

ASCO INTERNAL LOCKING HUB

LUV (4x4)
Toyota 4WD Pickup
Toyota Land Cruiser

DESCRIPTION

Locking hubs provide means of engagement of front wheels on vehicles equipped with front driving axles. When hubs are engaged, full power is transmitted to both front wheels. When hubs are disengaged, front wheels are free to turn, but axle shafts and differential will remain idle. Engagement is accomplished through action of gears within hub. With hub in engaged position, inner clutch ring and axle shaft sleeve act as one piece to connect axle shaft to wheel hub.

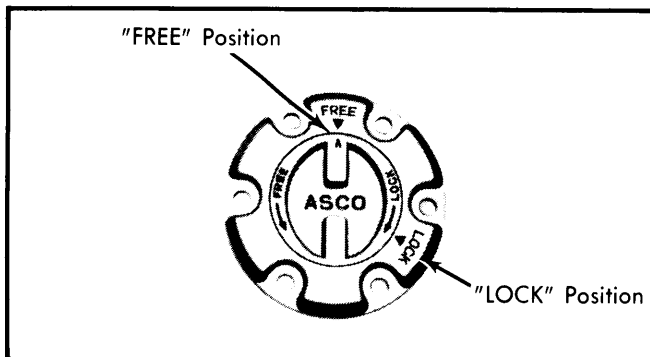


Fig. 1 Front View of ASCO Locking Hub

IDENTIFICATION

ASCO internal locking hubs are identified externally by the word "ASCO" stamped on the metal control knob used to engage and disengage hub.

NOTE — Land Cruiser may not be stamped with "ASCO".

REMOVAL & INSTALLATION

REMOVAL

With control knob set in "FREE" position and transfer shift lever set in "2H" position, remove cover attaching bolts. Remove cover assembly and gasket. Remove snap ring and shims (if used) from axle shaft. On Toyota models, remove 6 hub body retaining nuts and cone-shaped lock washers. On all models, remove hub body.

INSTALLATION

To install, reverse removal procedure and ensure that axle shaft is seated properly. Place bolt in end of axle shaft and pull out with hand pressure, then install snap ring. On LUV, measure clearance between inner clutch assembly and snap ring. Using appropriate shims, set clearance to 0-.01" (0-.25 mm). Ensure control knob is set to "FREE" position and after installation, control knob operates smoothly.

NOTE — Shims are available in thicknesses of .008" (.20 mm), .01" (.25 mm), .02" (.50 mm) and .04" (1 mm) for LUV.

OVERHAUL

DISASSEMBLY

1) Separate cover and outer clutch assemblies by pushing clutch follower toward control knob and turning clutch assembly clockwise. Remove clutch assembly from control knob. Remove control knob snap ring and control knob. Remove "O" ring ("X" ring on LUV).

CAUTION — Do not lose detent ball and spring from control knob.

2) Remove compression spring from outer clutch assembly. Disengage clutch retaining spring from clutch follower, then remove clutch follower from outer clutch. Remove the retaining spring from clutch by turning counterclockwise.

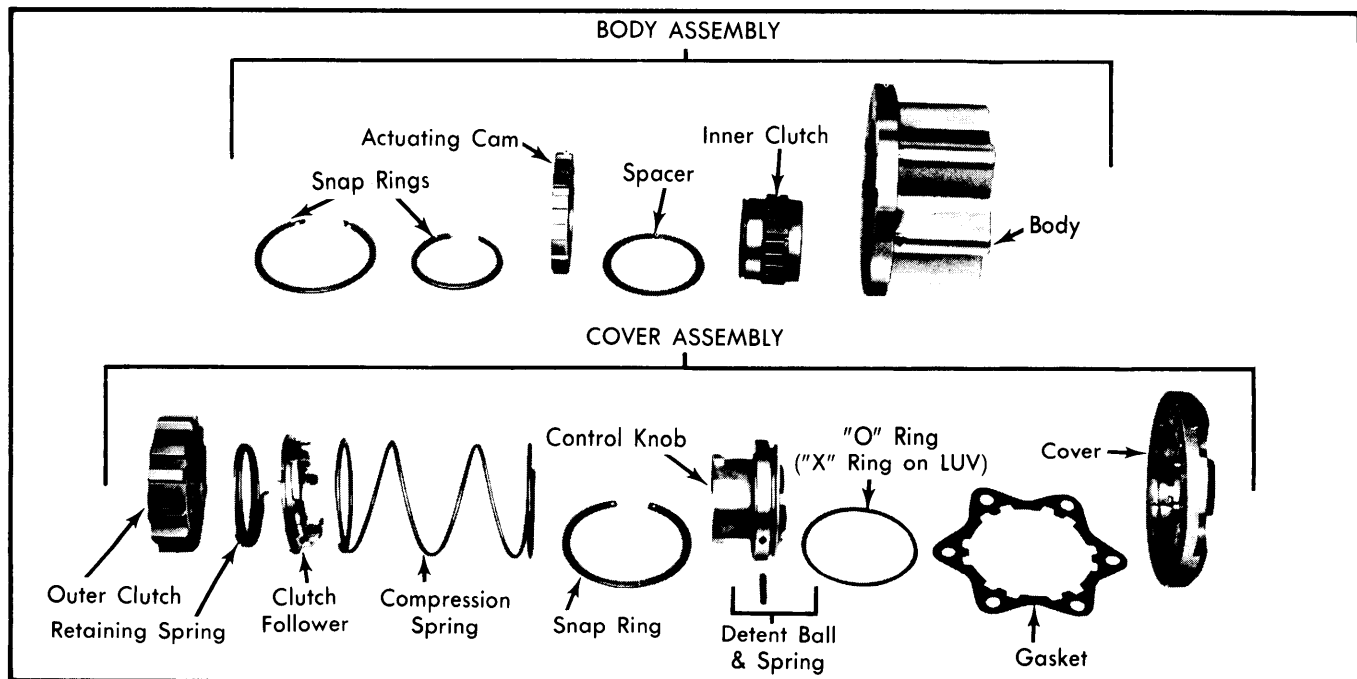


Fig. 2 Exploded View of ASCO Locking Hub

Locking Hubs

ASCO INTERNAL LOCKING HUB (Cont.)

3) Remove snap ring from rear of body assembly and remove inner clutch assembly. Remove snap ring from rear of inner clutch assembly and remove actuating cam and spacer.

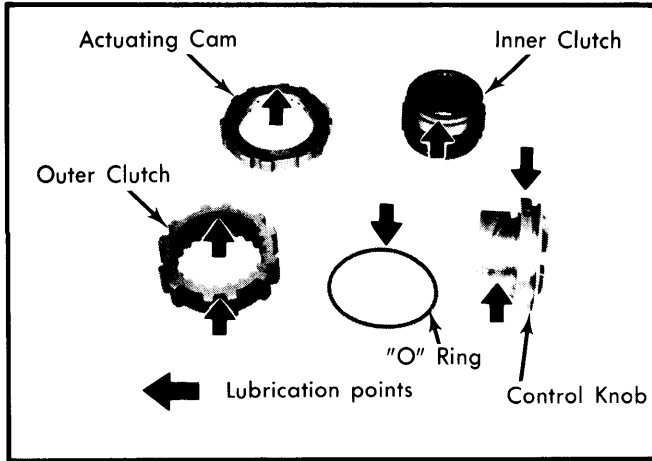


Fig. 3 View Showing Parts and Lubrication Points

CLEANING & INSPECTION

1) Clean and wash all parts in suitable cleaning solvent and blow dry. Inspect all parts for excessive wear or damage and replace as required. Before assembling parts, coat those shown in illustration with multi-purpose grease as indicated.

2) On Toyota models only, measure inside diameter of actuating cam. Measure outside diameter of inner clutch and subtract this measurement from that of actuating cam. Difference is oil clearance. If clearance is not .012" (.3 mm), replace inner clutch assembly.

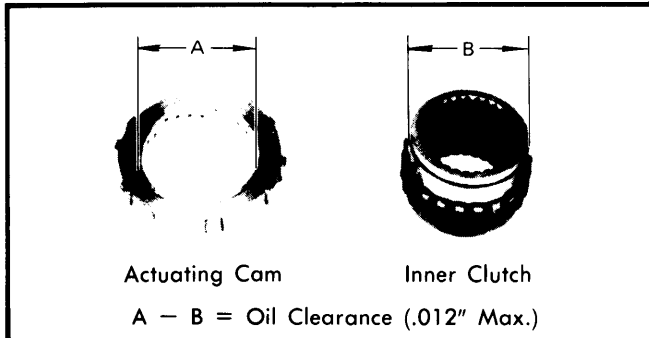


Fig. 4 Measuring Inner Clutch Oil Clearance

REASSEMBLY

1) Install actuating cam and spacer, then fit snap ring to rear of inner clutch. Insert inner clutch assembly to body and install snap ring. Reassemble outer clutch assembly, ensuring retaining spring is seated as shown in illustration. Install compression spring.

NOTE — Ensure inner clutch is installed with tooth end on outer side of hub.

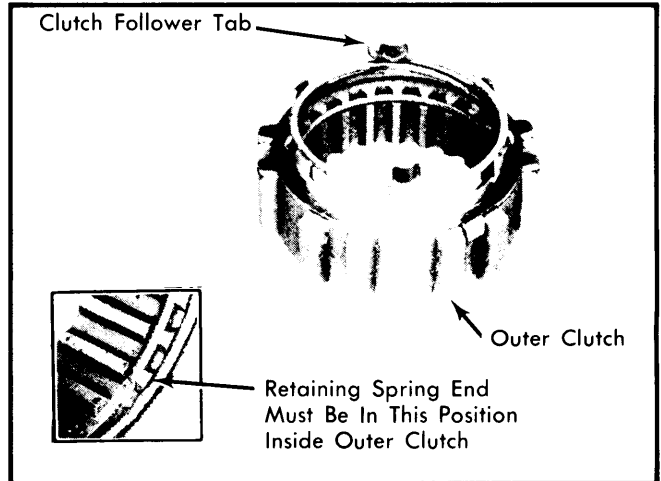


Fig. 5 Installing Retaining Spring & Clutch Follower to Outer Clutch With Inset Showing Inner Spring End

2) Install detent ball and spring to control knob and ensure control knob is set to "FREE" position. Insert control knob in cover and install snap ring. Assemble clutch assembly to cover assembly by pressing and rotating counterclockwise.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Hub Body-to-Hub	
Toyota 4WD Pickup	21-25 (2.8-3.5)
Toyota Land Cruiser	18-25 (2.5-3.5)
Cover Assembly-to-Hub	
LUV	14.5 (2.0)
Toyota 4WD Pickup	6-8 (.8-1.2)
Toyota Land Cruiser	3-5 (.5-.7)