



Pontiac OHC Oil Pump & Accessory Drive Rebuilding.

If you've got the tools and the knack for it, our complete rebuild kit has all the parts you need to replace every wear part in the Oil pump and accessory drive assembly, along with a new set of gaskets.

Complete Rebuild Kit:

- New oil pump gears
- Front needle roller bearing
- Main shaft seal
- Pressure regulator spring
- Oil filter bypass spring
- Oil filter bypass disc
- Distributor gear roll pin
- Pressure regulator plug gasket
- Oil Pump plate gasket
- Accessory Drive housing to block gasket
- Distributor gasket
- Fuel Pump gasket

If your accessory drive assembly is in good condition, and you wish only to "revitalize" the seals and bearings, Primatech Motorsports also provides a refresh kit, which includes:

"Refresh" Kit:

- Front needle roller bearing
- Main shaft seal
- Pressure regulator plug gasket
- Oil Pump plate gasket
- Accessory Drive housing to block gasket
- Distributor gasket
- Fuel Pump gasket



Getting started:

Disassembly of the accessory drive assembly is simple and straightforward. At this point, the oil filter, distributor and fuel pump should already have been removed.

1. Make a note of the orientation of the distributor drive gear and the timing mark on the drive pulley.
2. Drive out the roll pin retaining the distributor drive gear on the shaft.
3. Remove the main shaft.
4. Unscrew the retaining screw holding in the bypass spring retainer. Remove the retainer, the spring and the disc.
5. Unscrew the pressure regulator retainer plug. Remove the plug, old gasket, spring and regulator valve (slug). If the regulator valve does not easily come out, gently tap the front face with a brass drift. (Access to the front of the piston is from the opening in the oil filter adapter.)
6. Remove the six bolts holding the oil pump plate. Remove the plate, old gasket and the gear set.
7. With an internal expanding collet puller, remove the needle roller bearing and the front oil seal at the same time.
8. Some older (1966) accessory drives used a plastic plug to seal the main shaft bore on the back side of the housing. This plug should be removed for cleaning by removing the screw and retainer. *(For later models that have an expansion plug closing off this bore, the expansion plug need not be removed.)*

Cleaning:

It is NOT recommended that you media blast the accessory drive assembly housing! Thermal cleaning or high-pressure detergent washing systems should be employed to clean the housing. If you do media blast it, use a media such as baking soda or plastic pellets as opposed to abrasives such as Aluminum oxide. Thoroughly clean all of the media – preferably using an ultrasonic cleaning system, turning the parts several times during the process.

Media blast the cover.

Polish the shaft. (A crankshaft journal polisher is a great tool for this job.)

If you plan to re-use the original oil pump gears, thoroughly clean them but do not media blast them.



Inspection:

Shaft condition

Pitting, fretting, scratches and scores must be addressed if they appear near the bearing or sealing surfaces.

Housing Condition

Deep bore (Main shaft bore) – examine the housing closely for scratches, pitting and excessive wear.

Roller Bearing bore – look for scratches, wear and / or fretting.

Oil pump gear bores – inspect for deep scoring, scratches and straightness.

Oil pump cover:

Check the cover for scratches, scoring and flatness. Because of the raised gear bosses on the cover, repairs to the cover are difficult and limited.

Gear Set:

Examine the gear teeth for pitting and scoring. Replace the gears if there is any corrosion or pitting on any of the teeth.

Repairs:

Housing: The accessory drive housing can be repaired in several areas very easily.

Needle bearing bore: The needle bearing bore can be bored and honed to accommodate a new needle roller bearing and shaft seal. There are superior performance seals and bearings that use a larger O.D. while still matching the 5/8" (.625") shaft diameter.

Deep main shaft bore: the deep bore of the housing can be bored and honed to .7188/.7183. A bronze plain bearing can be pressed into the new bore then match-honed to the true diameter of the main shaft. This process requires removing the plug at the back end of the housing. (For newer models that used an expansion plug to seal off the main shaft bore in the housing.)

Gear cavity: The gear cavity can be scored and uneven and still be repaired. Honing up to .0015" oversize can be performed by most machine shops, followed by a hard anodize process. Specify a build-up of .0015" thickness.

Pressure regulator bore: The pressure regulator bore can be honed up to .0015" oversize followed by a hard anodizing with up to .0015" thickness.



Shaft: The main shaft can be repaired by grinding, hard chrome plating and re-grinding to correct size if it is pitted, scored or scratched in the areas where it contacts the needle roller bearing, or the deep end of the bore in the housing.

Oil pump cover: The oil pump cover has two upset stamped bosses that must be retained for proper operation. However, there's a way around this. The cover can be ground flat and polished, but the gear teeth ends on the BOTTOM side of the gears must be first ground flat, then relieved by .002-.005 (see figures) to allow the gears to spin against the cover with minimal friction.

Figure 1

Figure 2

Figure 3

Assembly:

1. Press in the roller bearing using a sized arbor.
2. Press the shaft seal flush with the face of the housing
3. Install the gears into the gear housing bores. Note the timing marks on the gears. Orient them adjacent to one another.
4. Install the pump cover gasket and 5 hex bolts.
5. Torque the hex bolts to 20 Lb.-Ft.
6. Install the main shaft through the distributor drive gear / fuel pump eccentric.
7. Drive in the roll pin to retain the distributor drive gear
8. Install the pressure regulator slug, spring, gasket and retainer.
9. Torque the retainer to 15 Lb.-Ft.
10. Install the oil filter bypass disc, spring, retainer and retainer screw.