

## TOOLS

Compression gauge attachment	07RMJ-MY50100	Equivalent commercially available
Valve spring compressor	07757-0010000	
Valve spring compressor attachment	07959-KM30101	
Tappet hole protector	07HMG-MR70002	
Valve guide driver	07743-0020000	
Valve guide reamer, 4.008 mm	07MMH-MV90100	
Valve seat cutters		— these are commercially available
Seat cutter, 27.5 mm (45° IN)	07780-0010200	
Seat cutter, 24.5 mm (45° EX)	07780-0010100	
Flat cutter, 27 mm (32° IN)	07780-0013300	
Flat cutter, 24 mm (32° EX)	07780-0012500	
Interior cutter, 26 mm (60° IN)	07780-0014500	
Interior cutter, 22 mm (60° EX)	07780-0014202	
Cutter holder, 4.0 mm	07781-0010500	

## TROUBLESHOOTING

- Engine top-end problems usually affect engine performance. These problem can be diagnosed by a compression test or by tracing engine noises to the top-end with a sounding rod or stethoscope.
- If the performance is poor at low speeds, check for white smoke in the crankcase breather tube. If the tube is smoky, check for a seized piston ring (Section 11).

### 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
- Cylinder head:
  - Leaking or damaged head gasket
  - Warped or cracked cylinder head
- Worn cylinder, piston or piston rings (section 11)

### Compression too high, overheating or knocking

- Excessive carbon build-up on piston crown or on combustion chamber

### Excessive smoke

- Cylinder head:
  - Worn valve stem or valve guide
  - Damaged stem seal
- Worn cylinder, piston or piston rings (section 11)

### Excessive noise

- Cylinder head:
  - Incorrect valve adjustment
  - Sticking valve or broken valve spring
  - Damaged or worn camshaft
  - Worn or damaged cam chain
  - Worn cam sprocket teeth
- Worn cylinder, piston or piston rings (section 11)

### Rough idle

- Low cylinder compression