

# OVERDRIVE INSTRUCTIONS

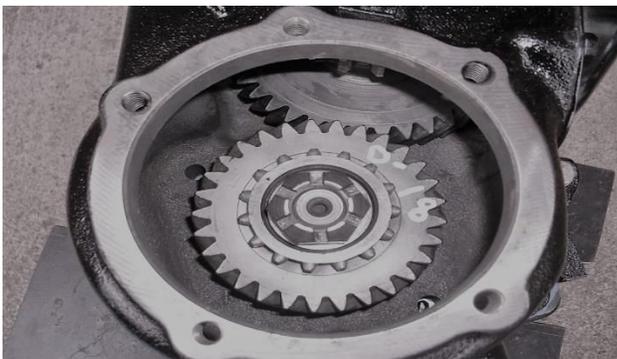
**1:** Drain and flush the transfer case before starting the installation. It is important that the overdrive be installed into a clean, good working transfer case. Check the transmission and transfer case main shafts for end play, as well as the transfer case intermediate gear, replacing if necessary.

**2:** Put the transmission into reverse gear and set the hand brake. Remove the shift knob, floor mat, and transmission floor plate.

**3:** Clean the transfer case and PTO unit (if installed) to keep from contaminating the transfer case while open. Remove the rear cover plate or PTO unit, and clean all surfaces free of oil, burrs, and gasket material. Remove the retaining nut that holds the stock drive gear in place. Remove the drive gear (Fig. 1) and make sure the planetary gear assembly (Fig. 2) has the same amount of external teeth and internal splines. Make sure if you have a spacer under your drive gear (most transmissions do not have one) that it is kept and in the same spot while installing the planetary gear assembly.

**4:** Install the planetary gear assembly onto the transmission main shaft. Using a ½" socket drive extension tighten the drive nut (Fig. 3) that is inside the planetary to 100-120 ft./lbs. DO NOT use an impact wrench for this. Install the special tab lock washer, (may need to be tightened slightly more to line up perfectly) this prevents the drive nut from loosening. Install the special square snap ring that fits the odd snap ring groove inside the planetary gear assembly.

Special snap ring installation instructions: Use needle nose or snap ring pliers to partially compress, then insert and push into groove. Once in place DOUBLE CHECK BOTH lock washer and snap ring to ensure that both are secure into the grooves.



(Fig. 1)

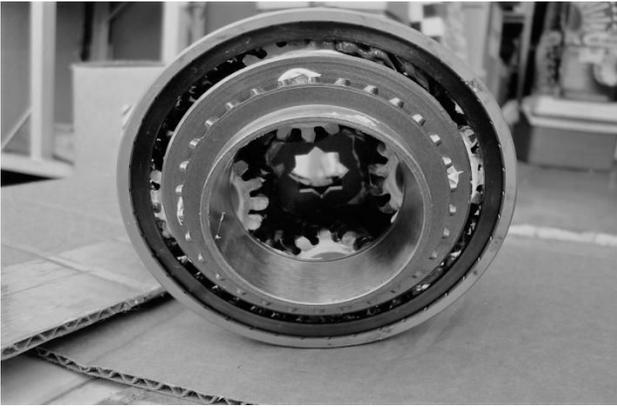


(Fig. 2)

**5:** Lift both rear wheels off the ground. Put the transmission into neutral, the transfer case into gear and release the hand brake. Turn driveline by hand to check for free rotation and run out. If rotation is not free recheck steps 3 & 4.

**6:** Install the Oil Scoop into the case assembly (Fig. 4). Be SURE the oil scoop is sturdy and in place, if the oil scoop is able to slide or improperly placed this will cause premature failure of the overdrive unit. The oil scoop is the lifeline of your overdrive.

**7:** You must verify proper location of the planetary gear assembly before proceeding. The top of the assembly should be 0.67 – 0.68 inches past the gasket surface of the transfer case.



(Fig. 3)



(Fig. 4)

**8:** Align the gasket to the rear of the transfer case and install the shift assembly portion of the overdrive to your transfer case. When installing you must ensure that the gear on this unit meshes properly with the gears inside the planetary unit in your transfer case. The overdrive unit may need to be rotated slightly to allow the gears to align correctly (keep in mind to be careful of the oil scoop and make sure it is in correctly). Once the unit is mounted flush and completely against the transfer case, install the 5 bolts with lock washers and tighten to about 30 ft./lbs. Be very sure you use the special seal lock washer on the only bolt that goes through the inner housing of the shift assembly (Fig 5). Turn the driveline to check for free rotation.

Caution should be taken to make sure the brass synchro ring is properly seated and in place before installation. There are three steel keys that need to be in position, they line up equally with three notches in the synchro ring. If the synchro ring is pulled away from the keys and moved you will find a 1/4" gap between the unit and your transfer case, forcing the unit down with more than a light hammer might indicate they are misaligned. Misalignment of the synchro ring will cause problems with the overdrive. The unit will come with the synchro ring held up with thick grease so you **SHOULDN'T** have to worry about this.

**9:** Install the Shift link bracket the transmission case as well as the shoulder bolt and shift lever. Connect the shift link to the overdrive unit and shift lever. Make sure you have necessary clearance from the body and transfer case levers for quiet operation.

**10:** Using the new Shift boot plate as a pattern, mark and cut a new lever opening in your transmission floor plate that has been removed. Install the modified floor plate. Install the Shift boot retainer plate and shift boot.

**11:** Fill your transfer case to proper oil level, and make sure your transmission is full on oil as well. We recommend a good simple 80-90w. **DO NOT** use synthetic oil. We do not recommend oil additives or anything of the sort. Please note previous oil leaks and anticipate any accidental future oil leaks. The oil level in the transfer case **MUST** be maintained for your overdrive to stay in good operation and last, if you do not do so the unit will have a failure.

**12:** After driving about 100 miles after the installation you will need to check and retighten the 5 bolts in the overdrive (30 ft./lbs.) if needed. Recheck the oil level as well just to be sure. Oil with all new gears can sometimes accumulate metal and completely changing the gear oil after 300 miles of use may help.

**OPERATION AND USE:** The overdrive has three positions. Shift lever pushed forward is in overdrive. Shift lever pulled backwards is in direct drive. Shift lever in-between those two positions is in neutral. Shifting the overdrive should be done in the same manner as a manual transmission, which is to release throttle, depress clutch, and shift. Downshifting is very possible but discouraged if you wish to prolong the overdrive to its maximum life. On automatic transmission applications you should be shifted into neutral before shifting the Overdrive. **Caution:** This overdrive is not for use while towing or under a heavy load.