

RING INSTALLATION

Each ring must be checked for proper ring end gap.

1. Place ring about 1" down in the cylinder and check gap with a feeler gauge.
2. Using the **RING END GAP FACTORS** below calculate the required **MINIMUM** gap.
3. If necessary; use a ring file to open the gap to the minimum requirement and then remove sharp edges.
4. When filing; only file one side so the opposite side is used as a straight reference.
5. Install ring on piston and check that it rotates freely. See Orientation below.
6. Refer to diagrams below for ring placement on the piston.

RING END GAP FACTORS

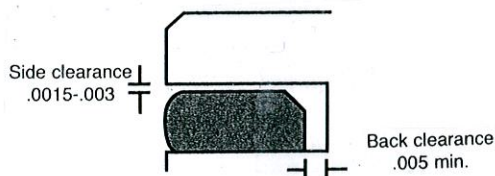
	Top Ring	Second Ring	Oil Scraper
Dirt Bike / ATV	.0040"	.0050"	.015" Min
Dirt Bike / ATV Race	.0045"	.0055"	.015" Min

Example : 96mm Bore, to convert it inches divide by 25.4 = 3.780"

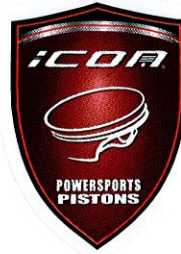
3.780" X .0040" = .015" Minimum Top Ring gap.

RING ORIENTATION

1. First check for proper clearance in both Side (Axial) and Back (Radial) dimensions.



2. **Top Ring:** If ring has a DOT install UP. If NO DOT but has an inside bevel install with the bevel UP. If no DOT or bevel ring can be installed in either direction.
3. **Second Ring:** If ring has a DOT install UP with inside bevel DOWN. If no DOT install bevel side DOWN.
4. **Oil Ring:** Install expander with ends butted together but not overlapped. Double check after scraper rings are installed.



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POWERSPORTS PISTONS

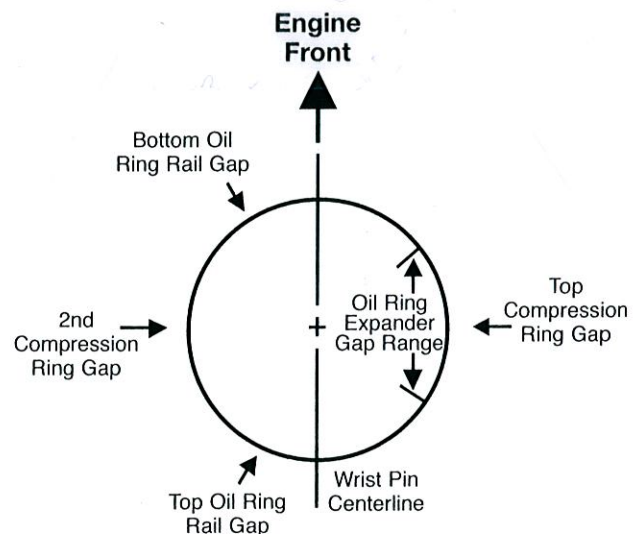
GENERAL INSTALLATION

INSTRUCTIONS

- Piston and ring sets are designed for OEM cylinders which include cast iron liners, nickel ceramic also known as Nikasil, Electrofusion and boron composite. **DO NOT USE** with CHROME PLATED cylinders.
- Refer to your model shop manual for disassembly and reassembly instructions.
- Refer to this sheet for Ring Installation – FRONT PAGE and Cylinder Preparation - BACK PAGE
- Kits that include gaskets: Head Gaskets go on dry – no sealant required.

Coat cylinder, piston skirt, pin and pin boss along with rings in petroleum based oil before inserting into cylinder.

Align rings as per diagram below – double check oil expander has not overlapped itself after the scraper rings were installed.



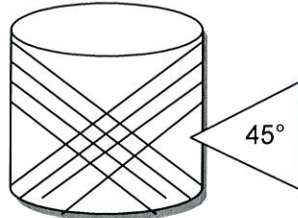
CYLINDER WALL PREPERATION

PISTON TO WALL CLEARANCE NUMBER is located on the box label.

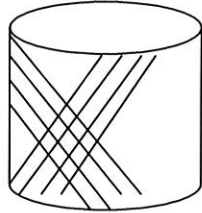
STONE GRIT SIZE – Final hone, Sunnen 280 TO 300 grit.

CROSS HATCH ANGLES

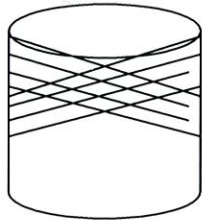
The correct angle for cross hatch lines to intersect is approximately 45 degrees.



Too steep an angle promotes oil migration down the cylinder resulting in a thin oil film which can cause ring and cylinder scuffing.



Too flat a cross hatch angle can hold excess oil which conversely causes thicker oil films which the piston rings will ride up on or hydroplane. Excessive oil consumption will result.



GENERAL CYLINDER CLEANING:

After honing, the cylinder must be washed to remove ALL traces of honing oil and abrasive.

Wash with solvent followed by a degreaser type soap. Cylinder is clean when wiped with a lightly oiled non-lint white rag and comes out clean.



SPECIAL NOTE ON PLATED CYLINDERS:

Plated cylinders may not be bored without re-plating. Use only a ridged hone with a diamond stone for deglazing cylinder wall.

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