

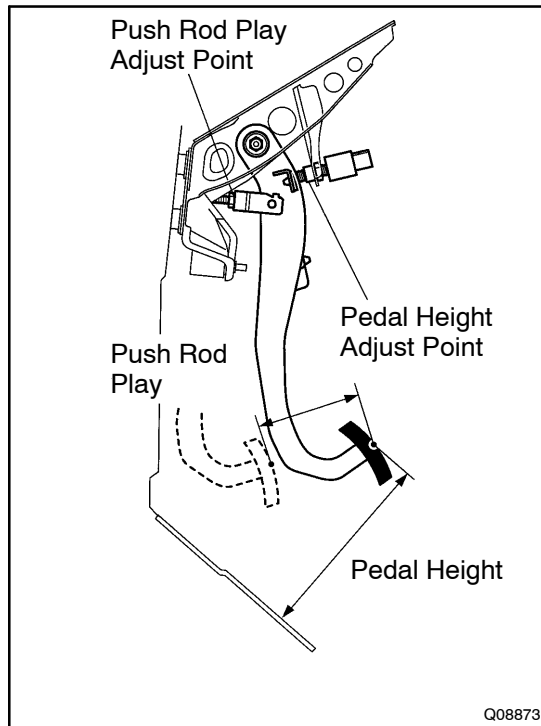
TROUBLESHOOTING

PROBLEM SYMPTOMS TABLE

CL04F-03

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	3. Engine mounting (Loosen) 4. Clutch disc (Runout is excessive) 5. Clutch disc (Oily) 6. Clutch disc (Worn out) 7. Clutch disc torsion rubber (Damaged) 8. Clutch disc (Glazed) 9. Diaphragm spring (Out of tip alignment)	– CL-15 CL-15 CL-15 CL-15 CL-15 CL-15
Clutch pedal spongy	1. Clutch line (Air in line) 2. Master cylinder cup (Damaged) 3. Release cylinder cup (Damaged)	– CL-5 CL-10
Clutch noisy	1. Release bearing (Worn, dirty, or damaged) 2. Clutch disc torsion rubber (Damaged)	CL-15 CL-15
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-15 CL-15 CL-15 CL-15 –
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-5 CL-10 CL-15 CL-15 CL-15 CL-15 CL-15 CL-18 CL-15 CL-18 CL-15



CLUTCH PEDAL INSPECTION

CL04G-02

1. CHECK PEDAL HEIGHT IS CORRECT

Pedal height from asphalt sheet:

157.6 – 167.6 mm (6.205 – 6.598 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 PEDAL FREEPLAY AND PUSH ROD PLAY

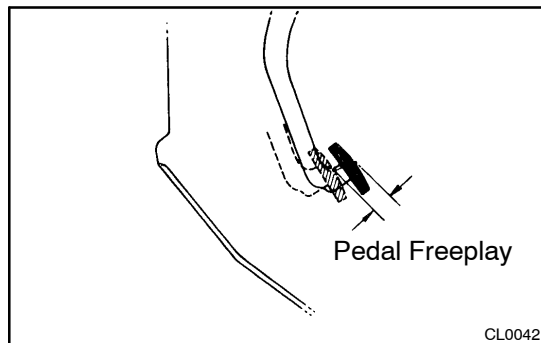
- (a) Push in on the pedal until the beginning of clutch resistance is felt.

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

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

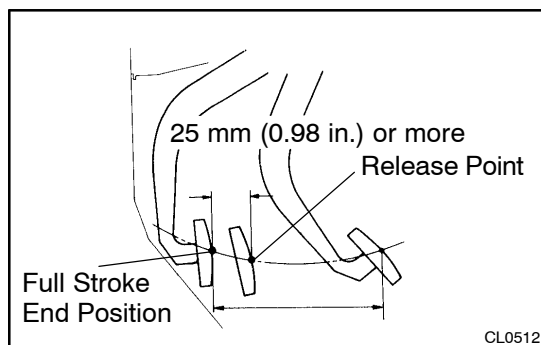
Push rod play at pedal top:

1.0–5.0 mm (0.039–0.197 in.)



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

- (a) Loosen the lock nut and turn the push rod until the freeplay and push rod play are correct.
 (b) Tighten the lock nut.
 (c) After adjusting the pedal freeplay, check the pedal height.
 (d) Connect the air duct and install the lower finish panel.



5. INSPECT 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 the reverse position until the gears contact.
 (d) Gradually depress the clutch pedal and measure the stroke distance from the point the gear noise stops (release point) up to the full stroke end position.

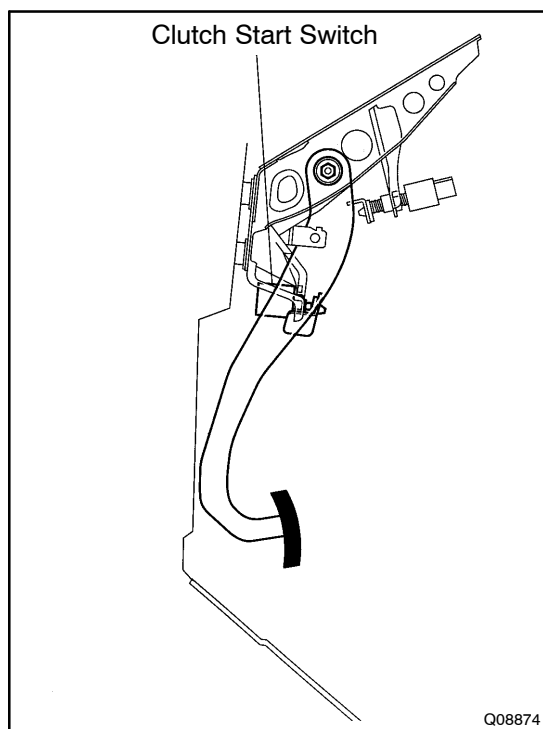
Standard distance:

25 mm (0.98 in.) or more

(From pedal stroke end position to release point)

If the distance is not as specified.

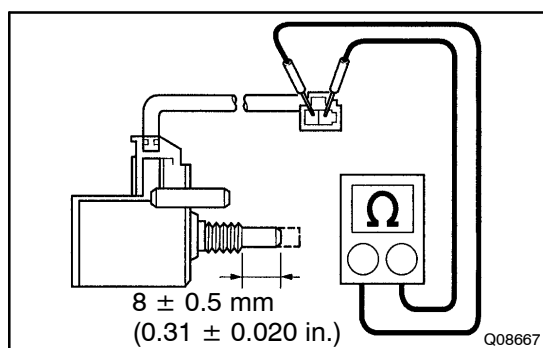
- Inspect pedal height.
- Inspect push rod play and pedal freeplay.
- Bleed the clutch line.
- Inspect the clutch cover and disc.



6. CHECK CLUTCH START SYSTEM

- Check that the engine does not start when the clutch pedal is released.
- Check that the engine starts when the clutch pedal is fully depressed.

If necessary, replace the clutch start switch.

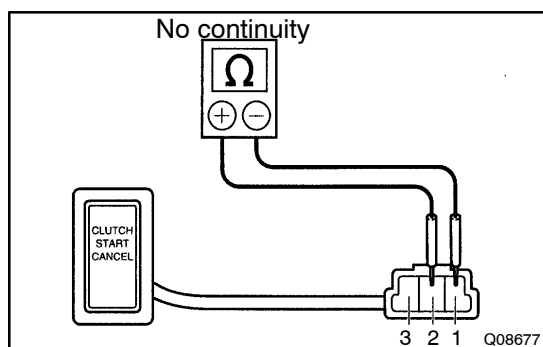


7. CHECK CONTINUITY OF CLUTCH START SWITCH

Check the continuity between terminals when the switch is ON and OFF.

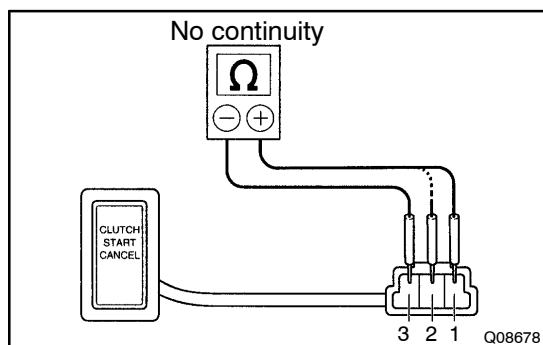
Switch position	Condition
ON (pushed)	Continuity
OFF (free)	No Continuity

If continuity is not as specified, replace the switch.



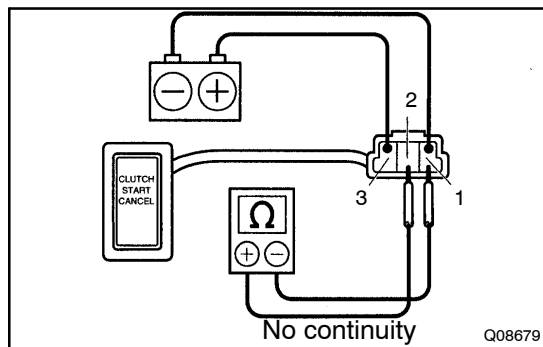
8. CHECK CONTINUITY OF CLUTCH START CANCEL SWITCH

- Check that there is no continuity when connecting the positive (+) lead from the ohmmeter to terminal 2 and the negative (-) lead to terminal 1.



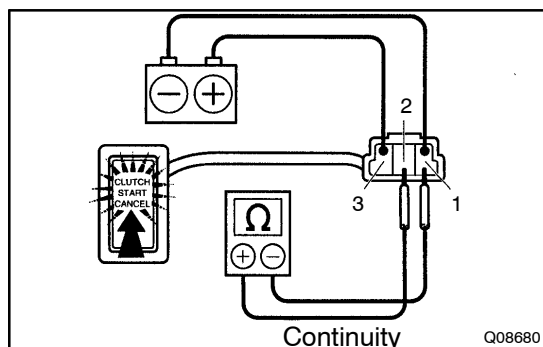
- Check that there is no continuity when connecting the positive (+) lead from the ohmmeter to terminal 3 and the negative (-) lead to terminal 1 and 2.

If continuity is not as specified, replace the clutch start cancel switch.

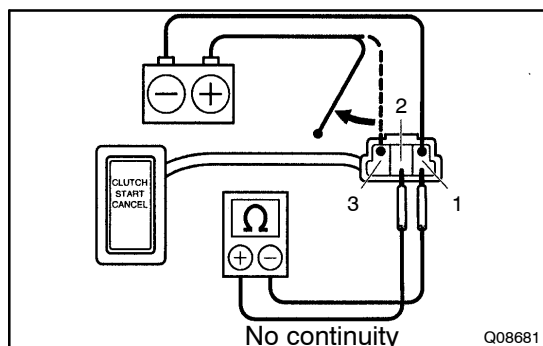


9. CHECK OPERATION OF CLUTCH START CANCEL SWITCH

- Connect positive (+) lead from the battery to terminal 3 and negative (-) lead to terminal 1.
- Check that there is no continuity when connecting the positive (+) lead from the ohmmeter to terminal 2 and the negative (-) lead to terminal 1.



- When push the switch, check that the indicator light comes on and there is continuity between terminal 1 and 2.

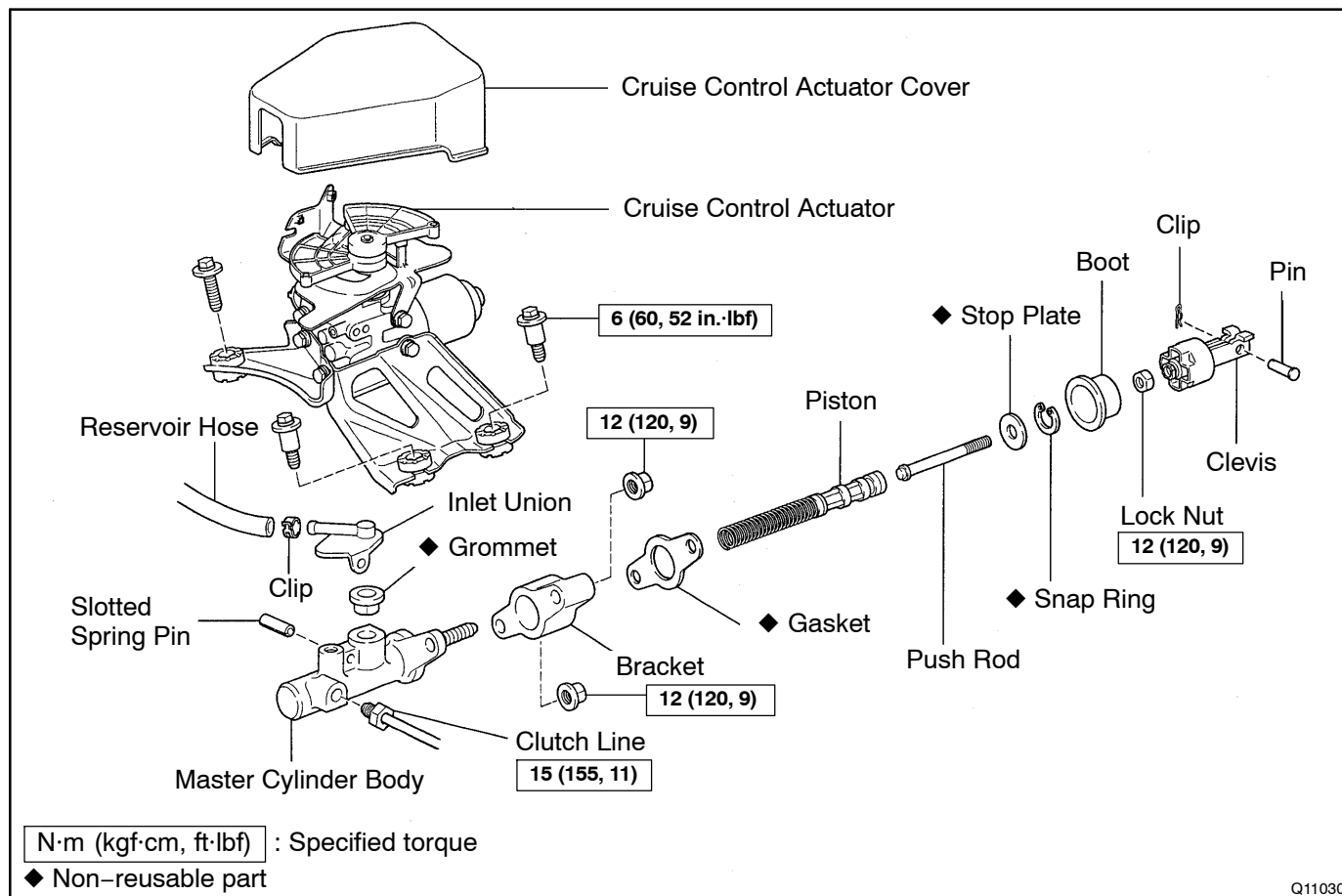


- Check that there is no continuity between terminals 1 and 2 when disconnect the battery lead.

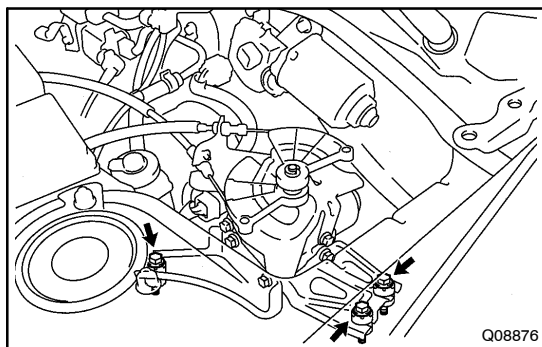
If continuity is not as specified, replace the clutch start cancel switch.

CLUTCH MASTER CYLINDER COMPONENTS

CL04H-02



Q11030



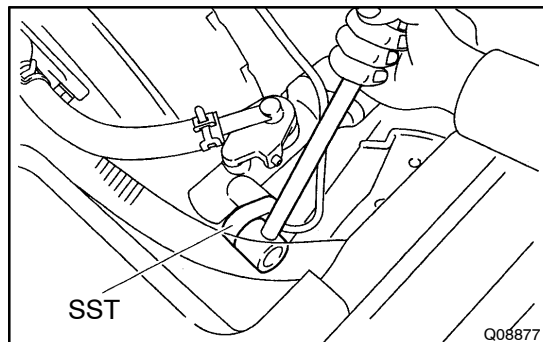
REMOVAL

1. w/ Cruise Control System:
REMOVE CRUISE CONTROL ACTUATOR COVER
2. w/ Cruise Control System:
REMOVE CRUISE CONTROL ACTUATOR

Remove the 3 bolts.

Torque: 6 N·m (60 kgf·cm, 52 in·lbf)

3. **DRAW OUT FLUID WITH SYRINGE**



4. **DISCONNECT CLUTCH LINE**

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

SST 09023-00100

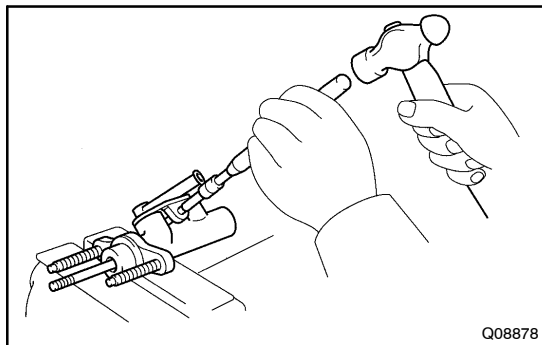
Torque: 15 N·m (155 kgf·cm, 11 ft·lbf)

5. **DISCONNECT RESERVOIR HOSE FROM MASTER CYLINDER**

Using pliers, disconnect the clip and reservoir hose.

6. **REMOVE CLIP AND PIN**
7. **REMOVE 2 MOUNTING NUTS AND PULL OUT MASTER CYLINDER**

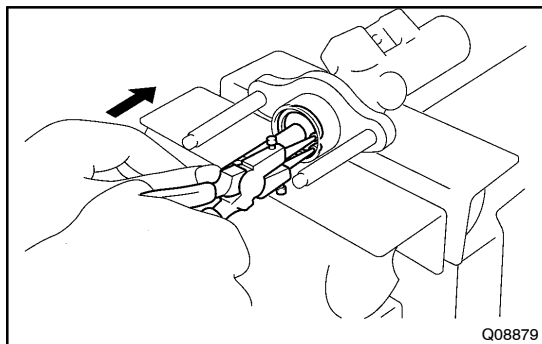
Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)



DISASSEMBLY

1. REMOVE INLET UNION

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

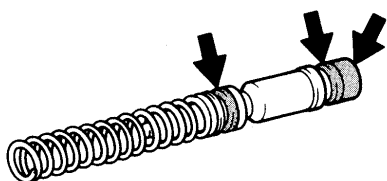


2. REMOVE PUSH ROD

Pull back the boot, and using snap ring pliers, remove the snap ring.

3. REMOVE PISTON

Lithium Soap Base Glycol Grease



CL0528

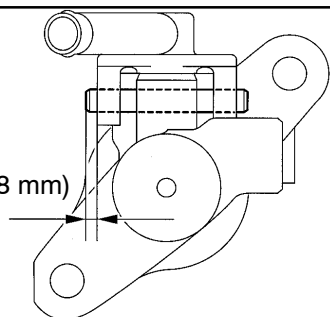
REASSEMBLY

1. COAT PARTS WITH LITHIUM SOAP BASE GLYCOL GREASE, AS SHOWN
2. INSERT PISTON INTO CYLINDER
3. INSTALL PUSH ROD ASSEMBLY WITH SNAP RING

4. INSTALL RESERVOIR TANK

- (a) Install the reservoir tank and a new grommet.
- (b) Using a pin punch and hammer, drive in the slotted spring pin.

Protrusion
1.5 – 3.5 mm
(0.059 – 0.138 in)



Q08880

INSTALLATION

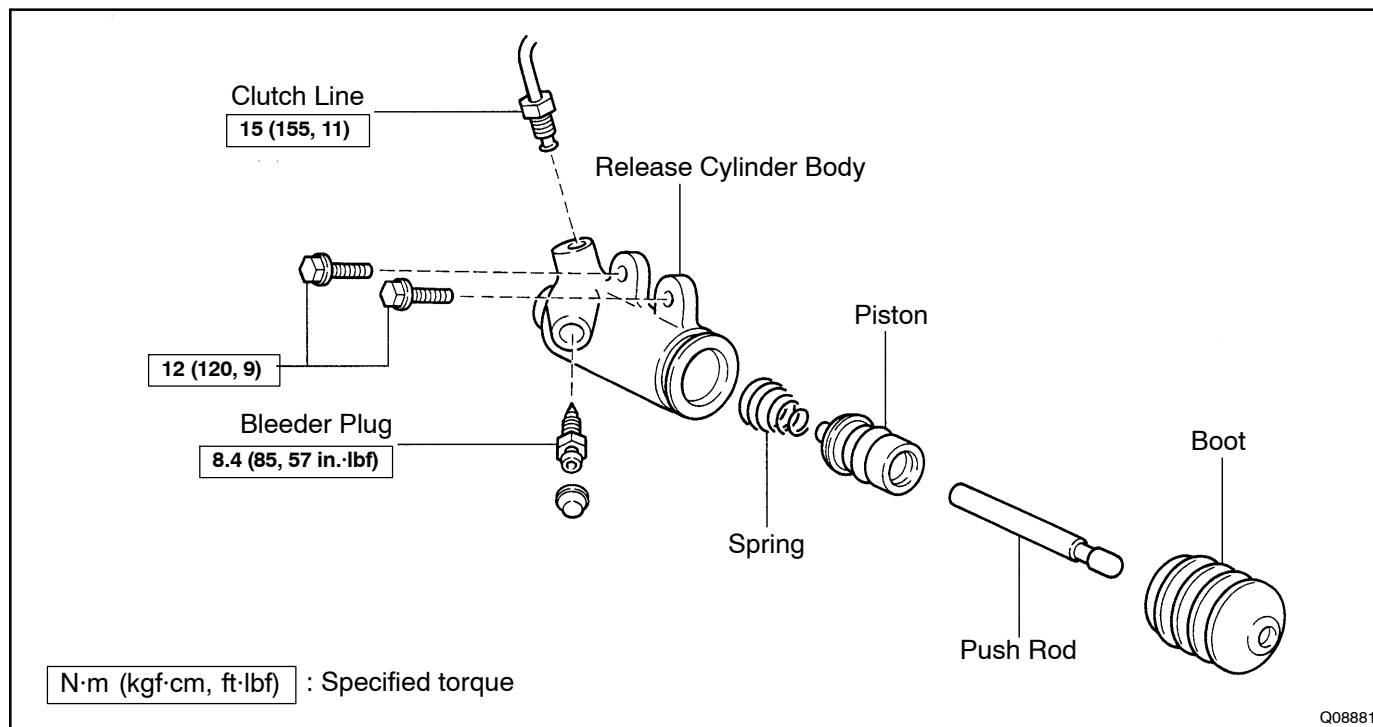
Installation is in the reverse order of removal. (See page [CL-6](#))

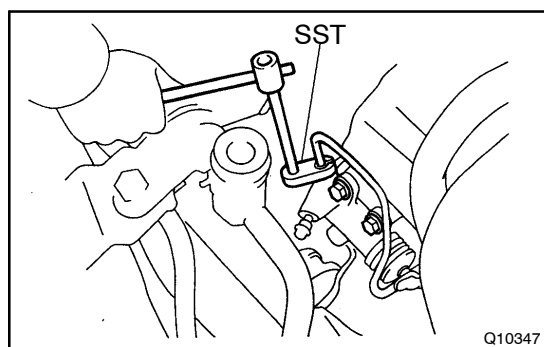
HINT:

After installation, bleed the system and adjust the clutch pedal.

CLUTCH RELEASE CYLINDER COMPONENTS

CL04M-01





REMOVAL

1. DISCONNECT CLUTCH LINE

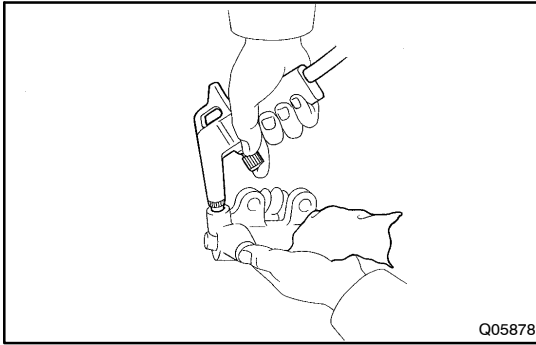
Using SST, disconnect the clutch line. Use a container to catch the fluid.

SST 09023-00100

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

2. REMOVE 2 BOLTS AND PULL OUT RELEASE CYLINDER

Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)

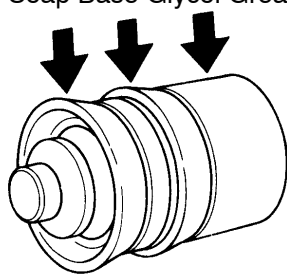


DISASSEMBLY

1. **REMOVE BLEEDER PLUG**
Torque: 8.4 N·m (85 kgf·cm, 57 in.·lbf)
2. **PULL OUT BOOT WITH PUSH ROD**
3. **REMOVE PISTON**

Blow compressed air into the release cylinder and remove the piston with spring.

Lithium Soap Base Glycol Grease



CL0672

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

INSTALLATION

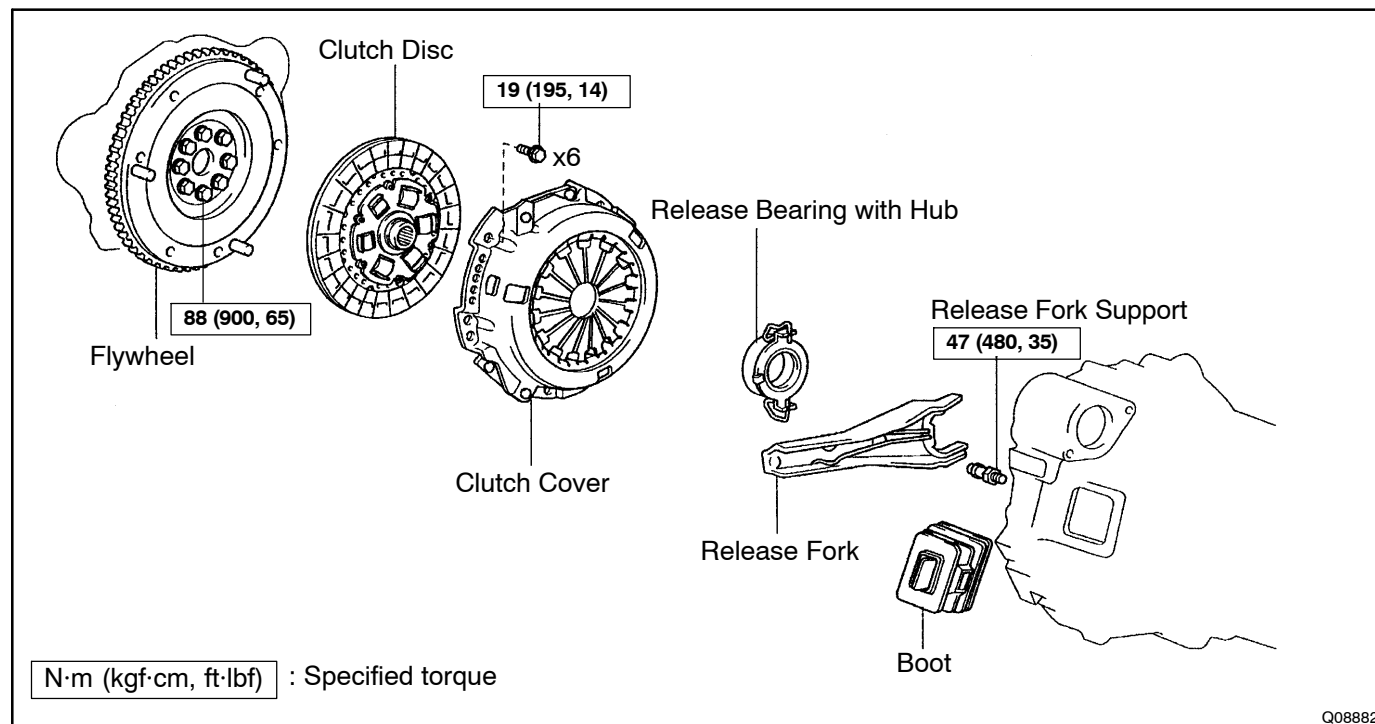
Installation is in the reverse order of removal. (See page [CL-11](#))

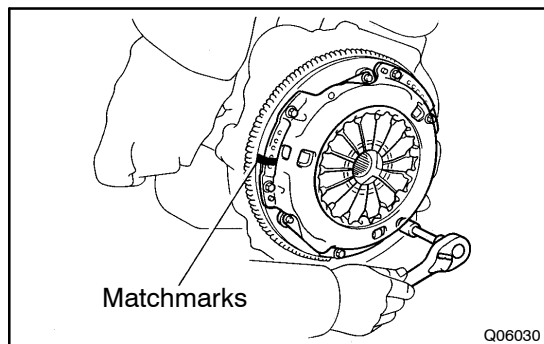
HINT:

After installation, bleed the clutch system.

CLUTCH UNIT COMPONENTS

CL04R-02





REMOVAL

1. REMOVE TRANSAXLE FROM ENGINE

(2WD: See page [MX-2](#))

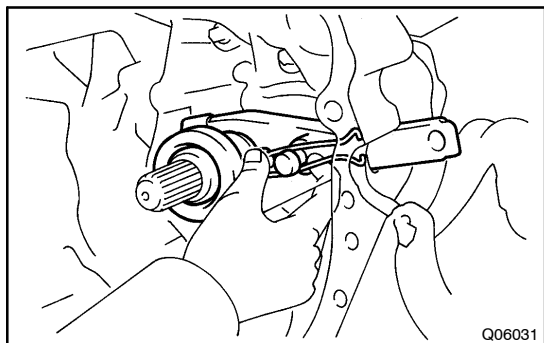
(4WD: See page [MX-8](#))

2. REMOVE CLUTCH COVER AND DISC

- (a) Place matchmarks on the flywheel and clutch cover.
- (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.

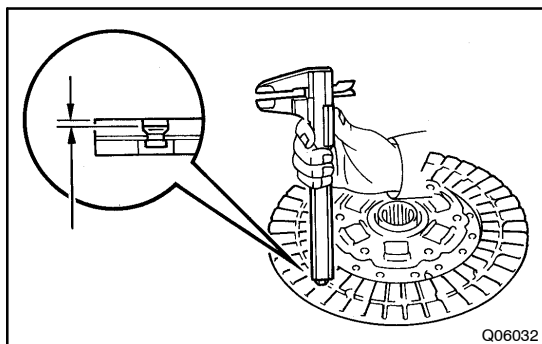
NOTICE:

Do not drop the clutch disc.



3. REMOVE RELEASE BEARING AND FORK FROM TRANSAXLE

- (a) Remove the release bearing together with the fork and then separate them.
- (b) Remove the boot.



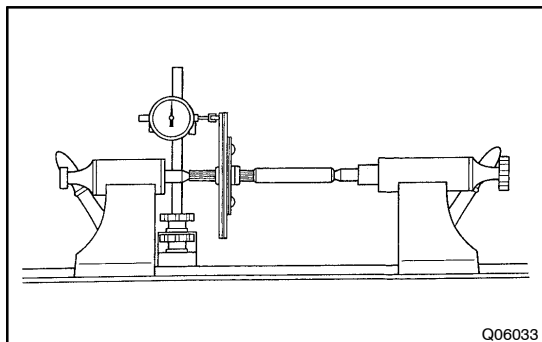
INSPECTION

1. INSPECT CLUTCH DISC FOR WEAR OR DAMAGE

Using calipers, measure the rivet head depth.

Minimum rivet depth: 0.3 mm (0.012 in.)

If a problem is found, replace the clutch disc.

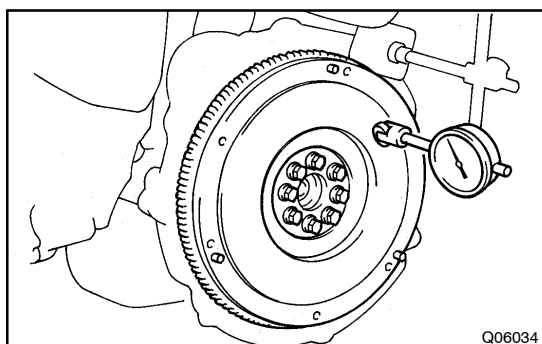


2. INSPECT CLUTCH DISC RUNOUT

Using a dial indicator, check the disc runout.

Maximum runout: 0.8 mm (0.031 in.)

If runout is excessive, replace the clutch disc.



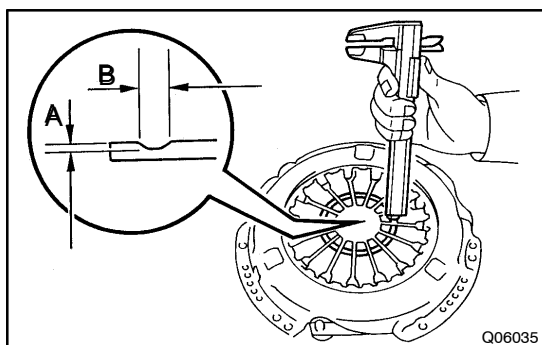
3. INSPECT FLYWHEEL RUNOUT

Using a dial indicator, check the flywheel runout.

Maximum runout: 0.1 mm (0.004 in.)

If runout is excessive, replace the flywheel.

Torque: 88 N·m (900 kgf·cm, 65 ft·lbf)



4. INSPECT DIAPHRAGM SPRING FOR WEAR

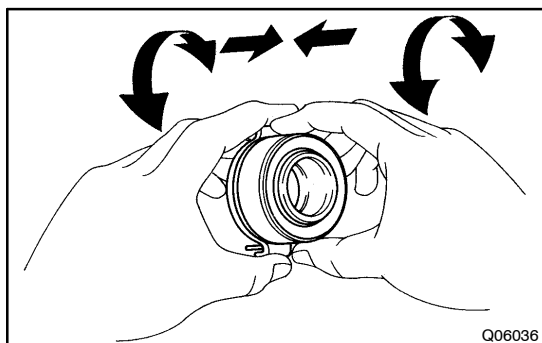
Using calipers, measure the diaphragm spring for depth and width of wear.

Maximum:

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

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

If necessary, replace the clutch cover.



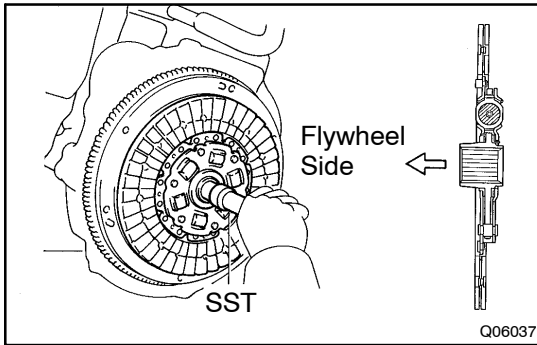
5. INSPECT RELEASE BEARING

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 a problem is found, replace the bearing.

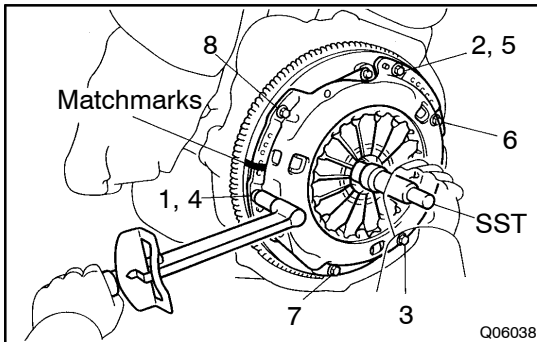


INSTALLATION

1. INSTALL CLUTCH DISC AND CLUTCH COVER ON FLYWHEEL

- (a) Insert SST in the clutch disc, and then set them and the clutch cover in position.

SST 09301-00220



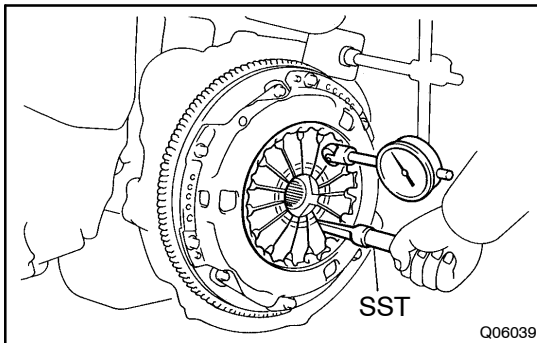
- (b) Align the matchmarks on the clutch cover and flywheel.
(c) Temporarily tighten the topmost bolt from the 3 near the knock pins.

HINT:

Temporarily tighten the No.3 bolt.

- (d) Torque the bolts on the clutch cover in the order shown.

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



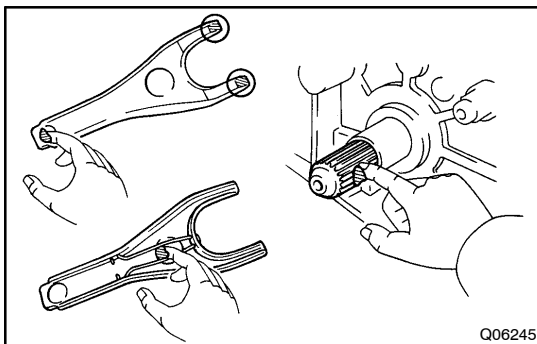
2. CHECK DIAPHRAGM SPRING TIP ALIGNMENT

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. APPLY MOLYBDENUM DISULPHIDE LITHIUM BASE GREASE (NLGI NO.2)

- (a) Apply release hub grease to the following parts.
- Release fork and hub contact point
 - Release fork and push rod contact point
 - Release fork pivot point
- (b) Apply clutch spline grease.
- Clutch disc spline

HINT:

Recommended grease part number 08887-01706 (100g).

4. INSTALL RELEASE BEARING AND FORK TO TRANSAXLE

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

5. INSTALL TRANSAXLE TO ENGINE

(2WD: See page [MX-2](#))

(4WD: See page [MX-8](#))