

UNIVERSAL TWO CYCLE PISTON KIT

Piston & Rings Installation Instructions



CAUTION!

The piston rings are **VERY FRAGILE!** They will break easily if they are incorrectly stretched over the piston to install into the ring grooves. It is absolutely necessary that you follow this installation instructions **EXACTLY** as shown. Grasping the ring ends and expanding it enough to install over the piston **WILL** break the ring.

- 1) After you have removed the old piston from your engine, check the top connecting rod bearing. Replace if necessary.
- 2) Insert one of the piston Pin Snap Rings into the groove on one side of the new piston. Add a small amount of 2 cycle oil to the new piston pin and carefully insert it about 3/8" into the opposite side of the piston. Holding the piston over the connecting rod, insert the piston pin completely. **BE CAREFUL** - if the pin is not lined up exactly, it will stick and jam in the piston. If this occurs, remove it and try again. Once inserted completely, install the opposite piston Pin Snap Ring. **DO NOT** force the pin into the piston or piston damage will result.

- 3) Most piston rings are tapered or the ring ends are shaped so they will only fit one way into the piston grooves. Look closely at the piston ring groove, the ring locating pin in the piston groove and the ring ends to determine which side of the rings should be on top. Start the piston ring at one end by inserting it into the ring groove, very near the ring locating pin, then slowly press the ring down into the groove working your way around to the other end of the ring. See figures 1 & 2. If it sticks do not force it, back up and start over again making sure you have it in position or turn over to see if the wrong side is up.

NOTE: Once the ring is in place and the ring ends are aligned with the ring locating pin (see figure 2), gently squeeze the ring into the ring grove to verify that it will compress into the groove without excessive resistance. If resistance is felt, remove the ring and try turning it over, then re-install. **DO NOT** force the rings or they will break.

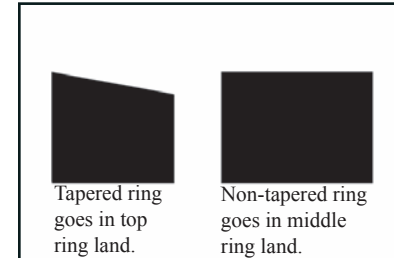
- 4) There will be an arrow or "EX" marking on top of the piston. This marking will always point to or will be closer to the exhaust side of the piston. If for any reason you can not find this identifying mark, remember that the side of the piston skirt with the "ports" or "windows" (see figure 2), will face away from the exhaust port side of the cylinder.

- 5) Place the cylinder gasket in place on the crank case and lube the inside of the cylinder and outside of the piston with some 2 cycle oil. While gently squeezing the rings into the ring grooves with your fingers, gently push the cylinder down onto the piston. You may find a slight side to side rocking action helps the rings to smoothly collapse and slide into the cylinder.

DO NOT force the cylinder onto the piston. Excessive force means something is not in line or that something is out of place. Start over and make sure of the alignment of the components.

- 6) Follow your cart manufacturer's instructions for final assembly and cylinder head bolt torque.

On Yamaha Engines, use this diagram.



Cross Section of Piston Rings



Figure 1 - Install rings



Figure 2 - Ring Locating Pin

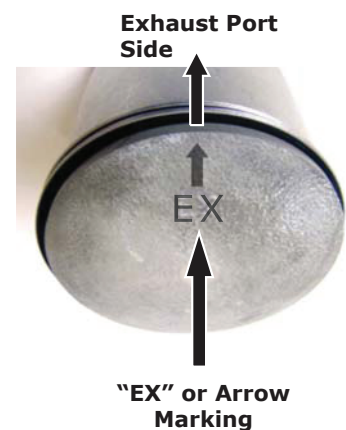


Figure 3 - Piston Installation