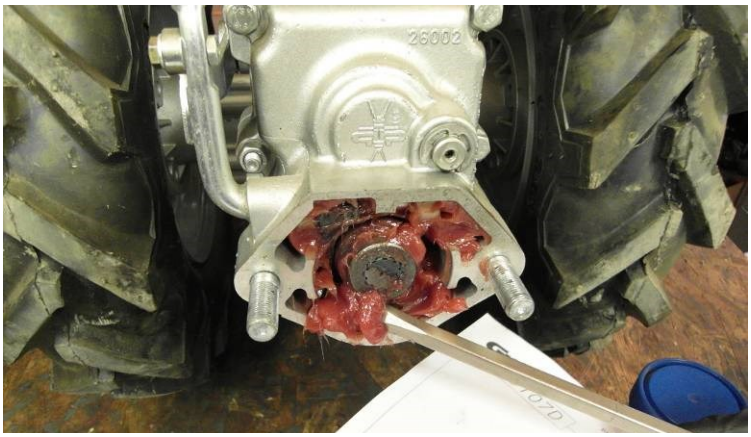
Grillo G85-G107 PTO Coupler / Ball and Spring Replacement / Addition of tension shim

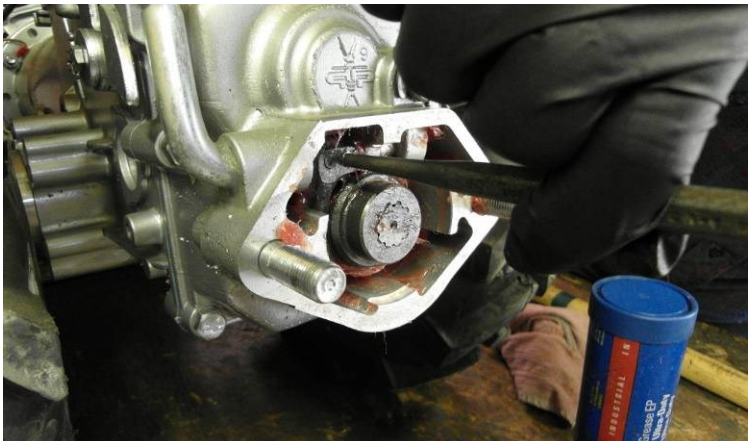
NOTE: The procedure outlined here is virtually identical for pre-1987 BCS tractor models 715, 725 & 735, except that the roll pins are smaller diameter and require a 1/8" punch. —For 1987 through 1994 BCS models 715, 725 & 735, the basic procedure is the same, except that the detent ball & spring is located OUTSIDE the transmission casing (interfacing with a 2-hole bracket on the actual PTO outer shift lever)

Tools needed for job (3/16" pin punch, screwdrivers, hammer [brass or steel], pick, grease) (you don't need the flashlight...)

1) Remove pin & washer, Slide PTO control rod sideways out of plastic joint. Then, lift plastic joint off lower shift lever.



2) With implement / female Quick coupling removed from tractor, clean some grease out of PTO area so you can see inside.

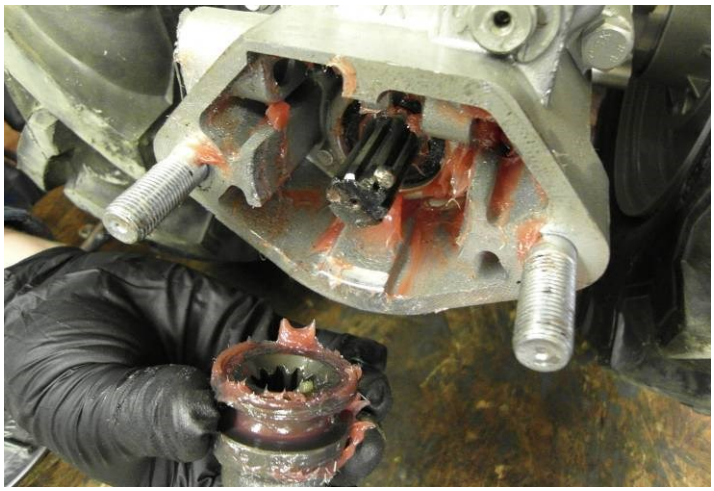


3) Drive roll pins through shift lever with 3/16" straight punch. The pins will fall through the other side into a recess in the housing, and can be easily retrieved after linkage is removed.

4) Slide outer PTO lever out of housing.

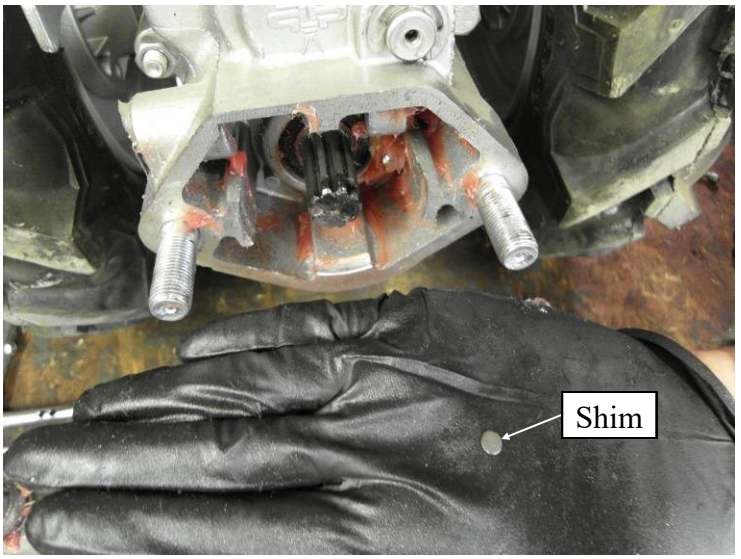
5) Remove inner PTO shift lever.

6) Pop PTO coupler off shaft with a couple of screwdrivers. Watch out for the detent ball & spring...the ball will pop out of the shaft when the coupler is removed.



7) PTO coupler separated from PTO shaft. Note we placed detent ball in position on side of shaft for this picture. (this is a good time to remove the roll pins from the recess up in corner)

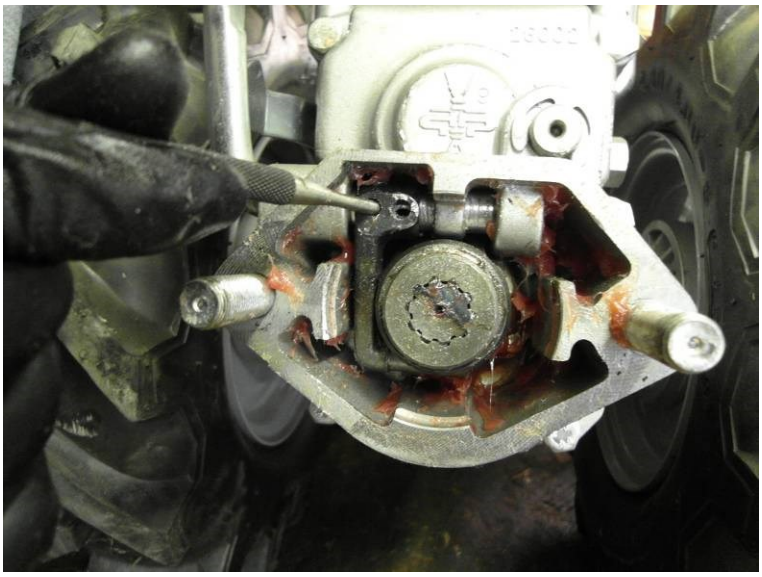
8) Remove old spring from hole in side of shaft with pick, little screwdriver, piece of wire, etc.



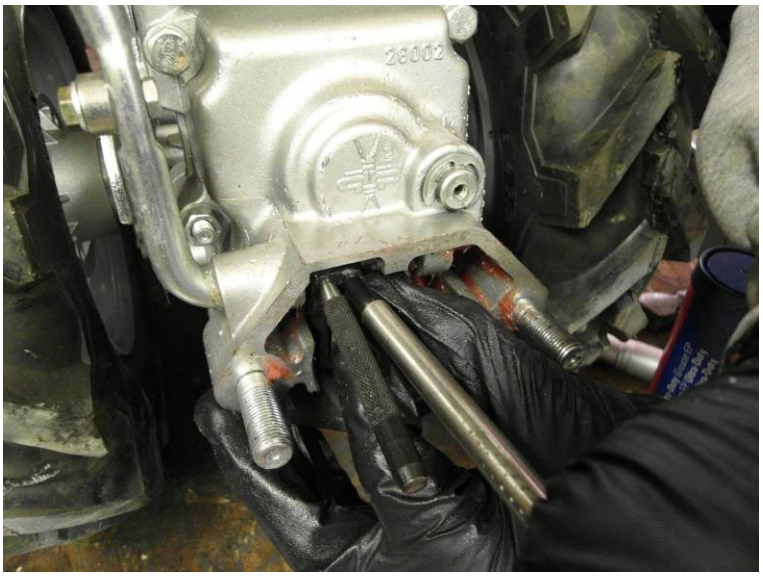
9) For machines manufactured before 2021, a "shim" may be needed for proper PTO spring tension. If required, place a shim in the PTO shaft hole FIRST, before installing the spring. Then install new spring and ball (put a little grease on the spring and ball to hold them in place...shaft should be turned with hole on upper side, so gravity can help hold the ball in place) (NOTE: If you install a shim in a "newer" machine that doesn't need it, you may not be able to get the PTO coupling back on, because the spring will "bottom out" and the ball will not push far enough into the hole in the shaft to get the coupling on!)

10) Line up holes on PTO coupler with the ball in the PTO shaft, press the coupler into place so that the taper on the rear of the coupler holds the ball down into place, and while pressing in firmly, tap the coupler onto the shaft fully with a soft hammer or piece of wood. (this picture was actually taken a second too late...the coupler is already back on the shaft to the first hole. This is a tricky procedure, and it may take a few tries to get it on.)

11) Reinstall inner PTO shift lever into PTO flange, aligning bottom "bar" of the lever inside the slot on the coupler.

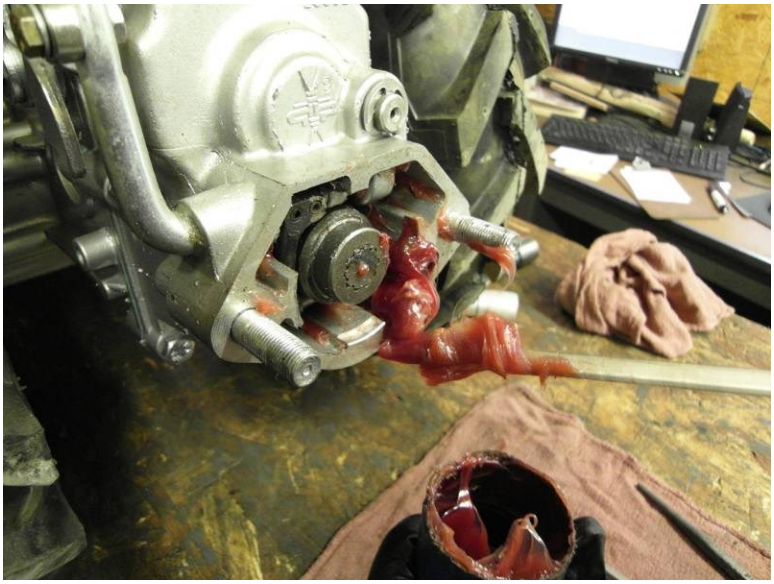


12) Install outer PTO shift lever through housing and align holes on both outer and inner levers with straight punch.

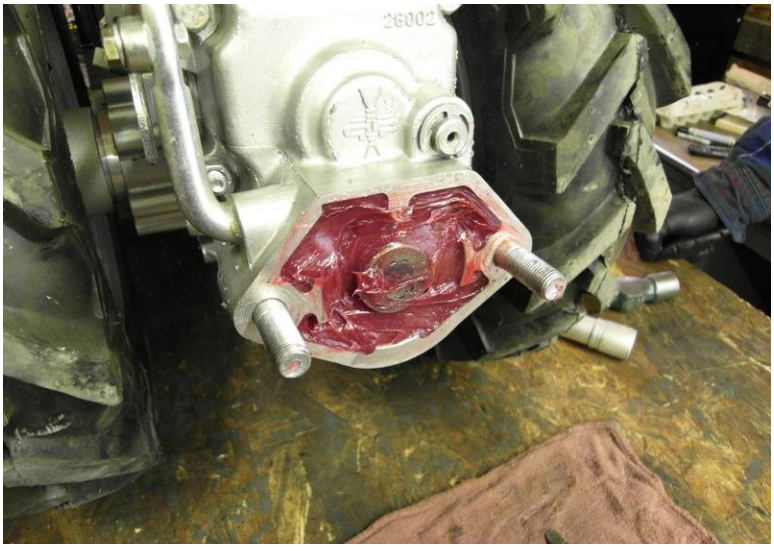


13) Install roll pin with punch so that when it is fully inserted, it is flush with surface of inner lever. Remove aligning punch and install second roll pin in the same manner.

14) Reconnect outer shift levers at joint, sliding joint down onto the lower lever first, then the control rod into the joint. Re-install washer and then R-pin to secure.



15) Re-pack PTO flange with general-purpose lubricating grease. (this can be done with a grease gun)



Tractor is ready for implement to be attached!