



PERFORMANCE PRODUCTS, INC.

PISTON RING

06/17/11

INSTALLATION INSTRUCTIONS

1. File fit rings sets require filing of the top and 2nd rings to achieve the correct end gap. To properly measure the ring gap, the ring should be square in the bore 1" down from the deck. Measure the ring end gap with a feeler gauge or equivalent device. Calculate the recommended ring end gap from the chart below.

APPLICATION	TOP RING	SECOND RING	OIL RING RAIL
Street, Strip, Circle	Bore x .0045"	Bore x .0035"	Min. .015"
Nitrous up to 150hp	Bore x .006"	Bore x .0045"	Min. .015"
Nitrous over 150hp	Bore x .008"	Bore x .0055"	Min. .015"
Blown Gas*	Bore x .0055"	Bore x .0035"	Min. .015"
Blown Alcohol*	Bore x .0045"	Bore x .0035"	Min. .015"
Blown Nitro*	Bore x .0055"	Bore x .0035"	Min. .015"

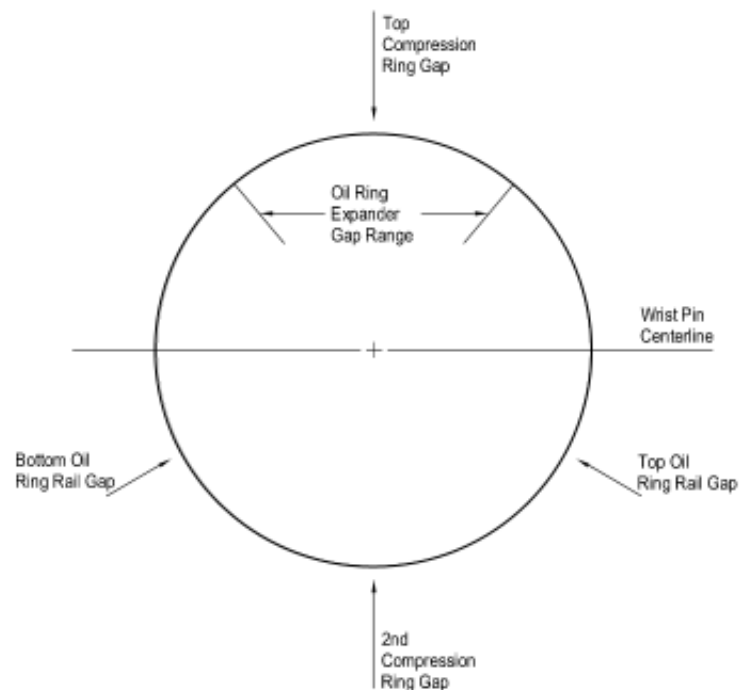
*Indicates any type of forced induction system.

2. A proper ring gap filing tool must be used, such as Manley tool P/N 41833. Ring filing should be done in an inward direction and square to the sides of the ring. Must de-burr all edges after filing.

3. Correct ring installation is critical. The top ring will have a shiny gray edge. When the top and 2nd ring has a dot, install dot side up. Unmarked top rings with an inner bevel install with bevel up. Unmarked 2nd rings with inner bevel install with bevel down. Narrow rings (1.0/1.2mm) that aren't marked or beveled can be installed with either side up. Do not overlap the ends of the oil ring expander. See orientation diagram.

4. Ring to piston groove back clearance should be a minimum of .005" deeper than the radial wall dimension of the piston ring. The piston ring should not stick out of the groove by any amount. Ring groove side clearance should be a minimum of .0015" to a maximum of .0030".

5. When included, the oil rail supports are installed on the bottom of the oil ring groove underneath the oil rail. The oil rail supports feature a special protruding dimple to prevent rotation of the oil rail support and the protruding dimple should be installed facing the bottom of the piston. This dimple should be positioned directly in line with the piston pin. Keep the oil rail support gap 90° from the piston pin bore opening.



Subaru Ring Sets Containing Oil Rails with Tab

When installed in a horizontally opposed engine, rail gaps should be installed as shown to the right.

The rail tab must be installed below the oil ring expander with the tab facing toward the bottom of the ring groove extending into the split oil drain back hole.

Use caution to not install the rail tab into the piston pin oil hole. The gap should be situated to the top of the engine to block oil migration at the bottom of the cylinders.

Insert tab in this location.

