CLUTCH

CONTENTS

CAUTION
When servicing clutch assemblies or components, do NOT create dust by sanding, grinding or by cleaning clutch parts with a dry brush or with compressed air. (A water dampened cloth should be used). The clutch disc contains "Asbestos Fibers" which can become airborne if dust is created during service operations. Breathing dust containing "Asbestos Fibers" may cause serious bodily harm.

GENERAL SPECIFICATIONS

Clutch operating method	Hydraulic type
Inside diameter of clutch master cylinder mm (in.)	15.87 (.62)
Clutch disc	
Type	Single dry disc type
Facing diameter (outside × inside) mm (in.)	225 × 150 (8.86 × 5.91)
Number of torsion springs	4
Clutch cover assembly	
Type	Diaphragm spring, strap drive type
Setting load N (lbs.)	5,394 (1,213)
Mounting bolt circle diameter mm (in.)	264 (10.39)
Clutch release bearing	
Type	Self-centering type
Free travel	0 (Zero) — Constant contact type
Clutch release cylinder	
Cylinder bore diameter mm (in.)	19.05 (.75)

SERVICE SPECIFICATIONS

	mm (in.)
Standard value	
Clutch pedal height	187–193 (7.3–7.6)
Clutch pedal play (at clevis pin)	1–3 (.04–.10)
Clutch pedal free play (total)	6–13 (.23–.51)
Distance between pedal pad upper surface and floor board measured with clutch disengaged	35 (1.4)
Limit	
Master cylinder to piston clearance	0.15 (.006)
Clutch disc Rivet sink	0.3 (.012)

TORQUE SPECIFICATIONS

	Nm (ft.lbs.)
Clutch to flywheel	15–21 (11–15)
Flywheel to crankshaft	128–137 (94–101)
Release cylinder to transmission case	30–41 (22–30)
Transmission to engine	43–53 (32–39)
Starter motor mounting bolts	22–31 (16–23)
Fulcrum	30–41 (22–30)
Clutch pedal to pedal bracket	25–35 (18–25)
Eye bolt	20–25 (14–18)
Clutch tube flare nut	13–17 (9.4–12.3)
Clutch hose bracket	8 (5.8)
Clutch master cylinder to toeboard	10–15 (7–11)

LUBRICANTS

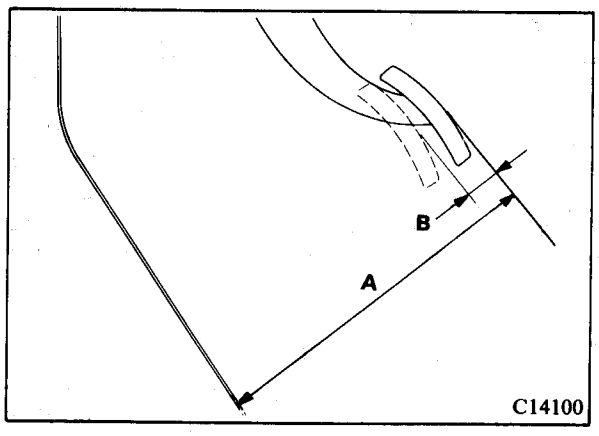
	Specified lubricants	Quantity
Fluid	MOPAR Brake Fluid Part Number 2933249 or equivalent	As required
Grease for clutch pedal shaft, bushings, and return spring	MOPAR Multi-Mileage Lubricant Part Number 2525035 or equivalent	As required

TROUBLESHOOTING

Symptom	Probable cause	Remedy
Clutch slipping	Insufficient clutch pedal free play	Adjust clutch free play
	Burned, worn or oil soaked facing	Replace disc assembly and correct cause of contamination
	Weak or broken pressure spring	Replace cover assembly
Difficult gear shifting	Excessive clutch pedal free play	Adjust clutch free play
	Worn or damaged disc assembly	Replace disc assembly
	Clutch disc splines sticking	Remove disc assembly and free up splines or replace disc
	Hydraulic system failure	Repair or replace
Clutch chatters	Worn or damaged disc assembly	Replace disc assembly
	Oil or grease on disc facing	Replace disc assembly and correct cause of contamination
	Weak or broken disc damper springs	Replace disc assembly
	Broken or loose engine mounts	Replace or tighten mounts
Clutch noises	Clutch pedal bushing damage	Replace parts
	Worn release bearing	Replace release bearing
	Worn disc assembly	Replace disc assembly
	Worn diaphragm spring	Replace cover assembly
Clutch operation erratic or rough	Insufficient lubricant on clutch pedal pivot	Lubricate

CLUTCH PEDAL HEIGHT

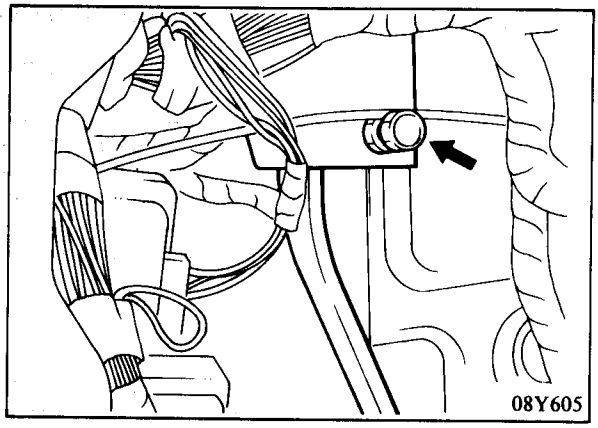
1. Measure the clutch pedal height and play at the pedal pad upper surface.



Clutch pedal height (distance between top of melsheet of floor and top of clutch pedal) A
[Standard value] ..... 187—193 mm (7.4—7.6 in.)

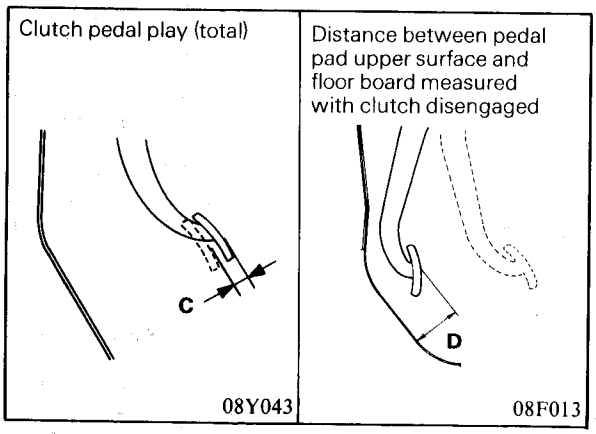
Clutch pedal play (at clevis pin) B
[Standard value] ..... 1—3 mm (.04—.10 in.)

2. If the clutch pedal height and play is not within the standard value, adjust as follows:
   (1) Adjust the clutch pedal height to the standard value by turning the clutch switch and secure with lock nut. (08Y605)
   (2) Adjust clutch pedal play (at clevis pin) to the standard value by turning the push rod and secure with lock nut.



Caution
Be sure not to push in the master cylinder push rod.

3. Make sure that the clutch pedal free play (total play including play at clevis pin) and the distance between pedal pad upper surface and floor board measured with the clutch disengaged are of standard value.



Clutch pedal free play (including play at clevis pin) C
[Standard value) ..... 6—13 mm (.23—.51 in.)

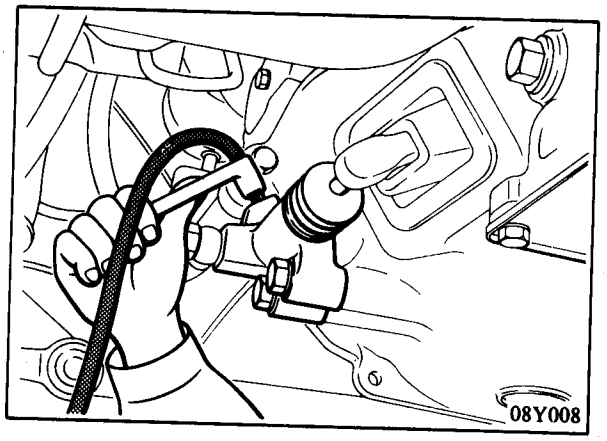
Distance between pedal pad upper surface and floor board measured with clutch disengaged D
[Standard value] ..... 35 mm (1.4 in.)

4. If the clutch pedal free play and the distance between pedal pad upper surface and floor board measured with the clutch disengaged deviate from the standard value, it is suspected that air is in the hydraulic system or the master cylindr or clutch proper is faulty. Therefore, bleed air or disassemble and inspect the master cylinder or clutch proper.

BLEEDING

Whenever the clutch tubing, the clutch hose, and/or the clutch master cylinder have been removed, or if the clutch pedal is spongy, bleed the system.

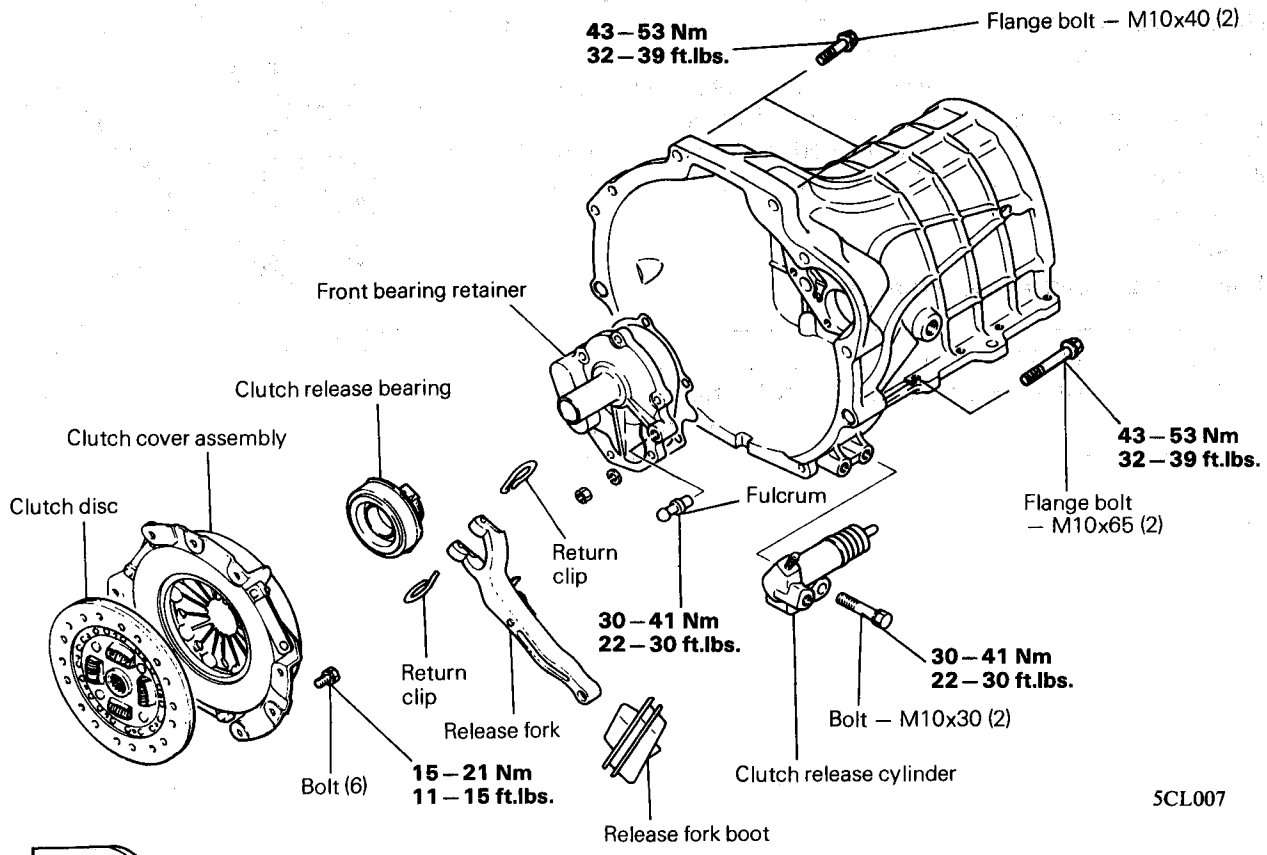
1. Loosen the bleeder screw at the clutch release cylinder.
2. Push clutch pedal down slowly until all air is expelled.
3. Hold clutch pedal down until bleeder screw is retightened.
4. Refill clutch master cylinder with recommended brake fluid.

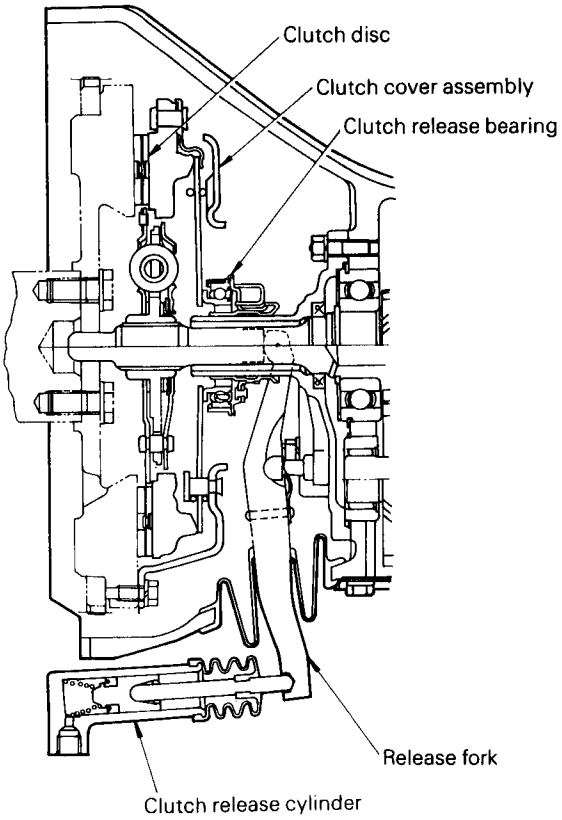


Caution
Use a recommended brake fluid only.

Recommended brake fluid .....
MOPAR Brake Fluid Part Number 2933249
or equivalent

COMPONENTS



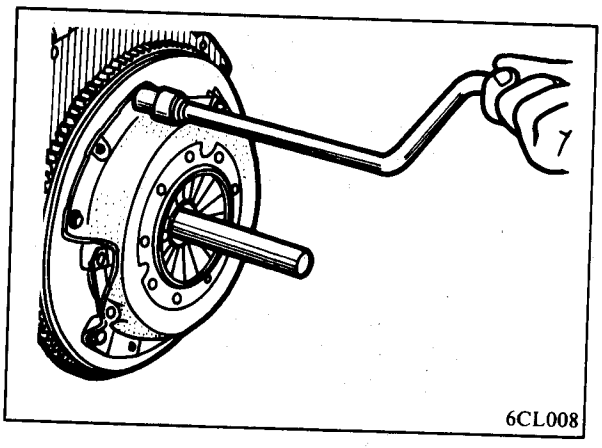


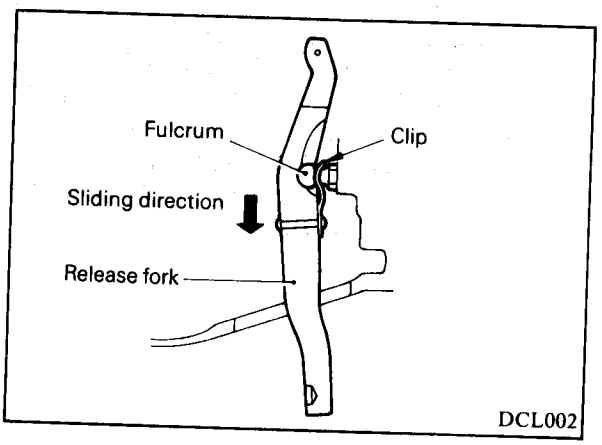
REMOVAL

1. Remove the transmission. See "Manual Transmission", Group 21, for detailed procedure.
2. Insert main drive gear of transmission in center spline to prevent dropping of clutch disc.
3. Diagonally loosen bolts retaining clutch cover to flywheel. Back off bolts, one or two turns at a time, in succession, to avoid bending cover flange.

Caution
DO NOT clean clutch disc or release bearing with cleaning solvent.

4. Remove the return clips from the bearing and fork, and then remove the clutch release bearing.
5. Slide release fork in direction of arrow to disengage fulcrum from clip. Attempting to remove release fork by sliding it in other direction will result in damage to clip.

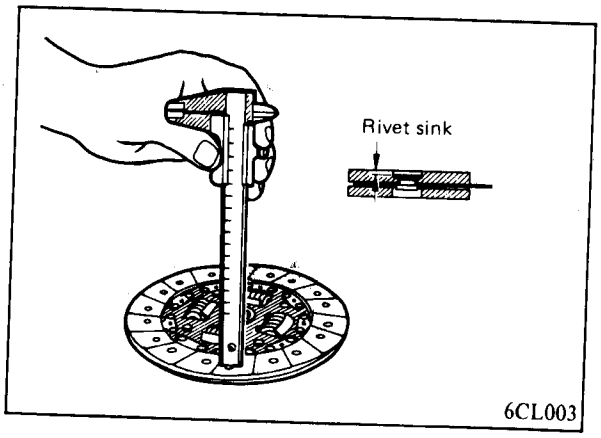

6CL008



DCL002

CLEANING AND INSPECTION

1. Clean clutch dust from clutch housing with vacuum brush or shop towel. Do not use compressed air. Inspect for oil leakage through engine rear main bearing oil seal and transmission front oil seal. If leakage is noted, it should be corrected at this time.
2. Friction face of pressure plate should be have a uniform appearance throughout entire disc contact area. If there is evidence of heavy contact on one portion of wear circle and a very light contact 180 degrees from that portion, pressure plate may be improperly mounted or sprung.
3. Friction face of flywheel should also be free from excessive discoloration, burned areas, small cracks, deep grooves, or ridges.
4. The disc assembly should be handled without touching facings. Replace disc if facings show evidence of grease or oil soakage, or wear to within less than 0.3 mm (.012 in.) of the rivet heads. (6CL003)
   The hub splines and splines on transmission input shaft should be a snug fit without signs of excessive wear. Metallic portions of disc assembly should be dry and clean and show no evidence of having been hot. Each of the arched springs between facings should be unbroken and all rivets should be tight.
5. Wipe friction surface of pressure plate with a cleaning solvent.

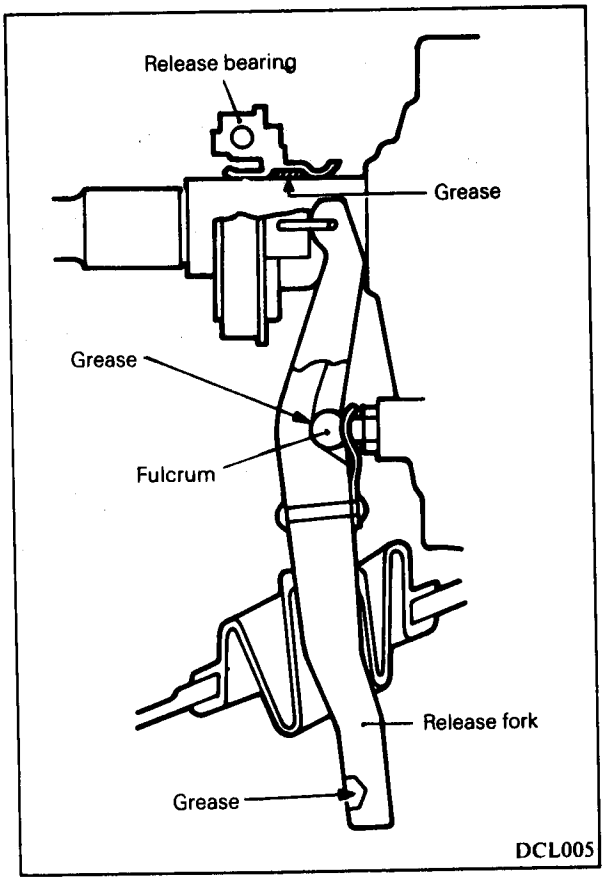


6CL003

6. Using a straight edge, check pressure plate for flatness. The pressure plate friction area should be flat within 0.5 mm (.020 in.) and free from discoloration, burned area, cracks, grooves or ridges.
7. Visually inspect the cover outer mounting flange for flatness. It should be free of nicks, burrs, dents or other damage.
8. The three dowels on the flywheel should be tight and undamaged.
   The cover stamping should be a snug fit on the dowels.
9. If the clutch assembly does not meet these requirements, it should be replaced.

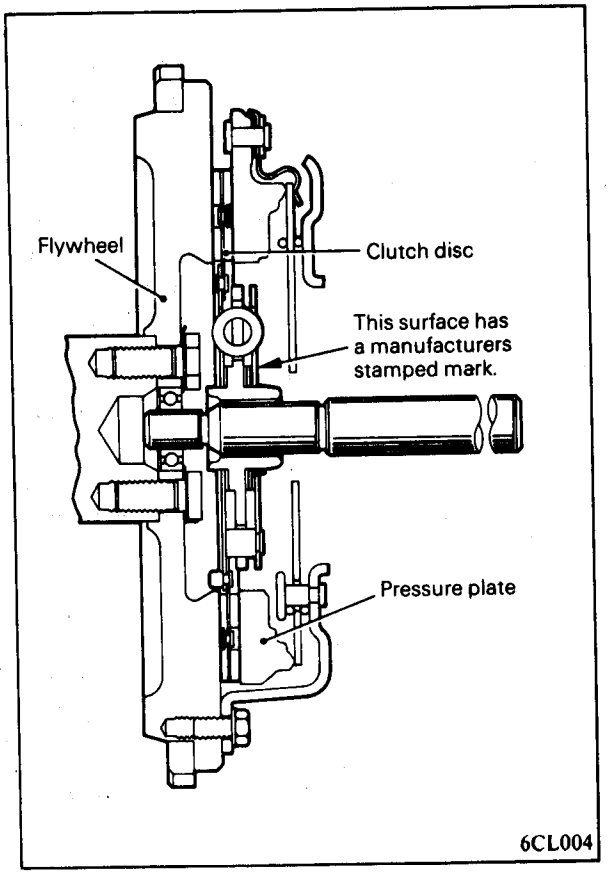
INSTALLATION

1. Pack the release fork fulcrum hole and release cylinder push rod hole with grease. (DCL005)
2. Pack grease in groove on release bearing I.D.
3. If there are oils or greases on clutch facing and pressure plate, thoroughly wipe away with a dry cloth.
4. Lightly grease clutch disc spline and main drive gear spline of transmission.



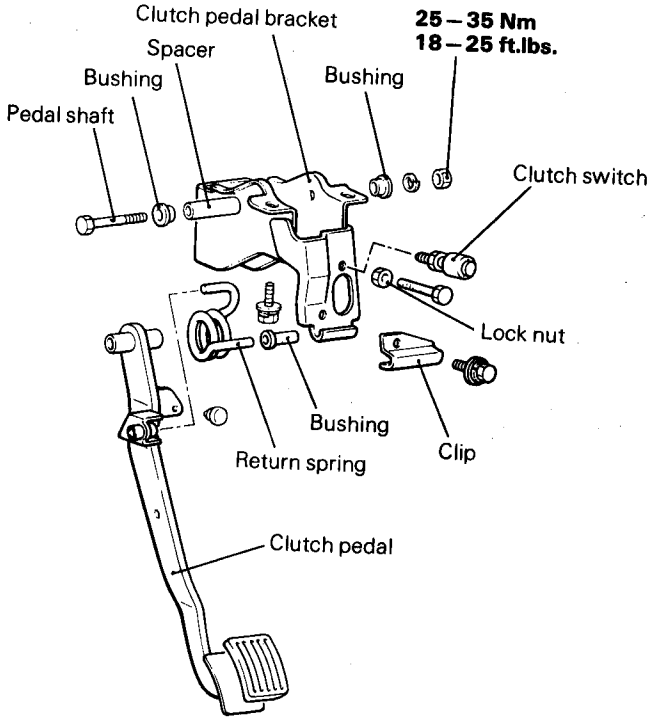
5. Using main drive gear of transmission, install clutch disc and clutch cover assembly on flywheel. (6CL004)
6. When installing clutch disc, be sure that surface having manufacturers stamped mark is on pressure plate side.

Caution
When installing transmission, do not shake it nor install in such a manner that main drive gear is unduly stressed. Make sure that main drive gear enters clutch disc squarely.



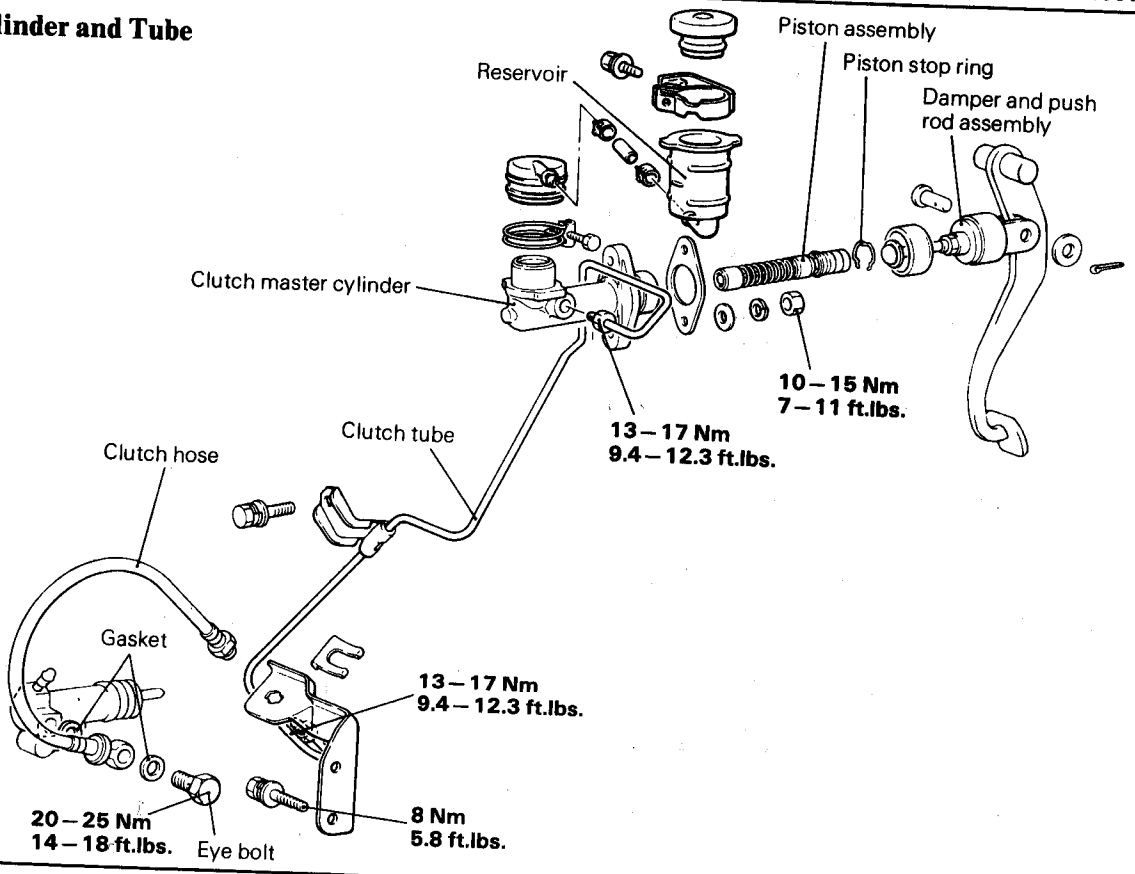
COMPONENTS

Clutch Pedal



08Y616

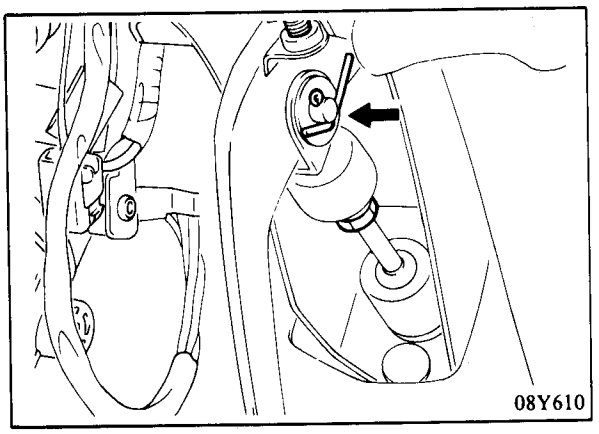
Clutch Master Cylinder and Tube



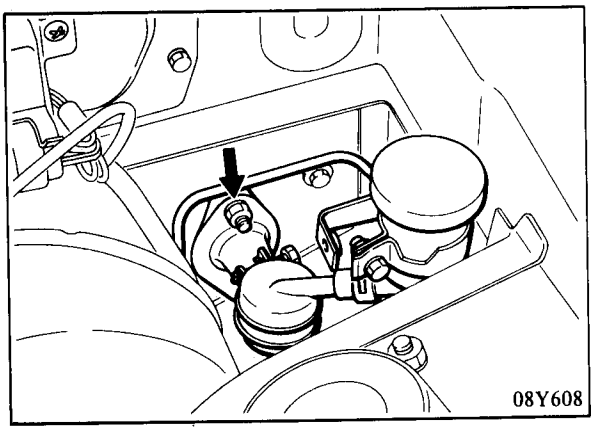
08Y606

REMOVAL

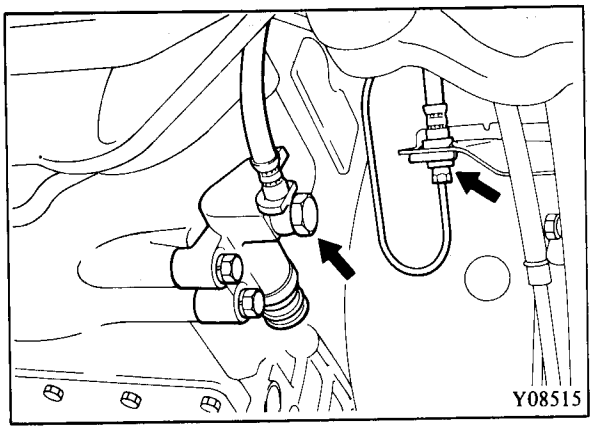
1. Loosen the bleeder screw of release cylinder and drain the brake fluid.
2. Disconnect the push rod from the clutch pedal. (08Y610)
3. Remove the clutch pedal from the pedal bracket.



4. Disconnect the clutch tube from the master cylinder.
5. Remove the master cylinder. (08Y608)



6. Disconnect the clutch hose from the clutch tube and release cylinder. (Y08515)
7. Remove the clutch tube.



INSPECTION

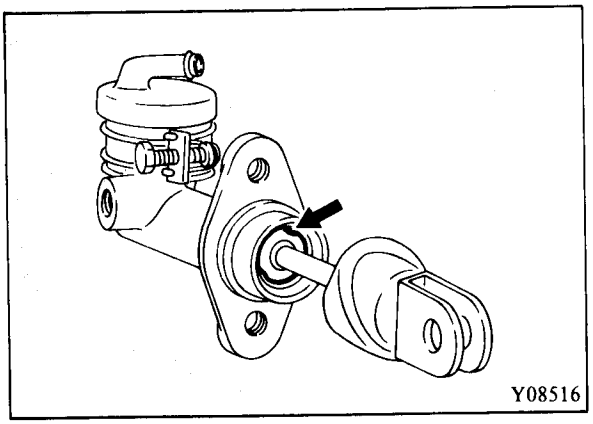
1. Check the reservoir hose for cracks and fluid leakage.
2. Check the master cylinder and clutch hose for fluid leakage.
3. Check the clutch hose and tube for cracks and clogging.
4. Check the pedal shaft bushings for wear.
5. Check the pedal arm for bend and torsion.
6. Check the return spring for deterioration.

MASTER CYLINDER OVERHAUL

Disassembly

1. Remove the piston stop ring. (Y08516)
2. Pull out the piston assembly.

Caution
Do not damage the master cylinder body and piston assembly.
Do not disassemble the piston assembly.

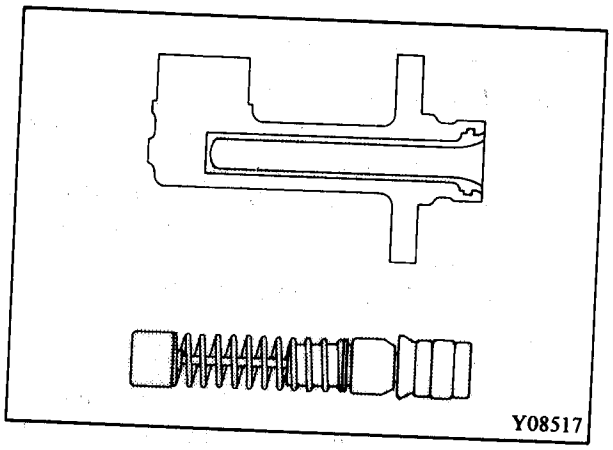


Inspection

1. Check the inside of cylinder body for rust and scoring.
2. Check the piston cup for wear and deformation.
3. Check the piston for rust and scoring.
4. Check the clutch tube inside connecting section for clogging.
5. Measure the master cylinder I.D. and the piston O.D. with sliding calipers.

Master cylinder to piston clearance [Limit] .....
0.15 mm (.006 in.)

If the clearance exceeds the limit, replace the master cylinder and/or assembly.


Y08517

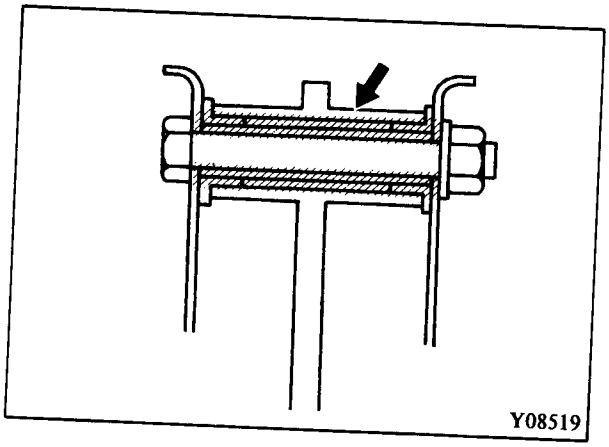
Reassembly

Apply specified brake fluid to the inner surface of the cylinder and to the entire periphery of the piston assembly. (Y08517)

INSTALLATION

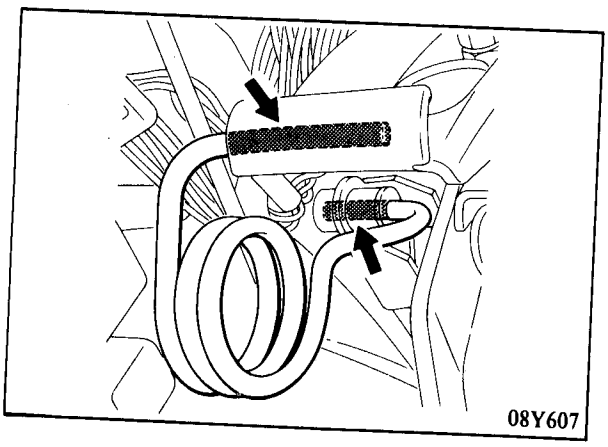
1. After tightening the clutch tube flare nut and eye bolt, check to be sure there is no leakage of the clutch fluid.
2. Apply specified multipurpose grease to the pedal shaft and bushings. (Y08519)

Recommended multipurpose grease .....
MOPAR Multi-Mileage Lubricant
Part Number 2525035 or equivalent


Y08519

3. Apply specified multipurpose grease to the return spring. (08Y607)

Recommended multipurpose grease .....
MOPAR Multi-Mileage Lubricant
Part Number 2525035 or equivalent


08Y607

4. Bleed the air from the system. (Refer to P. 6-5.)
5. Adjust the clutch pedal height. (Refer to P. 6-4.)

CLUTCH RELEASE CYLINDER

Removal and Disassembly

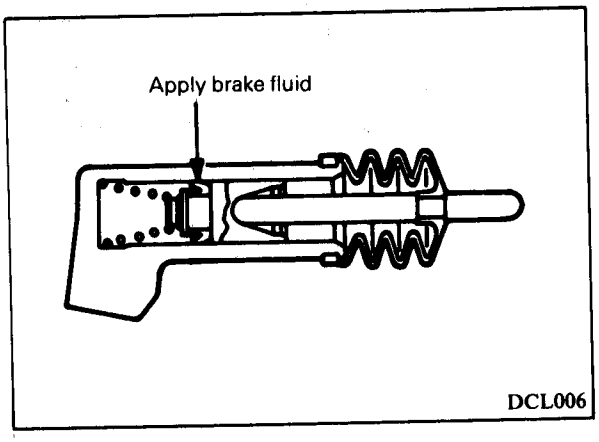
1. Remove eye bolt and gaskets and remove clutch hose from clutch release cylinder.
2. Remove two bolts securing the clutch release cylinder and clutch housing and remove clutch release cylinder assembly.
3. Remove the boot and push rod and take out piston and spring.

Inspection

1. Check inside cylinder body for rust and scoring.
2. Check piston cap for wear and deformation.
3. Check piston for rust and scoring.

Reassembly and Installation

1. Insert spring in release cylinder.
2. Apply brake fluid to outer surface of piston, piston cup and cylinder bore. (DCL006)
3. Install the piston and piston cup into the release cylinder.
4. Install push rod and boot.
5. Install release cylinder to clutch housing and tighten two bolts to specified torque.
6. Connect clutch hose to release cylinder and tighten eye bolt.
7. Bleed the air from the system. (Refer to P. 6-5.)



DCL006