



GENERAL PISTON INSTALLATION GUIDELINES



NOTE: Piston installation guidelines are for general installation only. Always refer to the OEM service manual for critical engine data. When installation is not clear, contact your Wossner dealer or professional engine builder before proceeding

Piston to cylinder bore clearance

Your new Wossner piston is precision machined to a very specific skirt diameter for your engine application. Piston skirt diameters are measured at a location 90 degrees from the piston pin, at a low position on the skirt near the bottom of the piston

Wossner performance coated pistons require no adjustments to nominal piston to wall dimensions. The coating is intended to wear into the cylinder wall, and no additional clearance should be calculated for installation. Coating thickness can be .02-.025mm (.0007 - .0010") total build up to skirt diameter

Pistons machined to a grade size are marked on the piston box and the piston crown, the grade size will determine the skirt diameter at the largest point prior to coating. Pistons not machined to a grade size, such as some catalog pistons and custom pistons, will include the piston to wall clearance with the packaging. As a general guideline, use the chart below for general fitment only:

BORE DIAMETER	NA	NA	FORCED INDUCTION	FORCED INDUCTION
MM	CLEARANCE MM	CLEARANCE INCHES	CLEARANCE MM	CLEARANCE INCHES
70.0	.074	.0029	.084	.0033
75.0	.078	.0030	.088	.0034
80.0	.081	.0031	.091	.0035
85.0	.085	.0033	.095	.0037
90.0	.089	.0035	.099	.0039
95.0	.093	.0036	.103	.0040
100.0	.097	.0038	.107	.0042

NOTE: Larger piston to wall clearances may cause piston noise on start up. As the engine temperature increases, *piston noise should be reduced as it reaches operating temperature*

Piston orientation

Your Wossner piston should be installed in the correct orientation. The piston crown may be marked with an arrow for exhaust location, a crown dimple for forward or accessory drive side location, or the valve pockets on four cycle applications will indicate proper orientation

It is important to make certain that the piston be installed in the correct orientation, or engine damage may occur. Verify the piston orientation using the OEM service manual, or confirm with your Wossner dealer

Piston to valve clearance

Your Wossner four stroke piston was machined to exacting valve pocket dimensions. It is important to validate that the piston to valve clearance is correct, and this can be achieved using a mock-up assembly and modeling clay. Valve to piston clearance is normally checked at +/- 10 degrees from TDC:

VALVE	INTAKE	EXHAUST	INTAKE	EXHAUST
DISTANCE	1.5 – 2.0MM	2.0 – 2.5MM	.060 + .080"	.080 - .098"

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Piston ring installation

Your Wossner piston is supplied with high performance piston rings that are specifically engineered for your engine application. It is important to inspect the piston ring end gap during installation, and make adjustment to the end gap if required

Inspect the piston ring end gap in your cylinder, approximately 13mm (.500") down from the top of the cylinder. Install one piston ring at a time, use the piston to assure the ring is flat and square to the cylinder bore. Ring gap can be measured using a feeler gage

The chart below illustrates some typical ring end gap dimensions, based on general guidelines. To calculate the ring end gap, multiply the cylinder bore diameter in inches X the end gap mentioned on the chart:

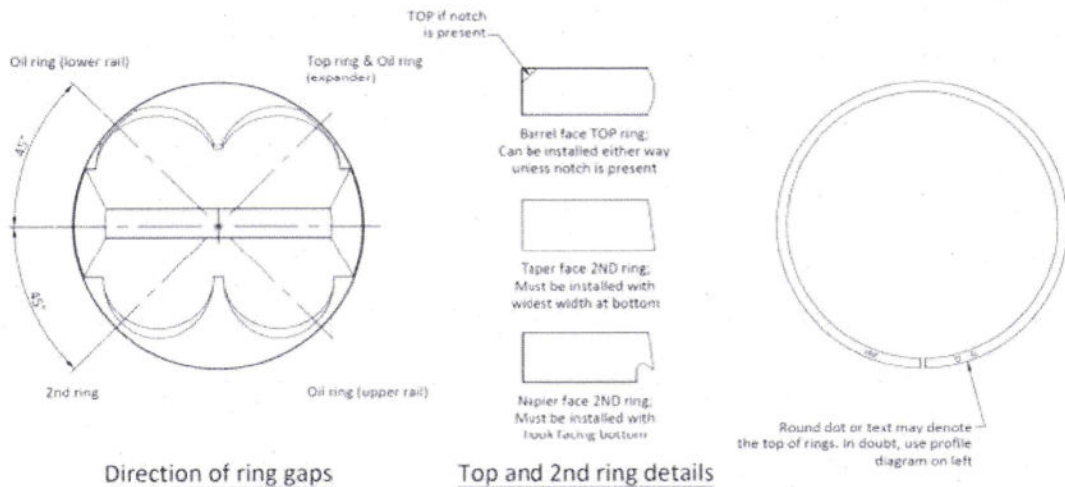
APPLICATION	TOP RING	SECOND RING
NA	.0040	.0050
NA RACING	.0045	.0055
FORCED INDUCTION	.0055	.0065

NOTE: Piston ring oil rails should be a minimum gap of .35 – 1.0mm (.014 - .040")

NOTE: Three piece oil ring separators should be installed with the ends butted only, and not overlapped

NOTE: Two piece oil rings require that the coil expander gap is located opposite of the rail end gap

NOTE: Top and second ring axial clearance should be between .03 - .04mm (.0011 - .0015")



Piston and ring break in

Wossner high performance pistons and rings require a break in period. It is best to follow OEM guidelines for break in. Synthetic oils are not recommended for break in, as these oil types may prevent the piston rings from properly wearing into the cylinder wall

TERMS AND CONDITIONS: Due to the nature of high performance and racing applications, Wossner components are sold without express warranty or any implied warranty of merchantability or fitness for a specific purpose. Wossner shall not, under any circumstances, be liable for any specific, incidental or consequential damages, including, but not limited to, damage, or loss of property or equipment, loss of profits or revenue(s), cost of purchased or replacement goods, or claims of customers of the purpose, which may arise and/or shall result from sale, installation or use of these parts. Installation of these parts may void vehicle manufacturers warranty coverage and/or may cause the vehicle to be illegal in some countries. Please check with local laws on the road use of your vehicle. Wossner reserves the right to make product improvements and changes without incurring liability with respect to similar products previously manufactured. By using these parts you are accepting these terms and conditions.