

5. Measure the piston ring side clearance with a thickness gauge. (Fig. 3.53)

Item	Standard value	Serviceable limit
Piston ring side clearance	0.01~0.045 (0.0004~0.018)	Replace if over 0.1 (0.004 in)

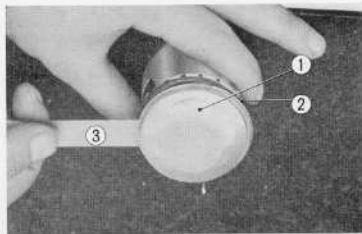


Fig. 3.53 Measuring the piston ring side clearance

- ① Piston
② Piston ring
③ Thickness gauge

6. Piston ring groove. (Fig. 3.54)

Item	Standard value	Serviceable limit
Bottom diameter ①	44.2~44.3 (1.740)~1.7441 in)	
Groove width (top and 2nd ring groove) ②	1.2~1.22 (0.0472~0.0480 in)	Replace if over 1.3 (0.0512 in)
Groove width (oil ring groove) ③	2.5~2.52 (0.0984~0.0992 in)	Replace if over 2.6 (0.1012 in)

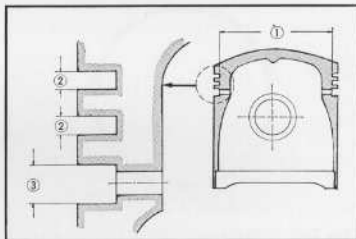


Fig. 3.54 Piston ring groove dimensions

7. Piston rings

Measure the ring end gap by inserting the ring (1) into the cylinder so that the ring is at right angle to the cylinder axis. (Fig. 3.55)

Item		Standard value	Serviceable limit
Ring thickness	1st & 2nd	1.175~1.190 (0.0808~0.0812 in)	Replace if under 1.13 (0.0445 in)
	Oil	2.475~2.490 (0.9743~0.9802 in)	Replace if under 2.43 (0.0953 in)
Ring closing force	1st & 2nd	0.63~0.84 kg (1.38~1.85 lbs)	Replace if under 0.4 kg (0.88 lbs)
	Oil	0.7~1.2 kg (1.54~2.64 lbs)	Replace if under 0.6 kg (1.32 lbs)
Ring end gap (Fig. 3.55)	1st & 2nd	0.15~0.35 (0.006~0.014 in)	Replace if over 0.5 (0.02 in)
	Oil	0.15~0.40 (0.0059~0.0157 in)	Replace if over 0.5 (0.020 in)

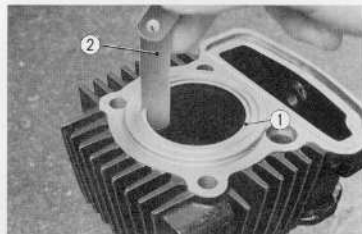


Fig. 3.55 Piston ring end gap

- ① Piston ring
② Thickness gauge

NOTE:

1. Oversize piston rings are available in four sizes; 0.25, 0.50, 0.75 and 1.00 mm (0.01, 0.02, 0.03 and 0.04 in).