

Care and Feeding of the Engine Thrust Bearings or - Keep Your Foot off the Clutch Pedal !!!

The Model A Ford engine is equipped with bearings that are designed to limit the fore and aft movement of the crankshaft and keep it centered in the engine block. These thrust bearings surfaces' are designed into the rear main bearing of the engine. The Babbitt bearing material overlaps the front and rear of the rear main bearing bore and is finished machined when the main bearings are line bored. The crankshaft has a flange on both sides of the rear main bearing that is finish ground. These flanges will bear against the thrust surfaces of the rear main bearing Babbitt and keeps the crankshaft centered.

Normally there is very little for or aft load on these thrust surfaces but that all changes when you put your foot on the clutch. It takes considerable force to push on the fingers of the clutch to cause it to release. This force wants to push the crankshaft toward the front of the engine and up against the rear thrust surface of the rear main bearing. Extended use of the clutch or using a heavy duty clutch with stiff springs will increase the load on the thrust bearing which can lead to premature wear.

The Model A crankshaft thrust bearings were not over designed and it is not uncommon at all to find the rear thrust bearing all worn out. When Henry designed the Model B engine, the crankshaft bearing diameters and the thrust bearing surface areas were increased and the lubrication to the rear thrust surface was improved. You will find many Model A engines that are in good condition and should run for many more miles but the rear thrust bearing material is badly worn or missing entirely.

Now what do you do if you have an otherwise perfectly good engine that has a bad thrust bearing. The better parts supplier offer a replacement rear main oil seal insert that is made out of brass and incorporates a new thrust surface for the rear flange of the crank. With a little work, this part can often be installed without removing the engine. At this time, there is not a similar part available for the Model B engine.

How do you prevent this from happening with your Model A? The best thing you can do to make life easier for your thrust bearings is to **KEEP YOUR FOOT OFF THE CLUTCH!!!** When you come to a stop light and you find you may have to wait for a period of time before you can proceed, put the transmission in neutral and take your foot off the clutch pedal. This will take the load off the thrust bearing and also will take the clutch load off the throw out bearing which will add to its life. Another thing you can do is to adjust the clutch so it has a lot of free play, or engages when the pedal is closer to the floor. This will reduce the amount the springs in the clutch assembly are compressed which reduces the forward load on the crankshaft. Just be sure the clutch will fully release when the pedal is fully depressed.

When rebuilding the engine or replacing the clutch assembly, consider using a later ford "V-8" clutch or a more modern diaphragm clutch. These clutches take less force to disengage and not only will it be easier to push the clutch pedal down but they also lessen the load on the throw out bearing and the crankshaft thrust bearing.

Remember, when waiting at a stop light, put the transmission in neutral and **TAKE YOUR FOOT OFF THE CLUTCH PEDAL !!**



**Crankshaft
Rear Main Bearing
Thrust Surfaces**



**Replacement Thrust
Bearings**

