

SIX CYLINDER ENGINE

PART 8-2

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DESCRIPTION

BROADBAND MANIFOLD (Fig. 1)

The "Broadband" manifold is designed to improve torque output throughout a broad range of engine speeds.

The lengths of the inlet manifold have been designed to optimise the engine's performance at both low and high engine speeds.

In the traditional inlet manifold, the length has been a compromise: long length gives good low speed torque characteristics, but throttles the engine at high speed; short inlet manifolds allow the engine to breathe well at high speeds, but cause a loss of torque at low speeds.

In the broadband manifold, there are two manifold paths. In the low speed path, air enters the plenum, and then loops around the long runners to enter the cylinder head ports.

At high engine speed, the broadband valve opens, and allows air to flow in two paths: part of the air flows through the open high speed duct, and some air still flows through the low speed duct.

The valve is open with the engine off, and closes during cranking. The valve remains closed until 3800 rpm is reached and is open at all engine speeds greater than this.

ADJUSTMENTS

BASE IDLE SPEED

The engine and EFI system must be in good condition and thoroughly warmed up prior to testing base idle speed.

1. Connect a tachometer to the engine.
2. Connect the New Generation Star Tester to the vehicle, start the engine and initiate the Key On Engine Running Ignition Timing Test (KOER IGN TIMING TEST).
3. The ignition timing will now be held at TDC.
4. Insert a 0.75 mm spacer between the throttle lever stop tab and the throttle screw on the throttle body.
5. Unplug the IAC <ISC> connector.

6. Inspect/adjust base idle speed to 700 ± 20 rpm via the base idle screw.
7. Reconnect the IAC <ISC>, remove the 0.75 mm spacer, and exit out of the KOER Ignition Timing Test.

REMOVAL AND INSTALLATION

I-6 ENGINE FRONT SUPPORT (Fig 2)

Removal (RH only)

1. Place vehicle on hoist but do not raise vehicle.
2. Support engine using support bar across engine bay and safety chains.
3. Remove top engine mount nut and heat shield assembly.
4. Raise the vehicle to full height.
5. Remove bolt from steering column intermediate shaft universal joint (steering rack end).
6. Remove all nuts attaching both the 2A and 2B cross members to the side rails (both sides).
7. Remove the lower bolt attaching engine mount to 2B cross member (both sides).
8. Remove hydraulic engine mount from the vehicle.

Installation

1. Reverse the removal procedure ensuring all hardware is torqued to specification. Apply Loctite 262 to the engine mounting to block bracket bolt on installation.

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