 HYUNDAI Technical Service Bulletin	GROUP AUTOMATIC TRANSMISSION	NUMBER 20-AT-006H
	DATE February, 2020	MODEL 2020~ PALISADE (LX2) 2020~ SONATA (DN8)
AUTOMATIC TRANSAXLE (8-SPEED FWD) SUBJECT: POSITION SWITCH DTC P070512, P070514, P07051C, P070661 & P070696 DIAGNOSIS		

Description: If you are servicing an 8-speed front-wheel-drive vehicle with the DTC or symptoms listed below, refer to the **Service Procedure** to diagnose the condition.

- **Diagnostic trouble codes:**
 - P070512 - Transmission range sensor circuit malfunction
 - P070514 - Transmission range sensor circuit malfunction
 - P07051C - Transmission range sensor circuit malfunction
 - P070661 - Transmission range sensor circuit range/performance
 - P070696 - Transmission range sensor circuit range/performance
- **Symptoms:**
 - Malfunction Indicator Light (MIL) illuminated
 - 5th gear fail-safe
 - No gear indication in cluster
 - Intermittent no engine crank/no start in “P” or “N” with or without MIL or DTC.

Applicable Vehicles:

2020~ Palisade (LX2)
2020~ Sonata (DN8) 1.6T and 2.5L

Parts Information:

MY	Model	PNC Code	Part Number	Service Tool (SST)
2020~	Palisade (LX2)	42700E	42700-4G6**	09459-4G100
2020~	Sonata (DN8)	42700G	42700-4G61*	09459-4G200

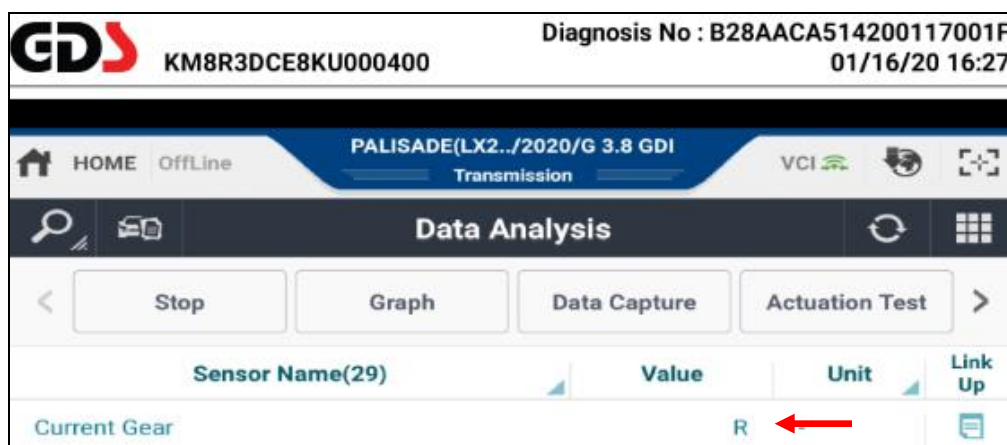
NOTE: If you need replacement SST, contact Bosch at 866-539-4248

WARRANTY INFORMATION:

Model	Op Code	Operation	Op Time	Causal	Nature Code	Cause Code
2020~ Palisade (LX2)	42700R00	Replace position switch	Refer to WEBLTS for current LTS time	See Parts Information table on Page 2	13A	ZZ3
2020~ Sonata (DN8)						
All	42700RQ0	GDS				

SERVICE PROCEDURE:

1. Start the engine.
2. Attach a GDS and check for DTC in the "Automatic Transaxle" menu. **Record the DTC and description.** Delete the DTC.
3. Select **Data Analysis, A/T** menu and **Current Gear**. Depress the brake pedal and move the shift lever through all gears (P, R, N and D) and monitor the Shift Lever Switch. Confirm the indicator on the cluster shows all gears. Turn the ignition **OFF**.



4. If the Shift Lever Switch shows:
 - The correct shift lever position, the wiring **currently** has no open/short circuits. Go to Step 6.
 - Does not show the correct shift lever position, go to Step 5.
5. Visually check the wiring harness between the ECU and inhibitor switch for a damaged wire or open circuit/short circuit to ground. Check for a damaged pin or pin not fully inserted into the connector.
 - If damage is found, repair or replace the control wiring and drive the vehicle to confirm the repair.
 - If no damage or open/short circuit is found, go to Step 6.

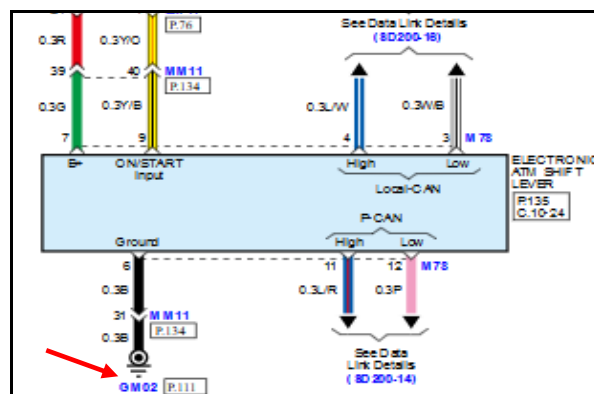
6. Check the grounds for the electronic shift lever. (Refer to ETM, SD450-1).

Turn the ignition and headlights on. Use a DVOM to check the voltage drop between the wiring terminal and ground.

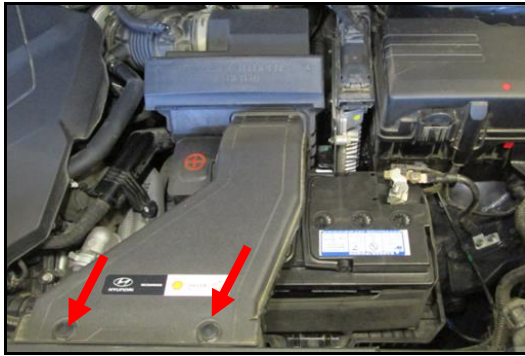
Specification: Less than 0.2 V.

- If more than 0.2V, clean the terminal and bolt threads and tighten the bolt.
- If less than 0.2V, go to Step 7.

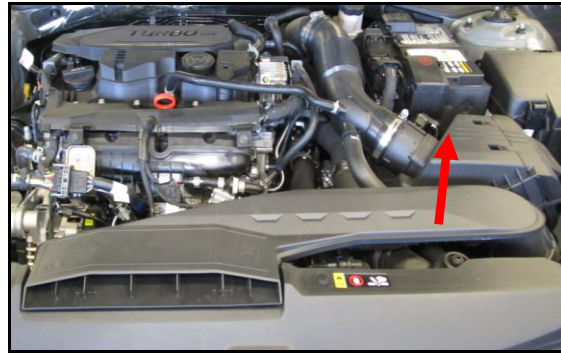
Torque: 7~9 lb-ft, 1.0~1.2kgf.m, 10~12 N.m



7. **Palisade LX2:**
Remove 2 clips and remove the duct.



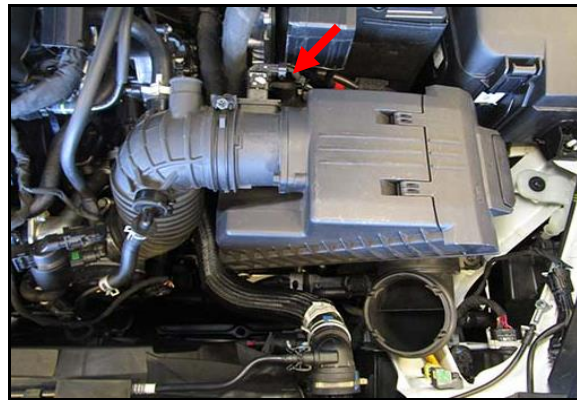
- Sonata (DN8):**
Pull the air duct up.



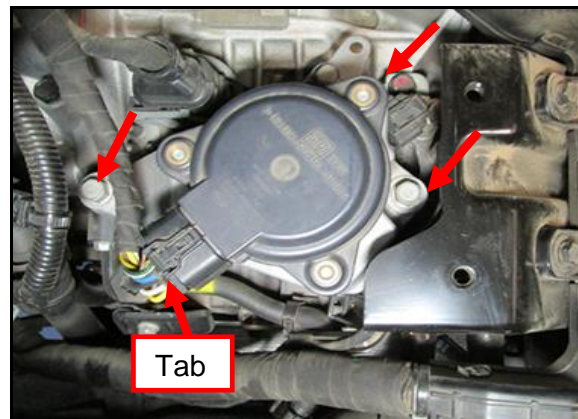
8. **Palisade (LX2):**
Record the preset radio stations.
Remove the battery and battery tray.
Torque: 7~9 lb-ft, 1.0~1.2 kgf.m



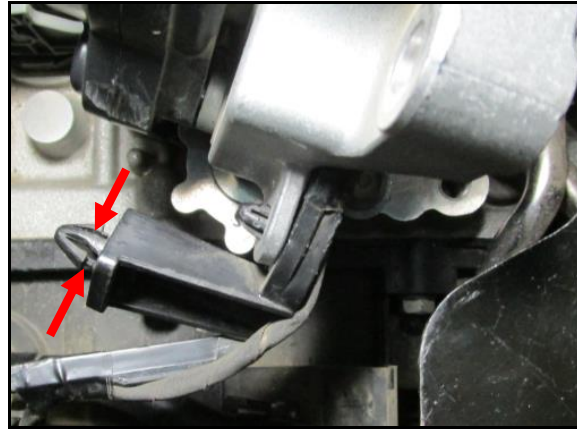
- Sonata (DN8):**
Remove the mass airflow sensor connector.
Remove the air cleaner and hoses.



9. Press down on the tab and disconnect the electronic shift actuator connector.
Remove 3 bolts and remove the electronic shift actuator.

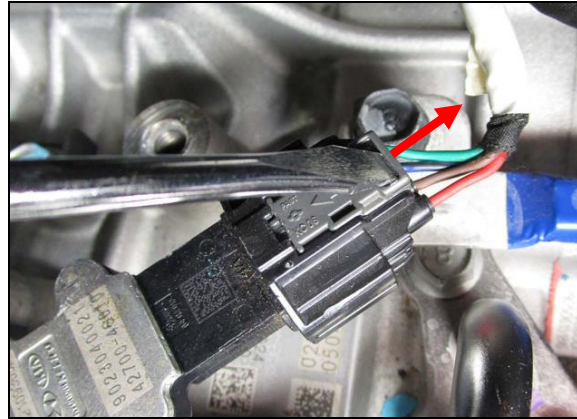


10. Use pliers to pinch the tabs and disconnect the harness from the electronic shift actuator.



11. Push down on the tab on the position switch and push the lock tab in the direction shown.

Press down on the tab and disconnect the position switch connector.

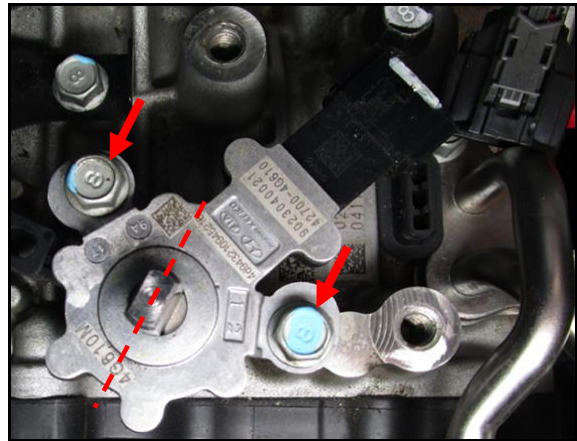


12. Remove 2 mounting bolts and remove the position switch.

Install a new position switch.

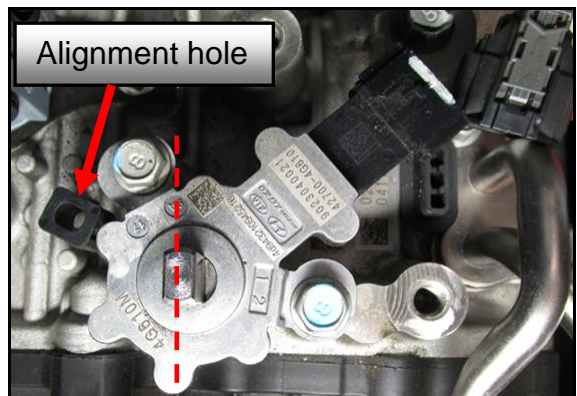
Install 2 bolts and loosely tighten the bolts.

NOTE: The manual valve is shown in the Park position.



13. Turn the manual valve 2 detents in the counter-clockwise direction to place the manual valve in the Neutral position.

NOTE: The manual valve will be aligned 90° to the radiator.

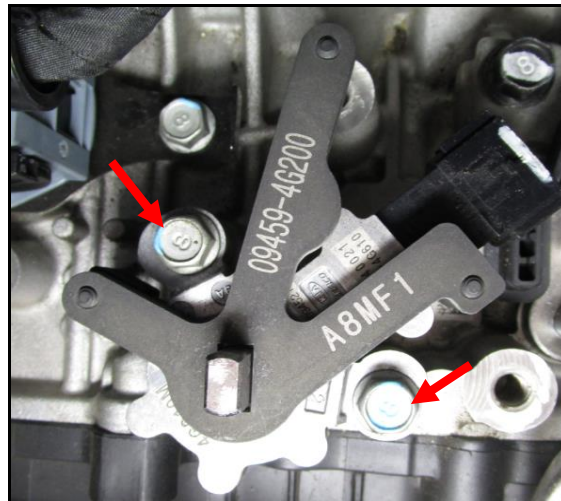
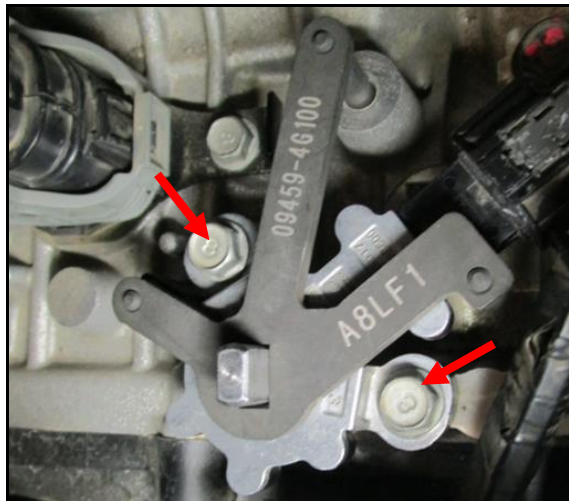


14. Install the correct alignment tool in the hole on the transmission and the alignment hole on the position switch. Tighten both bolts.

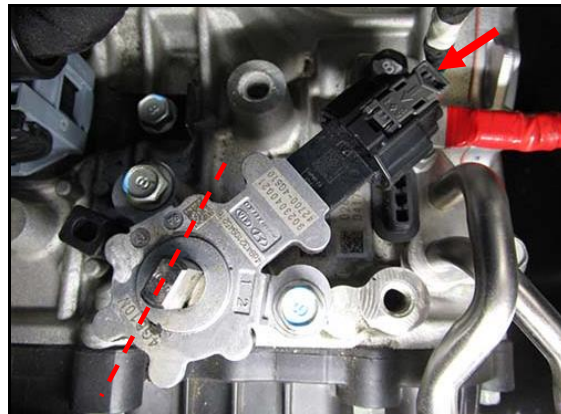
Torque: 7~9 lb-ft, 1.0~1.2 kgf.m, 10~12 N.m

Palisade (LX2): 09459-4G100

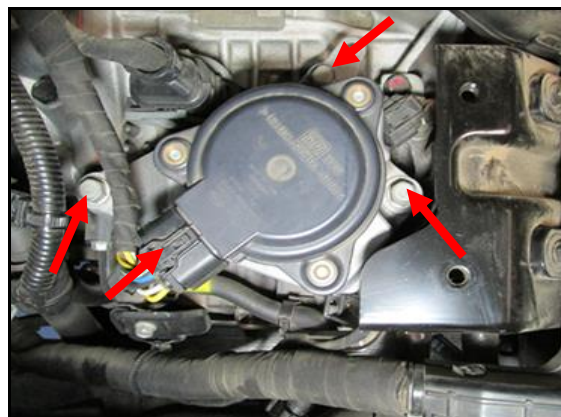
Sonata (DN8): 09459-4G200



15. Reconnect the position switch connector.
Turn the manual valve clockwise 2 detents to the Park position.



16. Reinstall the electronic shift actuator.
Reconnect the harness tab to the electronic shift actuator as shown in Step 9.
Install 3 bolts and torque to specification.
Torque: 15~19 lb-ft, 2~3 kgf.m, 20~26 N.m
Reconnect the connector.



17. Reinstall all the removed parts in reverse order of removal.
Reset the preset radio stations.

18. Clear the DTC and test drive the vehicle for two drive cycles (two key-on to key-off driving cycles). If the DTC:
 - Does not occur again, return the vehicle to the customer.
 - If the DTC occurs again, repair or replace the control wiring between the ECU and position switch. If the DTC occurs again after repairing or replacing the control wiring, replace the ECU.

19. The Service Procedure is complete. Return the vehicle to the customer.