SUBARU

Subaru
1600
BRAT

DESCRIPTION

Clutch is a diaphragm spring, single dry disc type, with mechanical actuation through a clutch cable. Release bearing is a sealed unit and requires no lubrication.

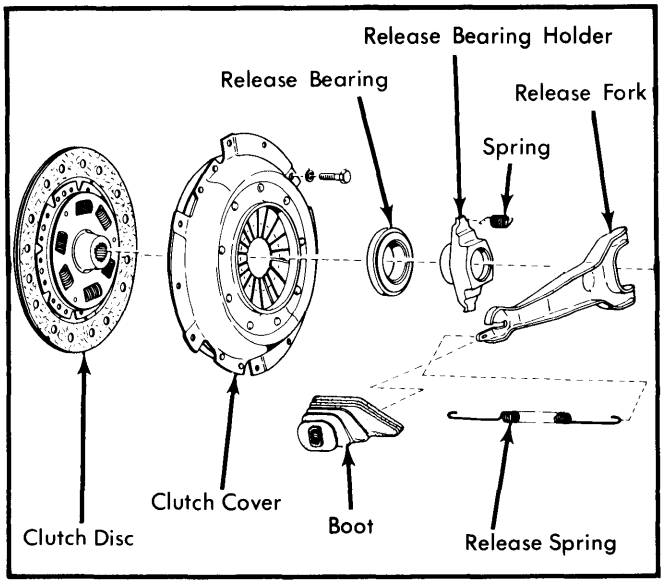

Fig. 1 Exploded View of Subaru Clutch Assembly

REMOVAL & INSTALLATION

CLUTCH ASSEMBLY

Removal – **1)** Remove spare tire. Disconnect and remove battery ground cable. Remove air cleaner leaving vacuum hoses attached to ports on air cleaner assembly.

2) Disconnect fuel line at pump. Disconnect vacuum hose for power brake unit at intake manifold. Disconnect following:
- Alternator.
- Fan motor and thermoswitch.
- Starter.
- Engine wiring harness. On Calif. models only, disconnect distributor lead at harness connector.
- Back-up lights.
- On automatic transmission models only disconnect electrical wires for inhibitor switch, downshift solenoid, and governor cover ground wire.
- On 4WD models only, disconnect 2 drive selector switch wires.

3) Drain coolant. Disconnect heater hoses and automatic transmission cooling lines. Remove radiator. Remove engine torque rod stopper.

4) Disconnect all necessary control cables (speedometer, etc.). Disconnect clutch cable at fork. On 4WD models only, remove engine shield. Drain automatic transmission and disconnect fluid lines.

5) Disconnect exhaust system at intake manifold, pre-muffler, and 2 bolts on transmission bracket. On 4WD models only, remove drive lever and gear selector lever into passenger compartment.

6) On manual transmission models (except 4WD), remove gear shift as follows:
- Remove through bolt mounting engine brace to engine rear mounting bracket.
- Remove through bolt connecting control rod to joint.

7) On automatic transmission models only, disconnect control rod from selector arm at clevis pin. On 4WD models only, disconnect propeller shaft. Also, disconnect parking brake hardware at crossmember and transverse link.

8) Drive out pins from axle drive shaft. Remove inner end of transverse link from crossmember. Support axle drive shaft by pushing outward on assembly. Remove nuts mounting engine front insulators to front crossmember. Support engine weight.

9) On 4WD models only, remove stabilizer bar mounting brackets. Remove engine rear insulators from crossmember. Support transmission with jack and remove crossmember. On all models remove engine.

10) Remove 6 bolts mounting pressure plate and disc to flywheel.

Installation – To install, reverse removal procedure and note the following: Use alignment tool (399740100) to center clutch disc and pressure plate against flywheel. Make sure there is at least 120° between "O" mark on pressure plate and flywheel.

CLUTCH RELEASE BEARING & HOLDER

Removal – **1)** Remove transmission from engine.

2) Disconnect return springs from release bearing holder.

3) Remove release bearing and holder from bearing guide.

4) Remove clutch release fork and fork seal.

Disassembly, Release Bearing – **1)** Fit bearing to suitable press (899754112).

2) Apply enough pressure to force guide off of bearing.

Inspection – **1)** Rotate bearing with pressure against thrust side to make sure of smooth operation.

2) Check bearing holder surface where it contacts fork. There should be no evidence of wear or damage.

3) Do not wash bearing in solvent. Bearing is sealed and prelubricated.

4) Check release fork for wear at fork pivot and guide flange.

Reassembly – Reverse disassembly procedure.

NOTE – *Before beginning installation, lubricate following locations with multipurpose grease:*
- Inner release bearing sleeve groove.

SUBARU (Cont.)

- Fork, fork ball pin, and guide contact surfaces.
- Transmission input shaft.

Installation – 1) Fit release fork seal.

2) Insert release fork.

3) Slide on release bearing holder and hook 2 return springs.

4) Refit transmission.

5) Check clutch release bearing fork free play.

PILOT BEARING

Removal – 1) Remove transmission.

2) Remove pressure plate and clutch disc.

3) Remove oil seal and pilot bearing seated in crankshaft.

Inspection – 1) Check bearing fit in crankshaft.

2) Check inner surface of pilot bearing for wear. Replace bearing if excessively worn.

3) If pilot bushing is worn, also check transmission input shaft for wear.

Installation – 1) Thoroughly clean bearing location in crankshaft.

2) Use an aluminum rod and plastic mallet to seat bearing in crankshaft.

3) Insert oil seal in crankshaft.

4) Install clutch and pressure plate.

5) Install transmission.

ADJUSTMENT

CLUTCH FREE PLAY

1) Remove release fork spring.

2) Loosen lock nut.

3) Rotate adjustment nut to obtain .14-.18" (3.6-4.6 mm) play measured at fork end (center of adjustment nut).

NOTE – *When adjustment is correct pedal free play will be approximately .94-1.18" (24-30 mm).*

4) Tighten lock nut.

Clutch Adjustment Specifications

Application	In. (mm)
Clutch Pedal Stroke	5.12 (130)
Release Fork Stroke	.67-.71 (17-18)
Release Fork Free Play	.14-.18 (3.6-4.6)
Pedal Free Play	.94-1.2 (24-30)

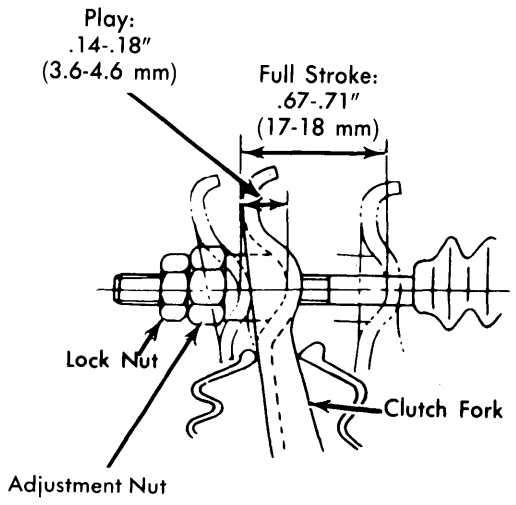

Fig. 2 Clutch Cable Adjustment Locations and Specifications

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Clutch-to-Flywheel Bolts	12 (1.6)
Engine Mounts	15-22 (2.0-3.0)
Transmission Stablizer Bar	5-9 (.69-1.2)