

TROUBLESHOOTING

- Engine top-end problems usually affect engine performance. These problem can be diagnosed by a compression test, or by tracing top-end noise with a sounding rod or stethoscope.
- If the performance is poor at low speeds, check for white smoke in the crankcase breather hose. If the hose is smoky, check for a seized piston ring (page 10-7).

Compression too low, hard starting or poor performance at low speed

- Valves:
 - Incorrect valve adjustment
 - Burned or bent valve
 - Incorrect valve timing
 - Broken valve spring
 - Uneven valve seating
 - Valve stuck open
 - Weak valve spring
- Cylinder head:
 - Leaking or damaged cylinder head gasket
 - Warped or cracked cylinder head
 - Loose spark plug
- Cylinder/piston problem (page 10-3)

Compression too high, overheating or knocking

- Excessive carbon build-up on piston head or on combustion chamber
- Decompressor system problem (page 9-12)

Excessive smoke

- Worn valve stem or valve guide
- Damaged stem seal
- Cylinder/piston problem (page 10-3)

Excessive noise

- Incorrect valve adjustment
- Sticking valve or broken valve spring
- Excessive worn valve seat
- Worn or damaged camshaft
- Worn or damaged cam chain
- Worn cam sprocket teeth
- Worn rocker arm and/or shaft
- Worn or damaged cam chain tensioner
- Worn cylinder (page 10-4)
- Worn piston or piston rings (page 10-7)

Rough idle

- Low cylinder compression