INTAKE AND EXHAUST

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15 INTAKE AND EXHAUST – SPECIFICATIONS, TORQUE

1. SPECIFICATIONS

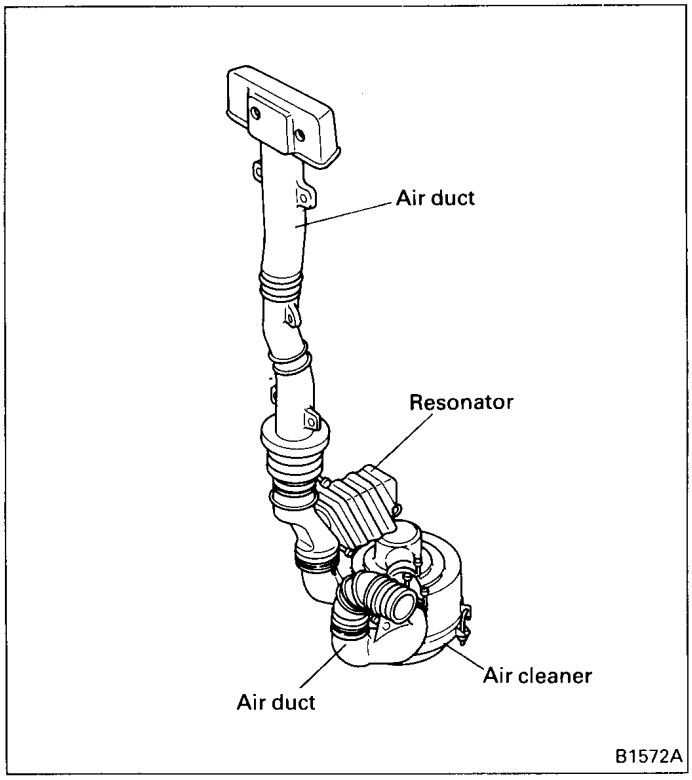
Description	Specifications	Remarks
Air cleaner		
Element type	Paper filter type	

2. TORQUE

Item	Torque	
	Nm	kgm
Air cleaner		
Hook bolt	1.5 – 2.5	0.15 – 0.25
Wing bolt	2 – 2.9	0.2 – 0.3
Intake and exhaust manifold nuts and bolts	15 – 20	1.5 – 2.0

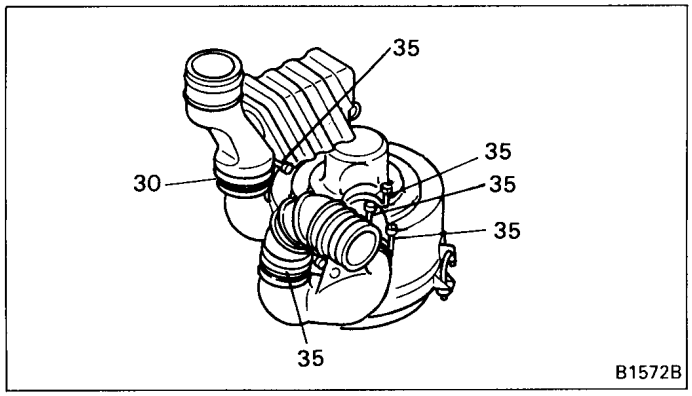
3. INTAKE SYSTEM

3.1 GENERAL

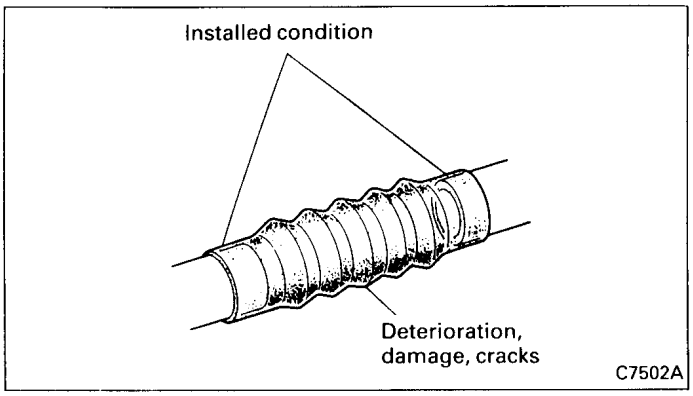


3.2 REMOVAL AND INSTALLATION

Figures in illustration indicate hose overlap.



3.3 INSPECTION

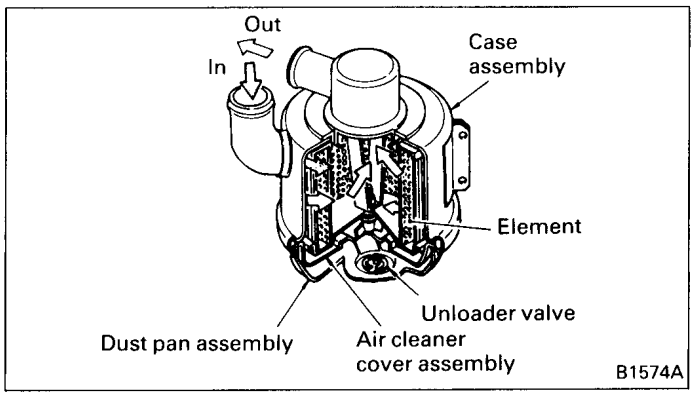


Imperfect sealing of the intake system, resulting in entry of dust and dirt into the engine, can be a cause of greater engine oil consumption. Check air hoses and rubber hoses for damages, collapses, and installed conditions.

4. AIR CLEANER

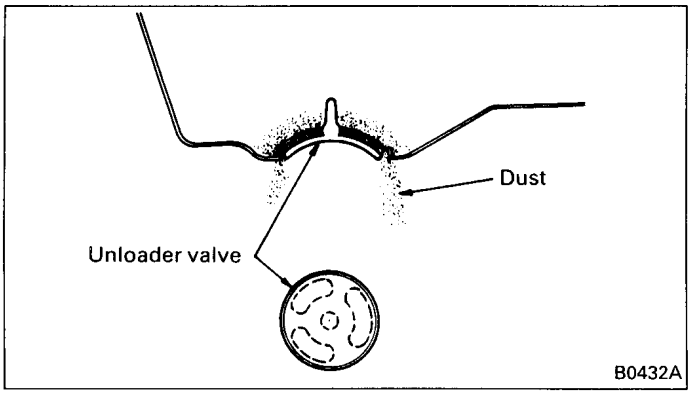
4.1 GENERAL

Air Cleaner



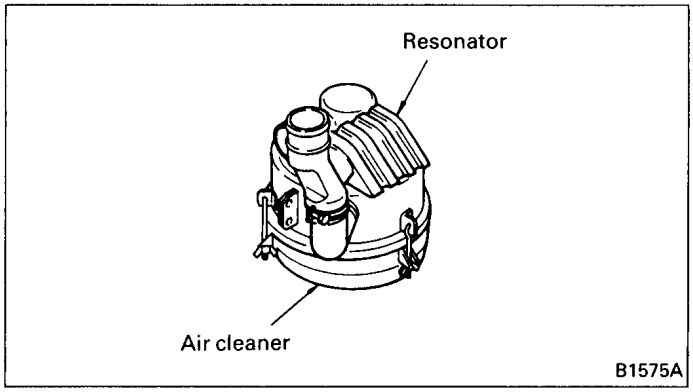
Dust and dirt particles are removed from the intake air by the paper filter element so a clean air is drawn into the engine through the center of the air cleaner.

Unloader Valve



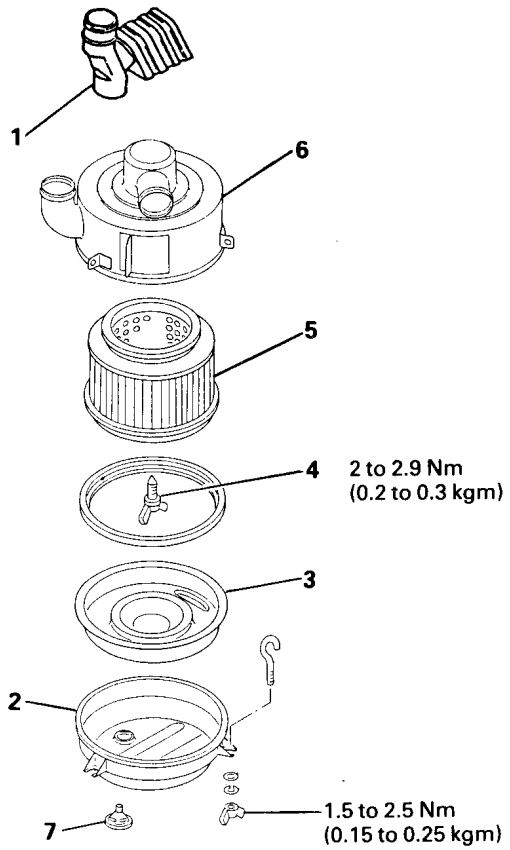
Dust, dirt, and water collected in the dust pan of air cleaner are automatically discharged through the unloader valve by vibration caused by vacuum action while the engine is stationary or running at idle.

Resonator



The air cleaner is provided with a resonator that reduces intake noise to a minimum.

4.2 DISASSEMBLY AND REASSEMBLY



<Disassembly sequence>

1 Resonator
2 Dust pan assembly
3 Air cleaner cover assembly
4 Wing bolt
5 Element
6 Case assembly
7 Unloader valve

To reassemble, reverse the order of disassembly.

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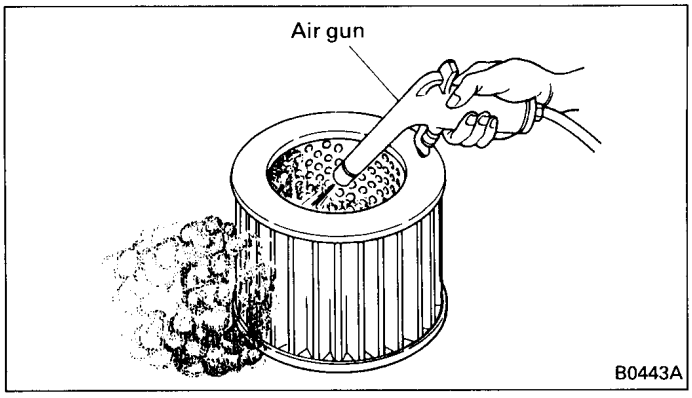
4.3 INSPECTION AND CLEANING

For periodic cleaning and replacement of the element, see "Owner's Handbook".



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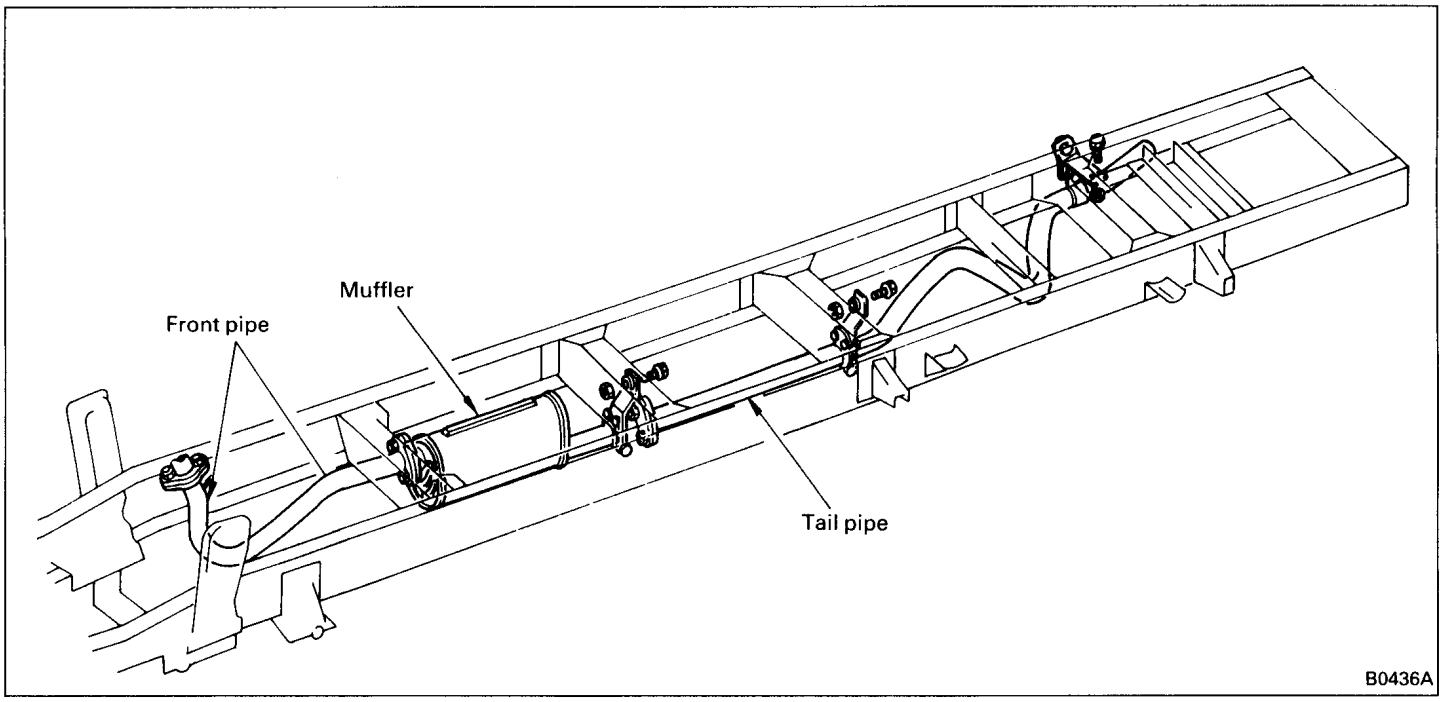
Clean by blowing compressed air from inside, Replace the element if seriously clogged or broken.

NOTE:
Do not hit the element against other object to remove dust. Do not blow air from outside.

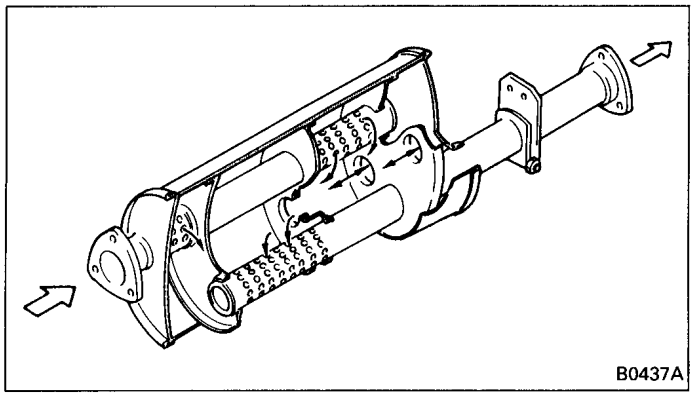
5. EXHAUST SYSTEM

5.1 GENERAL



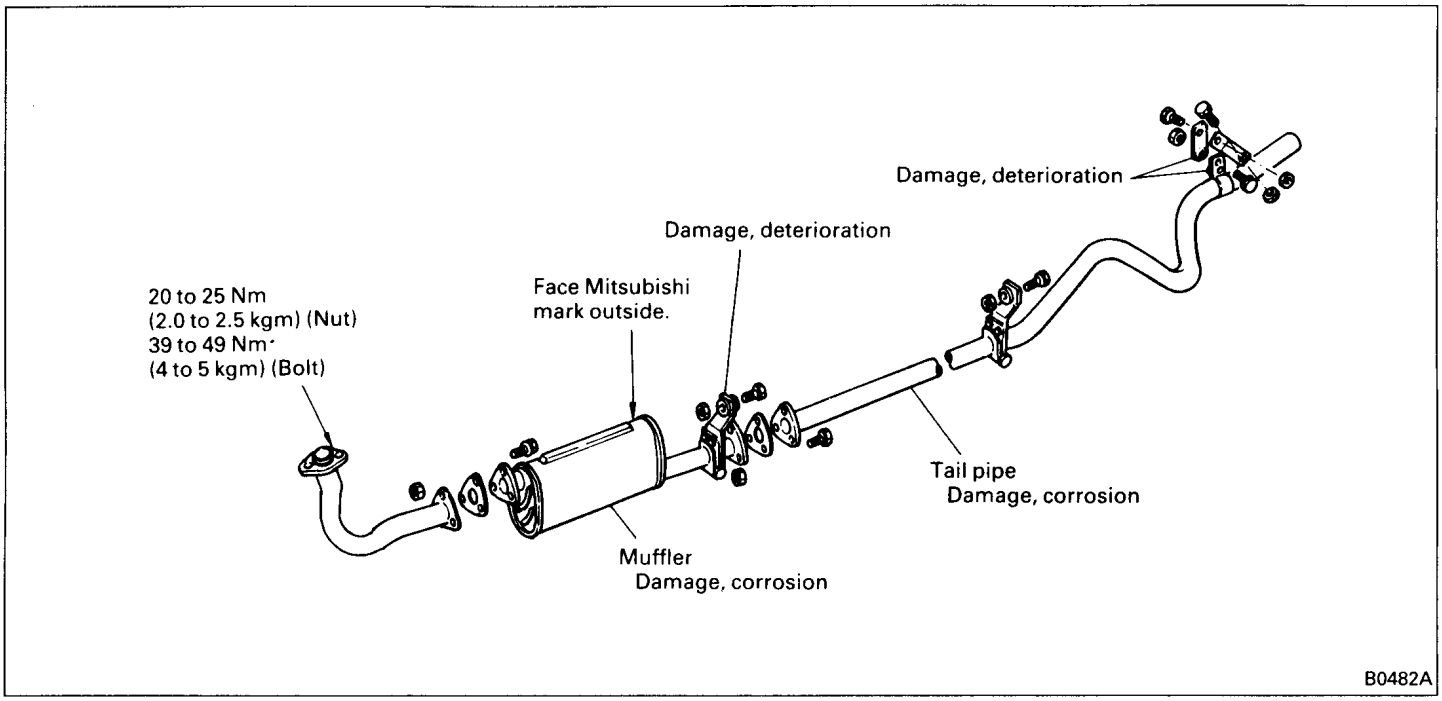
The exhaust system carries the exhaust gases from the engine out into the atmosphere, while dissipating part of the exhaust-gas heat to the outside.
The system also includes an exhaust brake unit and muffler.

Muffler



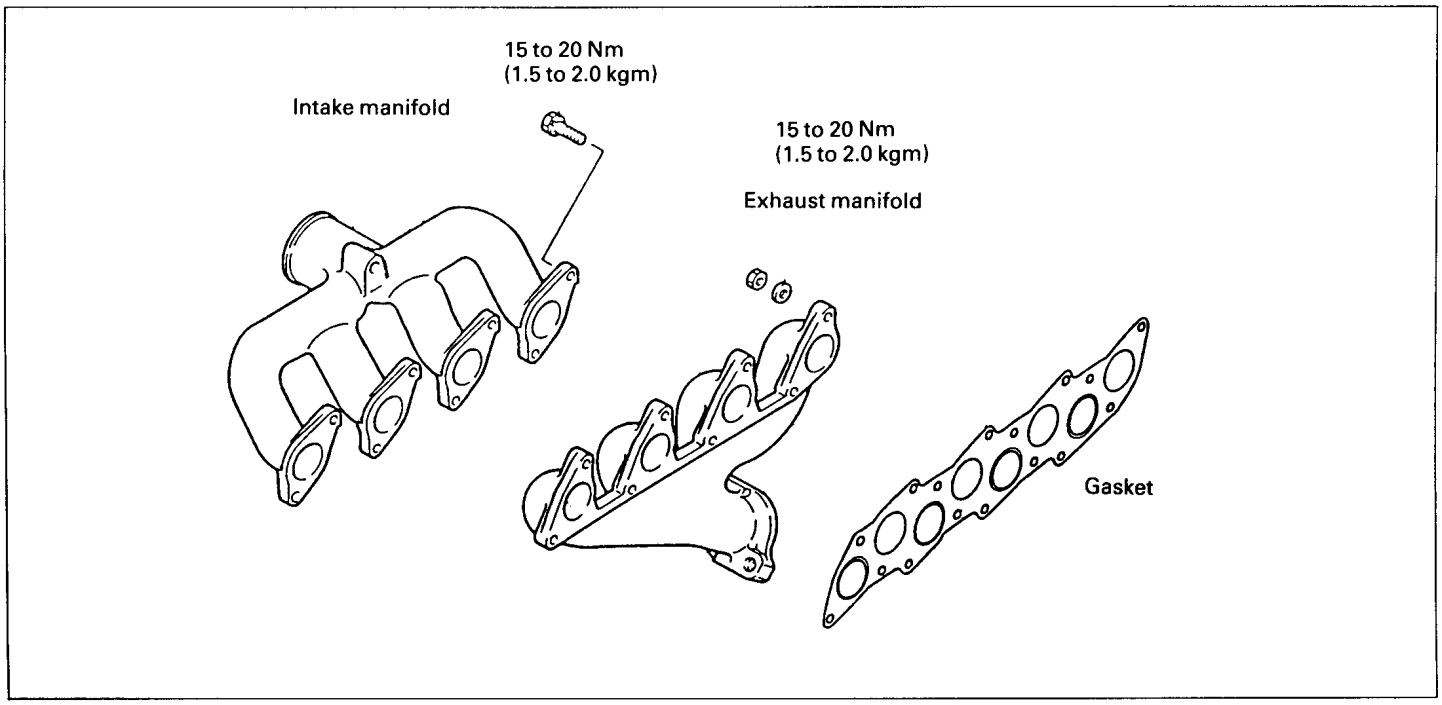
The muffler consists of multiple stages combining the expansion and resonance chambers to absorb heat and noise generated by the high-temperature and high-pressure exhaust gases delivered from the engine.

5.2 REMOVAL AND INSTALLATION



For the details of exhaust brake, see Chassis Shop Manual.

6. INTAKE AND EXHAUST MANIFOLD



6.1 INSPECTION

Intake Manifold

- If cracks or air or water leaks due to excessive distortion of mounting surface are evident, replace.
- Check negative pressure port, water and gas passage for clogging, and correct as necessary.

Exhaust Manifold

- If cracks or gas leaks due to excessive distortion of mounting surface are evident, replace.

6.2 INSTALLATION

1. Install new gasket to cylinder head.
2. Install intake manifold and tighten bolts.
3. Install exhaust manifold and tighten nuts.
4. Connect exhaust pipe to exhaust manifold.
5. Install heat protector, heat cowl, etc.
6. Install air cleaner.

7. TROUBLESHOOTING