 <b>HYUNDAI</b> <b>Technical Service Bulletin</b>	<b>GROUP</b> <b>AUTOMATIC TRANSMISSION</b>	<b>NUMBER</b> <b>20-AT-008H</b>
	<b>DATE</b> <b>FEBRUARY 2020</b>	<b>MODEL</b> Accent (RB), Azera (TG/HG), Elantra (UD/MD/GD/JK), Santa Fe (CM/AN/NC), Sonata (YF/YF HEV, LF/LF HEV/PHEV), Tucson (LM/TL), Veloster Turbo (FS)
<b>SUBJECT:</b> AUTOMATIC TRANSAXLE SOLENOID DTC P0741, P0743, P0748, P0753, P0758, P0763, P0768, P0773 & P2709		

***This TSB supersedes 19-AT-015H to add the Santa Fe (NC).***

**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 solenoid and oil pressure harness.

**NOTE:** The 6-speed vehicles listed below are equipped with a Generation1 valve body with 8 solenoids. Newer 6-speed transmissions have a Generation2 valve body with 7 solenoids (Refer to TSB 20-AT-007H).

**Applicable Vehicles:**

- 2012~17 Accent (RB)
- 2011 Azera (TG)
- 2012~17 Azera (HG)
- 2011~16 Elantra (MD/UD)
- 2013~17 Elantra GT (GD)
- 2013~14 Elantra Coupe (JK)
- 2010~12 Santa Fe (CM)
- 2013~18 Santa Fe (AN) 2.0L
- 2013~16 Santa Fe (AN) 2.4L
- 2013~19 Santa Fe (NC)
- 2011~14 Sonata (YF)
- 2015~19 Sonata (LF) 2.0L/2.4L
- 2011~15 Sonata Hybrid (YF HEV)
- 2016~19 Sonata Hybrid (LF HEV)
- 2016~19 Sonata Plug-in Hybrid (LF PHEV)
- 2010~15 Tucson (LM)
- 2016~ Tucson (TL) 2.0L
- 2013~15 Veloster (FS) 1.6T

**SUBJECT:**ATM SOLENOID DTC P0741, P0743, P0748, P0753,  
P0758, P0763, P0768, P0773, P1778 & P2709**Parts Information:**

Refer to the PNC in the parts catalog to order the correct solenoid part number.

Model	DTC	Solenoid	PNC	Part Number
2012~17 Accent (RB) 2011 Azera (TG)	P0743	Torque converter solenoid (TC)	46202A	46313-3B***
			46313C	46313-3B***
2012~17 Azera (HG)	P0748	Pressure control solenoid (P/C)	46313A	46313-3B***
2011~16 Elantra (MD/UD)	P0753	Shift solenoid A (UD)	46313B	46313-3B***
2013~17 Elantra GT (GD)	P0758	Shift solenoid B (26-B)	46313C	46313-3B***
2013~14 Elantra Coupe (JK)	P0763	Shift solenoid C (35R)	46313B	46313-3B***
2010~12 Santa Fe (CM)	P0768	Shift solenoid D (OD)	46313B	46313-3B***
2013~18 Santa Fe (AN) 2.0L	P0773	Shift solenoid E (SS-A)	46313D	46313-3B***
2013~16 Santa Fe (AN) 2.4L	P1778	Engine clutch solenoid (HEV)	46313C	46313-3B***
2013~19 Santa Fe (NC)				
2011~14 Sonata (YF)	P2709	Shift solenoid F (SS-B)	46313D	46313-3B***
2015~19 Sonata (LF) 2.0L/2.4L				
2011~15 Sonata Hybrid (YF HEV)		Valve body internal harness	46307	46307-3B***
2011~19 Sonata Hybrid (LF HEV)				
2011~19 Sonata Hybrid (LF PHEV)		Plastic oil pan gasket	45282E	45282-2****
2010~15 Tucson (LM)				45283-3B***
2016~ Tucson (TL) 2.0L				45283-3D***
2013~15 Veloster (FS) 1.6T				45283-3F***

**Warranty Information:**

Model		OP Code	Operat- ion	OP Time	Causal Part	Nature Code	Cause Code
2012~17	Accent (RB)	45775R00	Replace solenoid valve and valve body harness	Refer to WEBLTS for current LTS time	Refer to Parts Informa- tion table on Page 2	T74	ZZ3
2011	Azera (TG)						
2012~17	Azera (HG)						
2011~16	Elantra (MD/UD)						
2013~17	Elantra GT (GD)						
2013~14	Elantra Coupe (JK)						
2010~12	Santa Fe (CM)						
2013~18	Santa Fe (AN) 2.0L						
2013~16	Santa Fe (AN) 2.4L						
2013~19	Santa Fe (NC)						
2011~14	Sonata (YF)						
2015~19	Sonata (LF) 2.0L/2.4L						
2011~15	Sonata Hybrid (YF HEV)						
2016~19	Sonata Hybrid (LF HEV)						
2016~19	Sonata Plug-in Hybrid (LF HEV)						
2010~15	Tucson (LM)						
2016~	Tucson (TL) 2.0L						
2013~15	Veloster (FS) 1.6T						
2011~15	Sonata Hybrid (YF HEV)	45775RH1	Additional				
2016~19	Sonata Hybrid (LF HEV/PHEV)						
All		45775RQ0	GDS				

**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 solenoid parameters shown below. If the solenoids 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.

The screenshot shows the GDS Data Analysis screen for a vehicle with VIN KM8J3CA47LU103102 and Diagnosis No B28AACA514200130001F. The vehicle is identified as TUCSON(TL)/2020/G 2.0 GDI with a Transmission. The Data Analysis screen displays a table of solenoid parameters with the following data:

Sensor Name(27)	Value	Unit	Link Up
Shift Control Solenoid Valve A(UD/B)	50	mA	[Link Up Icon]
Shift Control Solenoid Valve B(2-6/B)	50	mA	[Link Up Icon]
Shift Control Solenoid Valve C(35R/C)	50	mA	[Link Up Icon]
Shift Control Solenoid Valve D(OD/C)	850	mA	[Link Up Icon]
Shift Control Solenoid Valve E(SS-A)	OFF	-	[Link Up Icon]
Shift Control Solenoid Valve F(SS-B)	ON	-	[Link Up Icon]
Pressure Control Solenoid Valve(VFS) "A"	800	mA	[Link Up Icon]
Torque Converter Clutch Solenoid Valve	350	mA	[Link Up Icon]

3. Visually check the wiring harness between the PCM 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 control wiring and drive the vehicle to confirm the repair.
  - If no damage or open/short circuit, go to Step 4.

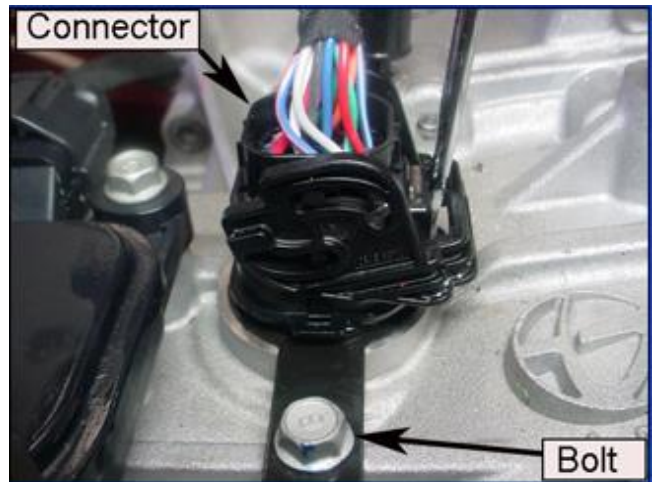
4. Refer to the DTC recorded in Step 1 and follow the repair procedure shown below:

DTC		Repair Procedure
P0741	Torque converter clutch system	Replace the T/C solenoid if no other DTC found.  Go to Step 5 and replace the related solenoid <u>and</u> valve body harness
P1778	Engine clutch solenoid (HEV)	
P0743	Torque converter (T/C)	
P0763	Shift solenoid C (35R)	
P0758	Shift solenoid B (26-B)	
P0753	Shift solenoid A (UD)	
P0768	Shift solenoid D (OD)	
P2709	Shift solenoid F (SS-B)	
P0773	Shift solenoid E (SS-A)	
P0748	Pressure control solenoid (P/C)	

5. Record the preset radio stations.  
Remove the battery and battery tray.
6. Remove the undercover below the transmission.
7. Drain the radiator and remove the lower radiator hose from the radiator, if necessary.  
Drain the ATF.
8. 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.

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



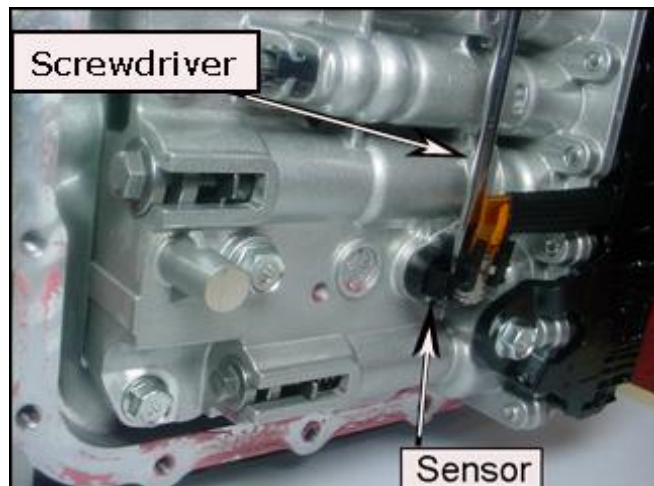
9. Remove the oil pan bolts and remove the pan.

**CAUTION**

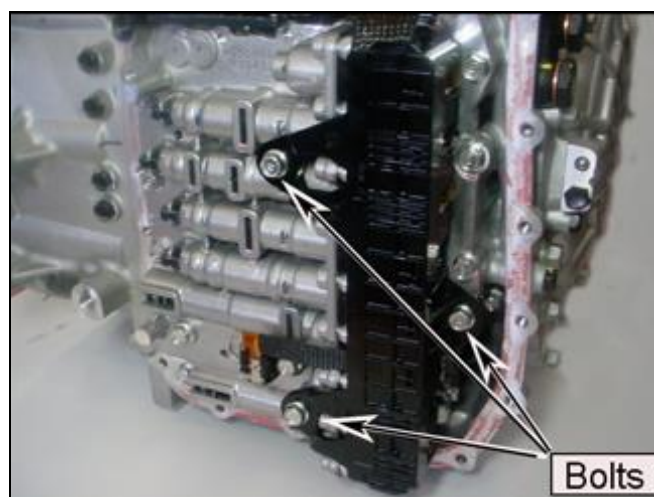
Use rubber hammer to tap the oil pan cover on a corner until the cover is loose.



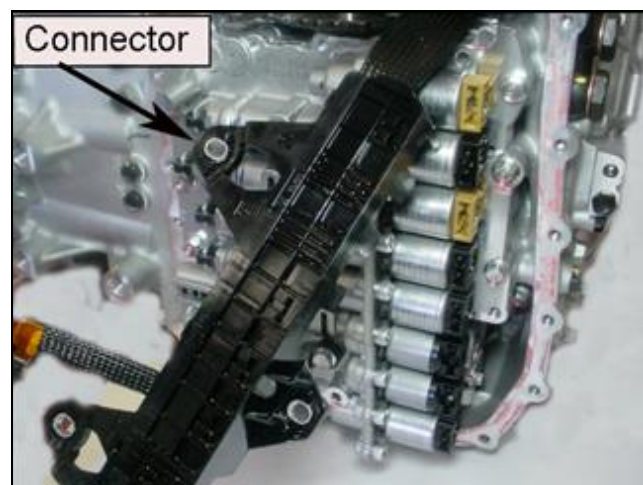
10. Use a small screwdriver to pry the connector from the oil temperature sensor (except for transmissions with integrated temperature sensor and harness).



11. Remove three bolts to the solenoid valve connector.



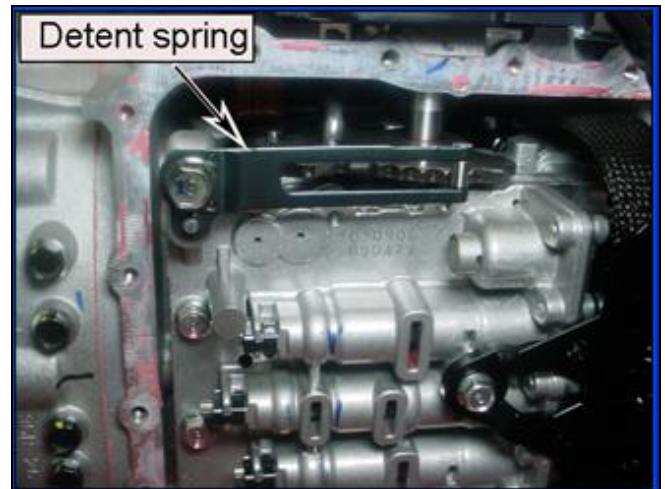
12. Pull the solenoid connector outward and move the connector out of position.





13. 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)**

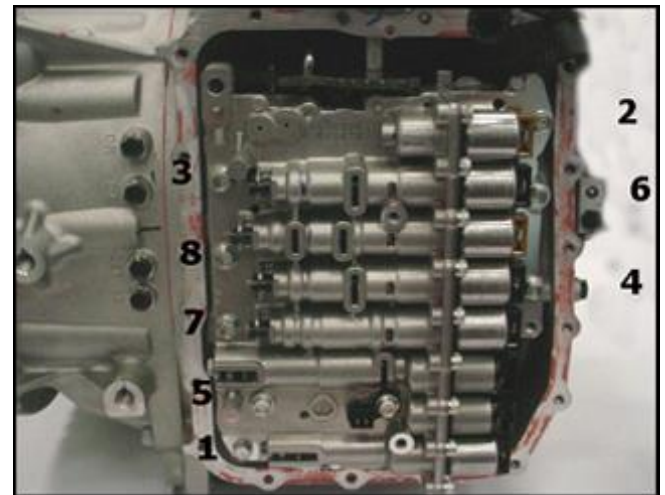


14. Remove the valve body bolts in the order shown and remove the valve body.

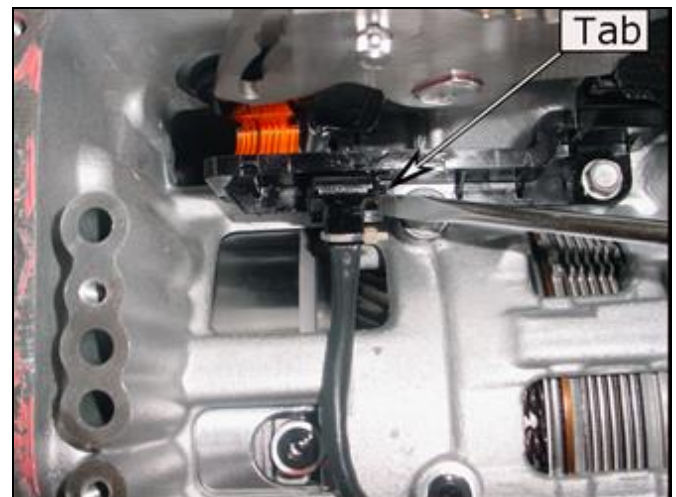


**CAUTION**

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



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



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ATM SOLENOID DTC P0741, P0743, P0748, P0753,  
P0758, P0763, P0768, P0773, P1778 & P2709

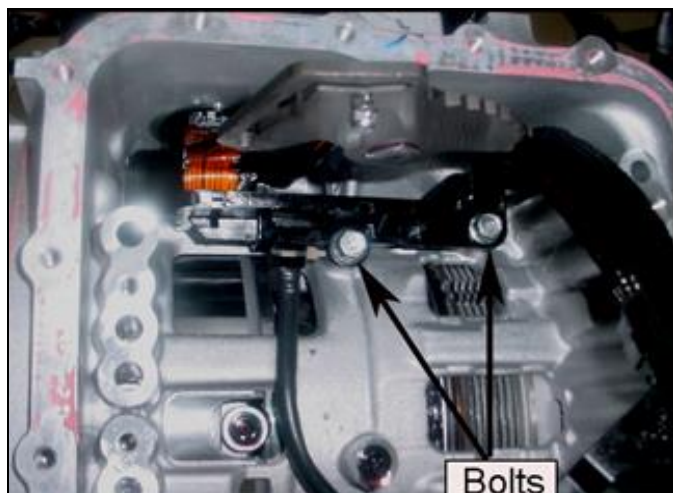
16. Remove two bolts that secure the valve body harness to the case.

Pull the connector downward out of the case.

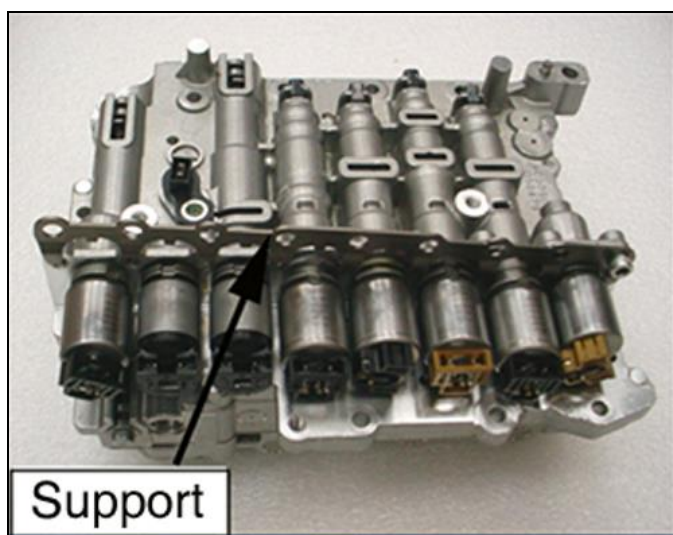
Install a new harness and insert the connector into the case. Attach the retainer and bolt on top of the case as shown in Step 9.

Install the bolts that secure the harness.

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

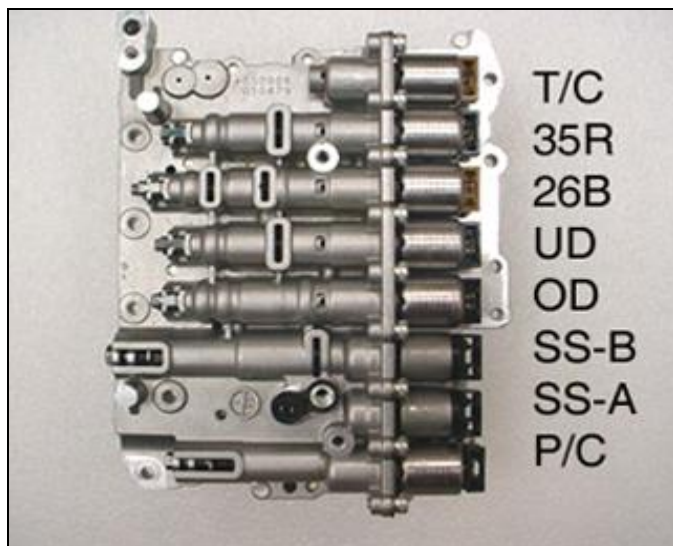


17. Use a 5mm hex socket and remove 9 Allen bolts that secure the solenoid support. Remove the solenoid support.



18. Refer to the DTC recorded in Step 1 and replace the related solenoid.

DTC		Solenoid
P0741	T/C	TC solenoid (T/C)
P0743	T/C	TC solenoid (T/C)
P1778	T/C	Engine clutch solenoid (HEV)
P0763	35R	Shift solenoid C (35R)
P0758	26B	Shift solenoid B (26-B)
P0753	UD	Shift solenoid A (UD)
P0768	OD	Shift solenoid D (OD)
P2709	SS-B	Shift solenoid F (SS-B)
P0773	SS-A	Shift solenoid E(SS-A)
P0748	P/C	Pressure Control solenoid

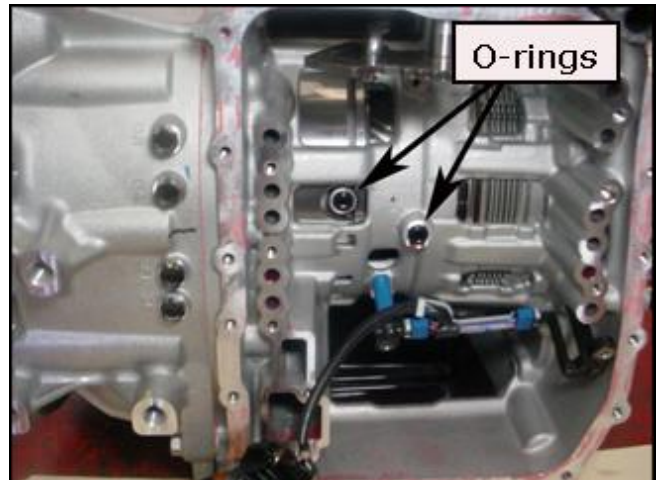


Reinstall the solenoid support.

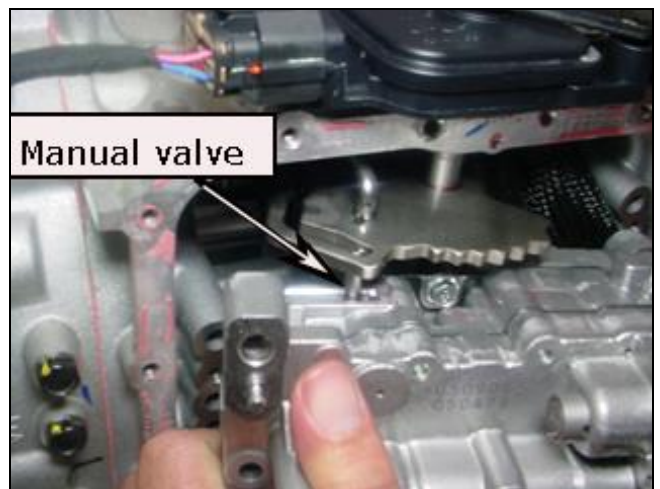


19. Confirm the O-rings are installed correctly in the case.

Reconnect the input and output speed sensor connector to the harness (see Step 15).



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

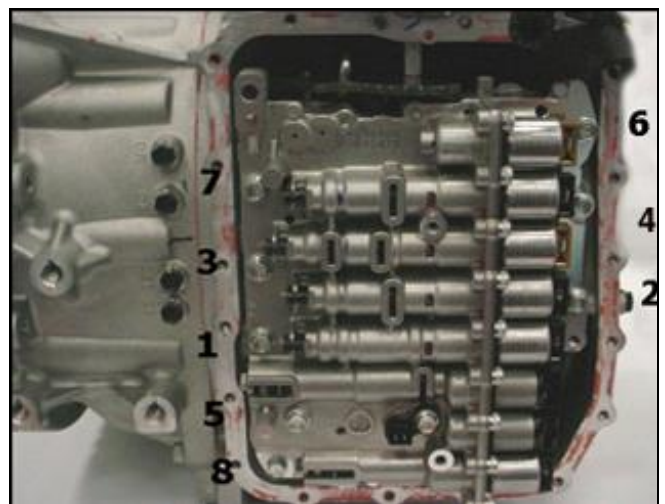


21. Install the valve body bolts and torque the bolts to specification in the order shown.

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

Reinstall the bolt and detent spring.

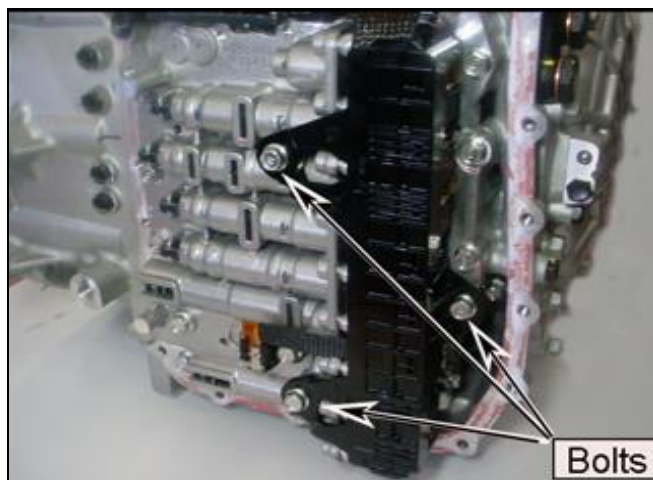
**Torque: 8~11 lb.ft (1.2~1.5 kgf.m/10~13 N.m)**



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



23. **PLASTIC OIL PAN:**

Install a new gasket to the oil pan, reinstall the pan and tighten the bolts to specification.

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



**STEEL OIL PAN:**

Use RTV Silicon Gray, P/N 00232-19061 and a small caulking gun, P/N 00232-19064, or equivalent and apply sealant to the oil pan.

Reinstall the pan.

**Torque: 9~11 lb.ft (1.3~1.5 kgf.m/12~15 N.m)**



24. Attach the lower radiator hose. Add ethylene glycol engine coolant to the radiator and check the level according to the appropriate shop manual, "Engine" Section.
25. Reconnect the battery.  
Input the radio stations recorded in Step 5.

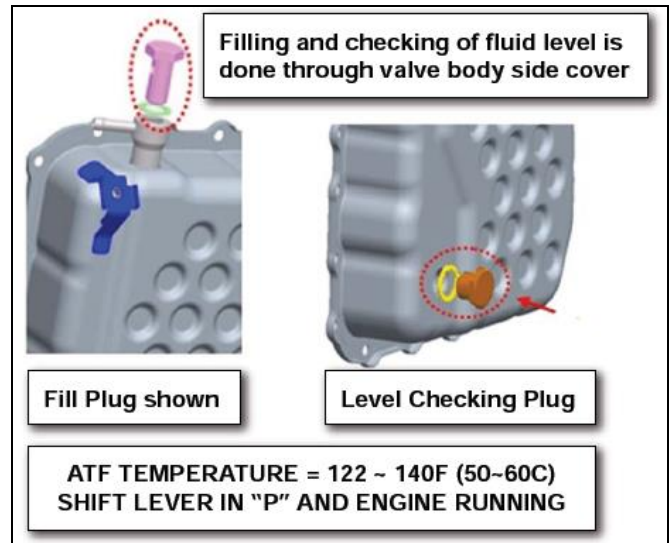
26. Remove the transaxle fill plug.

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

Attach the GDS to the DLC and select **Data Analysis, A/T** menu 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.



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

DTC	Repair Procedure
P0741	Replace the transmission.  Replace the control wiring harness between the PCM and transmission. <ul style="list-style-type: none"> <li>• If the solenoid DTC does not return, return the vehicle to the customer.</li> <li>• If the solenoid DTC returns again, replace the PCM.</li> </ul>
P0743	
P1778	
P0753	
P0758	
P0763	
P0768	
P0773	
P2709	
P0741	
P0748	

28. Clear the DTC in the Blue Link system per instructions of TSB 19-BE-010H, if applicable.
29. Drive the vehicle to confirm the transmission is operating as designed.