DATSUN, LUV & TOYOTA

Datsun 4-WD Pickup
LUV 4-WD Pickup
Toyota
Land Cruiser
4-WD Pickup

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.

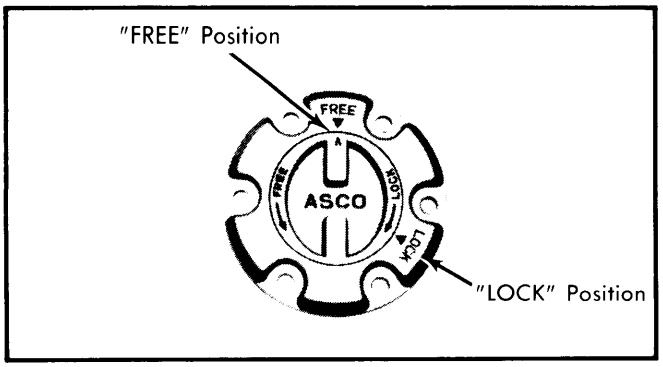

Fig. 1 Front View of ASCO Locking Hub

IDENTIFICATION

ASCO internal locking hubs are used on LUV and Toyota models. ASCO hubs are identified externally by the word "ASCO" stamped on the metal control knob used to engage and disengage hub. Datsun locking hub is not stamped with any markings, but is of similar configuration as locking hub used on LUV.

NOTE – *Land Cruiser may not be stamped with "ASCO".*

REMOVAL & INSTALLATION

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

Installation – **1)** To install, reverse removal procedure and ensure axle shaft is properly seated. On LUV pickup, place a bolt in end of axle shaft and pull out with hand pressure, then install snap ring. Measure and set clearance between inner clutch and snap ring to 0-.01" (0-.25 mm) with proper shim. On LUV and Toyota, ensure control knob is set to "FREE" position and control knob operates smoothly after installation.

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

2) On Datsun, install inner clutch and measure axle shaft end play with dial indicator. Adjust end play to .004-.012" (.1-.3 mm) with snap ring of proper thickness. Ensure control knob is set to "LOCK" position and control knob operates smoothly after installation.

NOTE – *Datsun snap rings are available in 5 thicknesses ranging from .043-.075" (1.1-1.9 mm) in increments of .008"* (.2 mm).

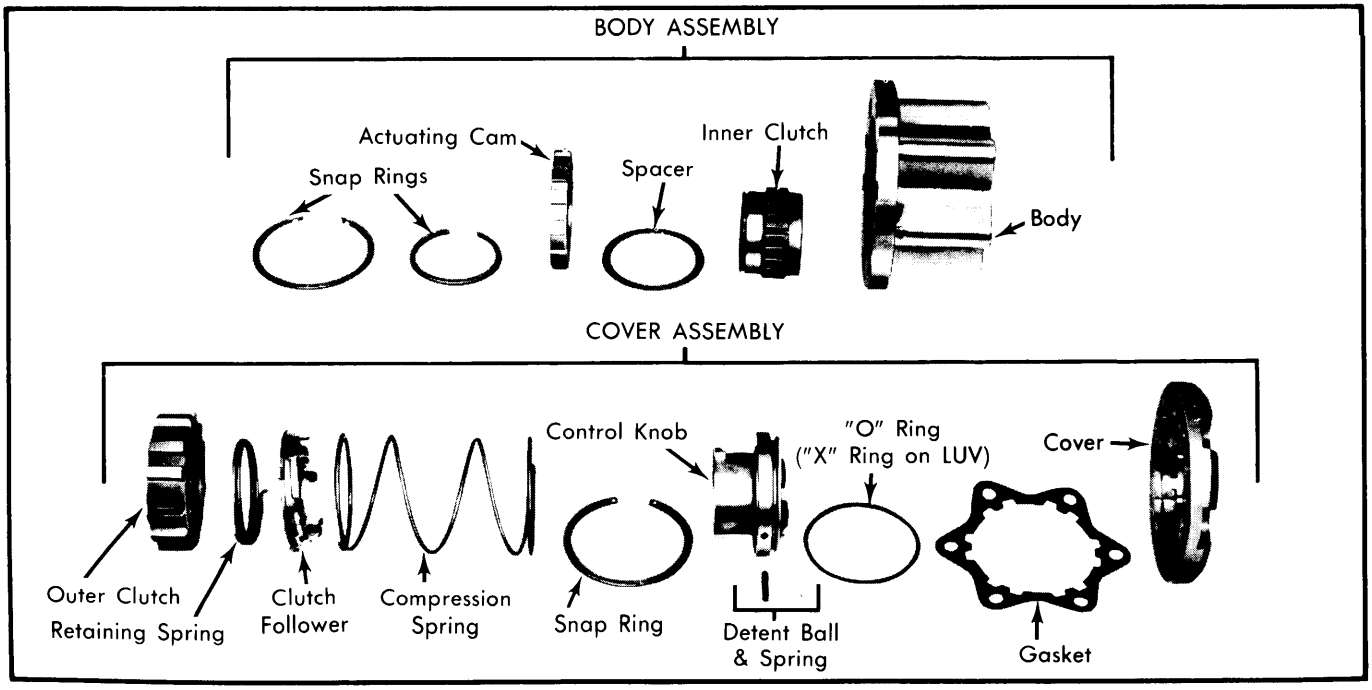

Fig. 2 Exploded View of Toyota Locking Hub – LUV and Datsun Similar

DATSUN, LUV & TOYOTA (Cont.)

OVERHAUL

Disassembly – 1) On LUV and Toyota, separate cover and outer clutch assemblies by pushing follower toward control knob and turning clutch assembly clockwise. Remove clutch assembly from control knob. Remove control knob snap ring and control knob. DO NOT lose detent ball and spring. Remove "O" ring.

NOTE – *Datsun outer clutch is removed in similar manner. However, a pin is used instead of detent ball and spring. Use a magnet to assist in removing outer clutch. See Fig. 3.*

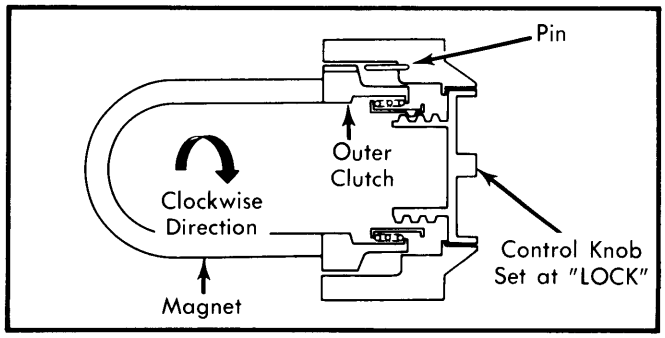

Fig. 3 Using a Magnet to Remove Datsun Outer Clutch

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.

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.

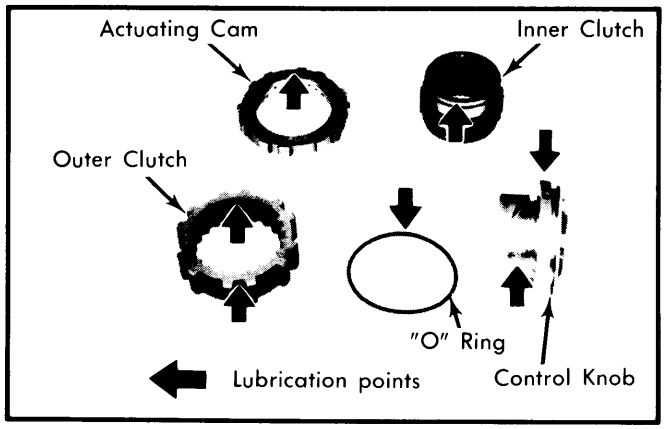

Fig. 4 View Showing Parts and Lubrication Points

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 *Fig. 4* with multipurpose 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.

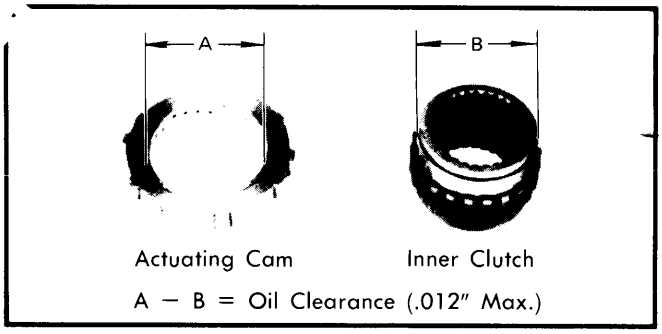

Fig. 5 Measuring Toyota Inner Clutch Oil Clearance

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. Install compression spring. See *Fig. 6*.

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

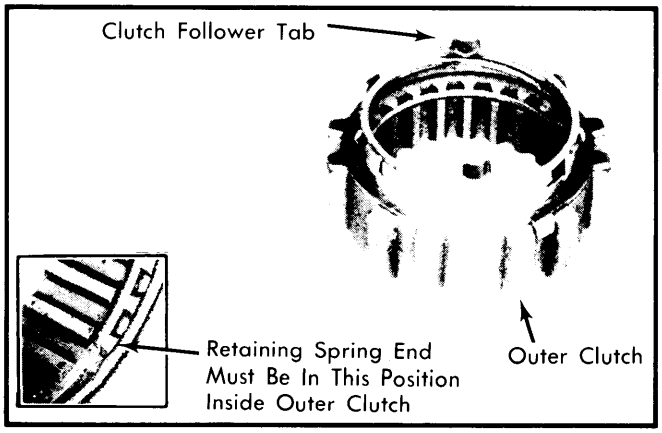

Fig. 6 Installing Retaining Spring and Clutch Follower to Outer Clutch With Inset Showing Inner Spring End

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

NOTE – *On Datsun, after clutch assembly is seated, rotate clutch assembly clockwise to align bolt holes.*

TIGHTENING SPECIFICATIONS

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