

3 Install Reverse Gear Transmission Bearing Housing (Trap Door)

- 3.1 Install Trap Door and gasket to transmission using the original bearing housing bolts. Lightly tapping Trap Door with rubber or plastic hammer while tightening bolts will help seating of case against transmission. Figure 3.1
- 3.2 Place one wavy washer on to one bearing lock nut and install to countershaft. Using 3/4" socket adapter, torque to 40 ft. lbs. Wavy washer will compress! This will ensure that the shaft and gear is seated all the way into bearings.

NOTE: Do not install nylon set screws into bearing lock nut at this time.

- 3.3 Remove lock nut and measure distance between bearing and gear end surfaces. Measurement should not exceed 0.099" or be less than 0.095". Figure 3.3

NOTE: If wavy washer does not compress and / or measurements cannot be met, the bearing lock nut has bottomed out. Please contact manufacturer before proceeding with installation.

- 3.4 Install one shim washer, one Delrin crush washer and one shim washer to countershaft. With wavy washer still on bearing lock nut, install nut onto countershaft. Using 3/4" Socket Adapter, torque to 10 ft. lbs. Figure 3.4

NOTE: Do not install nylon set screws into bearing lock nut at this time.

- 3.5 Check clearance between bearing lock nut and outer bearing at opening above shafts. Check between waves of wavy washer with (.010") feeler gauge we provide. Clearance should measure between .010" minimum and .015" maximum (0.26 mm - 0.38 mm). Figure 3.5

- 3.6 If clearance is less than tolerance specified in step 3.5,

- Remove bearing lock nut
- Install one more shim to counter shaft and tapered split ring
- Reinstall bearing lock nut, torque to 10 ft. lbs and check tolerance.
- Shim thickness is 0.010"

- 3.7 Repeat step 3.5, adding only one shim at a time, until proper clearance is achieved.
NOTE: Steps 3.5 & 3.6 are very important, as this will insure that the tapered split rings stay locked after final assembly.

- 3.8 When proper clearance has been obtained, remove and clean bearing lock nut and shaft threads with Brake Clean. **Install two nylon set screws into bearing lock nut until flush with inside of threads.** (Figure 3.8) Nylon set screws must extend out of lock nut, to ensure proper locking. Apply Loctite #262 (red) lock compound to threads and torque to **60 ft. lbs.** Wavy washer will now be compressed. No further measurement is necessary.

- 3.9 Repeat steps 3.2 - 3.8 for the main shaft.

4 Modify Clutch Push Rod

- 4.1 Disassemble the clutch push rod / oil slinger assembly and remove C - clip. Oil slinger is permanently removed.
- 4.2 Remove throw out bearing and washers. (to be re-installed after machining).
- 4.3 On a lathe or bench grinder, reduce collar diameter of clutch push rod to 5/8". (Figure 4.3 next page.)

NOTE: If preferred, clutch push rod, HD Part No. 37089-84, may be installed as is, without modification.

- 4.4 Ensure clutch push rod slides easily through hex hole of bearing lock nut.

CAUTION: If clutch push rod does not slide easily through hex hole of bearing lock nut, clutch may not operate properly.

- 4.5 Install clutch push rod to transmission.

NOTE: Loosen clutch push rod adjustment nut on left side of engine. Clutch to be adjusted later.

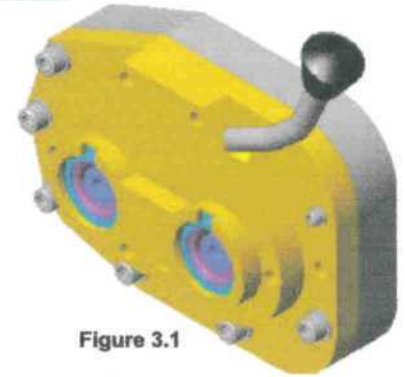
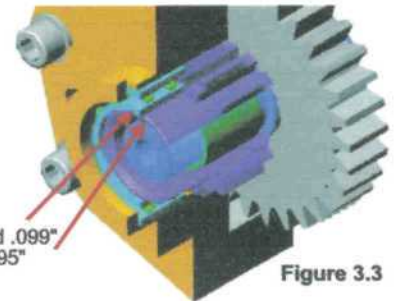


Figure 3.1



measurement should not exceed .099" or be less than .095"

Figure 3.3

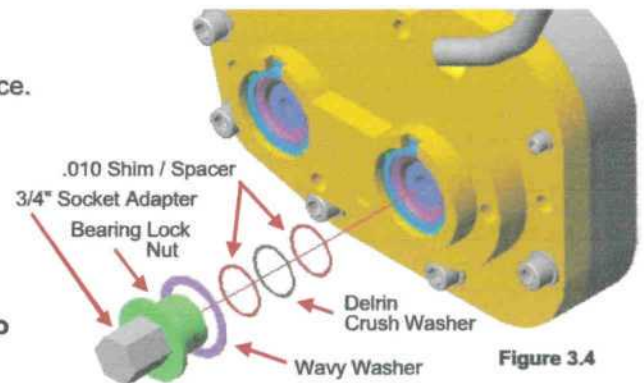


Figure 3.4

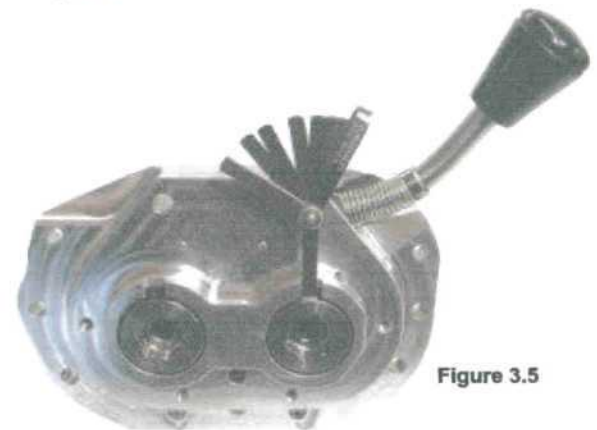
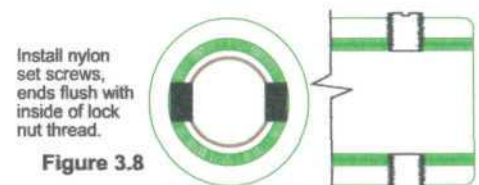


Figure 3.5



Install nylon set screws, ends flush with inside of lock nut thread.

Figure 3.8