REAR SUSPENSION

CONTENTS

34109000046

GENERAL INFORMATION

34100010048

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

Items	Specifications
Wire dia. × O.D. × free length mm	10×87×385

CONSTRUCTION DIAGRAMS

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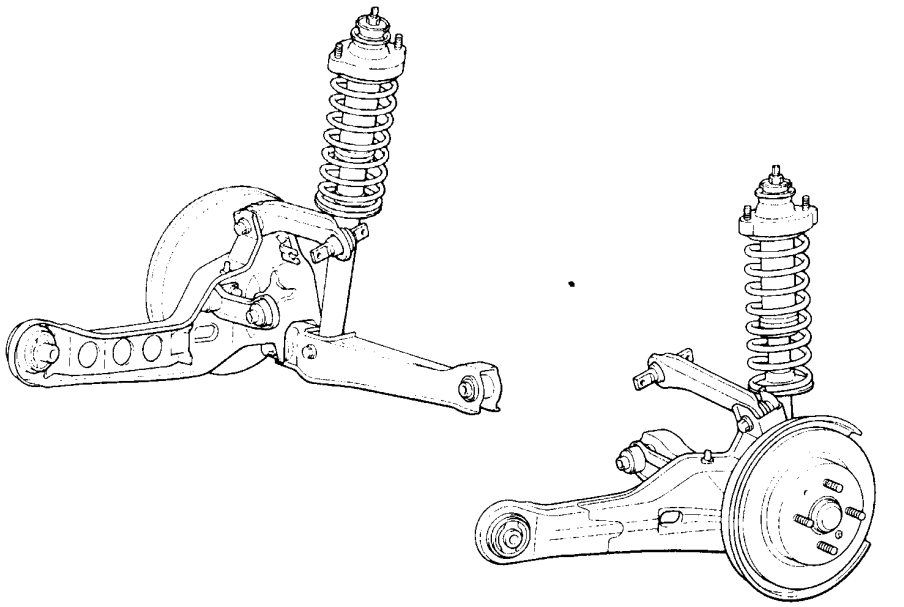

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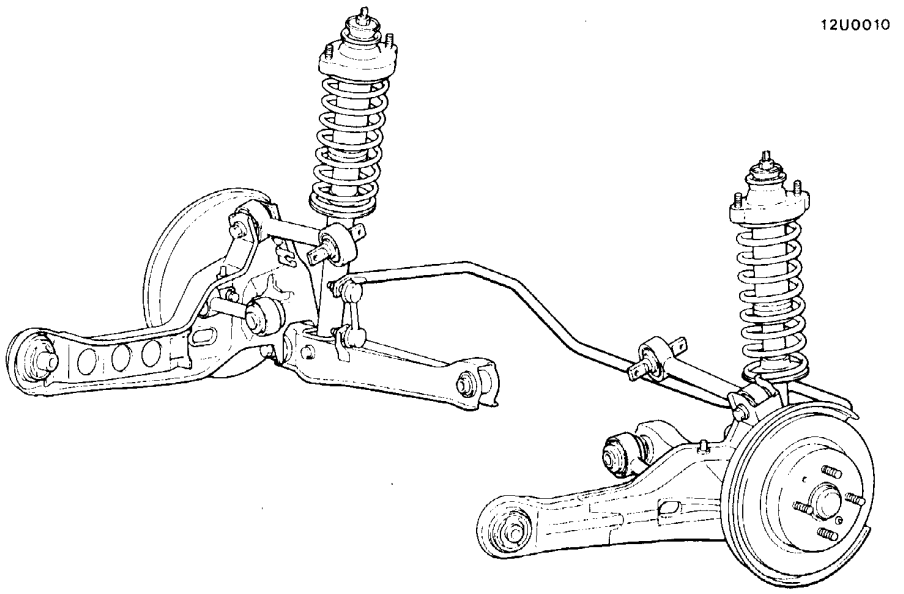

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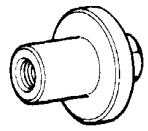
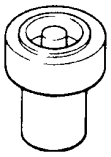
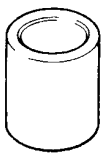
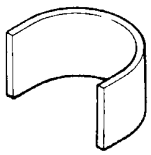
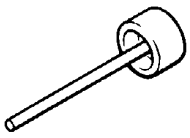
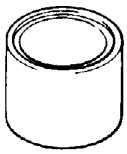
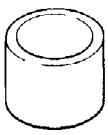
SERVICE SPECIFICATIONS

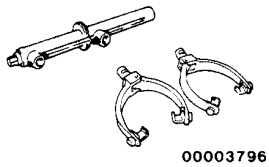
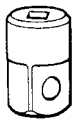
34100030051

Items		Specifications
Toe-in	At the centre of tyre tread mm	3±2
	Toe-angle (per wheel)	0°09'±06'
Camber		−0°40'±30'
Stabilizer link ball joint turning torque Nm		1.7−3.1
Clearance between rear speed sensor pole piece and rotor mm		0.3−0.9

SPECIAL TOOLS

34100060043

Tool	Number	Name	Use
	MB991004	Wheel alignment gauge attachment	Measurement of the wheel alignment (Vehicles with aluminium type wheels)
	MB991447	Bushing remover and installer	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	Driving out and press-fitting of trailing arm bushing
	MB991445	Bushing remover and installer base	
	MB991446	Bushing remover and installer spacer	

Tool	Number	Name	Use
 00003796	MB991237 MB991239	Spring compressor body Arm set	Compression of the front coil spring
	MB990326	Preload socket	Checking of stabilizer link ball joint for turning torque
	MB990685	Torque wrench	

ON-VEHICLE SERVICE

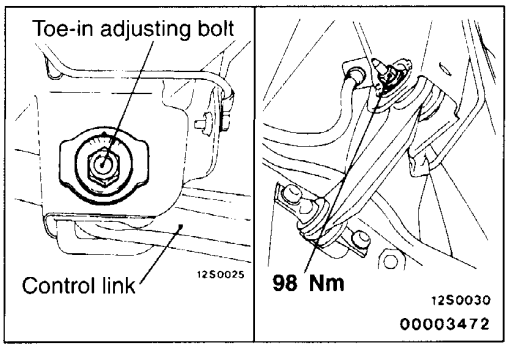
33100100045

REAR WHEEL ALIGNMENT CHECK 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.

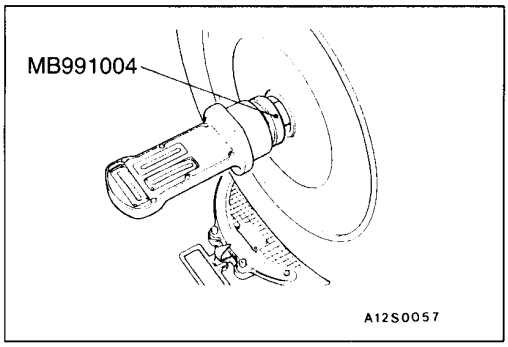
TOE-IN

Standard value:
At the centre of tyre tread 3±2 mm
Toe angle (per wheel) 0°09'±06'



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 (single side toe angle equivalent to 16')

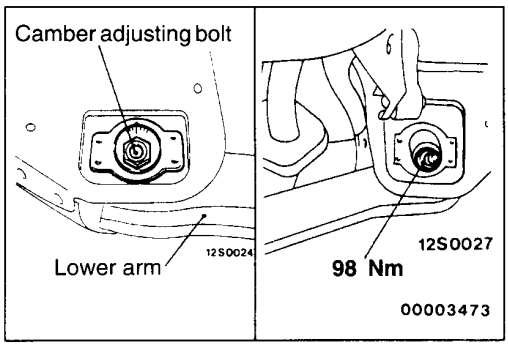


CAMBER

Standard value: –0°40'±30'
(The difference between the left and right wheels should be 30' or less.)

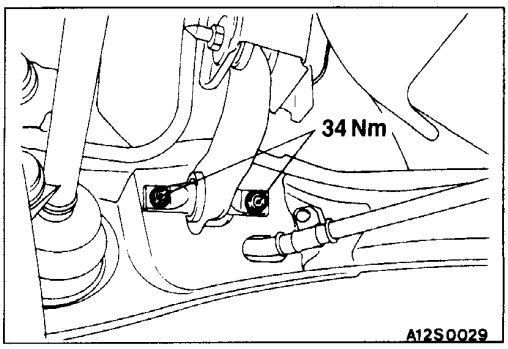
NOTE
For vehicles equipped with aluminium wheels, measure the camber after tightening the special tool (MB991004) to the specified torque 180 Nm.

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 and rear crossmember).

Left wheel: clockwise + camber
Right wheel: clockwise – camber
The scale has gradations of approximately 14'



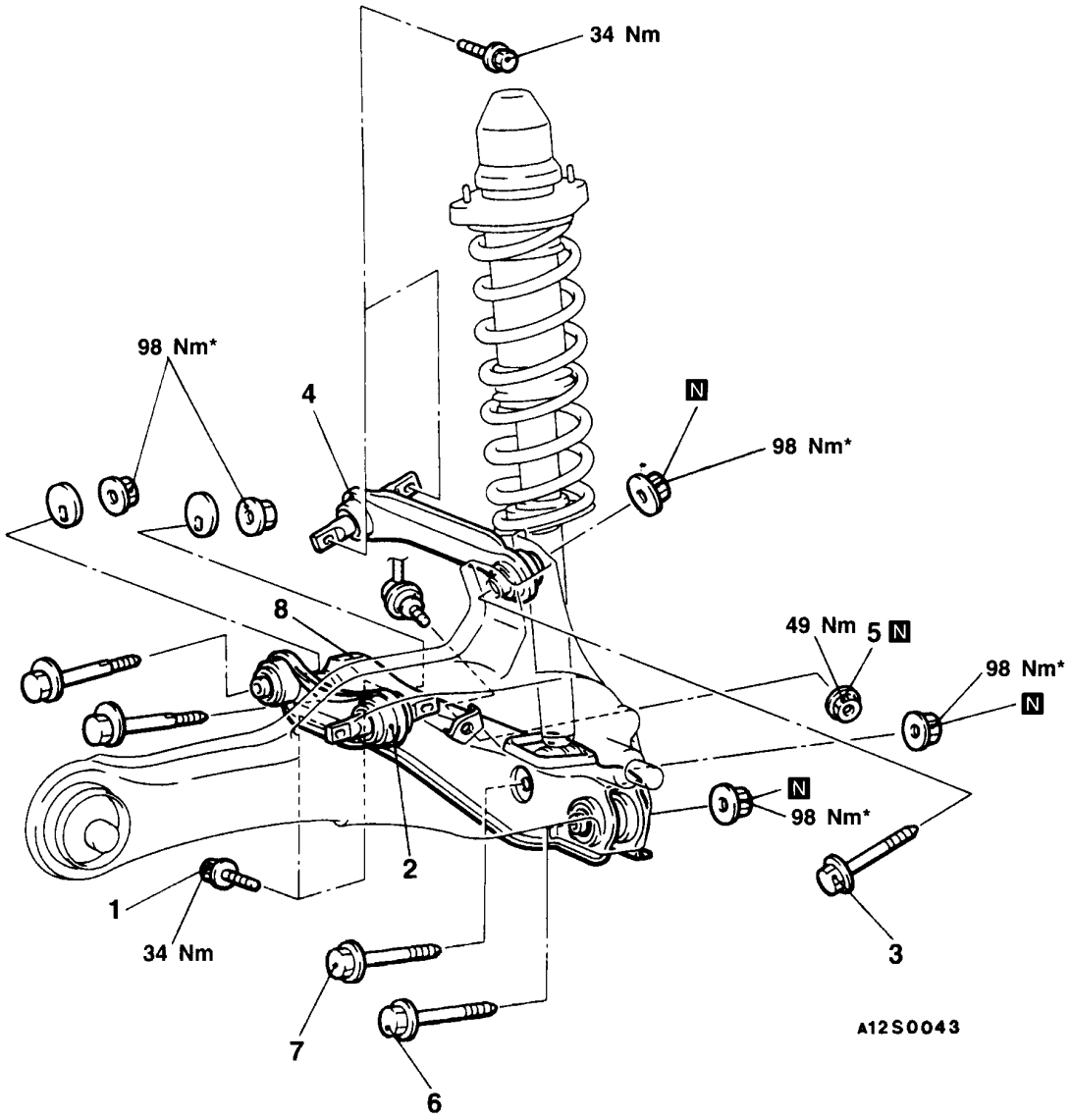
(3) Tighten the control link to the trailing arm at the specified torque.
(4) After adjusting the camber, be sure to adjust the toe-in.

CONTROL LINK, UPPER LINK AND LOWER ARM

34100480023

REMOVAL AND INSTALLATION

Post-installation Operation
- Wheel Alignment Check (Refer to P.34-4.)



Control link removal steps

1. Control link and trailing arm connection
◀A▶ 2. Control link

Upper link removal steps

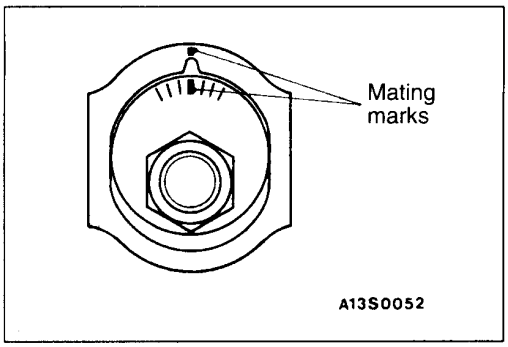
◀B▶ 3. Upper link and trailing arm connection
4. Upper link

Lower arm removal steps

1. Control link and trailing arm connection
5. Stabilizer link and lower arm connection <Vehicles with stabilizer bar>
◀C▶ 6. Lower arm and trailing arm connection
7. Shock absorber assembly and lower arm connection
◀A▶ 8. Lower arm

Caution

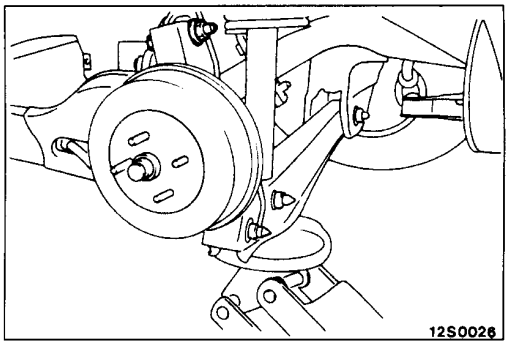
*** Indicates parts which should be temporarily tightened, and then fully tightened with the vehicles on the ground in the unladen condition.**



REMOVAL SERVICE POINTS

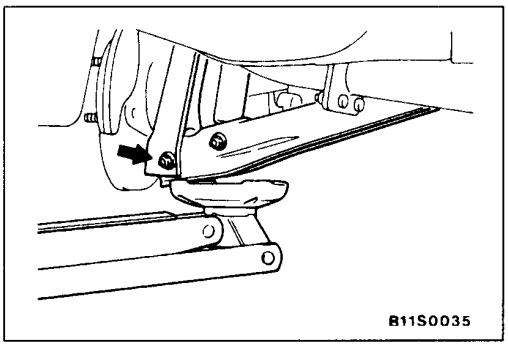
◀A▶ CONTROL LINK/LOWER ARM REMOVAL

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



◀B▶ UPPER LINK AND TRAILING ARM DISCONNECTION

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



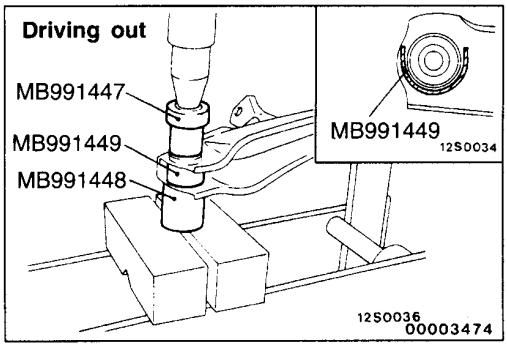
◀C▶ LOWER ARM AND TRAILING ARM DISCONNECTION

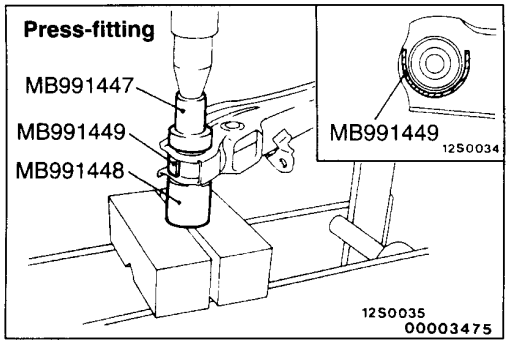
After supporting the lower arm with a jack, separate the connection.

INSPECTION

34100490026

- 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 the press-fit the lower arm bushing.

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

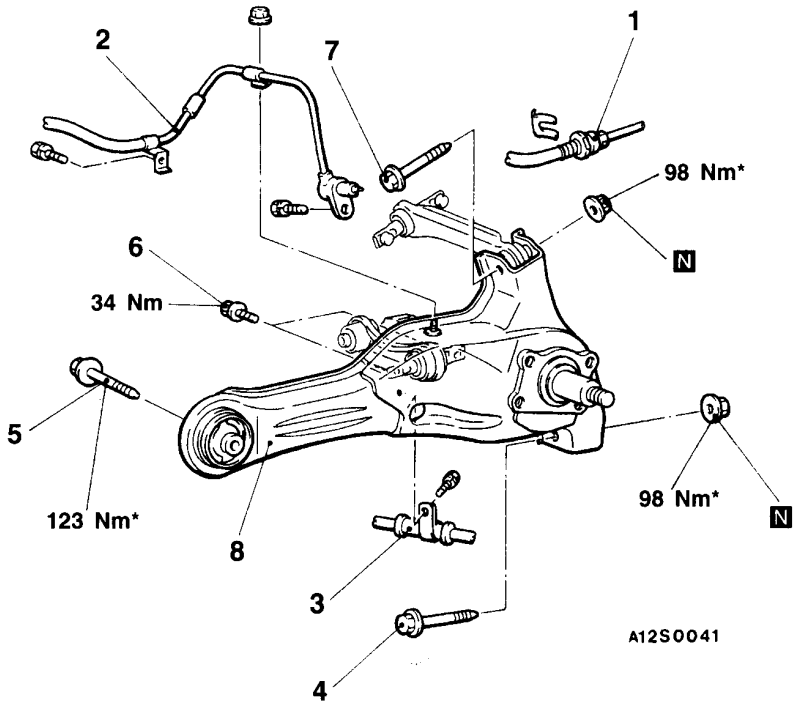
Caution
Because the outside diameter of both edges of the bushing are different, be careful not to mistake the direction when driving out and press-fitting.

TRAILING ARM

34100420049

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
- Rear Drum Brake or Rear Disc Brake Removal and Installation (Refer to GROUP 35A – Rear Drum Brake or Rear Disc Brake.)
- Rear Axle Hub Removal and Installation (Refer to GROUP 27 – Rear Axle Hub.)



Removal steps

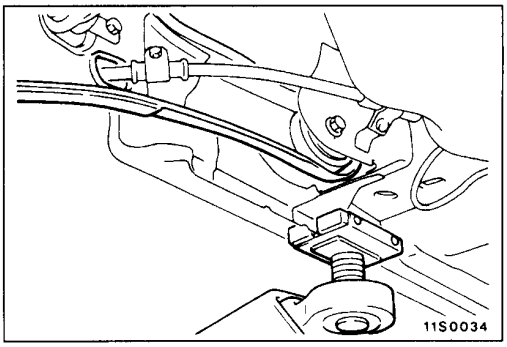
◀A▶ • Lifting point
1. Brake hose

◀B▶ ▶A◀ 2. Rear speed sensor <Vehicles with ABS>
3. Parking brake cable

◀C▶ 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

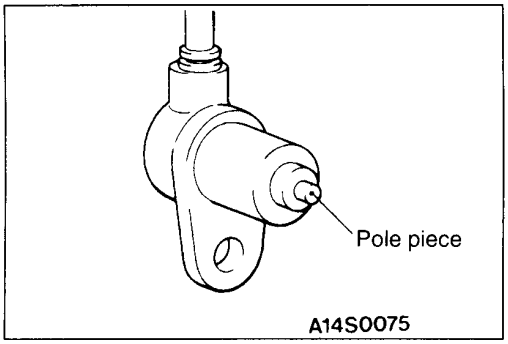
* **Indicates parts which should be temporarily tightened, and then fully tightened with the vehicles on the ground in the unladen condition.**



REMOVAL SERVICE POINTS

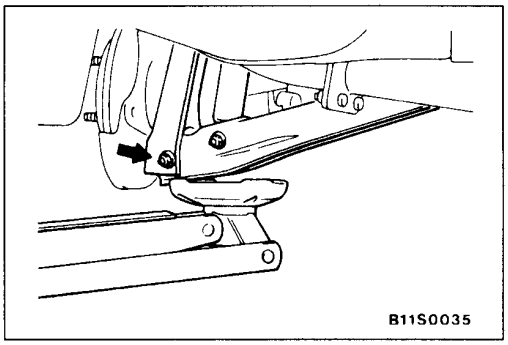
◀A▶ LIFTING POINT

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.



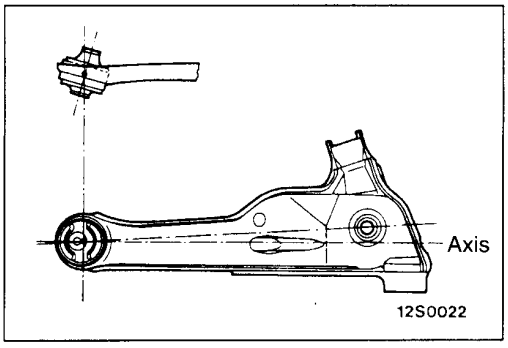
◀B▶ REAR SPEED SENSOR REMOVAL

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.

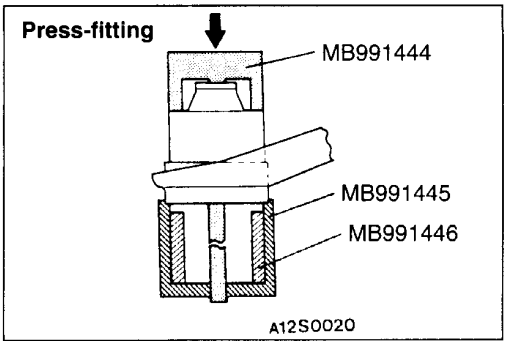


◀C▶ LOWER ARM AND TRAILING ARM DISCONNECTION

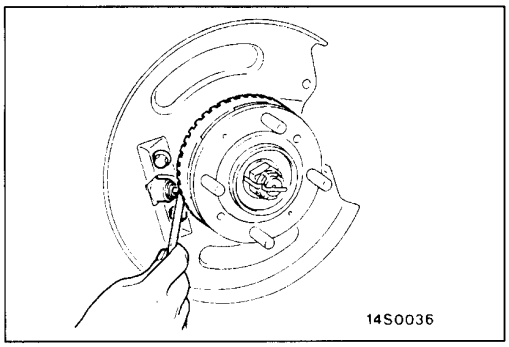
(1) After supporting the lower arm with a jack, separate the lower arm and trailing arm connection.



(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 centre of the trailing arm bushing and the centre of the spindle.



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



INSTALLATION SERVICE POINT

▶A◀ REAR SPEED SENSOR INSTALLATION

Insert a thickness 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.

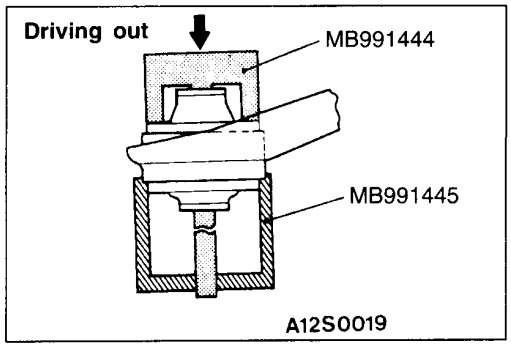
Standard value: 0.3–0.9 mm

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.

INSPECTION

34100430035

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



TRAILING ARM BUSHING REPLACEMENT

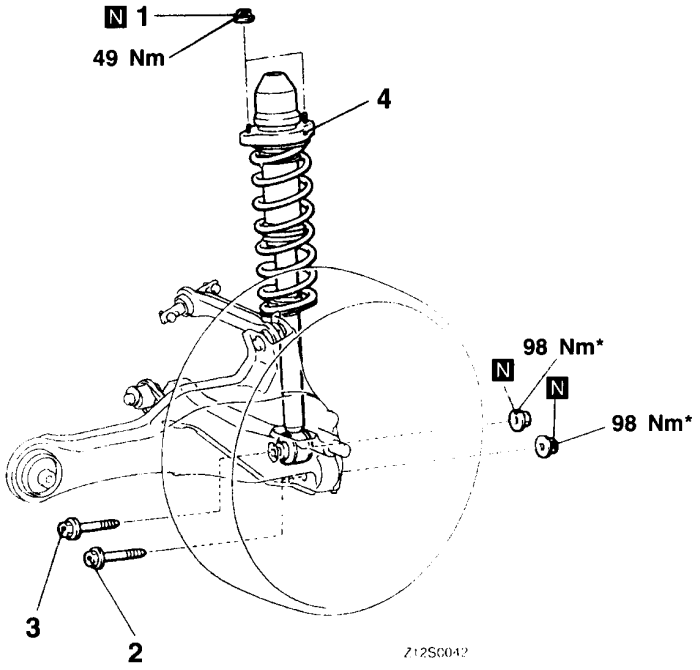
Use the special tools to drive out the trailing arm bushing.

STRUT ASSEMBLY

34100510043

REMOVAL AND INSTALLATION

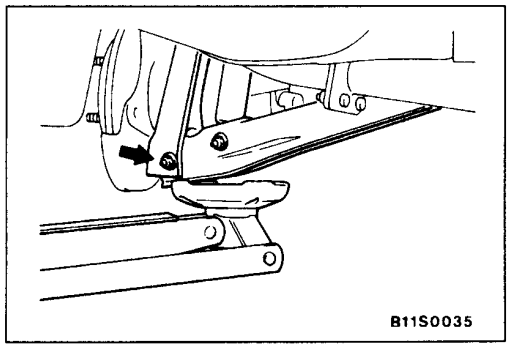
Pre-removal and Post-installation Operation
Lower arm and trailing arm disconnection
(Refer to P.34-9.)



Removal steps

1. Self-locking flange nut
◀A▶ 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 vehicles on the ground in the unladen condition.**



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.

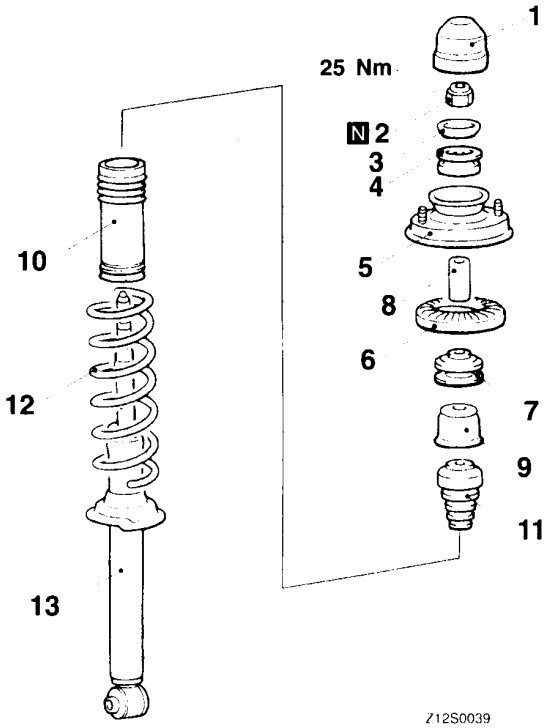
INSPECTION

34100520022

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

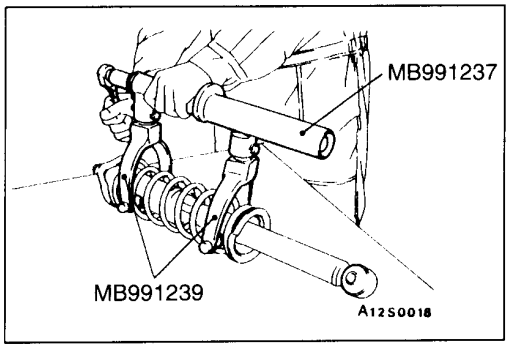
DISASSEMBLY AND REASSEMBLY

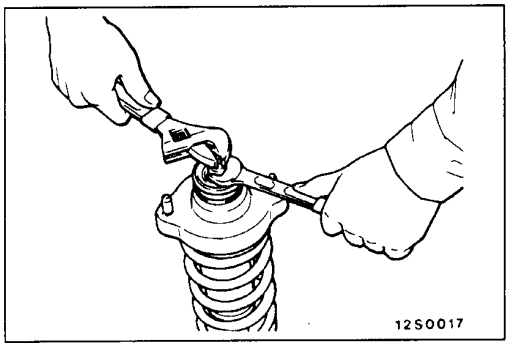
34100530049



Disassembly steps

1. Cap
◀A▶ ▶D◀ 2. Self-locking nut
3. Washer
4. Upper bushing B
▶C◀ 5. Bracket
▶B◀ 6. Spring pad
7. Upper bushing A
8. Coller
9. Cup
10. Dust cover
11. Bump rubber
▶A◀ 12. Coil spring
◀B▶ 13. Shock absorber





DISASSEMBLY SERVICE POINTS

◀A▶ SELF-LOCKING NUT REMOVAL

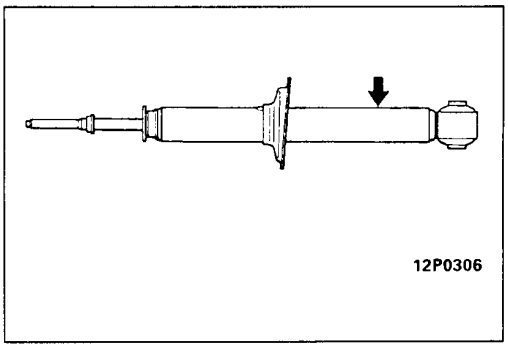
(1) Use the special tools to compress the coil spring.

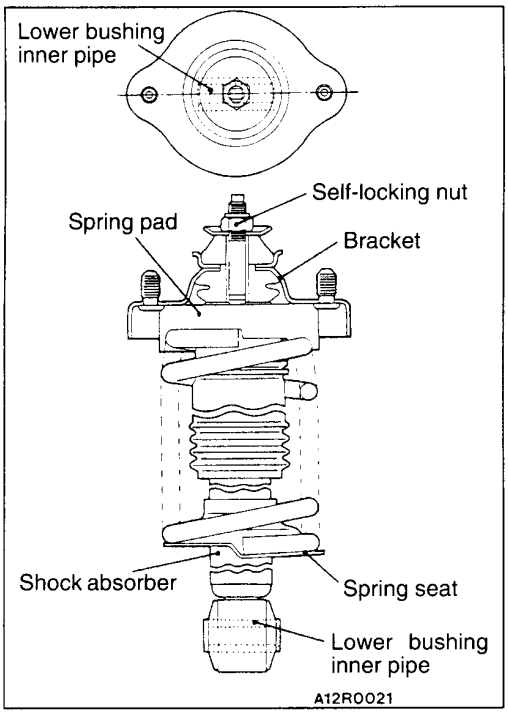
NOTE
Install the special tools evenly, and so that the maximum length will be attained within the installation range.

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

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

Caution
Do not use an impact wrench.





◀B▶ SHOCK ABSORBER REMOVAL <1800>

To discard the low pressure gas-filled shock absorber, place the assembly horizontally with its piston rod extended. Then drill a hole approx. 3 mm in diameter at the location shown in the illustration and discharge the gas.

Caution
The gas itself is harmless but it may issue out of the hole together with chips generated by the drill. Therefore, be sure to wear goggles.

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 bolt of the special tool.

(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) Remove the special tools (MB991237, MB991239), tighten the self-locking nut at the specified torque.

Caution
Do not use an impact wrench.

INSPECTION

34100540035

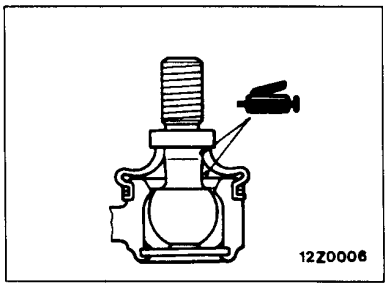
- Check the rubber parts for damage.
- Check the coil springs for crack, damage or deterioration.

STABILIZER BAR

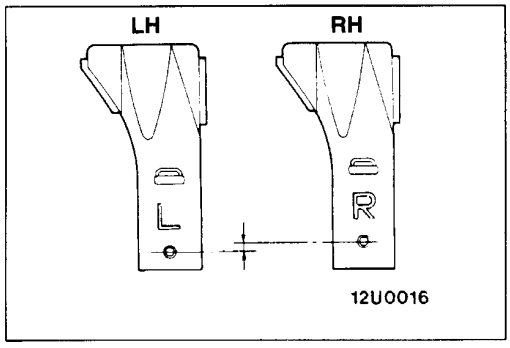
34100560031

REMOVAL AND INSTALLATION

Post-installation Operation
- Wheel Alignment Check (Refer to P.34-4.)



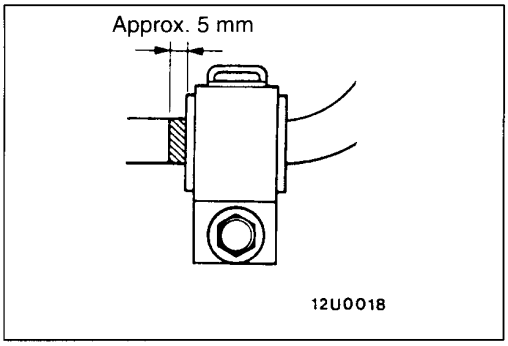
Removal steps
1. Stabilizer link
2. Fixture
▶B◀ 3. Bushing
▶B◀ 4. Stabilizer bar
▶A◀ 5. Stabilizer bracket



INSTALLATION SERVICE POINTS

▶A◀ STABILIZER BRACKET INSTALLATION

Because the left and right installation positions of the fixtures are different, be careful not to make a mistake when installing the stabilizer bracket.



▶B◀ STABILIZER BAR/BUSHING INSTALLATION

Place the identification mark of the stabilizer bar to the right, and install the bushing so that the identification mark protrudes approximately 5 mm from the edge of the inside of the bushing.

INSPECTION

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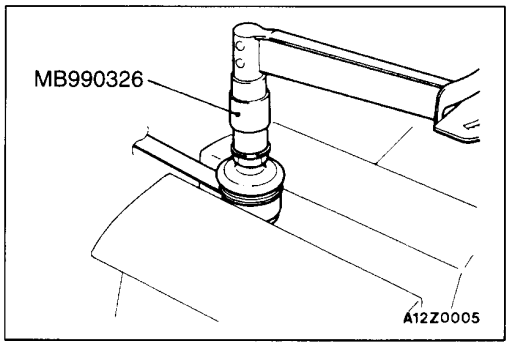
- Check the bushing for wear and deterioration.
- Check the stabilizer bar for deterioration or damage.
- Check the stabilizer link ball joint dust cover for cracks.
- Check all bolts for condition and straightness.



STABILIZER LINK BALL JOINT TURNING TORQUE INSPECTION

(1) Shake the stabilizer link ball joint stud several times before installing the nut to the stud. Then use the special tool to measure the turning torque of the stabilizer link ball joint.

Standard value: 1.7–3.1 Nm

(2) If the turning torque exceeds the standard value, replace the stabilizer link.
(3) If the turning torque is lower than the standard value, check that the ball joint does not feel stiff. If it doesn't feel stiff, it is possible to use the ball joint.

STABILIZER LINK DUST COVER REPLACEMENT

Refer to GROUP 33A.