

## 2003 IS300 Clutch replacement/Tranny removal

I just did this install this past weekend. All parts listed in the first post are exactly what is needed. I was a little weary to do this as the model interchange of parts just didn't sound right, but much research on these lovely forums, by even more lovely members' replies, built my confidence. My clutch was also slipping at high RPMs when passing on the highway so I had to do this fast and cheaper than the \$3700 quote Lexus gave me (I live near Bellevue, WA...). I also didn't want to be missing something and needed this done right the first time so I got a little anal as you can see in the pic below. And, while I did indeed end up missing some things, I got it done one hour past my guesstimate. About 16 on-car hours across 3 days. I could do it again in 6 hours... just never know exactly what you're looking for the first time. :) I will sum up what I've read and experienced with hopes that others will do this inexpensive upgrade without worry.

5 of the 8 parts listed are from a 93-97 Supra:

- Flywheel, clutch, and pressure plate because that's our main goal here. :)
- New flywheel bolts because the Supra flywheel is thinner.
- Supra TT Push rod installed backwards to make up for the thinner flywheel and, in turn, the longer distance the throwout bearing must travel. Backwards because it 'felt' smoother - as others have mentioned. I am sure it would work either way - it's a snug fit in there when all bolted back together and it isn't going anywhere. The boot and rod just pull right off with no fluid leakage.

The remaining 3 items are IS300 specific and are pretty much 'while you're in there' items.

Other parts ordered:

- New driveshaft bolts, nuts, and washers because I read that someone stripped theirs.
  - (4) Bolt - 9010510466 - \$1.00 ea
  - (4) Nut - 9017810007 - \$0.83 ea
  - (4) Washers - 9056010102 - \$1.27 ea
- Exhaust manifold gaskets:
  - (2) 1717346051 - \$7.08 ea
- Front Y-pipe gasket (you may need this if running stock exhaust):
  - (2) 9091706046 - \$5.58 ea

I also bought a new slave cylinder because I thought it would fix that light squeaking noise at idle in neutral, but it didn't (thought I read it somewhere that it was fixed in new slave cylinders). I am going to do what I should have years ago and put a throttle spring on the clutch fork as mentioned in another thread.

I bought all my parts from Sewell because I always use them and most of their parts are cheaper than Ironoad and Carson Toyota - haven't compared any other sites, but they may be cheaper. I had trouble finding them on Sewell, but if you search by part number from the 'Catalog Quick Shop' page found in the red link banner at the bottom of the 'choose your Lexus' page you can find them. It's not as hard to find as I just made it to be... LOL <http://is.sewellparts.com/>

What I was missing:

- Clutch alignment tool – clutch did not come with one. Not sure if it was supposed to. I found one at O'Reilly's auto parts store. You want 21 spline, 1 1/8" diameter. O'Reilly part number TAT-5303, 03814, Pioneer Inc – it says Toyota on it LOL. \$6
- 14mm 12-point socket!! The flywheel bolts are 12-point 14 mm...
- Thought I needed high strength Loctite Red for the flywheel bolts, but the new bolts came with it already on. (manual says Three Bond 1324 sealant, but Toyota guy I talked to on the phone said they don't stock it and it costs \$102 for a small tube.)
- Flywheel dowel pins. I wish I had these. This was about 1 hour of messing around trying not to mar the dowels. Wish I had the right tools – like a slide hammer vice grip as mentioned by - Tom- above. We ended up drilling small holes around the dowels to loosen the steel around them – another half hour. I don't have a part number and didn't measure them. The link in a few post above looks correct. I measured the holes on the old flywheel and it appears to be 8mm diameter.
  - Savage\_IS300 has linked the following store for procuring the dowels. I am hoping someone will confirm fitment.
    - <http://www.driftnotion.com/Dowel-Pin-For-R154-W58-FW-p/dm1606.htm>

Extra items I bought:

- Moly Lithium grease for the clutch fork throwout bearing and slave cylinder push rod contact surfaces. Remove the fork and grease the pivot ball too. I also used this same grease on the tranny input shaft splines. A trick I was told was to clean the shaft really well and then grease it up. Then take the old clutch and clean those splines too. With grease all over the tranny splines, slide the old clutch on and off the tranny splines. Wipe the excess that scrapes off and repeat 2-3 more times. This gives the splines a nice coating without being too gooey. You definitely don't want to risk grease getting on the new clutch during installation.
- Brake clean. Clean the hell out of the inside of the bell housing, clutch fork, rear of the motor, etc.
- Anti-seize lubricant for the exhaust bolts and o2 sensors. I had this laying around, but it's a good idea to use it.
- Gear oil for tranny. I use Amsoil 75W-90. Had it in there before and loved it, so I put it back in.
- Brake fluid for clutch master cylinder. I use basic DOT3. I am pretty sure you could take the slave cylinder off without disconnecting the fluid lines, but you have a new clutch and you are down there so why not flush and bleed? 😊

## Tools:

- 14mm 12 point socket.
- 14mm wrench, 2 of them, prefer long handle because the driveshaft bolts are a bitch. I had someone hold the brakes, pull the e-brake, and put it in gear while I leveraged one wrench onto the frame and Hercules the other wrench with violent tugs and awful words. That still didn't work so hit the wrench with the deadblow.
- Swivel. I used this to get them damn starter bolts off, but with the engine and tranny tilted you can get to them with a 3' extension.
- Extensions. Up to 5' long. I used half inch drive and used it to get the three top most bellhousing bolts off and on from behind the tailhousing.
- O2 socket. I already had one of these and it works great. Not really necessary, but bonus. Got it at Harbor Freight. \$7
- 1/2" breaker bar.
- 10mm flare nut wrench for the clutch lines.
- Torque wrench for everything if you want to be anal.
- 24mm wrench for the tranny fill bolt.
- 24mm socket for the tranny drain bolt.
- Dead blow hammer. I used an 8 lb.
- 8mm, 10mm, 12mm, 14mm, 17mm, 19mm sockets – deep and shallow. Maybe a 22mm too for tapping the pilot bearing back in... can't remember exactly what size.
- Of course 3/8" and 1/2" ratchets, pliers, screwdrivers, PB Blaster, towels.
- Small screwdriver wrapped in tape to remove the rear main seal – use the old rear main seal and small hammer (back of screwdriver) to drive the new seal in
- Pilot bearing puller – I had a claw type, but it was too big so just popped it out with grease and a 6" 3/8" extension. Shove as much grease as you can into the pilot bearing then stick the extension into the pilot bearing and hit it with the dead blow. Repeat 8-10 times and the pilot bearing will slowly work its way out.

## Disassemble Tips:

- Disconnect the negative battery terminal first!! LOL
- Exhaust – fortunately I have Dezod just a couple months old so removal was easy(er). I just undid the second V-band and pulled the Y, B, and axel back as all one piece. I only removed the B2S2 O2 sensor and tie wrapped it to the car. The rest of the O2 sensors I just disconnected the connectors. The front header came out from the top and the rear from under the car. I can definitely say that getting the stock exhaust off was a bitch. I ended up sawing off a stuck (stripped) nut and bolt on the front of the Y pipe. I was too hasty and wasn't aware that the nuts are static and should not move. So, hold them nuts solid and only turn the bolts when removing.
- Mark the driveshaft with white out so you know which way it bolts back together. You have a 50/50 chance of lining it back up, but best not to guess. ☺
- Starter – I just unbolted this and wedged it in the engine compartment. I didn't disconnect the wires. Best to do this after you've tilted the motor by loosening the engine mounts.
- Flywheel spacer. I didn't use this as it didn't come off the old flywheel very easily. I assumed it was part of the 'IS300' flywheel assembly and read that they don't use them on R154 swaps... and the manual says that the spacer is needed on an automatic tranny.
- Shift lever. I didn't remove the entire console. I just pulled out the shifter surround; popped off black, plastic covers and screws on the side of the console below the shifter; removed the 4 bolts holding the rubber boot to the metal plate to the car; wedged a screw driver in the white clips holding the metal plate on the sides and carefully pulled the rubber boot out of the plate and then the plate over the shifter.
- Of course you need at least two jacks – one for the car and the other for the tranny. I bolted a piece of wood onto my 1.5 ton jack used it for the tranny. My dad made 8" tall wood blocks to put the jack stands on so the car would 2' off the ground.
- You have to rotate the tranny when removing it from the motor as the bellhousing will make contact with body. Counterclockwise is what the manual states. When the tranny and flywheel are all removed, I pounded on all the parts of the body/tranny tunnel that had scratches on it. LOL It seemed to help because the tranny went in smooth, first time. First time that's ever happened for me!! (out of the three cars... haha)

My whiteboard order of removal (couple items rearranged/added):

- Intake tube and filter 28'
- Plastic under covers
- Shifter lever 71"
- Drain tranny 28'
- O2 sensors 33'
- Y-pipe to manifold 32'
- Y-pipe to B-pipe 32'
- V-bands (if you have Dezod)
- Exhaust manifold 32'
- U-Joint bolts 54'
- Driveshaft brace 36'
- Drain clutch fluid
- Slave cylinder 28' ground wire bolt; 9' mounting bolts; 11' clutch line
- Loosen engine mount bolts to allow for tilt. Jack up motor with wood on the crank pulley.
- Engine mount bolts 52'
- Tranny connectors and harness
- Starter 27' mounting bolts; 7' nut
- Jack up tranny slightly
- Tranny brace 18' mounting bolts; 10' nuts
- Rear brace 19'
- Tranny 53' 17mm bolts; 28' 14mm bolts
- Pressure plate 14'; mind torque order CL-18
- Flywheel 61'; mind torque order EM-71
- Pilot bearing
- -----
- Swap slave cylinder push rods
- Grease clutch fork
- Grease input splines
- Bleed clutch master cylinder

Aftermath:

Can definitely feel the lightened flywheel in a positive way. Clutch is super smooth and engagement strong. I am only 60 miles in on the break-in so we'll see in couple weeks. :) Pedal is much softer, but I read it will stiffen up a little over time. When you start the car while it's still in the air the rear wheels will turn a little if it's in neutral and clutch pedal depressed (up position). This is normal and YouTube can explain it for you - I sure can't haha. I was a little scared at first.... If you can't stop the wheels by hand (finger) THEN you have a problem.

I would like to better organize this, but wanted to get something posted to help others ASAP. I wish I had taken photos, but I wanted the damn thing done!! I will re-PDF this once I get input on what I missed. 😊

Thank you to all that helped me. I can't begin to mention you all, but you know who you are and what you do for this forum. And we all thank you very much. 6 years on these forums and using the search function has allowed me to do anything I've needed to do. THANK you to what\_is\_IS for starting this thread and for all his input and trials.

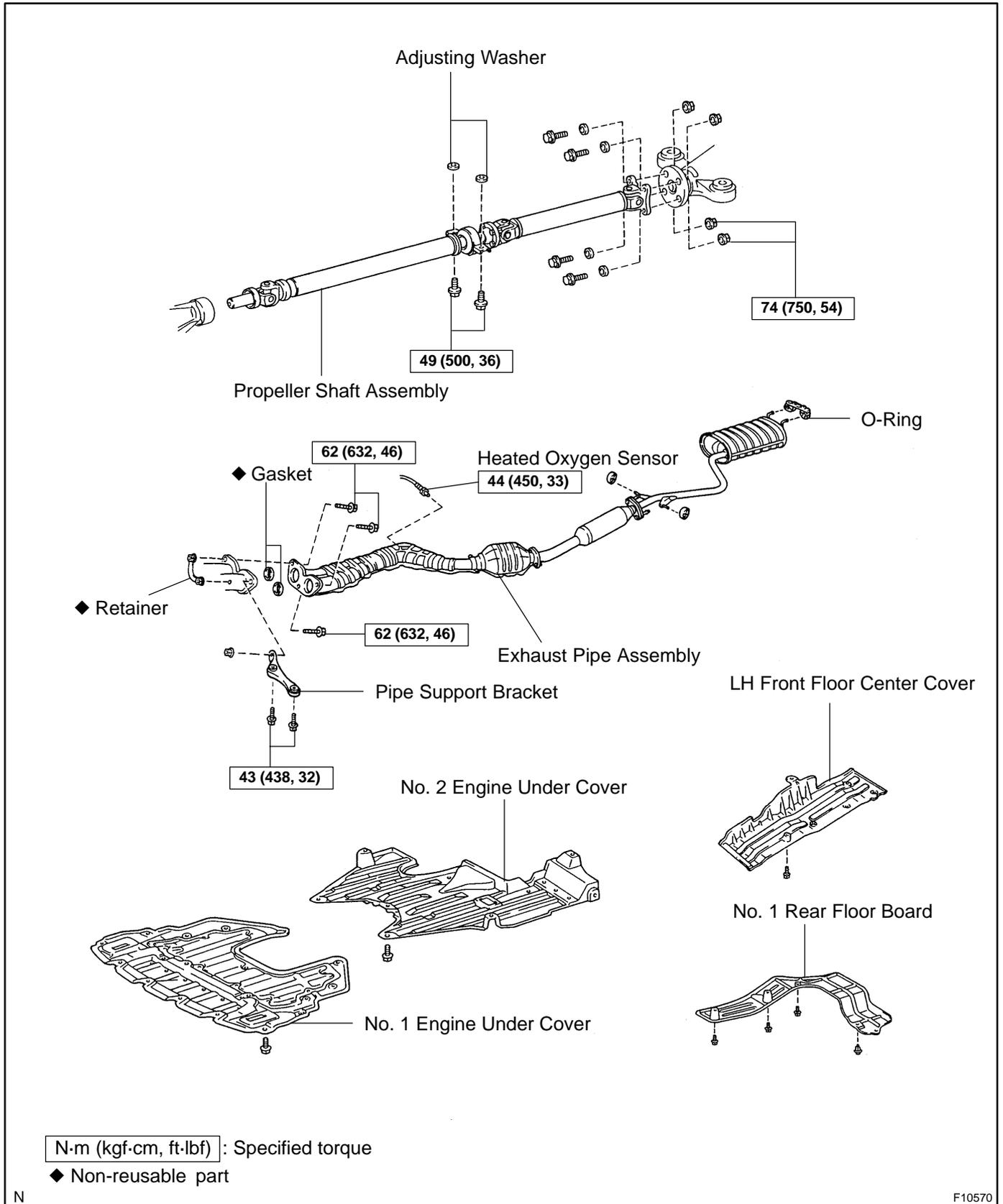
Please let me know of corrections and suggestions. I typed this off memory and am not perfect. 😊

-Jason

I take no responsibility for damage incurred to persons or things regarding anything in this post. It is a guide only and the service manual should be referenced first. If I could offer you one piece of advice, wear your safety glasses, gloves, and SEARCH!! 25% of this was experience under the car, the other 75% is slightly plagiarized from countless threads on this forum. 😊

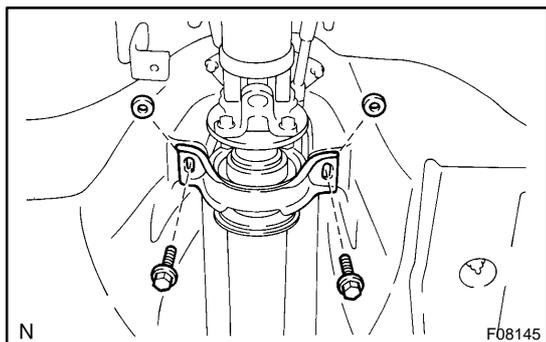
# PROPELLER SHAFT ASSEMBLY COMPONENTS

PRO5B-04



## REMOVAL

1. REMOVE NO. 1 AND NO. 2 ENGINE UNDER COVERS
2. REMOVE LH FRONT FLOOR CENTER COVER
3. REMOVE NO. 1 REAR FLOOR BOARD
4. REMOVE EXHAUST PIPE ASSEMBLY
  - (a) Disconnect the heated oxygen sensor.
  - (b) Remove the 5 bolts, pipe support bracket, retainer and nut from the exhaust manifold.
  - (c) Disconnect the exhaust pipe assembly from the 4 O-rings.
  - (d) Remove the exhaust pipe assembly.
  - (e) Remove the 2 gaskets from exhaust pipe assembly.



### 5. REMOVE PROPELLER SHAFT

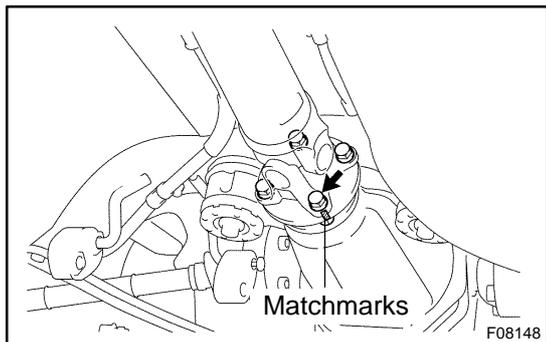
- (a) Remove the 2 center support bearing set bolts and adjusting washers.

#### HINT:

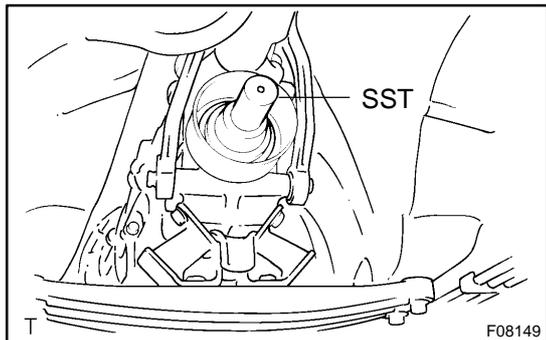
Production vehicles are not equipped with adjusting washers.

#### NOTICE:

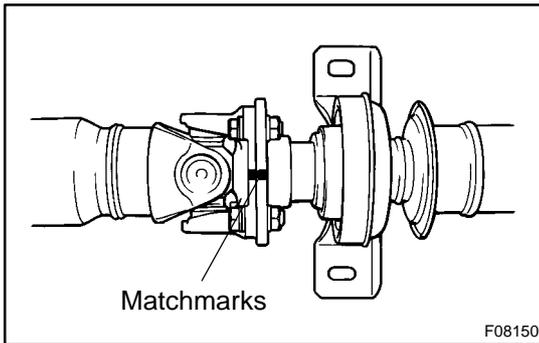
**When removing the set bolts, support the center support bearing by hand so that the transmission and intermediate shaft, and propeller shaft and differential, remain in a straight line.**



- (b) Place matchmarks on the differential companion flange and propeller shaft.
- (c) Remove the 4 bolts, washers and nuts.
- (d) Pull the yoke from the transmission.



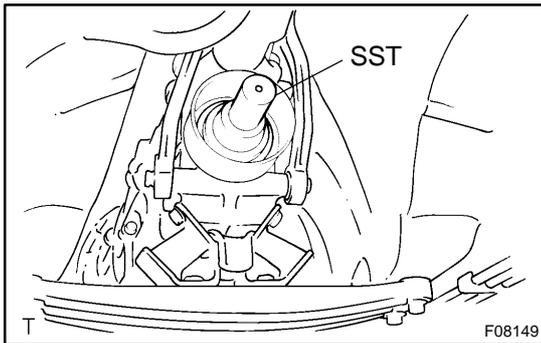
- (e) Install SST in the transmission to prevent oil leakage.  
SST 09325-20010



## DISASSEMBLY

### DISASSEMBLE PROPELLER SHAFT

- (a) Place matchmarks on the universal joint flange and propeller shaft flange.
- (b) Remove the 4 bolts, washers and nuts.
- (c) Separate the intermediate shaft and propeller shaft.



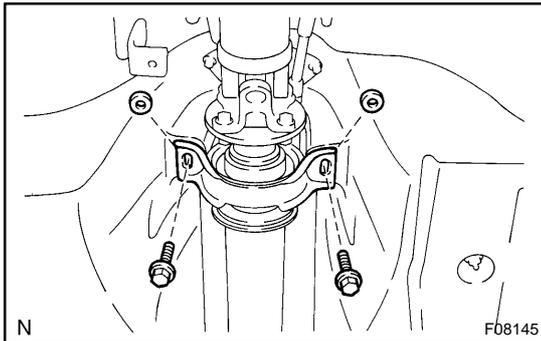
## INSTALLATION

### 1. INSTALL PROPELLER SHAFT

- (a) Remove the SST.  
SST 09325-20010
- (b) Insert the propeller shaft assembly to the transmission.

#### NOTICE:

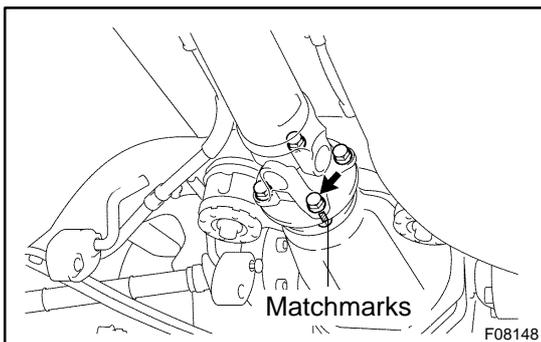
**Support the center support bearing by hand so that the transmission and intermediate shaft, and propeller shaft and differential, remain in a straight line.**



- (c) Temporarily install the 2 center support bearing set bolts with the adjusting washers.

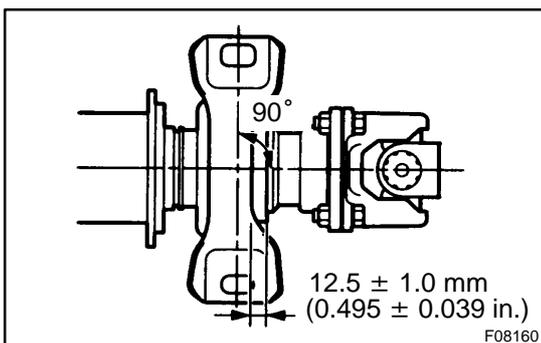
#### HINT:

Use the adjusting washers which were removed.



- (d) Align the matchmarks on the differential companion flange and propeller shaft, and install the propeller shaft on the differential with the 4 bolts, washers and nuts.

**Torque: 74 N·m (750 kgf·cm, 54 ft·lbf)**



- (e) Torque the 2 center support bearing set bolts.

**Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)**

#### HINT:

Adjust the center support bearing to keep the dimension, as shown with the vehicle in the unladen condition.

Under the same condition, check if the center line of the center support bearing is at right angles to the shaft axial direction.

### 2. INSTALL EXHAUST PIPE ASSEMBLY

- (a) Connect the exhaust pipe assembly to the 4 O-rings.
- (b) Install the exhaust pipe assembly with 2 new gaskets, 5 bolts, pipe support bracket, retainer and nut.

**Torque: 62 N·m (632 kgf·cm, 46 ft·lbf)**

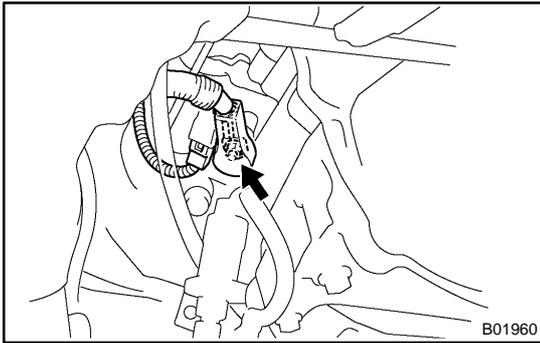
- (c) Connect the heated oxygen sensor.

**Torque: 44 N·m (450 kgf·cm, 33 ft·lbf)**

### 3. INSTALL NO. 1 REAR FLOOR BOARD

### 4. INSTALL LH FRONT FLOOR CENTER COVER

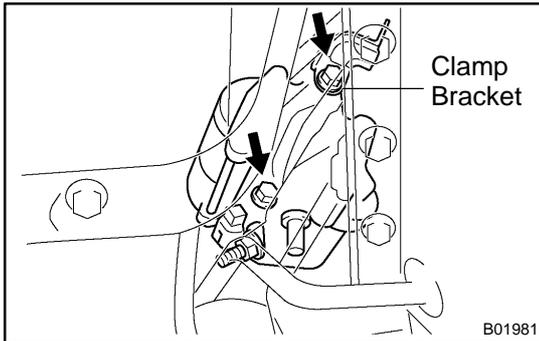
### 5. INSTALL NO. 1 AND NO. 2 ENGINE UNDER COVERS



## REMOVAL

### REMOVE STARTER

- (a) Remove the rubber cap and nut, and disconnect the starter wire.
- (b) Disconnect the starter connector.



- (c) Remove the 2 bolts and starter.

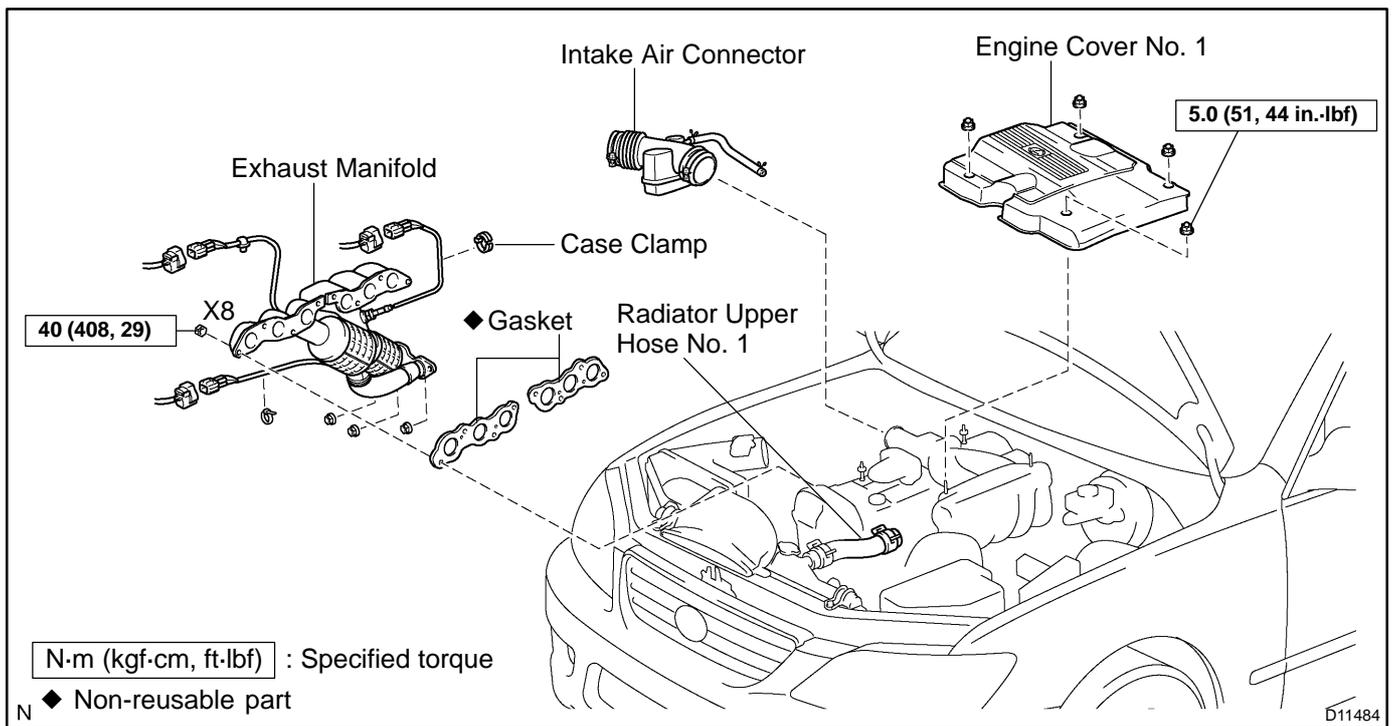
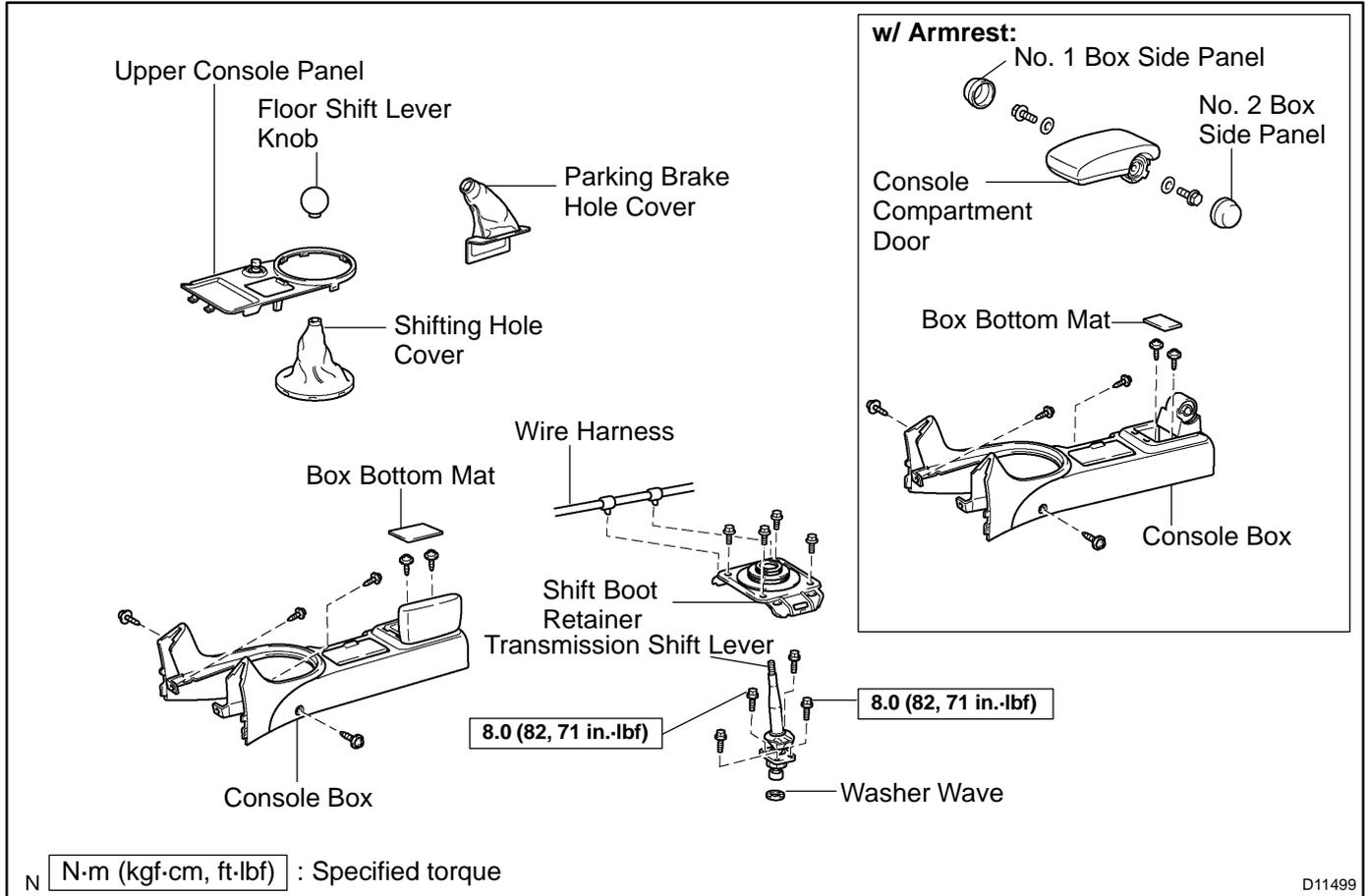
**Torque: 37 N·m (380 kgf-cm, 27 ft-lbf)**

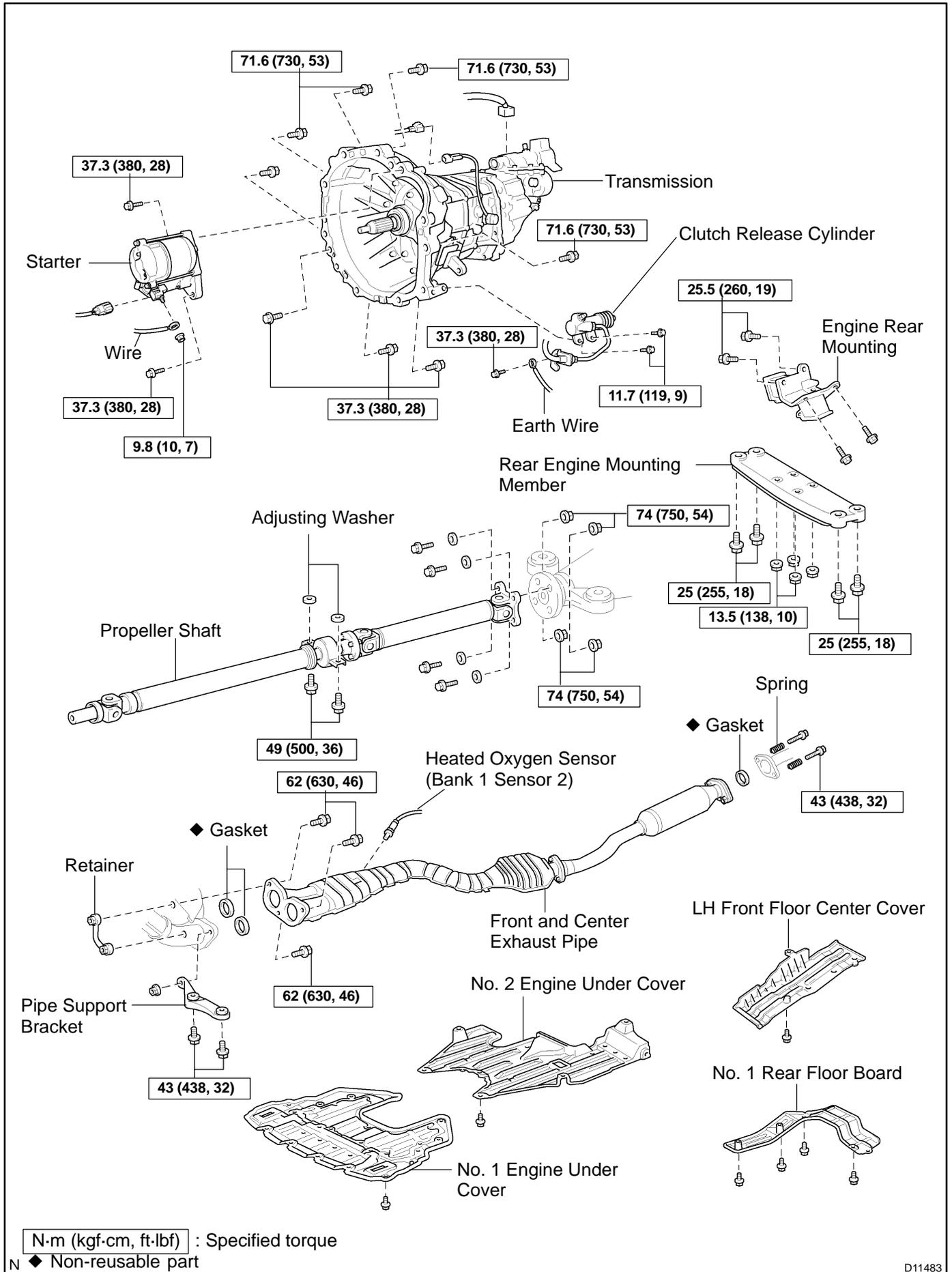
#### HINT:

At time of the installation, when installing the upper bolt, tighten it together with the clamp bracket.

# MANUAL TRANSMISSION UNIT COMPONENTS

MT0FS-02

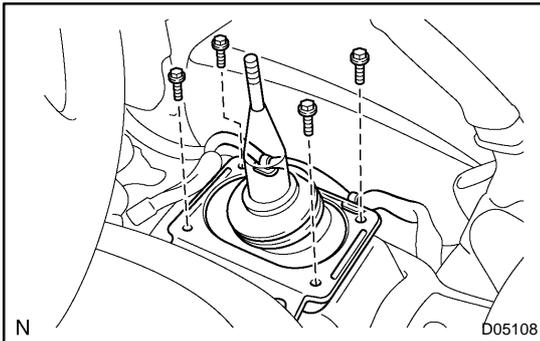




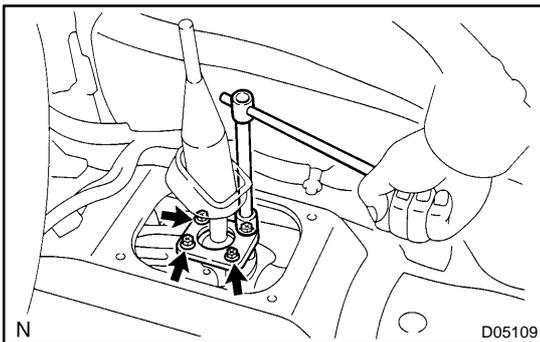
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## REMOVAL

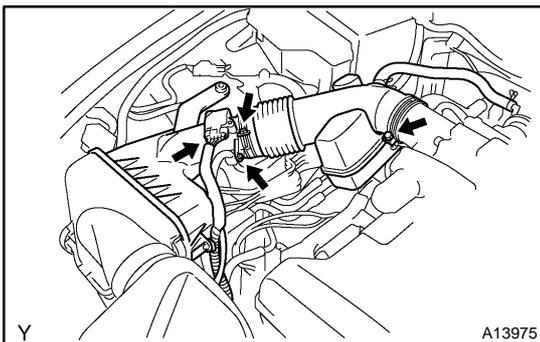
1. REMOVE UPPER CONSOLE PANEL AND CONSOLE BOX (See page [BO-139](#))



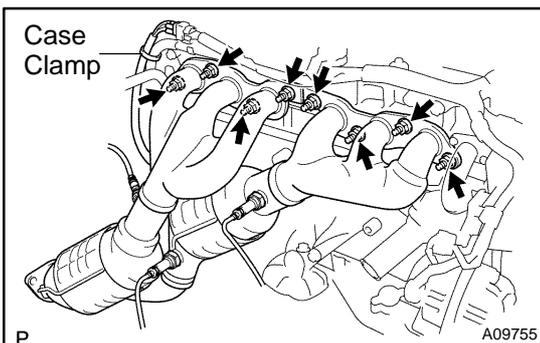
2. REMOVE SHIFT BOOT RETAINER
  - (a) Disconnect the 2 wire harness clamps.
  - (b) Remove the 4 bolts and shift boot retainer.
3. REMOVE SHIFT BOOT



4. REMOVE TRANSMISSION SHIFT LEVER  
Remove the 4 bolts, transmission shift lever and washer washer.
5. REMOVE ENGINE COVER NO. 1
6. REMOVE NO. 1 AND NO. 2 ENGINE UNDER COVERS
7. DRAIN ENGINE COOLANT
8. DISCONNECT RADIATOR UPPER HOSE NO. 1 FROM ENGINE



9. REMOVE INTAKE AIR CONNECTOR
  - (a) Disconnect the MAF meter connector.
  - (b) Disconnect the engine wire harness clamp from the air cleaner case.
  - (c) Loosen the 2 hose clamp bolts, remove the intake air connector from the throttle body.



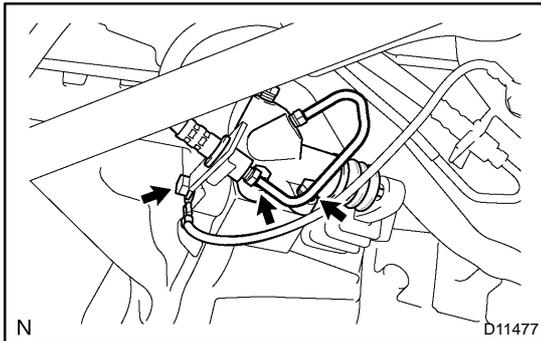
10. REMOVE EXHAUST MANIFOLD
  - (a) Remove the case clamp.
  - (b) Disconnect the heated oxygen sensor (bank 2 sensor 1) connector.
  - (c) Remove the 8 nuts, exhaust manifold and 2 gaskets.
11. RAISE VEHICLE

**NOTICE:**

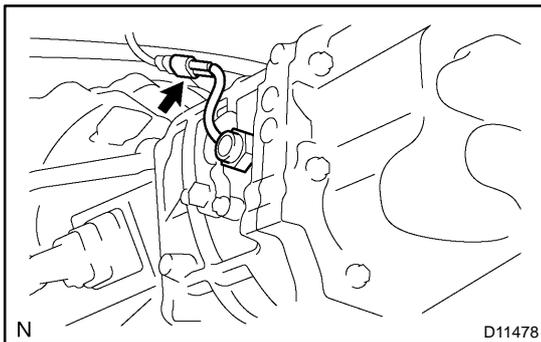
Make sure that the vehicle is securely supported.

12. DRAIN TRANSMISSION OIL

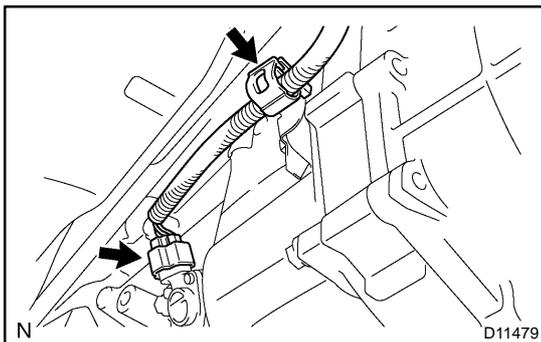
13. REMOVE LH FRONT FLOOR CENTER COVER
14. REMOVE NO. 1 REAR FLOOR BOARD
15. REMOVE FRONT AND CENTER EXHAUST PIPES  
(See page [EM-100](#) )
16. REMOVE PROPELLER SHAFT (See page [PR-4](#) )



17. **DISCONNECT CLUTCH RELEASE CYLINDER, CLUTCH LINE BRACKET AND EARTH WIRE**
  - (a) Remove the 2 bolts and disconnect the clutch release cylinder.
  - (b) Remove the bolt and disconnect the clutch line bracket and earth wire.



18. **DISCONNECT BACK-UP LIGHT SWITCH CONNECTOR**



19. **DISCONNECT SPEED SENSOR CONNECTOR AND WIRE HARNESS**

- (a) Disconnect the connector.
- (b) Disconnect the wire harness from the clamp.

20. **REMOVE STARTER**

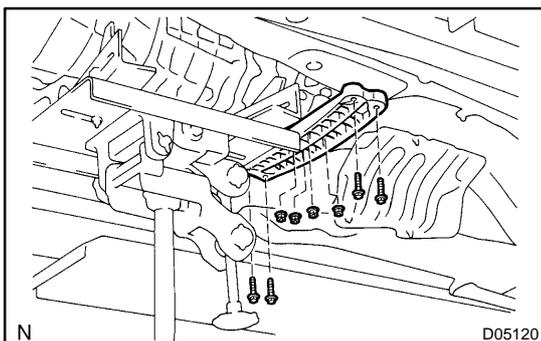
- (a) Disconnect the connector.
- (b) Remove the nut and wire.
- (c) Remove the 2 bolts and starter.

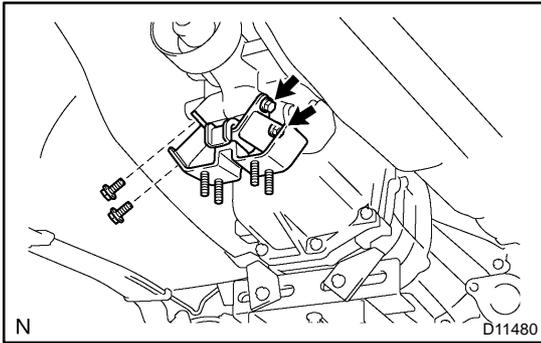
21. **JACK UP TRANSMISSION SLIGHTLY**

Using a transmission jack, support the transmission.

22. **REMOVE REAR ENGINE MOUNTING MEMBER**

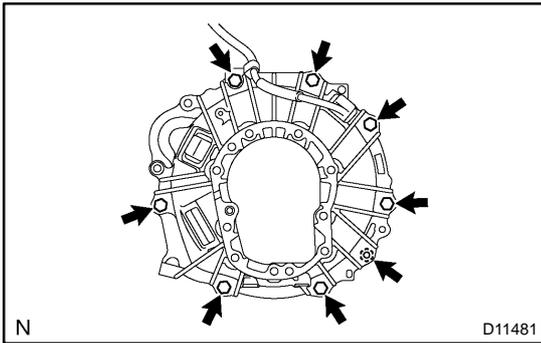
Remove the 4 bolts, 4 nuts and rear engine mounting member.





**23. REMOVE ENGINE REAR MOUNTING**

Remove the 4 bolts and engine rear mounting.

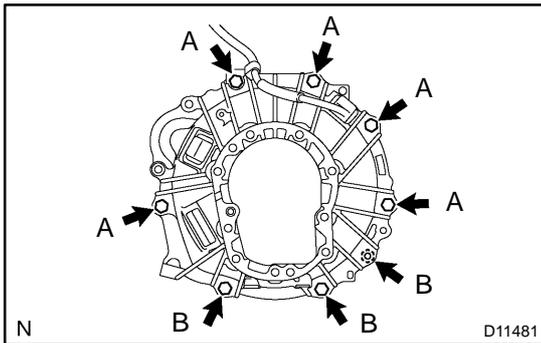


**24. REMOVE TRANSMISSION**

Remove the 8 bolts, wire harness clamp and transmission.

HINT:

After separating the transmission from the engine, turn the transmission a little in the clockwise. At the condition that the transmission housing does not contact the body, lower the jack.



## INSTALLATION

### 1. INSTALL TRANSMISSION

- (a) Raise the engine front side.
- (b) Align the input spline with a clutch disc and install the transmission to the engine.

#### HINT:

Turn the transmission a little in the clockwise and jack up until just before the transmission housing touches the body.

- (c) Install the transmission and wire harness clamp with the 8 bolts.

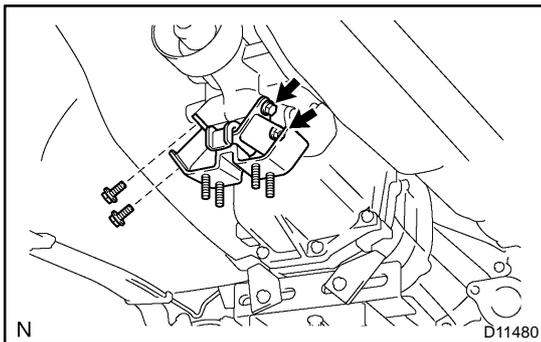
#### Torque:

**Bolt A (12 mm head bolt):**

**71.6 N·m (730 kgf·cm, 53 ft·lbf)**

**Bolt B (10 mm head bolt):**

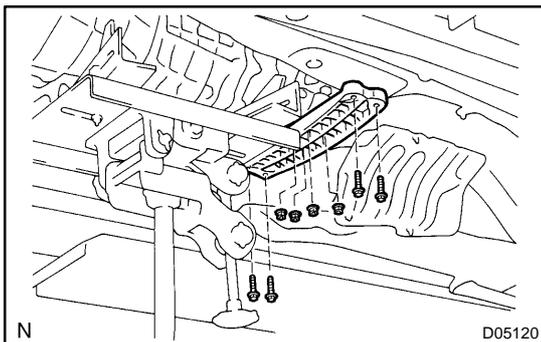
**37.3 N·m (380 kgf·cm, 28 ft·lbf)**



### 2. INSTALL ENGINE REAR MOUNTING

Install the engine rear mounting with 4 the bolts.

**Torque: 25.5 N·m (260 kgf·cm, 19 ft·lbf)**



### 3. INSTALL REAR ENGINE MOUNTING MEMBER

Install the rear engine mounting member with the 4 bolts and 4 nuts.

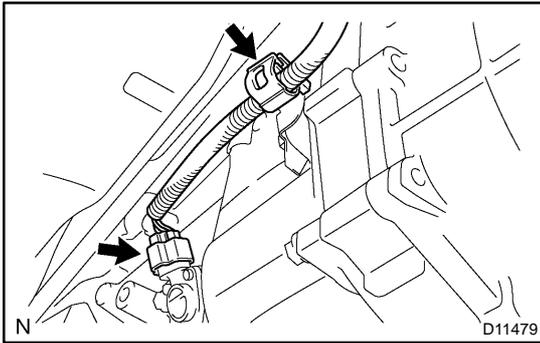
#### Torque:

**Bolt: 25 N·m (255 kgf·cm, 18 ft·lbf)**

**Nut: 13.5 N·m (138 kgf·cm, 10 ft·lbf)**

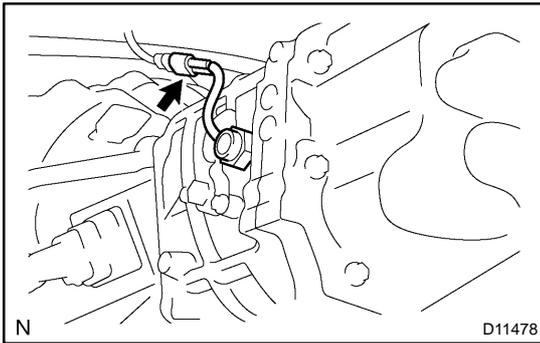
### 4. INSTALL STARTER

- (a) Install the starter with the 2 bolts.  
**Torque: 37.3 N·m (380 kgf·cm, 28 ft·lbf)**
- (b) Install the wire with the nut.  
**Torque: 9.8 N·m (10 kgf·cm, 7 ft·lbf)**
- (c) Connect the connector.

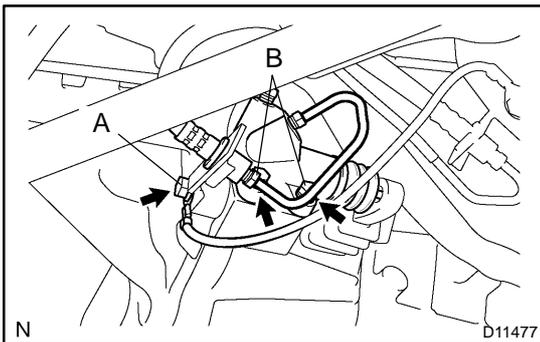


**5. CONNECT SPEED SENSOR CONNECTOR AND WIRE HARNESS**

- (a) Connect the wire harness to the clamp.
- (b) Connect the connector.



**6. CONNECT BACK-UP LIGHT SWITCH CONNECTOR**



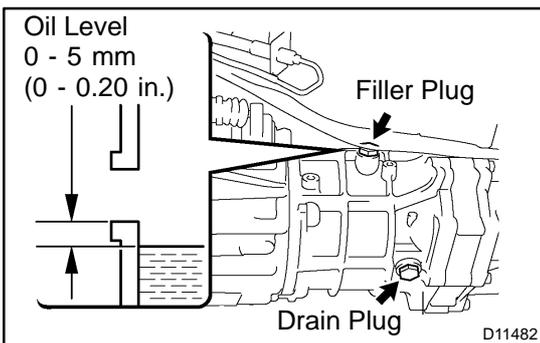
**7. CONNECT CLUTCH RELEASE CYLINDER, CLUTCH LINE BRACKET AND EARTH WIRE**

- (a) Connect the clutch line and earth wire with the bolt.  
**Torque:**
- (b) Connect the clutch release cylinder with the 2 bolts.

**Bolt A: 37.3 N·m (380 kgf·cm, 28 ft·lbf)**

**Torque:**  
**Bolt B: 11.7 N·m (119 kgf·cm, 9 ft·lbf)**

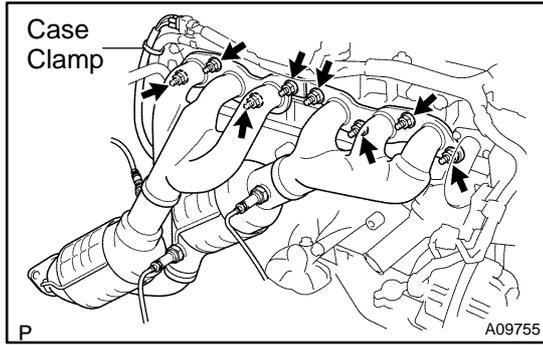
- 8. INSTALL PROPELLER SHAFT (See page PR-10 )**
- 9. INSTALL FRONT AND CENTER EXHAUST PIPES (See page EM-100 )**



**10. FILL WITH TRANSMISSION OIL**

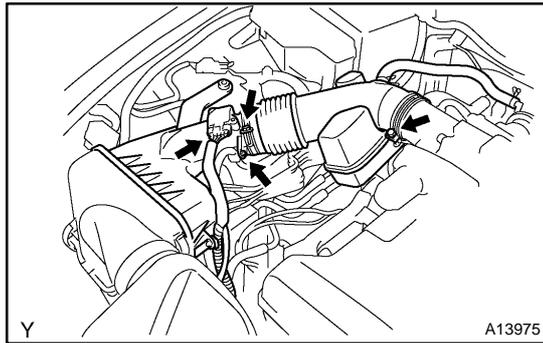
**Torque:**  
**Filler and Drain plug:**  
**38 N·m (387 kgf·cm, 28 ft·lbf)**  
**Oil grade: API GL-4 or GL-5**  
**Viscosity: SAE 75W-90**  
**Capacity: 2.6 liter (2.7 US qts, 2.3 Imp. qts)**

- 11. INSTALL NO. 1 REAR FLOOR BOARD**
- 12. INSTALL LH FRONT FLOOR CENTER COVER**
- 13. LOWER VEHICLE**



**14. INSTALL EXHAUST MANIFOLD**

- (a) Install 2 new gaskets to the cylinder head.
- (b) Install the exhaust manifold with the 8 nuts. Uniformly tighten the nuts in several passes.  
**Torque: 40 N·m (408 kgf·cm, 29 ft·lbf)**
- (c) Connect the heated oxygen sensor (bank 2 sensor 1) connector.
- (d) Install the case clamp.



**15. INSTALL INTAKE AIR CONNECTOR**

- (a) Install the intake air resonator to the throttle body, tighten the 2 hose clamp bolts.
- (b) Connect the PCV hose to the No. 2 cylinder head cover.
- (c) Connect the engine wire harness clamp to the air cleaner case.
- (d) Connect the MAF meter connector.

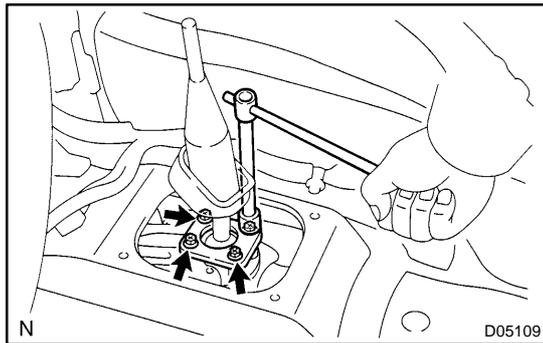
**16. CONNECT RADIATOR UPPER HOSE NO. 1 FROM ENGINE**

**17. FILL WITH ENGINE COOLANT**

**18. INSTALL ENGINE COVER NO. 1**

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

**19. INSTALL NO. 1 AND NO. 2 ENGINE UNDER COVERS**

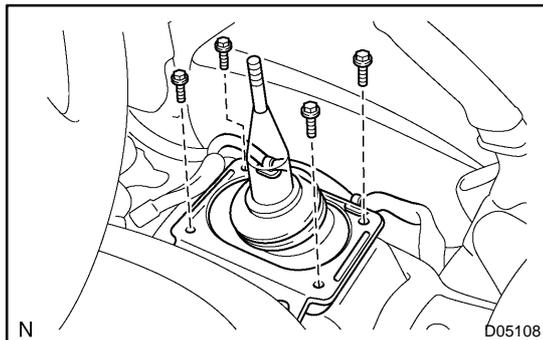


**20. INSTALL TRANSMISSION SHIFT LEVER**

- (a) Install the washer.
- (b) Apply MP grease to the tip of shift lever.
- (c) Install the shift lever with the 4 bolts.

**Torque: 8.0 N·m (82 kgf·cm, 71 in.-lbf)**

**21. INSTALL SHIFT BOOT**



**22. INSTALL SHIFT BOOT RETAINER**

- (a) Install the shift boot retainer with the 4 bolts.
- (b) Connect the 2 wire harness clamps.

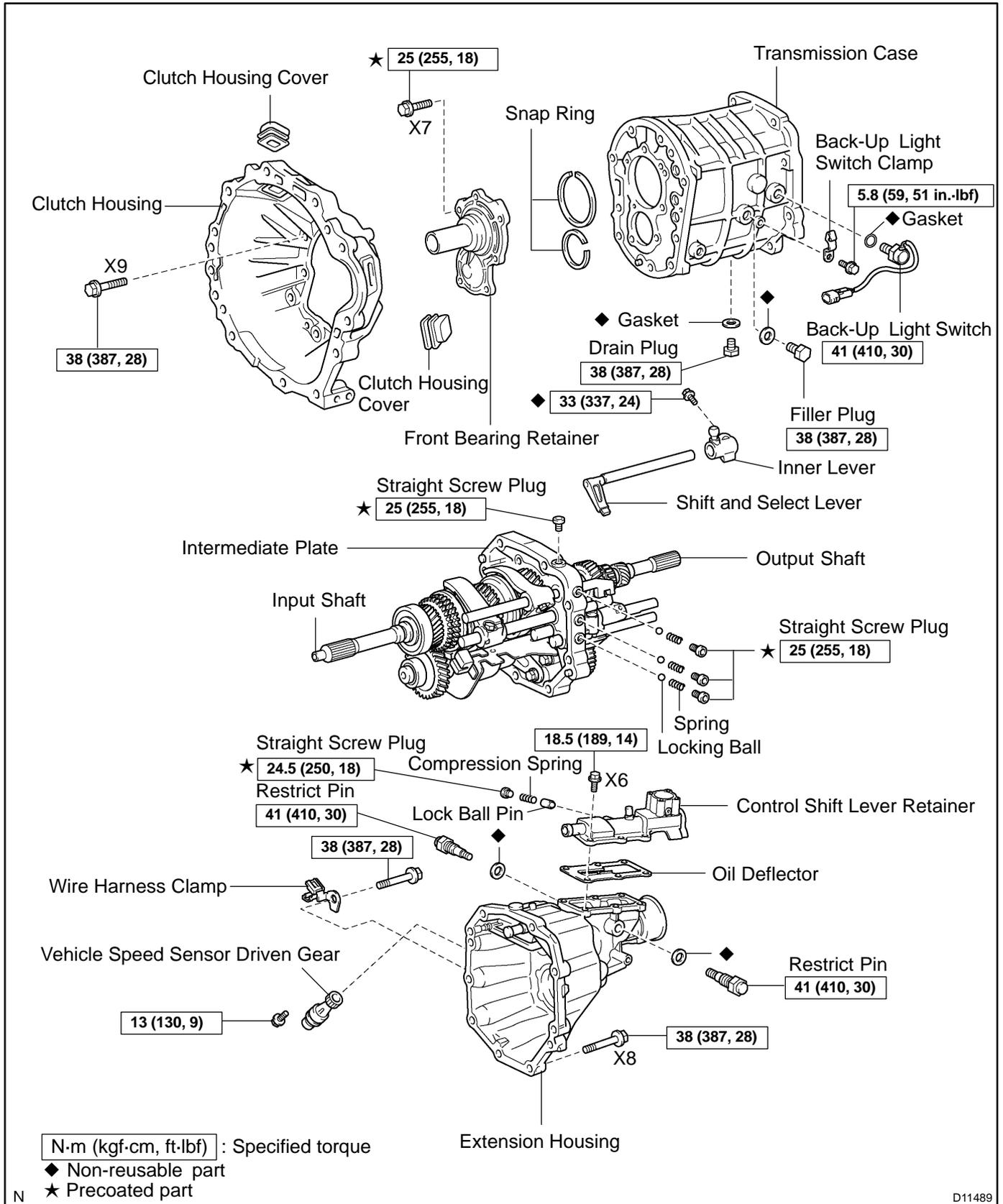
**23. INSTALL UPPER CONSOLE PANEL AND CONSOLE BOX (See page BO-149 )**

**24. DO ROAD TEST**

Check for abnormal noises and smooth shifting.

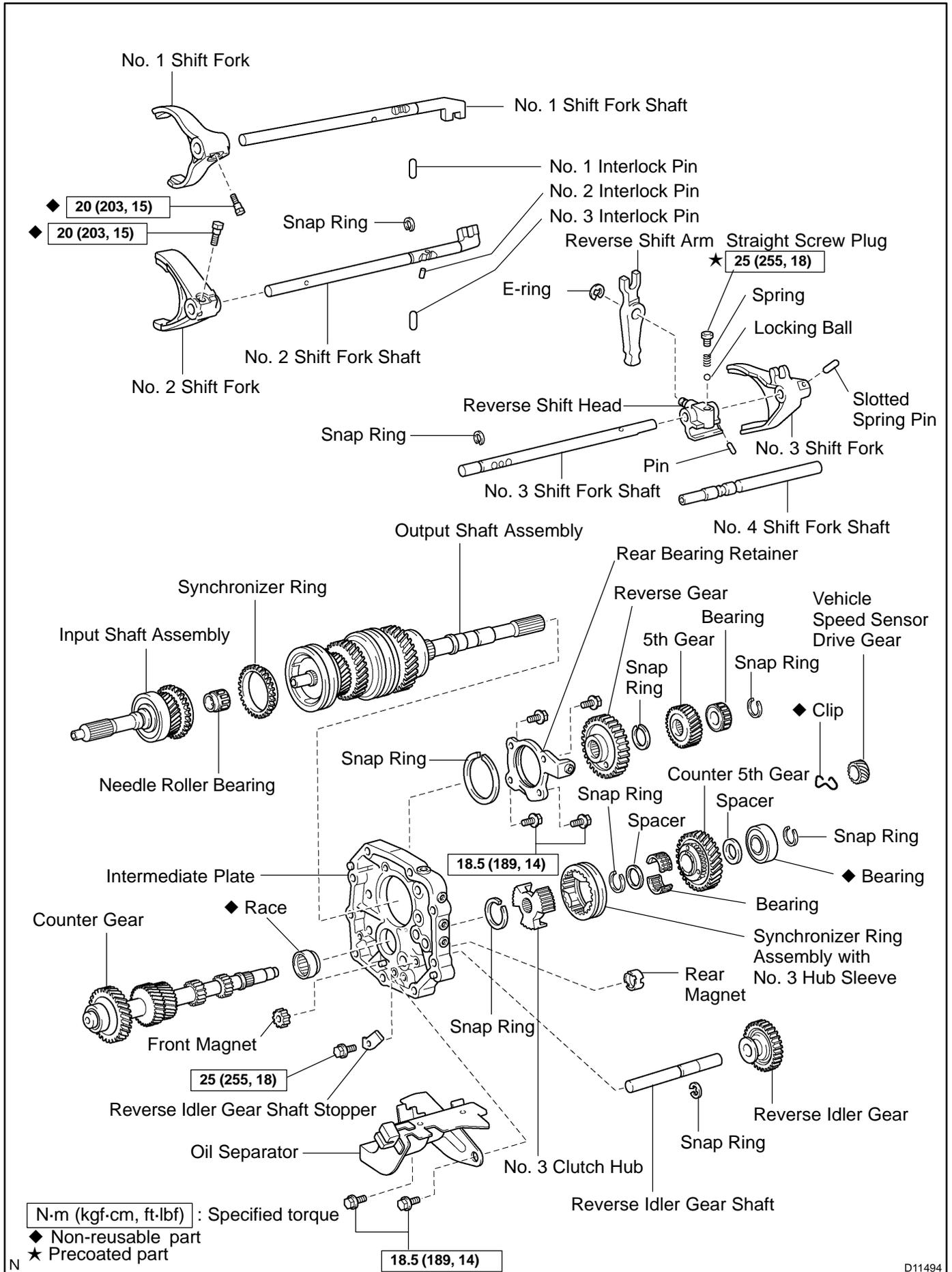
# MANUAL TRANSMISSION ASSEMBLY COMPONENTS

MTOC1-03



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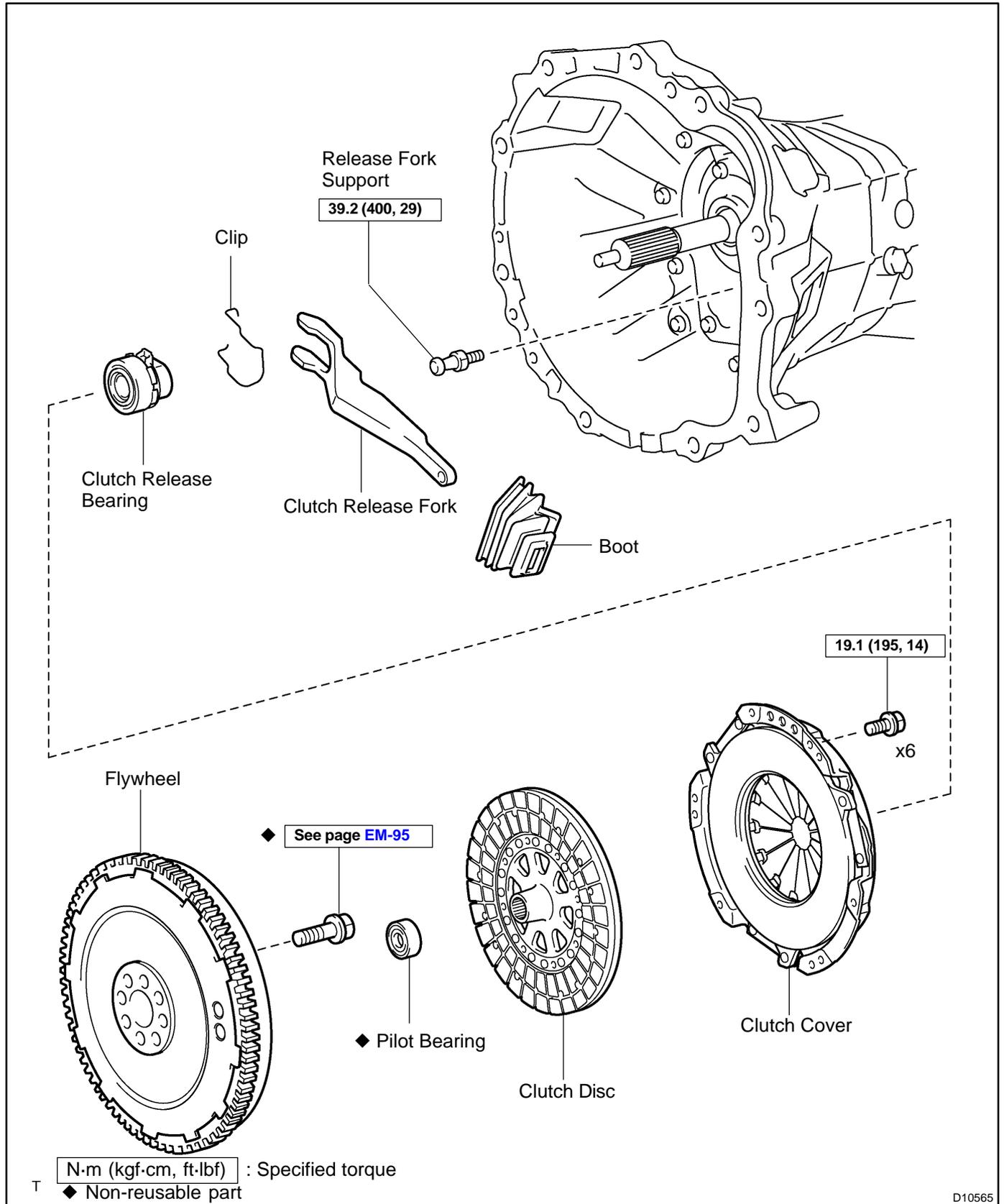
D11489



D11494

# CLUTCH UNIT COMPONENTS

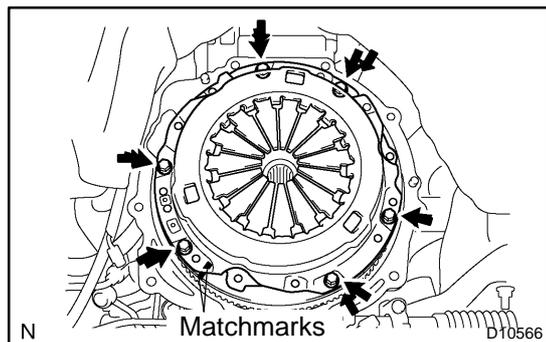
CLODA-01



D10565

## REMOVAL

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

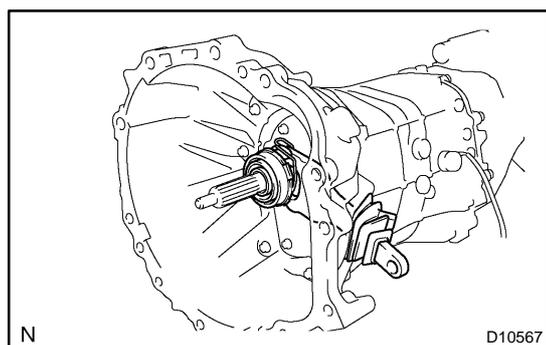


2. REMOVE CLUTCH COVER AND DISC

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

**NOTICE:**

**Do not drop the clutch disc.**



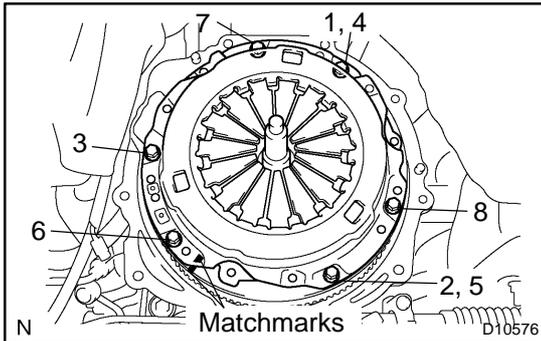
3. REMOVE BOOT, RELEASE BEARING AND FORK FROM TRANSMISSION

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

## INSTALLATION

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

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



- (b) Align the matchmarks on the clutch cover and flywheel.  
(c) Following the procedures shown in the illustration, tighten the 6 bolts in the order starting the bolt locating near the knock pin on the top.

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

#### HINT:

- Following the order in the illustration, tighten the bolts at a time evenly.
- Move SST up and down, right and left lightly, after checking that the disc is in the center, tighten the bolts.

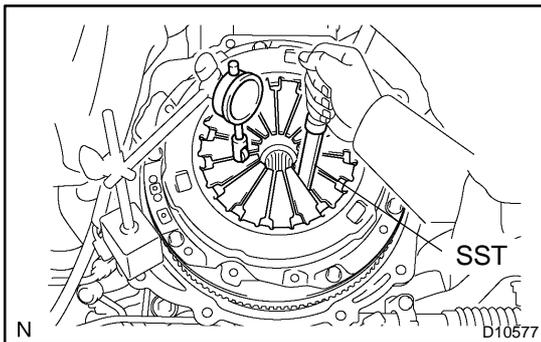
### 2. CHECK DIAPHRAGM SPRING TIP ALIGNMENT

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

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

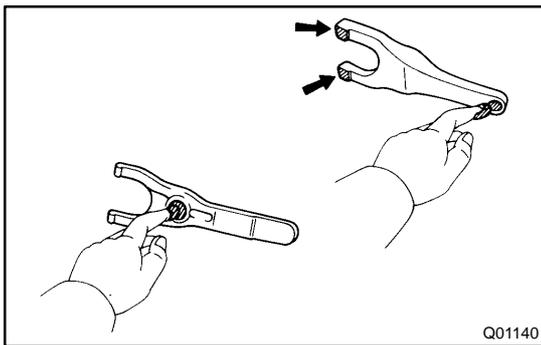
If the alignment is not as specified, with SST, adjust the diaphragm spring tip alignment.

SST 09333-00013



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

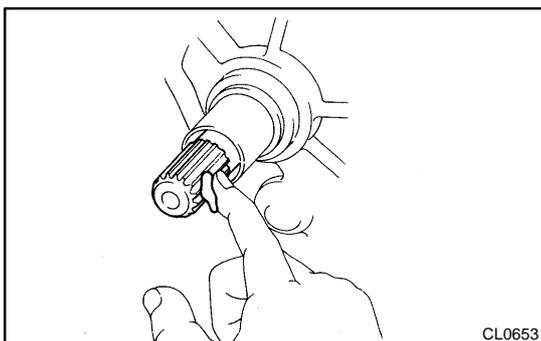
- (a) Apply release hub grease to the release fork and release bearing contact, release fork and push rod contact and release fork pivot points.



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

#### HINT:

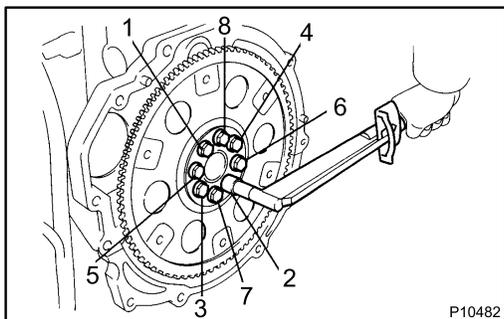
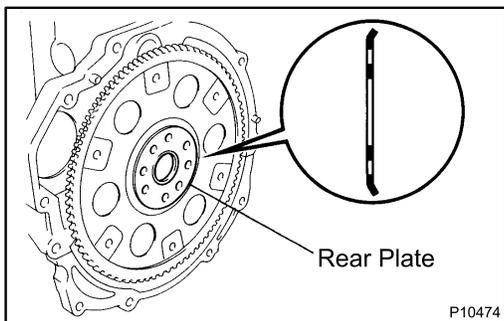
Recommended grease part number 08887-01706 (100 g).



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

- (a) Install the clip to the release bearing.
- (b) Install the release bearing to the release fork, and then install them to the transmission.
- (c) Install the boot to the transmission.

**5. INSTALL TRANSMISSION TO ENGINE****(See page [MT-8](#) )**

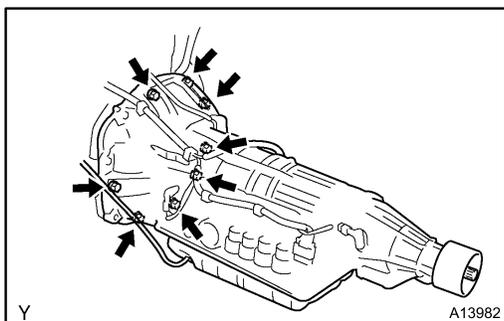


## INSTALLATION

1. **A/T:**  
**INSTALL DRIVE PLATE**
  - (a) Install the front spacer, drive plate and rear plate on the crankshaft.

- (b) Apply adhesive to 2 or 3 threads of the mounting bolt end.  
**Adhesive:**  
**Part No. 08833-00070, THREE BOND 1324 or equivalent**
  - (c) Install the uniformly tighten the 8 mounting bolts in several passes, in the sequence shown.  
**Torque: 83 N·m (850 kgf·cm, 61 ft·lbf)**

2. **M/T:**  
**INSTALL CLUTCH DISC AND COVER (See page CL-18 )**
3. **A/T:**  
**INSTALL TORQUE CONVERTER CLUTCH INSTALLATION (See page AT-35 )**



4. **INSTALL TRANSMISSION TO ENGINE**
  - (a) Attach the transmission to the engine.
  - (b) Install the ground wire and 5 bolts.  
**Torque: 72 N·m (730 kgf·cm, 53 ft·lbf)**
5. **A/T:**  
**CONNECT ENGINE WIRE TO TRANSMISSION**
  - (a) Connect the VSS connector.
  - (b) Connect the PNP switch connector.
  - (c) Connect the solenoid connector.
  - (d) Connect the direct clutch speed sensor connector.
  - (e) Connect the engine wire to the 3 wire clamps.
6. **M/T:**  
**CONNECT ENGINE WIRE TO TRANSMISSION**
  - (a) Connect the VSS connector.
  - (b) Connect the back-up light switch connector.
7. **INSTALL STARTER**
  - (a) Install the starter and clamp bracket with the 2 bolts.  
**Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)**
  - (b) Connect the starter connector.