 HYUNDAI Technical Service Bulletin	GROUP AUTOMATIC TRANSMISSION	NUMBER 22-AT-006H
	DATE MAY, 2022	MODEL SONATA (Lfa) SANTA FE (TMa) PALISADE (LX2) SANTA CRUZ (NXT) SONATA (DN8/DN8a) TUCSON (NX4/NX4a)
SUBJECT: AUTOMATIC TRANSAXLE INPUT/OUTPUT SPEED SENSOR DTC P071700, P072100 & P072200		

This TSB supersedes TSB 20-AT-003H to add Tucson (NX4/NX4a) & Santa Cruz (NXT).

DESCRIPTION: If you are servicing an applicable vehicle with a “Check Engine” light on and one or more of the DTC listed below, follow the repair procedure and replace the related input/output speed sensor and harness.

APPLICABLE VEHICLES:

2018~19 Sonata (Lfa) 2.0T	2020~ Palisade (LX2) 3.8L
2020~ Sonata (DN8/DN8a) 1.6T/2.5L	2022~ Santa Cruz (NXT) 2.5L
2019~20 Santa Fe (TMa) 2.0T/2.4L	2022~ Tucson (NX4/NX4a) 2.5L
2021~ Santa Fe (TMa) 2.5L	

PARTS INFORMATION:

Refer to the PNC in the parts catalog to order the correct part numbers.

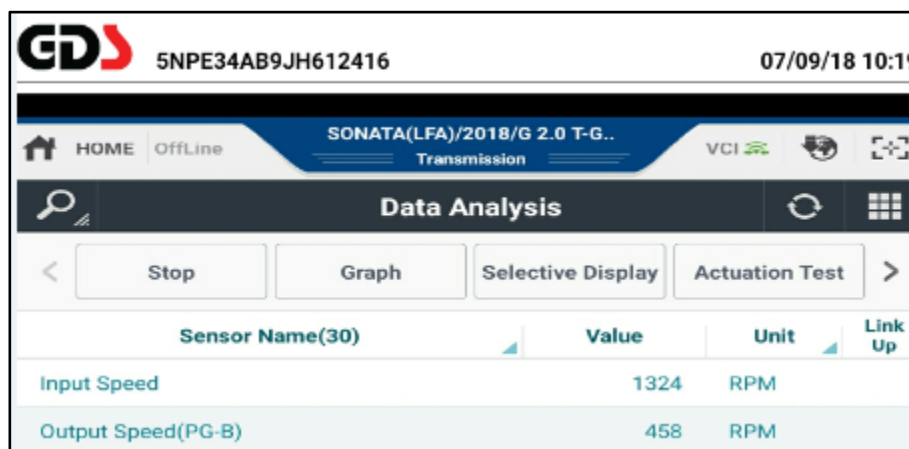
MODEL	DTC	PART	PNC	PART NUMBER
2018~19 Sonata (Lfa) 2.0T	P071700	Input/Turbine speed sensor A circuit low input	42620	42620-4G***
2020~ Sonata (DN8) 1.6T/2.5L	P072100	Output speed sensor A circuit range/performance		
2020~ Palisade (LX2) 3.8L		Output speed sensor A circuit no signal		
2019~20 Santa Fe (TMa) 2.0T/2.4L	P072200			
2021~ Santa Fe (TMa) 2.5L	ALL	Valve body harness	46307	46307-4G***
2022~ Santa Cruz (NXT) 2.5L		Oil pan gasket	45282E	45283-4G***
2022~ Tucson (NX4/NX4a) 2.5L				

WARRANTY INFORMATION:

MODEL	OP CODE	OPERATION	OP TIME	CAUSAL PART	NATURE CODE	CAUSE CODE
2018~19 Sonata (LFA) 2.0T	45644R00	Input/output speed sensor	Refer to WEBLTS for current LTS time	Refer to Parts Information Table above	I3A	ZZ3
2020~ Sonata (DN8) 2022~ Santa Cruz (NXT) 2019~ Santa Fe (TMa) 2022~ Tucson (NX4/NX4a)	45644R8M					
2020~ Palisade (LX2)	45644R8L					
ALL	45644RQ0	GDS Operation				

SERVICE PROCEDURE:

1. Attach a GDS and select **DTC Analysis** and **A/T** menu. Record the DTC and description. Delete the DTC.
2. From the GDS home screen, select **Data Analysis** and **A/T** menu and the sensors shown below. If the sensors show:
 - Continuous and changing output while driving, the wiring **currently** has no open/short circuits. Go to Step 4.
 - No continuous and changing output, go to Step 3.



3. Visually check the wiring harness between the PCM or TCU and transmission for a damaged wire or open/short circuit. Check for a damaged pin or pin not fully inserted into the connector.
 - If damage exists, repair or replace the ECM control harness and drive the vehicle to confirm the repair.
 If no damage or open/short circuit is found, go to Step 4.

NOTE: All listed vehicles have a PCM (integrated ECU/TCU) except Sonata (DN8a) and Palisade (LX2) with separate ECU and TCU.

4. Refer to the DTC recorded in Step 1 and follow the repair procedure shown below:

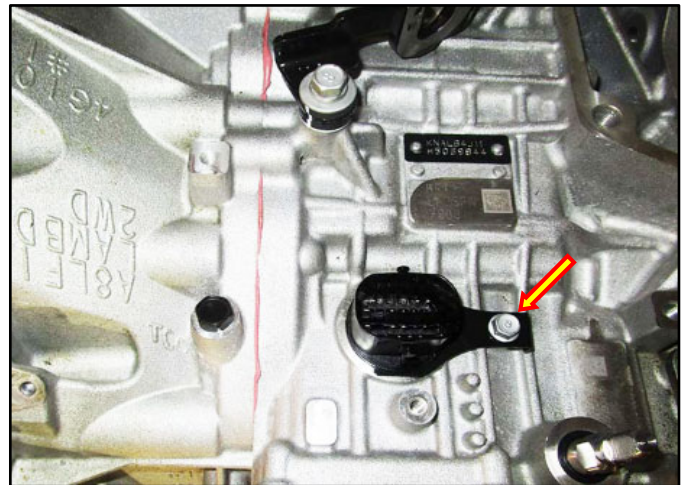
DTC	DESCRIPTION	REPAIR PROCEDURE
P071700	Input/turbine speed sensor A circuit no signal	Go to Step 5 and replace the input/output speed sensor and valve body harness.
P072100	Output speed sensor circuit range/performance	
P072200	Output speed sensor circuit no signal	

5. Record the preset radio stations.
Remove the air cleaner, battery and battery tray.
6. Remove the undercover below the transmission.
Lift the vehicle on a hoist.
7. If necessary to access the sensors, drain the radiator and remove the lower radiator hose from the radiator.
Drain the ATF.

8. Disconnect the harness from the transmission.

Remove the bolt that secures the retainer and push the harness connector into the transmission.

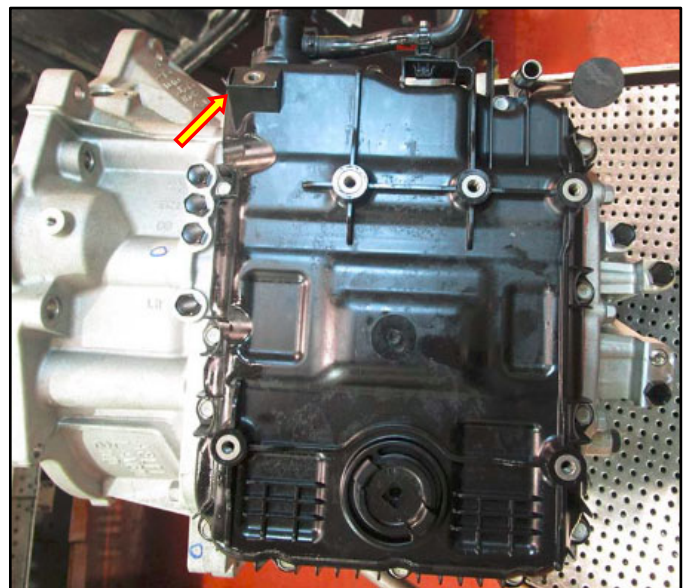
Disconnect the vent hose on the top of the oil pan.



9. Remove 14 oil pan bolts and remove the pan.

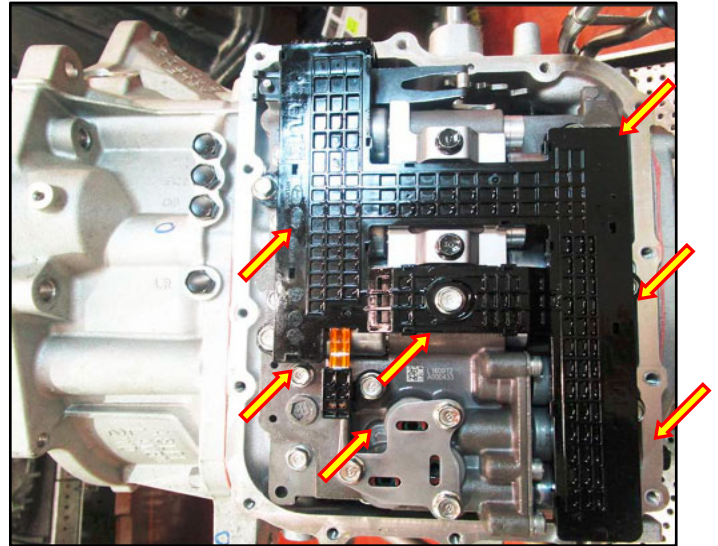
CAUTION

Use a rubber hammer to tap the oil pan cover on a corner until the cover is loose.



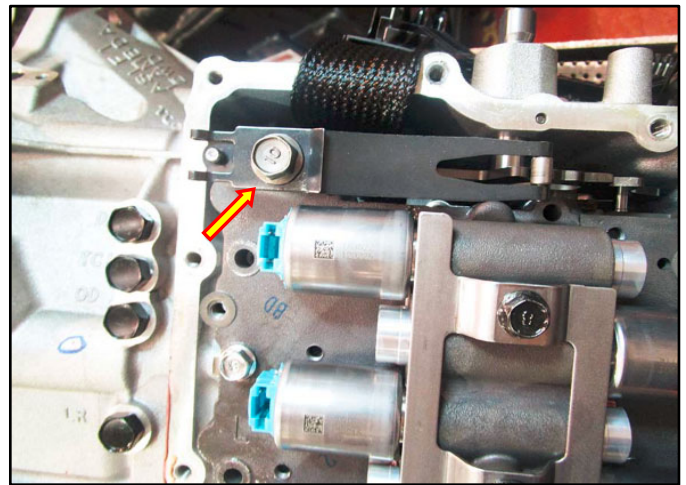
10. Remove 6 bolts to the harness and 1 bolt to the oil temperature sensor.

Pull the harness outward and move the harness out of position.



11. Remove the bolt that secures the detent spring and remove the spring.

Torque: 8~11 lb.ft (1.2~1.5 kgf.m/10~13 N.m)

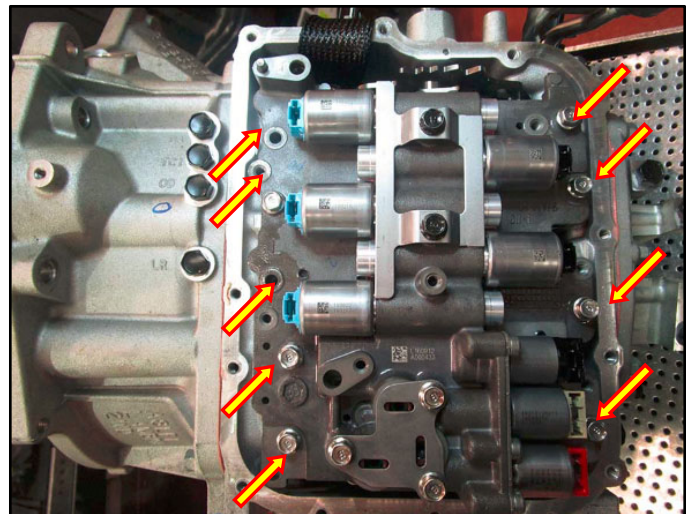


12. Remove 9 valve body bolts in order from the outermost bolts to the innermost bolts.

Remove the valve body.

 **CAUTION**

Place the valve body on a clean paper towel. Placing the valve body on a rag may cause lint to enter the valve body.



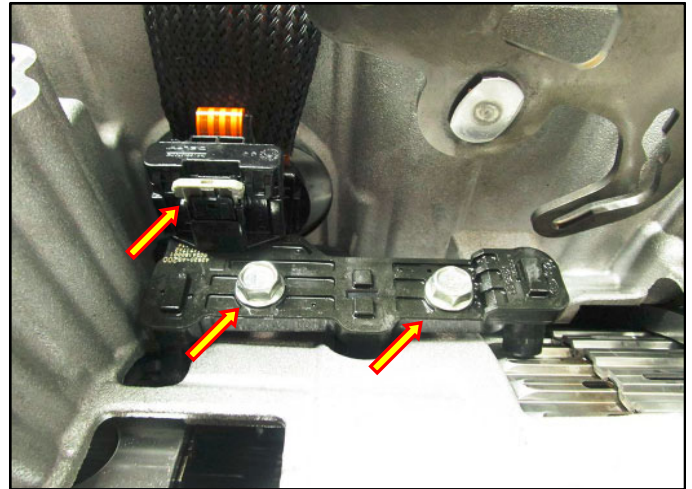
13. Pull the gray tab up and then press the tab to disconnect the harness from the input/output speed sensor.

Remove two bolts and remove the input/output speed sensor. Install a **new** input/output speed sensor.

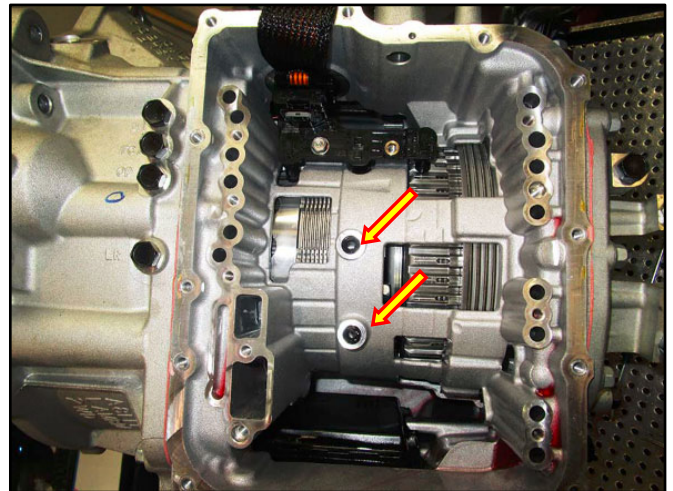
Remove the harness and install a **new** harness.

Connect the harness to the input/output speed sensor.

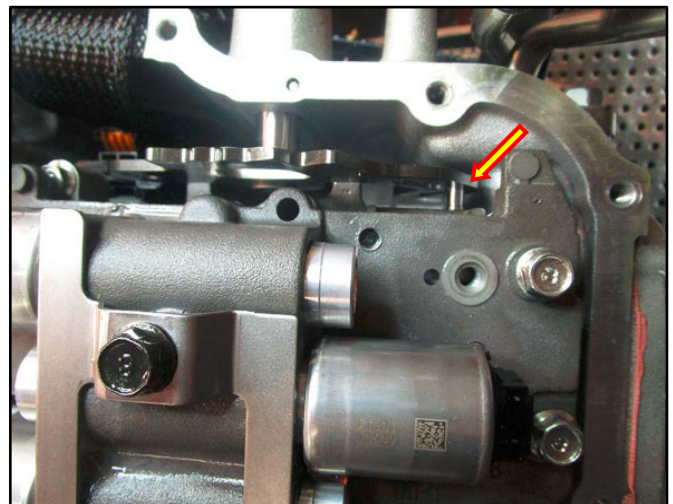
Torque: 7~9 lb.ft (1.0~1.2 kgf.m/10~12 N.m)



14. Confirm two O-rings are installed correctly in the case.

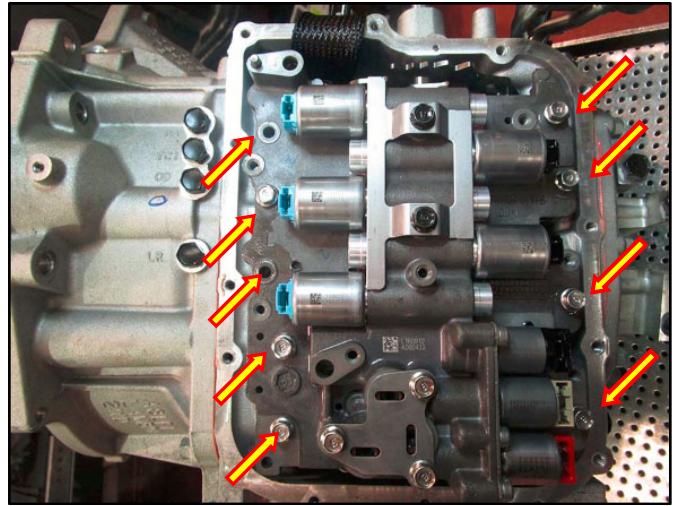


15. Align the manual shaft to the shift lever and install the valve body.



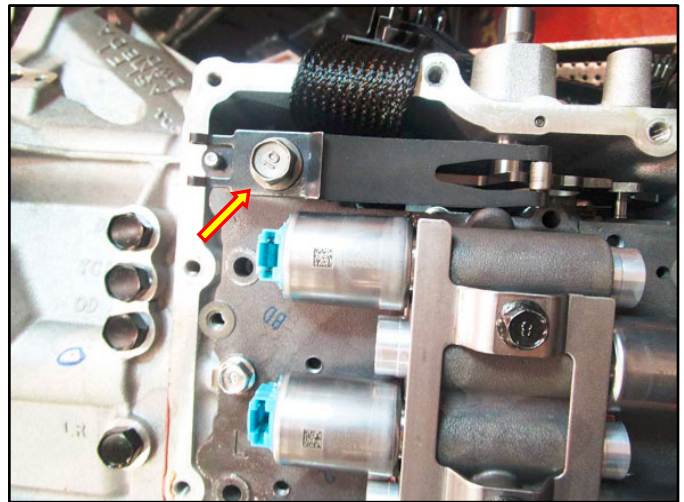
16. Install the valve body bolts and torque the bolts in order from the innermost bolts to the outermost bolts.

Torque: 7~9 lb.ft (1.0~1.2 kgf.m/10~12 N.m)



17. Reinstall the bolt that secures the detent spring and tighten the bolt to specification.

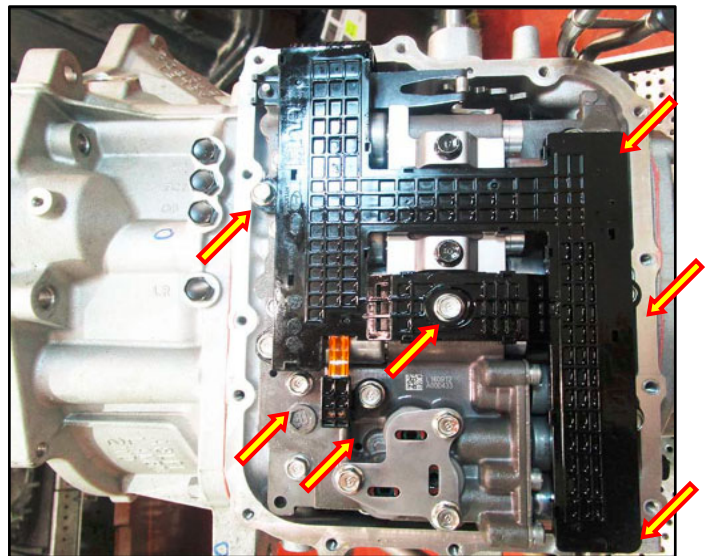
Torque: 8~11 lb.ft (1.2~1.5 kgf.m/10~13 N.m)



18. Reconnect the solenoid harness to the solenoids and install the oil temperature sensor.

Install 6 bolts to the harness and 1 bolt to the oil temperature sensor and torque to specification.

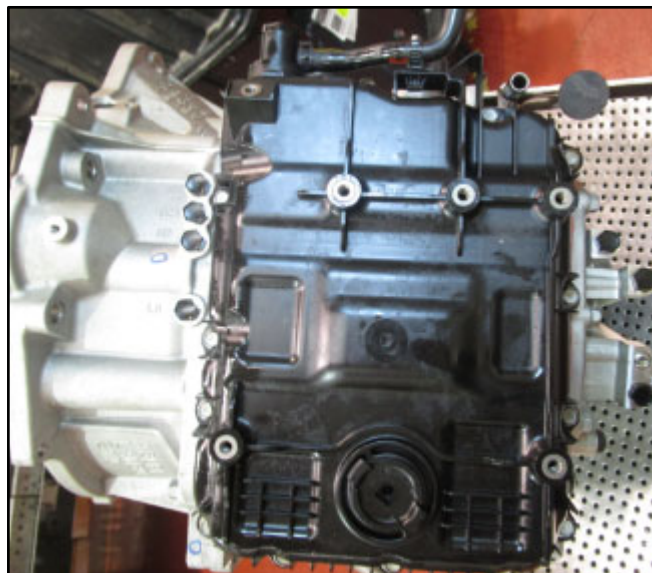
Torque: 7~9 lb.ft (1.0~1.2 kgf.m/10~12 N.m)



19. Install a new gasket to the oil pan and reinstall the pan.

Install 14 bolts to the pan and tighten the bolts to specification.

Torque: 6~7 lb.ft (0.9~1.0 kgf.m/8~9 N.m)



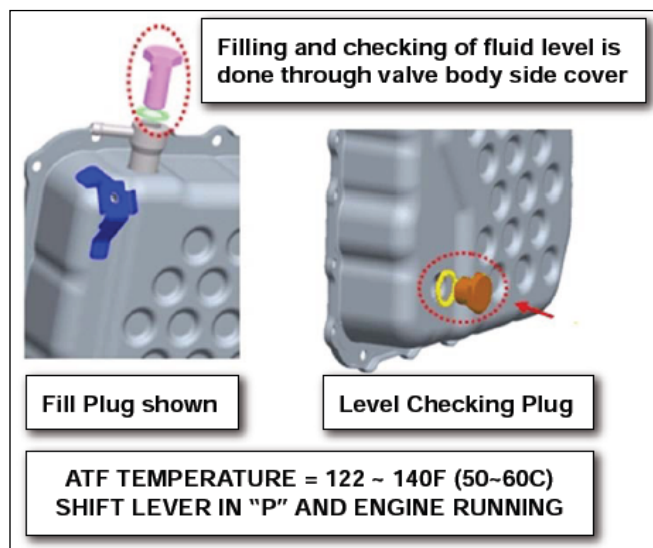
20. Attach the lower radiator hose, add ethylene glycol engine coolant to the radiator and check the level according to the appropriate shop manual, **Engine Mechanical System, Cooling System, Coolant and Repair Procedure**.
21. Reconnect the battery.
Input the radio stations recorded in Step 5.
22. Remove the transaxle fill plug.

Use a funnel to add approximately 5~6 quarts of SP4-M ATF through the fill plug opening. Reinstall the fill plug.

Attach the GDS and select **Data Analysis, A/T menu and Oil Temperature Sensor**.

Start the engine and shift to Park. When the ATF is at the low end of 122°F~140°F (50~60°C), remove the level checking plug. The level is correct when oil flows out of the level checking plug in a thin steady stream.

Collect and dispose of any excess fluid in accordance with local regulations.



23. Clear the DTC and test drive the vehicle for two key-on/key-off driving cycles, including 1-2-3-4-5-6-7-8 upshifts and 8-7-6-5-4-3-2-1 downshifts. If the DTC returns, perform the following repairs.

DTC	REPAIR PROCEDURE
P071700	Replace the control wiring harness between the PCM or TCU and transmission.
P072100	<ul style="list-style-type: none">• If the solenoid DTC does not return, return the vehicle to the customer.• If the solenoid DTC returns again, replace the PCM or TCU.
P072200	NOTE: All listed vehicles have a PCM (integrated ECU/TCU) except Sonata (DN8a) and Palisade (LX2) with separate ECU and TCU.

24. Drive the vehicle to confirm the transmission is operating as designed.