

Wiseco Boring, Honing, and Cylinder Prep Tips

Adherence to proper boring and honing procedures is essential to overall ring performance. To ensure that the bore finish will retain an oil film, it is vital that the guidelines listed below are followed for cast iron bores.

- Install and torque main bearing caps
- Use torque plates. This simulates the distortion that occurs when the cylinder head is mounted to the block. (Hint: After boring and honing, leave the torque plates in place and fit/gap the piston rings to their respective cylinders)
- Allow for a minimum of .003 excess material for use as honing stock.
- Intermediate hone to within .0005 of finished size with #220-#280 grit stones. (With diamond stones use #280-#400 grit)
- Finish hone with #400 grit stone or higher. (Use #600 grit diamond stone. If using hand-operated equipment, set drill speed between 200-450 rpm.)
- Finish with an appropriate stone or tool to achieve desired plateau finish (see below).

SAE Specifications		
Cast Iron / CK & CV 220 Grit	Moly-Filled 280 Grit	Moly-Filled 400 Grit
70 Grit to -.003	70 Grit to -.003	70 Grit to -.003
220 Grit to size	220 Grit to -.001	220 Grit to -.0015
	280 Grit to size	280 Grit to -.0005
		400 Grit to size

Surface Finish		
Sunnen® CK® & CV®	Stoner Grit Size	Approx. µRa
EHU-412	150	47-52
EHN-512	220	40-48
JHU-525	220	30-36
JHU-623	280	20-25
JHU-818	400	7-14
C30-C03-81	600	3-5

Cylinder Prep - Cross Hatch Pattern

Maintaining the proper cross hatch angle is important for two reasons:

- 1) Oil retention on the cylinder wall
- 2) The rate of ring rotation.

Excessively shallow cross hatch angles can hinder or slow down the necessary ring rotation that allows dissipation of heat. It can also leave too much oil on the cylinder wall allowing the rings to skate over the surface leading to excess oil consumption. Too steep of a cross hatch angle may not provide adequate oil retention and can result in dry starts and premature ring wear. A steep pattern angle can also create excessive ring rotation that will accelerate ring and piston ring groove wear.

