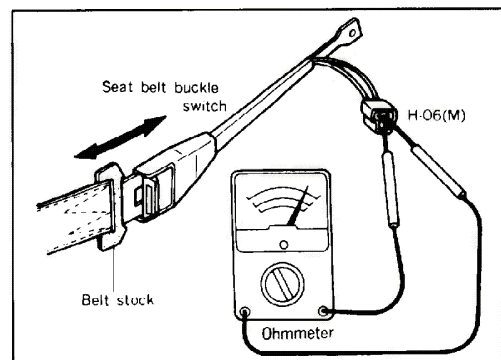
1. Remove the coolant level sensor unit.
2. Make connections between the unit and the battery as shown in the figure.
3. The unit is normal if the test bulb does not illuminate when the switch is closed, and if it does illuminate 9 to 16 seconds after the switch is opened.
4. Replace the unit if there is a malfunction.



47U15X-039

Seat Belt Warning Light

1. Disconnect the connector from the seat belt buckle switch (driver's side).
2. Connect the (Br) connector terminal to a body ground.
3. Start the engine and check to be sure that the BELT warning light illuminates for about 6 seconds.
4. If there is no illumination, check the fuse, bulb, central processing unit, and wiring harness.

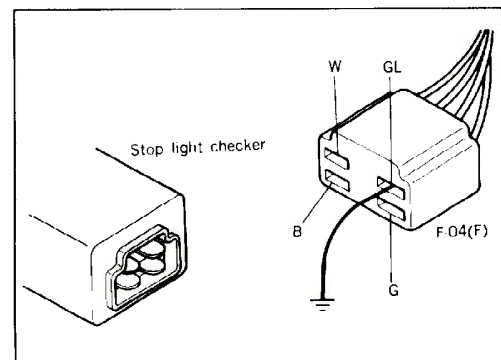


47U15X-040

Buckle Switch (Driver's Belt)

Insert the seat belt stock into the buckle, and use an ohmmeter to check for continuity of the switch.

Belt inserted no continuity
 Belt not inserted continuity

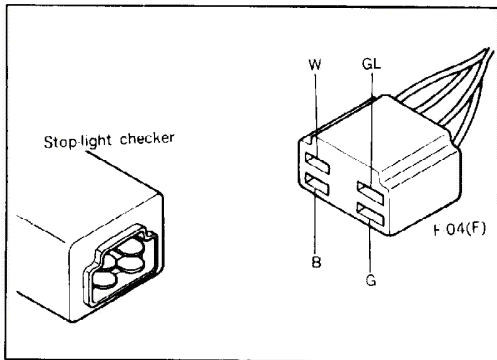


47U15X-041

Stop Light Malfunction Warning Light

1. Disconnect the connector from the stop light checker.
2. Connect the connector terminal (GL) to a body ground.
3. Start the engine and check to be sure that the STOP LIGHT warning light illuminates.

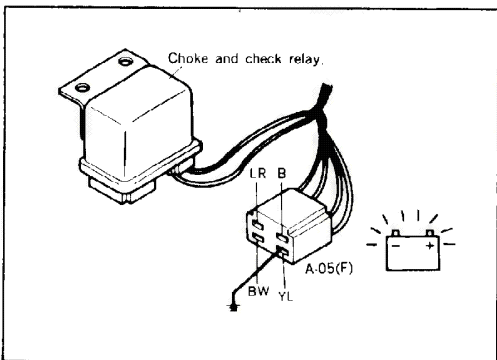
15 WARNING LIGHTS AND SENDER UNITS



47U15X-042

Stop Light Checker

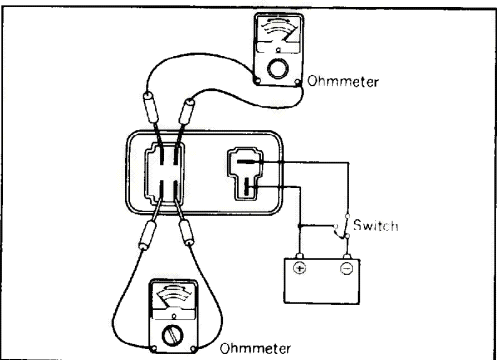
1. Start the engine and check whether there is voltage in the (GL) wire of the connector of the stop light checker, and whether there is voltage in the (W) wire when the brake pedal is depressed.
2. Using an ohmmeter, check for continuity between the (B) wire and the body ground.
3. After checking 1 and 2 above, check whether the stop light malfunction light illuminates or not when either the left or right 6-pin connector of the rear combination lights is disconnected. If it does not illuminate, replace the stop light checker.



47U15X-043

Alternator Warning Light

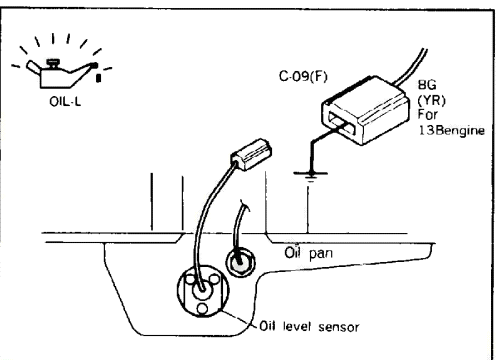
1. Disconnect the connector (4 terminal) from the choke and check relay.
2. Connect the connector terminal (YL) to a body ground.
3. Start the engine and check to be sure that the generator warning light illuminates.



47U15X-044

Choke and Check Relay

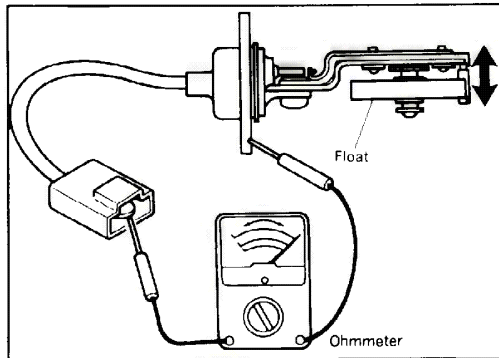
1. Make connections between the check relay, battery, and ohmmeters, as shown in the figure.
2. When the switch is connected to the negative (-) terminal or the positive (+) terminal of the battery, each ohmmeter reading should change to continuity and no continuity respectively.



47U15X-045

Oil Level Warning Light

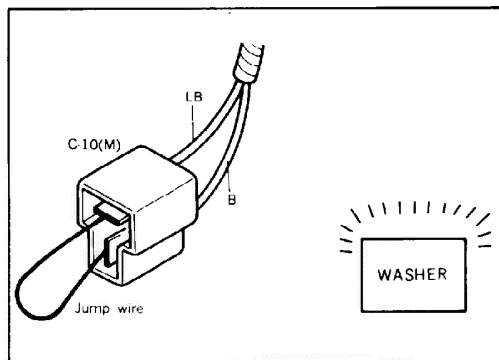
1. Disconnect the connector from the oil level sensor.
2. Connect the connector terminal and body ground.
3. Start the engine and check to be sure that the OIL-L warning light illuminates.
4. If there is no illumination, check the fuse, bulb, and wiring harness.



57U15X-046

Oil Level Sensor

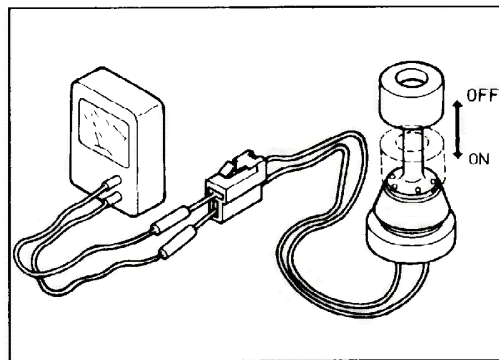
Connect an ohmmeter to the level sensor and check the continuity by moving the float up and down. When the float is on the upper side, the ohmmeter should not show any continuity, and when moved to the lower side, it should show continuity in the circuit. If it is found not to be so, replace the oil level sensor.



47U15X-047

Washer Fluid Low-Level Warning Light

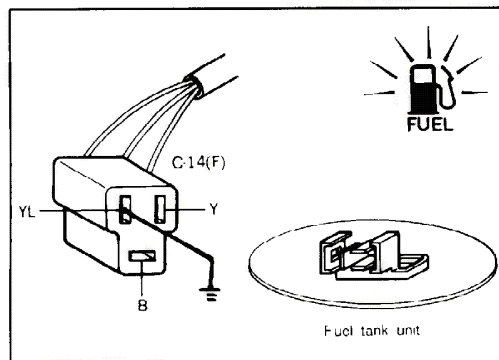
1. Disconnect the connector from the washer fluid low-level sensor.
2. Connect a jump wire between (LB) and (B) terminal (body ground).
3. Start the engine and check to be sure that the WASHER warning light illuminates.
4. If there is no illumination, check the fuse, bulb and wiring harness.



47U15X-048

Washer Fluid Level Sensor

1. Connect the sensor connector to a tester.
2. Move the sensor float up and down.
3. Check to be sure there is continuity when the float is at the lowest point.



47U15X-049

Low-Fuel -Level Warning Light

1. Disconnect the connector from the fuel tank unit.
2. Connect the connector terminal (YL) to the body ground.
3. Start the engine and check to be sure that the FUEL warning light illuminates.
4. If there is no illumination, check the fuse, warning light and wiring harness.

Over Heat Exhaust System Warning Light

See section 4A or 4B

15 LIGHTING SYSTEM

LIGHTING SYSTEM

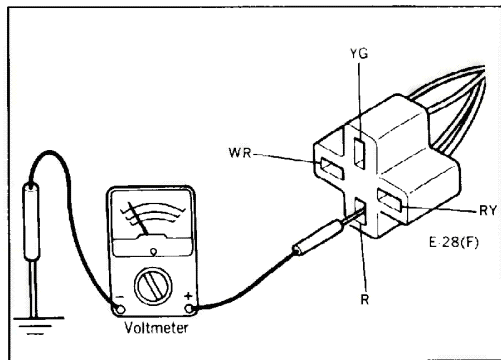
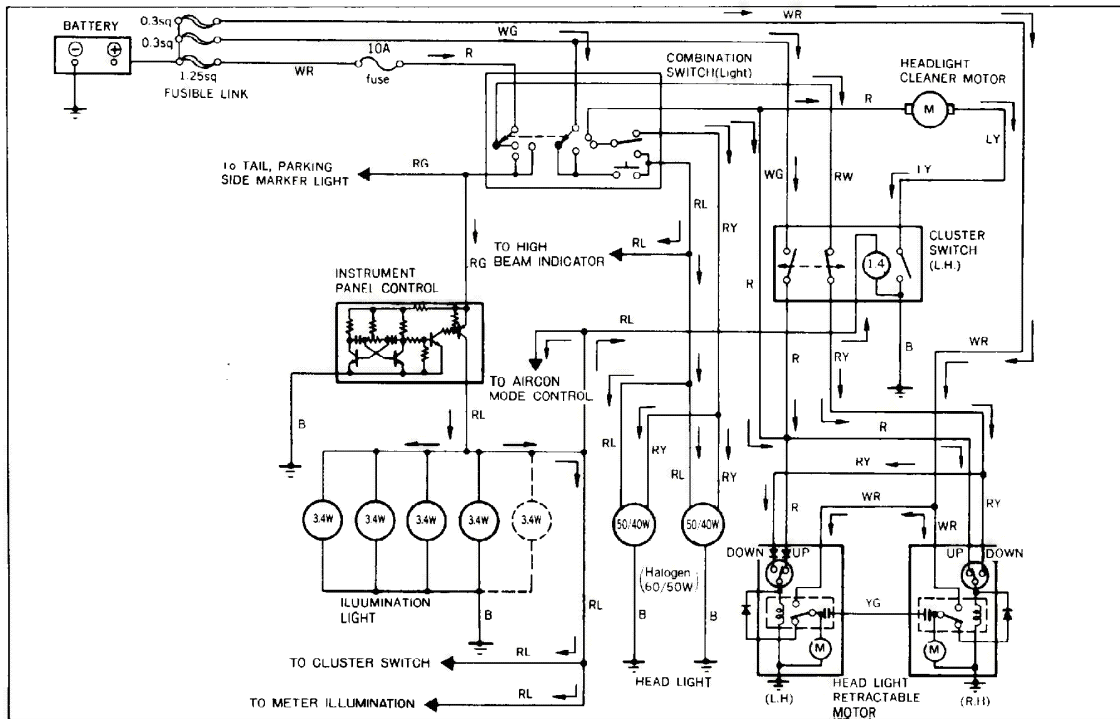
(Wiring diagram see section E, F, H)

TROUBLESHOOTING GUIDE

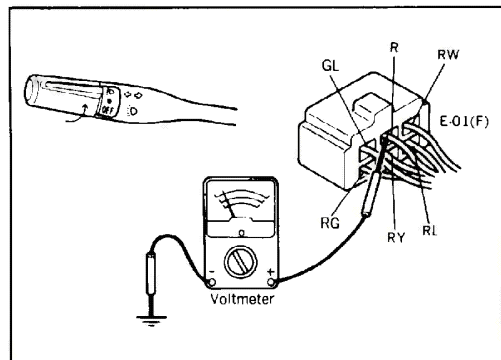
Problem	Possible Cause	Remedy	Page
Retractable head light system does not work	Retractor fusible link blown Faulty cluster switch Faulty combination switch Faulty retractable motor Faulty wiring or ground	Replace fusible link and check for short Check cluster switch Check combination switch Check retractable motor Repair as necessary	15-13 15-16 15-15 15-29
Only one light does not come on (all other lights come on)	Light bulb burned out Faulty socket, wiring or ground	Replace bulb Repair as necessary	Section 14
No headlights come on	Fusible link blown Faulty combination switch Faulty wiring or ground	Replace fusible link and check for short Check combination switch Repair as necessary	15-13 15-15
High beam lights do not operate	Faulty combination switch Faulty wiring	Check combination switch Repair as necessary	15-15
All exterior lights, tail lights and parking lights do not come on	TAIL, ILLUMI fuse blown Faulty combination switch Faulty wiring or ground	Replace fuse and check for short Check combination switch Repair as necessary	15-13 15-15
Stop lights do not come on	HORN, STOP fuse blown Faulty stop light switch Faulty wiring or ground	Replace fuse and check for short Check or replace stop light switch Repair as necessary	15-13 15-31
Not illumination light on instrument panel	Faulty instrument panel light control	Check or replace panel light control	15-31
Turn signals do not operate	METER, BACK fuse blown Faulty combination switch Faulty central processing unit (Flasher unit)	Replace fuse and check for short Check combination switch Check central processing unit	15-13 15-15 15-32

57U15X-050

CIRCUIT DIAGRAM [1]



47U15X-051



47U15X-052

CHECKING THE CIRCUIT AND PARTS

Retractable Headlight System

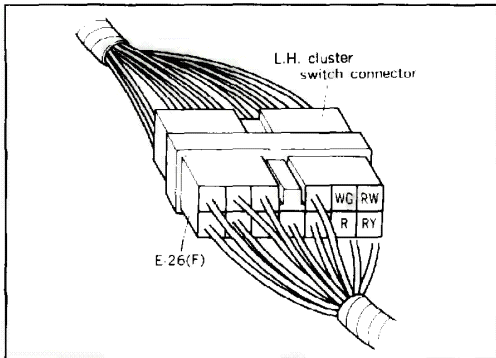
(If the system does not operate when either the headlight switch or retractor switch is operated:)

1. Check whether a fusible link has blown.
2. If the fusible link is OK, connect a voltmeter to the red (R) wire of the connector for the retractor motor, and measure the voltage when the light switch or the retractor switch is moved to the ON (UP) position.
3. If voltage equivalent to battery voltage is measured, the possible cause of the problem may be improper grounding of the motor or a malfunction of the motor itself.
4. If there is no voltage measured, a malfunction of the wiring or of the cluster switch and/or light switch may be the problem.

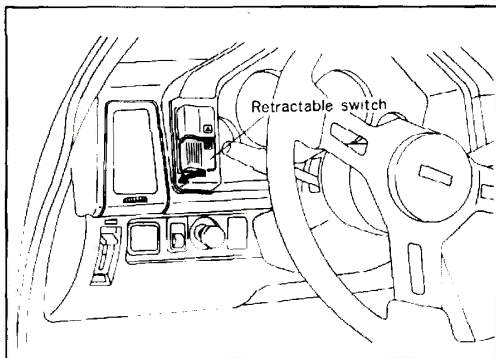
(If the system operates by operating the retractor switch, but not by operating the light switch:)

1. Check whether there is voltage equivalent to battery voltage in the red (R) wire of the 6-pin connector when the light switch is set to the headlight position.
2. If there is, there may be a malfunction of the wiring.
If there is not, check the light switch.

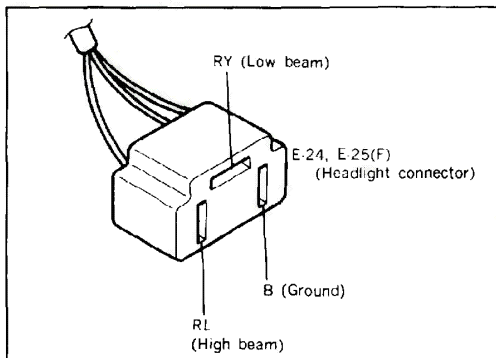
15 LIGHTING SYSTEM



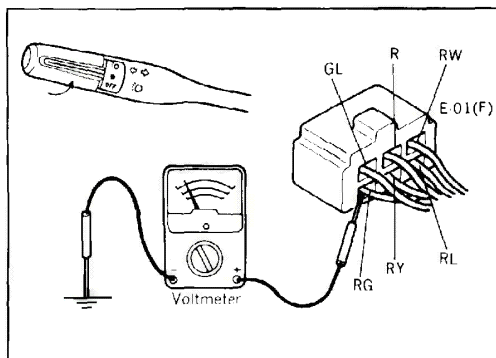
47U15X-053



47U15X-054



57U15X-055



47U15X-056

(If the system operates by operating the light switch, but not by operating the retractor switch:)

1. Check whether voltage is applied to the power source line of the cluster switch.
In other words, check the (WG) line when the retractor switch is moved to the UP position, and check the (RY) line when it is moved to the DOWN position.
2. If both are normal, check whether there is voltage in the (R) line when the retractor switch is moved to the UP position, and whether there is voltage in the (RY) line when it is moved to the DOWN position.
3. If there is continuity in each, there may be a malfunction of the wiring between the cluster switch and the retractor motor.
If there is no continuity in one or the other, there may be a malfunction of the cluster switch.

(If the headlights can be raised but not lowered:)

1. Check whether a fusible link or fuse has blown.
2. If so, there may be a short between the (RG) line of the light switch and the tail lights, sidemarker light, illumination light, etc.
3. If there is no blown fusible link or fuse, there may be a malfunction of the light switch, retractor switch, or wiring.

Headlight System

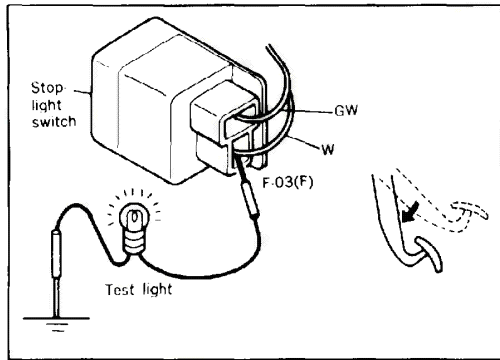
(If the headlights do not come on at all:)

1. Check whether a fusible link has blown.
2. Check whether voltage equivalent to battery voltage is applied to the (RY) or (RL) line of the headlight connector when the light switch is at the ON position.
3. If there is, there may be a malfunction of the headlights or a bad grounding connection.
4. If there is no voltage, check the light switch.

Taillight System

(If the taillights do not light:)

1. Check whether there is a blown fusible link or fuse.
2. If not, connect a voltmeter to the (RG) line of the light switch connector, and check whether voltage equivalent to battery voltage is applied when the light switch is moved to the taillight position.
3. If not, check the light switch.
If there is voltage, there may be poor contact of the the connector (X-06) connecting the front harness and rear harness.

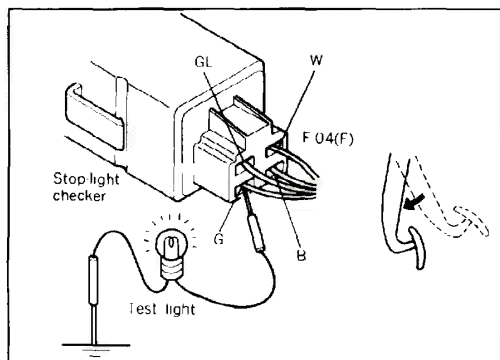


57U15X-057

Stop Light System

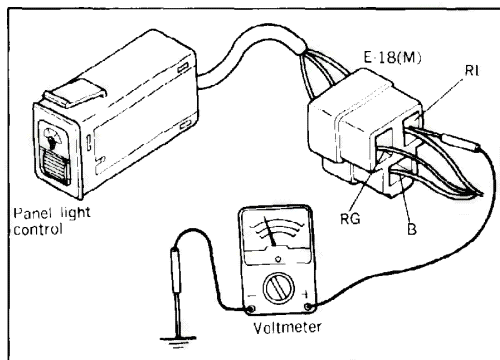
(If the stop lights don't come on)

1. Check whether there is a fuse failure.
2. If not, connect a test light between the (W) line of the stop light switch connector and the body ground, and check whether the test light illuminates when the brake pedal is depressed.



47U15X-058

3. If it does not illuminate, connect the test light to the (GW) line and check whether it illuminates. If it does, there may be a malfunction or improper adjustment of the stop light switch.
4. If the test light does illuminate in step 2 above, connect the test light to the (G) line of the stop light checker connector, and check whether it illuminates when the brake pedal is depressed.
5. If it does not, there may be a malfunction of the stop light checker. If it does illuminate, there may be poor grounding of the stop light.

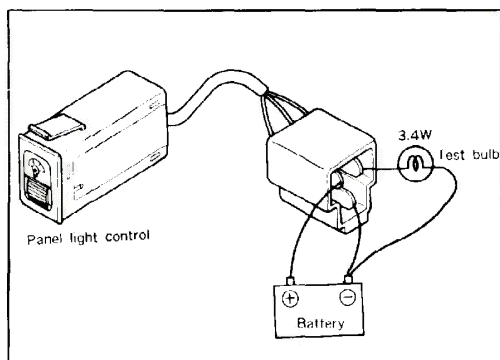


47U15X-059

Illumination Light Control System

(If the illumination light does not illuminate:)

1. Connect a voltmeter to the (RL) line of the panel light control connector.
2. Check whether voltage is applied when the light switch is moved to the taillight position.
3. If there is continuity, there may be poor grounding of the illumination lights.
4. If there is no continuity, check whether there is voltage equivalent to battery voltage in the (RG) line. If there is, there may be a malfunction of the panel light control.



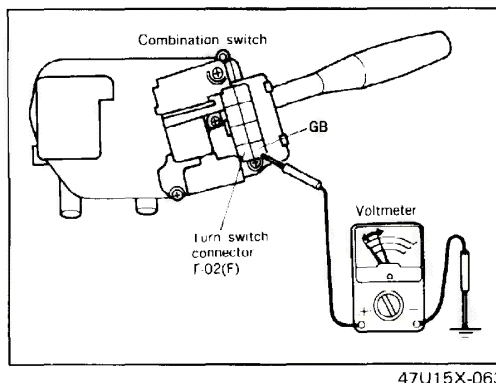
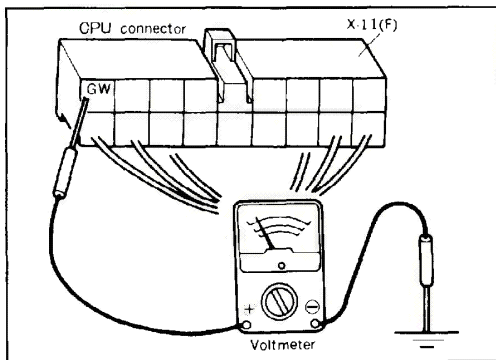
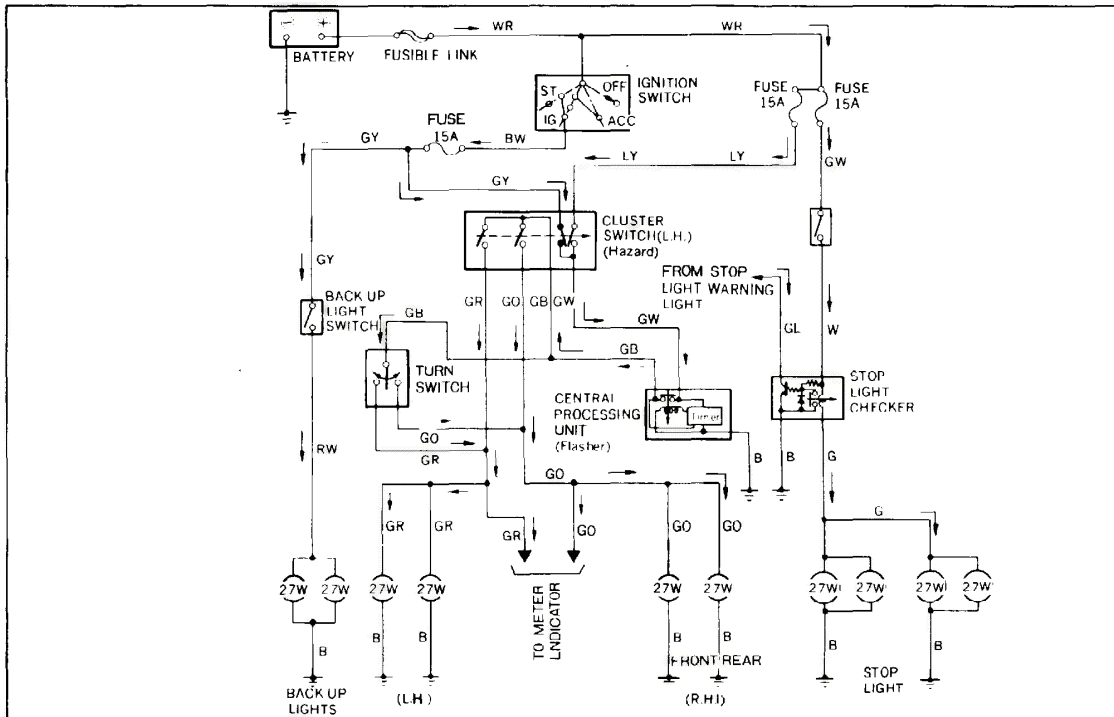
47U15X-060

Checking the panel light control

1. Make connections between the panel light control, battery, and bulb as shown in the figure.
2. Check whether the bulb illumination brightness changes when the brightness control is adjusted.
3. Replace the panel light control if the condition is not normal.

15 LIGHTING SYSTEM

CIRCUIT DIAGRAM [2]



Turn-Signal Light System

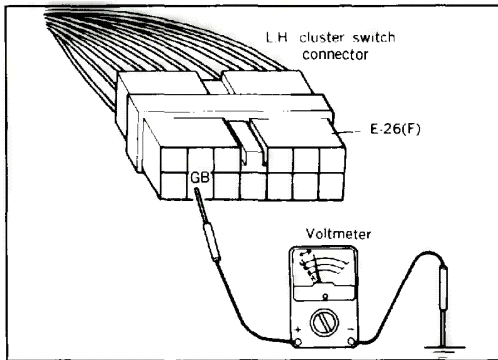
(If the turn signals do not function at all:)

1. Check for a blown fusible link or fuse.
2. If there is none, connect a voltmeter to the (GW) line of the central processing unit, and check whether voltage equivalent to battery voltage is applied when the turn-signal switch is switched ON while the ignition switch is at ON.
3. If there is not, there may be a malfunction of the hazard-warning switch.
If there is voltage, check whether there is a flashing signal when a tester probe contacts the (GB) line.
If there is not, the central processing unit may be poorly grounded, or there may be a malfunction in the unit.
4. If there is no problem with the central processing unit, connect the voltmeter to the (GB) line of the turn-signal switch connector, and check whether there is a flashing signal when the turn-signal switch is switched ON while the ignition switch is at ON.
5. If there is a flashing signal, check the turn-signal switch.

47U15X-062

(If the turn signals work only for one direction:)

Check the turn-signal switch, or for poor grounding of the turn-signal light.

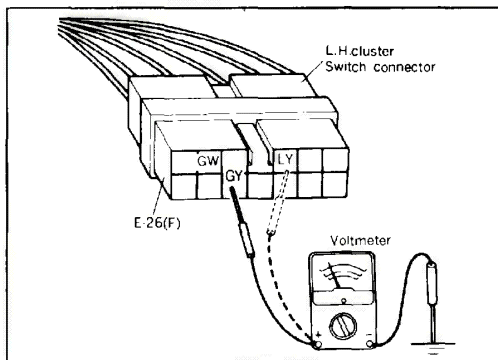


47U15X-064

Hazard-Warning Light System

(If the turn signals function but the hazard-warning light does not:)

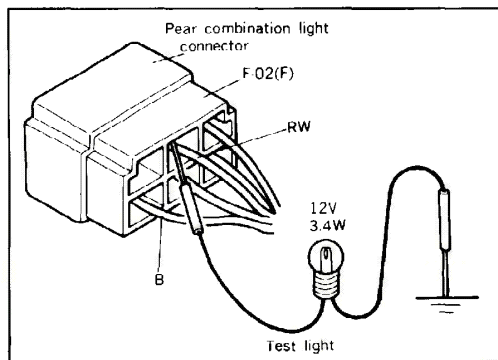
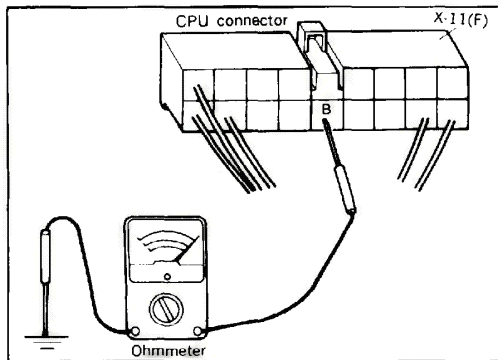
1. Check for a hazard-warning fuse failure.
2. If there is no failure, connect a voltmeter to the (GB) line of the cluster switch connector, and check whether there are flashing signals when the hazard-warning switch is switched ON.
3. If there is no flashing, check the (GB) line between the central processing unit and the hazard-warning switch.
4. If there are flashing signals, check the hazard-warning switch.



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(If neither the turn signals nor the hazard-warning light function:)

1. Check if the METER, BACK fuse is blown.
2. If no fuse is blown, connect a voltmeter to the (LY) line and (GY) line of the cluster switch, and then check whether voltage equivalent to battery voltage is applied while the ignition switch is at ON.
3. If not, there may be a malfunction of the wiring between the fuse and the cluster switch.
If there is voltage, check the voltage of the (GW) line.
4. If there is no voltage in the (GW) line, check the hazard-warning switch.
If there is voltage, there may be a malfunction of the flasher unit (in the CPU), or poor grounding of the central processing unit.
5. The grounding of the central processing unit can be checked by checking for continuity between the (B) line of the connector and body ground.
The grounding is good if there is continuity.



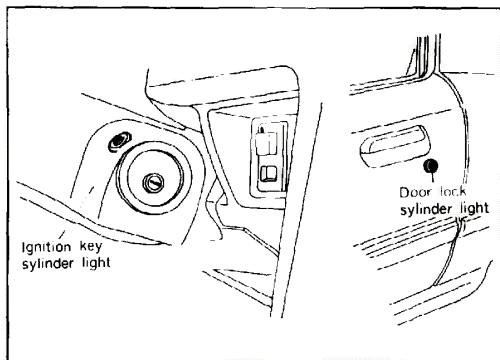
47U15X-066

Back-Up Light System

(If the back-up lights don't light:)

1. Check if the METER, BACK fuse is blown.
2. If no fuse is blown, connect a test light to the (RW) line of the rear combination light connector. Then, with the ignition switch at the ON position, check whether the test light illuminates when the shift lever is moved to the reverse position.
3. If it illuminates, there may be a poor grounding of the rear combination lights.
If it does not illuminate, check the back-up switch and the wiring.

15 LIGHTING SYSTEM



47U15X-067

Door Lock Cylinder Light and Ignition Key Cylinder Light

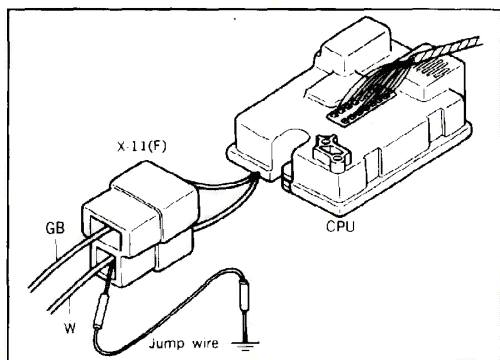
(If only the door lock cylinder light illuminates:)

The bulb may be burned out, or there may be a poor contact of the bulb connector.

(If only the ignition key cylinder light illuminates:)

Check for a burned out bulb or for a poor contact of the bulb connector.

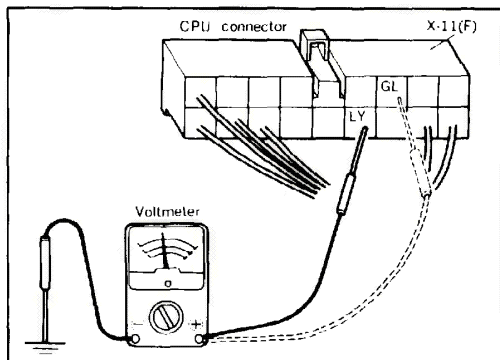
47U15X-068



47U15X-069

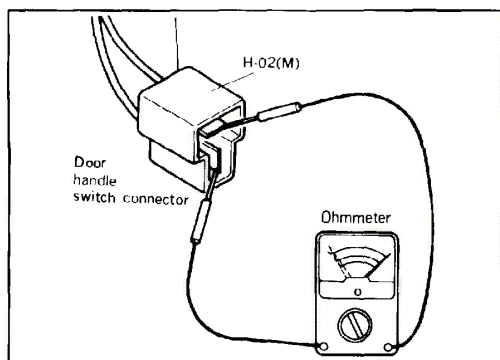
(If neither illuminates:)

1. Check for a blown fuse.
2. If no fuse is blown, use a jump wire to ground the (W) line of the central processing unit connector. If both lights illuminate, there may be a malfunction of the door handle switch, or a poor contact of the door harness and front harness.



57U15X-070

3. If neither illuminates, check whether there is voltage in the (LY) line and the (GL) line.
4. If there is no voltage, check the wiring. If there is voltage, the central processing unit may be poorly grounded or there may be a malfunction in the unit.



47U15X-071

Checking the door outer handle switch

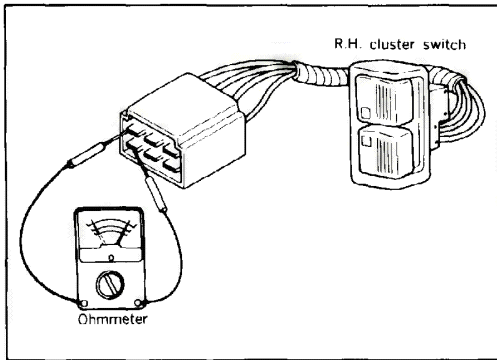
1. Disconnect the door lock cylinder light and handle switch connectors, and connect an ohmmeter.
2. Check to be sure there is continuity when the door switch is turned ON and OFF.
3. If continuity is not as specified, replace the switch.

REAR WINDOW DEFROSTER

REAR WINDOW DEFROSTER SWITCH

Inspection

1. Connect an ohmmeter as shown in the figure.
2. Check to be sure there is continuity when the switch is pressed ON, and that there is no continuity when the switch is OFF.
3. If continuity is not as specified, replace the switch.



47U15X-072

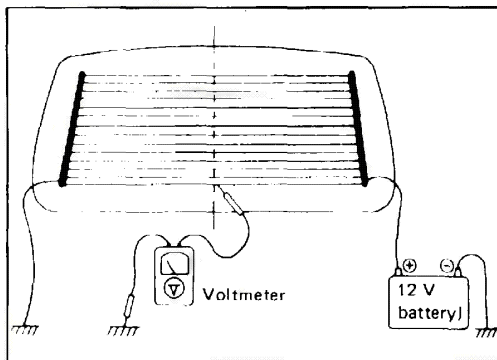
REAR WINDOW DEFROSTER FILAMENT

Inspection

1. Turn on the rear window defroster switch.
2. Connect the positive lead of a voltmeter to the center of each filament, and connect the negative lead to the body of the vehicle.

The standard voltage at the center of the filament is 6V. If the meter indication is higher than this value, the problem exists in the negative side of the filament.

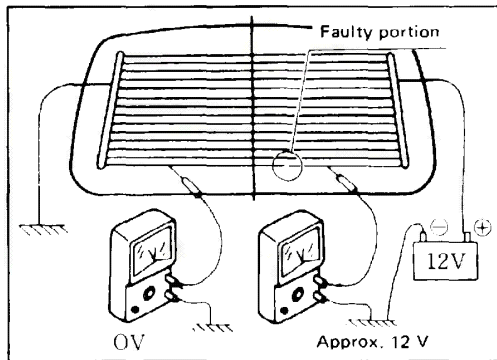
If the indication is low, or zero, the problem is between the center and the positive side.



47U15X-073

Filament Correction

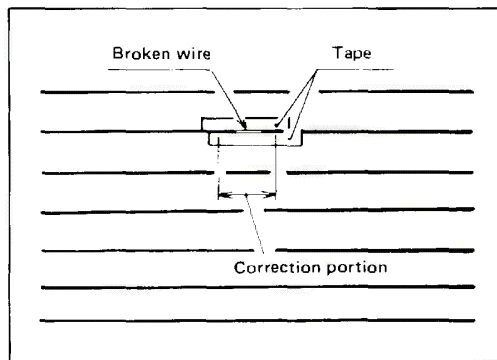
1. Clean the faulty portion by using thinner or ethyl alcohol.
2. Apply tape to either side of the faulty portion, leaving the filament exposed.
3. Use a small paint brush or drafting pen to apply silver paint (No. 2835 77 600).
4. Completely dry the corrected portion by letting it stand [at a temperature of 20°C (68°F)] for 24 hours. [The corrected portion may also be dried in 30 minutes by using a blow dryer at 60°C (140°F).]



47U15X-074

Caution

- a) Do not switch on the rear window defroster until the paint is completely dry.
- b) Do not use gasoline or other solvents to clean the faulty portion.



15 POWER WINDOW

POWER WINDOW

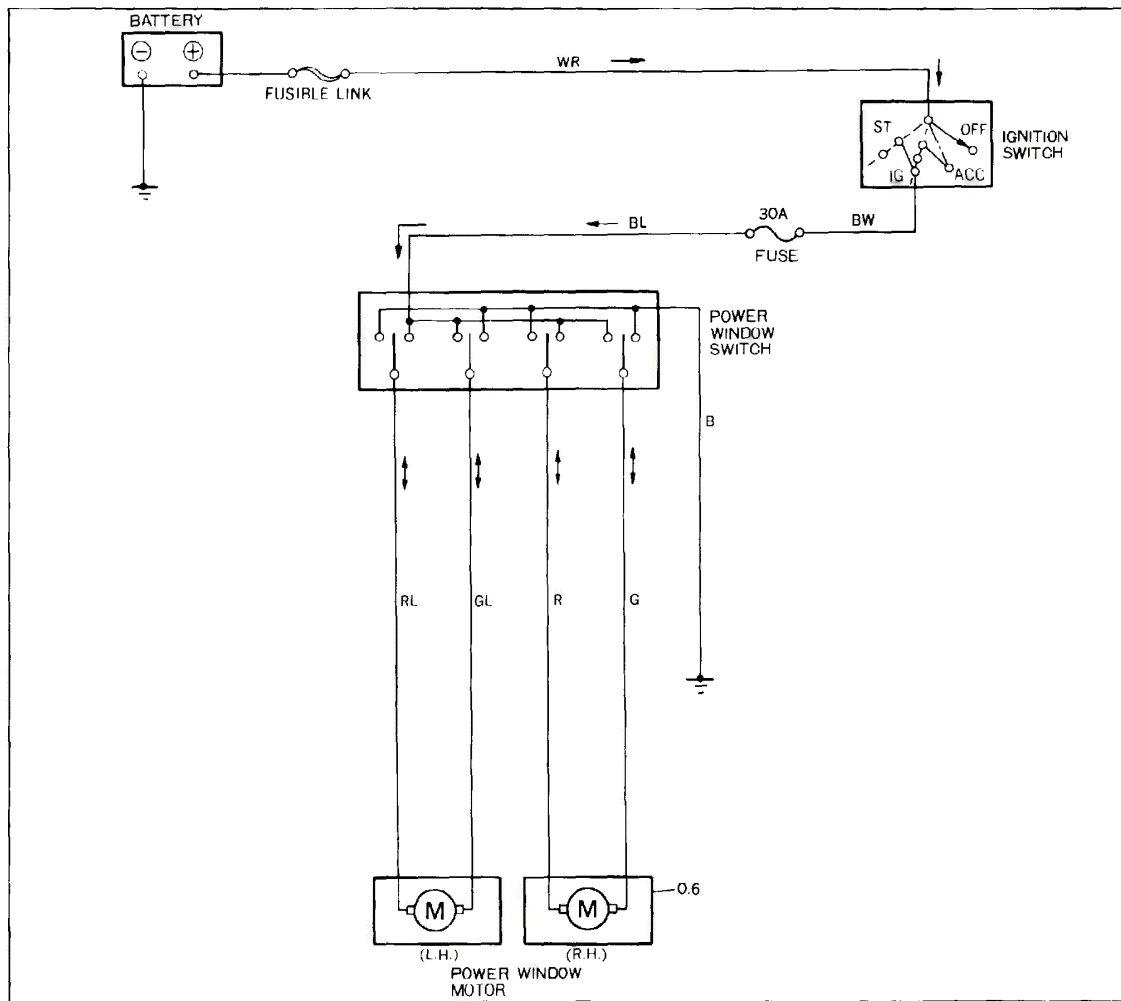
(Wiring diagram see section 1)

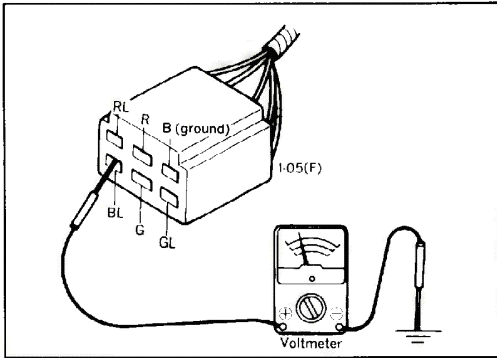
TROUBLESHOOTING GUIDE

Problem	Possible Cause	Remedy	Page
Power window system do not work	POWER WINDOW fuse blown	Replace fuse and check for short	15-13
	Faulty power window switch	Check power window switch	15-37
	Faulty wiring or ground	Repair as necessary	
Only one side window does not work	Faulty power window switch	Check power window switch	15-37
	Faulty power window motor	Check or replace motor	15-37
	Faulty wiring	Repair as necessary	

47U15X-075

CIRCUIT DIAGRAM



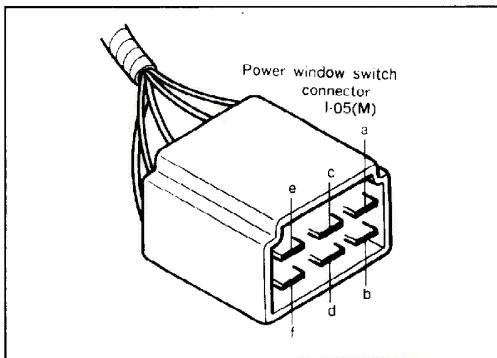


57U15X-076

POWER WINDOW SWITCH

Checking the Circuit

1. Disconnect the connector from the power window switch.
2. Using a voltmeter, measure the voltage between the line (BL) and body ground with the ignition switch ON.
3. If there is no voltage, check the fuse or repair the wiring harness.
4. Using an ohmmeter, check the ground connection between line (B) and body ground.



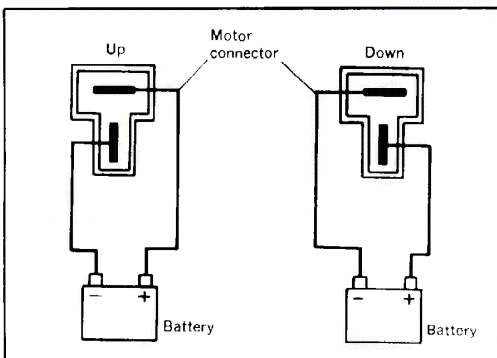
47U15X-077

Checking the Switches

Use an ohmmeter to check for continuity of each terminal of the switches. If continuity is not as specified, replace the power window switch.

○—○ : Indicates continuity

Position		Terminal	a	b	c	d	e	f
Left side switch (driver's seat side)	UP		○—○	○			○	
	OFF		○—○	○			○	
	DOWN			○	○			○
Right side switch	UP					○—○	○	
	OFF				○	○	○	
	DOWN				○	○	○	



57U15X-078

POWER WINDOW MOTOR

Checking the Motor

1. Disconnect the connector of the power window motor. Then check to be sure that the window raises and lowers when battery voltage is directly applied to the motor connector, as shown in the figure.
2. Replace the motor if operation is not normal.

Caution

- a) Do not short-circuit the lead wiring to the body.
- b) Do not put your hand inside the door.

15 REMOTE FUEL-DOOR RELEASE SYSTEM

REMOTE FUEL-DOOR RELEASE SYSTEM

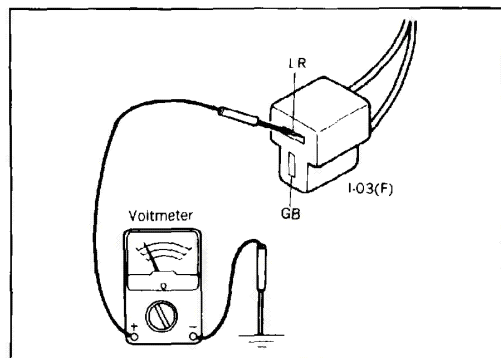
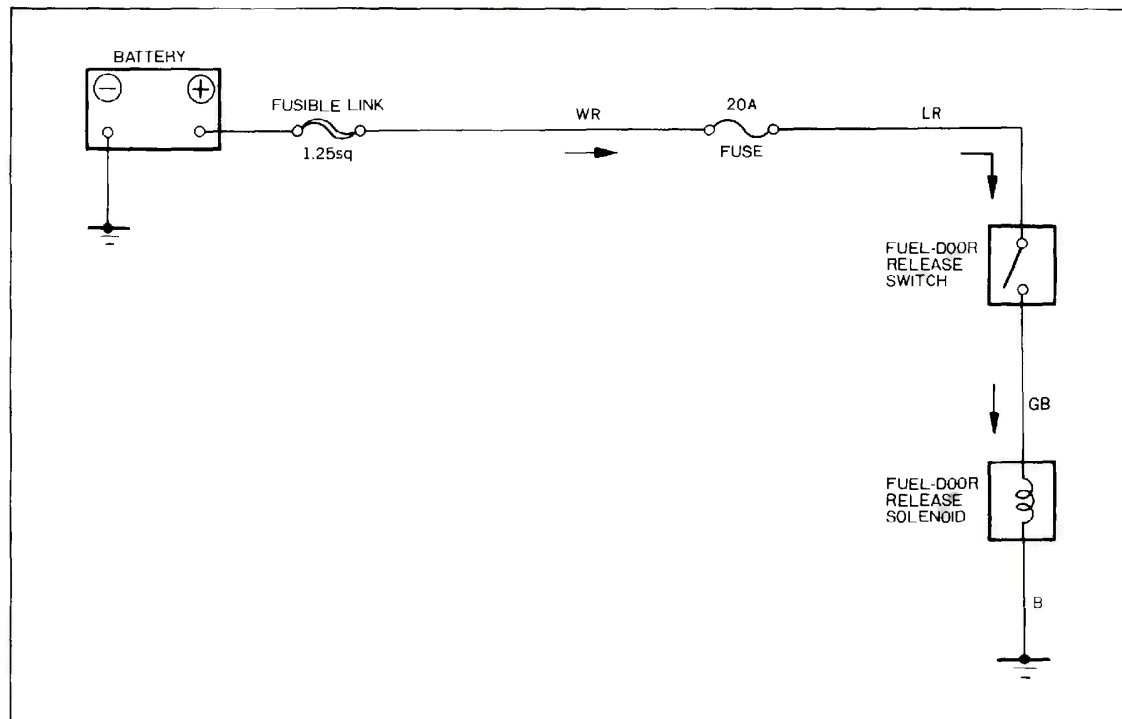
(Wiring diagram see section I)

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Remedy	Page
Remote fuel-door release system does not work	OPENER fuse blown	Replace fuse and check for short	15-13
	Faulty fuel-door release switch	Check fuel-door release switch	15-38
	Faulty fuel-door release solenoid	Check fuel-door release solenoid	15-31
	Faulty wiring or ground	Repair as necessary	

47U15X-079

CIRCUIT DIAGRAM

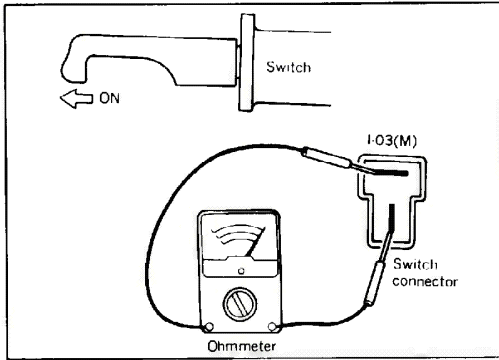


47U15X-080

REMOTE FUEL-DOOR RELEASE SWITCH

Checking the Circuit

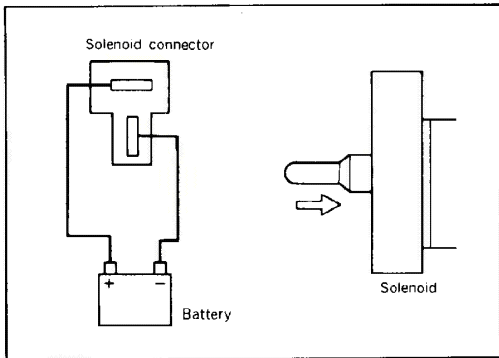
1. Disconnect the connector from the remote fuel-door release switch.
2. Using a voltmeter, measure the voltage between the line (LR) and body ground.
3. If there is no voltage, check the fuse or repair the wiring harness.



47U15X-081

Checking the Switch

1. Using an ohmmeter, check to be sure there is continuity when the switch is pulled ON, and that there is no continuity when the switch is OFF.
2. If the continuity is not as specified, replace the switch.



47U15X-082

REMOTE FUEL-DOOR RELEASE SOLENOID

Checking the Solenoid

1. Connect the lead wires, solenoid terminals and battery as shown in the figure.
2. If the solenoid does not function, replace it.

REMOTE GLASS-HATCH RELEASE SYSTEM

(Wiring diagram see section I)

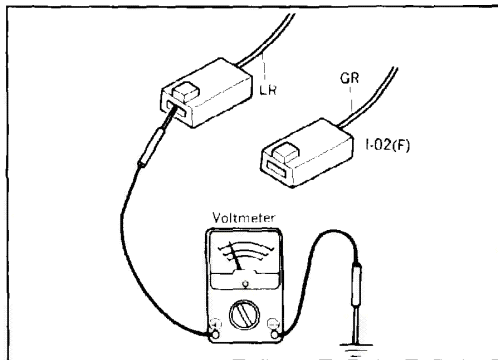
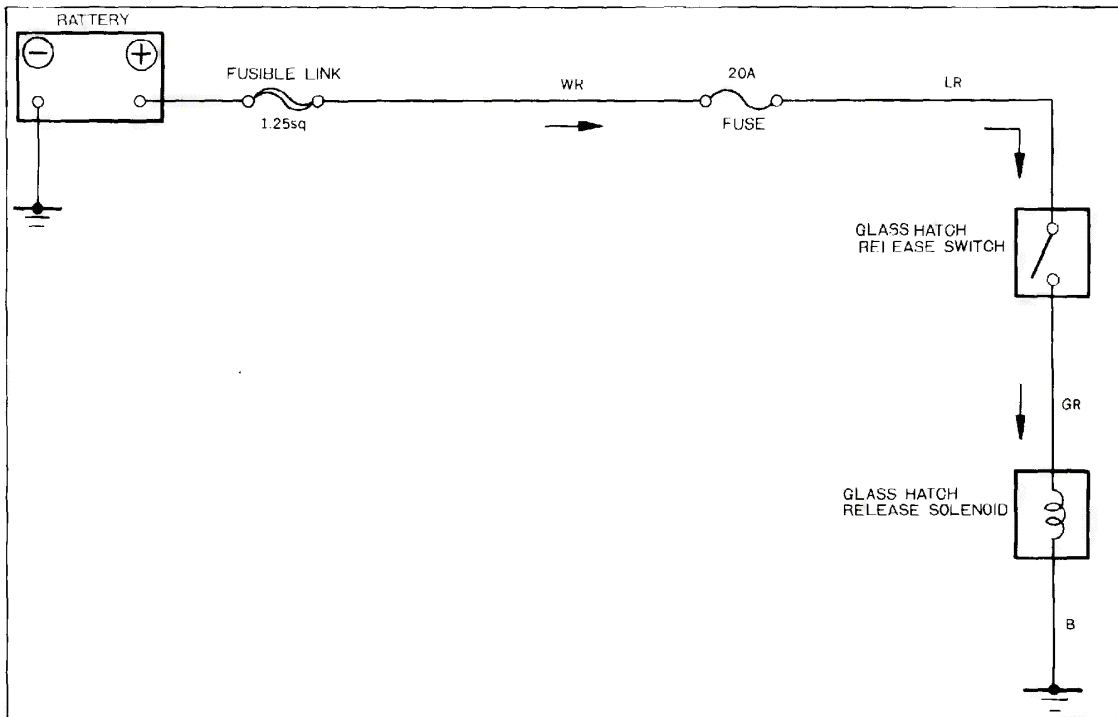
TROUBLESHOOTING GUIDE

Problem	Possible Cause	Remedy	Page
Remote glass-hatch release system does not work	OPENER fuse blown	Replace fuse and check for short	15-13
	Faulty glass-hatch release switch	Check glass-hatch release switch	15-40
	Faulty glass-hatch release solenoid	Check glass-hatch release solenoid	15-41
	Faulty wiring or ground	Repair as necessary	

47U15X-083

15 REMOTE GLASS HATCH RELEASE SYSTEM

CIRCUIT DIAGRAM

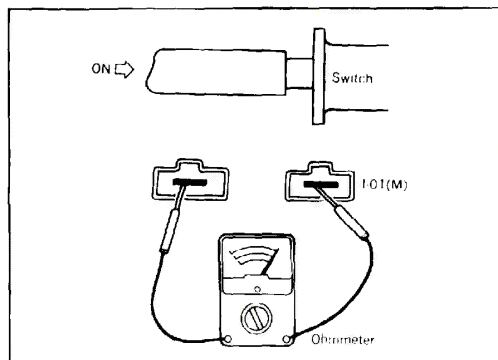


57U15X-084

REMOTE GLASS HATCH RELEASE SWITCH

Checking The Circuit

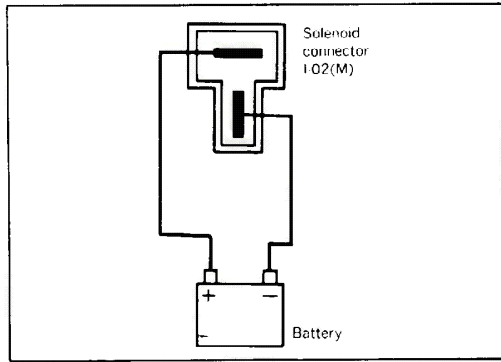
1. Disconnect the connectors from the remote trunk-lid release switch.
2. Using a voltmeter, measure the voltage between the line (LR) and body ground.
3. If there is no voltage, check the fuse or repair the wiring harness.



57U15X-085

Checking the Switch

1. Using an ohmmeter, check to be sure that there is continuity when the switch is pressed ON, and that there is no continuity when the switch is OFF.
2. If the continuity is not as specified, replace the switch.



47U15X-086

REMOTE GLASS HATCH RELEASE SOLENOID

Checking the Solenoid

1. Connect the lead wires, solenoid terminals and battery as shown in the figure.
2. If the solenoid does not function, replace it.

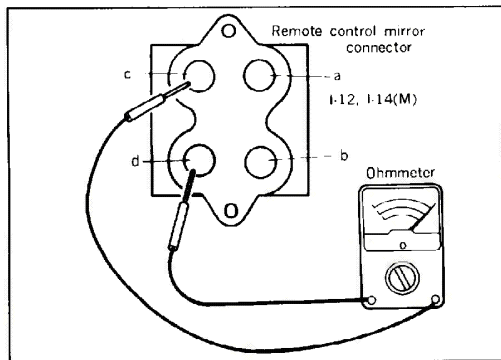
REMOTE CONTROL MIRRORS

(Wiring diagram see section I)

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Remedy	Page
Remote control mirrors do not work	CIGAR fuse blown	Replace fuse and check for short	15-13
	Faulty remote control mirror switch	Check remote control mirror switch	15-42
	Faulty wiring	Repair as necessary	
Only one side mirror does not work	Faulty remote control mirror switch	Check remote control mirror switch	15-42
	Faulty remote control mirror	Check remote control mirror	15-41
	Faulty wiring or ground	Repair as necessary	

47U15X-087



47U15X-089

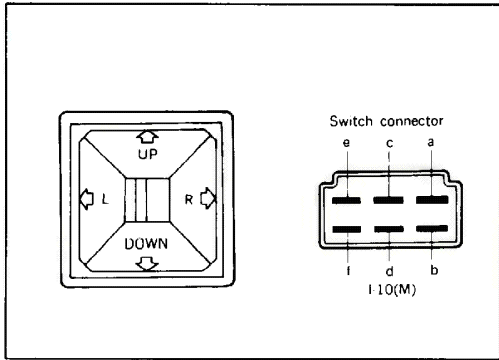
REMOTE CONTROL MIRROR

Inspection

1. Connect an ohmmeter to each of the terminals of the mirror connector and check for continuity.

Terminal	Continuity
a - b	Yes
c - d	Yes
a - c	No
b - d	No

15 REMOTE CONTROL MIRRORS



57U15X-090

REMOTE CONTROL MIRROR SWITCH

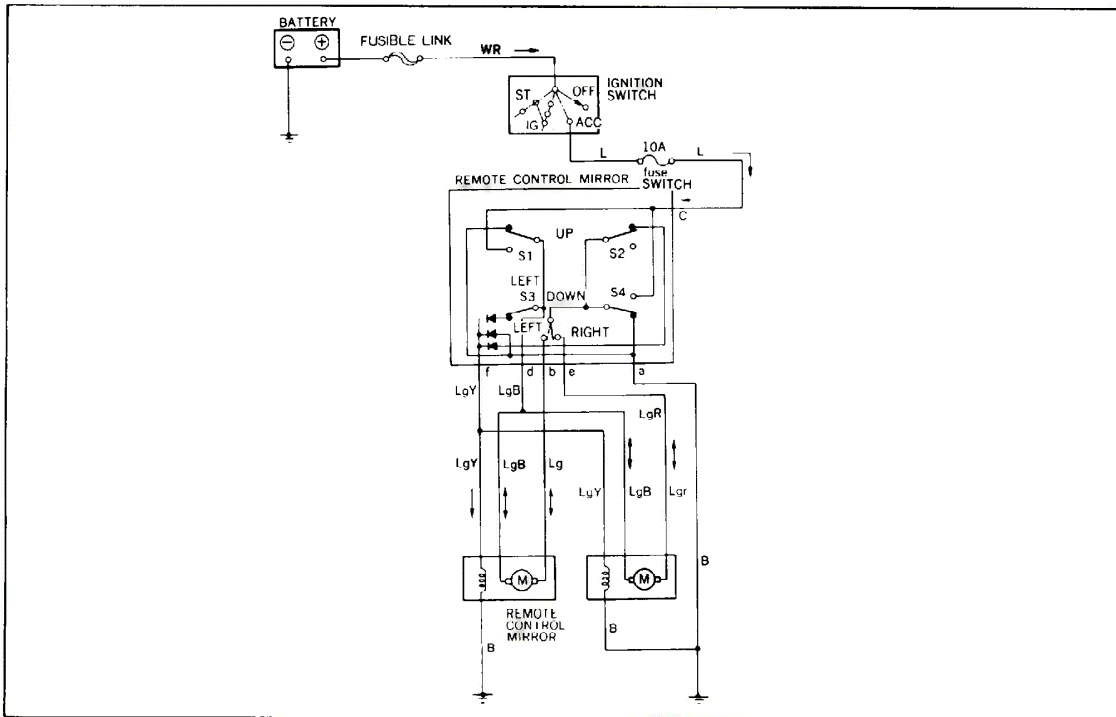
Inspection

Use an ohmmeter to check the continuity of each terminal of the switch.

If continuity is not as specified, replace the switch.

Position		Terminal					
		c	a	b	e	d	f
Left side	UP	○	○	○	○	○	○
	DOWN	○	○	○	○	○	○
	LEFT	○	○	○	○	○	○
	RIGHT	○	○	○	○	○	○
Right side	UP	○	○	○	○	○	○
	DOWN	○	○	○	○	○	○
	LEFT	○	○	○	○	○	○
	RIGHT	○	○	○	○	○	○

CIRCUIT DIAGRAM



WINDSHIELD WIPERS

(Wiring diagram see section D)

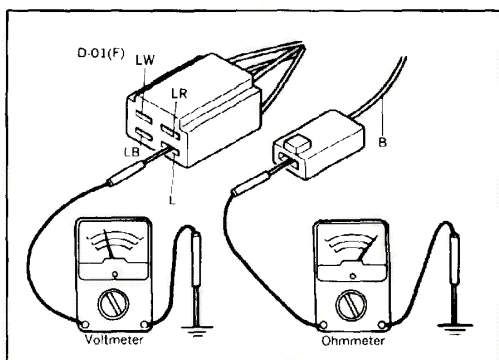
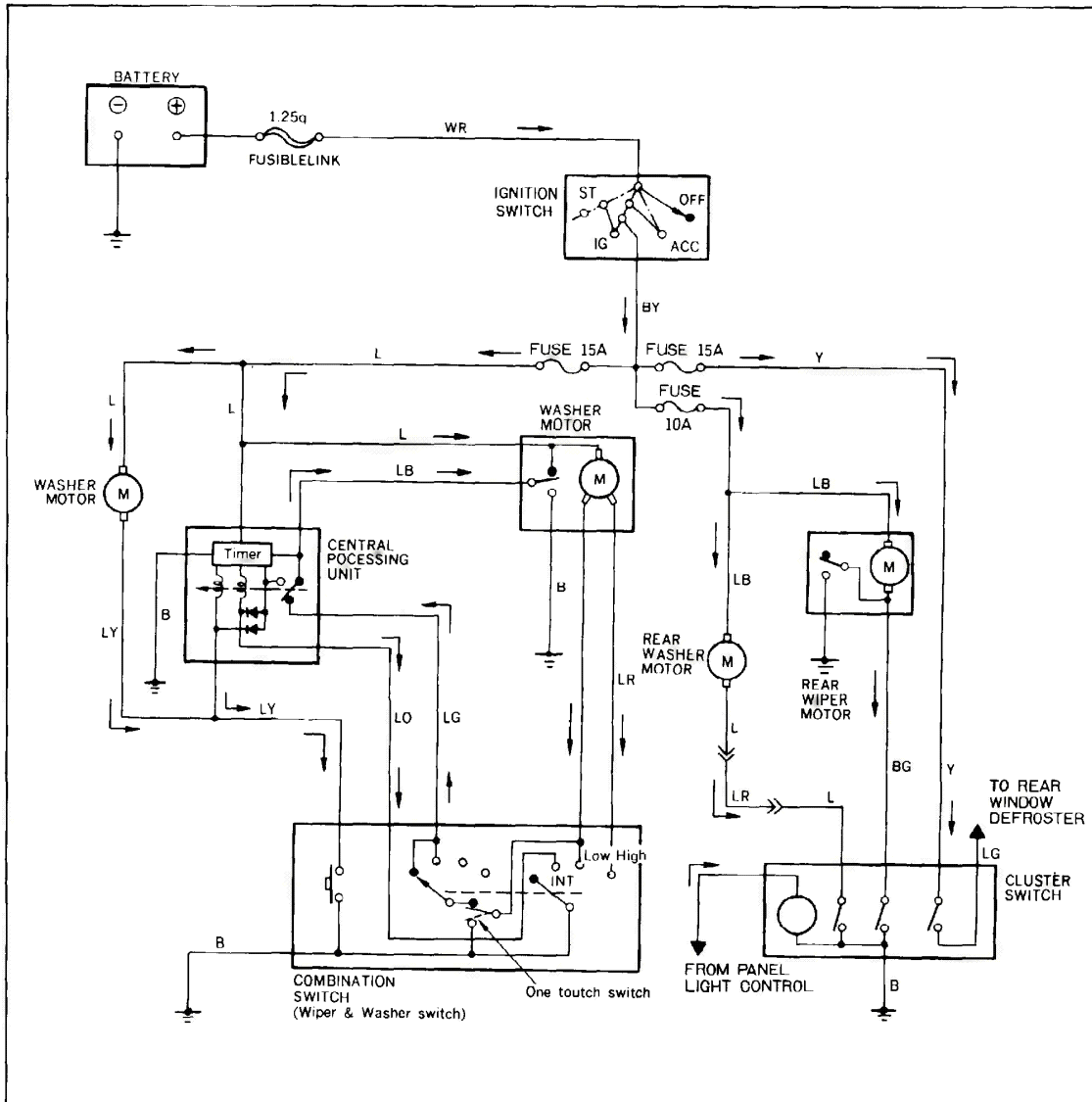
TROUBLESHOOTING GUIDE

Problem	Possible Cause	Remedy	Page
Wipers do not work	WIPER fuse blown	Replace fuse and check for short	15-13
	Faulty wiper motor	Check wiper motor	15-14
	Faulty combination switch (wiper switch)	Check wiper switch	15-15
	Faulty wiring or ground	Repair as necessary	
Intermittent wipers do not work	Faulty intermittent wiper relay (in the CPU)	Check intermittent wiper relay	15-45
	Faulty combination switch (wiper switch)	Check wiper switch	15-15
	Faulty wiring or ground	Repair as necessary	
Washer does not work	WIPER fuse blown	Replace fuse and check for short	15-13
	Faulty washer motor	Check or replace washer motor	15-45
	Faulty combination switch (wiper & washer switch)	Check wiper & washer switch	15-15
	Faulty wiring	Repair as necessary	
Rear wiper does not work	R. WIPER fuse blown	Replace fuse and check for short	15-13
	Faulty rear wiper motor	Check rear wiper motor	15-46
	Faulty rear wiper switch	Check rear wiper switch	15-16
	Faulty wiring or ground	Repair as necessary	
Rear window washer do not work	Faulty washer motor	Check or replace washer motor	15-46
	Faulty washer switch	Check rear wiper switch	15-16
	Faulty wiring	Repair as necessary	
Abnormal noise during wiper operation	Brush wear	Replace	
	Loose motor mounting screw	Tighten	
	Insufficient grease in link joint	Supply grease	

57U15X-091

15 WINDSHIELD WIPERS

CIRCUIT DIAGRAM

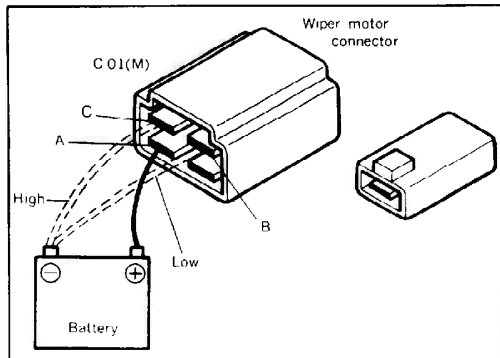


47U15X-092

WINDSHIELD WIPER MOTOR

Checking the Circuit

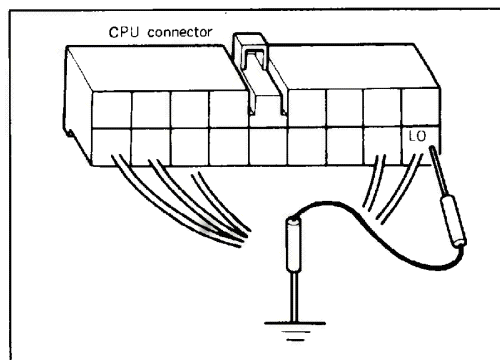
1. Disconnect the connector from the wiper motor.
2. Using a voltmeter, measure the voltage between the line (L) and body ground with the ignition switch ON.
3. If there is no voltage, check the fuse or repair the wiring harness.
4. Using an ohmmeter, check the ground connection between the line (B) and body ground.



47U15X-093

Checking the Wiper Motor

1. Connect the positive (+) lead from the battery to terminal (A) of the motor connector.
2. Connect the negative (-) lead to terminal (B) of the motor connector.
3. Be sure the motor turns at low speed.
4. Connect the negative (-) lead to terminal (C) of the motor connector.
5. Be sure the motor turns at high speed.

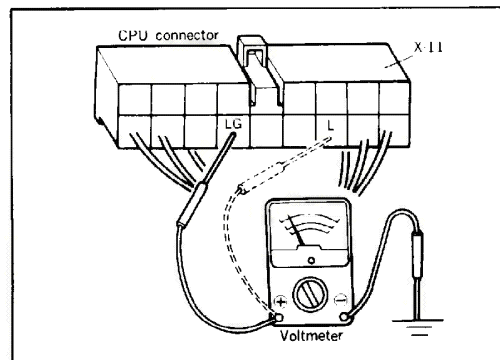


47U15X-094

INTERMITTENT WIPER RELAY (In the CPU)

Inspection

1. Connect the line (LO) of the CPU to body ground.
2. Turn the ignition switch ON.
3. Be sure that the intermittent wiper operates.

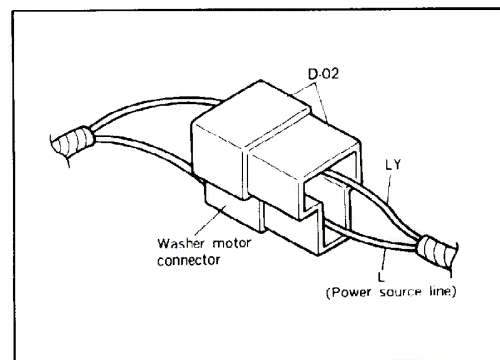


57U15X-095

4. If there is no wiper motor operation, check the voltage of the power source line (L) and (LW). If 12V is indicated, check the ground connection of the CPU or check the wiper motor. If there is no voltage, replace the CPU.

WIPER & WASHER SWITCH

Refer to "COMBINATION SWITCH"

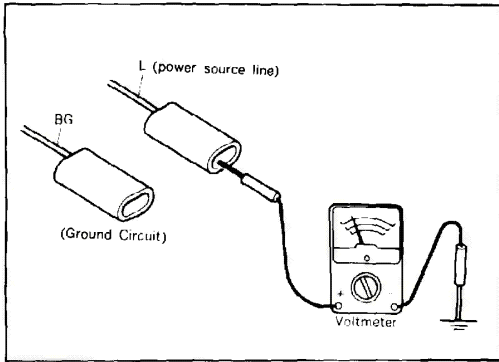


57U15X-096

FRONT WINDOW WASHER

Checking the Washer Motor

1. Using a voltmeter, measure the voltage between the line (L) and body ground with the ignition switch ON.
2. If there is no voltage, check the fuse or repair the wiring harness.
3. If the line (L) voltage is normal, connect the line (LY) to the body ground.
4. If the washer motor does not operate, replace the washer motor.

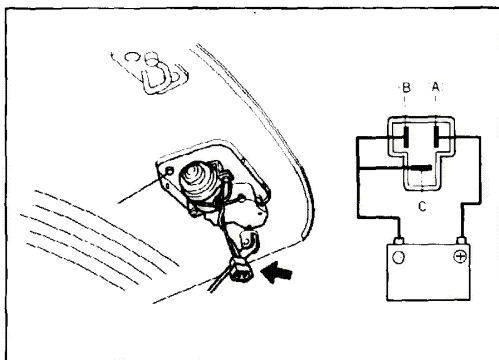


47U15X-097

REAR WIPER MOTOR

Checking the Circuit

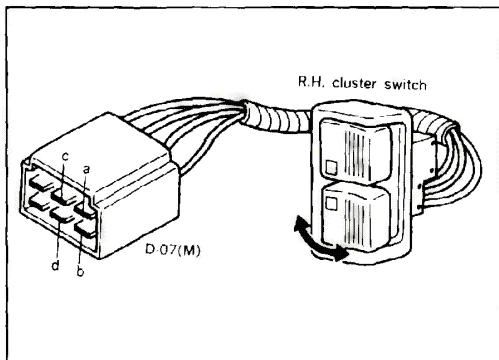
1. Using a voltmeter, measure the voltage between the line (L) and body ground with the ignition switch ON.
2. If there is no voltage, check the fuse or repair the wiring harness.



47U15X-098

Checking the Wiper Motor

1. Connect the positive (+) lead from the battery to terminal (A) of the motor connector.
2. Connect the negative (-) lead to terminal (B) and (C) of the motor connector.
3. Be sure the motor turns.



47U15X-099

REAR WIPER SWITCH

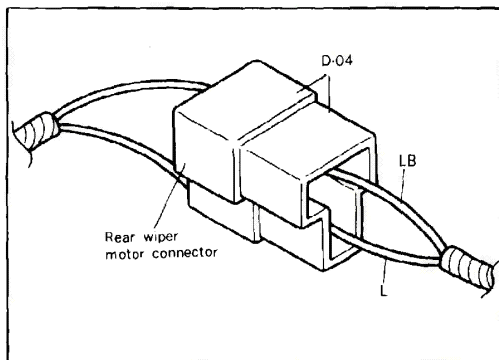
Checking the Wiper Switch

Use an ohmmeter to check the continuity of each terminal of the switch.

If, continuity is not as specified, replace the switch.

	Terminal			
Switch position	a	b	c	d
Rear wiper ON	○—○			
Rear wiper ON and washer ON	○—○—○			
Rear wiper OFF				
Rear wiper OFF and washer ON		○—○		

○—○ : Indicates continuity



57U15X-100

REAR WASHER

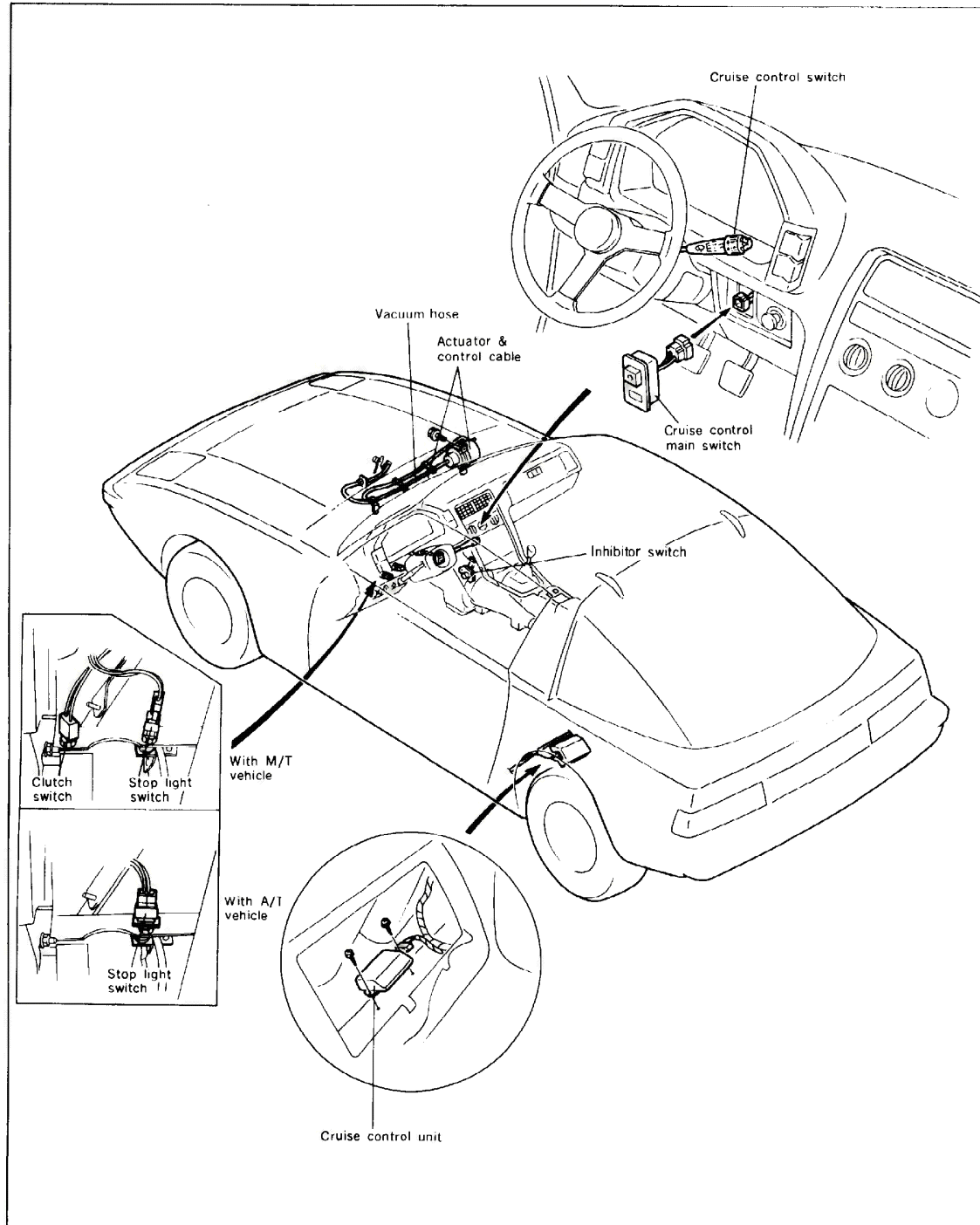
Checking the Rear Washer Motor

1. Using a voltmeter, measure the voltage between the line (LB) and body ground with ignition switch ON.
2. If there is no voltage, check the fuse or repair the wiring harness.
3. If the line (LB) voltage is normal, connect the line (L) to the body ground.
4. If the washer motor does not operate, replace the washer motor.

CRUISE CONTROL SYSTEM

(Wiring diagram see section K)

STRUCTURAL VIEW



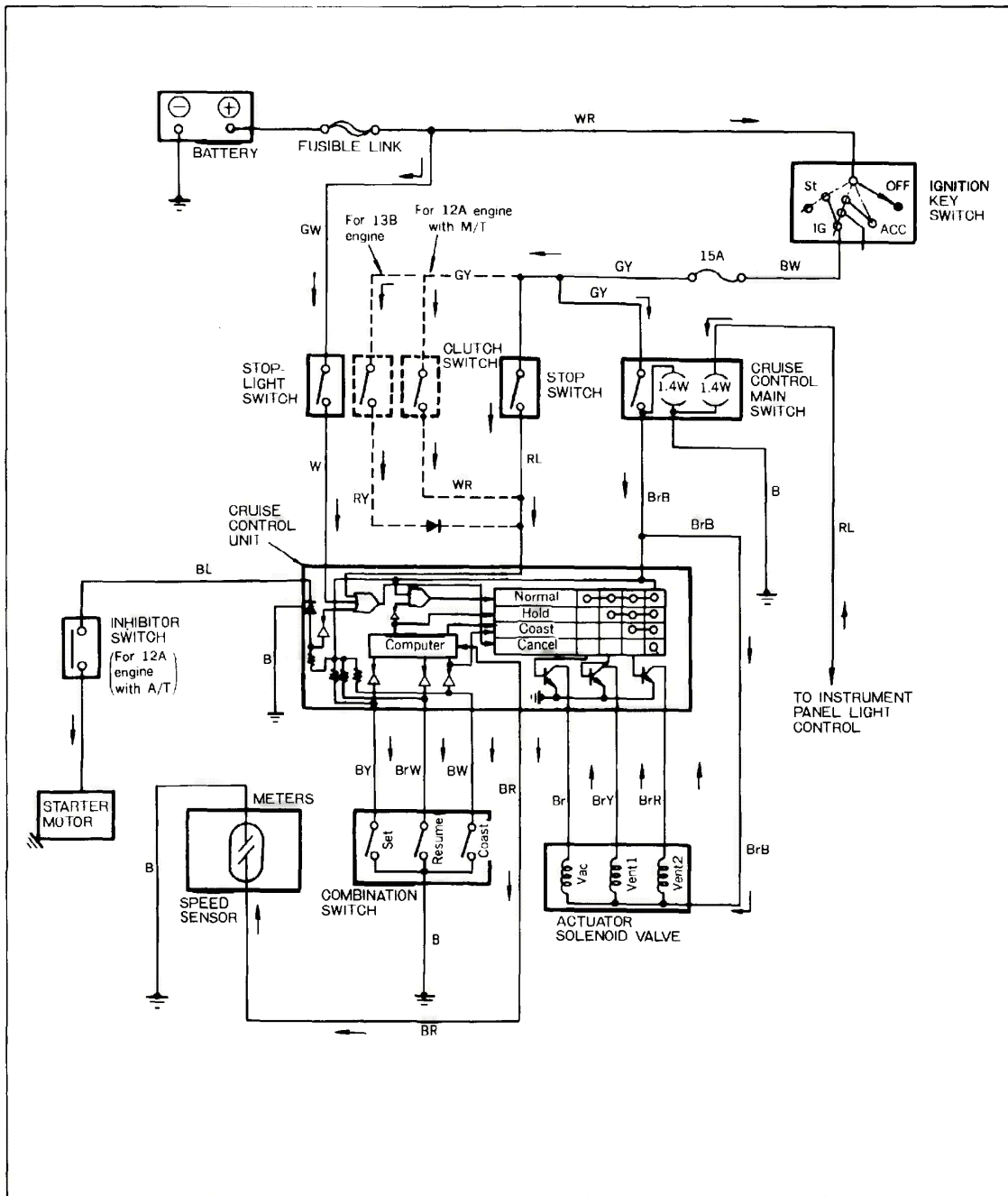
15 CRUISE CONTROL SYSTEM

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Remedy	Page
Cruise control system does not work	METER, BACK fuse blown	Replace fuse and check for short	15-13
	Faulty main switch	Check main switch	15-52
	Faulty control unit	Check control unit	
	Faulty actuator	Check actuator	15-53
	Faulty control switch	Check control switch	15-15
	Faulty speed sensor	Check speed sensor	15-53
	Clutch switch malfunction (M/T vehicle only)	Adjust or replace clutch switch	15-52
	Stop switch malfunction	Adjust or replace stop switch	15-52
	Inhibitor switch malfunction (A/T vehicle only)	Adjust or replace inhibitor switch	15-52
Faulty wiring or ground	Repair as necessary		
Speed setting can not be cancelled	Faulty control unit	Check control unit	
	Clutch switch malfunction (M/T vehicle only)	Adjust or replace clutch switch	15-54
	Stop switch malfunction	Adjust or replace stop switch	15-54
	Inhibitor switch malfunction (A/T vehicle only)	Adjust or replace inhibitor switch	
The set speed is not held	Faulty actuator	Check actuator	15-53
	Actuator control cable malfunction	Adjust or replace control cable	15-51
	Faulty control unit	Check control unit	
	Faulty speed sensor	Check speed sensor	15-53
Cruise control system does not function immediately	Faulty actuator	Check actuator	15-53
	Actuator control cable malfunction	Adjust or replace control cable	15-51
	Faulty control switch	Check control switch	15-15
	Faulty control unit	Check control unit	

47U15X-101

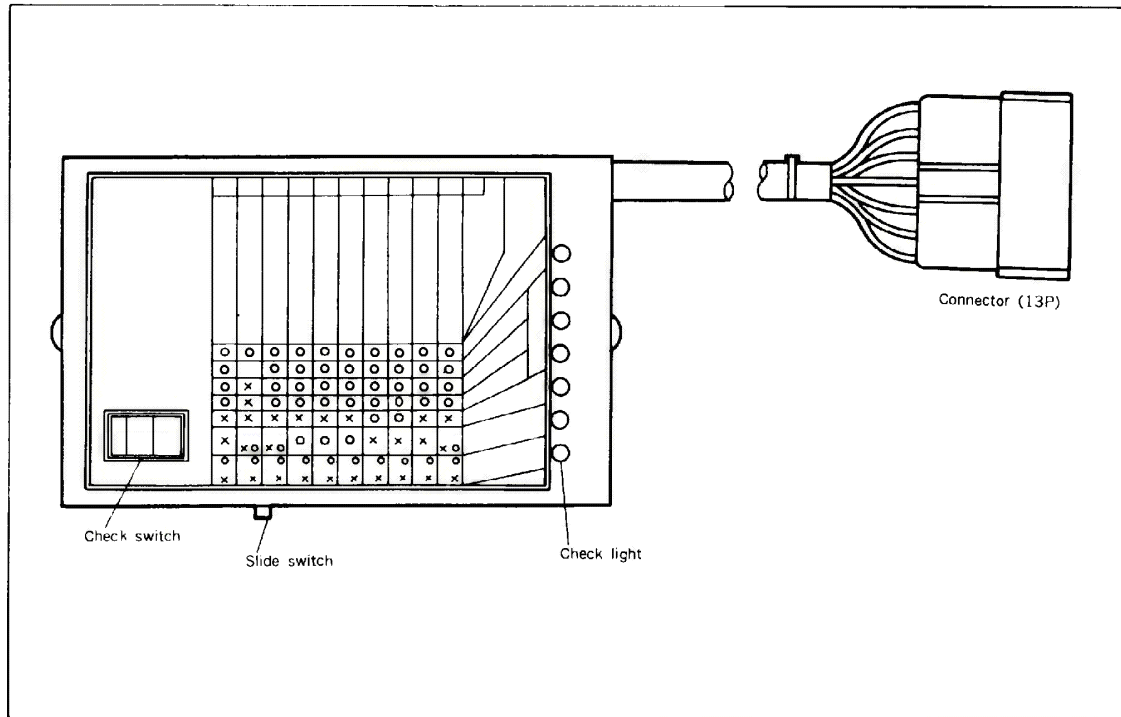
CIRCUIT DIAGRAM



15 CRUISE CONTROL SYSTEM

ON-VEHICLE INSPECTION (USING ACC CHECKER)

ACC CHECKER (49 9200 010)



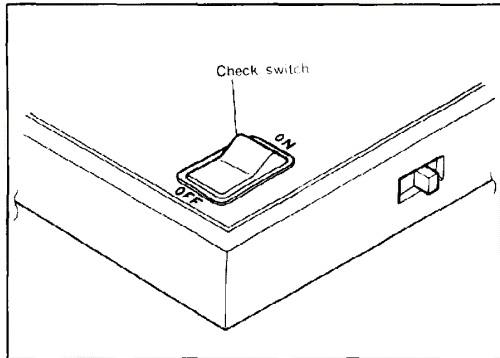
Function of the ACC CHECKER

A. Check lights

Each item is verified by a check light, as described below.

Check light	Check items
MAIN SW.	Ignition switch, fuse, main switch and associated wiring harness terminals and connectors.
ACTUATOR—VAC	VAC coil continuity in the actuator and associated harness.
ACTUATOR—VENT 2	VENT 2 coil continuity in the actuator and associated harness.
ACTUATOR—VENT 1	VENT 1 coil continuity in the actuator and associated harness.
CLUTCH/BRAKE SW.	Clutch switch (M/T vehicles only), brake switch and associated harness.
COMBINATION/INH. SW.	"SET", "COAST" and "RESUME" positions in the combination switch, inhibitor switch (A/T vehicles only), and associated harness.
GENERATOR	Speed sensor output and associated harness.

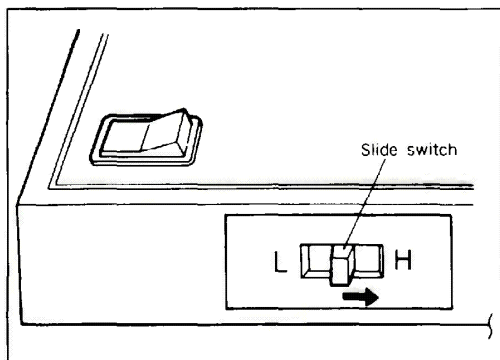
47U15X-102



57U15X-103

B. Check switch

The check switch in the ACC checker is used to check the actuator operation while the engine is running. When the check switch is held on after the engine is started, the engine revolution increases to approximately 2,000 to 3,000 rpm and is maintained at that level. When the check switch is then released, the engine revolution decreases to idle speed.



57U15X-104

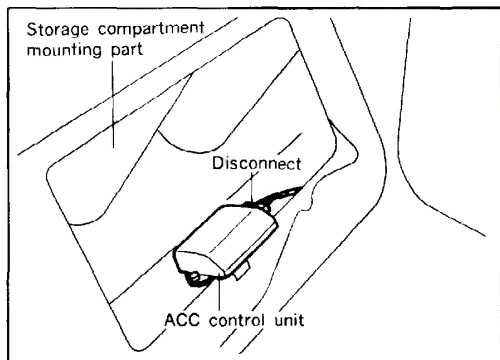
C. Slide switch

Set the slide switch in the H position before the check switch is used.

Then engine rpm will increase to approximately 2,000 to 3,000 rpm, and will hold steady.

Note

If engine revolution does not come up, and remain in the 2,000 to 3,000 rpm range, adjust the freeplay of the actuator inner cable.

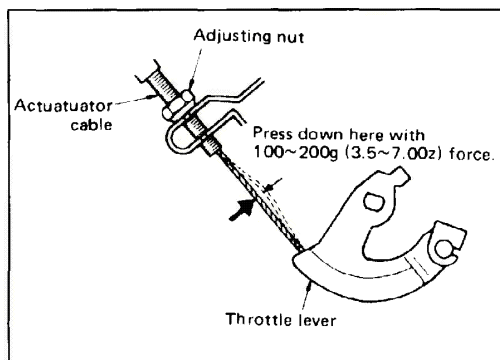


47U15X-105

Preparations

1. Acc checker installation

Depress the lock hook of the harness connector. Remove the connector from the ACC control unit after the ignition switch and main switch are turned off, and connect then the harness connector to the ACC checker.



47U15X-106

2. Checking the freeplay of the actuator inner cable

Remove the clip and adjust the nut so that the actuator control cable play is as follows when the cable is pressed lightly.

12A engine vehicle: 7 ~ 13 mm (0.28 ~ 0.51 in)

13B engine vehicle: 6 ~ 11 mm (0.24 ~ 0.43 in)

15 CRUISE CONTROL SYSTEM

Checking the System

Check table

○ : Represents : Light ON
 X : Represents : Light OFF

CHECK ITEMS AND CONDITIONS	CHECK LIGHTS (correct response)						TROUBLESHOOTING (INCORRECT RESPONSE)	
	MAIN SW.	ACTUATOR			CLUTCH/BRAKE SW.	COMBINATION/INH. SW.		GENERATOR
		VAC	VENT 2	VENT 1				
1. MAIN SW. CONTINUITY: <ul style="list-style-type: none"> ● Ignition switch ON ● Main switch ON 	○	○	○	○	X	A/T ○ M/T X	○ or X	ALL LIGHTS OFF: Check ignition switch, main switch, fuse, and associated harness terminals and connectors
2. INHIBITOR SW. CONTINUITY: <ul style="list-style-type: none"> ● Ignition and main switch ON. ● Shift lever to "D" (A/T) ● Depress brake pedal 	○	○	○	○	X	X	○ or X	COMBINATION/INH. SW. LIGHT ON: Check inhibitor switch and associated harness.
3. BRAKE SW. CONTINUITY: <ul style="list-style-type: none"> ● Ignition and main switch ON ● Shift lever to "D" (A/T) ● Depress brake pedal 	○	○	○	○	○	X	○ or X	CLUTCH/BRAKE SW. LIGHT OFF: Check brake switch and associated harness.
4. CLUTCH SW. CONTINUITY <ul style="list-style-type: none"> ● Ignition switch ON ● Main switch ON ● Depress clutch pedal 	○	○	○	○	○	X	○ or X	CLUTCH/BRAKE SW. LIGHT OFF: Check clutch switch and associated harness.
5. "SET" POSITION OF COMBINATION SWITCH: <ul style="list-style-type: none"> ● Ignition switch ON ● Main switch ON ● Shift lever to "D" (A/T) ● Push to "SET" position of combination switch 	○	○	○	○	X	○	○ or X	COMBINATION/INH. SW. LIGHT OFF: Check "SET" position of combination switch and associated harness.
6. "COAST" POSITION OF COMBINATION SWITCH <ul style="list-style-type: none"> ● Ignition switch ON ● Main switch ON ● Shift lever to "D" (A/T) ● Turn to "COAST" position of combination switch 	○	○	○	○	X	○	○ or X	COMBINATION/INH. SW. LIGHT OFF: Check "COAST" position in combination switch and associated harness.
7. "RESUME" POSITION OF COMBINATION SWITCH <ul style="list-style-type: none"> ● Ignition switch ON ● Main switch ON ● Shift lever to "D" (A/T) ● Turn to "RESUME" position of combination switch 	○	○	○	○	X	○	○ or X	COMBINATION/INH. SW. LIGHT OFF: Check "RESUME" position of combination switch and associated harness.

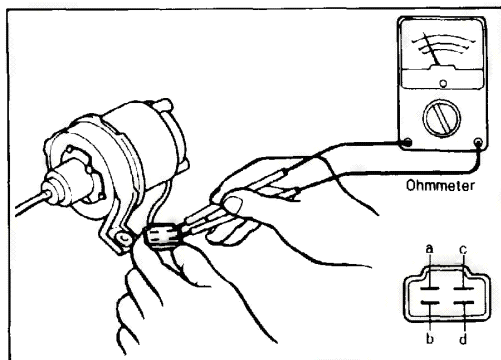
57U15X-107

CHECK ITEMS AND CONDITIONS	CHECK LIGHTS (correct response)						TROUBLESHOOTING (INCORRECT RESPONSE)	
	MAIN SW.	ACTUATOR			CLUTCH/BRAKE SW.	COMBINATION/INH. SW.		GENERATOR
		VAC	VENT 2	VENT 1				
8. START THE ENGINE ● Shift lever to "N" position (A/T)	○	○	○	○	X	A/T ○ M/T X	○ or X	
9. ACTUATOR OPERATION: ● After engine is started, set the slide switch "H". Then turn to "ON" check switch and keep "ON" position Note: Make sure to increase engine speed. If over 4,000 rpm "release the switch" immediately.	○	X ↓ ○	X	X	X	A/T ○ M/T X	○ or X If engine revolution does not come up, and remain in the 2,000 to 3,000 rpm range, trouble may be with actuator and associated harness.	
10. SPEED SENSOR OUTPUT keeping idling condition, drive vehicle slowly.	○	○	○	○	X	X	○ X If GENERATOR LIGHT does not flash, trouble may be with speed sensor and associated harness.	

CRUISE CONTROL UNIT

If there is an operation malfunction of the cruise control system, and no abnormal condition when an ACC checker is used to check items 1 to 10, try replacing the cruise control unit.

47U15X-108



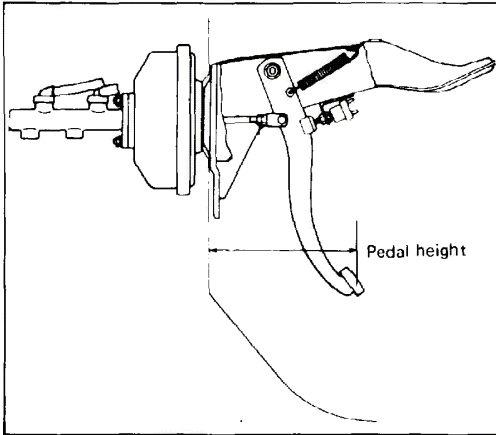
47U15X-109

Inspection of actuator solenoid

Measure the actuator solenoid resistance by using an ohmmeter.

Check terminals	Resistance
a - b	Approx. 25 to 35 ohms
a - c	
a - d	

15 OVER DRIVE SYSTEM



47U15X-110

CLUTCH SWITCH, BRAKE SWITCH

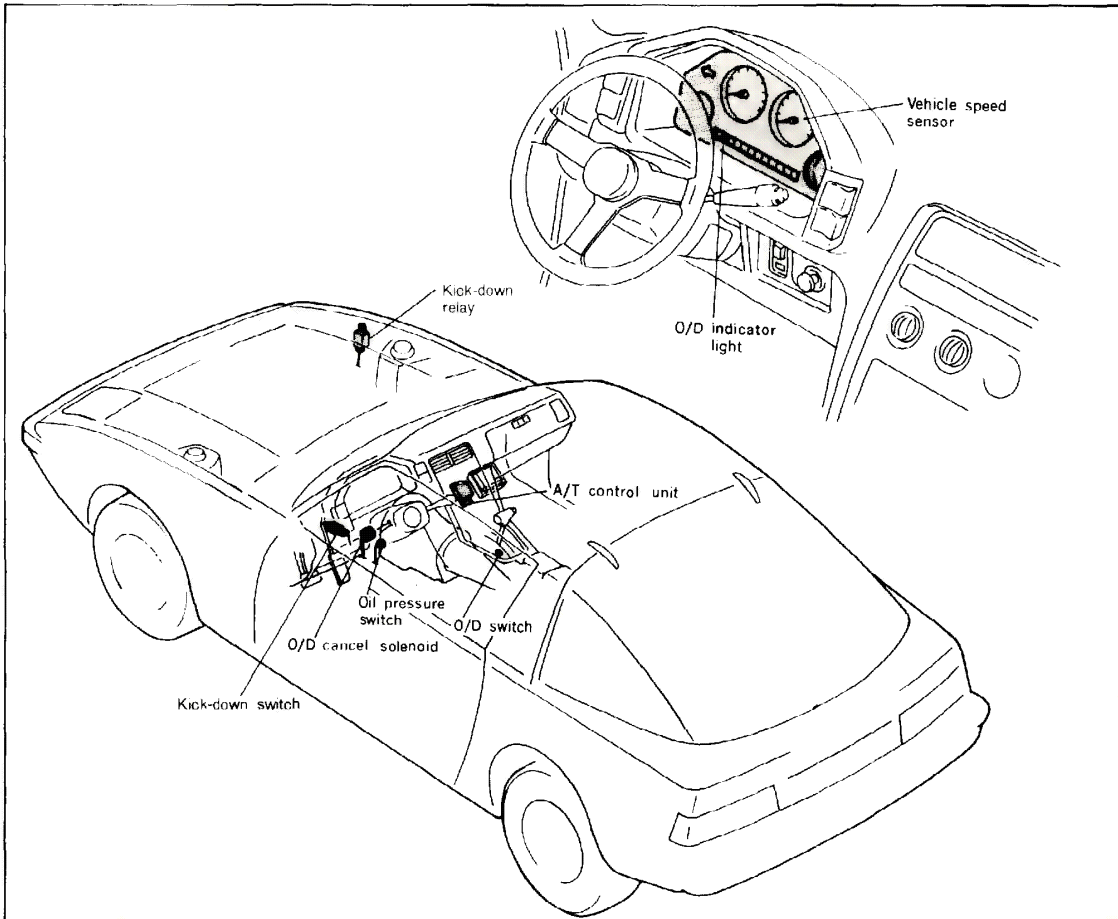
When removing these switches, turn each of them to adjust so that the corresponding pedal height agrees with the standard value.

**Clutch pedal and brake pedal height:
190 ~ 195 mm (7.48 ~ 7.68 in)**

OVER DRIVE SYSTEM

(Wiring diagram section A-1, C)

STRUCTURAL VIEW

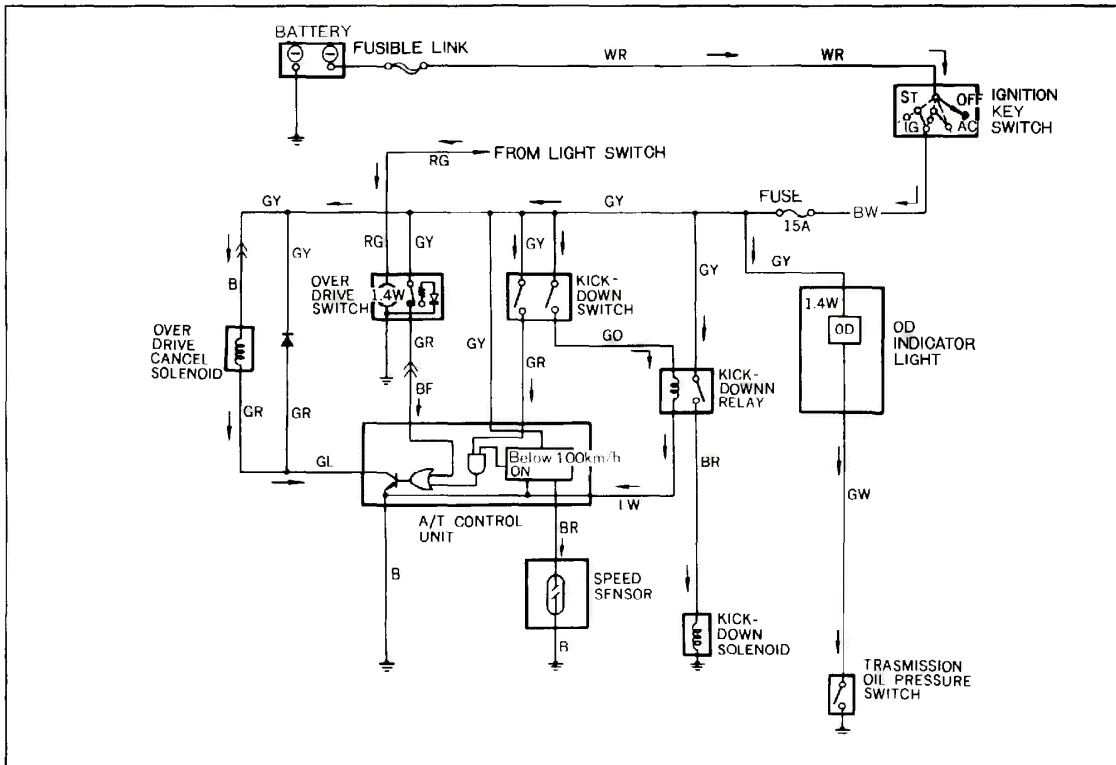


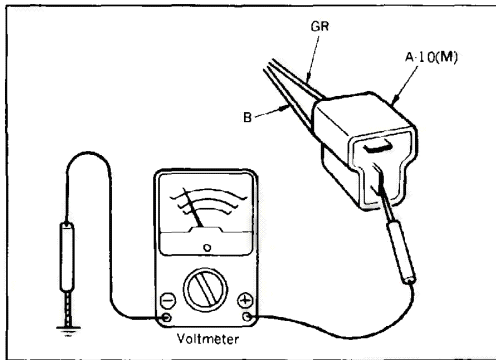
TROUBLESHOOTING GUIDE (about electrical system)

Problem	Possible Cause	Remedy	Page
Does not shift to over drive (OD)	METER, BACK fuse blown	Replace the fuse and check for short	15-13
	Faulty OD switch	Check OD switch	15-56
	Faulty OD cancel solenoid	Check OD cancel solenoid	15-56
Does not shift to 3 from OD	Faulty OD cancel solenoid	Check OD cancel solenoid	15-56
	Improper adjustment or malfunction of 4 - 3 switch	Adjust or replace kick-down switch	15-57
Does not kick-down to 3 and 2 from OD	Improper adjustment or malfunction of kick-down switch	Check kick-down switch	15-57
OD indicator light does not come on	Faulty oil pressure switch (on the transmission)	Replace the oil pressure switch	
	Blown out bulb	Replace the bulb	
	Faulty wiring	Repair as necessary	

57U15X-111

CIRCUIT DIAGRAM





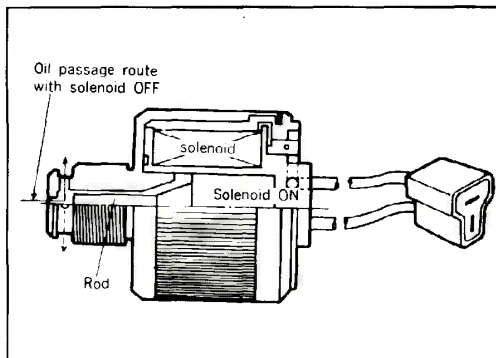
57U15X-112

INSPECTION OF CIRCUIT AND PARTS

Over Drive Cancel Solenoid

Checking the circuit

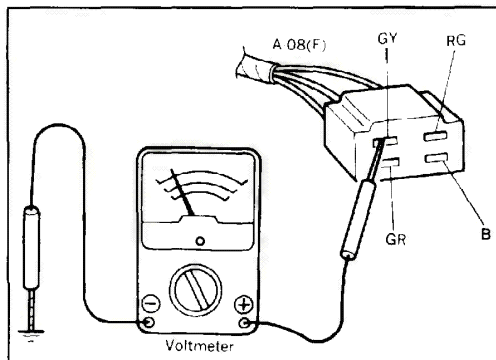
1. Disconnect the connector from the over drive cancel solenoid.
2. Using a voltmeter, measure the voltage between the line (B) and body ground with the ignition switch ON.
3. If there is no voltage, check the fuse or repair the wiring harness.



47U15X-113

OD Cancel Solenoid Inspection

The OD cancel solenoid function is inspected in accordance with the following procedures:
Check the opening and closing of the oil passage by applying 12V current to the OD cancel solenoid. The oil passage should close with the current conduction to the OD cancel solenoid and open when the current is cut off.

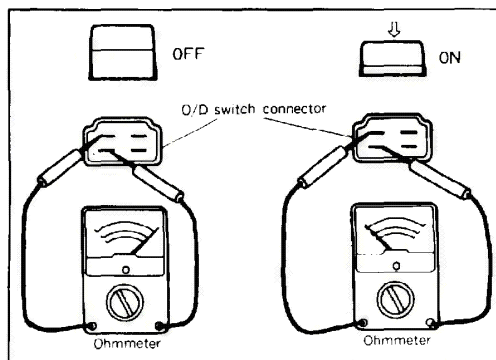


47U15X-114

Over Drive Control Switch

Checking the circuit

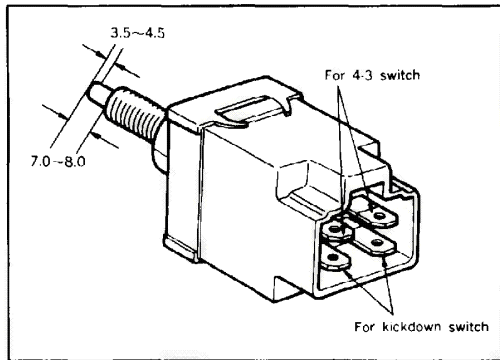
1. Disconnect the connector from OD control switch.
2. Using a voltmeter, measure the voltage between the line (GY) and body ground with the ignition switch ON.
3. If there is no voltage check the fuse or repair the wiring harness.



47U15X-115

Checking the control switch

1. Using an ohmmeter, check the continuity of switch terminal as shown in the figure. There is continuity when the switch is OFF, and there is no continuity when the switch is pressed ON.
2. If the continuity is not as specified, replace the switch.

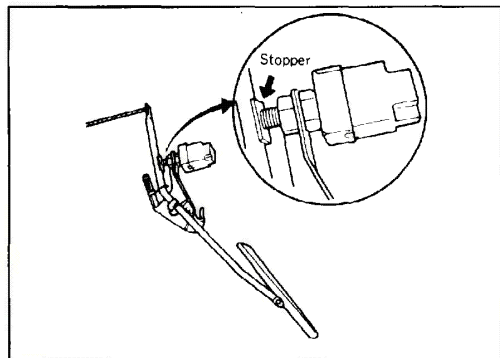


47U15X-116

4-3 Switch & Kick-Down Switch

Checking the switch

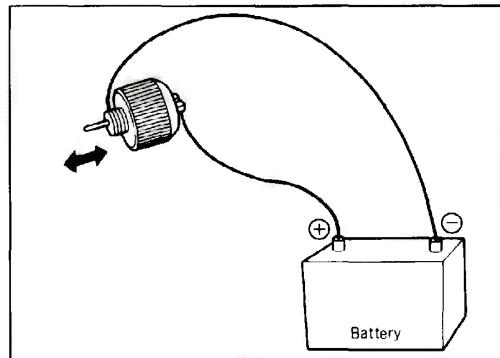
1. The 4-3 switch function is normal when conduction between the A and B terminals is attained with the tip of the switch depressed approximately 3.5 to 4.5 mm.
2. The kick-down switch function is normal when conduction between the C and D terminals is attained with the tip of the switch depressed approximately 7.0 to 8.0 mm.



47U15X-117

Adjustment procedures

1. Depress the accelerator fully down.
2. Adjust the 4-3 and kick-down switch stopper to where it contacts the accelerator pedal.
3. Secure the switch with the lock nut.

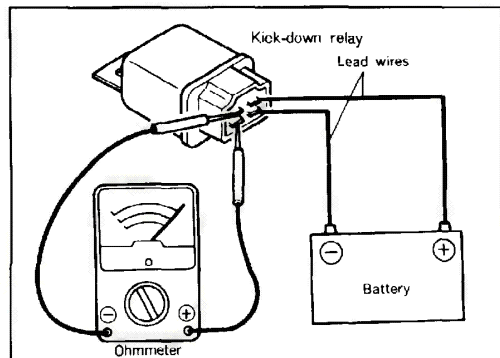


47U15X-118

Kick-Down Solenoid

Checking the kick-down solenoid

The downshift solenoid function is normal when a "click" sound is heard with 12-volt electrical current applied to the downshift solenoid.



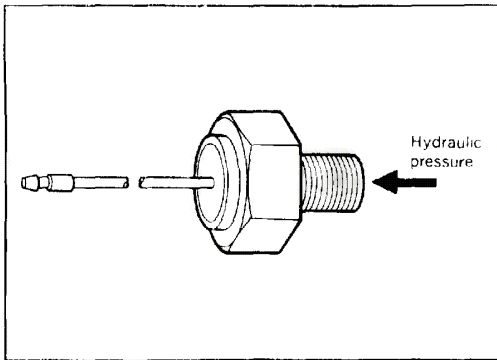
47U15X-119

Kick-Down Relay

Checking the kick-down relay

1. Connect the kick-down relay, battery and an ohmmeter as shown in the figure.
2. First confirm that there is continuity, then disconnect the lead wires and confirm that there is no continuity.
3. If there is an abnormality, replace the relay.
(The kick-down relay is the same as the stop light check relay.)

15 OVER DRIVE SYSTEM

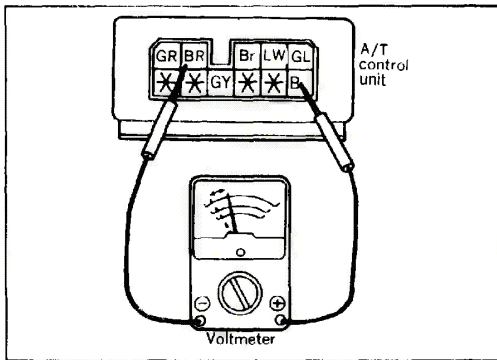


Transmission Oil Pressure Switch

Transmission Oil Pressure Switch Inspection

The OD indicator oil pressure switch function is normal when the following conditions are satisfied:

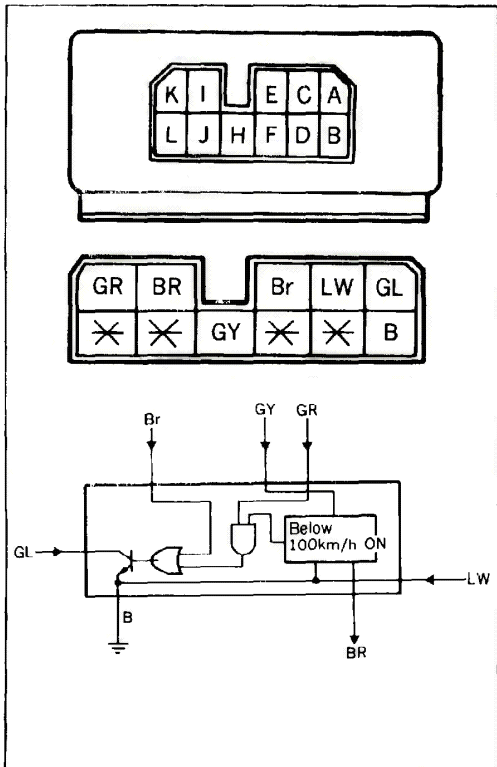
Illuminating Pressure Under 0.5 kg/cm² ON Conduction
Shut-off Pressure Over 3.0 kg/cm² OFF Conduction
 (The inspection is performed under air pressurization.)



Speed Sensor

Checking the speed sensor output.

1. Connect the voltmeter and A/T control unit as shown in the figure.
2. Start the engine and keeping idling condition, then drive vehicle slowly.
3. Check to be sure that the voltmeter indication is approx. 0V and 12V alternates.



A/T Control Unit

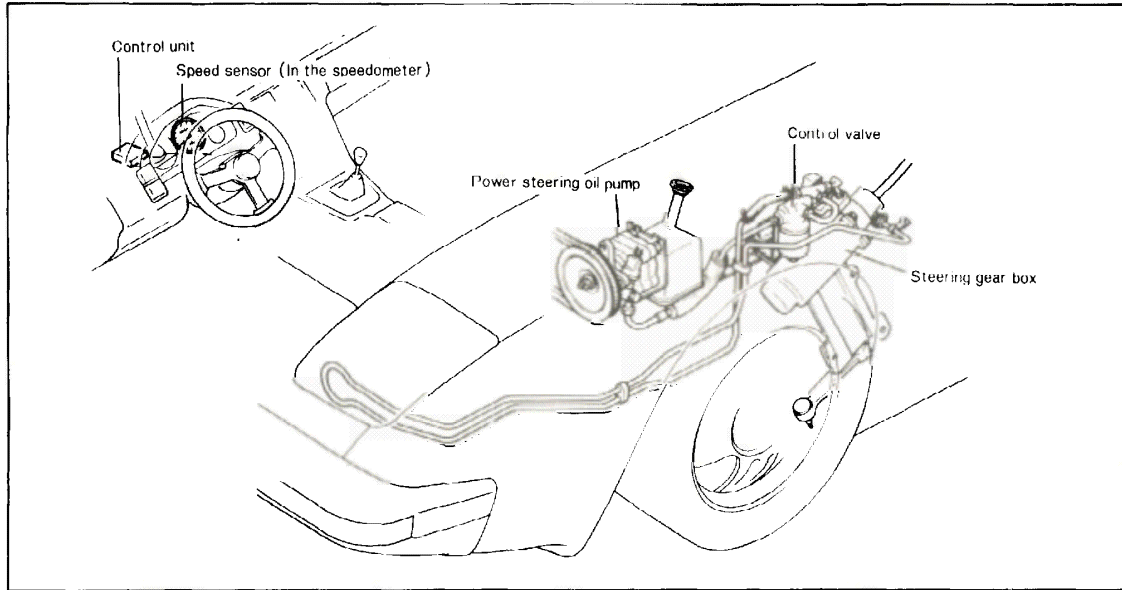
Connection of A/T control unit terminals

Terminal	Wiring color	Connecting to . . .
A	GL	From over drive cancel solenoid
B	B	Ground
C	LW	From kick-down switch
D	*	Not used
E	Br	From overdrive switch
F	*	Not used
H	GY	15A fuse (from IG switch)
I	BR	To speed sensor (in meter)
J	*	Not used
K	GR	From 4-3 switch (in the kickdown switch)
L	*	Not used

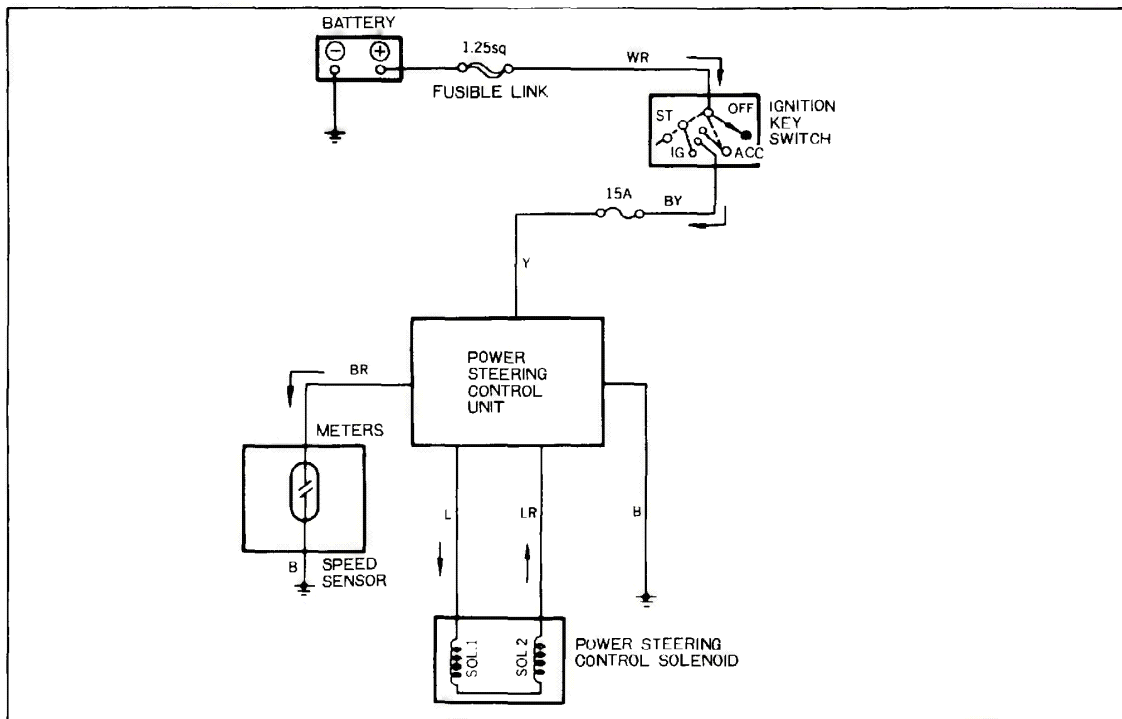
SPEED SENSING POWER STEERING

(Wiring diagram see section K)

STRUCTURAL VIEW



CIRCUIT DIAGRAM



15 SPEED SENSING POWER STEERING

TROUBLESHOOTING

Steering is too light at high speed.

Is 15-A fuse (DEFOG) in fuse block OK?

No
Replace fuse and check for short.

OK

Check whether there is power in the power source line when ignition key is switched to ON. Also check whether there is continuity between ground line and body ground.

No
Check the (Y) line from fuse to power-steering control unit, or the (B) line from power-steering control unit to body ground.

OK

Connect a voltmeter to SOL. 1 terminal, as shown in the figure. Jack up rear wheels and support vehicle with safety stands. (Refer to section G.) Start engine. Check voltmeter when vehicle is shifted into drive condition.

- At 40 km/h approx. 2 V
- At 60 km/h approx. 3.5 V
- At 90 km/h approx. 6.0 V

Are voltmeter readings as above?

OK
Is there change in feel of steering wheel as result of changes in engine rpm?

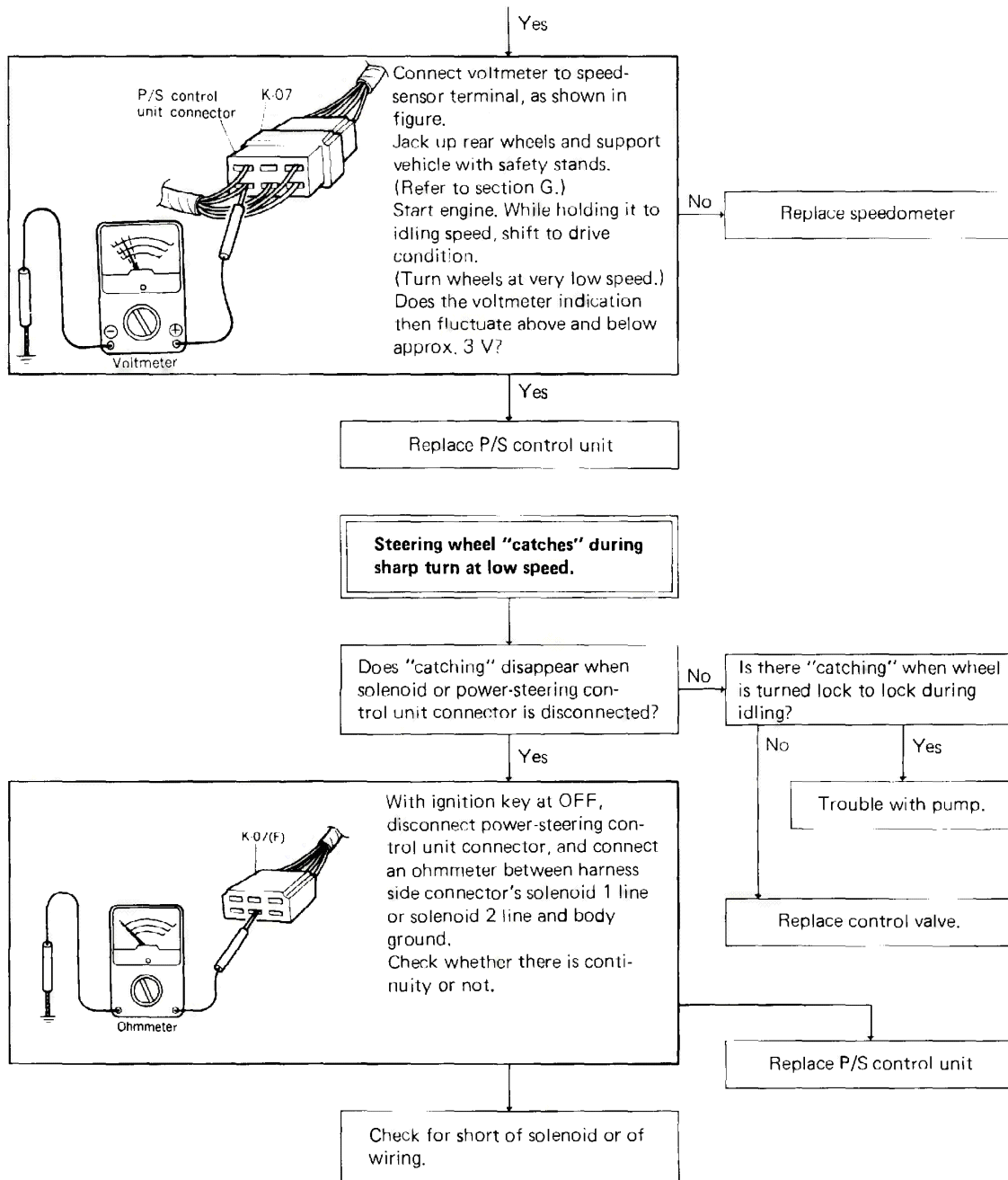
No
Yes
Trouble with pump itself

No

With ignition key at OFF, disconnect connector of power-steering control unit, and connect harness side connector's SOL. 1 and SOL. 2 lines to ohmmeter. Does ohmmeter then indicate approx. 8 ohms?

No
Replace control valve

Yes
to next page

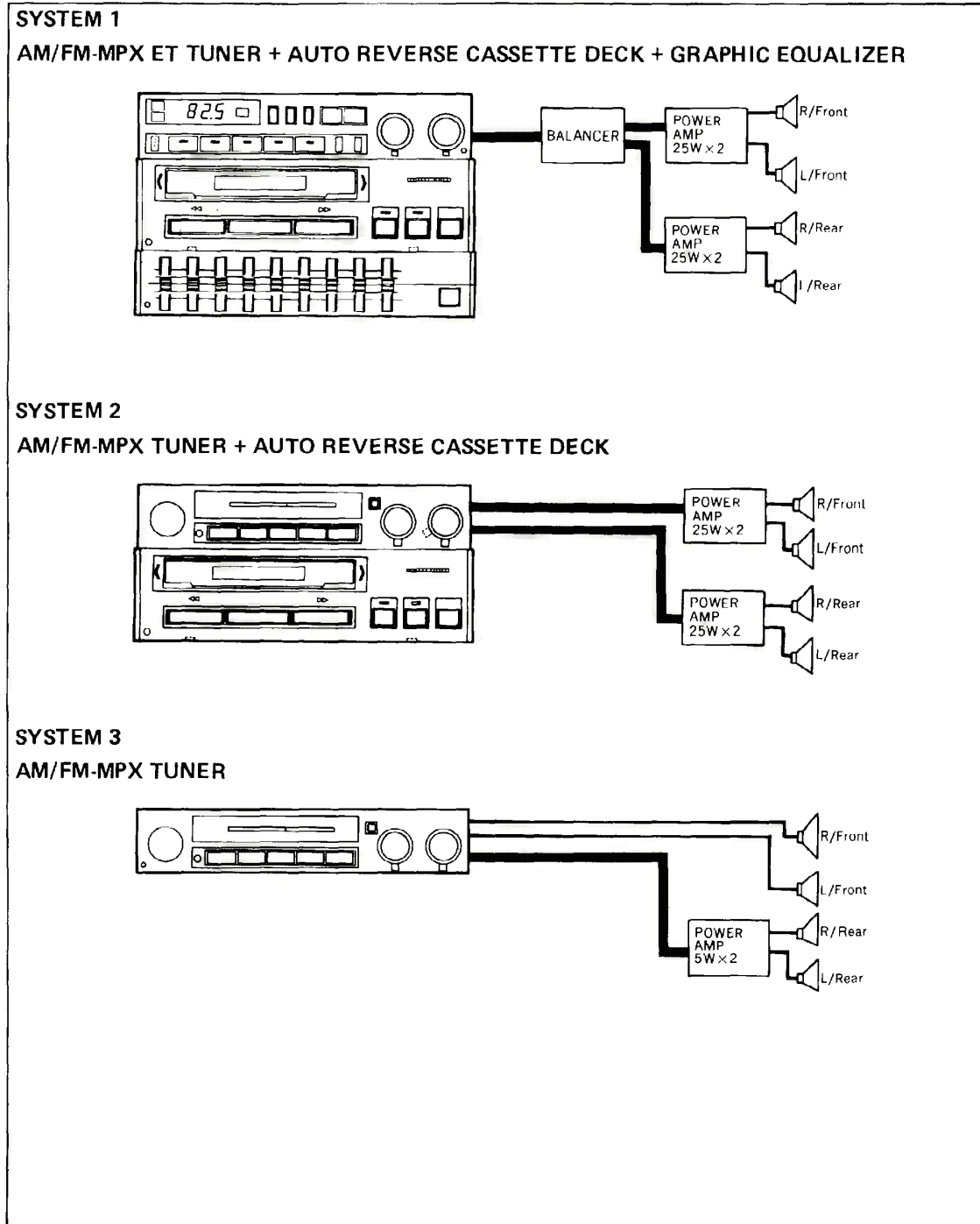


47U15X-124

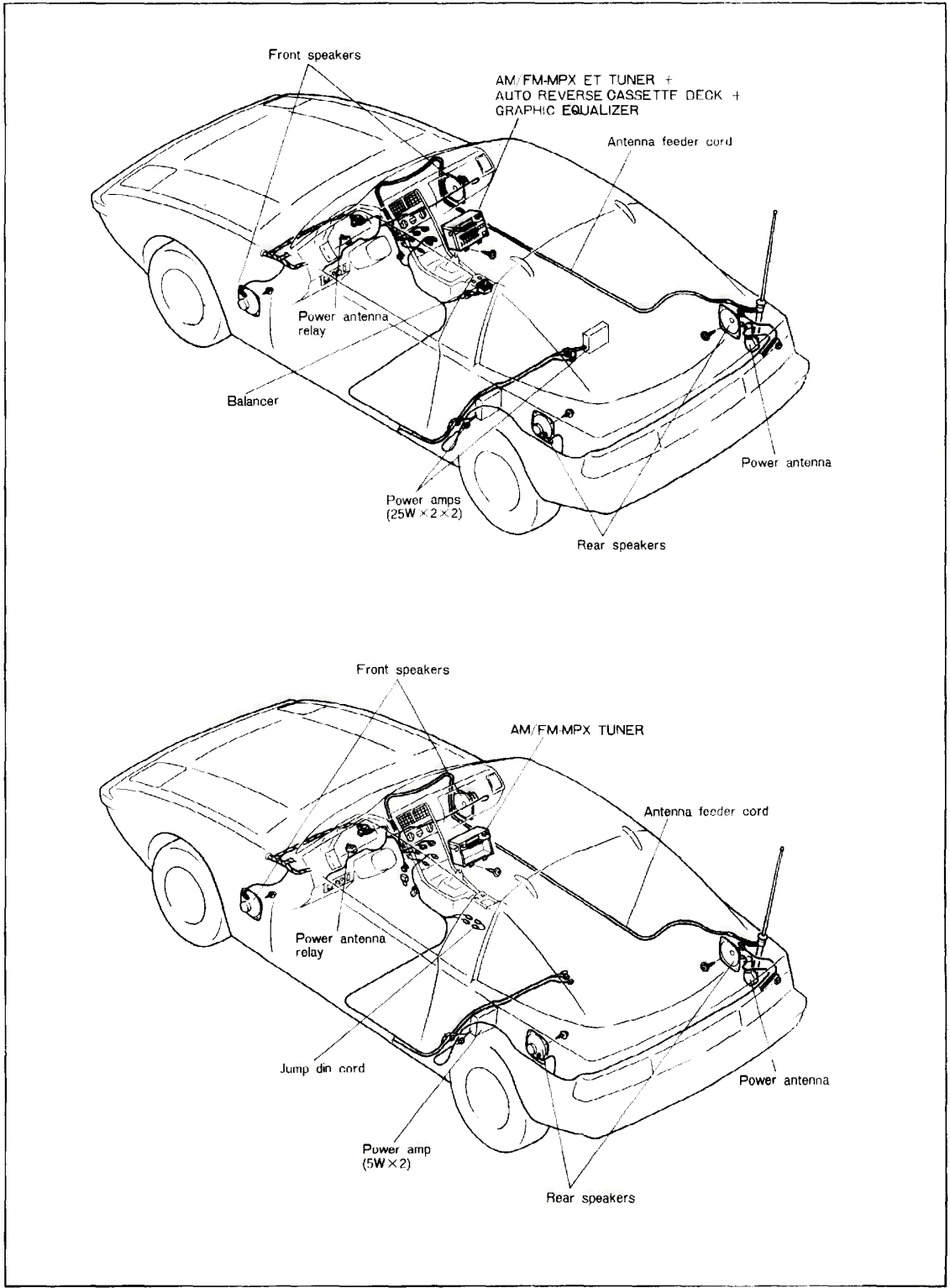
AUDIO SYSTEM

(Wiring diagram see section J)

OUTLINE OF NEW AUDIO SYSTEMS

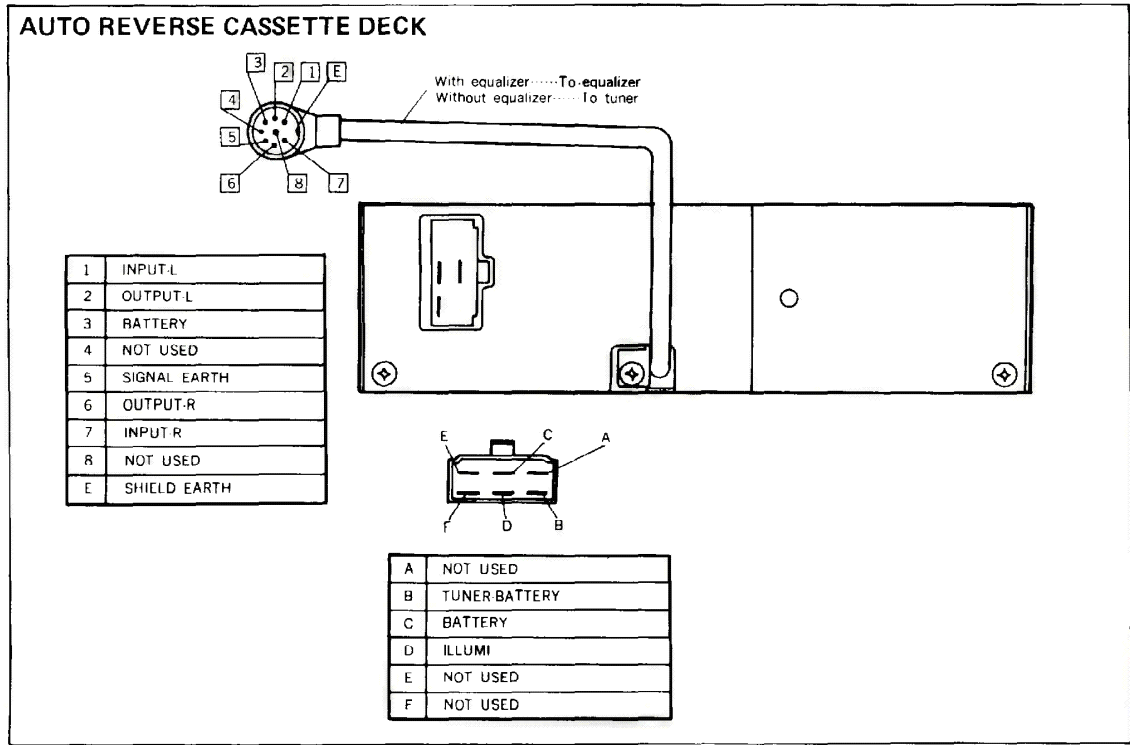
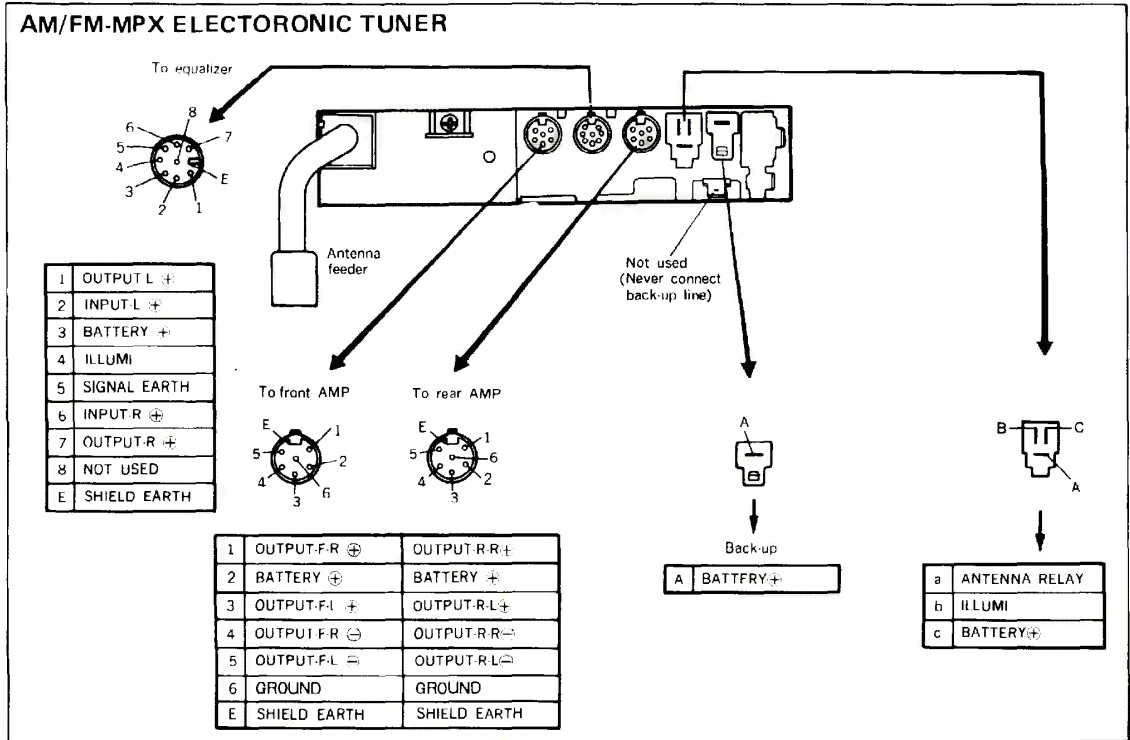


STRUCTURAL VIEW

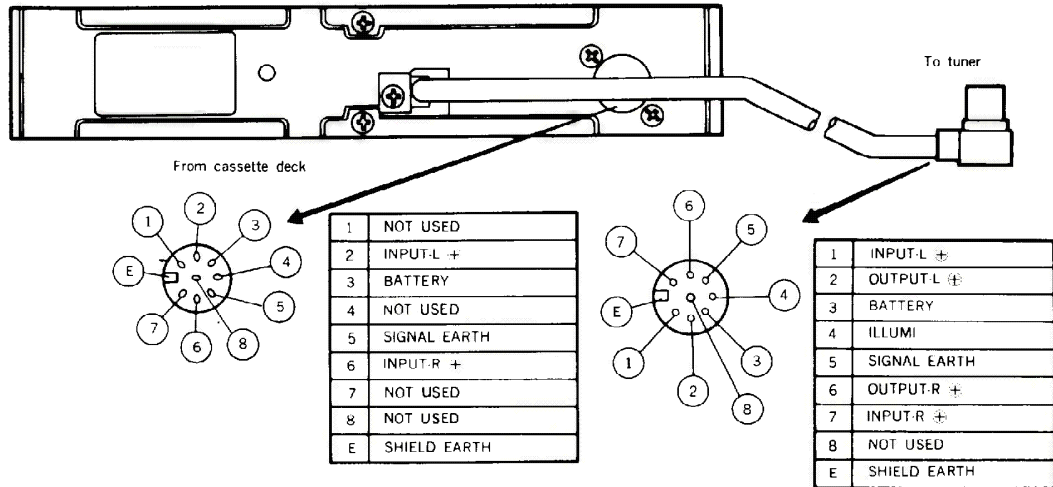


15 AUDIO SYSTEM

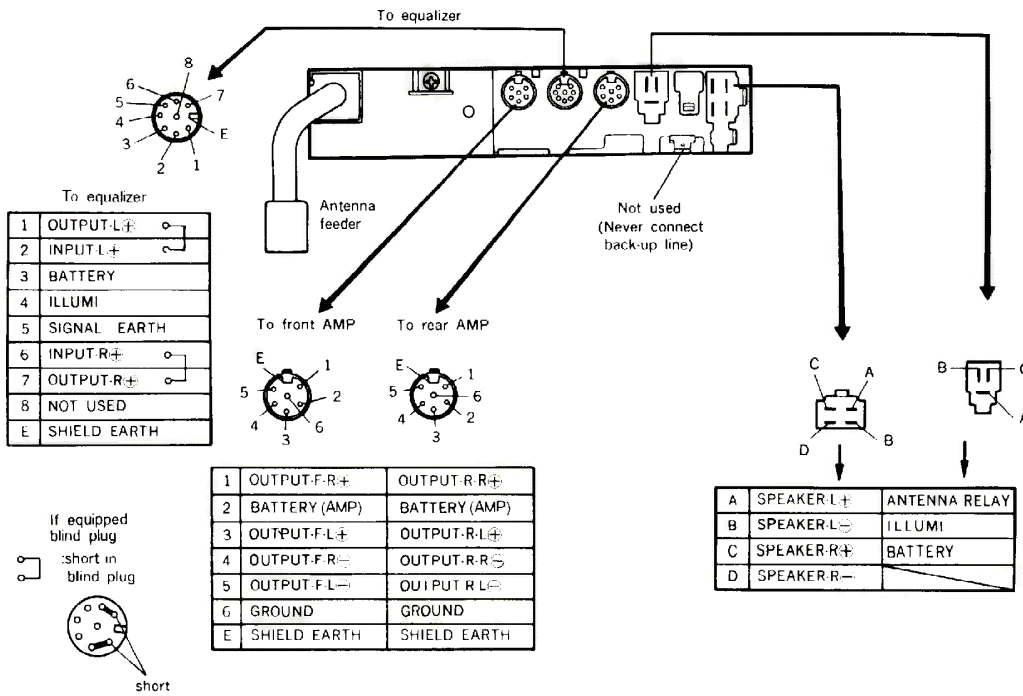
COMPONENT CAR STEREO



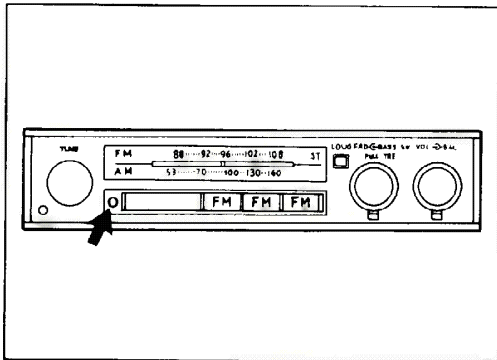
GRAPHIC EQUALIZER



AM/FM-MPX TUNER



15 AUDIO SYSTEM



47U15X-125

ADJUSTMENTS

Antenna adjustment

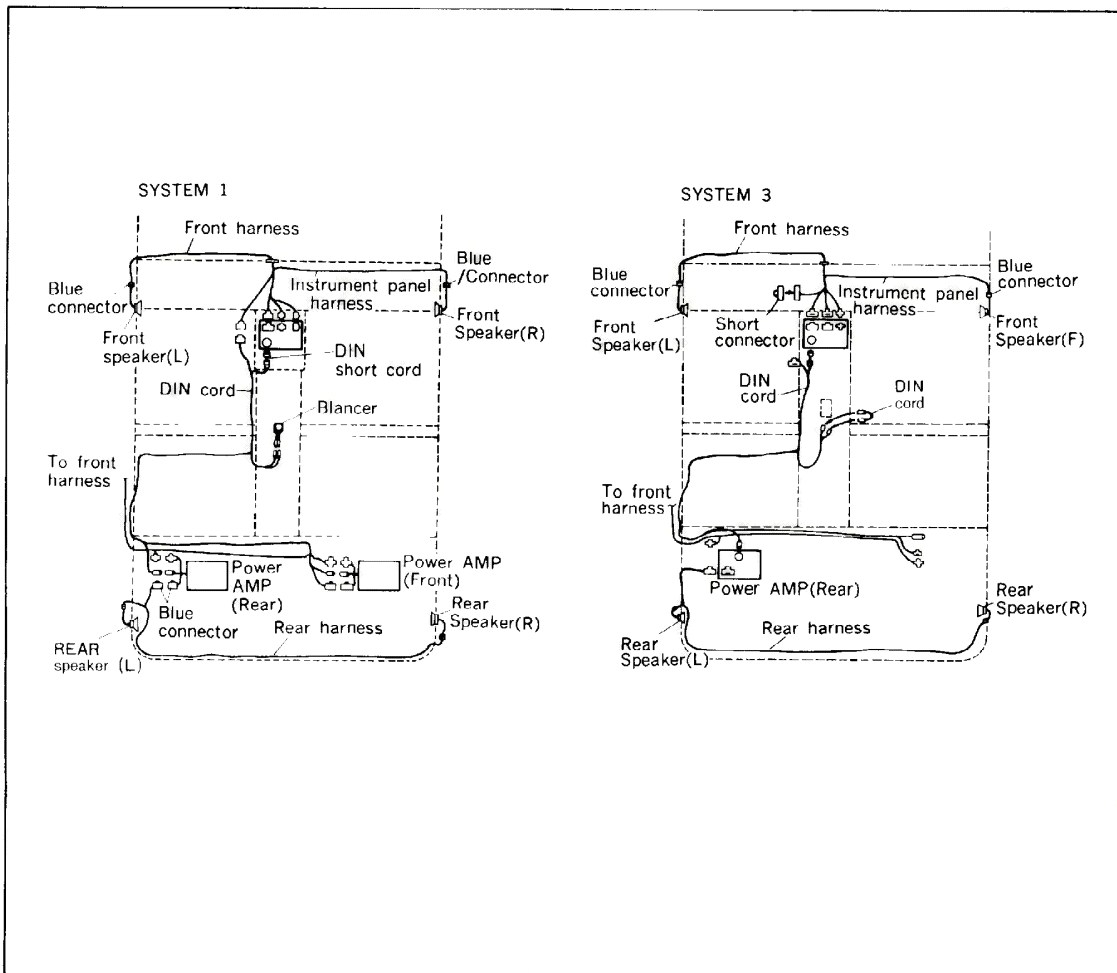
Use the following adjustment procedure to obtain optimum antenna and radio reception sensitivity.

1. If the antenna is a pole antenna type, extend it fully.
2. Set the ignition key to ACC.
3. Turn on the radio, and set it to AM reception.
4. Tune in a distant station with a weak signal at around 1400 khz. If such a station cannot be found, use static to make the adjustment.
5. Turn the antenna trimmer adjustment screw to the left and right to find the maximum sensitivity (of either the broadcast or the static).

Note

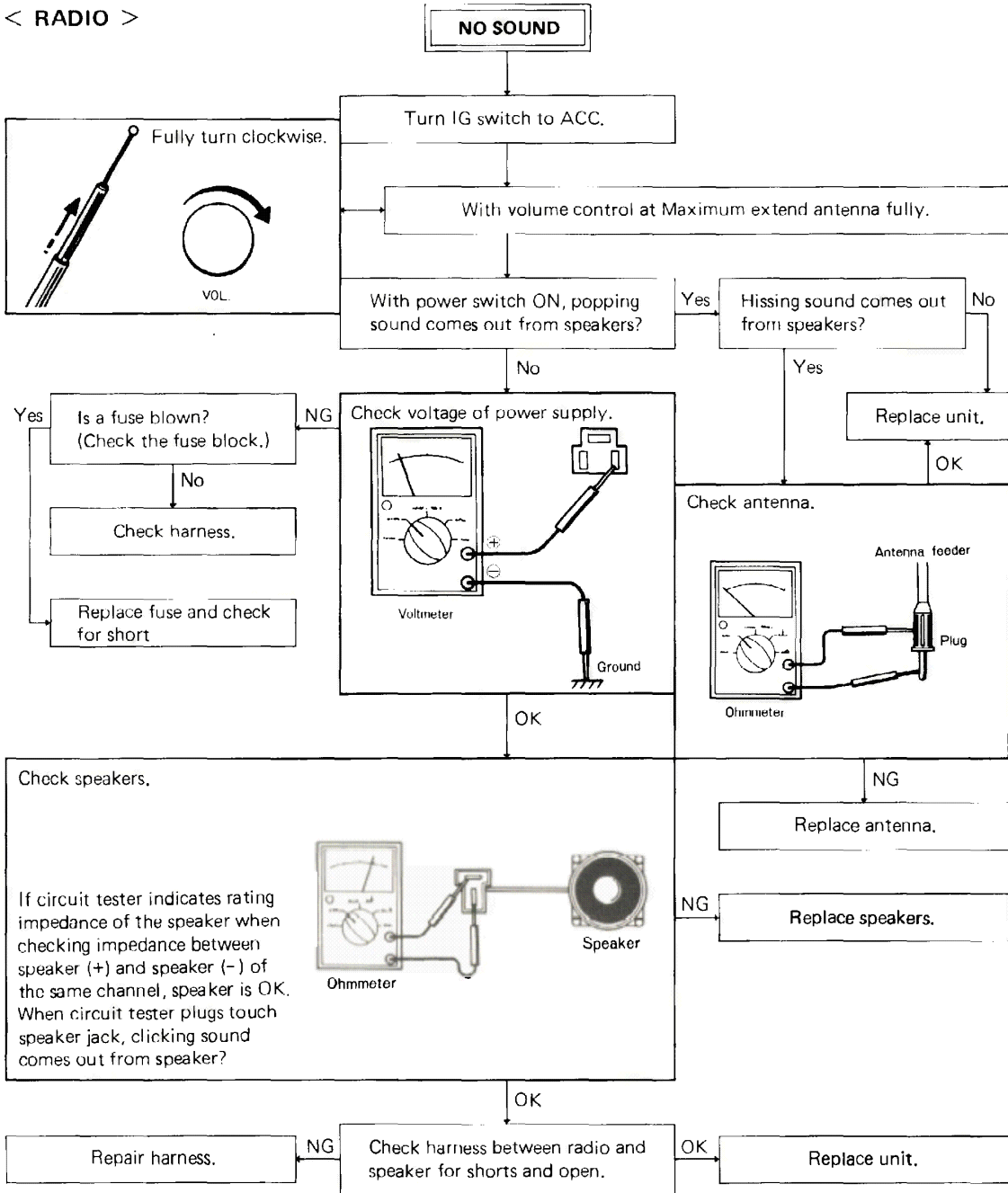
If there is no change in the sensitivity, either the tuned signal is too strong, or there is an antenna malfunction or broken wire.

AUDIO HARNESS



TROUBLESHOOTING

< RADIO >

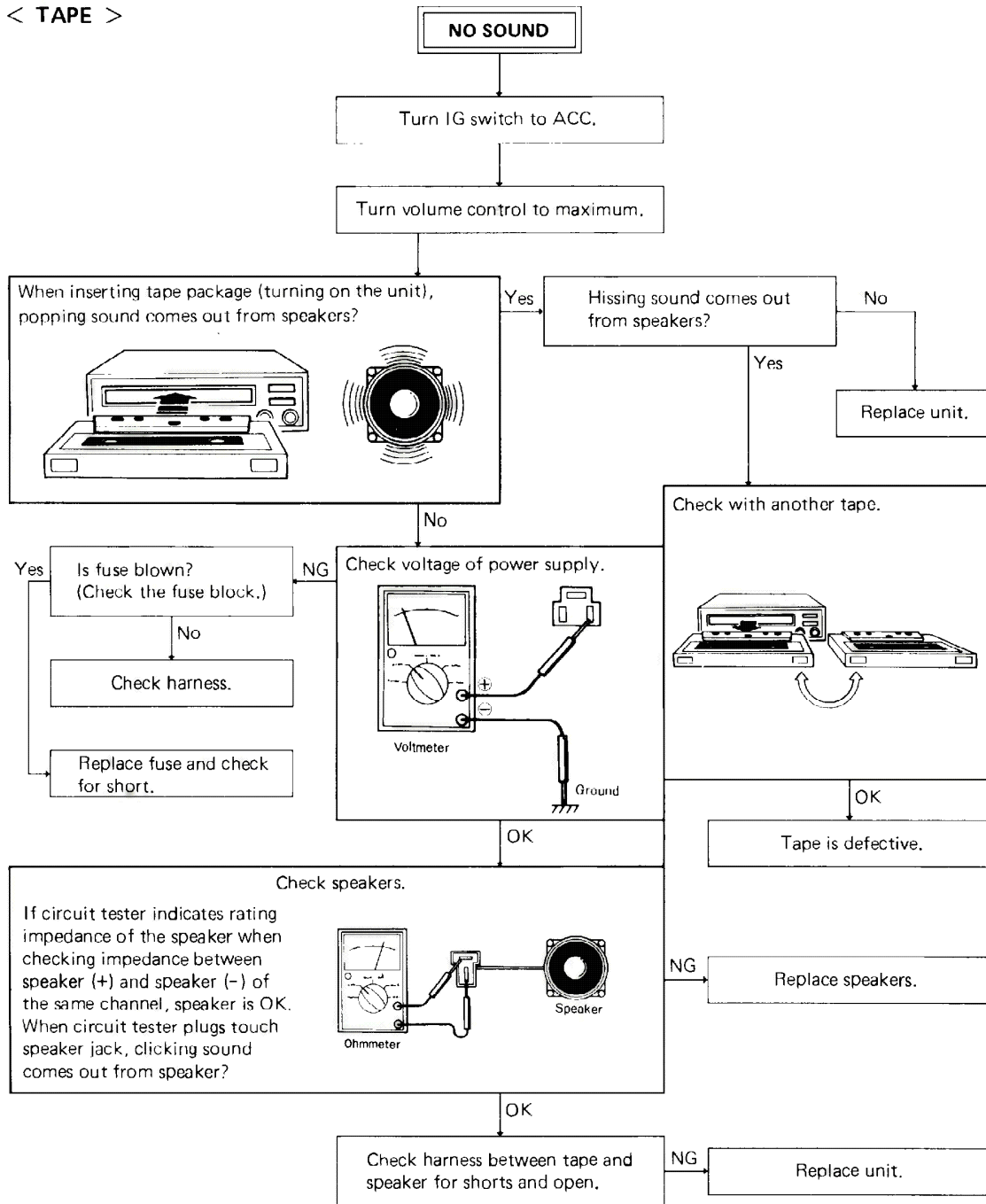


47U15X-126

Note

- a) When no sound comes out from any of front, rear, right, left speakers, or volume level is too low or sound is distorted, set fader and balance control of tuner at center position and adjust joy stick balancer. (If equipped)
- b) When connecting joy stick balancer with amplifier, connect WHITE DIN connector (6P female) of joy stick balancer with front amplifier and BLACK DIN connector (6P female) with rear amplifier. If you fail to connect these connectors as above-mentioned, the sound will be changed inversely against the levels on joy stick balancer.

< TAPE >

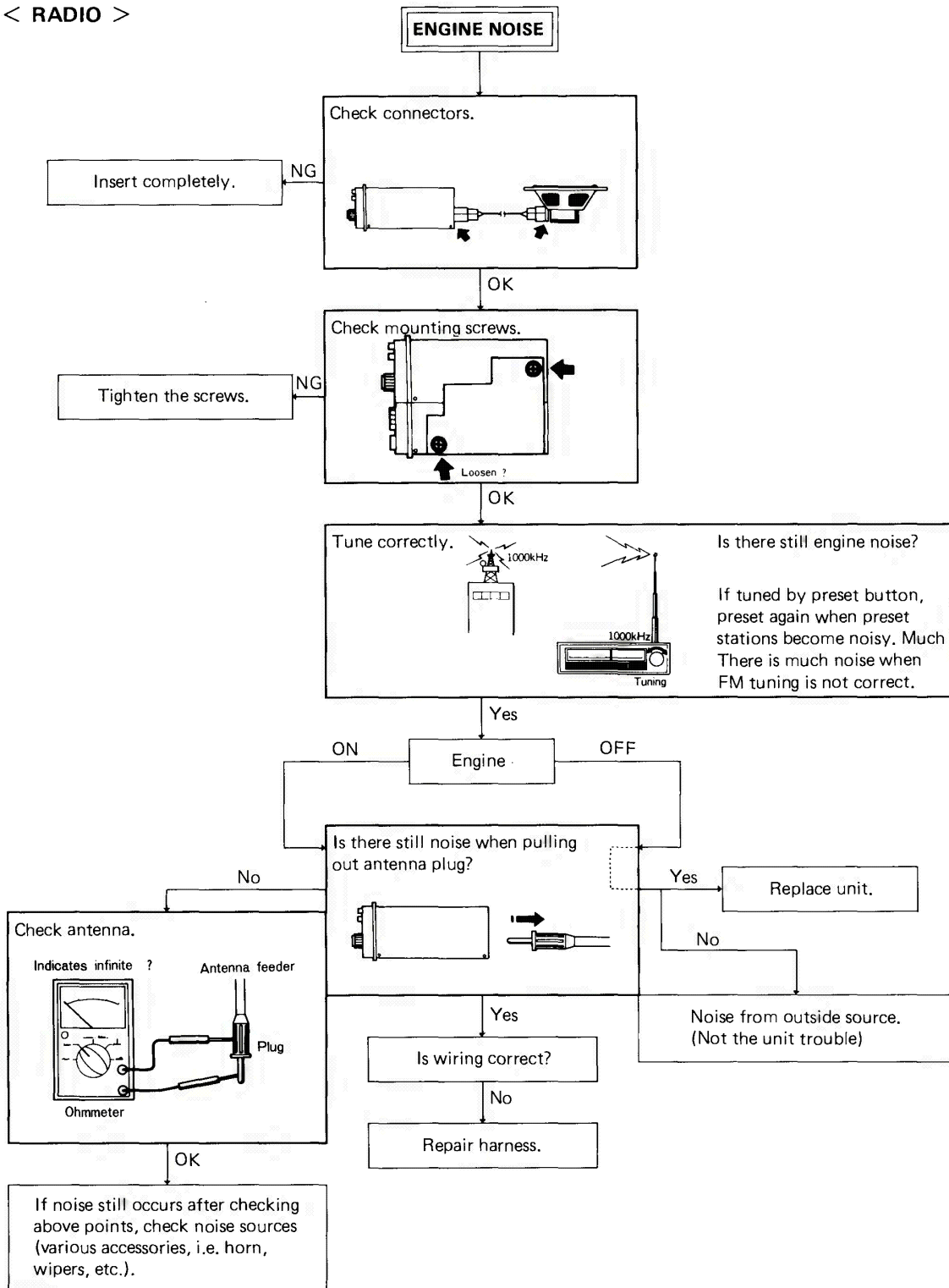


57U15X-127

Note

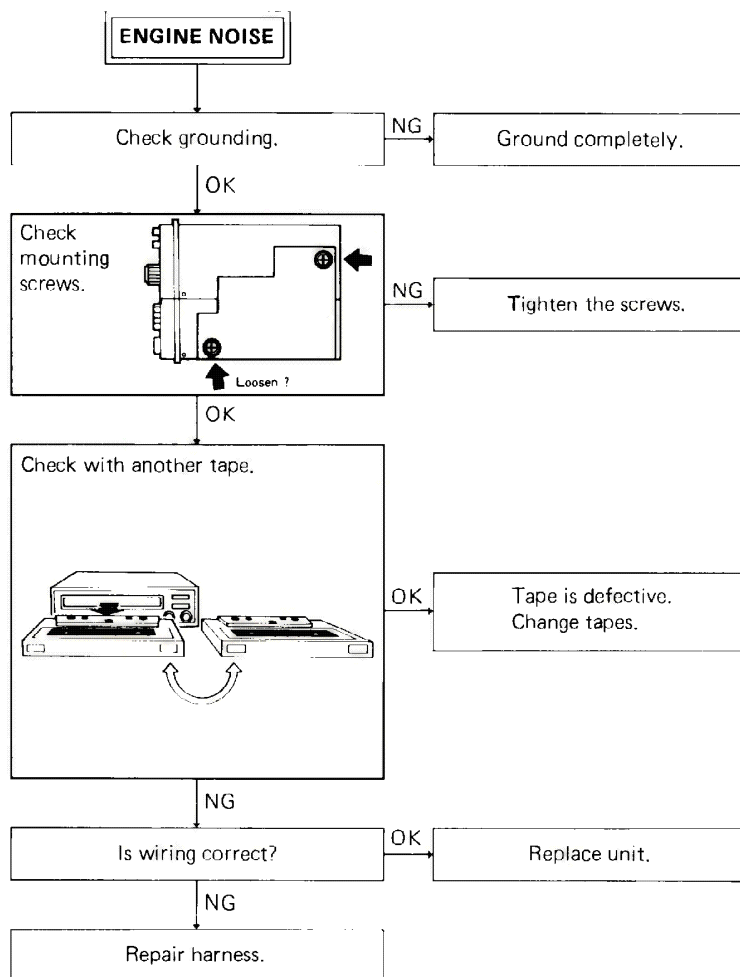
- When no sound comes out from any of front, rear, right, left speakers, or volume level is too low or sound is distorted, set fader and balance control of tuner at center position and adjust joy stick balancer. (If equipped)
- When connecting joy stick balancer with amplifier, connect WHITE DIN connector (6P female) of joy stick balancer with front amplifier and BLACK DIN connector (6P female) with rear amplifier. If you fail to connect these connectors as above-mentioned, the sound will be changed inversely against the levels on joy stick balancer.

< RADIO >



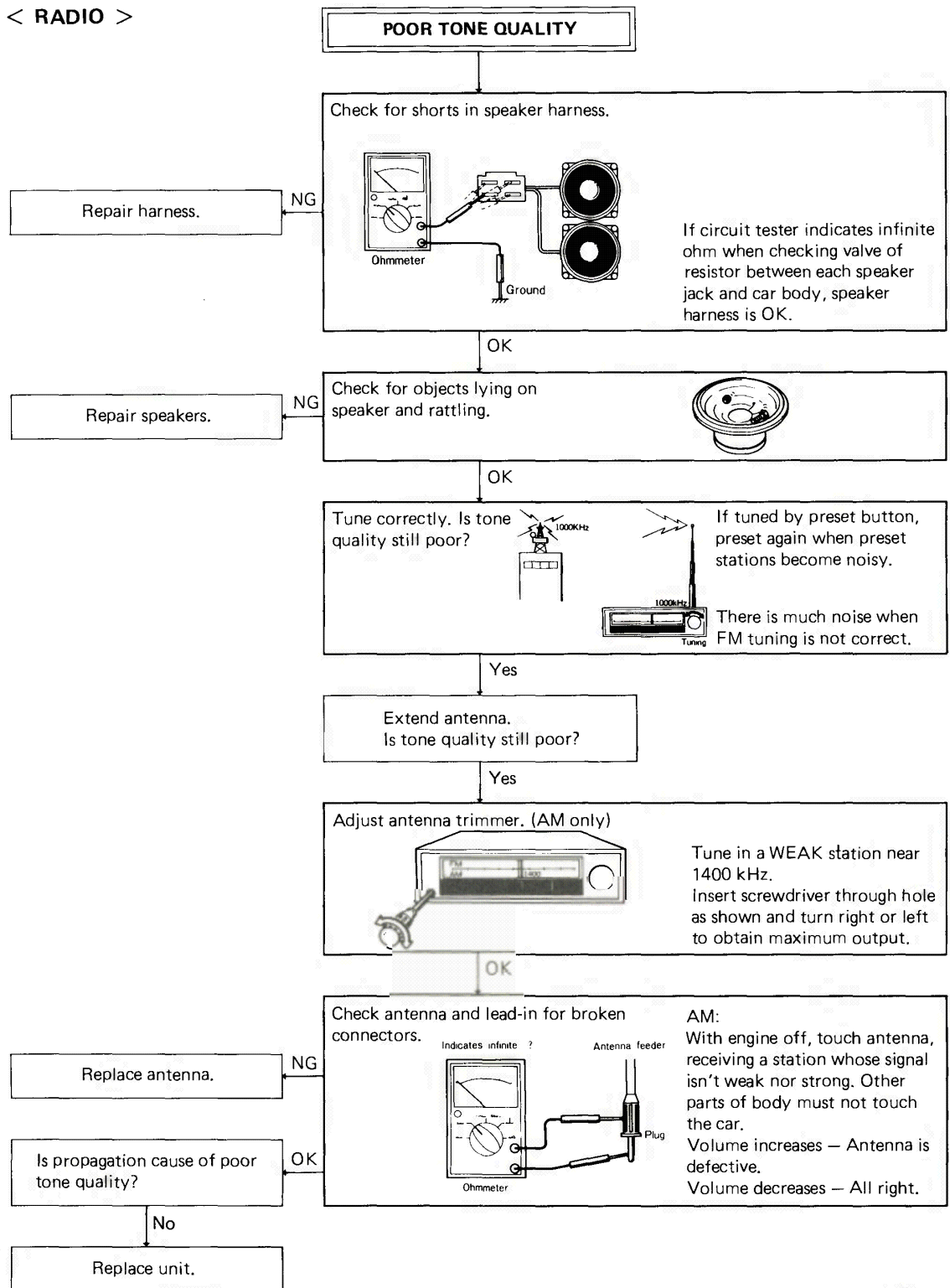
15 AUDIO SYSTEM

< TAPE >



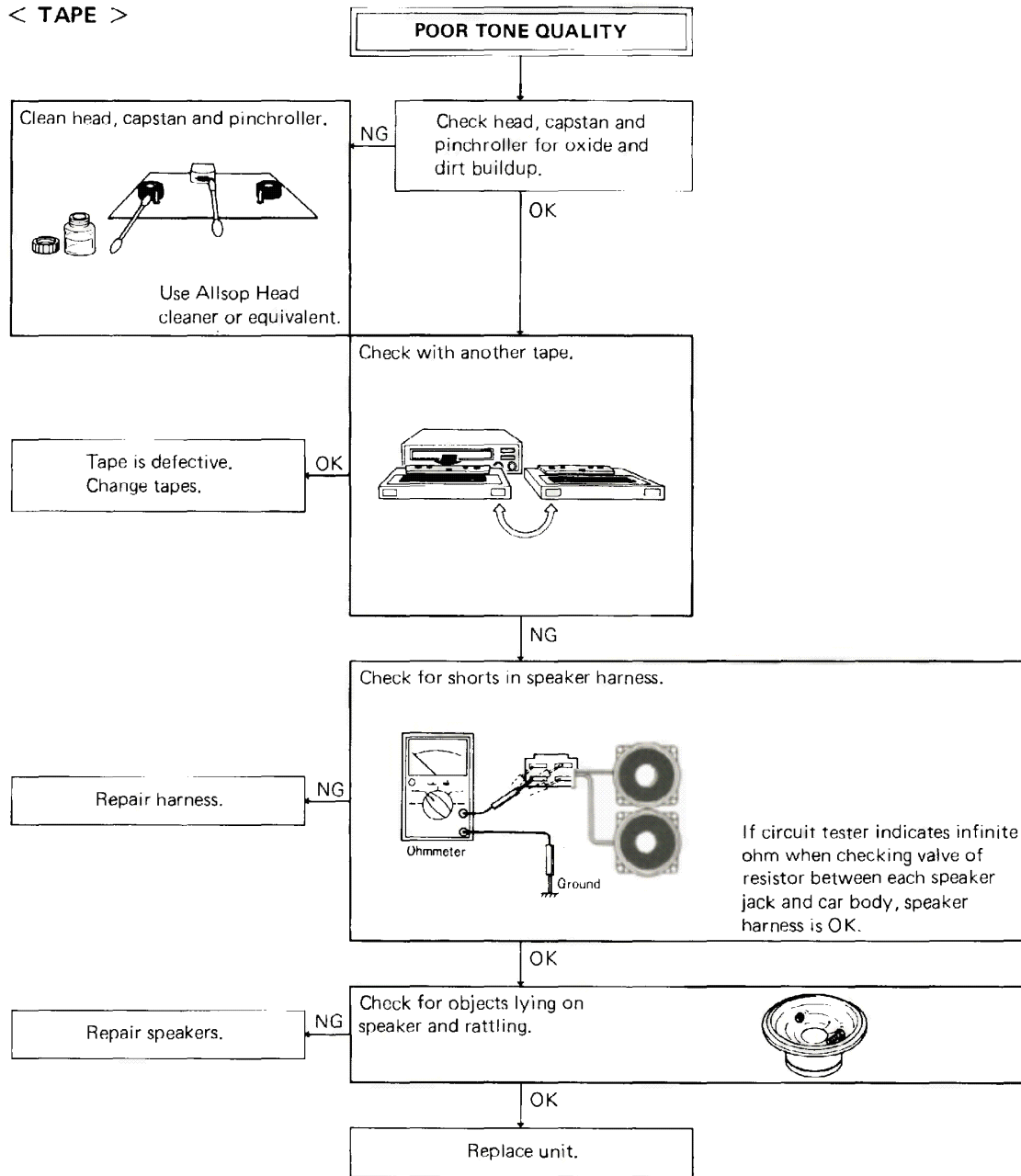
47U15X-129

< RADIO >



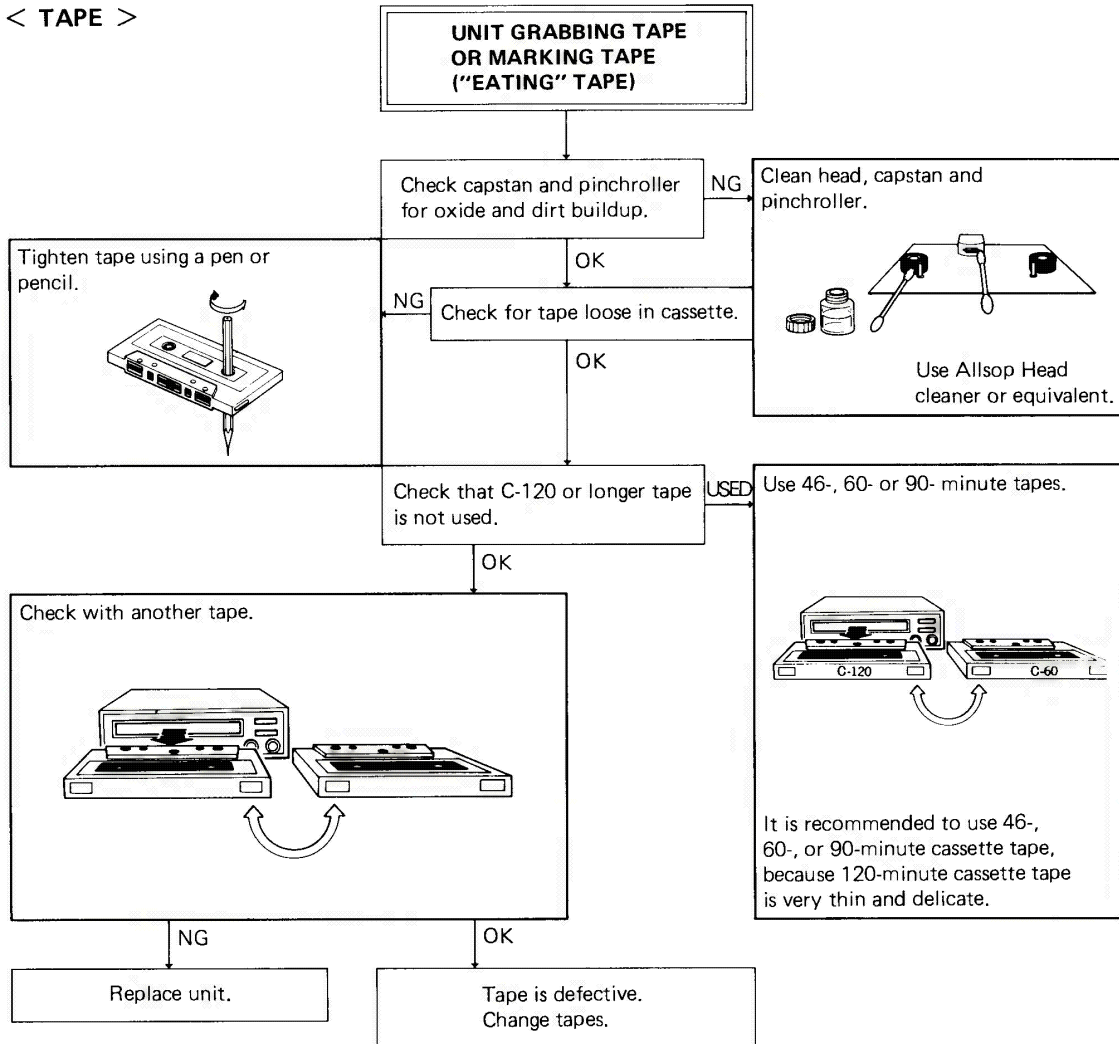
15 AUDIO SYSTEM

< TAPE >



57U15X-131

< TAPE >



57U15X-132

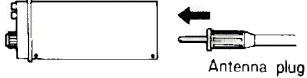
15 AUDIO SYSTEM

< RADIO >

SEEK TUNING DOES NOT STOP (IF EQUIPPED)

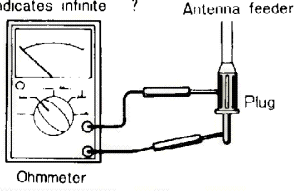
Set SENS switch in the DX position.
SENS switch selects the number of stations to stop at.

Check antenna plug is inserted completely into antenna receptacle.



OK

Check antenna and lead-in for broken connectors.



AM:
With engine off, touch antenna, receiving a station whose signal isn't weak nor strong. Other parts of body must not touch the car.
Volume increases — Antenna is defective.
Volume decreases — All right.

Replace antenna.

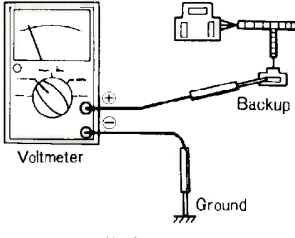
NG

OK

Replace unit.

NO DISPLAY OF FREQUENCY/PRESET MEMORY IS CANCELED (IF EQUIPPED)

Check voltage between back-up lead and ground while tuning engine on and off.
If the voltage is higher than about 8 volt, back-up circuit is OK.



Repair back-up circuit.

NG

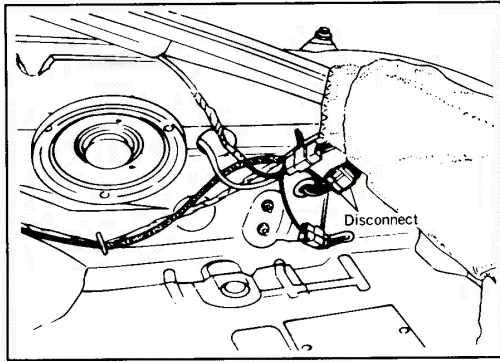
OK

Replace unit.

Check connection between output connector of power source and radio.

57U15X-133

Note
When battery is dead or radio is disconnected from battery for repair, all memory is canceled. You must preset stations again.



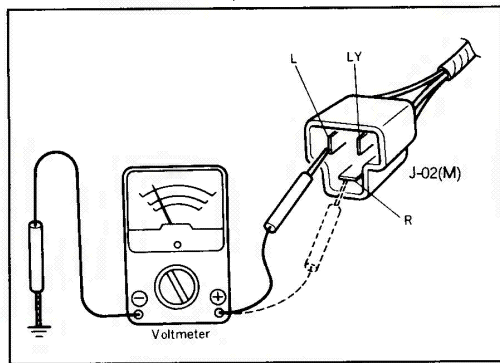
47U15X-134

POWER ANTENNA

On-vehicle Inspection

If the antenna will not raise or lower, make the following checks.

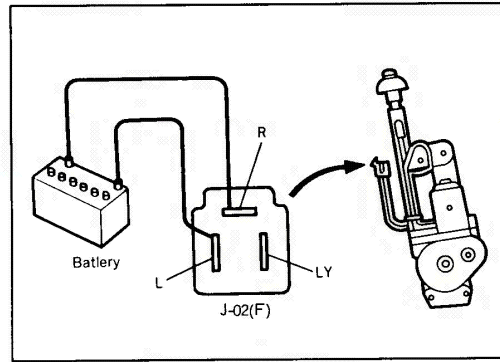
1. Check whether the radio or antenna fuse (20 A) is blown.
2. Disconnect the power antenna connector, and then measure the harness side connector terminal voltage.



47U15X-135

Check terminal	Voltage
L – ground	There should be applied voltage when, with the radio power switch ON, the ignition key is switched to ACC.
R – ground	There should be voltage when, with the radio power switch OFF, the ignition key is switched to ACC.

If the voltage is not normal, replace the antenna relay.

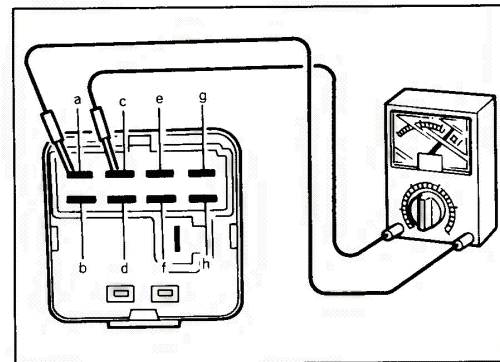


47U15X-136

3. Apply battery voltage to each terminal of the power antenna and check the operation.

(○—○ : Indicates connected condition.)

Battery		Motor connector			Function of antenna
+	-	L	R	LY	
○	—	○			UP
	○		○		
○	—		○		DOWN
	○			○	



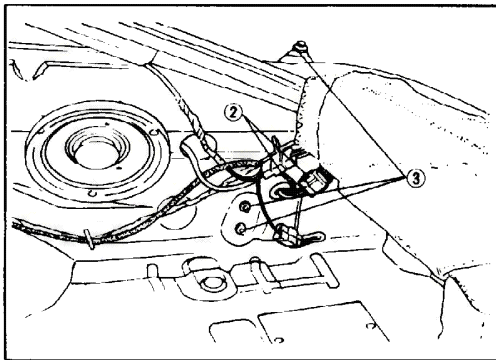
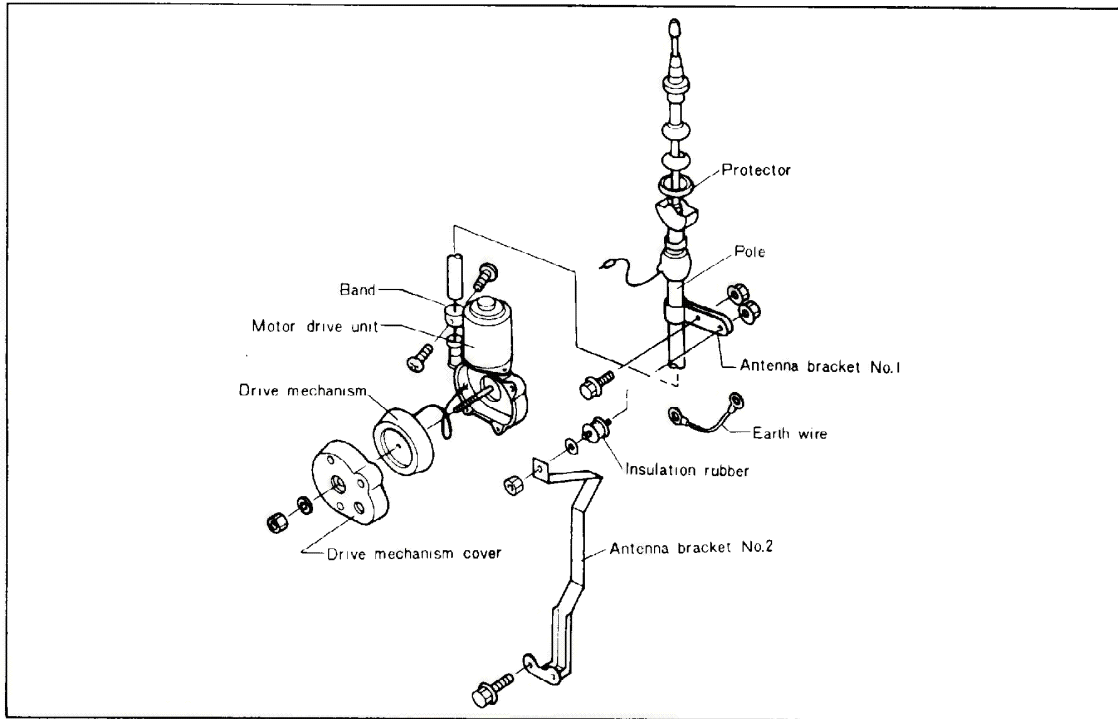
47U15X-137

4. Check for continuity between each terminal of the power antenna relay. If there isn't continuity, replace the relay.

Check terminal	Continuity
Continuity between a and c	Yes
Continuity between e and g	Yes
When voltmeter minus (-) lead is connected to b, and plus (+) lead is connected to h	Yes

If the antenna doesn't function even though there is continuity, the problem may be either in the wiring harness or in the radio.

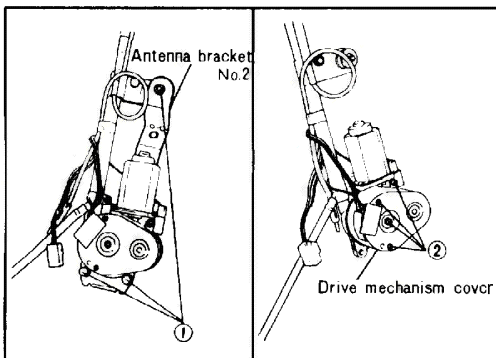
STRUCTURAL VIEW



47U15X-138

REMOVING POWER ANTENNA

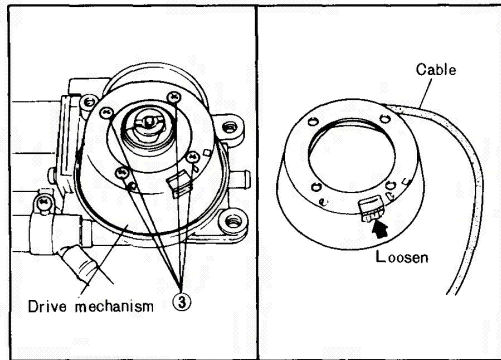
1. Remove the right rear trunk side trim.
2. Disconnect the antenna feeder and connector.
3. Remove the attaching nuts and take out the power antenna assembly.



47U15X-139

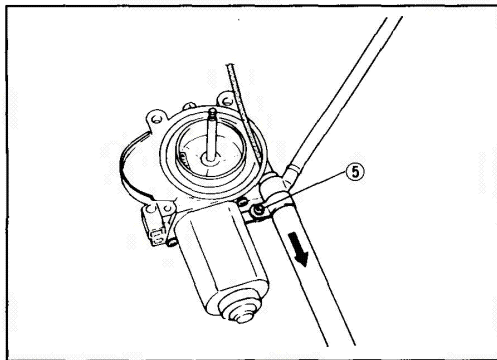
DISASSEMBLING POWER ANTENNA

1. Remove the antenna bracket No. 2.
2. Remove the drive mechanism cover.



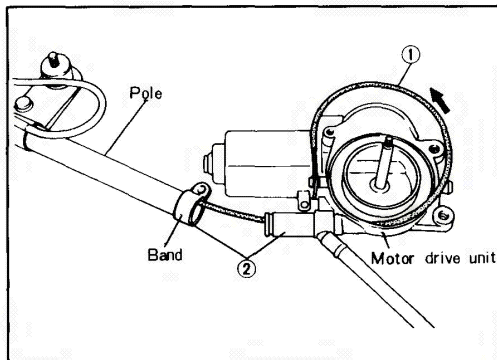
47U15X-140

3. Remove the 4 attaching screws and disassemble the drive mechanism.
4. Loosen the notch of the drive mechanism where the cable is fixed with a punch or the like, and pull out the cable.



47U15X-141

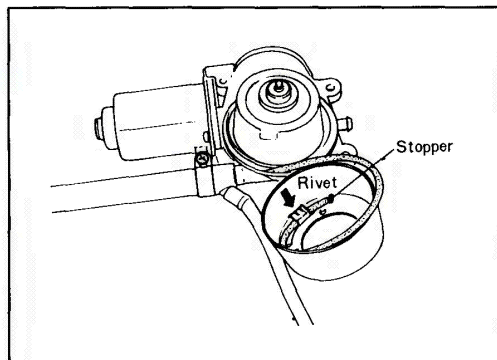
5. Loosen the screw of the band fastening the motor drive unit with the pole, and separate them.



47U15X-142

ASSEMBLING POWER ANTENNA

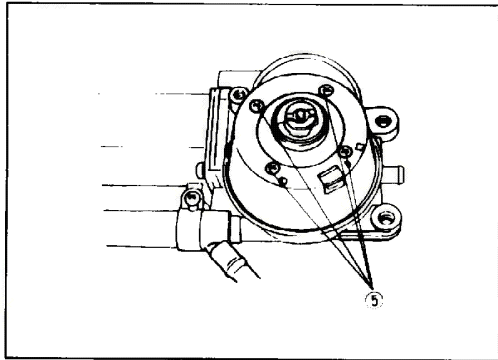
1. Attach a band to the under side of the pole and insert the cable into the motor drive unit.
2. Fasten the pole with the motor drive unit with a band.



47U15X-143

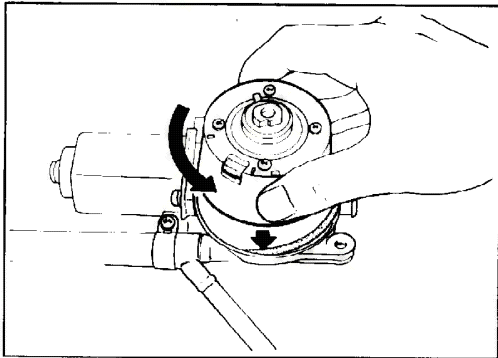
3. Insert the tip of the cable through the notch of the drive mechanism until it touches the stopper.
4. Using a punch or the like, rivet the cable at the point shown in the figure to fasten it.

15 AUDIO SYSTEM



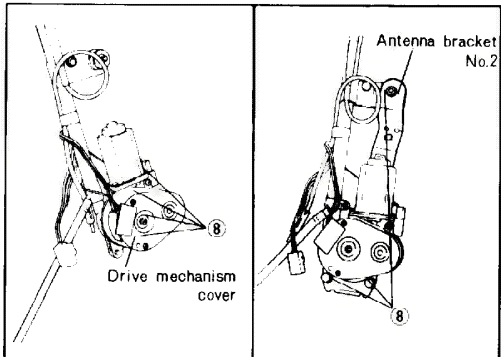
57U15X-144

5. Assemble the drive mechanism with screws.
6. Stretch the pole fully by hand.



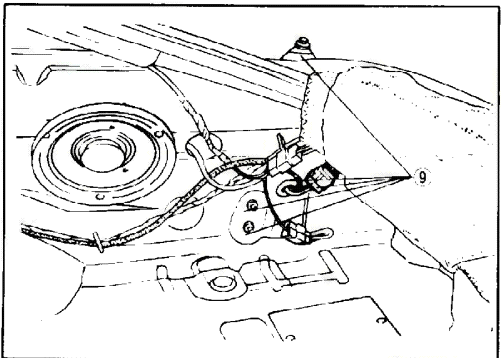
47U15X-145

7. Turn the drive mechanism to the left so that there will be no play in the cable and then engage it with the motor drive gear.



47U15X-146

8. Assemble the drive mechanism cover and antenna bracket No. 2.



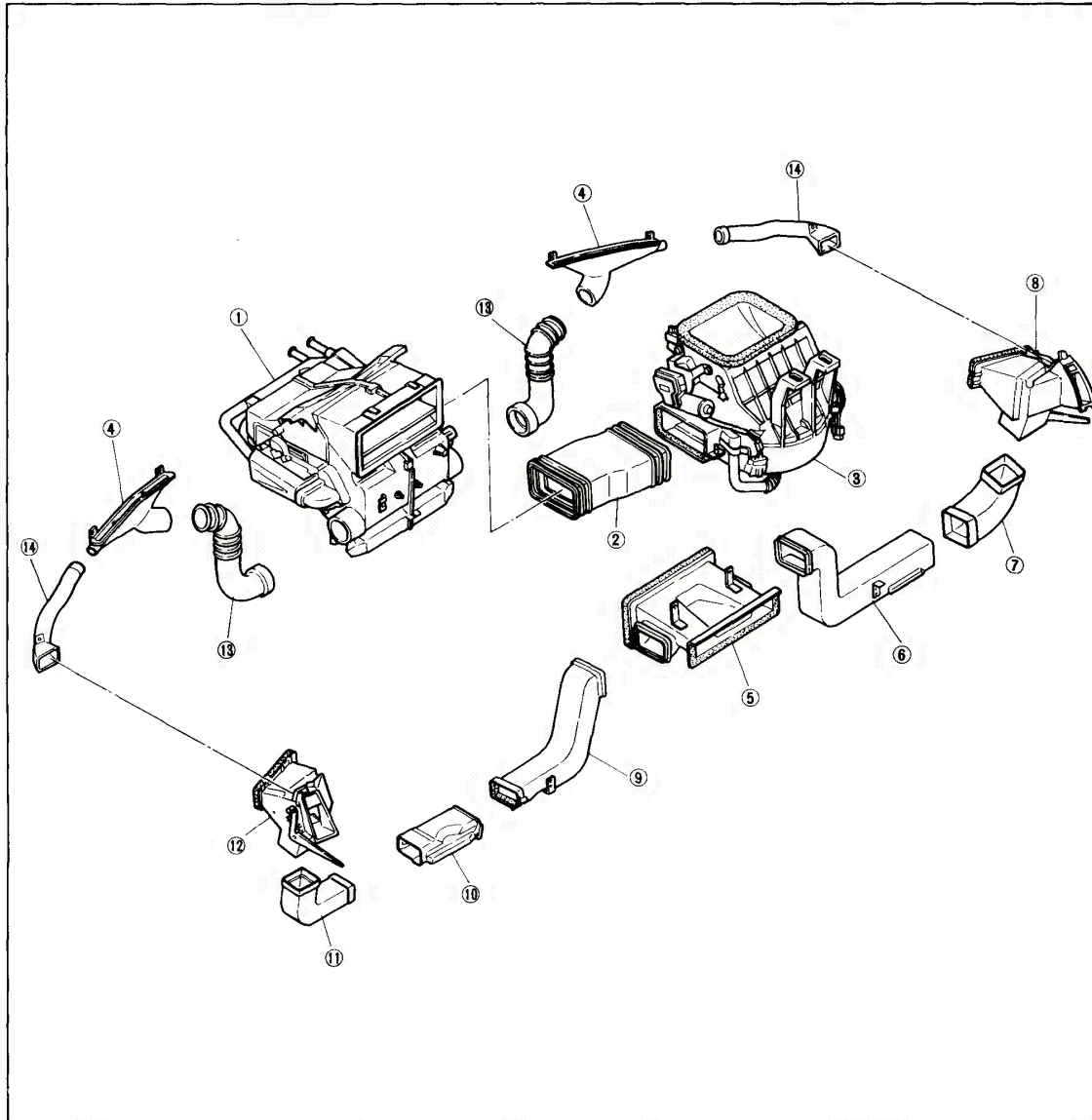
47U15X-147

9. Attach the power antenna assembly to the vehicle and connect the wiring.
10. Check to see that the operation of the power antenna and install the right rear trunk side trim.

HEATER

(Wiring diagram see section G)

STRUCTURAL VIEW



- | | |
|--------------------|-------------------------------|
| 1 Heater unit | 8 Side louver duct (R) |
| 2 Air duct | 9 Duct |
| 3 Blower unit | 10 Need louver duct |
| 4 Defroster nozzle | 11 Duct |
| 5 Center duct | 12 Side louver duct (L) |
| 6 Duct | 13 Defroster duct |
| 7 Duct | 14 Side window defroster duct |

15 HEATER

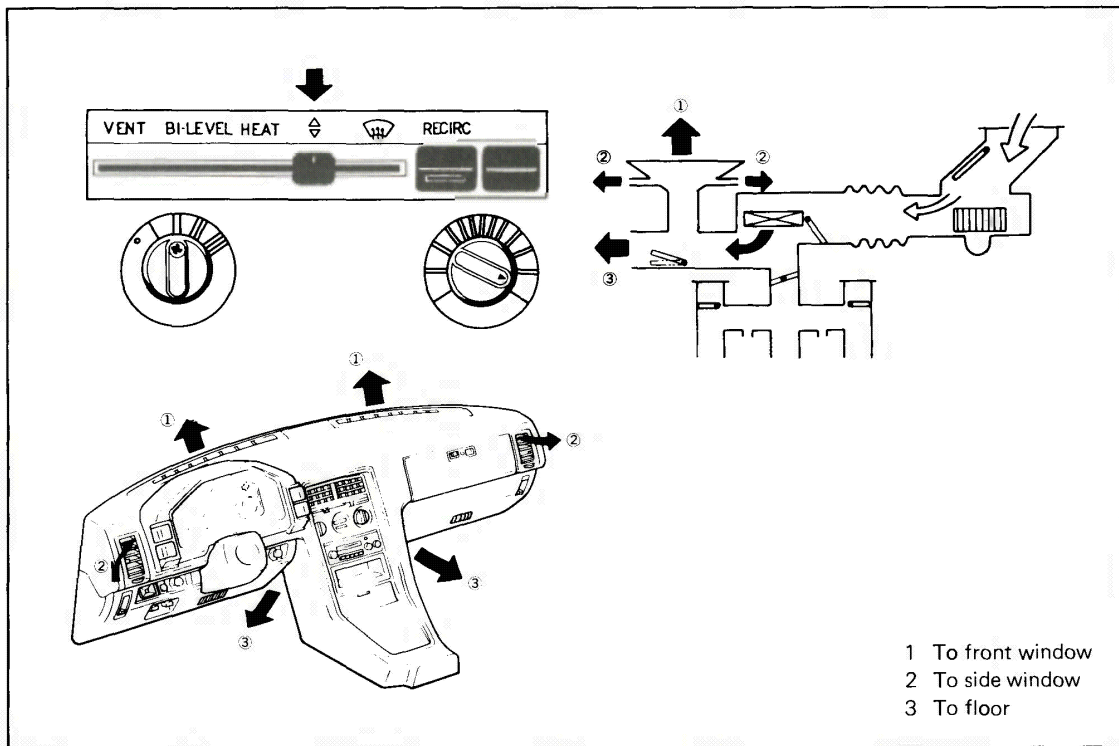
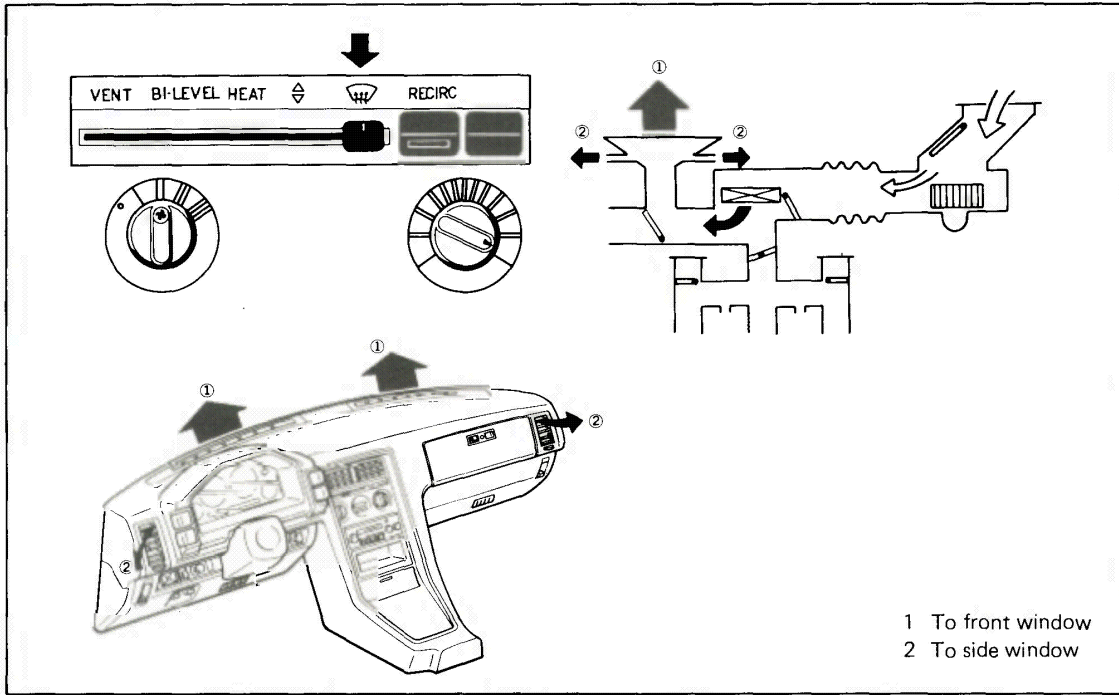
TROUBLESHOOTING GUIDE

Problem	Possible Cause	Remedy	Page
Blower motor does not work	BLOWER fuse (20A) blown	Replace fuse and check for short	15-13
	Faulty blower motor	Check or replace motor	15-86
	Faulty blower switch	Check or replace switch	15-85
	Faulty wiring	Repair as necessary	
No blower control	Faulty blower control resistor	Replace resistor	15-85
	Faulty blower switch	Check blower switch	
	Faulty wiring	Repair as necessary	
Blower motor operates but hot air not discharged	Faulty thermostat	Replace thermostat	Section 3
	Faulty water valve	Replace water valve	15-95
	Faulty mixture door	Adjust mixture door	
	Faulty mode control motor (if equipped)	Check or replace motor	
No mode control	Faulty mode control wire	Adjust or replace	15-95
	Faulty mode control motor (if equipped)	Check or replace motor	15-88
	Faulty mode control switch (if equipped)	Check or replace switch	15-87
	Faulty mode control linkage	Adjust or replace	
	Faulty FRESH-REC. control motor and control rod	Check control motor and adjust control motor	15-88
Excessive motor noise	Unbalanced fan	Adjust or replace	
	Foreign matter in motor	Adjust or replace	

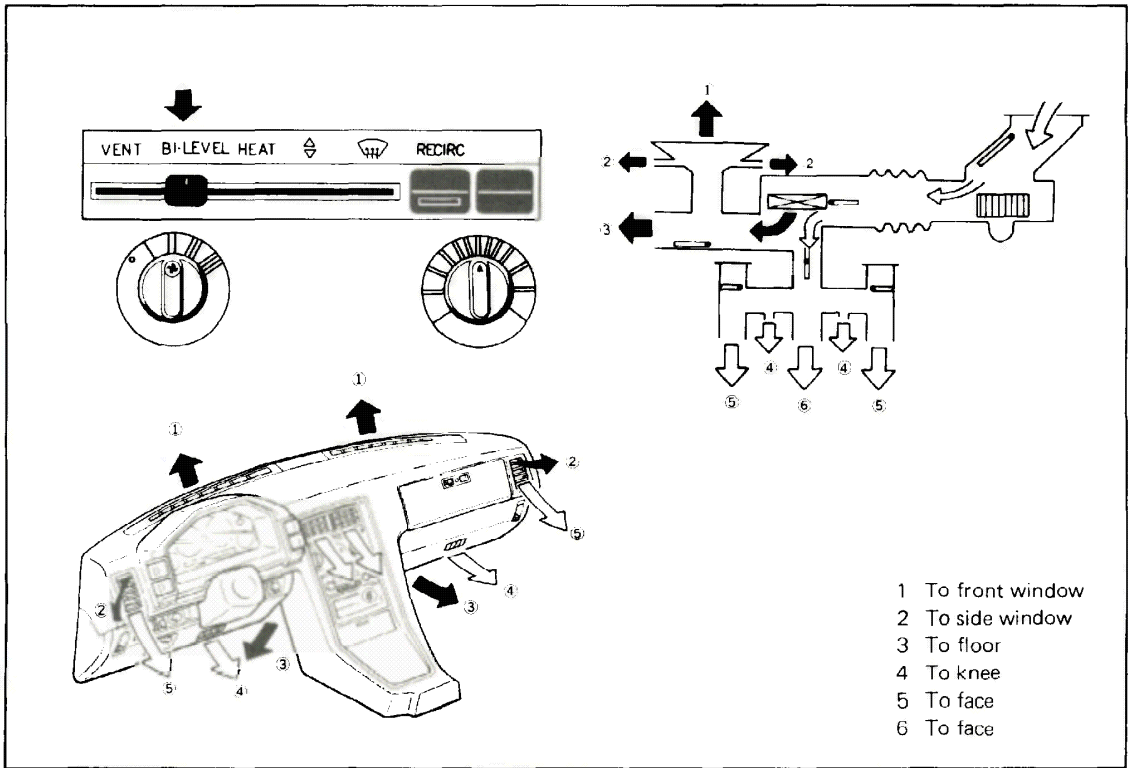
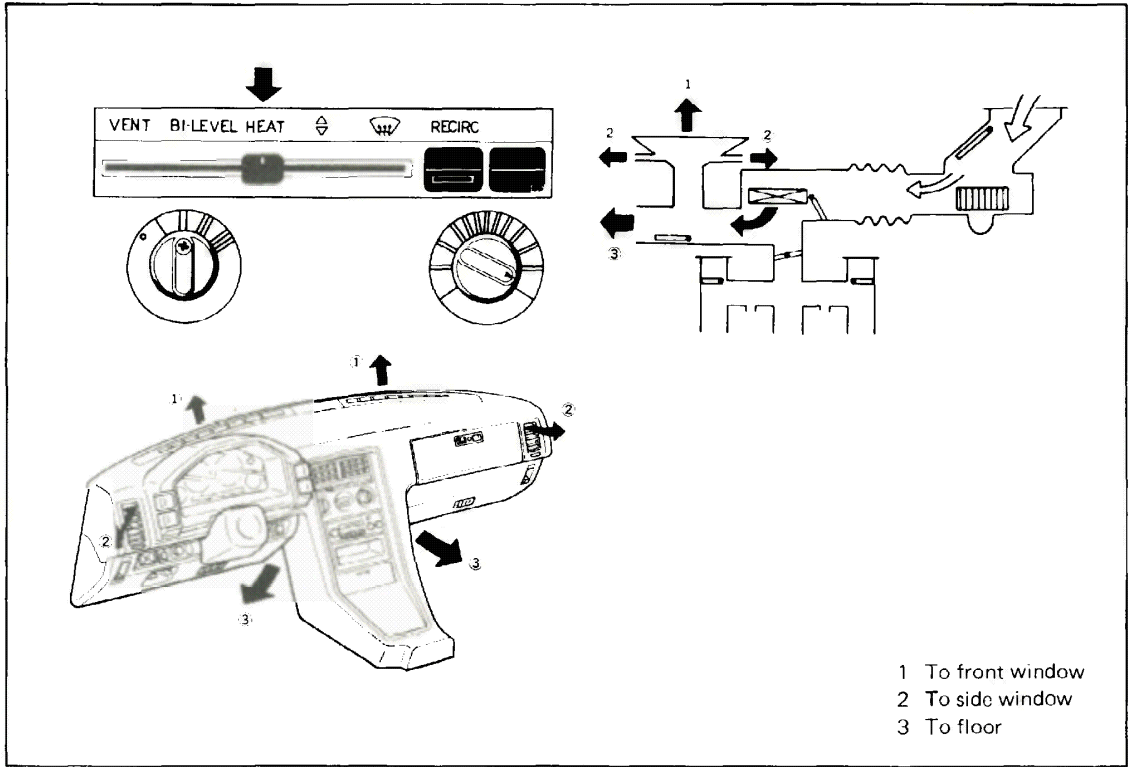
47U15X-148

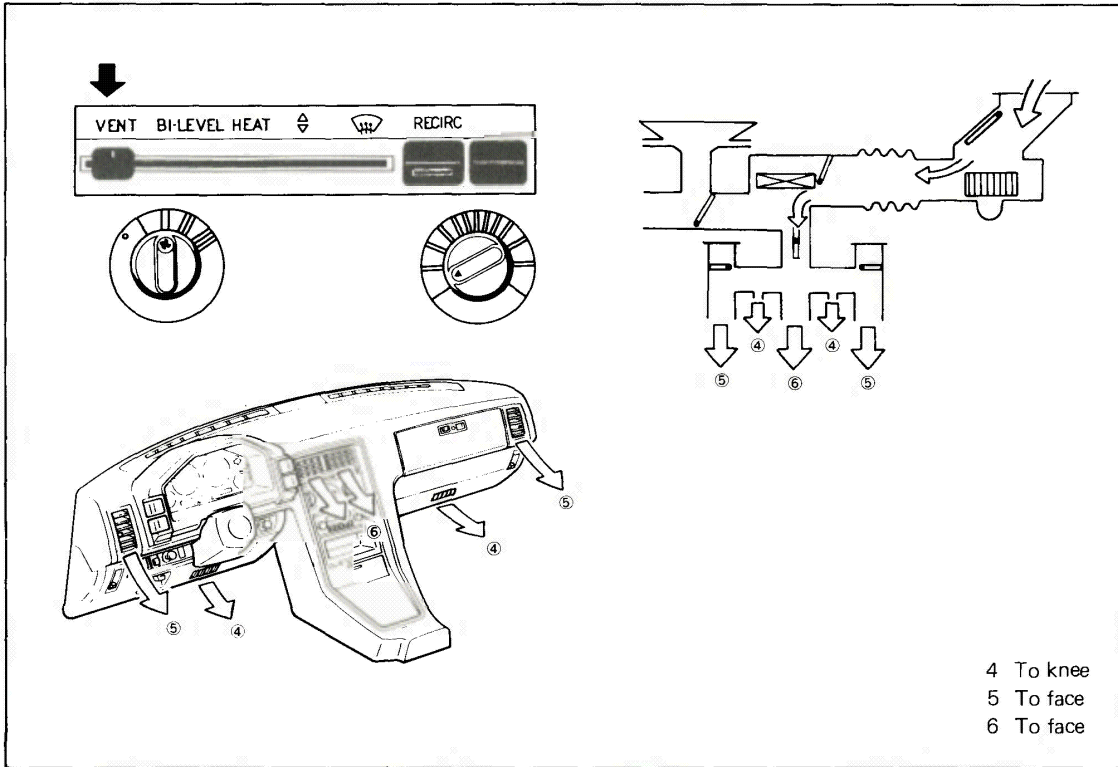
HEATER MODES AND HEAT FLOW DIAGRAMS

Lever Control Type

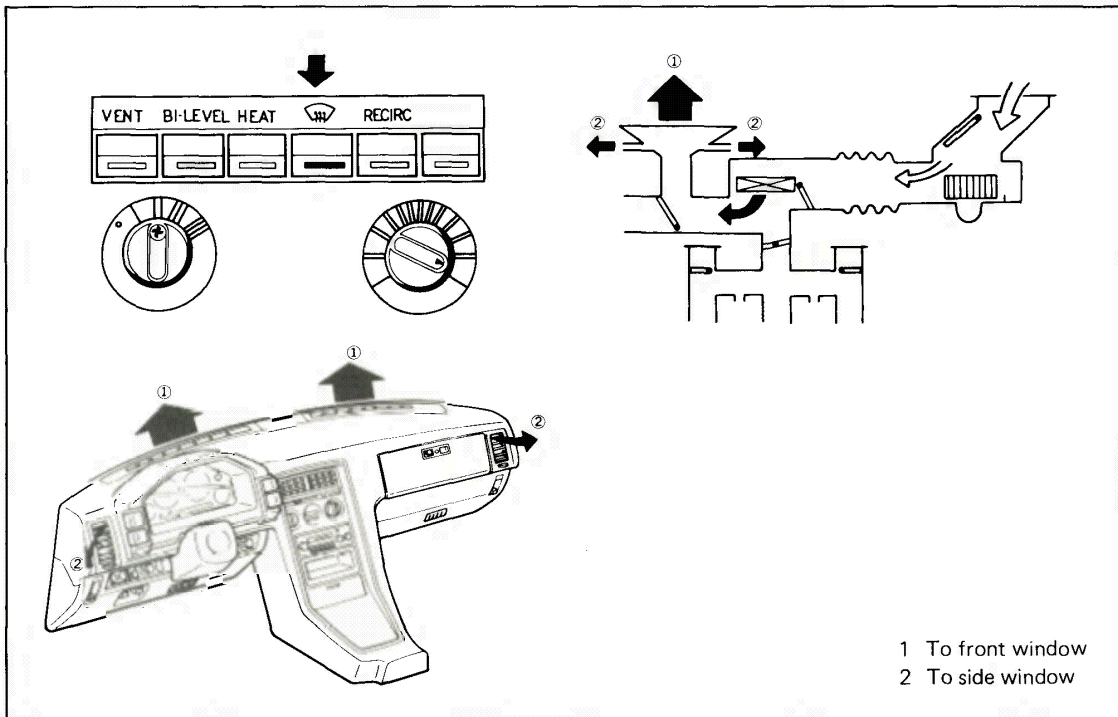


15 HEATER

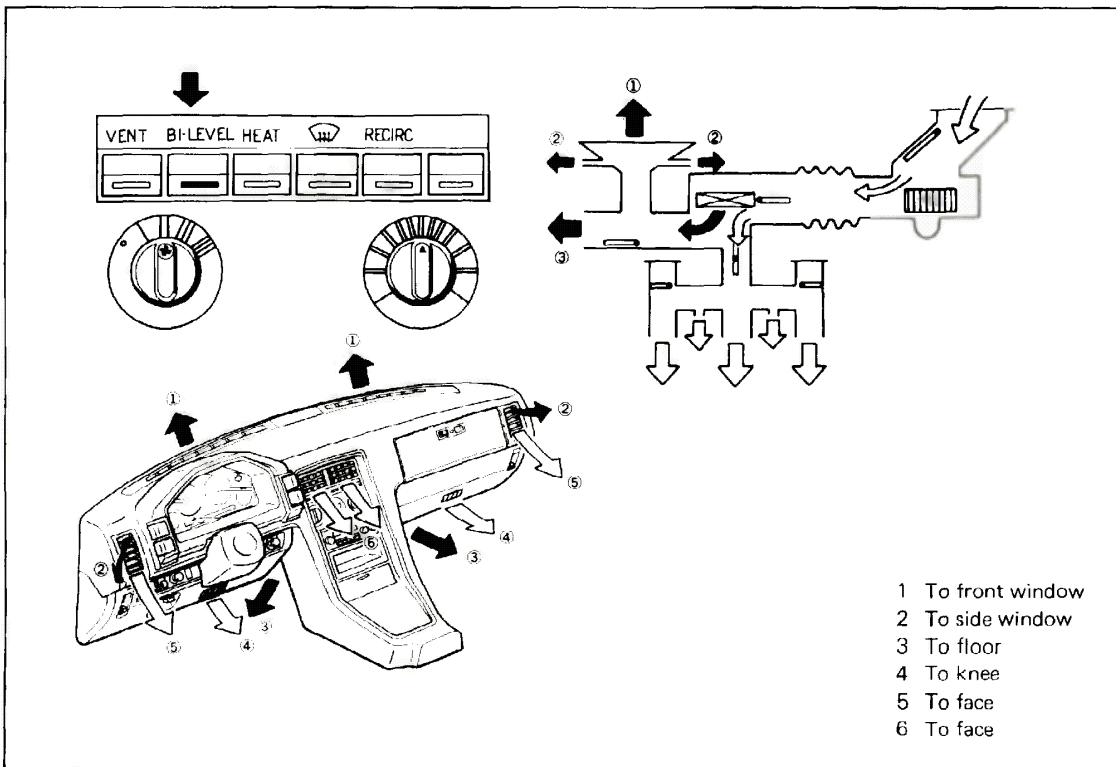
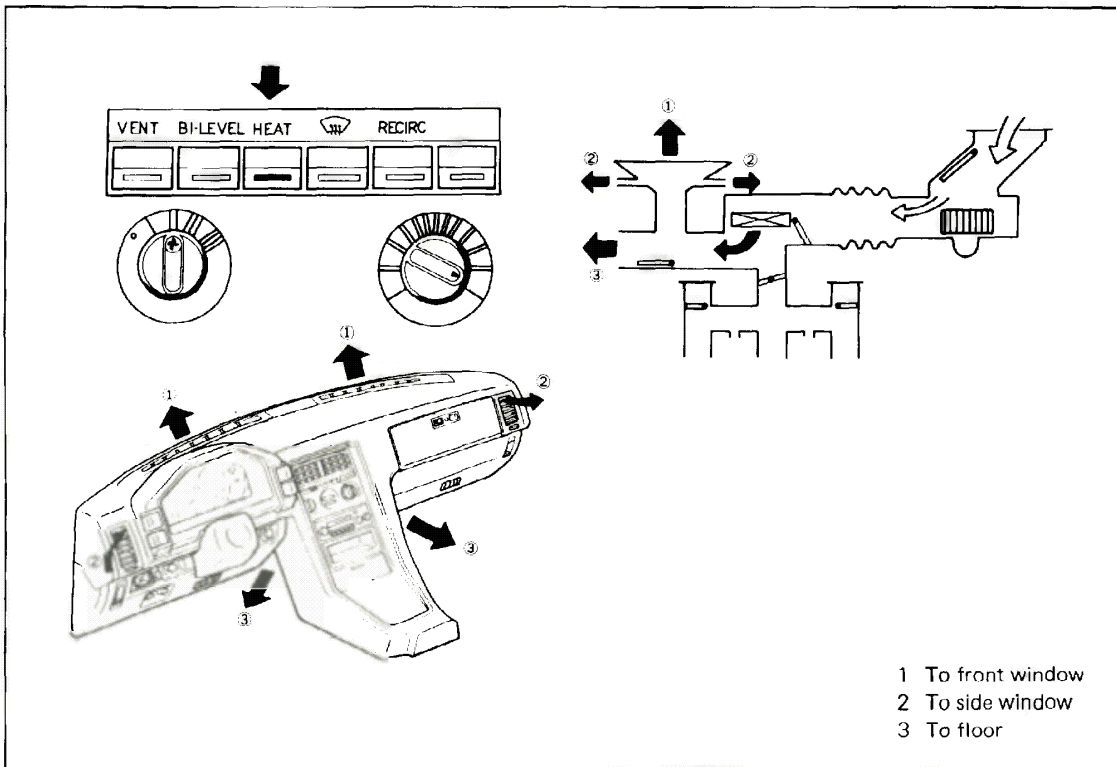


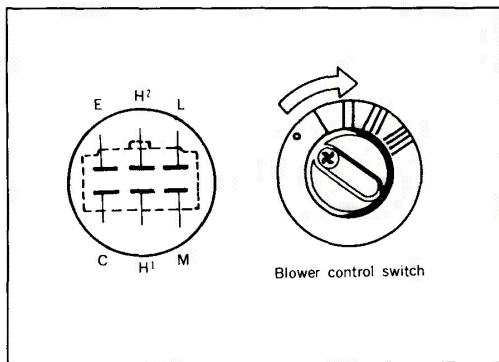
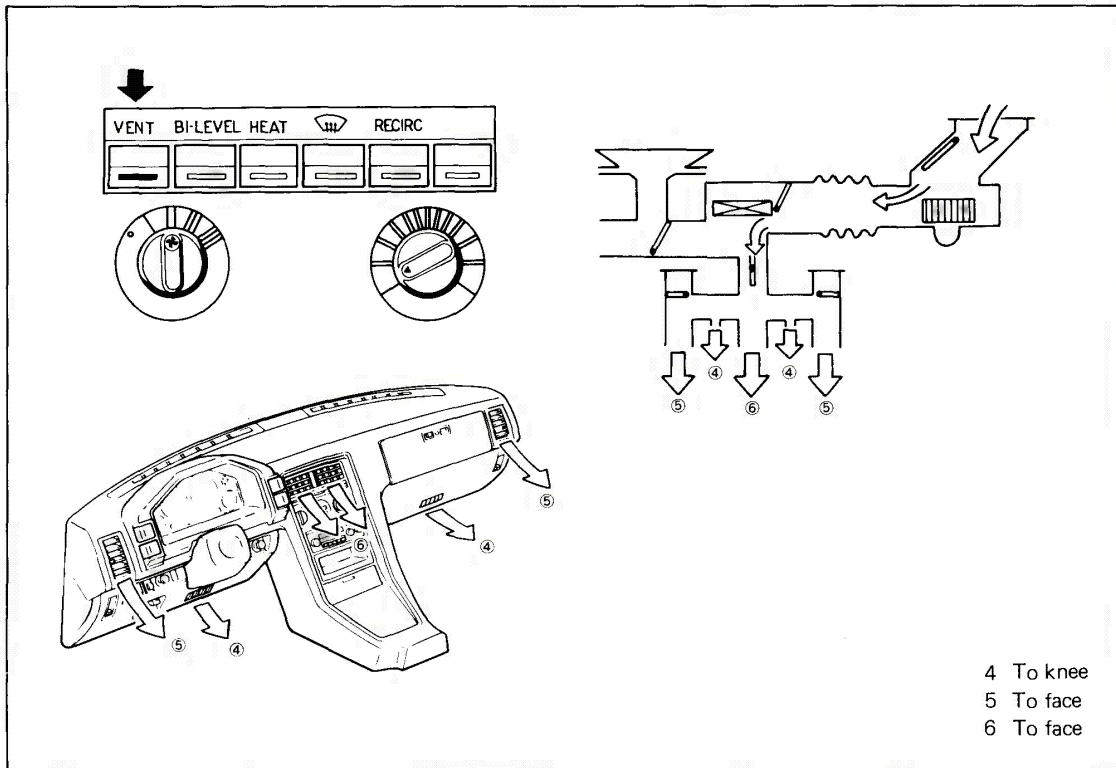


Logical Control Type



15 HEATER





47U15X-149

BLOWER CONTROL SWITCH

Checking the Switch

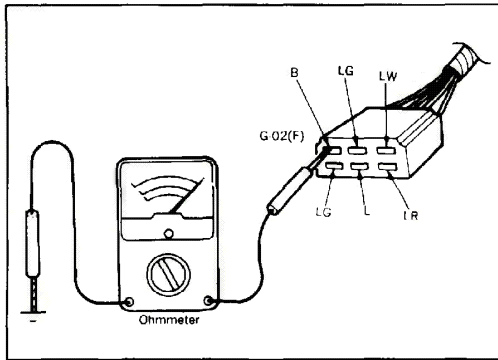
Use an ohmmeter to check the continuity of each terminal of the switch.

If the continuity is not as specified, replace the switch.

Terminal Position	C	E	L	M	H ₂	H ₁
OFF		○				
I	○	○	○			
II	○	○		○		
III	○	○			○	
III	○	○				○

○—○ : Indicates continuity

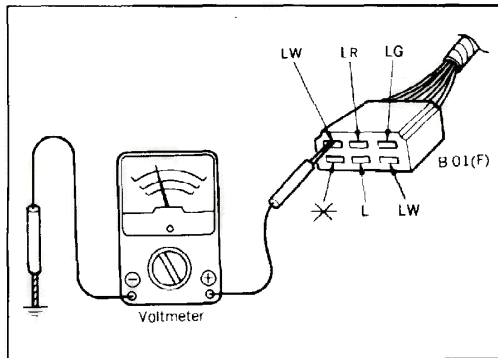
15 HEATER



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CHECKING THE GROUND CONNECTION

Using an ohmmeter check the ground connection between the line (B) and body ground.

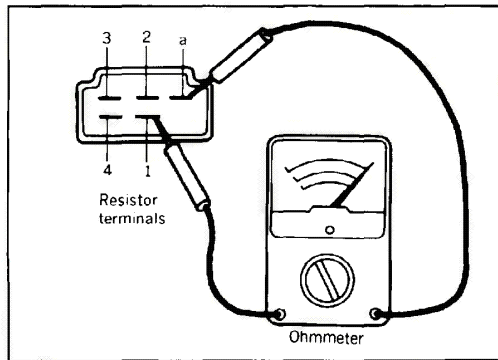


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BLOWER CONTROL RESISTOR

Checking the Circuit

1. Disconnect the connector from the resistor.
2. Using a voltmeter, measure the voltage between the line (LW) and body ground with the ignition switch ON.
3. If there is no voltage, check the HEATER fuse, the blower motor and wiring harness.



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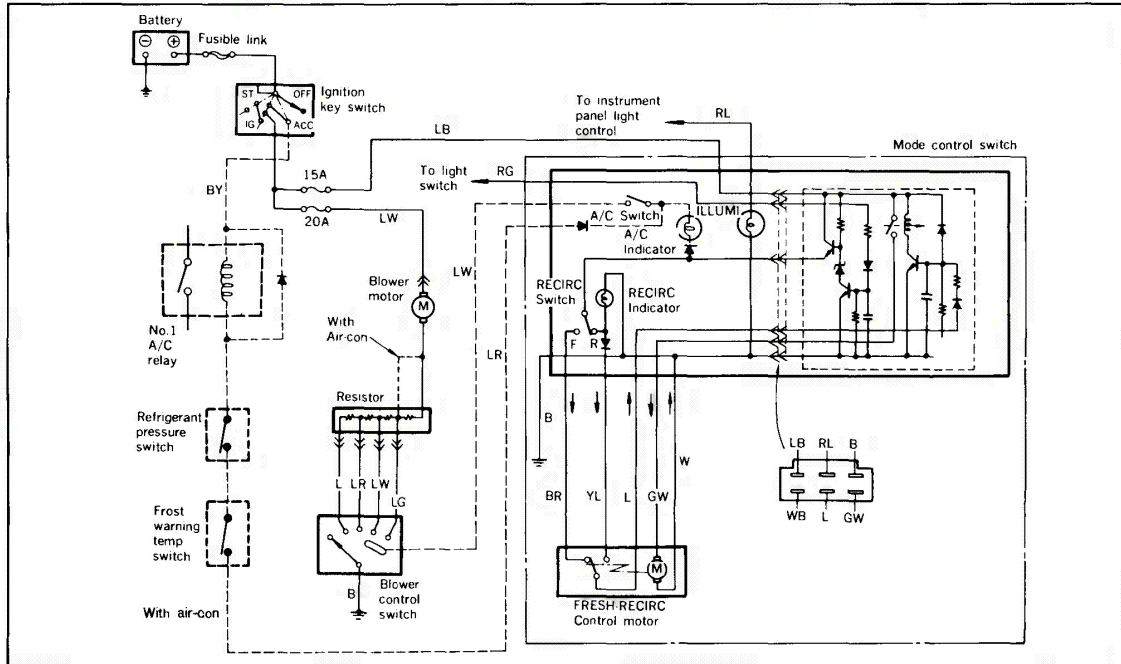
Checking the Resistor

Check that there is continuity between terminals (a) and (1).

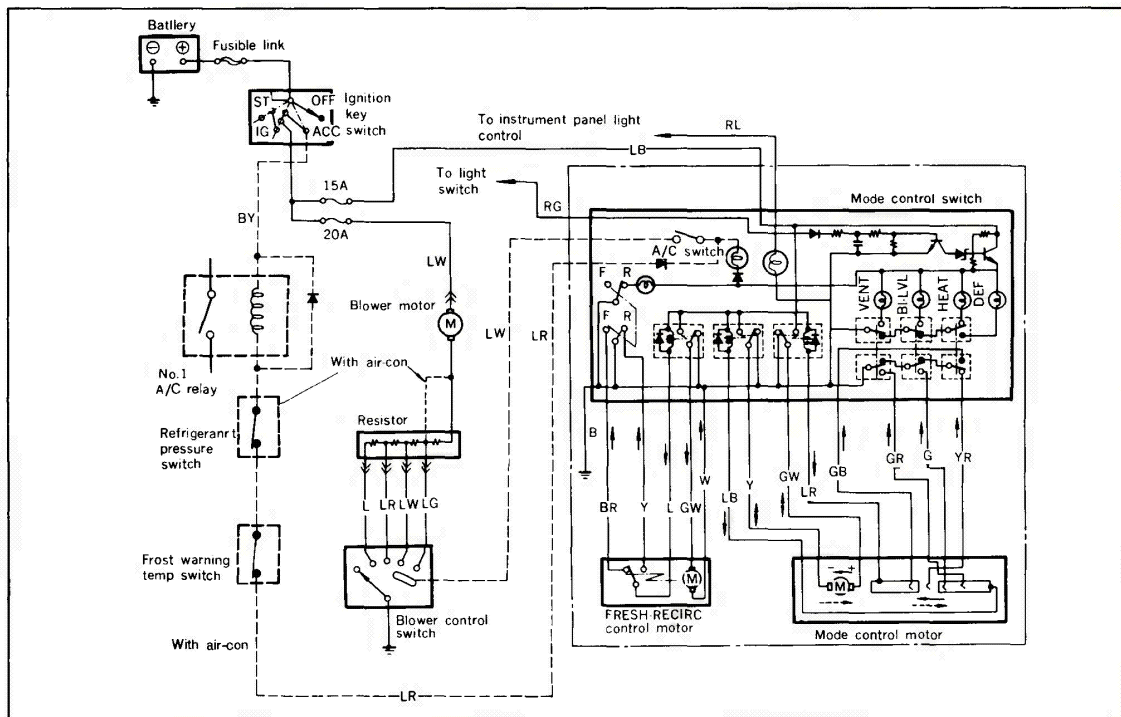
If there is no continuity, replace the resistor.

MODE CONTROL SWITCH

Circuit Diagram (Lever control type)

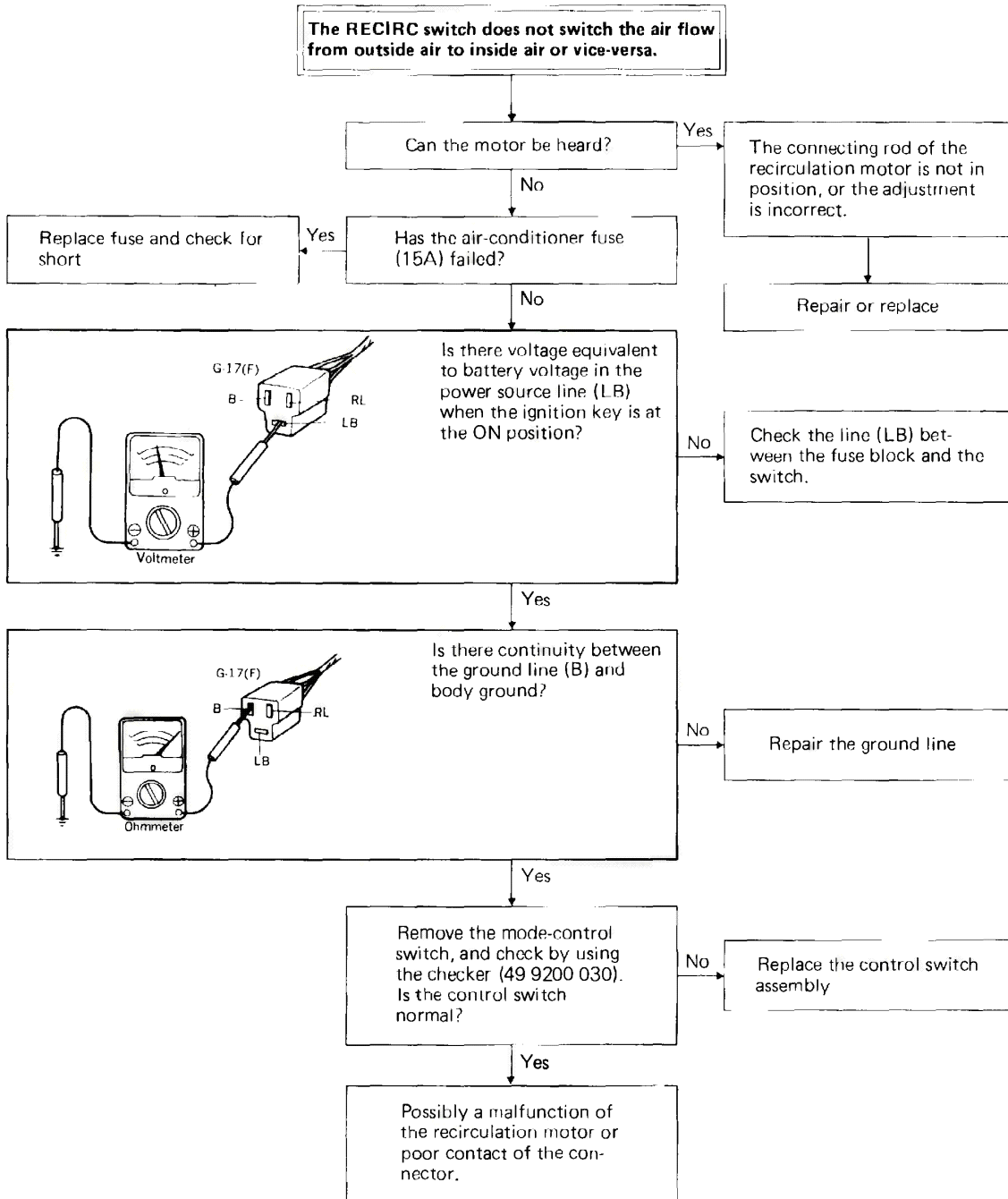


(Logical control type)

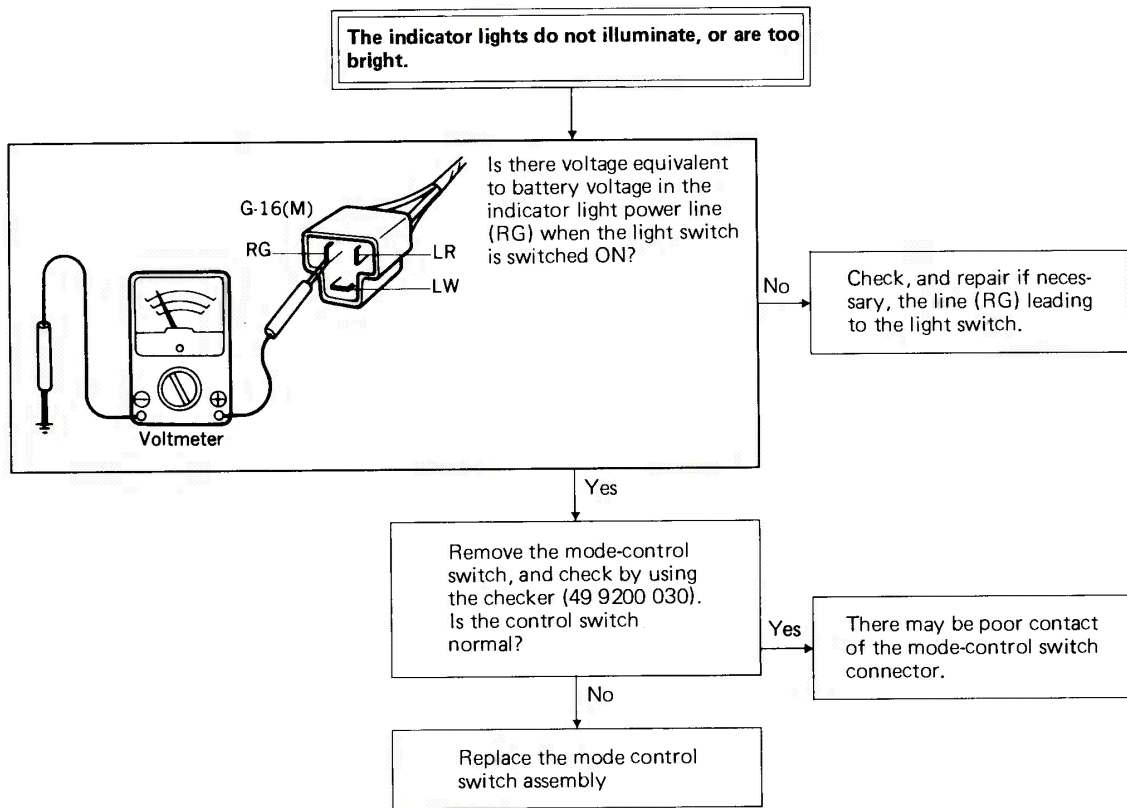


15 HEATER

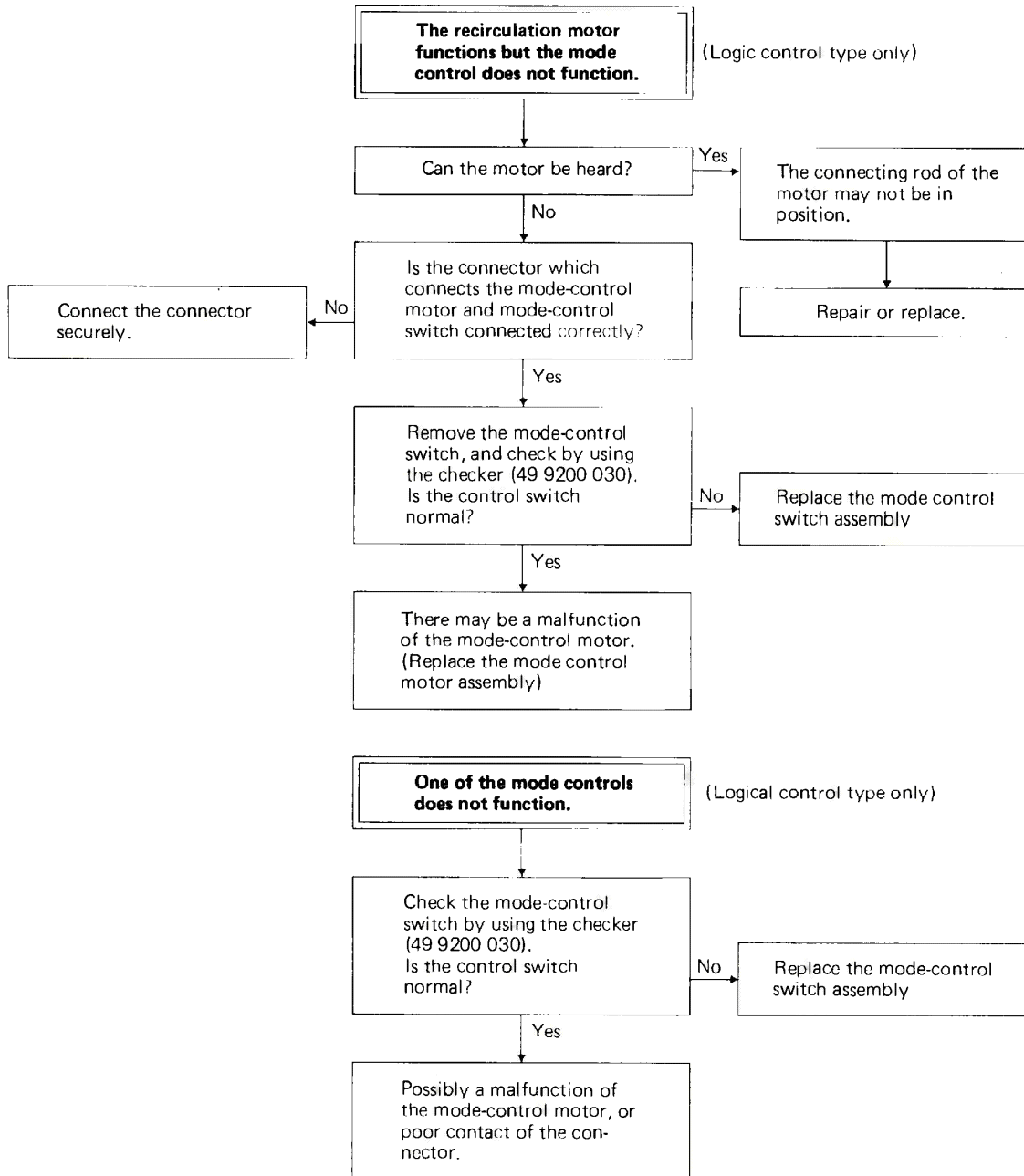
Troubleshooting Guide



47U15X-153

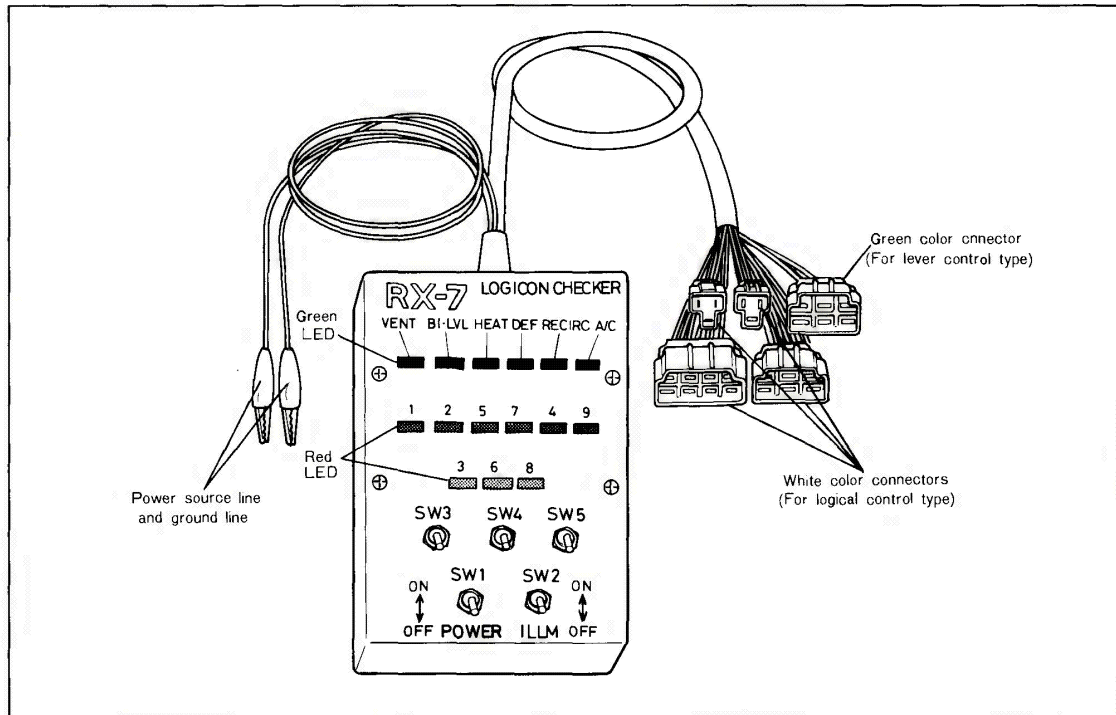


47U15X-154



47U15X-155

LOGICON CHECKER (49 9200 030) PARTS IDENTIFICATION



47U15X-156

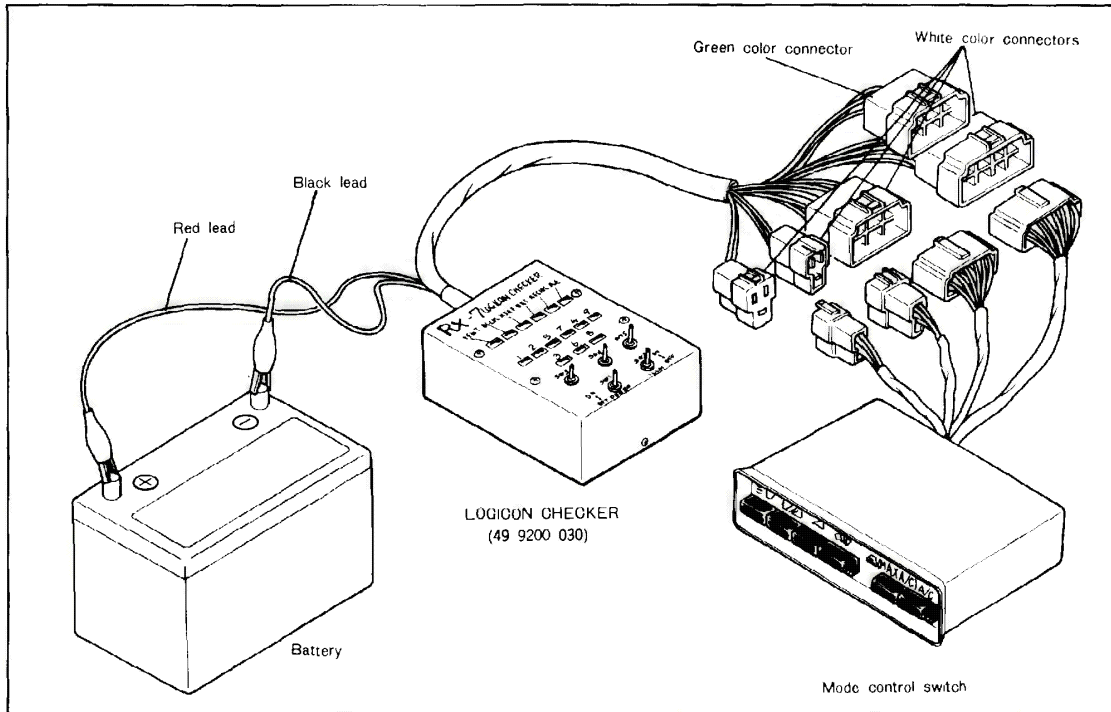
HOW TO USE THE LOGICON CHECKER (for the logical control type)

1. Set each switch of the checker as shown in the figure above.
2. Connect the red wire to the positive (+) terminal of the battery, and the black wire to the negative (-) terminal of the battery.
3. Securely connect each connector of the mode-control switch to the white connectors of the checker.
4. Set the power switch (SW1) to the ON position.
At this time red LEDs No. 3, 4, 6 and 8, and then No. 1 LED, will illuminate. (If, however, the green RECIRC LED is illuminated, the No. 1 LED will go off.)
And, if one of the control switches is switched ON, the green LED corresponding to that switch will illuminate.
5. Press the control switches in order, and check whether or not the green LED (at the checker) corresponding to each switch respectively illuminates. If it does not illuminate, the problem is in the mode-control switch itself.

Note

- a) The red No. 1 LED will go off when, while using the checker, the RECIRC switch is switched ON, but this is a normal function.
- b) The red No. 4 LED will remain continuously illuminated during the time that the power switch is ON.

Logicon Checker Connections



57U15X-157

6. Operate SW3, SW4 and SW5 of the checker and make the following checks.

- Check whether or not LED No. 2 illuminates and LED No. 3 goes off when the SW3 lever is moved to the upper position.
- Check whether or not LED No. 5 illuminates and LED No. 6 goes off when the SW 4 lever is moved to the upper position.
- Check whether or not LED No. 7 illuminates and LED No. 8 goes off when the SW5 lever is moved to the upper position.

If the red LEDs do not function as described above, the problem is in the mode-control switch itself.

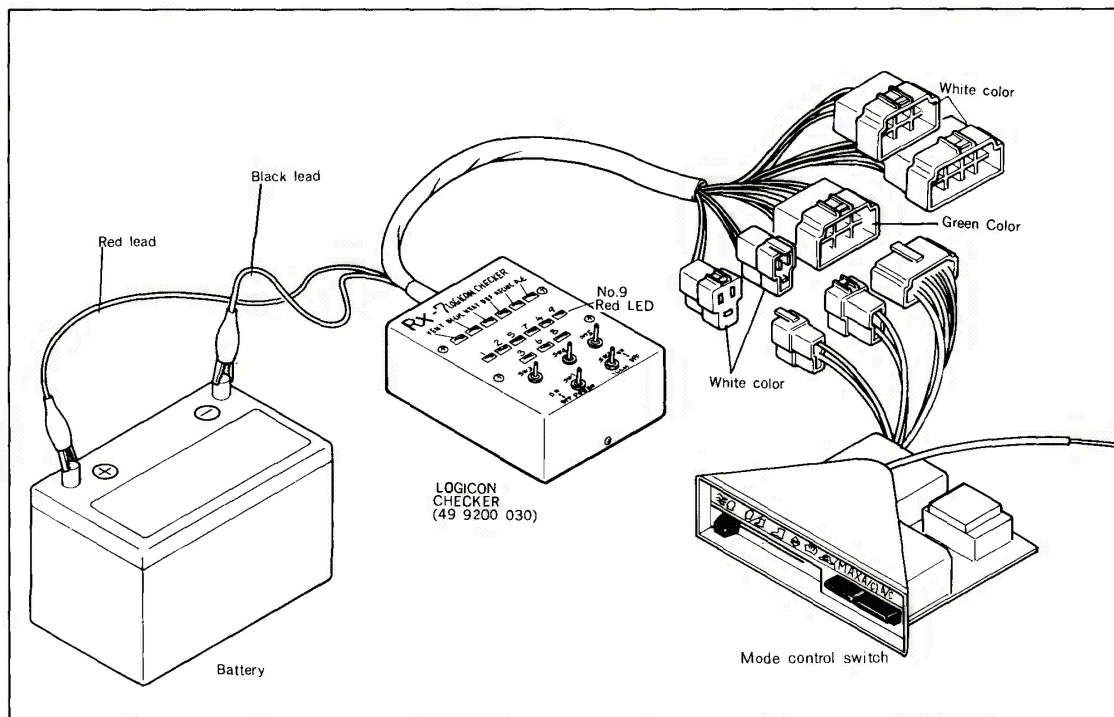
7. Set the illumination switch (SW2) to ON.

Check to be sure that the indicator light of the control switch is dimmed at this time.

In this condition, once again make the test described in step 5, and check to be sure that the indicator light of each mode switch is dimmed.

If it does not, the problem is in the mode-control switch itself.

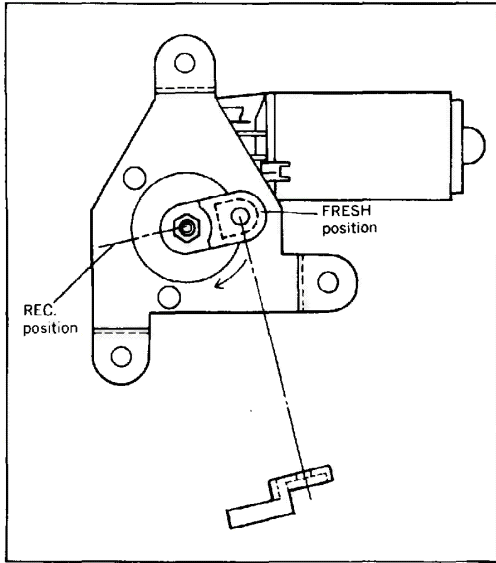
HOW TO USE THE LOGICON CHECKER (lever control type)



47U15X-158

1. Set each of the checker switches as shown in the figure above.
2. Connect the red wire from the power source to the positive (+) terminal of the battery, and the black wire to the negative (-) terminal.
3. Connect the 6P connector of the mode-control switch to the 6P connector (green) of the checker, and connect the two 3P connectors to the white 3P connectors of the checker.
4. Switch the A/C and RECIRC mode-control switches OFF. Then, switch the power switch (SW1) of the checker ON.
5. When the RECIRC mode-control switch is switched ON, the No. 9 red LED of the checker will illuminate, and, at the same time, the indicator light of the switch knob will also illuminate. When the A/C switch is switched ON, the green LED (A/C) of the checker will illuminate, and, at the same time, the indicator light of the switch knob will also illuminate. (All LEDs, except the RECIRC and A/C, will be extinguished.) If the procedure is not in the order described, the problem is in the mode-control switch itself.
6. Switch ON the illumination switch (SW2). (Move the lever to the upper position.) At this time, check to be sure that the A/C switch and RECIRC switch indicator lights become dim when the VENT, BI-LEVEL and HEAT illumination lights illuminate. If they do not, the problem is in the mode-control switch itself.

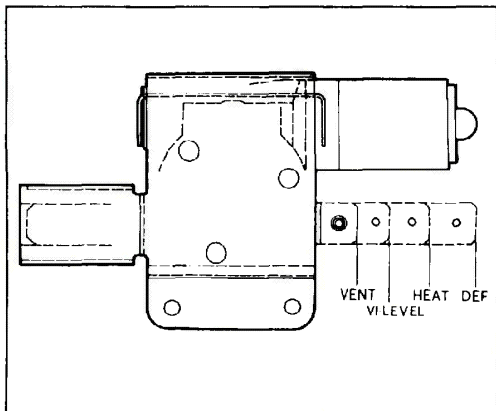
15 HEATER



47U15X-159

Correct stopping position of the recirculation motor link

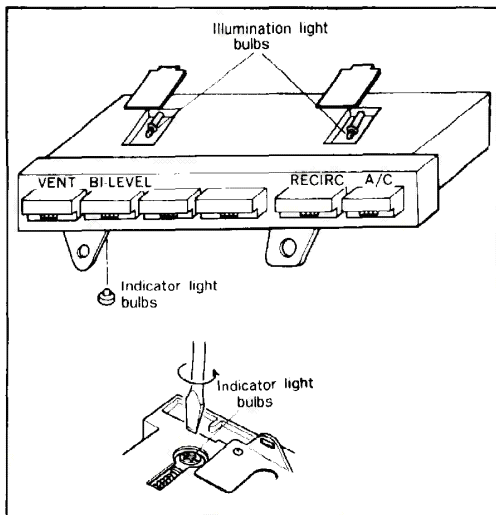
The correct stopping position of the recirculation motor link is as shown in the figure.



47U15X-160

Correct stopping position of the mode-control motor rack

The correct stopping position of the rack is as shown in the figure.

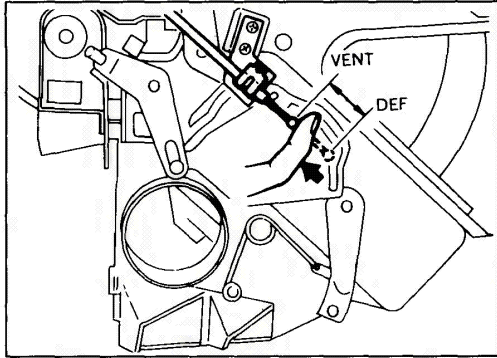


47U15X-161

Bulb replacement

The illumination light and indicator light bulbs are located at the positions shown in the figure.

The indicator light bulb should be removed together with the socket by using a screwdriver as shown in the figure.

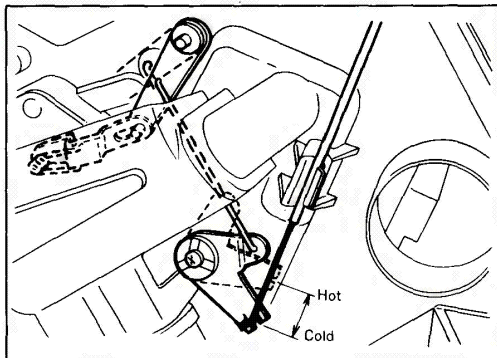


47U15X-162

CONNECTION OF THE HEATER CONTROL WIRES

Mode wires

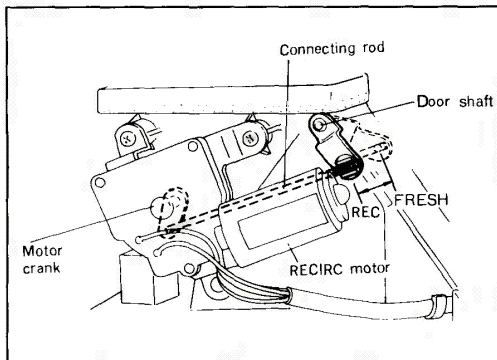
1. Set the mode-control knob to the VENT position.
2. With the mode-control lever pulled all the way toward the rear of the vehicle, connect the control wire and clamp it.
3. With the blower motor operating at "III" (Hi), check to be sure that there is no air leakage from the air outlets near the floor.
(Temperature control position: COLD)



47U15X-163

Temperature

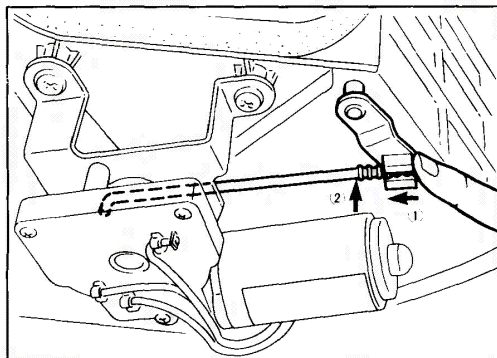
1. Turn the temperature control knob all the way to the left (COLD MAX position).
2. With the heat/cool selector lever pushed down (COLD position), connect the control wire and clamp it.
3. Check to be sure that there is a full stroke of the selector lever between COLD and HOT.



47U15X-164

ADJUSTMENT OF THE HEATER CONTROL, MOTOR AND DOOR INSIDE/OUTSIDE AIR SELECTOR DOOR (REC – FRESH)

1. Press the inside/outside air selector door switch to start the motor, and set the motor crank to the REC position.



47U15X-165

2. Remove the connecting rod of the inside/outside air selector door from the fastener, and then, with the lever pushed toward the motor (all the way toward you), once again install the rod.
3. Check the operation of the door and the motor.