HYUNDAI NEW THINKING. NEW POSSIBILITIES. **Technical Service Bulletin**	GROUP **AUTOMATIC TRANSMISSION**	NUMBER **16-AT-013**
	DATE **DECEMBER 2016**	MODEL **GENESIS SEDAN (BH/DH), GENESIS G80 (DH) GENESIS COUPE (BK) EQUUS (VI) GENESIS G90 (HI)**
SUBJECT:	AUTOMATIC TRANSMISSION INPUT/OUTPUT SPEED SENSOR DTC P0717, P0721, P0722 & P0791	

This TSB supersedes TSB 12-AT-024 to include 2017 Genesis G80 and Genesis G90 and update the Warranty Information.

Description: Do not replace the transmission for the DTC listed below. Instead, follow the repair procedure and replace the E-Module.

Applicable Vehicles:

2012~16	Genesis Sedan (BH/DH) 3.8L/4.6L/5.0L
2017~	Genesis G80 (DH) 3.8L/5.0L
2013~16	Genesis Coupe (BK) 2.0L/3.8L
2012~16	Equus (VI) 5.0L
2017~	Genesis G90 (HI) 3.3L/5.0L

DTC LIST & PARTS INFORMATION:

DTC	DESCRIPTION	PNC	PART NO.
P0717	Input/Turbine Speed Sensor 'A' Circuit No Signal	46305C	46305-4****
P0721	Output Speed Sensor Circuit Range/Performance	46305C	46305-4****
P0722	Output Speed Sensor Circuit No Signal	46305C	46305-4****
P0791	Middle Speed Sensor Circuit No Signal	46305C	46305-4****

WARRANTY INFORMATION – E-Module replacement:

MODEL		OP CODE	OPERATION	OP TIME	CAUSAL PART
2012~16 2017~ 2013~ 16 2012~16 2017~	Genesis Sedan (BH/DH) Genesis G80 (DH) Genesis Coupe (BK) Equus (VI) Genesis G90 (HI)	46305R00	Valve body assy.	1.3	Refer to parts catalog

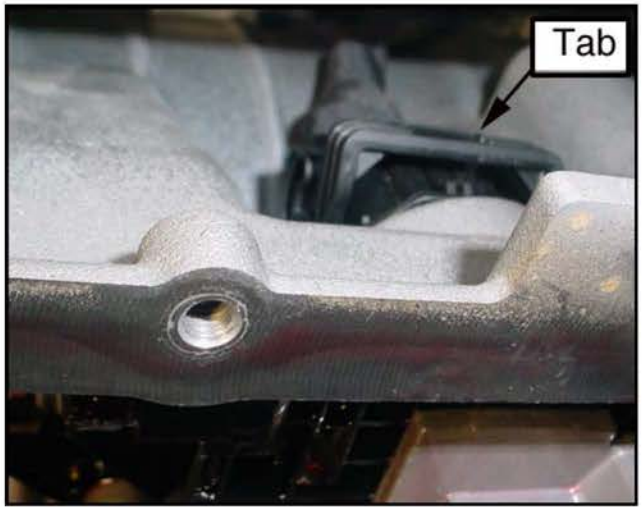
SERVICE PROCEDURE:

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 parameters shown below. If the input speed sensor and output speed 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 TCM and transmission for a damaged wire or connector. Check for an open/short circuit.
   - If so, repair or replace the control wiring and drive the vehicle to confirm the repair.
   - If no damage is found, go to Step 4.
4. Record the audio preset stations and disconnect the negative battery terminal.
5. Lift the vehicle on a hoist.

   Press the tab in the center of the latch and push the latch upward.

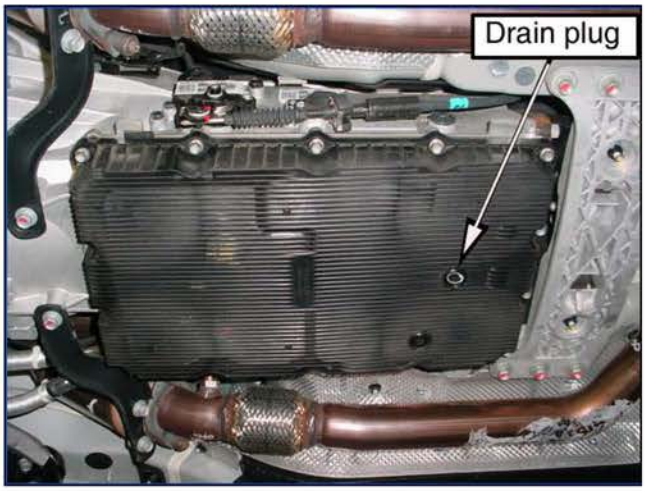
   Push the connector up to disconnect the connector.



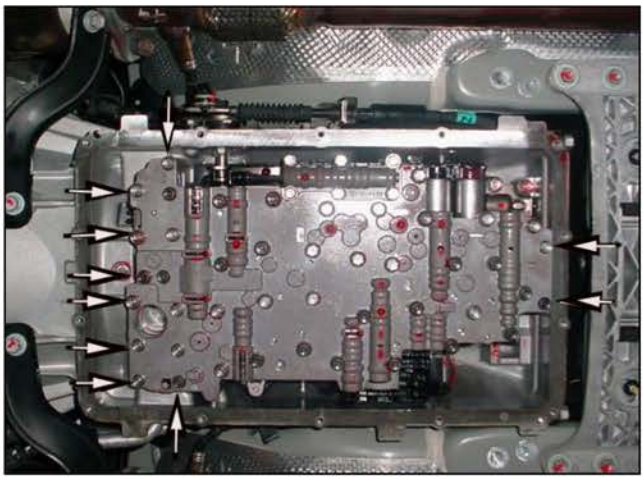
6. Use an 8mm or 5/16" hex socket to remove the drain plug and drain the ATF. Reinstall the drain plug.

   Torque: 17~18 lb.ft (2.3~2.5 kgf.m, 22~24 N.m)

   Remove the bolts that secure the oil pan and remove the pan.



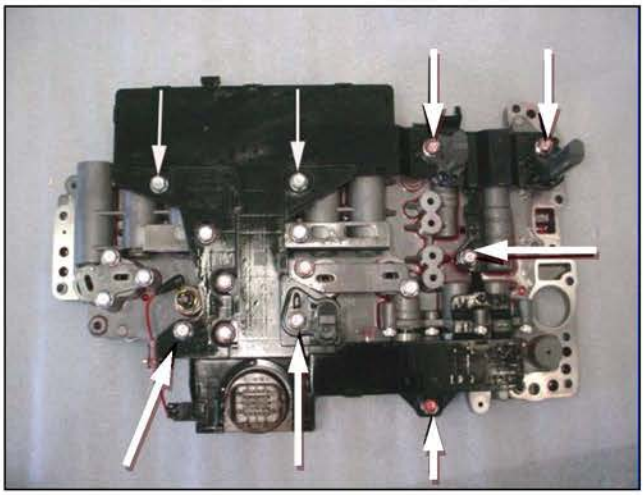
7. Remove the 10 bolts that secure the valve body to the case and remove the valve body.



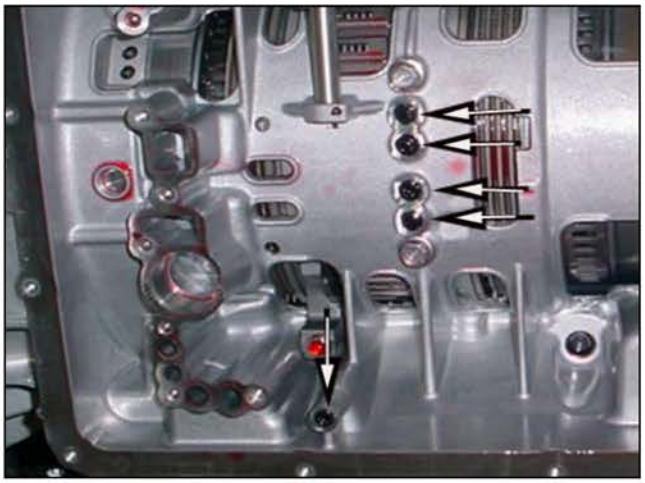
8. Remove 8 bolts that secure the E-module and remove the E-module.

   Install a new E-Module.

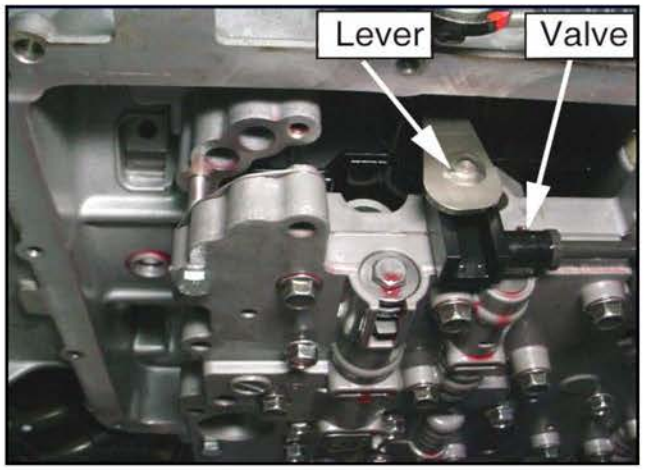
   Torque: 7~9 lb.ft (1.0~1.2 kgf.m, 10~12 N.m)



9. Confirm that 5 O-rings are seated in the transmission case.



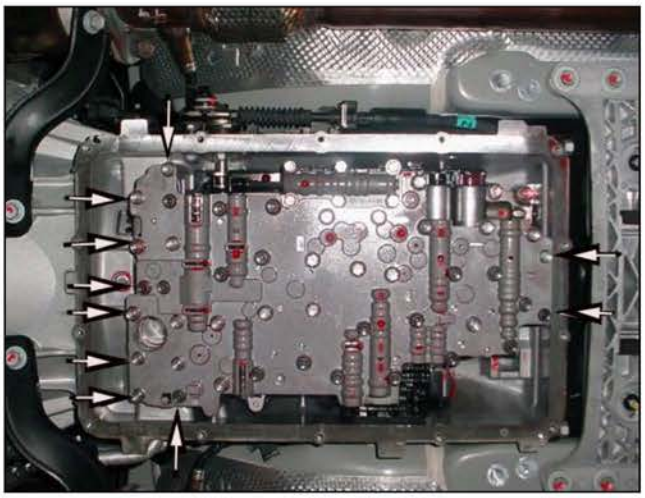
10. Carefully align the manual valve to the shift lever and reinstall the valve body.



11. Install 10 bolts and torque to specification.

    Install the 3 long black bolts in the correct location.

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



12. Reconnect the harness connector and pull the latch down until it clicks (See Step 5).
13. Install the oil pan and torque the bolts to specification.
    Torque: 7~8 lb.ft (1.0~1.2 kgf.m, 10~12 N.m)
14. Reconnect the negative battery terminal. Reset the audio preset stations.

15. Use an 8mm or 5/16" hex socket and remove the fill plug and washer.

    Shift into Park and lift the vehicle on a hoist.

    Use a fluid pump or suction gun to add approximately 4 quarts of SPH-IV-**RR** ATF through the fill plug.

> **NOTICE**
>
> **Use only SPH-IV-RR ATF, P/N 00232-19052.**

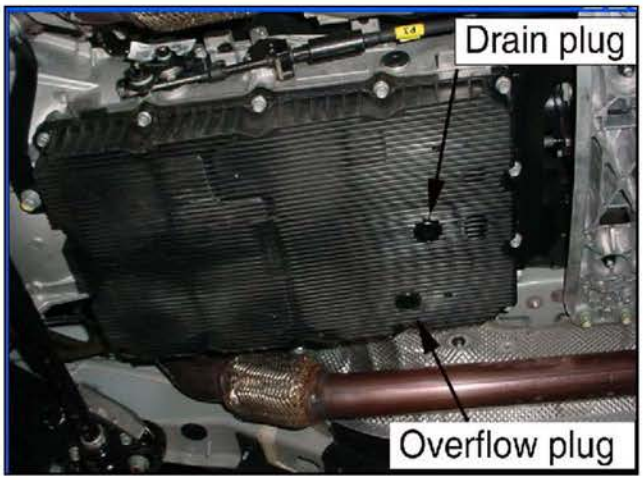
16. Remove the overflow plug.

    Start the engine.

    Add approximately 4~5 additional quarts of SPH-IV-**RR** ATF through the fill plug until the ATF flows out.

    Reinstall the fill plug and washer.
    Torque: 27~33 lb.ft (3.7~4.6 kgf.m, 33~44 N.m)

    Reinstall the overflow plug.
    Torque: 16~18 lb-ft (2.3~2.5 kgf.m, 21~24 N.m)



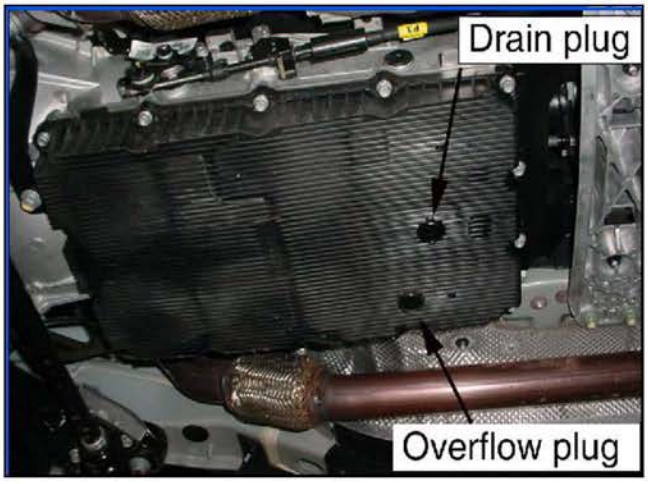
17. Attach a GDS and select vehicle, **Data Analysis** and **A/T** menu and **Oil Temperature Sensor**.

18. Drive the vehicle until the ATF is at the low end of the range of 122~140°F (50~60°C).

19. Move the shift lever to "P" and leave the engine idling. Raise the vehicle on a hoist.

    Remove the overflow plug. The ATF level is correct when the ATF flows out in a steady, thin stream.

    Reinstall the overflow plug.
    Torque: 16~18 lb-ft (2.3~2.5 kgf.m, 21~24 N.m)



ATF TEMPERATURE = 122~140°F (50~60°C)
SHIFT LEVER IN "P" AND ENGINE RUNNING

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20. Clear the codes and test drive the vehicle for two driving cycles (two key-on to 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
P0717 P0721 P0722 P0791	• Replace the control wiring harness between the TCM and transmission. If the DTC does not occur again, return the vehicle to the customer. • If the DTC returns again, replace the TCM.

21. Clear DTC in the BlueLink system per instructions of TSB 12-BE-005-2.

22. Drive the vehicle to confirm the proper operation of the transmission.