



Technical Service Bulletin

GROUP

**AUTOMATIC
TRANSMISSION**

NUMBER

21-AT-016HG

DATE

**SEPTEMBER
2021**

MODEL(S)

**G80 (DH)
G90 (HI)**

SUBJECT:

AUTOMATIC TRANSMISSION SOLENOID DTC P0741, P0743, P0748, P0753, P0758, P075A, P075D, P0763, P0768, P076A, P07B5, P076D, P0773, P0785, P078A, P0995 & P2709

This TSB supersedes TSB 19-AT-002HG to revise the Service Procedure to include steps for SBC transmissions and remove the pressure data transfer for 2017 G80.

DESCRIPTION: When servicing a vehicle with a “Check Engine light” and any of the DTCs listed below, follow the Service Procedure to replace the related solenoid and E-module or park position switch.

APPLICABLE VEHICLES:

2017~18 G80 (DH) 3.3L/5.0L (SBC and SBW)
2017~18 G90 (HI) 3.3L/5.0L (SBW)

DTC LIST WITH PART NUMBER INFORMATION:

DTC		DESCRIPTION	PNC	PART NO.
P0741	P074100	Torque converter clutch circuit performance or stuck off	46202A	46313-3B01*
P0743	P074300	Torque Converter Clutch Circuit Electrical (TC)	46202A	46313-3B01*
P0748	P074800	Line Pressure Control Solenoid Valve A Electrical (LP)	46313A	46313-3B60*
P0753	P075300	Shift Control Solenoid Valve A Electrical (UD)	46313	46313-4J10*
P0758	P075800	Shift Control Solenoid Valve B Electrical (6)	46313	46313-4J10*
P075A	P075A00	ON/OFF Solenoid Circuit (SSA)	46313D	46313-3B03*
P075D	P075D00	ON/OFF Solenoid D (PRH) – Electrical	46313D	46313-3B03*
P0763	P076300	Shift Control Solenoid Valve C Electrical (35R)	46313E	46313-4J20*
P0768	P076800	Shift Control Solenoid D (4&OD)	46313E	46313-4J20*
P076A	P076A00	ON/OFF Solenoid C (Park - SBW)	46313D	46313-3B03*
P076D	P076D00	ON/OFF Solenoid C (Park - SBW)	46313D	46313-3B03*
P0773	P077300	Shift Control Solenoid Valve E Electrical (27)	46313	46313-4J10*
P0785	P078500	ON/OFF Solenoid A (Drive – SBW)	46313D	46313-3B03*
P078A	P078A00	ON/OFF Solenoid B (Reverse – SBW)	46313D	46313-3B03*
P2709	P270900	Shift Control Solenoid Valve F Electrical (8LR)	46313	46313-4J10*
All	All	E-Module	46305C	46305-4****

Circulate To: Service Manager, Warranty Manager, Service Advisors, Technicians, Fleet Repair

DTC LIST WITH PART NUMBER INFORMATION:

DTC		DESCRIPTION	MODEL	PNC	PART NO.
P076A	P076A00	Park System Fault (SBW)	ALL	46235C	46340-4J10*
			ALL	46756A	46756-*****
P07B5	P07B500	Park Position Sensor Circuit Low	ALL	42700E	42700-4J50*
P0995	P095500	Auto Shift Manual Mode Circuit (SBC)	ALL	46700A	46700-*****

WARRANTY INFORMATION:

MODEL	OP CODE	OPERATION	OP TIME	CAUSAL PART	NATURE CODE	CAUSE CODE
2017~18 G80 (DH) 2017~18 G90 (HI)	45775R8T	Solenoid valve assy.	Refer to WEBLTS for current LTS	Refer to part number table above	13A	ZZ3
2017~18 G80 (DH) 2017~18 G90 (HI)	42700R00	Park position switch	Refer to WEBLTS for current LTS	Refer to part number table above	13A	ZZ3

NOTE: Normal Warranty applies

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.

Sensor Name(40)	Value	Unit	Link Up
Current Gear	1	-	
Shift Control Solenoid Valve A(UD/C)	1100	mA	
Shift Control Solenoid Valve D(4&OD/C)	1080	mA	
Shift Control Solenoid Valve E(27/B)	150	mA	
Shift Control Solenoid Valve C(35R/C)	1080	mA	
Shift Control Solenoid Valve B(6/C)	150	mA	
Shift Control Solenoid Valve F(8LR/B)	1100	mA	
Pressure Control Solenoid Valve(VFS) 'A'	715	mA	
ON/OFF Solenoid B(Reverse) (SBW)	OFF	-	
ON/OFF Solenoid (SBC)	OFF	-	

3. Visually check the wiring harness between the TCU and transmission for a damaged wire or connector. Check for an open/short circuit. **NOTE:** The TCU is separate from the ECU.
 - 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.

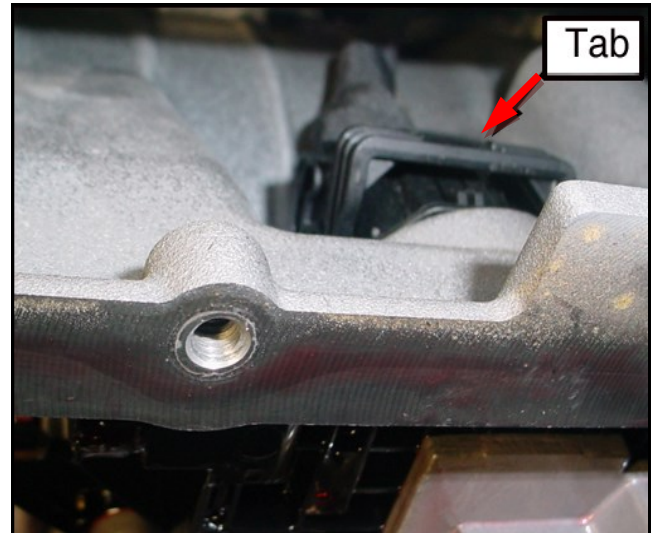
4. Record the audio preset stations and disconnect the negative battery terminal.

5. Locate the harness connector on the passenger side of the transmission.

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

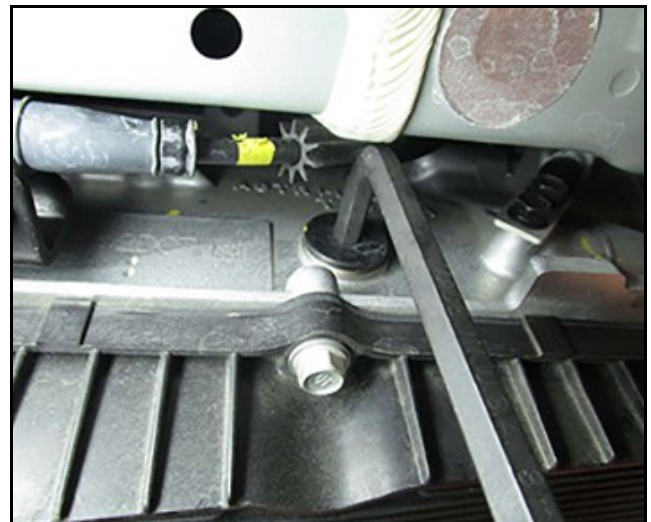
Push the connector up to disconnect the connector from the valve body.

If necessary to gain better access to the connector, place a support under the rear transmission support, loosen the bolts about ½ inch and lower the support about ½ inch.



6. Use an 8mm or 5/16" hex wrench and remove the fill plug.

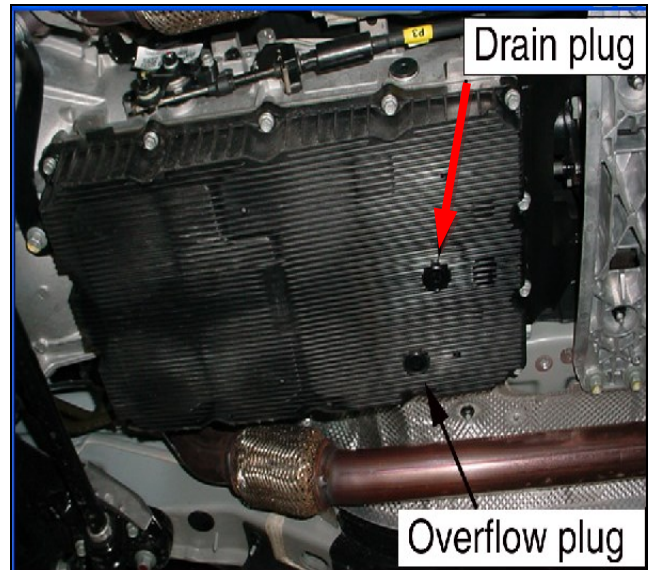
Torque: 17~18 lb.ft (2.3~2.5 kgf.m, 22~24 N.m)



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

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

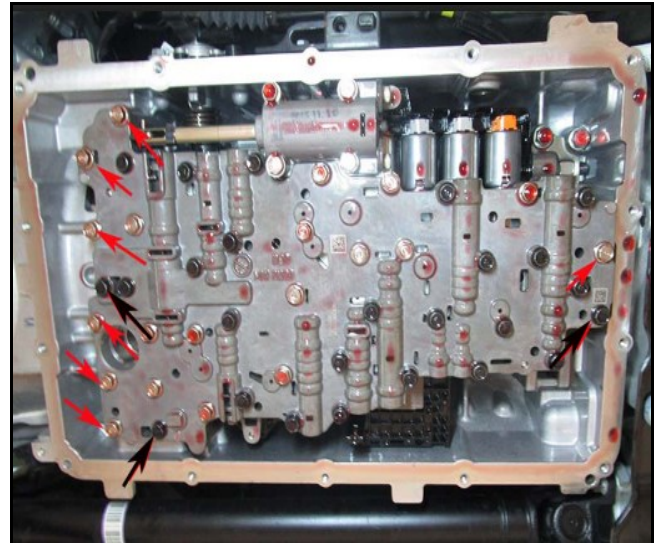
Remove the bolts that secure the oil pan and remove the pan.



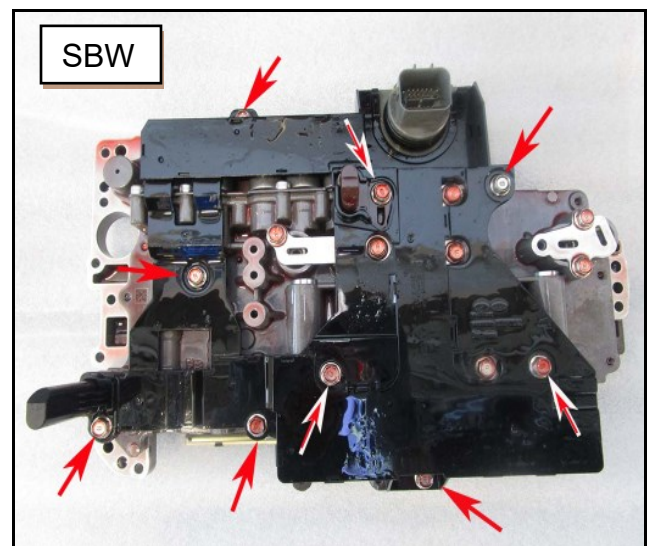
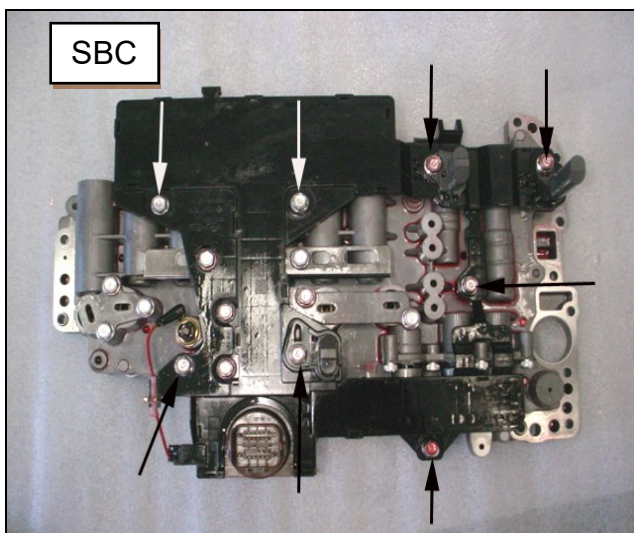
8. Remove 10 bolts that secure the valve body to the case and remove the valve body.

Note the location of the 3 black bolts (shown with black arrow).

If the valve body is stuck in the transmission, insert a screwdriver between the valve body and case and carefully pull the valve body out of the transmission.



9. Remove the bolts and remove the E-module.

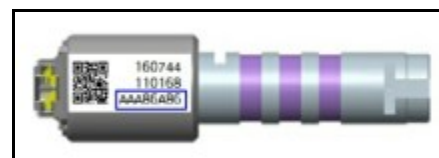


SUBJECT: ATM SOLENOID DTC P0741, P0743, P0748, P0753, P0758, P075A, P075D, P0763, P0768, P076A, P07B5, P076D, P0773, P0785, P078A, P0995 & P2709

10. Record the 8-digit code on the solenoid.

NOTE:

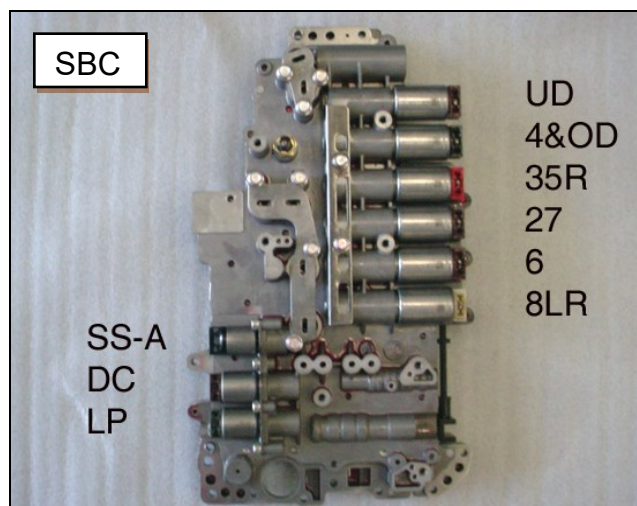
Only for 2018 G80 (DH) and 2017~18 G90 (HI) with SBW.



11. **SHIFT-BY-CABLE (SBC):**

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

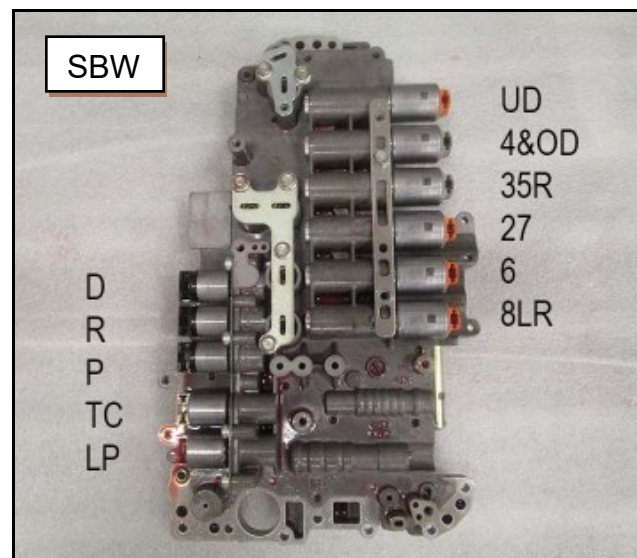
DTC	SOLENOID	PNC
P0753	UD	46313
P0768	4&OD	46313E
P0763	35R	46313E
P0773	27	46313
P0758	6	46313
P2709	8LR	46313
P075A	SSA	46313D
P0743	DC	46202A
P0748	LP	46313A



SHIFT-BY-WIRE (SBW):

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

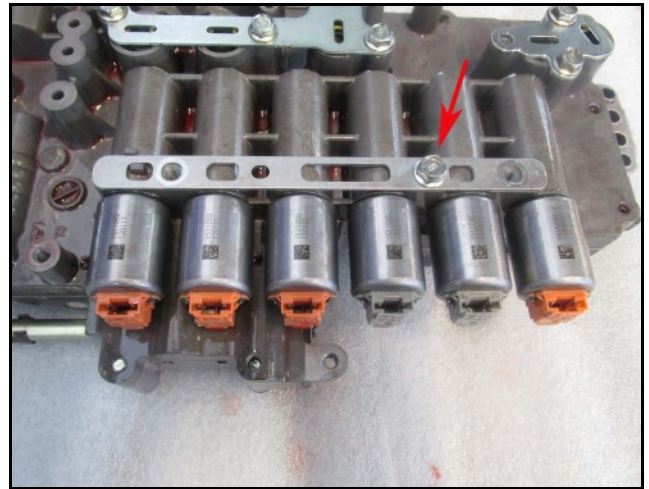
DTC	SOLENOID	PNC
P0753	UD	46313
P0768	4&OD	46313E
P0763	35R	46313E
P0773	27	46313
P0758	6	46313
P2709	8LR	46313
P0785	D	46313D
P078A	R	46313D
P076D	P	46313D
P0743	TC	46202A
P0748	LP	46313A



12. **SBC and SBW:**

For UD, 4&OD, 35R, 27, 6 and 8LR solenoids:

Remove the bolt and remove the solenoid support.

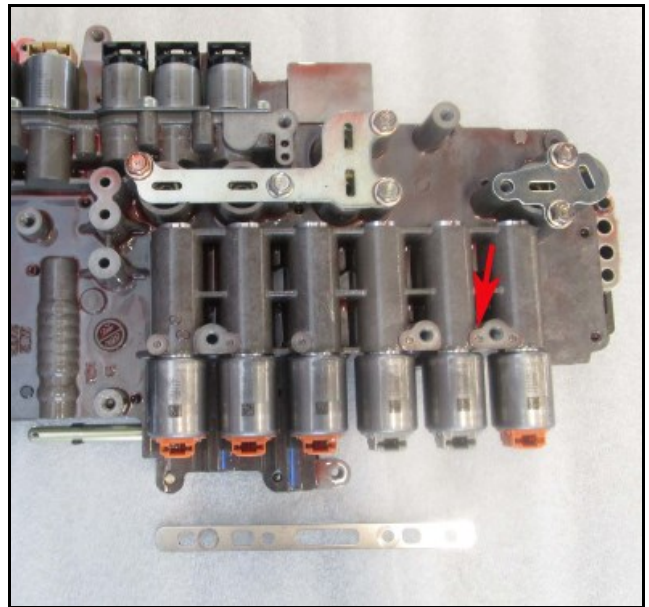


13. Use a magnet to remove the pin that secures the affected solenoid.

Pull out the affected solenoid and install the new solenoid.

Reinstall the pin.

Reinstall the solenoid support using one bolt.



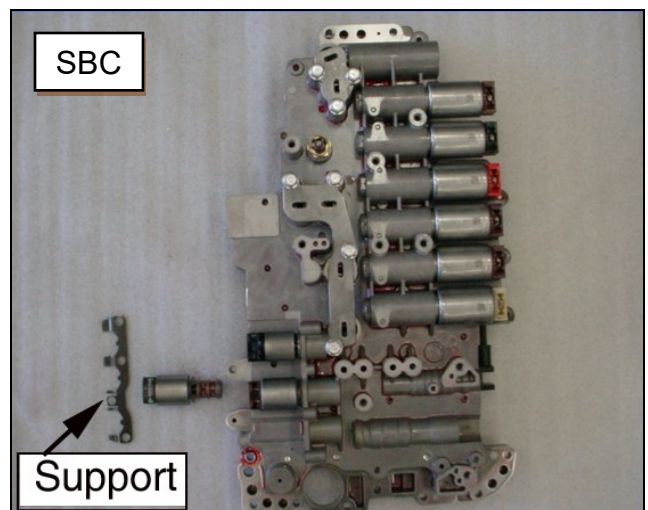
14. **SHIFT-BY-CABLE (SBC)**

For SSA, TC and LP solenoids:

Use a 5mm hex socket to remove 4 bolts that secure the support to the valve body and remove the support.

Remove the related solenoid.

Install a new solenoid and reinstall the support.



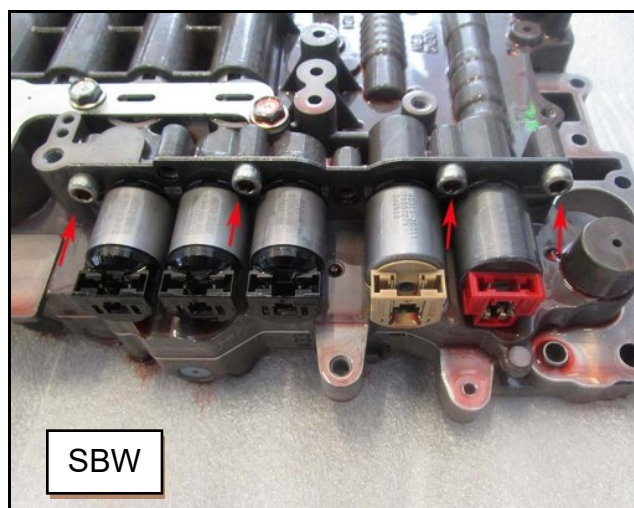
14. **SHIFT-BY-WIRE (SBW)**

For R, D, P, TC and LP solenoids:

Use a 5mm hex wrench or socket to remove 4 bolts that secure the support to the valve body and remove the support.

Remove the related solenoid.

Install a new solenoid and reinstall the support.

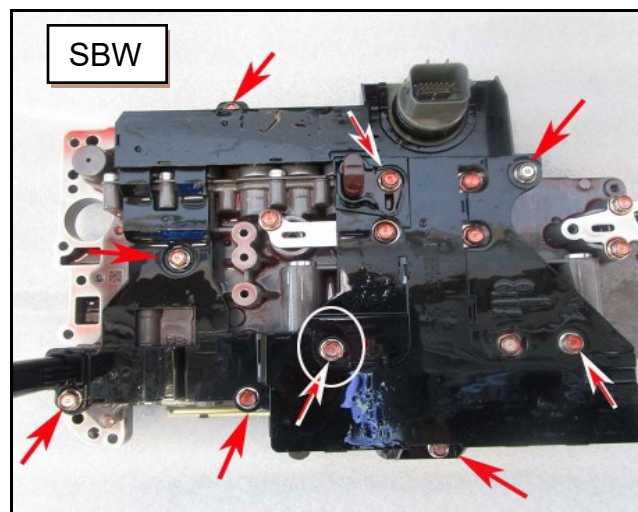
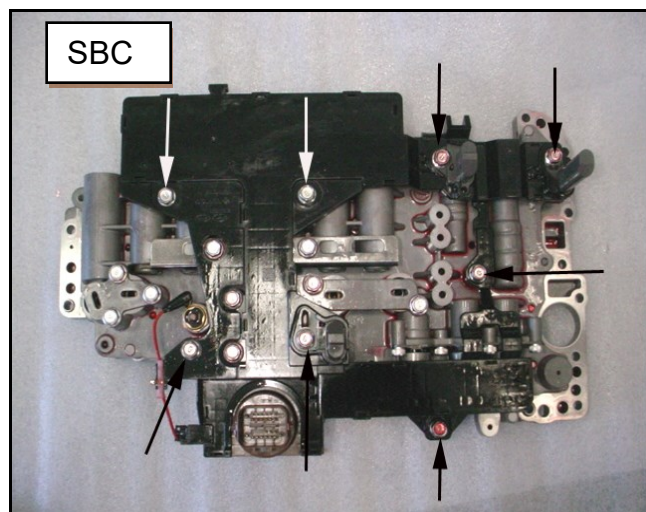


15. Install a new E-module.

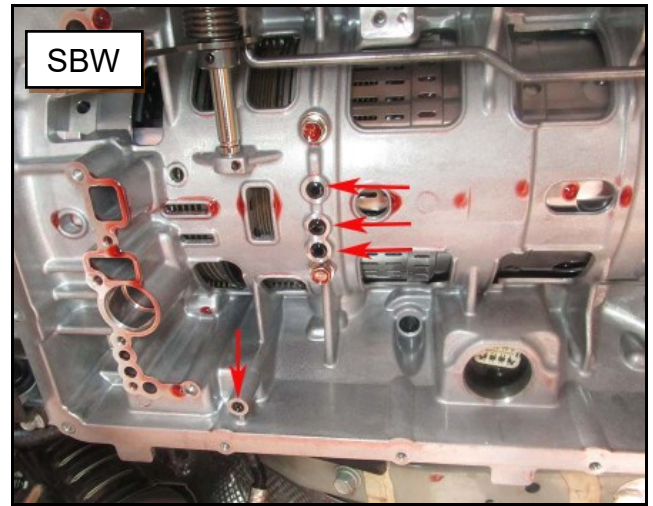
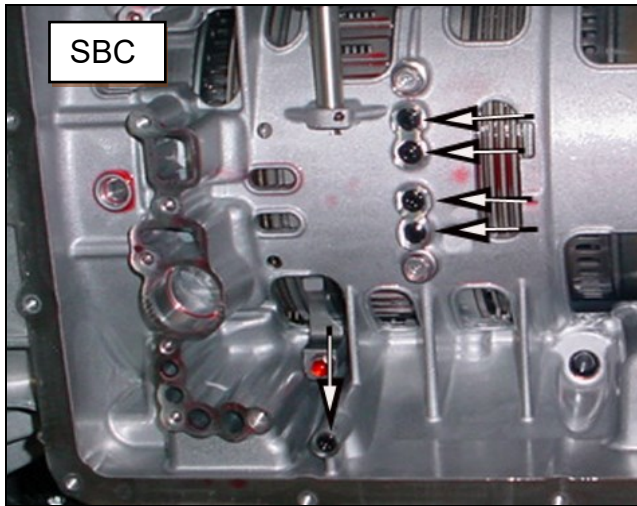
Install bolts and torque to specification.

NOTE: Install the short bolt in the location shown in the circle.

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

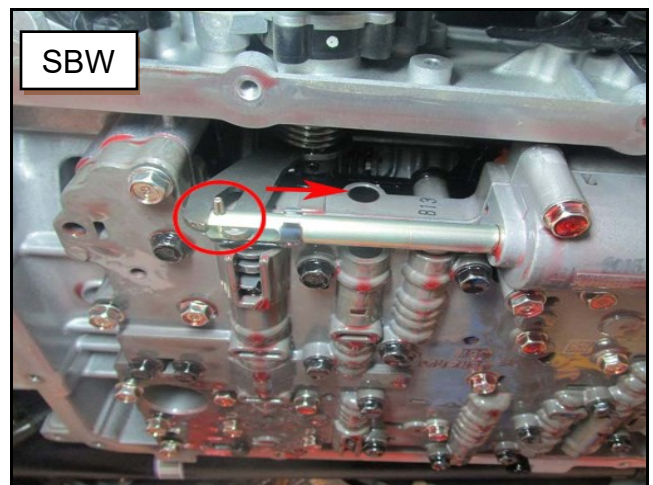
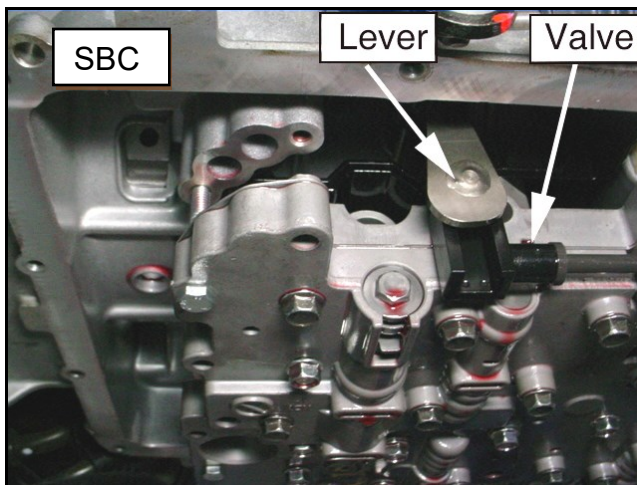


16. Confirm that 5 O-rings (SBC) and 4 O-rings (SBW) are seated in the case.



17. **SBC:** Carefully align the manual valve to the shift lever and reinstall the valve body.

SBW: Rotate the park switch counterclockwise and carefully raise the valve body and insert the manual valve into the shift lever.

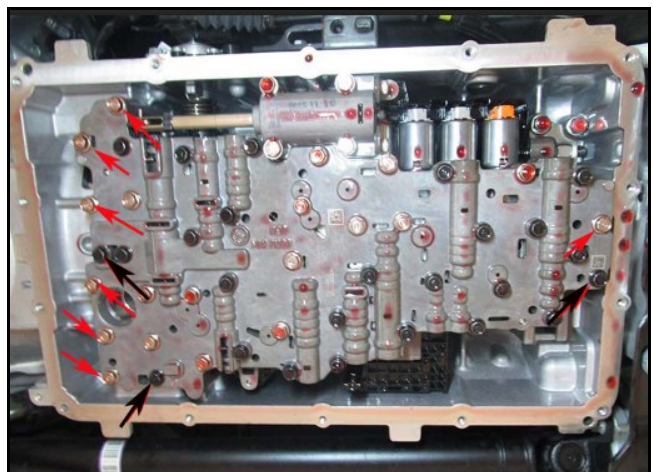


18. Install 3 black bolts in the locations shown (black arrow).

Install 7 brass bolts in the location shown (red arrows).

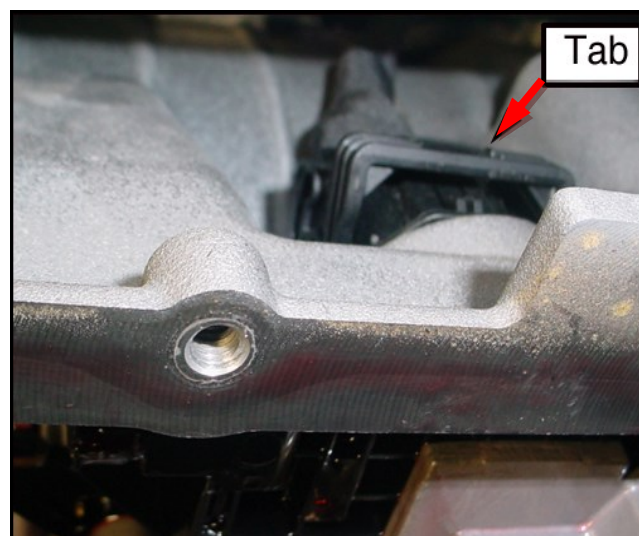
Torque the bolts to specification.

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



19. Use a 90° pick or similar tool to pull the connector down into position on the valve body.

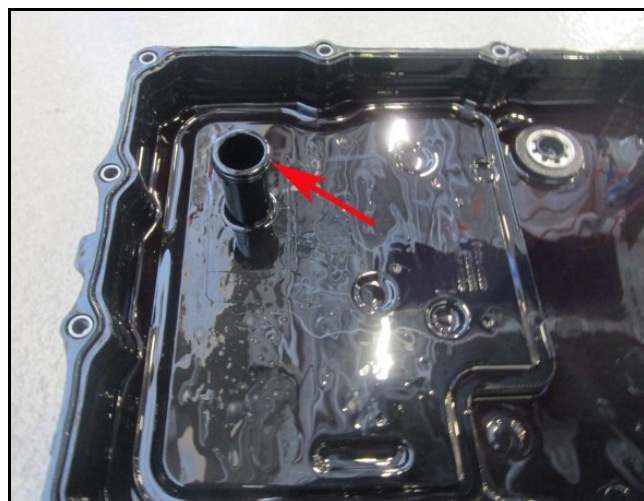
Pull the latch down until it clicks into the tab.



20. Confirm the O-ring is installed at the location shown.

Reinstall the valve body cover and torque to specification.

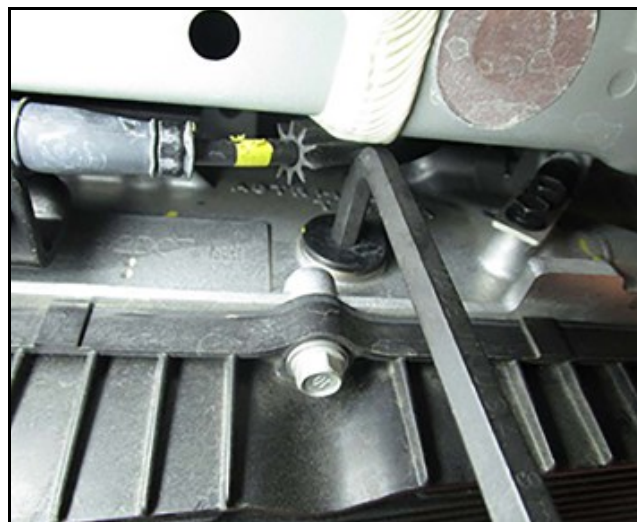
Torque: 10~12 lb.ft (1.4~1.6 kgf.m, 14~16 N.m)



21. Reconnect the negative battery terminal. Reset the audio preset stations.

22. Start the engine, shift to Neutral (N) and lift the vehicle on a hoist.

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



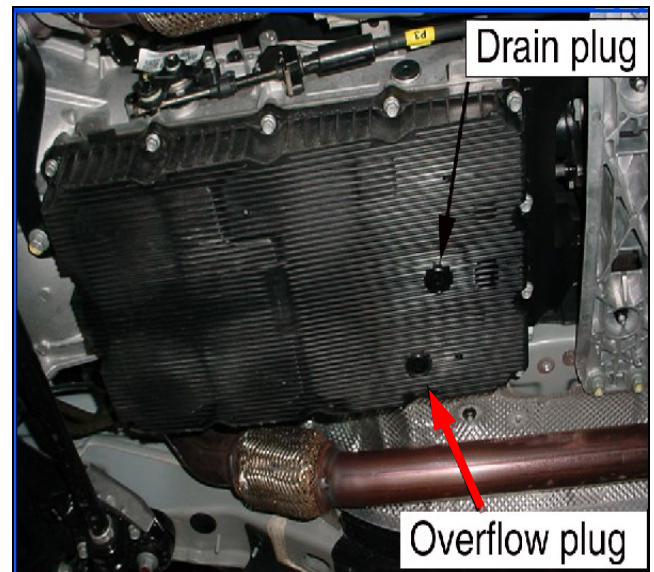
23. Remove the overflow plug.

Use a fluid pump or suction gun to add **SP-IV-RR** ATF through the fill plug until ATF flows from the overflow plug.

Reinstall the fill plug and overflow plug.

NOTICE

Use only **SP-IV-RR** ATF, P/N 00232-19052.



24. Attach a GDS and select vehicle, **Data Analysis, A/T** menu and **Oil Temperature Sensor**.
Move the shift lever from **P-R-D** and back to **P**. Drive the vehicle until the ATF is at the low end of the range of 122~140°F (50~60°C).
25. Start the engine, shift to Neutral (**N**) and raise the vehicle on a hoist.

Remove the fill plug and overflow plug.

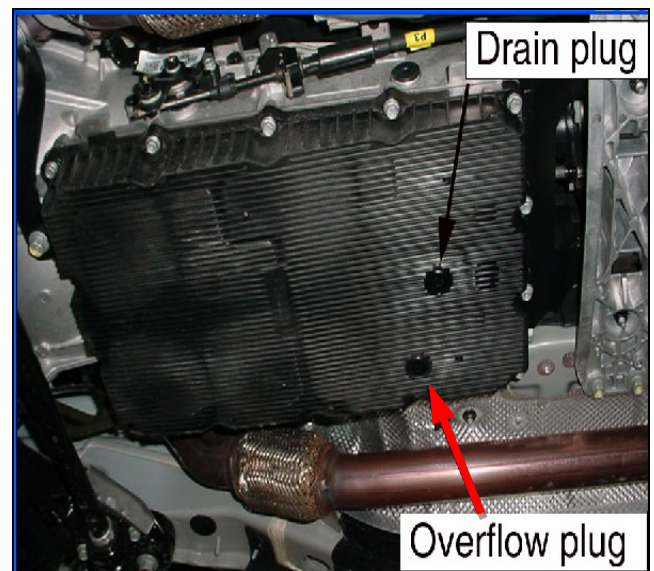
Add **SP-IV-RR** ATF through the fill plug until the ATF flows out the overflow.

Reinstall the overflow plug.

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

Reinstall the fill plug and washer.

Torque: 27~33 lb.ft (3.7~4.6 kgf.m, 33~44 N.m)



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

26. SHIFT-BY-WIRE (SBW):

If the shift cable was moved to add ATF:

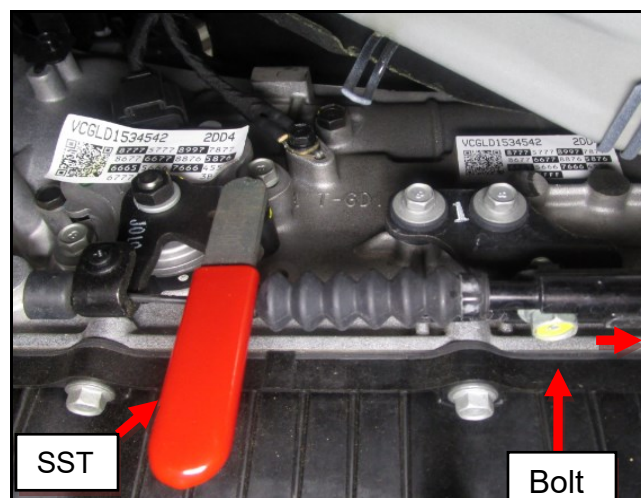
Install the SST (09480-D2100) or 5mm bolt in the alignment hole of the park position switch.

Loosen the adjustment bolt shown.

Slide the adjustment bracket rearward to remove the slack in the park cable.

Tighten the bolt to specification.

Torque: 7~8 lb-ft (0.9~1.0 kgf.m, 9~10 N.m)



SOLENOID OIL PRESSURE DATA CHARACTERISTICS INPUT:

NOTE: Only for 2018 G80 (DH) and 2017~18 G90 (HI)

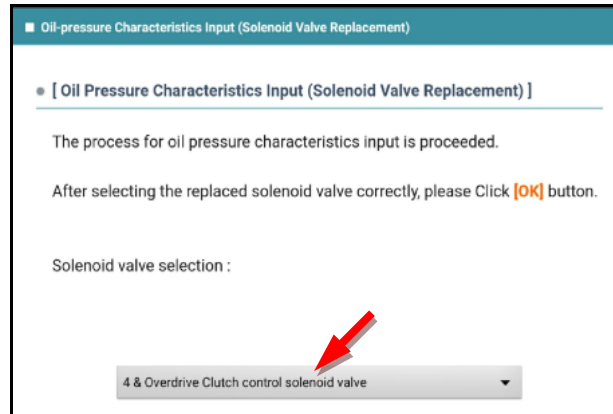
NOTICE

This procedure is necessary only for the following solenoids: UD, 4&OD, 35R, 27, 6 & 8LR.

28. SHIFT-BY-WIRE (SBW) only:

Select **S/W Management, Automatic Transaxle** and **Oil Pressure Characteristics Input (Solenoid valve Replacement)**. Select **OK** and follow the prompts.

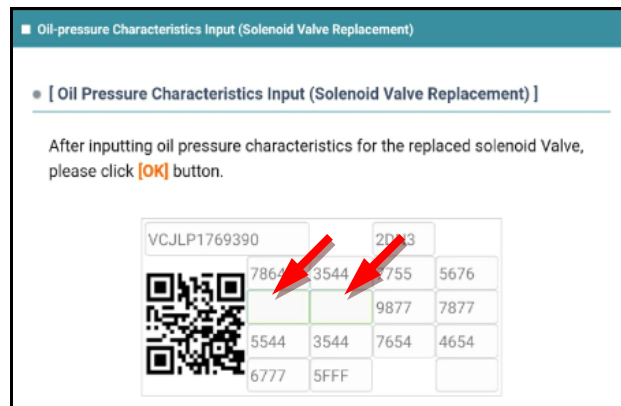
Select the type of solenoid from the drop-down menu. Select **OK**.



29. Input the 8-digit code recorded in Step 10 in the blank spaces in the GDS. Select **OK**.

Input the 8 digit code again and select **OK**.

The GDS will confirm the procedure was completed.



30. 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 solenoid DTC:
- Do not occur again, return the vehicle to the customer.
 - Returns, perform the following repairs:

DTC		SOLENOID DTC REPAIR PROCEDURE
P0741	P074100	• Open a PA for transmission replacement approval.
P0743	P074300	
P0748	P074800	
P0753	P075300	
P0758	P075800	
P075A	P075A00	
P075D	P075D00	
P0763	P076300	
P0768	P076800	
P076A	P076A00	
P076D	P076D00	
P0773	P077300	
P0785	P078500	
P078A	P078A00	
P2709	P270900	
		• Repair or replace the control wiring harness between the TCU and transmission. ➤ If the solenoid DTC does not occur again, return the vehicle to the customer. ➤ If the solenoid DTC returns again, replace the TCU.

DTC		PARK POSITION SWITCH DTC REPAIR PROCEDURE
P076A	P076A00	Refer to the G80 or G90 Shop Manual for the related DTC and follow the repair diagnosis for Wiring Inspection and ETM .
P07B5	P07B500	
P0995	P099500	