



# 7. CYLINDER/PISTON

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## SERVICE INFORMATION

### GENERAL

All cylinder/piston maintenance and inspection can be accomplished without removing the engine from the frame.

### SPECIFICATIONS

Cylinder		I.D.	STANDARD	SERVICE LIMIT
			67.000–67.010 mm (2.6378–2.6382 in)	67.10 mm (2.642 in)
		Warpage	—	0.10 mm (0.004 in)
Piston, piston rings and piston pin	Piston ring-to-ring groove clearance	TOP	0.015–0.045 mm (0.0006–0.0018 in)	0.06 mm (0.002 in)
		SECOND	0.015–0.045 mm (0.0006–0.0018 in)	0.06 mm (0.002 in)
	Ring end gap	TOP	0.15–0.30 mm (0.006–0.012 in)	0.5 mm (0.02 in)
		SECOND	0.15–0.30 mm (0.006–0.012 in)	0.5 mm (0.02 in)
		OIL (SIDE RAIL)	0.30–0.90 mm (0.012–0.035 in)	1.1 mm (0.04 in)
			Piston O.D.	66.970–66.990 mm (2.6366–2.6374)
		Piston pin bore	17.002–17.008 mm (0.6694–0.6696 in)	17.05 mm (0.671 in)
		Connecting rod small end I.D.	17.016–17.034 mm (0.6699–0.6706 in)	17.07 mm (0.672 in)
		Piston pin O.D.	16.994–17.000 mm (0.6691–0.6693 in)	16.98 mm (0.669 in)
		Piston-to-piston pin clearance	0.002–0.014 mm (0.0001–0.0006 in)	0.04 mm (0.002 in)
		Connecting rod-to-piston pin clearance	0.016–0.040 mm (0.0006–0.0017 in)	0.06 mm (0.002 in)
		Cylinder-to-piston clearance	0.010–0.050 mm (0.0003–0.0020 in)	0.10 mm (0.004 in)

### TOOLS

#### Special

Piston base (2 required)	07958–3000000
Piston ring compressor (2 required)	07954–2830000

## TROUBLESHOOTING

#### Compression low

1. Worn cylinder or piston rings
2. Leaking valve seats

#### Excessive smoke

1. Worn cylinder or piston
2. Improper installation of piston rings
3. Scored or scratched piston or cylinder wall

#### Overheating

1. Excessive carbon build-up on the piston or combustion chamber wall
2. Incorrect spark plug

#### Knocking or abnormal noise

1. Worn piston and cylinder
2. Excessive carbon build-up
3. Low octane fuel