E4OD, 4R100

PART NUMBERS **36438A-01K, 36438AX-01K**

Pump Gears

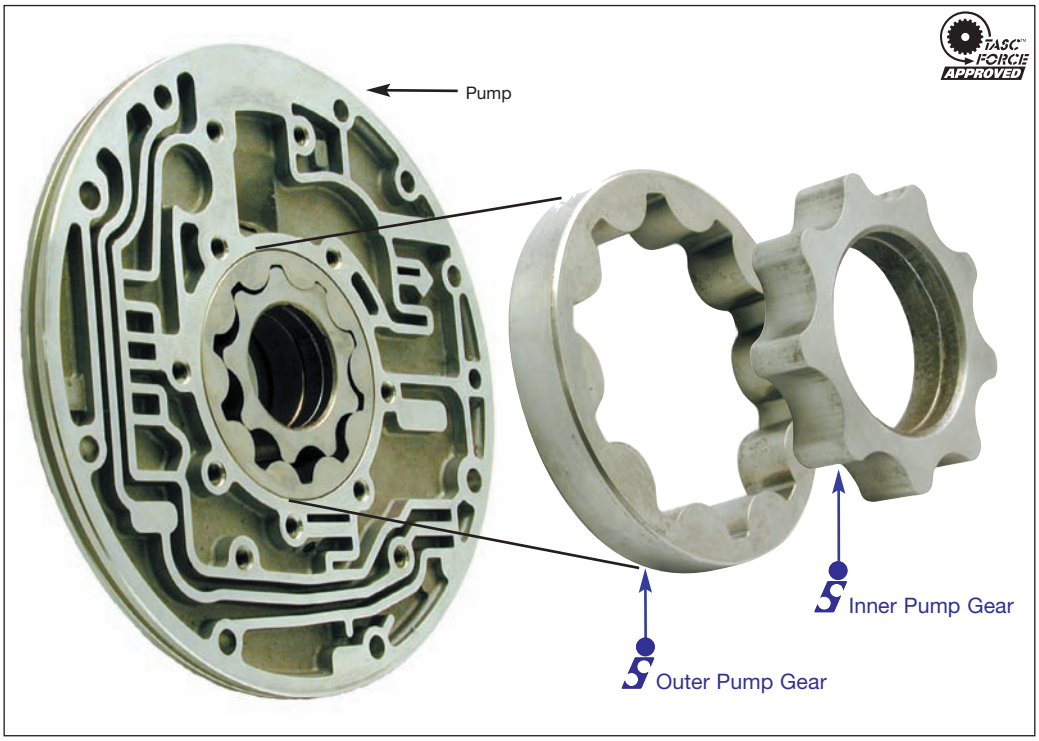
36438A-01K Direct Replacement

36438AX-01K Oversized

Each kit includes the following
1 Inner Pump Gear
1 Outer Pump Gear

Notes:

- No machining is required for direct replacement **36438A-01K**.
- Machining is required for oversized **36438AX-01K**. This kit is for F5 or later pumps only and cannot be used to update earlier pumps.



General Installation Instructions

Both sets of gears are designed for use with 1995-up E40D pumps. The 1995-up pumps are marked with an F5 (1995) or F8 (1998) cast into the pump cover and housing. Earlier pump designs were designated E9 (1989) and F1 (1991). It is critical to match the design year of both pump halves and the stator support when rebuilding an E40D pump.

Note: Sonnax gears cannot be be mated with either OEM gear. Gears must be used as a matched set.

Direct Replacement Gears

Sonnax pump gears **36438A-01K** are a direct, drop-in replacement for existing F5 and later E4OD pumps. Remove the worn gears from the existing pump housing. Clean the pump cavity and remove any existing burrs or rough surfaces by hand, using a ScotchBrite™ pad. Do not use an air buffer or other power tool to prepare the pump cavity. Install the Sonnax gear set. If the pump housing shows excessive wear, remachining will be required and Sonnax oversized pump gears **36438AX-01K** must be used.

Figure 1

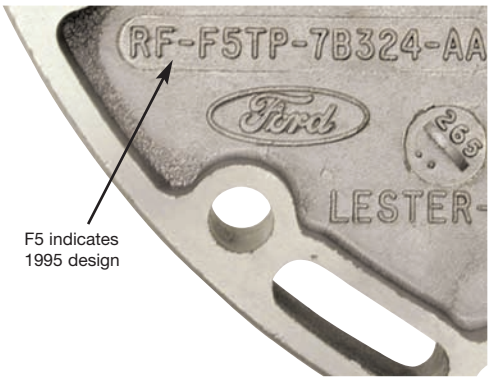
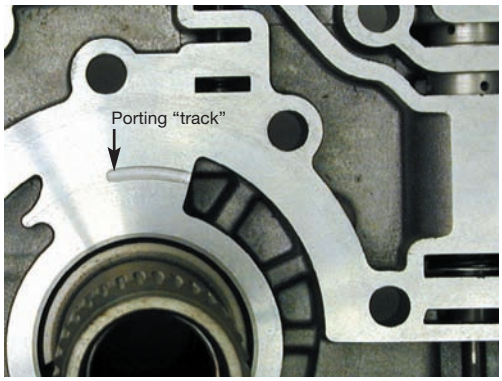


Figure 2



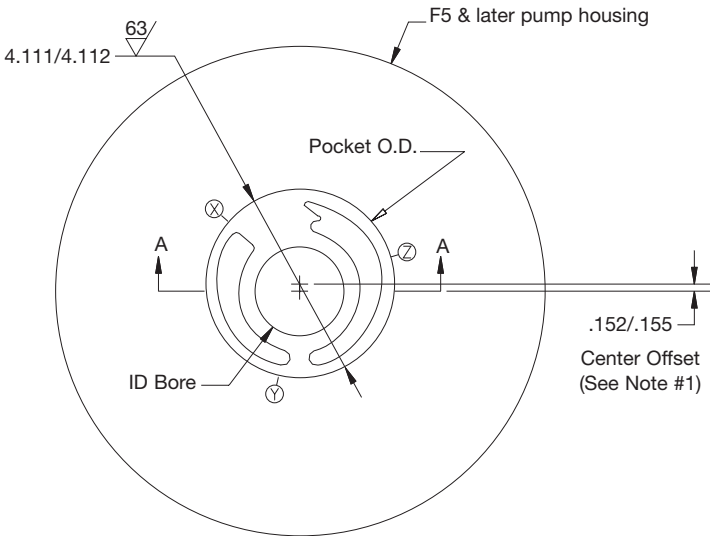
Oversized Gears

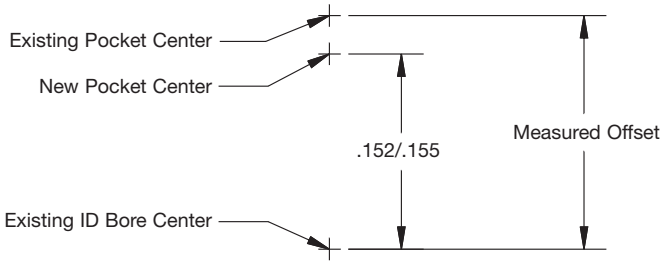
Sonnax pump gears **36438AX-01K** are an oversized design that allow worn F5 and later E4OD pump housings to be refurbished. To use the oversized gears the pump housing must be remachined to enlarge the size of the pump cavity. Remove the worn gears from the existing pump housing. Remachine the pump cavity in accordance with Figure 3. Install the oversized Sonnax gear set. If the pump housing exhibits only minimal wear, it may be possible to repair the pump without machining by using the Sonnax direct replacement gear set **36438A-01K**.

Remachining the pump cavity is a critical procedure and should only be performed by a qualified machine shop. It is important to maintain OEM levels of surface finish, flatness and perpendicularity between the pump surface and pocket walls.

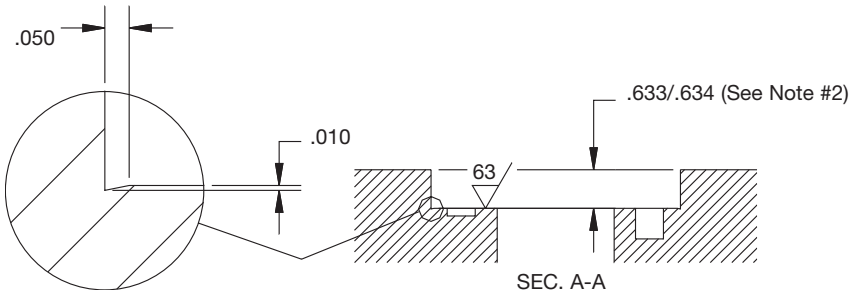
Figure 2 shows the porting "track" that exists on the OEM pump cover. If the cover is surfaced during rebuild it is important to maintain the track to avoid pump noise. It is acceptable to reduce the depth of the track, but no portion of the track may be completely removed.

Figure 3





Example of Center Relocation



Notes:

1. Prior to machining, check the center distance between the I.D. bore and the pocket O.D. If the offset distance lies outside the .152"-.155" range, the pocket center must be relocated (see inset at left). When locating the pocket center, avoid areas of wear. Points X, Y and Z are recommended points for locating the center. The majority of wear should lie between points X and Y.
2. After machining the pocket, insert the replacement gears and verify a clearance of .001"-.002" with the pump face. Also, verify .007"-.009" diametrical clearance (.004" per side) between the gear and pocket. Adjust the machining as needed to achieve the proper clearances.
3. This drawing applicable only to F5 and later E4OD pumps.