

Oil Pump High Flow Assembly General Process Specification:

Casting receive process

1. Disassembly
 - Remove back plate and remove gears
 - Remove oil control valve lock ring, and remove spring, piston, and spring keeper (if present)
 - Remove front nose seal, high pressure seal, and any other wear items.
2. Check wear items to make sure all items are present that should be.
3. Hand de-bur all active areas of casting, and visual inspection for poor housing control.
4. Check taps, through holes, seals, and wear surfaces for grooves that cannot be removed by machining.

Modification:

1. Machine housing internal to high flow specifications.
2. Measure housing post machining.
3. Use standard stock high flow gears and post OP Machine gears for measured housing dimensions.

Verification:

1. Verification of modification.
 - a. Place gears in housing.
 - i. Rotate gears in housing for clean rotation check.
 1. Check tooth to tooth clearance to be within Mazda specification.
 - ii. Check body clearance to be within Mazda specification.
 - iii. Check side clearance to be within Mazda specification.

Cleaning:

1. All parts ultrasonic cleaned
2. All steel parts vibratory polished to remove burrs, and increase surface finish to specification

Assembly:

1. Assembly 1:
 - a. Take relief valve piston move up into the bore
 - b. Manually activate relief valve to full seated position from full open position.
 - i. Check for snags, improper activation, and burrs.
 - c. Remove piston, reassemble with Teflon impregnated grease

- d. Insert spring, spring keeper, and spring lock.
- 2. Assembly 2:
 - a. Fully encase outer gear in Teflon impregnated grease.
 - b. Place outer gear into housing
 - c. Fully encase inner gear in Teflon impregnated grease
 - d. Place inner gear into housing
 - e. Do oil pump gear spin check.
- 3. Assembly 3:
 - a. Place back plate and torque to specification.
 - i. Do oil pump gear spin check.
 - b. Place crank nose seal (if applicable)
 - c. Place high pressure seal (if applicable)
 - d. Replace any other wear item to original location.

Shipping:

- 1. Seal pump in heavy mil air tight bag to prevent foreign contamination.
- 2. Pack pump tight to box to prevent shipping damage.