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Piston Assembly

■ **NOTE:** Whenever a piston, rings, or pin is out of tolerance, it must be replaced.

CLEANING/INSPECTING PISTON

1. Using a non-metallic carbon removal tool, remove any carbon buildup from the dome of the piston.
2. Inspect the piston for cracks in the piston pin, dome, and skirt areas.
3. Inspect the piston for seizure marks or scuffing. Repair with #400 grit wet-or-dry sandpaper and water or honing oil.

■ **NOTE:** If scuffing or seizure marks are too deep to repair with the sand paper, replace the piston.

4. Inspect the perimeter of each piston for signs of excessive “blowby.” Excessive “blowby” indicates worn piston rings or an out-of-round cylinder.

REMOVING PISTON RINGS

1. Starting with the top ring, slide one end of the ring out of the ring groove.



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2. Remove each ring by working it in a circular motion toward the dome of the piston.

■ **NOTE:** If the existing rings will not be replaced with new ones, note the location of each ring for proper installation. When installing new rings, install as a complete set only.

CLEANING/INSPECTING PISTON RINGS

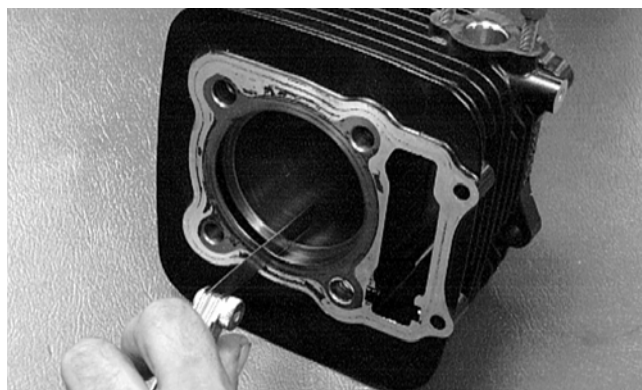
1. Take an old piston ring and snap it into two pieces; then grind the end of the old ring to a 45° angle and to a sharp edge.
2. Using the sharpened ring as a tool, clean carbon from the ring grooves. Be sure to position the ring with its tapered side up. Only use parts-cleaning solvent to clean the third ring groove (oil ring groove) of the piston.

CAUTION

Improper cleaning of the ring grooves by use of the wrong type of ring-groove cleaner will result in severe damage to the piston.

MEASURING PISTON RING END GAP

1. Place each piston ring in the wear portion of the cylinder. Use the piston to position each ring squarely in the cylinder.
2. Using a feeler gauge, measure each piston ring end gap. Acceptable ring end gap must be within specifications.



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MEASURING PISTON PIN (Outside Diameter) AND PISTON PIN BORE

1. Measure the piston pin outside diameter at each end and in the center. Minimum diameter must be within specifications. If measurement is not within specifications, the piston pin must be replaced.