 HYUNDAI Technical Service Bulletin	GROUP AUTOMATIC TRANSMISSION	NUMBER 20-AT-017H
	DATE MAY, 2020	MODEL 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)
SUBJECT: AUTOMATIC TRANSMISSION DTC P0880/P088000		

Description: If you are servicing an applicable vehicle with the following symptoms and DTC, follow the Service Procedure on Page 4.

- Check Engine light on
- DTC P0880/P088000 - TCM Power signal error open/short
- Transmission stuck in 4th gear fail-safe
- Harsh shift into Reverse and Drive

NOTE: P0880/P088000 are set when solenoid power voltage is lower than 7V or higher than 22V. Do **not** replace the transmission for DTC P0880/P088000.

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-018H).

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 Sport (AN) 2.0L
2013~16	Santa Fe Sport (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) 2.4L
2011~15	Tucson (LM) 2.0L
2016~	Tucson (TL) 2.0L
2013~15	Veloster (FS) 1.6T

NOTE: Normal Warranty Applies**PARTS INFORMATION:** Refer to the shop manual for the correct part.

	Model	Engine	Harness	Plastic Oil Pan Gasket
2012~17	Accent (RB)	1.6L	46307-3B***	45282-26***
2011	Azera (TG)	3.3L/3.8L	46307-3B***	45283-3B***
2012~17	Azera (HG)	3.3L	46307-3B***	45283-3B***
2011~16	Elantra (MD/UD)	1.8L	46307-3B***	45282-26***
2014~16	Elantra (MD/UD)	2.0L	46307-3B***	45282-26***
2013	Elantra Coupe (JK)	1.8L	46307-3B***	45282-26***
2014	Elantra Coupe (JK)	2.0L	46307-3B***	45282-26***
2013~17	Elantra GT (GD)	1.8L	46307-3B***	45282-26***
2010~12	Santa Fe (CM)	2.4L	46307-3B***	45283-*****
2010~12	Santa Fe (CM)	3.5L	46307-3B***	45283-*****
2013~18	Santa Fe Sport (AN)	2.0L	46307-3B***	45283-3B***
2013~16	Santa Fe Sport (AN)	2.4L	46307-3B***	45283-3B***
2013~19	Santa Fe (NC)	3.3L	46307-3B***	45283-3B***
2011~14	Sonata Turbo (YF)	2.0L	46307-3B***	45283-3B***
2011~14	Sonata (YF)	2.4L	46307-3B***	45283-3B***
2015~19	Sonata (LF)	2.0L	46307-3B***	45283-3B***
2015~19	Sonata (LF)	2.4L	46307-3B***	45283-3B***
2011~15	Sonata (YF HEV)	2.4L	46307-3B***	45283-3D***
2016~19	Sonata (LF HEV)	2.0L	46307-3B***	45283-3D***
2016~19	Sonata (LF PHEV)	2.0L	46307-3B***	45283-3D***
2010~15	Tucson (LM)	2.4L	46307-3B***	45283-3B***
2011~15	Tucson (LM)	2.0L	46307-3B***	45283-3B***
2016~	Tucson (TL)	2.0L	46307-3B***	45283-3B***
2013~15	Veloster Turbo (FS)	1.6L	46307-3B***	45283-3B***

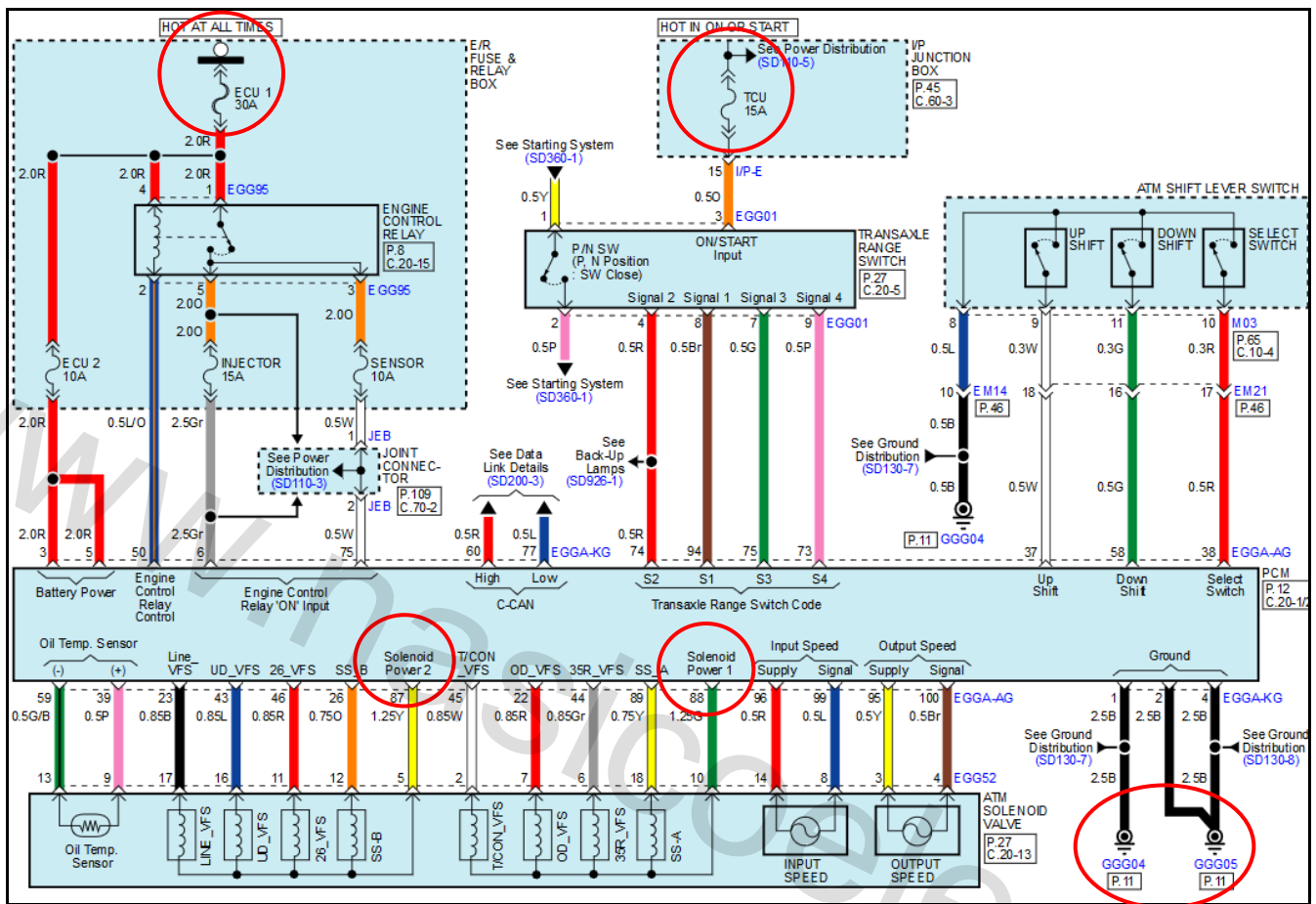
WARRANTY INFORMATION:

Model	Op Code	Operation	OP Time	Causal Part	Nature Code	Cause Code
2012~17 Accent (RB) 2012~17 Azera (HG) 2011~16 Elantra (MD/UD) 2013~17 Elantra GT (GD) 2013~14 Elantra Coupe (JK) 2013~18 Santa Fe Sport (AN) 2.0L 2013~16 Santa Fe Sport (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 (LF PHEV) 2011~15 Tucson (LM) 2.0L 2016~ Tucson (TL) 2.0L 2013~15 Veloster (FS) 1.6T	46308R00	Valve body harness equipped with oil temperature sensor	Refer to WEBLTS for LTS time	Refer to Parts Information Table on Page 2	N69	C15
2011~15 Sonata Hybrid (YF HEV) 2016~19 Sonata Hybrid (LF HEV)	46308RH1	Additional				
ALL	46308RQ0	GDS				

ETM INFORMATION: Example only – refer to the related shop manual

P0880/P088000 is set when solenoid power voltage is lower than 7v or higher than 22v.

Possible Causes: Poor connection/circuit fault or faulty PCM.



SERVICE PROCEDURE:

1. Attach a GDS and select **DTC Analysis** and **A/T** menu. Record the DTC and description. Delete the DTC.

If DTC other than P0880/P088000 are found, refer to the appropriate TSB or shop manual and repair the vehicle. Go to Step 2.

2. For 2012~17 Accent (RB), check the Control Wiring behind the battery tray to determine if the harness is rubbing against the battery tray.
 - If so, repair the harness. Test drive the vehicle to confirm P0880/P088000 does not set.
 - If not, go to Step 3.

3. Refer to the appropriate shop manual, **Schematic Diagrams, Transaxle/Transmission, Automatic Transaxle Control System** and **Schematic Diagrams**. Check the ECU and the TCU fuses (Refer to **ETM Information**, Page 4). Confirm the fuse fits tightly and does not have an open circuit.
 - If an open circuit is found: Replace the fuse or repair the connection. Drive the vehicle to confirm P0880/P088000 does not return. If so, return the vehicle to the customer.
 - If no open circuit: Confirm the PCM ground bolt is clean and tight. Repair or replace the bolt, if necessary. Go to Step 4.
4. 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 solenoids are operating correctly and the wiring **currently** has no open/short circuits. Go to Step 6.
 - No continuous and changing output, go to Step 5.

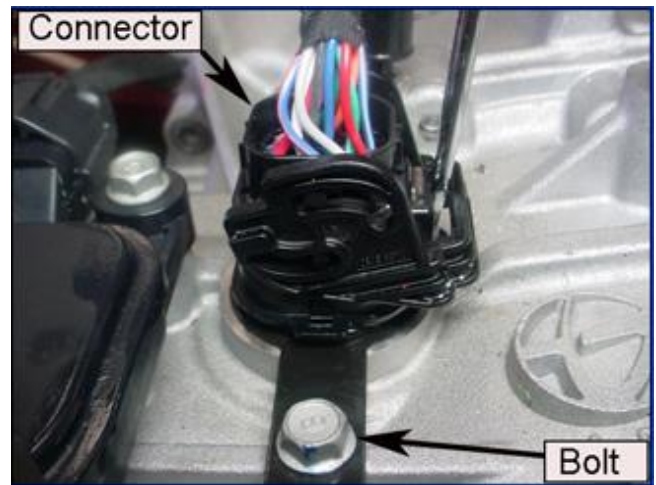
Sensor Name(27)	Value	Unit	Link Up
Shift Control Solenoid Valve A(UD/B)	10	mA	
Shift Control Solenoid Valve B(2-6/B)	140	mA	
Shift Control Solenoid Valve C(35R/C)	750	mA	
Shift Control Solenoid Valve D(OD/C)	5	mA	
Shift Control Solenoid Valve E(SS-A)	ON	-	
Shift Control Solenoid Valve F(SS-B)	OFF	-	
Pressure Control Solenoid Valve(VFS) "A"	595	mA	
Torque Converter Clutch Solenoid Valve	0	mA	

5. Visually check the Control Wiring 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. Drive the vehicle to confirm the repair.
 - If no damage or open/short circuit, go to Step 6.
6. Record the preset radio stations.
Remove the battery and battery tray.

7. Remove the undercover below the transmission.
8. If necessary to access the solenoids, drain the radiator and remove the lower radiator hose from the radiator, if necessary.
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.

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



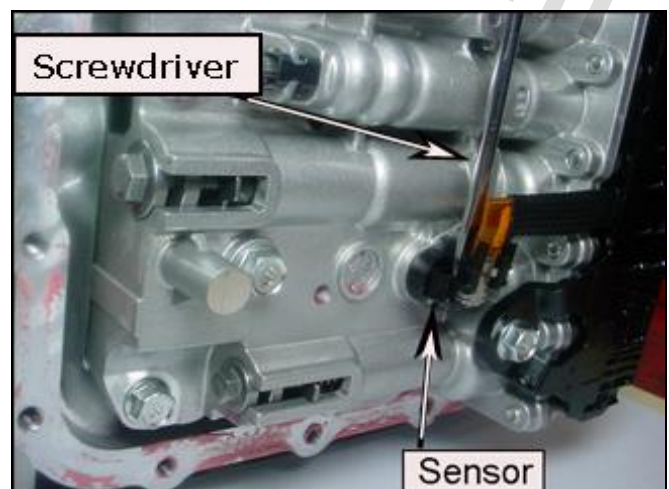
10. Remove the oil pan bolts and remove the pan.

CAUTION

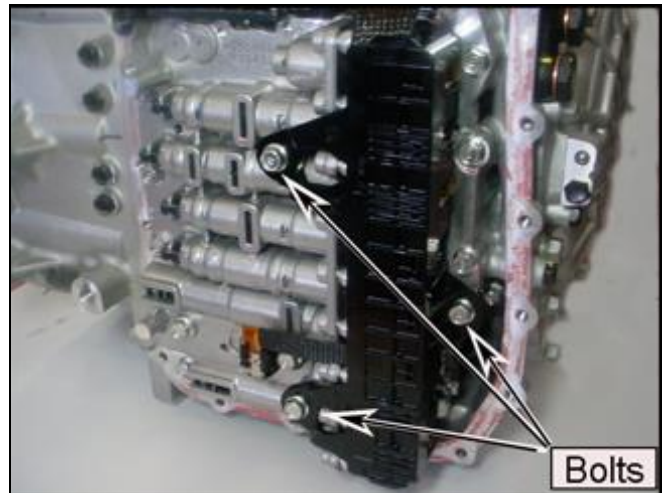
Use rubber hammer to tap the oil pan cover on a corner until the cover is loose.



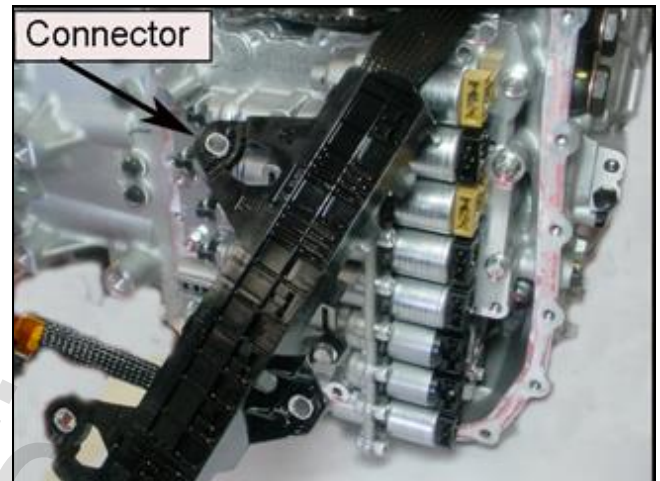
11. Use a small screwdriver to pry the connector from the oil temperature sensor (except for transmissions with integrated temperature sensor and harness).



12. Remove three bolts to the harness.

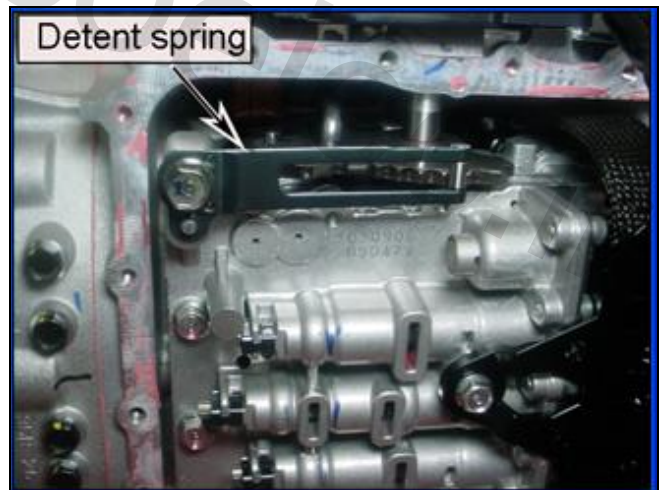


13. Pull the solenoid connector outward and move the connector out of position.



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

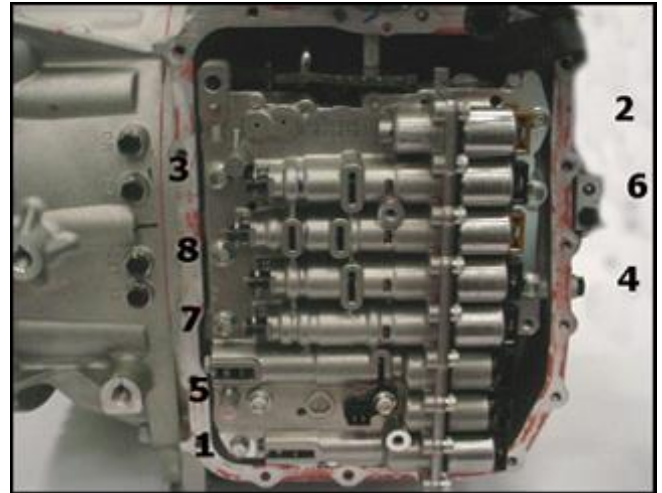
Torque: 8~11 lb.ft (1.2~1.5 kgf.m/10~13 N.m)



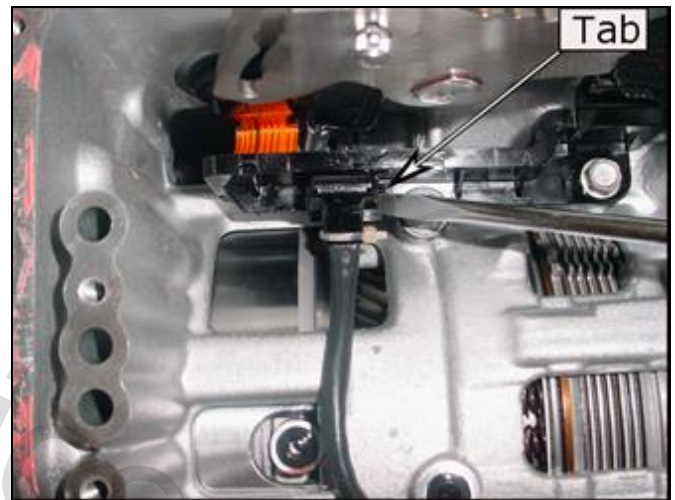
15. Remove the valve body bolts in the order shown and remove the valve body.

**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.



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



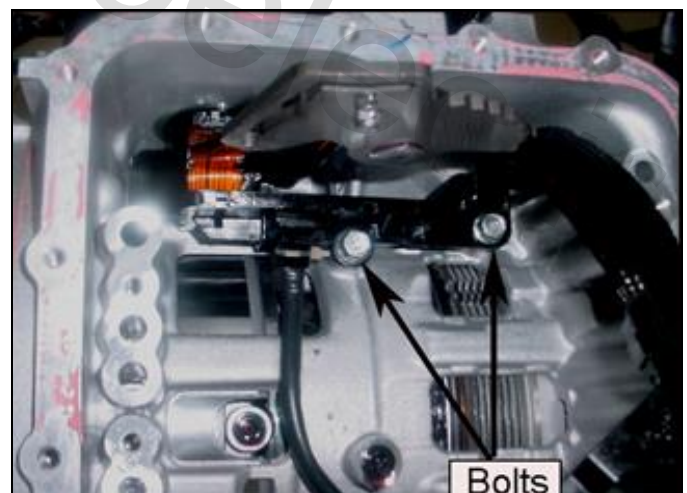
17. Remove two bolts that secure the valve body harness to the case.

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.

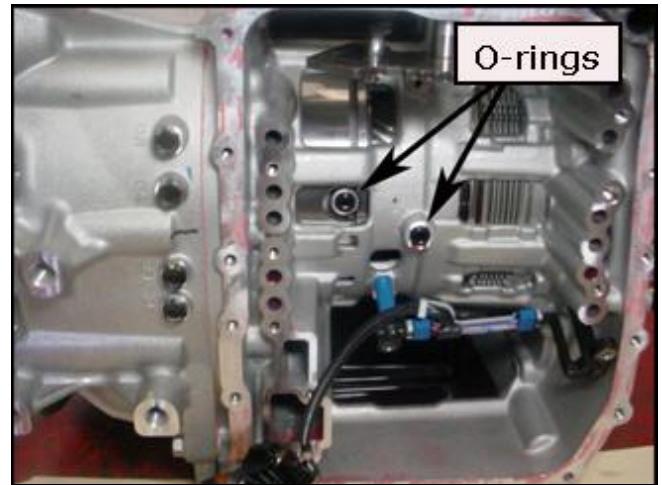
Install the bolts that secure the harness.

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

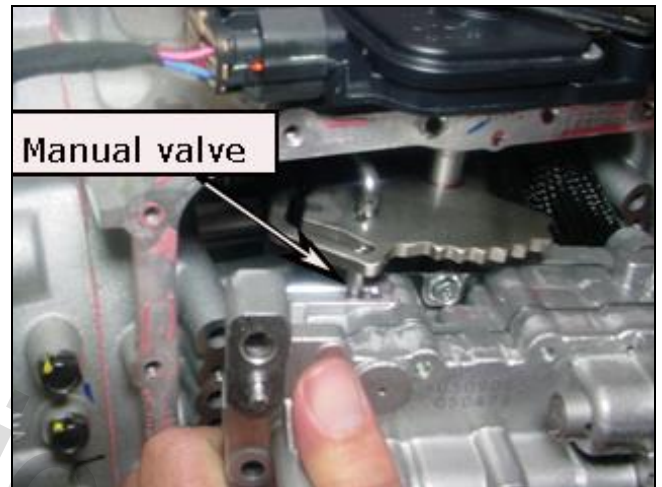


18. Confirm the O-rings are installed correctly in the case.

Reconnect the input and output speed sensor connector to the harness (see Step 16).



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

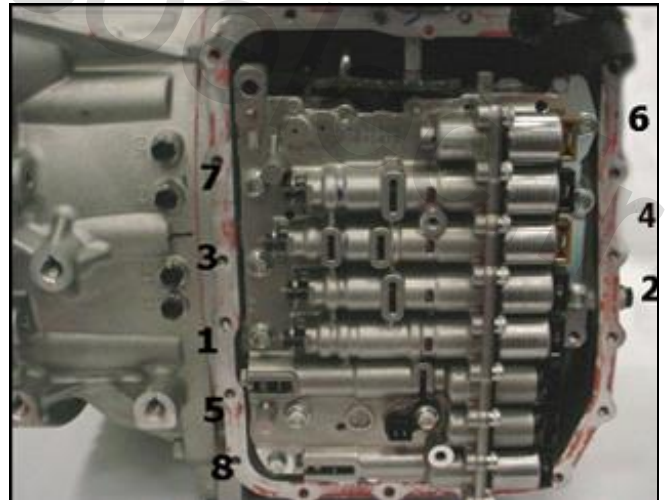


20. Install the valve body bolts and torque the bolts to specification in the order shown.

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

Reinstall the bolt and detent spring.

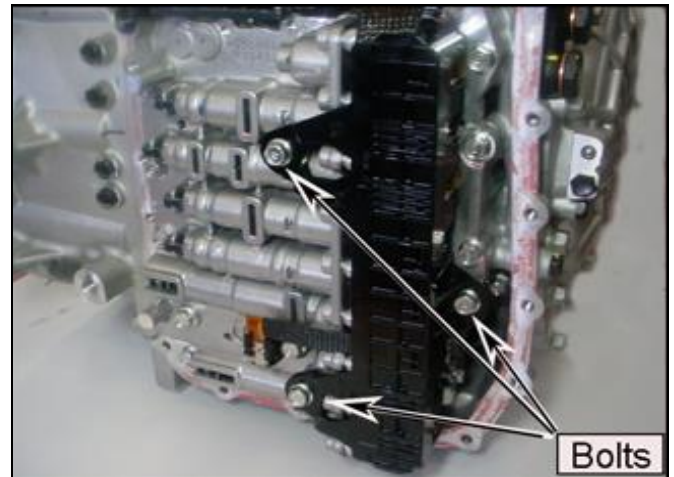
Torque: 8~11 lb.ft (1.2~1.5 kgf.m/10~13 N.m)



21. Reconnect the 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)



22. **PLASTIC OIL PAN (If equipped):**
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)

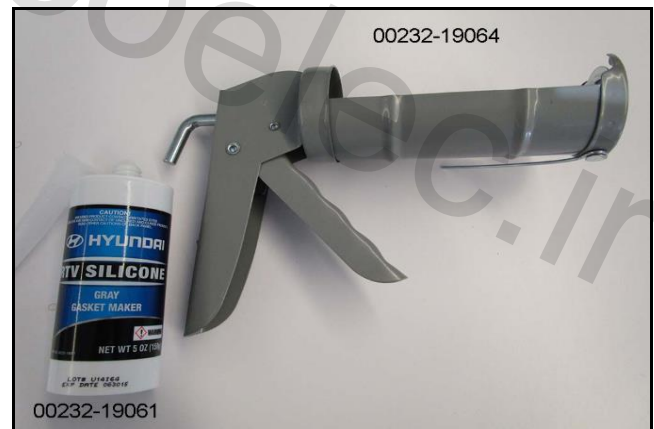


STEEL OIL PAN (If equipped):

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)



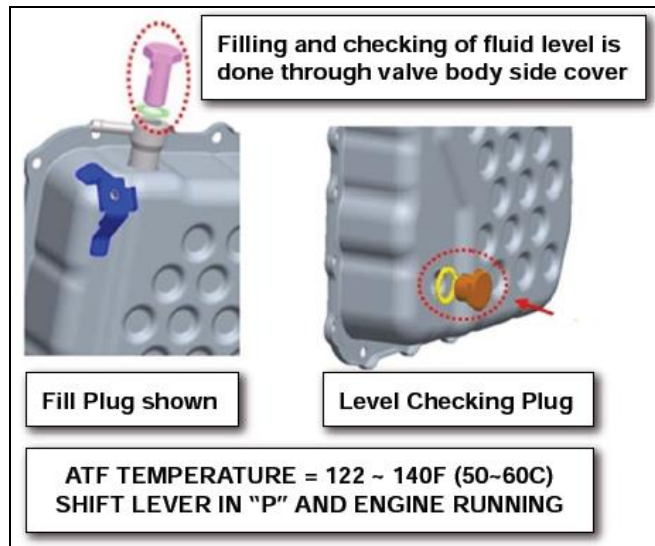
23. Attach the lower radiator hose. Add ethylene glycol engine coolant to the radiator and check the level according to the appropriate shop manual, "Engine" Section.
24. Reconnect the battery.
Input the radio stations recorded in Step 5.

25. Remove the transaxle fill plug.
Use a funnel to add approximately 5~6 quarts of **SP-4-M** 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.



26. 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
P0880 P088000	<ul style="list-style-type: none"> • If P0880/P088000 returns, replace the ECU (PNC 39110). • If P0880/P088000 returns again, repair or replace the Control Wiring between the ECU and transmission (PNC 91400D).

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