

# Instruction sheet Pistons



Thank you for purchasing a high quality ProX piston kit. This kit is designed and manufactured with state of the art equipment. In order to enable you to enjoy a long life span and maximum performance of the product, we herewith give you some recommendations to ensure proper installation. PLEASE NOTE!! These are general tips for installation, not a complete installation or instruction manual. Installation of this product should always be done by an experienced mechanic.

**\*\*ProX pistons and rings are designed for a Cast Iron or Nickel Ceramic plated cylinder only! Do not use this piston kit in chrome plated cylinders!\*\*\***

1. If possible check if the ProX product is the correct replacement part by comparing it with the old product. In case of any doubts, please contact your point of purchase for more information. Some kits may fit more applications than the ones that are listed on the label of the piston box.
2. Always clean parts thoroughly and use quality installation lube when fitting engine parts. The cylinder(s) should be cleaned thoroughly with solvent and paper towel until the towel comes out clean.
3. It is extremely important that the air filter box and engine such as crankcase and cylinder head are always being checked for cleanliness.
4. In case you are missing data for proper installation, the official and original installation specifications and manual for the original parts should be used.
5. Plated cylinders should always be honed or deglazed before installation of the part. Do NOT use a "ball hone" or "brake hone stones" but a diamond tipped nylon brush to "clean the bore(s)".
6. Before piston installation, cylinders should always be checked on condition. Check carefully for cracks, exact diameter, roundness and if they are free of taper.
7. Before installation, the size of each individual piston should always be checked. In general pistons should be measured on a 90 degrees angle to the wrist pin and at 25% of the piston length from the bottom of the skirt. The piston and cylinder size should result in correct piston to cylinder wall clearance for the specific model. The chart below gives a general indication of clearance by capacity but original model specifications should always supersede the table below.

Capacity / Cylinder	50-85cc	86-125cc	126-250cc	251-250cc	501cc	Dirt Bike 4-stroke 250-450cc	Go Kart 100-125cc	PWC - Jet Ski 2-stroke
Clearance indication in mm or "	0,05mm or 0.0020"	0,05mm- or 0,06mm or 0.0020"- 0.0025"	0,06mm or 0.025"	0,06mm- or 0,07mm or 0.0025"- 0.0030"	0,06mm- or 0,08mm or 0.0025"- 0.0035"	0,03mm- or 0,05mm or 0.002" CHECK MANUAL!	0,07mm- or 0,09mm or 0.0030"- 0,0035"	0,09mm- or 0,12mm or 0.0035"- 0.0050"
Recommended maximum hours use. (competition) / normal.	(8) / 12	(8) / 12	(8) / 12	(8) / 12	(8) / 12	(15) / 20	3	20

8. Although the included piston rings are matched for the specific piston and bore size, the rings on the piston should always be checked on the ring end gap specifications. The ring gap should be around 0.4 to 0.5% of the piston diameter and can be measured by placing the ring in the cylinder and using a feeler gauge. Normally it is not needed to modify the ring gap.
9. It is not needed to check or modify the ring gap on oil control rings. The ring gap on the second ring should always be larger than the gap in the top compression ring.

10. Install the rings on the piston, starting with the oil control ring (only in case of 4-stroke). Please check for the proper installation of the oil ring expander. See figure 1 for clarification. Then, if applicable, install the second compression ring and finally the top ring. PLEASE NOTE: rings have normally a top side and a bottom side. The top side has a marking, this marking should be facing up. Please check figure 2.

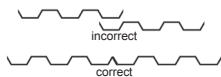


Figure 1

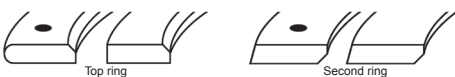


Figure 2

11. Carefully install a piston pin retaining clip on one side in the piston and make sure the clip sits well in the specially designed groove. Then mount the piston on the rod. Markings on the top of the piston should be pointed to the exhaust side or front of the engine. And install the second retaining clip. PLEASE NOTE: **INCORRECTLY INSTALLED CLIPS OR REVERSE INSTALLED PISTONS WILL RESULT IN SEVERE ENGINE DAMAGE!**
12. Make sure installation of the multiple piece oil control ring (if applicable) is still in good order. The ring gaps of all rings should be installed as per the drawing in figure 3.

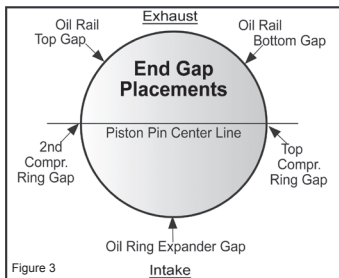


Figure 3

13. Then slide piston into the cylinder by using a piston ring compressor to ensure correct ring positioning. Please check your sales point for special ProX piston ring compressors.
14. Top up engine with a normal specification grade oil such as 10W40 for proper run in. Do not use synthetic oils to run in the engine. Only apply synthetic oil after fully running in the engine.
15. **MAKE SURE VALVE DISTRIBUTION TIMING AND VALVE CLEARANCE IS CORRECTLY SET. FAILURE TO DO SO COULD RESULT IN SEVERE ENGINE DAMAGE.**
16. Before starting the engine, check manually if the engine rotates freely.
17. After starting up, the engine should be heated up slowly and keep it revving slightly above 2,000 RPM in order to get sufficient lubrication. Vary load on the engine up to until 70% of redline in order to get the rings to seat properly. Avoid long full throttle operation during running in.

You are now ready to go and we hope you will enjoy your reconditioned engine. Please carefully keep record of operation hours of the engine and use the information in the previous table for correct and important timing of piston replacement.