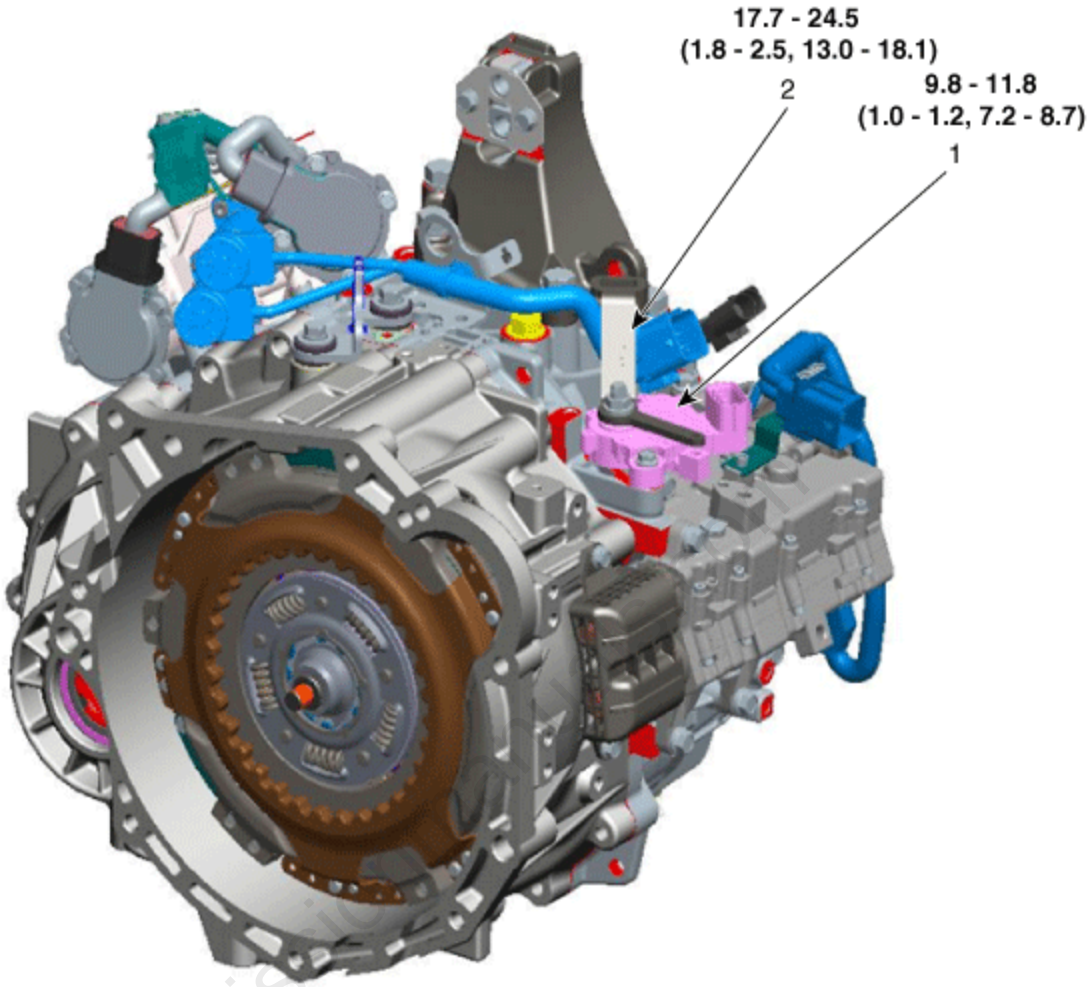
Dual Clutch Transmission Control System / Inhibitor Switch

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Components and components location

Component Location



Torque: N·m (kgf·m, lb·ft)

1. Inhibitor switch
2. Manual control lever

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Specifications

Specification

Item	Specification
Power supply	12 V
Output type	Combination of output signals

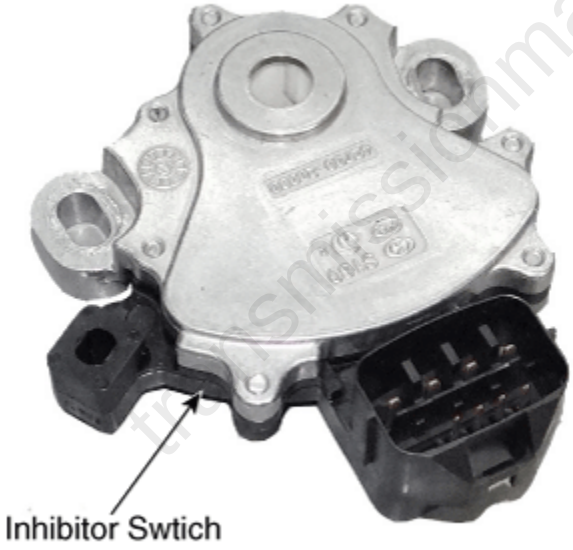
Signal Code Table

	P	P-R	R	R-N	N	N-D	D
Signal "1"	12 V	12 V	0	0	0	0	0
Signal "2"	0	12 V	12 V	12 V	0	0	0
Signal "3"	0	0	0	12 V	12 V	12 V	0
Signal "4"	0	0	0	0	0	12 V	12 V

Description and operation

Description

- The inhibitor switch is installed on top of transmission, and is connected to the shift lever through shift cable.
- Inhibitor switch signals (S1, S2, S3, S4) are transmitted to the TCM according to the driver's shift lever control.

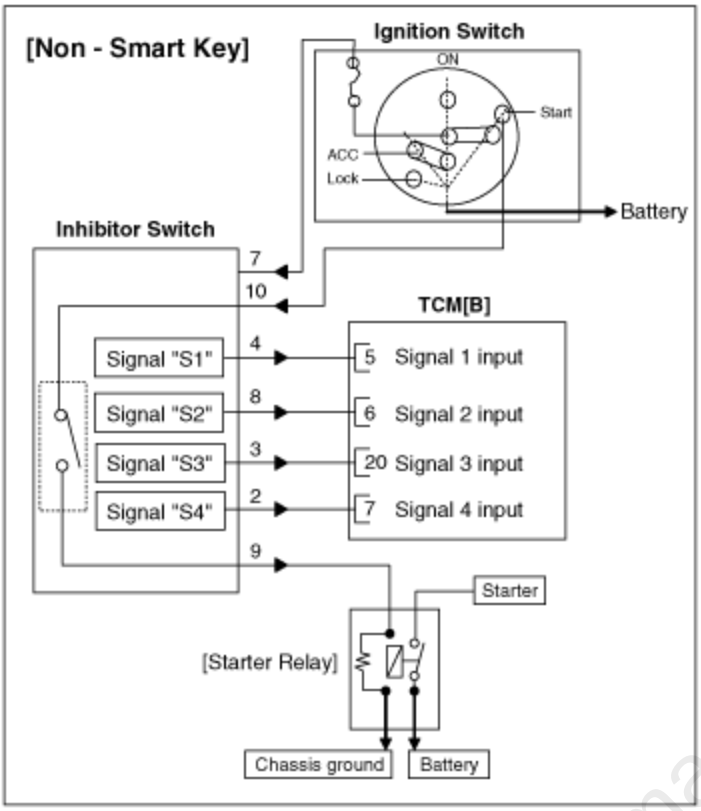


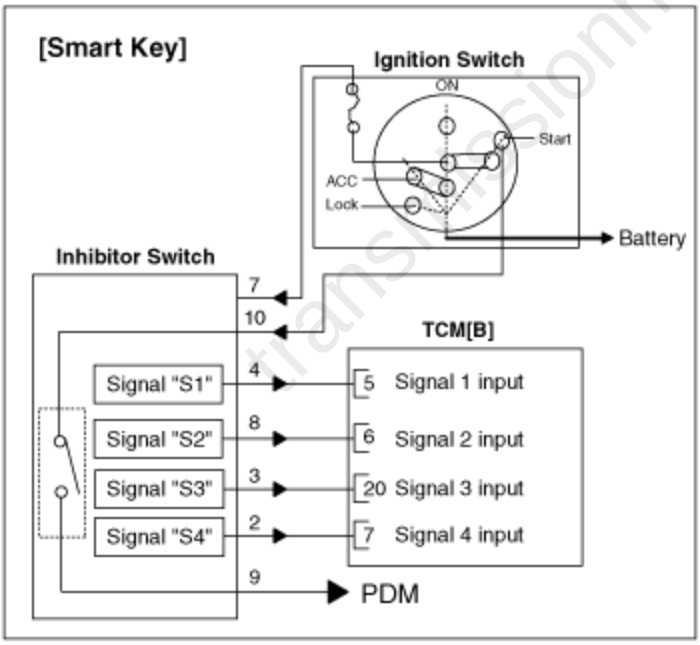
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Schematic diagrams

Circuit Diagram

[Circuit Diagram]





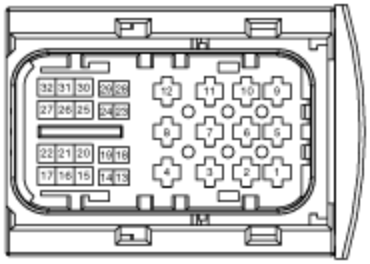
[Connection Information]

Terminal	Connected to	Function
8	TCM_B (6)	Signal 2 output
4	TCM_B (5)	Signal 1 output
3	TCM_B (20)	Signal 3 output
2	TCM_B (7)	Signal 4 output
7	VG1	Ignition ON input
10	VS	Start power(ON) input
9	Starter relay	Start signal output
	PDM(Button only)	Start signal output

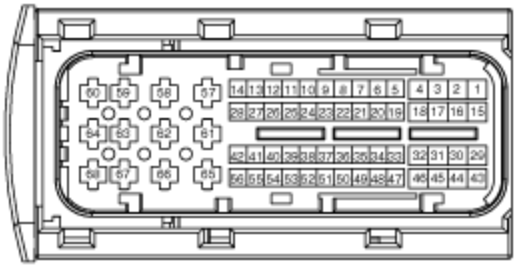
[Harness Connector]



Inhibitor Switch Connector



Connector [A]
TCM

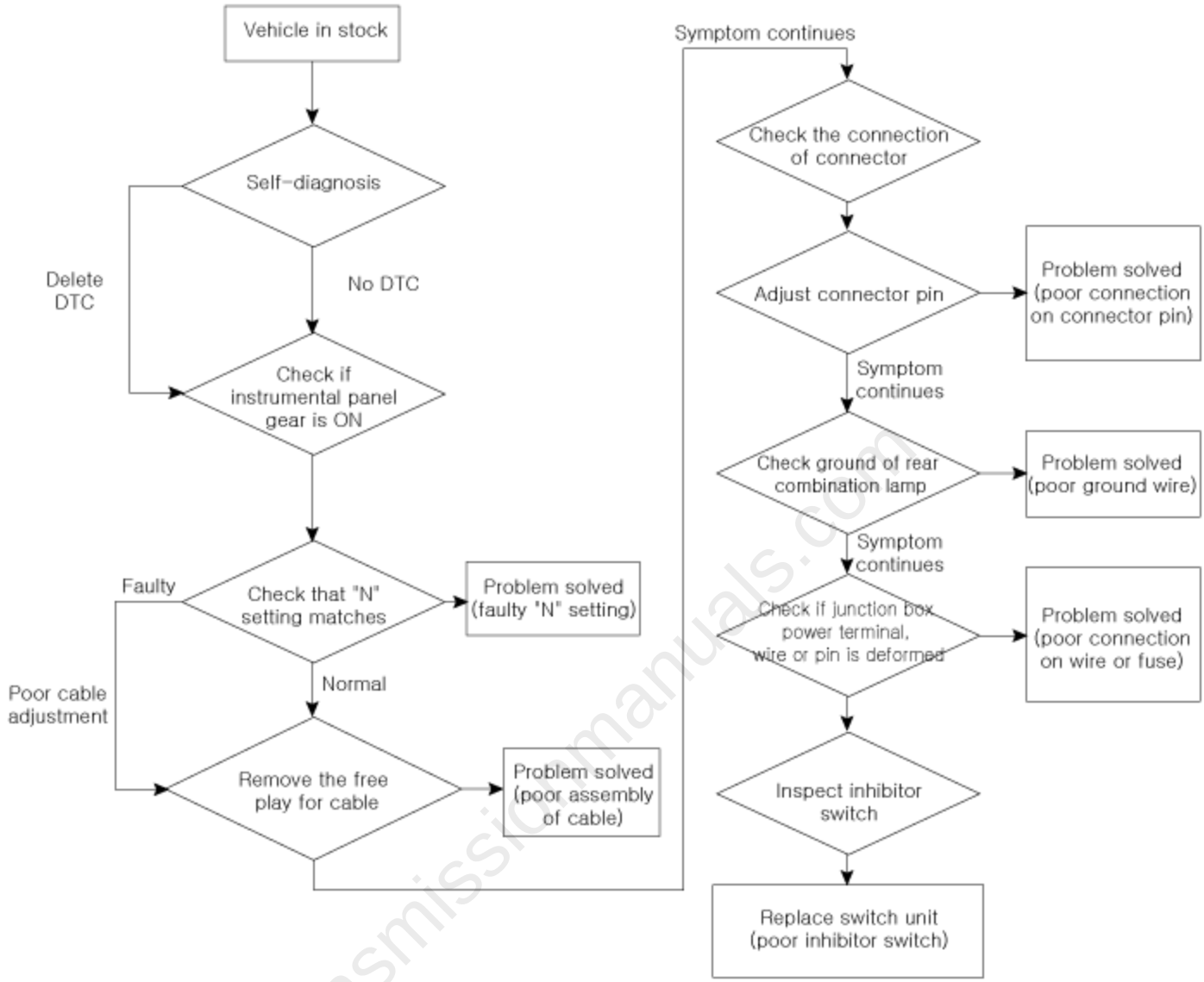


Connector [B]
TCM

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Troubleshooting

Troubleshooting



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Repair procedures

Inspection

Information

Inspect the following items by referring to inspection flow chart.

(Refer to Inhibitor Switch - "Troubleshooting")

1. Check the diagnostic trouble codes (DTC) using KDS.

2. Inspect if "N" range setting matches.

   (Refer to Inhibitor Switch - "Installation")

3. Check the free play for shift cable.

   (Refer to Shift Cable - "Installation")

4. Check the condition of connector.

   (1) Inspect connector thoroughly for looseness, poor connection, bending, corrosion, contamination, deformation, or damage.

   (2) Turn Ignition "ON" and engine "OFF" and measure the power supplied to inhibitor switch circuit and voltage between ground.

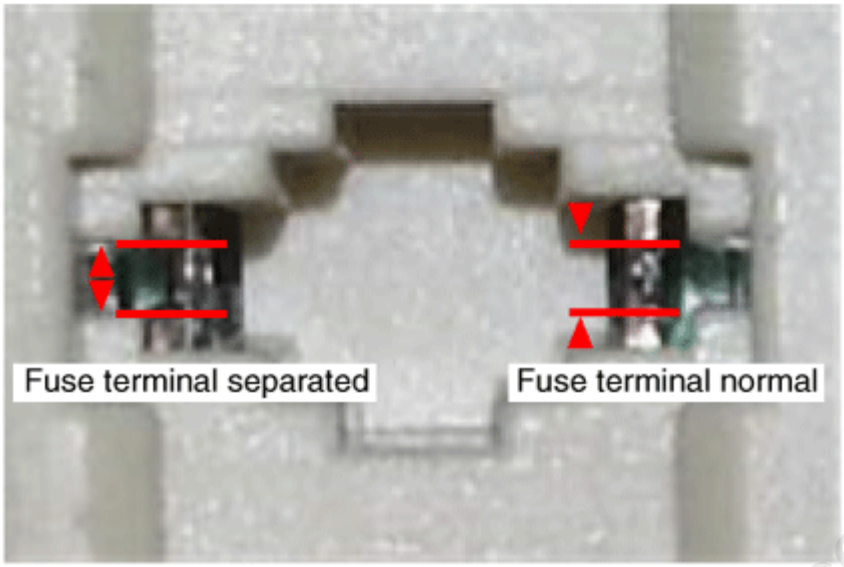
   Specification : Approx. 12 V

5. Inspect ground condition of rear combination lamp circuit.

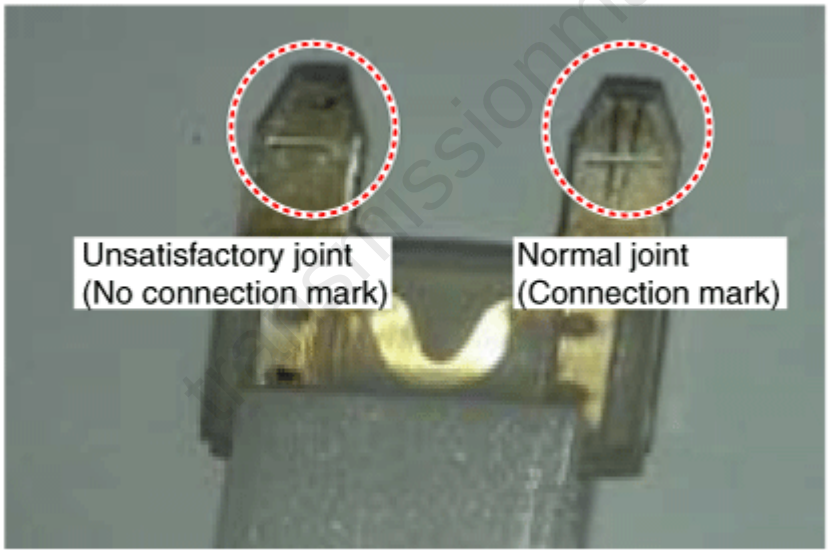
6. Inspect wiring connection condition of junction box power terminal and fuse lamp.

   (1) Check if the fuse holder is separated and that the holder is tightly holding the fuse.

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(2)
Attach tester fuse to check if it is connected properly.



(3)
Check if fuse is damaged.

7.
Check the inhibitor switch circuit signal.

(1)
Turn Ignition "ON", & engine "OFF".

(2)
Measure the voltages between each signal terminal and chassis ground in each range (P, R, N, D).

Specification : Approx. 12 V

Signal Code Table

	P	P-R	R	R-N	N	N-D	D
Signal "1"	12V	12V	0	0	0	0	0
Signal "2"	0	12V	12V	12V	0	0	0
Signal "3"	0	0	0	12V	12V	12V	0
Signal "4"	0	0	0	0	0	12V	12V

Removal

1.
Place the shift lever in the "N" position.

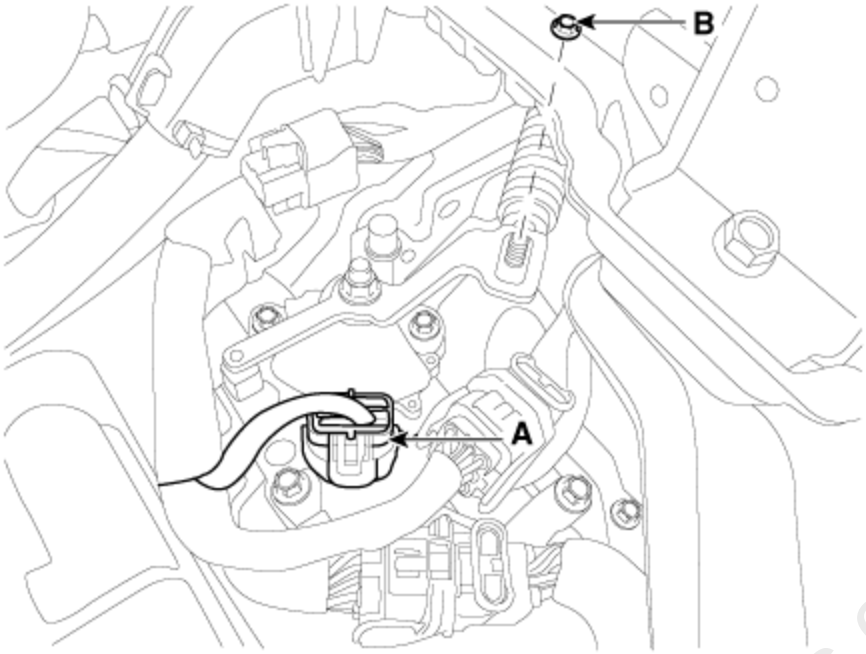
2.
Remove the air duct and the air cleaner assembly.

(Refer to Engine Mechanical System - "Air Cleaner")

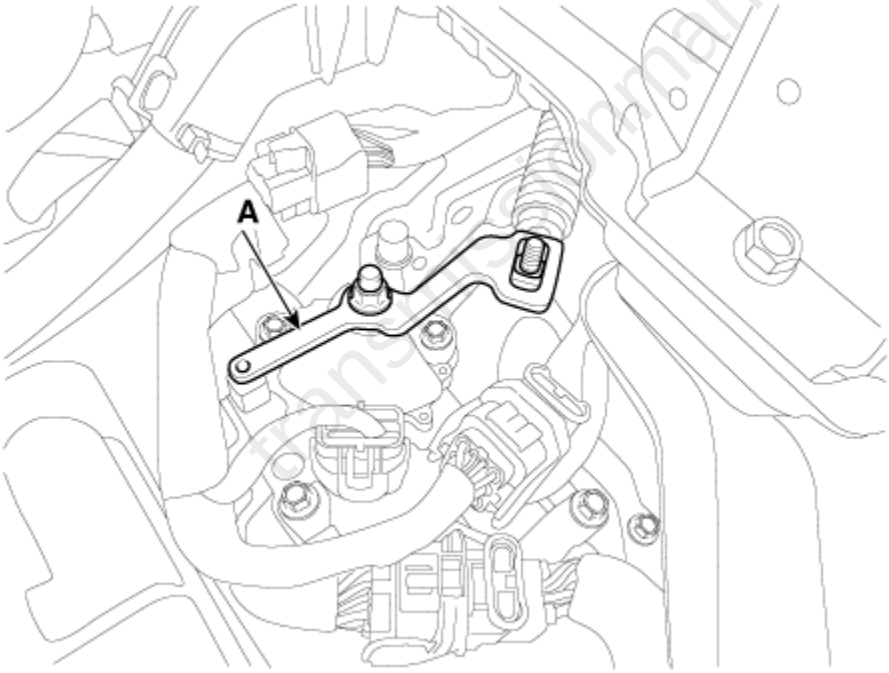
3.
Disconnect the inhibitor switch connector (A).

4.
Loosen the shift cable mounting nut (B).

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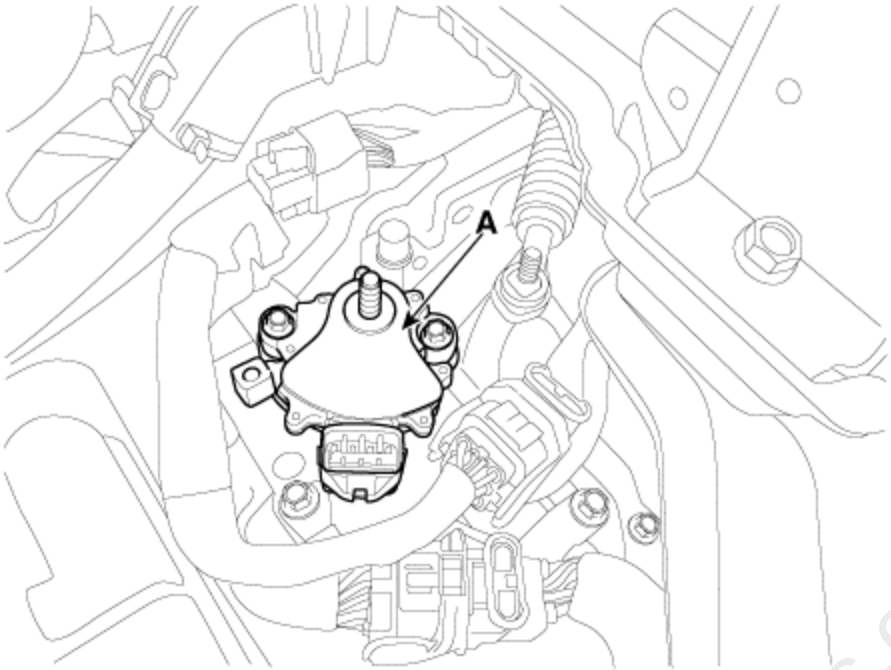


5. Remove the manual control lever (A).



6. Remove the inhibitor switch (A).

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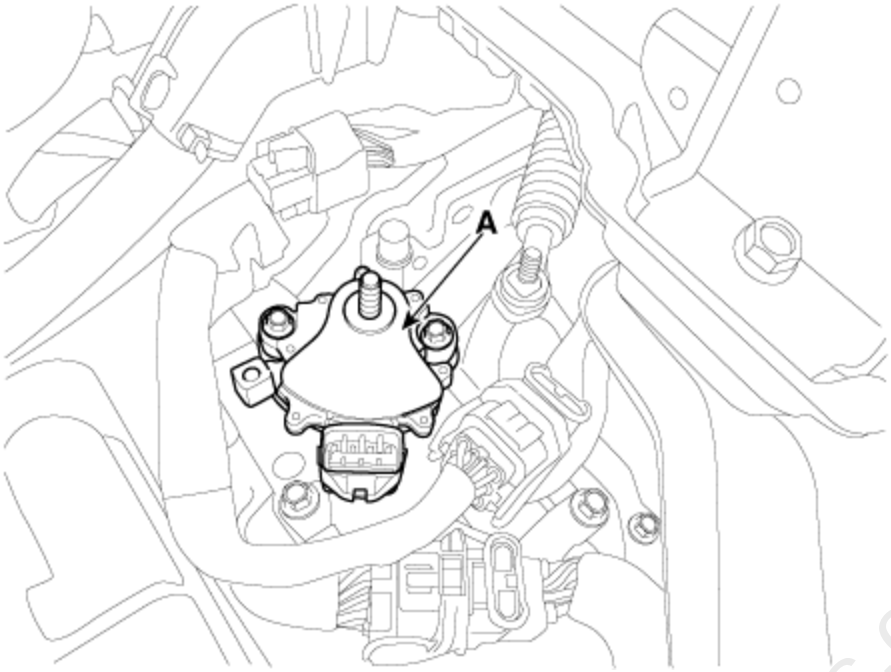
Installation

1. Check that the shift lever is placed in the "N" position.

2. Install the inhibitor switch (A).

> **NOTICE**
>
> Lightly tighten the inhibitor switch mounting bolts so that necessary adjustments can be made.

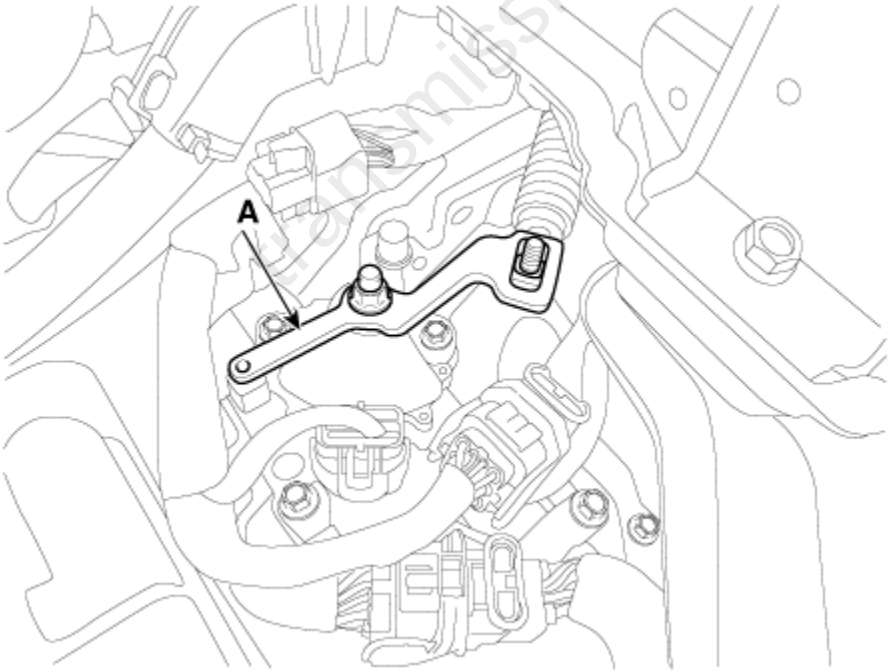
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3. Install the manual control lever (A).

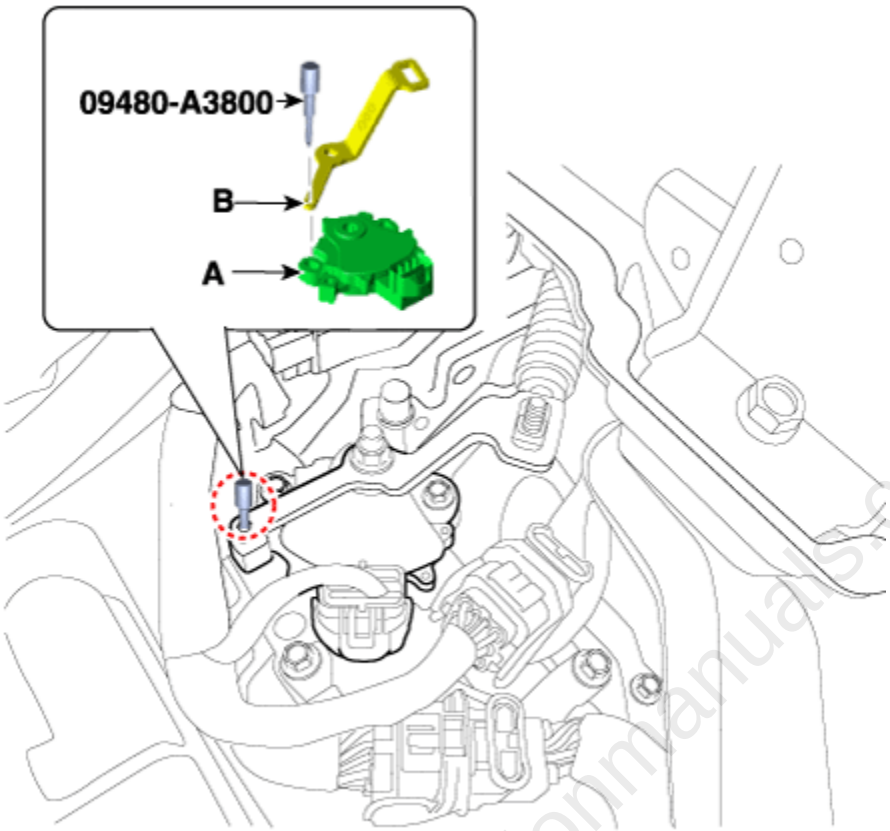
NOTICE

Lightly tighten the manual control lever nut so that necessary adjustments can be made.



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4.
Align the hole (B) in the manual control lever with the "N" position hole (A) of the inhibitor switch and then insert the SST inhibitor switch guide pin (09480-A3800).



5.
Tighten the manual lever mounting nut (A) to the specified torque.

Tightening torque :

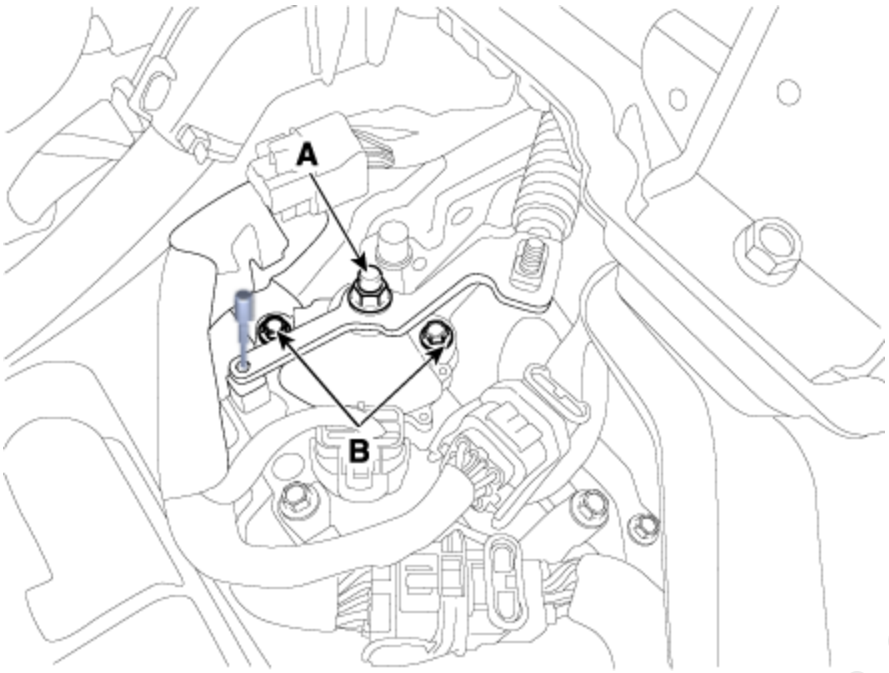
17.7 - 24.5 N·m (1.8 - 2.5 kgf·m, 13.0 - 18.1 lb·ft)

6.
Tighten the inhibitor switch mounting bolts (B) to the specified torque.

Tightening torque:

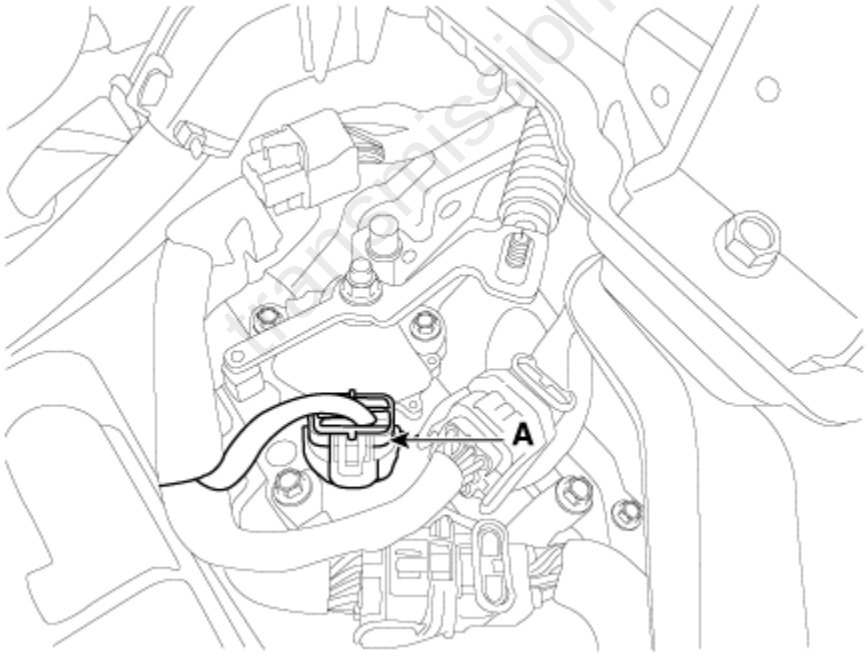
9.8 - 11.8 N·m (1.0 - 1.2 kgf·m, 7.2 - 8.7 lb·ft)

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7. Remove the SST (09480-A3800) from the adjusment hole.

8. Connect the inhibitor switch connector (A).

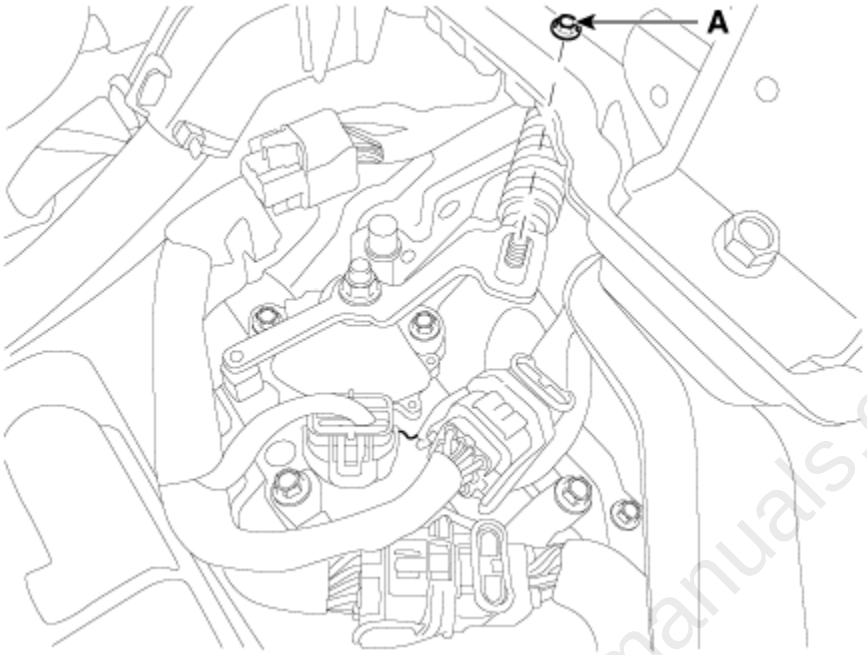


9. Tighten the nut (A) loosely.

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NOTICE

Lightly tighten the nut so that necessary adjustments can be made.

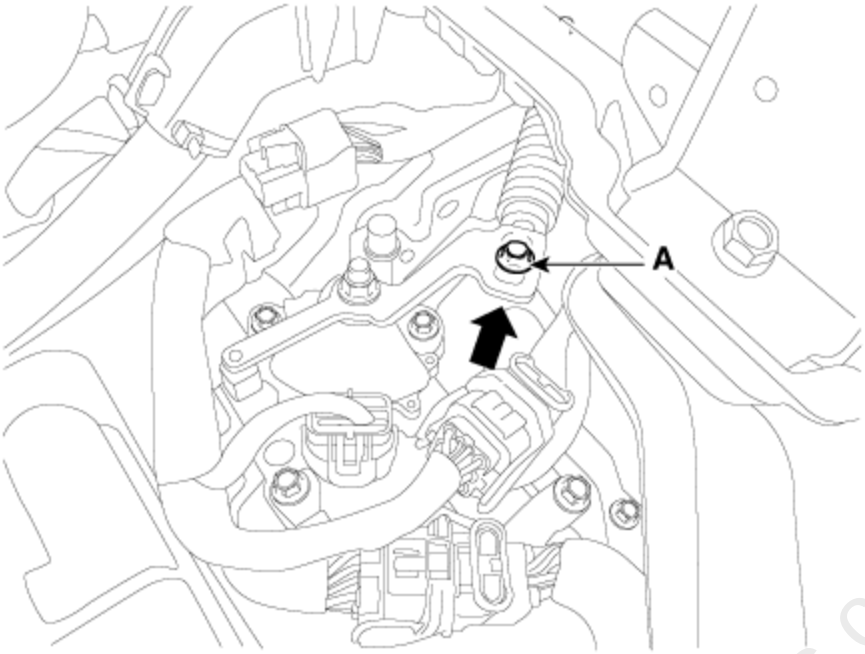


10. Tighten the nut (A) to the specified torque after removing free play by pushing the shift cable in the direction of the arrow.

    Tightening torque :

    9.8 - 14.7 N·m (1.0 - 1.5 kgf·m, 7.2 - 10.8 lb·ft)

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11. Install the air duct and air cleaner assembly.

    (Refer to Engine Mechanical System - "Air Cleaner")

Input Speed Sensor 2

Components and components location Component Location 1. Input shaft speed sensor 1 (Odd) 2. Input shaft speed sensor 2 (Even) Specification ...

Shift Lever

Components and components location Components 1. Shift lever knob & boots 2. Shift lever assembly 3. Shift cable assembly Repair procedur ...

Other information:

Kia Forte 2019-2023 (BD) Service Manual: MDPS Control Unit

Repair procedures Replacement • If a DTC occurs in the ECU, check the connectors and wiring. If no problem is found, replace the ECU. • Before ...

Kia Forte 2019-2023 (BD) Service Manual: Wheel

Repair procedures Hub nut tightening sequence Tighten the hub nuts as follows. Tightening torque: 107.9 - 127.5 N·m (11.0 - 13.0 kgf·m, 79.6 - 94.0 lb·ft) When using an impact gun, ...

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