

8. Cylinder Head

Service Information	8-1	Cylinder Head Removal/Installation	8-7
Troubleshooting	8-1	Cylinder Head Disassembly/Assembly	8-8
Camshaft Removal/Installation	8-2		

Service Information

- This section covers service procedures for the cylinder head, valves, camshaft and cylinder. Cylinder head removal/installation can be performed with the engine in the frame.
- When disassembling, mark and store the disassembled parts to ensure they are reinstalled in their original locations.
- Clean all disassembled parts with clean solvent and dry them by blowing them off compressed air before inspection.
- Pour clean engine oil into the oil pockets in the cylinder head during assembly to lubricate the camshaft lobes.

Troubleshooting

- Engine top end problems usually affect engine performance. These can be diagnosed by a compression or leak-down test, or by tracing noises to the top-end with a sounding rod or stethoscope.

Compression Too Low, Hard Starting Or Poor Performance At Low Speed

- Valves
 - Incorrect valve adjustment
 - Burned or bent valves
 - Incorrect valve timing
 - Broken valve spring
 - Weak valve spring
- Cylinder head
 - Leaking or damaged head gasket
 - Warped or cracked cylinder head
 - Loose spark plug

Compression Too High

- Excessive carbon built-up in cylinder head or on top of piston

Excessive Smoke

- Worn valve stem or valve guide
- Damaged stem seal

Excessive Noise

- Incorrect valve adjustment
- Sticking valve or broken valve spring
- Damaged or worn camshaft
- Loose, worn or damaged cam chain
- Worn or damaged cam chain tensioner
- Worn cam sprocket teeth

Rough Idle

- Low cylinder compression
- Intake air leak