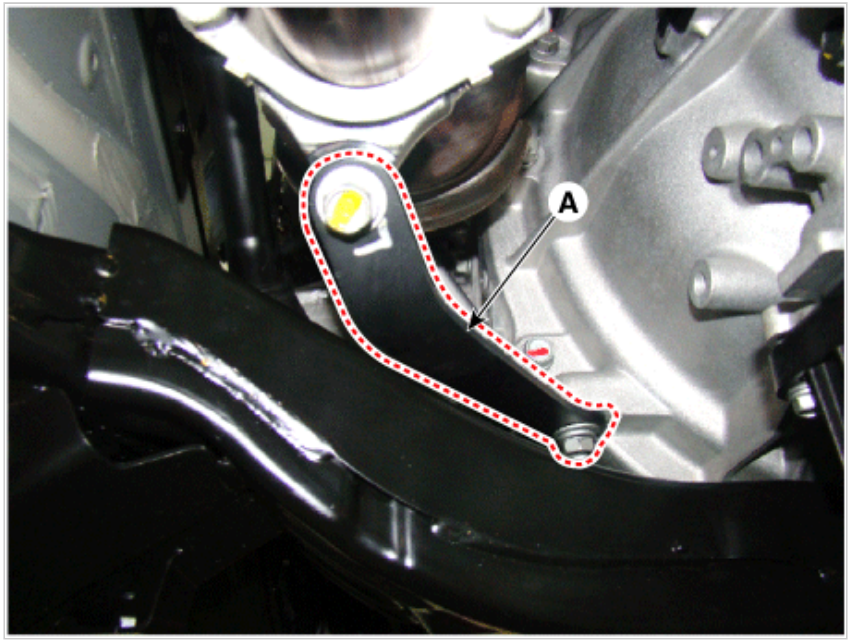
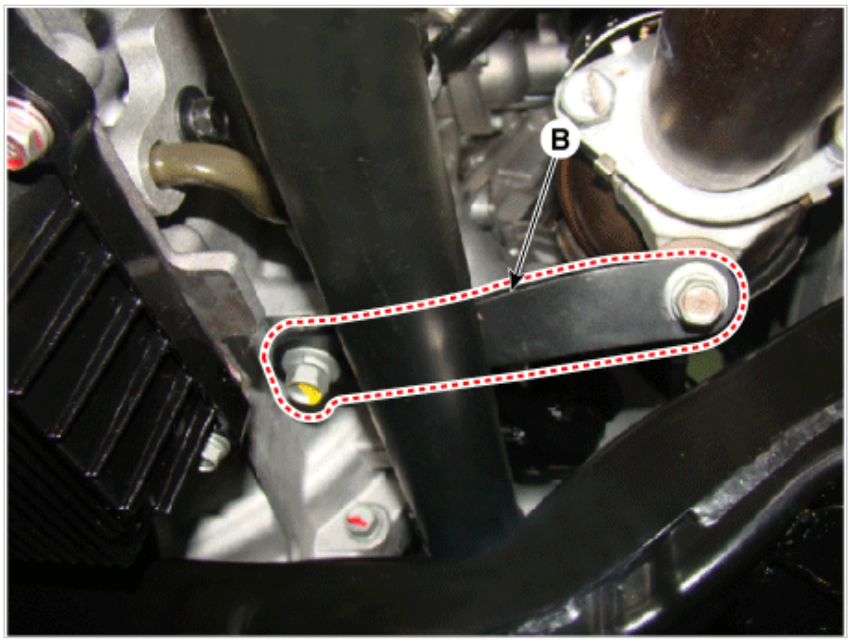
Removal

1. Remove the under cover.
   (Refer to Engine Mechanical System - "Engine Room Under Cover")
2. Remove the both side stay (A, B).

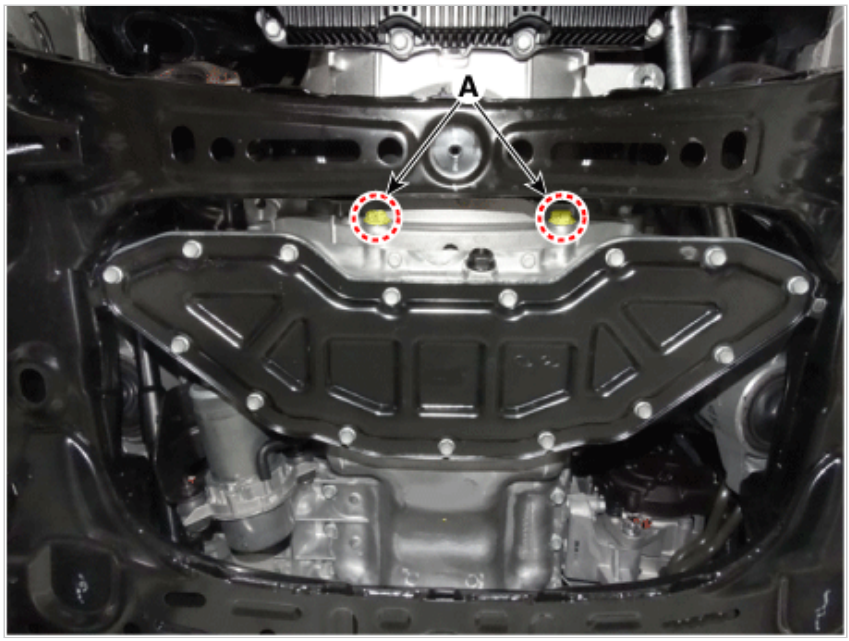
Tightening torque :
34.3 - 41.2 N·m (3.5 - 4.2 kgf·m, 25.3 - 30.4 lb·ft)





3. Loosen the transmission lower mounting bolts (A).

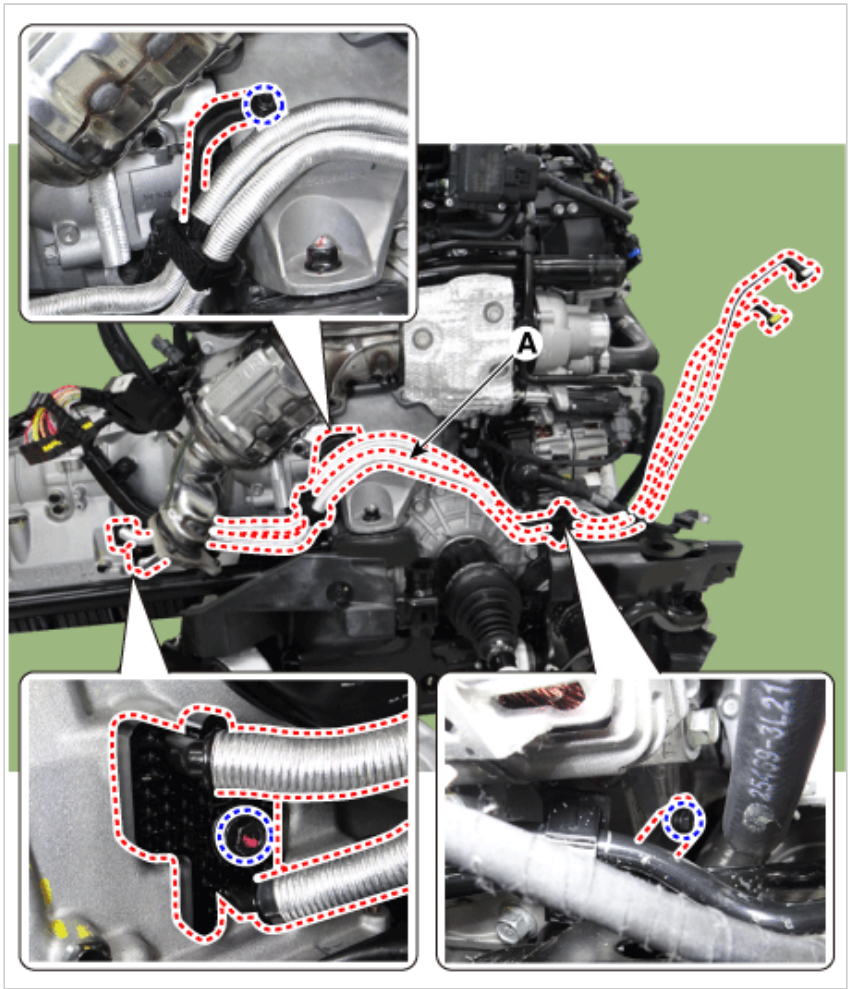
Tightening torque :
39.2 - 46.1 N·m (4.0 - 4.7 kgf·m, 28.9 - 34.0 lb·ft)



4. Remove the engine and transmission assembly.
   (Refer to Engine Mechanical System - "Engine And Transmission Assembly")
5. Remove the transmission oil cooler tube (A).

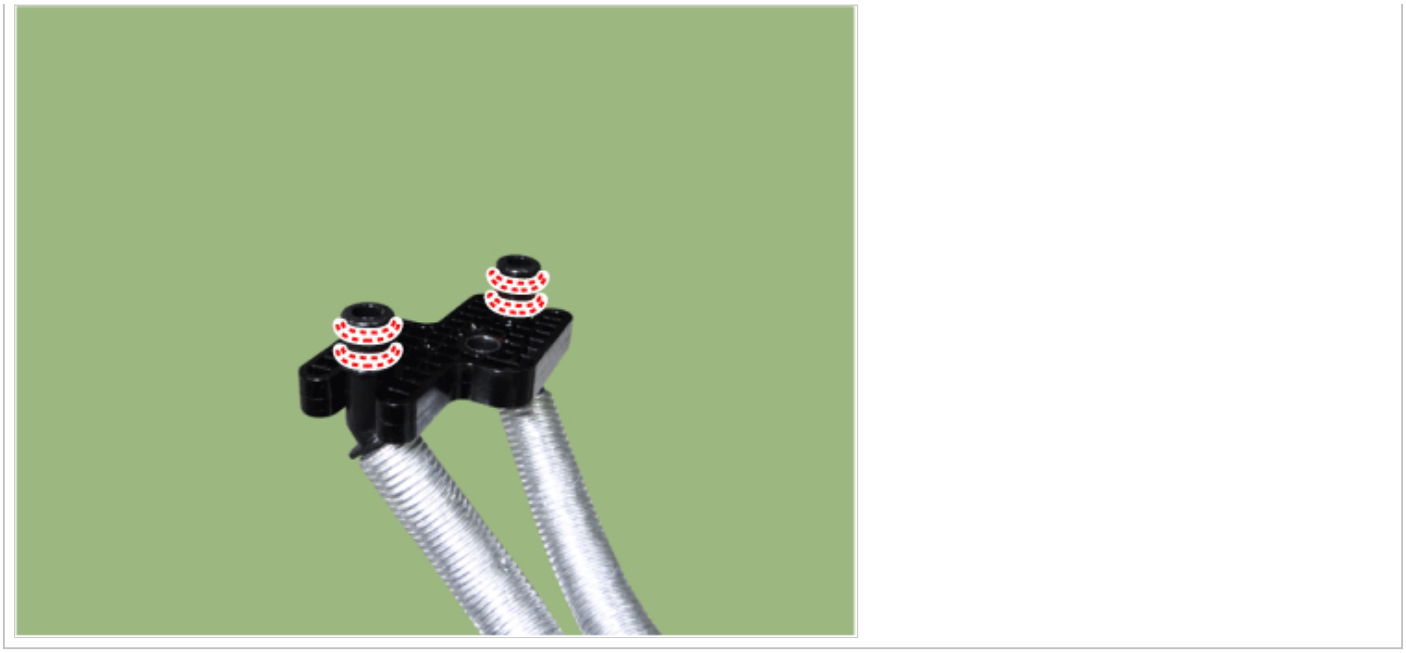
Tightening torque

Oil cooler tube mounting bolt : 19.6 - 29.4 N·m (2.0 - 3.0 kgf·m, 14.5 - 21.7 lb·ft)
Bracket mounting bolts : 7.8 - 11.8 N·m (0.8 - 1.2 kgf·m, 5.8 - 8.7 lb·ft)



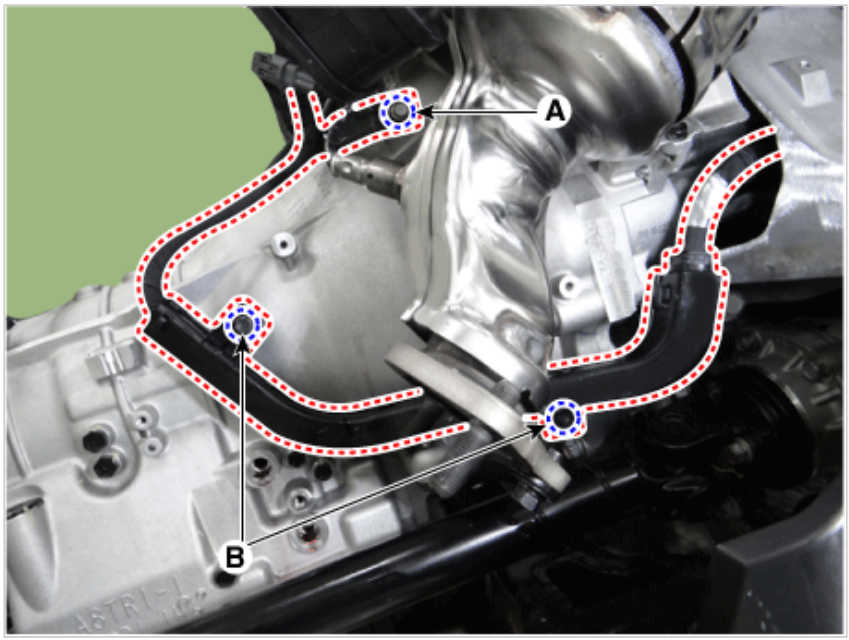
NOTICE

When installing, the existing oil cooler tube O-ring must be replaced with a new one.



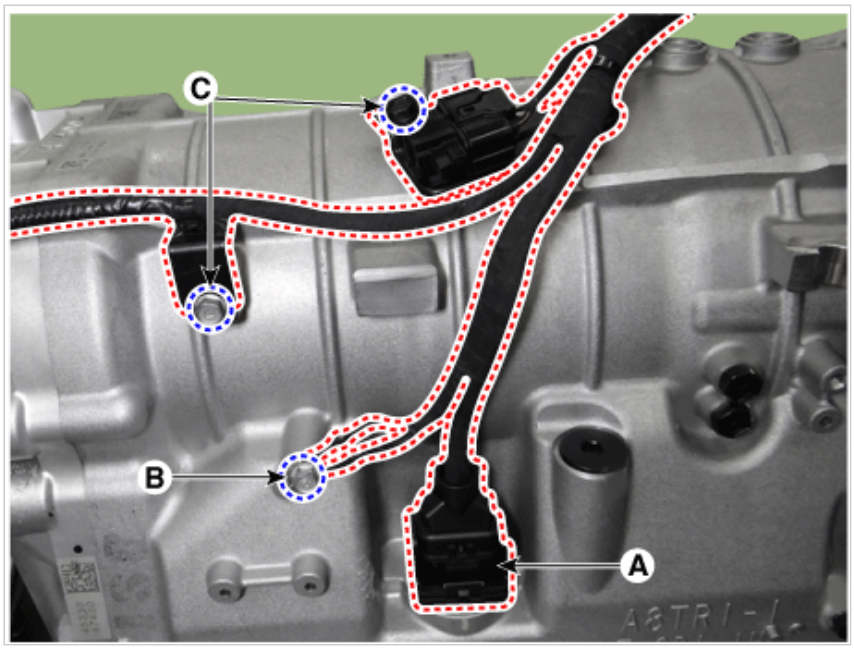
6. Loosen the wiring bracket mounting bolt (A) and wiring protector mounting bolts (B).

Tightening torque :
8.8 - 9.8 N·m (0.9 - 1.0 kgf·m, 6.5 - 7.2 lb·ft)



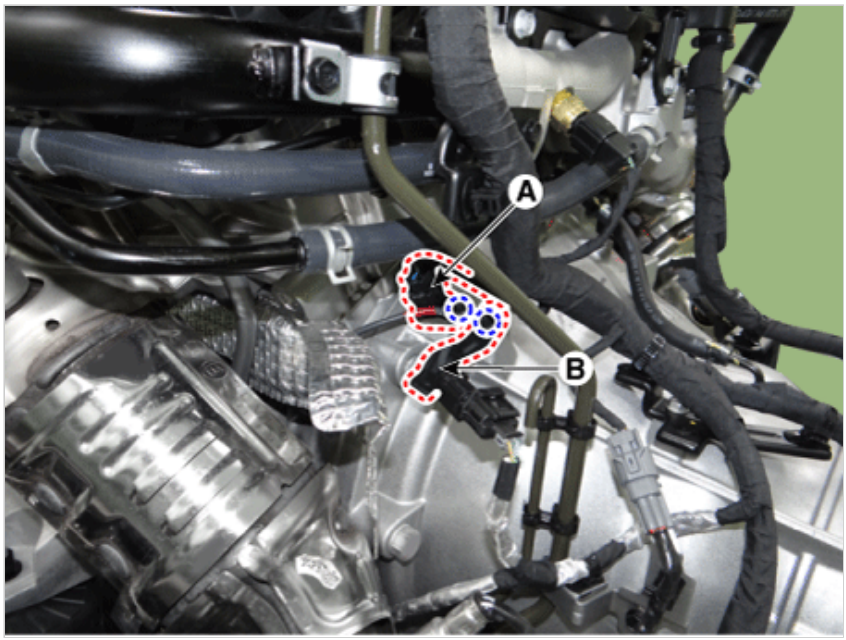
7. Disconnec the main connector (A) and loosen the bolts (B, C).

Tightening torque :
(B) 10.8 - 13.7 N·m (1.1 - 1.4 kgf·m, 8.0 - 10.1 lb·ft)
(C) 8.8 - 9.8 N·m (0.9 - 1.0 kgf·m, 6.5 - 7.2 lb·ft)



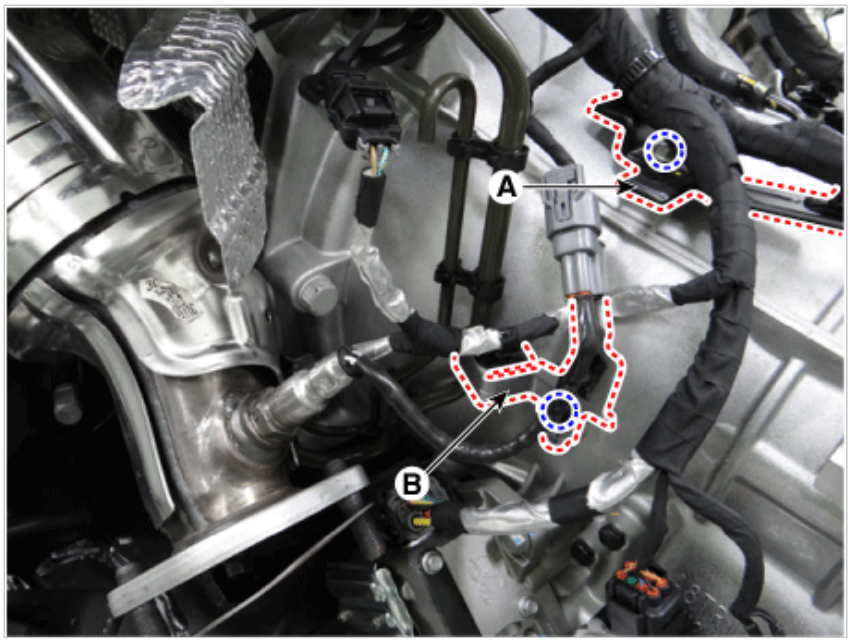
8. Remove the CKP sensor (A) and wiring bracket (B) by loosening the bolts.

Tightening torque :
8.8 - 9.8 N·m (0.9 - 1.0 kgf·m, 6.5 - 7.2 lb·ft)



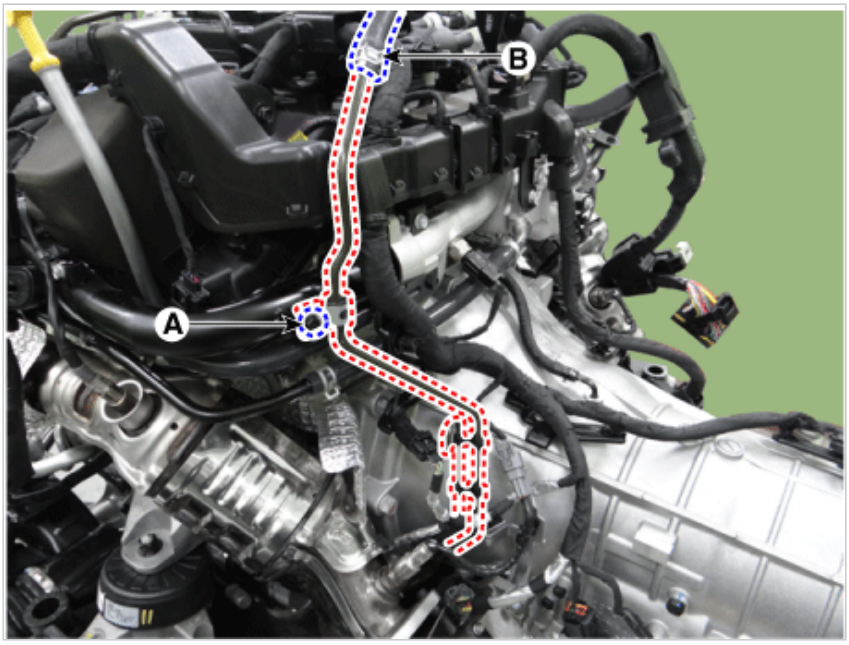
9. Remove the wiring mounting bracket (A, B).

Tightening torque :
8.8 - 9.8 N·m (0.9 - 1.0 kgf·m, 6.5 - 7.2 lb·ft)



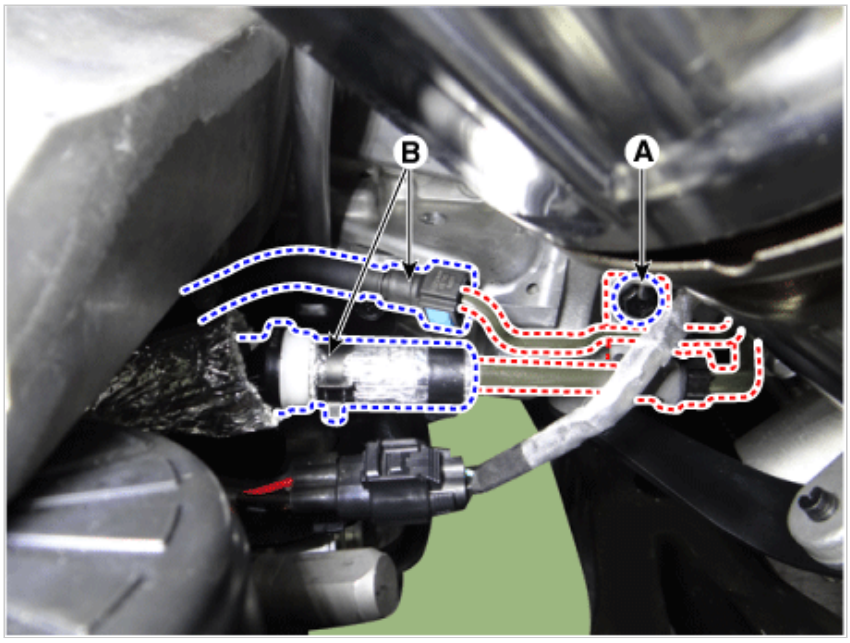
10. Remove the vacuum pipe.
    (1) Loosen the bracket mounting bolt (A) and separate the pipe from the hose (B).

Tightening torque :
7.8 - 11.8 N·m (0.8 - 1.2 kgf·m, 5.8 - 8.7 lb·ft)



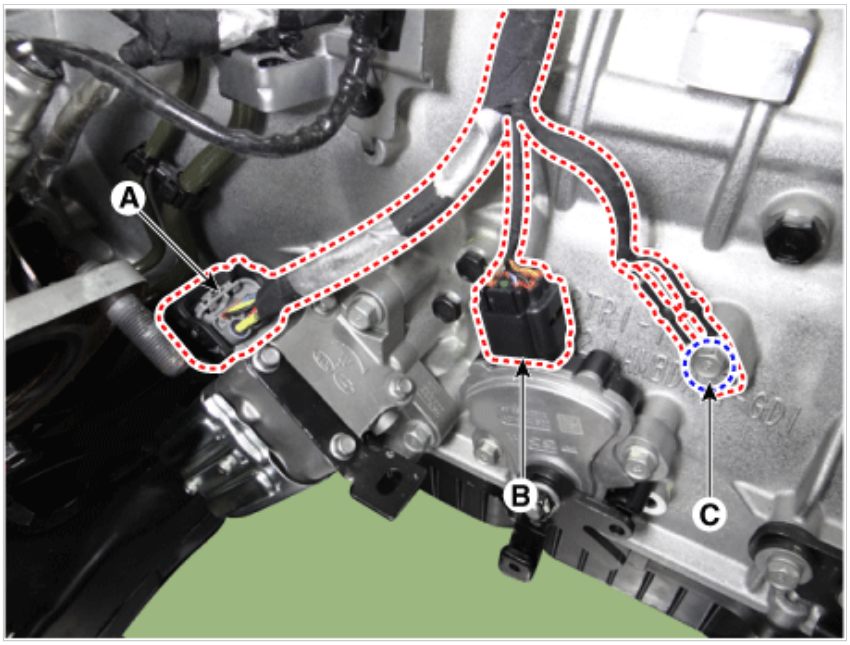
    (2) Loosen the bracket mounting bolt (A) and separate the pipe from the hose (B).

Tightening torque :
7.8 - 11.8 N·m (0.8 - 1.2 kgf·m, 5.8 - 8.7 lb·ft)



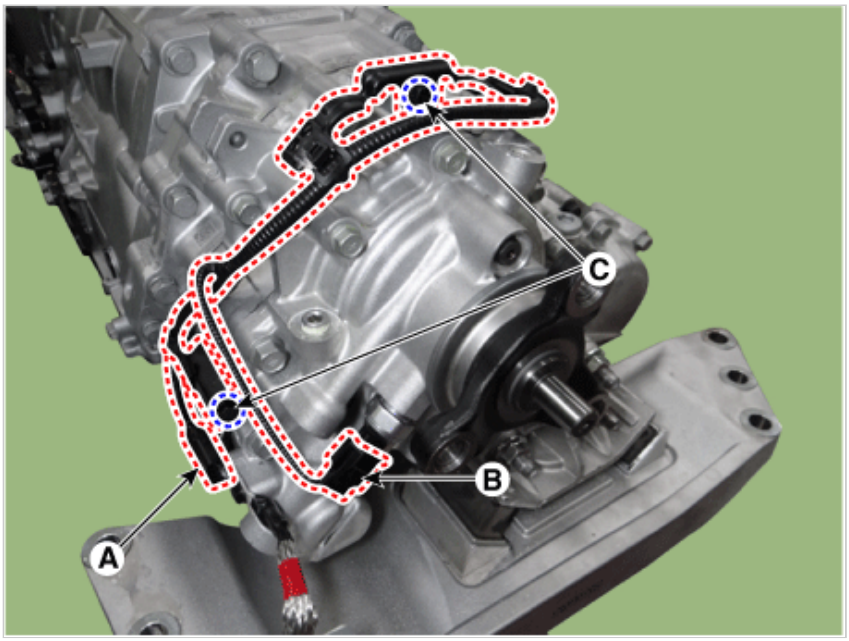
11. Disconnect the EOP connector (A) and parking switch connector (B), and loosen the ground mounting bolt (C).

Tightening torque :
10.8 - 13.7 N·m (1.1 - 1.4 kgf·m, 8.0 - 10.1 lb·ft)



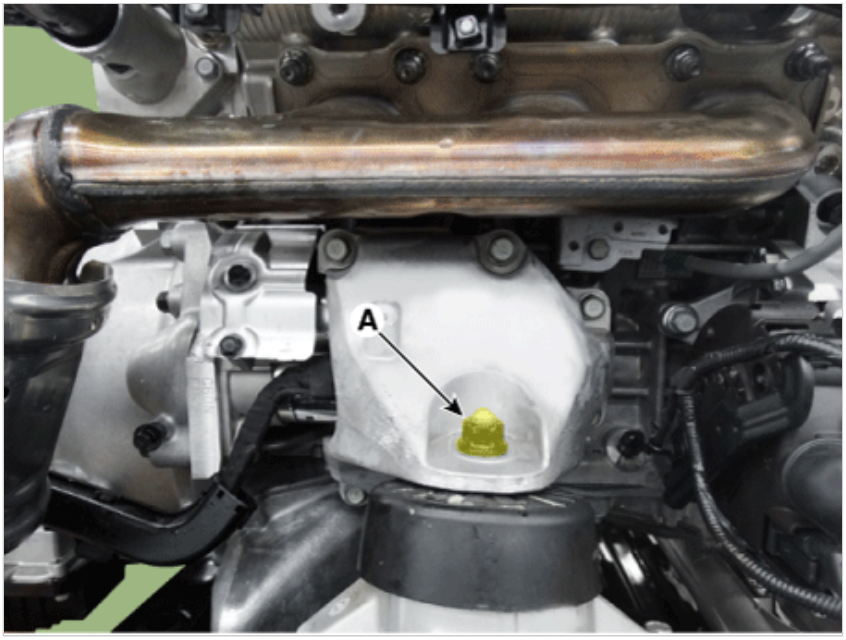
12. Disconnect the motor connector (A) and hydraulic sensor connector (B, and loosen the wiring bracket mounting bolt (C).**[4WD only]**

Tightening torque :
8.8 - 9.8 N·m (0.9 - 1.0 kgf·m, 6.5 - 7.2 lb·ft)



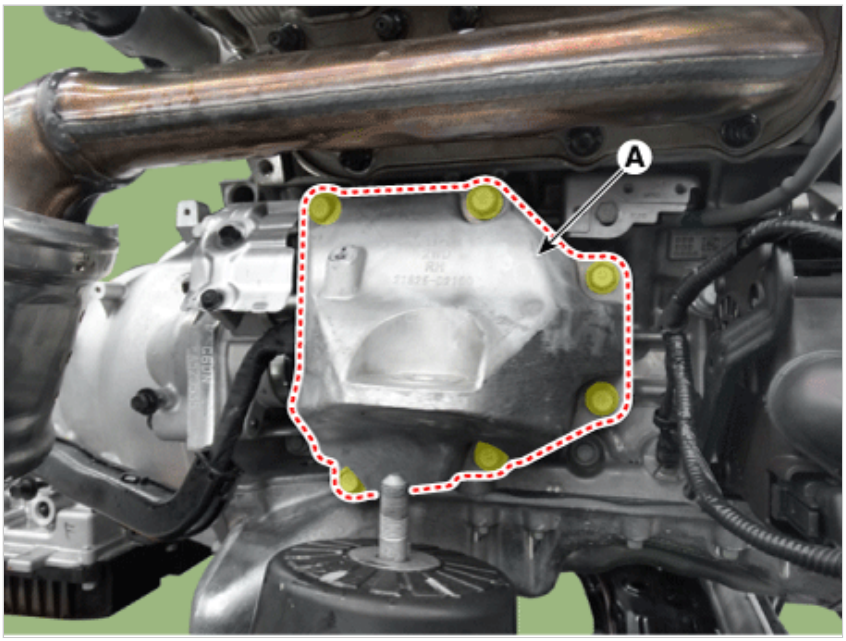
13. Loosen the engine support bracket mounting nut (A).

Tightening torque :
63.7 - 83.4 N·m (6.5 - 8.5 kgf·m, 47.0 - 61.5 lb·ft)

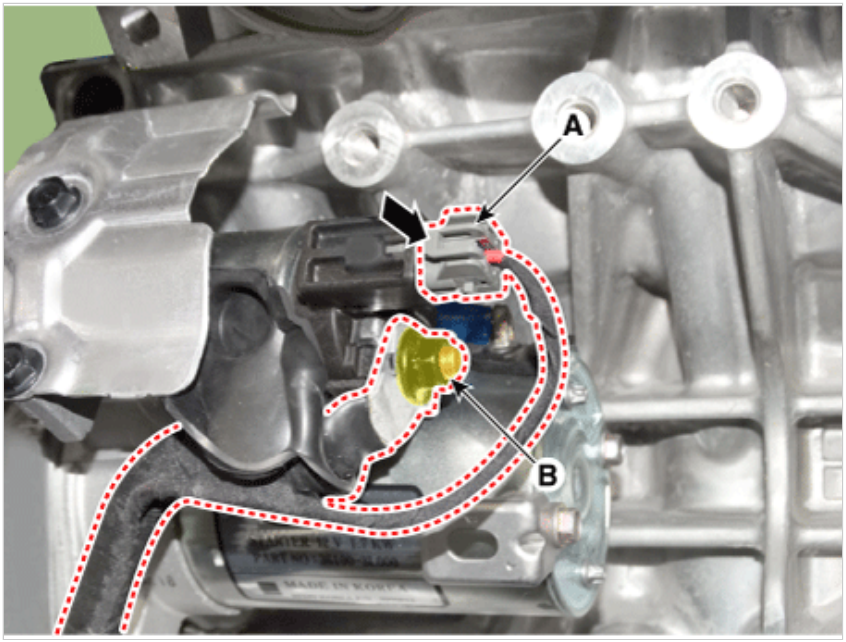


14. Lift the engine by using the engine crane.
15. Remove the engine support bracket (A).

Tightening torque :
49.0 - 63.7 N·m (5.0 - 6.5 kgf·m, 36.2 - 47.0 lb·ft)

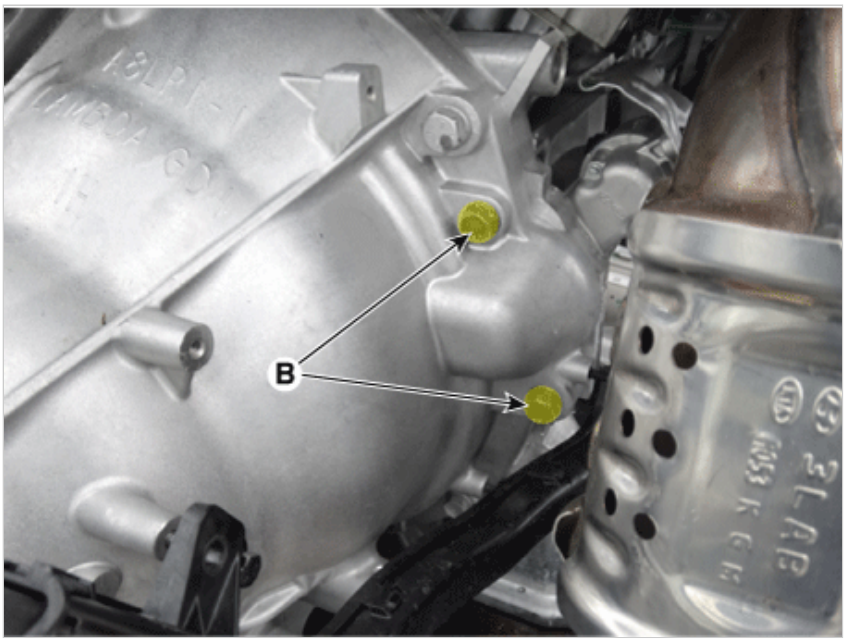


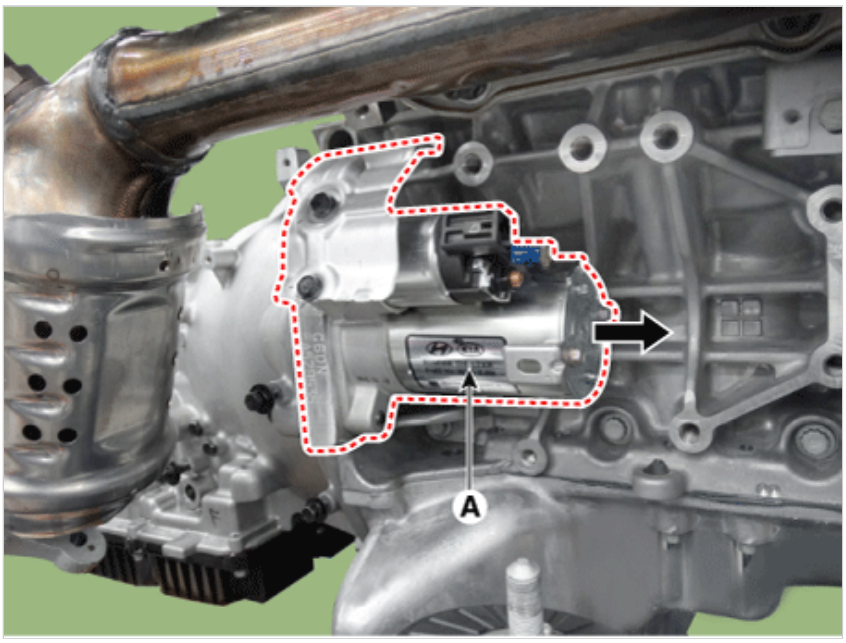
16. Disconnect the starter motor connector (A) and remove the terminal (B).



17. Remove the starter (A) after loosening the mounting bolts (B).

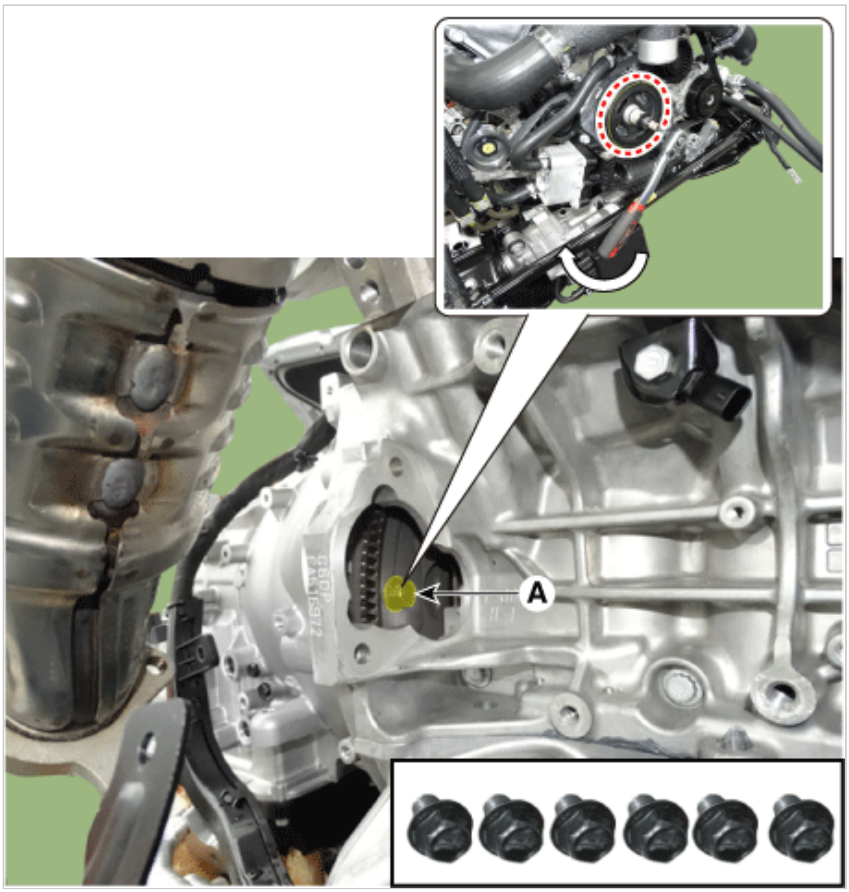
Tightening torque :
49.0 - 63.7 N·m (5.0 - 6.5 kgf·m, 36.2 - 47.0 lb·ft)





18. Remove the cover and then loosen the torque converter mounting bolts (A-6pcs) by rotating the crankshaft.

Tightening torque :
45.1 - 52.0 N·m (4.6 - 5.3 kgf·m, 33.3 - 38.3 lb·ft)



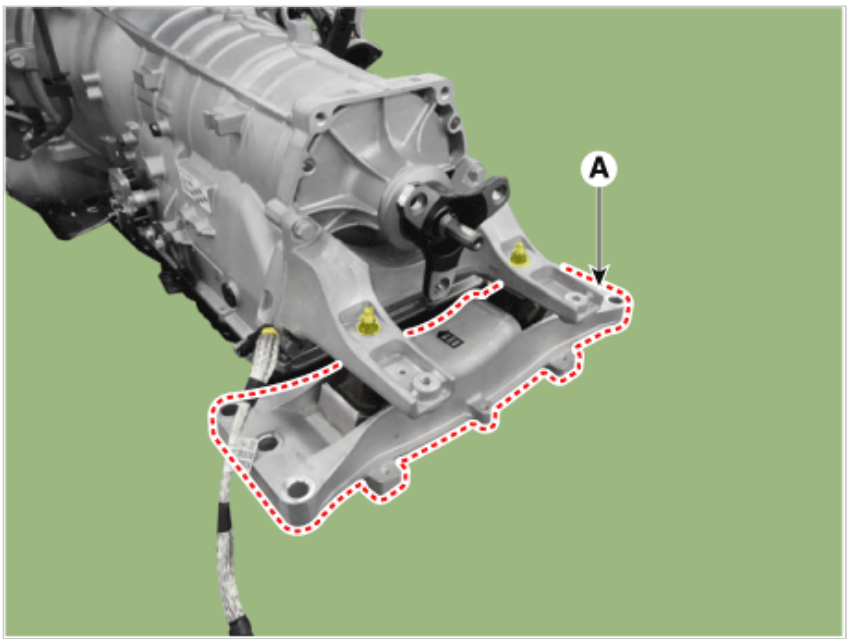
NOTICE

- When installing, apply the ATF to the bolts thread before tightening the bolts.
- When installing, lightly tighten the bolts (6-pcs) and then tighten the bolts to the specified torque.

19. Remove the cross member (A).

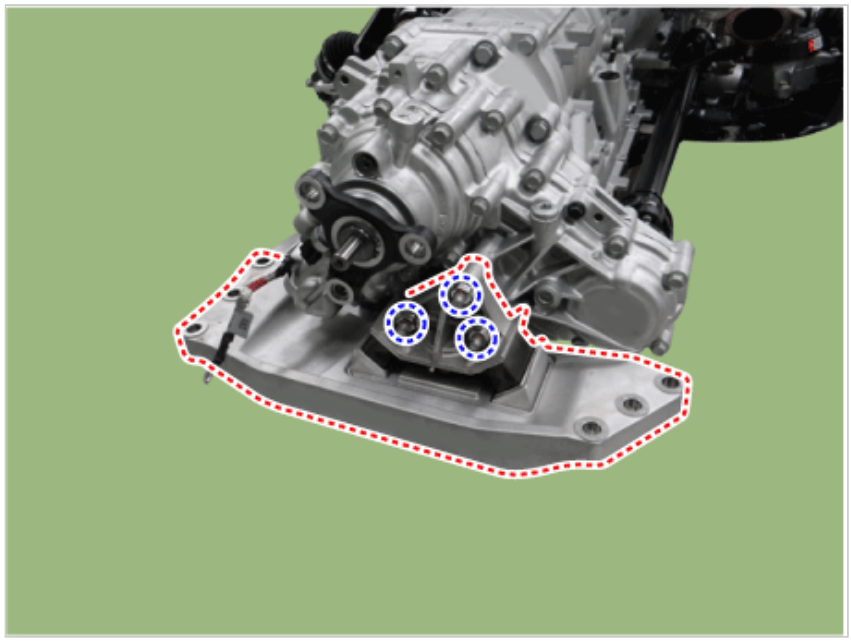
[2WD]

Tightening torque :
29.4 - 34.3 N·m (3.0 - 3.5 kgf·m 21.7 - 25.3 lb·ft)



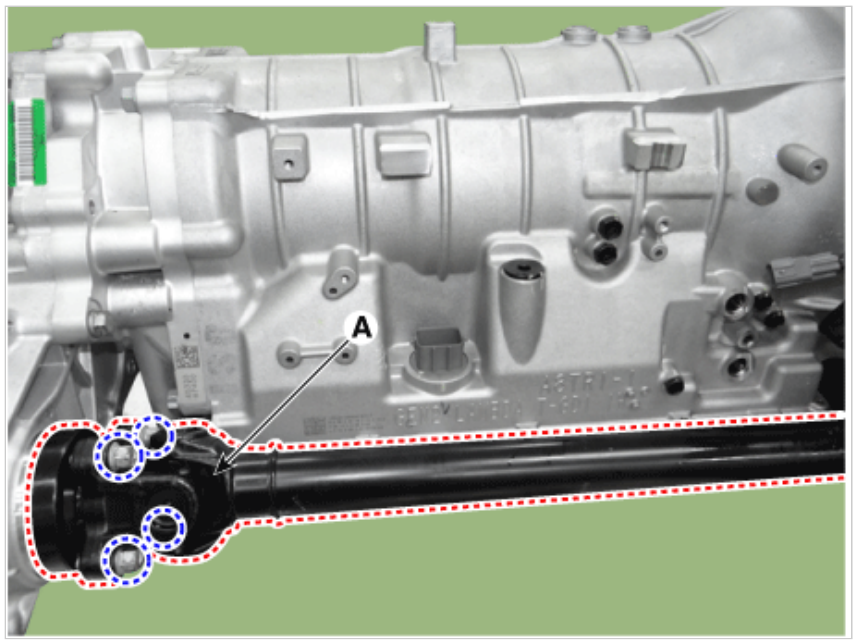
[4WD]

Tightening torque :
63.7 - 83.4 N·m (6.5 - 8.5 kgf·m, 47.0 - 61.5 lb·ft)



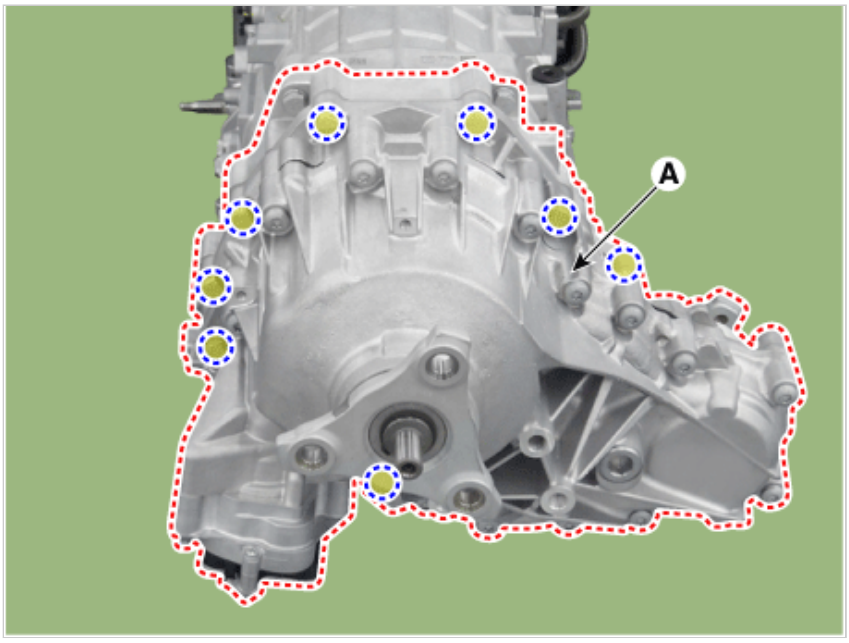
20. Remove the front propeller shaft (A) from the transfer.**[4WD only]**

Tightening torque :
49.0 - 68.6. N·m (5.0 - 7.0 kgf·m, 36.2 - 50.6 lb·ft)



21. Remove the transfer aasembly (A).**[4WD only]**

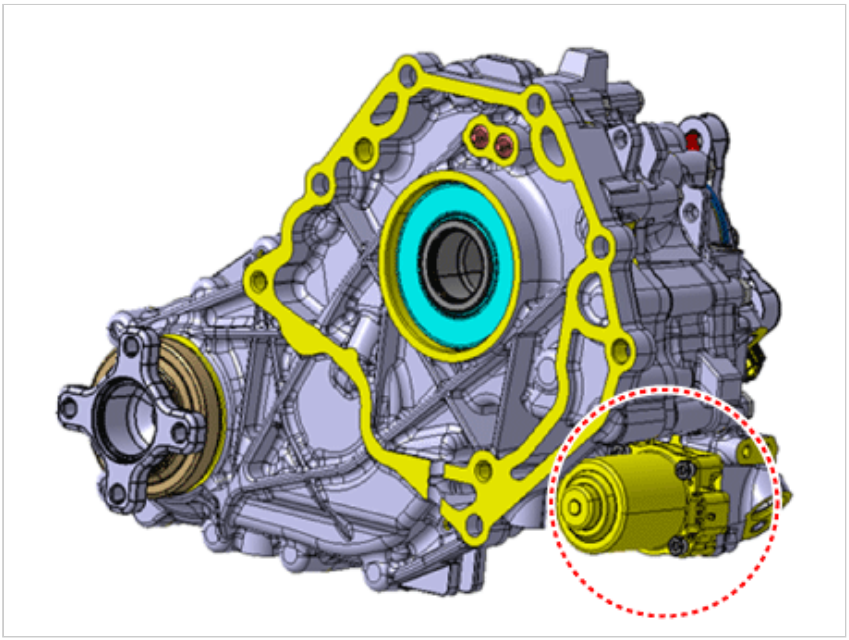
Tightening torque :
29.4 - 41.2 N·m (3.0 - 4.2 kgf·m, 21.7 - 30.4 lb·ft)



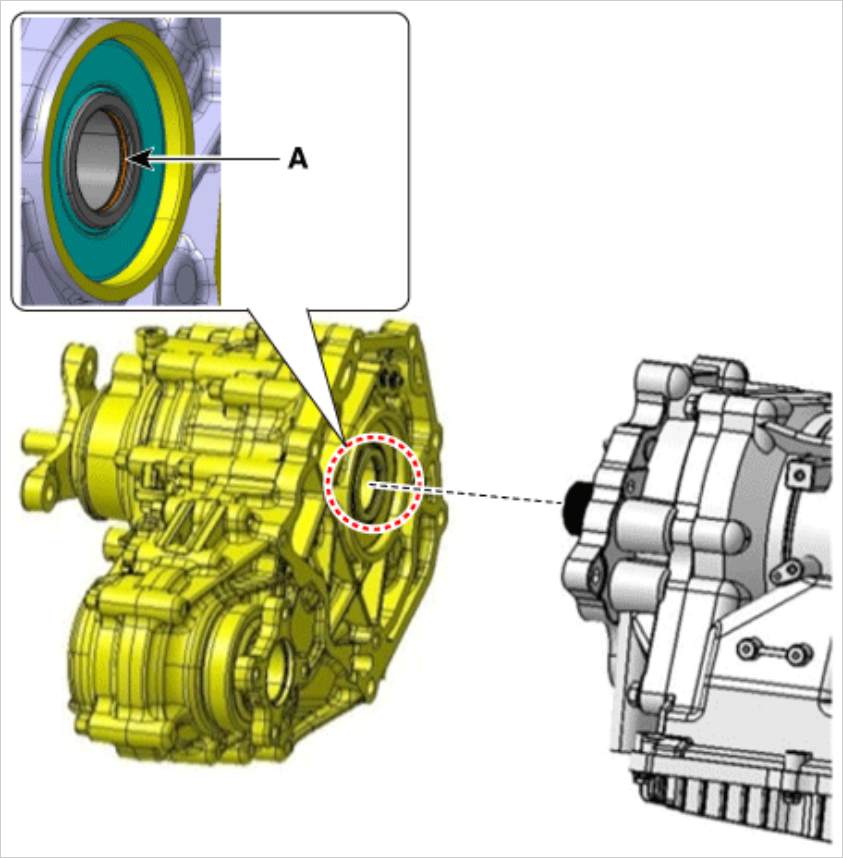
NOTICE

Precautions of the transfer assembly repairing

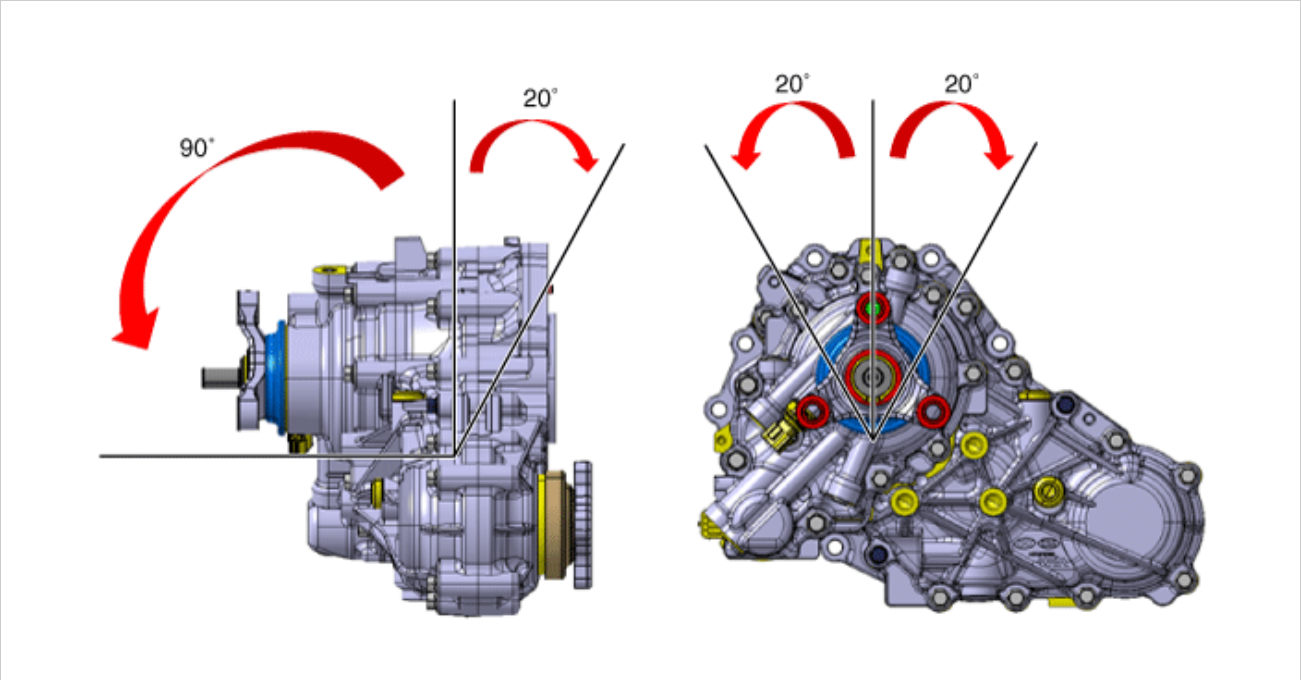
- Use caution for the actuator not to be impacted by the transmission, floor or structure.



- To prevent damage to the O-ring, maintain parallel with the transmission shaft when install the transfer assembly.



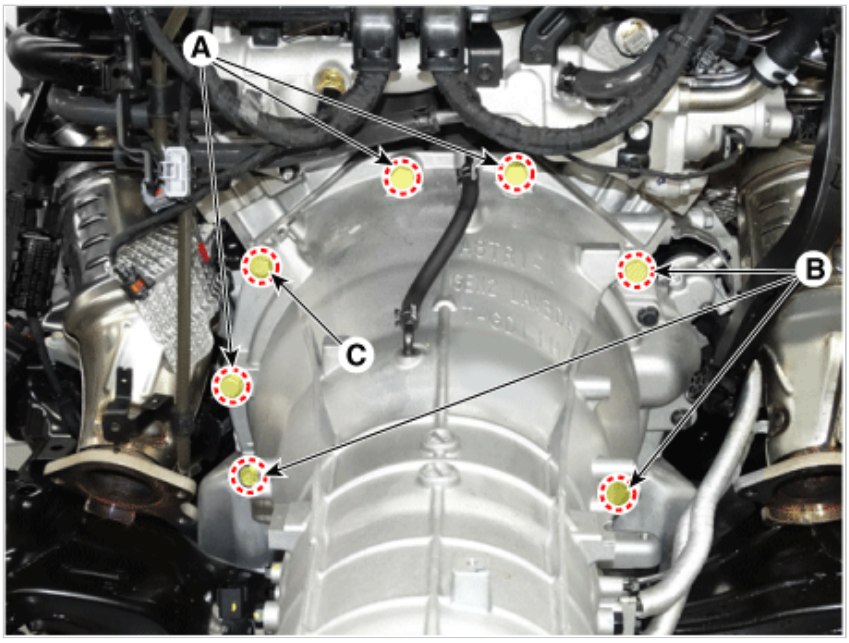
- Use caution when removing / installing the transfer case. If the horizontal position is disturbed, oil may be leaked even with the air breather valve installed because oil remains inside the transfer case.



22. Support the transmission safely on a jack.
23. Loosen the transmission mounting bolts (A, B, C).

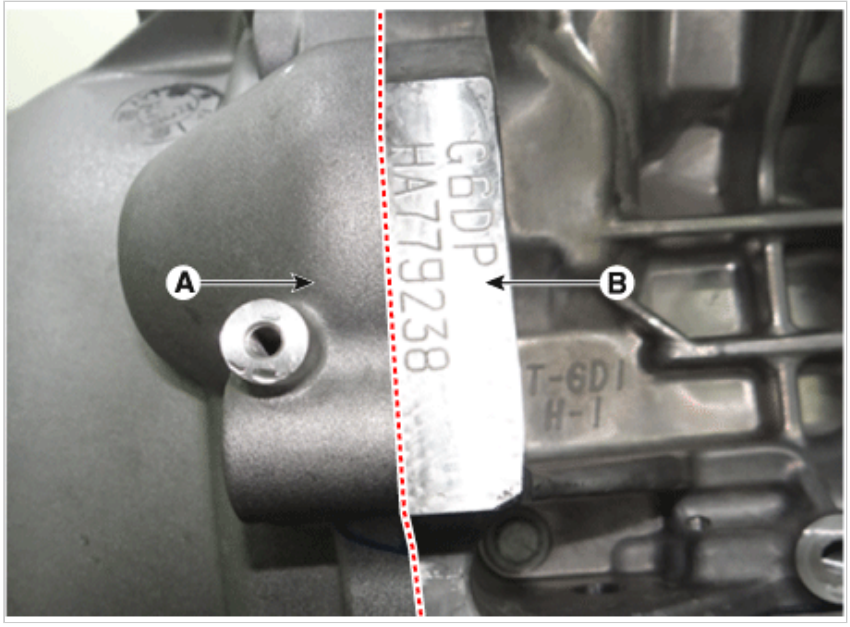
Tightening torque

(A) 63.7 - 83.4 N·m (6.5 - 8.5 kgf·m, 47.0 - 61.5 lb·ft)
(B) 39.2 - 46.1 N·m (4.0 - 4.7 kgf·m, 28.9 - 34.0 lb·ft)
(C) 34.3 - 46.1 N·m (3.5 - 4.7 kgf·m, 25.3 - 34.0 lb·ft)

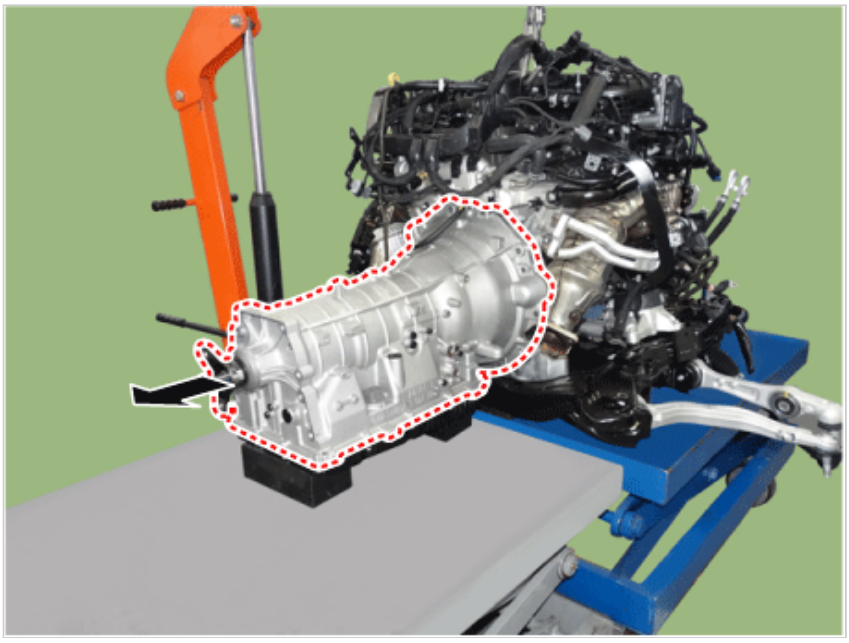


NOTICE

After mounting the automatic transmission to the engine by pushing the automatic transmission, tighten the mounting bolts after check that there is no gap between the torque converter housing (A) and the engine block (B).



24. Remove the transmission from the engine.



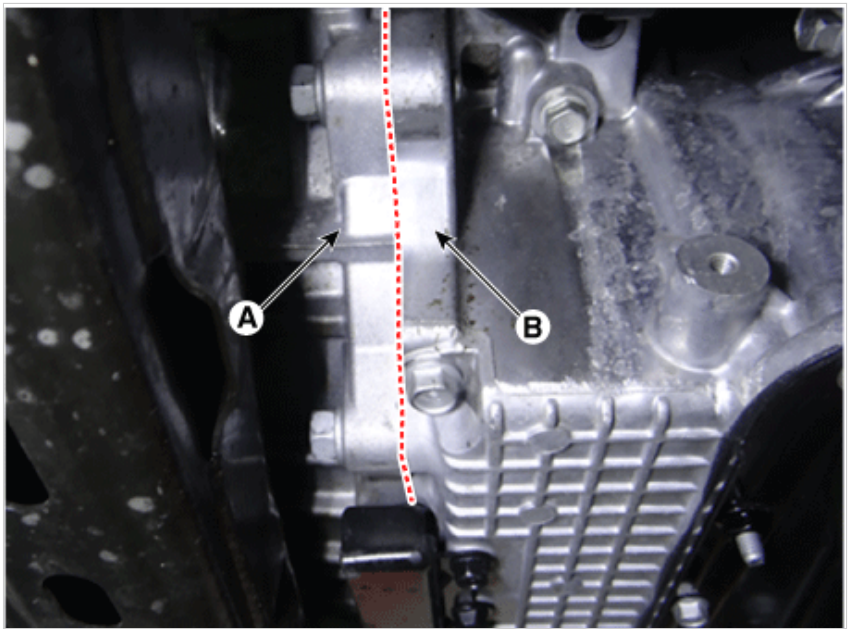
Installation

1. Install in the reverse order of removal

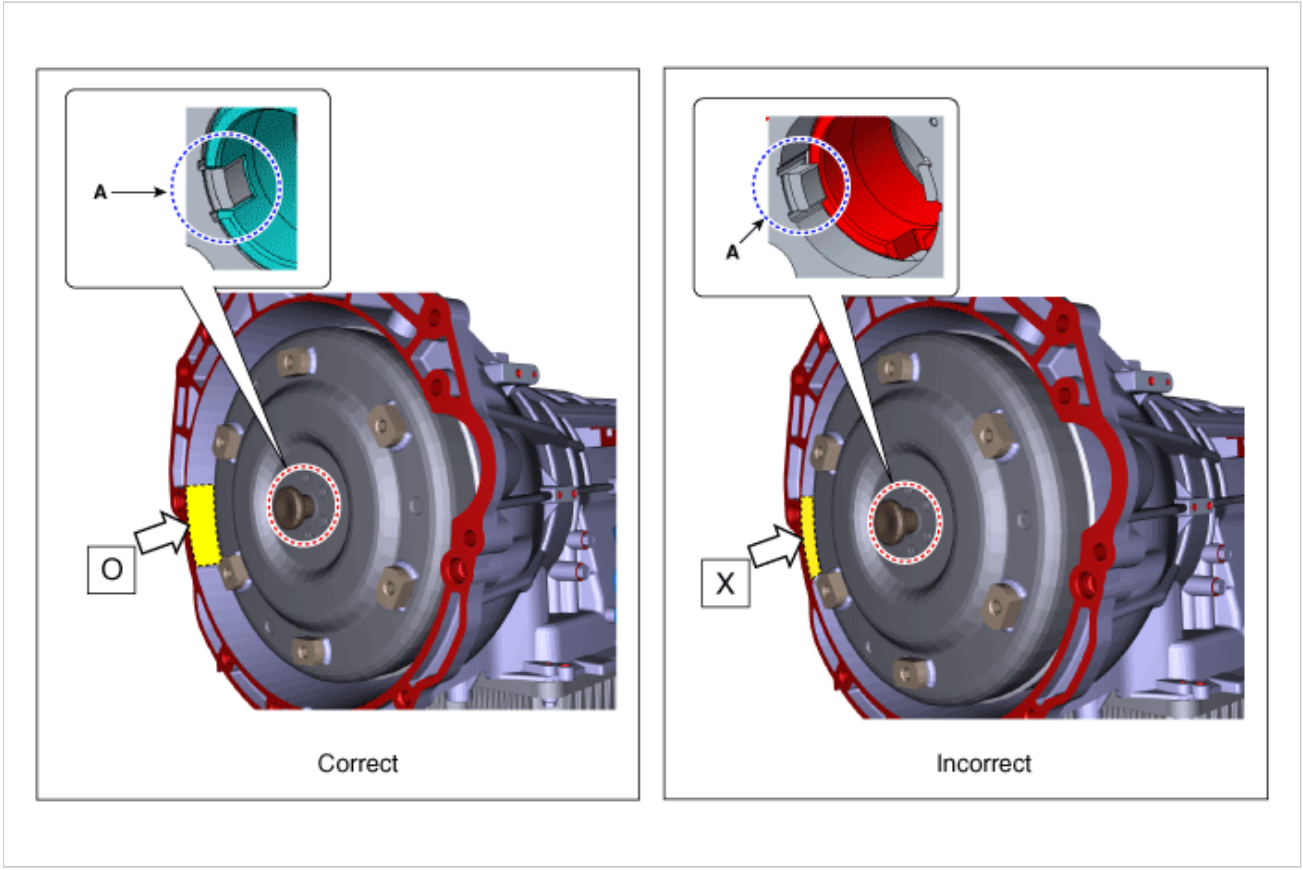
NOTICE

- **Matters that require attention when installing the transmission to engine**

1) Check that there is no gap between the torque converter housing (A) and the engine block (B).



2) This gap means the torque converter is not assembled correctly and it can cause damage on the key (A) of oil pump gear. In this case, reinstall the torque converter correctly after removing the transamission assembly.



3) If the bolt is tightened while there is a gap, it can cause damage on the key of oil pump gear. In this case, replace the transmission assembly after loosening the mounting bolts.

• **When reinstalling the automatic transmission assembly, perform the procedures below.**

1) Check the ATF level after refilling the automatic transmission with fluid.
(Refer to Hydraulic System - "Fluid")

2) Clear the diagnostic trouble codes (DTC) using the KDS. Disconnecting the battery negative terminal will not clear the DTCs. Clear DTCs using the KDS at all times.

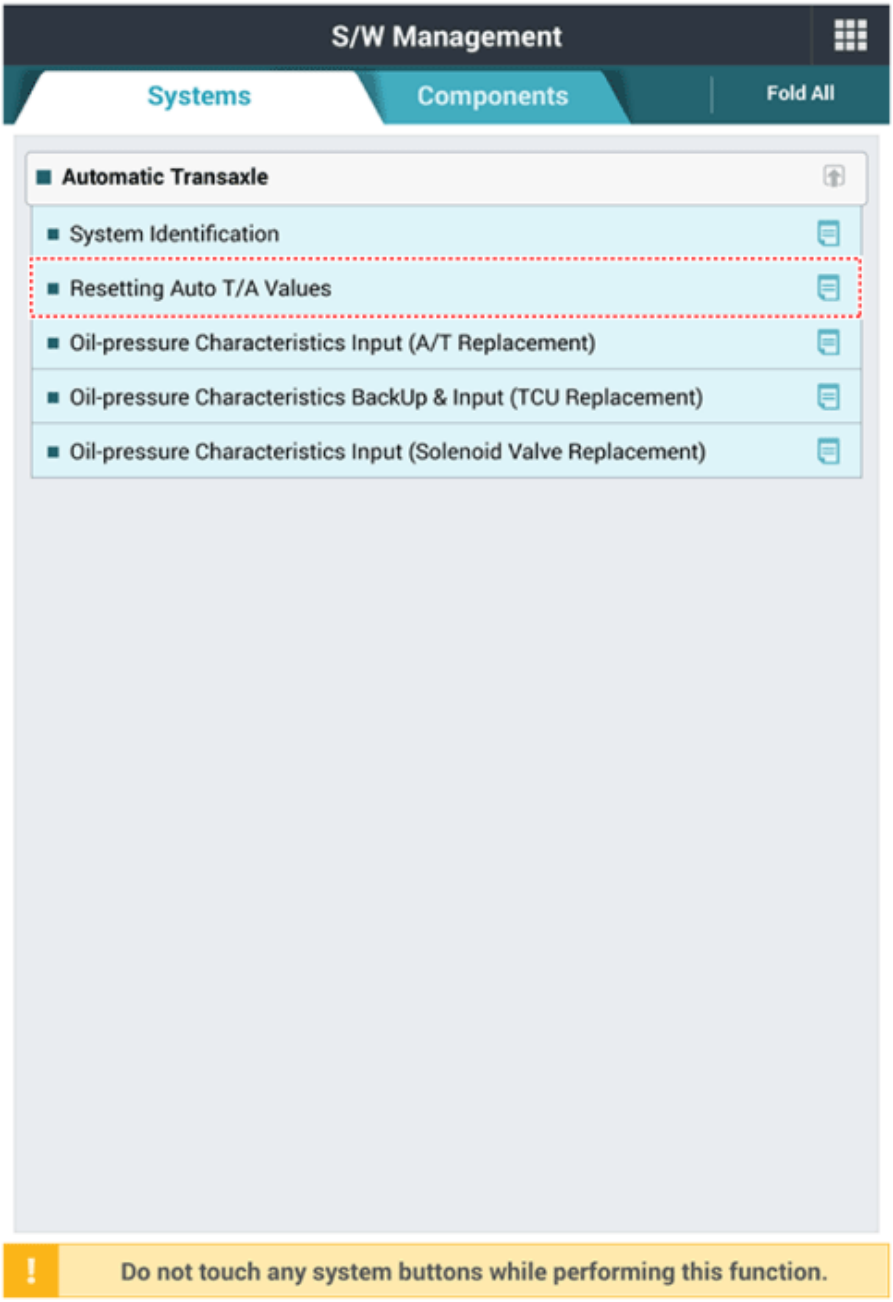
• **When replacing with a new automatic transmission assembly, perform the procedures below.**

1) Automatic transmission is already filled with the specified amount of ATF.
For this reason, it is not necessary to refill and check the ATF. However, the remaining ATF in the ATF cooler has to be drained.

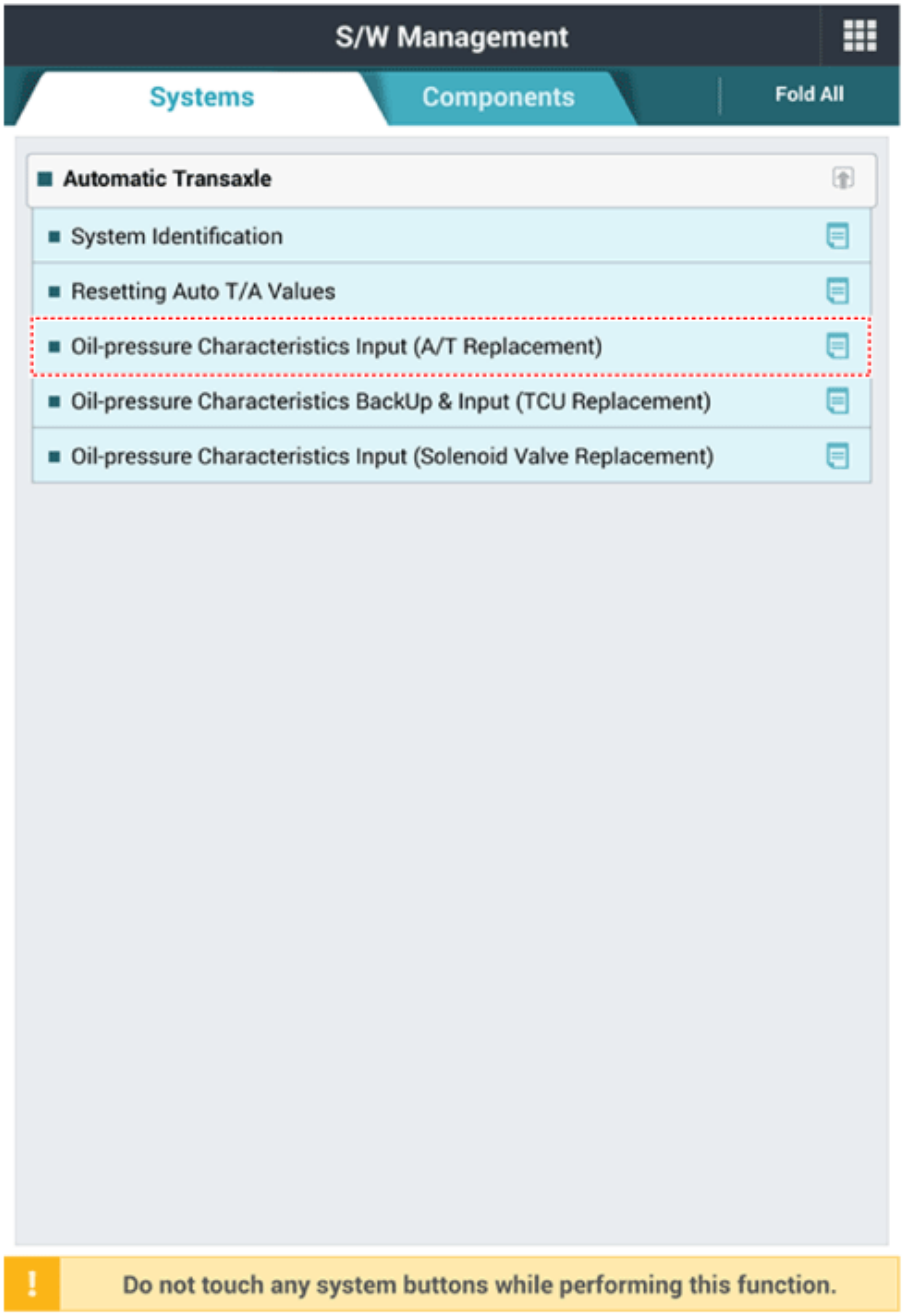
2) Install the transmission after removing the remaining ATF by blowing air into ATF cooler hose.

3) Clear the diagnostic trouble codes (DTC) using the KDS. Disconnecting the battery negative terminal will not clear the DTCs. Clear DTCs using the KDS at all times.

4) Reset the automatic transmission adaptive values using the KDS.



5) Perform the oil pressure characteristics input procedure using the KDS.


S/W Management
Systems
Components
Fold All
Automatic Transaxle
System Identification
Resetting Auto T/A Values
Oil-pressure Characteristics Input (A/T Replacement)
Oil-pressure Characteristics BackUp & Input (TCU Replacement)
Oil-pressure Characteristics Input (Solenoid Valve Replacement)
Do not touch any system buttons while performing this function.

S/W Management

■ Oil-pressure Characteristics Input (A/T Replacement)

• [Oil-pressure Characteristics Input (A/T replacement)]

This function allows users to enter barcode information from QR code attached to the transmission and insert it to TCU when changing the transmission.

•[Condition]

1. Ignition Key On
2. Shift Lever : P
3. Vehicle Speed : 0 Km/h
4. Engine Stop

After pressing **[OK]** button, recognize the QR code attached to the transmission.

OK Cancel

! Do not touch any system buttons while performing this function.

S/W Management

■ Oil-pressure Characteristics Input (A/T Replacement)

● [Oil-pressure Characteristics Input (A/T replacement)]

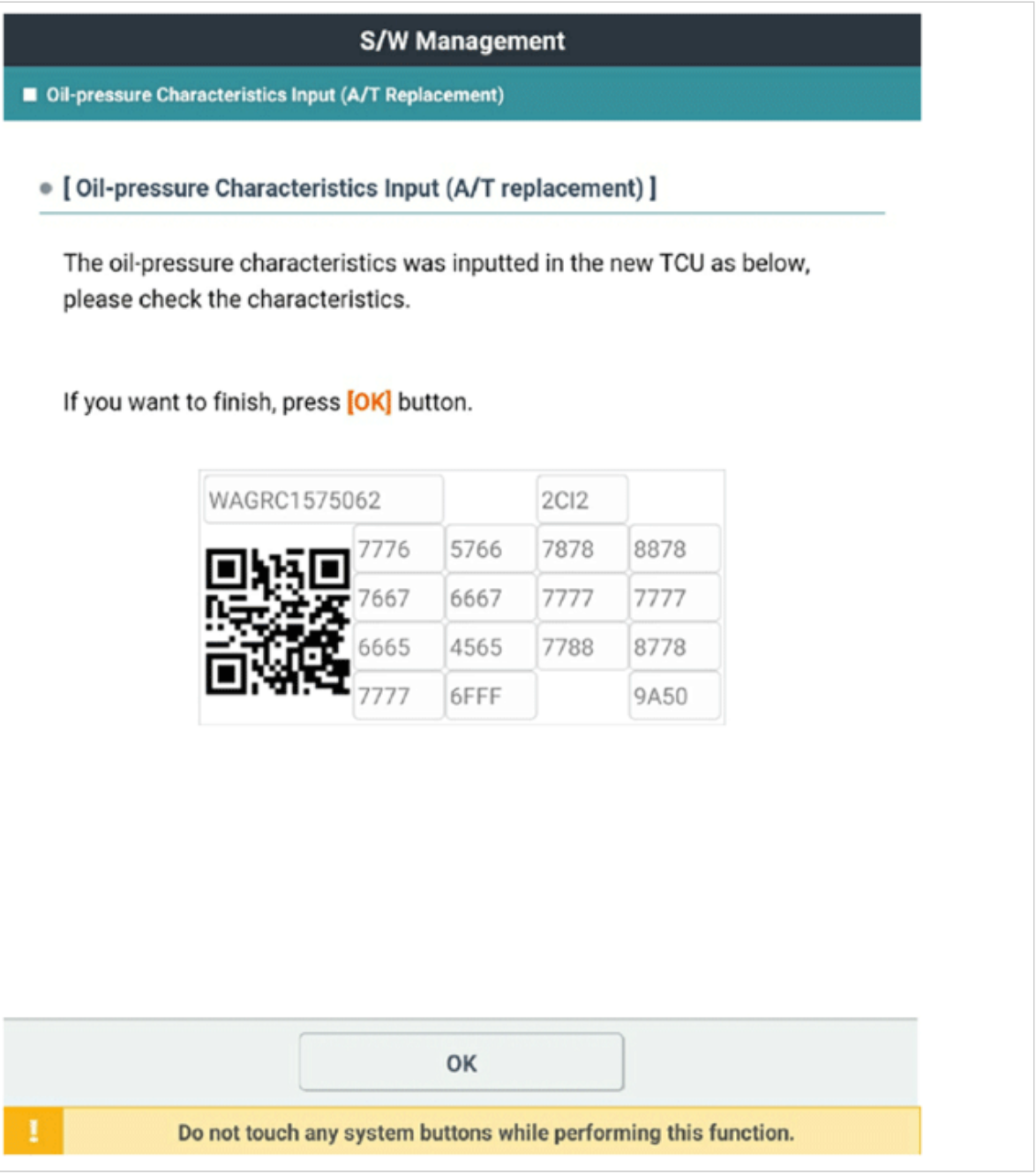
After comparing the screen to the sticker attached to the transmission, press [OK] button.

If the information shown on the screen is not correct, press the part and correct it.

WAGRC1575062			2CI2	
	7776	5766	7878	8878
	7667	6667	7777	7777
	6665	4565	7788	8778
	7777	6FFF		9A50

OK Cancel

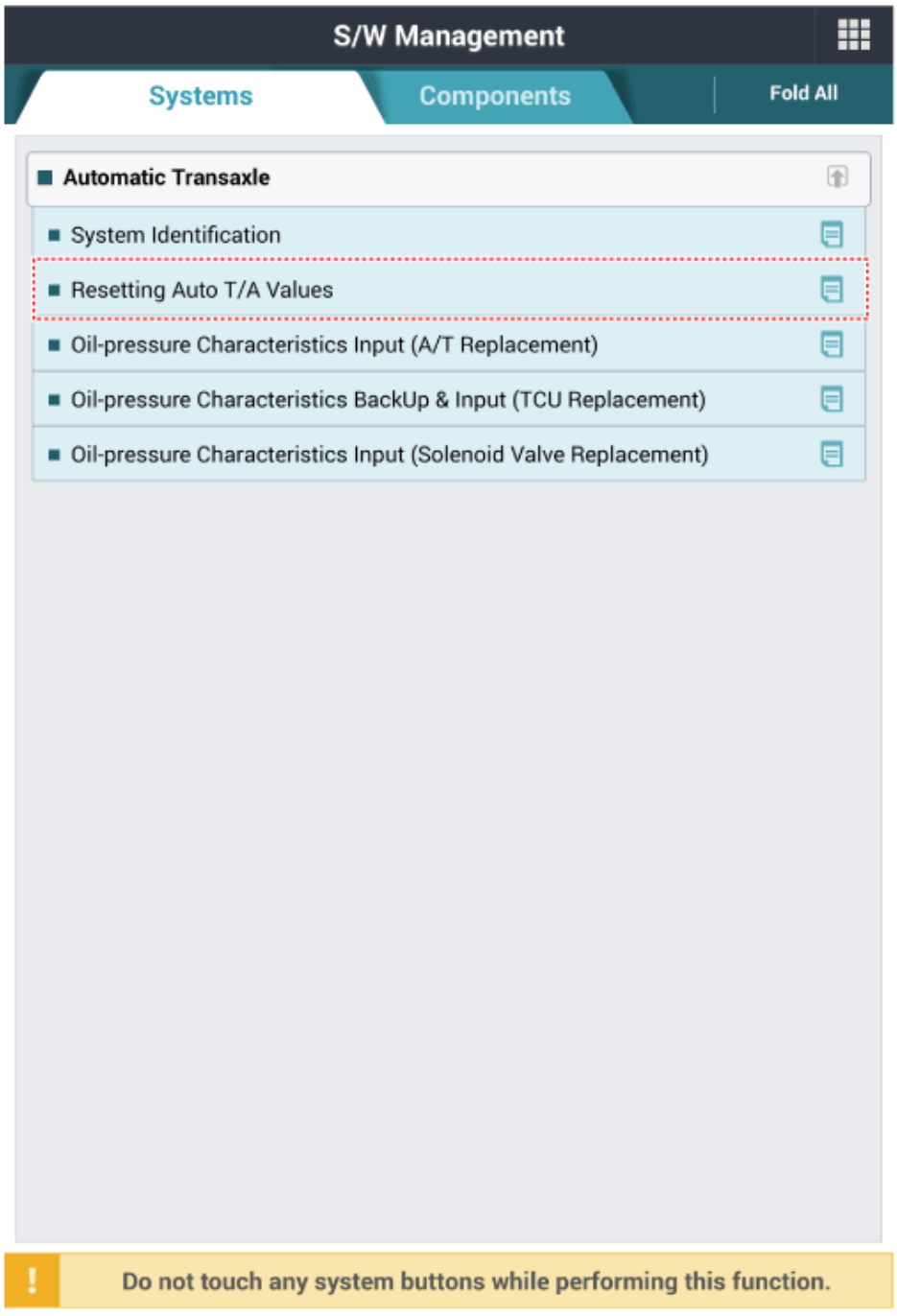
! Do not touch any system buttons while performing this function.



6) Perform the TCM adaptive values learning procedure.
(Refer to Automatic Transmission Control System - "Repair procedures")

- **When replacing with a remanufactured automatic transmission assembly, perform the procedures below.**

1) Remanufactured automatic transmission is not filled with specified quantity of ATF.
For that reason, it is necessary to refill and check the ATF.
2) Check the ATF level after refilling the automatic transmission with fluid.
(Refer to Hydraulic System - "Fluid")
3) Clear the diagnostic trouble codes (DTC) using the KDS.
(The DTCs will not be cleared even after the battery negative terminal has been disconnected. So, be sure to clear the DTCs using the KDS.)
4) Reset the automatic transmission adaptive values using the KDS.



5) Perform the TCM adaptive values learning procedure.
(Refer to Automatic Transmission Control System - "Repair procedures")