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Model Year Start: 2016	Model: LX570	Prod Date Range: [09/2015 -]
Title: AE80F AUTOMATIC TRANSMISSION / TRANSAXLE: AUTOMATIC TRANSMISSION ASSEMBLY: INSTALLATION; 2016 - 2018 MY LX570 [09/2015 -]		

INSTALLATION

PROCEDURE

1. INSPECT TORQUE CONVERTER ASSEMBLY

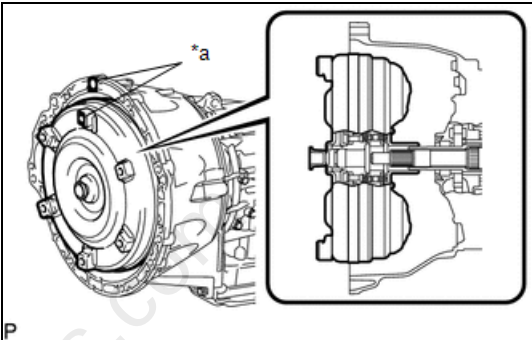
INFO

2. INSTALL TORQUE CONVERTER ASSEMBLY

(a) Engage the splines of the input shaft and turbine runner.

Text in Illustration

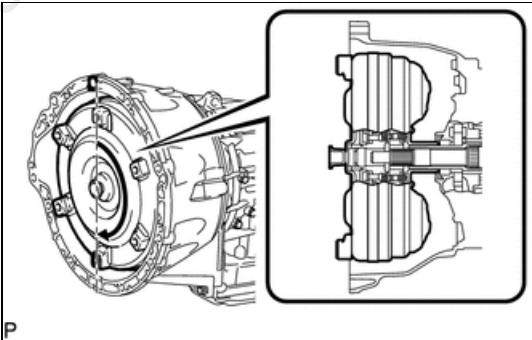
*a	Matchmarks
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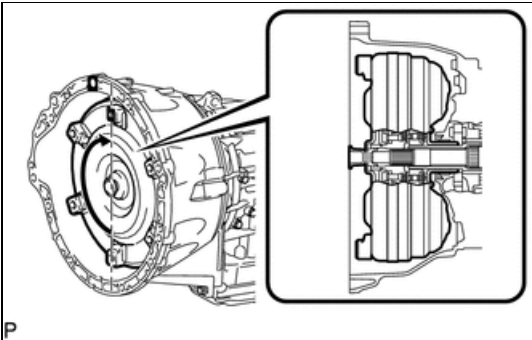
(b) Engage the splines of the stator shaft and stator while turning the torque converter assembly.

HINT:

If the stator shaft splines are difficult to engage with the stator splines, move the torque converter back approximately 10 mm and engage the splines while rotating the torque converter.



(c) Turn the torque converter assembly to engage the key of the oil pump drive gear and the slot on the torque converter assembly.



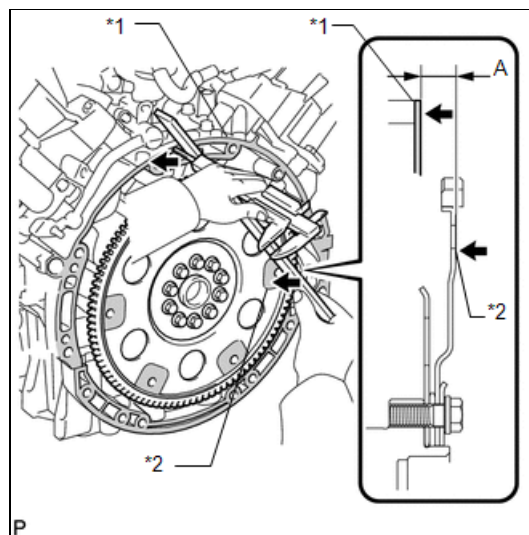
- (d) Using a vernier caliper and straightedge, measure dimension A between the surface of the engine that contacts the transmission and the surface of the drive plate that contacts the torque converter.

Text in Illustration

*1	Engine Surface
*2	Drive Plate Surface

NOTICE:

Make sure to deduct the thickness of the straightedge.



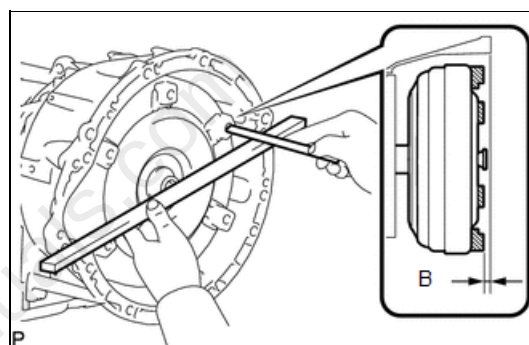
- (e) Using a vernier caliper and a straightedge, measure dimension B shown in the illustration and check that B is more than A measured in the first step.

Standard distance:

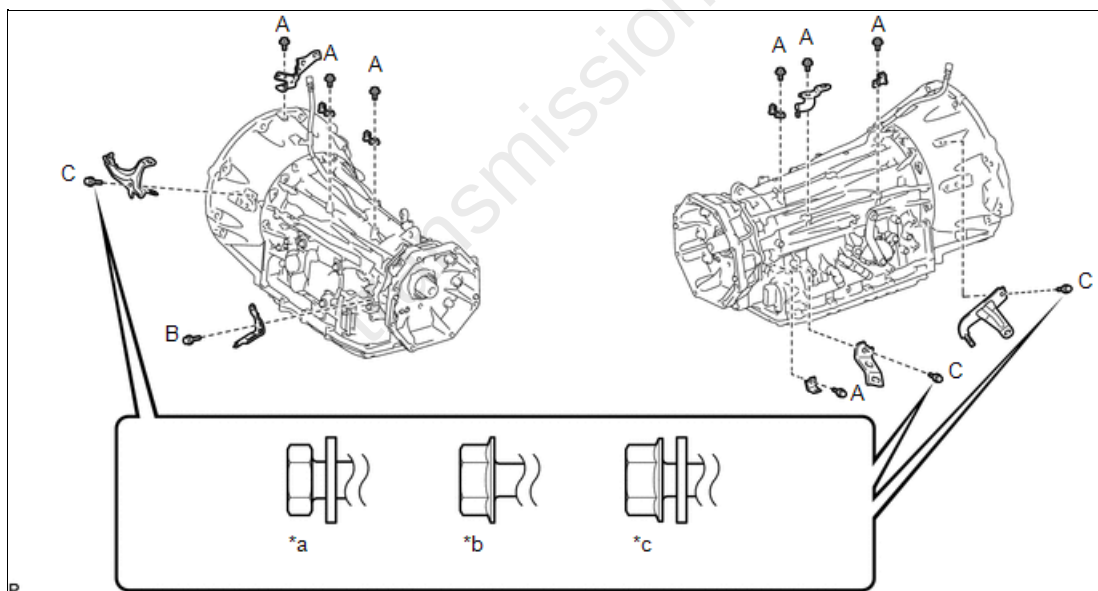
$$B = A + 1.00 \text{ mm (0.0394 in.) or more}$$

NOTICE:

- Make sure to deduct the thickness of the straightedge.
- If the transmission is installed to the engine with the torque converter not sufficiently inserted, the torque converter may be damaged.



3. INSTALL WIRE HARNESS CLAMP BRACKET



Text in Illustration

*a	for Type A	*b	for Type B
*c	for Type C	-	-

- (a) Install the 11 bolts and 11 wire harness clamp brackets.

Torque:

Bolt A :

8.0 N·m {82 kgf·cm, 71 in·lbf}

Bolt B :

29 N·m {296 kgf·cm, 21 ft·lbf}

Bolt C (for Type A) :

7.5 N·m {76 kgf·cm, 66 in·lbf}

Bolt C (for Type B) :

8.0 N·m {82 kgf·cm, 71 in·lbf}

Bolt C (for Type C) :

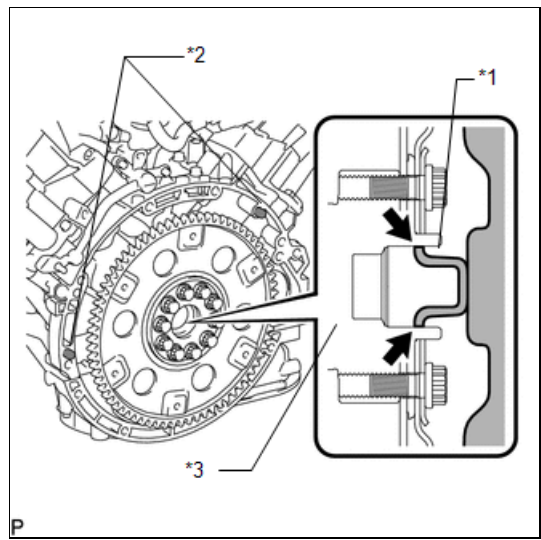
13 N·m {132 kgf·cm, 10 ft·lbf}

NOTICE:

Check whether the bolt being used is Type A or Type B or Type C, and then tighten the bolt using the appropriate torque.

4. INSTALL AUTOMATIC TRANSMISSION ASSEMBLY

(a) Apply clutch spline grease to the surface of the crankshaft that contacts the torque converter centerpiece.



Clutch spline grease:
Toyota Genuine Clutch Spline Grease or equivalent
Maximum grease amount:
Approximately 1 g (0.0353 oz.)

Text in Illustration

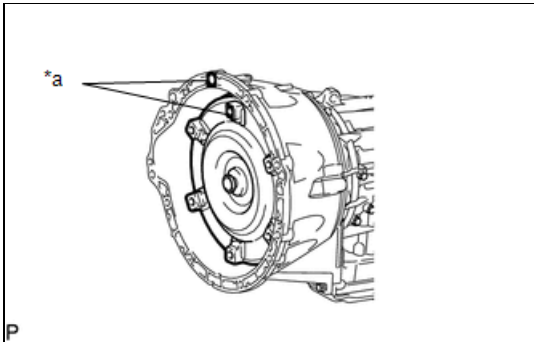
*1	Torque Converter Centerpiece
*2	Knock Pin
*3	Crankshaft
	Clutch Spline Grease

(b) Confirm that the 2 knock pins are on the surface of the engine block that contacts the transmission.

(c) Make sure that the mark is positioned as shown in the illustration.

Text in Illustration

*a	Matchmarks
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(d) Keeping the engine and automatic transmission assembly horizontal, align the knock pins with the holes on the automatic transmission assembly and install the 10 bolts shown in

the illustration.

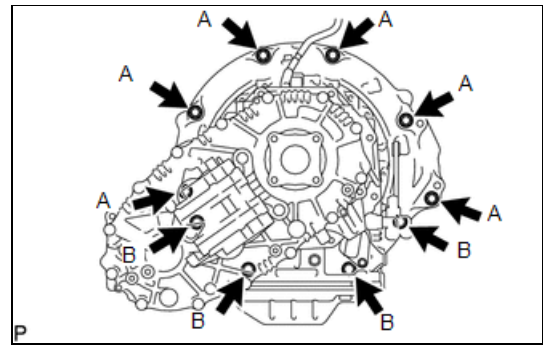
Torque:

for bolt A :

71 N·m {724 kgf·cm, 52 ft·lbf}

for bolt B :

37 N·m {377 kgf·cm, 27 ft·lbf}

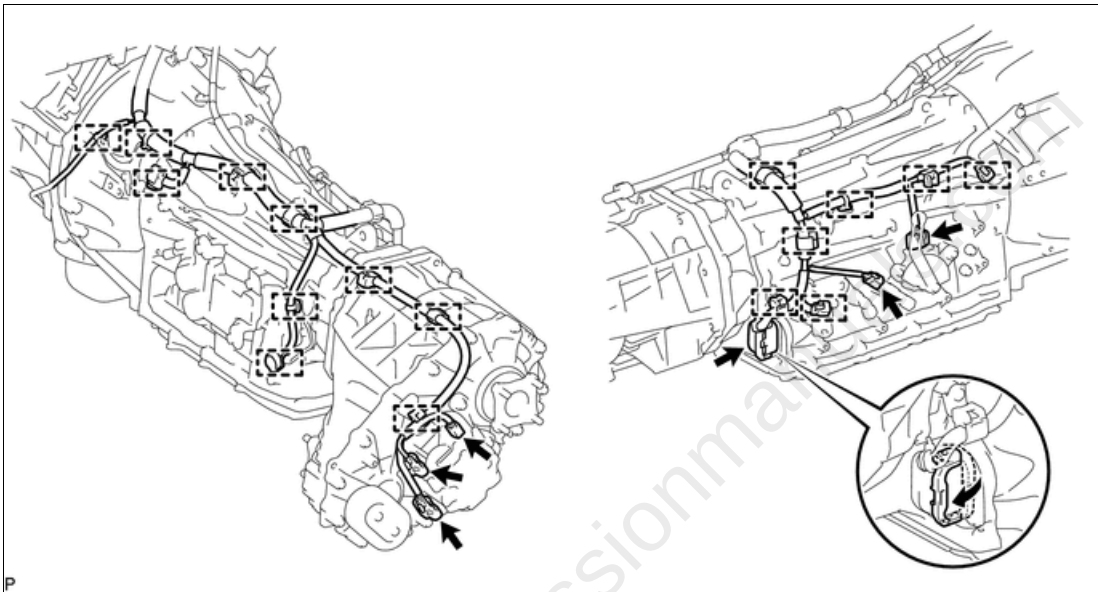


5. INSTALL TRANSFER ASSEMBLY

INFO

6. CONNECT WIRE HARNESS AND CONNECTOR

(a) Connect the park/neutral position switch connector, 2 transmission wire connectors and 3 transfer control connectors.

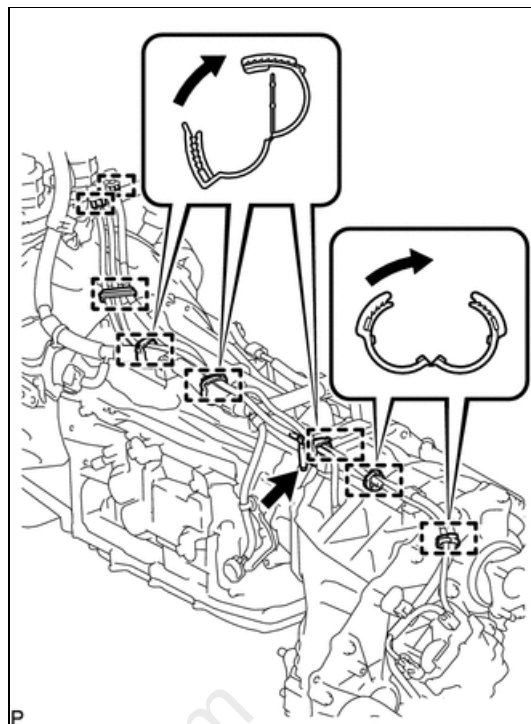


HINT:

Push up the lever until the claw of the transmission wire connector makes a connection sound.

(b) Attach the 17 clamps and connect the wire harness.

- (c) Connect the transfer breather hose sub-assembly to the automatic transmission assembly.



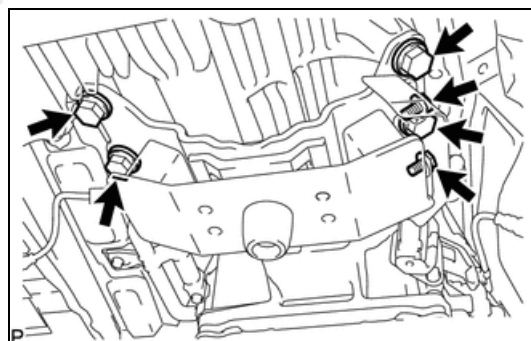
- (d) Attach the 6 clamps 2 hose plugs and connect the transfer breather hose sub-assembly.
(e) Tilt up the automatic transmission.

7. INSTALL REAR NO. 1 ENGINE MOUNTING INSULATOR

- (a) Install the rear No. 1 engine mounting insulator to the transmission with the 4 bolts.

Torque:

59 N·m {602 kgf·cm, 44 ft·lbf}



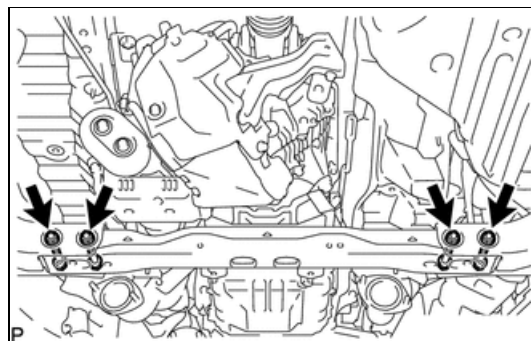
- (b) Install the engine mounting heat insulator with the 2 bolts.

Torque:

12 N·m {122 kgf·cm, 9 ft·lbf}

8. INSTALL NO. 2 FRAME CROSSMEMBER SUB-ASSEMBLY

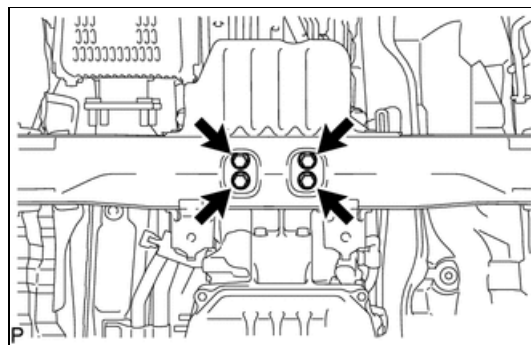
- (a) Temporarily install the No. 2 frame crossmember sub-assembly to the frame with the 4 bolts and 4 nuts.



- (b) Lower the transmission assembly, and then install the rear No. 1 engine mounting insulator to the No. 2 frame crossmember sub-assembly with the 4 bolts.

Torque:

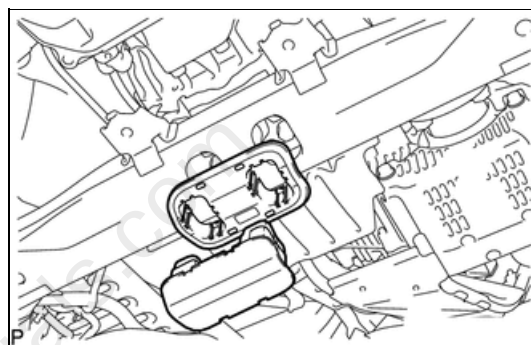
37 N·m {377 kgf·cm, 27 ft·lbf}



- (c) Tighten the No. 2 frame crossmember sub-assembly with the 4 bolts and 4 nuts.

Torque:

110 N·m {1122 kgf·cm, 81 ft·lbf}



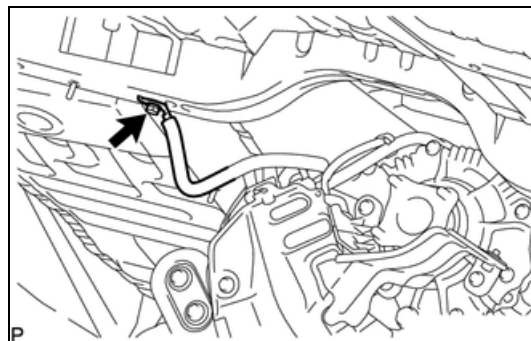
- (d) Install the engine mounting hole cover.

9. CONNECT GROUND CABLE

- (a) Connect the ground cable with the bolt.

Torque:

8.4 N·m {85 kgf·cm, 74 in·lbf}

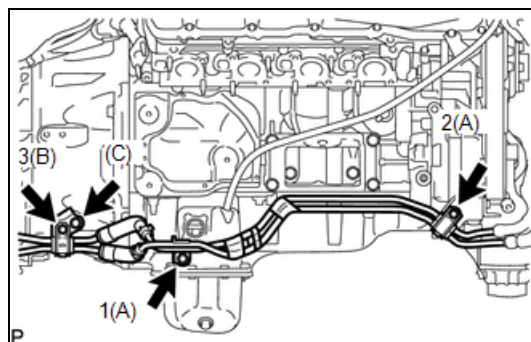


10. CONNECT OIL COOLER TUBE

- (a) Install the transmission oil cooler tube clamp sub-assembly with bolt (labeled C).

Torque:

14 N·m {143 kgf·cm, 10 ft·lbf}



- (b) Temporarily install the oil cooler tube with the 3 bolts and 2 oil cooler tube unions.

- (c) Tighten the 3 bolts in the sequence shown in the illustration.

Torque:

for bolt A :

14 N·m {143 kgf·cm, 10 ft·lbf}

for bolt B :

8.0 N·m {82 kgf·cm, 71 in·lbf}

(d) Tighten the 2 oil cooler tubes.

Torque:

Specified tightening torque :

34 N·m {347 kgf·cm, 25 ft·lbf}

HINT:

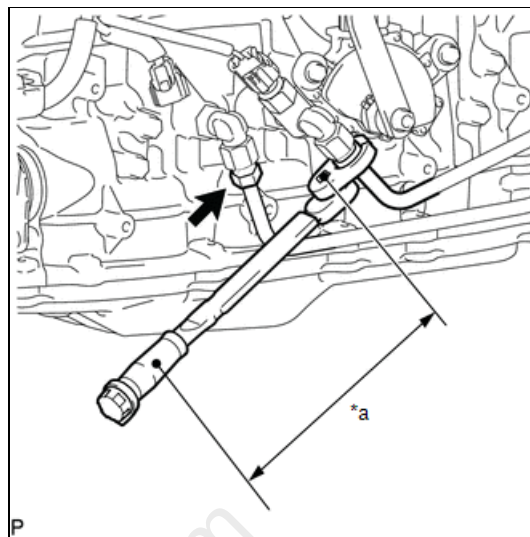
- Calculate the torque wrench reading when changing the fulcrum length of the torque wrench.

(See page [INFO](#))

- When using 17 mm union nut wrench (fulcrum length of 30 mm (1.18 in.)) + torque wrench (fulcrum length of 180 mm (7.09 in.)): 29 N·m (297 kgf·cm, 21 ft·lbf)

Text in Illustration

*a	Torque Wrench Fulcrum Length
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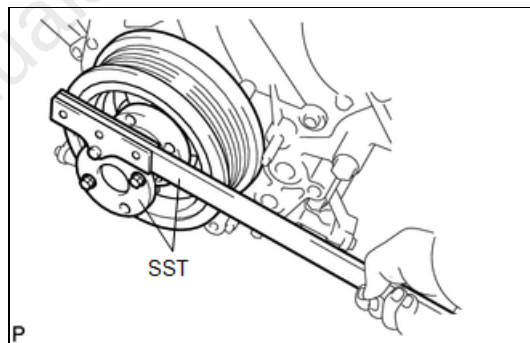
11. INSTALL DRIVE PLATE AND TORQUE CONVERTER SETTING BOLT

(a) Using SST, hold the crankshaft.

SST: 09213-70011

09213-70020

SST: 09330-00021



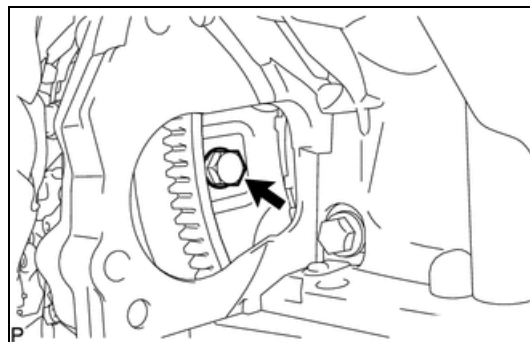
(b) Install the 6 drive plate and torque converter setting bolts.

Torque:

53 N·m {535 kgf·cm, 39 ft·lbf}

NOTICE:

- First install the black-colored bolt, and then the remaining 5 silver colored bolts.
- Turn the crankshaft to install the 6 drive plate and torque converter setting bolts.



12. INSTALL NO. 2 MANIFOLD STAY

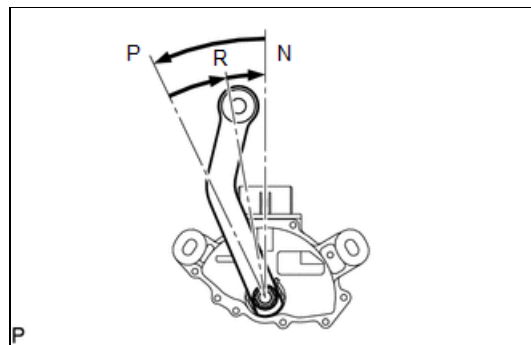
INFO

13. INSTALL NO. 1 MANIFOLD STAY

INFO

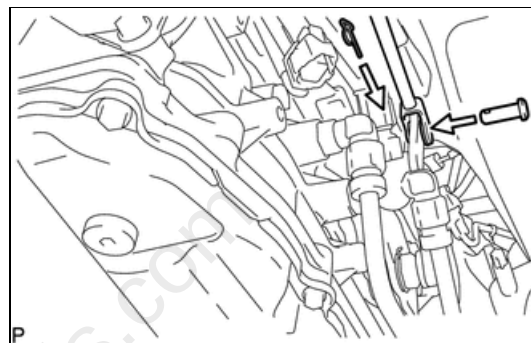
14. CONNECT FLOOR SHIFT GEAR SHIFTING ROD SUB-ASSEMBLY

- (a) Turn the transmission control shaft lever of the park/neutral position switch counterclockwise until it stops, and then turn it clockwise 2 notches to set it to the N position.



- (b) Move the shift lever to N.

- (c) Connect the floor shift gear shifting rod sub-assembly to the transmission control shaft lever with the pin and a new clip.



15. INSTALL NO. 3 FRONT FLOOR HEAT INSULATOR

INFO

16. INSTALL STARTER ASSEMBLY

(See page [INFO](#))

17. INSTALL EXHAUST PIPE

(See page [INFO](#))

18. INSTALL PROPELLER SHAFT ASSEMBLY

(See page [INFO](#))

19. INSTALL FRONT PROPELLER SHAFT ASSEMBLY

(See page [INFO](#))

20. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (See page [INFO](#)).

21. ADD AUTOMATIC TRANSMISSION FLUID

(See page [INFO](#))

22. ADD TRANSFER OIL

INFO

23. ADD ENGINE COOLANT

INFO

24. INSPECT FOR AUTOMATIC TRANSMISSION FLUID LEAK

INFO

25. INSPECT FOR ENGINE COOLANT LEAK

INFO

26. INSPECT SHIFT LEVER POSITION

(See page [INFO](#))

27. INSPECT FOR EXHAUST GAS LEAK

28. INSTALL FRONT FENDER APRON TRIM PACKING C

INFO

29. INSTALL FRONT FENDER APRON TRIM PACKING A

INFO

30. INSTALL TRANSMISSION CASE COVER (w/ Cover)

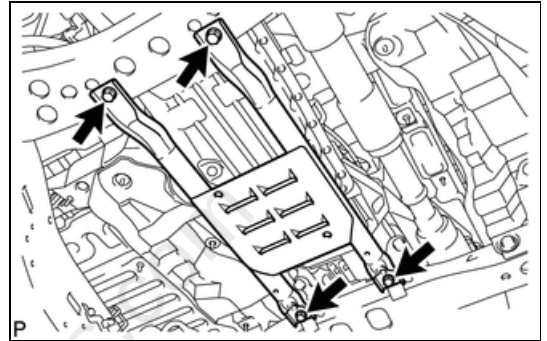
INFO

31. INSTALL OIL PAN PROTECTOR ASSEMBLY

(a) Install the oil pan protector with the 4 bolts.

Torque:

50 N·m {510 kgf·cm, 37 ft·lbf}



32. INSTALL NO. 2 ENGINE UNDER COVER

INFO

33. INSTALL NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

INFO

34. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

INFO

35. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

INFO

36. INSTALL UPPER RADIATOR SUPPORT SEAL

INFO

37. RESET MEMORY

(a) Perform the Reset Memory procedures (A/T initialization) (See page [INFO](#)).