This file is available for free download at http://www.iluvmyrx7.com

This file was not scanned to deprive Mazda of any money – it was scanned due to the rareness of the original manuals and the overwhelming need of the RX-7 owner to have this information so that they can accurately troubleshoot problems. Perhaps if Mazda's dealerships could support the Rotary Engine it wouldn't be so necessary for the owners to do so.

Many thanks to Anh Diep for scanning this file.

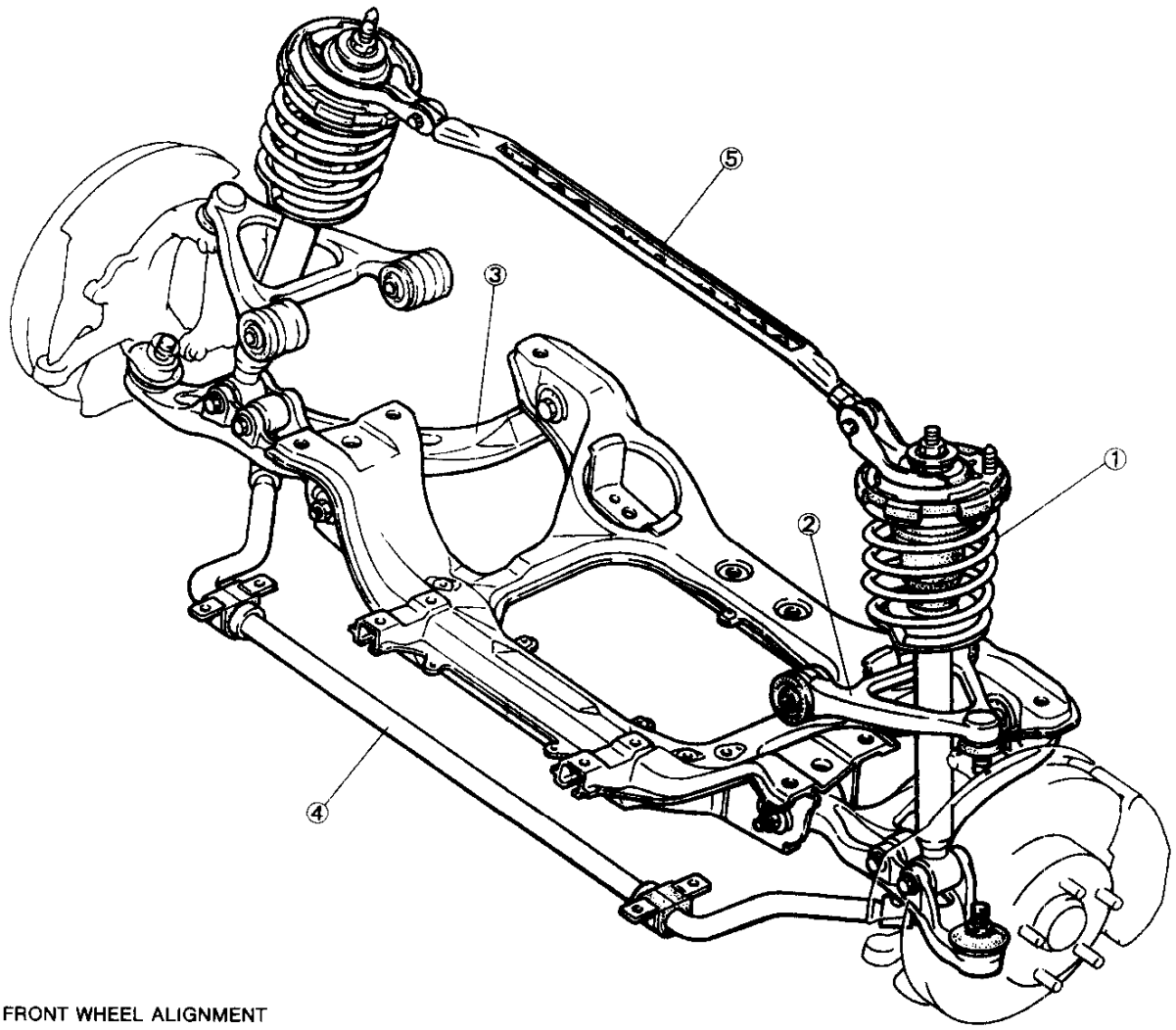
Before beginning any service procedure, refer to the 1993 RX-7 Body Electrical Troubleshooting Manual; see section S for air bag system precautions and J1 for audio anti-theft system precautions.

SUSPENSION

37U0RX-001

INDEX

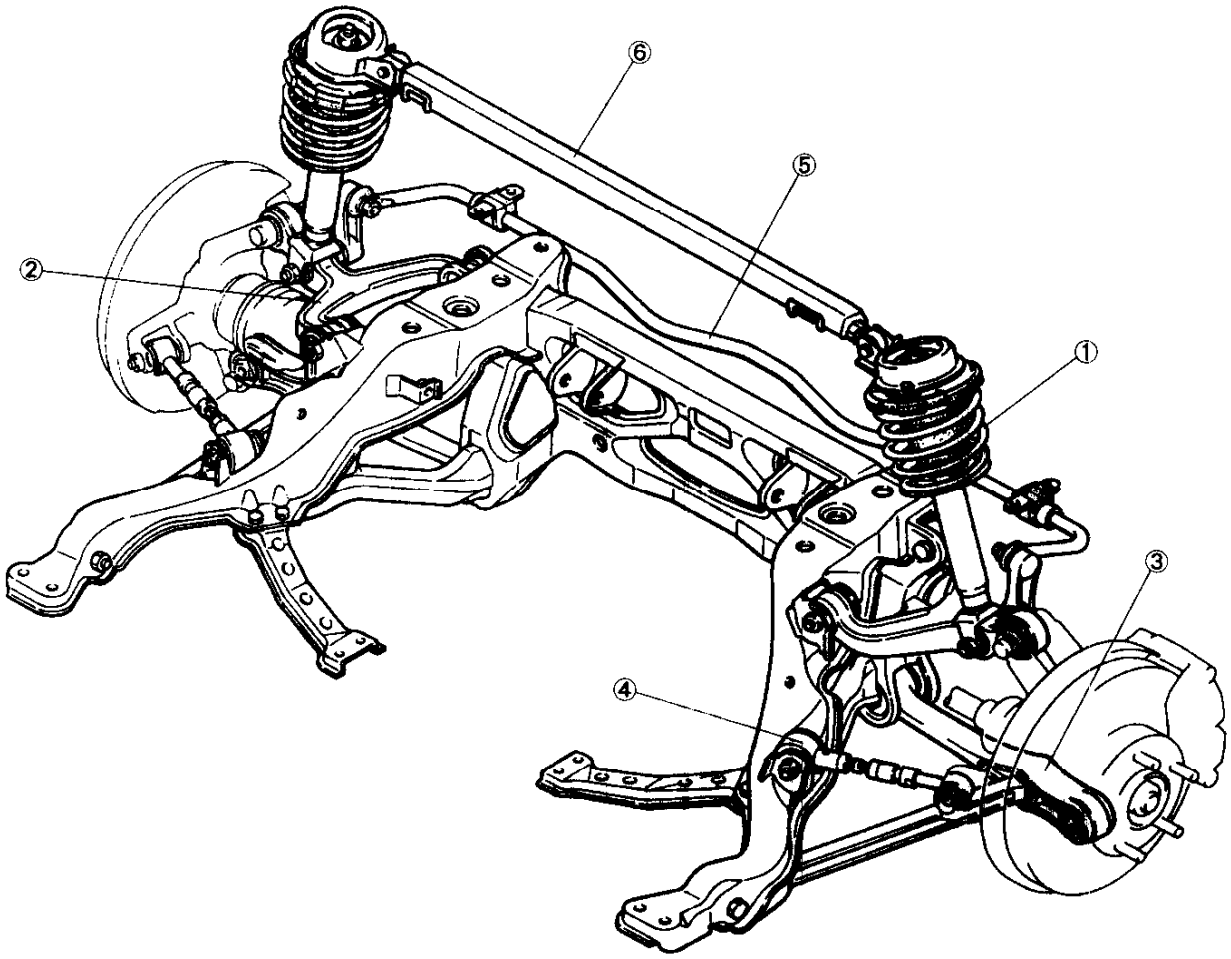
FRONT SUSPENSION



FRONT WHEEL ALIGNMENT
TOTAL TOE-IN: 1 ± 3 mm {0.04 ± 0.11 in}
TOE-IN (PER SIDE): 0°03' ± 0.8'
MAXIMUM STEERING ANGLE: 36° ± 2° (INNER)
32° ± 2° (OUTER)
CAMBER ANGLE: 0°05' ± 45'
CASTER ANGLE: 6°05' ± 1°
KINGPIN ANGLE: 13°55'

37U0RX-002

REAR SUSPENSION



REAR WHEEL ALIGNMENT
TOTAL TOE-IN: 2 ± 3 mm {0.08 ± 0.11 in}
TOE-IN (PER SIDE): 0°05' ± 08'
CAMBER ANGLE: – 1°13' ± 45'
THRUST ANGLE: 0° ± 06'

37U0RX-003

1. Rear shock absorber and spring
   Removal / Installation ..... page R–27
   Disassembly / Inspection / Assembly ... page R–29
2. Upper arm
   Removal / Inspection
   Installation .... page R–32
   Disassembly / Inspection / Assembly ..... page R–33
3. Rear lower arm
   Removal / Inspection
   Installation .... page R–36
   Disassembly / Inspection / Assembly ..... page R–37
4. Toe-control link
   Removal / Inspection
   Installation .... page R–40
5. Rear stabilizer
   Removal / Inspection / Assembly ..... page R–42
6. Rear strut bar
   Removal / Inspection / Assembly ..... page R–43

OUTLINE

SPECIFICATIONS

Item \ Grade				BASE, TOURING	R1
Front suspension					
Suspension type				Double-wishbone	
Coil spring	Identification mark color			Blue	
	Wire diameter		mm {in}	12.4 {0.49}	
	Coil center diameter		mm {in}	104.9 {4.130}	
	Free length		mm {in}	272.9 {10.74}	
	Active coil number			4.27	
Shock absorber type				Cylindrical, double-acting, low-pressure gas charged	
Stabilizer	Type			Torsion bar, hollow type	
	Diameter		mm {in}	28.6 {1.13}	
Front wheel alignment (unladen*1)	Total toe-in		mm {in}	1 ± 3 {0.04 ± 0.11}	
	Toe-in (per side)		degree	0°03' ± 08'	
	Maximum steering angle degree	Inner		36° ± 2°	
		Outer		32° ± 2°	
	Camber angle*2		degree	0°05' ± 45'	
	Caster angle*2		degree	6°05' ± 1°	
	Kingpin angle		degree	13°55'	
Rear suspension					
Suspension type				Double-wishbone	
Coil spring	Identification mark color			White	
	Wire diameter		mm {in}	12.2 {0.48}	
	Coil center diameter		mm {in}	114.7 {4.516}	
	Free length		mm {in}	299.0 {11.77}	
	Active coil number			4.21	
Shock absorber type				Cylindrical, double-acting, low-pressure gas charged	
Stabilizer	Type			Torsion bar, hollow type	
	Diameter		mm {in}	17.3 {0.68}	
Rear wheel alignment (unladen*1)	Total toe-in		mm {in}	2 ± 3 {0.08 ± 0.11}	
	Toe-in (per side)		degree	0°05' ± 08'	
	Camber angle*2		degree	−1°13' ± 45'	
	Thrust angle		degree	0° ± 06'	

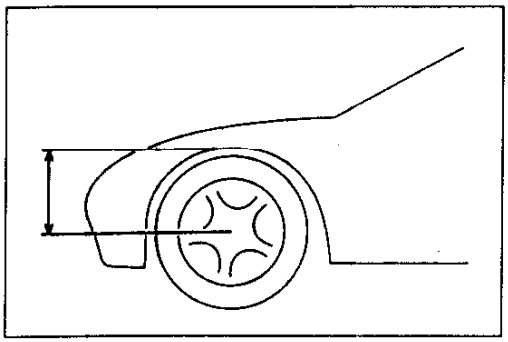
37U0RX-004

*1 Fuel tank full; radiator coolant and engine oil at specified levels; spare tire, jack, and tools in designated positions.
*2 Difference between left and right must not exceed 1°.

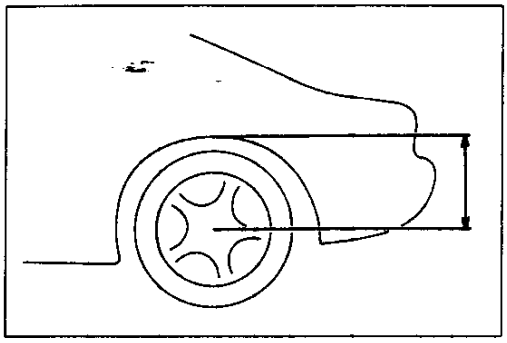
TROUBLESHOOTING GUIDE

Problem	Possible cause	Action	Page
Body rolls	Weak stabilizer or stabilizer link	Replace	R-24, 42
	Damaged or worn stabilizer control link	Replace	R-24, 42
	Worn or deteriorated upper arm or lower arm bushings	Replace	R-17, 21, 33, 37
	Damaged shock absorber	Replace	R-12, 27
Poor riding comfort	Weak coil spring	Replace	R-13, 29
	Damaged shock absorber	Replace	R-12, 27
Body leans	Weak coil spring	Replace	R-13, 29
	Damaged or worn stabilizer control link	Replace	R-24, 42
	Worn or deteriorated upper arm or lower arm bushings	Replace	R-17, 21, 33, 37
Abnormal noise from suspension system	Poor lubrication of or worn upper arm or lower arm ball joint Looseness of peripheral connections	Lubricate or replace Tighten	R-17, 21 –
	Damaged shock absorber	Replace	R-12, 27
	Damaged or worn stabilizer control link	Replace	R-24, 42
	Worn or deteriorated upper arm or lower arm bushings	Replace	R-17, 21, 33, 37
General driving instability	Weak coil spring	Replace	R-13, 29
	Damaged shock absorber	Replace	R-12, 27
	Worn or deteriorated upper arm or lower arm bushings	Replace	R-17, 21, 33, 37
	Damaged or worn stabilizer control link	Replace	R-24, 42
	Improperly adjusted wheel alignment	Adjust	R-6
	Damaged or worn upper arm or lower arm ball joint	Replace	R-17, 21
	Malfunction of steering system	–	Section N
	Damaged or unbalanced wheel	–	Section Q
Heavy steering	Poor lubrication of or worn upper arm or lower arm ball joint	Lubricate or replace	R-17, 21
	Improperly adjusted wheel alignment	Adjust	R-6
	Malfunction of steering system	–	Section N
	Damaged or unbalanced wheel	–	Section Q
Steering wheel pulls to one side	Weak coil spring	Replace	R-13, 29
	Damaged or worn stabilizer control link	Replace	R-24, 42
	Worn or deteriorated upper arm or lower arm bushings	Replace	R-17, 21, 33, 37
	Damaged or worn upper arm or lower arm	Replace	R-17, 21, 33, 37
	Improperly adjusted wheel alignment	Adjust	R-6
	Malfunction of steering system	–	Section N
	Malfunction of braking system	–	Section P
	Damaged or unbalanced wheel	–	Section Q
Shimmy occurs (steering wheel vibrates circumferential)	Damaged or worn upper arm or lower arm ball joint	Replace	R-17, 21
	Damaged shock absorber	Replace	R-12
	Loose shock absorber mounting	Tighten	R-12
	Worn or deteriorated upper arm or lower arm bushings	Replace	R-17, 21
	Damaged or worn stabilizer control link	Replace	R-24
	Improperly adjusted wheel alignment	Adjust	R-6
	Damaged or worn wheel bearing	–	Section M
	Malfunction of steering system	–	Section N
	Damaged or unbalanced wheel	–	Section Q
Steering wheel doesn't return properly	Stuck or damaged upper arm or lower arm ball joint	Replace	R-17, 21
	Improperly adjusted wheel alignment	Adjust	R-6
	Malfunction of steering system	–	Section N
	Damaged or unbalanced wheel	–	Section Q

37U0RX-005



37U0RX-006



37U0RX-007

WHEEL ALIGNMENT

PREINSPECTION

1. Check the tire inflations and set to the recommended pressure, if necessary.
2. Inspect the front wheel bearing play. Replace the bearing(s) as necessary.
3. Inspect the wheel and tire runout of all wheels.
4. Inspect the ball joints and steering linkage for excessive looseness.
5. Place the vehicle on level ground with no luggage or passenger load.
6. Rock the vehicle to settle the suspension.
7. Verify that the height difference between the left and right sides from the center of the wheel to the fender brim does not exceed specification.

   Specification: 10 mm {0.39 in}

8. Verify that the height difference between the front and rear does not exceed specifications.

   Specification: 15 mm {0.59 in}

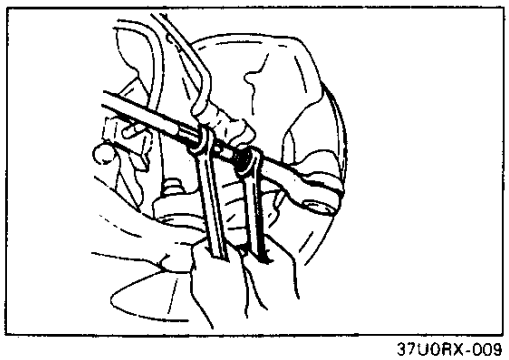
FRONT WHEEL ALIGNMENT

Specifications (Unladen*1)

Item		Specifications
Total toe-in	mm {in}	1 ± 3 {0.04 ± 0.11}
Toe-in (per side)	Degree	0°03' ± 08'
Maximum steering angle	In	36° ± 2°
	Out	32° ± 2°
Kingpin angle		13°55'
Camber angle*2	Degree	0°05' ± 45'
Caster angle*2	Degree	6°05' ± 1°

37U0RX-008

*1 Fuel tank full; radiator coolant and engine oil at specified levels; spare tire, jack, and tools in designated positions.
*2 Difference between left and right must not exceed 1°.

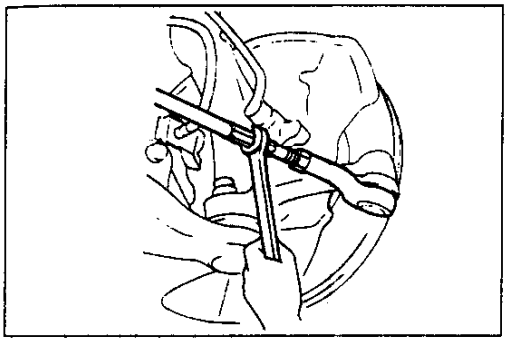


37U0RX-009

Adjustment

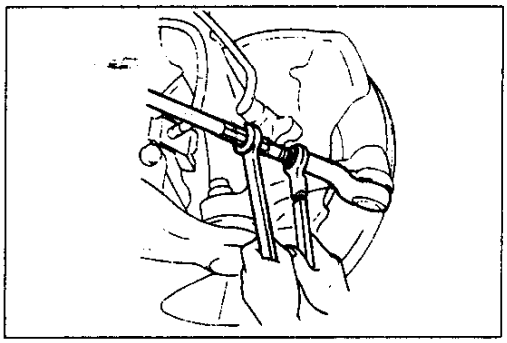
Toe-in

1. Remove the steering gear boot clamp.
2. Loosen the tie rod locknut.


37U0RX-010

3. Turn each of the tie rods the same amount.

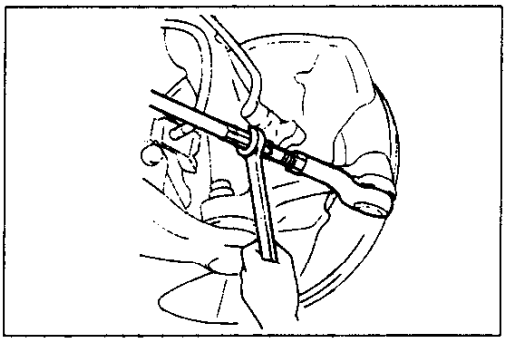
Caution
- **To increase the toe-in, turn the right tie rod toward the front of the vehicle and the left one the same amount toward the rear.**
- **One turn of the tie rod (one side) changes the toe-in about 10.6 mm {0.42 in}.**
- **Adjust the toe-in after adjusting the steering angle.**


37U0RX-011

4. Tighten the tie rod locknuts to the specified torque.

Tightening torque:
31–50 N·m {3.1–5.1 kgf·m, 23–36 ft·lbf}

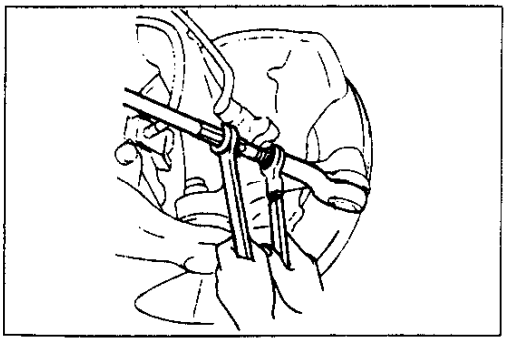
5. Verify that the boot is not twisted. Install the boot clamp.


29U0RX-010

Maximum steering angle

1. Remove the steering gear boot clamp.
2. Loosen the tie rod locknut.
3. Turn the tie rod to provide the correct maximum steering angle.

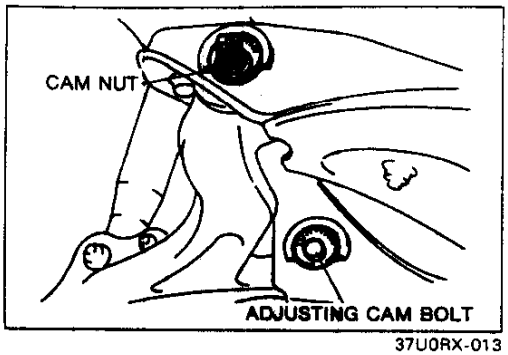
Maximum left / right difference: 3 mm {0.12 in}


37U0RX-012

4. After adjustment, tighten the locknut to the specified torque.

Tightening torque:
31–50 N·m {3.1–5.1 kgf·m, 23–36 ft·lbf}

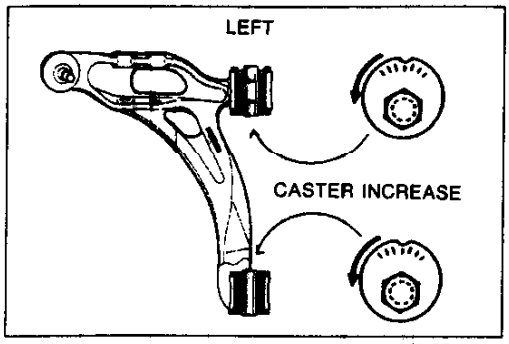
5. Adjust the toe-in. (Refer to page R–6.)
6. Verify that the boot is not twisted. Install the boot clamp.



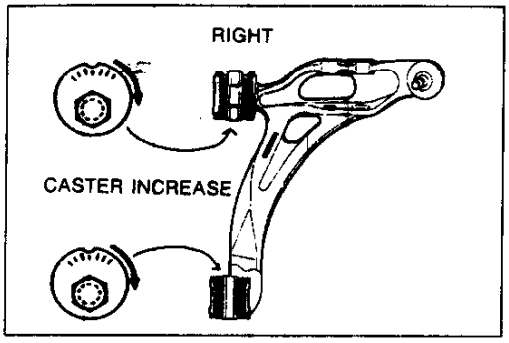
37U0RX-013

Caster

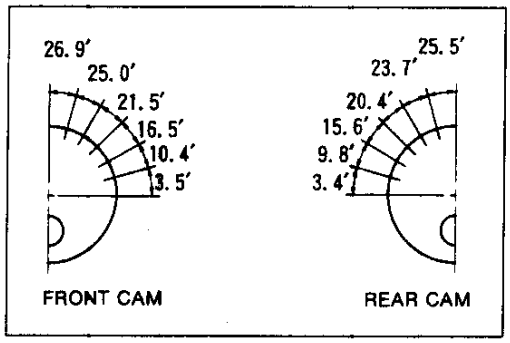
Caution
- **Adjust the caster before adjusting the camber.**



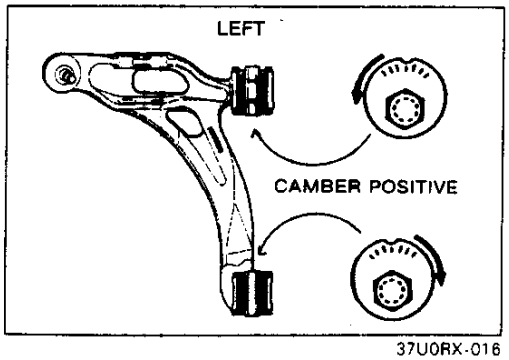
37U0RX-014



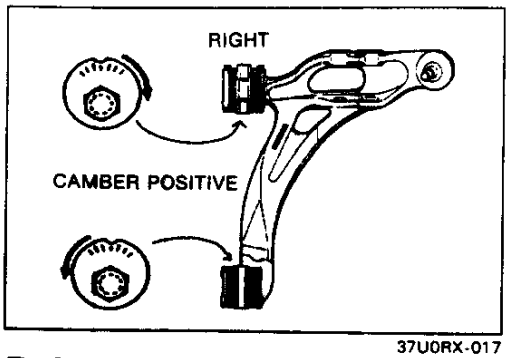
37U0RX-015



37U0RX-102



37U0RX-016



37U0RX-017

1. Loosen the front and / or rear cam nut on the front lower arm.
2. Turn the adjusting cam bolt as indicated to provide the correct caster angle.

Caster	Left wheel		Right wheel	
	Front cam	Rear cam	Front cam	Rear cam
Increase	Counter-clockwise	Counter-clockwise	Clockwise	Clockwise
Decrease	Clockwise	Clockwise	Counter-clockwise	Counter-clockwise

3. Adjust the camber and the toe-in.

Note
- **Turning the adjusting cam bolt one graduation changes the caster as shown in the illustration.**

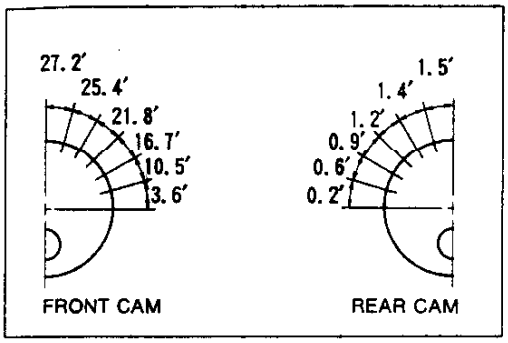
Camber

Caution
- **Adjust the camber after adjusting the caster.**

1. Loosen the front and / or rear cam nut on the front lower arm.
2. Turn the adjusting cam bolt as indicated to provide the correct camber angle.

Camber	Left wheel		Right wheel	
	Front cam	Rear cam	Front cam	Rear cam
Positive	Counter-clockwise	Clockwise	Clockwise	Counter-clockwise
Negative	Clockwise	Counter-clockwise	Counter-clockwise	Clockwise

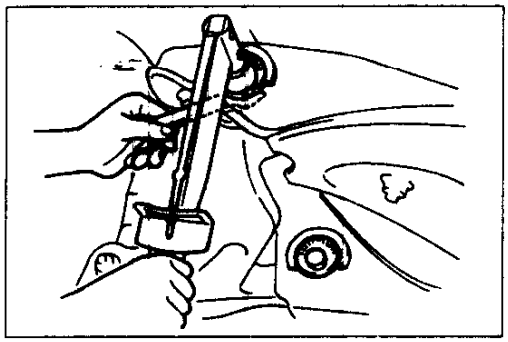
Note
- **If the cam cannot be turned enough to make the adjustment, begin again at adjustment of the caster using the other cam.**



37U0RX-103

Note

- **Turning the adjusting cam bolt one graduation changes the camber as shown in the illustration.**



37U0RX-018

3. Tighten the cam nut to the specified torque.

Tightening torque:
94–116 N·m {9.5–11.9 kgf·m, 69–86 ft·lbf}

Caution

- **Loosely tighten the rear cam nut. Then lower the vehicle and tighten it to the specified torque with the vehicle unladen.**

4. Adjust the toe-in.

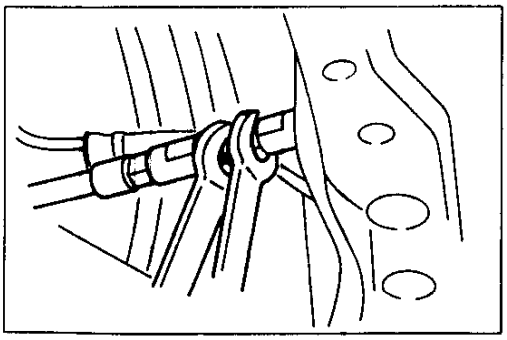
REAR WHEEL ALIGNMENT

Specifications (Unladen*1)

Item		Specifications
Total toe-in	mm {in}	2 ± 3 {0.08 ± 0.11}
Toe-in (per side)	Degree	0°05' ± 08'
Camber angle*2	Degree	−1°13' ± 45'
Thrust angle	Degree	0° ± 06'

37U0RX-019

*1 Fuel tank full; radiator coolant and engine oil at specified levels; spare tire, jack, and tools in designated positions.
*2 Difference between left and right must not exceed 1°.



37U0RX-020

Adjustment

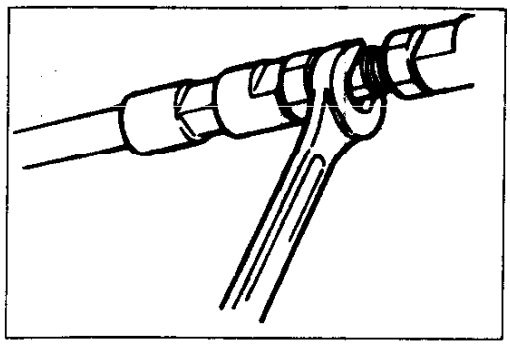
Toe-in

Note

- **The rear toe-in setting must be adjusted while maintaining a thrust angle within specified limits.**

  Thrust angle: 0° ± 06'

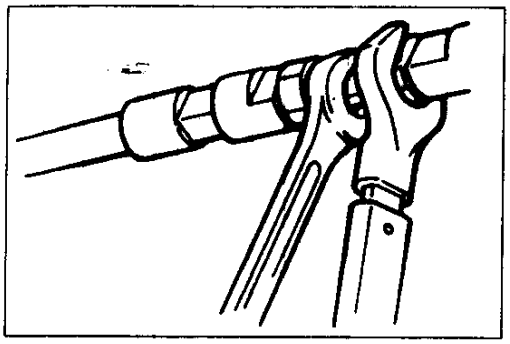
- **If the thrust angle is not within specification, check the body dimensions.**
  Refer to 1992 RX-7 Body Shop Manual (Form No. 3256-10-92A)



37U0RX-021

1. Loosen the left and right toe control link locknuts, and turn each of the links the same amount.

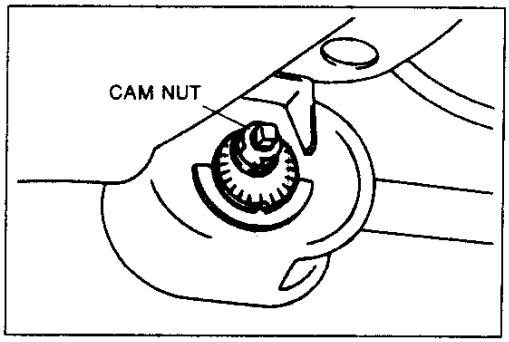
Caution
- **To increase the toe-in, turn the right link toward the front of the vehicle, and turn the left link by the same amount toward the rear.**
- **One turn of the link (one side) changes the toe-in by about 16.5 mm {0.65 in}.**



37U0RX-097

2. Tighten the toe control link locknuts to the specified torque.

Tightening torque:
55–63 N·m {5.6–6.5 kgf·m, 41–47 ft·lbf}

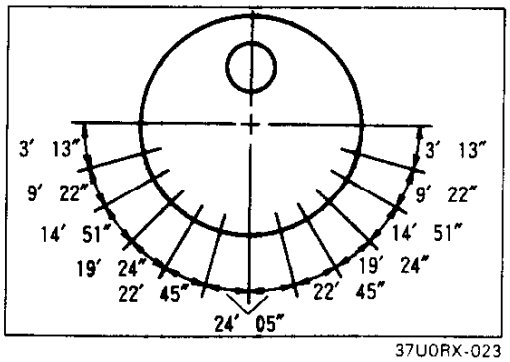


37U0RX-022

Camber

1. Loosen the cam nut on the I-arm.
2. Turn the adjusting cam bolt as indicated to provide the correct camber angle.

Camber	Left wheel	Right wheel
Positive	Clockwise	Counterclockwise
Negative	Counterclockwise	Clockwise



37U0RX-023

Note
- **Turning the adjusting cam bolt one graduation changes the camber as shown in the illustration.**

3. Tighten the cam nut to the specified torque.

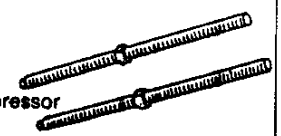
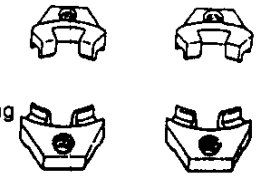
Tightening torque:
94–116 N·m {9.5–11.9 kgf·m, 69–86 ft·lbf}

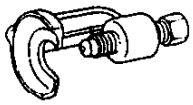
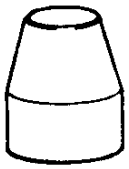
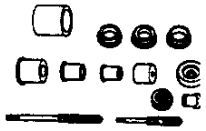
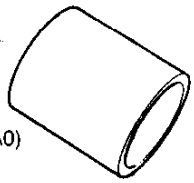
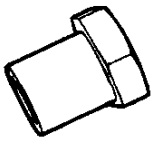
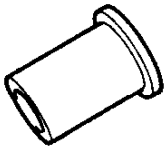
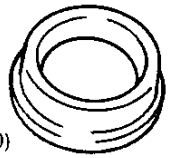
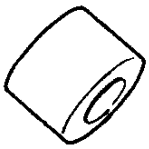
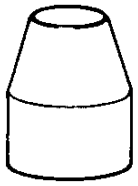
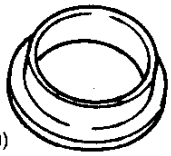
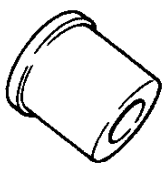
4. Adjust the toe-in.

FRONT SUSPENSION (DOUBLE WISHBONE, COIL SPRING TYPE)

PREPARATION

SST

49 0370 641 Screw, coil spring compressor 	For removal / installation of coil spring	49 0223 640B Arm, coil spring compressor 	For removal / installation of coil spring

49 0118 850C Puller, ball joint 	For removal of ball joint	49 0180 510B Attachment, preload measuring 	For inspection of ball joint
49 F034 211 Guide, clip 	For installation of dust boot clip	49 F034 2A0 Replacer set, rubber bushing 	For removal / installation of bushing
49 G028 203 Support (Part of 49 F034 2A0) 	For removal of bushing	49 G028 206 Shaft (Part of 49 F034 2A0) 	For removal / installation of bushing
49 G028 207 Nut (Part of 49 F034 2A0) 	For removal / installation of bushing	49 G028 208 Installer (Part of 49 F034 2A0) 	For removal of bushing
49 G034 205 Bearing (Part of 49 F034 2A0) 	For removal / installation of bushing	49 F034 204 Support (Part of 49 F034 2A0) 	For removal of bushing
49 F034 203 Support (Part of 49 F034 2A0) 	For installation of bushing	49 F034 206 Shaft (Part of 49 F034 2A0) 	For installation of bushing
49 F034 209 Installer (Part of 49 F034 2A0) 	For removal / installation of bushing	49 F034 210 Guide, clip 	For installation of dust boot clip
49 F034 205 Support (Part of 49 F034 2A0) 	For removal / installation of bushing	49 F034 208 Installer (Part of 49 F034 2A0) 	For installation of bushing

37U0RX-024

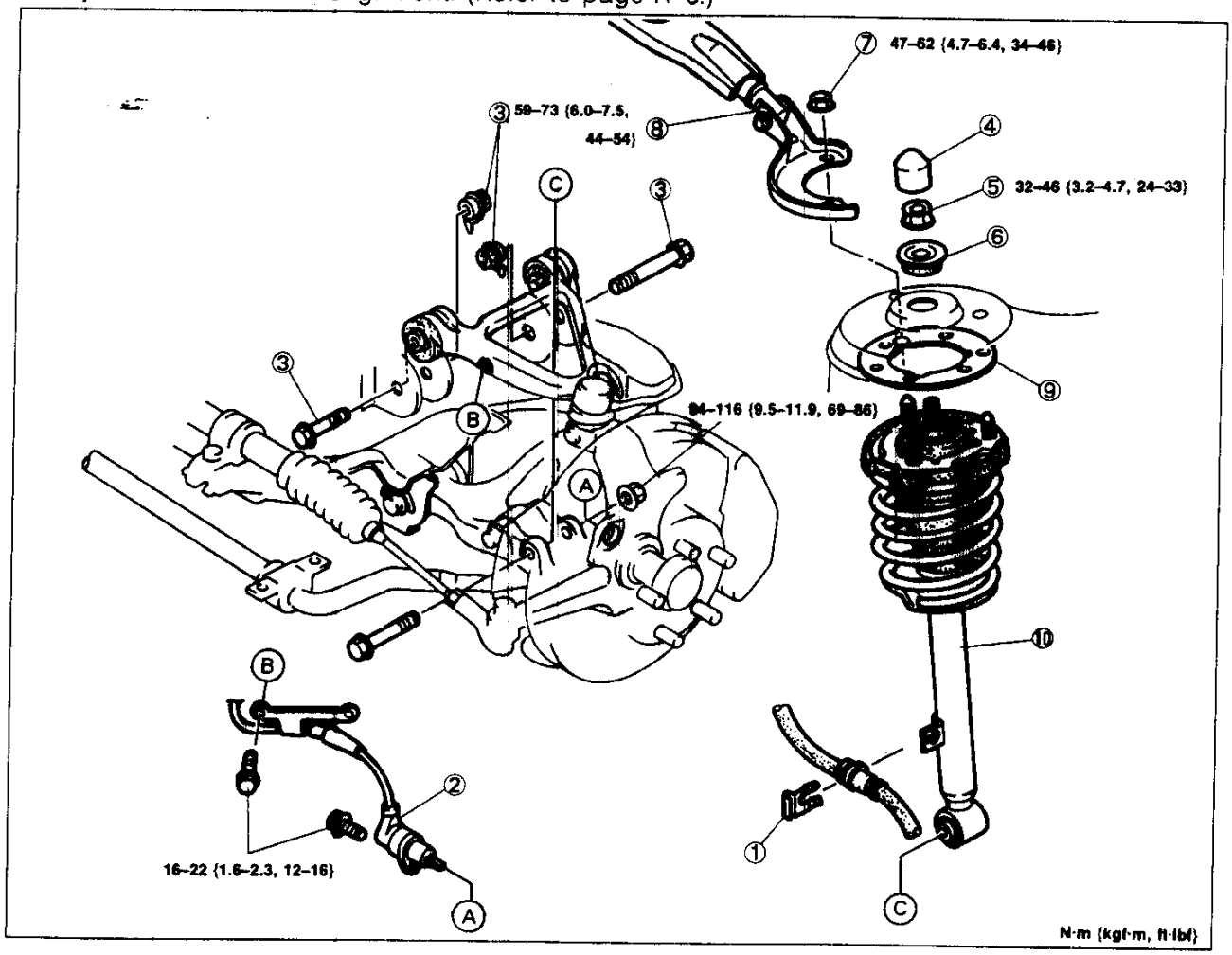
FRONT SHOCK ABSORBER AND SPRING

Removal / Installation

1. Jack up the front of the vehicle and support it on safety stands.
2. Remove the wheel and tire.
3. Remove in the order shown in the figure.
4. Install in the reverse order of removal, referring to **Installation Note**.
5. Install the wheel and tire.

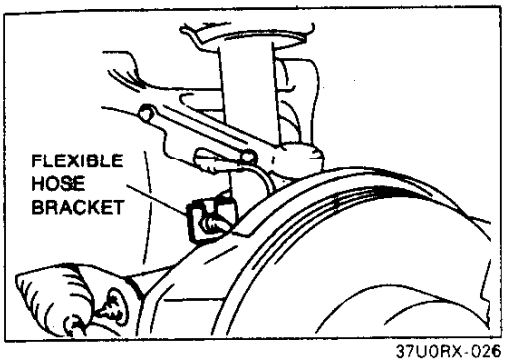
Tightening torque: 89–117 N·m {9.0–12.0 kgf·m, 65–87 ft·lbf}

6. Adjust the front wheel alignment. (Refer to page R–6.)



37U0RX-025

1. Clip (brake hose)
2. ABS wheel-speed sensor
3. Bolt, nut
4. Cap
5. Nut
6. Stopper rubber
7. Nut
8. Front strut bar (R1 vehicle)
   Removal / Inspection / Installation ..... page R–25
9. Insulator
10. Front shock absorber and spring
    Installation Note ..... page R–13
    Disassembly / Inspection / Assembly ..... page R–13



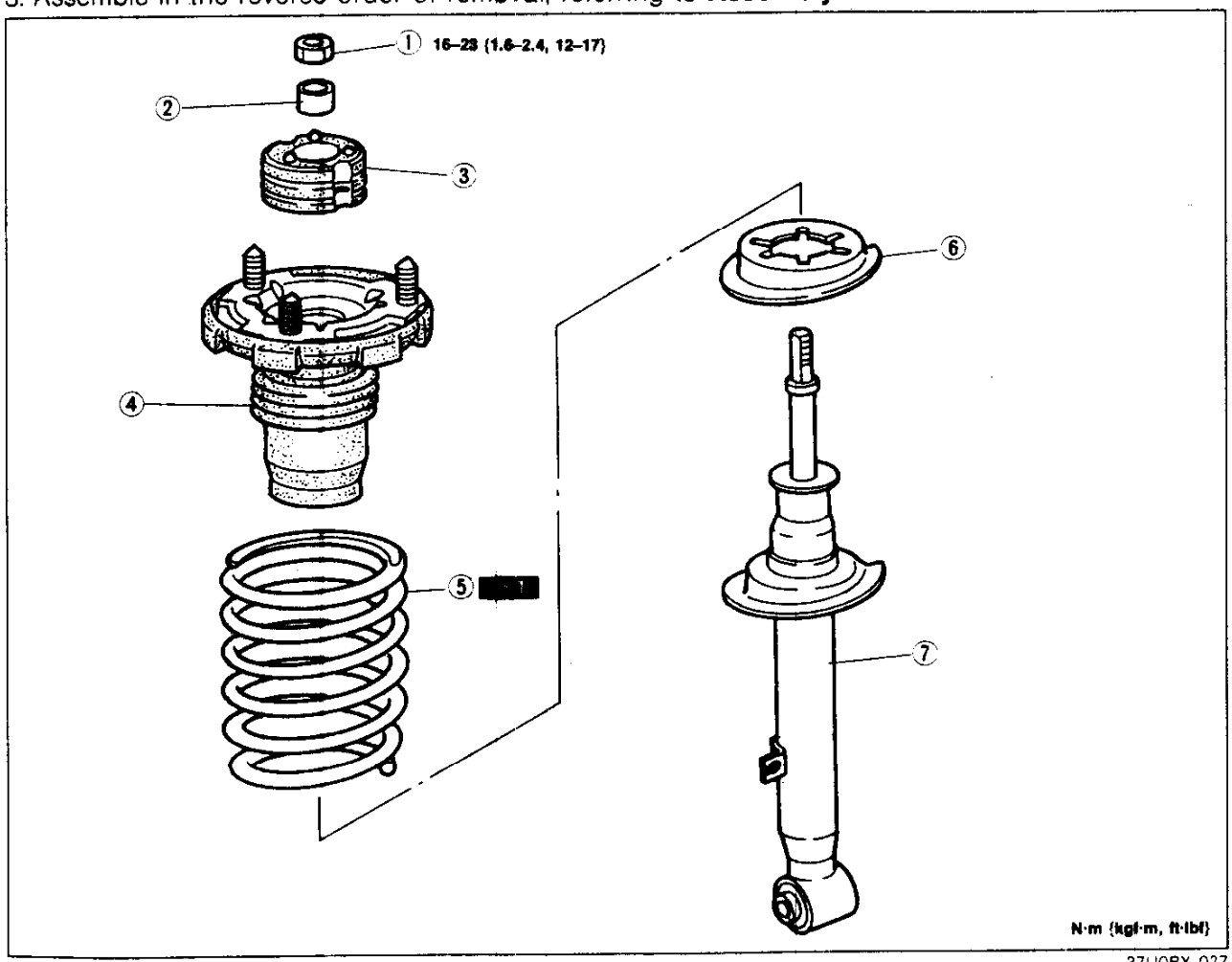
37U0RX-026

Installation note
Front shock absorber and spring

Install the shock absorber and spring so that the flexible hose bracket faces forward.

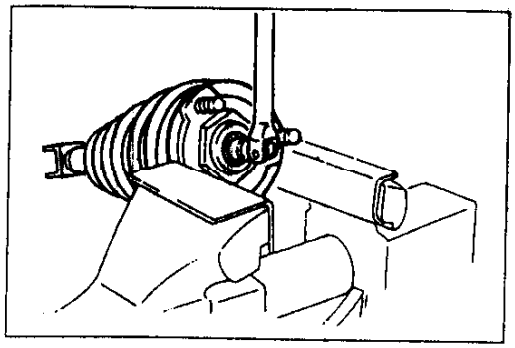
Disassembly / Inspection / Assembly

1. Disassemble in the order shown in the figure, referring to **Disassembly Note**.
2. Inspect all parts and repair or replace as necessary.
3. Assemble in the reverse order of removal, referring to **Assembly Note**.

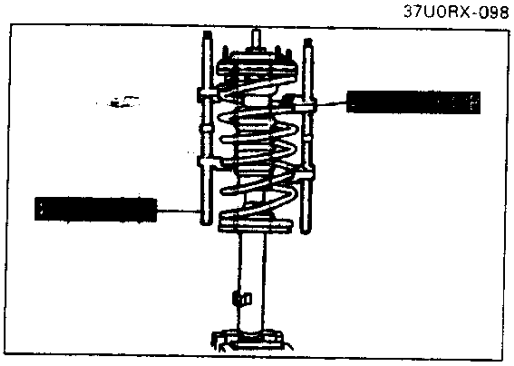


37U0RX-027

1. Nut
   Disassembly Note ..... page R–14
   Assembly Note ..... page R–15
2. Spacer
3. Mounting rubber
   Inspect for damage and deterioration
   Assembly Note ..... page R–15
4. Bound stopper assembly
   Inspect for damage and cracks
5. Coil spring
   Inspect for damage and weakness
   Assembly Note ..... page R–14
6. Lower spring seat
   Inspect for damage and cracks
7. Shock absorber
   Inspection ..... page R–14



37U0RX-098



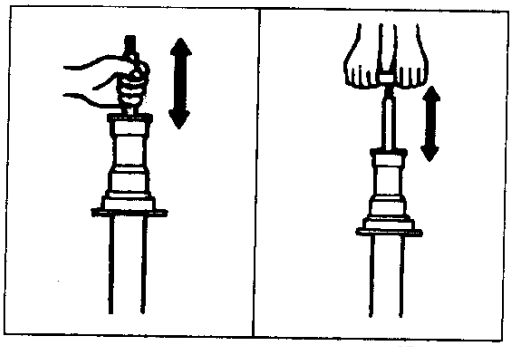
Disassembly note
Nut

Caution
- **Use protective plates in the jaws of the vise to prevent damage to the bracket.**

1. Secure the mounting rubber bracket in a vise.

Warning
- **Because the coil spring is under considerable tension, do not remove the mounting rubber nut before installation of the SST.**

2. Loosen the mounting rubber nut several turns, but do not remove it.
3. Assemble the **SST**.
4. Compress the coil spring by using the **SST** and remove the mounting nut.

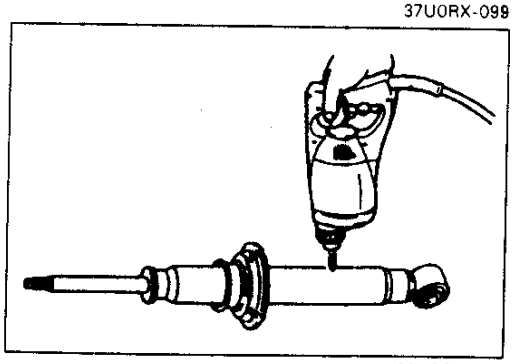


37U0RX-099

Inspection
Shock absorber

Check the following and replace the shock absorber if necessary.

1. Inspect for damage and oil leakage.
2. (1) Compress the shock absorber rod and release it.
   (2) Verify that the rod extends fully at a normal speed.
3. Compress and extend the rod at least three times. Verify that the operational force does not change and that there is no unusual noise.



29U0RX-100

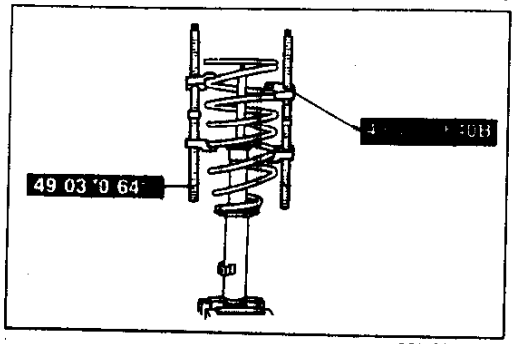
Disposal of shock absorber

Caution
- **The gas in the shock absorber is colorless, odorless, and nontoxic.**
- **Wear safety glasses because drilling chips may be blown out by the pressurized gas.**

1. Lay the shock absorber flat.
2. Drill a hole in its body.

Drill size: 2–3 mm {0.08–0.12 in}

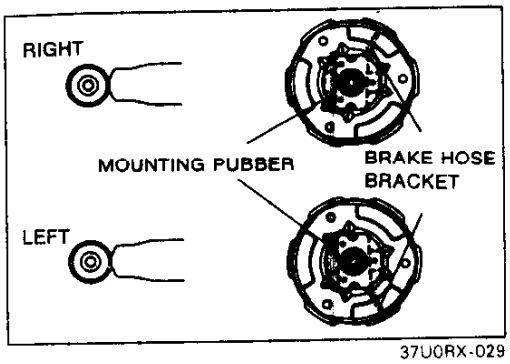
3. Allow the gas to escape from the shock absorber.
4. Discard the shock absorber.



29U0RX-028

Assembly note
Coil spring

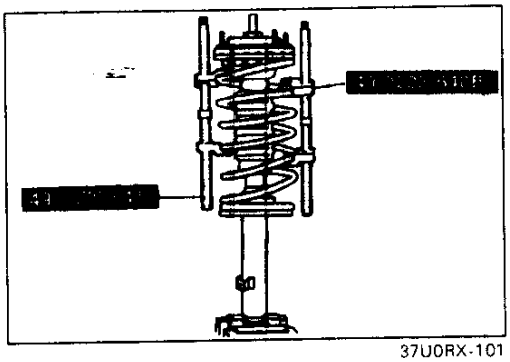
1. Compress the coil spring by using the **SST**.
2. Install the spring so that the lower coil is seated on the step of the lower seat.



37U0RX-029

Mounting rubber

Install the mounting rubber as shown.

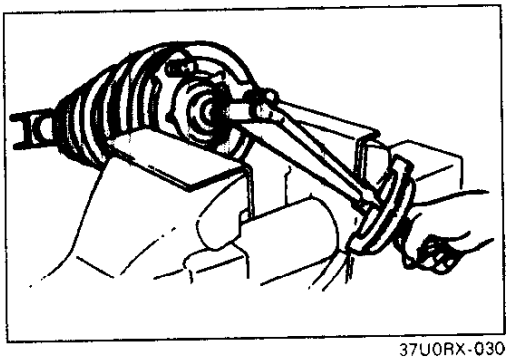

37U0RX-101

Nut

1. Tighten the mounting nut several turns.
2. Remove the **SST**.

Caution

- **Verify that the lower coil of the spring is seated on the step of the lower seat.**


37U0RX-030

3. Secure the mounting rubber bracket in a vise.
4. Tighten the nut.

Tightening torque:
16–23 N·m {1.6–2.4 kgf·m, 12–17 ft·lbf}

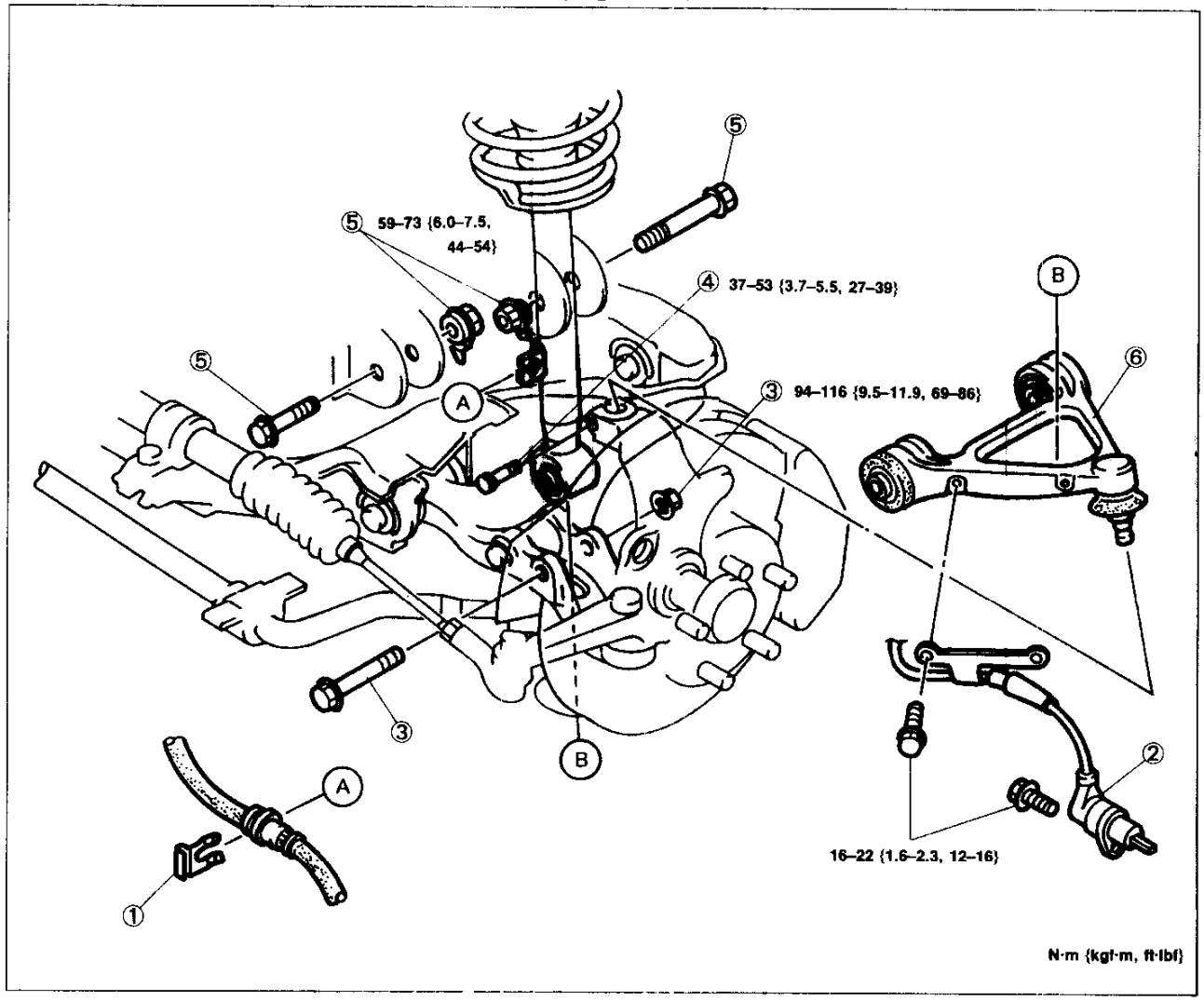
UPPER ARM

Removal / Inspection / Installation

1. Jack up the front of the vehicle and support it on safety stands.
2. Remove the wheel and tire.
3. Remove in the order shown in the figure.
4. Inspect all parts and repair or replace as necessary.
5. Install in the reverse order of removal.
6. Install the wheel and tire.

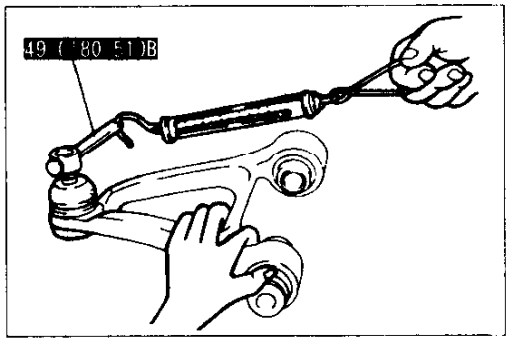
Tightening torque: 89–117 N·m {9.0–12.0 kgf·m, 65–87ft·lbf}

7. Adjust the front wheel alignment. (Refer to page R–6.)



37U0RX-031

1. Clip (brake hose)
2. ABS wheel-speed sensor
3. Bolt nut
4. Bolt
5. Bolt nut
6. Upper arm
   - Inspect for damage and cracks
   - Inspect bushing for damage and wear
   - Inspect boot for tearing and cracks
   - Inspection ..... page R–17
   - Disassembly / Inspection / Assembly ..... page R–17



37U0RX-03

Inspection
Upper arm ball joint
Ball joint rotation torque

1. Shake and rotate the ball joint stud several times.
2. Connect the **SST** to the stud and measure the starting torque and the rotation torque by using a pull scale.

Starting torque:
2.0–5.8 N·m {20–60 kgf·cm, 18–52 in·lbf}
Pull scale reading:
20–58 N {2.0–6.0 kgf, 4.4–13.2 lbf}

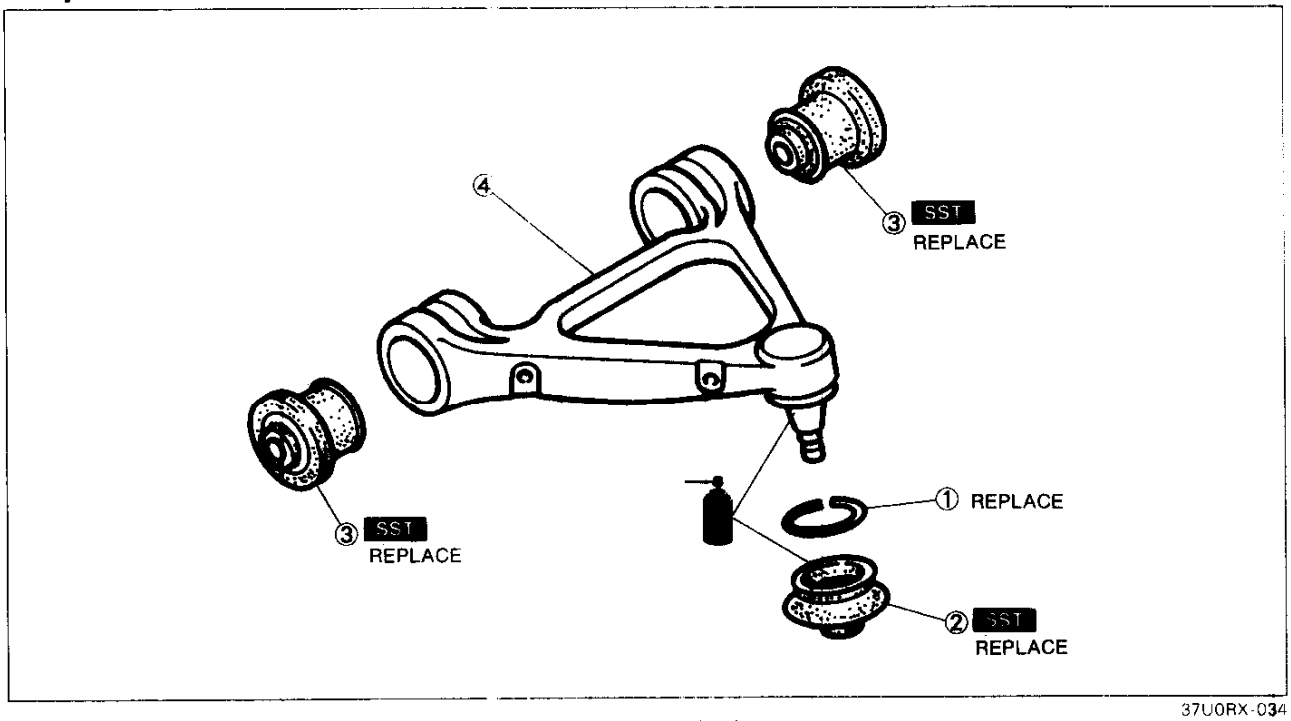
Rotation torque:
0.4–1.1 N·m {4–12 kgf·cm, 3.5–10.4 in·lbf}
Pull scale reading:
4–11 N {0.4–1.2 kgf, 0.9–2.6 lbf}

3. If not within specification, replace the upper arm.

Disassembly / Inspection / Assembly

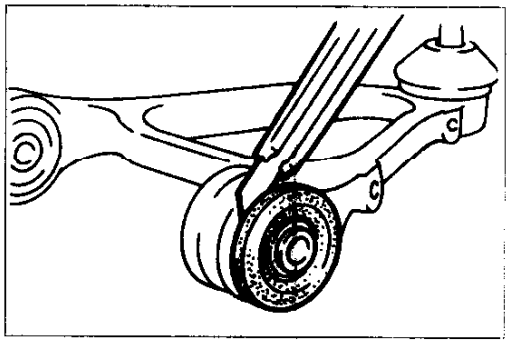
1. Disassemble in the order shown in the figure, referring to **Disassembly Note**.
2. Inspect all parts and repair or replace as necessary.
3. Assemble in the reverse order of disassembly, referring to **Assembly Note**.

Caution
- **When holding a part in a vise, use protective plates in the jaws to prevent damage to the part.**



37U0RX-034

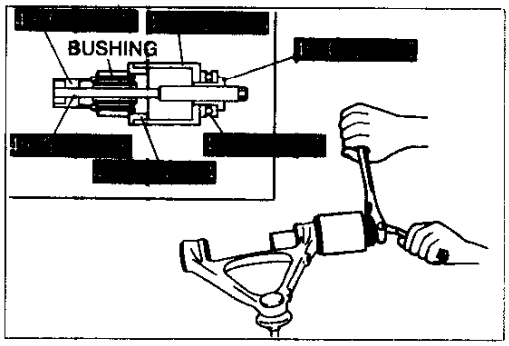
1. Clip
2. Dust boot
   Assembly Note ..... page R–18
3. Bushing
   Disassembly Note ..... page R–18
   Assembly Note ..... page R–18
4. Upper arm
   Inspect for damage and cracks



37U0RX-035

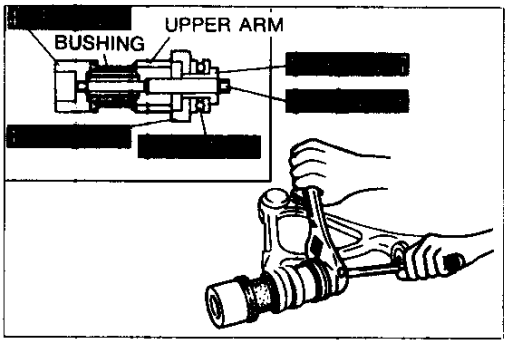
Disassembly note
Bushing

1. Cut away the projecting rubber of the bushing.



37U0RX-036

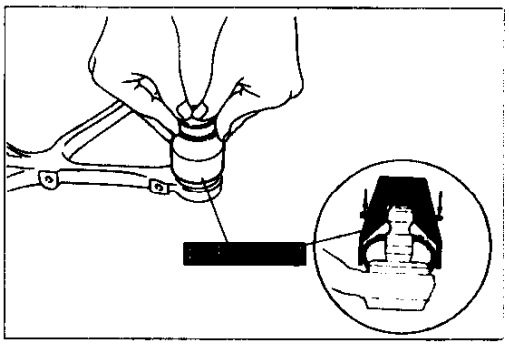
2. Remove the bushing by using the **SST**.



37U0RX-085

Assembly note
Bushing

1. Apply soapy water to the new bushing.
2. Install the bushing by using the **SST**.



37U0RX-086

Dust boot

1. Wipe the grease off the ball stud.
2. Fill the inside the new dust boot with grease.
3. Install the dust boot onto the ball joint.
4. Set the **SST** over the boot and install a new clip.
5. Wipe off the excess grease.

FRONT LOWER ARM

Removal / Inspection / Installation

1. Jack up the front of the vehicle and support it on safety stands.
2. Remove the wheel and tire.
3. Remove in the order shown in the figure, referring to **Removal Note**.
4. Inspect all parts and repair or replace as necessary.
5. Install in the reverse order of removal, referring to **Installation Note**.
6. Install the wheel and tire.

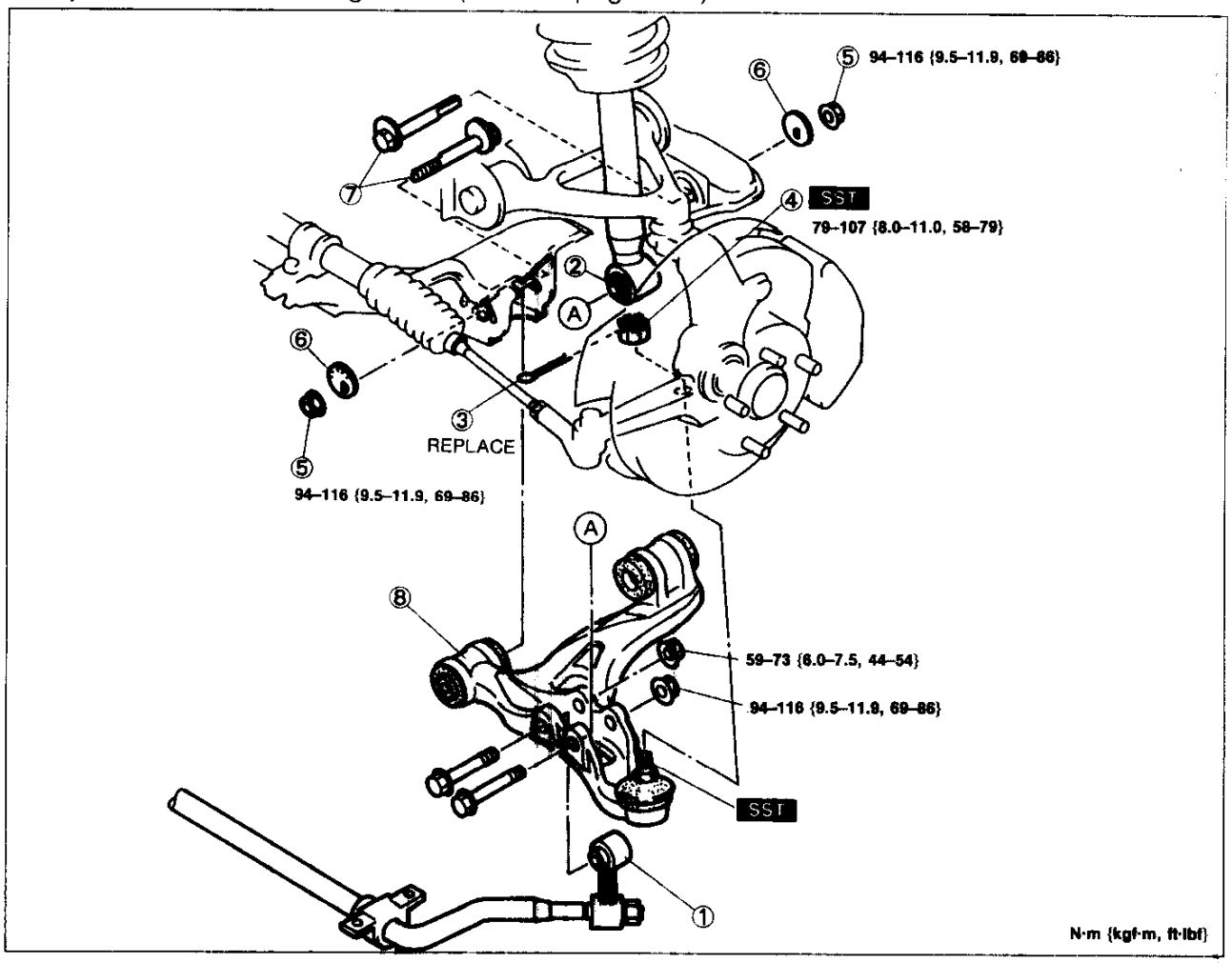
Tightening torque: 89–117 N·m {9.0–12.0 kgf·m, 65–87 ft·lbf}

Note

- **Loosely tighten the rear cam nut of the lower arm. Lower the vehicle and tighten the nut to the specified torque with the vehicle unladen.**

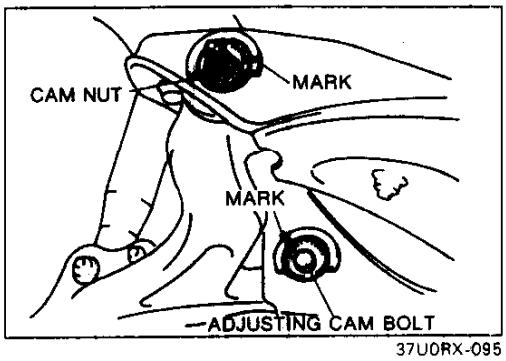
Tightening torque: 94–116 N·m {9.5–11.9 kgf·m, 69–86 ft·lbf}

7. Adjust the front wheel alignment. (Refer to page R–6.)



37U0RX-037

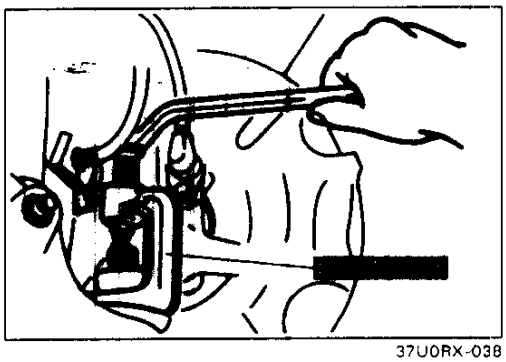
1. Front stabilizer control link
2. Shock absorber and spring
3. Cotter pin
4. Nut
5. Nut
   Removal Note ..... page R–20
   Installation Note ..... page R–20
6. Cam plate
   Removal Note ..... page R–20
   Installation Note ..... page R–20
7. Adjusting cam bolt
   Installation Note ..... page R–20
8. Front lower arm
   Removal Note ... page R–20
   Inspect for damage and cracks
   Inspect bushing for damage and wear
   Inspect boot for tearing and cracks
   Inspection ..... page R–20
   Disassembly / Inspection / Assembly ..... page R–21



37U0RX-095

Removal note
Nut and cam plate

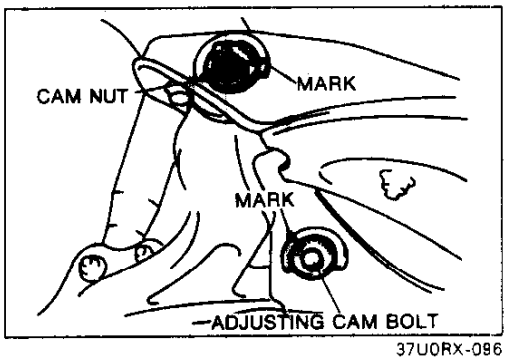
Before loosening the nut, make a mark on the cam plate and the crossmember for reference during installation.


37U0RX-038

Front lower arm

1. Loosen the nut until it is flush with the end of the stud.
2. With the nut protecting the ball joint stud, separate the ball joint from the knuckle by using the **SST**.

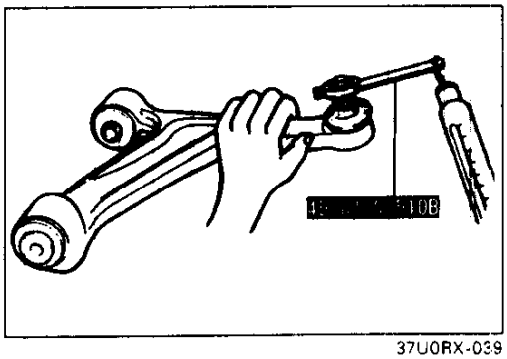
Caution
- **Do not damage the dust boot.**



37U0RX-096

Installation note
Nut, cam plate, and adjusting cam bolt

1. Install the cam plate so that the notch faces the same direction as the adjusting cam bolt.
2. Align the mark made before removing the adjusting cam bolt. Temporarily tighten the nut.


37U0RX-039

Inspection
Front lower arm ball joint
Ball joint rotation torque

1. Shake and rotate the ball joint stud at least five times.
2. Connect the **SST** to the stud and measure the starting torque and the rotation torque by using a pull scale.

Starting torque:
2.5–7.3 N·m {25–75 kgf·cm, 22–65 in·lbf}
Pull scale reading:
25–73 N {2.5–7.5 kgf, 5.5–16.5 lbf}

Rotation torque:
0.5–1.4 N·m {5–15 kgf·cm, 4.4–13.0 in·lbf}
Pull scale reading:
5–14 N {0.5–1.5 kgf, 1.1–3.3 lbf}

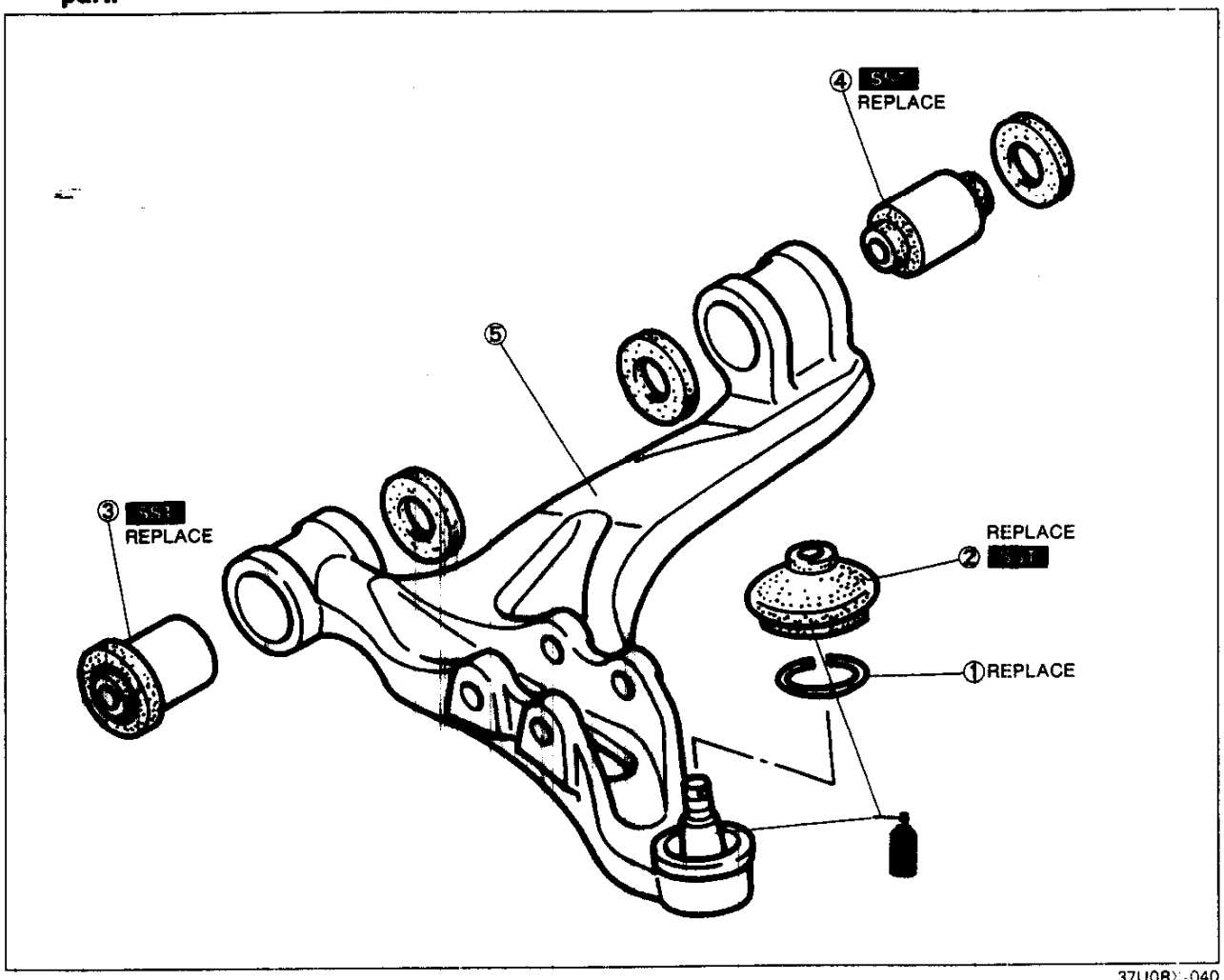
3. If not within specification, replace the front lower arm.

Disassembly / Inspection / Assembly

1. Disassemble in the order shown in the figure, referring to **Disassembly Note**.
2. Inspect all parts and repair or replace as necessary.
3. Assemble in the reverse order of disassembly, referring to **Assembly Note**.

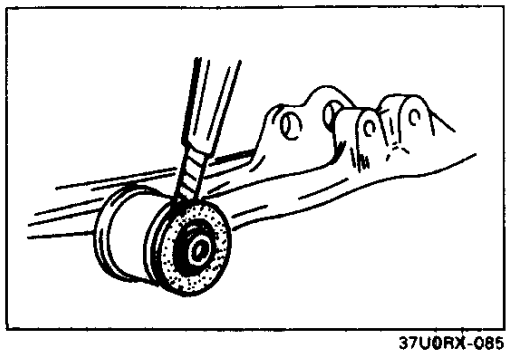
Caution

- **When holding a part in a vise, use protective plates in the jaws to prevent damage to the part.**



37U0RX-040

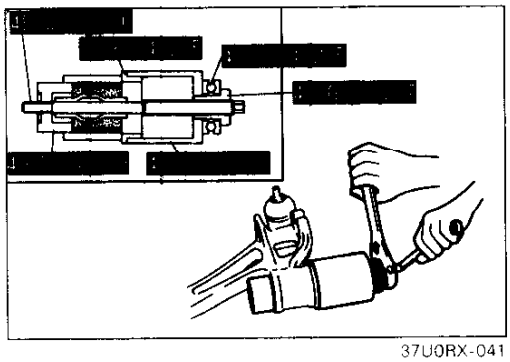
1. Clip
2. Dust boot
   Assembly Note .... page R-23
3. Bushing (front)
   Disassembly Note ..... below
   Assembly Note .... page R-22
4. Bushing (rear)
   Disassembly Note
   ..... page R-22
   Assembly Note .... page R-22
5. Front lower arm
   Inspect for damage and cracks



37U0RX-085

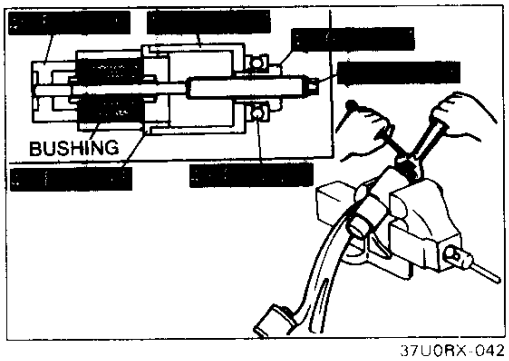
Disassembly note
Bushing (front)

1. Cut away the projecting rubber of the bushing.



37U0RX-041

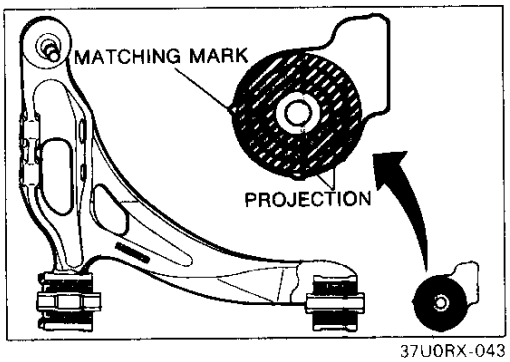
2. Remove the bushing by using the **SST**.



37U0RX-042

Bushing (rear)

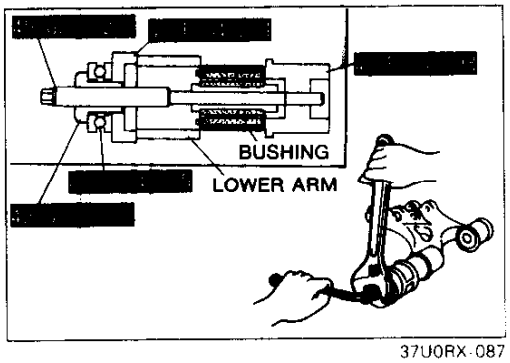
Remove the bushing by using the **SST**.



37U0RX-043

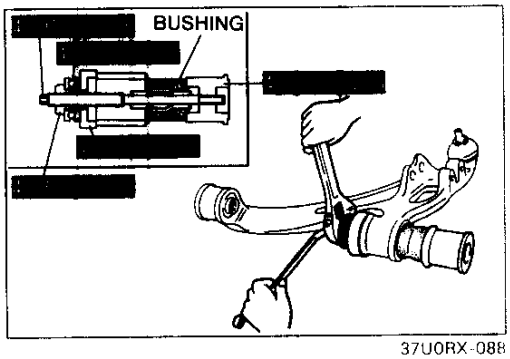
Assembly note
Bushing (rear)

1. Align the matching marks.



37U0RX-087

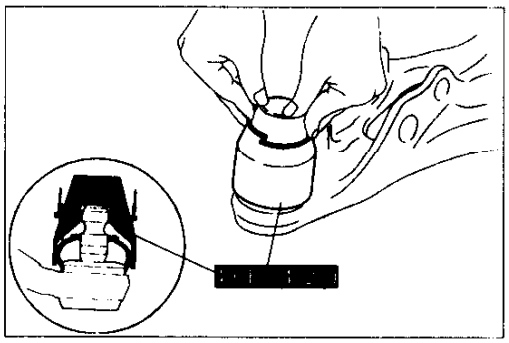
2. Apply soapy water to the new bushing.
3. Install the bushing by using the **SST**.



37U0RX-088

Bushing (front)

1. Apply soapy water to the new bushing.
2. Install the bushing by using the **SST**.



37U0RX-089

Dust boot

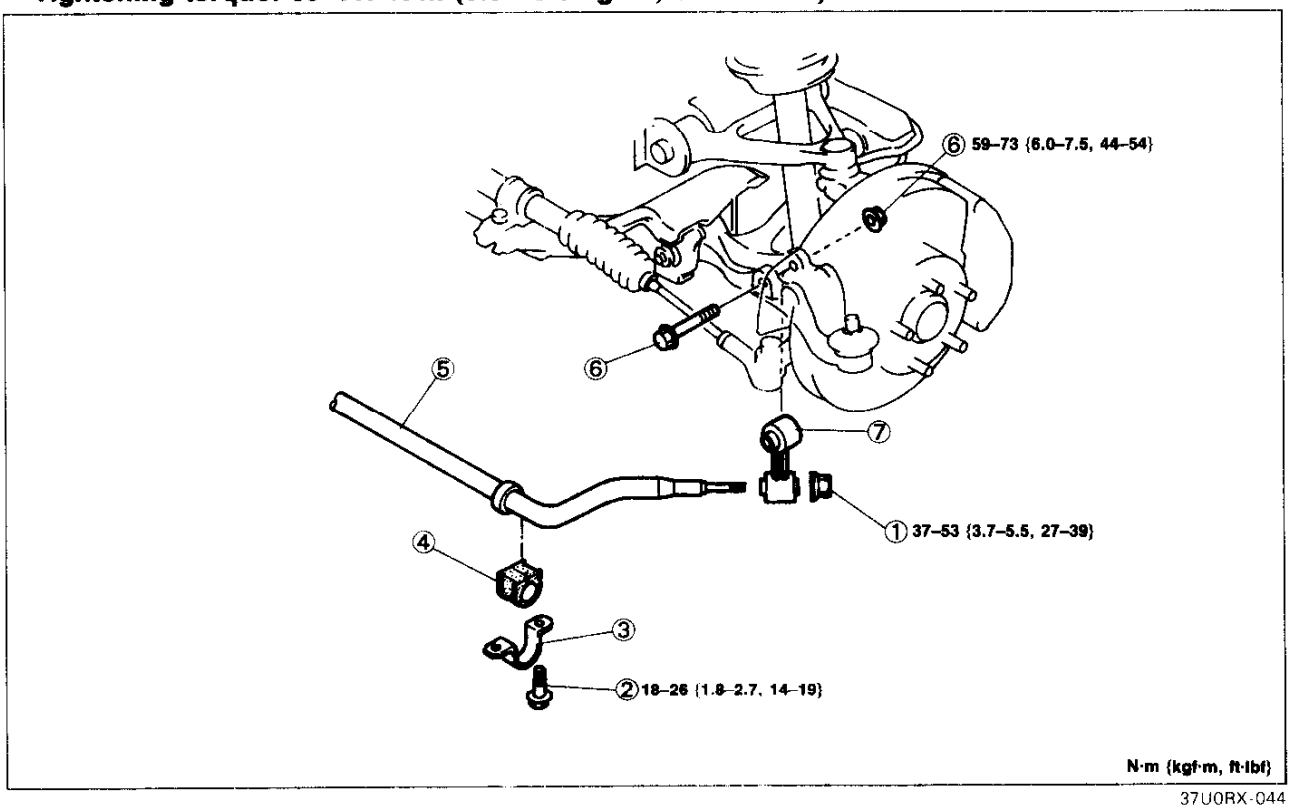
1. Wipe the grease off the ball stud.
2. Fill the inside the new dust boot with grease.
3. Install the dust boot onto the ball joint.
4. Set the **SST** over the boot and install a new clip.
5. Wipe off the excess grease.

FRONT STABILIZER

Removal / Inspection / Installation

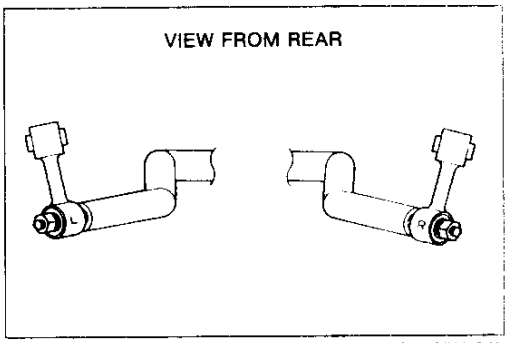
1. Jack up the front of the vehicle and support it on safety stands.
2. Remove the wheels and tires and the undercover.
3. Remove in the order shown in the figure.
4. Inspect all parts and repair or replace as necessary.
5. Install in the reverse order of removal, referring to **Installation Note**.
6. Install the wheels and tires.

Tightening torque: 89–117 N·m {9.0–12.0 kgf·m, 65–87 ft·lbf}



37U0RX-044

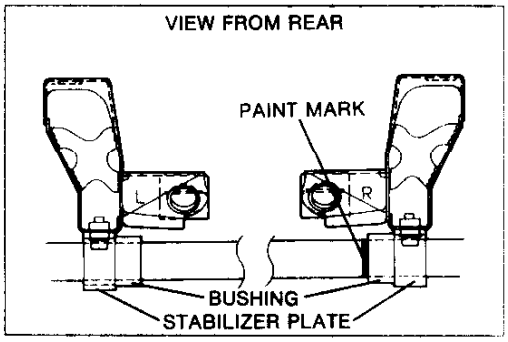
1. Nut
2. Bolt
3. Stabilizer plate
   Inspect for damage and cracks
4. Stabilizer bushing
   Inspect for wear and deterioration
5. Stabilizer bar
   Inspect for damage and bending
   Installation Note
   ..... page R–25
6. Bolt, nut
7. Stabilizer control link
   Inspect for damage and cracks
   Installation Note ..... below



37U0RX-045

Installation note
Stabilizer control link

Install the stabilizer control links with the R (right) and L (left) marks as shown.



37U0RX-04

Stabilizer bar

Install the stabilizer bar with the white paint mark at the right side.

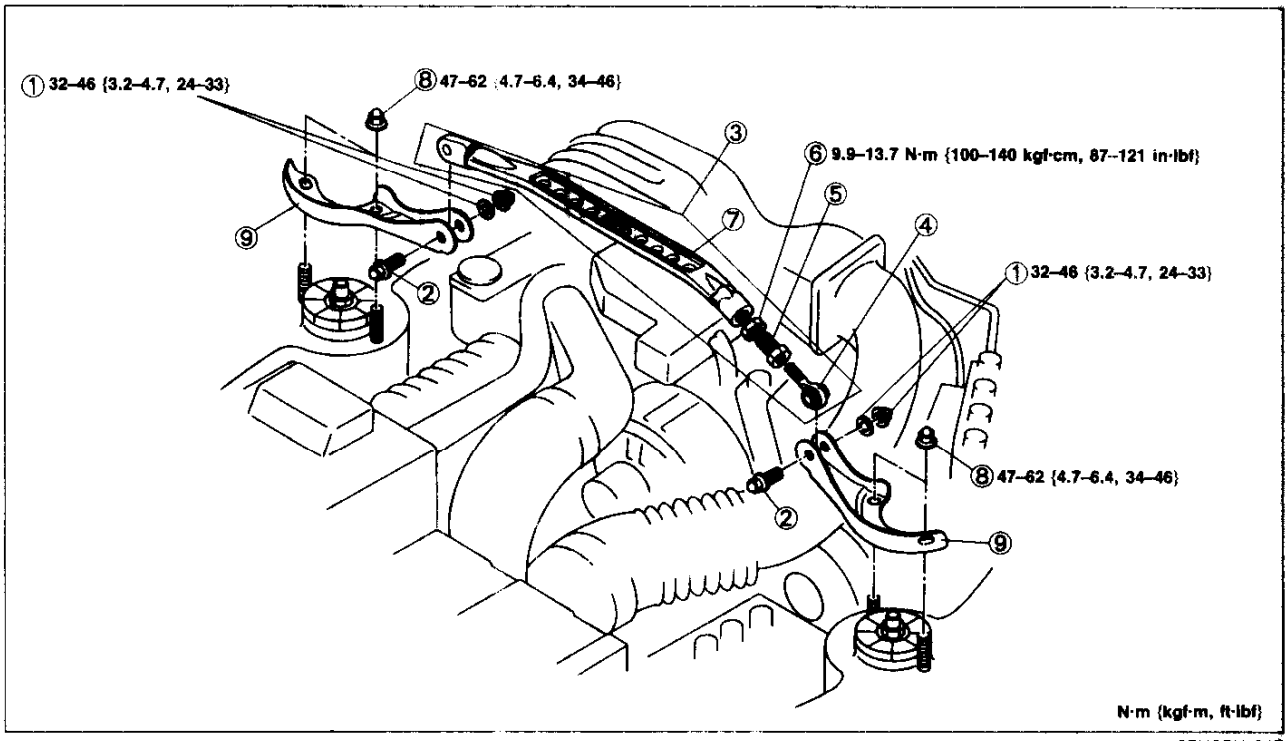
Note

- **Install the stabilizer bar as shown in the figure.**

FRONT STRUT BAR (R1 VEHICLE)

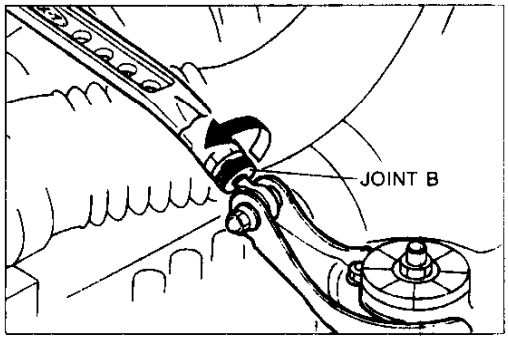
Removal / Inspection / Installation

1. Remove in the order shown in the figure.
2. Inspect all parts and repair or replace as necessary.
3. Install in the reverse order of removal, referring to **Installation Note**.



37U0RX-047

1. Nut, washer
2. Bolt
3. Strut bar assembly
   Installation Note ..... below
4. Joint A
5. Joint B
6. Locknut
7. Front strut bar
   Inspect for damage and bending
8. Nut
9. Strut plate



37U0RX-048

Installation note
Strut bar assembly

1. Turn joint B counterclockwise to the specified torque to set the tension.

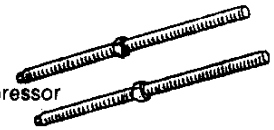
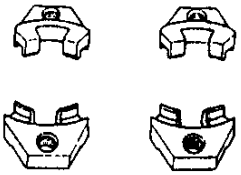
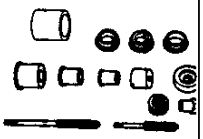
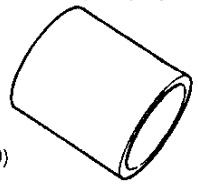
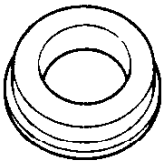
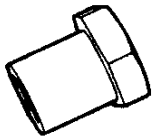
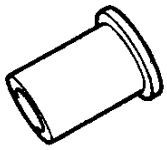
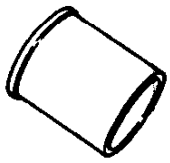
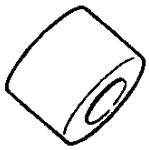
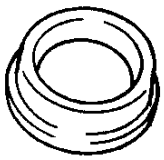
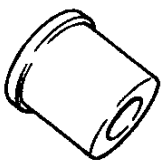
   Tightening torque:
   0.40–0.58 N·m {4–6 kgf·cm, 3.5–5.2 in·lbf}

2. Tighten the locknut to the specified torque.

   Tightening torque:
   9.9–13.7 N·m {100–140 kgf·cm, 87–121 in·lbf}

REAR SUSPENSION (DOUBLE WISHBONE, COIL SPRING TYPE)

PREPARATION
SST

49 0370 641 Screw, coil spring compressor 	For removal / installation of coil spring	49 0223 640B Arm, coil spring compressor 	For removal / installation of coil spring
49 E034 2A0 Replacer set, rubber bushing 	For removal / installation of bushing	49 G028 203 Support (Part of 49 F034 2A0) 	For removal / installation of bushing
49 G028 205 Support (Part of 49 F034 2A0) 	For removal / installation of pillow ball	49 G028 206 Shaft (Part of 49 F034 2A0) 	For removal / installation of bushing
49 G028 207 Nut (Part of 49 F034 2A0) 	For removal / installation of bushing	49 G028 208 Installer (Part of 49 F034 2A0) 	For removal / installation of pillow ball
49 G034 205 Bearing (Part of 49 F034 2A0) 	For removal / installation of bushing	49 F034 207 Installer (Part of 49 F034 2A0) 	For removal / installation of bushing
49 F034 203 Support (Part of 49 F034 2A0) 	For installation of bushing	49 F034 206 Shaft (Part of 49 F034 2A0) 	For installation of bushing
49 F034 209 Installer (Part of 49 F034 2A0) 	For installation of pillow ball	49 F034 204 Support (Part of 49 F034 2A0) 	For removal / installation of bushing
49 F034 208 Installer (Part of 49 F034 2A0) 	For removal / installation of bushing		

37U0RX-049

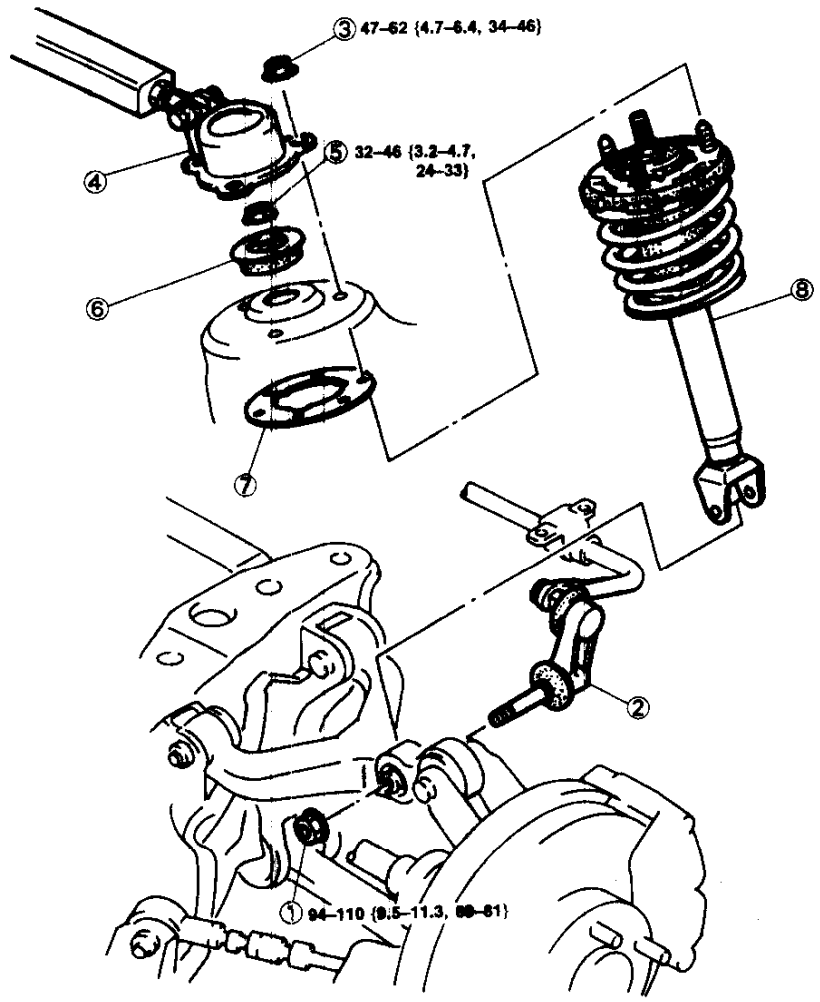
REAR SHOCK ABSORBER AND SPRING

Removal / Installation

1. Jack up the rear of the vehicle and support it on safety stands.
2. Remove the wheel and tire.
3. Remove in the order shown in the figure.
4. Install in the reverse order of removal, referring to **Installation Note**.
5. Install the wheel and tire.

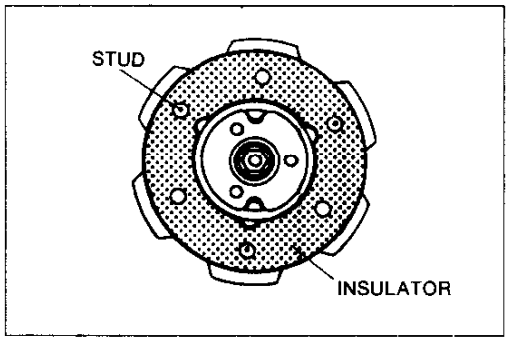
   Tightening torque: 88–117 N·m {9.0–12.0 kgf·m, 65–87 ft·lbf}

6. Check the rear wheel alignment. (Refer to page R–9.)



37U0RX-050

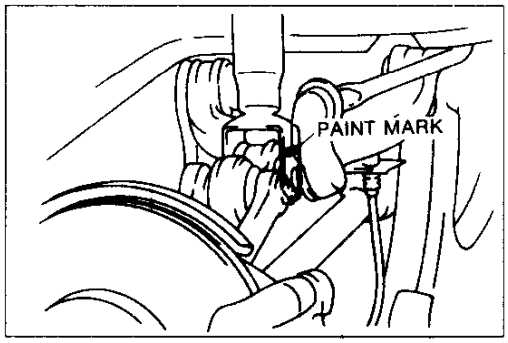
1. Nut
2. Rear stabilizer control link
3. Nut
4. Rear strut bar
   Removal / Inspection / Installation .... page R–43
5. Nut
6. Stopper rubber
7. Insulator
8. Shock absorber and spring
   Installation Note ..... page R–28
   Disassembly / Inspection / Assembly ..... page R–29



37U0RX-051

Installation note
Shock absorber and spring

1. Install the insulator so that the notches in it face the studs as shown.

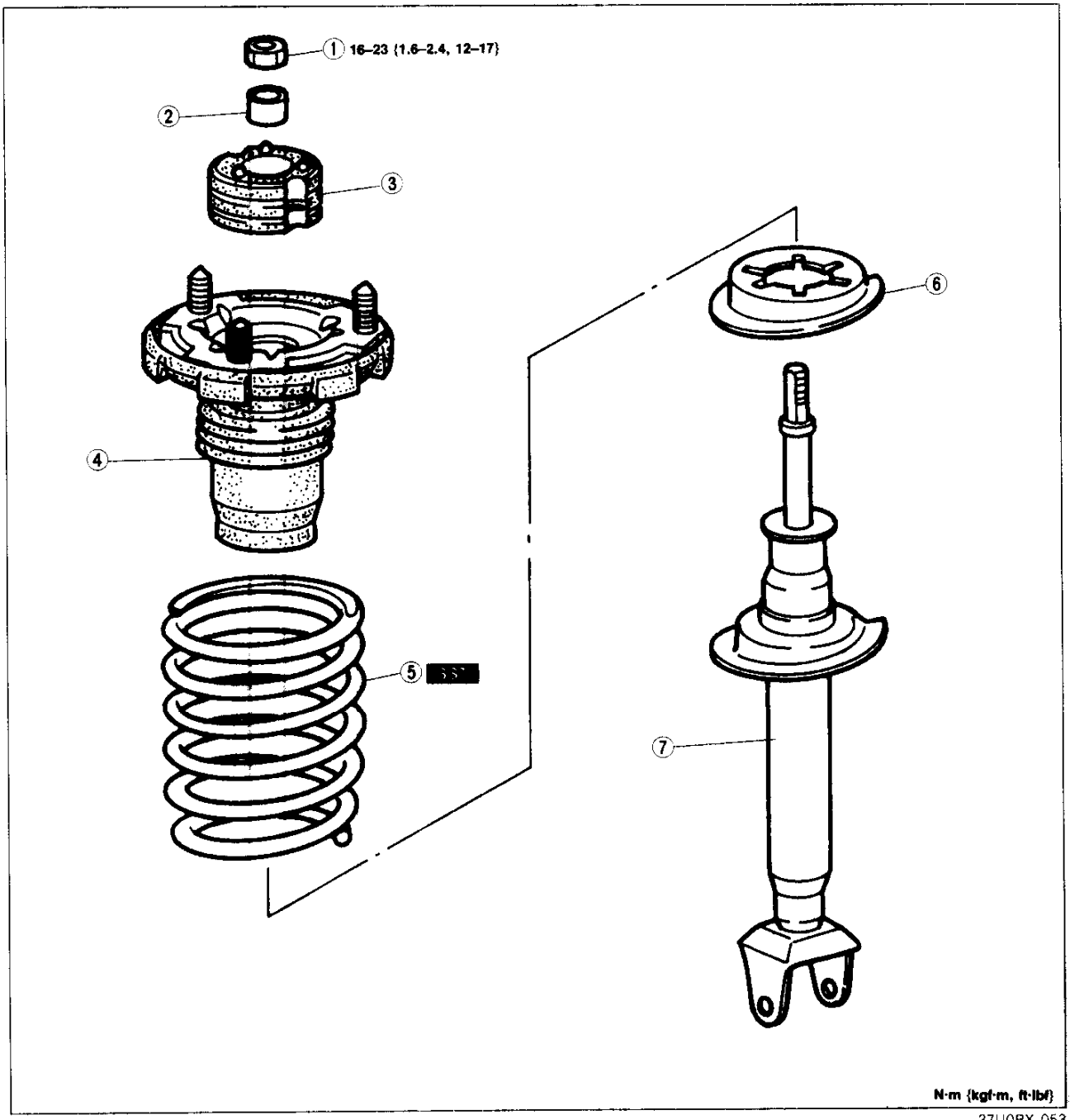


37U0RX-052

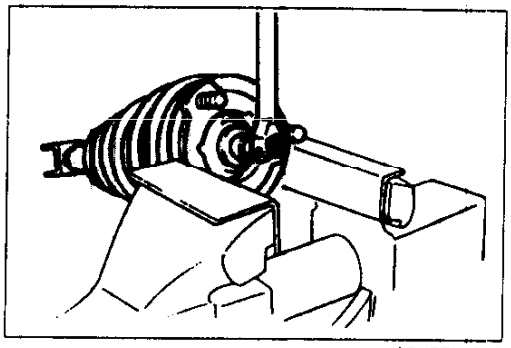
2. Install the shock absorber and spring so that the identification paint mark faces rearward.

Disassembly / Inspection / Assembly

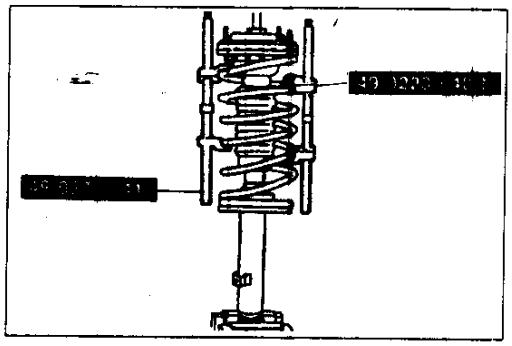
1. Disassemble in the order shown in the figure, referring to **Disassembly Note**.
2. Inspect all parts and repair or replace as necessary.
3. Assemble in the reverse order of removal, referring to **Assembly Note**.

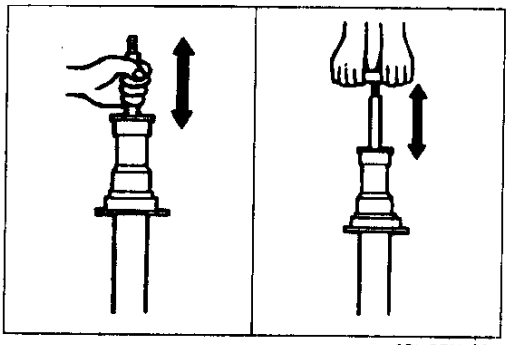


1. Nut
   - Disassembly Note ..... page R–30
   - Assembly Note ..... page R–31
2. Spacer
3. Mounting rubber
   - Inspect for damage and deterioration
   - Assembly Note ..... page R–31
4. Bound stopper assembly
   - Inspect for damage and cracks
5. Coil spring
   - Inspect for damage and weakness
   - Assembly Note ..... page R–30
6. Lower spring seat
   - Inspect for damage and cracks
7. Shock absorber
   - Inspection ..... page R–30

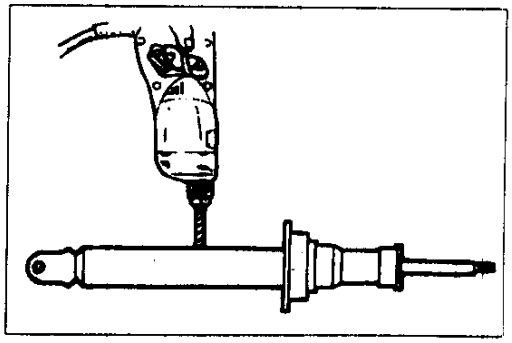


37U0RX-098

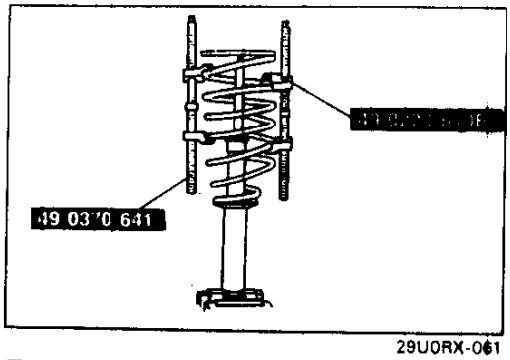




37U0RX-099



37U0RX-100



29U0RX-061

Disassembly note
Nut

Caution
- **Use protective plates in the jaws of the vise to prevent damage to the bracket.**

1. Secure the mounting rubber bracket in a vise.

Warning
- **Because the coil spring is under considerable tension, do not remove the mounting rubber nut before installation of the SST.**

2. Loosen the mounting rubber nut several turns, but do not remove it.
3. Assemble the **SST**.
4. Compress the coil spring by using the **SST** and remove the mounting nut.

Inspection
Shock absorber

Check the following and replace the shock absorber if necessary.

1. Inspect for damage and oil leakage.
2. (1) Compress the shock absorber rod and release it.
   (2) Verify that the rod extends fully at a normal speed.
3. Compress and extend the rod at least three times. Verify that the operational force does not change and that there is no unusual noise.

Disposal of shock absorber

Caution
- **The gas in the shock absorber is colorless, odorless, and nontoxic.**
- **Wear safety glasses because drilling chips may be blown out by the pressurized gas.**

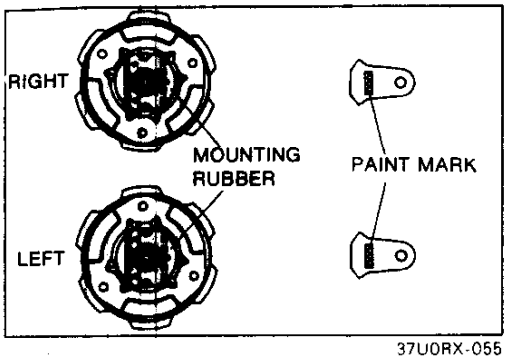
1. Lay the shock absorber flat.
2. Drill a hole in its body.

Drill size: 2–3 mm {0.08–0.12 in}

3. Allow the gas to escape.
4. Discard the shock absorber.

Assembly note
Coil spring

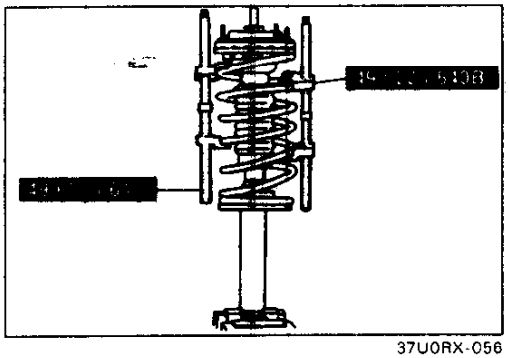
1. Compress the coil spring by using the **SST**.
2. Install the spring so that the lower coil is seated on the step of the lower seat.



37U0RX-055

Mounting rubber

Install the mounting rubber as shown.



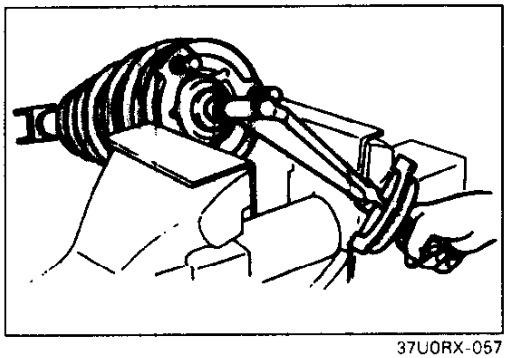
37U0RX-056

Nut

1. Tighten the mounting nut several turns.
2. Remove the **SST**.

Caution

- **Verify that the lower coil of the spring is seated on the step of the lower seat.**



37U0RX-057

3. Secure the mounting rubber bracket in a vise.
4. Tighten the nut.

Tightening torque:
16–23 N·m {1.6–2.4 kgf·m, 12–17 ft·lbf}

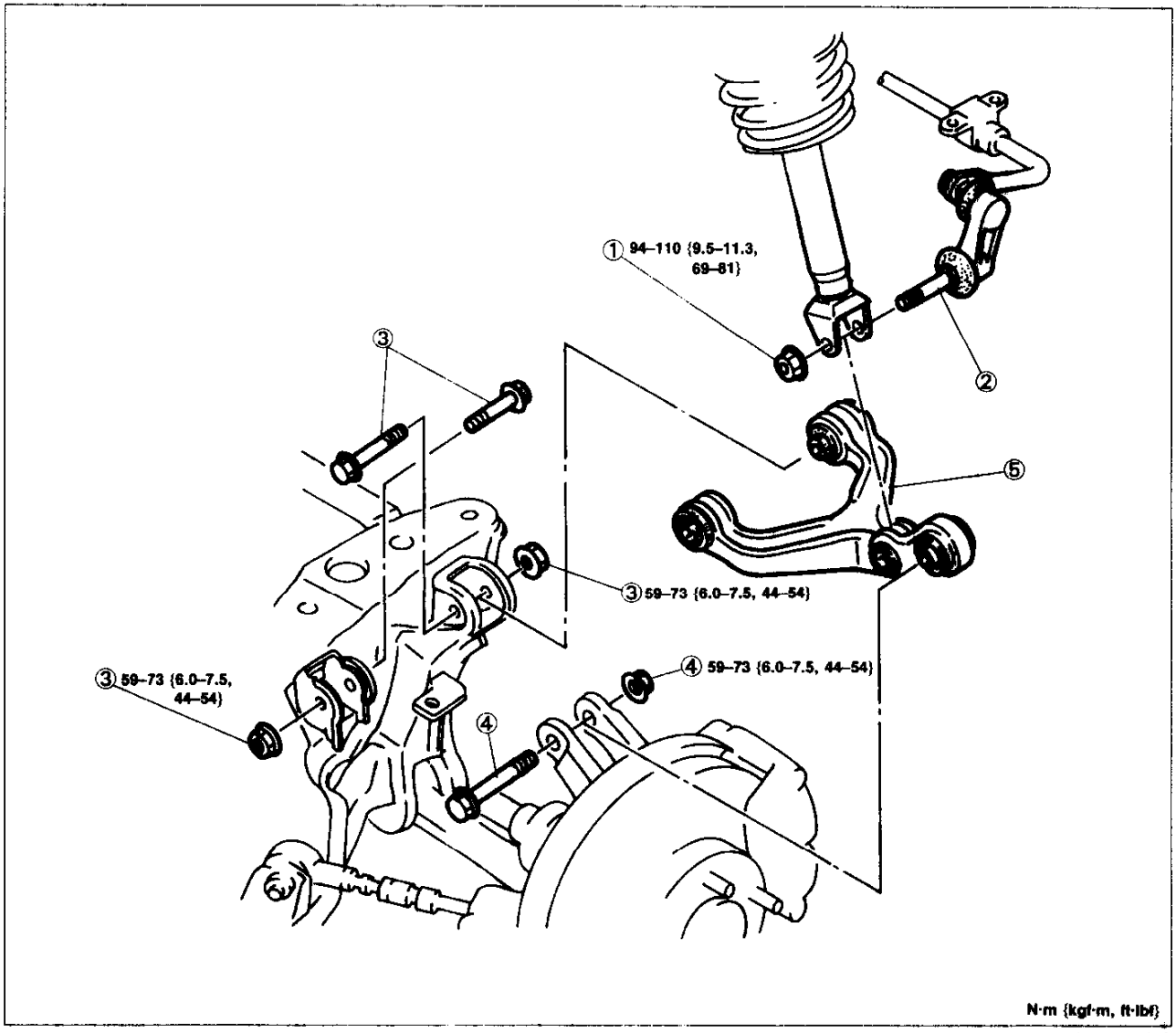
UPPER ARM

Removal / Inspection / Installation

1. Jack up the rear of the vehicle and support it on safety stands.
2. Remove the wheel and tire.
3. Remove in the order shown in the figure.
4. Inspect all parts and repair or replace as necessary.
5. Install in the reverse order of removal.
6. Install the wheel and tire.

Tightening torque: 89–117 N·m {9.0–12.0 kgf·m, 65–87 ft·lbf}

7. Check the rear wheel alignment. (Refer to page R–9.)



37U0RX-058

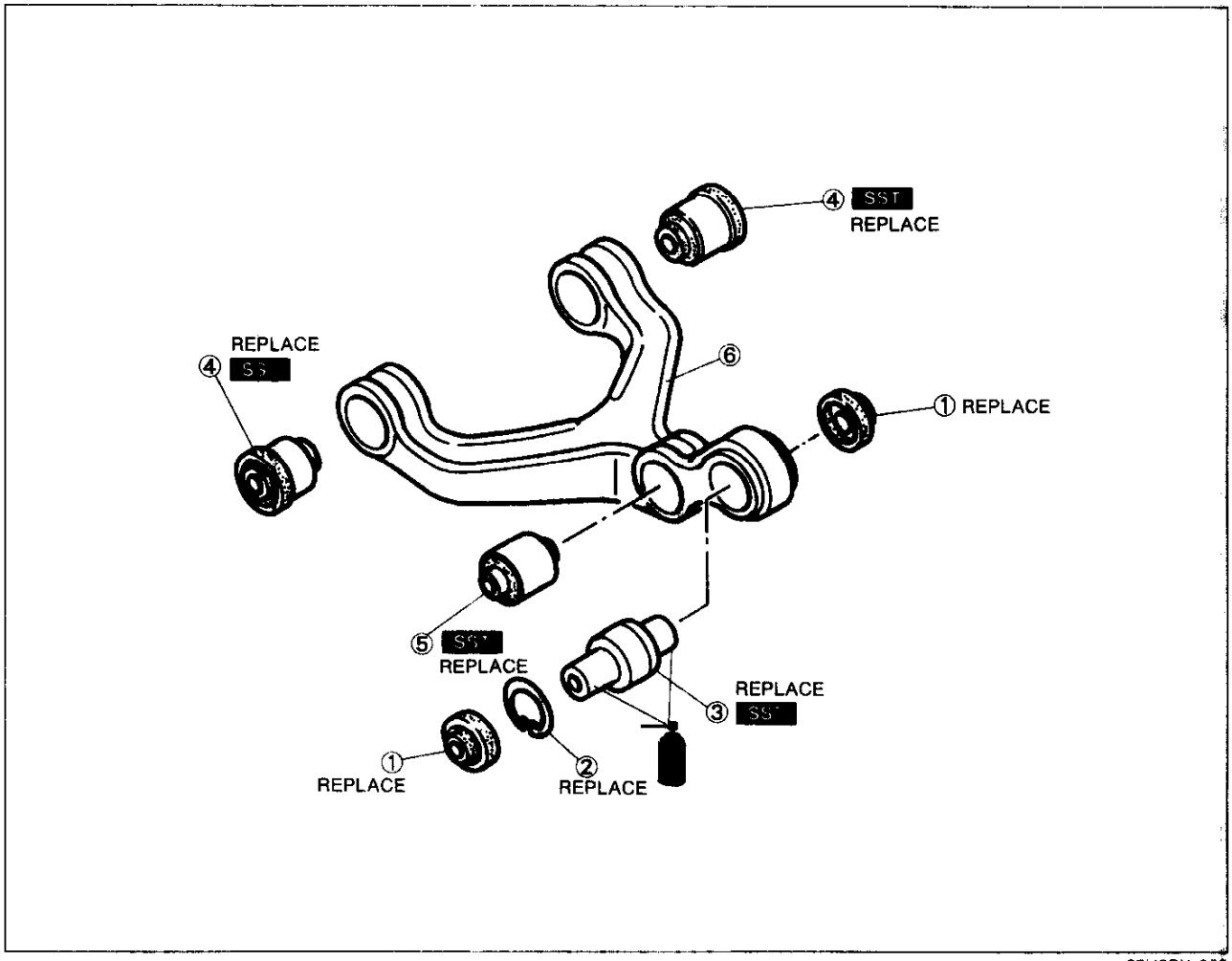
1. Nut
2. Stabilizer control link
3. Nut, bolt
4. Nut, bolt
5. Upper arm
   Inspect for damage and cracks
   Inspect bushing for wear and deterioration
   Disassembly / Inspection / Assembly ..... page R–33

Disassembly / Inspection / Assembly

1. Disassemble in the order shown in the figure, referring to **Disassembly Note**.
2. Inspect all parts and repair or replace as necessary.
3. Assemble in the reverse order of disassembly, referring to **Assembly Note**.

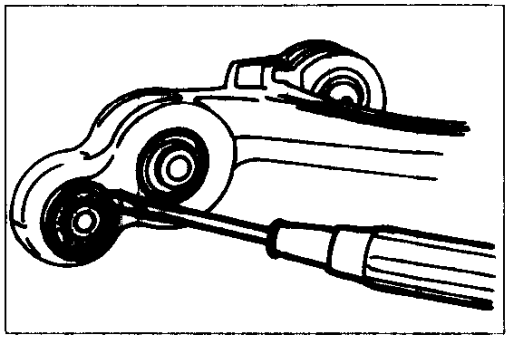
Caution

- **When holding a part in a vise, use protective plates in the jaws to prevent damage to the part.**



37U0RX-050

1. Rubber seal
2. Retaining ring
3. Pillow ball
   Disassembly Note ... below
   Assembly Note
   ..... page R–35
4. Upper arm bushing
   Disassembly Note
   ..... page R–34
   Assembly Note
   ..... page R–34
5. Damper bushing
   Disassembly Note
   ..... page R–34
   Assembly Note
   ..... page R–34
6. Upper arm
   Inspect for damage and cracks



37U0RX-060

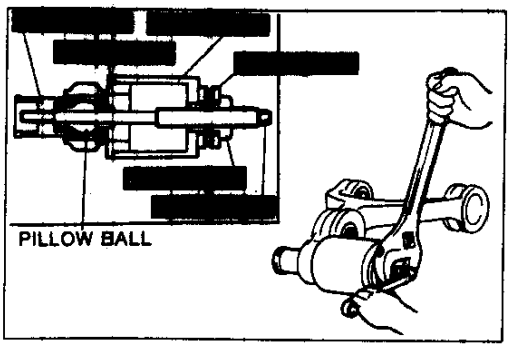
Disassembly note
Pillow ball

1. Remove the rubber seal by using a screw driver as shown.

Caution

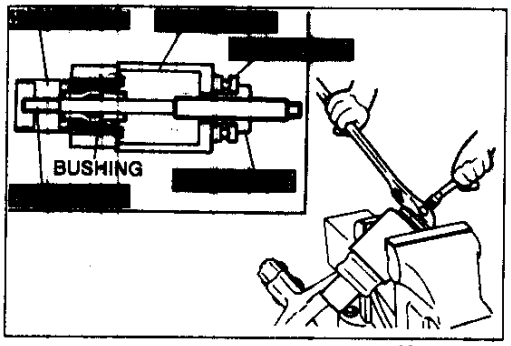
- **Do not damage the upper arm.**

2. Remove the retaining ring.



37U0RX-090

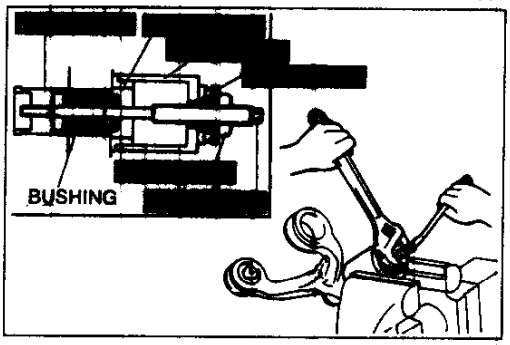
3. Remove the pillow ball by using the **SST**.



37U0RX-061

Upper arm bushing

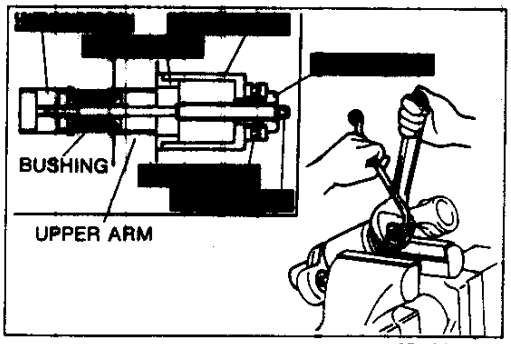
Remove the upper arm bushing by using the **SST**.



37U0RX-062

Damper bushing

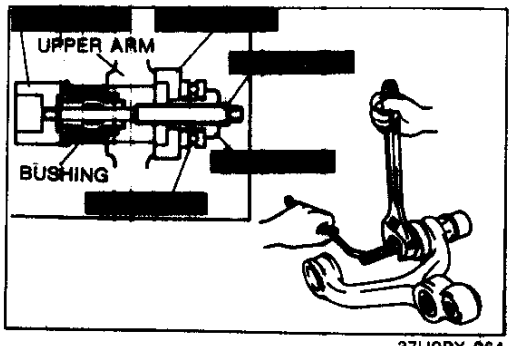
Remove the damper bushing by using the **SST**.



37U0RX-063

Assembly note
Damper bushing

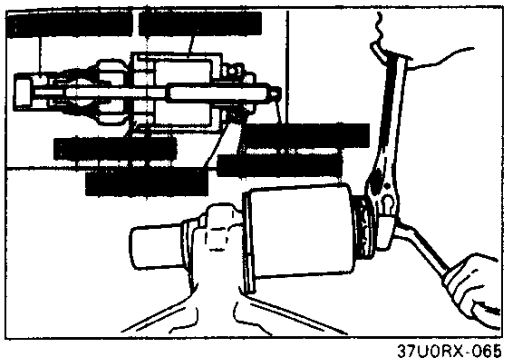
1. Apply soapy water to the new damper bushing.
2. Install the damper bushing by using the **SST**.



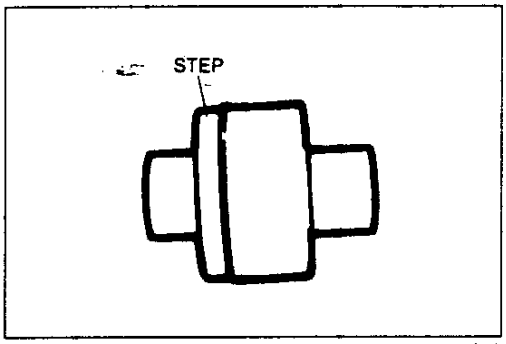
37U0RX-064

Upper arm bushing

1. Apply soapy water to the new bushing.
2. Install the upper arm bushing by using the **SST**.



37U0RX-065



37U0RX-091

Pillow ball

1. Install the new pillow ball by using the **SST**

Note

- **Install the pillow ball with the step facing into the upper arm.**

2. Install the retaining ring.
3. Fill the space between the pillow ball and rubber seal with grease.
4. Install the rubber seal.

REAR LOWER ARM

Removal / Inspection / Installation

1. Jack up the rear of the vehicle and support it on safety stands.
2. Remove the wheel and tire.
3. Remove in the order shown in the figure, referring to **Removal Note**.
4. Inspect all parts and repair or replace as necessary.
5. Install in the reverse order of removal, referring to **Installation Note**.
6. Install the wheel and tire.

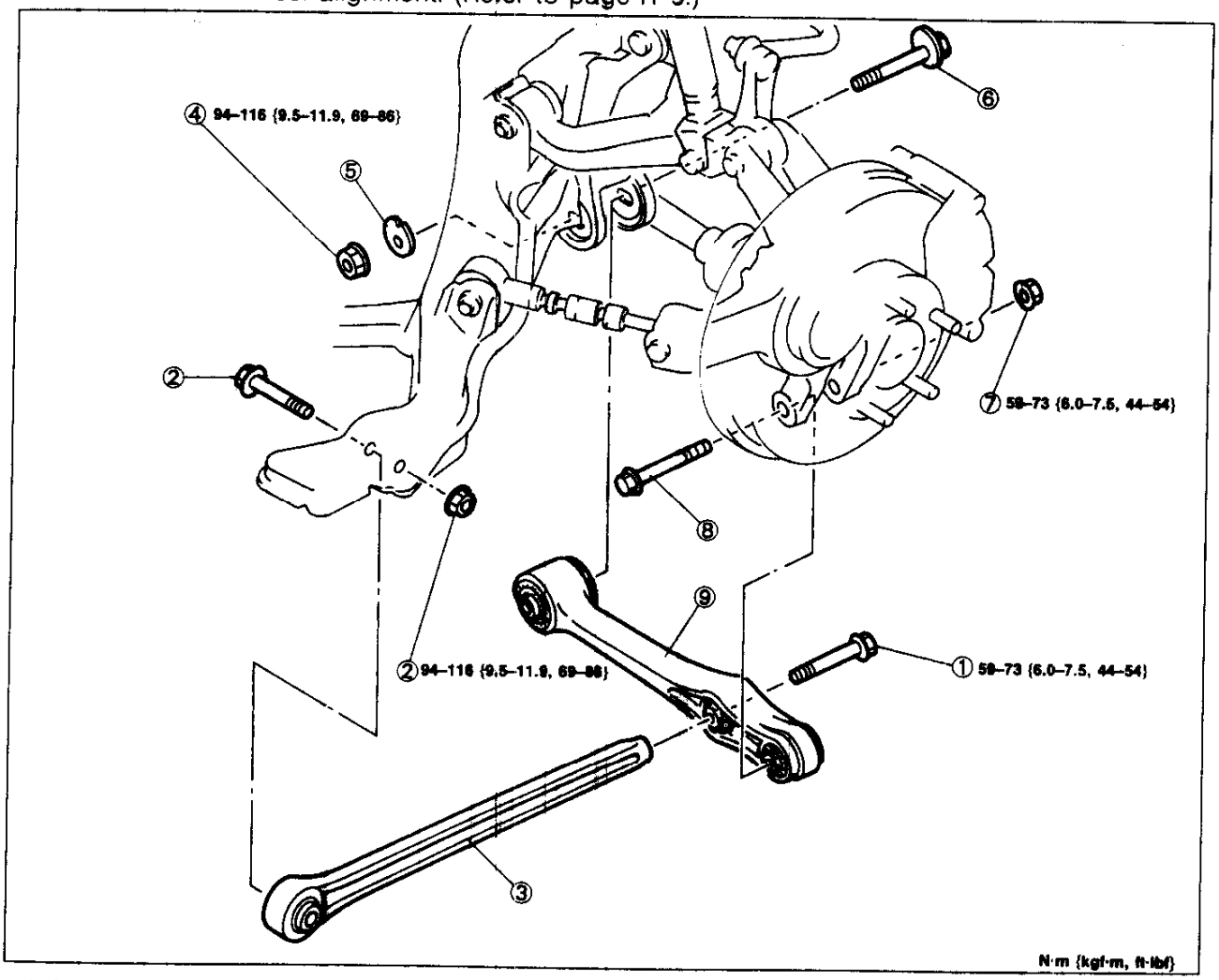
Tightening torque: 89–117 N·m {9.0–12.0 kgf·m, 65–87 ft·lbf}

Caution

- **Loosely tighten the front nut of the trailing link. Lower the vehicle and tighten the nut to the specified torque with the vehicle unladen.**

Tightening torque: 94–116 N·m {9.5–11.9 kgf·m, 69–86 ft·lbf}

7. Check the rear wheel alignment. (Refer to page R–9.)



37U0RX-066

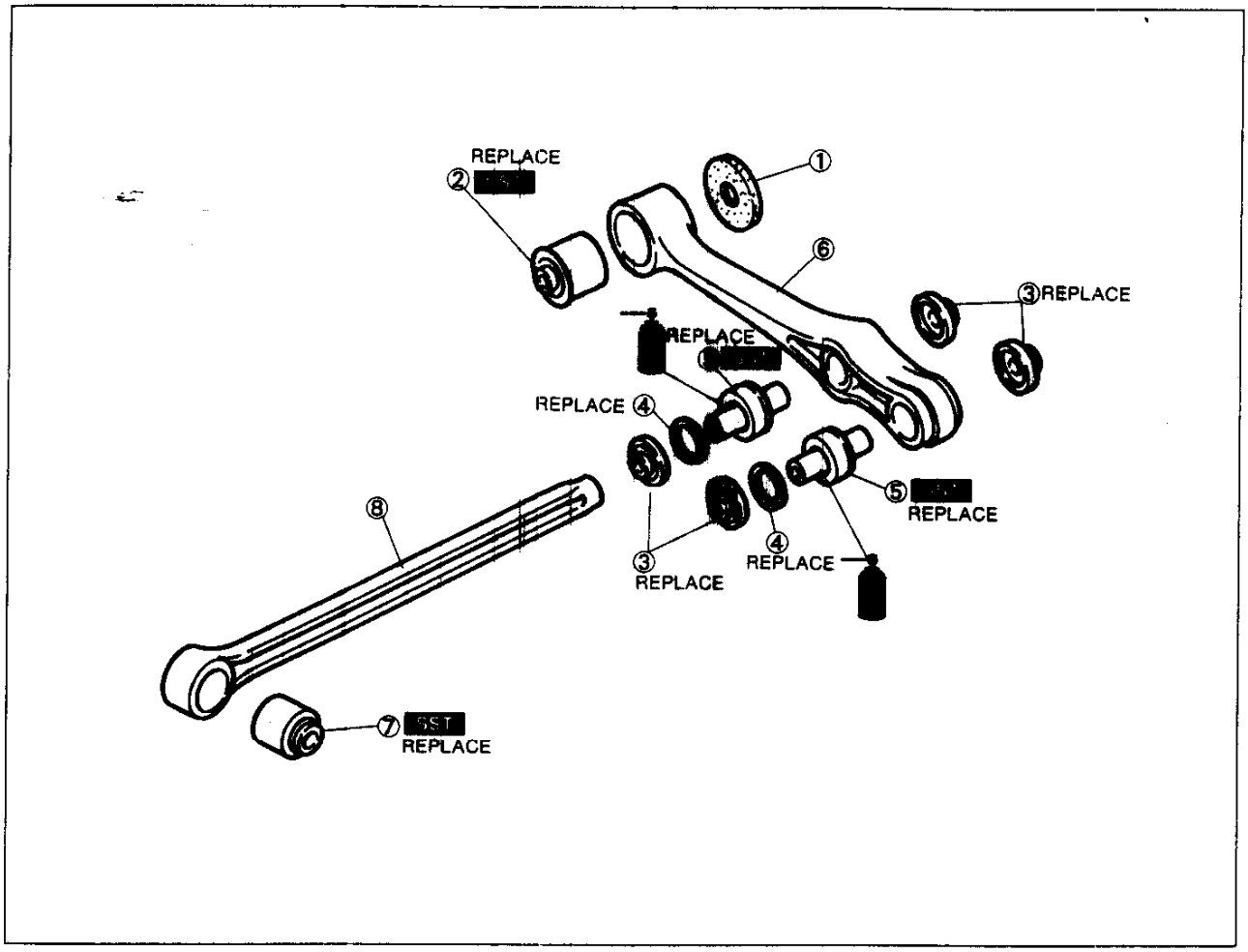
1. Bolt
2. Bolt, nut
3. Trailing link
   - Inspect for damage and cracks
   - Inspect bushing for wear and deterioration
   - Disassembly / Inspection / Assembly ..... page R–37
4. Nut
   - Removal Note ..... page R–20
   - Installation Note ... page R–20
5. Cam plate
   - Removal Note ..... page R–20
   - Installation Note ... page R–20
6. Adjusting cam bolt
   - Installation Note ... page R–20
7. Nut
8. Bolt
9. I-arm
   - Inspect for damage and cracks
   - Inspect bushing for wear and deterioration
   - Disassembly / Inspection / Assembly ..... page R–37

Disassembly / Inspection / Assembly

1. Disassemble in the order shown in the figure, referring to **Disassembly Note**.
2. Inspect all parts and repair or replace as necessary.
3. Assemble in the reverse order of disassembly, referring to **Assembly Note**.

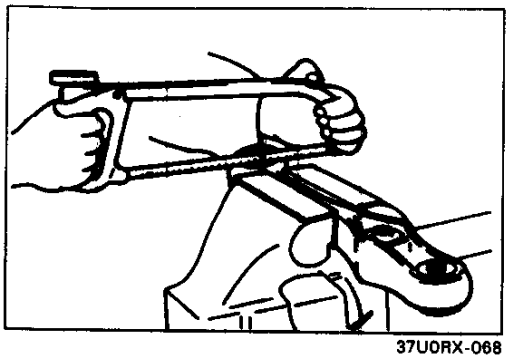
Caution

- **When holding a part in a vise, use protective plates in the jaws to prevent damage to the part.**



37U0RX-067

1. Stopper
2. Pillow ball bushing
   Disassembly Note ... below
   Assembly Note .... page R-39
3. Rubber seal
4. Retaining ring
5. Pillow ball
   Disassembly Note
   ..... page R-38
   Assembly Note .... page R-39
6. I-arm
   Inspect for damage and cracks
7. Bushing
   Disassembly Note
   ..... page R-38
   Assembly Note .... page R-38
8. Trailing link
   Inspect for damage and cracks



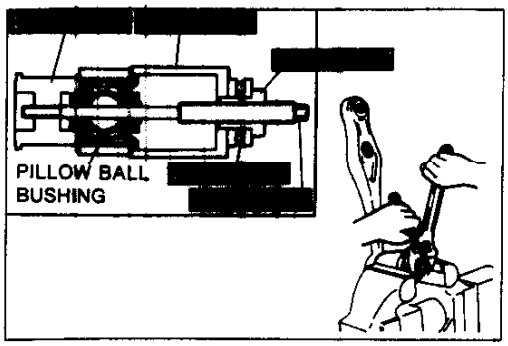
37U0RX-068

Disassembly note
Pillow ball bushing

1. Cut away the flange of the bushing.

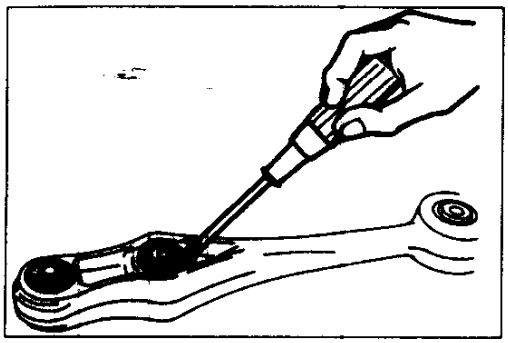
Caution

- **Do not damage the I-arm.**



37U0RX-092

2. Remove the pillow ball bushing by using the **SST**.

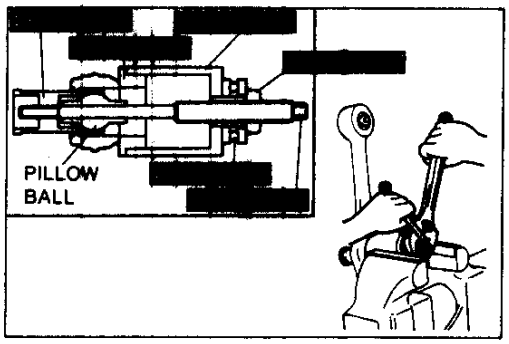

37U0RX-069

Pillow ball

1. Remove the rubber seal by using a screw driver as shown.

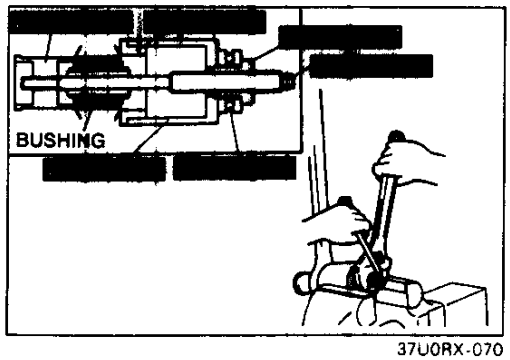
Caution
- **Do not damage the I-arm.**

2. Remove the retaining ring.



37U0RX-093

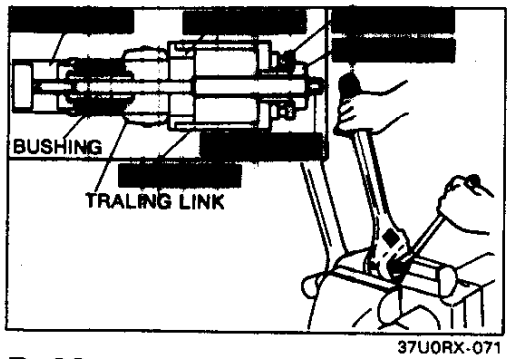
3. Remove the pillow ball by using the **SST**.



37U0RX-070

Bushing

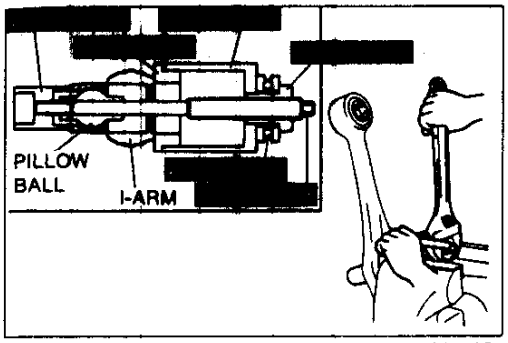
Remove the bushing by using the **SST**.



37U0RX-071

Assembly note
Bushing

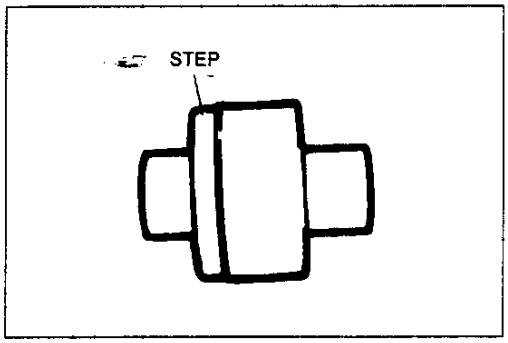
1. Apply soapy water to the new bushing.
2. Install the bushing by using the **SST**.



37U0RX-072

Pillow ball

1. Install the new pillow ball by using the **SST**.

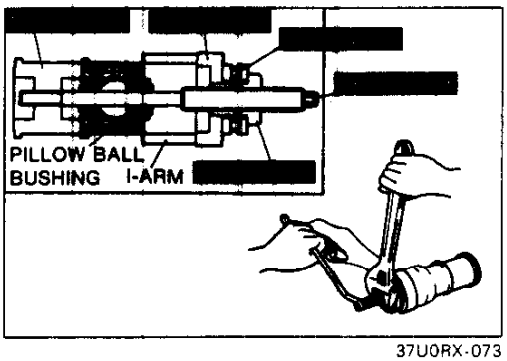


37U0RX-094

Note

- **Install the pillow ball with the step facing into the I-arm.**

2. Install the retaing ring.
3. Fill the space between the pillow ball and rubber seal with grease.
4. Install the rubber seal.



37U0RX-073

Pillow ball bushing

1. Apply soapy water to the new pillow ball bushing.
2. Install the pillow ball bushing by using the **SST**.

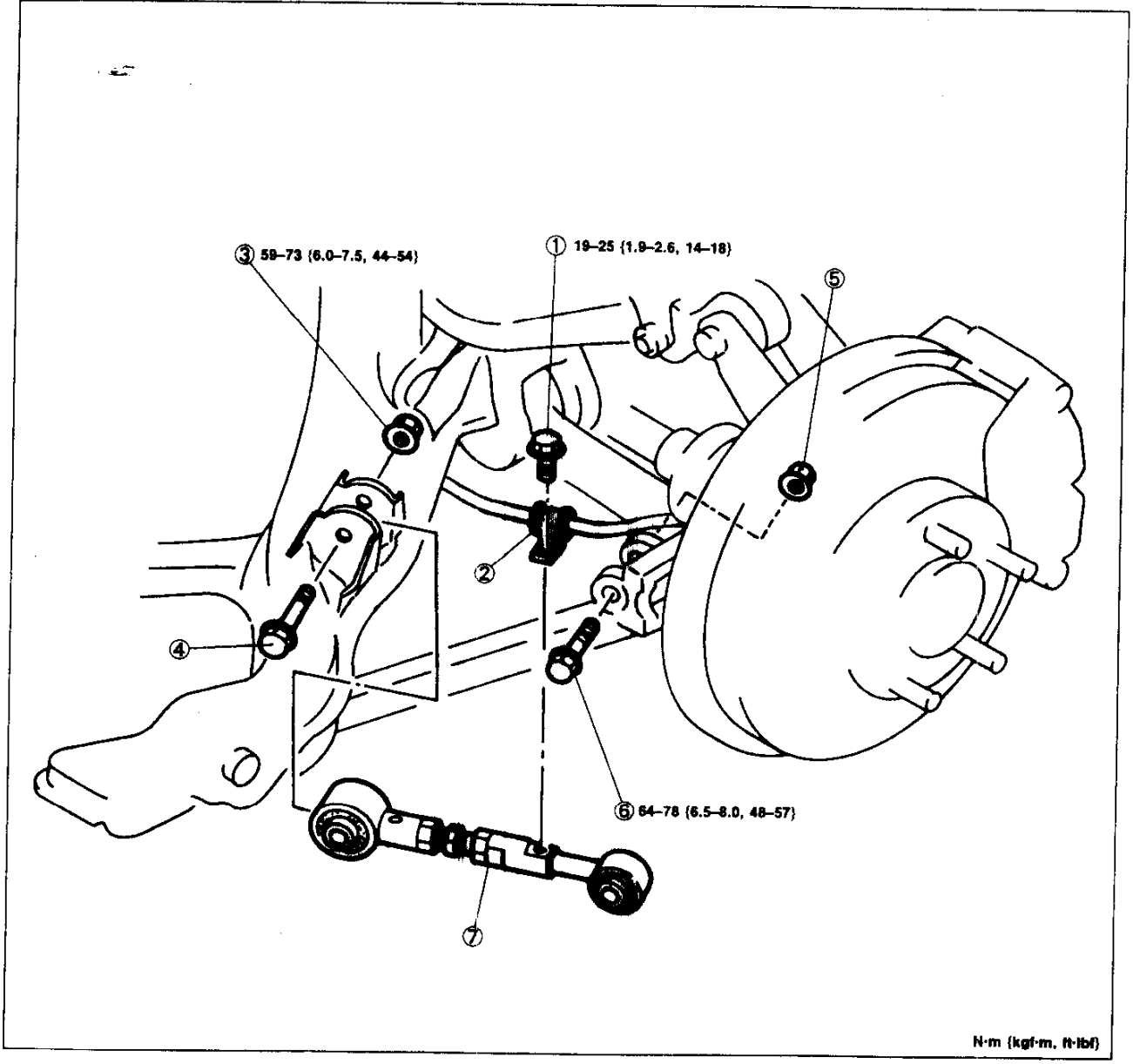
TOE-CONTROL LINK

Removal / Inspection / Installation

1. Jack up the rear of the vehicle and support it on safety stands.
2. Remove the wheel and tire.
3. Remove in the order shown in the figure.
4. Inspect all parts and repair or replace as necessary.
5. Install in the reverse order of removal, referring to **Installation Note**.
6. Install the wheel and tire.

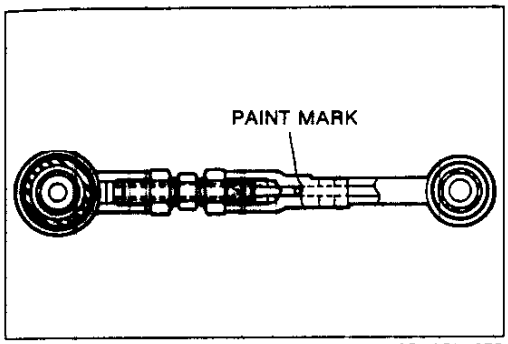
   Tightening torque: 89–117 N·m {9.0–12.0 kgf·m, 65–87 ft·lbf}

7. Check the rear wheel alignment. (Refer to page R–9.)



37U0RX-074

1. Bolt
2. ABS wheel-speed sensor harness
3. Nut
4. Bolt
5. Nut
6. Bolt
7. Toe-control link
   Inspect bushing for wear and deterioration
   Installation Note
   ..... page R–41



37U0RX-075

Installation note
Toe-control link

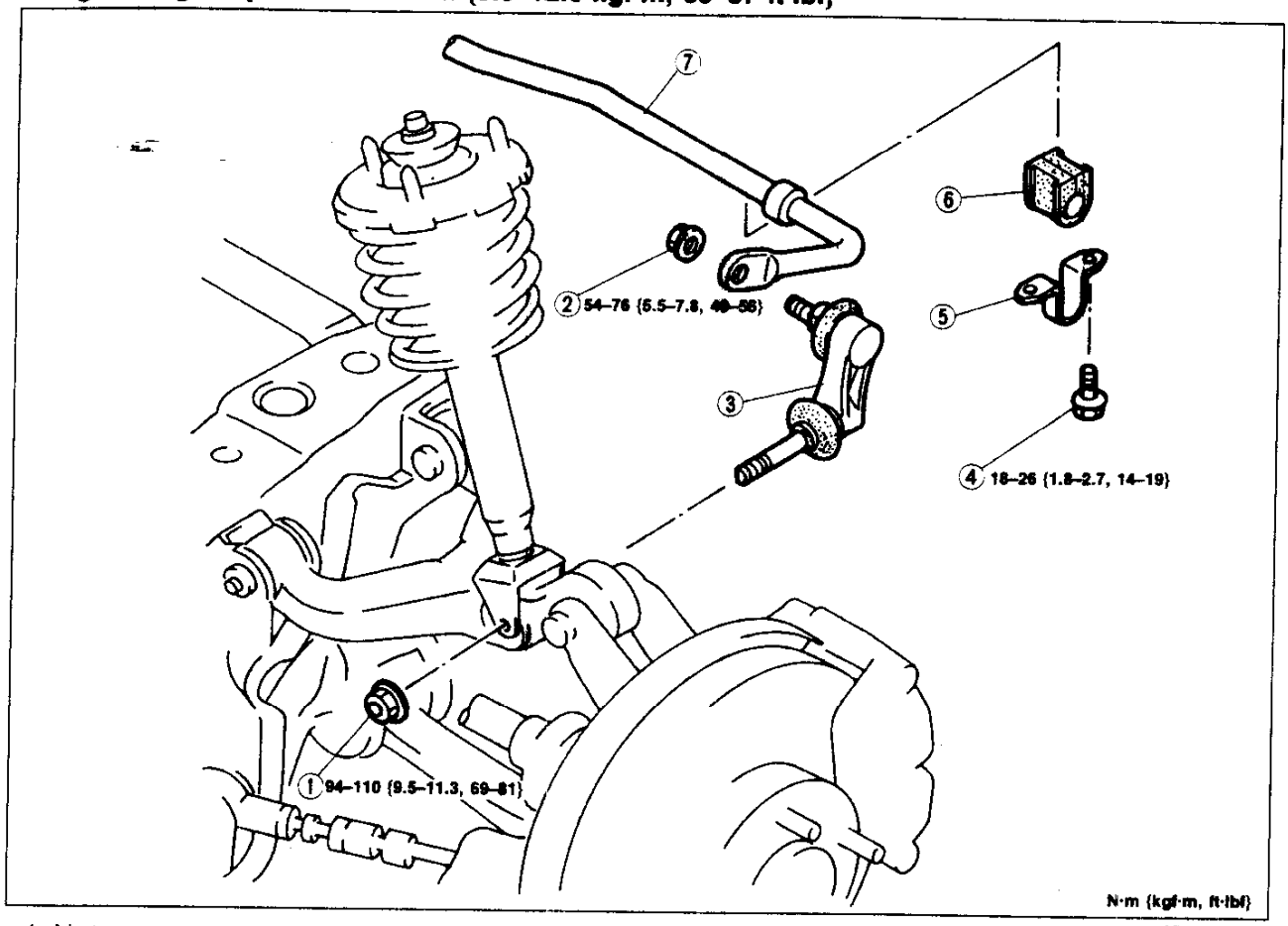
Install the toe-control link with the paint mark facing upward.

REAR STABILIZER

Removal / Inspection / Installation

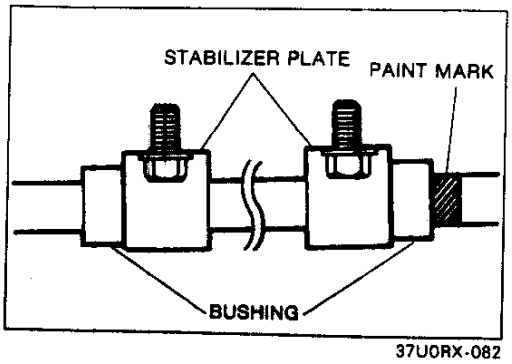
1. Jack up the rear of the vehicle and support it on safety stands.
2. Remove the wheels and tires and the undercover.
3. Remove in the order shown in the figure.
4. Inspect all parts and repair or replace as necessary.
5. Install in the reverse order of removal, referring to **Installation Note**.
6. Install the wheels and tires.

Tightening torque: 89–117 N·m {9.0–12.0 kgf·m, 65–87 ft·lbf}



37U0RX-081

1. Nut
2. Nut
3. Stabilizer control link
   Inspect for damage and cracks
   Installation Note
   ..... page R–43
4. Bolt
5. Stabilizer plate
   Inspect for damage and cracks
6. Stabilizer bushing
   Inspect for wear and deterioration
7. Stabilizer bar
   Inspect for damage and bending
   Installation Note
   ..... below



37U0RX-082

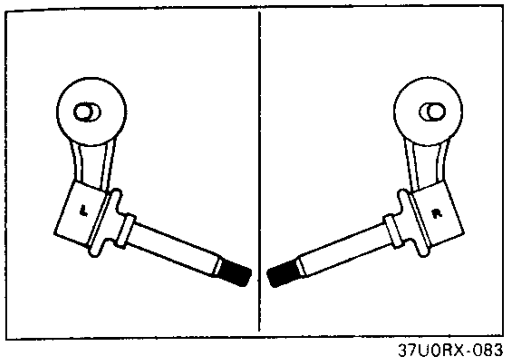
Installation note

Stabilizer bar

Install the stabilizer bar with the white paint mark at the right side.

Note

- **Install the stabilizer bar as shown in the figure.**



37U0RX-083

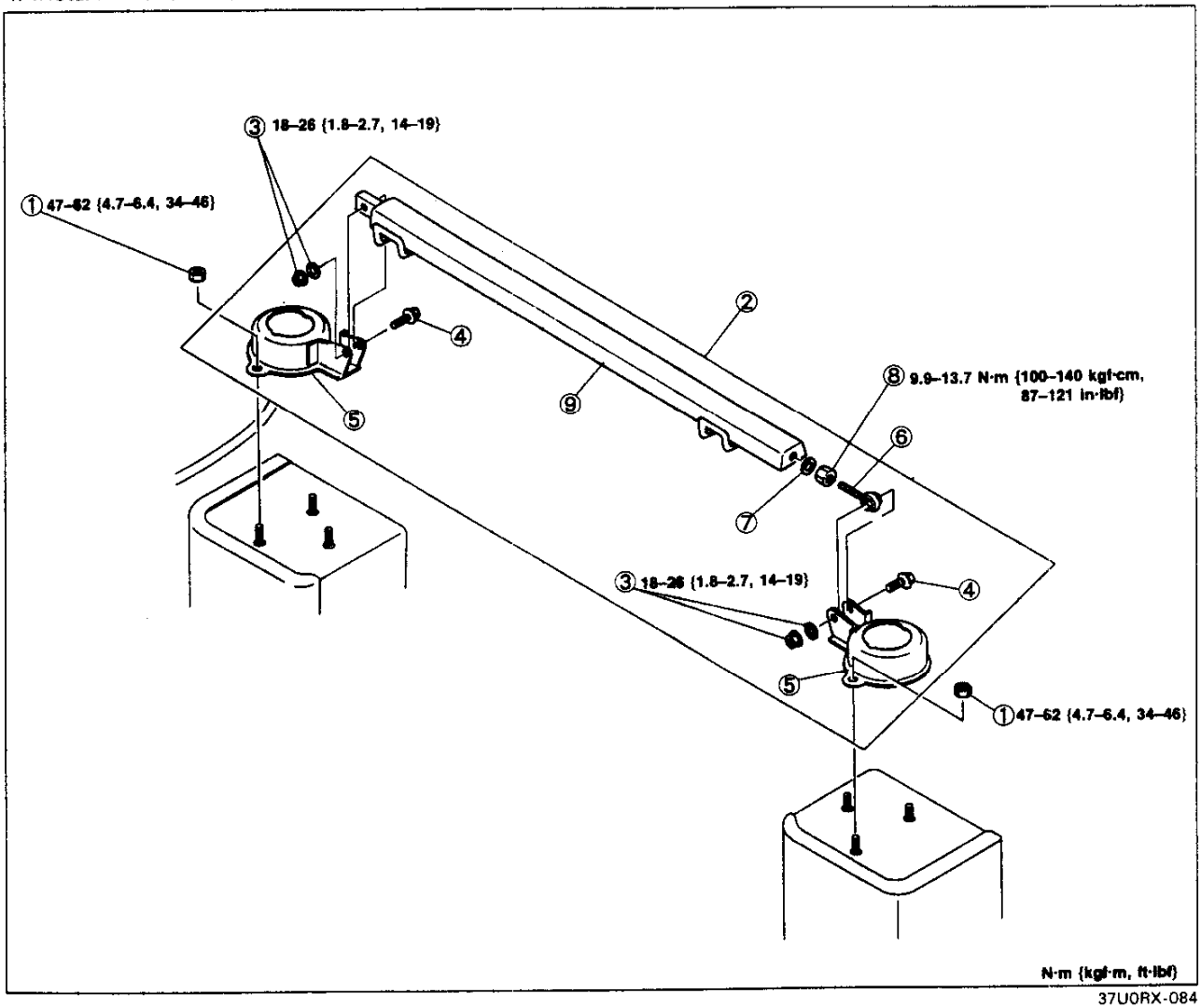
Stabilizer control link

Install the stabilizer control links with the R (right) and L (left) marks as shown.

REAR STRUT BAR

Removal / Inspection / Installation

1. Remove the suspension tower cover. (Refer to Section S.)
2. Remove in the order shown in the figure.
3. Inspect all parts and repair or replace as necessary.
4. Install in the reverse order of removal.



37U0RX-084

1. Nut
2. Strut bar assembly
3. Nut, washer
4. Bolt
5. Strut plate
6. Joint A
7. Washer
8. Nut
9. Rear strut bar
   Inspect for damage and bending