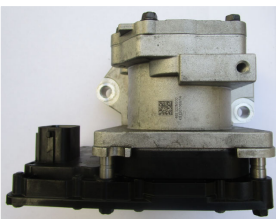
 HYUNDAI Technical Service Bulletin	GROUP AUTOMATIC TRANSMISSION	NUMBER 22-AT-009H
	DATE JULY, 2022	MODEL ELANTRA N (CN7 N) KONA N (OS N) SANTA CRUZ (NXT) SANTA FE (TM) SONATA (DN8) VELOSTER N (JSN)
SUBJECT: 8-SPEED DUAL-CLUTCH TRANSMISSION ELECTRIC OIL PUMP (EOP) DTC		

If you are servicing an applicable vehicle with a “Check Engine” light on and one or more of the DTC listed on Page 2, follow the repair procedure and perform the diagnosis. If necessary, replace the High Flow electric oil pump (HF EOP) for HF EOP issues or the Dual Clutch Transmission for High Pressure electric oil pump (HP EOP) issues.

APPLICABLE VEHICLES: 2022~ Elantra N (CN7 N) 2.0T 2022~ Kona N (OS N) 2.0T 2022~ Santa Cruz (NXT) 2.5T 2021~ Santa Fe (TM) 2.5T 2021~ Sonata (DN8) 2.5T 2020~ Veloster N (JSN) 2.0T
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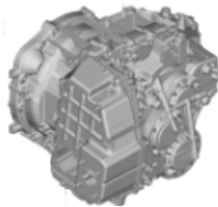
PARTS INFORMATION – High Flow EOP (HF EOP):

Refer to the PNC in the parts catalog to order the correct part numbers.

Model	Part	PNC	Part No.	HF EOP
2022~ Elantra N (CN7 N) 2.0T 2022~ Kona N (OS N) 2.0T	High flow electric oil pump	46110	46110-2N5**	
2022~ Santa Cruz (NXT) 2.5T 2021~ Santa Fe (TM) 2.5T	O-ring	46158	46131-2N500	
2021~ Sonata (DN8) 2.5T 2020~ Veloster N (JSN) 2.0T	Gear oil	N/A	00232-19100	

PARTS INFORMATION – High Pressure EOP (HP EOP): Replace 8-speed DCT

Refer to the PNC in the parts catalog to order the correct part numbers.

Model	Part	PNC	Part No..	8DCT
2022~ Elantra N (CN7 N) 2.0T 2022~ Kona N (OS N) 2.0T 2022~ Santa Cruz (NXT) 2.5T 2021~ Santa Fe (TM) 2.5T 2021~ Sonata (DN8) 2.5T 2020~ Veloster N (JSN) 2.0T	Transmission Assy DCT	43000E	430F0-2N0**	

DTC INFORMATION: High Flow EOP (HF EOP)

Refer to related shop manual to diagnose the DTC. If no wiring harness issues are found, go to **Service Procedure** and replace the **HF EOP** for the following DTC.

Model	DTC	Description
2022~ Elantra N (CN7 N) 2.0T 2022~ Kona N (OS N) 2.0T 2022~ Santa Cruz (NXT) 2.5T 2021~ Santa Fe (TM) 2.5T 2021~ Sonata (DN8) 2.5T 2020~ Veloster N (JSN) 2.0T	P193D4B	HF EOP System Fault - Over temperature
	P193D19	HF EOP System Fault - Over current
	P193E71	HF EOP Performance – EOP stuck
	P193D96	HF EOP System Fault - Internal fault
	P193D13	HF EOP System Fault – Open circuit
	P193D1D	HF EOP System Fault - Current sensor failure
	P193D29	HF EOP System Fault - Hall sensor failure
	U111788 U004688	CAN2 BUS OFF + CAN3 BUS OFF together
	U113508	CAN communication error between the TCU and HF EOP

DTC INFORMATION: High Pressure EOP (HP EOP):

Refer to the related shop manual to diagnose the DTC. If no wiring harness issues are found, replace the **DCT**.

Model	DTC	Description
2022~ Elantra N (CN7 N) 2.0T	P193B79	HP EOP low hydraulic pressure
2022~ Kona N (OS N) 2.0T	P1C2D03	HP EOP motor position sensor range
2022~ Santa Cruz (NXT) 2.5T	P1C2D1C	HP EOP motor position sensor voltage
2021~ Santa Fe (TM) 2.5T	P1C2E4B	HP EOP motor control current
2021~ Sonata (DN8) 2.5T	P1C2E92	HP EOP motor control temperature
2020~ Veloster N (JSN) 2.0T		

WARRANTY INFORMATION - High Flow EOP (HF EOP):

Model	Op Code	Operation	Op. Time	Causal Part	Nature Code	Cause Code
Elantra N (CN7 N) 2.0T Kona N (OS N) 2.0T Santa Cruz (NXT) 2.5T Santa Fe (TM) 2.5T Sonata (DN8) 2.5T Veloster N (JSN) 2.0T	46120R00	Electric oil pump	Refer to WEBLTS for current LTS time	Refer to Parts Information Table above	I3A	ZZ3

NOTE: Normal Warranty applies

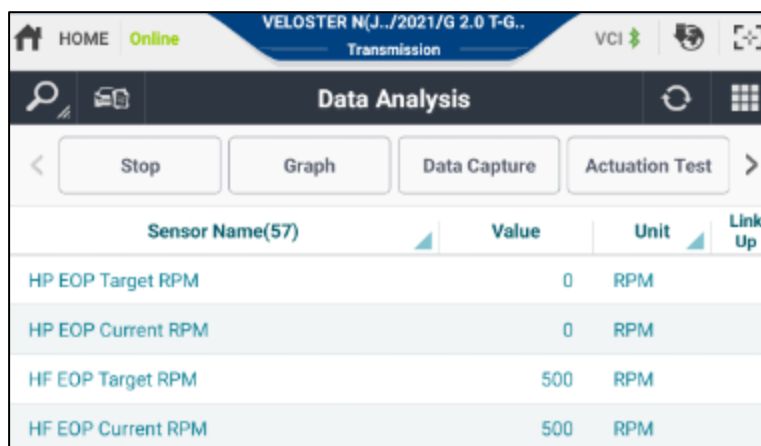
WARRANTY INFORMATION - High Pressure EOP (HP EOP): Replace 8-Speed DCT:

Model	Op Code	Operation	Op. Time	Causal Part	Nature Code	Cause Code
Elantra N (CN7 N) 2.0T Kona N (OS N) 2.0T Santa Cruz (NXT) 2.5T Santa Fe (TM) 2.5T Sonata (DN8) 2.5T Veloster N (JSN) 2.0T	43000R8D	Manual Transmission Assy 8DCT	Refer to WEBLTS for current LTS time	Refer to Parts Information Table on Page 1	I3A	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 sensors shown below. If the 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, the EOP or harness may have a fault. Go to Step 3.

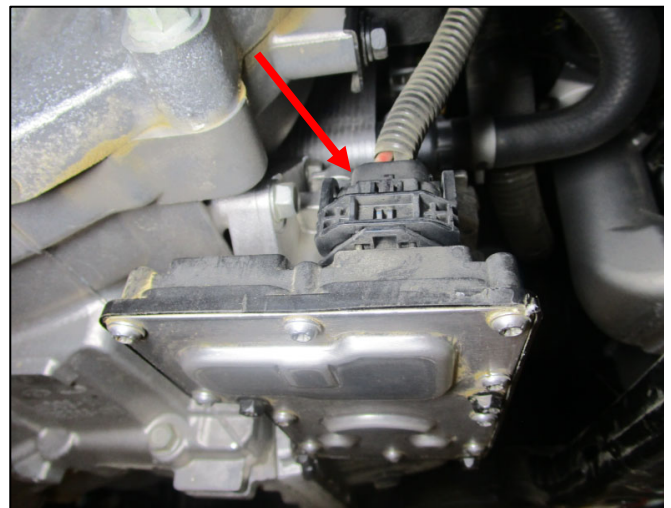


3. Visually check the wiring harness between the TCU and transmission for a damaged wire or open/short circuit. Check for a damaged pin or pin not fully inserted into the connector.
 - If damage exists, repair or replace the control harness and drive the vehicle to confirm the repair.
 - If no damage or open/short circuit is found, go to Step 4.
4. If the following DTC were found in Step 1, for:
 - **High Flow EOP (HF EOP) DTC:** Go to Step 5
 - **High Pressure EOP (HP EOP) DTC:** Replace the DCT. Refer to the related shop manual, **Dual Clutch Transmission System, Dual Clutch Transmission System, Dual Clutch Transmission System** and **Repair Procedures**. Go to Step 10 to fill the gear oil and Step 14 to fill the control oil. Perform the procedure in Step 12.

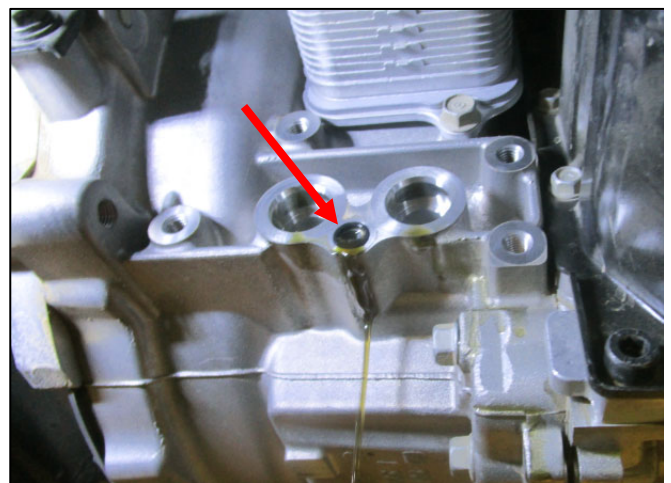
5. Record the preset radio stations.
Disconnect the negative battery terminal.
Remove the air cleaner
6. Raise the vehicle on a hoist.
Locate the HF EOP on the lower left side of
the DCT facing the radiator.



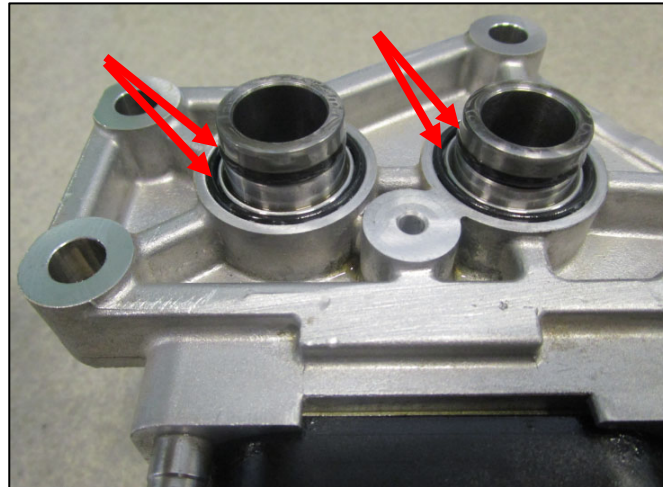
7. Disconnect the harness connector from the
transmission
Remove 4 bolts and remove the HF EOP.



8. Confirm the O-ring is inserted in the
transmission case.



9. Confirm 4 O-rings are installed on the HF EOP.
Install the new HF EOP with 4 bolts.
Torque the bolts to specification.
Torque: 15~19 lb-ft (2~3 kg.m, 21~26 N.m)

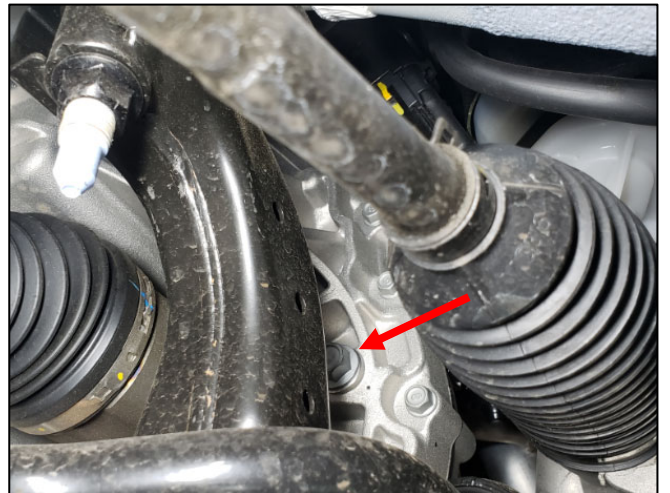


10. **Checking gear oil fluid level:**

Remove the gear oil filler plug, located on the driver's side of the DCT.

Add gear oil, part number **00232-19100**, until the oil overflows in a thin steady stream.

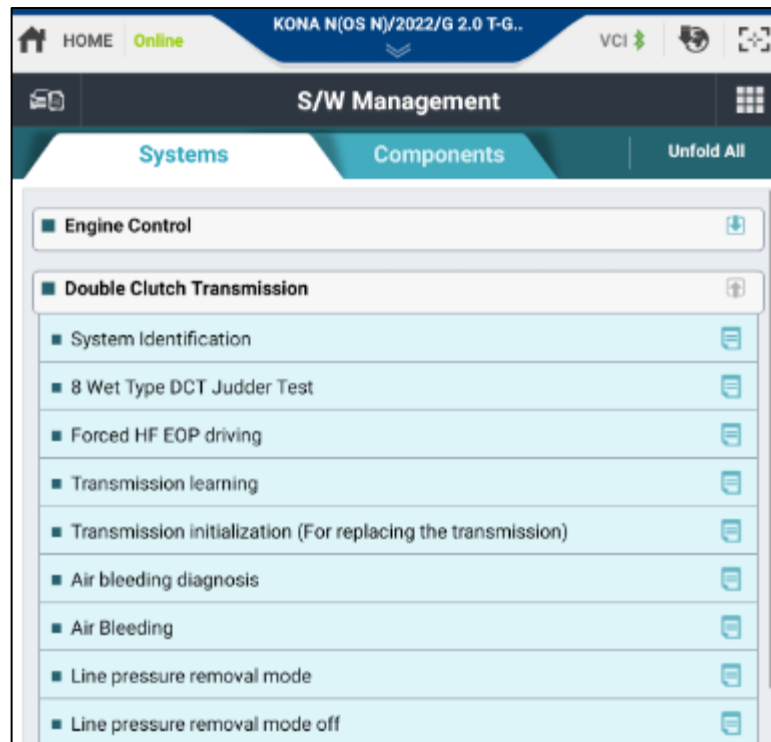
Reinstall the gear oil filler plug



11. Reinstall the air cleaner and under cover.
Reconnect the negative battery cable.
Reprogram the radio preset stations.

12. Attach a GDS and select **S/W Update** and **Double Clutch Transmission**

After repairs, perform the following procedures in the order shown.



Replace HF EOP

#1

#2

Replace DCT

#3

#2

#1

#4

13. Drive the vehicle to confirm the transmission shifts correctly.

14. **For High Pressure EOP (HP EOP) DTC:**

After replacing the DCT: Perform the control oil level checking procedure.

Use a suitable tool (A) at least 5.5" (140mm) long to measure the control oil level. Refer to the dimensions shown.

Add control oil, part number **00232-19101**, as needed to bring the level to specification (measured from the top of the DCT case).

Specification: 4.3"~4.7" (110~120 mm)

