

Bell Housing Felt Pad Installation

by Tom Endy August 2022



The purpose of the felt pad at the bottom of the bell housing is to lubricate the ball on the front radius rod where it attaches to the bottom of the bell housing. A small amount of 600W oil in the Model A transmission migrates past the two shifting rods in the transmission tower and through the two holes in the top of the bell housing where the two rods protrude through. The oil runs down into the bottom of the Bell housing and saturates the felt pad.

The installation of a new felt pad can be difficult because the reproduction pads are apparently thicker than the originals. This makes it difficult to get the retaining pin that secures the two radius rod bolts through the two holes in either side of the housing.

What I have found to make it easier is to clamp the felt pad in a vice with a piece of metal in the center and tighten to put an indented channel across the felt that the pin will slip through.





In the Model A kingdom there is a tool for everything. Clamp the felt tight in a vice for a few hours or overnight to put a deep channel in the center of the felt.

The magic tool!





Even with a channel imbedded in the felt, it takes a lot of strength pushing on a large screwdriver to press on the end of the pin to press it deep into the felt. Once the pin is sufficiently pressed down, tap the head of the pin with a hammer to drive it into the hole in the housing. A cotter pin locks it into place.



Shims used when installing the front radius rod bolts.

Many bell housings are worn in the recessed area where the two bolts seat that protrude through the bottom of the housing for the front radius rod assembly. The wear can be severe enough that the heads of the bolts sit too low for the pin to capture the slot in each head. The pin must capture each bolt to prevent it from rotating when the radius rod assembly is bolted up. To remedy this a shim, or a number of shims, should be inserted under the head of the bolts to raise them up. The shims have to have an outside diameter to fit down into the bolt recess and an inside diameter that will accept the diameter of the bolt. The thickness is nominal and the number of shims required depends on the amount of wear to the housing. When shimming, there should be a slight amount of thrust clearance left.

My experience has been that most bell housings take one to three shims under each bolt.

The shims that I acquired have the following dimensions:

.655 outside diameter .430 inside diameter .018 thick