

# Henry's Transmission Traps!

(revised 2010)

by Tom Endy

The Model A Ford transmission has been described by many as being extremely simple. I would certainly agree with that statement. However, Henry devised a few traps to confound and confuse the next hundred years of Model A enthusiasts. Unless you are aware of these traps when rebuilding a transmission it can well ruin your day.

## The rear bearing retainer:

There is an "early" and a "late" rear bearing retainer. Either will easily fit the rear of the transmission. However, the early bearing retainers had the bolt pattern for the six bolts to the U-joint housing non-symmetrical. The later ones had the bolt pattern symmetrical to match the later U-joint housings. You need to know which U-joint housing you intend to use before you install a rear bearing retainer. You will note that the gasket kit for a U-joint housing has two of the bolt holes elongated to accommodate either type. Make sure you know which you are installing because if there is a mismatch you won't be able to bolt up the U-joint housing correctly.

## The oil baffles:

There are two oil baffles, one for the front ball bearing, and one for the rear ball bearing. There is an "early" set of baffles, and a "late" set of baffles. The early baffles are used with the early housings that had machined bearing stops and are slightly smaller in diameter than the later. The later baffles are slightly larger in diameter and are used with the later housings that used snap rings as bearing stops. You need to be aware of which set of baffles you are using. Modern day Model A parts suppliers only offer the later, larger baffles. If you install the later baffles in an early housing you will bind up the transmission.

## Oil baffle orientation:

Though it was not one of Henry's traps, it is very easy to install both oil baffles backwards, and you do not want to do that as it will bind up the transmission and cause metal wear particles to contaminate the transmission. The oil baffles should be oriented against the ball bearings such that there is a 1/16" space between the outer edge of the bearing and the oil baffle.

If it is flush against it, you have it installed backwards. If you have it installed correctly and there are sections that are close up against the bearing it is because the baffle has become distorted. This is an easy fix; slide a putty knife between the bearing and the baffle and straighten out the distorter area.

## The main shaft front bearing spacer:

The main shaft is the splined shaft the two slider gears slide on. At the very front is a spacer that positions the front roller bearing inside the input shaft. The "early" main shafts had the spacer machined as an integral part of the shaft. The "later" main shafts had a spacer that could be replaced. The spacer is shaped much like a rounded "key ring".

You must determine which type main shaft you are installing and you do not want to install the "key ring" type spacer on the early main shafts, as you will bind up the transmission.

## Input and main shaft mating:

Input shafts and main shafts were apparently made at different factories and not all will mate up properly. The end of the main shaft should not contact against the end of the relief inside the input shaft, as it will bind up the transmission. Before installing an input shaft and a main shaft, slide the input roller bearing onto the main shaft along with the appropriate spacer and place it inside the input shaft. Rotate the two shafts to determine if there is any binding caused by the two shafts bottoming out.

## Sealed ball bearings:

Today we can buy sealed ball bearings that will fit the Model A transmission; most Model A suppliers carry them. There is a seal on both sides of the bearing. The bearings are packed in grease. You have your choice of leaving both seals in place, or removing the inboard seal so that transmission lubrication oil will reach the bearing elements. There is a controversy about which is preferred. My choice is to remove the inboard seal of both the front and rear bearing. Which ever you do, you still want to install both oil baffles. Though they are no longer needed to control oil leakage, they are required to take up the dimension of the installation.

You can also buy cluster shafts and idler shafts that have been modified with an O-ring that will control oil leakage out the rear of the transmission. ☺