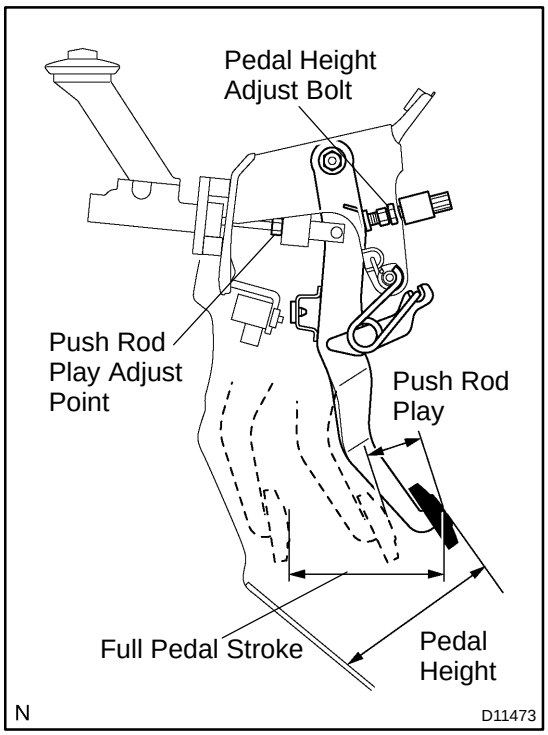
TROUBLESHOOTING

CL0CY-01

PROBLEM SYMPTOMS TABLE

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)	CL-14
	3. Clutch disc (Oily)	CL-14
	4. Clutch disc (Worn out)	CL-14
	5. Clutch disc (Damaged torsion rubber)	CL-14
	6. Clutch disc (Glazed)	CL-14
	7. Diaphragm spring (Out of tip alignment)	CL-18
Clutch pedal spongy	1. Clutch line (Air in line)	-
	2. Master cylinder cup (Damaged)	CL-4
	3. Release cylinder cup (Damaged)	CL-9
Clutch noisy	1. Release bearing (Worn, dirty or damaged)	CL-14
	2. Pilot bearing (Worn or damaged)	CL-14
	3. Input shaft bearing (Worn, dirty or damaged)	-
	4. Clutch disc torsion rubber (Damaged)	CL-14
Clutch slips	1. Clutch pedal (Free play out of adjustment)	CL-2
	2. Clutch disc (Oily)	CL-14
	3. Clutch disc (Worn out)	CL-14
	4. Diaphragm spring (Damaged)	CL-14
	5. Pressure plate (Distortion)	CL-14
	6. Flywheel (Distortion)	-
Clutch does not disengage	1. Clutch pedal (Free play out of adjustment)	CL-2
	2. Clutch line (Air in line)	-
	3. Master cylinder cup (Damaged)	CL-4
	4. Release cylinder cup (Damaged)	CL-9
	5. Input shaft bearing (Worn, dirty or damaged)	-
	6. Pilot bearing (Worn or damaged)	CL-14
	7. Clutch disc (Out of true)	CL-14
	8. Clutch disc (Runout is excessive)	CL-14
	9. Clutch disc (Lining broken)	CL-14
	10. Clutch disc (Dirty or burred)	CL-14
	11. Clutch disc (Oily)	CL-14
	12. Clutch disc (Lack of spline grease)	CL-18
	13. Diaphragm spring (Damaged)	CL-14
	14. Diaphragm spring (Out of tip alignment)	CL-18
	15. Pressure plate (Distortion)	CL-14



CLUTCH PEDAL

INSPECTION

CL0CZ-01

1. CHECK PEDAL HEIGHT

Pedal height from asphalt sheet:
162 - 172 mm (6.38 - 6.77 in.)

2. IF NECESSARY, ADJUST PEDAL HEIGHT

(a) Remove the lower finish panel (See page BO-135).

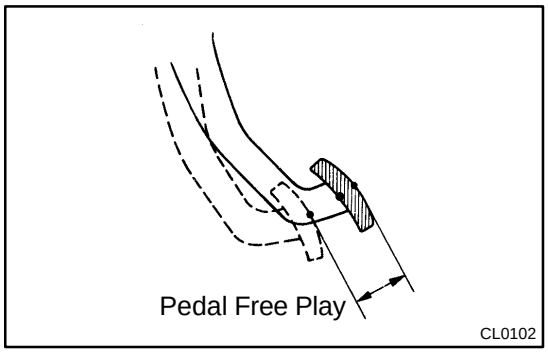
(b) Loosen the lock nut and clutch switch until the height is correct. Tighten the lock nut.

Torque: 15.7 N·m (160 kgf·cm, 12 ft·lbf)

HINT:

Before rotating the clutch switch for pedal height adjustment, disconnect the clutch switch connector.

(c) Install the lower finish panel (See page BO-135).



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

(a) Depress the pedal until the clutch resistance begins to 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.)

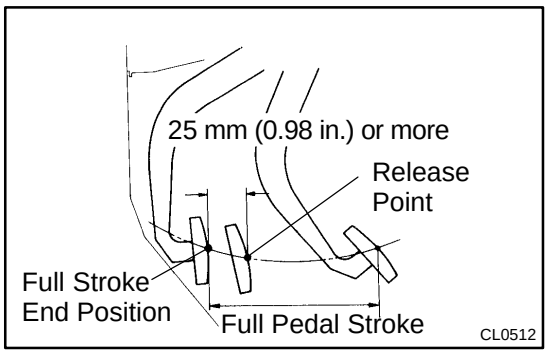
4. IF NECESSARY, ADJUST PEDAL FREE PLAY AND PUSH ROD PLAY

(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.

Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)

(c) After adjusting the pedal free play, check the pedal height.



5. INSPECT FULL PEDAL STROKE

Full pedal stroke: 142.0 - 147.5 mm (5.591 - 5.807 in.)

6. INSPECT CLUTCH RELEASE POINT

(a) Pull the parking brake lever and install wheel stopper.

(b) Start the engine and idle the engine.

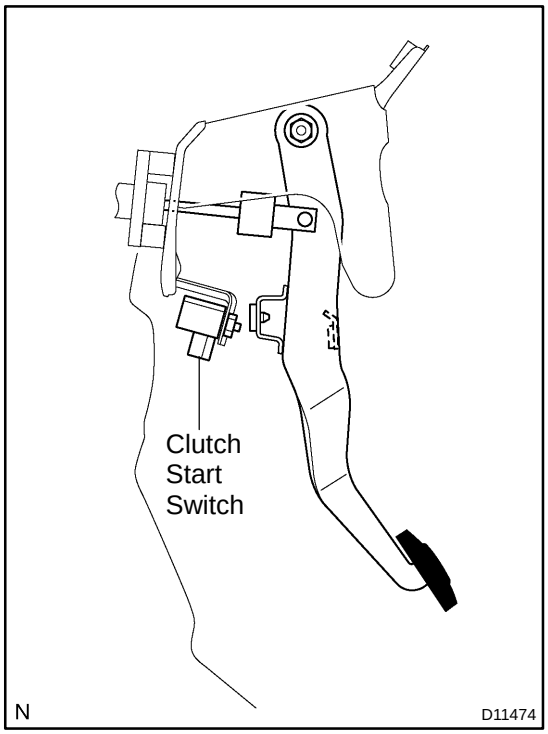
(c) Without depressing the clutch pedal, slowly shift the shift lever into the reverse position until the gears contact.

(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, do the following operation.

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

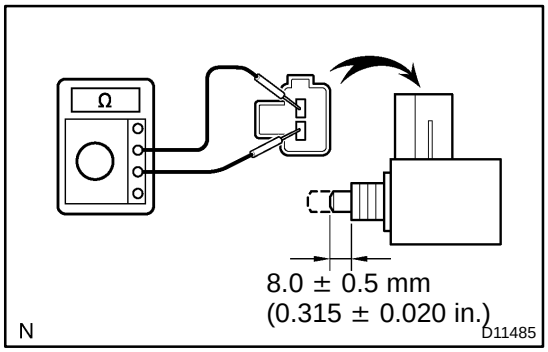


7. CHECK CLUTCH START SYSTEM

(a) Check that the engine does not start when the clutch pedal is released.

(b) Check that the engine starts when the clutch pedal is fully depressed.

If necessary, replace the clutch start switch.



8. INSPECT CONTINUITY OF CLUTCH START SWITCH

(a) Check that there is continuity between the terminals when the switch is ON (pushed).

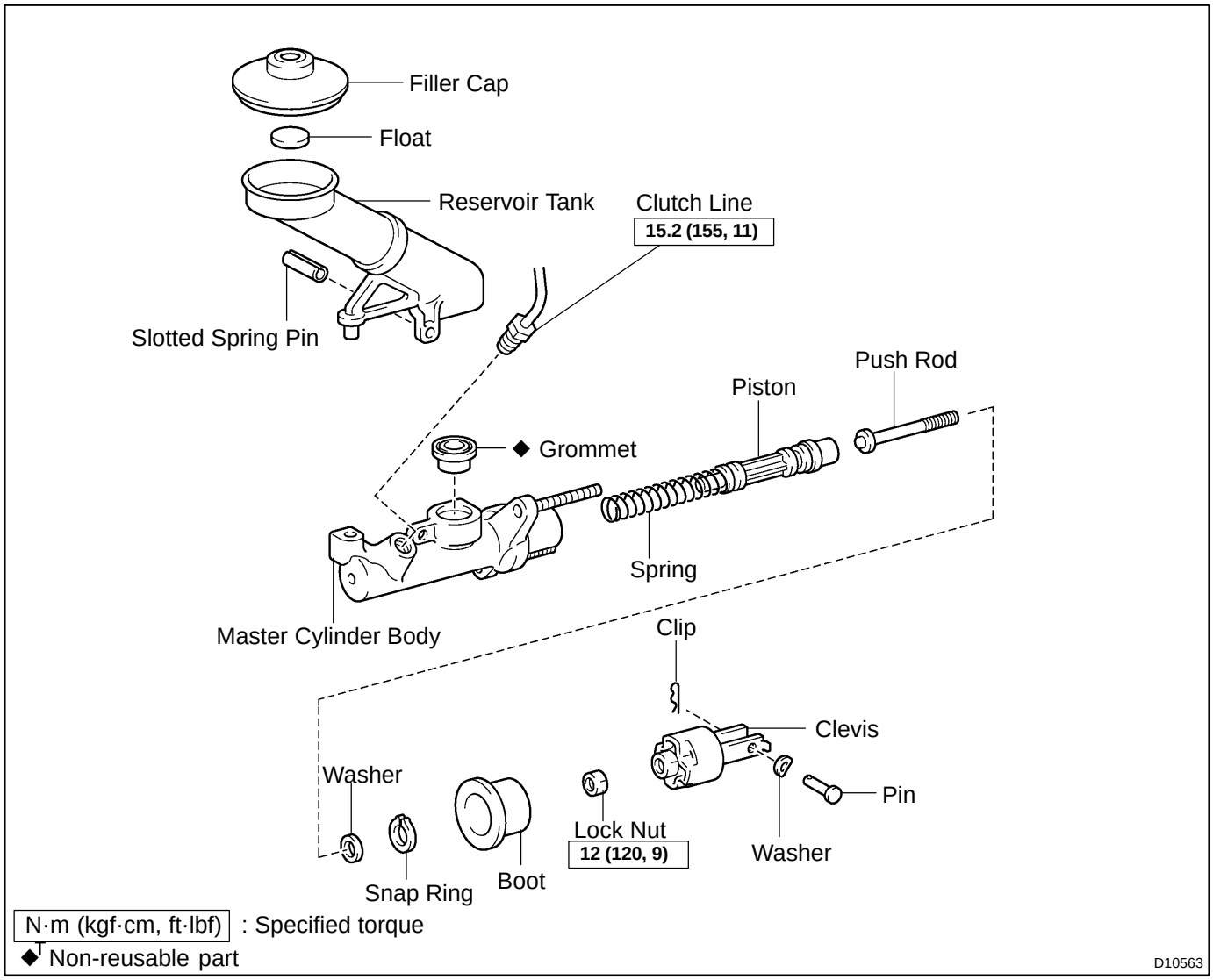
(b) Check that there is no continuity between the terminals when the switch is OFF (free).

If continuity is not as specified, replace the switch.

CLUTCH MASTER CYLINDER

COMPONENTS

CL0D0-01

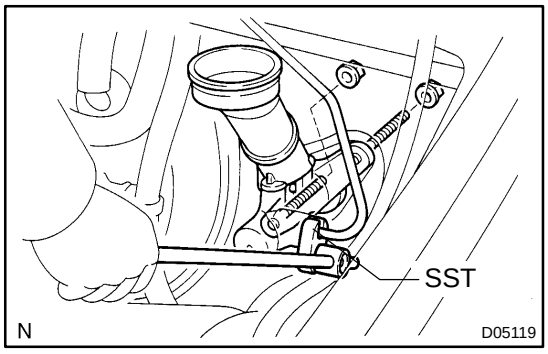


CL0D1-02

REMOVAL

1. DRAIN OUT FLUID WITH SYRINGE

2. REMOVE LOWER FINISH PANEL (See page BO-135)



3. DISCONNECT CLUTCH LINE UNION

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

SST 09023-00101

Torque: 15.2 N·m (155 kgf·cm, 11 ft·lbf)

4. REMOVE CLIP AND PIN

(a) Using needle nose pliers, remove the clip.

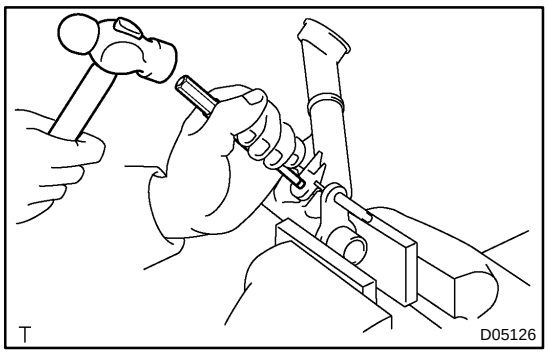
(b) Remove the pin and washer.

5. REMOVE 2 MOUNTING NUTS AND PULL OUT MASTER CYLINDER

Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)

CL0D2-01

DISASSEMBLY



1. REMOVE RESERVOIR TANK

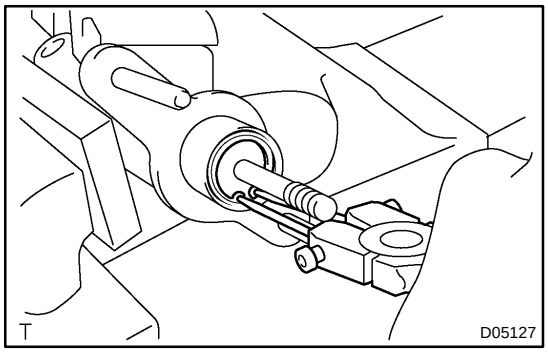
(a) Using a pin punch (5 mm) and a hammer, drive out the slotted spring pin.

(b) Remove the reservoir tank 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

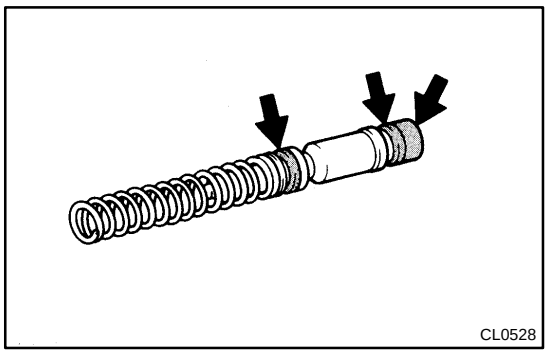
(a) While pushing the push rod, using snap ring pliers remove the snap ring.

(b) Remove the push rod and washer.

4. REMOVE PISTON AND SPRING

CL0D3-01

REASSEMBLY



1. COAT PARTS WITH LITHIUM SOAP BASE GLYCOL GREASE, AS SHOWN

2. INSERT PISTON AND SPRING INTO CYLINDER

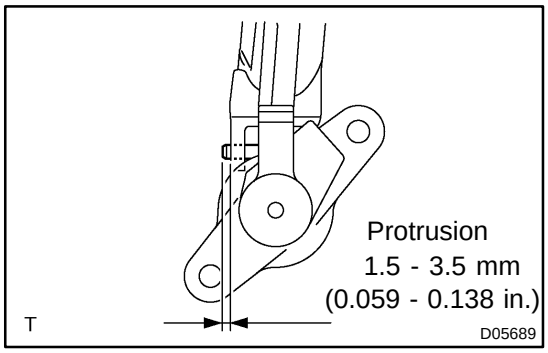
3. INSTALL PUSH ROD AND BOOT

(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



5. INSTALL RESERVOIR TANK

(a) Install the reservoir tank and a new grommet.

(b) Using a pin punch (5 mm) and a hammer, drive in the slotted spring pin.

CL0D4-01

INSTALLATION

Installation is in the reverse order of removal (See page CL-5).

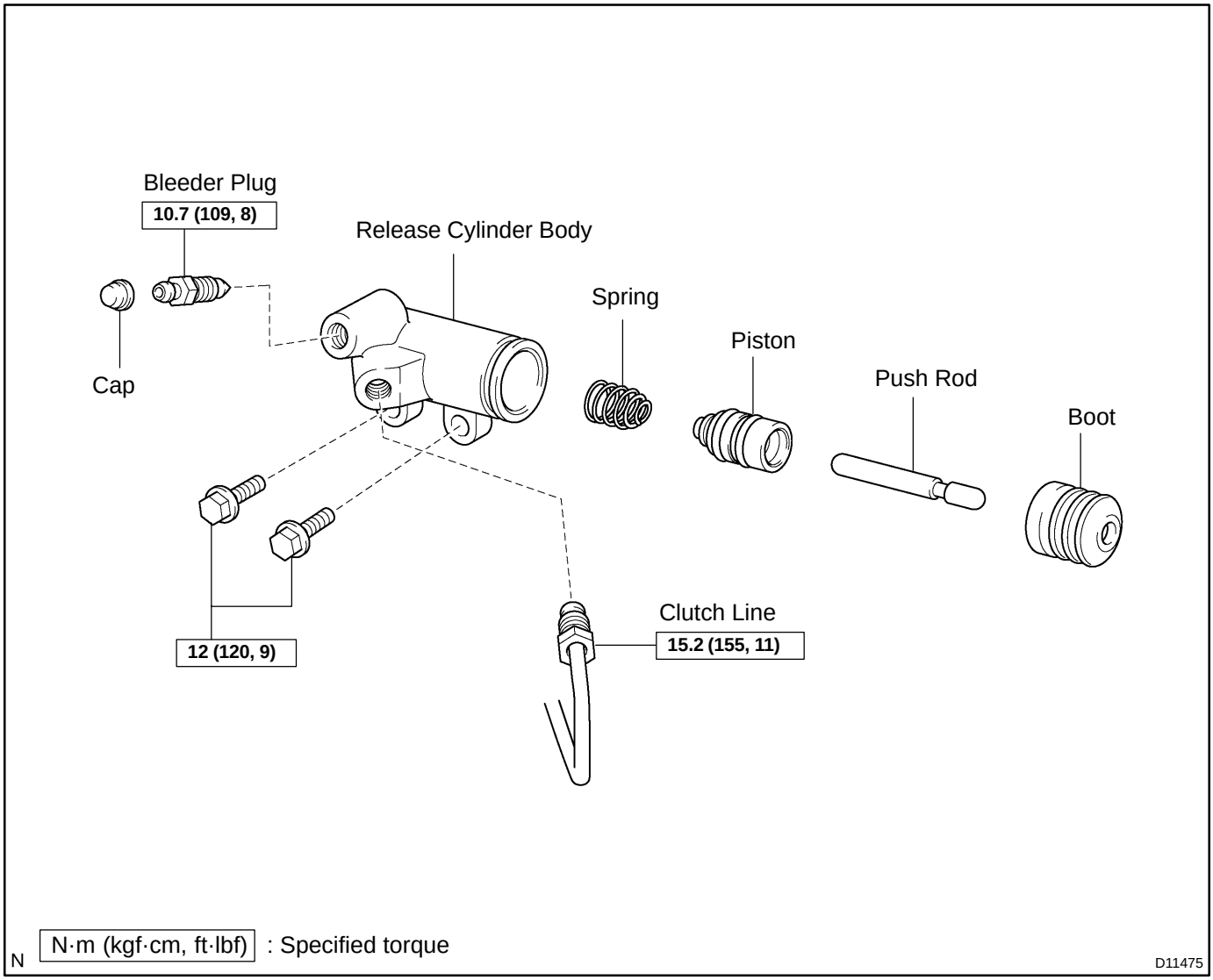
HINT:

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

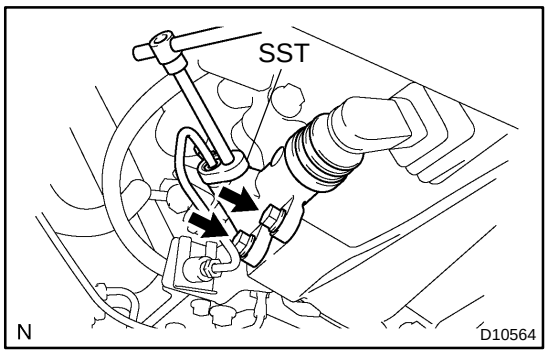
CLUTCH RELEASE CYLINDER

CL0D5-01

COMPONENTS



CL0D6-02



REMOVAL

1. DISCONNECT CLUTCH LINE

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

SST 09023-00101

Torque: 15.2 N·m (155 kgf·cm, 11 ft·lbf)

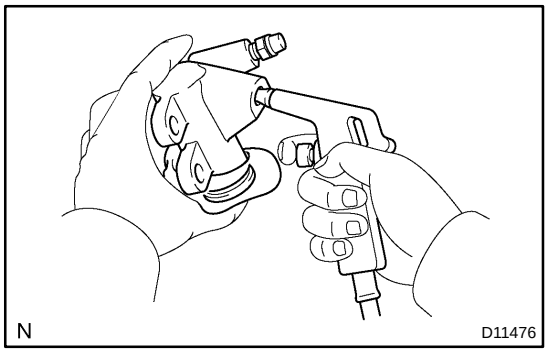
2. REMOVE 2 BOLTS AND PULL OUT RELEASE CYLINDER

Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)

CL0D7-01

DISASSEMBLY

1. PULL OUT PUSH ROD WITH BOOT



2. REMOVE PISTON WITH SPRING

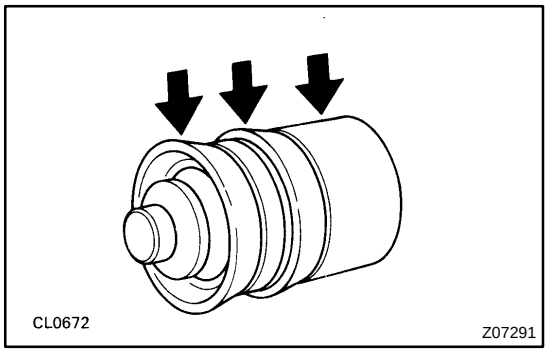
Using compressed air, remove the piston and spring from the cylinder.

3. REMOVE BLEEDER PLUG AND CAP

CL0D8-01

REASSEMBLY

1. **INSTALL BLEEDER PLUG AND CAP**
   Torque: 10.7 N·m (109 kgf·cm, 8 ft·lbf)



2. **COAT PISTON WITH LITHIUM SOAP BASE GLYCOL GREASE, AS SHOWN**
3. **INSTALL PISTON WITH SPRING INTO CYLINDER**
4. **INSTALL BOOT WITH PUSH ROD TO CYLINDER**

CL0D9-01

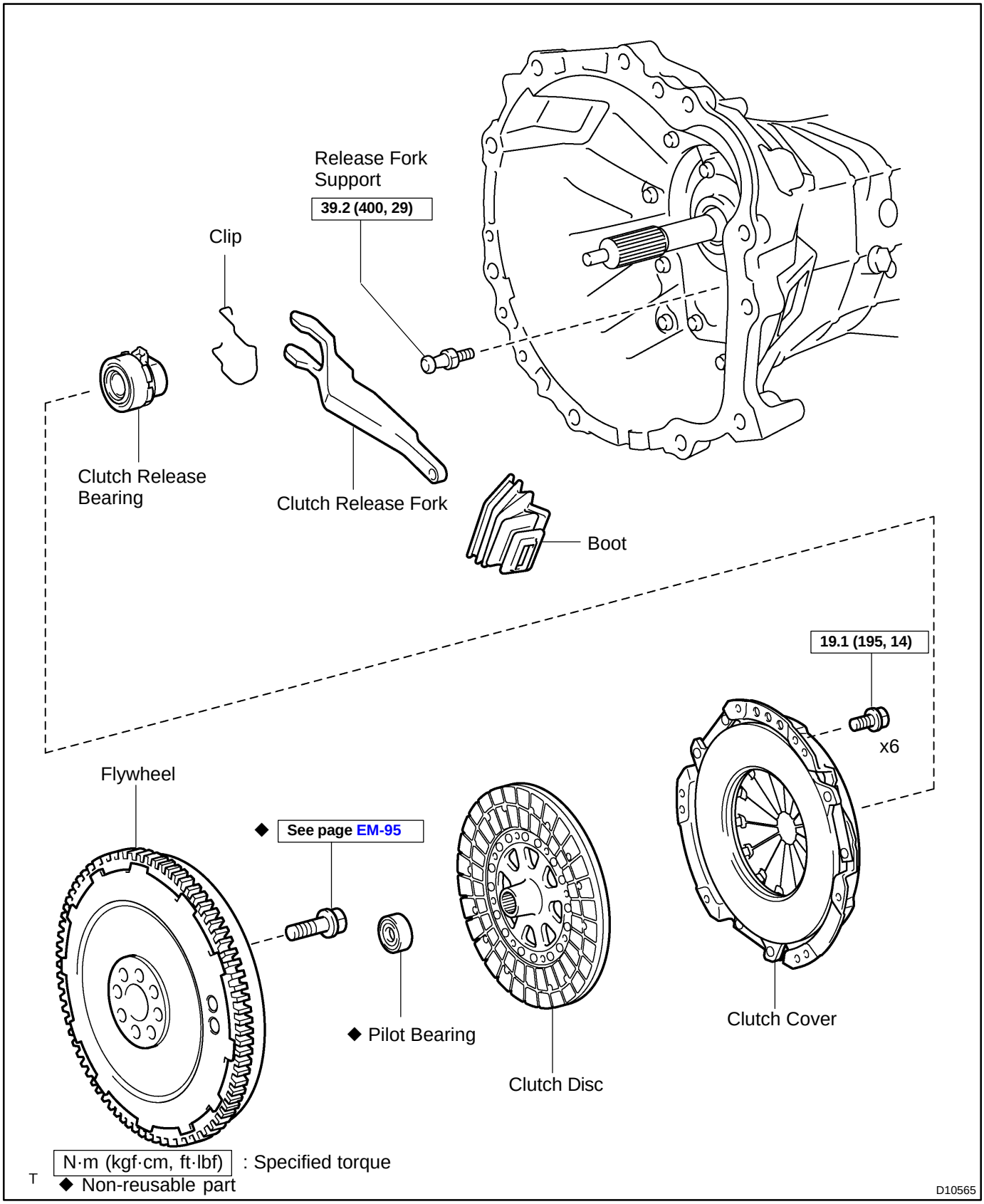
INSTALLATION

Installation is in the reverse order of removal (See page CL-10).

CLUTCH UNIT

COMPONENTS

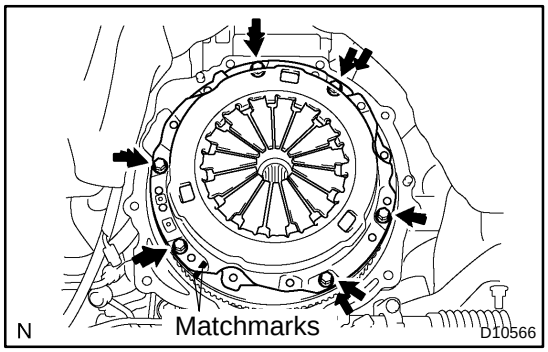
CL0DA-01



CL0DB-01

REMOVAL

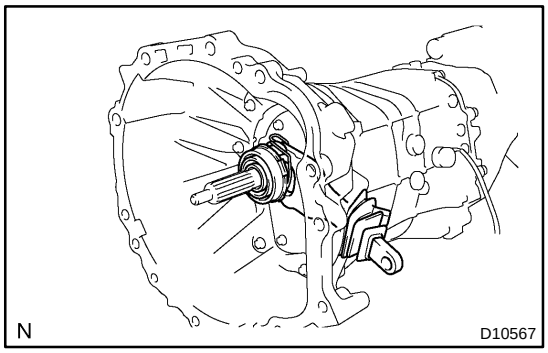
1. REMOVE TRANSMISSION FROM ENGINE
(See page MT-5)



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.

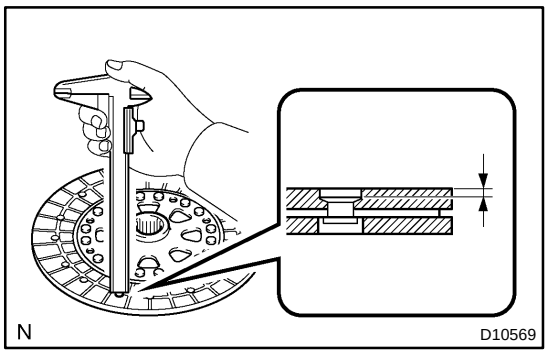


3. REMOVE BOOT, RELEASE BEARING AND FORK FROM TRANSMISSION

(a) Remove the boot from the transmission.
(b) Remove the release bearing together with the fork and then separate them.
(c) Remove the clip from the release bearing.

CL0DC-01

INSPECTION

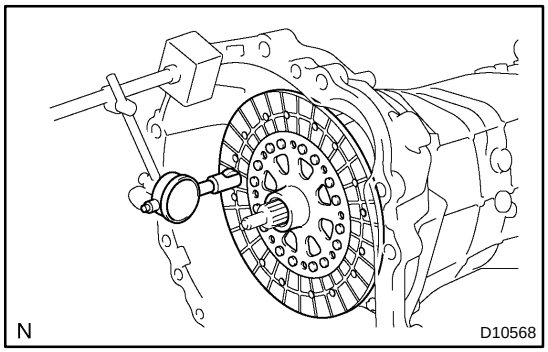


1. INSPECT CLUTCH DISC FOR WEAR OR DAMAGE

Using vernier calipers, measure the rivet head depth.

Minimum rivet depth: 0.3 mm (0.012 in.)

If it is not as specified, replace the clutch disc.

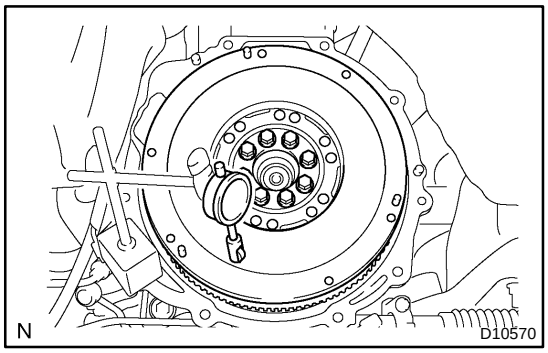


2. INSPECT CLUTCH DISC RUNOUT

Using a dial indicator with roller instrument, check the disc runout.

Maximum runout: 0.8 mm (0.031 in.)

If it is not as specified, replace the clutch disc.

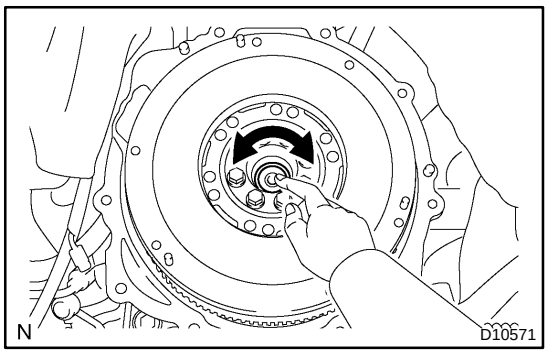


3. INSPECT FLYWHEEL RUNOUT

Using a dial indicator with roller instrument, check the flywheel runout.

Maximum runout: 0.1 mm (0.004 in.)

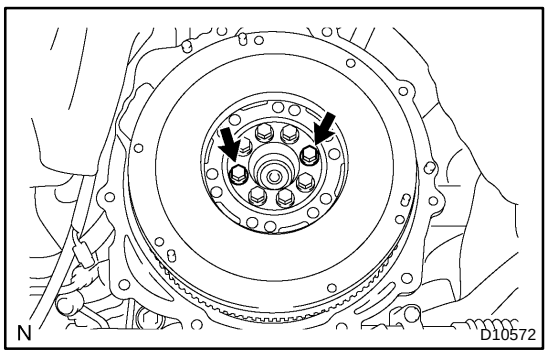
If it is not as specified, replace the flywheel.



4. INSPECT PILOT BEARING

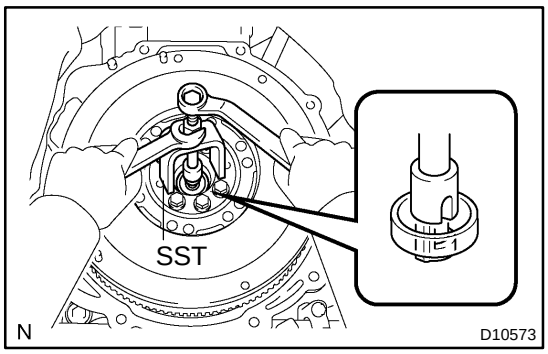
Turn the bearing by hand while applying force in the axial direction.

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

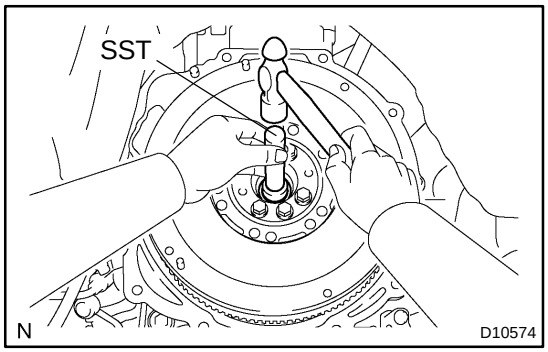


5. IF NECESSARY, REPLACE PILOT BEARING

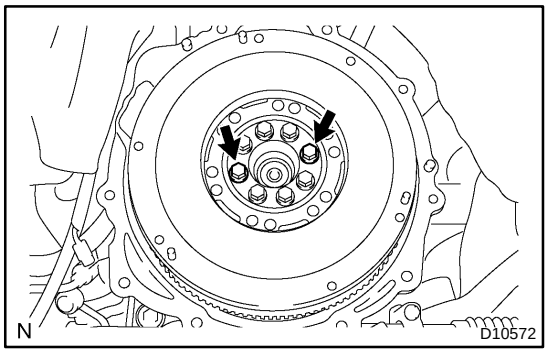
(a) Remove the 2 bolts at diametrically opposite points.



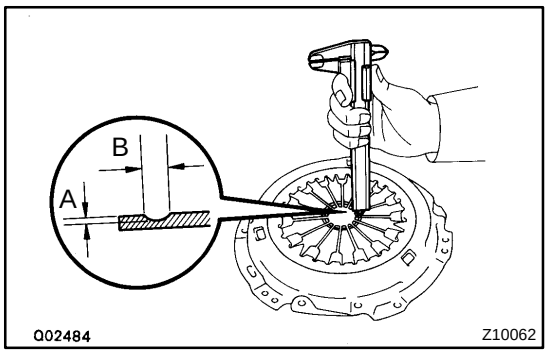
(b) Using SST, remove the pilot bearing.
SST 09303-3501 1



(c) Using SST and a hammer, drive in a new pilot bearing.
SST 09304-12012



(d) Install the 2 new bolts.
(e) First, torque the 2 bolts uniformly a little at a time.
Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)
(f) Then tighten the 2 bolts and additional 80 - 100˚.

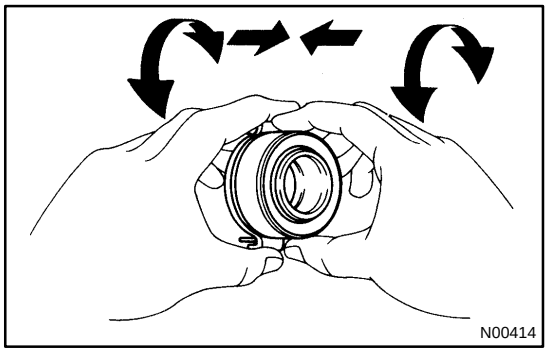


6. INSPECT DIAPHRAGM SPRING FOR WEAR

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 it is not as specified, 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.

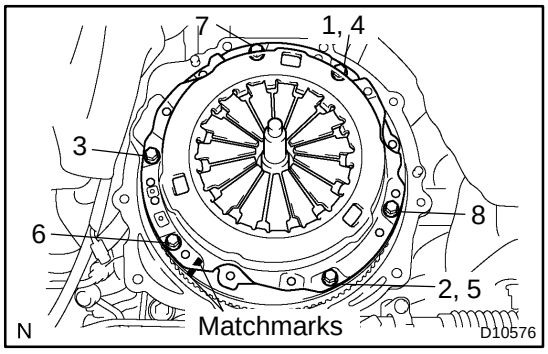
If necessary, replace the release bearing.

CL0DD-01

INSTALLATION

1. INSTALL CLUTCH DISC AND CLUTCH COVER ON FLYWHEEL

(a) Insert SST in the clutch disc, and then set them.
SST 09301-001 10



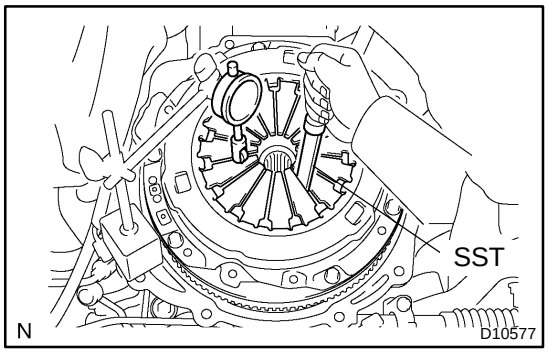
(b) Align the matchmarks on the clutch cover and flywheel.

(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: 19.1 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.



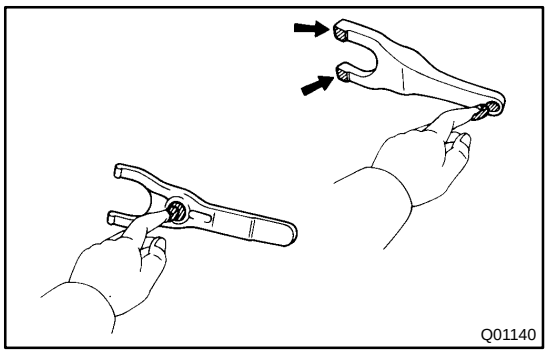
2. CHECK DIAPHRAGM SPRING TIP ALIGNMENT

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

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

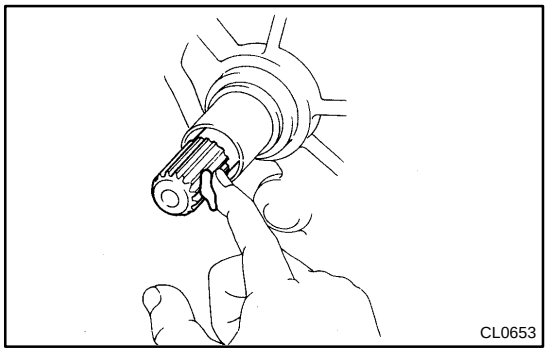
If the alignment is not as specified, with SST, adjust the diaphragm spring tip alignment.

SST 09333-00013



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

(a) Apply release hub grease to the release fork and release bearing contact, release fork and push rod contact and release fork pivot points.



(b) Apply clutch spline grease to the clutch disc spline.

HINT:

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

4. INSTALL BOOT, RELEASE BEARING AND FORK TO TRANSMISSION

(a) Install the clip to the release bearing.

(b) Install the release bearing to the release fork, and then install them to the transmission.

(c) Install the boot to the transmission.

5. INSTALL TRANSMISSION TO ENGINE
(See page MT-8)