

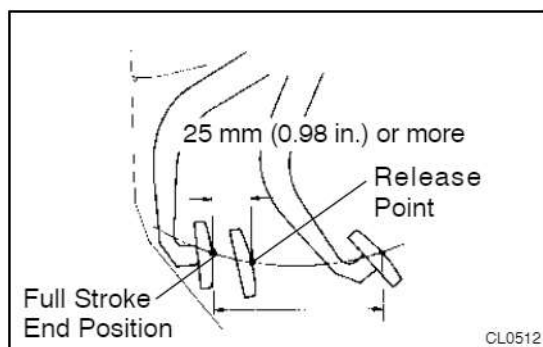
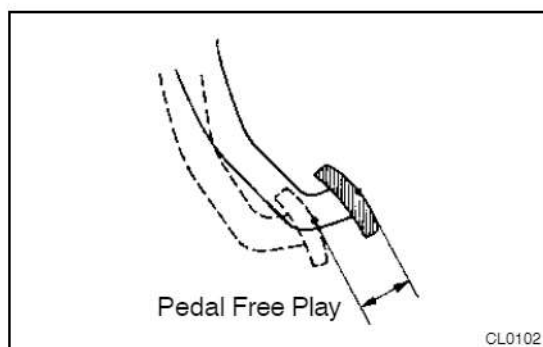
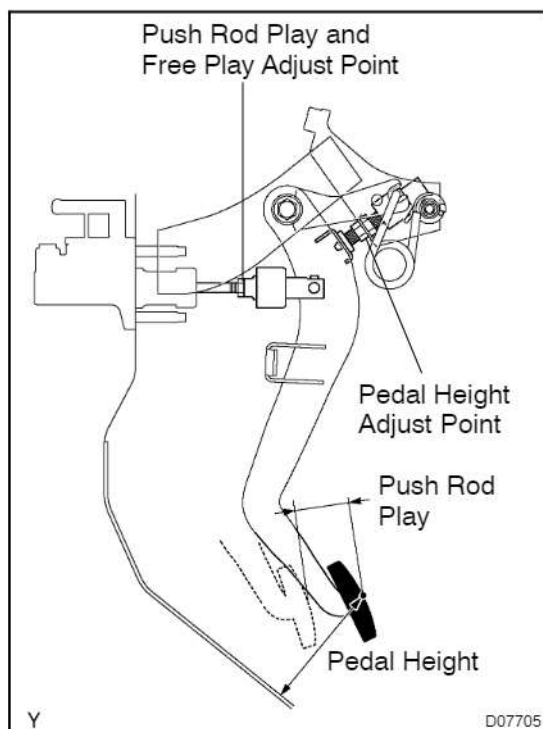
# TROUBLESHOOTING

## PROBLEM SYMPTOMS TABLE

CL02N-12

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



## CLUTCH PEDAL INSPECTION

### 1. CHECK PEDAL HEIGHT

**Pedal height from asphalt sheet:**

**Standard pedal:**

**135.6 – 145.6 mm (5.339 – 5.732 in.)**

**Sport pedal:**

**136.9 – 146.9 mm (5.390 – 5.783 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 FREE PLAY AND PUSH ROD PLAY

- Depress the pedal until clutch resistance begins to be felt.  
**Pedal free play: 1.0 – 5.0 mm (0.039 – 0.197 in.)**
- Gently push on the pedal until the resistance begins to increase a little.

**Push rod play at pedal top:**

**5.0 – 15.0 mm (0.197 – 0.591 in.)**

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

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

### 5. CHECK CLUTCH RELEASE POINT

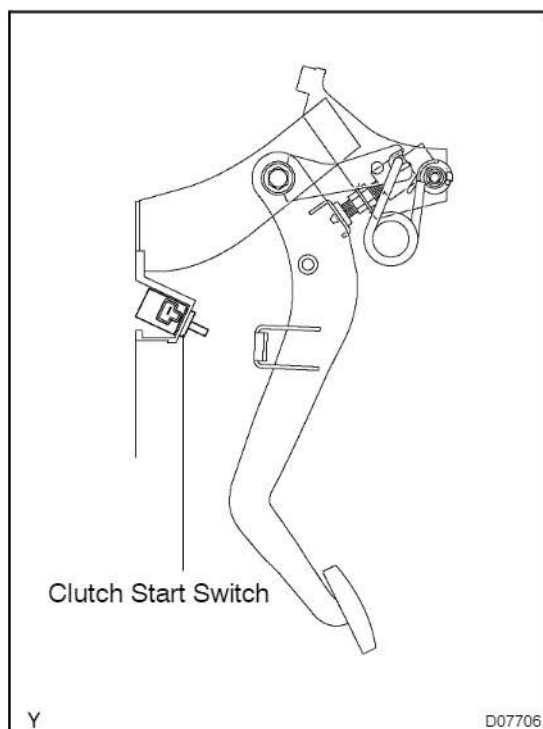
- Pull the parking brake lever and install wheel stopper.
- Start and idle the engine.
- Without depressing the clutch pedal, slowly shift the shift lever into reverse position until the gears contact.
- Gradually depress the clutch pedal and measure the stroke distance from the point the gear noise stops (release point) 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 operations.

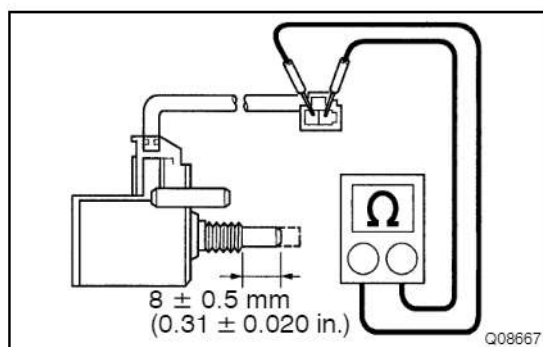
- Inspect pedal height.
- Inspect push rod play and pedal free play.
- Bleed the clutch line.
- Inspect the clutch cover and disc.



## 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.



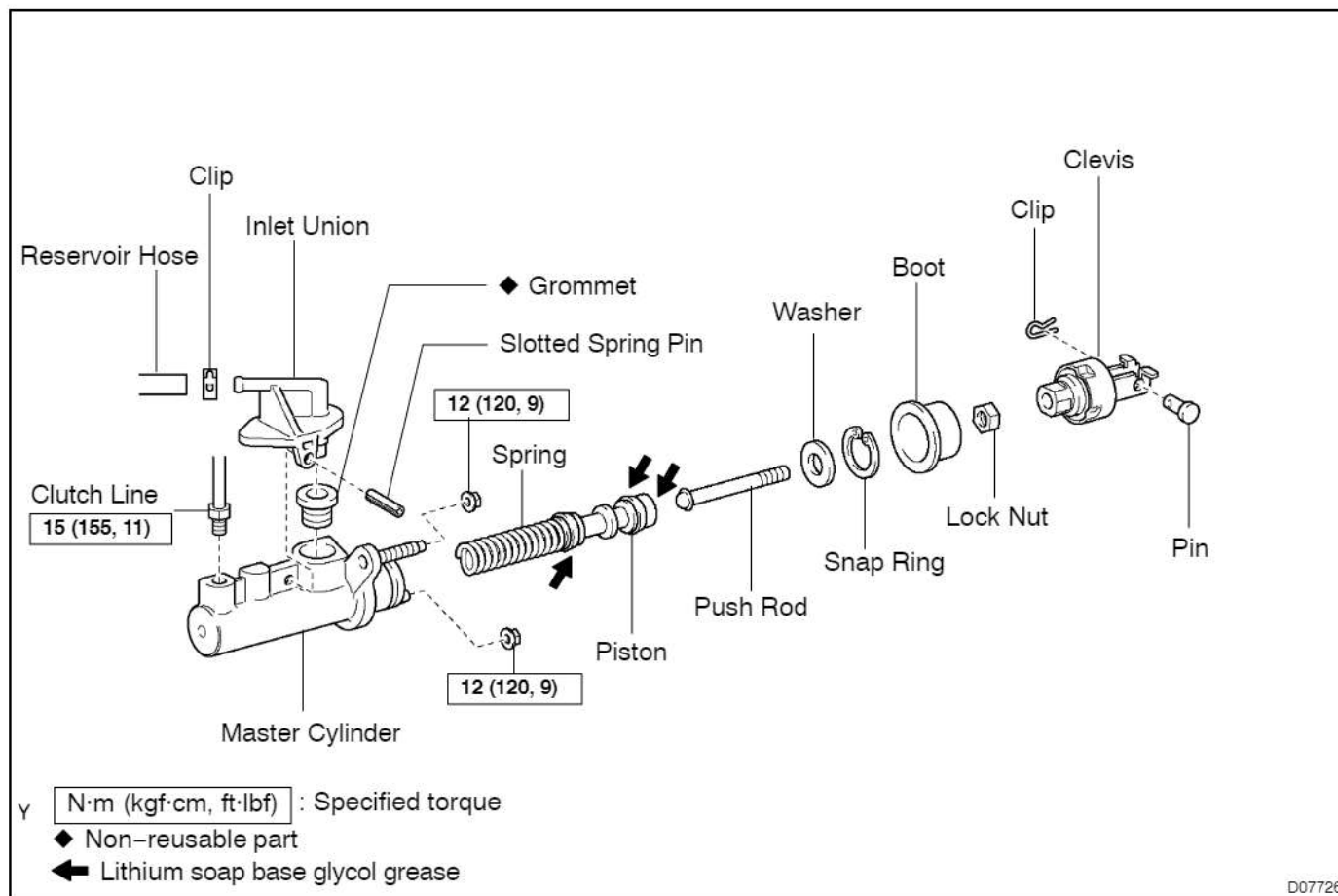
## 7. INSPECT CLUTCH START SWITCH CONTINUITY

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

| Switch position | Condition     |
|-----------------|---------------|
| ON (pushed)     | Continuity    |
| OFF (free)      | No continuity |

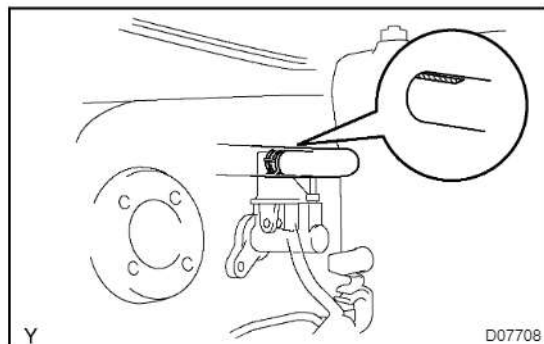
# CLUTCH MASTER CYLINDER COMPONENTS

CLO9E-04



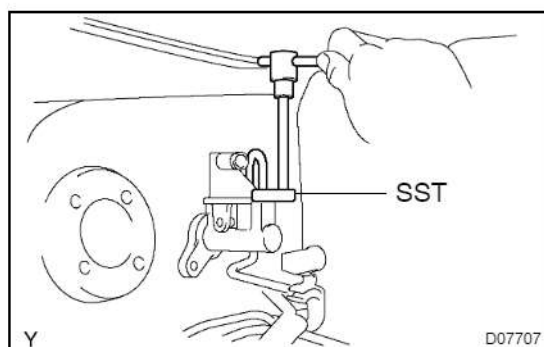
## REMOVAL

### 1. REMOVE BRAKE BOOSTER (See page BR-17)



### 2. DISCONNECT RESERVOIR HOSE

- (a) Using pliers, disconnect the clip.
- (b) Disconnect the reservoir hose from the inlet union.
- (c) Use a container to catch the fluid.



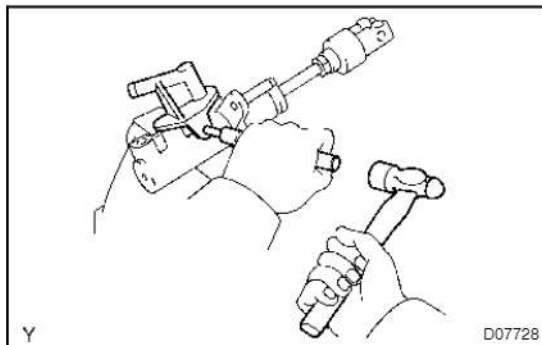
### 3. DISCONNECT CLUTCH LINE

- (a) Using SST, disconnect the clutch line.  
SST 09023-00101
- (b) Use a container to catch the fluid.

### 4. REMOVE CLIP AND PIN

Using needle-nose pliers, remove the clip and pin.

### 5. REMOVE 2 MOUNTING NUTS AND PULL OUT MASTER CYLINDER



## DISASSEMBLY

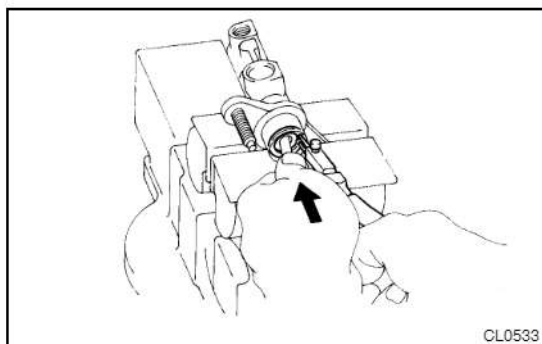
### 1. REMOVE INLET UNION

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

### 2. REMOVE CLEVIS

Loosen the lock nut to remove the clevis and remove the lock nut.

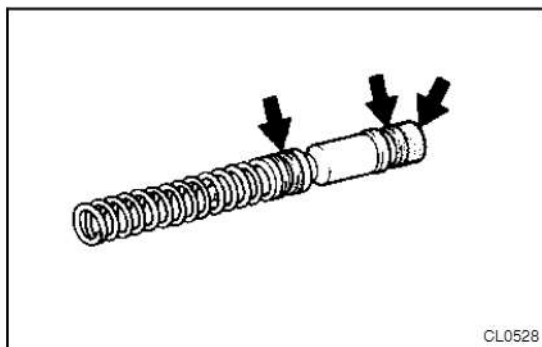
### 3. REMOVE BOOT FROM CYLINDER



### 4. REMOVE PUSH ROD

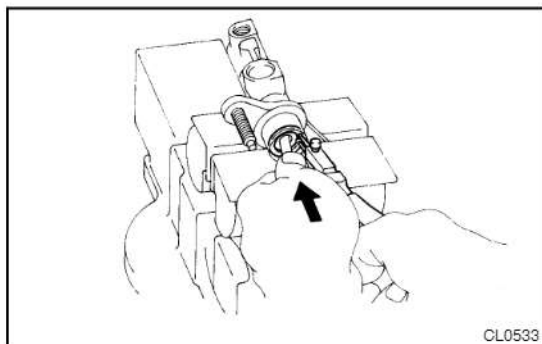
- While pushing the push rod, using snap ring pliers, remove the snap ring.
- Pull out the push rod and washer.

### 5. REMOVE PISTON WITH SPRING FROM CYLINDER

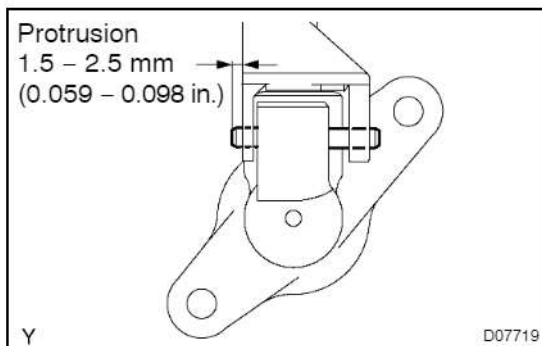


## REASSEMBLY

1. COAT PARTS WITH LITHIUM SOAP BASE GLYCOL GREASE, AS SHOWN IN ILLUSTRATION
2. INSERT PISTON WITH SPRING INTO CYLINDER



3. INSTALL PUSH ROD
  - (a) Install the washer to the push rod.
  - (b) Push the push rod into the piston, using snap ring pliers, install the snap ring.
4. INSTALL BOOT TO CYLINDER
5. TEMPORARILY INSTALL LOCK NUT AND CLEVIS



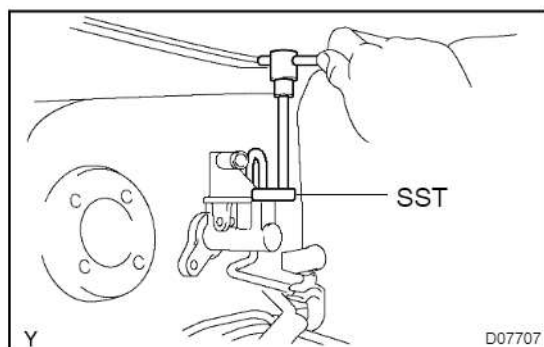
6. INSTALL INLET UNION
  - (a) Install a new grommet.
  - (b) Install the inlet union.
  - (c) Using a pin punch (3 mm) and hammer, drive in the slotted spring pin.

## INSTALLATION

1. **INSTALL MASTER CYLINDER WITH 2 MOUNTING NUTS**

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

2. **INSTALL PIN AND CLIP**

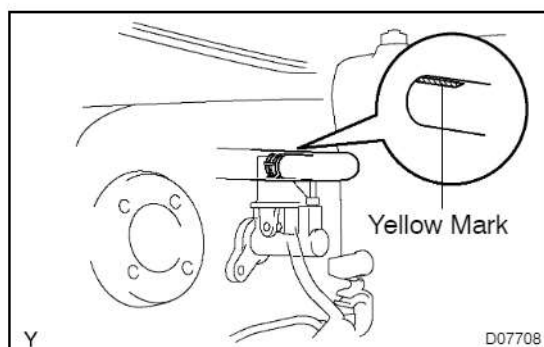


3. **CONNECT CLUTCH LINE**

Using SST, connect the clutch line.

SST 09023-00101

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



4. **CONNECT RESERVOIR HOSE**

(a) Connect the reservoir hose to the inlet union.

**NOTICE:**

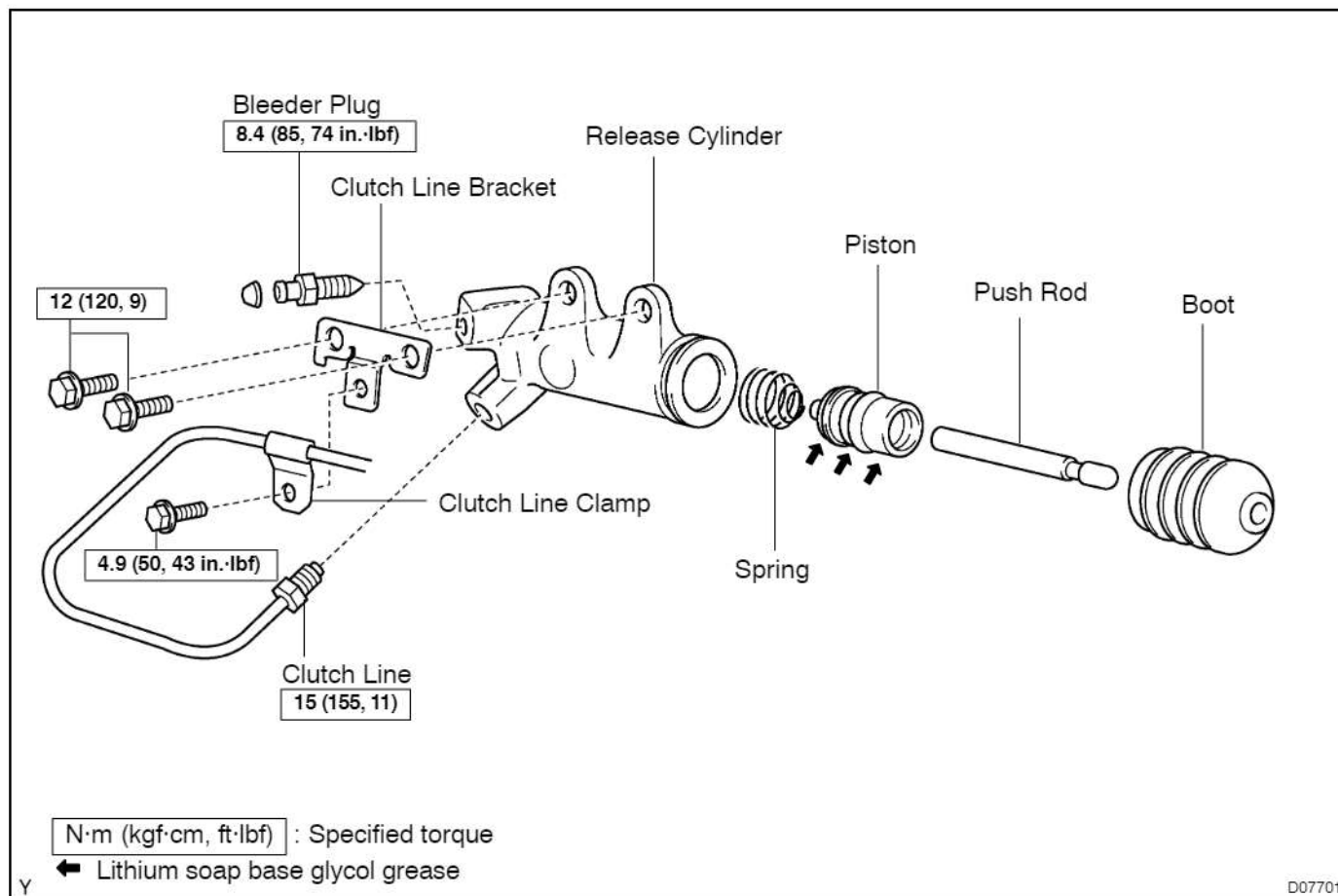
**Facing the yellow mark upwards.**

(b) Using pliers, connect the clip.

5. **INSTALL BRAKE BOOSTER (See page BR-18)**
6. **FILL BRAKE RESERVOIR WITH BRAKE FLUID AND BLEED CLUTCH SYSTEM (See page BR-4)**
7. **ADJUST CLUTCH PEDAL (See page CL-2)**
8. **CHECK FOR LEAKS**

# CLUTCH RELEASE CYLINDER COMPONENTS

CL02U-13



## REMOVAL

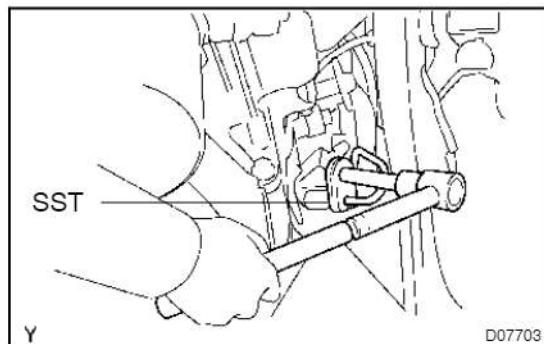
### 1. DISCONNECT CLUTCH LINE

- (a) Raise the vehicle.

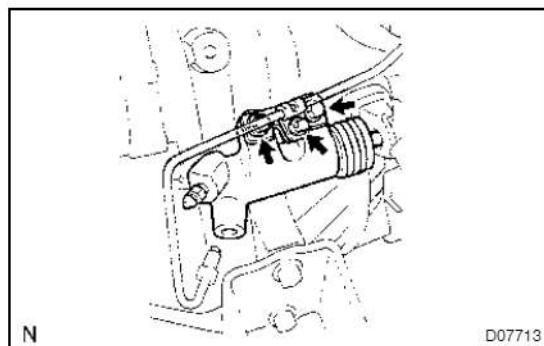
#### CAUTION:

**Make sure that the vehicle is securely supported.**

- (b) Remove the LH and RH engine under covers.



- (c) Using SST, disconnect the clutch line.  
SST 09023-00101
- (d) Use a container to catch the fluid.
- (e) Lower the vehicle.



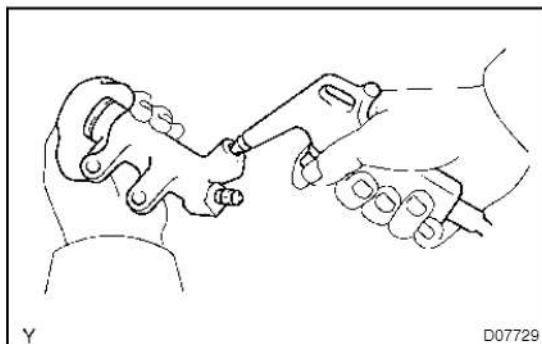
### 2. REMOVE RELEASE CYLINDER

- (a) Remove the air cleaner case assembly with the air hose.
- (b) Remove the clutch line clamp set bolt.
- (c) Remove the 2 bolts, clutch line bracket and release cylinder.

## DISASSEMBLY

### 1. REMOVE BOOT AND PUSH ROD

- (a) Pull out the boot with the push rod.
- (b) Remove the boot from the push rod.



### 2. REMOVE PISTON AND SPRING

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

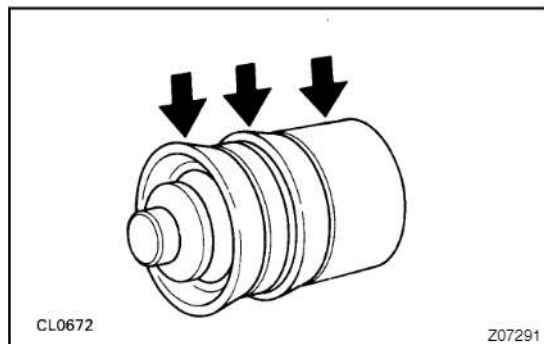
#### NOTICE:

- 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.

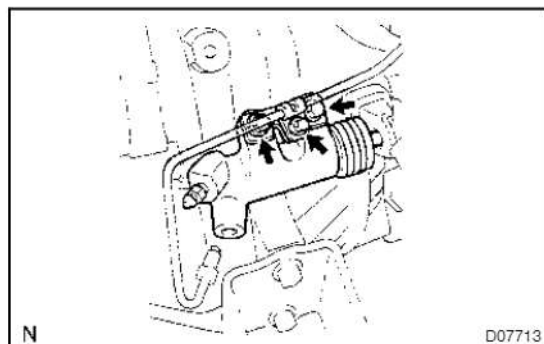
### 3. REMOVE BLEEDER PLUG

## REASSEMBLY

1. **INSTALL BLEEDER PLUG**  
Torque: 8.4 N·m (85 kgf·cm, 74 in.·lbf)



2. **COAT PISTON WITH LITHIUM SOAP BASE GLYCOL GREASE, AS SHOWN**
3. **INSTALL PISTON AND SPRING INTO CYLINDER**
4. **INSTALL BOOT AND PUSH ROD**
  - (a) Install the push rod to the boot.
  - (b) Install the boot with the push rod to the cylinder.



## INSTALLATION

### 1. INSTALL RELEASE CYLINDER

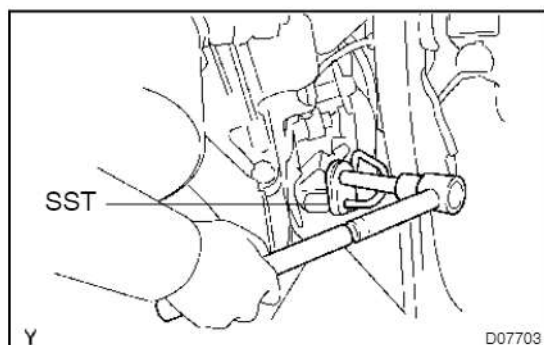
- (a) Install the release cylinder and clutch line bracket with the 2 bolts.

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

- (b) Install the clutch line clamp to the clutch line bracket with the bolt.

**Torque: 4.9 N·m (50 kgf·cm, 43 in·lbf)**

- (c) Install the air cleaner case assembly with the air hose.



### 2. CONNECT CLUTCH LINE AND BLEED CLUTCH SYSTEM

- (a) Raise the vehicle.

#### CAUTION:

**Make sure that the vehicle is securely supported.**

- (b) Using SST, connect the clutch line.

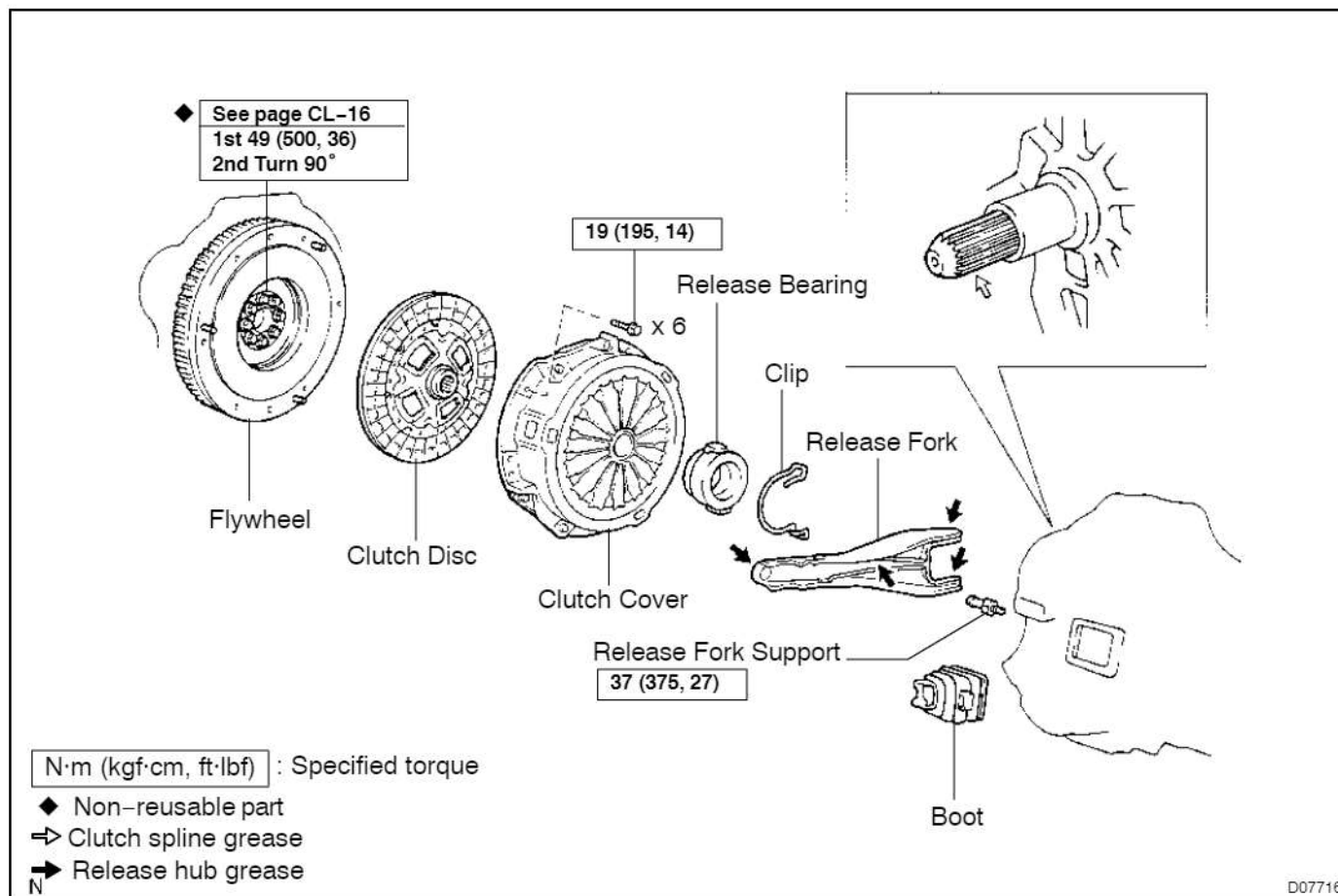
SST 09023-00101

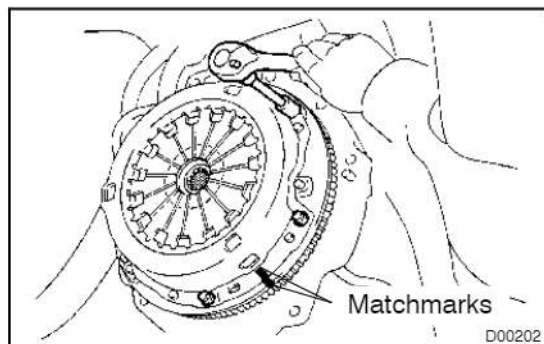
**Torque: 15 N·m (155 kgf·cm, 11 ft·lbf)**

- (c) Fill the brake reservoir tank with brake fluid and bleed clutch system.
- (d) Check for the leaks.
- (e) Install the LH and RH engine under covers.
- (f) Lower the vehicle.

# CLUTCH UNIT COMPONENTS

CL02Z-13





## REMOVAL

### 1. REMOVE TRANSAXLE FROM ENGINE

(C56: See page MX-4)

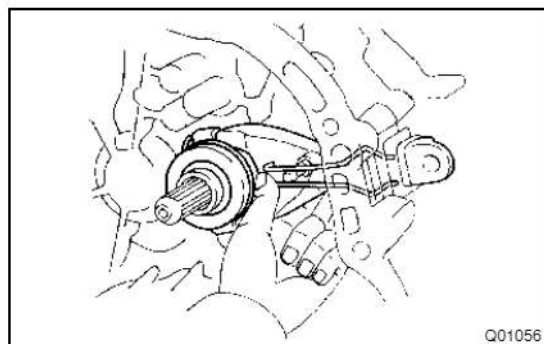
(C60: See page MX-4)

### 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:

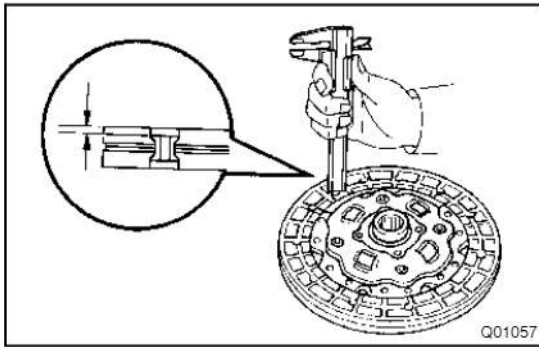
**Do not drop the clutch disc.**



### 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



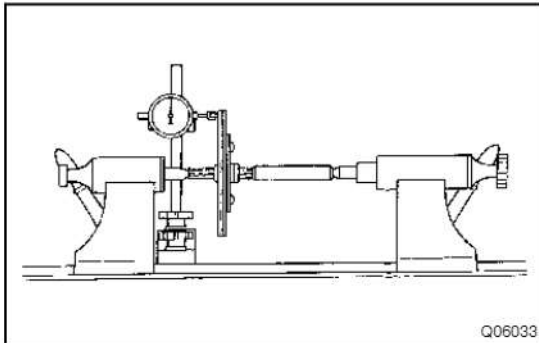
## INSPECTION

### 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.

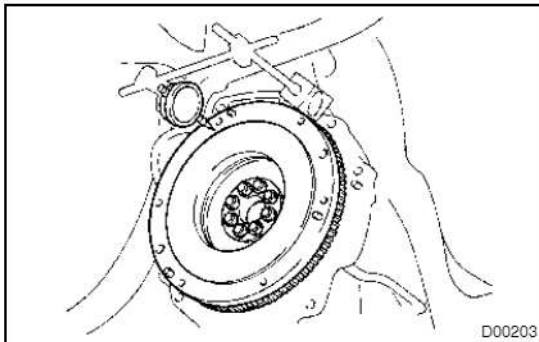


### 2. INSPECT CLUTCH DISC RUNOUT

Using a dial indicator, check the disc runout.

**Maximum runout: 0.8 mm (0.031 in.)**

If necessary, replace the clutch disc runout.

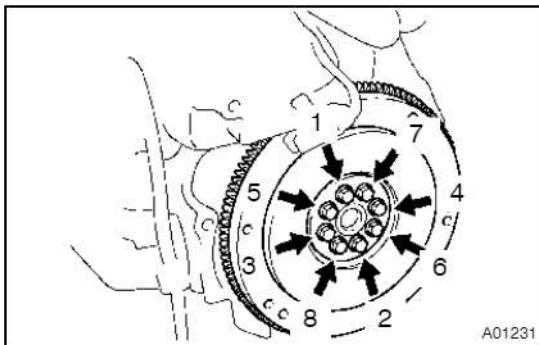


### 3. INSPECT FLYWHEEL RUNOUT

Using a dial indicator, check the flywheel runout.

**Maximum runout: 0.1 mm (0.004 in.)**

If necessary, replace the flywheel.

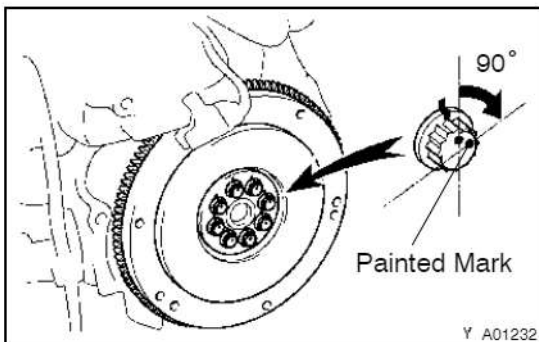


#### HINT:

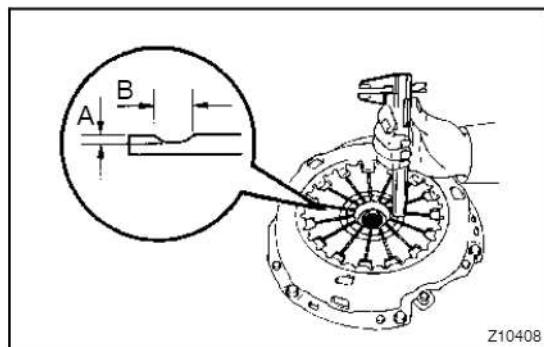
The flywheel bolts are tightened in 2 progressive steps, (1) and (3).

- (1) Install and uniformly tighten the 8 mounting bolts, in several passes, in the sequence shown.

**Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)**



- (2) Mark the flywheel bolt with paint.
- (3) Retighten the flywheel bolts by an additional 90°.
- (4) Check that the painted mark is now at a 90° angle to (2).



#### 4. INSPECT DIAPHRAGM SPRING FOR WEAR

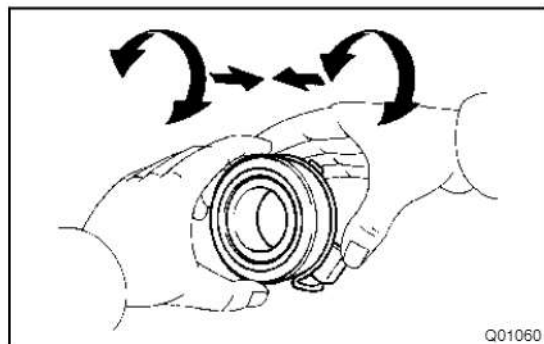
Using vernier calipers, measure the diaphragm spring for depth and width of wear.

**Maximum:**

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

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

If necessary, replace the clutch cover.



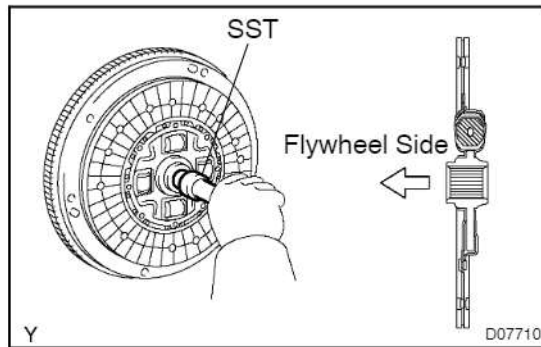
#### 5. INSPECT RELEASE BEARING

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

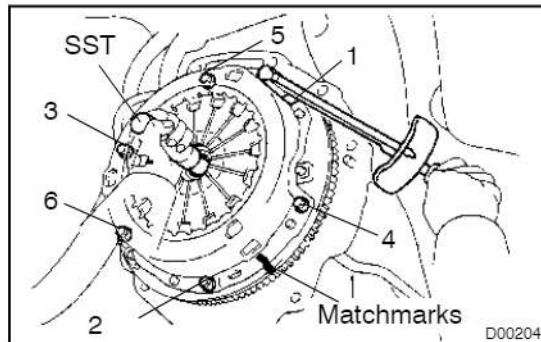
### 1. INSTALL CLUTCH DISC AND CLUTCH COVER ON FLYWHEEL

- (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.

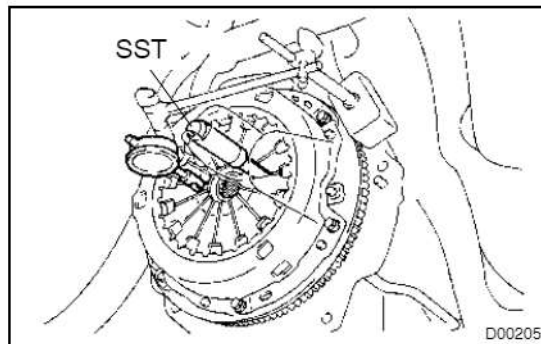
### 2. CHECK DIAPHRAGM SPRING TIP ALIGNMENT

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:

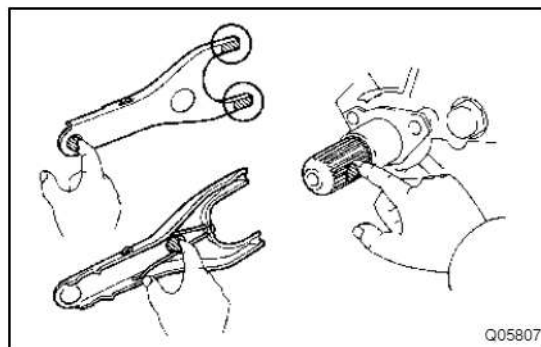
**Part No. 08887-01806, RELEASE HUB GREASE or equivalent**

### 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

(C56: See page MX-9)

(C60: See page MX-9)