

1) Disassembly

Spread the opening of the piston ring with both thumbs, and push up the opposite side of the ring. To remove the expander ring, spread the opening with a small screwdriver.

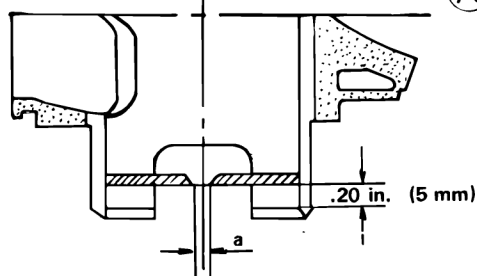


2) Overhaul

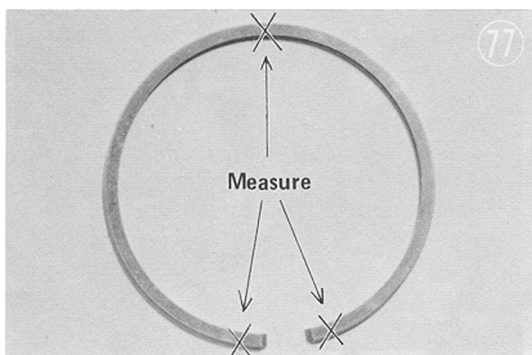
a. Piston Ring Wear

(1) As the ring wears, the end gap grows larger, allowing compression leakage. Following the illustration, insert the ring .20 inch (5 mm) into a cylinder with a standard inside diameter. With the ring in a horizontal position with respect to the bottom of the cylinder, measure the end gap with a thickness gauge. The standard gap is .008-.012 in. (0.2-0.3 mm) for the H1 and .008-.016 in. (0.2-0.4 mm) for the H2. If the gap exceeds .031 in. (0.8 mm) replace the ring.

Piston Ring End Gap



(2) There is a difference in tension between the ends of the ring and the center, and consequently a difference in wear. Therefore, measure "A" and "B" with vernier calipers or a micrometer at the three points indicated.



Ring Measurement

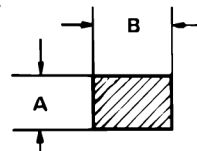


Table 8 Piston Ring Dimensions

Model		A		B
H1	Top	inch	.0591 $\begin{matrix} -.0004 \\ -.0012 \end{matrix}$.0984 $\pm .004$
		mm	1.5 $\begin{matrix} -.01 \\ -.03 \end{matrix}$	2.5 ± 0.1
	2nd	inch	.0591 $\begin{matrix} -.0004 \\ -.0012 \end{matrix}$.0748 $\pm .004$
		mm	1.5 $\begin{matrix} -.01 \\ -.03 \end{matrix}$	1.9 ± 0.1
H2	Top	inch	.0591 $\begin{matrix} -.0004 \\ -.0012 \end{matrix}$.118 $\pm .004$
		mm	1.5 $\begin{matrix} -.01 \\ -.03 \end{matrix}$	3.0 ± 0.1
	2nd	inch	.0591 $\begin{matrix} -.0004 \\ -.0012 \end{matrix}$.106 $\pm .004$
		mm	1.5 $\begin{matrix} -.01 \\ -.03 \end{matrix}$	2.7 ± 0.1

b. Piston Ring Tension

The piston rings must have a certain amount of spring tension so that they will ride snugly against the inside cylinder wall and prevent compression leakage. However, too much tension will cause abnormally fast wear, and may possibly bring about piston seizure. Confirm correct ring tension by measuring the gap between the ends of the ring, with the ring sitting free from any restrictions.

Table 9 Ring End Gap (free)

Model		Top	2nd
Hi	inch	about .276	.374
	mm	about 7.0	9.5
H2	inch	about .315	.315
	mm	about 8.0	8.0

c. Piston Ring/Groove Clearance

This clearance is to allow room for piston ring expansion. But too much clearance will allow compression leakage, and too little clearance will cause the ring to stick to the piston and invite piston seizure. Measure clearance "A" at several points around the piston to determine the extent of piston or ring wear.

Table 10 Ring/Groove Clearance

Model	Groove	Standard	Service Limit
H1, H2	Top	inch	.0035 - .0051
		mm	0.09 - 0.13
	2nd	inch	.0020 - .0035
		mm	0.05 - 0.09