Clutches

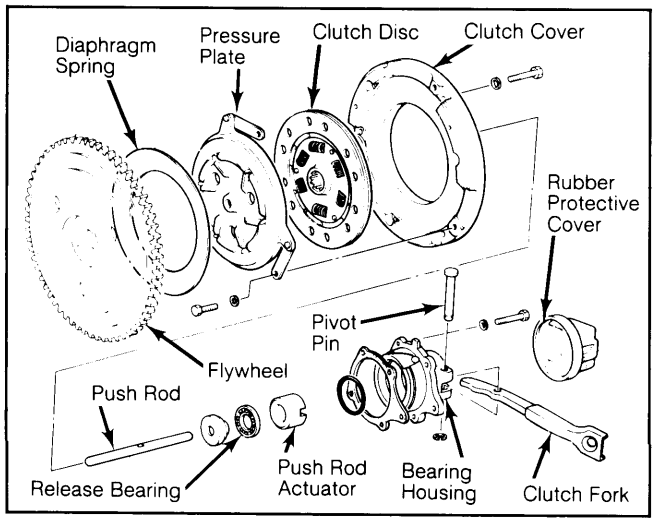
DATSUN/NISSAN 310

DESCRIPTION

Clutch is a single, dry disc, diaphragm spring type. Main components consist of a clutch cover, pressure plate, and diaphragm spring. Clutch plates are riveted together.

A release bearing and fork control clutch engagement and disengagement. Clutch is hydraulic type with a firewall mounted master cylinder and clutch housing mounted slave cylinder.

Fig. 1: Exploded View of Clutch Components



REMOVAL & INSTALLATION

CLUTCH ASSEMBLY

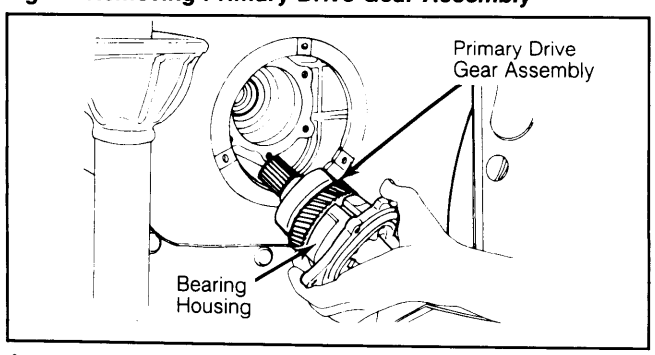
NOTE: Clutch assembly can be serviced, removed, or overhauled while transmission and engine remain in vehicle. Also, transmission cannot be removed without removing engine.

Removal

1) Disconnect battery ground cable, fresh air duct and high tension cable between coil and distributor. Remove fuel filter from bracket. Remove clutch slave cylinder.

2) Remove access hole cover from right wheel well and detach dust cover. Remove clutch release fork pivot pin and retaining clip through access hole and remove release fork.

Fig. 2: Removing Primary Drive Gear Assembly



Access is through right wheel well.

3) Remove bearing housing attaching bolts. Remove bearing housing and primary drive gear assembly through access hole. *See Fig. 2.* Remove upper clutch housing inspection cover.

4) Rotate ring gear and loosen clutch cover attaching bolts evenly. Lift out clutch cover assembly and diaphragm spring through inspection cover opening. Remove diaphragm spring and bolts securing pressure plate straps to clutch cover. Remove disc.

NOTE: Clutch cover and pressure plate are part of a dynamically balanced unit. Pressure plate securing straps must not be moved or bent. Also, if replacement of either part becomes necessary, replace both parts as a unit.

Installation

1) Place clutch disc between clutch cover and pressure plate making sure to align arrow on clutch cover with protruding tab on edge of pressure plate before securing pressure plate to clutch cover.

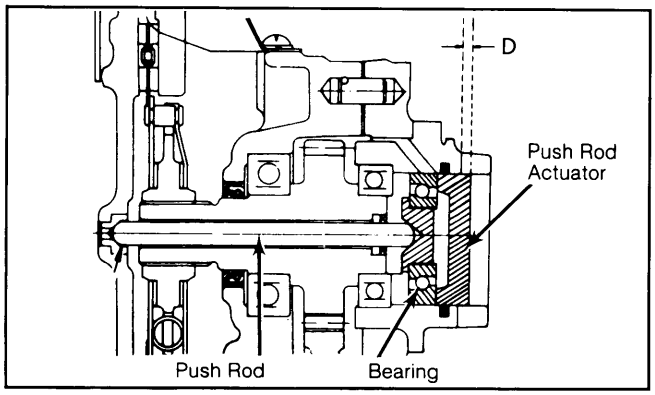
2) Install diaphragm spring and clutch cover assembly on flywheel alignment pins and tighten clutch cover to flywheel bolts finger tight.

3) Install primary gear and bearing housing on clutch housing, aligning clutch disc hub on primary gear spline. Tighten clutch cover-to-flywheel bolts.

4) Measure height at "D". *See Fig. 3.* If height is not .020"-.098" (.5-2.5 mm), replacement push rods are available in lengths of 4.45" (113 mm), 4.49" (114 mm) and 4.53" (115 mm) to correct height at "D".

5) Install clutch fork, rubber cover, pivot pin and retaining clip on bearing housing. Install access hole cover, clutch slave cylinder, fuel filter, coil high tension cable, fresh air duct and battery ground cable.

Fig. 3: Pressure Plate Push Rod Measurement



RELEASE BEARING

Removal

Remove clutch slave cylinder. Separate release lever by removing pivot pin. Remove bearing housing. Remove "O" ring, push rod actuator and bearing from bearing housing. Hold bearing and rotate outer race. Replace if operation is rough or noisy.

Installation

To install, reverse removal procedure and apply a light coat of multi-purpose grease to sliding parts of release lever.

CLUTCH MASTER CYLINDER

Removal & Installation

Disconnect master cylinder push rod at clevis.

DATSUN/NISSAN 310 (Cont.)

Disconnect hydraulic line to slave cylinder. Remove cylinder attaching bolts and remove cylinder. To install, reverse removal procedure, bleed hydraulic system and adjust pedal free play.

SLAVE CYLINDER

Removal & Installation

Disconnect clutch hose from slave cylinder. Remove slave cylinder attaching bolts and remove cylinder. To install, reverse removal procedure and bleed hydraulic system.

OVERHAUL

MASTER CYLINDER

Disassembly

Remove filler cap and drain fluid. Remove dust cover and stopper ring. Remove push rod and stopper. Remove supply valve stopper, then take out piston, spring seat and return spring.

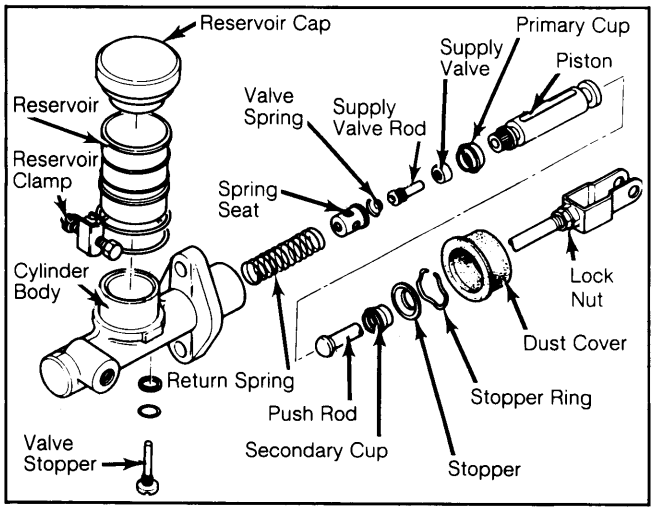
Cleaning & Inspection

Clean all parts in clean brake fluid and inspect for wear or damage. If cylinder-to-piston clearance exceeds .006" (.15 mm), replace defective part. Replace piston cup and dust cover during overhaul.

Reassembly

To assemble, coat all parts with brake fluid and reverse disassembly procedure. Bleed system and adjust pedal height.

Fig. 4: Exploded View of Master Cylinder



SLAVE CYLINDER

Disassembly

Remove push rod and dust cover. Remove piston, piston cup and piston spring as an assembly. Remove bleeder screw.

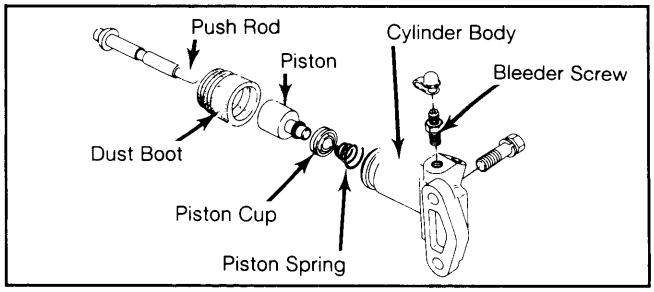
Cleaning & Inspection

Clean all parts in clean brake fluid and inspect for wear or damage. If cylinder-to-piston clearance exceeds .006" (.15 mm), replace defective part. Replace piston cup and dust cover during overhaul.

Reassembly

To assemble, coat all parts with brake fluid and reverse disassembly procedure. Ensure piston cup is properly installed and bleed system.

Fig. 5: Exploded View of Clutch Slave Cylinder

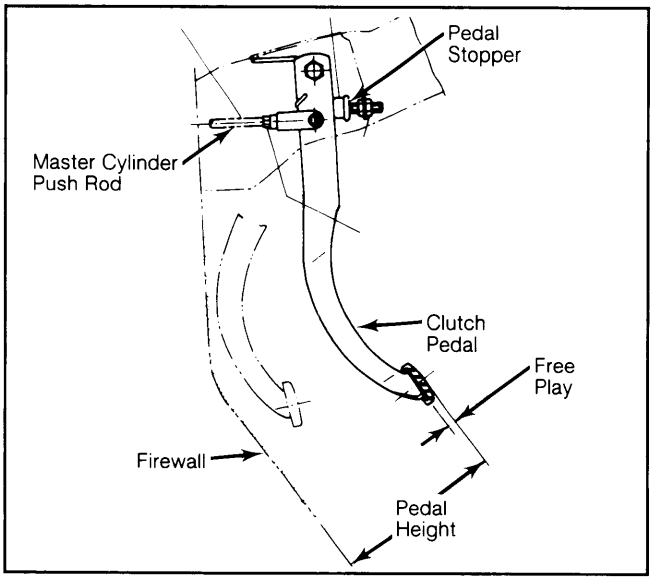


ADJUSTMENTS

CLUTCH PEDAL HEIGHT & FREE PLAY

Adjust pedal height by turning pedal stopper. Correct height is 7.05-7.28" (179-185 mm). *See Fig. 6.* Tighten lock nut. Adjust master cylinder push rod so pedal free play is .04-.20" (1-5 mm). Tighten lock nut.

Fig. 6: Pedal Height and Free Play Measurement



HYDRAULIC SYSTEM BLEEDING

1) Fill reservoir with brake fluid. Fit bleeder hose to bleeder screw. Place opposite end of hose into clear container partially filled with brake fluid.

2) Pump clutch pedal 2 or 3 times and hold to floor. Loosen bleeder screw and allow air to vent. Close bleeder screw and allow pedal to return. Repeat procedure until no air bubbles are present in discharged fluid.

TIGHTENING SPECIFICATIONS

Application	INCH Lbs. (N.m)
Clutch Cover Assy.-to-Flywheel Bolt	60-84 (7-10)
Pressure Plate Strap Bolt	84-108 (10-13)
Bearing Housing-to-Clutch Housing Bolt	48-84 (6-10)
Clutch Housing Cover Bolt	48-84 (6-10)
	Ft. Lbs. (N.m)
Slave Cylinder-to-Clutch Housing Bolt	22-30 (30-40)