

THE MODEL A TOOL BOX

Transmission Tower Repairs and Maintenance

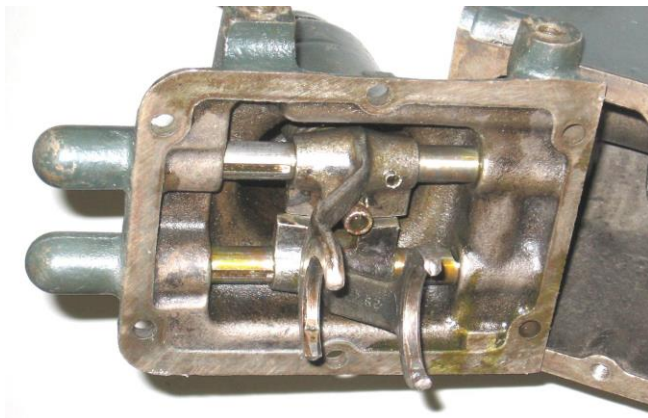
by Steve Latimer

In my absence from the meeting in January month, we did not get to show the changing of a transmission shift tower spring. I was able to do this for Harry at the February meeting. I will attempt to go through some of the things to watch for when rebuilding the tower in this technical installment.

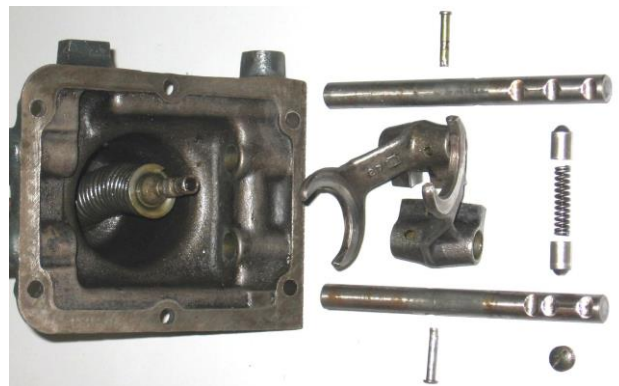
The shift tower is a relatively simple piece of equipment, but can present many dangers if it is not properly dealt with. The tower contains the two shift forks that fit into the collars on the back of the gears in the top of the transmission. The forks are pinned to the shafts that move back and forth to select the gears. The forward most fork moves the gear for 2nd and high and the rear fork is for reverse and low.

The gear shift has a 1/2 inch ball at the bottom that fits into the square hole that is made when the two shift forks are in their neutral position. It is important that the ball be perfectly round and not have flat sides to it. This makes the gear shift feel very loose and sloppy, and can make for difficult shifting. A new shift lever can be purchased for around \$40 or you can take the time and weld the ball up and grind back down to a 1/2 inch round ball. Please pay caution to this spring that holds the gear shift lever in place. There are tools that need to be used to safely remove this spring. There is a tremendous pressure on this spring, and if you are trying to remove it and make a slip, you will likely have a spring in your forehead.

There is also detents in the shafts that the forks are pinned to. These are another important part of the inspection and repair of the shift tower. The three spring loaded detents in each of the two shifting fork shafts provide stops for each shifting position. A broken detent spring will cause the car to jump out of gear, as will worn detents. There are other causes, but this is a common fault in the shift tower.



Shift forks under the gear shift tower



Forks removed showing detents in guide rods, tension spring caps and lever spring



The open case - throwout bearing support tunnel, gear box, rear oil seal, U-joint housing



Transmission gears - cluster gear with bearings and spacer, 2nd, 1st, REV gears, input shaft, alignment bearing, gear slider and output shaft