HYUNDAI NEW THINKING. NEW POSSIBILITIES. **Technical Service Bulletin**	GROUP **AUTOMATIC TRANSMISSION**	NUMBER **14-AT-013**
	DATE **AUGUST 2014**	MODEL **Tucson (LM), Santa Fe (CM/AN/NC), Sonata (YF/LF), Elantra (UD/MD/GD/JK), Accent (RB), Azera (TG/HG), Veloster Turbo (FS)**

SUBJECT:	AUTOMATIC TRANSAXLE INPUT/OUTPUT SPEED SENSOR DTC P0717, P0721 & P0722

This TSB supersedes bulletin 13-AT-014-1 to include the 2015 Sonata (LF)

Description: Do not replace the transmission for the DTC listed below. Instead, follow the repair procedure and replace the related part.

Applicable Vehicles:

- 2010~ Tucson (LM) & Santa Fe (CM)
- 2011~ Sonata (YF/YF-HEV), Elantra (UD/MD) & Azera (TG)
- 2012~ Accent (RB), Azera (HG)
- 2013~ Veloster Turbo (FS), Elantra Coupe (JK), Elantra GT (GD) & Santa Fe (AN/NC)
- 2015~ Sonata (LF)

DTC LIST:

DTC	DESCRIPTION	SENSOR PNC	HARNESS PNC
P0717	Input/Turbine Speed Sensor 'A' Circuit No Signal	46210A	46307
P0721	Output Speed Sensor Circuit Range/Performance		
P0722	Output Speed Sensor Circuit No Signal		

PARTS INFORMATION:

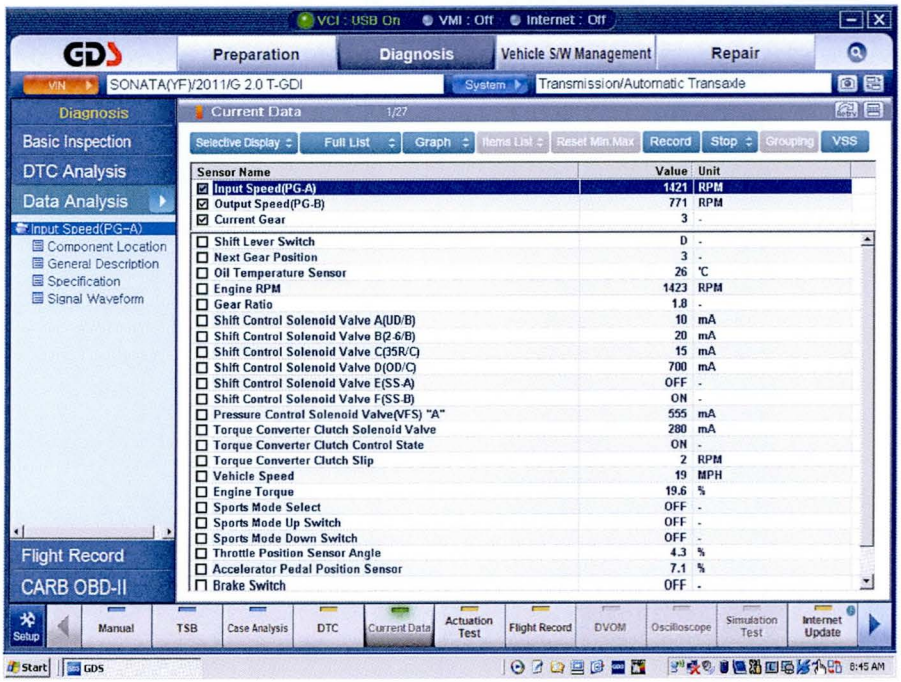
MODEL	ENGINE	INPUT & OUTPUT SENSOR	HARNESS	PLASTIC OIL PAN GASKET
2012~ Accent (RB)	1.6L	42620-26010	46307-3B***	45282-26100
2011 Azera (TG)	3.3L/3.8L	42620-3B100	46307-3B***	45283-3B010
2012~ Azera (HG)	3.3L	42620-3B100	46307-3B***	45283-3B010
2011~ Elantra (MD/UD)	1.8L	42620-26010	46307-3B***	45282-26100
2013~ Elantra Coupe (JK)	1.8L	42620-26010	46307-3B***	45282-26100
2013~ Elantra GT (GD)	1.8L	42620-26010	46307-3B***	45282-26100
2010~12 Santa Fe (CM)	2.4L	42620-3B620	46307-3B***	45282-26100
2010~12 Santa Fe (CM)	3.5L	42620-3B110	46307-3B***	45283-3B010
2013~ Santa Fe (AN)	2.0L	42620-3B110	46307-3B***	45283-3B010
2013~ Santa Fe (AN)	2.4L	42620-3B620	46307-3B***	45283-3B810
2013~ Santa Fe (NC)	3.3L	42620-3B100	46307-3B***	45283-3B010
2011~14 Sonata Turbo (YF)	2.0L	42620-3B100	46307-3B***	45283-3B010
2011~14 Sonata (YF)	2.4L	42620-3B610	46307-3B***	45283-3B810
2011~ Sonata HEV (YF HEV)	2.4L	42620-3B620	46307-3B***	45283-3D100
2015~ Sonata (LF)	2.0L	42620-3B100	46307-3B***	45283-3B010
2015~ Sonata (LF)	2.4L	42620-3B600	46307-3B***	45283-3B810
2010~ Tucson (LM)	2.0L	42620-3B620	46307-3B***	45283-3B810
2010~ Tucson (LM)	2.4L	42620-3B620	46307-3B***	45283-3B810
2013~ Veloster Turbo (FS)	1.6L	42620-3B620	46307-3B***	45283-3B810

WARRANTY INFORMATION:

Model	Op Code	Operation	Hours	Causal Part	Op Qty	Nature Code	Cause Code
2012~ Accent (RB)	45644R00	Replace input & output speed sensor	1.5	See Parts Catalog	1	N69	C15
2011 Azera (TG)			1.7				
2012~ Azera (HG)			1.6				
2011~ Elantra (MD/UD)			1.6				
2013~ Elantra Coupe (JK)			1.6				
2013~ Elantra GT (GD)			1.6				
2010~ Santa Fe (CM)			1.6				
2013~ Santa Fe (AN/NC)			1.6				
2011~14 Sonata (YF)			1.6				
2011~ Sonata (YF HEV)			1.6				
2015~ Sonata (LF)			1.3				
2010~ Tucson (LM)			1.6				
2013~ Veloster Turbo			1.6				
All	45644RQ0	GDS	0.3				

SERVICE PROCEDURE:

1. Using a GDS, check for DTC in the "Automatic Transaxle" menu. **Record the DTC and description.** Delete the DTC.
2. From the GDS, select the following parameters. Drive the vehicle and monitor the sensors.
   - Vehicle and A/T menu.
   - "Current Data"
   - Input speed and output speed sensors.



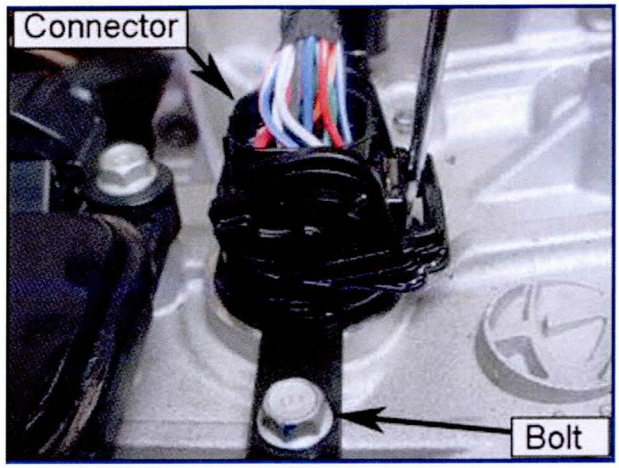
3. If the sensors show:
   - Continuous and changing output with changes in vehicle speed, the wiring **currently** has no open/short circuits. Go to Step 5.
   - No continuous and changing output, go to Step 4.
4. Visually check the wiring harness between the PCM and transmission for a damaged wire or short circuit to ground. 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, go to Step 5.
5. Refer to the DTC recorded in Step 1 and follow the repair procedure shown below:

DTC	REPAIR PROCEDURE
P0717-Input/Turbine Speed Sensor 'A' Circuit	Go to Step 6 and replace the input/output speed sensor and valve body harness.
P0721-Output Speed Sensor Circuit Range/Performance	
P0722-Output Speed Sensor Circuit No Signal	

6. Remove the battery and battery tray.
7. Remove the undercover below the transmission.
8. Drain the radiator and remove the lower radiator hose from the radiator.
   Drain the ATF.

9. Use a screwdriver to release the tab and remove the solenoid connector on top of the case.

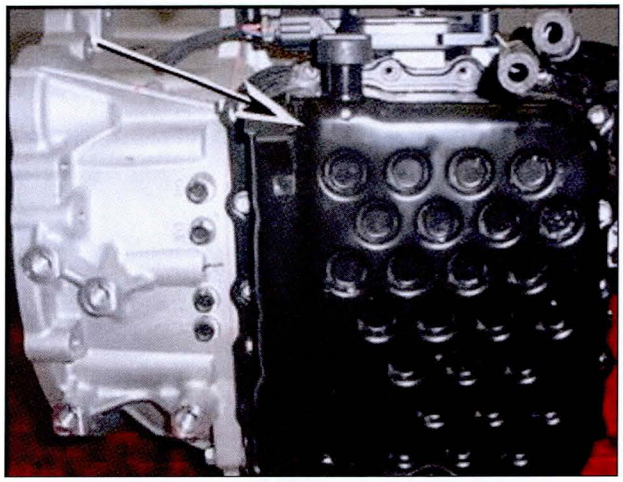
   Remove the bolt that secures the connector and push the connector into the transmission.



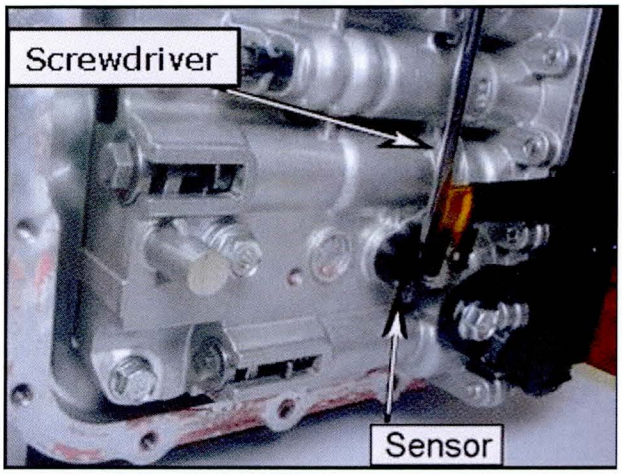
10. Remove the oil pan bolts and remove the pan.

⚠ CAUTION

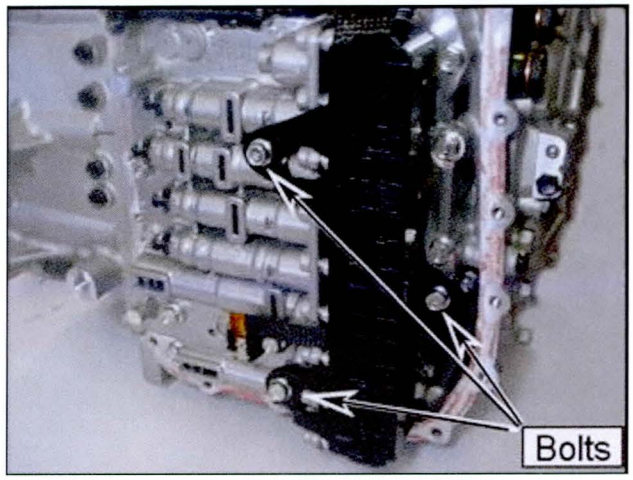
Use rubber hammer to tap the oil pan cover on a corner until the cover is loose.



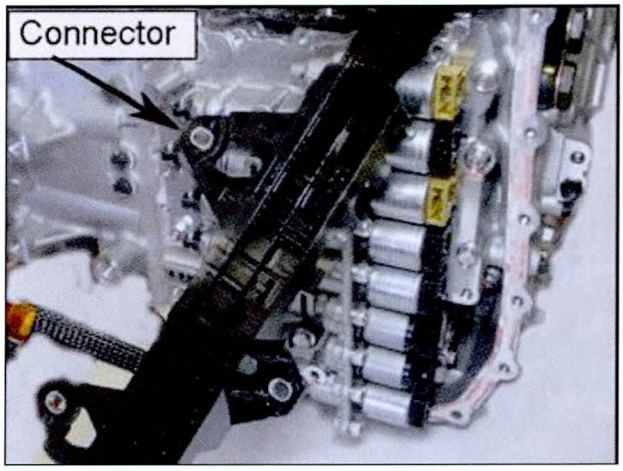
11. Use a small screwdriver to pry the connector from the oil temperature sensor (except for vehicles with integrated temperature sensor and harness).



12. Remove three bolts to the solenoid valve connector.

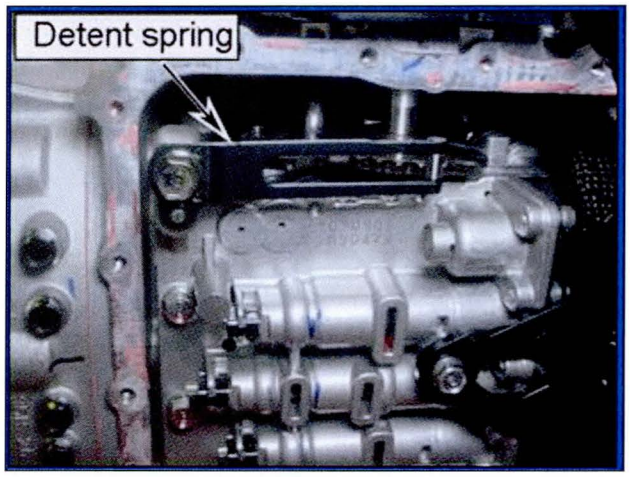


13. Pull the solenoid connector outward and move the connector out of position.

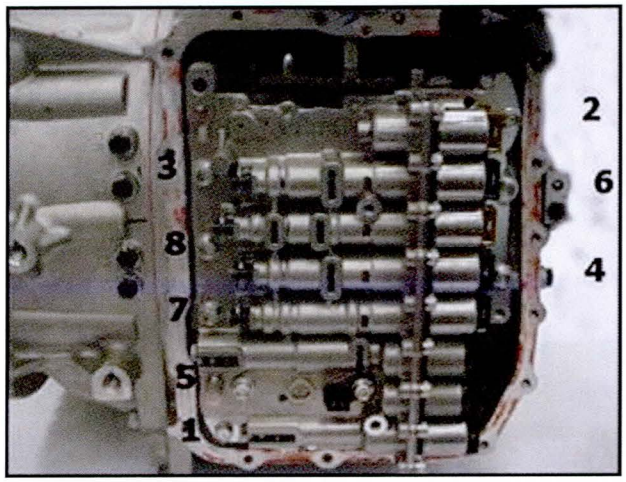


14. Remove the bolt that secures the detent spring and remove the spring.

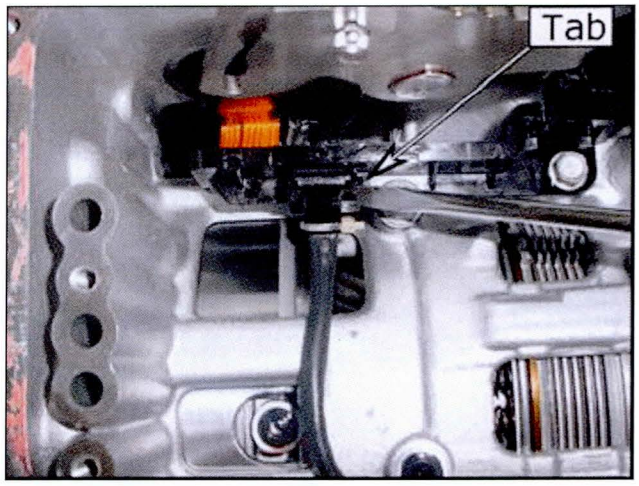
    Torque: 8~11 lb.ft (1.2~1.6 kgf.m)



15. Remove 8 bolts in the order shown and remove the valve body.



16. Use a screwdriver to depress the locking tab and pull outward on the connector to the input and output speed sensor.



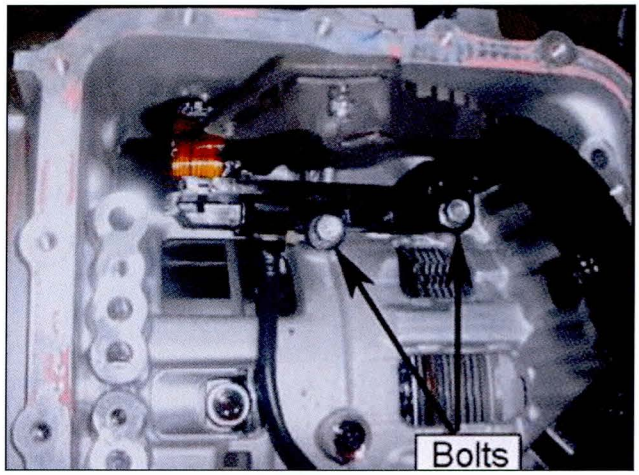
17. Remove two bolts that secure the valve body harness to the case.

    Pull the connector downward out of the case.

    Install a new harness and insert the connector into the case. Attach the retainer and bolt on top of the case as shown in Step 9.

    Install the bolts that secure the harness.

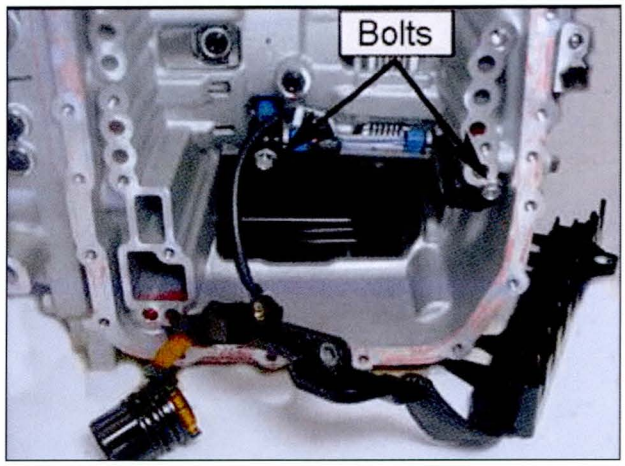
    Torque: 6~7 lb.ft (0.9~1.0 kgf.m)



18. Remove two bolts that secure the input and output speed sensor and remove the sensor.

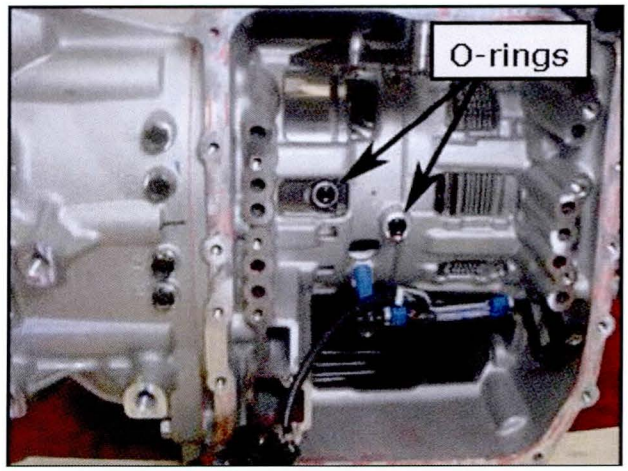
    Install a new input/output speed sensor in the reverse order of assembly and tighten the bolts to specification.

    Torque: 6~7 lb.ft (0.9~1.0 kgf.m)

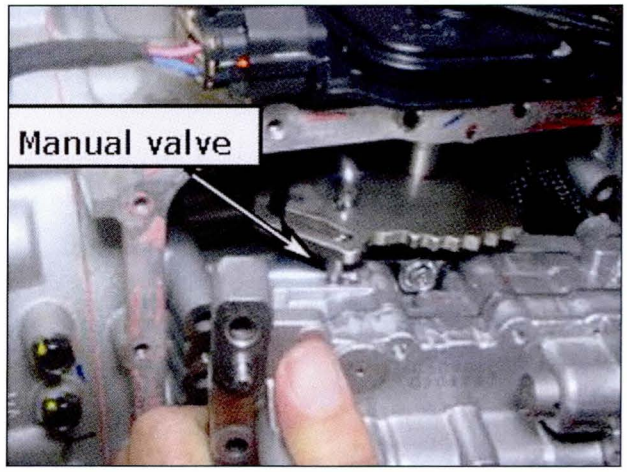


19. Confirm the O-rings are installed correctly in the case.

    Reconnect the input and output speed sensor connector to the harness.

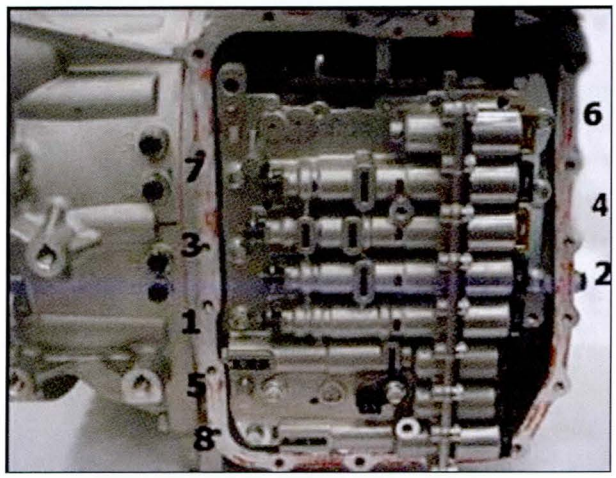


20. Align the manual shaft to the shift lever and install the valve body.



21. Install the valve body bolts and torque the bolts to specification in the order shown.

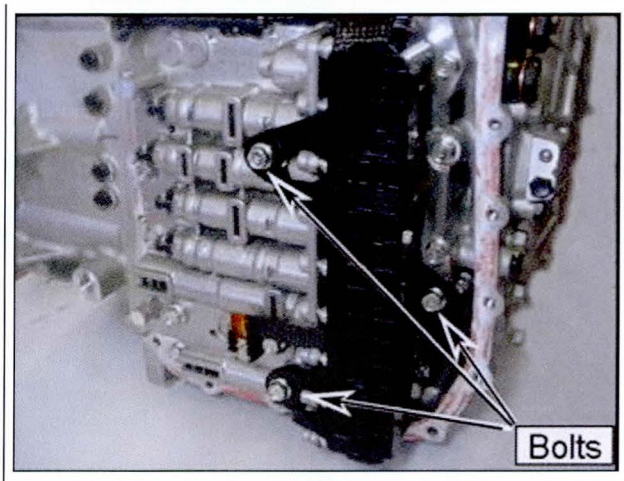
    Toque: 6~7 lb.ft (0.9~1.0 kgf.m)



22. Reconnect the solenoid harness to the solenoids and oil temperature sensor.

    Install the bolts to the solenoid harness connector and torque to specification.

    Torque: 6~7 lb.ft (0.9~1.0 kgf.m)

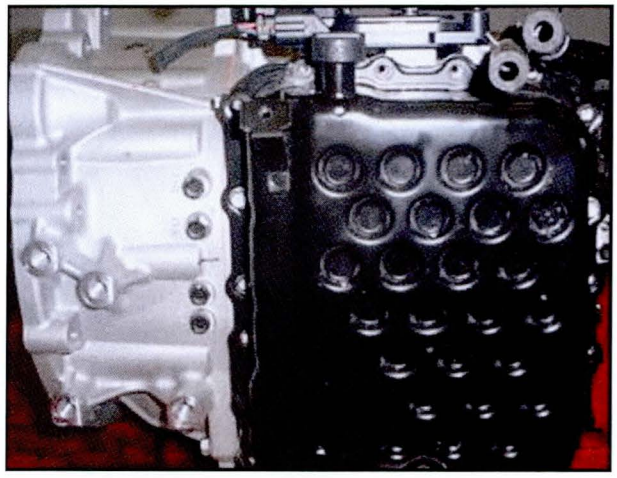


23. **STEEL OIL PAN:**
    Apply Permatex Ultra Gray Sealer or Hyundai Ultra Gray Gasket Sealer, P/N 00232-19039, to the oil pan and reinstall the pan.

    PLASTIC OIL PAN:
    Install a new gasket to the oil pan and reinstall the pan.

    Tighten the bolts to specification.

    Torque: 6~7 lb.ft (0.9~1.0 kgf.m)



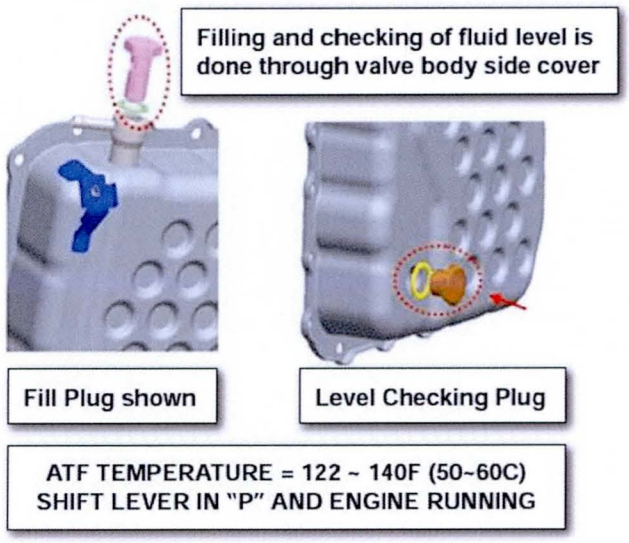
24. Remove the transaxle fill plug.

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

    Attach the GDS to the DLC and select vehicle, A/T menu, Current Data and "Oil Temperature Sensor".

    Start the engine and shift to Park. When the ATF is 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.



25. Clear the codes and test drive the vehicle for two drive cycles (two key-on to key-off driving cycles). If the DTC return, perform the following repairs:

DTC	REPAIR PROCEDURE
P0717-Input/Turbine Speed Sensor 'A' Circuit No Signal	1. Repair or replace the control harness between the PCM and the transmission. 2. Test drive the vehicle for two drive cycles. If the DTC return again, replace the PCM.
P0721-Output Speed Sensor Circuit Range/Performance	
P0722-Output Speed Sensor Circuit No Signal	

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

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