

EXHAUST SYSTEM

GENERAL DESCRIPTION - V6

V6 engines are fitted with a single pipe exhaust system, supported by a rubber insulator at the end of the muffler and at the rear of the tailpipe.

Exhaust manifolds are connected to a split system front pipe which feeds into one pipe just before the catalytic converter joining flange. After the catalytic converter a centre pipe and muffler assembly is bolted via a flange, this assembly takes the exhaust fumes towards the rear of the car.

A tail pipe fits onto the centre pipe, this pipe goes over the differential and has a muffler just prior to the back bumper bar assembly. It is this pipe and muffler assembly which most frequently requires replacing due to condensation and rust within the muffler. Each type of body style has its own specific tail pipe and muffler assembly.

GENERAL DESCRIPTION - V8

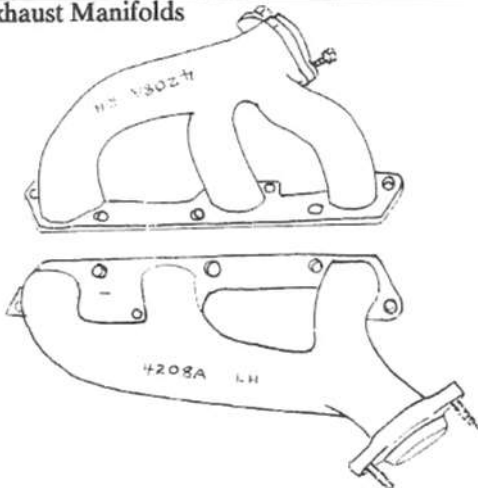
Models with V8 engines are similar to the two muffler exhaust system fitted to V6 powered vehicles.

MAINTENANCE

Exhaust System Alignment

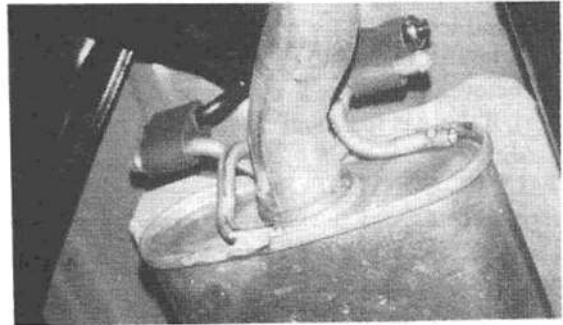
The exhaust system must not have any leaks, binds, grounding and excessive vibration. If these occur they are usually caused by: loose, broken or improperly aligned clamps, insulators or brackets or improperly connected pipes. Any of these mentioned could alter the clearances of the exhaust system components. If any of these conditions occur, the exhaust system components must be checked, adjusted or replaced to make certain the specified clearances are maintained.

V6 Exhaust Manifolds



Exhaust mounting brackets

Centre muffler



Exhaust mounting brackets

Rear muffler

All the pipe joints have a peg and a notch which must be equal to gain correct alignment.

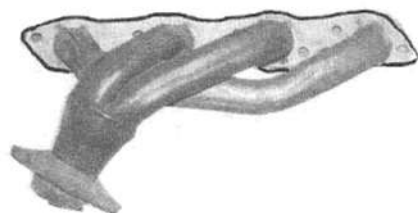
To adjust the exhaust system components perform the following procedure:

1. Slacken the securing hardware, clamps and the pipe support brackets.
2. Gradually align the exhaust system so that all installation dimensions are within the limits and tighten all attachments.

***Tighten the clamp nuts and the exhaust manifold nuts evenly and alternately.**

3. Start the engine and check the exhaust system for leaks.

V8 Exhaust Manifolds



* Mufflers, inlet pipes and outlet pipes, brackets, clamps and insulators should be replaced if they are defective or become badly corroded. Do not attempt repair of these parts.

INSPECTION

Exhaust System

Inspection

Check the inlet pipe, outlet pipe, and muffler for cracked joints, broken welds and corrosion damage (holes) that would cause a leaking exhaust system. Check the clamps, brackets and insulators for cracks and stripped or badly corroded bolt threads. When pipe clamp(s) are eased, and/or removed to replace a pipe or muffler, replace the clamp(s), if there is reasonable doubt that its service life is limited.

CATALYTIC CONVERTER

A large percentage of the catalytic converters manufactured in Australia are exported for use on many foreign vehicles.

Catalytic converters and mufflers look very similar. Except a catalytic converter when operating properly will convert carbon monoxide and hydrocarbons, that is exhaust gas into carbon dioxide which is a harmless gas that is present in our environment.

The outside consists of a stainless steel housing, the converter internal components consist of a ceramic monolith which has small holes to allow the exhaust gasses to flow through. The converter housing has gauze packed in between the housing and the honeycombed ceramic monolith.

Unleaded petrol will give a black tailpipe instead of the traditional light grey exhaust that is expected with leaded petrol.

PROBLEM DIAGNOSIS

Problem: Leaking exhaust system!

Possible Causes and Remedies:

- * Leaks at exhaust pipe joins. Remedy - Check for broken or loose clamps or clamp nuts and joint bolts.
- * Gaskets damaged. Remedy - Replace gasket.
- * Muffler, catalytic converter or exhaust pipe burnt out or rusted out. Remedy - Replace faulty items.

Problem: Excessive noise!

Possible Causes and Remedies:

- * Muffler, catalytic converter or exhaust pipe burnt out or rusted out. Remedy - Replace faulty items.
- * Leaks at exhaust pipe joins. Remedy - Check for broken or loose clamps or clamp nuts and joint bolts.
- * Gaskets damaged. Remedy - Replace gasket.
- * Exhaust manifold loose at cylinder head. Remedy - Torque exhaust studs or replace if necessary.

Problem: Poor fuel economy!

Possible Causes and Remedies:

- * Blocked catalytic converter. Remedy - Replace catalytic converter.
- * Exhaust pipe damaged. Remedy - Replace exhaust pipe.

TORQUE WRENCH SPECIFICATIONS

Nm

Exhaust manifold to cylinder head studs	40 - 60
Oxygen sensor	38 - 46
Front exhaust pipe flange to exhaust manifold flange attaching bolts	20 - 27
Catalytic converter flange to exhaust pipe bolts .	30 - 50
Exhaust clamp nuts	10 - 20
Tailpipe bracket to rear hanger bolts	20 - 25

