096, 097, 098, 01M, 01N, 01P

PART NUMBERS 119905-01K, -TL1, -TL2 & -TL5

Bushing & Thrust Washer Kit

119905-01K

1 Forward Clutch Drum Bushing	K1
1 Shaft Bushing	K1 / 096, 097, 098 Only
1 Reverse Clutch Drum Bushing	K2
1 Pump Gear Bushing	
1 Pump Housing Bushing	
1 Thrust Washer	OEM thickness
1 Thrust Washer	.015" thicker

Now Available

Bushing Installation & Removal Tools

119905-TL1 K1

1 Tool for Forward Clutch Drum

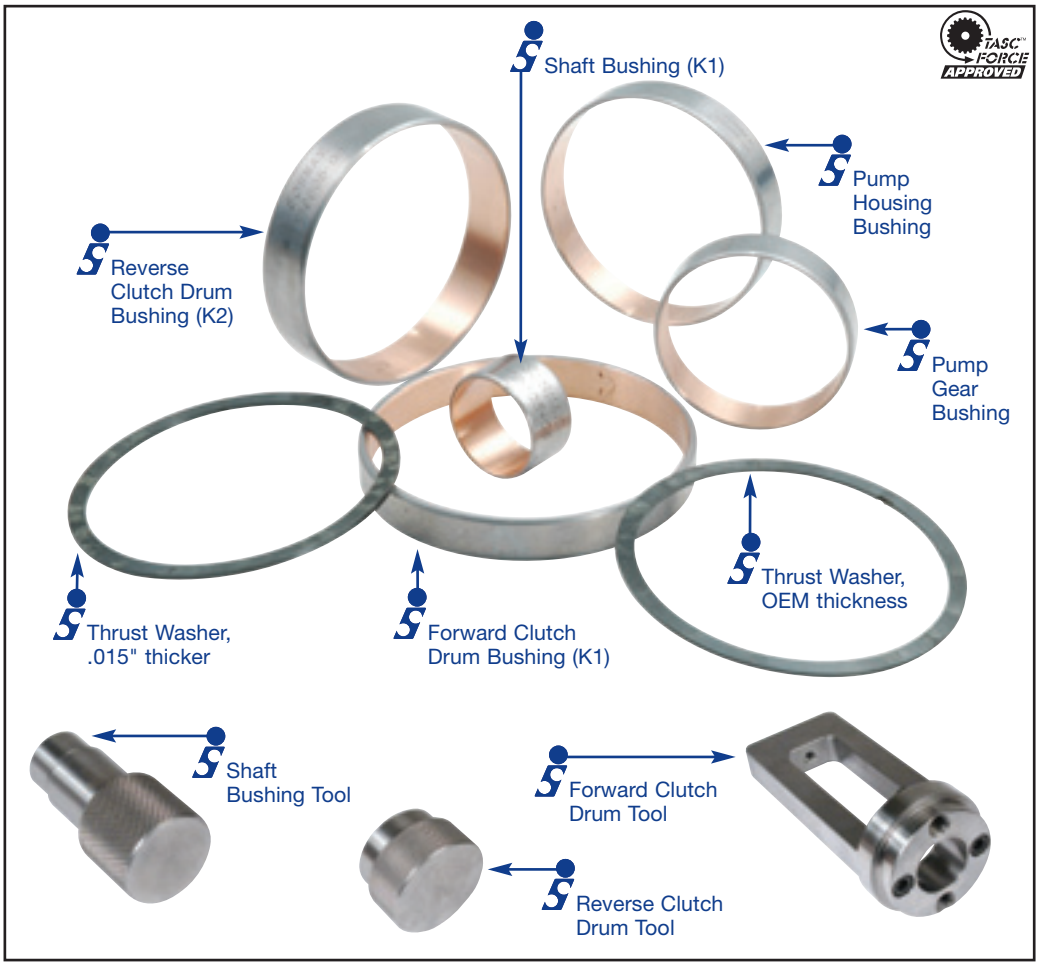
119905-TL2 K2

1 Tool for Reverse Clutch Drum

096, 097 & 098 Only

119905-TL5 K1

1 Tool for Shaft Bushing



DISASSEMBLY:

1. Remove pump bushing.
2. Remove pump gear bushing.
3. Removing the K1 forward clutch bushing using **119905-TL1**:
   - A. Retract 1/2" set screws into upper half of tool base.
   - B. Position tool in bushing that is to be removed.
   - C. Begin threading 1/2" set screws into bushing, advancing the two screws evenly into the bushing.
   - D. Attach a slide hammer to the yoke via the 3/8"-16 UNC threaded hole.
   - E. Remove bushing from bore with slide hammer.
4. Remove the K1 shaft bushing that supports the K3 shaft (Phase 0 & 1 units only).
5. Remove the K2 clutch drum bushing that supports the pump stator.

INSTALLATION:

Note: Bushings usually have a chamfer on the O.D. leading and trailing edge. These should be cleaned up with fine sandpaper, 400-grit or finer, to remove any burrs left from the manufacturing process. The leading edge of the housing bore, where the bushing first makes contact, should also be cleaned off with 400-grit or finer sandpaper, along with any nicks or surface irregularities within the housing. Bushing should be installed dry, with no lubrication. Any burrs trapped between the bushing O.D. and housing bore will create “high” spots that reduce the I.D. of the bushing, and make it less round. Tight clearances may require hand honing of any high spots. Use a “spin test” to locate high spot witness marks.

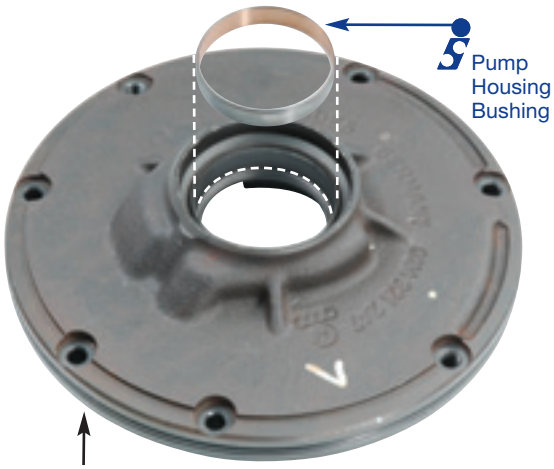


Figure 1

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1. Install the pump housing bushing so it is level with the bottom of the housing's bore chamfer. Do not press bushing to bottom of bore (see Figure 1).
2. Install the pump gear bushing so that it sits equally between the bottom edges of both chamfers (see Figure 2).
3. Two thrust washers are included in the kit. One is an OEM equivalent, and the second is .015" (0.38mm) thicker than the OEM. If the thrust washer surface is damaged and it is necessary to use the thicker thrust washer, remove only .015" (0.38mm) of material from thrust washer surface on the pump stator (see Figure 3).

Note: If necessary to machine thrust washer surface, measurement "A" should not exceed 1.580" (40.13mm). Removing more material may result in thinning an internal oil passage wall and reducing service life dramatically.

Installing new bushings with 119905-TL1, -TL2 & -TL5:

1. When installing the large diameter K1 bushing **(119905-01)** using tool **119905-TL1**, remove the two 1/2" screws that were used to remove the OEM bushing.
2. Place the bushing at the top of the bore.
3. Set the tool, **119905-TL1**, on top of the bushing so both the tool and bushing are square with the bore.
4. Press the bushing into the bore until the tool stops at the face of the bore. Do not use a hammer to install bushing.
5. The recommended depth of .032"/.036" (0.81mm / 0.91mm) below the face of the bore will be set by the tool.
6. When installing the small diameter K1 bushing (Phase 0 & 1 units only, **119905-05**) using tool **119905-TL5**, place the bushing in the shaft at the top of the bore chamfer.
7. Set the tool, **119905-TL5**, on top of the bushing so both the tool and bushing are square with the bore.
8. Press the bushing into the bore until the tool stops at the end of the shaft. Do not use a hammer to install bushing.
9. When installing the K2 / reverse clutch drum bushing using tool **119905-TL2**, place the bushing at the top of the bore.
10. Set the tool, **119905-TL2**, on top of the bushing so both the tool and bushing are square with the bore.
11. Press the bushing into the bore until the tool stops at the face of the bore. Do not use a hammer to install bushing.
12. The recommended installation depth of .058"/.062" (1.47mm/1.57mm) below the face of the bore will be set by the tool.

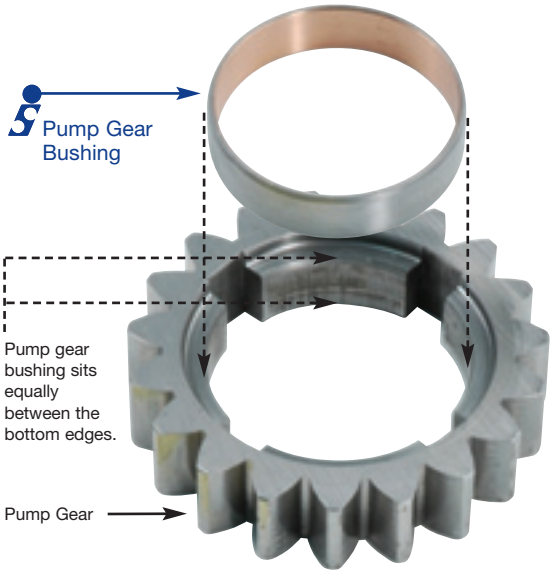

Figure 2

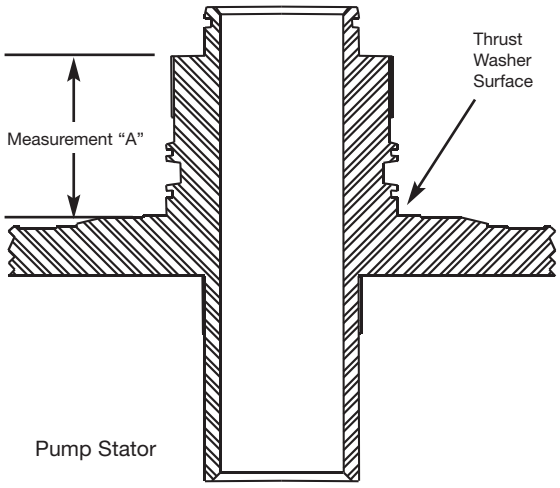

Figure 3