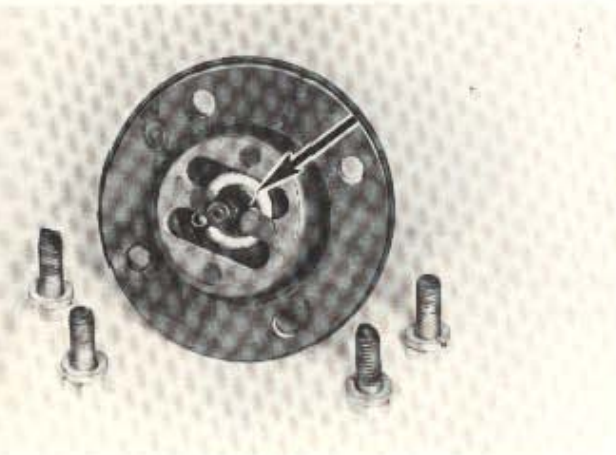
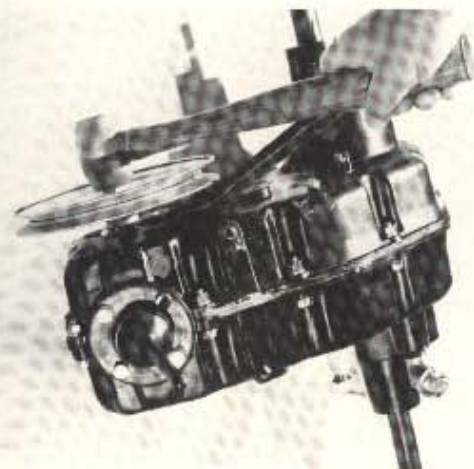
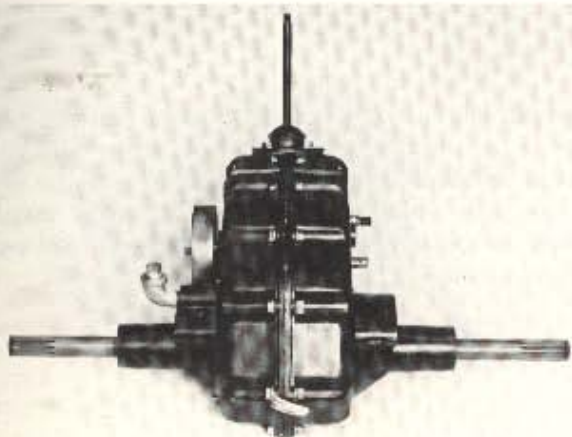


TRANSAXLE ASSEMBLY WITH POWDERED METAL GEARS



1F

Removal of transaxle from tractor frame is the same procedure as covered in the Basic Service Manual Tractors and Attachment, Source 917.

This transaxle will be used on the ST10 Custom, ST12, ST16 Suburban, and SS16 Twin.

It *will not* be used on the SS18 Twin.

Powdered metal gear usage advantages over steel cut gears are as follows:

- A. Less noise output of transaxle during operation due to smoother surface and control of closer tolerance of gear teeth on pressed powdered metal gears as opposed to steel cut gear teeth.
- B. Strength of powdered metal gears versus steel cut gears improved length of life.

Lubrication and quantity of oil. — Same as previous transaxle (5 quarts Allstate SAE 30 Heavy Duty Motor Oil). Replace oil after 500 hours of operation.

Steel cut gears are not interchangeable with powdered metal gears due to dimensional differences of gear teeth.

DISASSEMBLY AND INSPECTION

2F

Remove transaxle pulley from input shaft. Pulley is secured on shaft over a Woodruff key and secured with one nut. Torque of this nut for re-assembly is 300-600 in. lbs. One suggestion to remove this pulley is to thread the nut $\frac{3}{4}$ of the way on the input shaft and while an outward pressure under the pulley hub is being applied, lightly tap the threaded nut with a brass hammer.

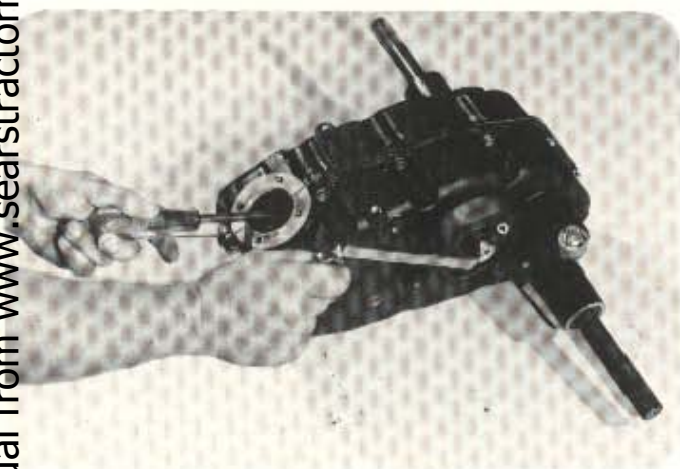
3F

Removal of gear shift lever assembly is accomplished by removing four hex bolts and lock washers. Note the position of shifter slots in gear shift gate.



4F

When gear shift gate is re-assembled to the gear case the slots must be parallel with the main axle. Drain oil from case through shift lever opening and inspect assembly for wear on the two shift pattern tabs and the condition of the gasket. Replace the gasket if necessary. During re-assembly of the shift lever torque bolts to 50-60 in. lbs.



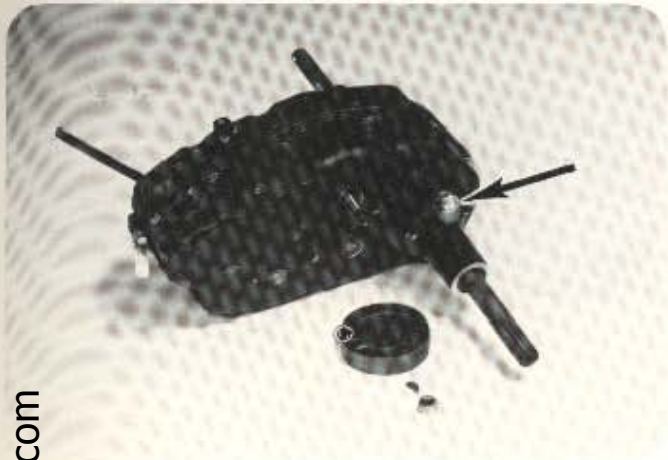
5F

Removal of the brake drum is accomplished by moving one shift fork in the reverse position and the other fork in forward gear. Shifting of the two forks will permit removal of the $\frac{1}{2}$ - 20 UNF nut holding the brake drum.



6F

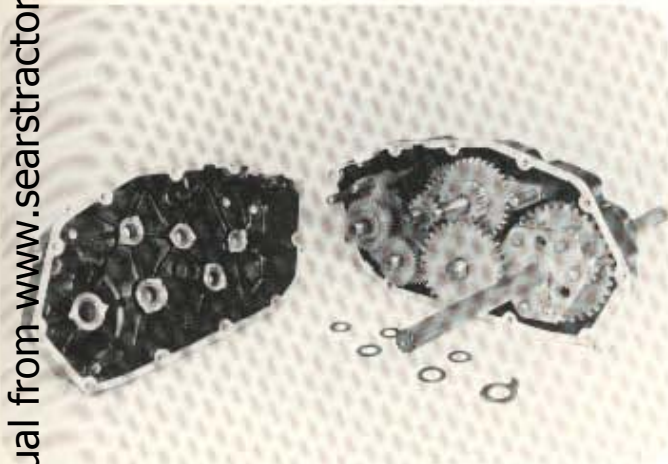
With a wheel puller placed over the brake drum, screw the threaded shaft clockwise until the brake drum is loose and remove.



7F

Now, remove the Woodruff key. When re-assembling the brake drum, torque required for the $\frac{1}{2}$ nut is 240-300 in. lbs. Lay transaxle on its side with oil filler up. Remove eleven 5/16 - 18 UNC hex bolts, lock washers, and nuts holding transaxle case halves together. When re-assembling these bolts and nuts, the required torque is 170-200 in. lbs. Axle seals should always be replaced when gear case is opened for repair. Before separating the gear case halves, clean the axle and third reduction shaft surface with sandpaper to remove any roughness such as rust or burrs to eliminate cutting the new oil seals during re-assembly of the gear case.

CAUTION: Due to small amount of oil still in case slowly remove the upper gear case half from axle shaft and third reduction shaft.



8F

This slide shows the left-hand gear case half separated from the right-hand side and the six thrust washers removed from their respective locations in the left-hand case half. Inspect these thrust washers for possible cracks or breaks. When re-assembling axle thrust washers, the tabs should face the gear case and should not be located on top of reinforced rib of case.



9F

Removal of Hi-Low shift range shaft is accomplished by inserting a screwdriver in the slot of the shaft outside the case, unscrewing the shaft counterclockwise from the shift yoke, and pulling out to remove.