

CLUTCH SYSTEM (MTM)

PROBLEM SYMPTOMS TABLE

4203K-01

HINT:

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	5. Engine mounting (Loosen)	–
	6. Clutch disc assy (Runout is excessive)	42-18
	7. Clutch disc assy (Oily)	42-18
	8. Clutch disc assy (Worn out)	42-18
	9. Clutch disc torsion rubber (Damaged)	42-18
	10. Clutch disc assy (Glazed)	42-18
	11. Diaphragm spring (Out of tip alignment)	42-18
Clutch pedal spongy	1. Clutch Line (Air in line)	–
	2. Master cylinder cup (Damaged)	42-10
	3. Release cylinder rubber (Damaged)	42-15
Clutch noisy	1. Clutch release bearing assy (Worn, dirty, or damaged)	42-15
	2. Clutch disc torsion rubber (Damaged)	42-18
Clutch slips	1. Clutch pedal (Free play out of adjustment)	42-2
	2. Clutch disc assy (Oily)	42-18
	3. Clutch disc assy (Worn out)	42-18
	4. Diaphragm spring (Damaged)	42-18
	5. Pressure plate (Distortion)	42-18
	6. Flywheel sub-assy (Distortion)	–
Clutch does not disengage	1. Clutch pedal (Free play out of adjustment)	42-2
	2. Clutch line (Air in line)	–
	3. Master cylinder cup (Damaged)	42-10
	4. Release cylinder cup (Damaged)	42-15
	5. Clutch disc assy (Out of true)	42-18
	6. Clutch disc assy (Runout of excessive)	42-18
	7. Clutch disc assy (Lining broken)	42-18
	8. Clutch disc assy (Dirty or burned)	42-18
	9. Clutch disc assy (Oily)	42-18
	10. Clutch disc assy (Lack of spline grease)	42-18

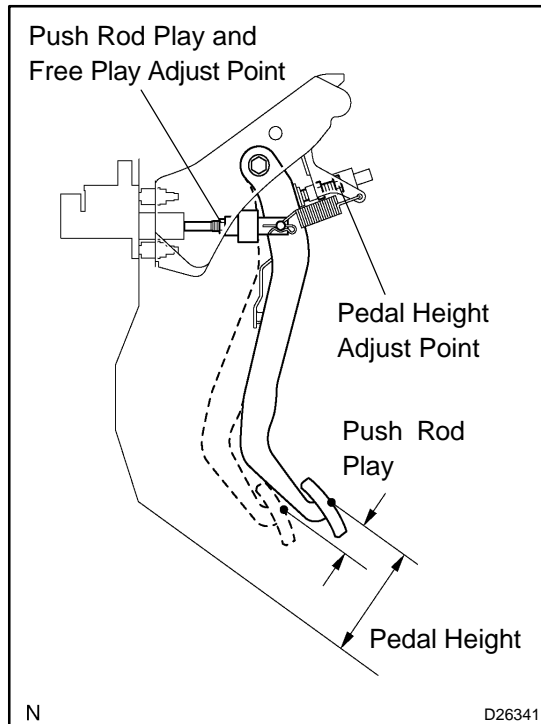
CLUTCH PEDAL SUB-ASSY (MTM)

ADJUSTMENT

4203L-01

1. INSPECT AND ADJUST CLUTCH PEDAL SUB-ASSY

- (a) Turn over the floor carpet.



- (b) Check that the pedal height is correct.

Pedal height from asphalt sheet:
135.8 – 145.8 mm (5.346 – 5.740 in.)

- (c) Adjust the pedal height.

- (1) Loosen the lock nut and turn the stopper bolt until the height is correct. Tighten the lock nut.

Torque: 24.5 N·m (245 kgf·cm, 18 ft·lbf)

- (d) Check that the pedal free play and push rod play are correct.

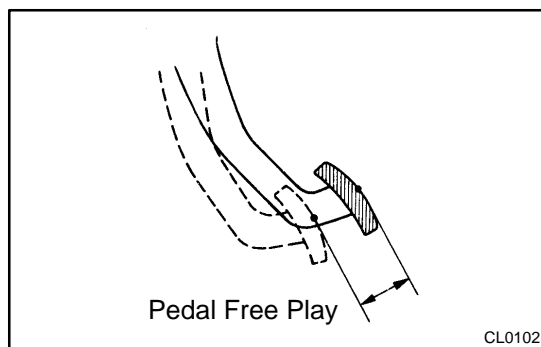
- (1) Depress the pedal until the clutch resistance begins to be felt.

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

- (2) Gently depress 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.)



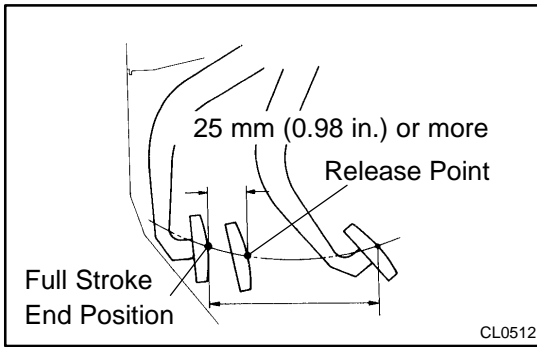
- (e) Adjust the pedal free play and push rod play.

- (1) Loosen the lock nut and turn the push rod until the free play and push rod play are correct.

- (2) Tighten the lock nut.

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

- (4) Connect the air duct and install the lower finish panel.



- (f) Check the clutch release point.
- (1) Pull the parking brake lever and install wheel stopper.
 - (2) Start the engine and idle the engine.
 - (3) Without depressing the clutch pedal, slowly shift the shift lever into reverse position 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.

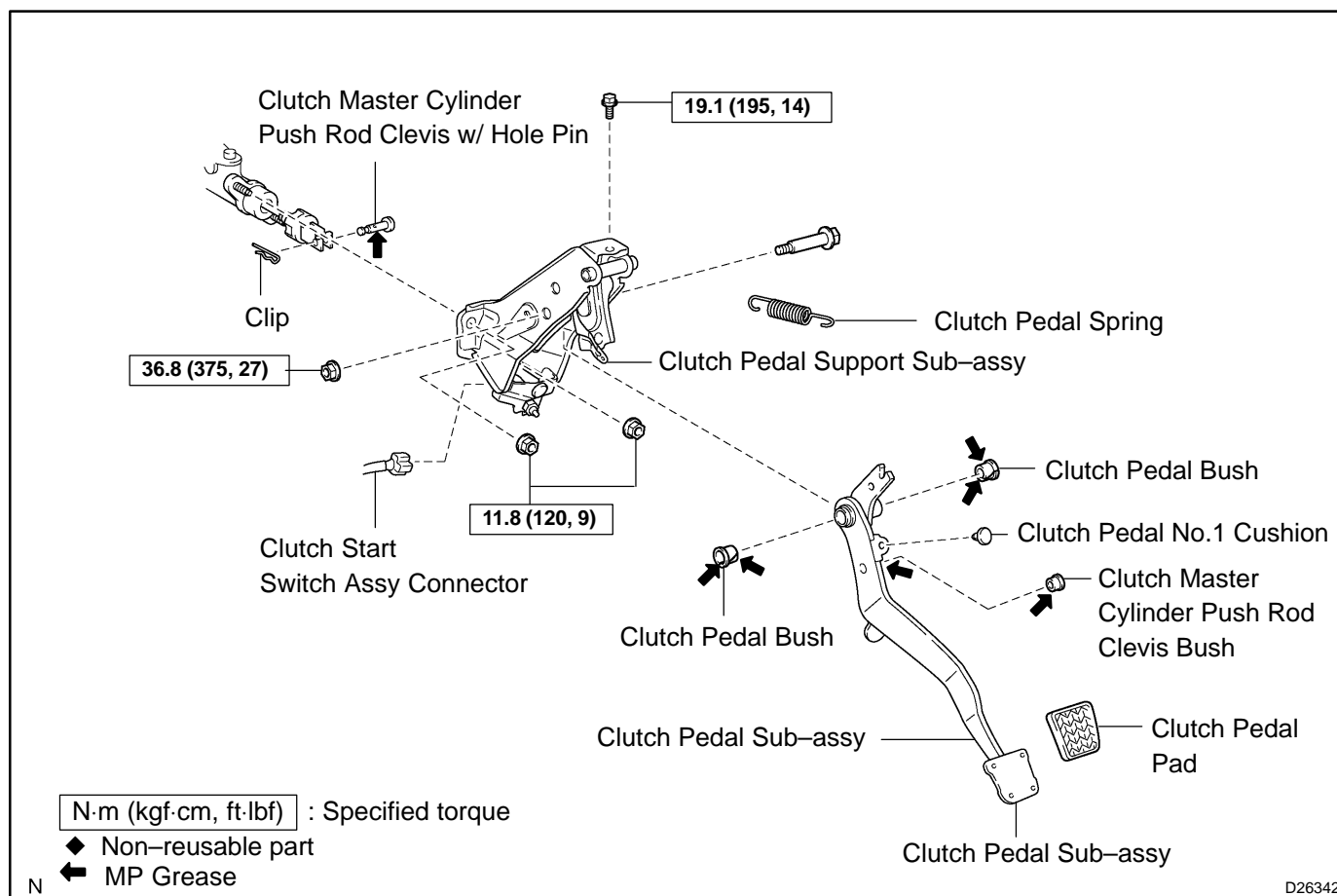
Standard distance: 25 mm (0.98 in.) or more

(From pedal stroke end position to release point)

If the distance is not as specified, perform the following operations.

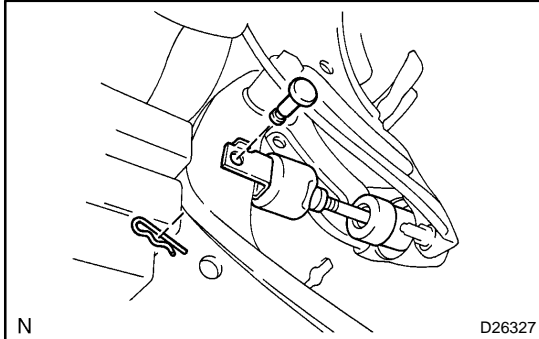
- Check pedal height.
- Check push rod play and pedal free play.
- Bleed the clutch line.
- Check the clutch cover assy and disc assy.

COMPONENTS

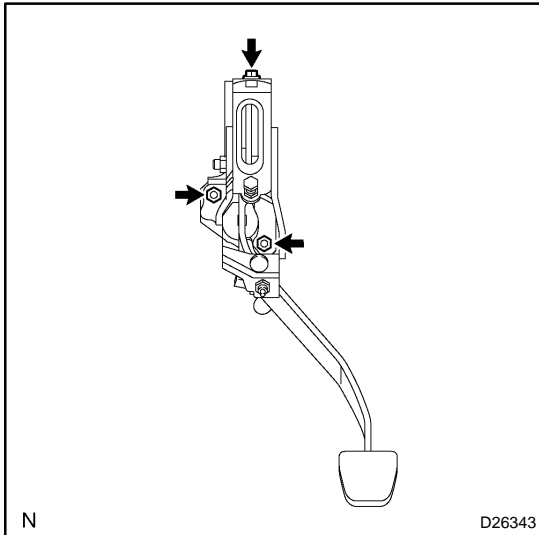


REPLACEMENT

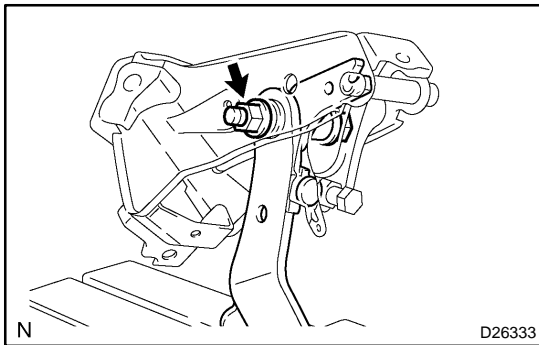
1. REMOVE INSTRUMENT PANEL SUB-ASSY LOWER (See page 71-10)
2. REMOVE CLUTCH PEDAL SPRING



3. REMOVE CLUTCH MASTER CYLINDER PUSH ROD CLEVIS W/HOLE PIN
 - (a) Remove the clip and hole pin.

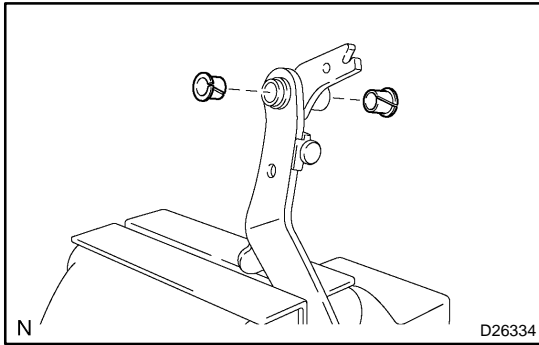


4. REMOVE CLUTCH PEDAL SUPPORT SUB-ASSY
 - (a) w/ Cruise control:
Disconnect the clutch switch assy connector.
 - (b) Disconnect the clutch start switch assy connector.
 - (c) Remove the 2 nuts, bolt and clutch pedal support assy.



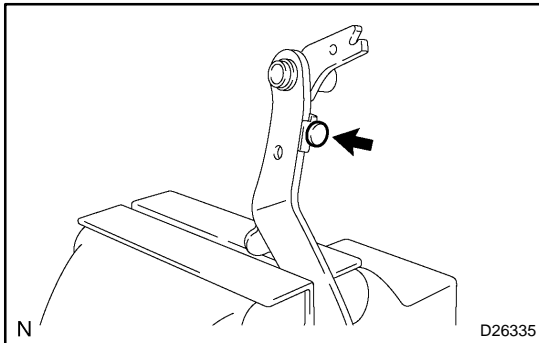
5. REMOVE CLUTCH PEDAL SUB-ASSY
 - (a) Remove the bolt and nut.
 - (b) Remove the clutch pedal sub-assy from the clutch pedal support.

6. REMOVE CLUTCH PEDAL PAD



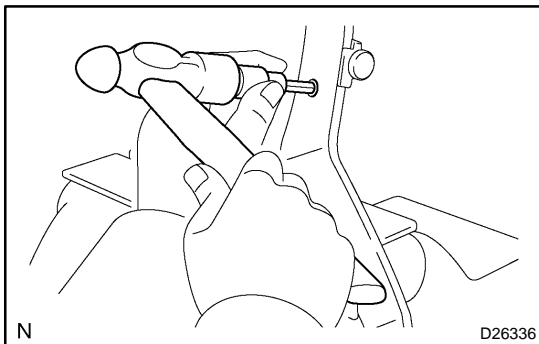
7. REMOVE CLUTCH PEDAL BUSH

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



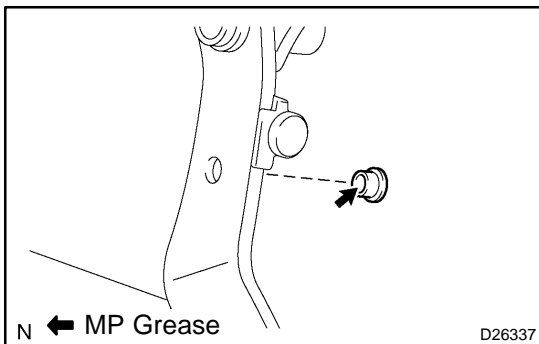
8. REMOVE CLUTCH PEDAL NO.1 CUSHION

- (a) Using needle-nose pliers, remove the No.1 cushion from the clutch pedal.



9. REMOVE CLUTCH MASTER CYLINDER PUSH ROD CLEVIS BUSH

- (a) Using a 8 mm hexagon wrench and a hammer, remove the clevis bush from the clutch pedal sub-assy.

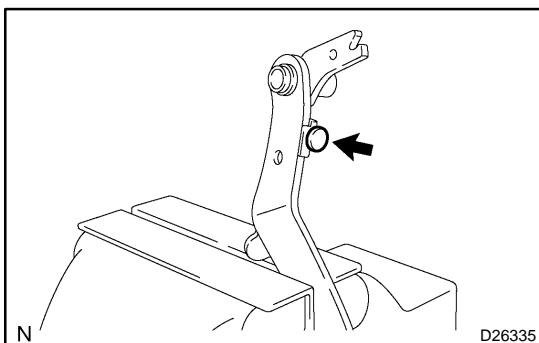


10. INSTALL CLUTCH MASTER CYLINDER PUSH ROD CLEVIS BUSH

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

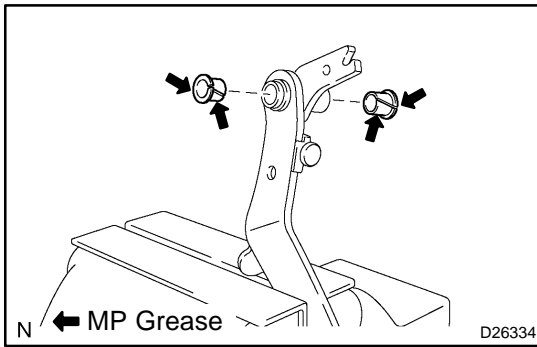
HINT:

Install the clevis bush from the right side of the vehicle.

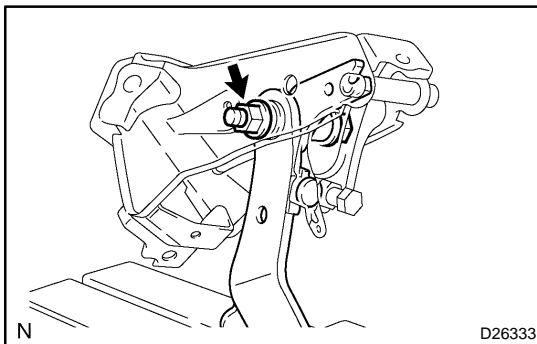


11. INSTALL CLUTCH PEDAL NO.1 CUSHION

- (a) Using needle-nose pliers, install the No.1 cushion to the clutch pedal.

**12. INSTALL CLUTCH PEDAL BUSH**

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

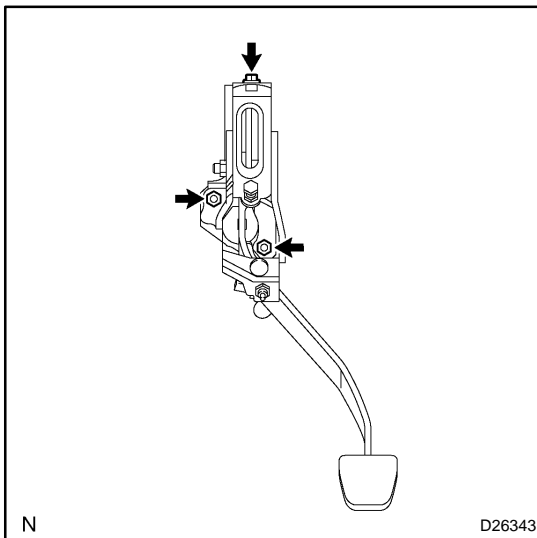
13. INSTALL CLUTCH PEDAL PAD**14. INSTALL CLUTCH PEDAL SUB-ASSY**

- (a) Install the clutch pedal sub-assy to the clutch pedal support with the bolt and nut.

Torque: 36.8 N·m (375 kgf·cm, 27 ft·lbf)

HINT:

Install the bolt from the right side of the vehicle.

**15. INSTALL CLUTCH PEDAL SUPPORT SUB-ASSY**

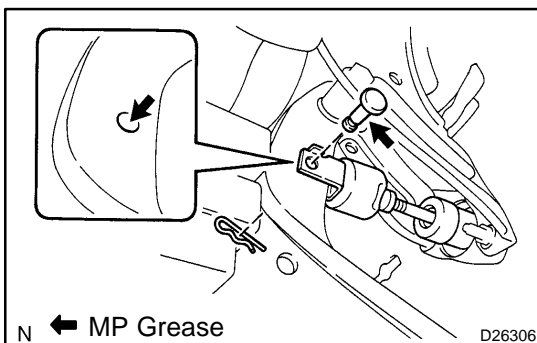
- (a) Install the clutch pedal support to the vehicle with the 2 nuts and bolt.

Torque:

Bolt: 19.1 N·m (195 kgf·cm, 14 ft·lbf)

Nut: 11.8 N·m (120 kgf·cm, 9 ft·lbf)

- (b) Connect the clutch start switch assy connector.
- (c) w/ Cruise control:
Connect the clutch switch assy connector.

**16. INSTALL CLUTCH MASTER CYLINDER PUSH ROD CLEVIS W/HOLE PIN**

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

HINT:

Install the hole pin from the right side of the vehicle.

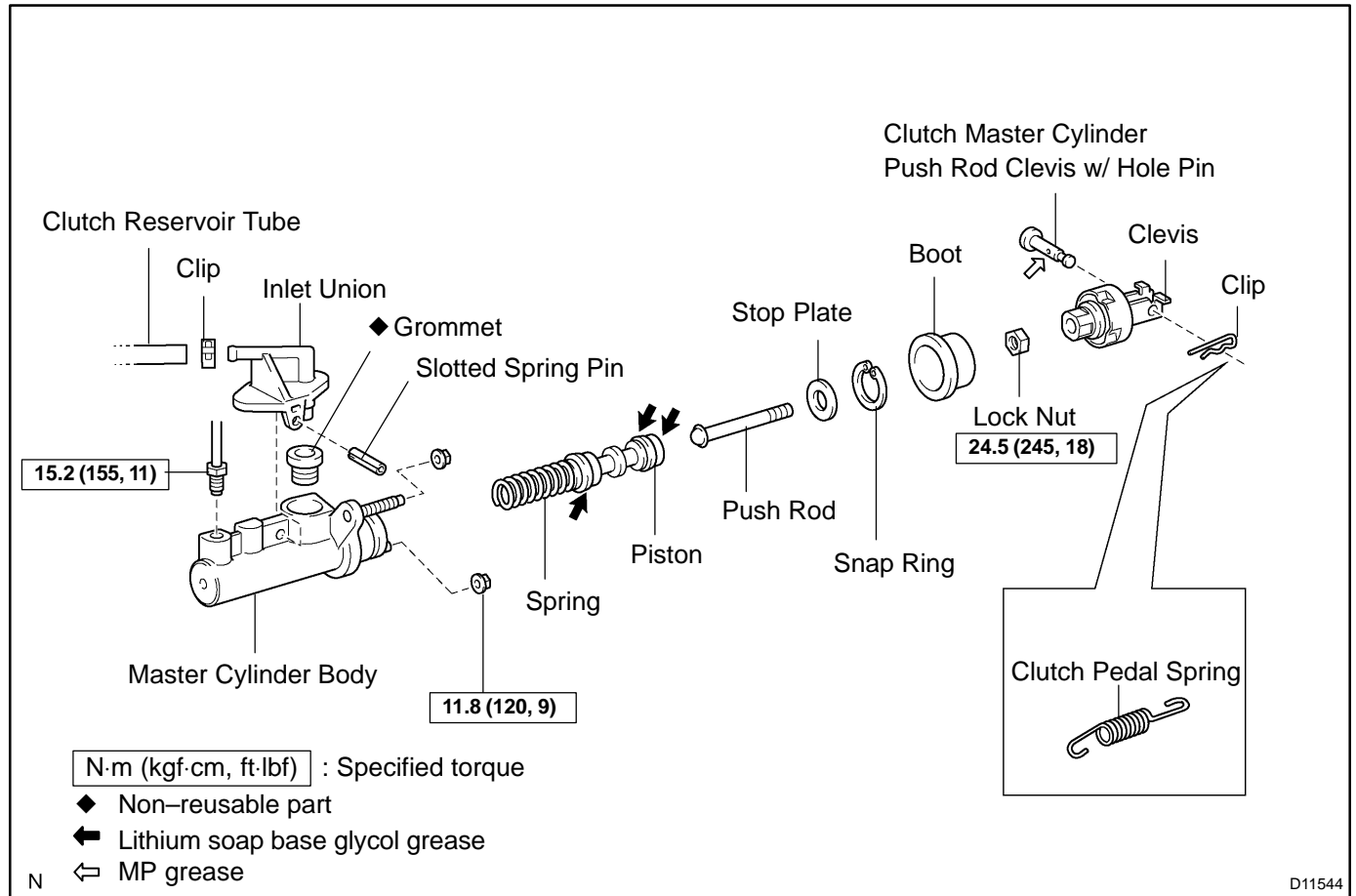
- (c) Install the clip to the hole pin.

17. INSTALL CLUTCH PEDAL SPRING
18. INSTALL INSTRUMENT PANEL SUB-ASSY LOWER
19. INSPECT SRS WARNING LIGHT (See page [05-424](#))
20. INSPECT AND ADJUST CLUTCH PEDAL SUB-ASSY (See page [42-2](#))

CLUTCH MASTER CYLINDER ASSY (MTM)

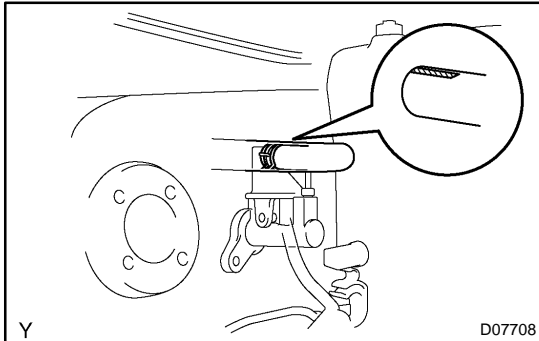
COMPONENTS

42030-01



OVERHAUL

1. DRAIN CLUTCH FLUID
2. REMOVE BRAKE MASTER CYLINDER SUB-ASSY (See page 32-13)
3. REMOVE BRAKE BOOSTER ASSY (See page 32-20)

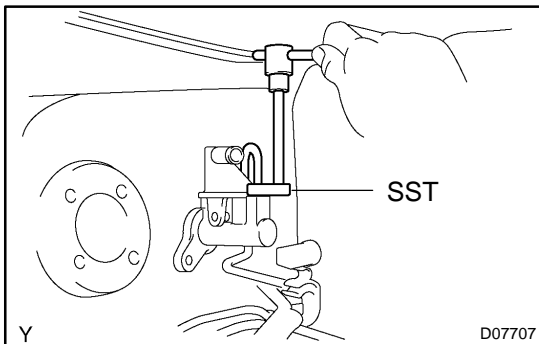


4. DISCONNECT CLUTCH RESERVOIR TUBE

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

HINT:

Use a container to catch the fluid.



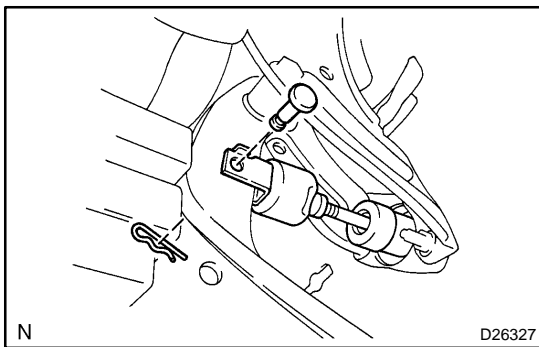
5. DISCONNECT CLUTCH MASTER CYLINDER TO FLEXIBLE HOSE TUBE

- (a) Using SST, disconnect the flexible hose tube.
SST 09023-00100

HINT:

Use a container to catch the fluid.

6. REMOVE CLUTCH PEDAL SPRING

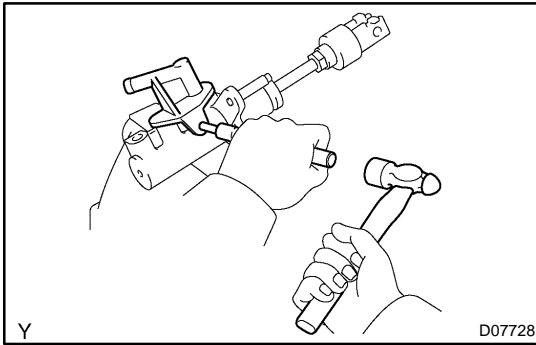


7. REMOVE CLUTCH MASTER CYLINDER PUSH ROD CLEVIS W/HOLE PIN

- (a) Remove the clip and hole pin.

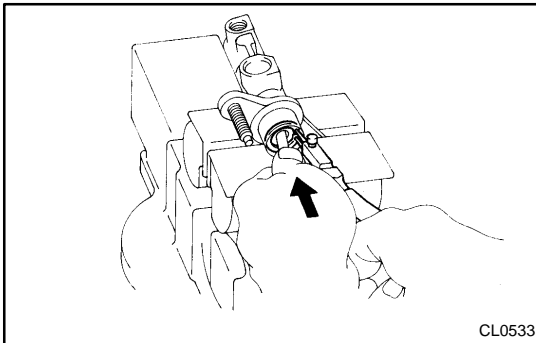
8. REMOVE CLUTCH MASTER CYLINDER ASSY

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



9. REMOVE CLUTCH MASTER CYLINDER KIT

- (a) Using a pin punch and a hammer, drive out the slotted spring pin.
- (b) Remove the inlet union and grommet.
- (c) Loosen the lock nut, and remove the clevis.
- (d) Remove the lock nut from the push rod.
- (e) Remove the boot from the cylinder body.



- (f) While pushing the push rod, using snap ring pliers, remove the snap ring.
- (g) Remove the push rod from the cylinder body.

NOTICE:

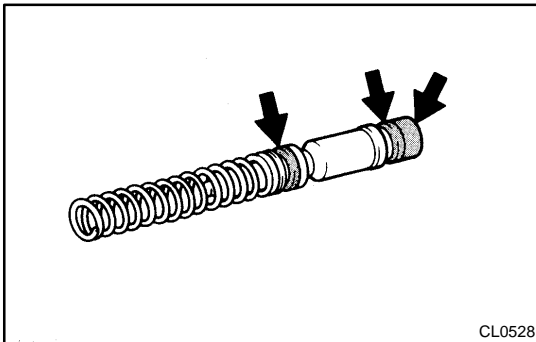
The piston may pop up out of the cylinder body. Therefore, slowly remove the push rod from the cylinder body.

- (h) Remove the stop plate from the push rod.
- (i) Remove the piston with spring from the cylinder.

NOTICE:

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

10. INSTALL CLUTCH MASTER CYLINDER KIT

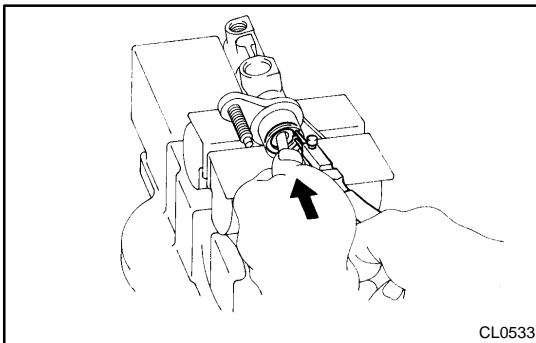


- (a) Coat parts with lithium soap base glycol grease, as shown in the illustration.
- (b) Install the piston with spring into the cylinder.

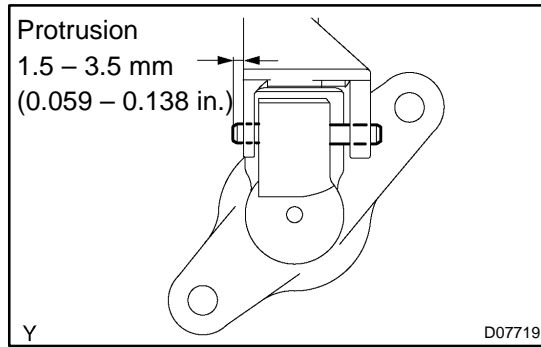
NOTICE:

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

- (c) Install the stop plate to the push rod.
- (d) Install the push rod to the cylinder body.



- (e) While pushing the push rod, using snap ring pliers, install the snap ring.
- (f) Install the boot to the cylinder body.
- (g) Install the lock nut to the push rod.
- (h) Temporarily install the clevis with the lock nut to the push rod.
- (i) Install the inlet union and a new grommet.

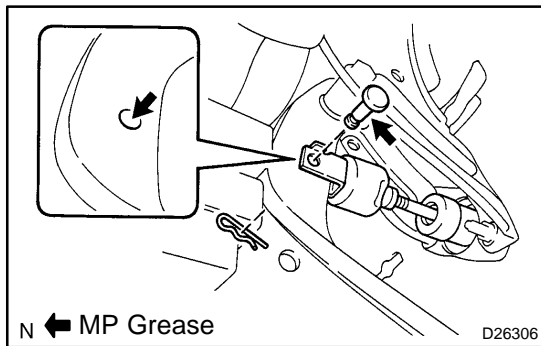


- (j) Using a pin punch and a hammer, drive in the slotted spring pin.

11. INSTALL CLUTCH MASTER CYLINDER ASSY

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

Torque: 11.8 N·m (120 kgf·cm, 9 ft·lbf)



12. INSTALL CLUTCH MASTER CYLINDER PUSH ROD CLEVIS W/HOLE PIN

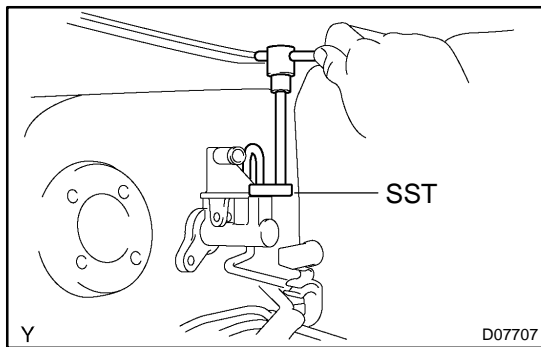
- (a) Apply MP grease to the contact surface of the hole pin and clevis bush.
(b) Connect the clevis to the clutch pedal sub-assy with the hole pin.

HINT:

Install the hole pin from the right side of the vehicle.

- (c) Install the clip to the hole pin.

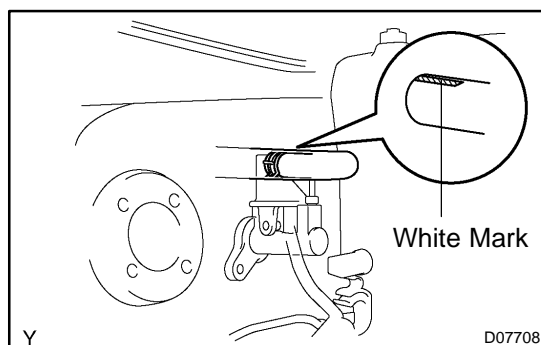
13. INSTALL CLUTCH PEDAL SPRING



14. CONNECT CLUTCH MASTER CYLINDER TO FLEXIBLE HOSE TUBE

- (a) Using SST, connect the flexible hose tube.
SST 09023-00100

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



15. CONNECT CLUTCH RESERVOIR TUBE

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

NOTICE:

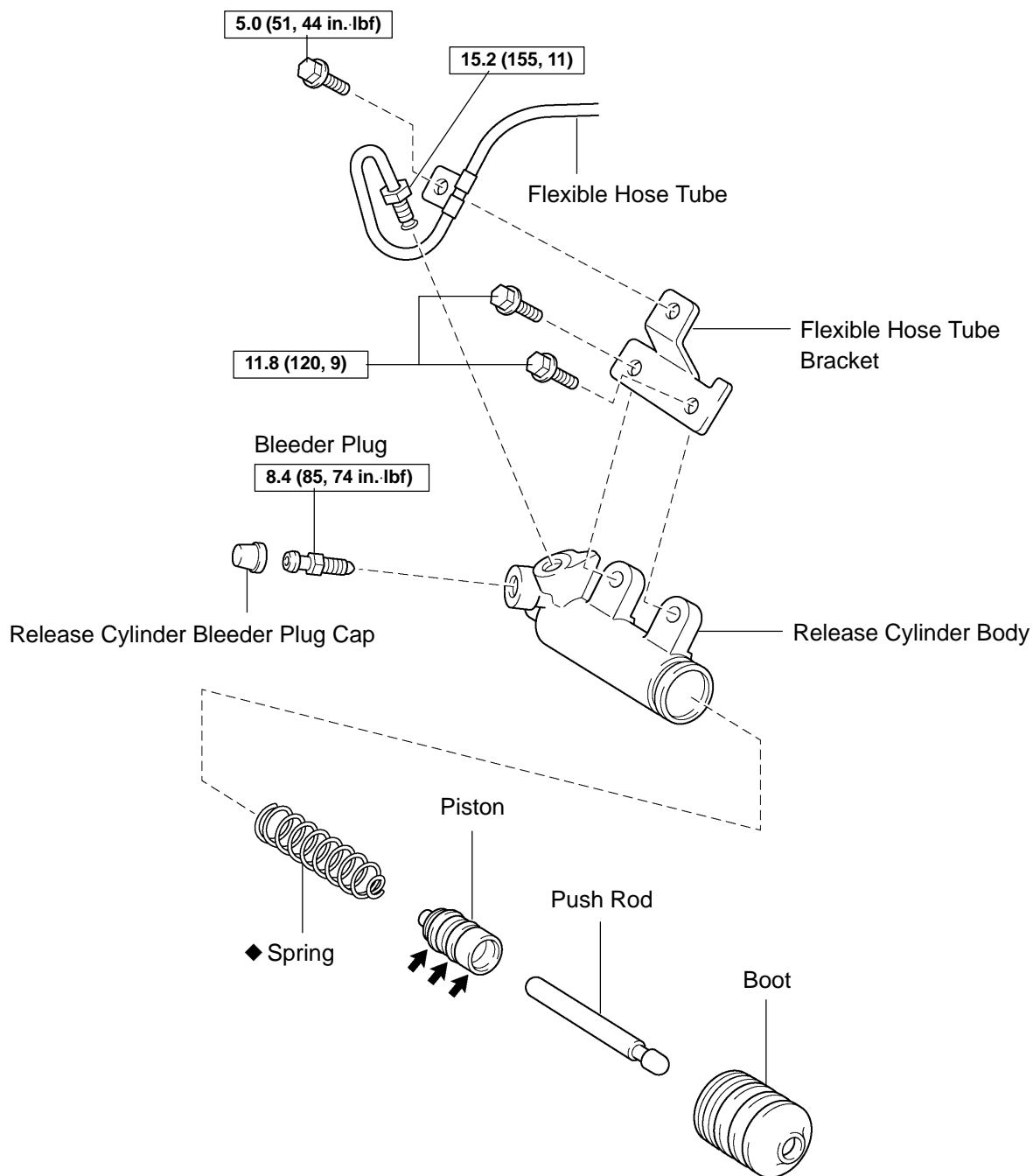
Facing the white mark upward.

16. **INSTALL BRAKE BOOSTER ASSY (See page 32-20)**
17. **INSTALL BRAKE MASTER CYLINDER SUB-ASSY (See page 32-13)**
18. **BLEED BRAKE LINE (See page 32-4)**
19. **BLEED CLUTCH PIPE LINE**
 - (a) Fill the brake reservoir tank with clutch fluid and bleed clutch system.
Torque: 8.4 N·m (85 kgf·cm, 73 in·lbf)
20. **CHECK AND ADJUST BRAKE PEDAL HEIGHT (See page 32-6)**
21. **INSPECT AND ADJUST CLUTCH PEDAL SUB-ASSY (See page 42-2)**
22. **CHECK BRAKE FLUID LEAKAGE**
23. **CHECK CLUTCH FLUID LEAKAGE**
24. **CHECK FLUID LEVEL IN RESERVOIR**

CLUTCH RELEASE CYLINDER ASSY (MTM)

COMPONENTS

4203Q-01

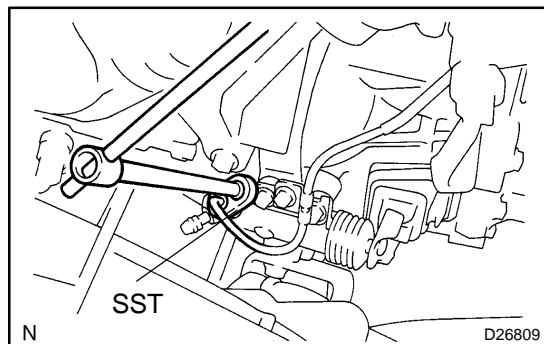


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OVERHAUL

1. DRAIN CLUTCH FLUID

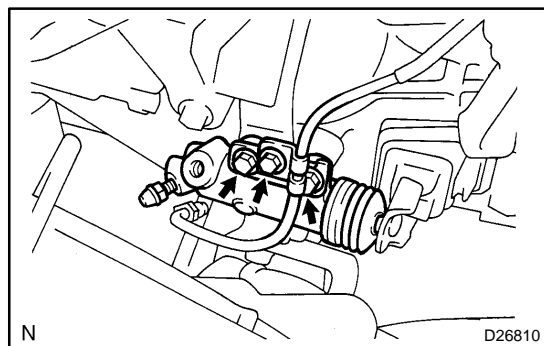


2. DISCONNECT CLUTCH RELEASE CYLINDER TO FLEXIBLE HOSE TUBE

- (a) Using SST, disconnect the flexible hose tube.
SST 09023-00100

HINT:

Use a container to catch the fluid.



3. REMOVE CLUTCH RELEASE CYLINDER ASSY

- (a) Remove the 3 bolts, clutch release cylinder assy and clutch line bracket.

4. 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.

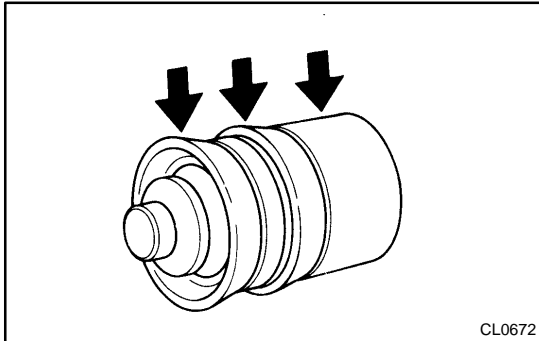
5. REMOVE RELEASE CYLINDER BLEEDER PLUG

6. INSTALL RELEASE CYLINDER BLEEDER PLUG

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

7. INSTALL CLUTCH RELEASE CYLINDER KIT

- (a) Install the bleeder plug cap to the bleeder plug.
- (b) Install a new spring to the cylinder body.

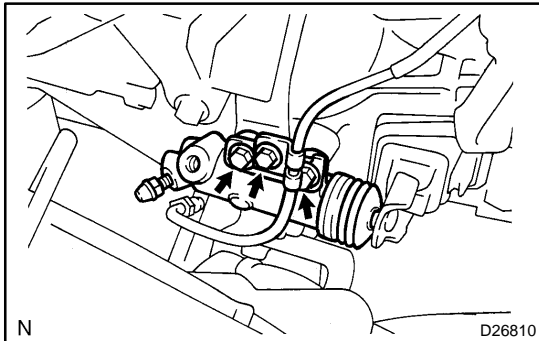


- (c) Coat parts with lithium soap base glycol grease, as shown in the illustration.
- (d) Install the piston to the cylinder body.

NOTICE:

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

- (e) Install the push rod to the cylinder body.
- (f) Install the boot to the cylinder body.

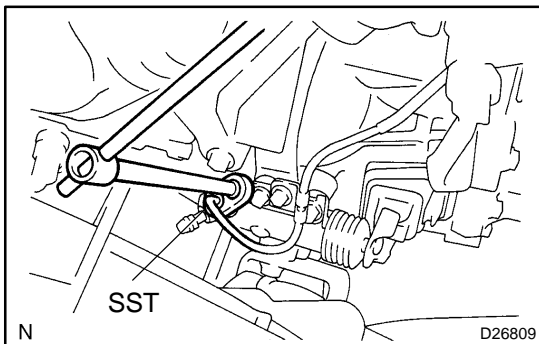
**8. INSTALL CLUTCH RELEASE CYLINDER ASSY**

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

Torque: 11.8 N·m (120 kgf·cm, 9 ft·lbf)

- (b) Install the flexible hose tube with the bolt.

Torque: 5.0 N·m (51 kgf·cm, 44 in·lbf)

**9. CONNECT CLUTCH RELEASE CYLINDER TO FLEXIBLE HOSE TUBE**

- (a) Using SST, connect the flexible hose tube.
SST 09023-00100

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

10. BLEED CLUTCH PIPE LINE

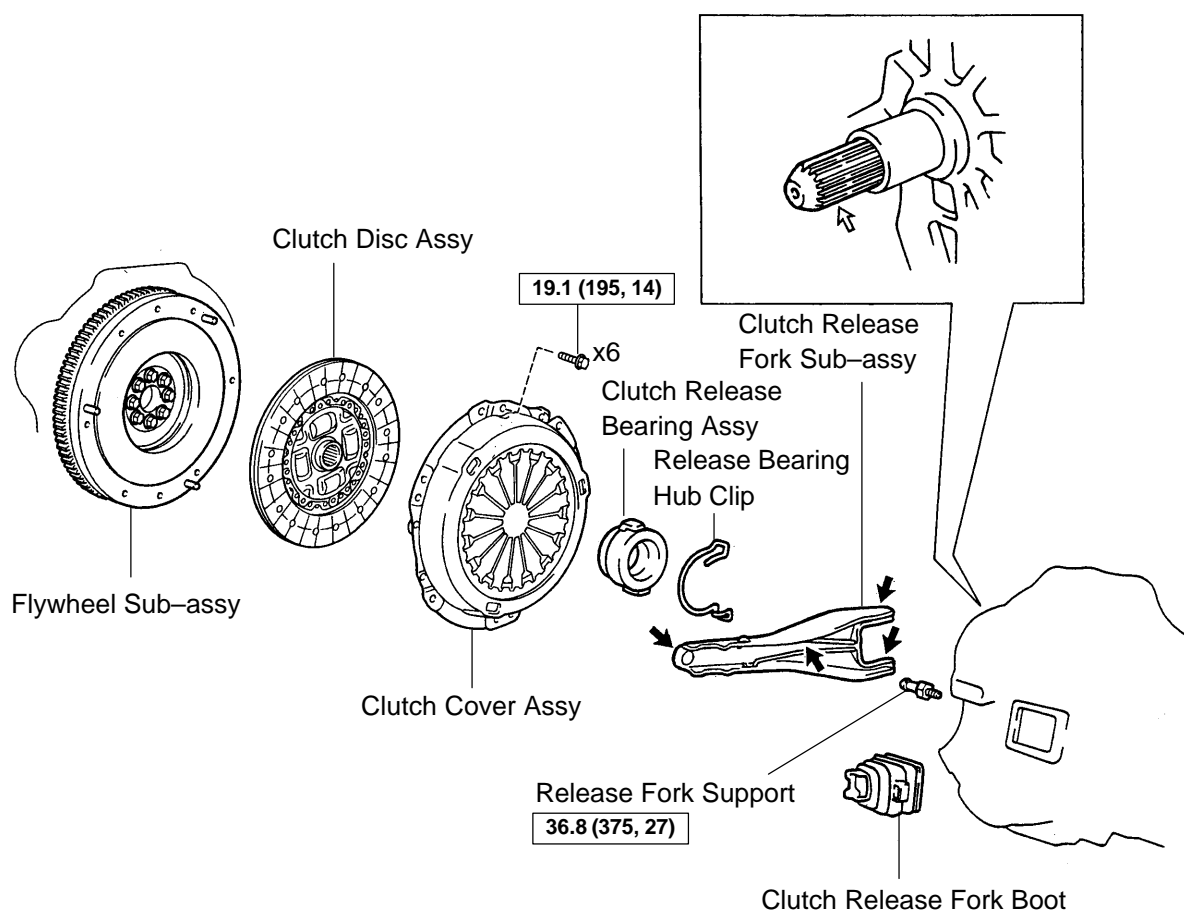
- (a) Fill the brake reservoir tank with brake fluid and bleed clutch system.

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

11. CHECK CLUTCH FLUID LEAKAGE

CLUTCH UNIT (MTM) COMPONENTS

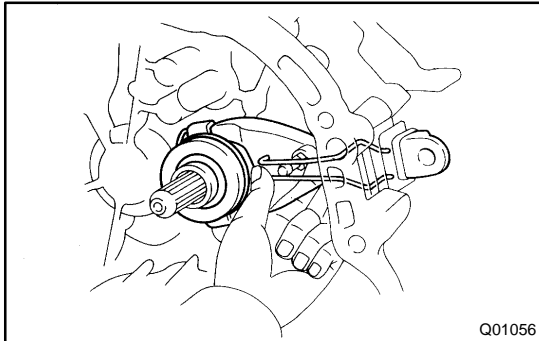
4203S-01



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OVERHAUL

1. REMOVE MANUAL TRANSAXLE ASSY (See page 41-17)



2. REMOVE CLUTCH RELEASE FORK SUB-ASSY

- (a) Remove the clutch release fork with clutch release bearing from the transaxle assy.

3. REMOVE CLUTCH RELEASE BEARING ASSY

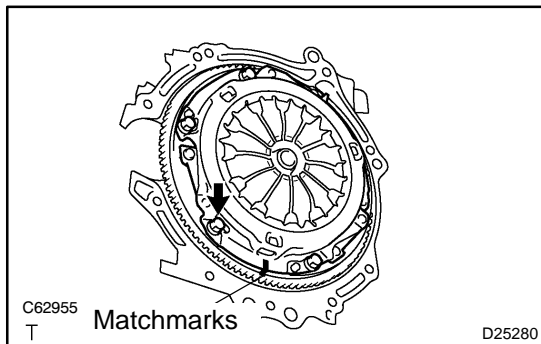
- (a) Remove the clutch release bearing assy from the clutch release fork.

4. REMOVE RELEASE FORK SUPPORT

- (a) Remove the release fork support from the transaxle assy.

5. REMOVE RELEASE BEARING HUB CLIP

6. REMOVE CLUTCH RELEASE FORK BOOT



7. REMOVE CLUTCH COVER ASSY

- (a) Align the matchmarks on the clutch cover assy with the one on the flywheel sub-assy.
 (b) Loosen each set bolt one turn at a time until spring tension is released.
 (c) Remove the 6 bolts, and pull off the clutch cover assy.

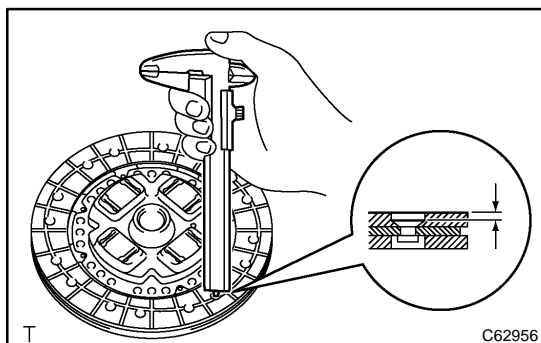
NOTICE:

Do not drop the clutch disc assy.

8. REMOVE CLUTCH DISC ASSY

NOTICE:

Keep the lining part of the clutch disc assy, the pressure plate and surface of the flywheel sub-assy away from oil and foreign attachment.



9. INSPECT CLUTCH DISC ASSY

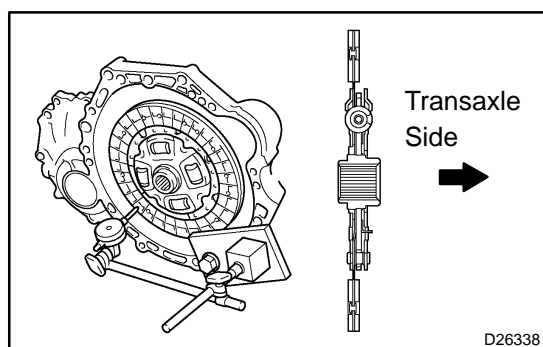
- (a) Using vernier calipers, measure the rivet head depth.
Maximum rivet depth: 0.3 mm (0.012 in.)

If necessary, replace the clutch disc assy.

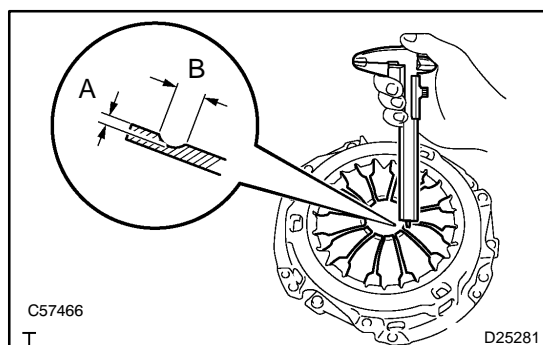
- (b) Install the clutch disc assy to the transaxle assy.

NOTICE:

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



- (c) Using a dial indicator, check the clutch disc assy runout.
Minimum runout: 0.8 mm (0.031 in.)
 If necessary, replace the clutch disc assy.



10. INSPECT CLUTCH COVER ASSY

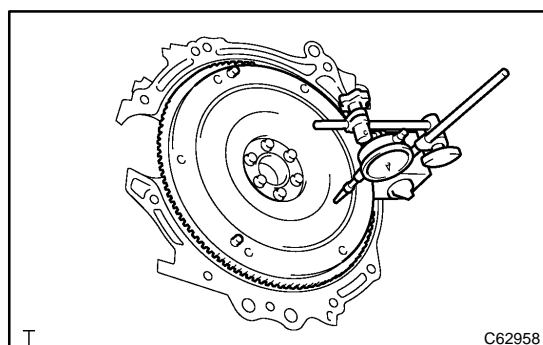
- (a) Using vernier calipers, inspect the diaphragm spring for depth and width of wear.

Maximum:

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

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

If necessary, replace clutch cover assy.

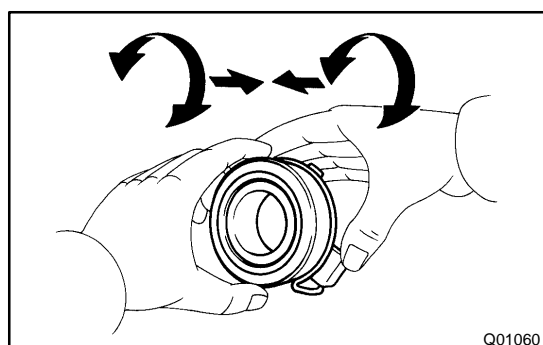


11. INSPECT FLYWHEEL SUB-ASSY

- (a) Using a dial indicator, inspect the flywheel sub-assy runout.

Maximum runout: 0.1 mm (0.004 in.)

If necessary, replace the flywheel sub-assy.



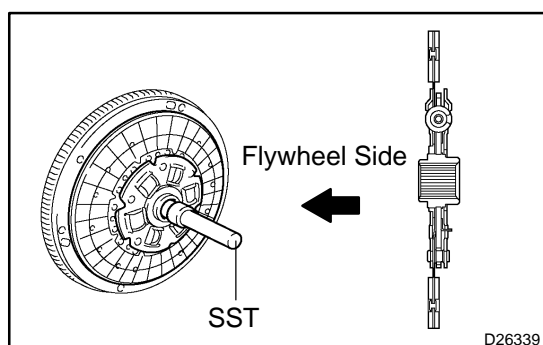
12. INSPECT CLUTCH RELEASE BEARING ASSY

- (a) Turn the release 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 assy.



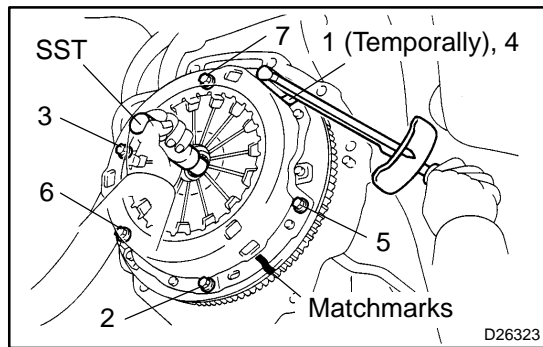
13. INSTALL CLUTCH DISC ASSY

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

SST 09301-00210

NOTICE:

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

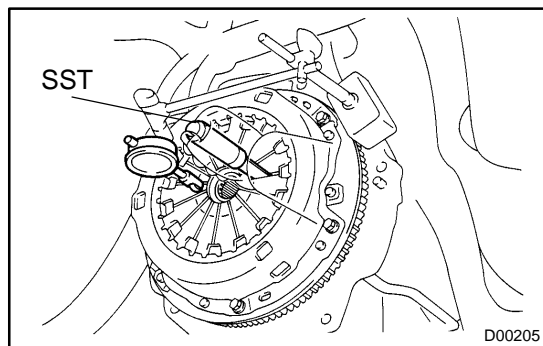
**14. INSTALL CLUTCH COVER ASSY**

- (a) Align the matchmarks on the clutch cover assy and fly-wheel sub-assy.
- (b) 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.

**15. INSPECT AND ADJUST CLUTCH COVER ASSY**

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

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

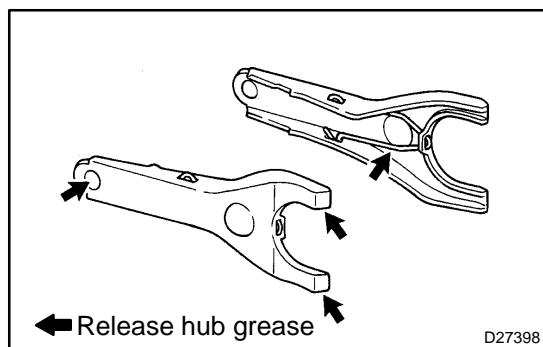
If alignment is not as specified, using SST, adjust the diaphragm spring tip alignment.

SST 09333-00013

16. INSTALL RELEASE FORK SUPPORT

- (a) Install the release fork support to the transaxle assy.

Torque: 36.8 N·m (375 kgf·cm, 27 ft·lbf)

17. INSTALL RELEASE BEARING HUB CLIP**18. INSTALL CLUTCH RELEASE FORK SUB-ASSY**

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

Sealant:

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

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

19. INSTALL CLUTCH RELEASE BEARING ASSY

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

Sealant:

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

- (b) Install the bearing to the release fork, and then install them to the transaxle assy.

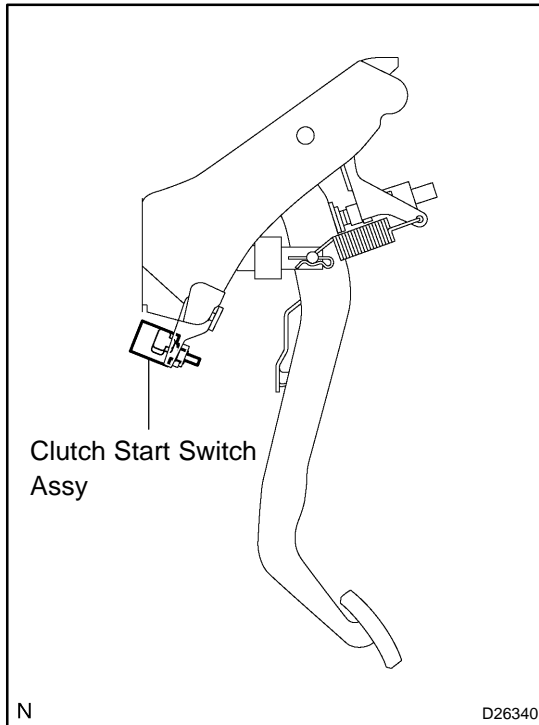
NOTICE:

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

- 20. INSTALL CLUTCH RELEASE FORK BOOT
- 21. INSTALL MANUAL TRANSAXLE ASSY (See page [41-17](#))

CLUTCH START SWITCH ASSY (MTM) ON-VEHICLE INSPECTION

42028-02

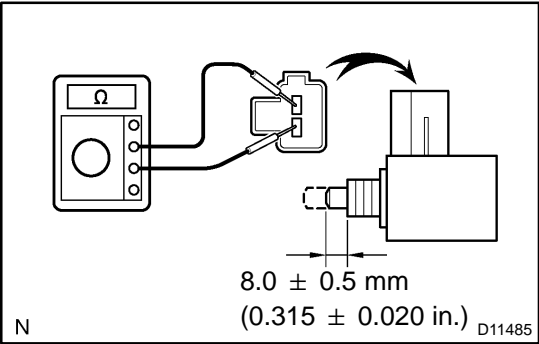


1. CHECK CLUTCH START SYSTEM

- (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 assy.

INSPECTION



1. INSPECT CLUTCH START SWITCH ASSY

- (a) Check the continuity between the terminals when the switch is ON and OFF.

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

REPLACEMENT

1. REMOVE CLUTCH START SWITCH ASSY

- (a) Disconnect the clutch start switch assy connector.
- (b) Remove the nut and clutch start switch assy from the clutch pedal support.

2. INSTALL CLUTCH START SWITCH ASSY

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

Torque: 15.68 N·m (160 kgf·cm, 12 ft·lbf)

- (b) Connect the clutch start switch assy connector.

3. INSPECT CLUTCH START SWITCH ASSY (See page [42-22](#))