

REAR SUSPENSION

CONTENTS

E34AA--

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SPECIFICATIONS

GENERAL SPECIFICATIONS

E34CB-

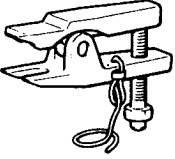
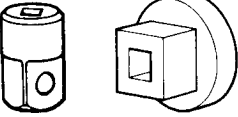



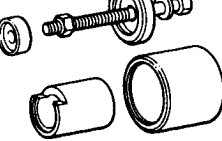
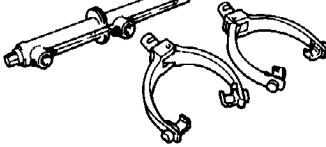
Items	Specifications
Suspension system	Multi-link with coil spring type
Coil spring	
Wire dia. × O.D × free length [Coil spring identification colour]	mm (in.) 11.8 × 118.6 × 393.1 (0.46 × 4.67 × 15.48) [Orange × 1]
Spring constant	N/mm (kg/mm, lbs./in.) 21 (2.1, 117)
Shock absorber	
Type	Hydraulic cylindrical double-acting type
Max. length	mm (in.) 503 (19.8)
Min. length	mm (in.) 341.5 (13.4)
Stroke	mm (in.) 161.5 (6.4)
Damping force [at 0.3 m/sec. (0.9 ft./sec.)]	
Expansion	N (kg, lbs.) 900 (90, 198)
Contraction	N (kg, lbs.) 500 (50, 110)

SERVICE SPECIFICATIONS

Items	Specifications
Standard value	
Toe-in	
at the centre of tyre tread (per wheel)	mm (in.) -2 to 3 (-0.08 to 0.12)
Toe angle (per wheel)	-6' to 9'
Camber	0' ± 30'
Stabilizer bar ball joint starting torque	Nm (kgcm, in.lbs.) 1.7–3.2 (17–32, 15–28)
Upper arm and lower arm ball joint starting torque	Nm (kgcm, in.lbs.) 2.0–9.0 (20–90, 17–78)
Projection of crossmember bush inner pipe	mm (in.) 8.5–9.5 (0.33–0.37)

SPECIAL TOOLS

E34DA--

Tool	Number	Name	Use
	MB991113	Steering linkage puller	Disconnection of ball joint
	MB990326	Preload socket	Measurement of the ball joint starting torque
	MB990800	Ball joint remover and installer	Installation of the dust cover
	MB991071 MB991072 MB991073	Lower arm bush remover and installer Base Arbor	Driving out and press-fitting of the lower arm bush, upper arm bush and assist link bush
	MB991005 MB991389	Arbor Base	Driving out and press-fitting of the trailing arm bush
	MB991045	Bush remover and installer	Driving out and press-fitting of crossmember bush
	MB991237 MB991239	Spring compressor body Arm set	Removal and installation of the coil spring

SERVICE ADJUSTMENT PROCEDURES

WHEEL ALIGNMENT INSPECTION AND ADJUSTMENT

E34FAA-L

1. CAMBER

Standard value: $0^{\circ} \pm 30'$

Turn the lower arm mounting bolt to adjust.

NOTE

<Vehicles not equipped with 4WS>

The assist link mounting bolt (crossmember side) should be loosened when adjusting.

<Vehicles equipped with 4WS>

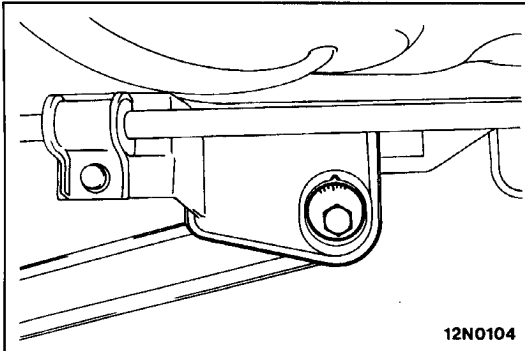
The power cylinder tie rod end should be disconnected from the knuckle when adjusting.

The difference between the left and right wheels should be 30' or less.

Left wheel : clockwise – camber

Right wheel : clockwise + camber

The scale has gradations of approximately 15'.



12N0104

2. TOE-IN

Standard value:

At the centre of tyre tread:

-2 to 3 mm (-0.08 to 0.12 in.)

Toe angle (per wheel): -6' to 9'

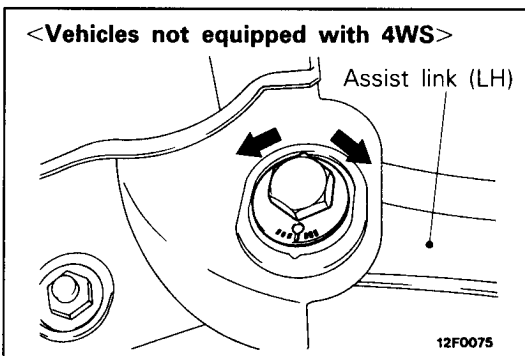
NOTE

<Vehicles not equipped with 4WS>

The assist link mounting bolt (crossmember side) should be turned an equal amount on both sides when adjusting.

Left wheel: clockwise direction ... toe-in

The scale has gradations of approximately 4.8 mm (0.19 in.) (single side toe angle equivalent to 27')



12F0075

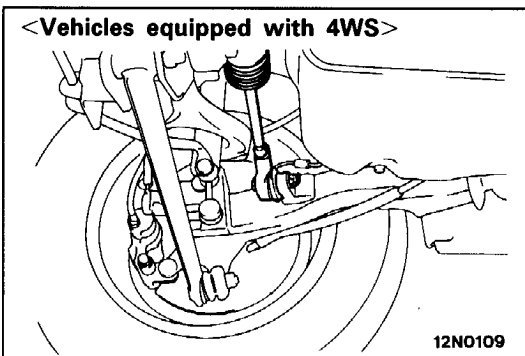
<Vehicles equipped with 4WS>

The power cylinder tie rod screw section should be turned an equal amount on both sides when adjusting.

Left wheel: Clockwise direction ... toe-out

90° rotation : approximately 1.8 mm (0.07 in.) (single side toe angle equivalent to 16')

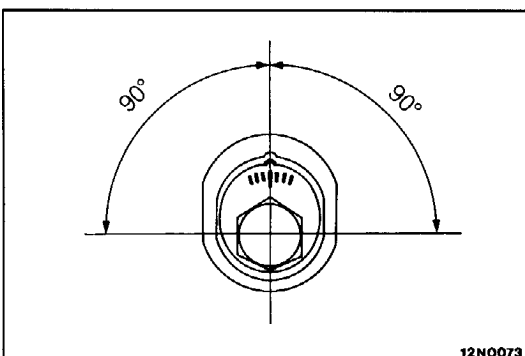
The clip should be removed so that the power cylinder boot does not twist.



12N0109

Caution

1. The eccentric bolt should be adjusted within a 90° range left and right from the centre position.
2. Adjust the camber angle first, and then adjust the toe-in. When camber adjustment is made, toe adjustment should always be made also.



12N0073

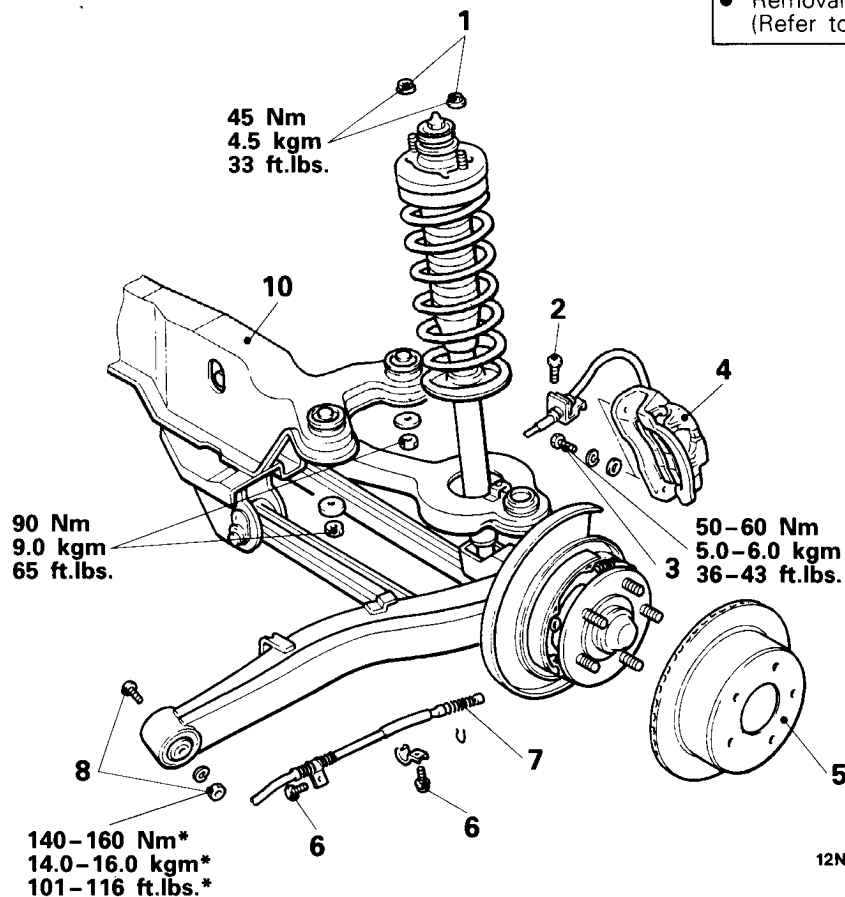
REAR SUSPENSION ASSEMBLY
 <Vehicles not equipped with 4WS>

REMOVAL AND INSTALLATION

E34GA---

Pre-removal Operation

- Removal of Trunk Side Trim (Refer to GROUP 52 – Trim.)



12N0116

Removal steps

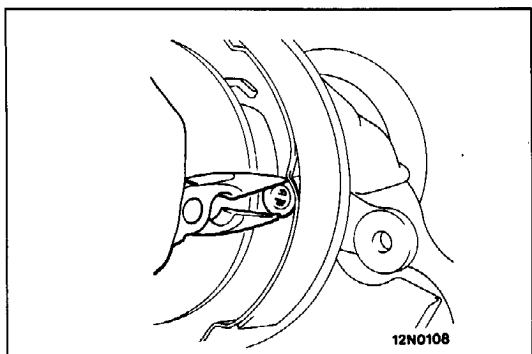
1. Shock absorber upper mounting nuts
2. Bolt
3. Brake caliper mounting bolts
4. Brake caliper assembly
5. Brake disk
6. Bolt
- ↔ 7. Parking brake cable end
- ↔ 8. Trailing arm mounting bolt and nut
- ↔ 9. Crossmember mounting nuts
10. Rear suspension assembly

Post-installation Operation

- Installation of Trunk Side Trim (Refer to GROUP 52 – Trim.)
- Parking Brake Lever Stroke Adjustment (Refer to GROUP 36 – Service Adjustment Procedures.)
- Wheel Alignment Inspection and Adjustment (Refer to P.34-4.)

Caution

* Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.

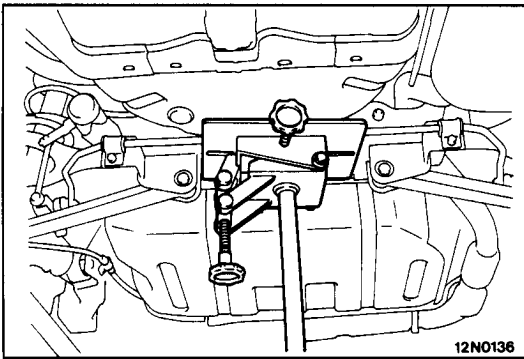


SERVICE POINTS OF REMOVAL

E34GBA-P

7. REMOVAL OF PARKING BRAKE CABLE END

After using some small pincers to remove the shoe hold-down cup, retainer spring and shoe-to-shoe spring, remove the parking brake cable end.



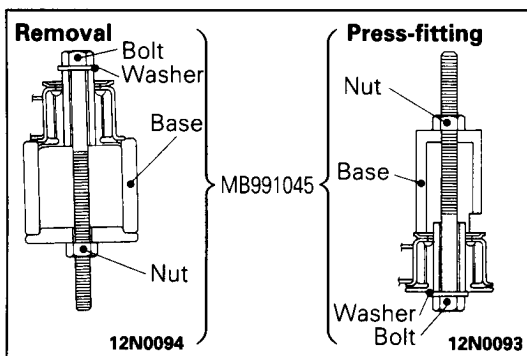
9. REMOVAL OF CROSSMEMBER MOUNTING NUTS

- (1) Before removing the crossmember mounting nuts, support the crossmember with a transmission jack.
- (2) Remove the crossmember mounting nuts.

INSPECTION

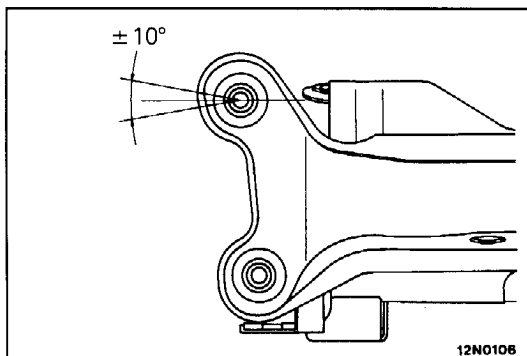
E34GCA-J

- Check crossmember for cracks or other damage.

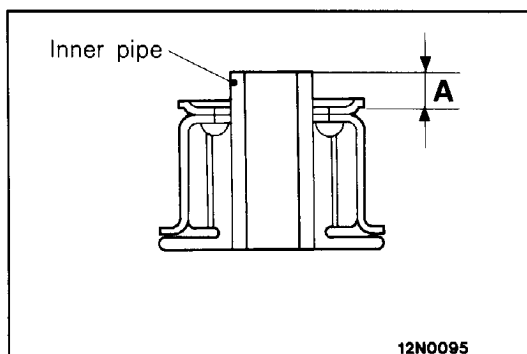


CROSSMEMBER BUSH REPLACEMENT

- (1) Use the special tool to remove and press fit the bushing.



- (2) When press fitting, after applying some soapy water, press in the direction of the arrow into the position as shown in the diagram.



- (3) Press until the inner pipe projection is at the standard value.

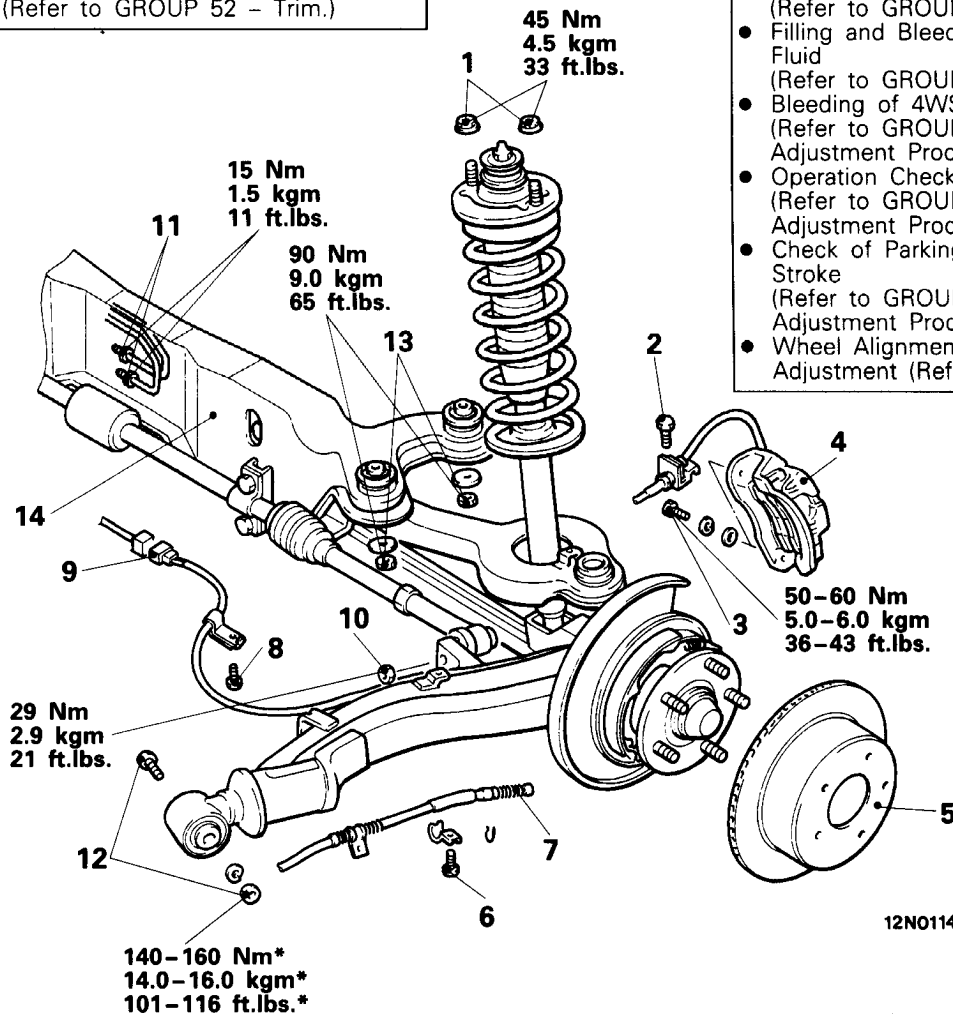
Standard value (A): 8.5–9.5 mm (0.33–0.37 in.)

<Vehicles equipped with 4WS>

REMOVAL AND INSTALLATION

Pre-removal Operation
 ● Removal of Trunk Side Trim
 (Refer to GROUP 52 – Trim.)

Post-installation Operation
 ● Installation of Trunk Side Trim
 (Refer to GROUP 52 – Trim)
 ● Filling and Bleeding Power Steering Fluid
 (Refer to GROUP 37B – 4WS.)
 ● Bleeding of 4WS
 (Refer to GROUP 37B – Service Adjustment Procedures.)
 ● Operation Check of 4WS
 (Refer to GROUP 37B – Service Adjustment Procedures.)
 ● Check of Parking Brake Lever Stroke
 (Refer to GROUP 36 – Service Adjustment Procedures.)
 ● Wheel Alignment Inspection and Adjustment (Refer to P.34-4.)



12N0114

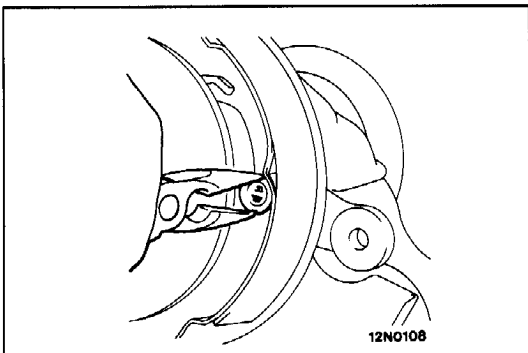
Removal steps

1. Shock absorber upper mounting nuts
2. Bolt
3. Brake caliper mounting bolts
4. Brake caliper assembly
5. Brake disk
6. Bolt
7. Parking brake cable end
8. Bolt (Vehicles equipped with ABS)
9. Connector

10. Power cylinder tie-rod connection nut
11. Power cylinder and pipe connection
12. Trailing arm mounting bolt and nut
13. Crossmember mounting nut
14. Rear suspension assembly

Caution

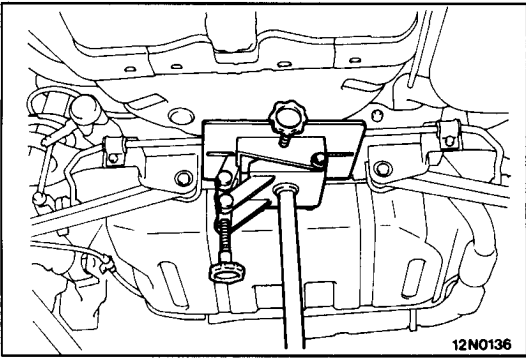
* Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.



SERVICE POINTS OF REMOVAL

7. REMOVAL OF PARKING BRAKE CABLE END

After using some small pincers to remove the shoe hold-down cup, retainer spring and shoe-to-shoe spring, remove the parking brake cable end.



13. REMOVAL OF CROSSMEMBER MOUNTING NUTS

- (1) Before removing the crossmember mounting nuts, support the crossmember with a transmission jack.
- (2) Remove the crossmember mounting nuts.

INSPECTION

- Check crossmember for crack or other damage.

CROSSMEMBER BUSH REPLACEMENT

Refer to P. 34-6.

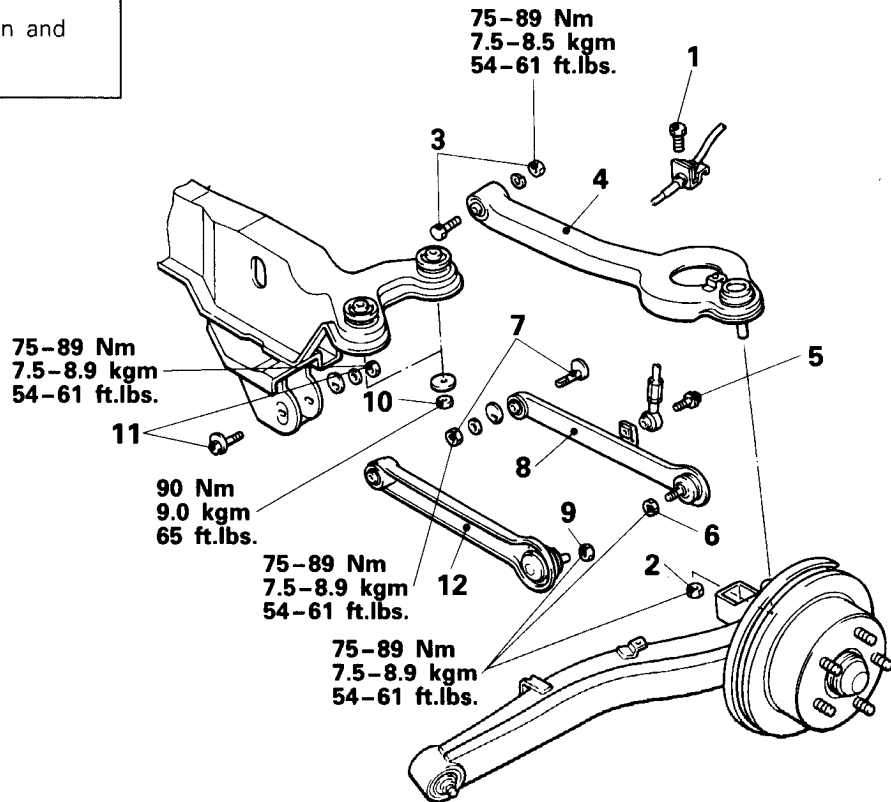
UPPER ARM, LOWER ARM AND ASSIST LINK

E340A--

REMOVAL AND INSTALLATION

Post-installation Operation

- Wheel Alignment Inspection and Adjustment (Refer to P.34-4.)



12N0118

Upper arm removal steps

- Removal of shock absorber (Refer to P.34-12.)
- 1. Brake line clamp bolt
- 2. Self lock nut
- 3. Upper arm mounting bolt and nut
- 4. Upper arm



Lower arm removal steps

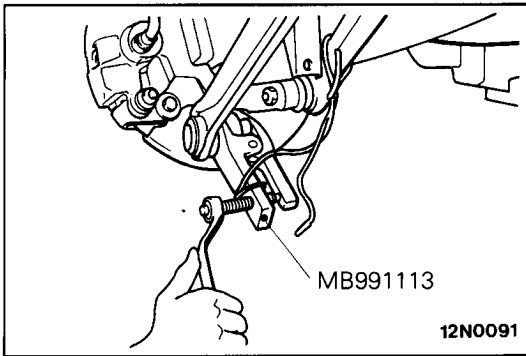
- 5. ECS height sensor rod <Vehicle equipped with ECS>
- 6. Self lock nut
- 7. Lower arm mounting bolt and nut
- 8. Lower arm



Assist link removal steps

- 9. Self lock nut
- 10. Crossmember mounting nuts
- 11. Assist link mounting bolt and nut
- 12. Assist link





SERVICE POINTS OF REMOVAL

E34GAA-A

2./6./9. REMOVAL OF SELF LOCK NUT

With the special tool, disconnect the ball joint and knuckle.

Caution

While the special tool is being used, do not remove the self lock nut; only loosen it.

10. REMOVAL OF CROSSMEMBER MOUNTING NUTS

Loosen the crossmember mounting nuts to lower the crossmember.

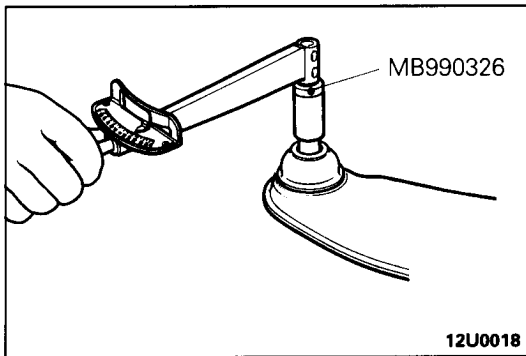
Caution

Dont remove the nuts; only loosen them.

INSPECTION

E34QBA

- Check the bushing for wear and deterioration.
- Check the upper arm or lower arm or assist link for bend or breakage.
- Check the ball joint dust cover for cracks.
- Check all bolts for condition and straightness.

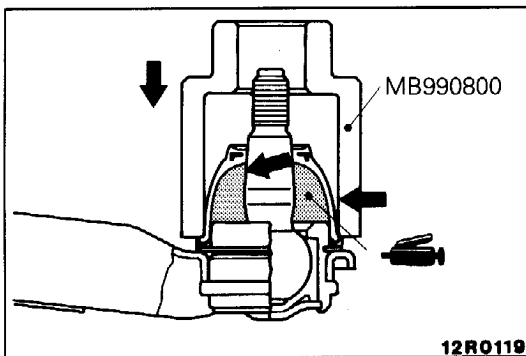


CHECKING OF BALL JOINT FOR STARTING TORQUE

With the special tool, measure the ball joint starting torque.

Standard value: 2-9 Nm

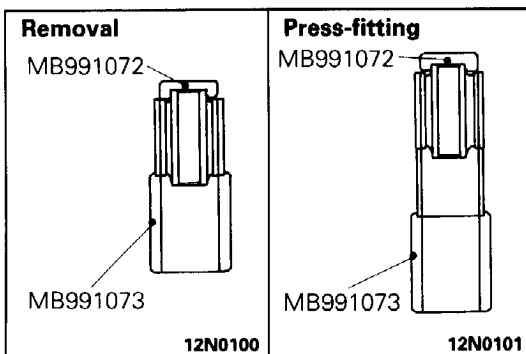
(20-90 kgcm, 17-78 in.lbs.)



BALL JOINT DUST COVER REPLACEMENT

E34QCA

- (1) Remove the dust cover.
- (2) Apply multipurpose grease to the lip and inside of the dust cover.
- (3) Drive in the dust cover with special tool until it is fully seated.



UPPER ARM BUSH, LOWER ARM BUSH, ASSIST-LINK BUSH REPLACEMENT

Use the special tool to remove and press fit the bushing.

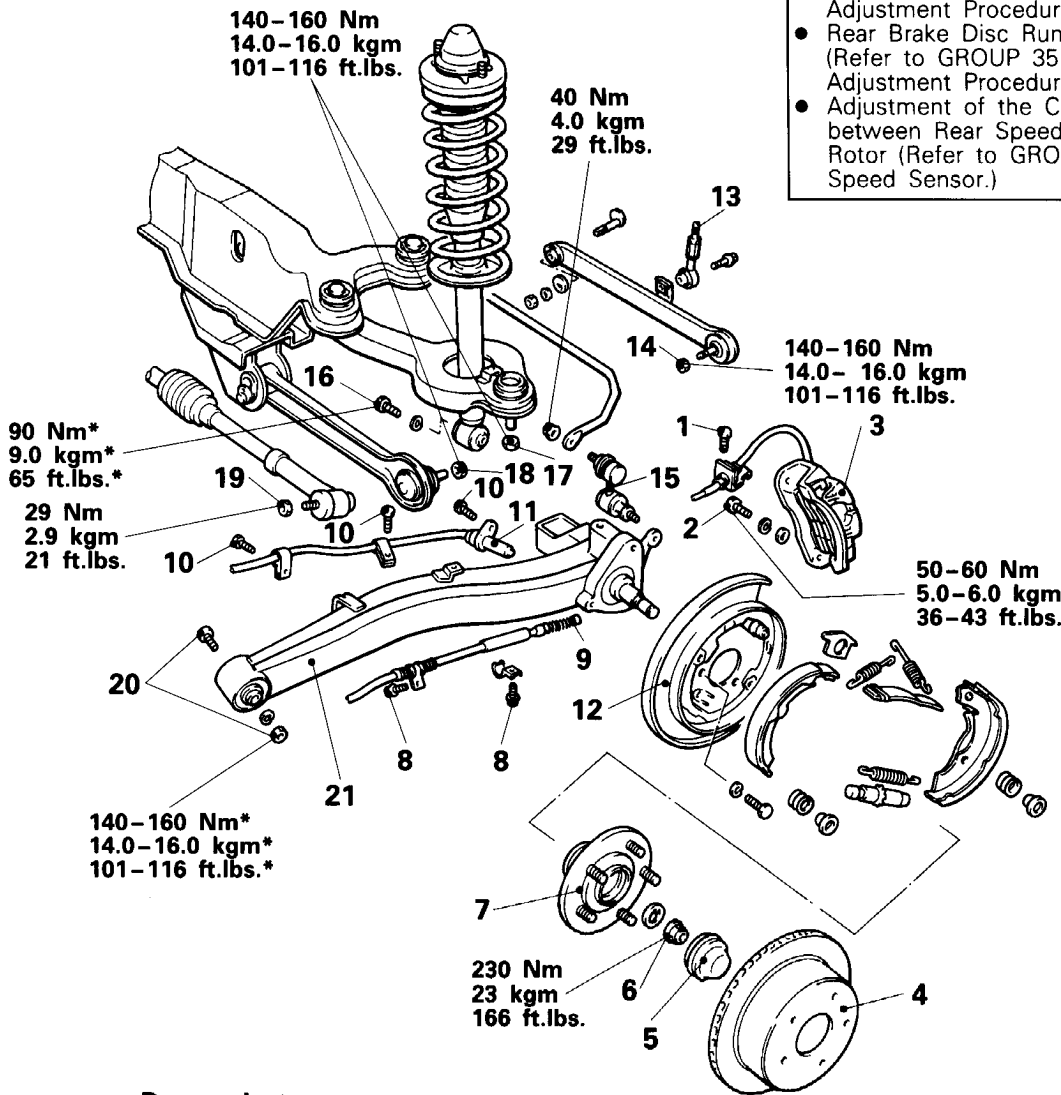
TRAILING ARM

REMOVAL AND INSTALLATION

E340A---

Post-installation Operation

- Wheel Alignment Inspection and Adjustment (Refer to P.34-4.)
- Check of Parking Brake Lever Stroke (Refer to GROUP 36 – Service Adjustment Procedures.)
- Rear Brake Disc Run-out Check (Refer to GROUP 35 – Service Adjustment Procedures.)
- Adjustment of the Clearance between Rear Speed Sensor and Rotor (Refer to GROUP 35 – Wheel Speed Sensor.)



Removal steps

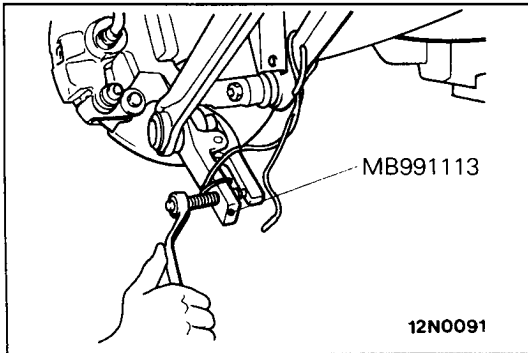
1. Brake line clamp bolt
2. Brake caliper mounting bolts
3. Brake caliper
4. Brake disk
5. Hub cap
- ◆◆ 6. Flange nut
- ◆◆ 7. Hub assembly
8. Bolt
- ◆◆ ◆◆ 9. Parking brake cable end
- ◆◆ ◆◆ 10. ABS speed sensor clamp bolts
<Vehicles equipped with ABS>
- ◆◆ ◆◆ 11. ABS speed sensor
<Vehicles equipped with ABS>
12. Backing plate
13. ECS height sensor rod
<Vehicles equipped with ABS>

- ◆◆ 14. Self lock nut
- ◆◆ 15. Stabilizer link
- ◆◆ 16. Shock absorber mounting bolt
- ◆◆ 17. Self lock nut
- ◆◆ 18. Self lock nut
<Vehicles not equipped with 4WS>
19. Power cylinder tie-rod connection nut
<Vehicles equipped with 4WS>
20. Trailing arm mounting bolt and nut
21. Trailing arm

Caution

* Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.

12N0117



SERVICE POINTS OF REMOVAL

E340BA-A

9. REMOVAL OF PARKING BRAKE CABLE END

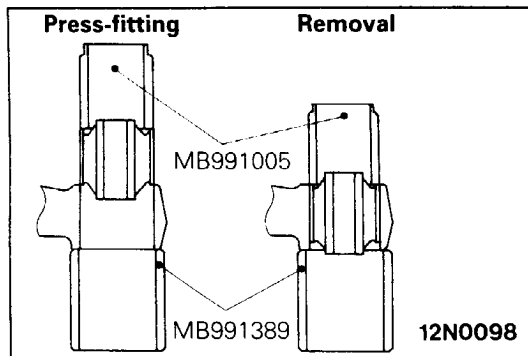
Refer to GROUP 36 – Parking Brake.

14./17./18. REMOVAL OF SELF LOCK NUT

With the special tool, disconnect the ball joint and knuckle.

Caution

While the special tool is being used, do not remove the self lock nut; only loosen it.



INSPECTION

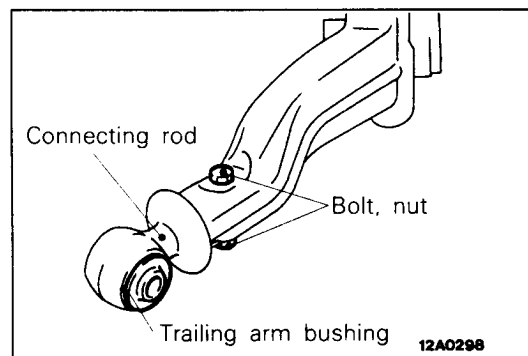
E340CAA

- (1) Check trailing arm for cracks and deformation.
- (2) Check bushing for cracks, deterioration and wear.

TRAILING ARM BUSHING REPLACEMENT

E340EAA

Use the special tool to remove and press fit the bushing.



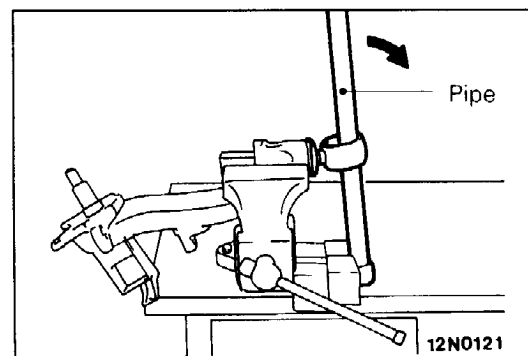
CONNECTING ROD REPLACEMENT

E340FA-B

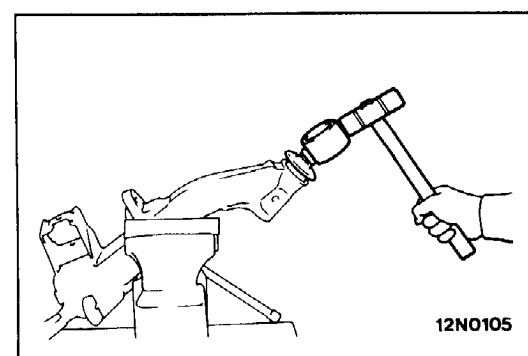
Replace the connecting rod using the following procedure:

<REMOVAL>

- (1) Remove the trailing arm bushing.
- (2) Remove the bolt and nut.

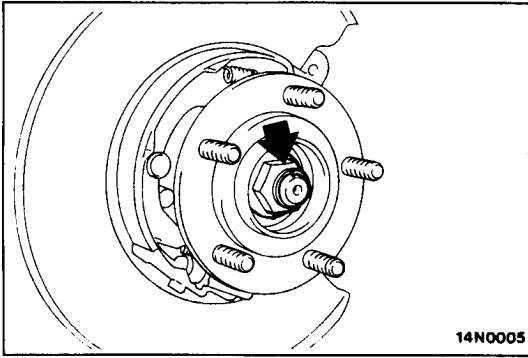


- (3) Clamp the trailing arm with a vice, and use a pipe to pull out the connecting rod.



<INSTALLATION>

- (1) Apply soapy water to the rubber portion of the connecting rod.
- (2) Use a plastic hammer to insert the connecting rod.
- (3) Install the bolt and nut.
- (4) Install the trailing arm bushing.



SERVICE POINTS OF INSTALLATION

E340DA-B

9. INSTALLATION OF PARKING BRAKE CABLE END

Refer to GROUP 36 – Parking Brake.

6. INSTALLATION OF FLANGE NUT

After tightening the wheel bearing nut, align with the spindle's indentation and crimp.

SHOCK ABSORBER ASSEMBLY

E34MA---

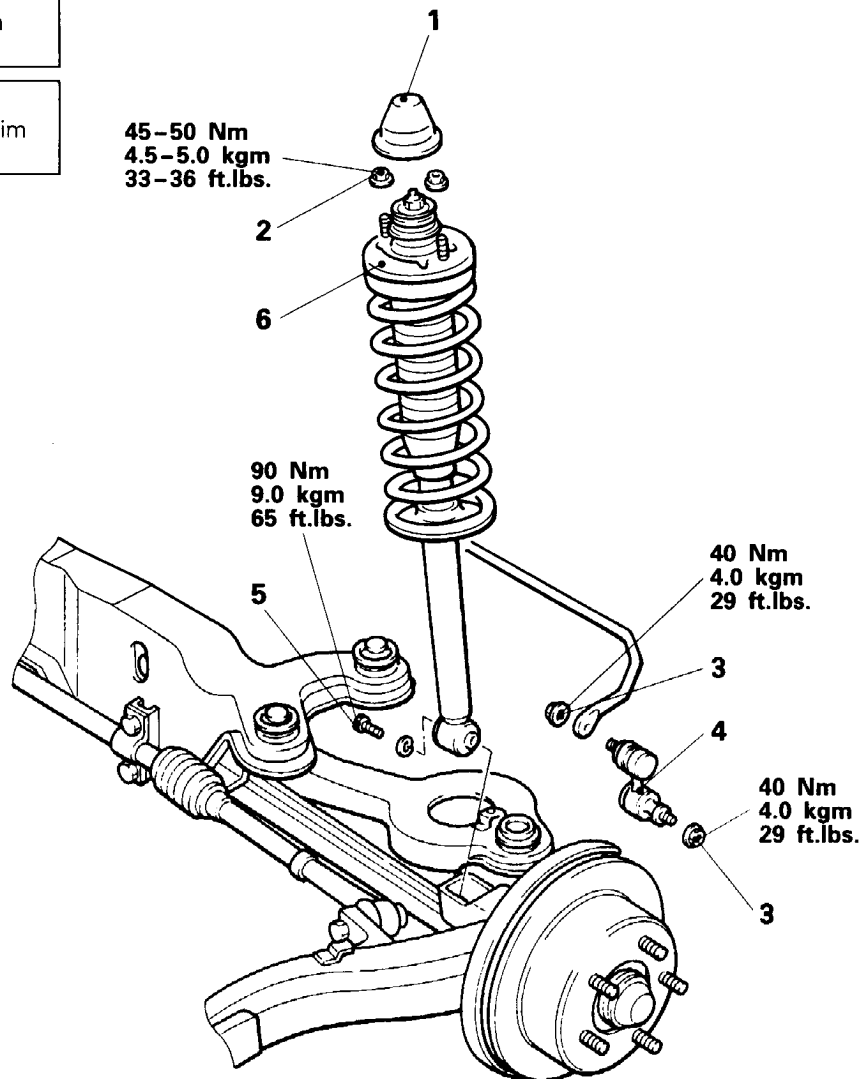
REMOVAL AND INSTALLATION

Pre-removal Operation

- Removal of the Trunk Side Trim (Refer to GROUP 52 – Trim.)

Post-installation Operation

- Installation of the Trunk Side Trim (Refer to GROUP 52 – Trim.)



Removal steps

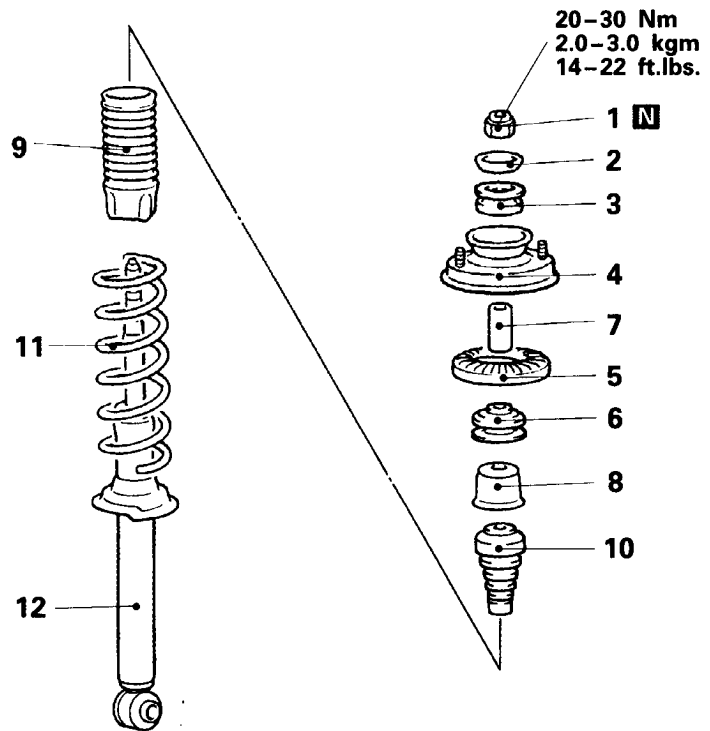
1. Cap
2. Shock absorber upper mounting nuts
3. Stabilizer link mounting nuts
4. Stabilizer link
5. Shock absorber mounting bolt
6. Shock absorber assembly

12N0115

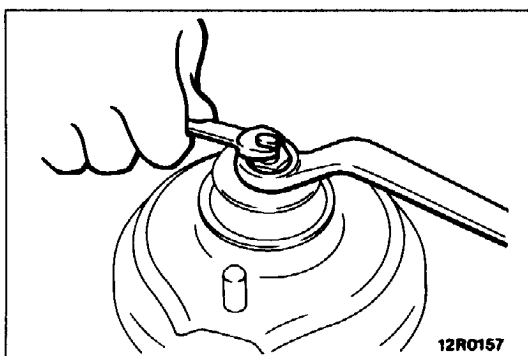
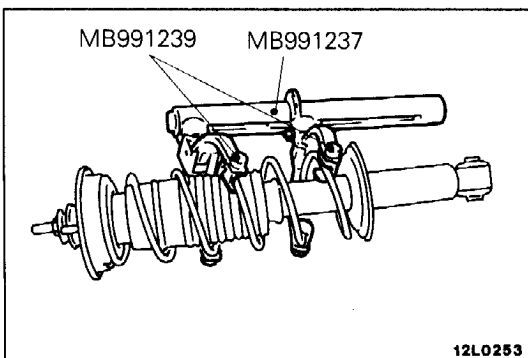
DISASSEMBLY AND REASSEMBLY

Disassembly steps

- ◄◄ ▶▶ 1. Piston rod tightening nut
- ▶▶ 2. Washer
- ▶▶ 3. Upper bushing (A)
- ▶▶ 4. Bracket assembly
- ▶▶ 5. Upper spring pad
- ▶▶ 6. Upper bushing (B)
- ▶▶ 7. Collar
- ▶▶ 8. Cup assembly
- ▶▶ 9. Dust cover
- ▶▶ 10. Bump rubber
- ▶▶ 11. Coil spring
- ▶▶ 12. Shock absorber



12P0183



SERVICE POINTS OF DISASSEMBLY

E34MFAC

1. REMOVAL OF PISTON ROD TIGHTENING NUT

- (1) Before removing the piston rod tightening nut, compress the coil spring using the special tools.

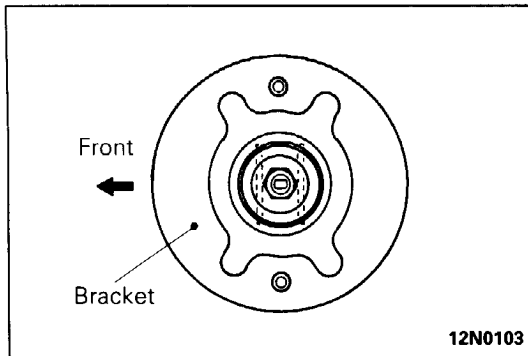
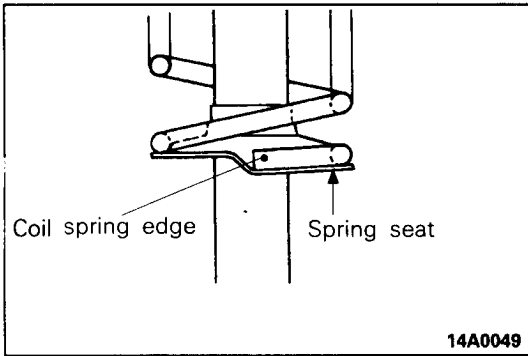
Caution

- (1) Install the special tools evenly, and so that the maximum length will be attained within the installation range.
- (2) Do not use an air tool to tighten the bolt of the special tool.

- (2) While holding the piston rod, remove the piston rod tightening nut.

Caution

Do not use an air tool.



SERVICE POINTS OF REASSEMBLY

E34MHA-H

11. INSTALLATION OF COIL SPRING

- (1) Use the special tools (MB991237 and MB991239) to compress the coil spring and insert it in the shock absorber.

Caution

Do not use an air tool to tighten the bolt of the special tool.

- (2) Align the edge of the coil spring to the position of the shock absorber spring seat as shown.

4. INSTALLATION OF BRACKET ASSEMBLY/1. PISTON-ROD TIGHTENING NUT

- (1) With the position of the bracket assembly as shown in the figure, tighten the tightening nut to the specified torque

Caution

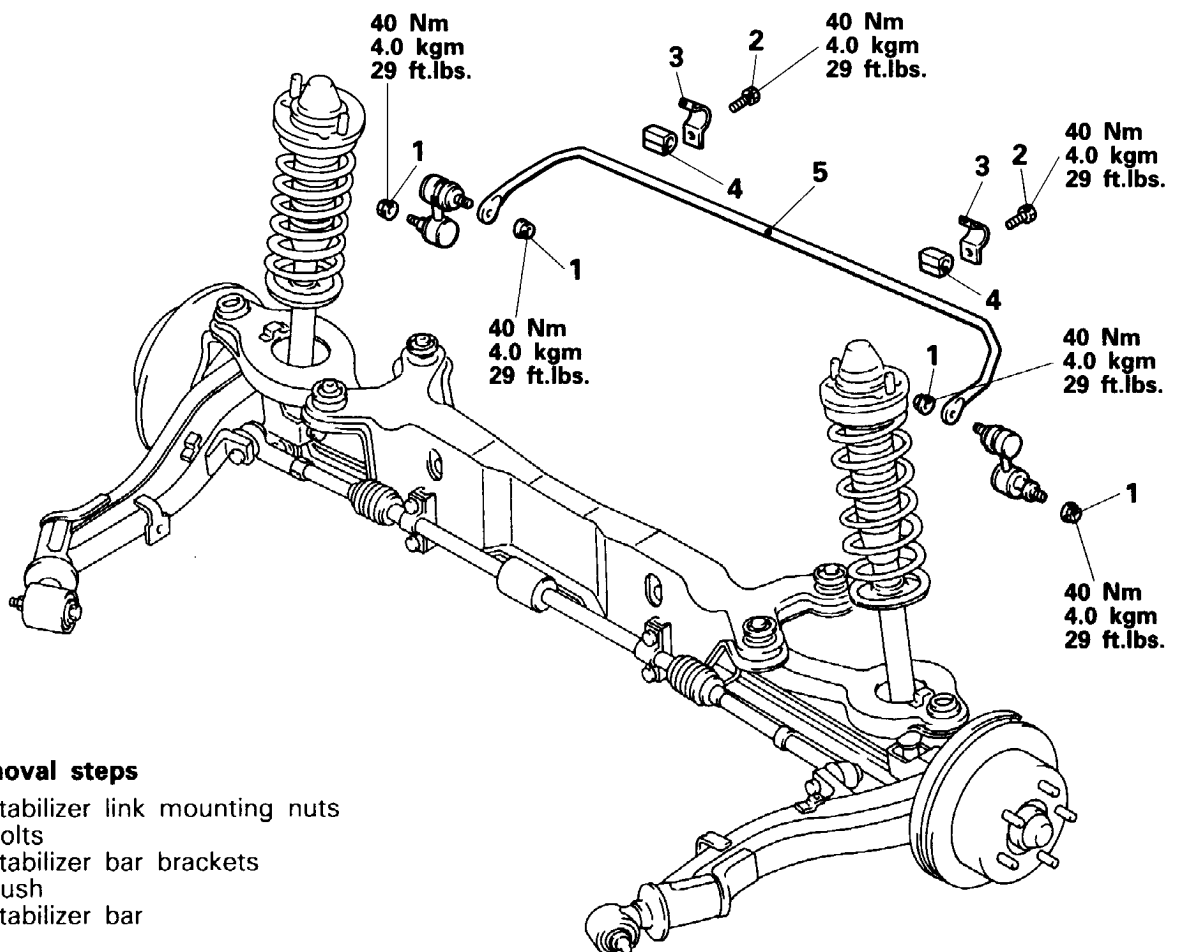
Do not use an air tool.

- (2) Install the coil spring so that the lower edge fits into the spring seat groove and the upper edge fits into the spring pad groove, then remove the special tools (MB991237 and MB991239).

STABILIZER BAR

E34KA---

REMOVAL AND INSTALLATION



Removal steps

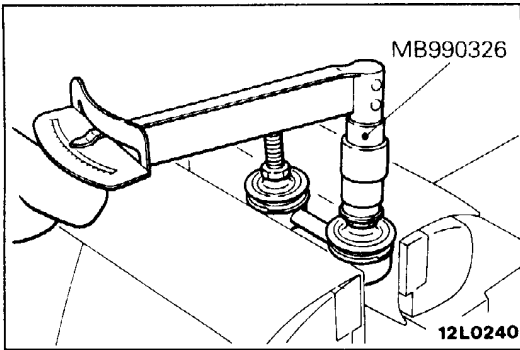
1. Stabilizer link mounting nuts
2. Bolts
3. Stabilizer bar brackets
4. Bush
5. Stabilizer bar

12N0119

INSPECTION

E34KC

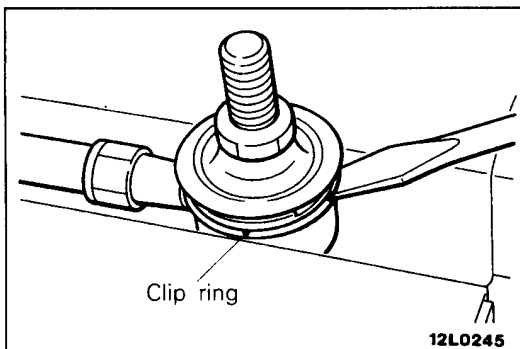
- Check the bushing for wear and deterioration.
- Check the stabilizer bar for deterioration or damage.
- Check the stabilizer link ball joint dust cover for crack.
- Check all bolts for condition and straightness.



CHECKING OF STABILIZER LINK BALL JOINT FOR STARTING TORQUE

With the special tool, measure the ball joint starting torque.

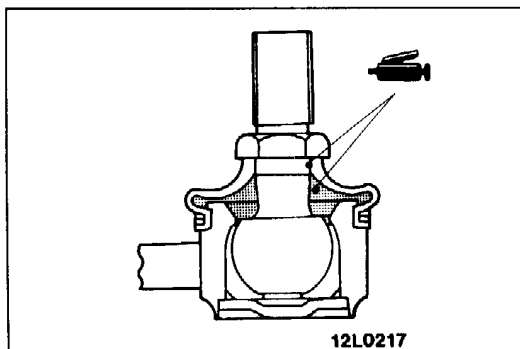
**Standard value: 1.7–3.2 Nm
(17–32 kgcm, 15–28 in.lbs.)**



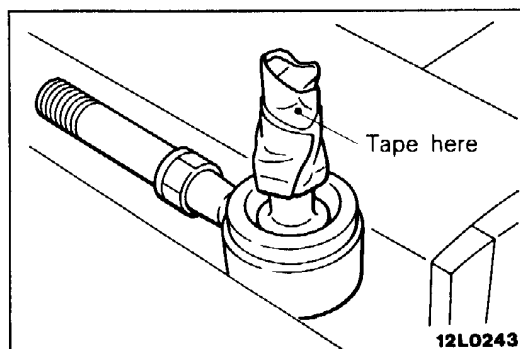
BALL JOINT DUST COVER REPLACEMENT

E34KEA-A

(1) Remove the clip ring and the dust cover.



(2) Apply multipurpose grease to the lip and inside of the dust cover.



(3) Use vinyl tape to tape the stabilizer link where shown in the illustration, and then install the dust cover to the stabilizer link.

(4) Secure the dust cover by the clip ring.