
CLUTCH

TROUBLESHOOTING	CL-1
CLUTCH PEDAL	CL-2
CLUTCH MASTER CYLINDER	CL-4
CLUTCH RELEASE CYLINDER	CL-9
CLUTCH UNIT	CL-14

TROUBLESHOOTING

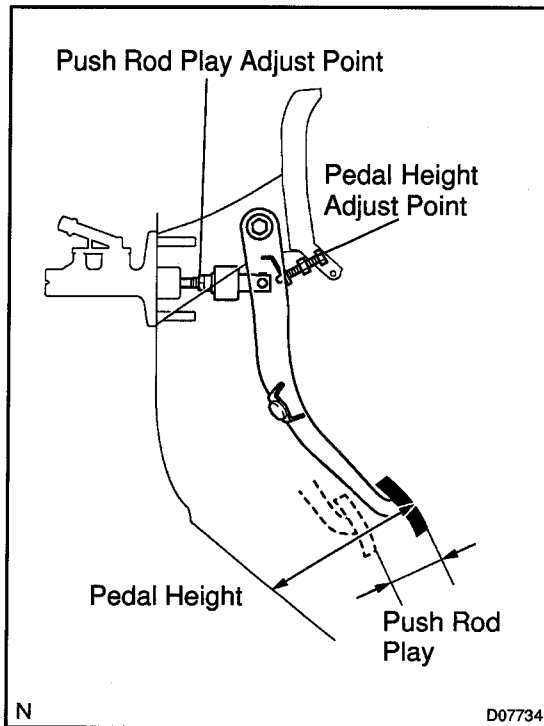
PROBLEM SYMPTOMS TABLE

CL02N-05

Use the table below to help you find the cause of the problem. The numbers indicate the priority of the likely cause of the problem. Check each part in order. If necessary, replace these parts.

Symptom	Suspect Area	See page
Clutch grabs/chatters	1. Engine mounting (Loosen) 2. Clutch disc (Runout is excessive) 3. Clutch disc (Oily) 4. Clutch disc (Worn out) 5. Clutch disc torsion rubber (Damaged) 6. Clutch disc (Glazed) 7. Diaphragm spring (Out of tip alignment)	– CL-14 CL-14 CL-14 CL-14 CL-14 CL-14
Clutch pedal spongy	1. Clutch line (Air in line) 2. Master cylinder cup (Damaged) 3. Release cylinder cup (Damaged)	– CL-4 CL-9
Clutch noisy	1. Release bearing (Worn, dirty, or damaged) 2. Clutch disc torsion rubber (Damaged)	CL-14 CL-14
Clutch slips	1. Clutch pedal (Free play out of adjustment) 2. Clutch disc (Oily) 3. Clutch disc (Worn out) 4. Diaphragm spring (Damaged) 5. Pressure plate (Distortion) 6. Flywheel (Distortion)	CL-2 CL-14 CL-14 CL-14 CL-14 –
Clutch does not disengage	1. Clutch pedal (Free play out of adjustment) 2. Clutch line (Air in line) 3. Master cylinder cup (Damaged) 4. Release cylinder cup (Damaged) 5. Clutch disc (out of true) 6. Clutch disc (Runout is excessive) 7. Clutch disc (Lining broken) 8. Clutch disc (Dirty or burned) 9. Clutch disc (Oily) 10. Clutch disc (Lack of spline grease) 11. Diaphragm spring (Damaged) 12. Diaphragm spring (Out of tip alignment) 13. Pressure plate (Distortion)	CL-2 – CL-4 CL-9 CL-14 CL-14 CL-14 CL-14 CL-14 CL-14 CL-14 CL-14 CL-14

CL



CLUTCH PEDAL INSPECTION

CL087-02

1. CHECK THAT PEDAL HEIGHT IS CORRECT

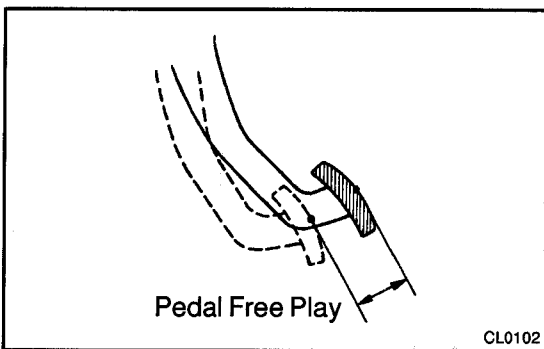
Pedal height from dash panel:

RHD: 139.3 – 149.3 mm (5.484 – 5.878 in.)

LHD: 134.3 – 144.3 mm (5.287 – 5.681 in.)

2. IF NECESSARY, ADJUST PEDAL HEIGHT

Loosen the lock nut and turn the stopper bolt until the height is correct. Tighten the lock nut.



3. CHECK THAT PEDAL FREE PLAY AND PUSH ROD PLAY ARE CORRECT

- (a) Push in on the pedal until the beginning of clutch resistance is felt.

Pedal free play: 5.0 – 15.0 mm (0.197 – 0.591 in.)

- (b) Gently push on the pedal until the resistance begins to increase a little.

Push rod play at pedal top:

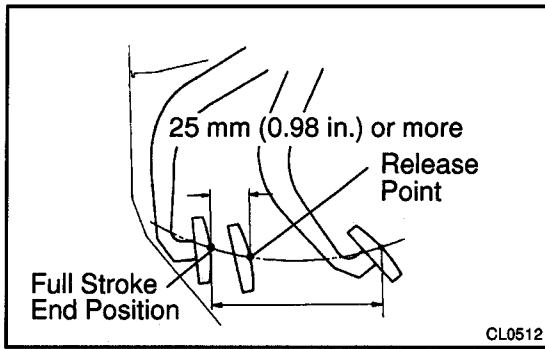
1.0 – 5.0 mm (0.039 – 0.197 in.)

4. IF NECESSARY, ADJUST PEDAL FREE PLAY AND PUSH ROD PLAY

- (a) Loosen the lock nut and turn the push rod until the free play and push rod play are correct.
- (b) Tighten the lock nut.
- (c) After adjusting the pedal free play, check the pedal height.

5. CHECK CLUTCH RELEASE POINT

- (a) Pull the parking brake lever and install wheel stopper.
- (b) Start the engine and idle the engine.
- (c) Without depressing the clutch pedal, slowly shift the shift lever into reverse position until the gears contact.



- (d) Gradually depress the clutch pedal and measure the stroke distance from where the gear noise stops (release point) up to the full stroke end position.

Standard distance:

25 mm (0.98 in.) or more

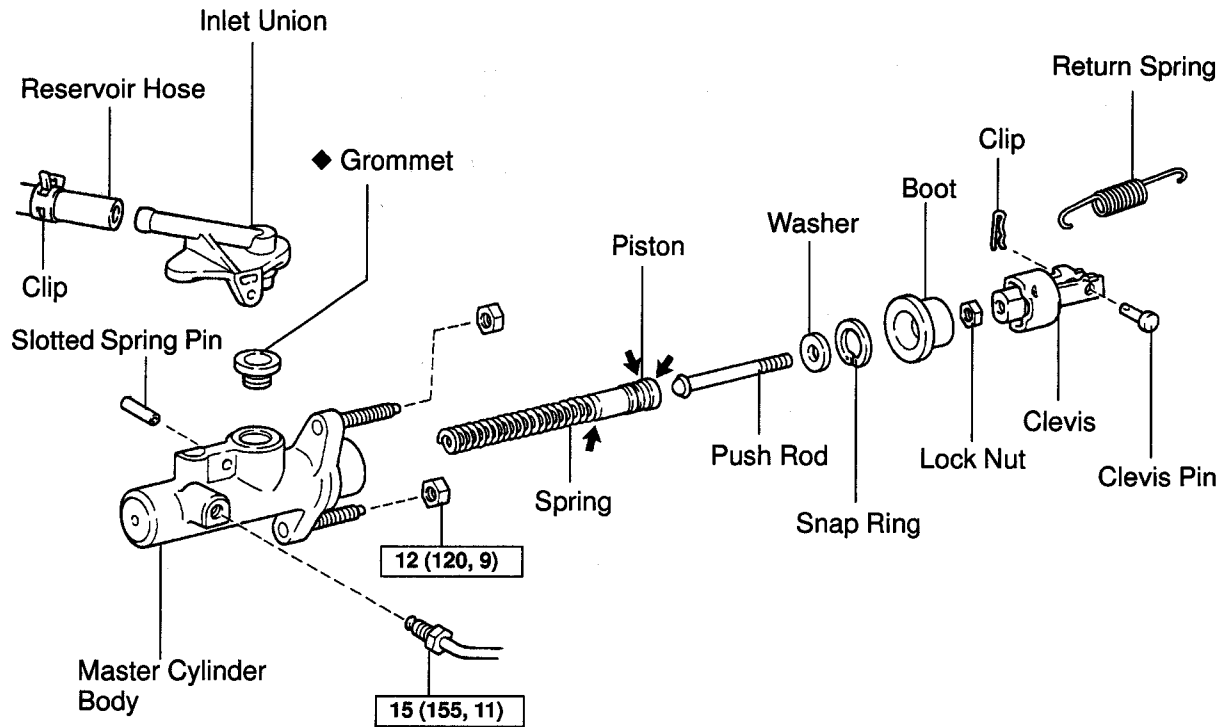
(From pedal stroke end position to release point)

If the distance is not as specified, perform the following operation.

- Check pedal height.
- Check push rod play and pedal free play.
- Bleed clutch line.
- Check clutch cover and disc.

CLUTCH MASTER CYLINDER COMPONENTS

CL088-02



N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

N ← Lithium soap base glycol grease

D07746

REMOVAL

1. REMOVE FILLER CAP FROM RESERVOIR
2. DRAW OUT BRAKE FLUID WITH SYRINGE

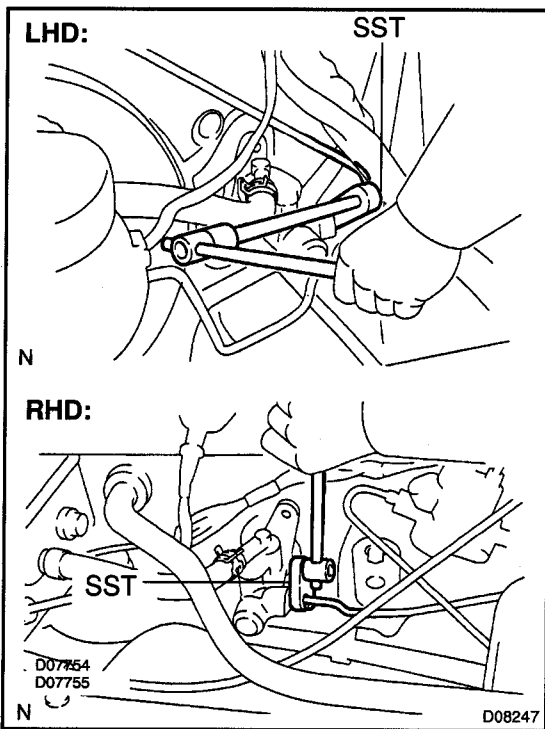
NOTICE:

Do not let brake fluid remain on a painted surface. Wash it off immediately.

3. LHD of w/ ABS:
REMOVE ABS ACTUATOR (See page BR-56)
4. DISCONNECT RESERVOIR HOSE FROM MASTER CYLINDER

Using pliers, slide the clip toward the reservoir and disconnect the reservoir hose. Use a container to catch the fluid.

CL

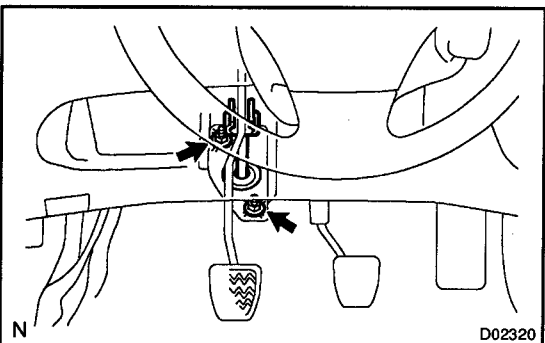


5. DISCONNECT CLUTCH LINE FROM MASTER CYLINDER

Using SST, disconnect the line. Use a container to catch the fluid.

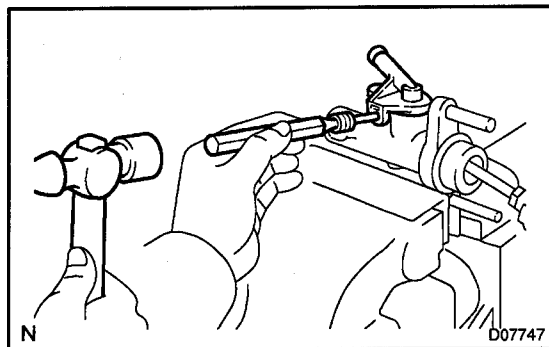
SST 09023-00100

6. REMOVE RETURN SPRING, CLIP AND CLEVIS PIN
 - (a) Using needle-nose pliers, remove the return spring.
 - (b) Using needle-nose pliers, remove the clip.
 - (c) Remove the clevis pin.



7. REMOVE MASTER CYLINDER

Remove the 2 nuts and master cylinder from the body.



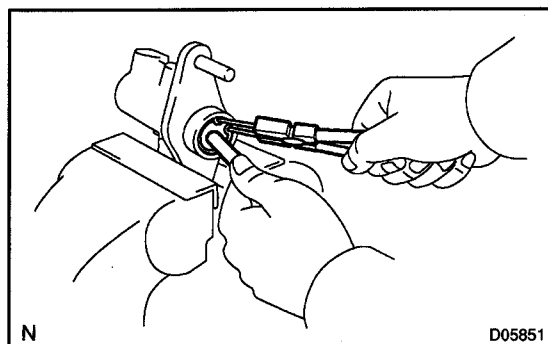
DISASSEMBLY

1. REMOVE INLET UNION

- (a) Using a pin punch (3 mm) and hammer, drive out the slotted spring pin.
- (b) Remove the inlet union and grommet.

2. REMOVE CLEVIS AND BOOT

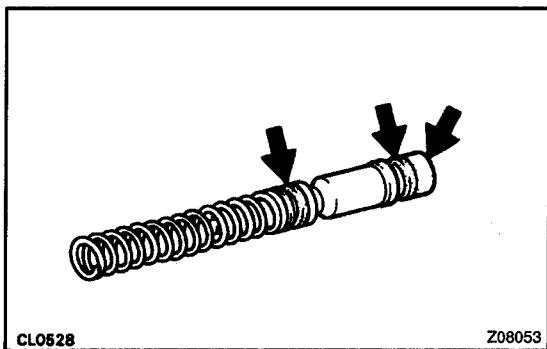
- (a) Loosen the lock nut to remove the clevis and remove the lock nut.
- (b) Remove the boot.



3. REMOVE PUSH ROD

- (a) While pushing the push rod, using snap ring pliers, remove the snap ring.
- (b) Remove the push rod and washer.

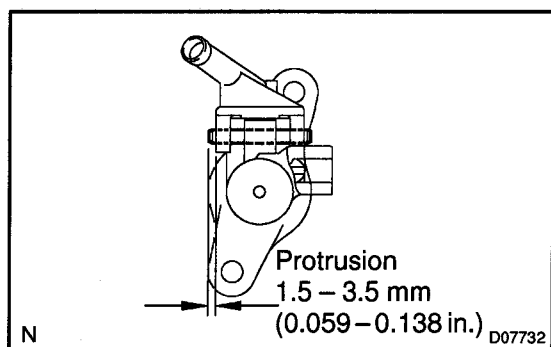
4. REMOVE PISTON WITH SPRING



REASSEMBLY

1. **COAT PARTS WITH LITHIUM SOAP BASE GLYCOL GREASE, AS SHOWN**
2. **INSERT PISTON WITH SPRING INTO CYLINDER**
3. **INSTALL PUSH ROD AND BOOT**
 - (a) Install the washer to the push rod.
 - (b) Push the push rod to the piston, using snap ring pliers, install the snap ring.
 - (c) Install the boot.
4. **TEMPORARILY INSTALL LOCK NUT AND CLEVIS**

CL



5. **INSTALL INLET UNION**
 - (a) Install the inlet union and a new grommet.
 - (b) Using a pin punch (3 mm) and hammer, drive in the slotted spring pin.

INSTALLATION

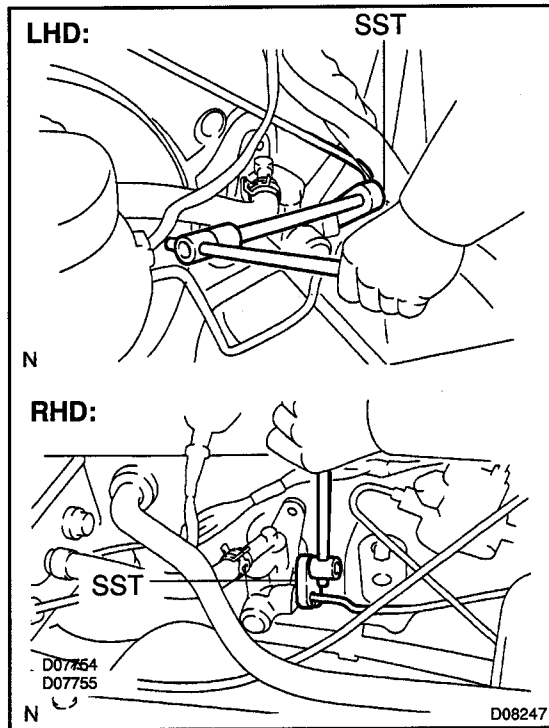
1. INSTALL MASTER CYLINDER

Install the master cylinder to the body with the 2 nuts.

Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)

2. INSTALL CLEVIS PIN, CLIP AND RETURN SPRING

- (a) Install the clevis pin.
- (b) Using needle-nose pliers, install the clip.
- (c) Using needle-nose pliers, install the return spring.



3. CONNECT CLUTCH LINE TO MASTER CYLINDER

Using SST, connect the clutch line.

SST 09023-00100

Torque: 15 N·m (155 kgf·cm, 11 ft·lbf)

4. CONNECT RESERVOIR HOSE TO MASTER CYLINDER

Connect the reservoir hose to the inlet union and using pliers, install the clip.

5. LHD of w/ ABS:

INSTALL ABS ACTUATOR (See page BR-57)

6. FILL RESERVOIR WITH BRAKE FLUID AND BLEED CLUTCH SYSTEM

7. CHECK FOR LEAKS

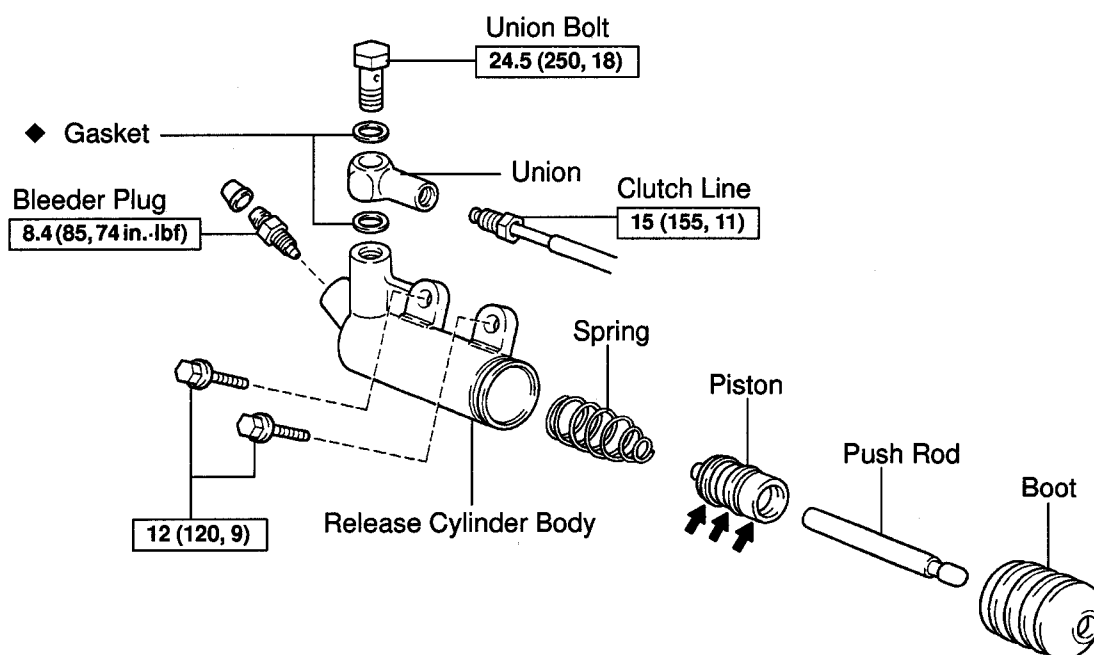
8. ADJUST CLUTCH PEDAL (See page CL-2)

9. FILL BRAKE FLUID UP TO MAX. LINE ON RESERVOIR

10. INSTALL FILLER CAP TO RESERVOIR

CLUTCH RELEASE CYLINDER COMPONENTS

CL02U-05



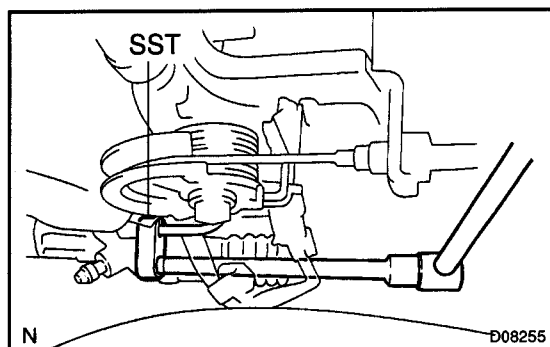
N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

← Lithium soap base glycol grease

CL

D00198



REMOVAL

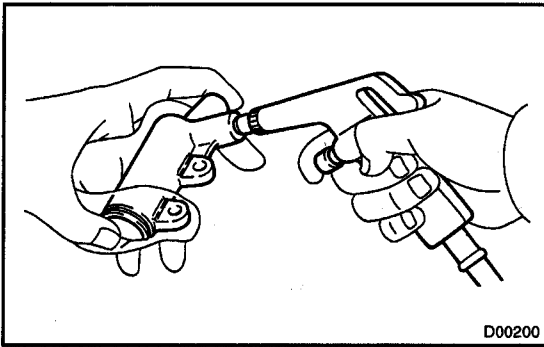
1. DISCONNECT CLUTCH LINE

(a) Using SST, disconnect the clutch line.

SST 09023-00100

(b) Use a container to catch the fluid.

2. REMOVE 2 BOLTS AND PULL OUT RELEASE CYLINDER



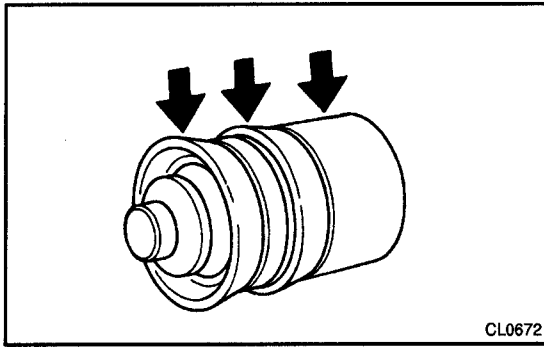
DISASSEMBLY

1. REMOVE BLEEDER PLUG
2. REMOVE UNION BOLT, 2 GASKETS AND UNION
3. PULL OUT BOOT WITH PUSH ROD
4. REMOVE PISTON WITH SPRING

Using compressed air, remove the piston with the spring from the cylinder.

NOTICE:

- Blowing off the air may cause the piston's jump-out. When removing the piston, hold it with your hand using a waste cloth.
- Take care not to splash brake fluid when air-blowing.



REASSEMBLY

1. COAT PISTON WITH LITHIUM SOAP BASE GLYCOL GREASE, AS SHOWN
2. INSTALL PISTON WITH SPRING INTO CYLINDER
3. INSTALL BOOT WITH PUSH ROD TO CYLINDER
4. INSTALL UNION AND 2 NEW GASKETS WITH UNION BOLT

Torque: 24.5 N·m (250 kgf·cm, 18 ft·lbf)

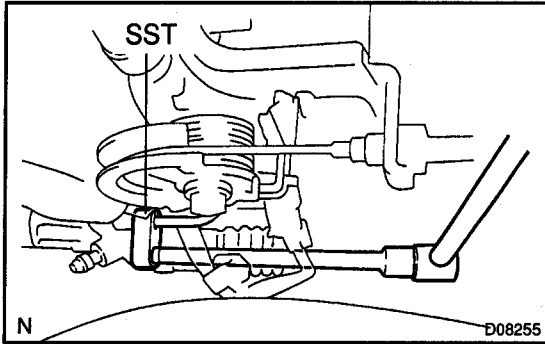
5. INSTALL BLEEDER PLUG

Torque: 8.4 N·m (85 kgf·cm, 74 in·lbf)

INSTALLATION

1. INSTALL RELEASE CYLINDER WITH 2 BOLTS

Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)



2. CONNECT CLUTCH LINE

Using SST, connect the clutch line.

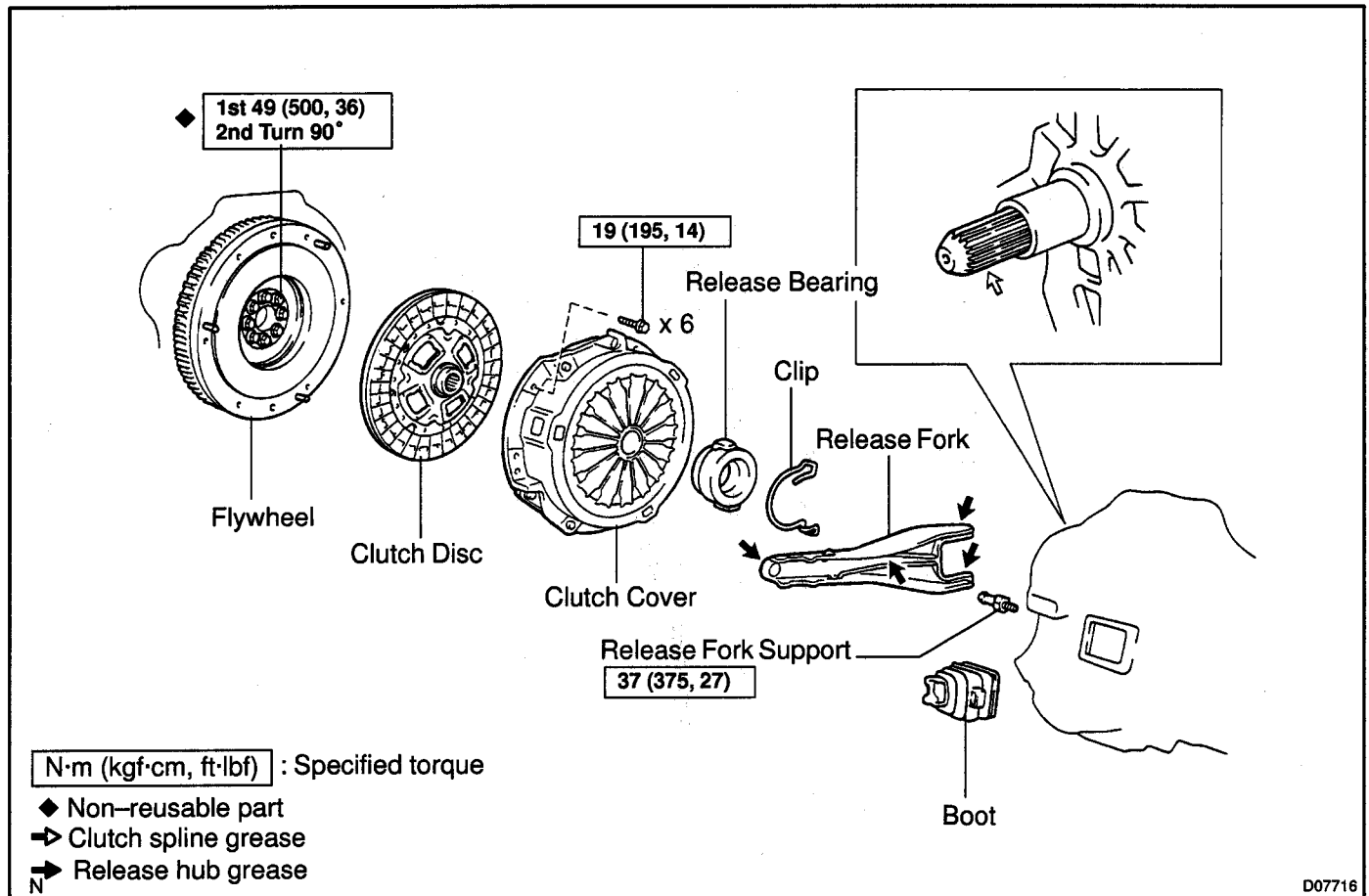
SST 09023-00100

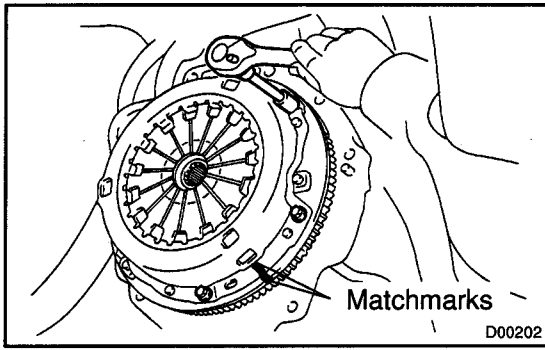
Torque: 15 N·m (155 kgf·cm, 11 ft·lbf)

3. FILL CLUTCH RESERVOIR WITH BRAKE FLUID AND BLEED CLUTCH SYSTEM

4. CHECK FOR LEAKS

CLUTCH UNIT COMPONENTS





REMOVAL

1. REMOVE TRANSAXLE FROM ENGINE

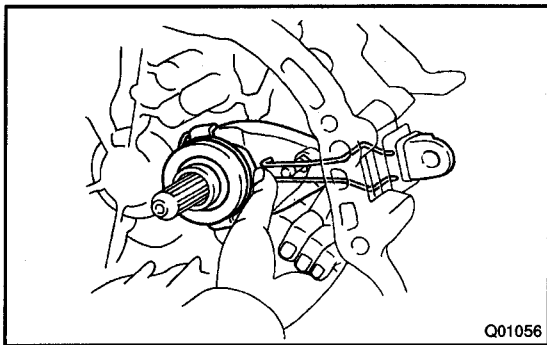
(See page MX-4)

2. REMOVE CLUTCH COVER AND DISC

- (a) Align the matchmark on the clutch cover with the one on the flywheel.
- (b) Loosen each set bolt one turn at a time until spring tension is released.
- (c) Remove the set bolts, and pull off the clutch cover with the clutch disc.

NOTICE:

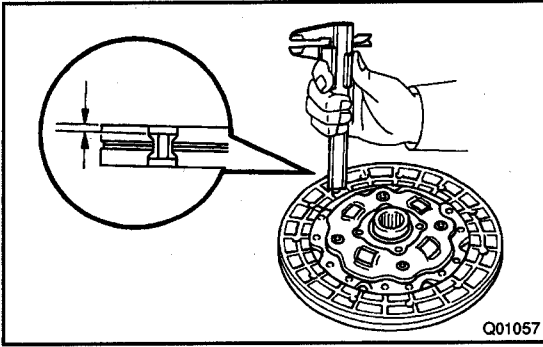
Do not drop the clutch disc.



3. REMOVE RELEASE BEARING AND FORK FROM TRANSAXLE

Remove the release bearing with the fork together and then separate them.

4. REMOVE RELEASE FORK SUPPORT AND BOOT



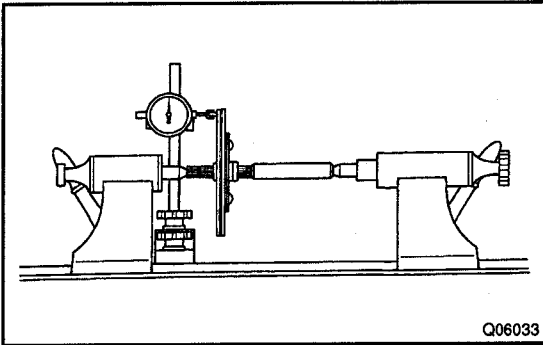
INSPECTION

1. INSPECT CLUTCH DISC FOR WEAR OR DAMAGE

Using vernier calipers, measure the rivet head depth.

Minimum rivet depth: 0.3 mm (0.012 in.)

If necessary, replace the clutch disc.

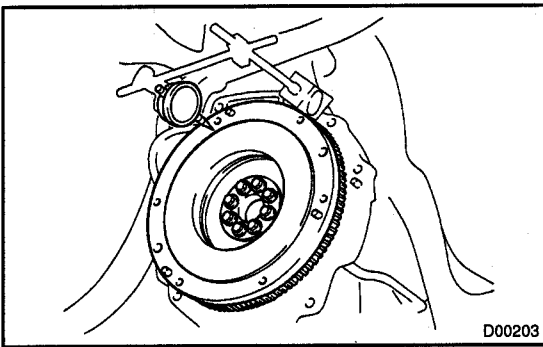


2. INSPECT CLUTCH DISC RUNOUT

Using a dial indicator, check the disc runout.

Maximum runout: 0.8 mm (0.031 in.)

If necessary, replace the clutch disc runout.



3. INSPECT FLYWHEEL RUNOUT

Using a dial indicator, check the flywheel runout.

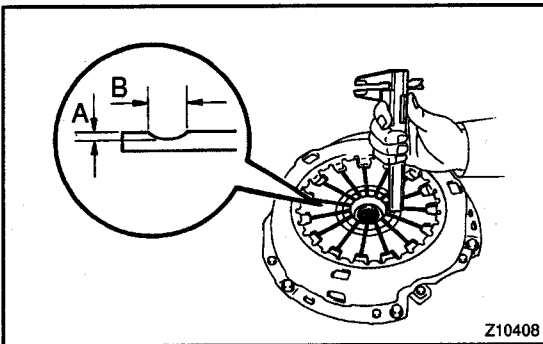
Maximum runout: 0.1 mm (0.004 in.)

If necessary, replace the flywheel.

Torque:

1st: 49 N·m (500 kgf·cm, 36 ft·lbf)

2nd: Turn 90°



4. INSPECT DIAPHRAGM SPRING FOR WEAR

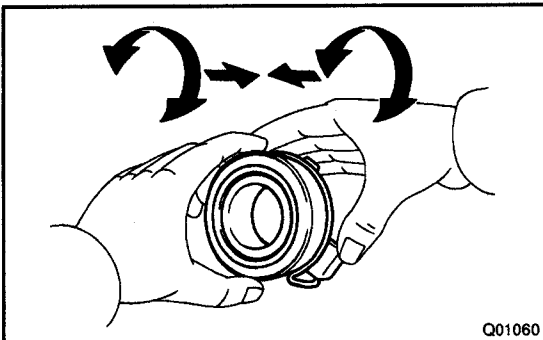
Using vernier calipers, measure the diaphragm spring for depth and width of wear.

Maximum:

A (Depth): 0.5 mm (0.020 in.)

B (Width): 6.0 mm (0.236 in.)

If necessary, replace the clutch cover.



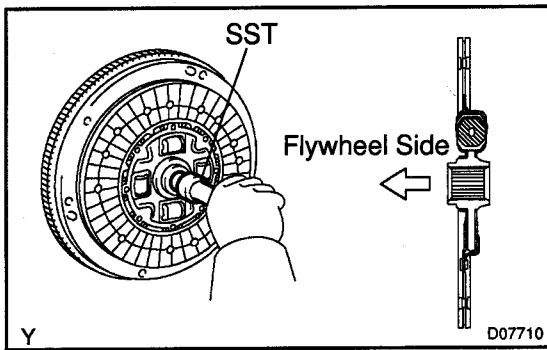
5. INSPECT RELEASE BEARING

Turn the bearing by hand while applying force in the axial direction.

HINT:

The bearing is permanently lubricated and requires no cleaning or lubrication.

If necessary, replace the release bearing.



INSTALLATION

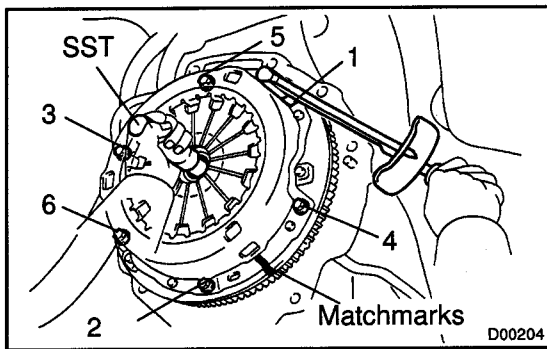
1. INSTALL CLUTCH DISC AND CLUTCH COVER ON FLYWHEEL

- (a) Insert SST in the clutch disc, then insert them in the flywheel.

SST 09301-00210

HINT:

Take care not to insert clutch disc in the wrong direction.

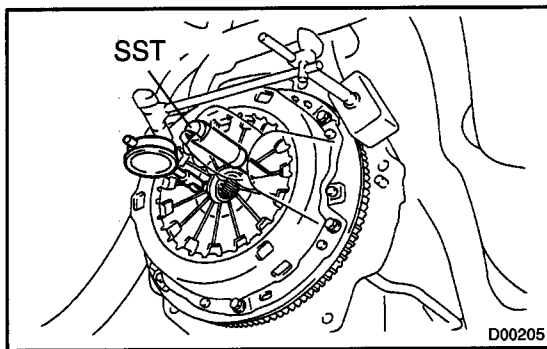


- (b) Align the matchmarks on the clutch cover and flywheel.
(c) Following the procedures shown in the illustration, tighten the 6 bolts in the order starting the bolt locating near the knock pin on the top.

Torque: 19 N·m (195 kgf·cm, 14 ft·lbf)

HINT:

- Following the order in the illustration, tighten the bolts at a time evenly.
- Move SST up and down, right and left lightly, after checking that the disc is in the center, tighten the bolts.



2. CHECK DIAPHRAGM SPRING TIP ALIGNMENT

Using a dial indicator with roller instrument, check the diaphragm spring tip alignment.

Maximum non-alignment: 0.5 mm (0.020 in.)

If alignment is not as specified, using SST, adjust the diaphragm spring tip alignment.

SST 09333-00013

3. INSTALL BOOT AND RELEASE FORK SUPPORT TO TRANSAXLE

Torque: 37 N·m (375 kgf·cm, 27 ft·lbf)

4. APPLY RELEASE HUB GREASE

Apply release hub grease to the release fork and hub contact, release fork and push rod contact and release fork pivot points.

Sealant:

Part No. 08887-01806, RELEASE HUB GREASE or equivalent

5. APPLY CLUTCH SPRING GREASE

Apply clutch spline grease to the input shaft spline.

Sealant:

Part No. 08887-01706, CLUTCH SPLINE GREASE or equivalent

6. INSTALL RELEASE BEARING AND FORK TO TRANSAXLE

Install the bearing to the release fork, and then install them to the transaxle.

7. INSTALL TRANSAXLE TO ENGINE

(See page MX-8)

