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Installation Instructions for the RMS18 & RMS19 Viton® One-Piece rear main seal ©2016

Overview:
You have purchased the most advanced rear main seal on the market for the traditional Pontiac V-8. This revolutionary design features a number of state of the art innovations including relocation of the parting line which greatly reducing the risk of leaking, a more pliable construction that will work more effectively in engines with seal groove geometry issues, and double lip design to provide twice the protection against leakage as well as supporting outstanding vacuum numbers.

Crankshaft:
We do not recommend installing the one-piece seal with the crank installed because the seal will deform during installation, it has however been done successfully. The serrations on the crank can be lightly polished but are not usually an issue. Some aftermarket cranks have aggressive serrations; these should be avoided or polished out while maintaining the proper diameter specifications.

Preparation:
Locate the small hole in one of the square indents side of the seal. At this position you should cut the seal straight across (radially) using a very sharp blade. This cut will re-mate perfectly when the seal is installed. Next fill the groove between the seal lips with a high pressure grease prior to assembly.

Position:
If you examine the seal closely you will see that there is a helix pattern on the oil control lip. This lip goes towards the front of the engine, not to the flywheel side. Note that the RMS18 and RMS19 have square indents on opposite sides, therefore you must look at the seal lip to get the proper direction. The radial split line should be ideally towards the top of block, but for convenience can be placed about ½ inch off the block parting line in the cap side.

Please read installation notes below before attempting to install this seal.

Installation: RMS18 (Crankshaft Out)
Carefully open the seal like a “Slinky” and flex the seal around the crankshaft. The radial split line should be ideally towards the top of block, but for convenience can be placed about ½ inch off the block parting line in the cap side. Carefully set crank/seal assembly into the block. Care should be taken to make sure that the seal does not get mis-aligned during assembly otherwise damage may occur. Reinstall main cap and torque.
No sealer is required in anti-rotation holes or anywhere for RMS18 (3-inch main)

Installation: RMS19 3.25-inch (Crankshaft Out)
The anti-rotation holes in both the block and cap MUST be filled (RMS19 3.25-inch seal only) with a quality silicone prior to installation. Fill the holes flush and install the seal while sealer is still pliable. Carefully open the seal like a “Slinky” and flex the seal around the crankshaft. The radial split line should be ideally towards the top of block, but for convenience can be placed about ½ inch off the block parting line in the cap side. Carefully set crank/seal assembly into the block. Care should be taken to make sure that the seal does not get mis-aligned during assembly otherwise damage may occur. Reinstall main cap and torque.

Installation Notes: (Seal Groove)
Occasionally the seal groove may not be round, concentric with the crank centerline, too big, or too small due to manufacturing variations or align boring. This condition can be measured if necessary. The following is a good check to perform. Position the seal in the block-cap assembly and tighten. Look through the crank hole to ensure the seal ends are mating properly. It is normal to see a small amount of inward distortion at the parting line. Excessive distortion due to buckling from too small of a groove can be eliminated by removing a small amount of material from a seal end or remove material from the backside of the seal diameter to “relax” the seal in the groove. A caliper may also be used to compare the installed seal lip diameter to the crank diameter. Approximately .020 inches of lip engagement on the diameter should be present.

Specifications:
RMS18 Sealing Diameter 3.188” +/- .003” Groove Diameter 3.812” +/- .005”
RMS19 Sealing Diameter 3.437” +/- .003” Groove Diameter 4.012” +/- .005”
Call for additional installation information