

# REAR SUSPENSION

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110003134

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## GENERAL INFORMATION

110003135

The rear suspension is a trailing arm type multi-link suspension. The shock absorber used on the strut

assembly is a hydraulic, cylindrical double-acting type.

## Coil spring

&lt;2-door models&gt;

Items	1.5L Engine	1.8L Engine
Wire dia. × O.D. × free length mm (in.)	9.5 × 96.5 × 359 (.37 × 3.80 × 14.13) 9.6 × 96.4 × 369* (.38 × 3.80 × 14.53)	9.6 × 96.4 × 369 (.38 × 3.80 × 14.53)
Identification color	Light blue, Green*	Green
Spring constant N/mm (lbs./in.)	16.0 (90), 15.9 (89)*	15.9 (89)

## NOTE

\*: CA2ADNDEL, CA2ADKDEL &lt;Up to 1994 models&gt;

&lt;4-door models&gt;

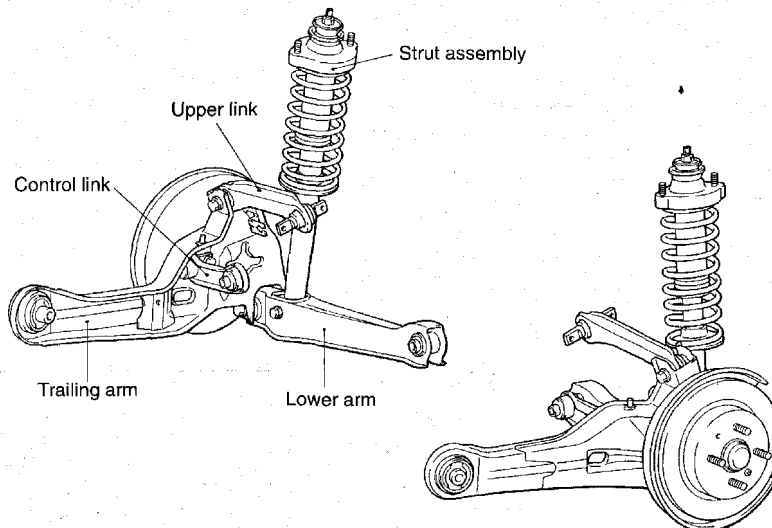
Items	1.5L Engine	1.8L Engine
Wire dia. × O.D. × free length mm (in.)	9.6 × 96.4 × 369 (.38 × 3.80 × 14.53)	9.7 × 95.7 × 379 (.38 × 3.77 × 14.92)
Identification color	Green	Yellow green
Spring constant N/mm (lbs./in.)	15.9 (89)	15.8 (88)

## Shock absorber

Items	2-door models	4-door models
Stroke mm (in.)	175 (6.9)	175 (6.9)
Damping force [at 0.3 m/sec. (.9 ft./sec.)]	Expansion N (lbs.)	800 (176)
	Contraction N (lbs.)	300 (66)

## CONSTRUCTION DIAGRAM

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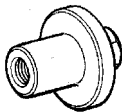
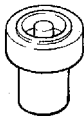
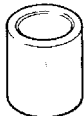
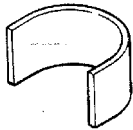
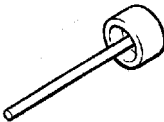

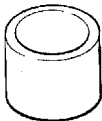
**SERVICE SPECIFICATIONS**

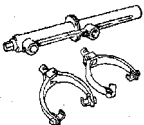
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Items	Standard value
Toe-in mm (in.)	3 ± 2 (.12 ± .08)
Camber (The difference between the left and right wheels should be 30' or less)	-0°40' ± 30'
Clearance between the rear speed sensor's pole piece and the rotor's toothed surface mm (in.)	0.3–0.9 (.012–.035)

**SPECIAL TOOLS**

110003138

Tool	Tool number and name	Supersession	Application
	MB991014 Wheel alignment gauge attachment		Measurement of the wheel alignment (Vehicles with aluminum type wheels)
	MB991447 Bushing remover and installer	Tool not available	Driving out and press-fitting of lower arm bushing
	MB991448 Bushing remover and installer base		
	MB991449 Bushing remover and installer supporter		
	MB991444 Bushing remover and installer arbor	Tool not available	Driving out and press-fitting of trailing arm bushing
	MB991445 Bushing remover and installer base		
	MB991446 Bushing remover and installer spacer		

Tool	Tool number and name	Supersession	Application
	MB991237 Spring compressor body MB991238 Arm set	MIT62220	Compression of the front coil spring

## TROUBLESHOOTING

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Symptom	Probable cause	Remedy
Squeaks or other abnormal noise	Loose rear suspension installation bolts and nuts	Retighten
	Malfunction of shock absorber	Replace
	Worn bushings	
	Upper links and/or lower arms and/or control links deformed or damaged	
	Trailing arms deformed or damaged	
Poor ride	Excessive tire inflation pressure	Adjust the pressure
	Malfunction of shock absorber	Replace
	Weak or broken springs	
Body tilting	Weak or deteriorated bushings	Replace
	Weak or broken springs	
	Upper links and/or lower arms and/or control links deformed or damaged	
	Trailing arms deformed or damaged	

## SERVICE ADJUSTMENT PROCEDURES

110003140

### REAR WHEEL ALIGNMENT INSPECTION AND ADJUSTMENT

Measure the wheel alignment with the vehicle parked on level ground.

The rear suspension and wheels should be serviced to the normal condition prior to measurement of wheel alignment.

#### CAMBER

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

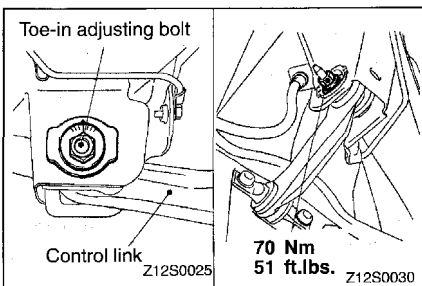
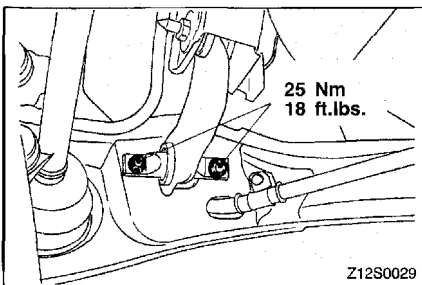
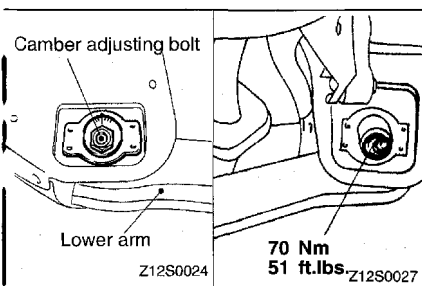
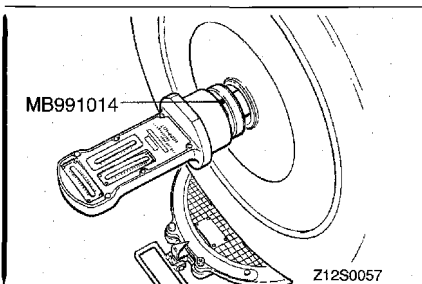
**(The difference between the left and right wheels should be 30' or less.)**

#### NOTE

For vehicles equipped with aluminum wheels, measure the camber after tightening the special tool (MB991014) to the specified torque [180 Nm (130 ft.lbs.)].

#### Caution

**Never subject the wheel bearings to the full vehicle load when the flange nuts are loosened.**



If outside the standard value, adjust by the following procedure.

- (1) Remove the connection between the control link and the trailing arm.
- (2) Adjust by turning the camber adjusting bolt (mounting bolt for the lower arm).

Left wheel: clockwise + camber

Right wheel: clockwise – camber

The scale has gradations of approximately 14'

- (3) Tighten the control link to the trailing arm at the specified torque.
- (4) After adjusting the camber, be sure to adjust the toe-in.

#### TOE-IN

**Standard value:**  $3 \pm 2 \text{ mm } (.12 \pm .08 \text{ in.})$

If outside the standard value, adjust by the following procedure.

- (1) Be sure to adjust the camber before adjusting the toe-in.
- (2) Adjust by turning the toe adjusting bolt (mounting bolt on the inside of the control link).

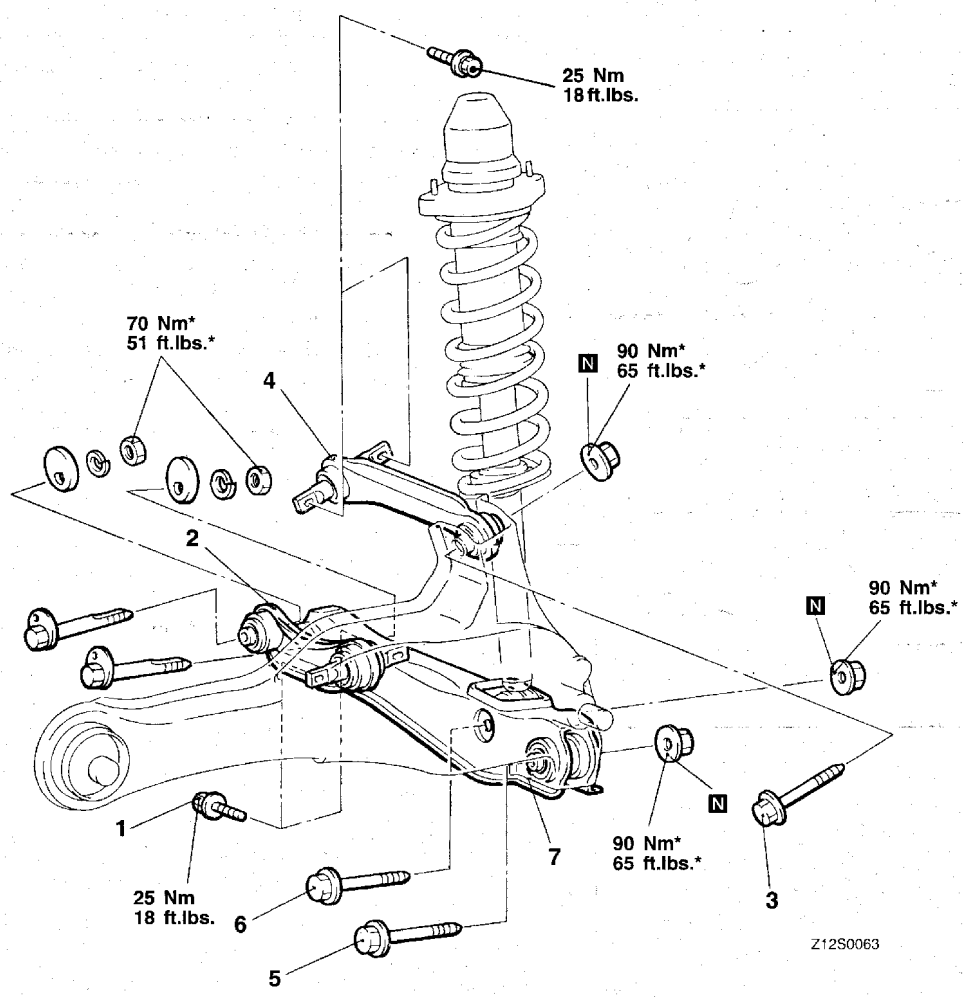
LH: Turning clockwise → toe-in direction

RH: Turning clockwise → toe-out direction

The scale has gradations of approximately 2.6 mm (.102 in.) (single side toe angle equivalent to 16').

# CONTROL LINK, UPPER LINK AND LOWER ARM REMOVAL AND INSTALLATION

**Post-installation Operation**  
 • Wheel Alignment Check (Refer to P. 34-5.)



Z12S0063

**Control link removal steps**

◀A▶

1. Control link and trailing arm connection
2. Control link

**Upper link removal steps**

◀B▶

3. Upper link and trailing arm connection
4. Upper link

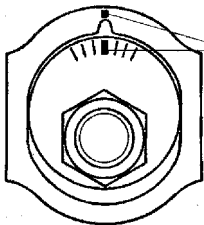
**Lower arm removal steps**

◀C▶

1. Control link and trailing arm connection
5. Lower arm and trailing arm connection
6. Shock absorber assembly and lower arm connection
7. Lower arm

◀A▶

**Caution**  
 \* Indicates parts which should be temporarily tightened and then fully tightened with the vehicles on the ground in the unladen condition.



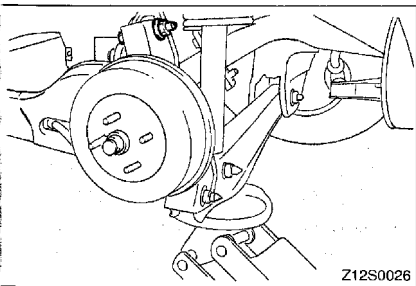
Mating marks

Z13S0052

**REMOVAL SERVICE POINTS**

**◀A▶ CONTROL LINK / LOWER ARM REMOVAL**

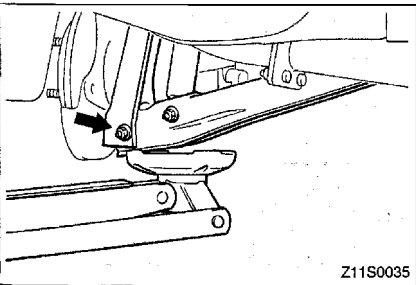
After making a mating mark on the toe-in or camber adjusting bolt, remove the control link and lower arm.



Z12S0026

**◀B▶ UPPER LINK AND TRAILING ARM DISCONNECTION**

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



Z11S0035

**◀C▶ LOWER ARM AND TRAILING ARM DISCONNECTION**

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

**INSPECTION**

- Check the bushing for wear and deterioration.
- Check the control link upper link and lower arm for bends or breakage.
- Check all bolts for condition and straightness.

**LOWER ARM BUSHING REPLACEMENT**

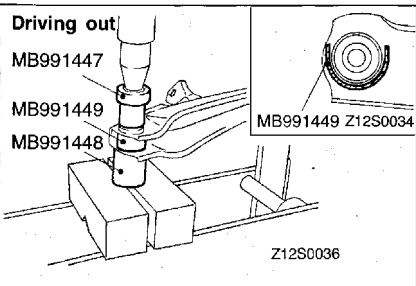
Use the special tools to drive out and press-fit the lower arm bushing.

**NOTE**

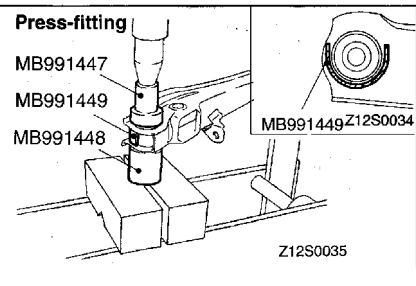
If the special tool (MB991449) is hard to install, tap it with a plastic hammer.

**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.



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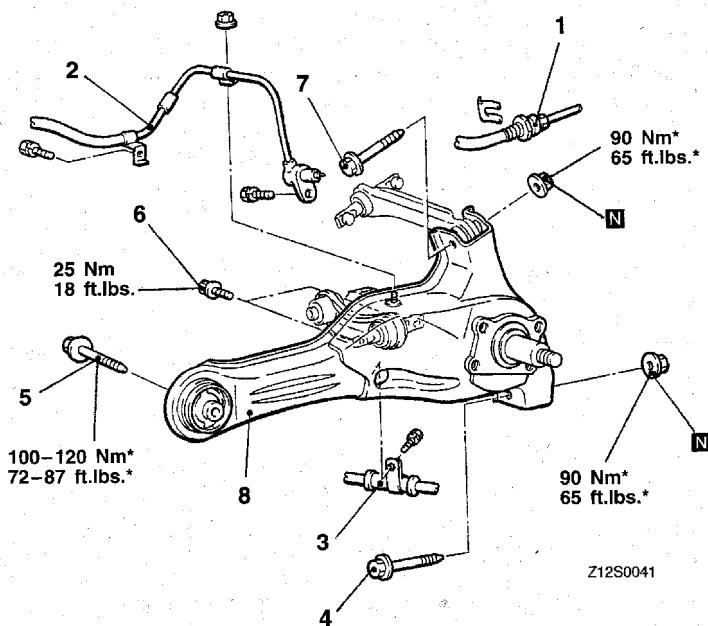
Z12S0035

## TRAILING ARM

## REMOVAL AND INSTALLATION

**Pre-removal and Post-installation Operation**

- Rear Drum Brake or Rear Disc Brake Removal and Installation (Refer to GROUP 35 – Rear Drum Brake or Rear Disc Brake.)
- Rear Axle Hub Removal and Installation (Refer to GROUP 27 – Rear Axle Hub.)

**Removal steps**

- ◀A▶ ▶A▶
1. Brake hose
  2. Rear speed sensor <Vehicles with ABS>
  3. Parking brake cable
  4. Lower arm and trailing arm connection
  5. Trailing arm and body connection
  6. Control link and trailing arm connection
  7. Upper link and trailing arm connection
  8. Trailing arm

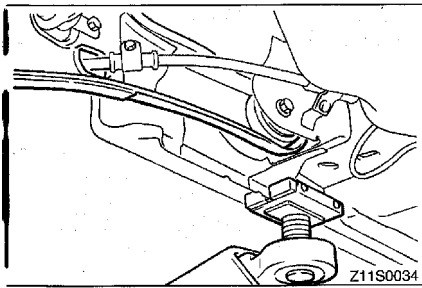
**Caution**

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

**REMOVAL SERVICE POINTS**

● **LIFTING POINT**

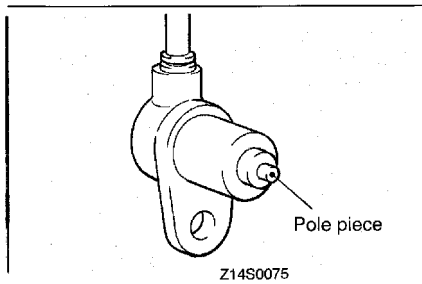
When removing the trailing arm, move the lifting arm slightly towards the front of the vehicle so that it will not be in the way.



◀▶ **REAR SPEED SENSOR REMOVAL**

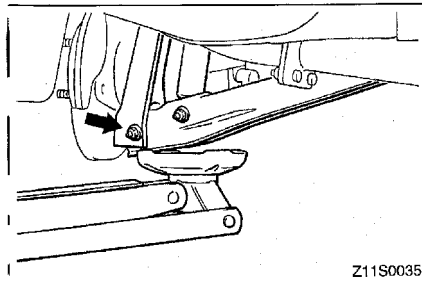
**Caution**

When removing the speed sensor, be careful that the pole piece at the end does not touch the surface of the rotor teeth or other parts.



◀▶ **LOWER ARM AND TRAILING ARM DISCONNECTION**

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

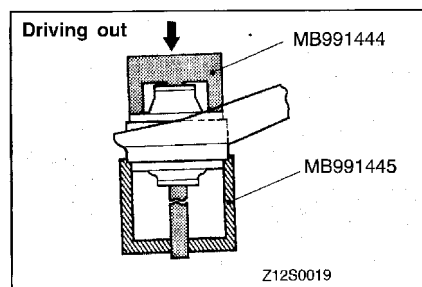


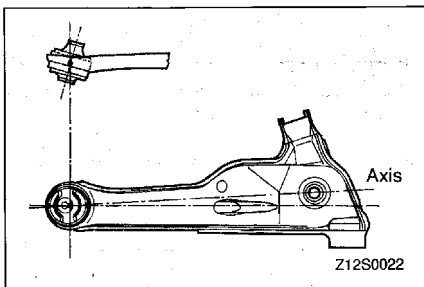
**INSPECTION**

- Check trailing arm for cracks and deformation.
- Check bushing for cracks, deterioration and wear.

**TRAILING ARM BUSHING REPLACEMENT**

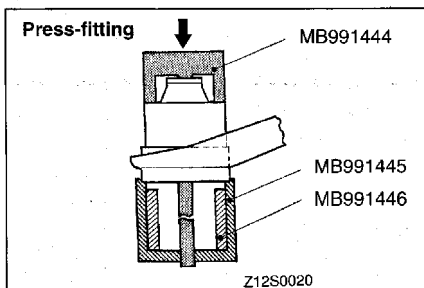
- (1) Use the special tools to drive out the trailing arm bushing.



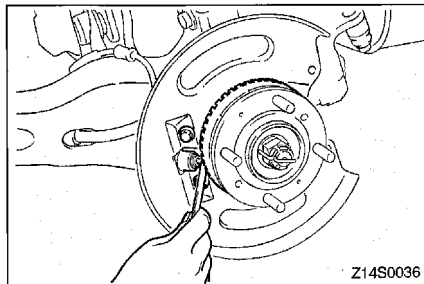


(2) Set the installation direction and installation location of the trailing arm bushing.

1. Place the long projecting end of the trailing arm bushing inner pipe towards the inside of the vehicle.
2. Set so that the trailing arm bushing is symmetrical to the axis between the center of the trailing arm bushing and the center of the spindle.



(3) Use the special tools to press-fit the trailing arm bushing.



## INSTALLATION SERVICE POINT

### ▶◀ REAR SPEED SENSOR INSTALLATION

Insert a feeler gauge into the space between the speed sensor's pole piece and the rotor's toothed surface, and then tighten the sensor bracket at the position where the clearance is the standard value all around.

**Standard value: 0.3–0.9 mm (.012–.035 in.)**

#### Caution

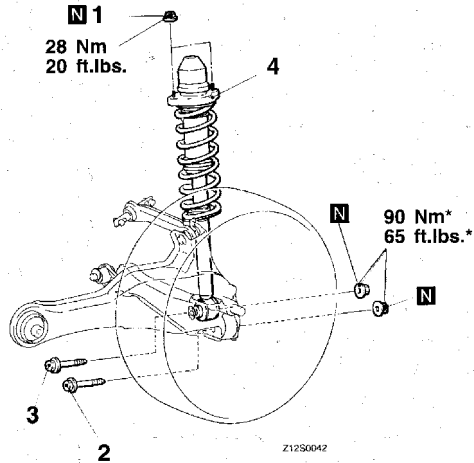
**Be careful that the pole piece at the end of the speed sensor and the surface of the rotor teeth do not become damaged by touching metal parts, etc.**

# STRUT ASSEMBLY

## REMOVAL AND INSTALLATION

### Pre-removal and Post-installation Operation

- Quarter Trim Lid Removal and Installation (Refer to GROUP 52A – Trim.)



### Removal steps

1. Self-locking flange nut
2. Lower arm and trailing arm connection
3. Shock absorber assembly and lower arm connection
4. Strut assembly

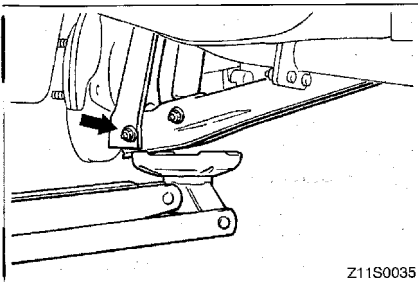
### Caution

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

## REMOVAL SERVICE POINT

### ◀▶ LOWER ARM AND TRAILING ARM DISCONNECTION

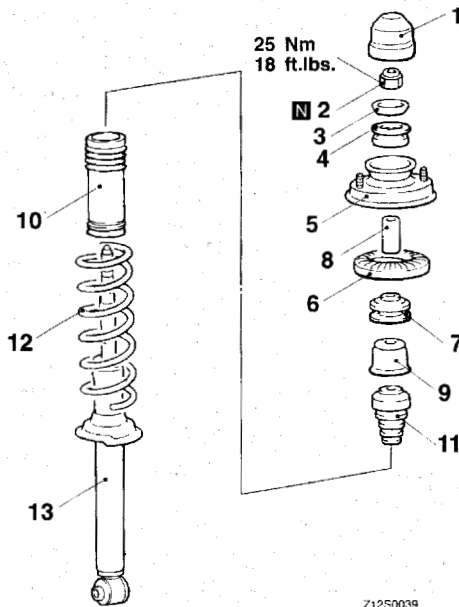
After supporting the lower arm with a jack, separate the lower arm and trailing arm connection.



## INSPECTION

- Check the rubber parts for cracks and wear.
- Check the shock absorber for malfunctions, oil leakage or abnormal noise.

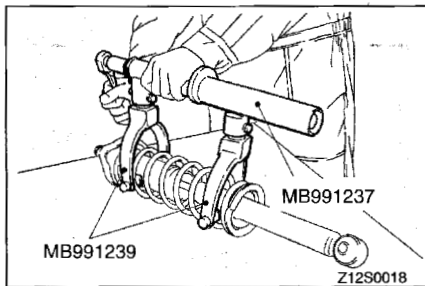
## DISASSEMBLY AND REASSEMBLY



## Disassembly steps

1. Cap  
 2. Self-locking nut  
 3. Washer  
 4. Upper bushing B  
 5. Bracket  
 6. Spring pad

7. Upper bushing A  
 8. Collar  
 9. Cup  
 10. Dust cover  
 11. Bump rubber  
 12. Coil spring  
 13. Shock absorber



## DISASSEMBLY SERVICE POINT

## ◀▶ SELF-LOCKING NUT REMOVAL

- (1) Use the special tools to compress the coil spring.

## NOTE

Install the special tools evenly, and so that the maximum length will be attained within the installation range.

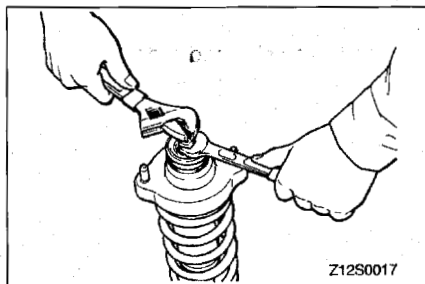
## Caution

**Do not use an impact wrench to tighten the special tool bolt.**

- (2) Holding the piston rod, loosen the self-locking nut.

## Caution

**Do not use an impact wrench.**



## INSPECTION

- Check the rubber parts for damage.
- Check the coil springs for cracks, damage or deterioration.

## REASSEMBLY SERVICE POINTS

## ►A◀ COIL SPRING INSTALLATION

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

**Caution**

**Do not use an impact wrench to tighten the special tool bolt.**

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

## ►B◀ SPRING PAD INSTALLATION

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

## ►C◀ BRACKET INSTALLATION

Install the bracket 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.

**Caution**

**Do not use an impact wrench.**

