

# CLUTCH SYSTEM

## PROBLEM SYMPTOMS TABLE

Use the table below to help you find the cause of the problem. The numbers indicate the ranked order of probability of each of the possible causes. Check each part in the order suggested. If necessary, replace these parts.

Symptom	Suspected area	See page
Clutch grabs/chatters	1. Engine mounting (Loose)	-
	2. Clutch disc (Excessive runout)	CL-22
	3. Clutch disc (Oily)	CL-22
	4. Clutch disc (Worn out)	CL-22
	5. Clutch disc torsion rubber (Damaged)	CL-22
	6. Clutch disc (Glazed)	CL-22
	7. Diaphragm spring (Tip out of alignment)	CL-22
Clutch pedal spongy	1. Clutch line (Air in line)	-
	2. Release cylinder rubber (Damaged)	CL-16
Clutch noisy	1. Release bearing (Worn, dirty or damaged)	CL-22
	2. Clutch disc torsion rubber (Damaged)	CL-22
Clutch slips	1. Clutch pedal (Free play out of adjustment)	CL-3
	2. Clutch disc (Oily)	CL-22
	3. Clutch disc (Worn out)	CL-22
	4. Diaphragm spring (Damaged)	CL-22
	5. Flywheel (Distorted)	CL-22
Clutch does not disengage	1. Clutch pedal (Free play out of adjustment)	CL-3
	2. Clutch line (Air in line)	-
	3. Release cylinder cup (Damaged)	CL-16
	4. Clutch disc (Out of line)	CL-22
	5. Clutch disc (Runout excessive)	CL-22
	6. Clutch disc (Lining broken)	CL-22
	7. Clutch disc (Dirty or burned)	CL-22
	8. Clutch disc (Oily)	CL-22
	9. Clutch disc (Lack of spline grease)	CL-22

# CLUTCH PEDAL COMPONENTS

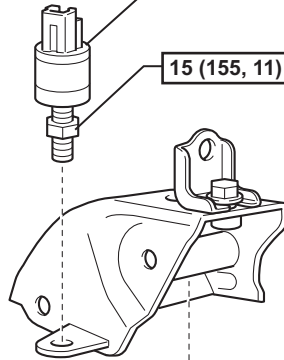
w/o Cruise Control:

26 (260, 19)



CLUTCH SWITCH ASSEMBLY

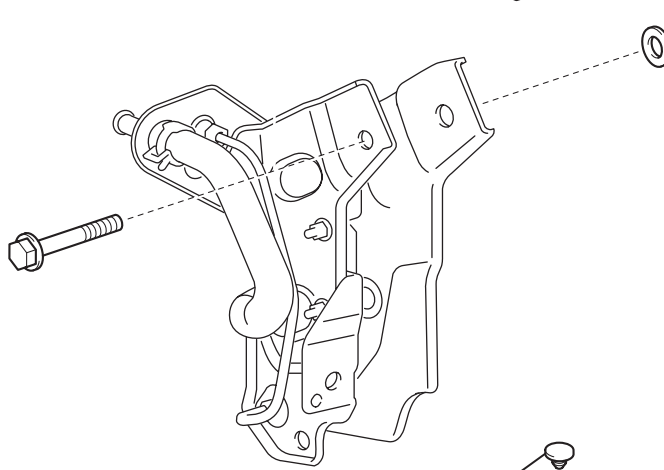
15 (155, 11)



CLUTCH PEDAL SPRING HOLDER



34 (347, 25)



CLUTCH PEDAL SHAFT COLLAR

CLUTCH PEDAL NO.1 CUSHION

CLUTCH PEDAL TURNOVER BUSH

CLUTCH PEDAL BUSH

CLUTCH MASTER CYLINDER PUSH ROD CLEVIS BUSH

TURN OVER SPRING SEAT COMPRESSION SPRING

CLUTCH PEDAL SUB-ASSEMBLY

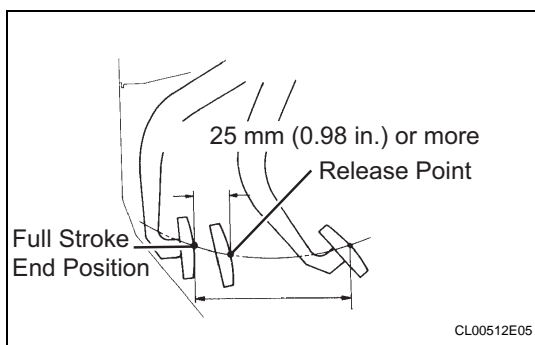
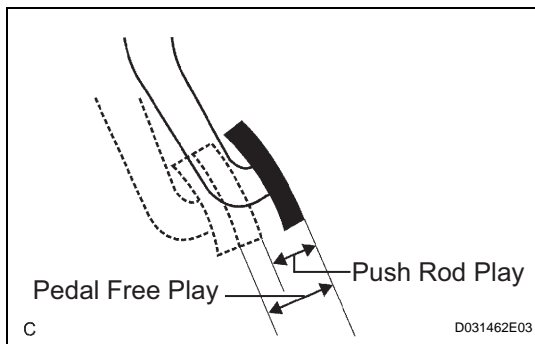
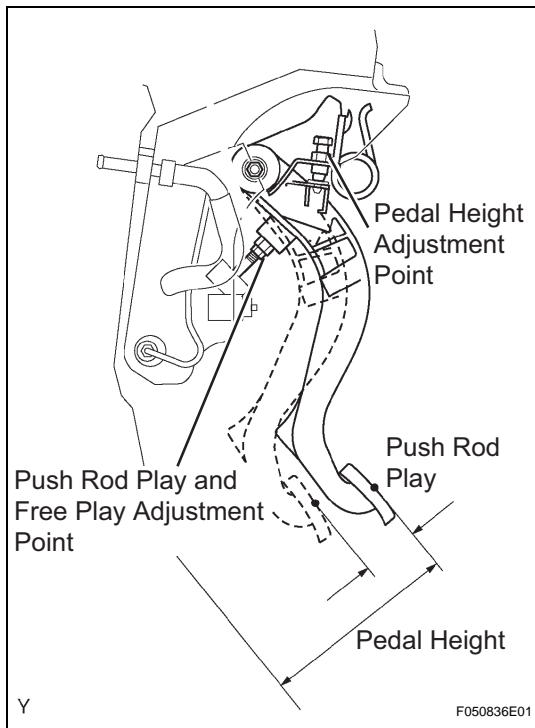
CLUTCH PEDAL PAD

N\*m (kgf\*cm, ft\*lbf) :Specified torque ← Apply MP Grease

CL

## ON-VEHICLE INSPECTION

### 1. INSPECT AND ADJUST CLUTCH PEDAL SUB-ASSEMBLY

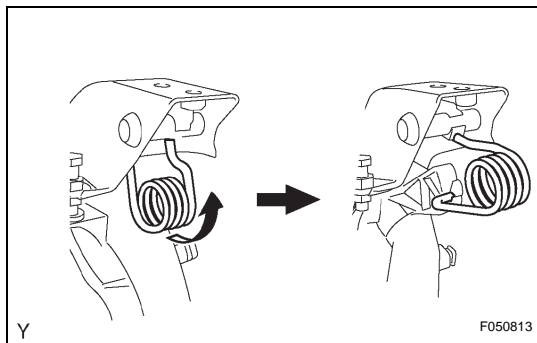


- (a) Pull back the floor carpet.
- (b) Check that the pedal height is correct.  
**Pedal height from asphalt sheet:**  
**183.5 to 193.5 mm (7.224 to 7.618 in.)**
- (c) Adjust the pedal height. (w/ Cruise Control)
  - (1) Loosen the lock nut and turn the clutch switch until the height is correct. Tighten the lock nut.  
**Torque: 15 N\*m (153 kgf\*cm, 11 ft.\*lbf)**
- (d) Adjust the pedal height. (w/o Cruise Control)
  - (1) Loosen the lock nut and turn the stopper bolt until the height is correct. Tighten the lock nut.  
**Torque: 26 N\*m (260 kgf\*cm, 19 ft.\*lbf)**
- (e) 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 to 15.0 mm (0.197 to 0.591 in.)**
  - (2) Gently depress the pedal until the resistance begins to increase a little.  
**Push rod play at pedal top:**  
**1.0 to 5.0 mm (0.039 to 0.197 in.)**
- (f) 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.
- (g) Check the clutch release point.
  - (1) Pull the parking brake lever and chock the wheels.
  - (2) Start the engine and allow it to idle.
  - (3) Without depressing the clutch pedal, slowly move the shift lever into the reverse position until the gears engage.
  - (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 (0.984 in.) or more**  
**(From pedal stroke end position to release point)**  
If the distance is not as specified, perform the following operations.

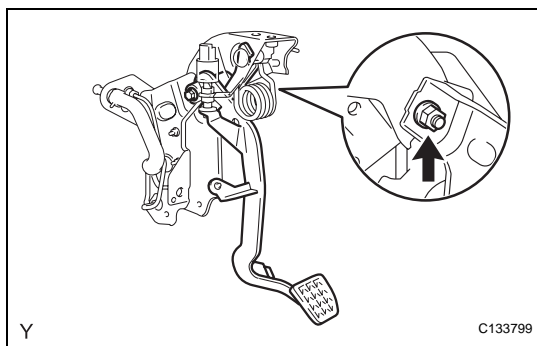
- Check the pedal height.
- Check the push rod play and pedal free play.
- Bleed the clutch line.
- Check the clutch cover assembly and disc assembly.

## REMOVAL

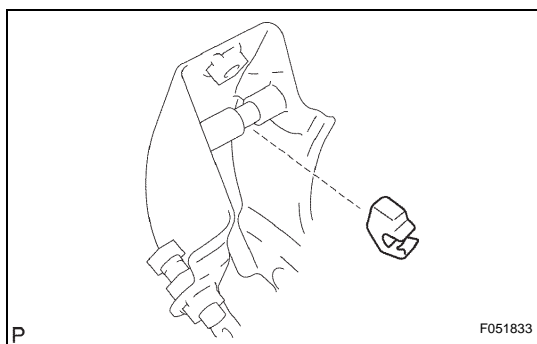
1. REMOVE CLUTCH MASTER CYLINDER ASSEMBLY  
(See page [CL-10](#))



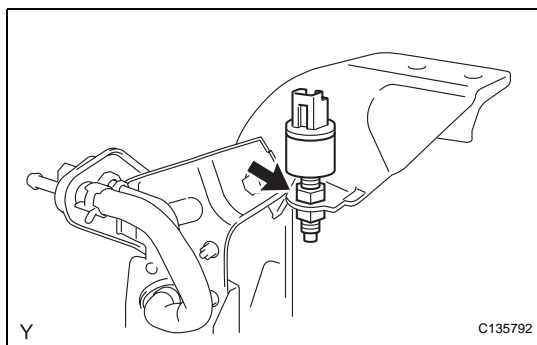
2. REMOVE TURN OVER SPRING SEAT  
COMPRESSION SPRING  
(a) Remove the compression spring.



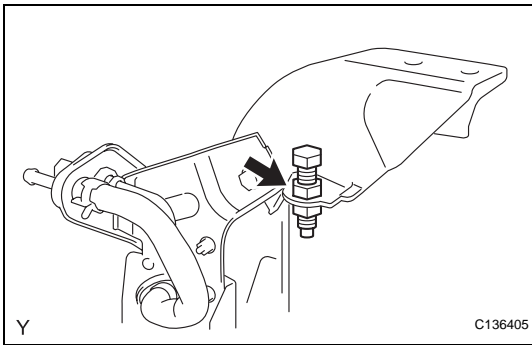
3. REMOVE CLUTCH PEDAL SUB-ASSEMBLY  
(a) Remove the bolt and nut.  
(b) Remove the clutch pedal from the clutch pedal support.



4. REMOVE CLUTCH PEDAL SPRING HOLDER  
(a) Remove the clutch pedal spring holder from the clutch pedal support.

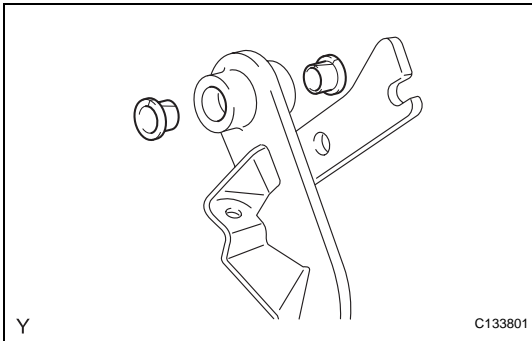


5. REMOVE CLUTCH SWITCH ASSEMBLY (w/ Cruise Control)  
(a) Loosen the lock nut and remove the clutch switch.

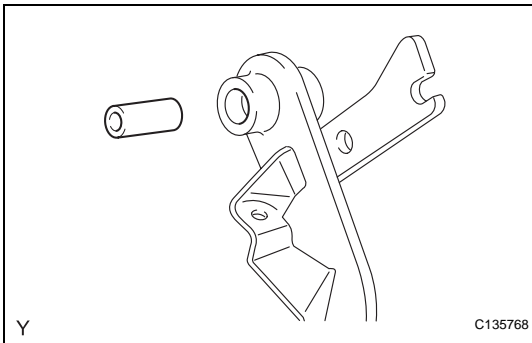


- 6. REMOVE CLUTCH PEDAL STOPPER BOLT (w/o Cruise Control)**  
 (a) Loosen the lock nut and remove the clutch pedal stopper bolt.

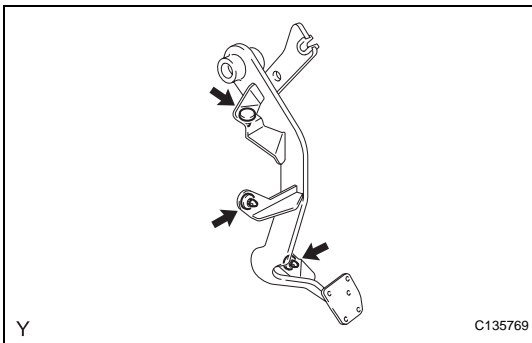
**7. REMOVE CLUTCH PEDAL PAD**



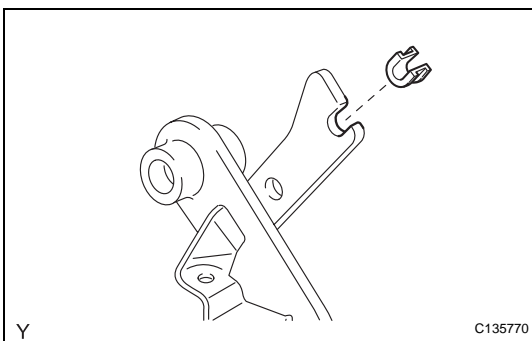
- 8. REMOVE CLUTCH PEDAL BUSH**  
 (a) Remove the 2 bushes from the clutch pedal.



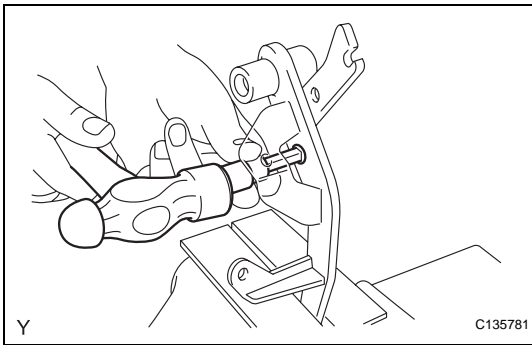
- 9. REMOVE CLUTCH PEDAL SHAFT COLLAR**  
 (a) Remove the clutch pedal shaft collar.



- 10. REMOVE CLUTCH PEDAL NO.1 CUSHION**  
 (a) Using needle-nose pliers, remove the 3 No. 1 cushions from the clutch pedal.



- 11. REMOVE CLUTCH PEDAL TURNOVER BUSH**  
 (a) Remove the clutch pedal turnover bush from the clutch pedal.



## 12. REMOVE CLUTCH MASTER CYLINDER PUSH ROD CLEVIS BUSH

- (a) Using an 8 mm hexagon wrench and a hammer, remove the clevis bush.

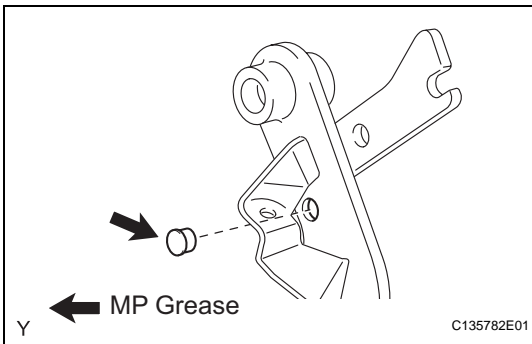
## INSTALLATION

### 1. INSTALL CLUTCH MASTER CYLINDER PUSH ROD CLEVIS BUSH

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

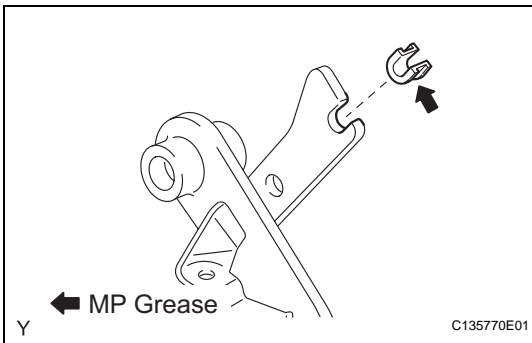
HINT:

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



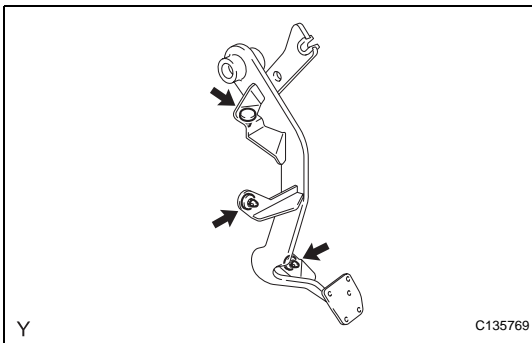
### 2. INSTALL CLUTCH PEDAL TURNOVER BUSH

- (a) Apply MP grease to the clutch pedal turnover bush.
- (b) Install the clutch pedal turnover bush onto the clutch pedal.



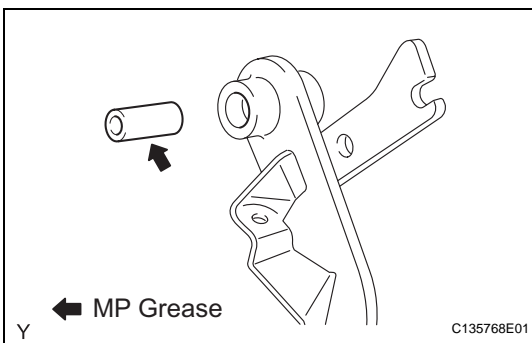
### 3. INSTALL CLUTCH PEDAL NO.1 CUSHION

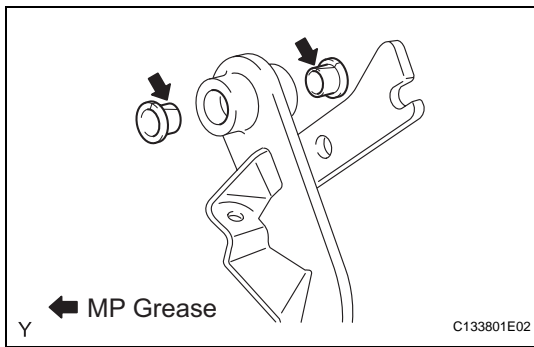
- (a) Install the 3 No. 1 cushions onto the clutch pedal.



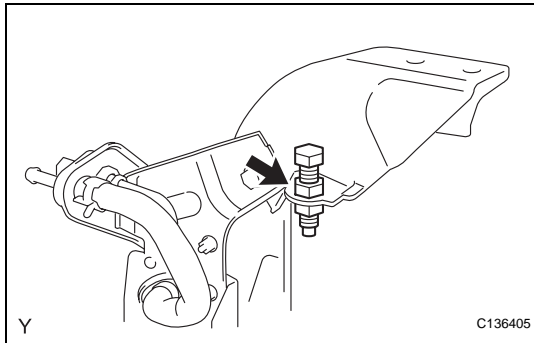
### 4. INSTALL CLUTCH PEDAL SHAFT COLLAR

- (a) Apply MP grease to the clutch pedal shaft collar.
- (b) Install the clutch pedal shaft collar onto the clutch pedal.



**5. INSTALL CLUTCH PEDAL BUSH**

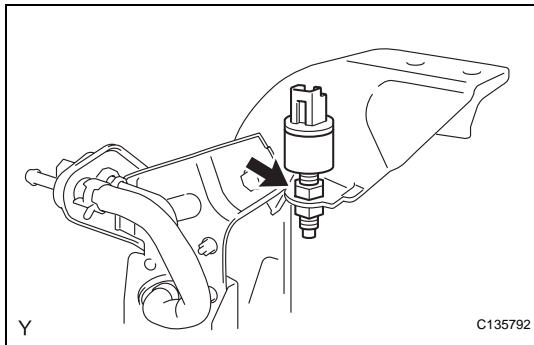
- (a) Apply MP grease to 2 new bushes.
- (b) Install the 2 bushes onto the clutch pedal.

**6. INSTALL CLUTCH PEDAL PAD****7. INSTALL CLUTCH PEDAL STOPPER BOLT (w/o Cruise Control)**

- (a) Install the clutch pedal stopper bolt and provisionally tighten the lock nut.

HINT:

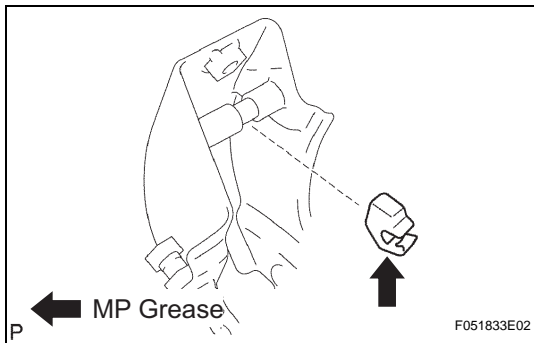
Tighten the lock nut to the specified torque when adjusting the clutch pedal.

**8. INSTALL CLUTCH SWITCH ASSEMBLY (w/ Cruise Control)**

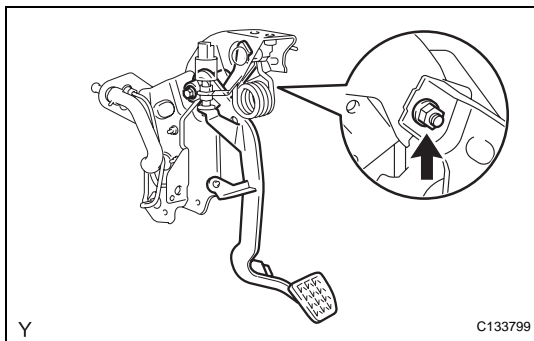
- (a) Install the clutch switch and provisionally tighten the lock nut.

HINT:

Tighten the lock nut to the specified torque when adjusting the clutch pedal.

**9. INSTALL CLUTCH PEDAL SPRING HOLDER**

- (a) Apply MP grease to the contact surface of the clutch pedal spring holder.
- (b) Install the clutch pedal spring holder.

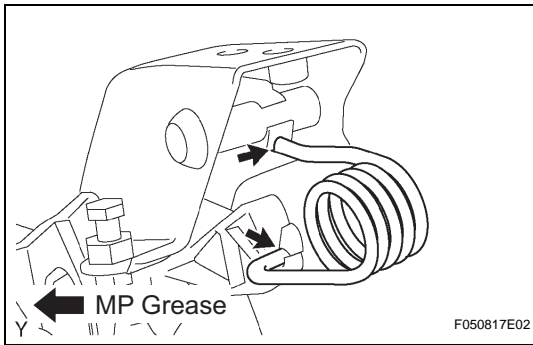
**10. INSTALL CLUTCH PEDAL SUB-ASSEMBLY**

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

**Torque: 34 N\*m (347 kgf\*cm, 25 ft.\*lbf)**

HINT:

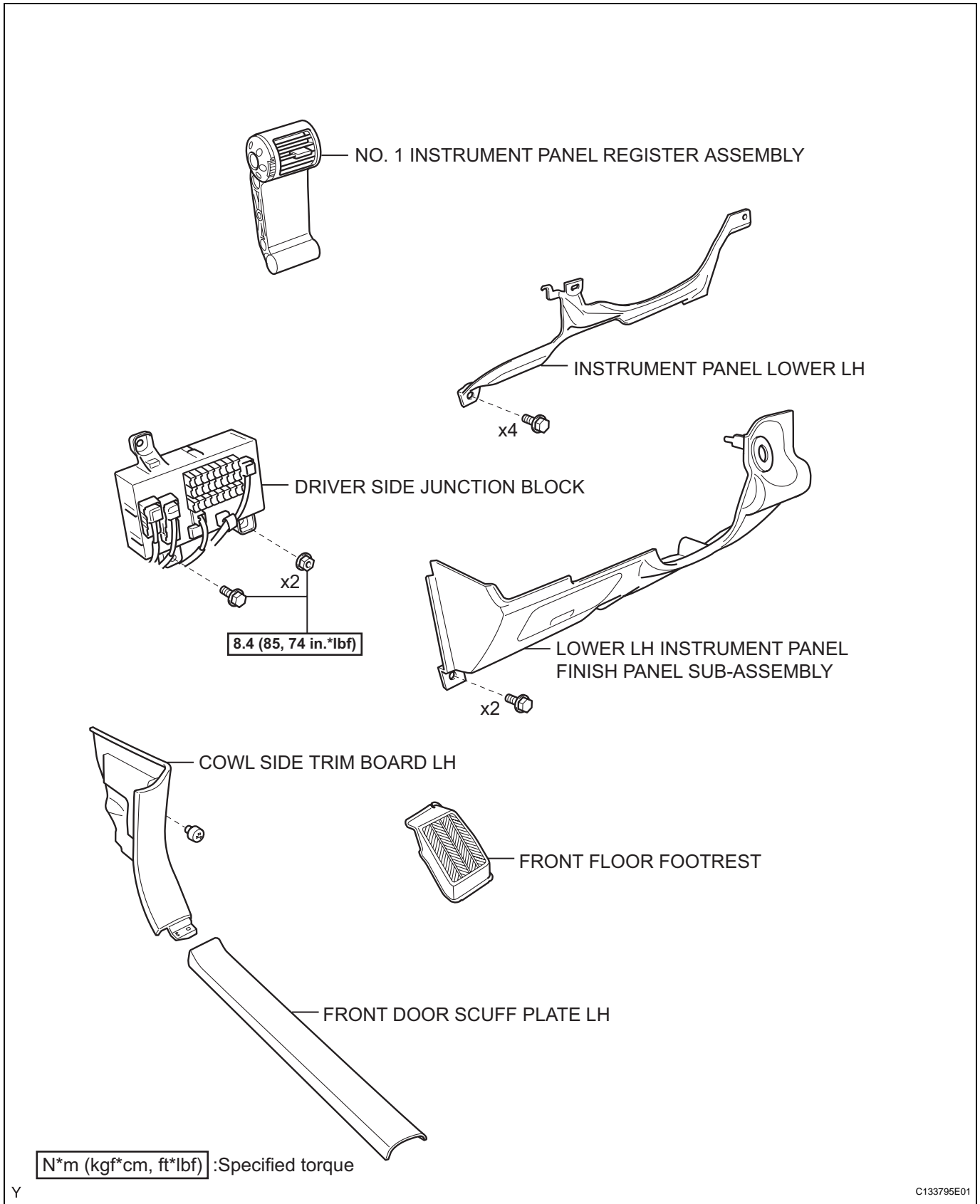
Install the bolt from the left side of the vehicle.



- 11. INSTALL TURN OVER SPRING SEAT COMPRESSION SPRING**
  - (a) Apply MP grease to the contact surfaces of the spring holder, clutch pedal and spring.
  - (b) Install the spring onto the clutch pedal and spring holder.
- 12. INSTALL CLUTCH MASTER CYLINDER ASSEMBLY**  
(See page [CL-12](#))
- 13. BLEED CLUTCH PIPE LINE**
- 14. INSPECT AND ADJUST CLUTCH PEDAL SUB-ASSEMBLY** (See page [CL-3](#))
- 15. CHECK FOR CLUTCH FLUID LEAKAGE**
- 16. CHECK FLUID LEVEL IN RESERVOIR**

# CLUTCH MASTER CYLINDER

## COMPONENTS

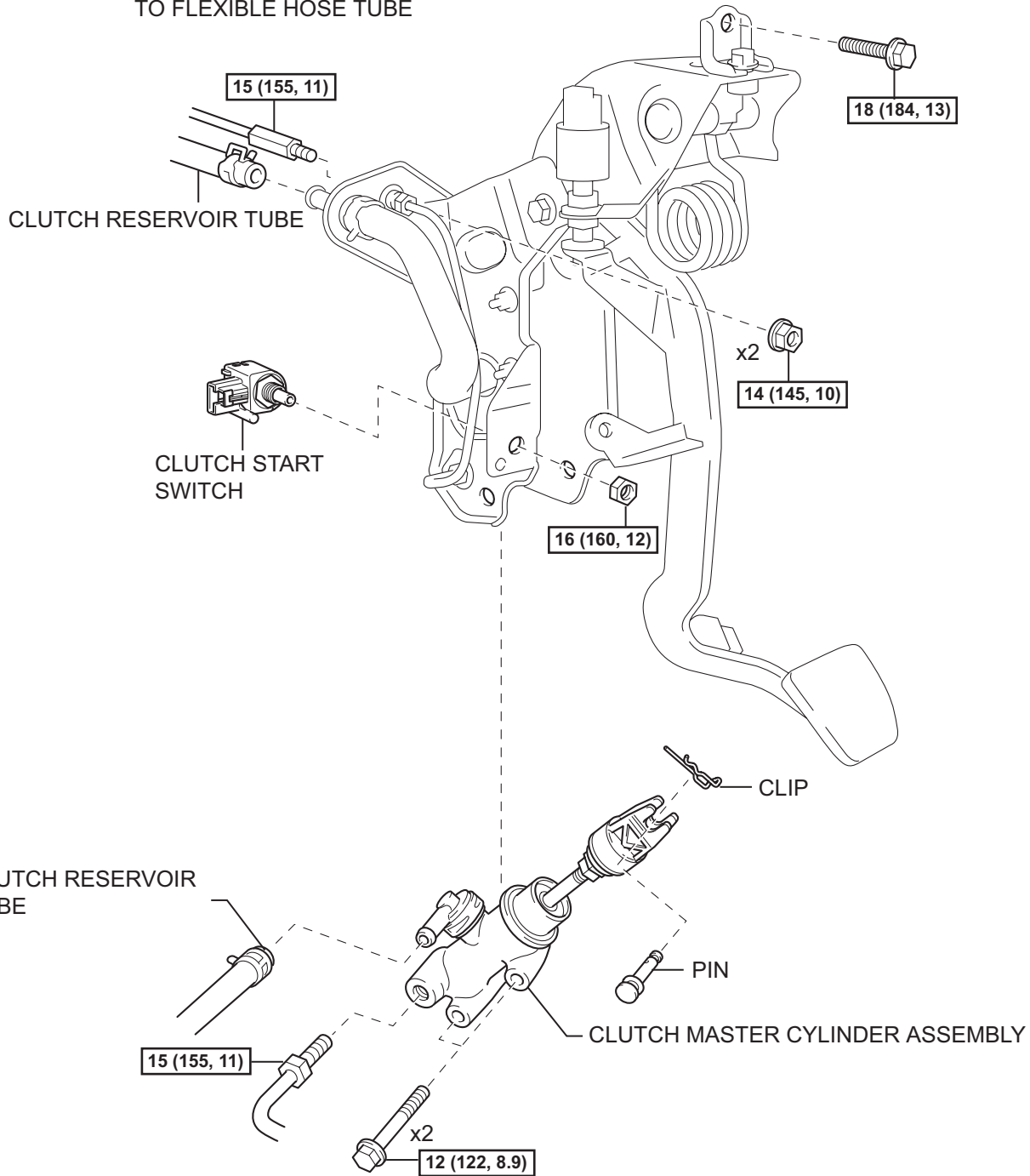


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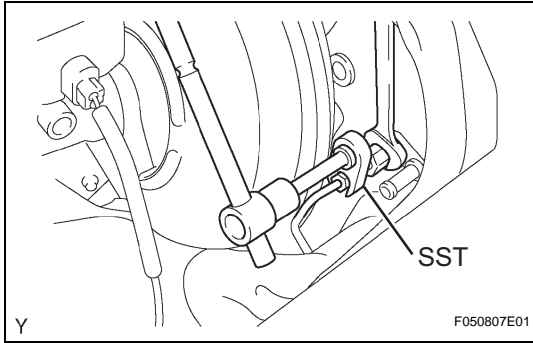
CLUTCH MASTER CYLINDER  
TO FLEXIBLE HOSE TUBE



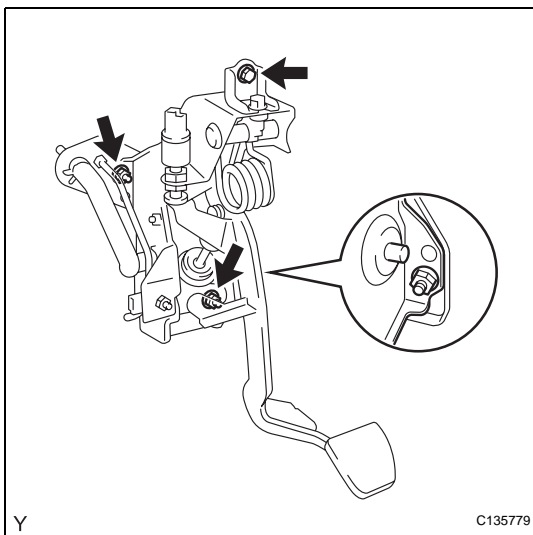
**N\*m (kgf\*cm, ft\*lbf)** :Specified torque

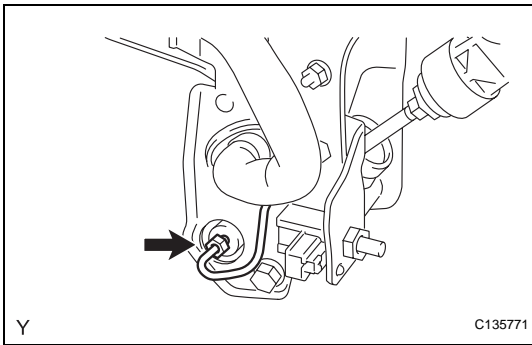
**CL**

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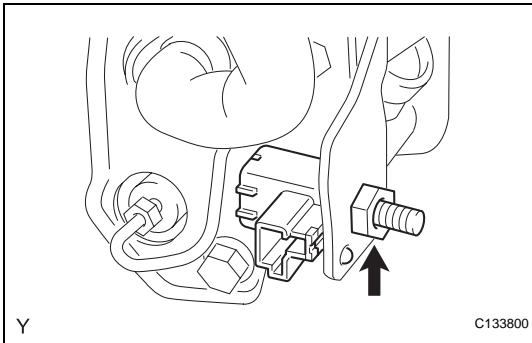
**REMOVAL**

1. DRAIN CLUTCH FLUID
2. DISCONNECT CLUTCH RESERVOIR TUBE
3. DISCONNECT CLUTCH MASTER CYLINDER TO FLEXIBLE HOSE TUBE
  - (a) Using SST, disconnect the flexible hose tube.  
SST 09023-00101
4. REMOVE FRONT FLOOR FOOTREST (See page IR-2)
5. REMOVE FRONT DOOR SCUFF PLATE LH (See page IR-15)
6. REMOVE COWL SIDE TRIM BOARD LH (See page IR-15)
7. REMOVE NO. 1 INSTRUMENT PANEL REGISTER ASSEMBLY (See page IP-13)
8. REMOVE LOWER LH INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY (See page IP-14)
9. REMOVE INSTRUMENT PANEL LOWER LH (See page IP-14)
10. SEPARATE DRIVER SIDE JUNCTION BLOCK (See page CC-40)
11. REMOVE CLUTCH PEDAL WITH CLUTCH MASTER CYLINDER
  - (a) Disconnect the clutch start switch connector.
  - (b) Disconnect the clutch switch connector. (w/ Cruise Control)
  - (c) Remove the 2 nuts and bolt, then remove the clutch pedal with clutch master cylinder.
12. REMOVE CLUTCH MASTER CYLINDER ASSEMBLY
  - (a) Disconnect the clutch reservoir tube.

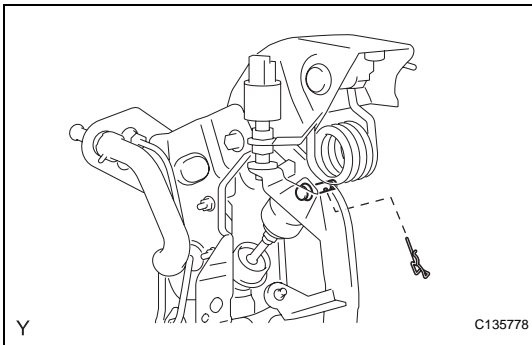




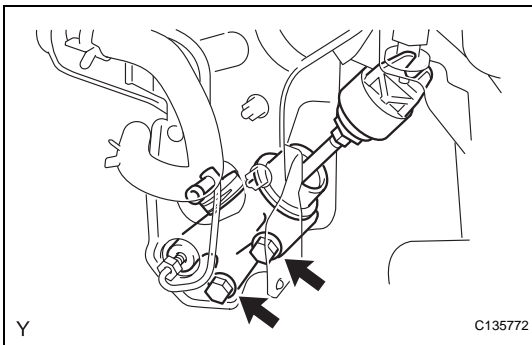
- (b) Using SST, disconnect the 2 way tube from the clutch master cylinder.  
**SST 09023-00101**



- (c) Remove the nut and clutch start switch from the clutch pedal support.

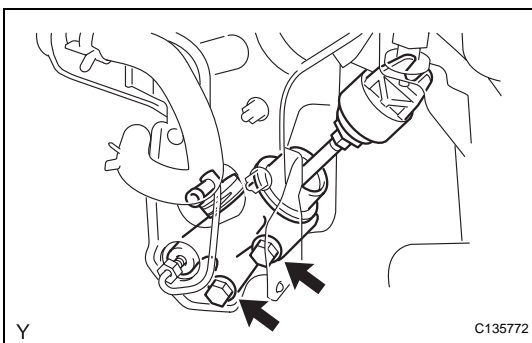


- (d) Remove the clip and the pin and separate the push rod clevis from the clutch pedal.



- (e) Remove the 2 bolts, then remove the clutch master cylinder.

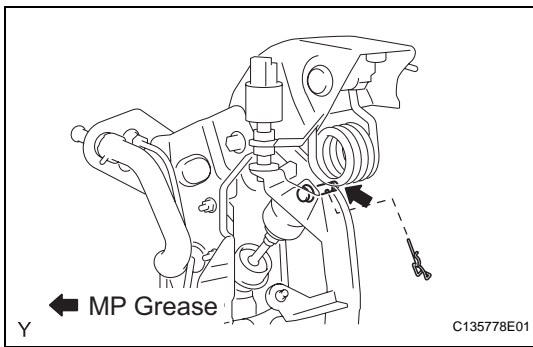
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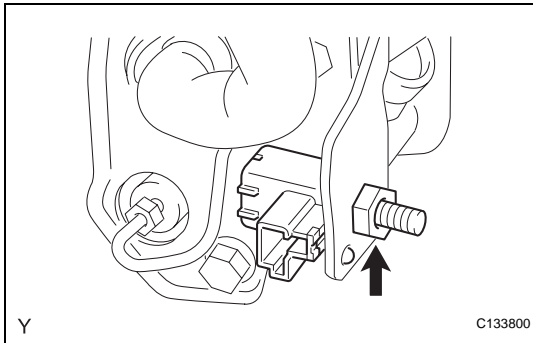
## INSTALLATION

### 1. INSTALL CLUTCH MASTER CYLINDER ASSEMBLY

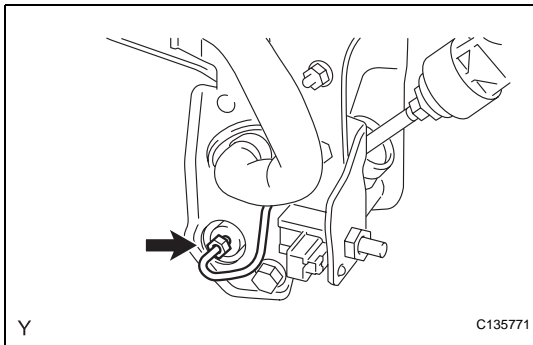
- (a) Install the clutch master cylinder with the 2 bolts.  
**Torque: 12 N\*m (122 kgf\*cm, 8.9 ft.\*lbf)**



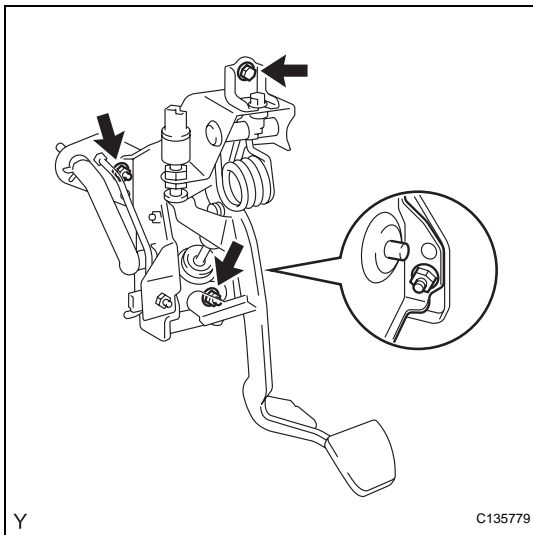
- (b) Apply MP grease to the pin.
- (c) Install the push rod clevis with the pin and clip.



- (d) Install the clutch start switch with the nut.  
**Torque: 16 N\*m (160 kgf\*cm, 12 ft.\*lbf)**



- (e) Using SST, connect the clutch master cylinder to 2 way tube.  
**SST 09023-00101**  
**Torque: 15 N\*m (155 kgf\*cm, 11 ft.\*lbf)**
- (f) Connect the clutch reservoir tube.



## 2. INSTALL CLUTCH PEDAL WITH CLUTCH MASTER CYLINDER

- (a) Install the clutch pedal with clutch master cylinder onto the vehicle with the 2 nuts and bolt.  
**Torque: 14 N\*m (145 kgf\*cm, 10 ft.\*lbf) for nut**  
**18 N\*m (184 kgf\*cm, 13 ft.\*lbf) for bolt**
- (b) Connect the clutch switch connector. (w/ Cruise Control)
- (c) Connect the clutch start switch connector.

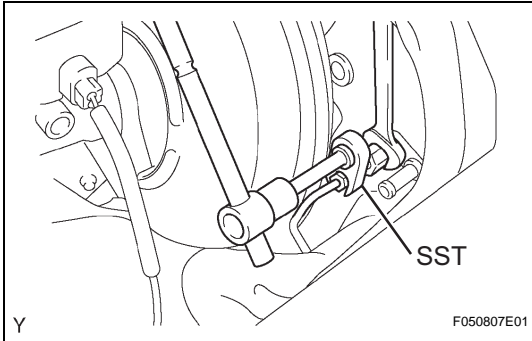
## 3. INSTALL DRIVER SIDE JUNCTION BLOCK (See page [CC-41](#))

## 4. INSTALL INSTRUMENT PANEL LOWER LH (See page [IP-29](#))

## 5. INSTALL LOWER LH INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY (See page [IP-29](#))

## 6. INSTALL NO. 1 INSTRUMENT PANEL REGISTER ASSEMBLY (See page [IP-30](#))

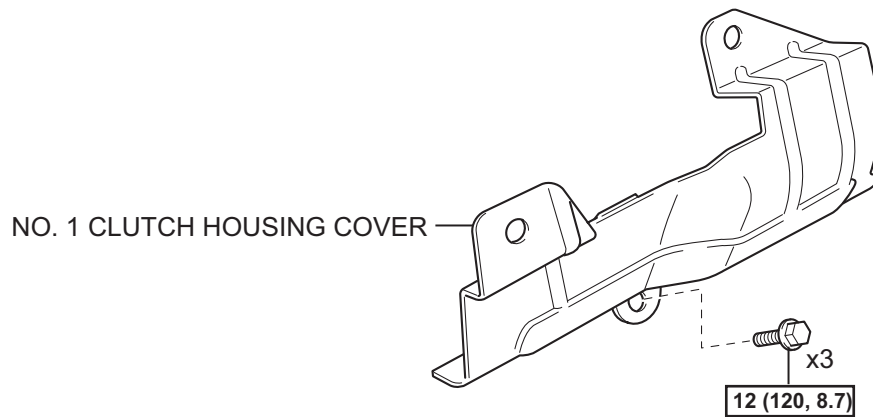
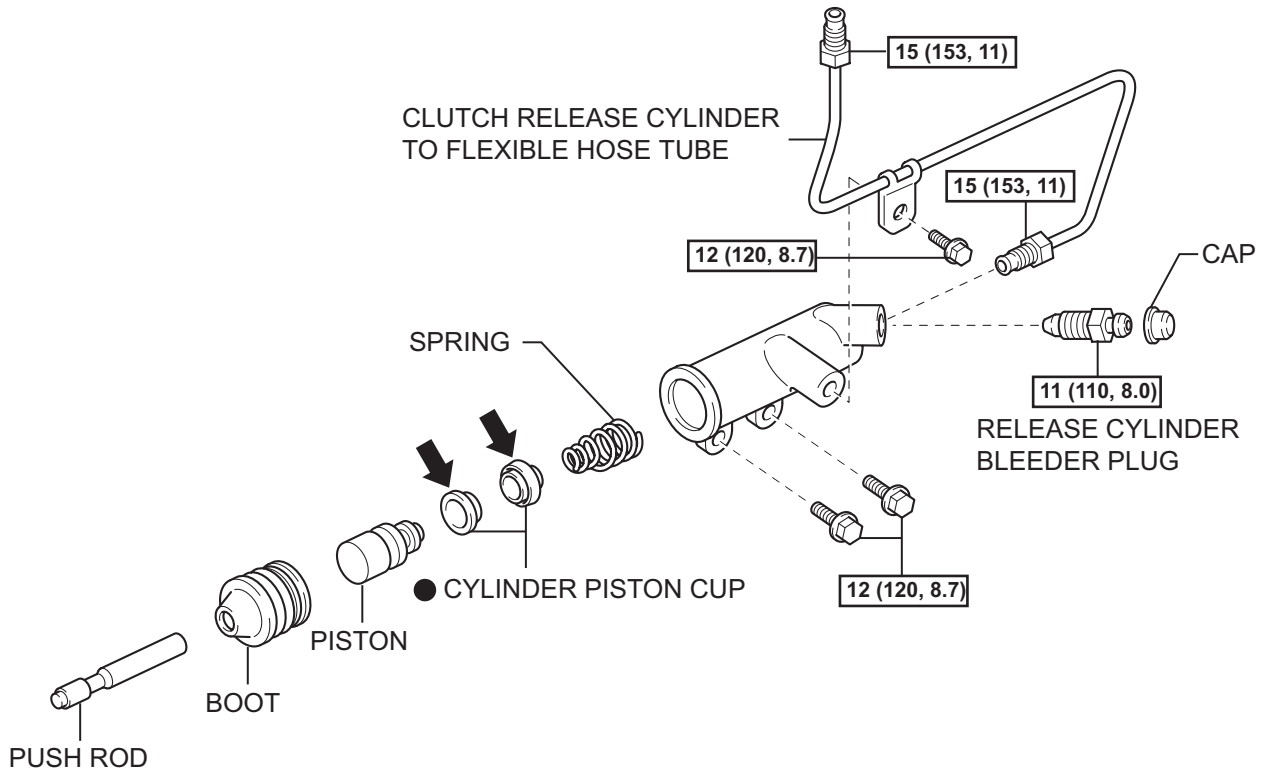
## 7. INSTALL COWL SIDE TRIM BOARD LH (See page [IR-45](#))



8. **INSTALL FRONT DOOR SCUFF PLATE LH** (See page [IR-45](#))
9. **INSTALL FRONT FLOOR FOOTREST** (See page [IR-2](#))
10. **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)**
11. **CONNECT CLUTCH RESERVOIR TUBE**
12. **BLEED CLUTCH PIPE LINE**
13. **INSPECT AND ADJUST CLUTCH PEDAL SUB-ASSEMBLY** (See page [CL-3](#))
14. **CHECK FOR CLUTCH FLUID LEAKAGE**
15. **CHECK FLUID LEVEL IN RESERVOIR**

# CLUTCH RELEASE CYLINDER

## COMPONENTS



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

● Non-reusable part   ← Lithium soap base glycol grease

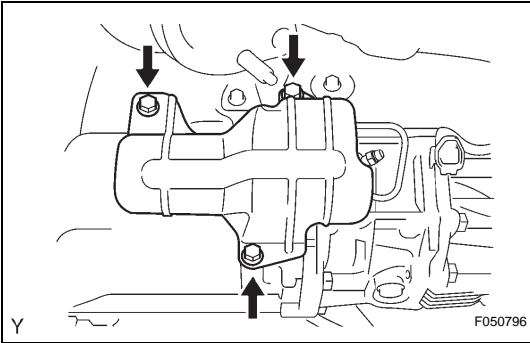
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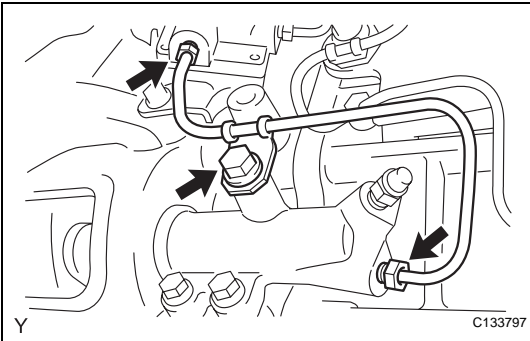
## REMOVAL

1. **DRAIN CLUTCH FLUID**
2. **REMOVE NO. 1 CLUTCH HOUSING COVER**
  - (a) Remove the 3 bolts and No. 1 clutch housing cover.



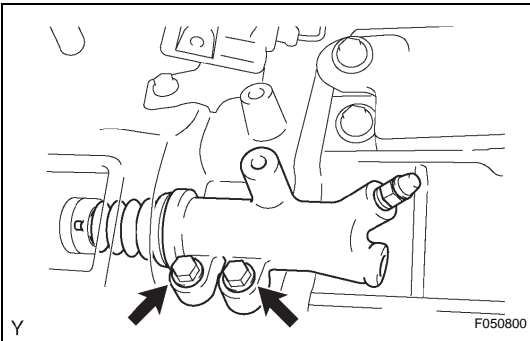
3. **DISCONNECT CLUTCH RELEASE CYLINDER TO FLEXIBLE HOSE TUBE**

- (a) Using SST, disconnect the flexible hose tube.  
**SST 09023-00101**
- (b) Remove the bolt and clutch line bracket.  
**HINT:**  
Use a container to catch the fluid.



4. **REMOVE CLUTCH RELEASE CYLINDER ASSEMBLY**

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



## DISASSEMBLY

### 1. REMOVE CLUTCH RELEASE CYLINDER KIT

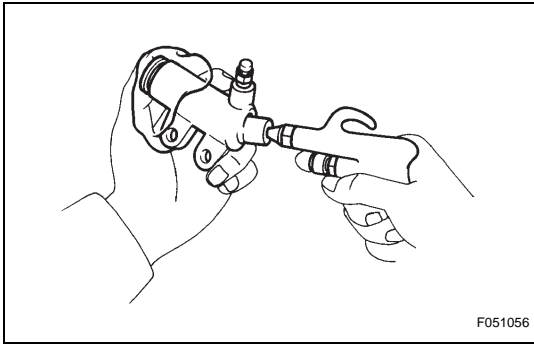
- (a) Remove the boot from the cylinder body.
- (b) Remove the push rod from the cylinder body.
- (c) Using compressed air, remove the piston together with the spring from the cylinder.

**NOTICE:**

**Do not damage the inside of the cylinder body.**

- (d) Remove the 2 cylinder piston cups from the piston.
- (e) Remove the bleeder plug cap from the bleeder plug.

### 2. REMOVE RELEASE CYLINDER BLEEDER PLUG

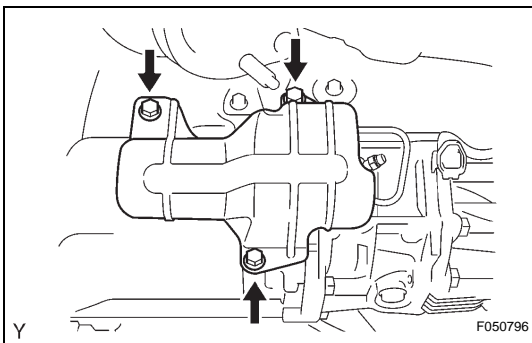
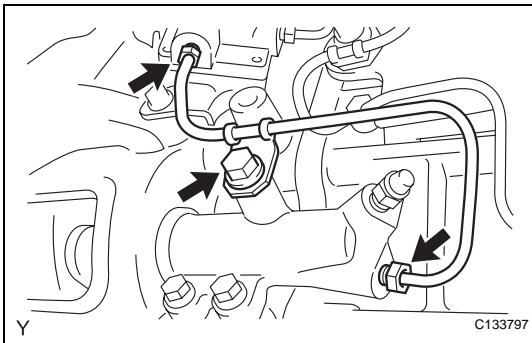
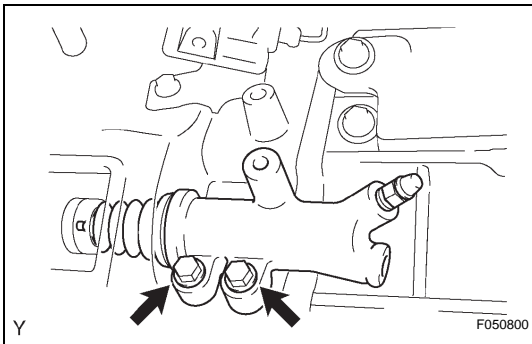
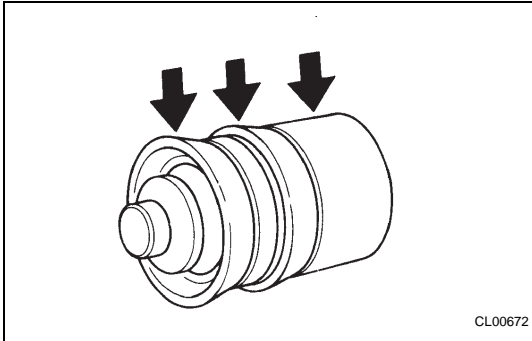


## REASSEMBLY

1. **INSTALL RELEASE CYLINDER BLEEDER PLUG**  
Torque: 11 N\*m (110 kgf\*cm, 8.0 ft.\*lbf)
2. **INSTALL CLUTCH RELEASE CYLINDER KIT**
  - (a) Install the bleeder plug cap onto the bleeder plug.
  - (b) Install 2 new cylinder cups onto the piston.
  - (c) Install the spring onto the cylinder body.
  - (d) Apply lithium soap base glycol grease to the portions shown in the illustration.
  - (e) Install the piston onto the cylinder body.

**NOTICE:**  
**Do not damage the inside of the cylinder body.**

  - (f) Install the push rod into the cylinder body.
  - (g) Install the boot onto the cylinder body.

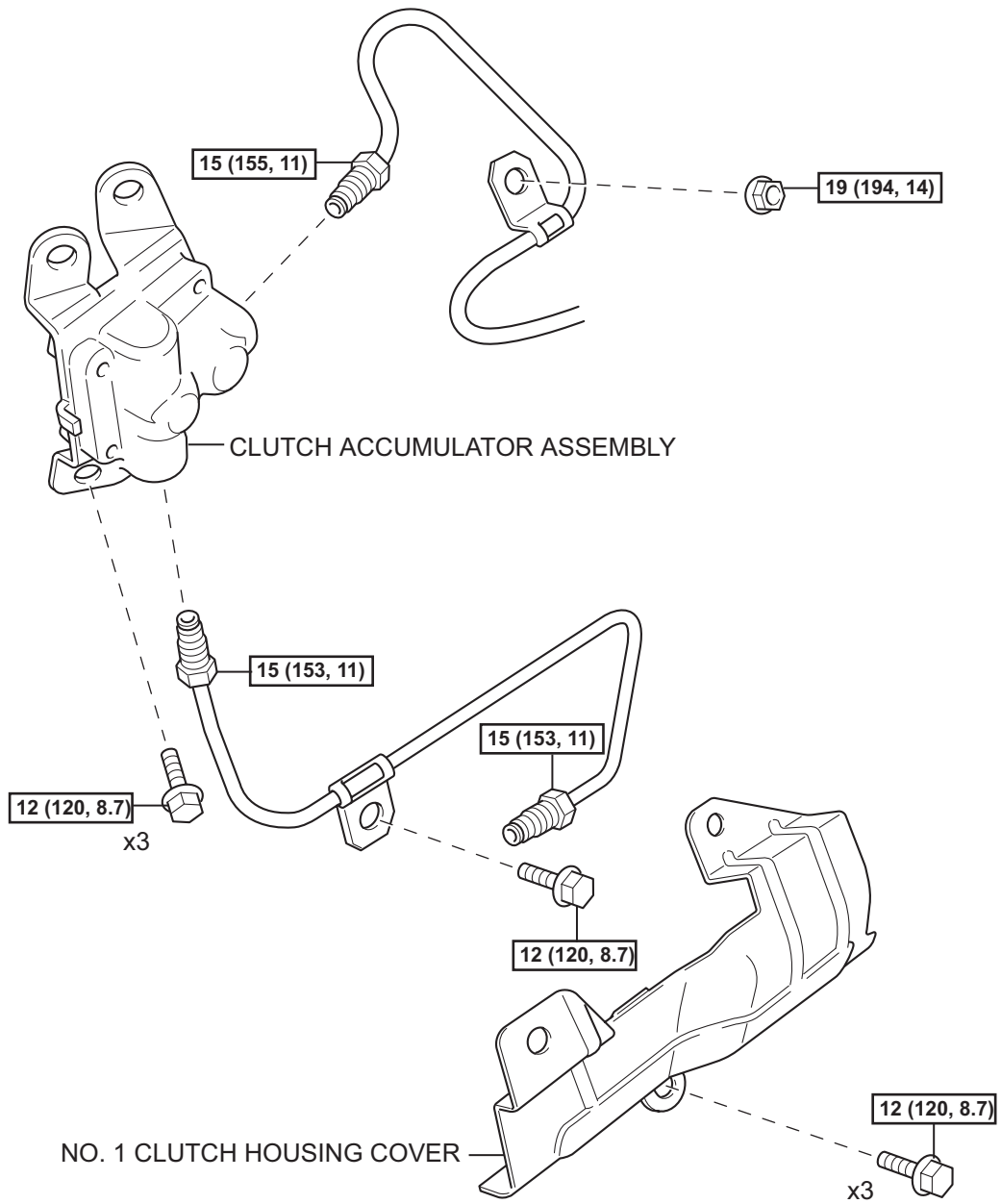


## INSTALLATION

1. **INSTALL CLUTCH RELEASE CYLINDER ASSEMBLY**
  - (a) Install the clutch release cylinder with the 2 bolts.  
Torque: 12 N\*m (120 kgf\*cm, 8.7 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 (153 kgf\*cm, 11 ft.\*lbf)
  - (b) Install the clutch line bracket.  
Torque: 12 N\*m (120 kgf\*cm, 8.7 ft.\*lbf)
3. **BLEED CLUTCH PIPE LINE**
  - (a) Fill the brake reservoir tank with brake fluid and bleed the clutch system.  
Torque: 11 N\*m (110 kgf\*cm, 8.0 ft.\*lbf)
4. **CHECK FOR CLUTCH FLUID LEAKAGE**
5. **INSTALL NO. 1 CLUTCH HOUSING COVER**
  - (a) Install the No. 1 clutch housing cover with the 3 bolts.  
Torque: 12 N\*m (120 kgf\*cm, 8.7 ft.\*lbf)
6. **CHECK FLUID LEVEL IN RESERVOIR**

# CLUTCH ACCUMULATOR

## COMPONENTS

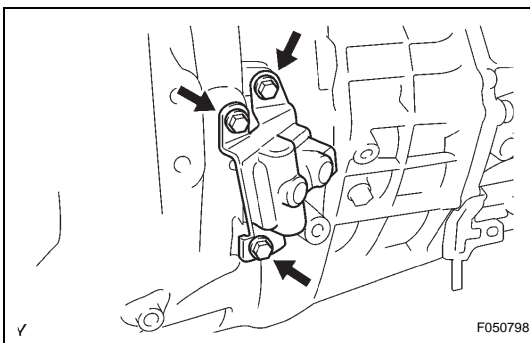
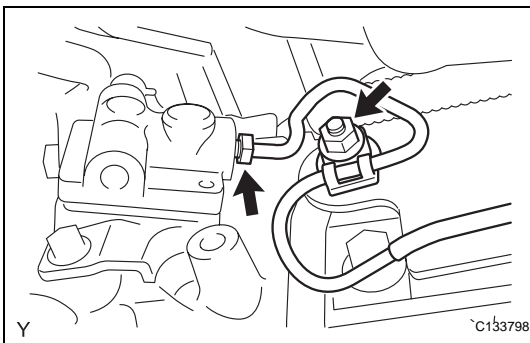
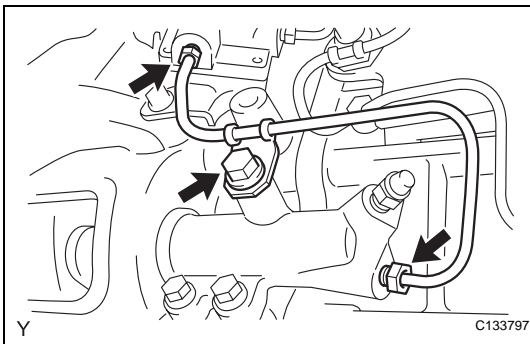
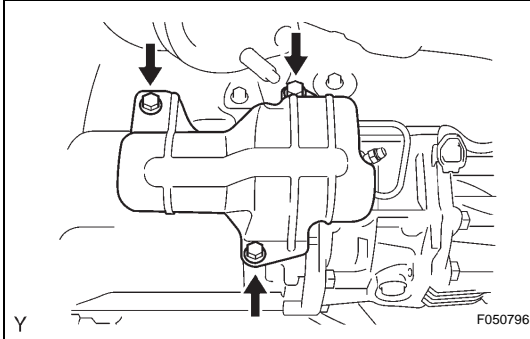


**N\*m (kgf\*cm, ft\*lbf)** :Specified torque

CL

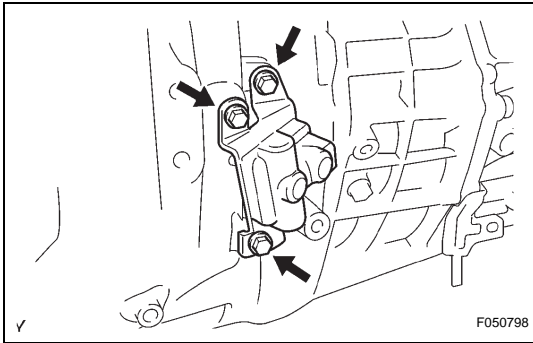
## REMOVAL

1. DRAIN CLUTCH FLUID
2. REMOVE NO. 2 EXHAUST FRONT PIPE ASSEMBLY  
(See page [EX-4](#))
3. REMOVE NO. 2 MANIFOLD STAY (See page [MT-9](#))
4. REMOVE NO. 1 CLUTCH HOUSING COVER
  - (a) Remove the 3 bolts and No. 1 clutch housing cover.



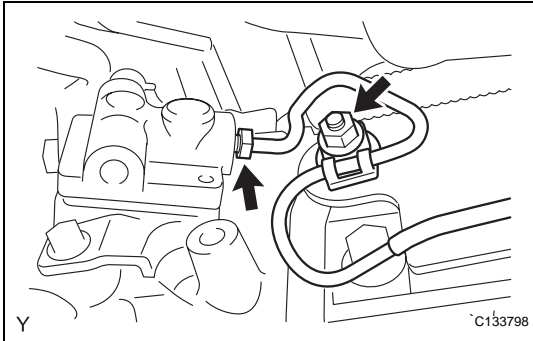
5. REMOVE CLUTCH ACCUMULATOR ASSEMBLY
  - (a) Using SST, disconnect the flexible hose tube from the clutch accumulator.  
**SST 09023-00101**  
HINT:  
Use a container to catch the fluid.
  - (b) Remove the bolt and clutch line bracket.
  - (c) Using SST, disconnect the flexible hose tube from the clutch accumulator.  
**SST 09023-00101**
  - (d) Remove the nut and clutch line bracket.
  - (e) Remove the 3 bolts and clutch accumulator.

## INSTALLATION



### 1. INSTALL CLUTCH ACCUMULATOR ASSEMBLY

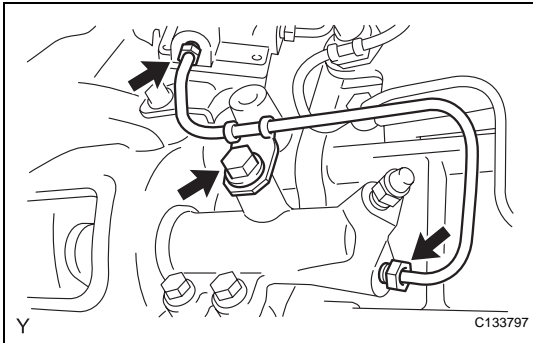
- (a) Install the clutch accumulator with the 3 bolts.  
**Torque: 12 N\*m (120 kgf\*cm, 8.7 ft.\*lbf)**



- (b) Using SST, tighten the flexible hose tube.  
**SST 09023-00101**

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

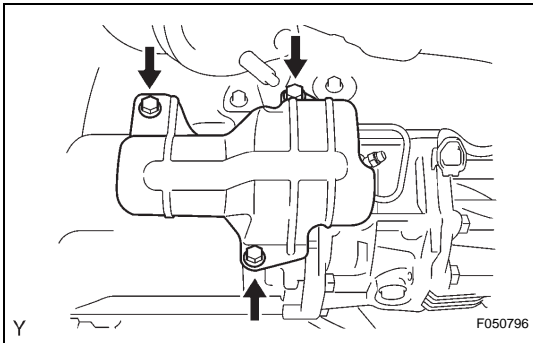
- (c) Install the clutch line bracket with the nut  
**Torque: 19 N\*m (194 kgf\*cm, 14 ft.\*lbf)**



- (d) Using SST, connect the flexible hose tube.  
**SST 09023-00101**

**Torque: 15 N\*m (153 kgf\*cm, 11 ft.\*lbf)**

- (e) Install the clutch line bracket with the bolt.  
**Torque: 12 N\*m (120 kgf\*cm, 8.7 ft.\*lbf)**



### 2. INSTALL NO. 1 CLUTCH HOUSING COVER

- (a) Install the No. 1 clutch housing cover with the 3 bolts.  
**Torque: 12 N\*m (120 kgf\*cm, 8.7 ft.\*lbf)**

### 3. INSTALL NO. 2 MANIFOLD STAY (See page [MT-14](#))

### 4. INSTALL NO. 2 EXHAUST FRONT PIPE ASSEMBLY (See page [EX-5](#))

### 5. BLEED CLUTCH PIPE LINE

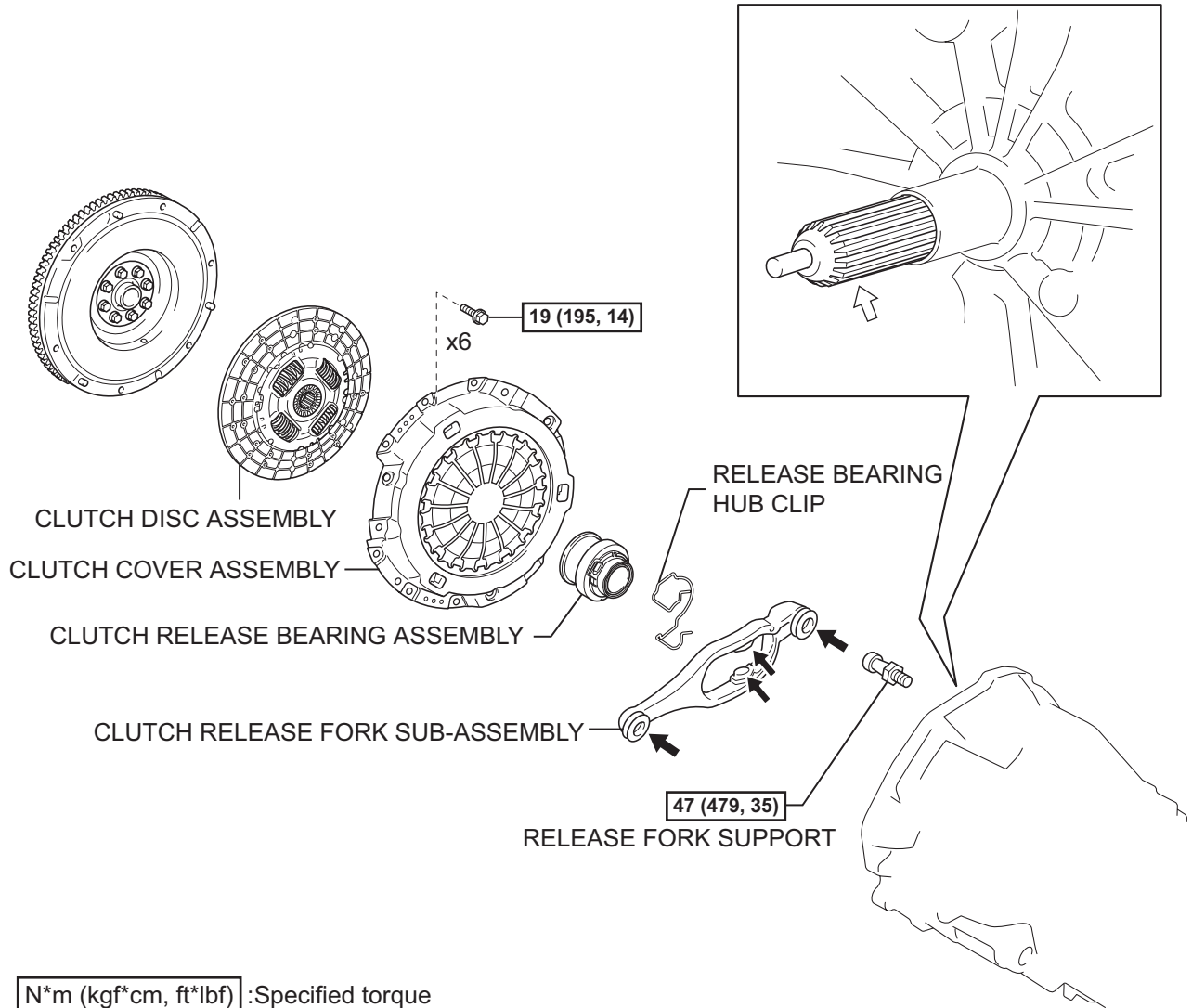
- (a) Fill the brake reservoir tank with the brake fluid and bleed the clutch system.

**Torque: 11 N\*m (110 kgf\*cm, 8.0 ft.\*lbf)**

### 6. CHECK FOR CLUTCH FLUID LEAKAGE

### 7. CHECK FLUID LEVEL IN RESERVOIR

# CLUTCH UNIT COMPONENTS



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

← Clutch spline grease   ← Release hub grease

Y

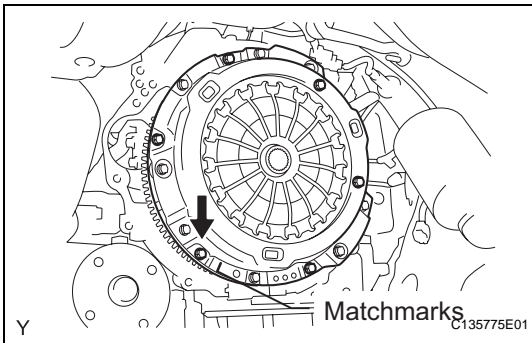
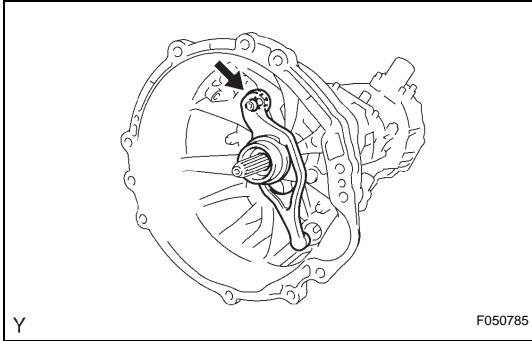
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## REMOVAL

1. **REMOVE MANUAL TRANSMISSION ASSEMBLY**  
(See page [MT-8](#))
2. **REMOVE CLUTCH RELEASE FORK SUB-ASSEMBLY**
  - (a) Remove the clutch release fork together with the clutch release bearing from the transmission assembly.
3. **REMOVE CLUTCH RELEASE BEARING ASSEMBLY**
  - (a) Remove the clutch release bearing assembly from the clutch release fork.
4. **REMOVE RELEASE FORK SUPPORT**
  - (a) Remove the release fork support from the transaxle assembly.
5. **REMOVE RELEASE BEARING HUB CLIP**
6. **REMOVE CLUTCH COVER ASSEMBLY**
  - (a) Align the matchmark on the clutch cover assembly with the one on the flywheel sub-assembly.
  - (b) Loosen each set bolt one turn at a time until the spring tension is released.
  - (c) Remove the 6 bolts and clutch cover assembly.

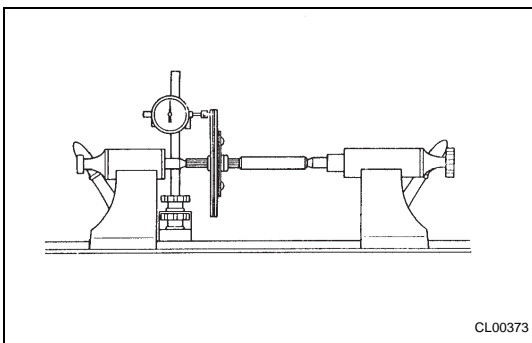
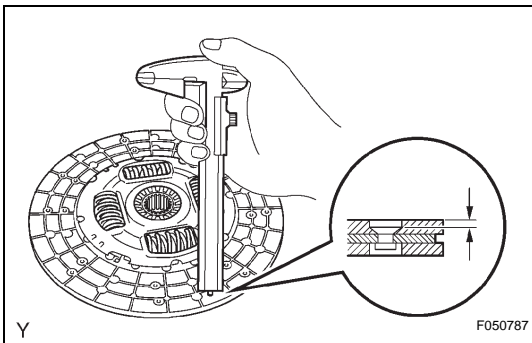
**NOTICE:**  
Do not drop the clutch disc assembly.

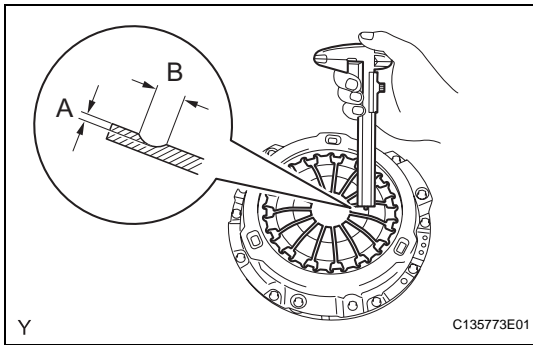


7. **REMOVE CLUTCH DISC ASSEMBLY**  
**NOTICE:**  
Keep the lining part of the clutch disc assembly, pressure plate and surface of the flywheel sub-assembly free from oil and foreign matter.

## INSPECTION

1. **INSPECT CLUTCH DISC ASSEMBLY**
  - (a) Using vernier calipers, measure the rivet head depth.  
**Maximum rivet depth:**  
**0.3 mm (0.012 in.)**  
If necessary, replace the clutch disc assembly.
  - (b) Install the clutch disc assembly onto the transaxle assembly.  
**NOTICE:**  
Insert the clutch disc assembly in the correct orientation.
  - (c) Using a dial indicator, check the clutch disc assembly runout.  
**Minimum runout:**  
**0.7 mm (0.028 in.)**  
If necessary, replace the clutch disc assembly.





## 2. INSPECT CLUTCH COVER ASSEMBLY

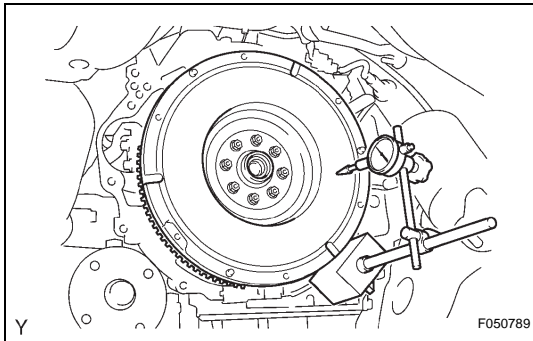
- (a) Using vernier calipers, inspect the depth and width of wear of the diaphragm spring.

### Minimum:

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

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

If necessary, replace the clutch cover assembly.



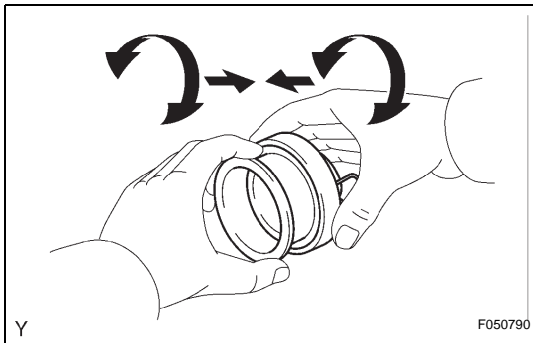
## 3. INSPECT FLYWHEEL SUB-ASSEMBLY

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

### Maximum runout:

**0.1 mm (0.004 in.)**

If necessary, replace the flywheel sub-assembly.



## 4. INSPECT CLUTCH RELEASE BEARING ASSEMBLY

- (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 assembly.

## INSTALLATION

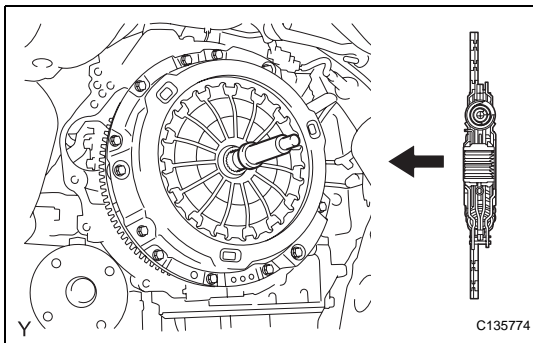
### 1. INSTALL CLUTCH DISC ASSEMBLY

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

**SST 09301-00220**

### NOTICE:

**Insert the clutch disc assembly in the correct orientation.**



### 2. INSTALL CLUTCH COVER ASSEMBLY

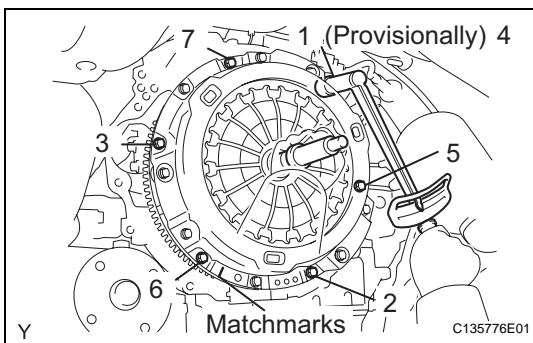
- (a) Align the matchmarks on the clutch cover assembly and flywheel sub-assembly.

- (b) Following the procedures shown in the illustration, tighten the 6 bolts, in the order starting with the bolt located near the knock pin on the top.

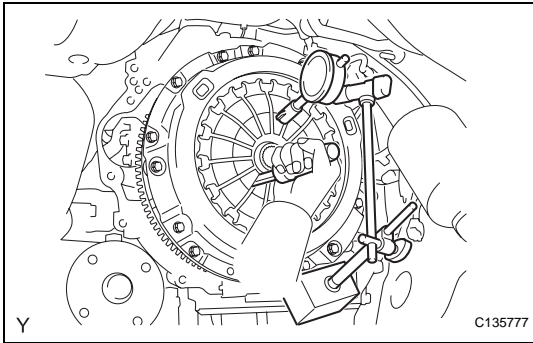
**Torque: 19 N\*m (195 kgf\*cm, 14 ft.\*lbf)**

### HINT:

- Following the order in the illustration, uniformly tighten the bolts.



- Move SST up and down, right and left lightly, after checking that the disc is in the center, and tighten the bolts.



### 3. INSPECT AND ADJUST CLUTCH COVER ASSEMBLY

- (a) 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, adjust the diaphragm spring tip alignment using SST.

**SST 09333-00013**

### 4. INSTALL RELEASE FORK SUPPORT

- (a) Install the release fork support onto the transaxle assembly.

**Torque: 47 N\*m (479 kgf\*cm, 35 ft.\*lbf)**

### 5. INSTALL RELEASE BEARING HUB CLIP

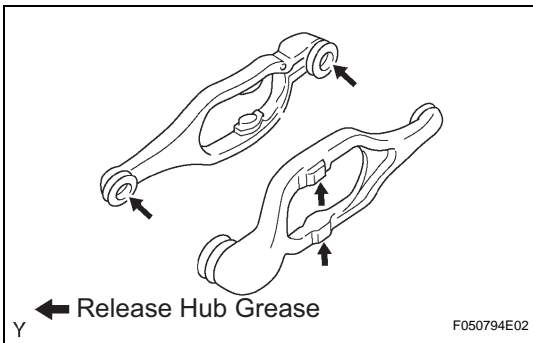
### 6. INSTALL CLUTCH RELEASE FORK SUB-ASSEMBLY

- (a) Apply release hub grease to the release fork and release bearing assembly contact surfaces, release fork and push rod contact surface and release fork pivot point.

**Sealant:**

**Toyota Genuine Release Hub Grease or Equivalent**

- (b) Install the release fork onto the release bearing assembly.



### 7. INSTALL CLUTCH RELEASE BEARING ASSEMBLY

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

**Sealant:**

**Toyota Genuine Clutch Spline Grease or Equivalent**

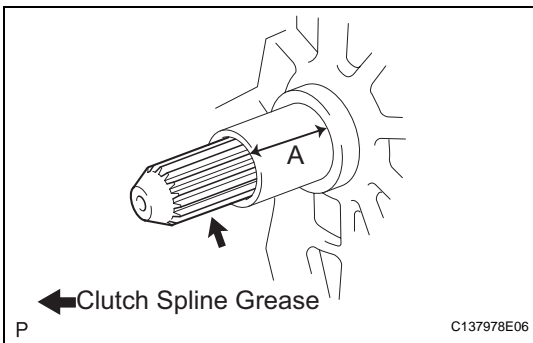
**NOTICE:**

**Do not apply grease to portion A shown in the illustration.**

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

**NOTICE:**

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

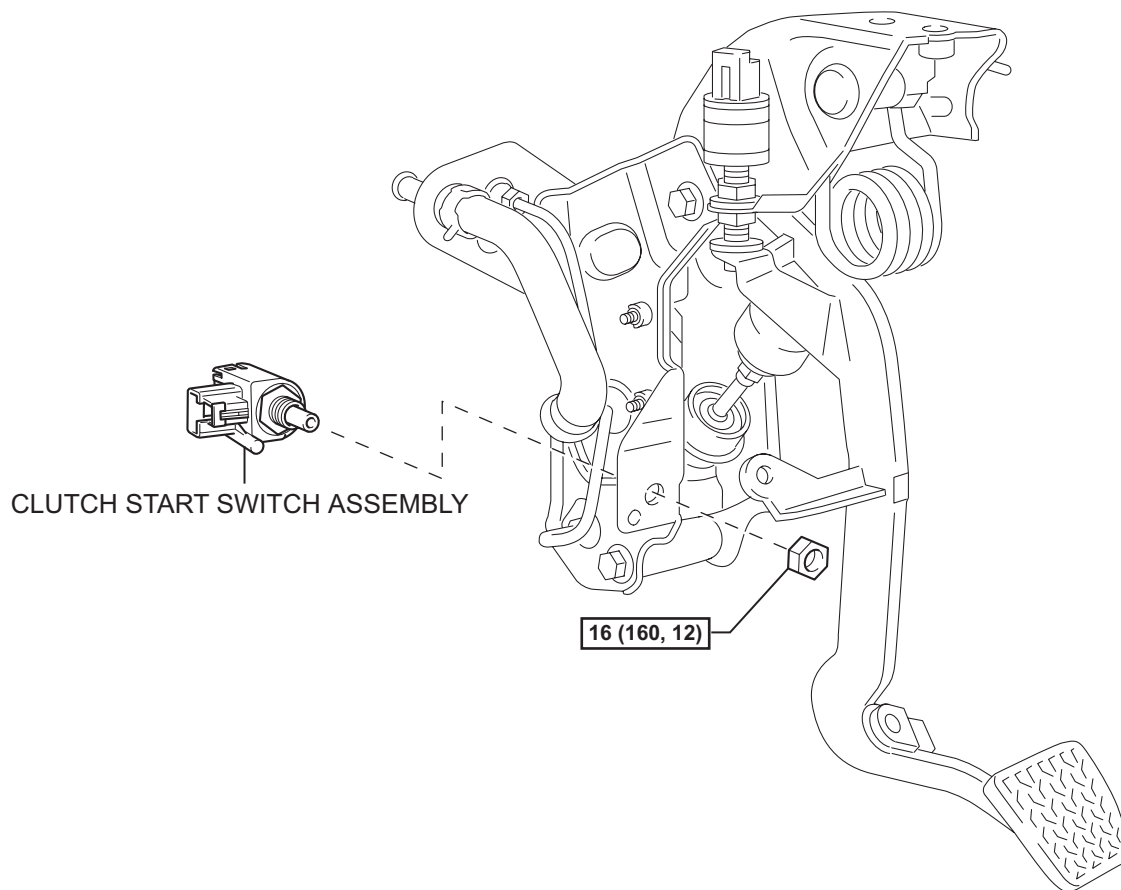


### 8. INSTALL MANUAL TRANSMISSION ASSEMBLY

(See page [MT-11](#))

# CLUTCH START SWITCH

## COMPONENTS



CLUTCH START SWITCH ASSEMBLY

16 (160, 12)

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

Y

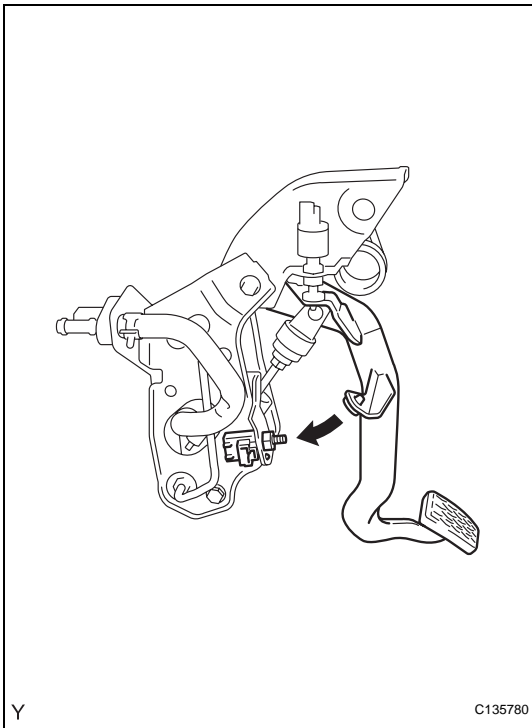
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## ON-VEHICLE INSPECTION

### 1. CHECK CLUTCH START SYSTEM

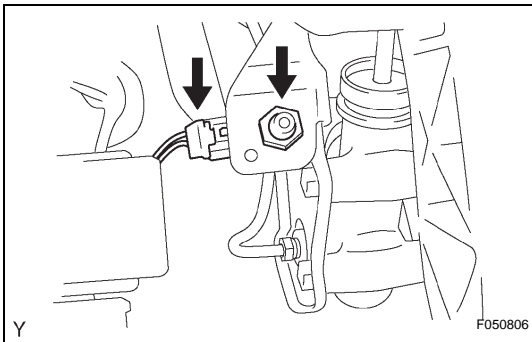
- Check that the engine does not start when the clutch pedal is released.
  - Check that the engine starts when the clutch pedal is fully depressed.
- If necessary, replace the clutch start switch assembly.



## REMOVAL

### 1. REMOVE CLUTCH START SWITCH ASSEMBLY

- Disconnect the clutch start switch assembly connector.
- Remove the nut and remove the clutch start switch assembly from the clutch pedal support.

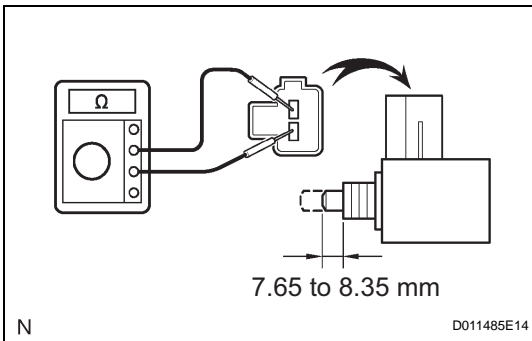


## INSPECTION

### 1. INSPECT CLUTCH START SWITCH ASSEMBLY

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

Switch Position	Specified Condition
ON (pushed)	Below 1Ω
OFF (released)	10 kΩ or higher

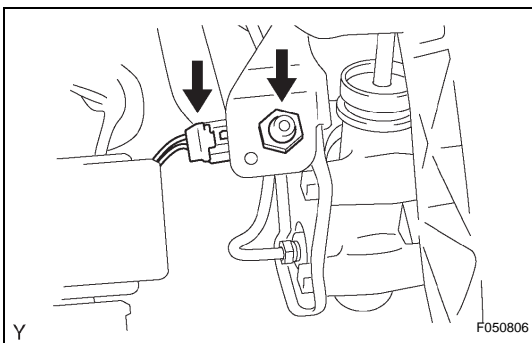


## INSTALLATION

### 1. INSTALL CLUTCH START SWITCH ASSEMBLY

- Install the clutch start switch assembly with the nut.  
**Torque: 16 N\*m (160 kgf\*cm, 12 ft.\*lbf)**
- Connect the clutch start switch assembly connector.

### 2. INSPECT CLUTCH START SWITCH ASSEMBLY (See page CL-26)



# CLUTCH START CANCEL SWITCH

## INSPECTION

### 1. INSPECT CLUTCH START CANCEL SWITCH ASSEMBLY

- (a) Using an ohmmeter, check that there is resistance between terminals 2 and 4.

**Standard:**

**10 k $\Omega$  or higher**

If the result is not as specified, replace the clutch start cancel switch.

- (b) Connect the positive (+) lead from the battery to terminal 3 and connect the negative (-) lead to terminal 1.

- (c) Using an ohmmeter, check that there is resistance between terminals 2 and 4.

**Standard:**

**10 k $\Omega$  or higher**

If the result is not as specified, replace the clutch start cancel switch.

- (d) Check that the indicator light comes on and there is resistance between terminals 2 and 4 when the switch is pressed.

**Standard:**

**Blow 1  $\Omega$**

If the result is not as specified, replace the clutch start cancel switch.

- (e) Using an ohmmeter, check that there is resistance between terminals 2 and 4 when the battery lead is disconnected.

**Standard:**

**10 k $\Omega$  or higher**

If the result is not as specified, replace the clutch start cancel switch.

