

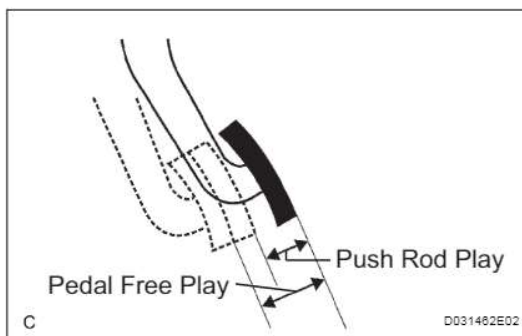
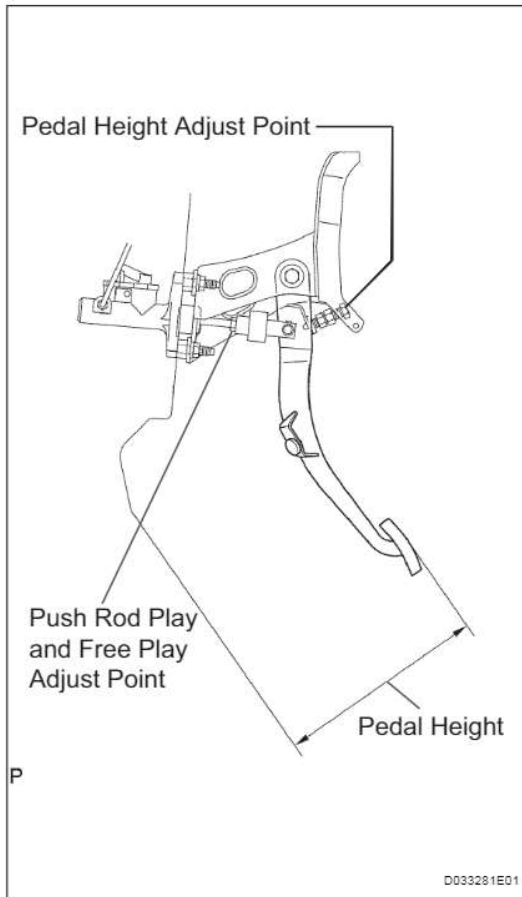
CLUTCH – CLUTCH PEDAL

CL-5

ADJUSTMENT

1. INSPECT AND ADJUST CLUTCH PEDAL SUB-ASSEMBLY

- (a) Turn over the floor carpet.
- (b) Check that the pedal height is correct.
Standard pedal height from dash panel:
134.3 to 144.3 mm (5.287 to 5.681 in.)
- (c) Adjust the pedal height.
 - (1) Loosen the lock nut and turn the stopper bolt until the correct height is obtained.
 - (2) Tighten the lock nut.
Torque: 18 N*m (186 kgf*cm, 13 ft.*lbf)



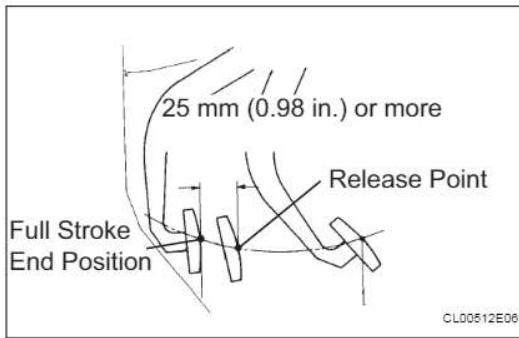
2. INSPECT AND ADJUST PEDAL FREE PLAY AND PUSH ROD PLAY

- (a) Check that the pedal free play and push rod play are correct.
 - (1) Depress the pedal until clutch resistance begins to be felt.
Standard pedal free play:
5.0 to 15.0 mm (0.197 to 0.591 in.)
 - (2) Gently depress the pedal until the resistance begins to increase a little.
Standard push rod play at pedal top:
1.0 to 5.0 mm (0.039 to 0.197 in.)
- (b) Adjust the pedal free play and push rod play.
 - (1) Loosen the lock nut and turn the push rod until correct free play and push rod play are obtained.
 - (2) Tighten the lock nut.
Torque: 12 N*m (120 kgf*cm, 9 ft.*lbf)
 - (3) After adjusting the pedal free play, check the pedal height.

CL

CL-6

CLUTCH – CLUTCH PEDAL

**3. INSPECT AND ADJUST CLUTCH RELEASE POINT**

- (a) Check the clutch release point.
 - (1) Pull the parking brake lever and install wheel chocks.
 - (2) Start the engine and run it at idle.
 - (3) Without depressing the clutch pedal, slowly move the shift lever into reverse until the gears contact.
 - (4) Gradually depress the clutch pedal and measure the stroke distance from the point that 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 operations.

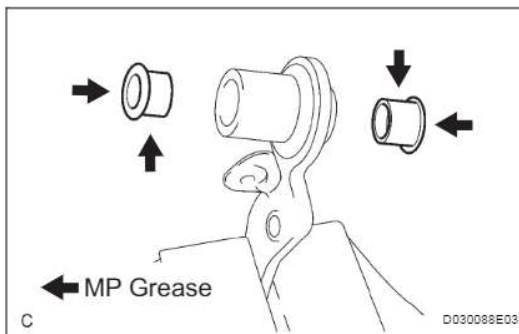
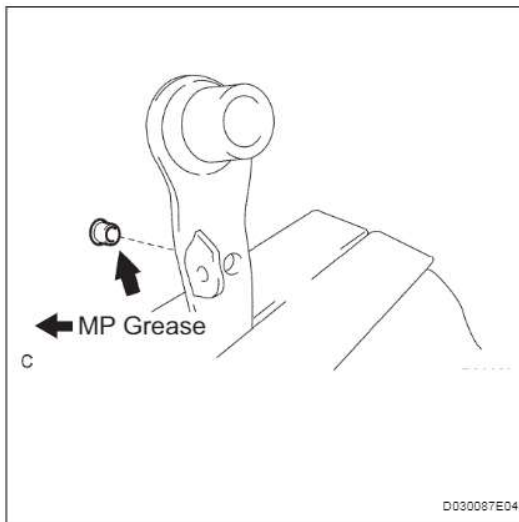
- Check pedal height.
- Check push rod play and pedal free play.
- Bleed air from clutch line.
- Check clutch cover and disc.

REASSEMBLY**1. INSTALL CLUTCH MASTER CYLINDER PUSH ROD CLEVIS BUSH**

- (a) Apply MP grease to the inside of a new bush.
- (b) Install the bush on the clutch pedal.

HINT:

Install the bush from the left side of the vehicle.

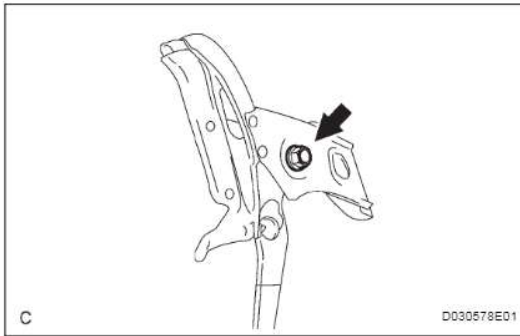
**2. INSTALL CLUTCH PEDAL BUSH**

- (a) Apply MP grease to both sides of 2 new bushes.
- (b) Install the 2 bushes to the clutch pedal.

3. INSTALL CLUTCH PEDAL PAD

CLUTCH – CLUTCH PEDAL

CL-7

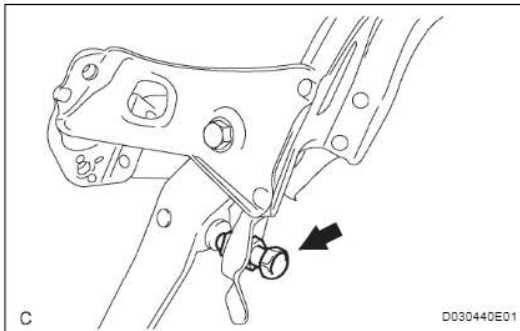
**4. INSTALL CLUTCH PEDAL SUB-ASSEMBLY**

- (a) Install the pedal on the clutch pedal support with the bolt and nut.

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

HINT:

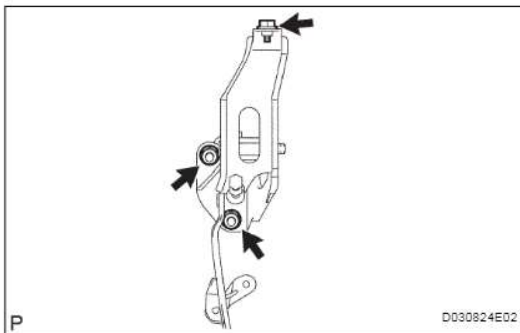
Install the bolt from the left side of the vehicle.

**5. INSTALL CLUTCH PEDAL STOPPER BOLT**

- (a) Install the lock nut on the bolt but do not torque it.
 (b) Install the bolt so that its end touches the clutch pedal cushion.

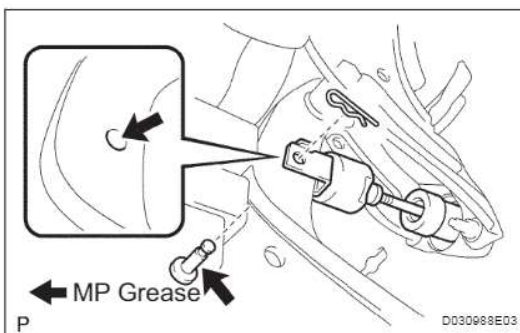
HINT:

Temporarily tighten the lock nut.

**INSTALLATION****1. INSTALL CLUTCH PEDAL SUPPORT SUB-ASSEMBLY**

- (a) Install the support on the vehicle with the 2 nuts and bolt.

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

**2. CONNECT CLUTCH MASTER CYLINDER PUSH ROD CLEVIS**

- (a) Apply MP grease to the contact surface of the pin and clevis bush.
 (b) Connect the clevis to the clutch pedal with the pin and clip.

HINT:

Install the pin from the left side of the vehicle.

3. INSTALL CLUTCH PEDAL SPRING**4. INSPECT AND ADJUST CLUTCH PEDAL SUB-ASSEMBLY**

- (a) Inspect and adjust the clutch pedal (see page [CL-4](#)).

CL

CL-12

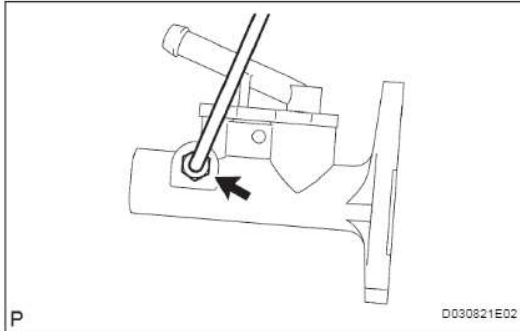
CLUTCH – CLUTCH MASTER CYLINDER

INSTALLATION

1. INSTALL CLUTCH MASTER CYLINDER ASSEMBLY

- (a) Install the clutch master cylinder with the 2 nuts.

Torque: 9.0 N*m (80 kgf*cm, 81 in.*lbf)

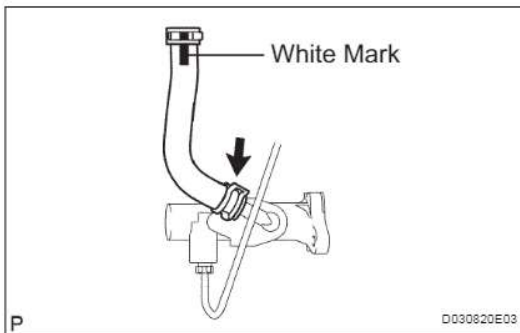


2. CONNECT CLUTCH MASTER CYLINDER TO FLEXIBLE HOSE TUBE

- (a) Using SST, connect the flexible hose tube.

SST 09023-00101

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



3. CONNECT CLUTCH RESERVOIR TUBE

- (a) Connect the clutch reservoir tube to the clutch master cylinder with the clip.

NOTICE:

- Connect the clutch reservoir tube so that it will not be twisted.
- Face the white mark upward.

4. CONNECT CLUTCH MASTER CYLINDER PUSH ROD CLEVIS

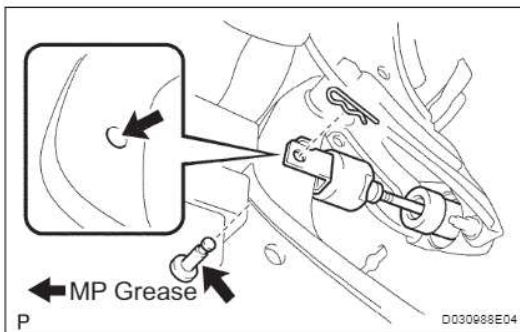
- (a) Apply MP grease to the contact surface of the pin and clevis bush.

- (b) Connect the clevis to the clutch pedal with the pin and clip.

HINT:

Install the pin from the left side of the vehicle.

- (c) Install the clip to the pin.



5. INSTALL CLUTCH PEDAL SPRING

6. INSTALL BRAKE BOOSTER ASSEMBLY

- (a) Install the brake booster (see page BR-19).

7. INSTALL BRAKE ACTUATOR ASSEMBLY

- (a) Install the brake actuator (see page BC-164).

8. INSTALL BRAKE MASTER CYLINDER SUB-ASSEMBLY

- (a) Install the brake master cylinder (see page BR-14).

9. BLEED CLUTCH PIPE LINE

- (a) Fill the brake reservoir with brake fluid and bleed the clutch system.

Torque: 8.4 N*m (86 kgf*cm, 74 in.*lbf)

10. CHECK BRAKE FLUID

HINT:

- Check for leakage in the brake system.
- Check for leakage in the clutch system.

CL

CLUTCH – CLUTCH MASTER CYLINDER**CL-13****11. CHECK FLUID LEVEL IN RESERVOIR****12. INSPECT AND ADJUST CLUTCH PEDAL SUB-ASSEMBLY**

(a) Inspect and adjust the clutch pedal (see page [CL-4](#)).

CL

DISASSEMBLY

1. REMOVE CLUTCH RELEASE UNION

- (a) Remove the union bolt, union and 2 gaskets.

2. REMOVE CLUTCH RELEASE CYLINDER KIT

- (a) Remove the boot from the cylinder body.
- (b) Remove the push rod from the cylinder body.
- (c) Remove the piston from the cylinder body.

NOTICE:

Be careful not to damage the inside of the cylinder body.

- (d) Remove the spring from the cylinder body.
- (e) Remove the bleeder plug cap from the bleeder plug.

3. REMOVE RELEASE CYLINDER BLEEDER PLUG

CL-16

CLUTCH – CLUTCH RELEASE CYLINDER

REASSEMBLY

1. INSTALL RELEASE CYLINDER BLEEDER PLUG

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

2. INSTALL CLUTCH RELEASE CYLINDER KIT

(a) Install the bleeder plug cap on the bleeder plug.

(b) Install a new spring on the cylinder body.

(c) Coat the parts with lithium soap base glycol grease to the areas shown in the illustration.

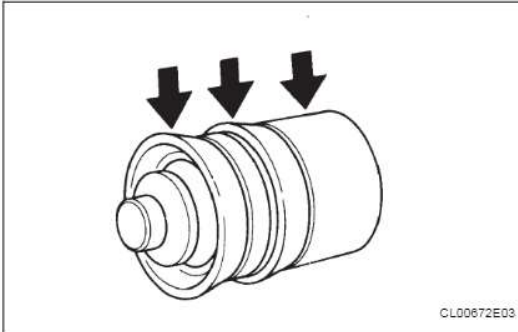
(d) Install the piston on the cylinder body.

NOTICE:

Be careful not to damage the inside of the cylinder body.

(e) Install the push rod on the cylinder body.

(f) Install the boot on the cylinder body.



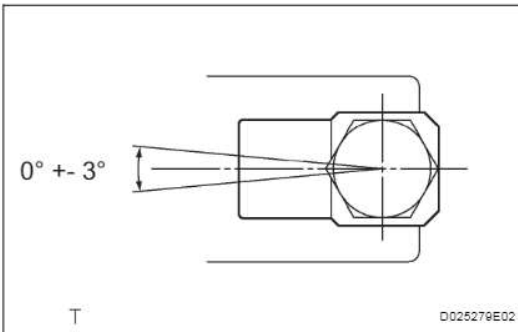
3. INSTALL CLUTCH RELEASE UNION

(a) Install the clutch release union with the union bolt and 2 new gaskets.

Torque: 25 N*m (250 kgf*cm, 18 ft.*lbf)

NOTICE:

Installation angle of the clutch release union should be 0° +- 3° against the body.

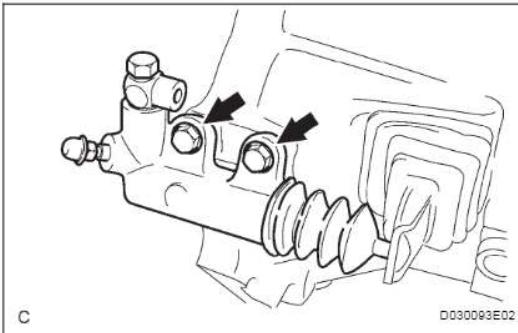


INSTALLATION

1. INSTALL CLUTCH RELEASE CYLINDER ASSEMBLY

(a) Install the clutch release cylinder with the 2 bolts.

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



2. CONNECT CLUTCH RELEASE CYLINDER TO FLEXIBLE HOSE TUBE

(a) Using SST, connect the flexible hose tube.

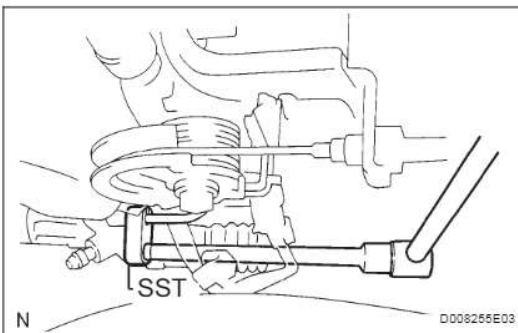
SST 09023-00101

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

3. BLEED CLUTCH PIPE LINE

(a) Fill the brake reservoir with brake fluid and bleed the clutch system.

Torque: 8.4 N*m (86 kgf*cm, 74 in.*lbf)



4. CHECK BRAKE FLUID LEAKAGE

CL

CLUTCH – CLUTCH SYSTEM

CL-1

CLUTCH SYSTEM

PROBLEM SYMPTOMS TABLE

HINT:

Use the table below to help find the cause of the problem. The numbers indicate the likelihood of the possible cause of the problem. Check each part in the order shown. Replace parts as necessary.

Clutch system

Symptom	Suspected area	See page
Clutch grabs/chatters	1. Engine mounting (Loosen)	-
	2. Clutch disc assembly (Excessive runout)	CL-17
	3. Clutch disc assembly (Oily)	CL-17
	4. Clutch disc assembly (Worn out)	CL-17
	5. Clutch disc torsion rubber (Damaged)	CL-17
	6. Clutch disc assembly (Glazed)	CL-17
	7. Diaphragm spring (Out of tip alignment)	CL-17
Clutch Pedal spongy	1. Clutch Line (Air in line)	-
	2. Master cylinder cup (Damaged)	CL-9
	3. Release cylinder rubber (Damaged)	CL-14
Clutch noisy	1. Clutch release bearing assembly (Worn, dirty, or damaged)	CL-17
	2. Clutch disc torsion rubber (Damaged)	CL-17
Clutch slips	1. Clutch pedal (Free play out of adjustment)	CL-4
	2. Clutch disc assembly (Oily)	CL-17
	3. Clutch disc assembly (Worn out)	CL-17
	4. Diaphragm spring (Damaged)	CL-17
	5. Pressure plate (Distortion)	CL-17
	6. Flywheel sub-assembly (Distortion)	CL-17
Clutch does not disengage	1. Clutch pedal (Free play out of adjustment)	CL-4
	2. Clutch line (Air in line)	-
	3. Master cylinder cup (Damaged)	CL-9
	4. Release cylinder cup (Damaged)	CL-14
	5. Clutch disc assembly (Out of true)	CL-17
	6. Clutch disc assembly (Excessive runout)	CL-17
	7. Clutch disc assembly (Lining broken)	CL-17
	8. Clutch disc assembly (Dirty or burned)	CL-17
	9. Clutch disc assembly (Oily)	CL-17
	10. Clutch disc assembly (Lack of spline grease)	CL-17

CL

CLUTCH – CLUTCH UNIT

CL-19

INSTALLATION

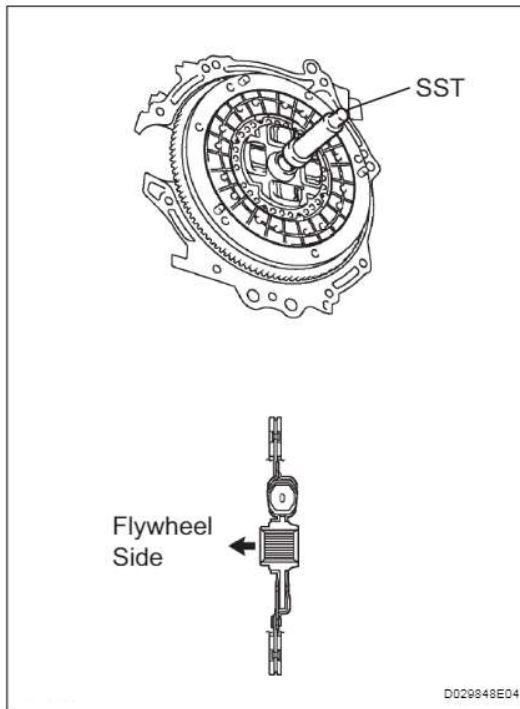
1. INSTALL CLUTCH DISC ASSEMBLY

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

SST 09301-00210

NOTICE:

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



2. INSTALL CLUTCH COVER ASSEMBLY

- (a) Align the matchmark on the cover with that on the flywheel.
- (b) Following the procedures shown in the illustration, tighten the 6 bolts in order, and start with the bolt located 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 one at a time evenly.
- Move SST up and down, right and left lightly after checking that the disc is in the center to tighten the bolts.

SST 09301-00210

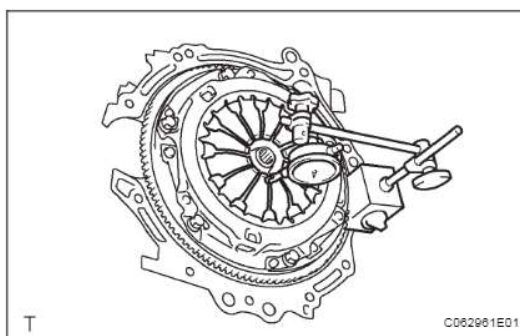
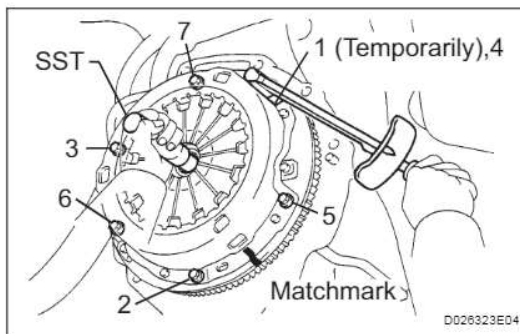
3. INSPECT AND ADJUST CLUTCH COVER ASSEMBLY

- (a) Using a dial indicator with the roller instrument, measure the diaphragm spring tip alignment.

Maximum misalignment:

0.5 mm (0.020 in.)

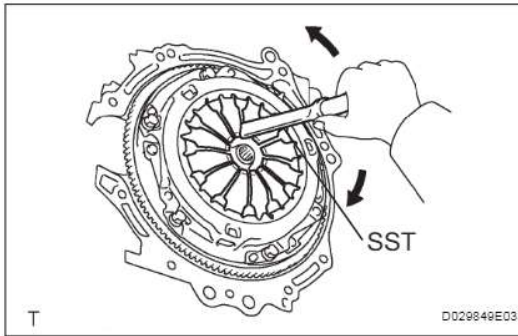
If the alignment is not greater than the maximum, use SST to adjust the diaphragm spring tip alignment.



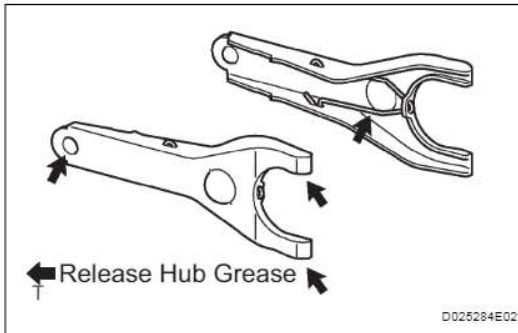
CL

CL-20

CLUTCH – CLUTCH UNIT

**SST 09333-00013****4. INSTALL RELEASE FORK SUPPORT**

- (a) Install the release fork support on the transaxle.
Torque: 37 N*m (375 kgf*cm, 27 ft.*lbf)

5. INSTALL CLUTCH RELEASE FORK BOOT**6. INSTALL RELEASE BEARING HUB CLIP****7. INSTALL CLUTCH RELEASE FORK SUB-ASSEMBLY**

- (a) Apply release hub grease to the contact surfaces of the release fork and release bearing, fork and push rod, and fork and fork support.

Release hub grease:

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

- (b) Install the fork to the release bearing.

8. INSTALL CLUTCH RELEASE BEARING ASSEMBLY

- (a) Apply clutch spline grease to the input shaft spline.

Clutch spline grease:

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

- (b) Install the bearing with release fork to the transaxle.

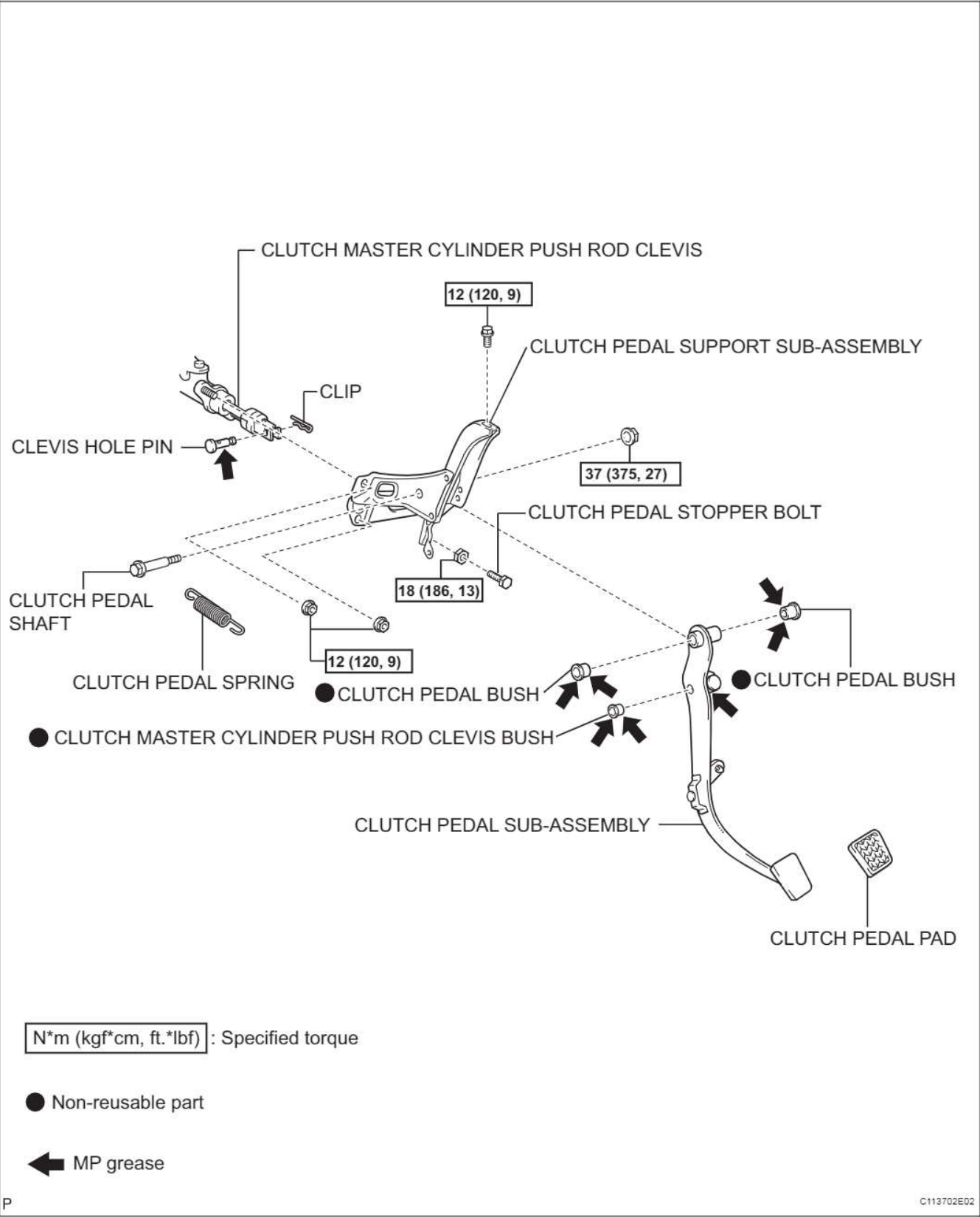
NOTICE:

After the installation, move the fork forward and backward to check that the release bearing slides smoothly.

9. INSTALL MANUAL TRANSAXLE ASSEMBLY

CLUTCH PEDAL

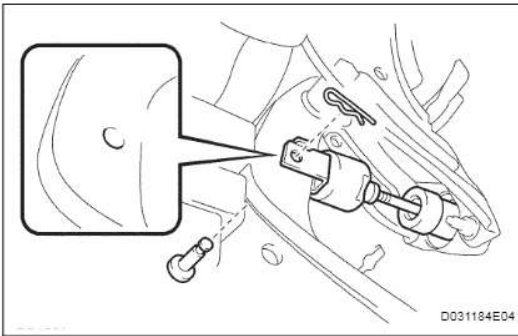
COMPONENTS



CLUTCH – CLUTCH PEDAL**CL-3****REMOVAL**

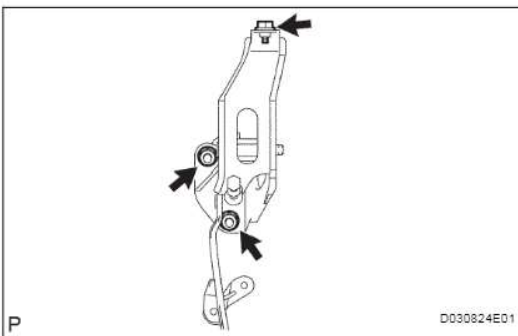
1. **REMOVE CLUTCH PEDAL SPRING**
2. **DISCONNECT CLUTCH MASTER CYLINDER PUSH ROD CLEVIS**

(a) Remove the clip and hole pin and disconnect the push rod clevis from the clutch pedal.



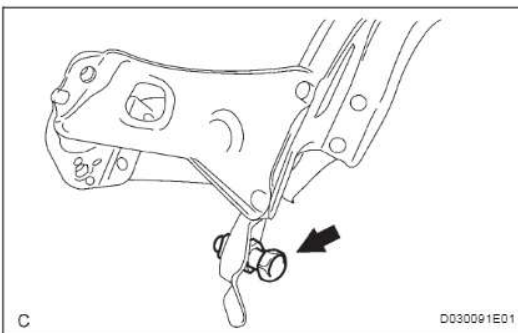
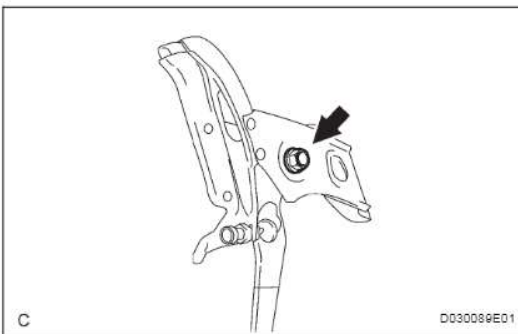
3. **REMOVE CLUTCH PEDAL SUPPORT SUB-ASSEMBLY**

(a) Remove the 2 nuts, bolt and support.

**DISASSEMBLY**

1. **REMOVE CLUTCH PEDAL SUB-ASSEMBLY**

(a) Remove the bolt and nut.
 (b) Remove the pedal from the clutch pedal support.

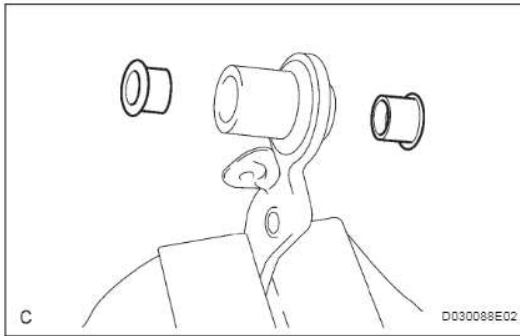


2. **REMOVE CLUTCH PEDAL STOPPER BOLT**

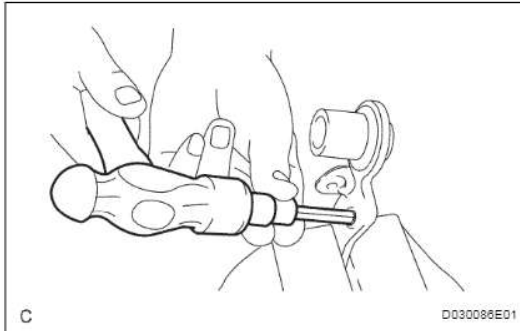
(a) Loosen the lock nut and remove the bolt.
 (b) Remove the lock nut from the bolt.

3. **REMOVE CLUTCH PEDAL PAD**

CL

CL-4**CLUTCH – CLUTCH PEDAL****4. REMOVE CLUTCH PEDAL BUSH**

- (a) Remove the 2 bushes from the clutch pedal.

**5. REMOVE CLUTCH MASTER CYLINDER PUSH ROD CLEVIS BUSH**

- (a) Using an 8 mm hexagon wrench and hammer, tap out the clevis bush from the clutch pedal.

INSTALLATION

1. INSTALL CLUTCH START SWITCH ASSEMBLY

- (a) Install the clutch start switch to the bracket with the nut.

Torque: 6.2 N*m (63 kgf*cm, 55 in.*lbf)

- (b) Install the clutch start switch with the 2 nuts.

Torque: 6.2 N*m (63 kgf*cm, 55 in.*lbf)

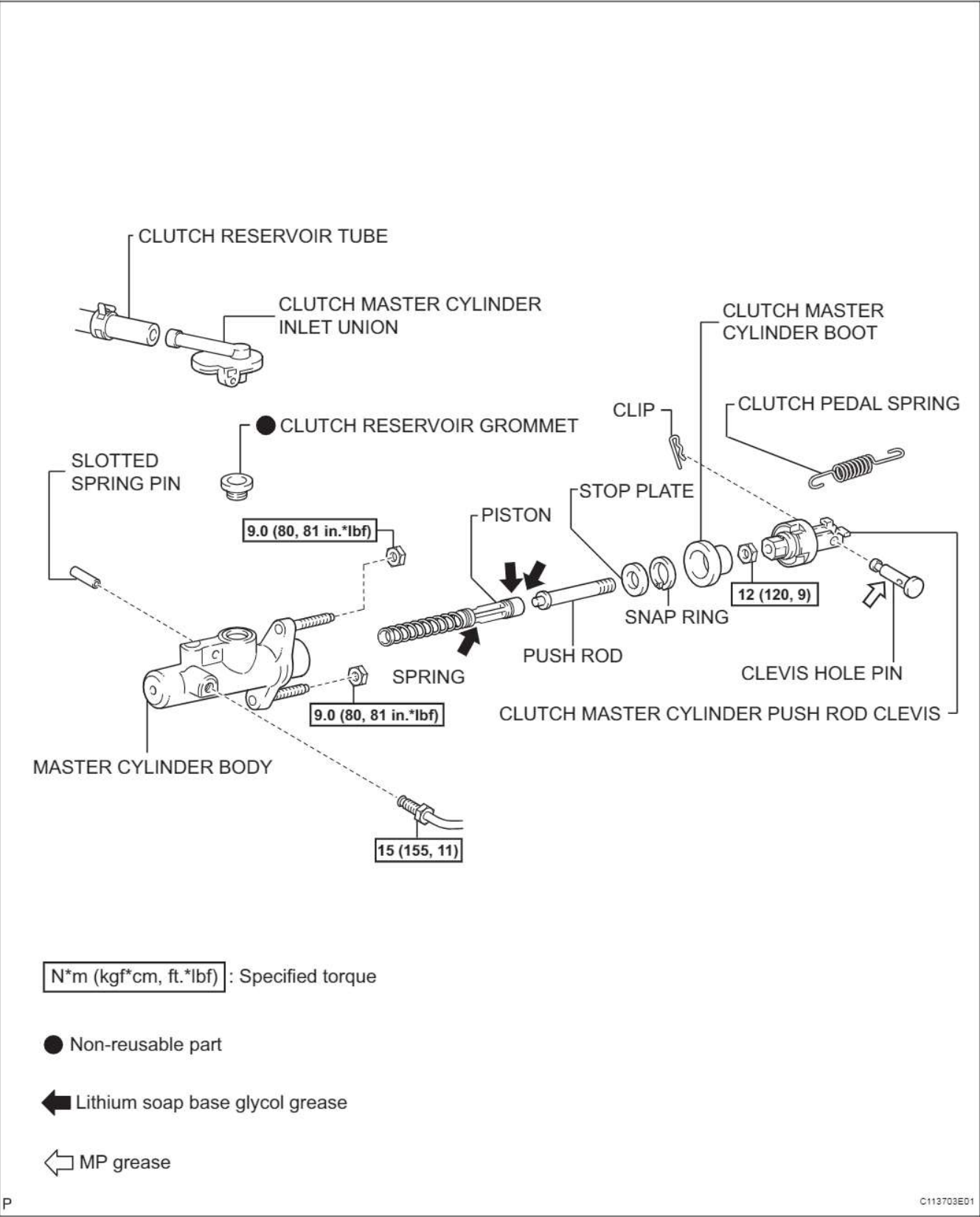
- (c) Connect the clutch start switch connector.

2. INSPECT CLUTCH START SWITCH ASSEMBLY

- (a) Inspect the clutch start switch (see page [CL-22](#)).

CLUTCH MASTER CYLINDER

COMPONENTS



CLUTCH – CLUTCH MASTER CYLINDER**CL-9****REMOVAL****1. REMOVE BRAKE MASTER CYLINDER SUB-ASSEMBLY**

- (a) Remove the brake master cylinder (see page [BR-18](#)).

2. REMOVE BRAKE ACTUATOR ASSEMBLY

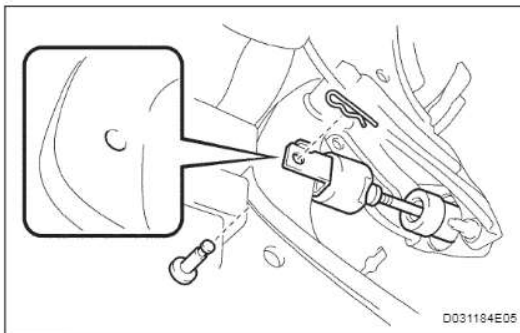
- (a) Remove the brake actuator (see page [BC-163](#)).

3. REMOVE BRAKE BOOSTER ASSEMBLY

- (a) Remove the brake booster (see page [BR-18](#)).

4. REMOVE CLUTCH PEDAL SPRING**5. DISCONNECT CLUTCH MASTER CYLINDER PUSH ROD CLEVIS**

- (a) Remove the clip and pin and disconnect the push rod clevis from the clutch pedal.

**6. DRAIN BRAKE FLUID****NOTICE:**

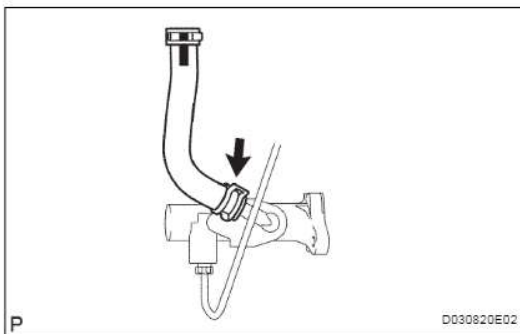
Wash brake fluid off immediately if it adheres to any painted surface.

7. DISCONNECT CLUTCH RESERVOIR TUBE

- (a) Loosen the clip and disconnect the tube from the clutch master cylinder.

HINT:

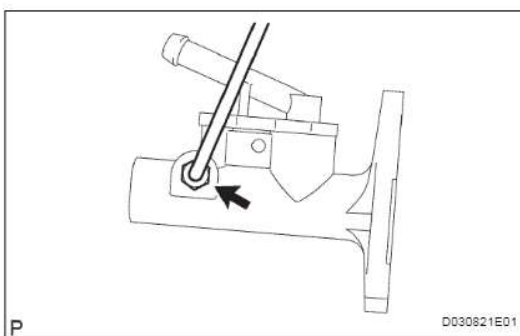
Use a container to catch the fluid.

**8. DISCONNECT CLUTCH MASTER CYLINDER TO FLEXIBLE HOSE TUBE**

- (a) Using SST, disconnect the flexible hose tube.

SST 09023-00101**HINT:**

Use a container to catch the fluid.

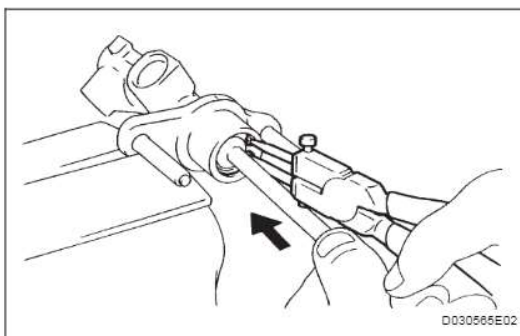
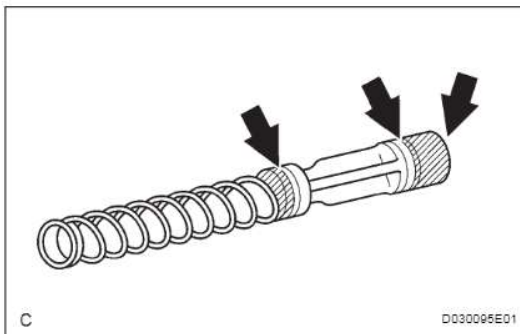
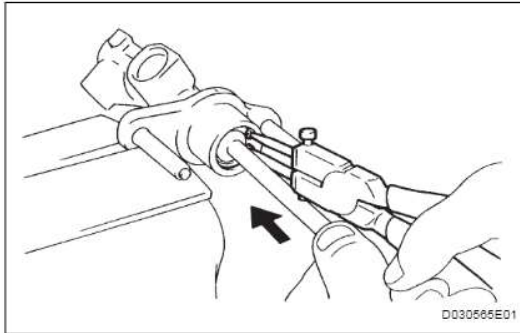
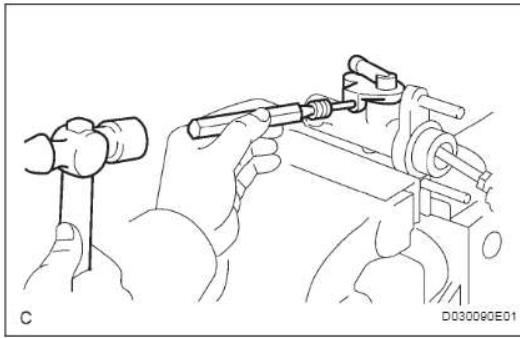
**9. REMOVE CLUTCH MASTER CYLINDER ASSEMBLY**

- (a) Remove the 2 nuts and clutch master cylinder.

CL

CL-10

CLUTCH – CLUTCH MASTER CYLINDER



DISASSEMBLY

1. REMOVE CLUTCH MASTER CYLINDER KIT

- Using a pin punch and hammer, tap out the slotted spring pin.
- Remove the inlet union and grommet.
- Loosen the lock nut, and remove the push rod clevis.
- Remove the lock nut from the push rod.
- Remove the boot from the cylinder body.

- While pushing the push rod, remove the snap ring with snap ring pliers.

- Remove the push rod from the cylinder body.

NOTICE:

The piston may pop up out of the cylinder body. Therefore, slowly remove the push rod from the cylinder body.

- Remove the stop plate from the push rod.

- Remove the piston with spring from the cylinder body.

NOTICE:

Be careful not to damage the inside of the cylinder body.

REASSEMBLY

1. INSTALL CLUTCH MASTER CYLINDER KIT

- Coat the parts shown in the illustration with lithium soap base glycol grease.

- Install the piston with spring into the cylinder body.

NOTICE:

Be careful not to damage the inside of the cylinder body.

- Install the stop plate to the push rod.

- Install the push rod to the cylinder body.

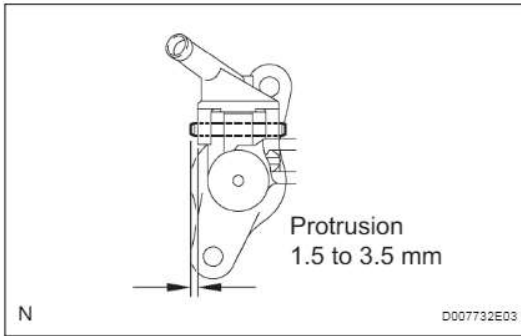
- While pushing the push rod, install the snap ring with snap ring pliers.

- Install the boot on the cylinder body.

- Install the lock nut on the push rod.

- Temporarily install the push rod clevis with the lock nut on the push rod.

- Install the inlet union and a new grommet.

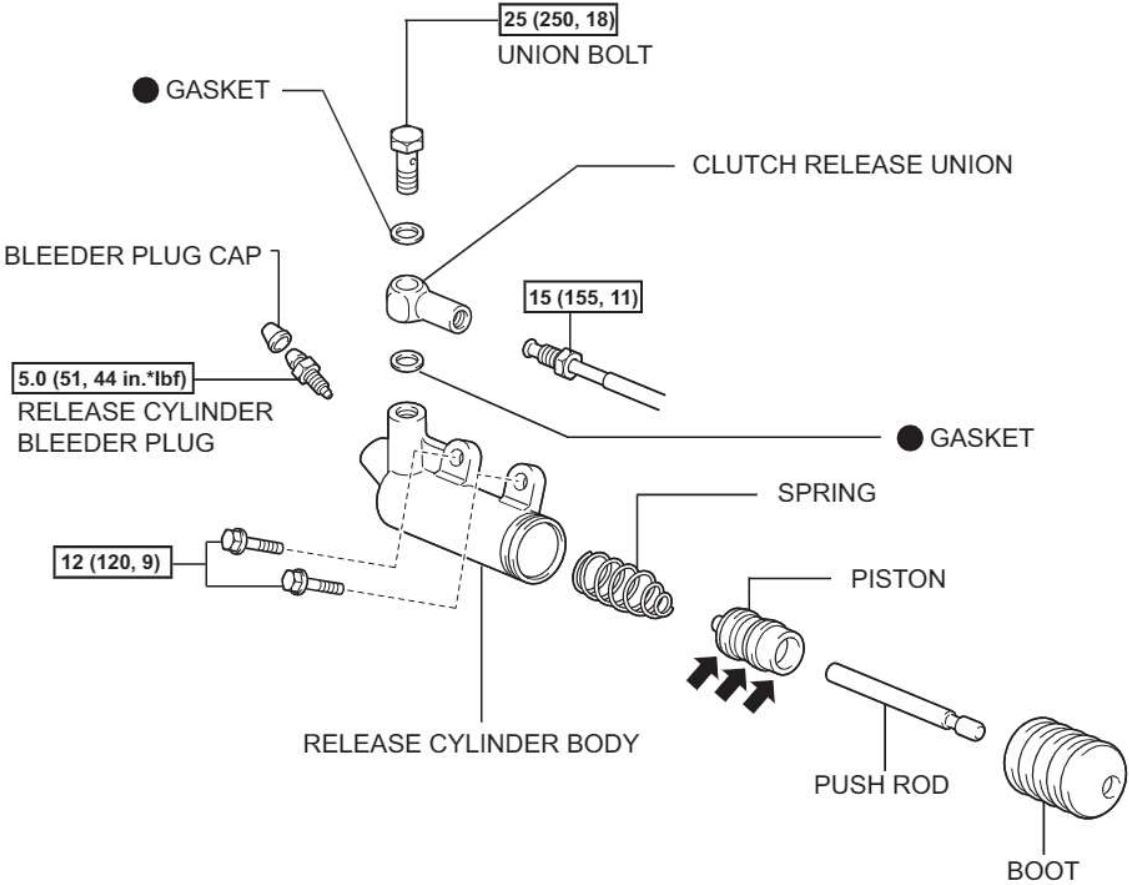
CLUTCH – CLUTCH MASTER CYLINDER**CL-11**

- (j) Using a pin punch and hammer, tap in the slotted spring pin.
Standard protrusion:
1.5 to 3.5 mm (0.059 to 0.138 in.)

CL

CLUTCH RELEASE CYLINDER

COMPONENTS

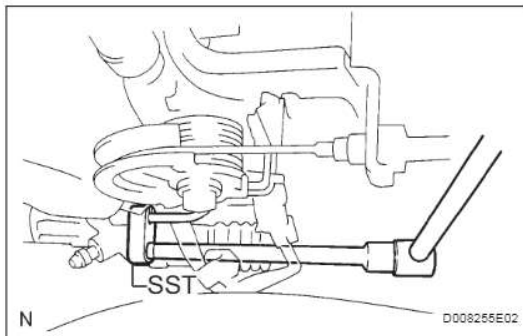


N*m (kgf*cm, ft.*lbf) : Specified torque

● Non-reusable part

← Lithium soap base glycol grease

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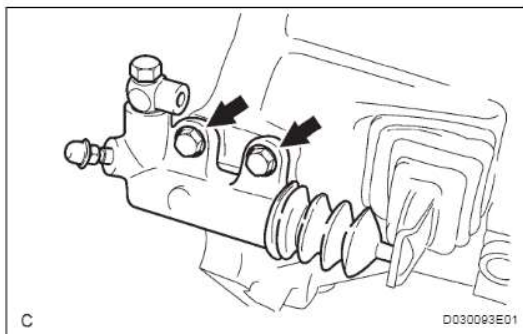
CL-14**CLUTCH – CLUTCH RELEASE CYLINDER****REMOVAL****1. DISCONNECT CLUTCH RELEASE CYLINDER TO FLEXIBLE HOSE TUBE**

- (a) Using SST, disconnect the tube.

SST 09023-00101

HINT:

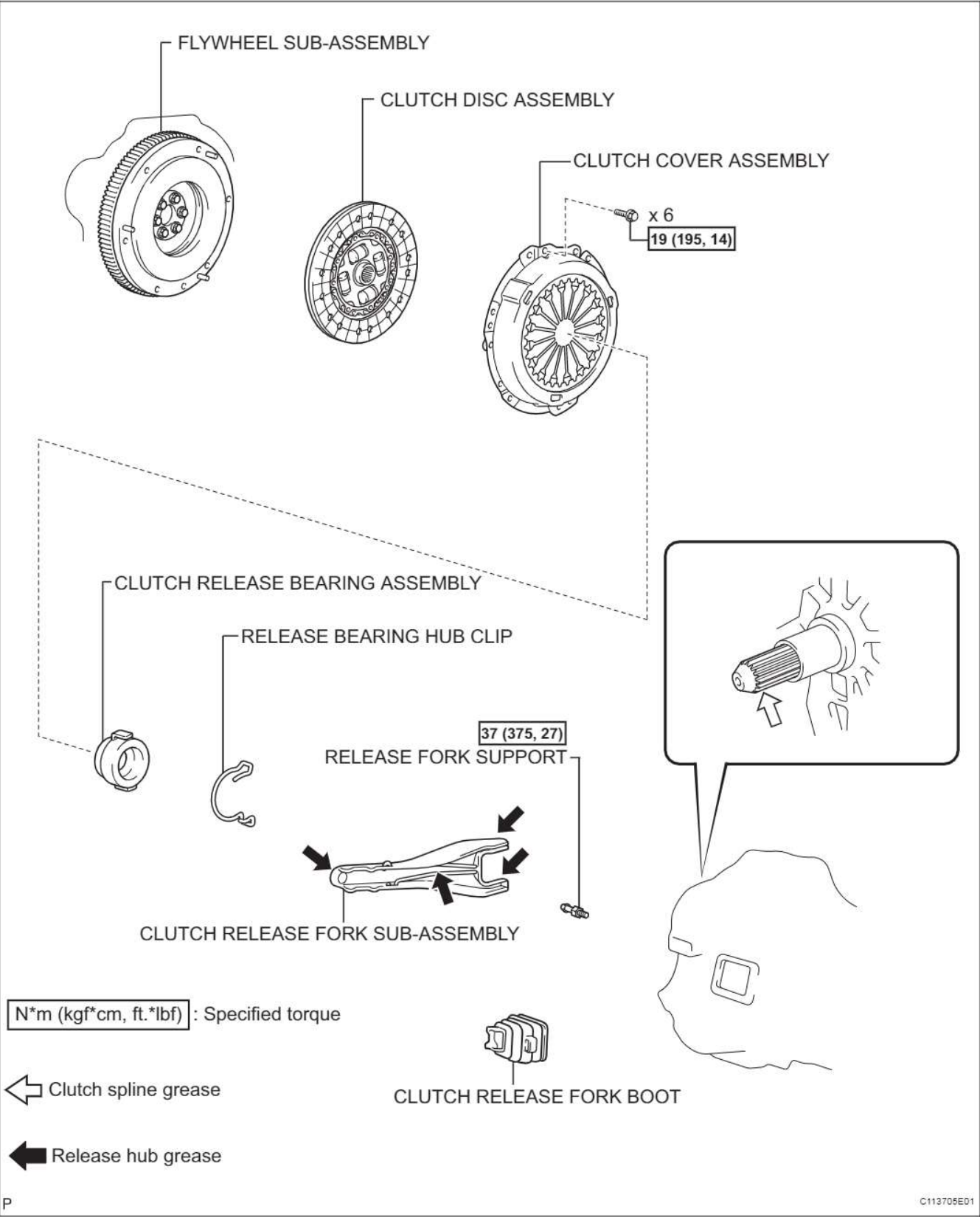
Use a container to catch the fluid.

**2. REMOVE CLUTCH RELEASE CYLINDER ASSEMBLY**

- (a) Remove the 2 bolts and clutch release cylinder.

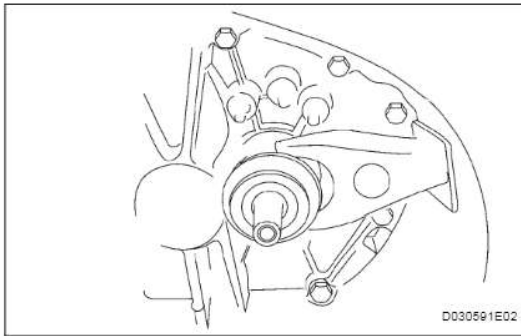
CLUTCH UNIT

COMPONENTS



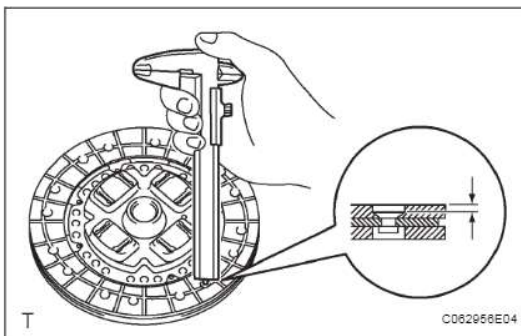
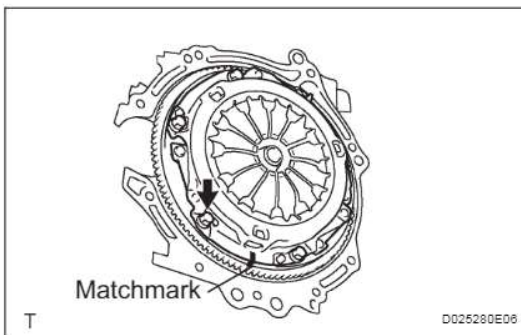
CLUTCH – CLUTCH UNIT

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REMOVAL

1. **REMOVE MANUAL TRANSAXLE ASSEMBLY**
2. **REMOVE CLUTCH RELEASE FORK SUB-ASSEMBLY**
 - (a) Remove the fork with the clutch release bearing from the transaxle.
3. **REMOVE CLUTCH RELEASE FORK BOOT**
4. **REMOVE CLUTCH RELEASE BEARING ASSEMBLY**
 - (a) Remove the bearing from the clutch release fork.
5. **REMOVE RELEASE BEARING HUB CLIP**
6. **REMOVE RELEASE FORK SUPPORT**
 - (a) Remove the support and release fork from the transaxle.
7. **REMOVE CLUTCH COVER ASSEMBLY**
 - (a) Place the matchmark on the cover and flywheel.
 - (b) Loosen each set bolt one turn at a time until spring tension is released.
 - (c) Remove the 6 set bolts and pull off the cover.

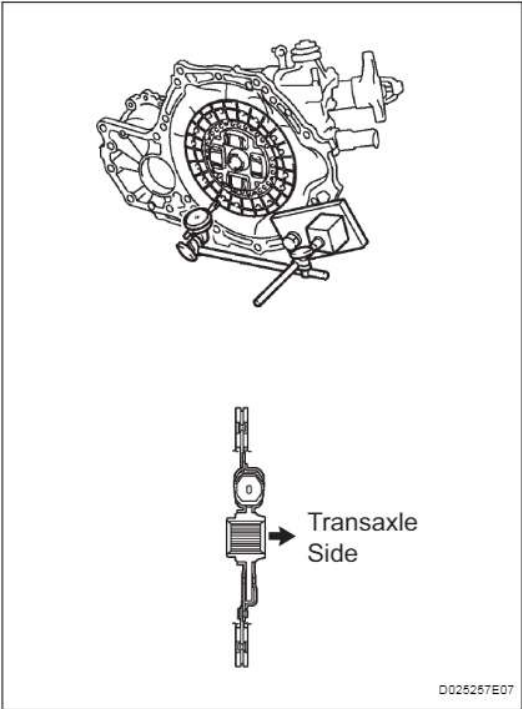
NOTICE:
Do not drop the clutch disc assembly.
8. **REMOVE CLUTCH DISC ASSEMBLY**

**INSPECTION**

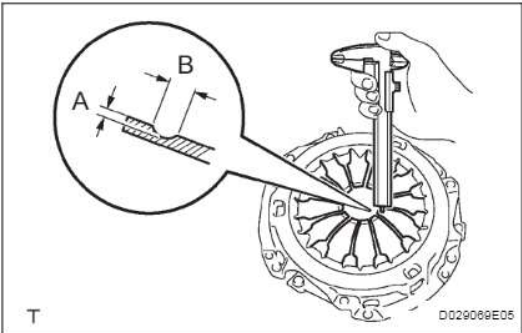
1. **INSPECT CLUTCH DISC ASSEMBLY**
 - (a) Using a vernier caliper, measure the rivet head depth.
Minimum rivet depth:
0.3 mm (0.012 in.)
 If the depth is less than the minimum, replace the clutch disc assembly.
 - (b) Install the disc on the transaxle.

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

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- (c) Using a dial gauge, measure the disc runout.
Maximum runout:
0.8 mm (0.031 in.)
If the runout is greater than the maximum, replace the clutch disc assembly.

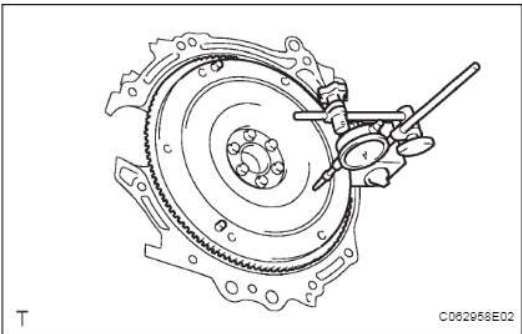


2. INSPECT CLUTCH COVER ASSEMBLY

- (a) Using a vernier caliper, measure the diaphragm spring for depth and width of wear.
Maximum wear

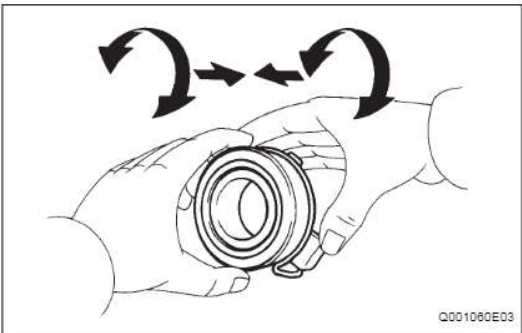
Measurement	Maximum wear
A (Depth)	0.5 mm (0.020 in.)
B (Width)	6.0 mm (0.236 in.)

If the wear is greater than the maximum, replace the clutch cover assembly.



3. INSPECT FLYWHEEL SUB-ASSEMBLY

- (a) Using a dial gauge, measure the flywheel runout.
Maximum runout:
0.1 mm (0.004 in.)
If the runout is greater than the maximum, replace the flywheel sub-assembly.

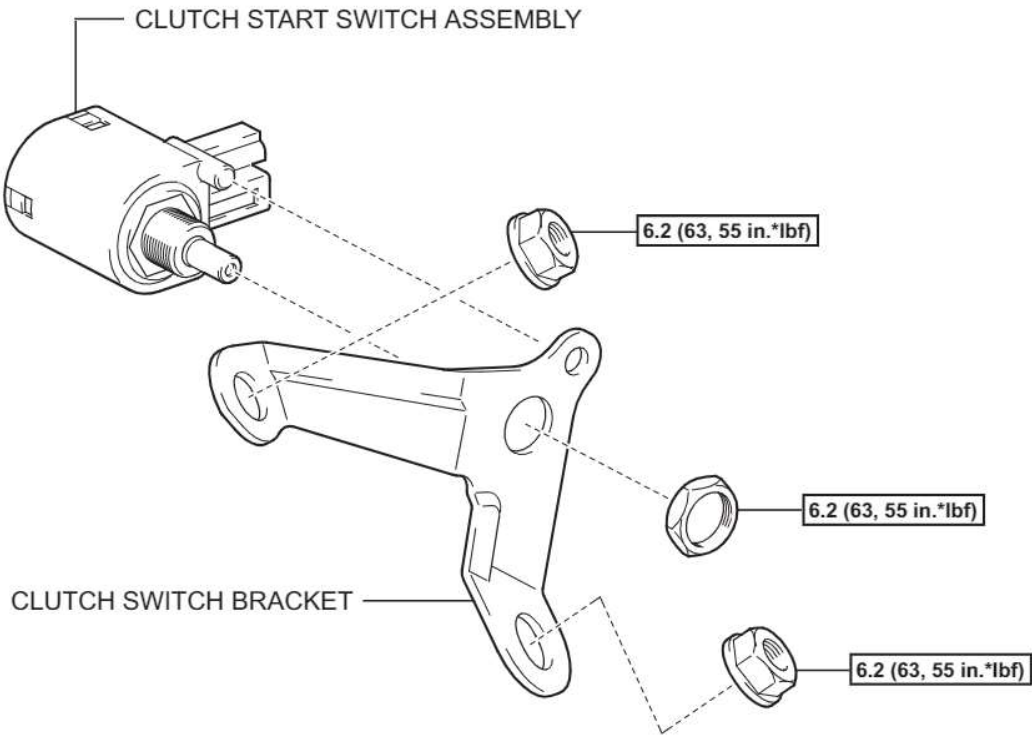


4. INSPECT CLUTCH RELEASE BEARING ASSEMBLY

- (a) Check that the bearing moves smoothly without abnormal resistance by turning the sliding parts of the bearing (contact surfaces with the clutch cover) while applying force in the axial direction.
(b) Inspect the bearing for damage or wear.
If necessary, replace the release bearing assembly.

CLUTCH START SWITCH

COMPONENTS



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

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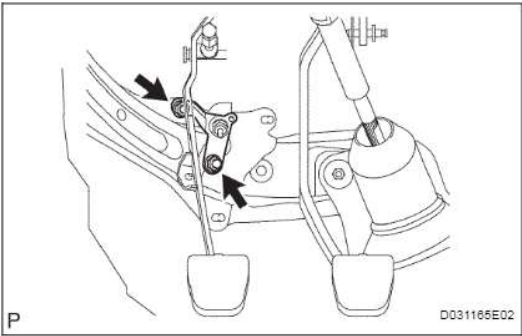
CLUTCH – CLUTCH START SWITCH

ON-VEHICLE INSPECTION

1. 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 assembly.



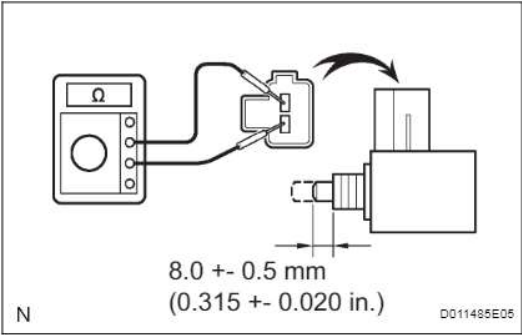
REMOVAL

1. REMOVE CLUTCH START SWITCH ASSEMBLY
- (a)

Disconnect the clutch start switch connector.
- (b)

Remove the 2 nuts and clutch start switch with the bracket.
- (c)

Remove the nut and clutch start switch from the bracket.



INSPECTION

1. INSPECT CLUTCH START SWITCH ASSEMBLY
- (a)

Measure the resistance between the terminals when the switch is ON and OFF.
Standard resistance

Switch Position	Specified Condition
ON (pushed)	Below 1 Ω
OFF (free)	10 k Ω or higher