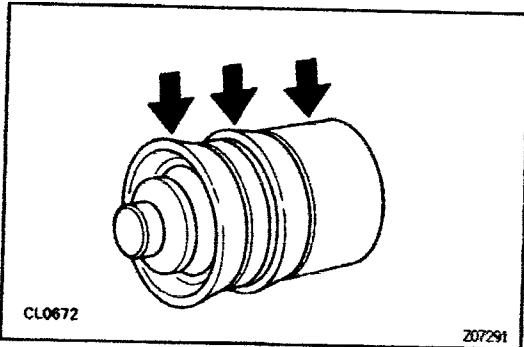


**RELEASE CYLINDER DISASSEMBLY**

CL088-02

1. PULL OUT BOOT WITH PUSH ROD
2. REMOVE PISTON

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



**RELEASE CYLINDER ASSEMBLY**

CL089-00

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

CL

**RELEASE CYLINDER INSTALLATION**

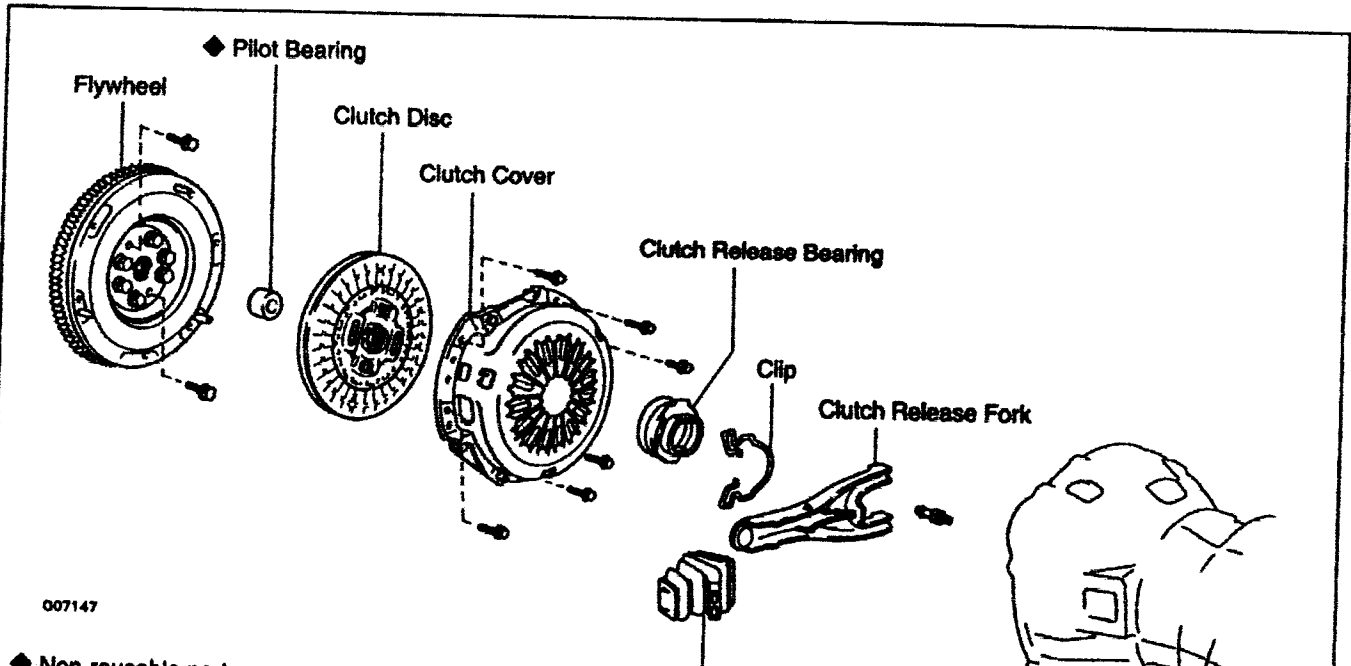
CL087-01

Installation is in the reverse order of removal.

HINT: After installation, bleed clutch system.

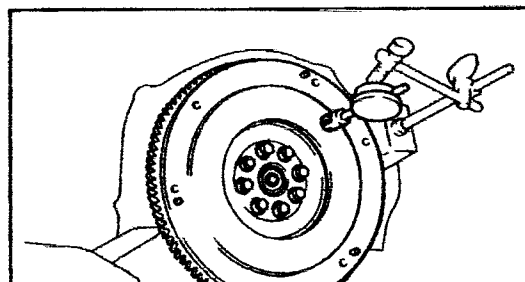
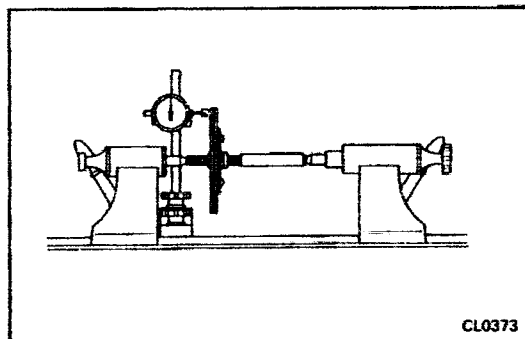
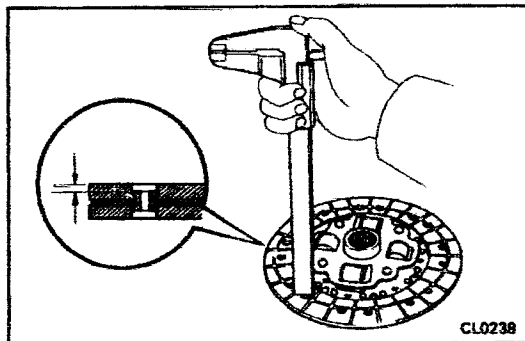
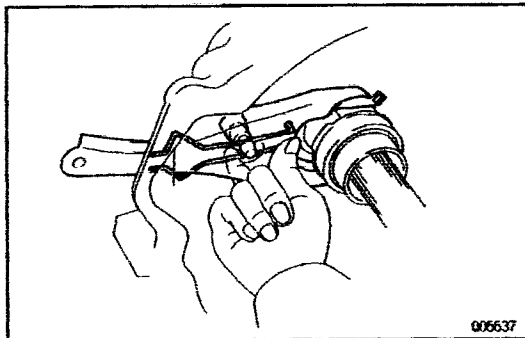
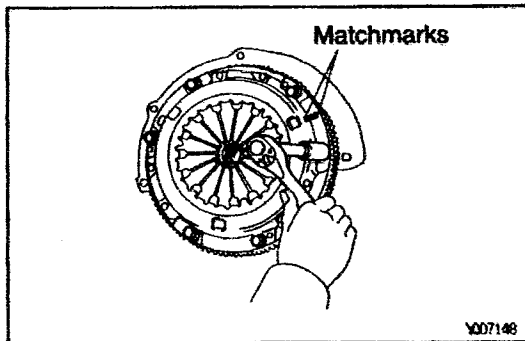
**CLUTCH UNIT COMPONENTS**

CL086-00



007147

◆ Non-removable part



## CLUTCH UNIT REMOVAL

### 1. REMOVE TRANSMISSION FROM ENGINE

W59 (2WD): See page MT-6

W59 (4WD): See page MT-8

R150: See page MT-6

R150F: See page MT-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 BOOT, RELEASE BEARING AND FORK FROM TRANSMISSION

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

## CLUTCH PARTS 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 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.

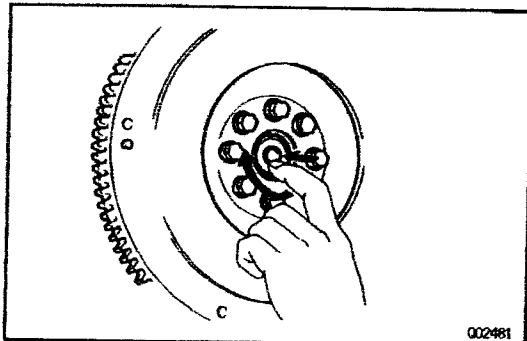
### 3. INSPECT FLYWHEEL RUNOUT

Using a dial indicator, check the flywheel runout.

Maximum runout: 0.1 mm (0.004 in.)

If necessary, replace the flywheel.

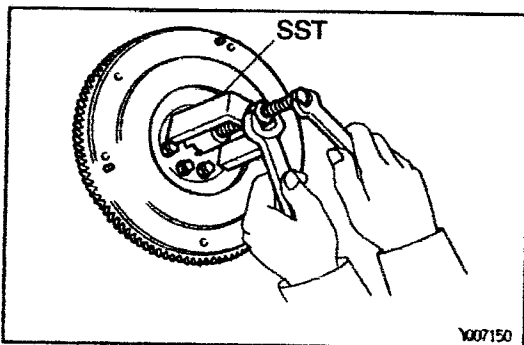
## CLUTCH – CLUTCH UNIT

**4. INSPECT PILOT BEARING**

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

If the bearing sticks or has much resistance, replace the pilot bearing.

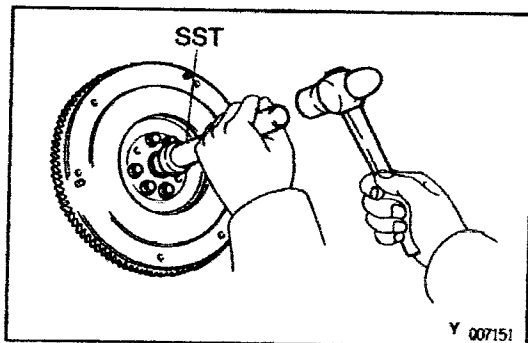
**HINT:** The bearing is permanently lubricated and requires no clearing or lubrication.

**5. IF NECESSARY, REPLACE PILOT BEARING**

(a) Remove the 2 bolts at diametrically opposite points.

(b) Using SST, remove the pilot bearing.

SST 09303-35011



(c) Using SST and hammer, install the pilot bearing.

SST 09304-30012

**HINT:** After assembling the pilot bearing to the hub, install sure that it rotates smoothly.

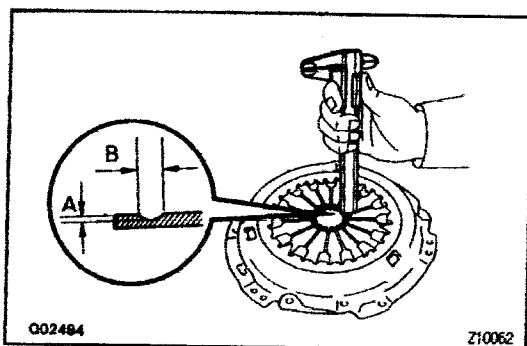
(d) Install 2 new bolts.

**Torque:**

2RZ – FE Engine: 88 N·m (900 kgf·cm, 65 ft·lbf)

3RZ – FE Engine: 26.5 N·m (270 kgf·cm, 19 ft·lbf)

5VZ – FE Engine: 85 N·m (850 kgf·cm, 63 ft·lbf)

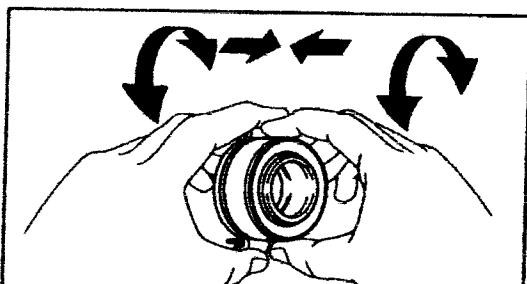
**6. INSPECT DIAPHRAGM SPRING FOR WEAR**

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

**Maximum depth: A: 0.6 mm (0.024 in.)**

**Maximum width: B: 5.0 mm (0.197 in.)**

If necessary, replace the clutch cover.

**7. INSPECT RELEASE BEARING**

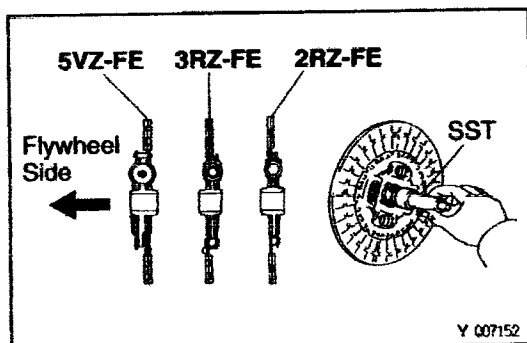
Turn the bearing by hand while applying force in the axial direction.

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

If necessary, replace the release bearing.

## CLUTCH – CLUTCH UNIT

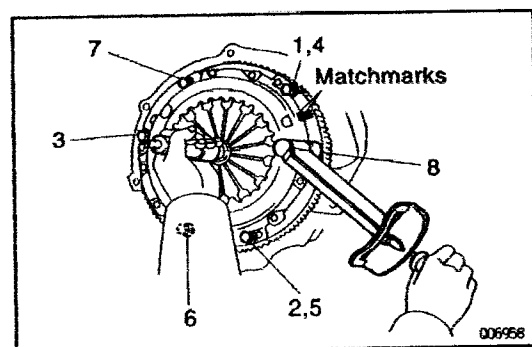
CL004-01



## CLUTCH UNIT INSTALLATION

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

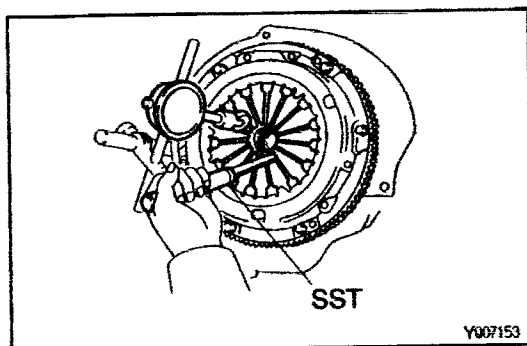
- (a) Insert the SST in the clutch disc, and then set them.  
SST 09301-00110



- (b) Align the matchmarks on the clutch cover and flywheel.
- (c) Torque the 6 bolts on the clutch cover in the order shown.

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

HINT: Temporarily tighten the No.1 and No.2 bolts.



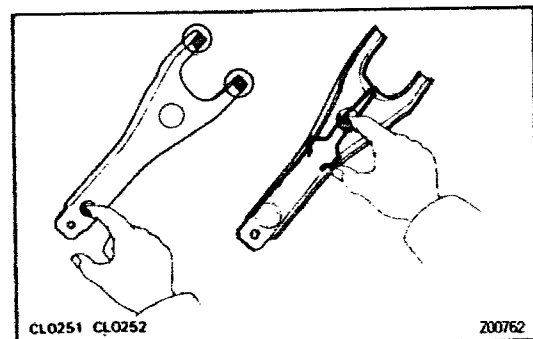
## 2. CHECK DIAPHRAGM SPRING TIP ALIGNMENT

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

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

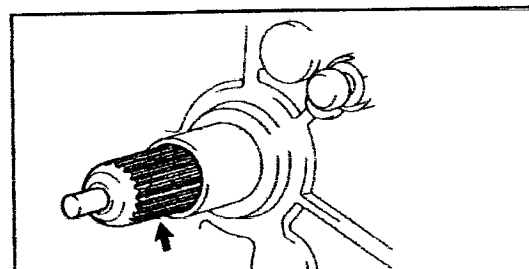
If alignment is not as specified, using SST, adjust the diaphragm spring tip alignment.

SST 09333-00013



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

- (a) Apply release hub grease to the these 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 (100 g).

## 4. INSTALL BOOT, RELEASE BEARING AND FORK TO TRANSMISSION

Install the boot and bearing to the release fork, and

## CLUTCH - CLUTCH UNIT, SERVICE SPECIFICATIONS

## 5. INSTALL TRANSMISSION TO ENGINE

W59 (2WD): See page MT-6

W59 (4WD): See page MT-8

R150: See page MT-6

R150F: See page MT-8

SERVICE SPECIFICATIONS  
SERVICE DATA

CL00P-01

Pedal height from floor panel		175.0-185.0 mm (6.889-7.283 in.)
Pedal height from asphalt sheet		172.0-182.0 mm (6.772-7.165 in.)
Pedal freeplay		5.0-15.0 mm (0.197-0.591 in.)
Push rod play at pedal top		1.0-5.0 mm (0.039-0.197 in.)
Clutch release point from pedal full stroke end position		25 mm (0.98 in.) or more
Clutch start switch	ON-OFF Stroke	8±0.5 mm (0.31±0.020 in.)
Slotted spring pin protrusion		1.5-3.5 mm (0.059-0.138 in.)
Disc rivet head depth	Min.	0.3 mm (0.012 in.)
Disc runout	Max.	0.8 mm (0.031 in.)
Flywheel runout	Max.	0.1 mm (0.004 in.)
Diaphragm spring finger wear	Max. depth	0.8 mm (0.024 in.)
Diaphragm spring finger wear	Max. width	5.0 mm (0.197 in.)
Diaphragm spring tip non-alignment	Max.	0.5 mm (0.020 in.)

## TORQUE SPECIFICATIONS

CL000-02

Part tightened		N-m	kgf-cm	ft-lbf
Clutch line union		15	155	11
Master cylinder installation nut		13	130	9
Bleeder plug		11	110	8
Release cylinder installation bolt		13	130	9
Clutch cover x Flywheel		19	195	14
Release fork support	2RZ-FE, 3RZ-FE	39	400	29
	5VZ-FE	47	480	35
Flywheel set bolt	2RZ-FE	88	900	65
	3RZ-FE	26.5	270	19
	5VZ-FE	85	850	63