

GENERAL INFORMATION

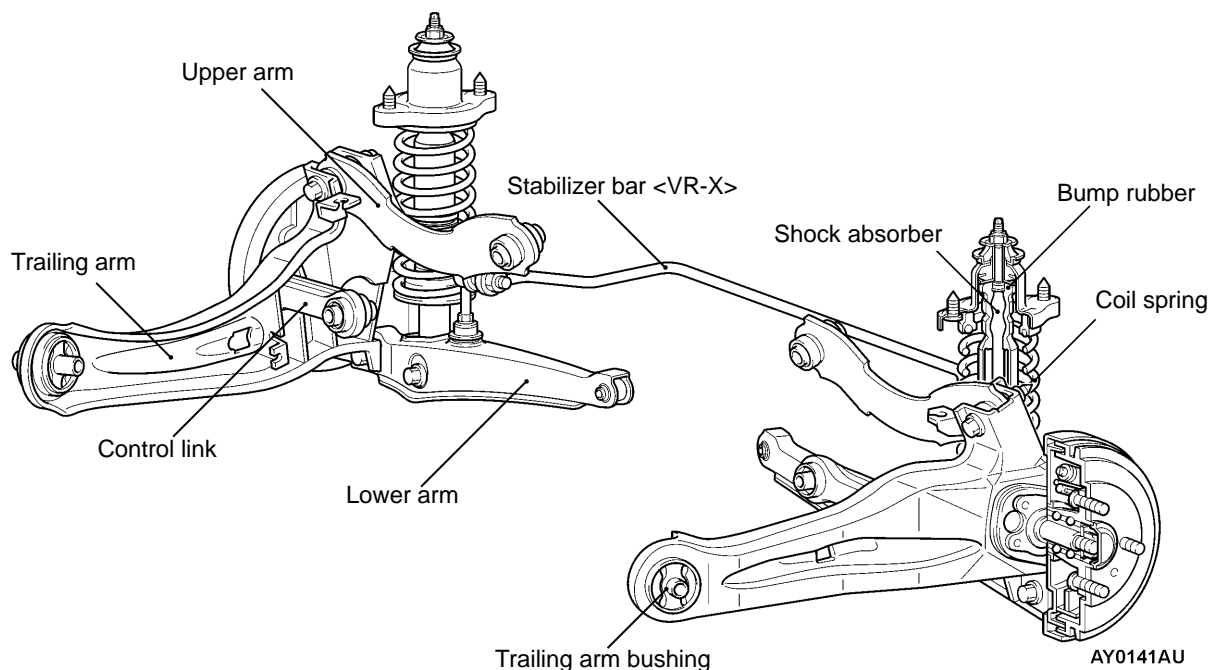
A trailing arm type multi-link suspension has been adopted as the rear suspension.

The shock absorber is a hydraulic, cylindrical double-acting type.

COIL SPRING

Item	Vehicles for Australia	
	GLX, EXCEED	VR-X
Wire diameter × average diameter × free length mm	10 × 90 × 350	10 × 90 × 360

CONSTRUCTION DIAGRAM



SERVICE SPECIFICATIONS

Items		Standard value
Toe-in	At the centre of tyre tread mm	3 ± 2
	Toe-angle (per wheel)	$0^{\circ}09' \pm 06'$
Camber		$-0^{\circ}40' \pm 30'^{*}$
Thrust angle		$0^{\circ}00' \pm 0^{\circ}09'$
Protruding length of stabilizer link bolt mm		6 – 8
Stabilizer link ball joint turning torque N·m		0.5 – 1.5

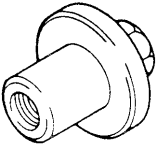
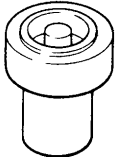
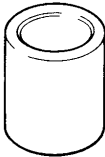
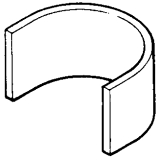
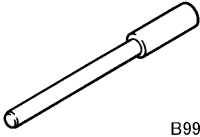
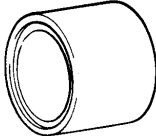
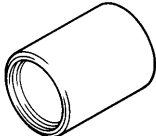
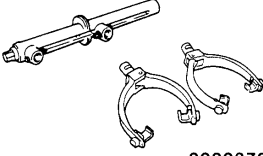
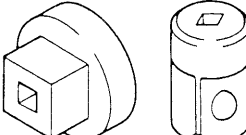
NOTE

*: difference between right and left wheels: less than $30'$

SPECIAL TOOLS

MAIN

Group
34

Tool	Number	Name	Use
	MB991004	Wheel alignment gauge attachment	Wheel alignment measurement <Vehicles with aluminium wheels>
	MB991447	Bushing remover and installer	Lower arm bushing removal and press-fitting
	MB991448	Bushing remover and installer base	
	MB991449	Bushing remover and installer supporter	
 B990947	MB990947	Lower arm bushing arbor	
	MB991816	Bushing remover and installer base	Trailing arm bushing removal and press-fitting
 B990890	MB990890	Rear suspension bushing base	
 00003796	A: MB991237 B: MB991239	A: Spring compressor body B: Arm set	
 B990326	MB990326	Preload socket	Stabilizer link ball joint turning torque measurement

ON-VEHICLE SERVICE

WHEEL ALIGNMENT CHECK AND ADJUSTMENT

1. The rear suspension, wheels and tyres should be serviced to normal condition prior to measurement of wheel alignment.
2. Measure the wheel alignment with the vehicle parked on a level surface.

TOE-IN

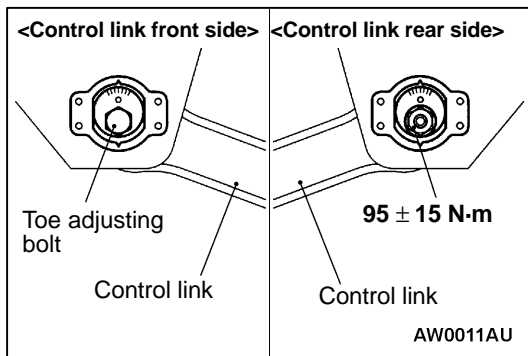
Standard value:

At the centre of tyre tread 3 ± 2 mm

Toe angle (per wheel) $0^{\circ}09' \pm 06'$

If toe-in is not within the standard value, adjust by following procedures.

- (1) Be sure to adjust the camber before making toe adjustment.



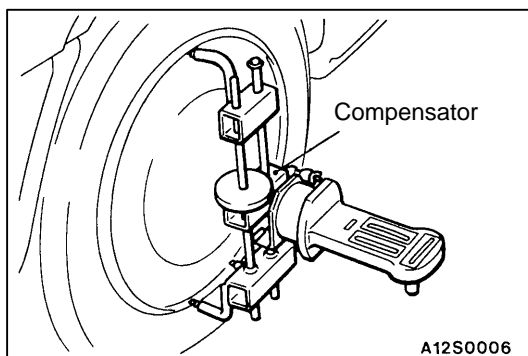
- (2) Carry out adjustment by turning the toe adjusting bolt (control link mounting bolt which is located on the inner side of the body).

Left wheel: Turning clockwise (+) toe-in

Right wheel: Turning clockwise (–) toe-in

NOTE

The scale has gradations of approximately 2.6 mm (single side toe angle equivalent to 16')



CAMBER

Standard value: $-0^{\circ}40' \pm 30'$

(difference between right and left wheel: less than 30')

NOTE

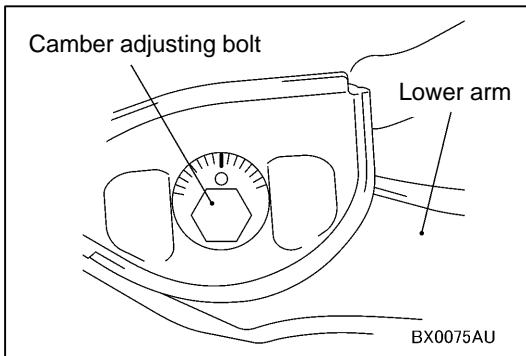
For vehicles with aluminium wheels, attach the camber/caster/kingpin gauge by using a compensator or special tool (MB991004). The special tool (MB991004) must be tightened to the trailing arm spindle to the specified torque 175 ± 25 N·m.

Caution

To prevent the wheel bearing from damage, never subject the wheel bearings to the vehicle load when the self-locking nuts are loosened.

If camber is not within the standard value, adjust by following procedures.

- (1) Disconnect the conjunction of the control link and the trailing arm.



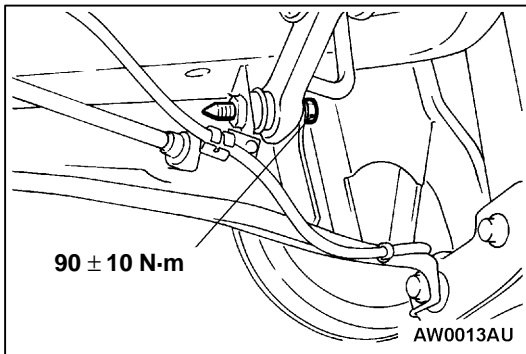
- (2) Carry out adjustment by turning the camber adjusting bolt (lower arm mounting bolt which is located on the inner side of the body).

Left wheel: Turning clockwise (+) camber

Right wheel: Turning clockwise (-) camber

NOTE

The scale has gradations of approximately 14'.



- (3) Tighten the control link to the trailing arm.

Caution

To prevent bushings from breakage, the connecting bolt should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.

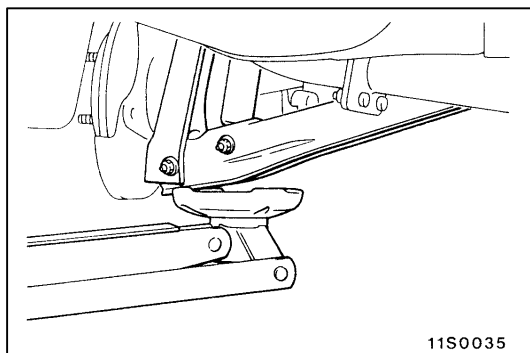
- (4) After adjusting the camber, the toe should be adjusted.

BALL JOINT DUST COVER CHECK

1. Check the dust cover for cracks or damage by pushing it with finger.
2. If the dust cover is cracked or damaged, replace the stabilizer link.

NOTE

Cracks or damage of the dust cover may cause damage of the ball joint.

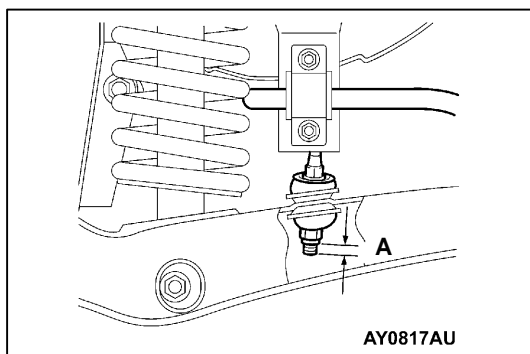


◀B▶ UPPER ARM REMOVAL

After supporting the lower arm with a jack, separate the upper arm and the trailing arm.

◀C▶ LOWER ARM AND TRAILING ARM DISCONNECTION

After supporting the lower arm with a jack, separate the lower arm and the trailing arm.

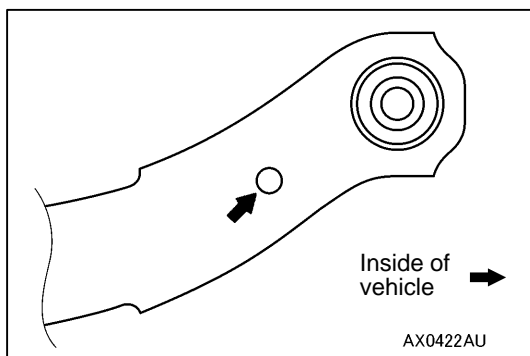


INSTALLATION SERVICE POINT

▶A◀ STABILIZER LINK CONNECTION <VEHICLES WITH STABILIZER BAR>

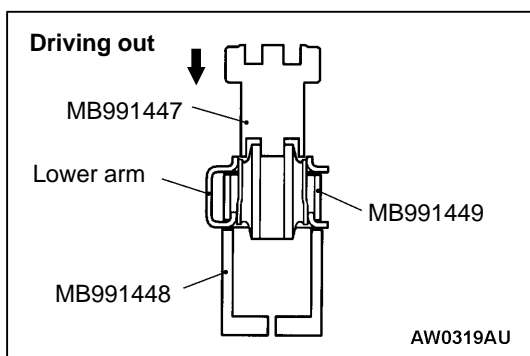
Tighten the self-locking nut so that the amount of protrusion of the end of the stabilizer link bolt is at the standard value.

Standard value (A): 6 – 8 mm



▶B◀ UPPER ARM INSTALLATION

Install the upper arm so that its hole faces inside of the vehicle.

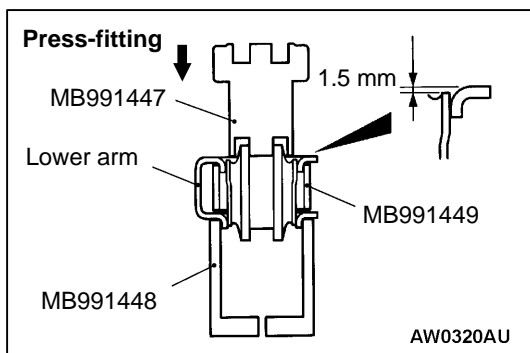


LOWER ARM BUSHING REPLACEMENT

Use the special tools to drive out and press fit the lower arm bushing.

Caution

Because the outside diameter of both edges of the bushing are different, be careful not to mistake the direction when driving out and press-fitting.



TRAILING ARM

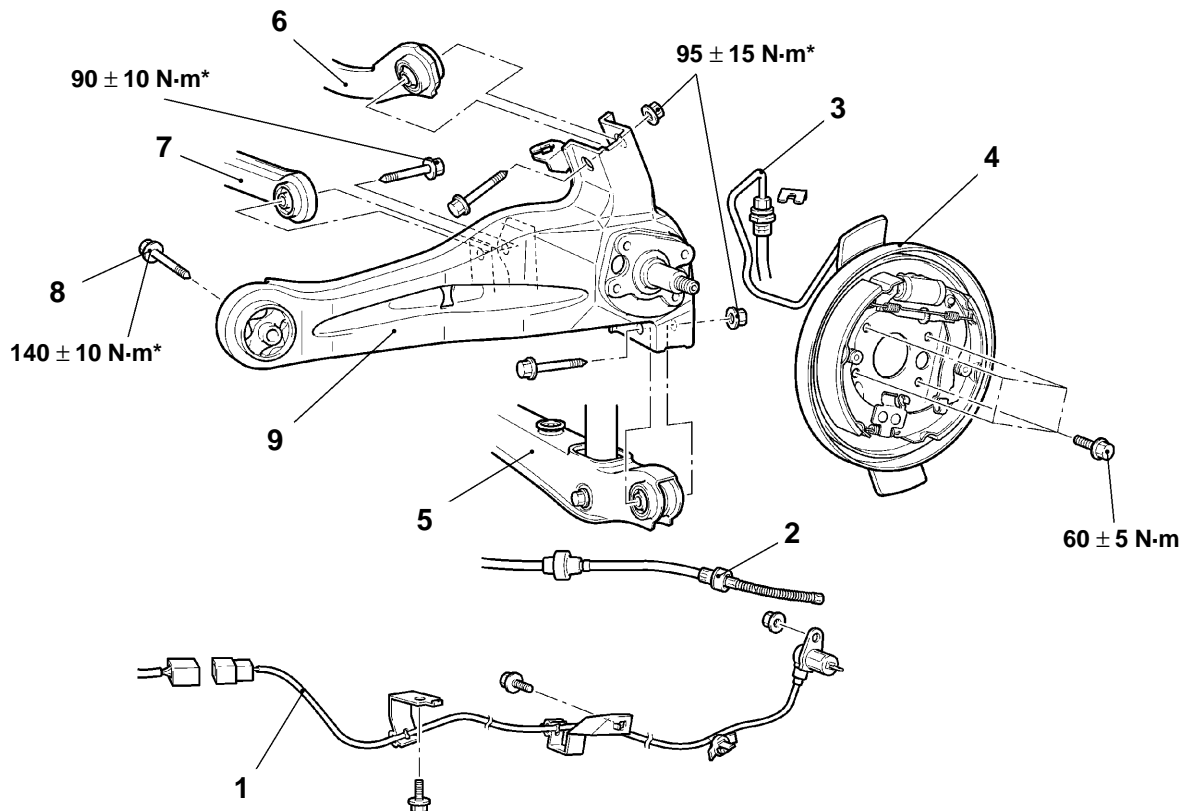
REMOVAL AND INSTALLATION

Caution

***: To prevent bushings from breakage, the parts indicated by * should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.**

Pre-removal and Post-installation Operation

Rear Hub Assembly Removal and Installation

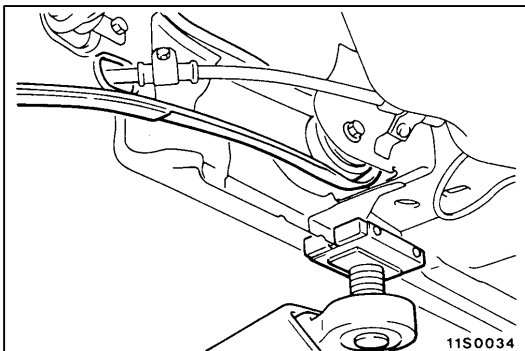


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Removal steps

- Lifting point
- 1. Rear wheel speed sensor
<Vehicles with ABS>
- 2. Parking brake cable connection
- 3. Brake hose and trailing arm connection
- 4. Rear brake assembly

5. Lower arm and trailing arm connection
6. Upper arm and trailing arm connection
7. Control link and trailing arm connection
8. Trailing arm and body connecting bolt
9. Trailing arm



REMOVAL SERVICE POINTS

◀A▶ LIFTING POINT

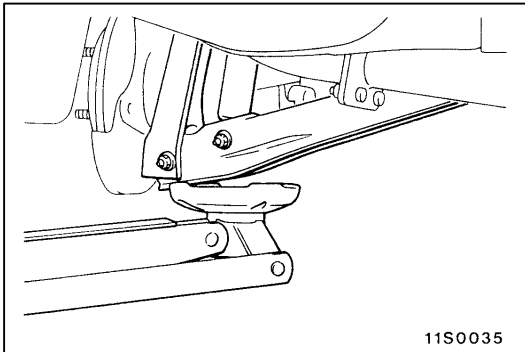
When removing the trailing arm, move the lifting arm slightly towards the front of the vehicle so that it will not be in the way.

◀B▶ REAR BRAKE ASSEMBLY REMOVAL

After removing the rear brake assembly, suspend it to the body with a cord to prevent it from dropping.

Caution

Be careful not to bend the brake pipe when suspending the rear brake assembly.

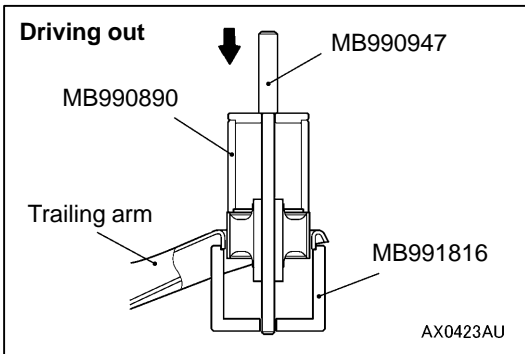


◀C▶ LOWER ARM AND TRAILING ARM DISCONNECTION

After supporting the lower arm with a jack, separate the lower arm and trailing arm connection.

TRAILING ARM BUSHING REPLACEMENT

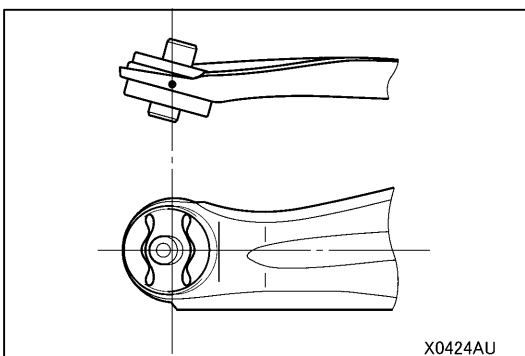
1. Use the special tools to drive out the trailing arm bushing.



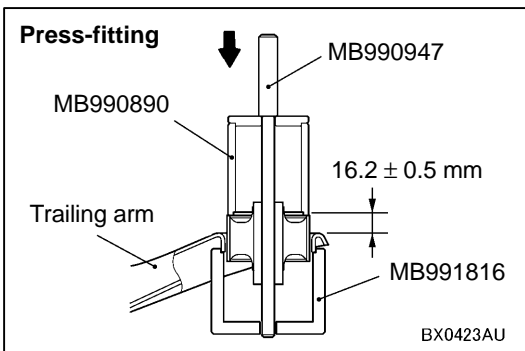
2. Set the installation direction and installation location of the trailing arm bushing.

(1) Place the long projection end of the trailing arm bushing inner pipe towards the inside of the vehicle.

(2) Make sure that the hollow of the trailing arm bushing is located as shown in the illustration.



3. Using the special tool, press the trailing arm bushing into the position shown.

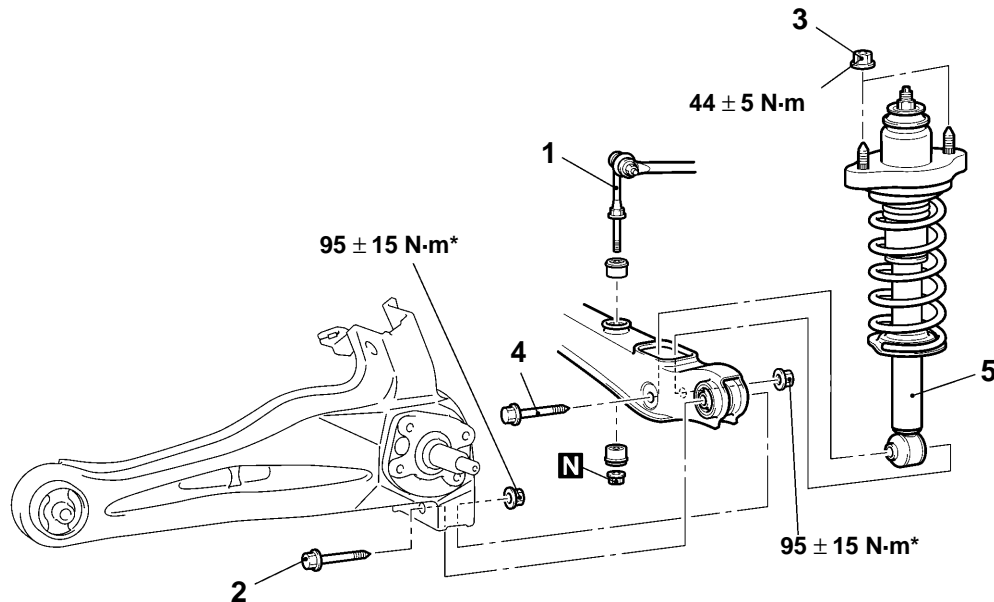


SHOCK ABSORBER ASSEMBLY

REMOVAL AND INSTALLATION

Caution

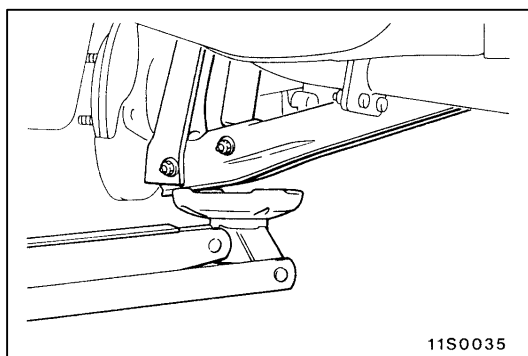
∗: To prevent bushings from breakage, the parts indicated by ∗ should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.



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Removal steps

- | | |
|---|--|
| <p>▶B◀ 1. Stabilizer link connection
<Vehicles with stabilizer bar></p> <p>◀A▶ 2. Lower arm and trailing arm connection</p> | <p>▶A◀ 3. Shock absorber mounting nut</p> <p>4. Shock absorber and lower arm connecting bolt</p> <p>5. Shock absorber assembly</p> |
|---|--|

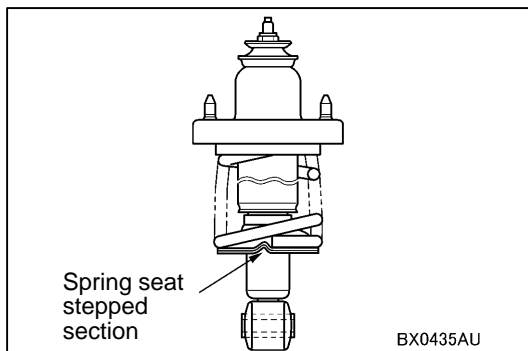


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REMOVAL SERVICE POINT

◀A▶ LOWER ARM AND TRAILING ARM DISCONNECTION

After supporting the lower arm with a jack, separate the lower arm and trailing arm connection.

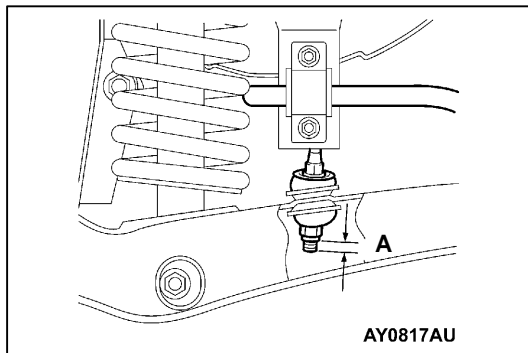


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INSTALLATION SERVICE POINTS

▶A◀ SHOCK ABSORBER ASSEMBLY INSTALLATION

Install the spring seat stepped section so that it points towards the rear side of the vehicle.

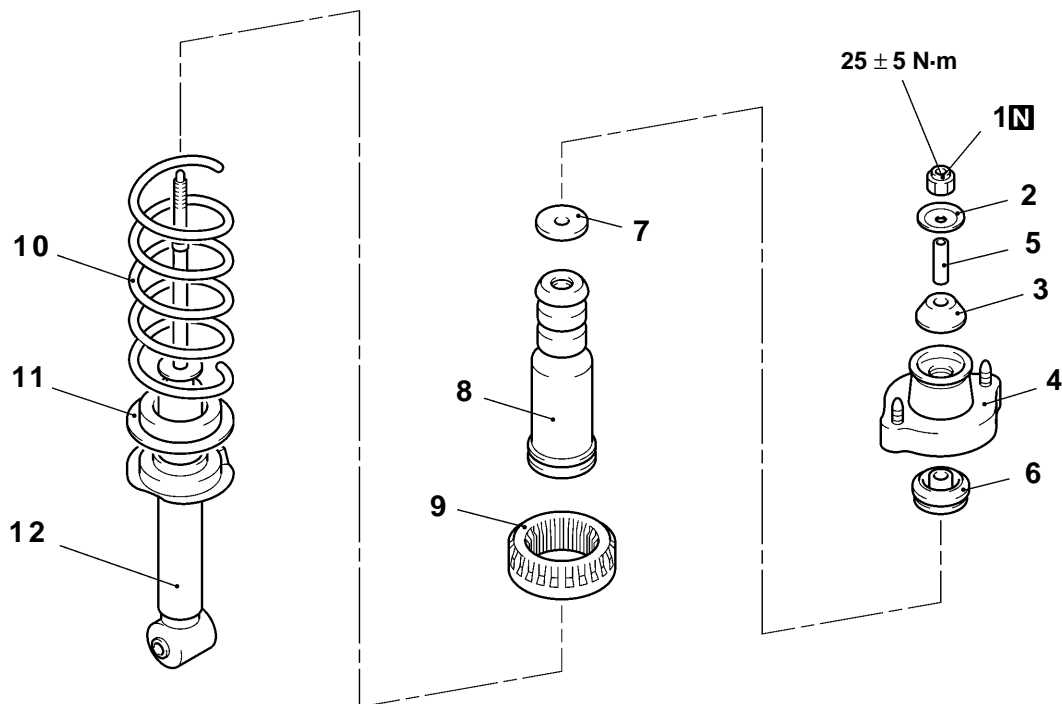


►B◄ STABILIZER LINK CONNECTION <VEHICLES WITH STABILIZER BAR>

Tighten the self-locking nut so that the amount of protrusion of the end of the stabilizer link bolt is at the standard value.

Standard value (A): 6 – 8 mm

DISASSEMBLY AND REASSEMBLY

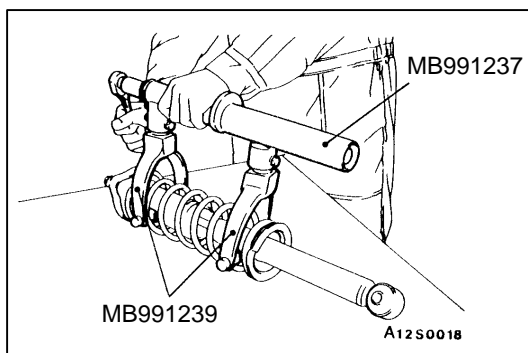


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Disassembly steps

- ◄A► ►D◄ 1. Self-locking nut
- 2. Washer
- 3. Upper bushing B
- C◄ 4. Bracket assembly
- 5. Collar
- 6. Upper bushing A

- 7. Plate
- 8. Bump rubber
- B◄ 9. Upper spring pad
- A◄ 10. Coil spring
- 11. Lower spring pad
- 12. Shock absorber



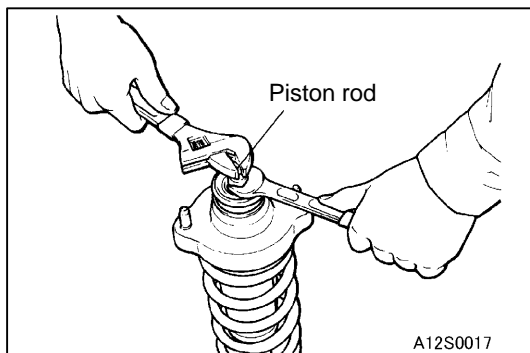
DISASSEMBLY SERVICE POINT

◄A► SELF-LOCKING NUT REMOVAL

1. Use the special tools to compress the coil spring.

Caution

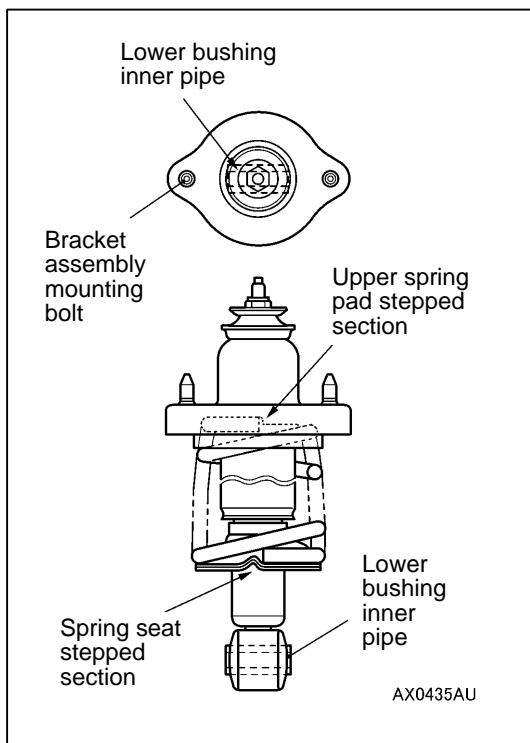
- (1) Install the special tools evenly, and so that the maximum length will be attained within the installation range.
- (2) Do not use an impact wrench as it will cause the bolt of the special tool to be seized.



2. Holding the piston rod, remove the self-locking nut.

Caution

To prevent the piston rod lock nut inside the strut from loosening, do not use an impact wrench when the self-locking nut is loosened.



REASSEMBLY SERVICE POINTS

►A◄ COIL SPRING INSTALLATION

1. Use the special tools (MB991237, MB991239) to compress the coil spring, and install it to the spring seat of the shock absorber.

Caution

Do not use an impact wrench as it will cause the bolt of the special tool to be seized.

2. Align the end of the coil spring with the stepped section of the spring seat of the shock absorber.

►B◄ UPPER SPRING PAD INSTALLATION

Align the stepped section of the upper spring pad with the end of the coil spring, and install the upper spring pad.

►C◄ BRACKET ASSEMBLY INSTALLATION

Install the bracket assembly so that the lower bushing inner pipe of the shock absorber and the line between the bracket mounting bolts are straight when looking from above.

►D◄ SELF-LOCKING NUT INSTALLATION

1. Provisionally tighten the self-locking nut.
2. After removing the special tools (MB991237, MB991239), tighten the self-locking nut to the specified torque.

Specified torque: 25 ± 5 N·m

Caution

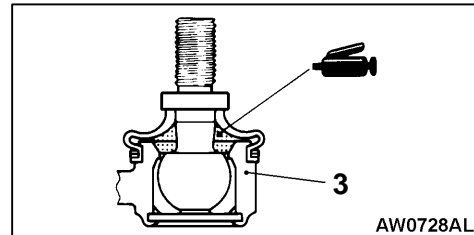
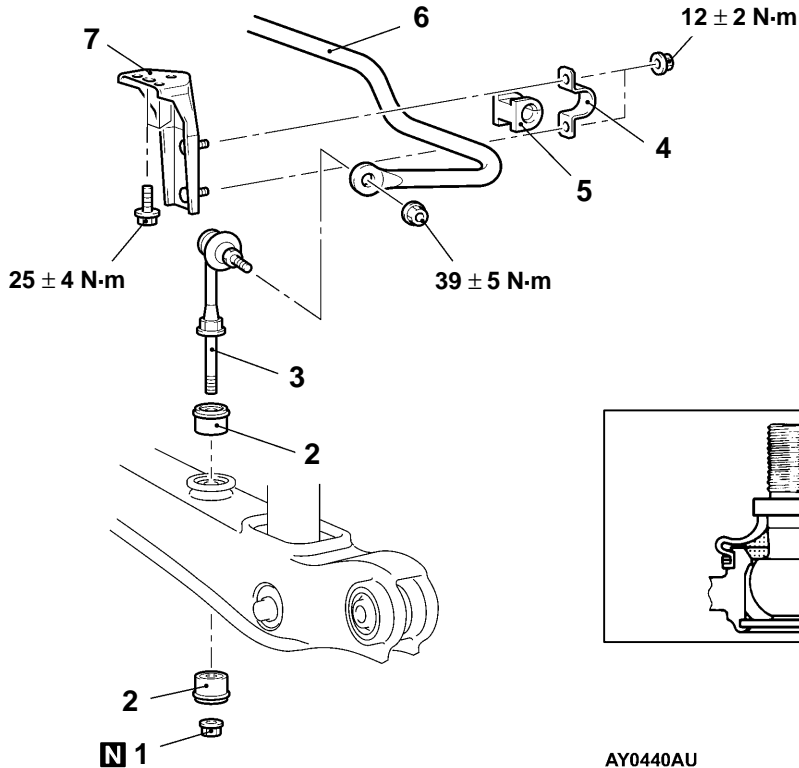
To prevent the piston rod lock nut inside the strut from loosening, do not use an impact wrench when the self-locking nut is tightened.

STABILIZER BAR

REMOVAL AND INSTALLATION

Post-installation Operations

Press the dust cover with your finger to check that there are no cracks or damage in the dust cover.

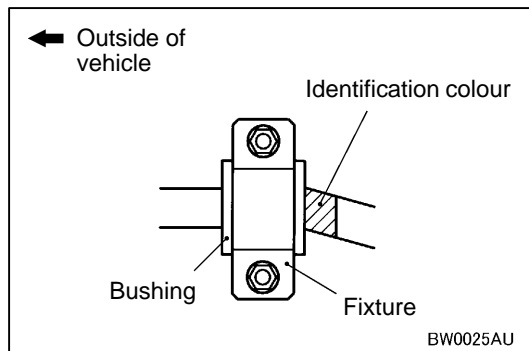


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Removal steps

- B◄ 1. Self-locking nut
- 2. Stabilizer rubber
- 3. Stabilizer link
- A◄ 4. Fixture

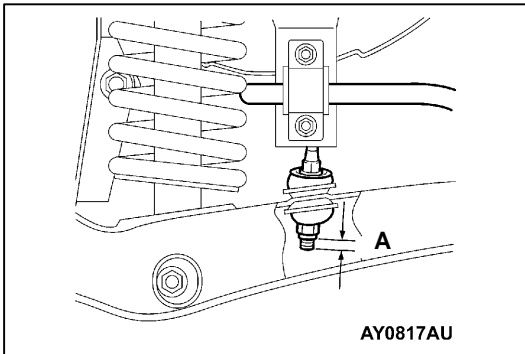
- A◄ 5. Bushing
- 6. Stabilizer bar
- 7. Stabilizer bracket



INSTALLATION SERVICE POINTS

►A◄ STABILIZER BAR/BUSHING/FIXTURE INSTALLATION

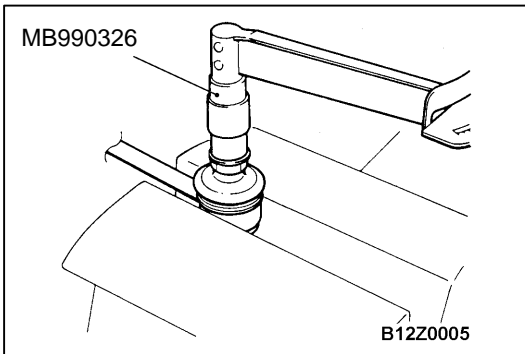
Align the identification colour on the left side of the stabilizer bar with the right end of the bushing.



►B◄ SELF-LOCKING NUT INSTALLATION

Tighten the self-locking nut so that the amount of protrusion of the end of the stabilizer link bolt is at the standard value.

Standard value (A): 6 – 8 mm



INSPECTION

STABILIZER LINK BALL JOINT TURNING TORQUE CHECK

1. After shaking the ball joint stud several times, install the nut to the stud and use the special tool to measure the turning torque of the ball joint.

Standard value: 0.5 – 1.5 N·m

2. When the measured value exceeds the standard value, replace the stabilizer link.
3. When the measured value is lower than the standard value, check that the ball joint turns smoothly without excessive play. If so, it is possible to reuse that ball joint.

STABILIZER LINK BALL JOINT DUST COVER CHECK

1. Check the dust cover for cracks or damage by pushing it with finger.
2. If the dust cover is cracked or damaged, replace the stabilizer link.

NOTE

Cracks or damage of the dust cover may cause damage of the ball joint. When it is damaged during service work, replace the dust cover.

STABILIZER LINK BALL JOINT DUST COVER REPLACEMENT

Only when the dust cover is damaged accidentally during service work, replace the dust cover as follows:

1. Remove the clip ring and the dust cover.
2. Apply multipurpose grease to the inside of the dust cover.
3. Wrap plastic tape around the stabilizer link stud, and then install the dust cover to the stabilizer link.
4. Secure the dust cover by the clip ring.
5. Check the dust cover for cracks or damage by pushing it with finger.

