

TOYOTA LAND CRUISER

Land Cruiser FJ55

DESCRIPTION

The steering shaft assembly is composed of two sections. The upper section (mainshaft) is a collapsible unit, designed to compress on impact. The lower section (intermediate shaft) is connected at the lower end to the steering gear housing by a universal joint and at the upper end to the steering mainshaft by a universal joint and sliding joint. These joints are provided to allow a completely flexible mount between the frame and body, to assist in steering stability.

REMOVAL & INSTALLATION

MAIN SHAFT

Removal – 1) Loosen and remove screws attaching steering wheel pad to steering wheel. Remove steering wheel retaining nut and pull wheel from shaft.

2) Remove shift control selector shaft and bushings. Cut safety wire and remove shift fork lock bolt, then slide shift control lever out of control shaft. Remove bolt securing steering worm yoke onto steering main shaft. Disconnect electrical wiring harness and extract back-up light switch (with bracket). Detach turn signal switch.

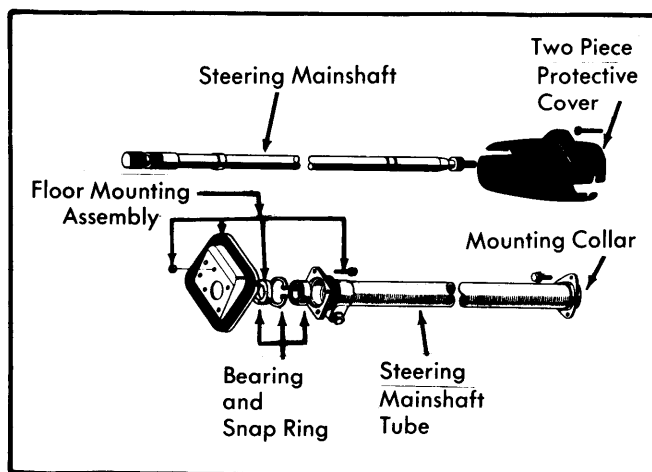


Fig. 1 Model FJ55 Land Cruiser Steering Mainshaft with Detail of Mounting Hardware

3) Remove bolts attaching steering column hole cover onto floor. Remove steering column upper and lower clamps, pull out steering column tube together with steering main shaft toward passenger compartment.

Installation – To install, reverse removal procedure.

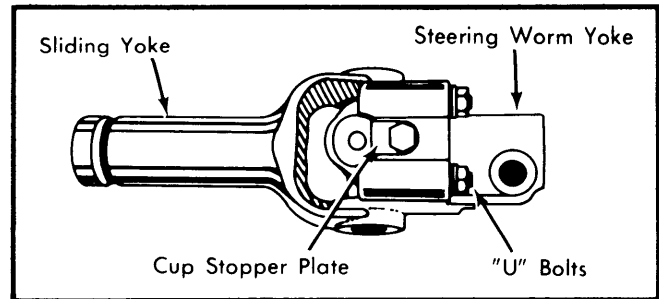


Fig. 2 Assembled View of Intermediate Shaft Coupling

INTERMEDIATE SHAFT

Removal – Raise front of vehicle and support with stands. Pry off wheel cap and remove left front wheel. Remove bolts securing steering worm yokes to worm and main shaft. Remove intermediate shaft.

Installation – To install, reverse removal procedure.

OVERHAUL

MAIN SHAFT

Disassembly – 1) Remove turn signal switch retaining screws and remove turn signal switch assembly from contact ring housing. Remove "E" ring and washer from end of shift control upper shaft. Detach contact ring housing from steering column tube. Pull housing out. Remove shift control shaft.

2) Remove steering column hole cover and shift control shaft lower support bracket from steering column support. Remove steering shaft upper bearing, thrust collar, and spring. Loosen steering column lower clamp bolt and pull column tube out from support.

3) Place steering shaft in vise and straighten claw washer. Remove mainshaft bearing retaining nut and claw washer. Remove hole snap ring in steering column tube support, then drive out mainshaft (with lower bearing). If necessary, remove lower bearing from mainshaft.

Reassembly – 1) Using a suitable drift, press lower bearing onto steering main shaft. Install shaft and bearing into column tube support, using suitable mandrel and press. Install new claw washer, tighten bearing retainer nut and bend up tabs on claw washer. Install column tube onto tube support and tighten lower clamp securely.

2) Lubricate upper bearing and install spring, thrust collar, and upper bearing onto main shaft. Check shaft for smooth rotation. Assemble steering column hole cover and shift control shaft lower bracket.

3) Apply grease on shift control shaft lower bushing and shift control upper shaft. Install contact ring housing onto steering column tube. Secure shift control shaft upper portion to the contact ring housing with washer and "E" ring. Install turn signal switch in contact ring housing.

Steering Columns

TOYOTA LAND CRUISER (Cont.)

INTERMEDIATE SHAFT

Disassembly — Remove cup stopper plates (Fig. 2), then remove "U" bolts securing universal joint spider bearing to steering worm yoke. Separate worm yoke from sliding yoke and shaft. Remove hole snap rings from bearing holes, then remove spider bearing.

Reassembly — 1) Pack spider bearing cups with suitable grease and assemble bearing rollers. Press bearing into one side of sliding shaft. Install bearing seal and complete the in-

stallation of spider bearing. Install suitable snap rings in one of the following sizes: .047" (1.20mm), .049" (1.25mm), .051" (1.30mm). Check joint for smooth operation.

2) Connect sliding shaft to steering worm yoke. Install cup stopper plates and "U" bolts. Assemble joint spider bearing onto sliding yoke in same manner. Pack inside hole of sliding yoke with suitable grease. Align cup stopper plates on sliding yoke side and sliding shaft side. Install dust cover and connect sliding shaft with yoke.

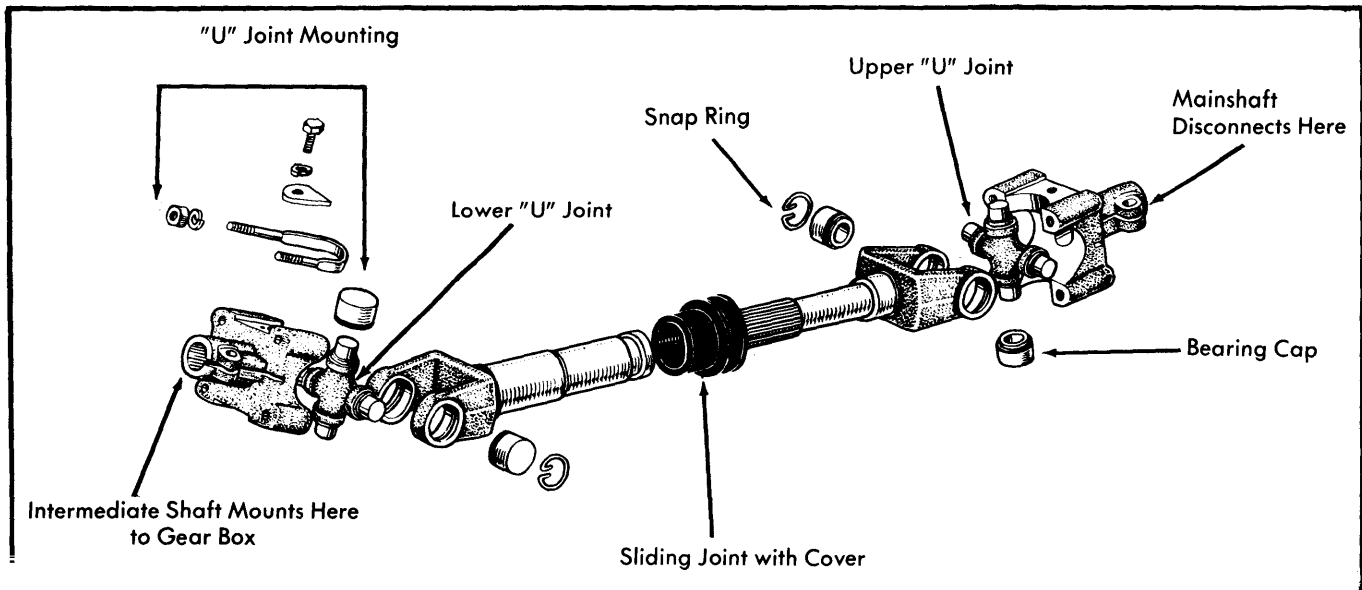


Fig. 3 Exploded View of Land Cruiser (FJ55) Intermediate Steering Shaft Components