

# T-2583-A, B Pinion Bearing Assembly

1) Remove all items that are normally fastened to the threaded end of the drive shaft. You will **not need** the old thrust bearing assembly nor any part of the roller bearing or inner and outer sleeves. You **will need** the Woodruff key, nut, and pinion gear. Refer to Fig. 2.

2) When all parts have been removed from the drive shaft, hold the shaft in a bench vise or otherwise secure the drive shaft so that you will be able to assemble the spool onto the end and secure the nut. **DO NOT ASSEMBLE AT THIS TIME.**

3) Refer to Fig. 2 and carefully examine the tapered end of the shaft for burrs or scrapes that may prevent the new bearings from sliding into place along the shaft. Pay particular attention to the top of the keyway where it meets the taper. Next carefully examine the area where the taper meets the machined outer diameter of the drive shaft. If necessary, use a small file to remove any burrs or sharp edges.

4) Refer to Fig. 1 and modify the Woodruff key by grinding or filing one end off until the key matches the drawing. Unlike the original installation - it is important that **the key must not protrude beyond the rear surface of the pinion gear.** See Fig. 3.

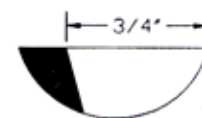


Fig. 1

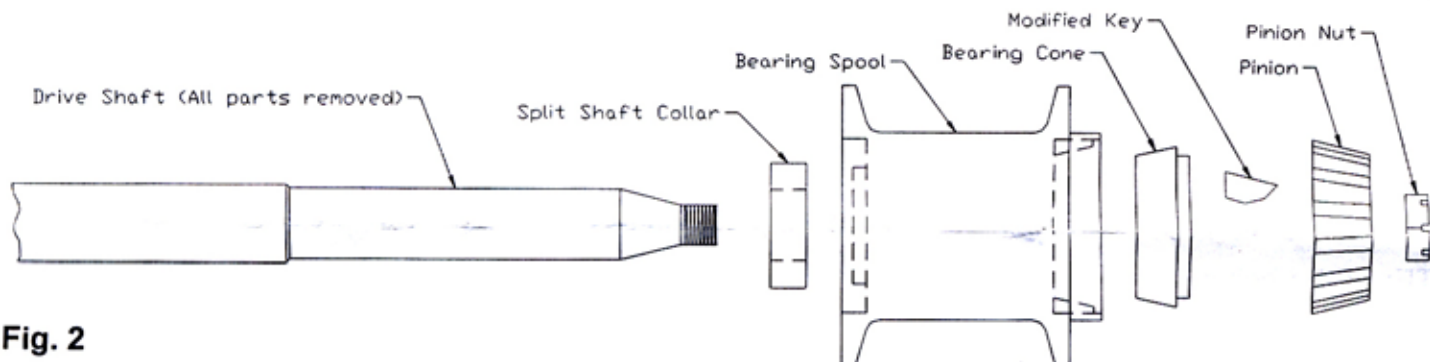


Fig. 2

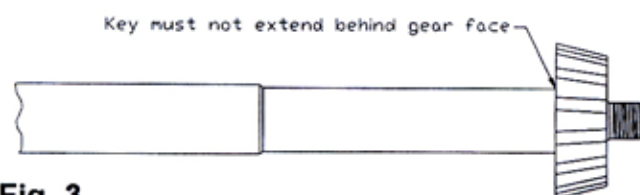


Fig. 3

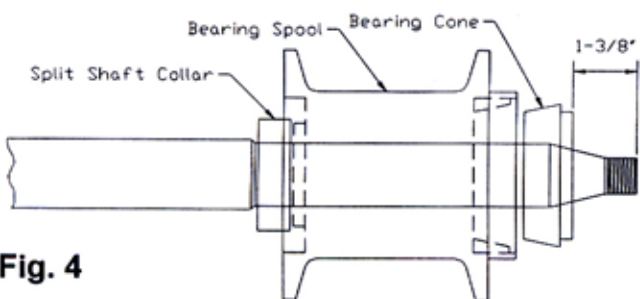


Fig. 4

5) Temporarily fit the Woodruff key to the taper and "try" fit the pinion gear to the shaft to make certain that the key is not going to protrude behind the rear surface of the gear. See Fig. 3. Remove the gear and key after final modification and fitting.

6) Loosen the set screw in the split shaft collar and slide the collar onto the drive shaft as far as it will go. Leave it loose at this time. See Fig. 4

7) Slide the spool onto the shaft such that the brass bushing end goes toward the front of the drive shaft (front of car when finally installed). See Fig. 4

8) Locate the roller bearing cone, dip it in rear end grease and place it on the drive shaft with the smaller diameter end facing the front of the drive shaft.

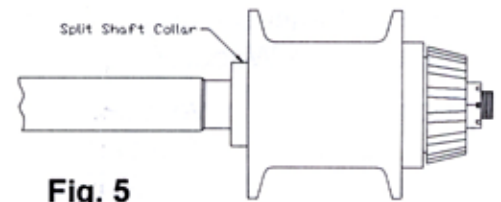
Slide it on only to a distance of approximately 1-3/8" as necessary to be able to install the modified key. See Fig. 4. It is normal for the roller bearing cone end to be tighter on the shaft than the brass sleeve end. The pinion gear **MUST pull** the cone bearing into final position for proper fit.

NOTE: The front bearing is permanently lubricated, sealed and will not require attention. The lower cone bearing is lubricated by the grease from the differential housing.

9) Insert Woodruff key into the shaft keyway with the shortened end toward the front as before.

10) Install the pinion gear on the tapered end of the shaft and install the nut behind it.

11) Draw the pinion gear into final position by tightening the nut and torque the nut to 70 foot-pounds. Make certain that the gear has bottomed on the taper and the key has bottomed in the gear keyway. See Fig. 5



NOTE: It is a good idea here to remove the nut and check that the gear is stuck on the taper and everything is in proper position. You can then reinstall the nut and torque again to 70 foot-pounds.

12) Tighten further as necessary to line up the cotter pin hole and install cotter pin.

13) Slide the spool toward the rear of the shaft as far as it will go and rotate it to spread the grease onto the bearing cup from the roller bearing.

14) Slide the split shaft collar back against the brass bushing and tighten the set screw just slightly snug. The idea is to temporarily have it tight enough to not slip easily on the drive shaft but not so tight that it will not move at all.

**NOTE: The next step is to adjust the bearing "preload". The idea is to have the spool rotate on the drive shaft with a noticeable "drag" without being "stiff". The correct setting is exactly the same as adjusting a front wheel bearing.**

15) Lightly tap on the side of the split shaft collar with a small mallet or wood block to slide the collar toward the rear to tighten the bearing, then check the tightness by turning the spool.

NOTE: If the collar set screw is too tight the collar will not move when struck with a mallet and the bearing will stay loose. If the set screw is too loose the collar will slide back after sliding forward and the bearing will again be too loose. If necessary start with the screw very loose and tighten it small amounts while alternately tapping with the mallet and checking for bearing tightness by rotating the spool on the shaft. When you are satisfied that the bearing is turning with a slight "drag" then tighten the set screw very tight. Check the bearing again. There should be no end to end (end play) or side to side movement in the bearing/shaft assembly. There should be a noticeable drag but the spool should not be "stiff" and hard to rotate on the shaft.

16) The bearing/spool assembly is now ready to be installed to the drive shaft tube and differential

17) Inspect the end of the drive shaft housing and remove any protrusions that are within 1/2" of the end such as large seam welds or burrs. Make certain to file down any "bumps" around the inside diameter that might **rub against the shaft collar or strike the shaft collar set screw.**

18) Maintain concentric alignment of the drive shaft housing with the spool housing during final assembly to insure that the shaft collar will not rub on the inside of the drive shaft housing.

NOTE: It is **not** necessary that the ujoint and upper drive shaft brass bushing have a precision fit to set the drive shaft end play as is usually done with the stock Model T pinion bearing. Simply make certain that the ujoint rear surface is not binding against the bushing face when the ujoint pin is inserted. Precision facing of the upper drive shaft brass bushing is not important or necessary.

No bearing maintenance is required. Simply maintain the grease supply in the differential housing.