SERVICE BRAKES

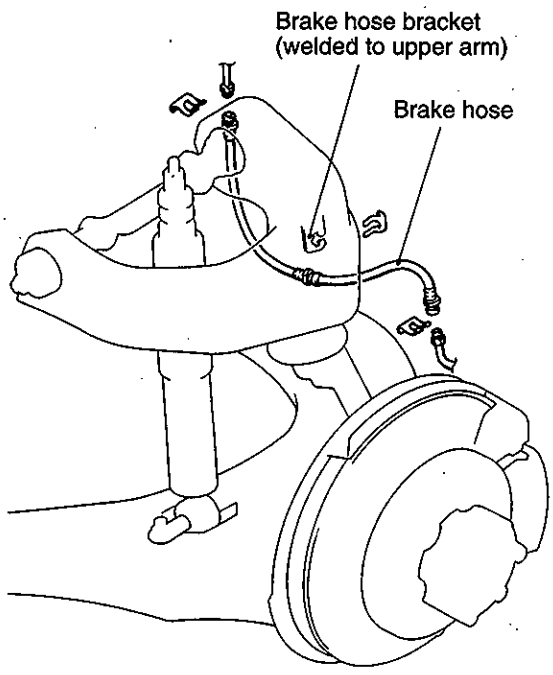
CONTENTS

GENERAL

OUTLINE OF CHANGES

- The front brake hose has been changed from a double-hose type to a single-hose type. Maintenance service points have been established to correspond to this.
- Maintenance service points have been established to correspond to changes in the ABS hydraulic unit.
- Maintenance service points have been established to correspond to changes in the ABS wheel speed sensors.

<New>



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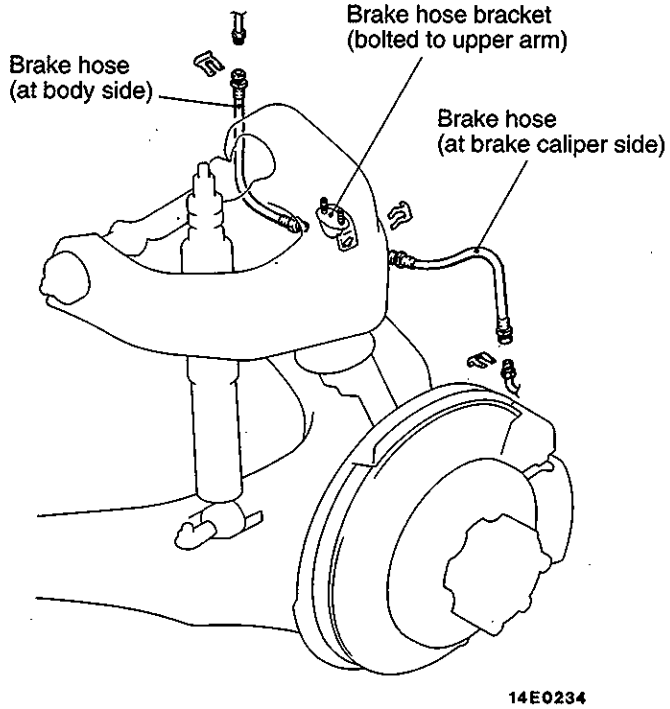
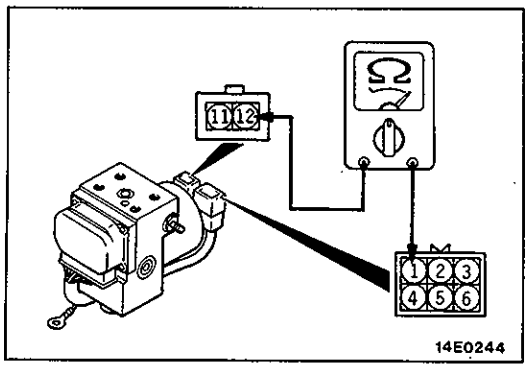


SPECIFICATIONS

SERVICE SPECIFICATIONS

Items	Specifications
Standard value	
Speed sensor's internal resistance kΩ	
Front	1.17 – 1.35
Rear	1.3 – 1.5
Hydraulic unit solenoid valve internal resistance Ω	
IN	4.29 ± 0.25
OUT	8.54 ± 0.5



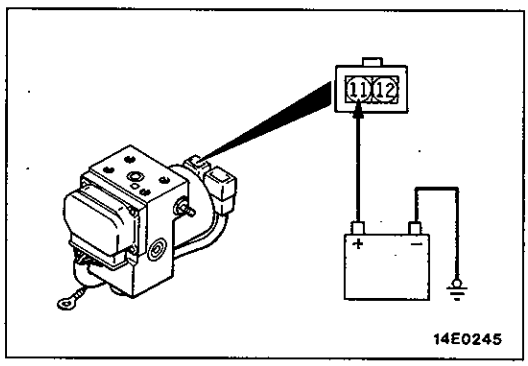
SERVICE ADJUSTMENT PROCEDURES

HYDRAULIC UNIT SOLENOID VALVE CHECK

Measure the resistance between terminals.

Standard value:

Solenoid	Measurement Terminals	Resistance between Terminals
To front wheel cylinder (right side)	12 – 4	4.29 ± 0.25 Ω
To front wheel cylinder (left side)	12 – 5	
To rear wheel cylinder	12 – 6	
From front wheel cylinder (right side)	12 – 1	8.54 ± 0.5 Ω
From front wheel cylinder (left side)	12 – 2	
From rear wheel cylinder	12 – 3	



HYDRAULIC UNIT MOTOR OPERATION CHECK

Connect the battery and check to be sure that the sound of the hydraulic unit motor operating can be heard.

Caution

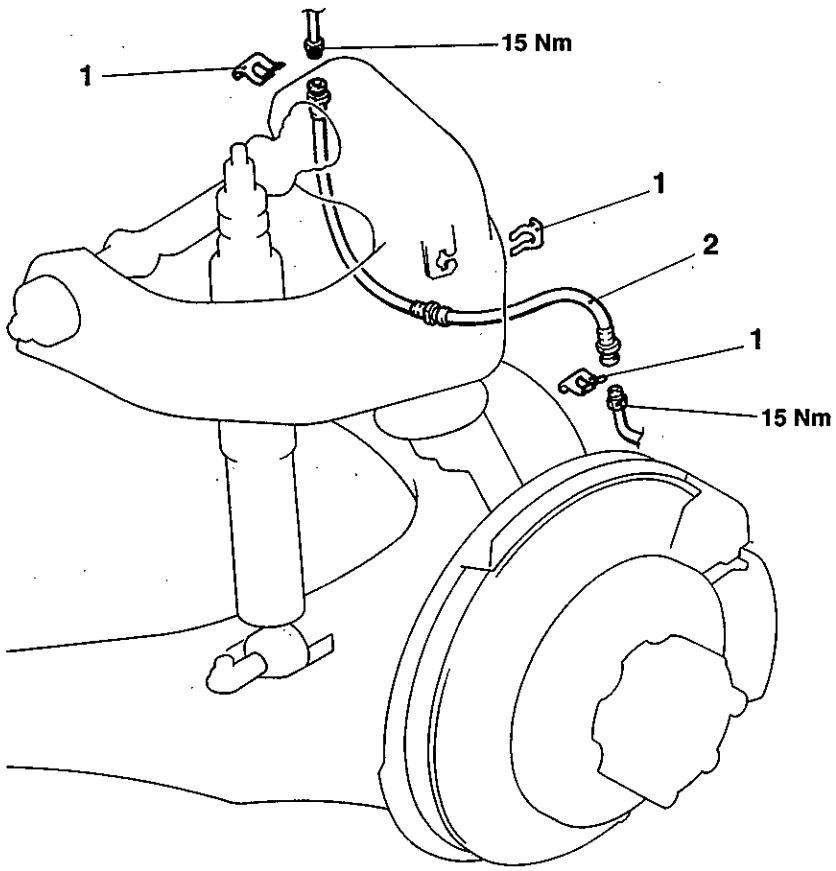
The battery power should not be applied for more than 1 second.

FRONT BRAKE HOSE

REMOVAL AND INSTALLATION

Pre-removal Operation
- Brake Fluid Draining

Post-installation Operation
- Brake Fluid Supplying
- Air Bleeding from Brake Lines



14E0233

Removal steps
1. Hose clip
2. Front brake hose

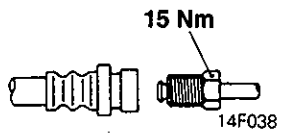
HYDRAULIC UNIT <ABS>

REMOVAL AND INSTALLATION

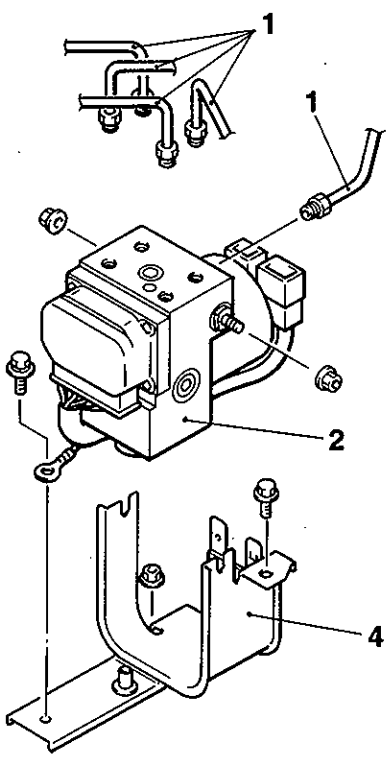
Pre-removal Operation
- Brake Fluid Draining

Post-installation Operation
- Brake Fluid Supplying
- Air Bleeding from Brake Lines
- Checking by Using the MUT-II

Flare nut



<4M40-LHD and 4D56-LHD>



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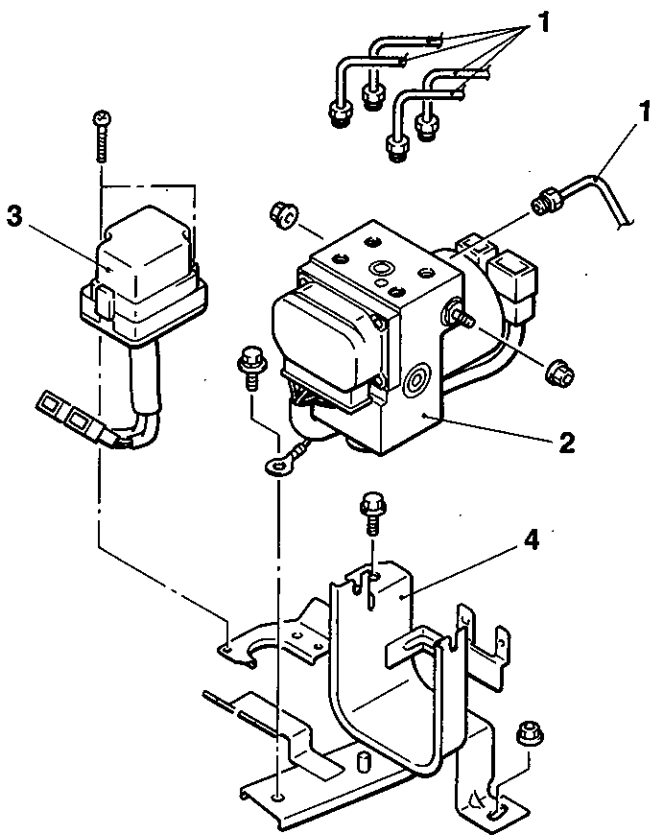
<6G72, 6G74, 4M40-RHD and 4D56-RHD>



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Removal steps

◆◆ 1. Brake tube connection
◆◆ 2. Hydraulic unit
3. ABS relay box
4. Hydraulic unit bracket

NOTE
(1) RHD: R.H.drive vehicles
(2) LHD: L.H.drive vehicles.

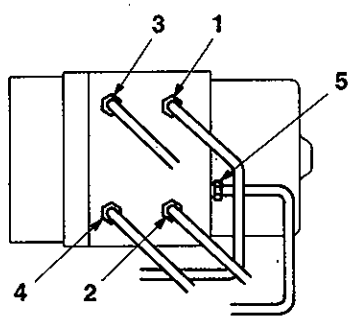
REMOVAL SERVICE POINT

2 HYDRAULIC UNIT REMOVAL

Caution

1. **The hydraulic unit is heavy, and so care should be taken when removing it.**
2. **The hydraulic unit is not to be disassembled; its nuts and bolts should absolutely not be loosened.**
3. **The hydraulic unit must not be dropped or otherwise subjected to shocks.**
4. **The hydraulic unit must not be turned upside down or laid on its side.**

<6G72, 6G74, 4M40-RHD and 4D56-RHD>



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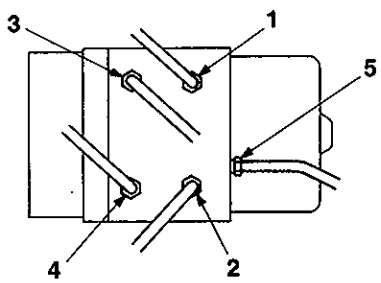

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INSTALLATION SERVICE POINT

1. BRAKE TUBE CONNECTION

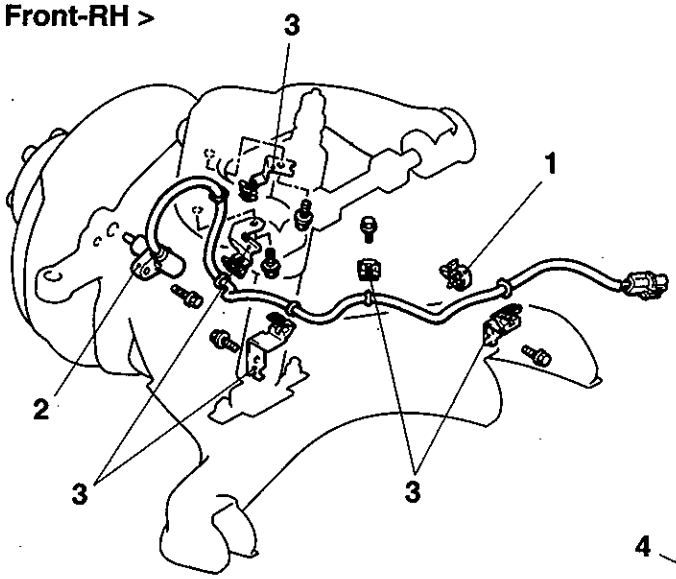
Install the brake tube as shown in the illustration.

1. From master cylinder to hydraulic unit (to rear brake)
2. From master cylinder to hydraulic unit (to front brake)
3. From hydraulic unit to rear brake
4. From hydraulic unit to front brake (LH)
5. From hydraulic unit to front brake (RH)

WHEEL SPEED SENSOR <ABS>

REMOVAL AND INSTALLATION

< Front-RH >



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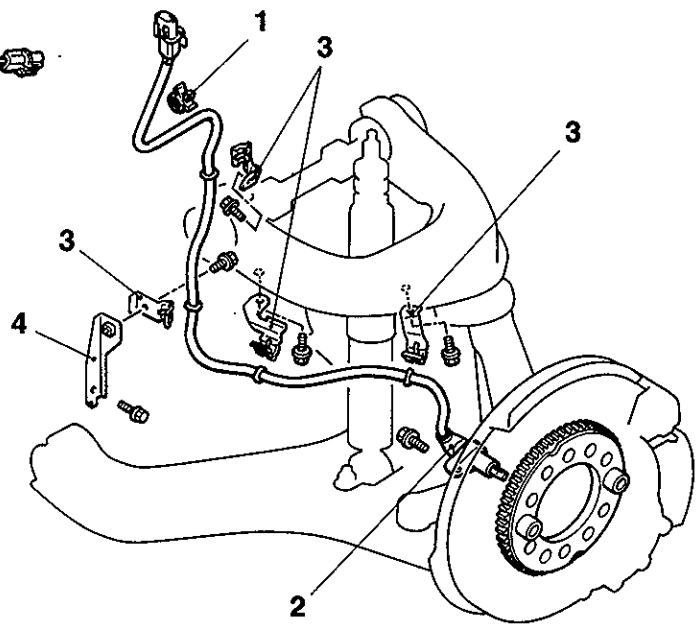

Front speed sensor removal steps

1. Clip
2. Front speed sensor
3. Clip
4. Harness bracket

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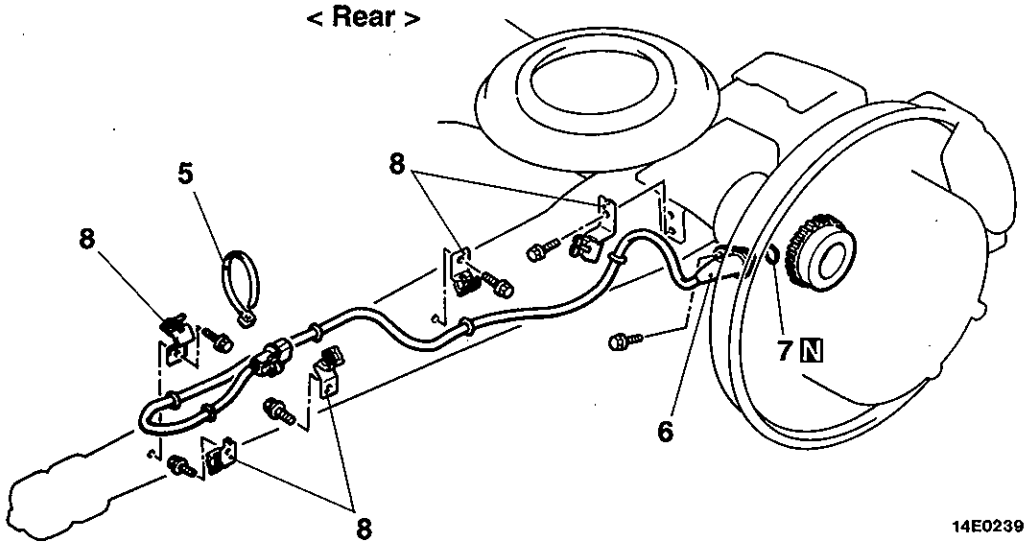
< Rear >



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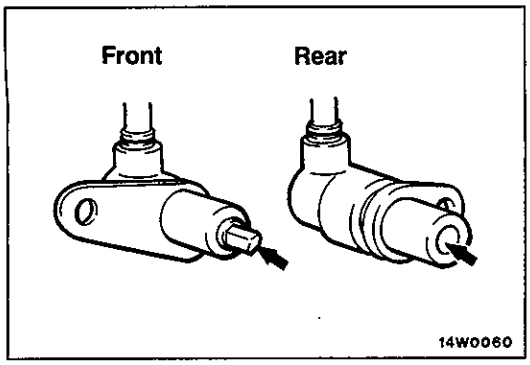
Rear speed sensor removal steps

5. Band
6. Rear speed sensor
7. O-ring
8. Clip

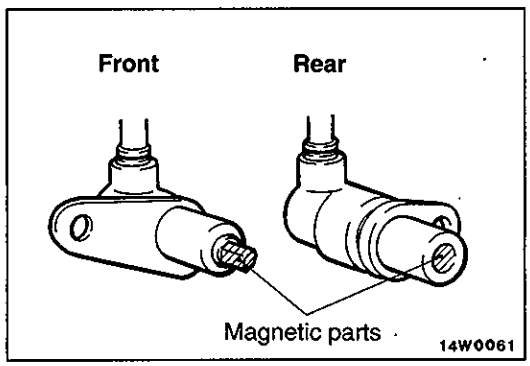
NOTE
The clearance between the speed sensor and the rotor cannot be adjusted.



REMOVAL SERVICE POINTS

2. FRONT SPEED SENSOR/6. REAR SPEED SENSOR REMOVAL

Caution
Be careful when handling the pole piece at the tip of the speed sensor and the toothed edge of the rotor so as not to damage them by striking against other parts.



INSPECTION

SPEED SENSOR

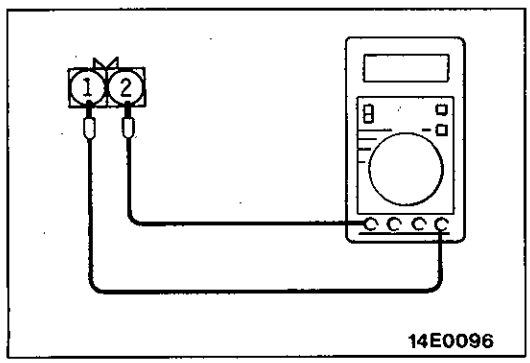
(1) Check whether any metallic foreign material has adhered to the pole piece at the speed sensor tip, and, if so, remove it.
Also check whether the pole piece is damaged, and, if so, replace it with a new one.

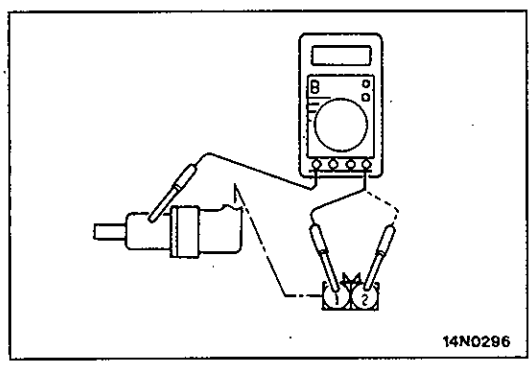
NOTE
The pole piece can become magnetized because of the magnet built into the speed sensor, so that metallic foreign material easily adheres to it. Moreover, the pole piece may not be able to sense correctly the wheel rotation speed if it is damaged.

(2) Measure the resistance between the speed sensor terminals.

Standard value:
Front: 1.17 – 1.35 kΩ
Rear: 1.3 – 1.5 kΩ

If the internal resistance of the speed sensor is not within the standard value, replace it with a new speed sensor.





(3) Remove all connections from the speed sensor, and then measure the resistance between terminals (1) and (2) and the body of the speed sensor.

Standard value: 100 kΩ or more

(4) If the speed sensor insulation resistance is outside the standard value range, replace with a new speed sensor.

(5) Check the speed sensor cable for breakage, damage or disconnection; replace with a new one if a problem is found.

NOTE
When checking for cable damage, remove the cable clamp part from the body and then bend and pull the cable near the clamp to check whether or not temporary disconnection occurs.