
BRAKES

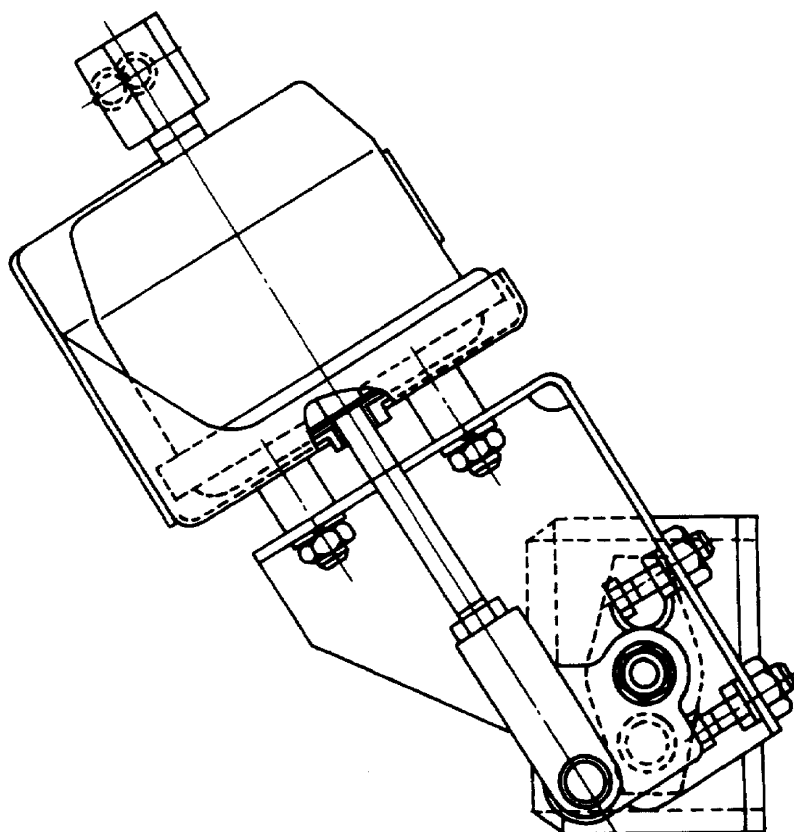
SECTION 5E
EXHAUST BRAKE

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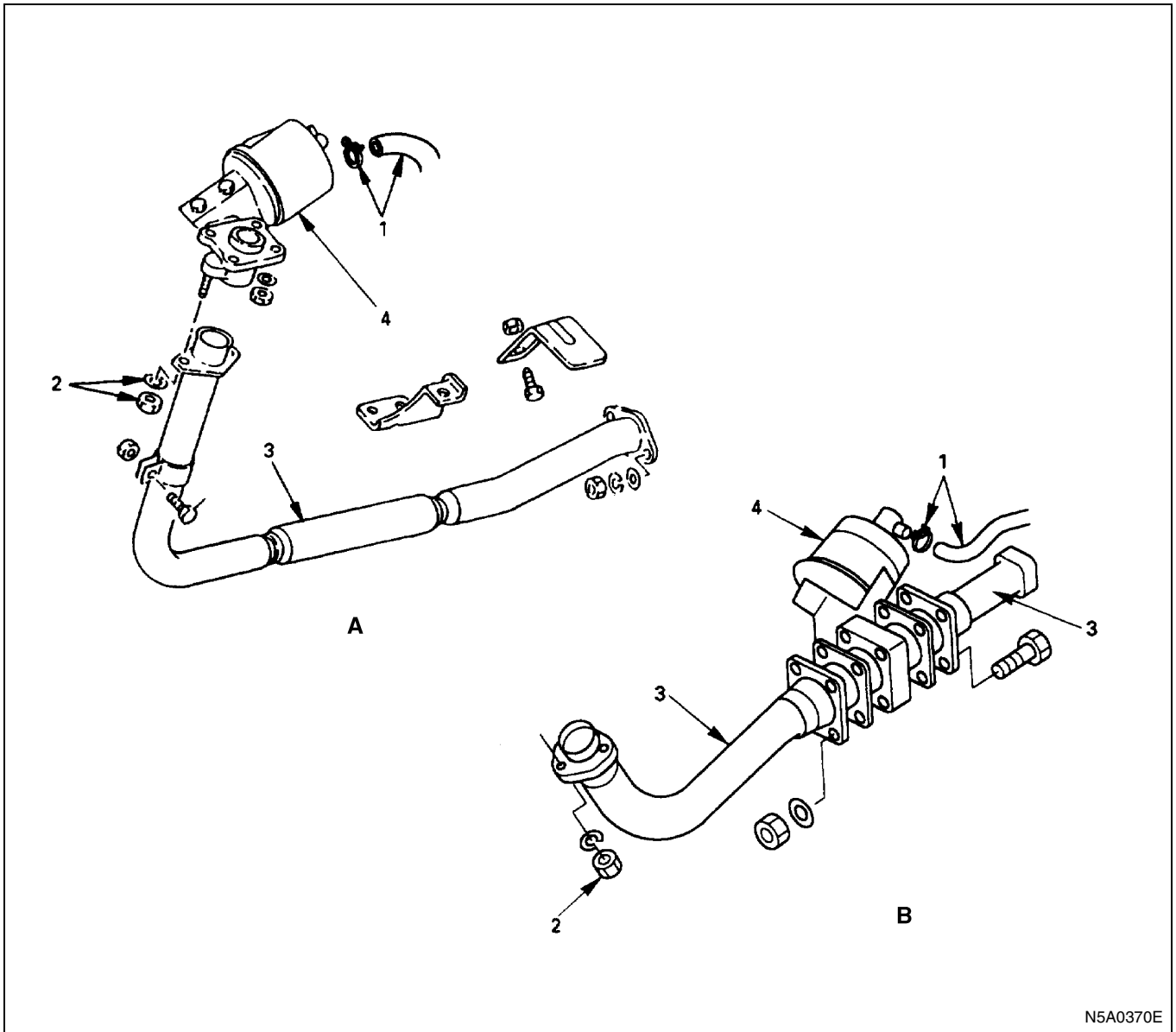
GENERAL DESCRIPTION



N5A0369E

ON-VEHICLE SERVICE

Exhaust Brake Assembly



N5A0370E

Legend

- | | |
|--|-----------------------|
| A. 4J engine without turbocharger | 2. Flange nut |
| B. 4J engine with turbocharger and 4H engine | 3. Exhaust pipe |
| 1. Vacuum hose and clip | 4. Exhaust brake unit |

Removal

1. Vacuum Hose and Clip
2. Nut
3. Exhaust Pipe
4. Exhaust Brake Unit

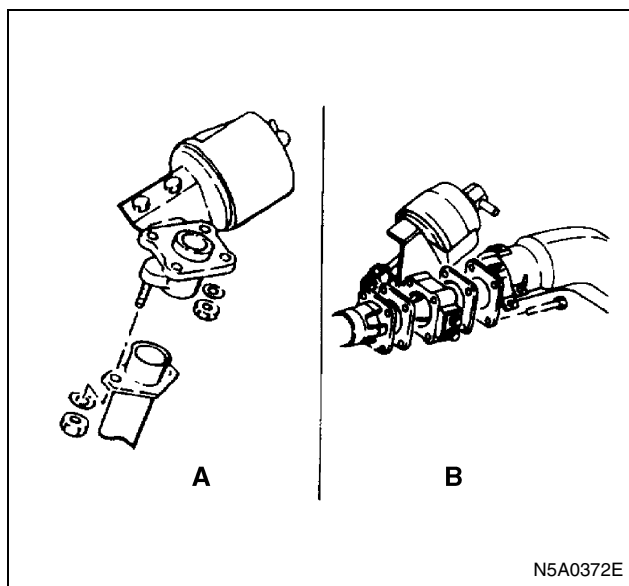
Installation

1. Exhaust Brake Unit
Tighten the brake unit fixing nuts and/or bolts to the specified torque.

Tighten:

Exhaust brake unit fixing nuts and bolts to
4J engine without turbocharger: 37 N·m (3.8 kg·m / 27 lb·ft)

4J engine with turbocharger and 4H engine: 17 N·m (1.7 kg·m / 12 lb·ft)



Legend

- A. 4J engine without turbocharger
- B. 4J engine with turbocharger and 4H engine

2. Exhaust Pipe

3. Flange Nut

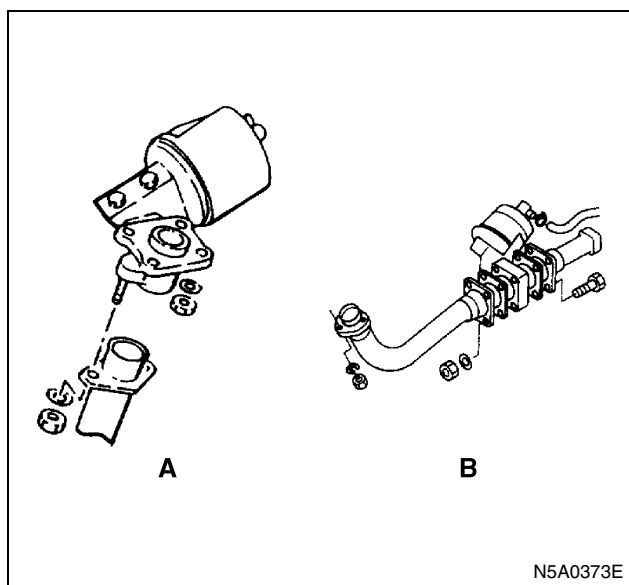
Tighten the exhaust pipe flange nuts for the exhaust manifold to the specified torque.

Tighten:

Flange nuts to

4J engine without turbocharger: 37 N·m (3.8 kg·m / 27 lb·ft)

4J engine with turbocharger and 4H engine: 67 N·m (6.8 kg·m / 49 lb·ft)



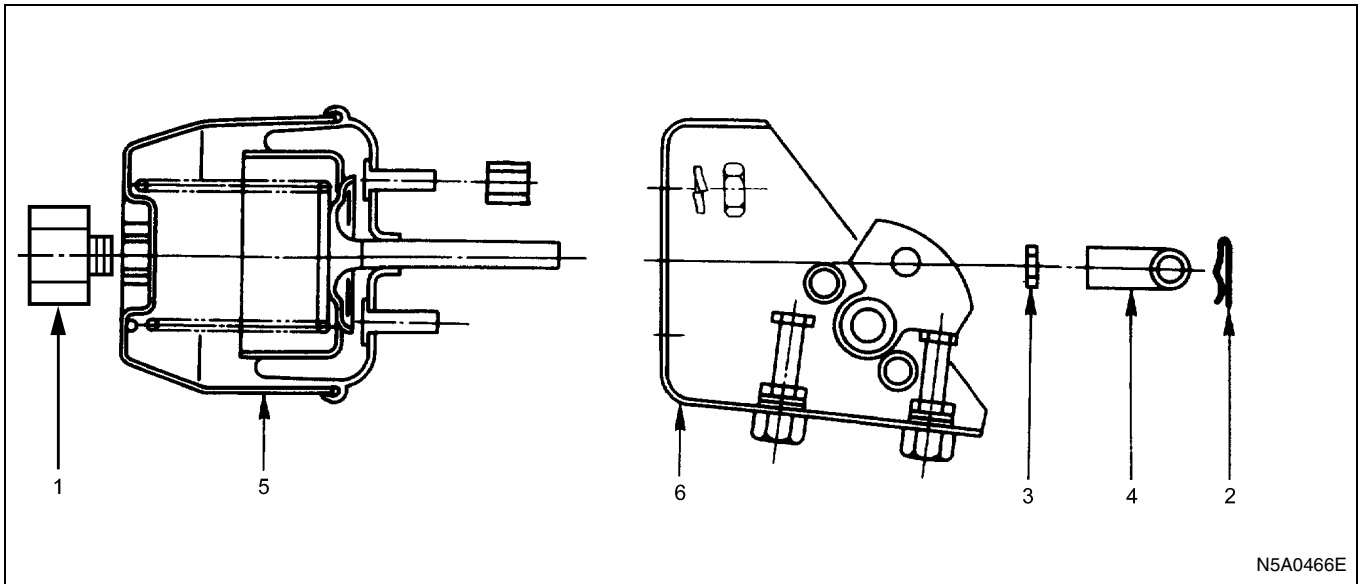
Legend

- A. 4J engine without turbocharger
- B. 4J engine with turbocharger and 4H engine

4. Vacuum Hose and Clip

UNIT REPAIR

Exhaust Brake Unit



N5A0466E

Legend

- | | |
|----------------------------------|---------------------------|
| 1. Exhaust brake valve connector | 4. Clevis joint |
| 2. Cotter pin | 5. Power chamber |
| 3. Lock nut | 6. Exhaust valve assembly |

Disassembly

1. Exhaust Brake Valve Connector
2. Cotter Pin
3. Lock Nut
4. Clevis Joint
5. Power Chamber
6. Exhaust Valve Assembly

Inspection and Repair

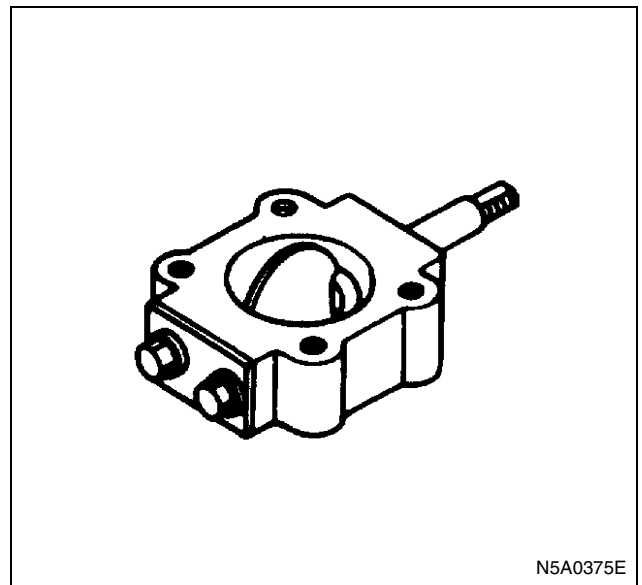
Make the necessary adjustments, repairs, and part replacements if excessive wear or damage is discovered during inspection.

Visual Inspection

Visually inspect the following parts for excessive wear and damage.

If excessive wear or damage is discovered during inspection, the part(s) must be replaced.

- Exhaust brake valve
- Exhaust brake shaft
- Butterfly valve
- Bushings
- Power chamber

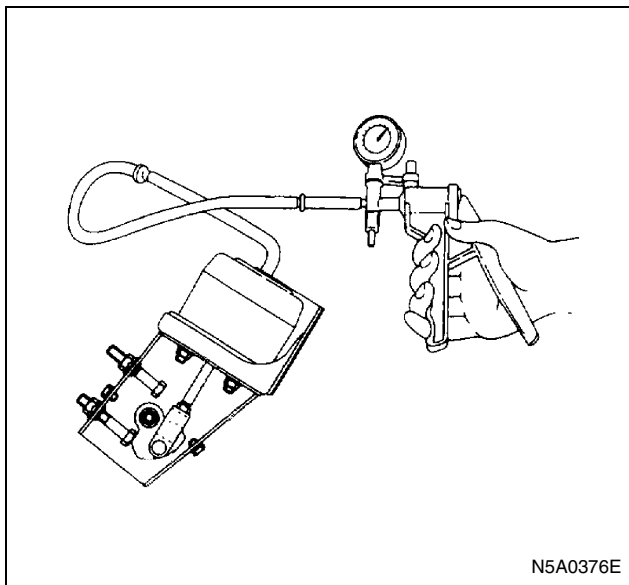


N5A0375E

Power Chamber

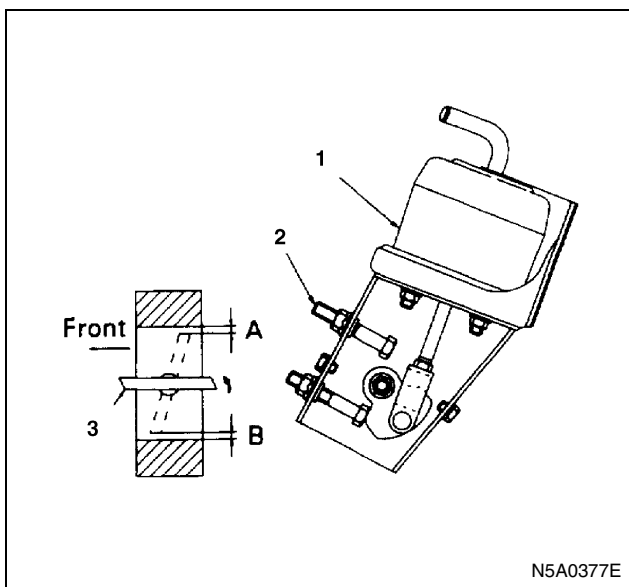
(1) The exhaust brake valve should operate smoothly when the negative pressure (400 mmHg to 700 mmHg) is applied to the power chamber via the vacuum pump.

5E-6 EXHAUST BRAKE



(2) At the points (A) and (B), the average clearance between the valve and the vehicle body should be as mentioned in the following table when the negative pressure (650 mmHg to 700 mmHg) is applied to the power chamber via the vacuum pump.

Clearance Between Valve And Body		mm (in)
	Standard	
4HF1 Engine	0.4 — 0.6 (0.016 — 0.024)	
Others	0.1 — 0.2 (0.004 — 0.008)	



Legend

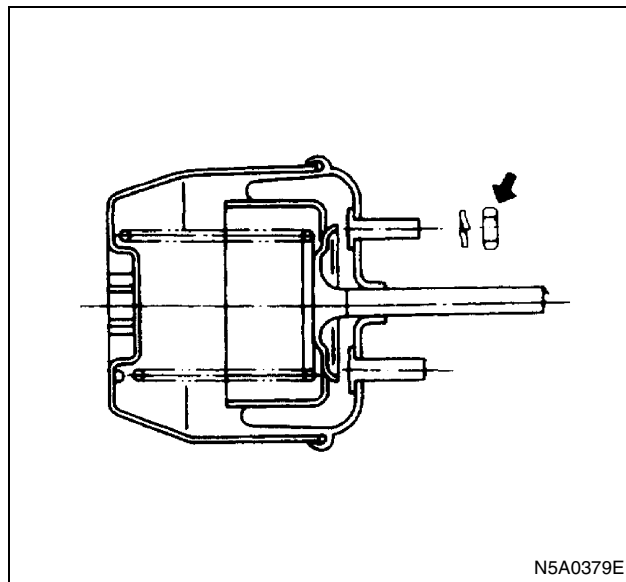
1. Power chamber
2. Adjust bolt
3. Valve

Reassembly

1. Exhaust Valve Assembly
2. Power Chamber

Tighten:

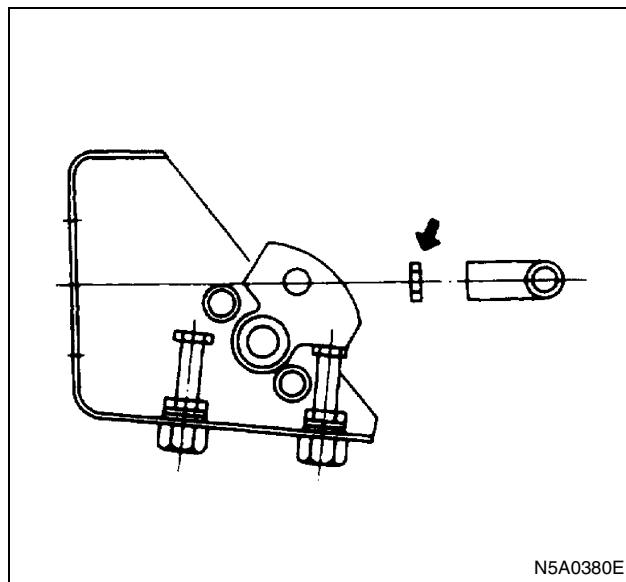
Power chamber fixing nut to 14 N·m (1.4 kg·m / 122 lb·in)



3. Lock Nut

Tighten:

Lock nut to 13 N·m (1.3 kg·m / 113 lb·in)



4. Clevis Joint
5. Cotter Pin
6. Exhaust Brake Valve Connector

Tighten:

More than 9.8 N·m (1.0 kg·m / 7.2 lb·ft)