Clutches

JEEP — HYDRAULIC

4-Cyl. "CJ" & Scrambler

DESCRIPTION

Clutch assembly consists of a single dry-disc driven plate and a one-piece diaphragm spring clutch cover. The clutch cover is 9" is diameter and the driven plate is 8½" in diameter. No internal adjustment for driven plate is provided. Clutch is actuated through a hydraulic clutch cylinder and slave cylinder.

REMOVAL & INSTALLATION

CLUTCH ASSEMBLY

Removal

1) Raise and support vehicle under frame and remove transmission. Remove bolts attaching slave cylinder to clutch housing.

2) Disengage push rod from clutch fork and move cylinder out of way, securing to underside of vehicle. Remove release bearing from clutch fork. Remove bolts attaching clutch housing to engine and remove housing.

3) Mark position of clutch cover on flywheel for reassembly in same position. Loosen clutch cover bolts 1 or 2 turns at a time until clutch cover spring tension is released. Remove cover bolts and remove clutch cover and disc.

Installation

Check all components for wear or damage and replace as necessary. Using clutch alignment tool, align clutch disc and loosely install clutch cover, noting alignment marks.Tighten clutch cover bolts alternately and evenly. Reverse removal procedures to complete installation.

CLUTCH MASTER CYLINDER

Removal

1) Disconnect hydraulic line at clutch master cylinder. Plug line and cylinder opening to prevent dirt from entering. From inside vehicle, remove cotter pin and washer retaining cylinder push rod on clutch pedal.

2) Slide push rod off pedal pivot. Remove nuts attaching clutch master cylinder and remove cylinder.

Installation

Reverse removal procedures and bleed the hydraulic system.

CLUTCH SLAVE CYLINDER

Removal

1) Disconnect hydraulic line at clutch slave cylinder and plug line. Remove clutch fork lever-to-cylinder push rod retaining spring.

2) Remove bolts attaching slave cylinder to clutch housing. Remove slave cylinder, heat shield, clutch fork pivot, washer and seal.

Installation

Reverse removal procedures and bleed the hydraulic system.

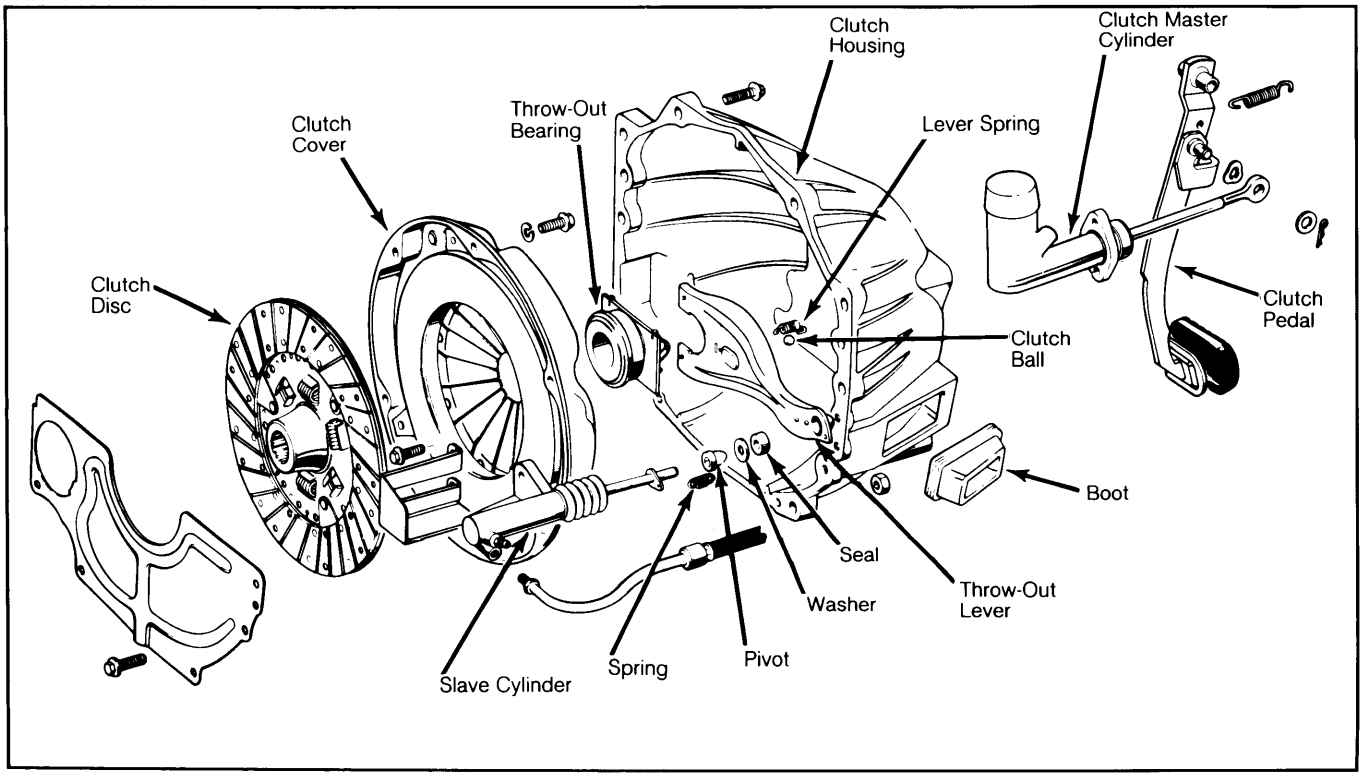
OVERHAUL

CLUTCH MASTER CYLINDER

Disassembly

1) Remove reservoir cap and rubber cover. Use screwdriver to pry push rod dust cover off cylinder and discard dust cover. Remove snap ring retaining push rod in cylinder bore and discard snap ring.

Fig. 1: Exploded View of Hydraulic Clutch Assembly ("CJ" & Scrambler With 4-Cylinder Engine)



JEEP — HYDRAULIC (Cont.)

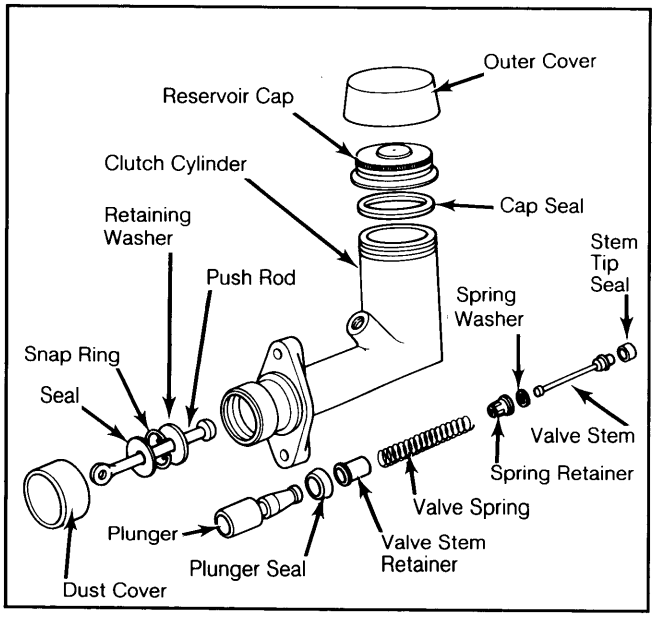
2) Remove push rod, retaining washer and seal as an assembly. Discard push rod seal. Remove plunger, valve spring and valve stem assembly from cylinder bore by lightly tapping cylinder body on wood block.

3) Compress valve spring slightly and pry tab of valve stem retainer upward to release retainer, spring and stem assembly from plunger. Remove seal from plunger and discard. Remove spring retainer and valve stem from valve spring.

NOTE: Retainer tab is located in rectangular slot in side of stem retainer. Use thin blade screwdriver to pry upward.

4) Remove valve stem from retainer and remove spring washer and stem tip seal from end of valve stem and discard stem tip seal and spring washer. Clean all parts thoroughly with brake fluid only. Inspect cylinder bore for wear and/or nicks, scores or damage. Replace if necessary.

Fig. 2: Exploded View of Clutch Master Cylinder



Clean parts in brake fluid only.

Reassembly

1) Lubricate cylinder bore with brake fluid. Make sure lip of plunger seal faces stem end of plunger. Stem tip seal is installed so seal shoulder fits in undercut at end of valve stem.

2) When end of valve stem passes through stem retainer and seats in small bore in end of plunger, bend retainer tab downward to lock stem and retainer on plunger.Reverse disassebly procedure to complete reassembly.

CLUTCH SLAVE CYLINDER

Disassembly

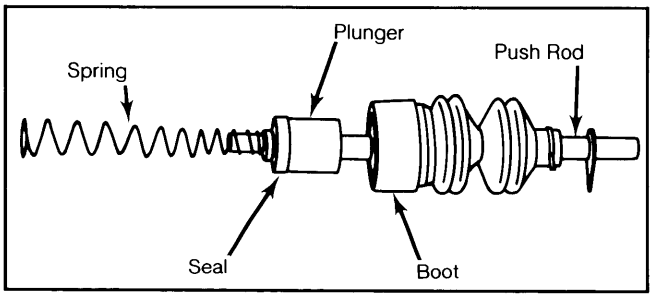
1) Clean cylinder exterior thoroughly. Remove dust boot from cylinder. Remove cylinder push rod, plunger and spring as an assembly. Remove spring seal from plunger.

2) Remove snap ring which holds push rod in plunger. Remove push rod and boot. Remove boot from push rod. Clean all parts thoroughly with brake fluid. Inspect cylinder bore for wear and/or nicks, scores or damage. Replace if necessary.

Reassembly

Reverse disassembly procedure. Lubricate cylinder bore and seal with clean brake fluid before reassembly.

Fig. 3: Exploded View of Clutch Slave Cylinder



NOTE: No adjustment is necessary except bleeding of hydraulic system.

HYDRAULIC SYSTEM BLEEDING

1) Make sure clutch master cylinder is full of brake fluid (SAE J-1703 or DOT 3 or equivalent). Compress slave cylinder plunger by pushing forward on clutch fork as far as possible. Attach rubber hose to bleeder screw, then immerse other end of hose in glass container ½ full of brake fluid.

2) Loosen bleeder screw. Depress and hold clutch pedal to end of its travel. Tighten bleeder screw and release pedal. Repeat bleeding operating until fluid entering container is free of bubbles. Do not allow master cylinder to run dry during bleeding. Refill master cylinder to level mark on reservoir.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Clutch Cover-to-Flywheel Bolts	23 (31)
Clutch Housing-to-Engine Bolts	54 (73)
Clutch Housing-to-Transmission Bolts	54 (73)
Flywheel-to-Engine Bolts	65 (88)