

SECTION 2 . . . FLUID COUPLING

The fluid coupling can be removed from the gearbox casing only after removal of the gearbox from the car, as described in Section 1. Removal of the coupling includes dismantling to component parts and the opportunity should be taken during this operation to inspect parts for defects and signs of oil leakage and incipient failure.

The joint faces of the torus cover and flywheel should be inspected for dark patches which may indicate the passage of leaking oil.

Before removing the main shaft nut, check for tightness. Any looseness may have allowed movement of the torque member on the splines and caused wear or noisy operation of the gearbox.

Before removing either torus member or the torus cover, check for play on the splined shaft; excessive play can contribute to noisy operation. If the fit on the splines is satisfactory, mark the mating splines for re-assembly.

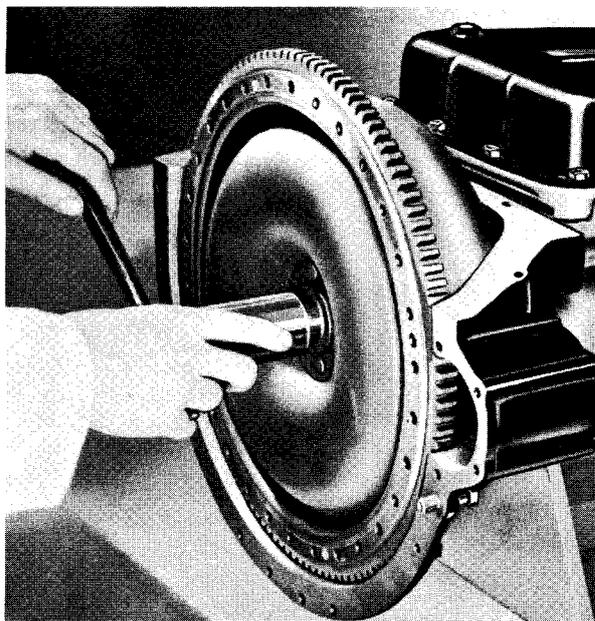


Fig. 1. Removing main shaft nut

Before removing the bell housing examine the exterior of the housing-to-gearbox joint for signs of oil which may indicate a leaking front pump cover or front pump seal.

Check all gaskets for defects when parting joint faces and examine all screw threads, particularly those which are a tight fit.

REMOVAL FROM GEARBOX

Move the selector lever on the control valve unit to the "reverse" position; this will lock the main shaft by engaging the parking brake and so facilitate straightening of the locking plate and removal of the main shaft nut.

Withdraw the front (driven) torus member from the splines. If difficulty is experienced, a sharp blow with a soft-faced hammer on the end of the main shaft will free the torus hub from the splines.

Remove the rear (driving) torus spring ring from the groove in the intermediate shaft and pull the torus member from the splines.

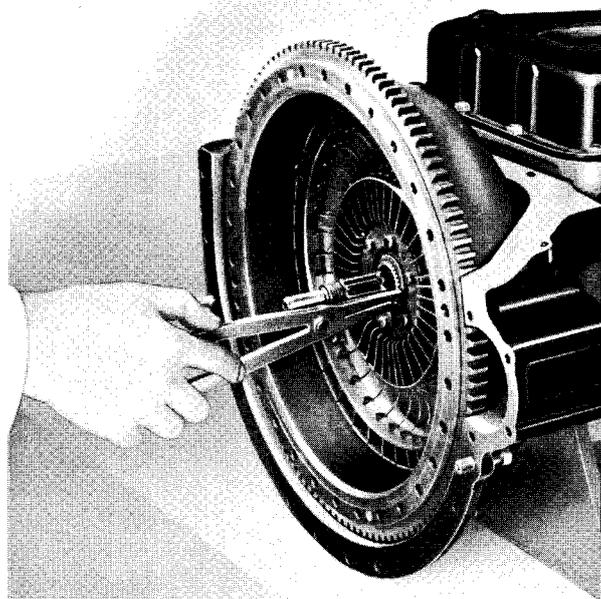


Fig. 2. Removing spring ring from intermediate shaft

Check the end float of the intermediate shaft by pulling the shaft forward and inserting a feeler blade between the bronze washer and the end of the front drive shaft; clearance in excess of the limits given in the "Summary of Repair Data" could contribute to noisy operation. If the clearance is incorrect, assess the thickness of the steel washer required for replacement.

The torus cover can now be removed. If it does not slide freely from the splines extreme care must be taken to avoid rocking it excessively, otherwise damage to the oil seals may occur. The cover should be pushed firmly backwards and then jerked forward off the shaft. Care must be taken not to damage the machined sealing surfaces on the torus neck by careless handling.

If the gearbox is to be dismantled further, remove the four bolts securing the rear half of the bell housing to the gearbox casing and withdraw the housing.

NOTE — The two parts of the bell housing are "mated" and must be retained as a unit.

Check the torus relief valve for freedom and full travel in the retainer. If the valve appears to be serviceable and no complaint of slip as described in Chapter 2 has been received, cleaning without dismantling should be sufficient. If, however, it is considered necessary,

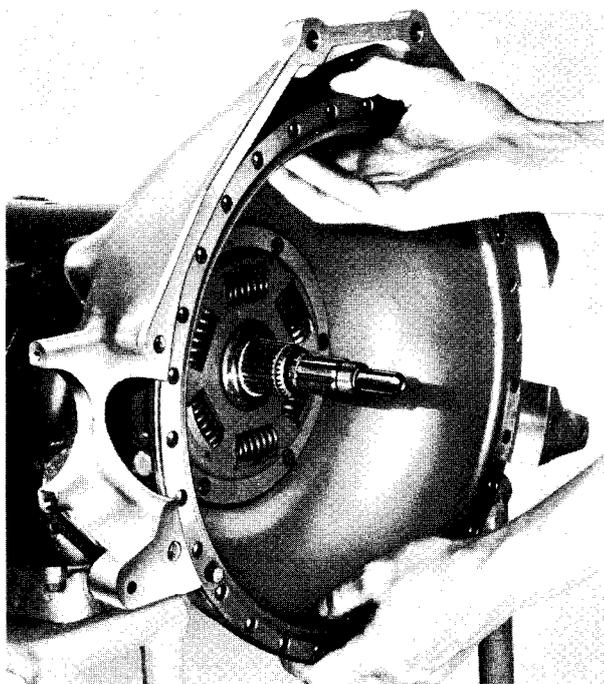


Fig. 3. Withdrawing torus cover



Fig. 4. Removing torus relief valve

the torus relief valve and spring can be removed from the driven torus by bending back the locking tabs on the retainer, unscrewing the bolts and lifting the retainer, relief valve and spring from the recess in the torus hub.

Clean all parts thoroughly, using paraffin or a degreasing agent.

INSPECTION

Examine the splines for signs of wear and damage and check the torus members and the hub of the spring drive in the torus cover for fit on their respective splines.

Examine all rivets, and also the torus vanes, for looseness.

Examine the inner and outer surfaces of the torus cover oil seal neck for scores and other damage.

Examine the torus cover-to-flywheel joint face for damage which may allow oil leakage, and also for distortion.

Examine the starter ring teeth for wear and damage.

Examine the bell housing and the complementary part on the engine for cracks and other damage.

Examine the bearing face of the relief valve, the inside diameter of the valve and the seating on the end of the intermediate shaft for scoring. Examine the spring for distortion. If the valve has not been removed, check the retainer bolts for security.

Remove the oil seal ring from the front drive shaft and position it in the bore of the torus cover oil seal neck. Check that the gap is between 0.002 and 0.010 in.

ASSEMBLY

The assembly of the fluid coupling and the refitting to the gearbox casing are straight-forward, but the following points must be borne in mind.

Ensure that all locking devices, including spring rings, are correctly positioned as the work proceeds.

Fit a new relief valve retainer if it has been disturbed, and a new main shaft lock washer. Fit new gaskets.

Ensure that all nuts and bolts are tightened to the correct torque loading as given in the "Summary of Repair Data" at the end of this chapter.

Fit a new torus cover oil seal into the housing in the front pump cover. Care must be taken to avoid damage to the piston ring type oil seal when fitting the torus cover.

If the bell housing has been renewed, check the "nip" on the front oil pump flange as described in Section 9.

Check the intermediate shaft end float before fitting the rear torus. Renew the steel washer, if necessary.

Lock the gearbox against rotation by placing the selector lever in "reverse" before tightening and locking the main shaft nut.