

<https://moyermarine.com/techtips/>

## **Head R&R**

Need a stud remover (Snap-on #CG500 – 3/8" fine thread)

Permatex Aviation #3D

2 Victor steel reinforced head gaskets PN 3647G

3/8 course thread tap

MM-P-2 Check for corrosion

Cooling part should have a T-fitting with a 3/8" NPT Brass cap with a 3/8" hole aimed toward the tranny and slightly down, the bottom of the hex cap should be parallel to bottom of the side plate. "In our own rebuilding operation, we provide a brass hex cap with a 3/8" hole facing aft and slightly downward, plus a 1/4" hole facing toward the manifold (as shown in the middle photo bottom). This second hole directs some of the incoming water through the space between the center two cylinders and over to the valve side of the engine, which is also the hottest side. We believe that this configuration provides a more even distribution of incoming raw water."

If milling the head need a roughness of RMS 120

Seat the studs with Permatex and until the threads disappear and then ½ ish a turn tighter

MM-P-3 Step11 – head torqueing

## **Major Overhaul – Part 2 (P2-1)**

If resurfacing the head use #125 RMS, which is the same as #112 RA

Need a valve compression tool of the "C" type with 4" range – eg. Wilde 600

P2-1 – Remove the valves

Jump to Part 3

P3-1 remove the output coupling looks to be PITA

Part 4

P4-2 Read the NOTE: - all connecting rods journal ends and caps have their cylinder numbers stamped on one side. These numbers must be aligned on the assembly and this numbered side should always face the camshaft. The arrow on top of the piston marked "front" should point \*away\* from the flywheel. Cylinders are number f 1 to 4 starting at the flywheel end.

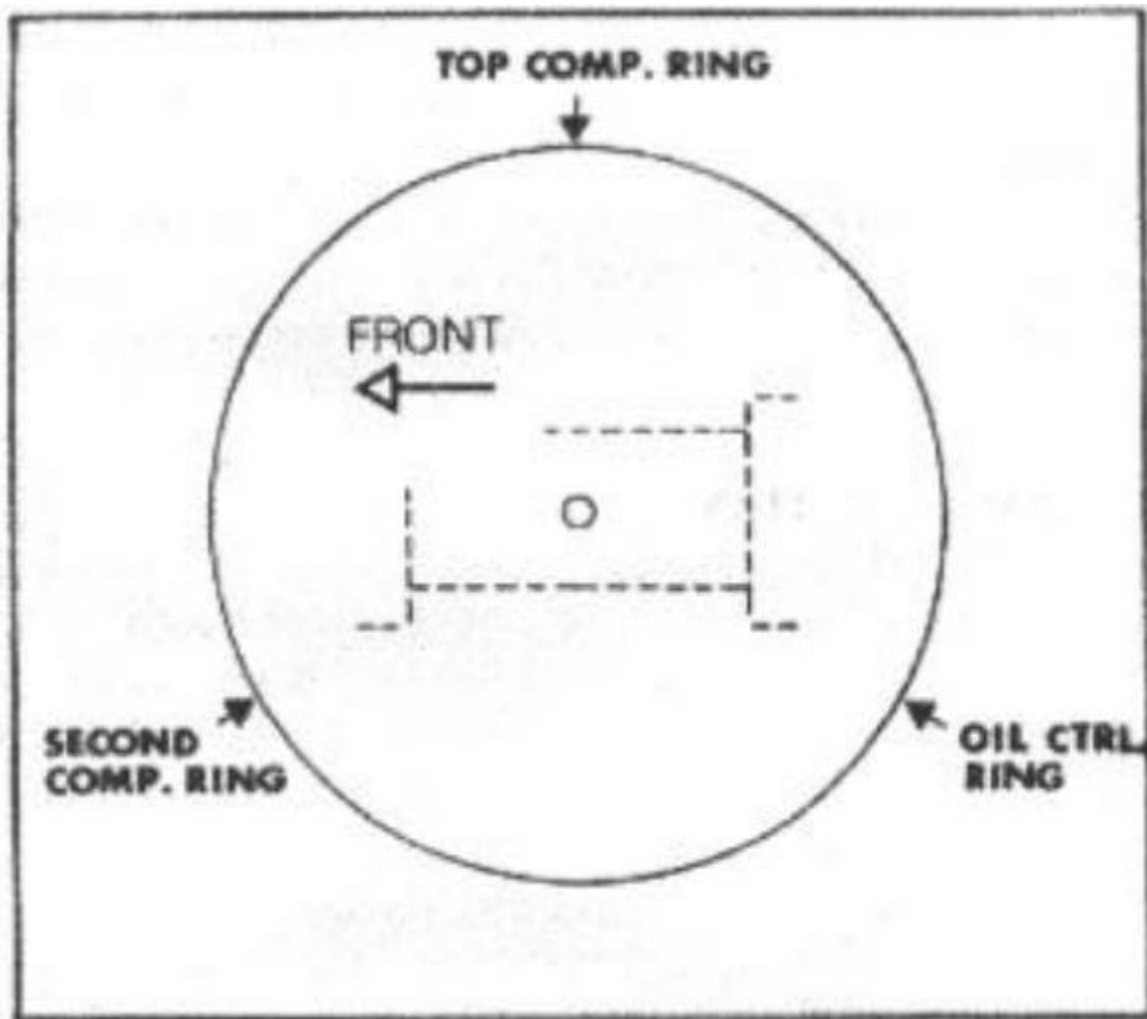
Main caps will only go on one way and there are no numbers to worry about

P4-3 1. Read closely on the removing and installing the spindle, if needed. Hopefully not. 😊

P4-4 – if the cylinder bore is not tapered just check the max tolerance. If you need bore, consider re-sleeving

P5-2 – Oil passage-way plugs, Don't Forget! There are 6 total... 3 external and 3 internal. The internal ones are 1/8" plugs located at on each end of the block (2) just above the end cam bearings and 1 located just below the regulating valve. The 3 external are behind the flywheel on the manifold size (normally oil pressure sensor), one in the center of the block and last at the rear of the block just above the oil pressure regulating valve (oil pressure safety switch).

P5-2 – 3. Installing the pistons/rod assembly, the arrow on the piston needs to point the tranny (all arrows should point to cylinder #4) and number side of crank journal and rod faces toward the camshaft. Piston rings should be staggered and have an up and down side, follow instructions that came with the rings.



**FIGURE 31 - PISTON RING END GAP**

Questions:

Where is the oil pump tolerance?

Assembly lube - Crane Cams p/n 99008-1

Oil additive for break-in - <https://www.redlineoil.com/engine-oil-break-in-additive>

Dave Neptune - I use a blend of cam shaft assembly lube (molly base) and some STP mixed 50/50. I have found that it sticks very well for long assembly procedures and does very well for the initial start up.

