

Torque Tube Race & Seal

by Tom Endy

The **A4655 bearing race sleeve** is located in the forward end of the torque tube. Its purpose is to provide an outer bearing race for the drive shaft roller bearing. Located right behind the sleeve is the **A4245 grease seal**; its purpose is to prevent the grease for the U-joint and roller bearing from migrating down the drive shaft. Many Model A Ford hobbyists do not know the simple techniques used to remove and replace these two parts.

Removal:

Both the seal and the sleeve are removed at the same time. Place a Model A drive shaft on the floor in a vertical position with the threaded pinion gear end down and resting on a block of wood. Place a 1 $\frac{1}{16}$ "-1 $\frac{1}{2}$ " drive socket over the spline end of the drive shaft. Slide the torque tube down over the vertical drive shaft with the forward end up until the seal is resting on the socket. Place a rag over the top of the torque tube and bounce the torque tube up and down until the sleeve, seal, and socket emerge into the rag.

Seal installation:

The seal must be installed first. Stand the torque tube on the floor in a vertical position with the forward end up. Place an A4245 grease seal onto a seal insertion tool (Bratton part number 6270) screwed onto a short length of 1 $\frac{1}{2}$ " water pipe. Coat the seal with grease and tap it into place. It will take about four or five hammer blows to seat the seal. When the seal seats on its boss the hammer blow sound will change from a thud to a ringing sound.

Sleeve installation:

Place the A4655 sleeve in a bench vice with the end with the dimple facing up and tighten the vice until the split in the sleeve is almost closed. Wrap a piece of safety wire (.040) around the sleeve just below the dimple. Twist the safety wire together 7 or 8 turns on the opposite side from the dimple. Cut and bend the twisted end straight up. Place a chalk mark on the top edge of the sleeve right above the dimple. Remove the sleeve from the vice. The split will open up some, but it is not a problem.



**Safety wire wrapped on A4655 sleeve
(Dimple on right side just above safety wire)**

Stand the torque tube on the floor in a vertical position with the forward end up. Reach through the speedometer gear-housing opening and clean out any debris that is in the dimple recess. Place a chalk mark inside the torque tube directly above the dimple recess. Place the safety wired sleeve inside the torque tube with the chalk mark end up. Align the chalk mark on the sleeve with the chalk mark on the torque tube. It is important to accurately align the two chalk marks. Place a 36mm 1 $\frac{1}{2}$ " drive socket on an extension up side down. Place the flat side of the socket against the sleeve and with a hammer gently tap the sleeve down into the torque tube. As the sleeve goes into place the safety wire will be pushed up and over the dimple and will exit the top of the sleeve. If the two chalk marks were aligned correctly the dimple on the sleeve will snap into the dimple recess in the torque tube. Place a punch in through the speedometer gear-housing opening in the torque tube and into the dimple and gently tap it to insure the sleeve has seated fully. Check that the circumference of the sleeve is snug against the inside diameter of the torque tube. There should be no visible space between the two; otherwise you will not be able to install the roller bearing when the drive shaft is in place. The split in the sleeve will have also opened up.

Reproduction A4655 bearing race sleeve:

The reproduction bearing races I have seen are of extremely poor quality. They are not made of the same hard material as the originals and some do not have the dimple, and those that do are poorly formed. They will tend to slip down out of place when installed, and the soft material does not provide a good bearing race surface. I use an original sleeve whenever I can. ©