MERCRUISER HI-PERFORMANCE SERIES No. 99-6

☐ WARRANTY INFORMATION ☑ SERVICE INFORMATION

Removal and Installation of 500 Bulldog Press Fit Wrist Pin

Models Affected

All 500 Bulldog engines serial number 0L600007 & up and engines 0L415850, 0L415991, 0L415992, and 0L415993

Background

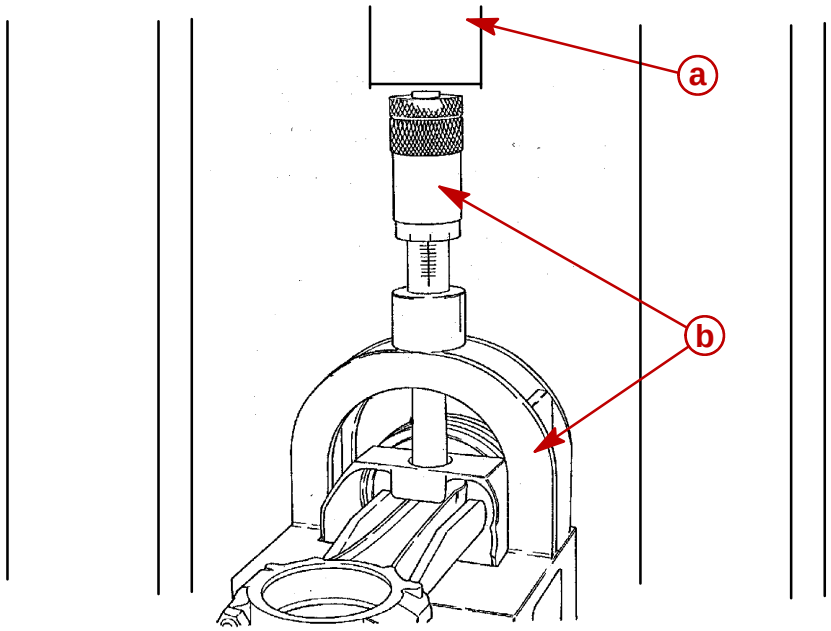
Engineering wanted the 500 Bulldog piston pin retaining method to be common with the rest of the product line in this horsepower range.

Removing Press Fit Wrist Pins from Piston/Rod Assembly

IMPORTANT: These instructions are a supplement to the information in the MerCruiser Hi-Performance Service Manual #3. For assembly, use the rod heating method described in these instructions rather than the press method used in the Service Manual.

1. Use a suitable wrist pin support tool such as the Kent Moore tool P/N J 24086-C to press the wrist pin out of the piston/rod assembly. Follow instructions supplied with the tool.

IMPORTANT: It is often necessary to make modifications to components in the wrist pin tool pressing set to achieve the best results.

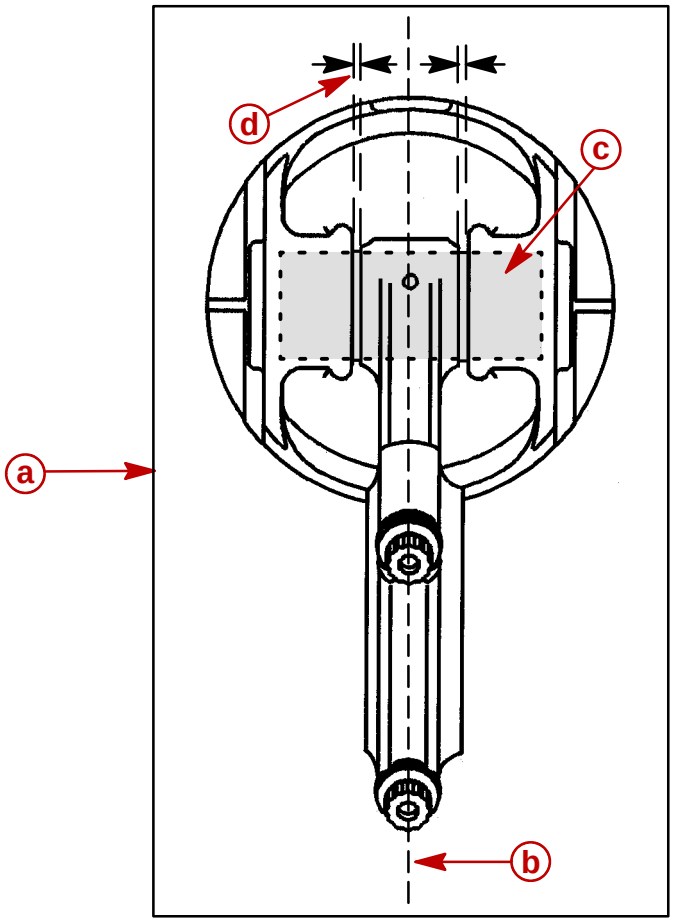


a - Hydraulic Press
b - Kent Moore tool J-24006-C

Installing Piston Pin

1. The wrist pin should be installed in the piston/rod assembly by heating the pin end of the rod. This method allows the pin to be inserted without using a press and avoids the possibility of galling either the rod bushing or the wrist pin. **Use a rod heating tool such as the Sunnen CRH-50.**

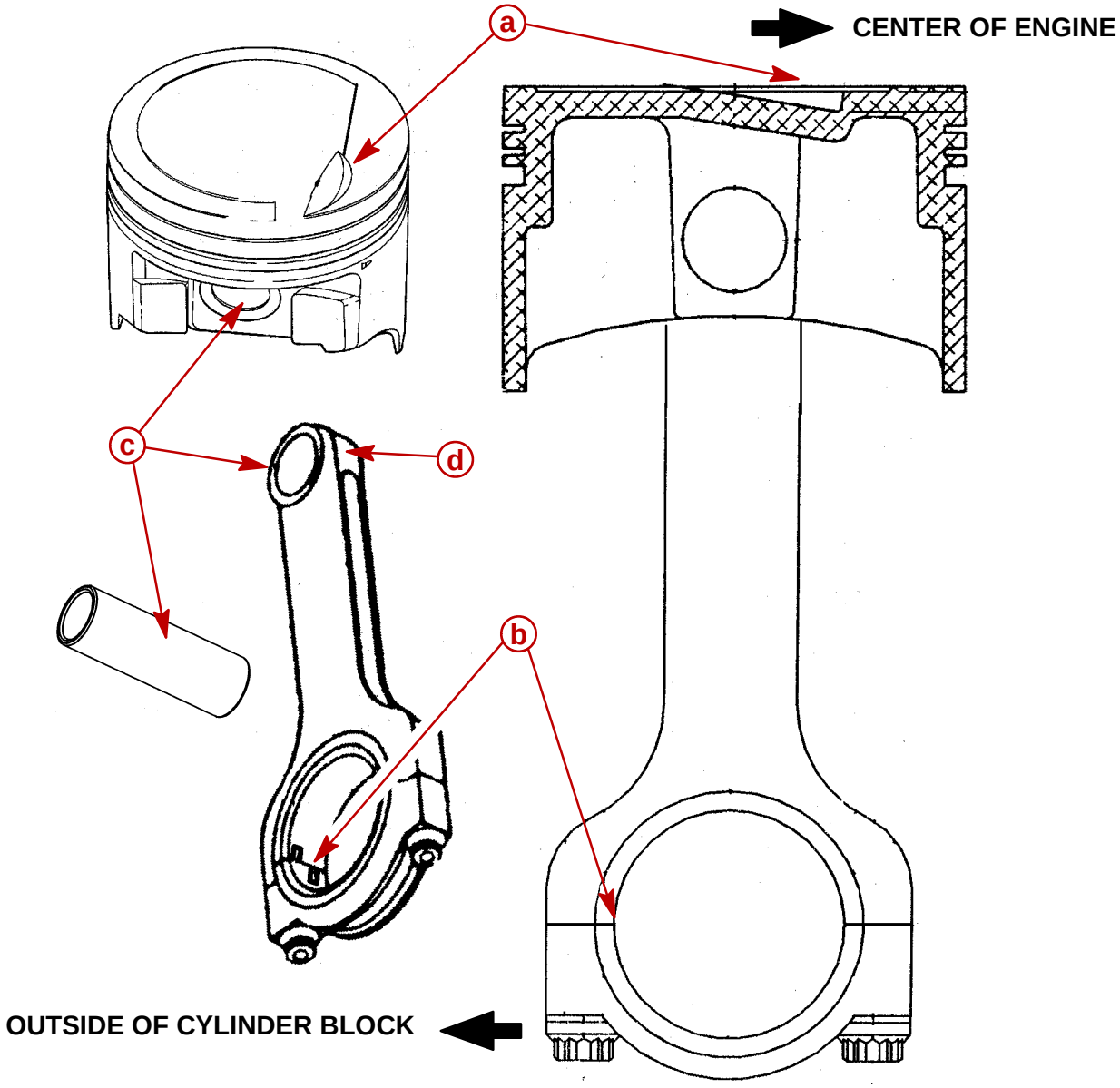
IMPORTANT: Set up of the rod heating machine is critical if the wrist pin is to be correctly centered in the rod and piston bore. Follow set up instructions provided with the rod heater.



a - Piston/Rod Assembly
b - Centerline of Piston/Rod Assembly
c - Wrist Pin Properly Installed, Centered in Piston Bore and Rod Bore
d - Rod to Piston Clearance. Should Be Equal on Both Sides of the Rod When Pin Is Centered In the Piston.

2. Prior to assembly, a very light film of engine oil should be applied to the piston pin bore, the wrist pin and the rod pin bore. Place rod in rod heater **(see rod heating instructions following, step 3)** noting the location of the notches used to locate the crankshaft bearings (b). When assembled to the piston, these notches should be opposite the valve relief notch (a) in the piston.

3. **Rod Heating Instructions.** The pin end of the rod should be heated to 325-375 degrees Fahrenheit (163-191 degrees Celsius). In a rod heating oven that is set for a maximum temperature of between 825°F (441°C) to 875°F (468°C), the rod needs to be heated for 2 1/2 minutes to attain the desired exit temperature. **Excessive heating of the rod beyond 375° F (191° C) could cause rod damage.**



a - Valve Relief Notch in the Piston
b - Bearing Tang Notches in the Rod
c - Light Film of Engine Oil Prior to Assembly
d - Rod Pin End

4. Once assembled, check piston for freedom of movement on connecting rod (rod swing and lateral movement). Piston should move freely in all directions. If not, piston pin bore is tight and should be disassembled to determine cause.