 <b>HYUNDAI</b> <b>Technical Service Bulletin</b>	<b>GROUP</b> <b>RECALL</b>	<b>NUMBER</b> <b>24-01-015H</b>
	<b>DATE</b> <b>FEBRUARY 2024</b>	<b>MODEL(S)</b> <b>PALISADE (LX2)</b> <b>SONATA (DN8)</b> <b>TUCSON (NX4)</b> <b>ELANTRA (CN7)</b> <b>KONA (OS)</b>
<b>SUBJECT:</b> ELECTRIC OIL PUMP CONTROLLER INSPECTION AND REPLACEMENT (RECALL 246)		

*This TSB supersedes TSB # 23-01-071H-3 to add a 'NOTICE' box on page 11, step 3 to remove the electric oil pump and housing as a single unit.*

**\* IMPORTANT**

Vehicle repairs related to safety recalls are critically important and must be performed properly in accordance with TSB procedures. Review this bulletin in its entirety prior to beginning any repair work.

As required by federal law, dealers must not deliver new vehicles for sale or for lease to customers until all open recalls have been performed. Dealers must also perform all open recalls on used vehicles, demo, and rental vehicles prior to placing them into customer use and whenever an affected vehicle is in the shop for any maintenance or repair.

Access the "Vehicle Information" screen via WEBDCS to identify open recalls.

**Description:** The transmission electric oil pump for the Idle Stop & Go System ("ISG") in certain vehicles listed below may have been assembled with printed circuit boards ("PCB") that were damaged during manufacturing by the oil pump controller supplier. A damaged capacitor on the pump controller PCB could impact electrical operation leading to heat damage to the electric oil pump circuit board, connector, and wiring harness. The heat damage at the pump increases the risk of a vehicle fire in addition to a potential Controller Area Network ("CAN") communication disruption for multiple onboard controllers.


This bulletin provides the procedure to check the ISG Electric Oil Pump (EOP) controller specification and replace it if necessary.

**Applicable Vehicles (Certain):**

- 2023~24MY Palisade (LX2) Produced from 10/18/2022 – 07/13/2023
- 2023-24MY Tucson (NX4) Produced from 10/29/2022 – 07/04/2023
- 2023MY Sonata (DN8) Produced from 10/26/2022 – 04/03/2023
- 2023MY Elantra (CN7) Produced from 11/14/2022 – 07/17/2023
- 2023MY Kona (OS) Produced from 11/09/2022 – 07/11/2023







Model	Operation	Page
Palisade (LX2)	EOP Inspection & replacement	Page 3
Tucson (NX4)	EOP Replacement	Page 7
Sonata (DN8)	EOP Replacement	Page 7
Elantra (CN7)	EOP Replacement	Page 11
Kona (OS)	EOP Replacement	Page 11

**Parts Information: 8-Speed Vehicles (Palisade, Tucson, Sonata)**

Model	Part Name	Part Number	Figure	Remarks
Palisade (LX2) Tucson (NX4) Sonata (DN8)	Controller	46110-2F0ASQQH		Qty: 1

**NOTE:** Replace only the controller.

**Parts Information: IVT Vehicles (Kona, Elantra)**

Model	Part Name	Part Number	Figure	Remarks
Elantra (CN7) Kona (OS)	EOP kit	48110-2F0ASQQH		EOP controller - Qty 1
				(a) IVT case inlet O-ring (45266-39000) (Size: $\Phi 9.75 \times 2.6$ ) – Qty 1 (b) IVT case drain seal (45263-3B000) - Qty 1
				(c) EOP check valve O-ring (TM360-8R000) (Size: $\Phi 10.2 \times 1.9$ ) – Qty 1 (d) Oil plug gasket (45323-39000) - Qty 1
				Qty 1
	Oil plug gasket	45323-39000		Qty 1
IVT Fluid	00232-19081		Qty: 1	

**Required Tools:**

Tool Name	Figure
T25 TORX Wrench or Ratchet	

**Warranty Information:**

Model	Op. Code	Operation	Op. Time	Casual Part	Nature Code	Cause Code
Palisade (LX2)	31D094R0	EOP controller specification check (LX2)	0.3 M/H	46110-2F0ASQQH	I14	ZZ1
Palisade (LX2)	31D094R1	EOP controller specification check and replacement (LX2)	0.5 M/H	46110-2F0ASQQH		
Sonata (DN8) Tucson (NX4)	31D094R3	EOP controller replacement (DN8, NX4)	0.5 M/H	46110-2F0ASQQH		
Elantra (CN7) Kona (OS)	31D094RB	EOP controller replacement and IVT level check (CN7, OS)	0.8 M/H	48110-2F0ASQQH		

**NOTE 1:** Submit claim on Claim Entry Screen as “Campaign” type.

**NOTE 2:** If a part is found in need of replacement while performing this recall and the affected part is still under warranty, submit a separate claim using the same repair order. If the affected part is out of warranty, submit a Prior Approval request for goodwill consideration prior to performing the work.

**NOTE 3:** This TSB includes Repair validation photos. Op times include VIN, Mileage, and Repair validation photos as outlined in the Digital Documentation Policy.

**NOTE 4:** The incident parts are subject to callback through the normal Warranty Technical Center (WTC) parts return process. **Claim is subject to debit if the part is not returned.**

**Video Procedure:**

Refer to the link below for guided video information.

**Hyundai Service Learning – Recall 246 Service Procedure**

<https://vimeo.com/856569490/2a45f0587a>

**Service Procedure: Palisade (LX2)**

**STUI**



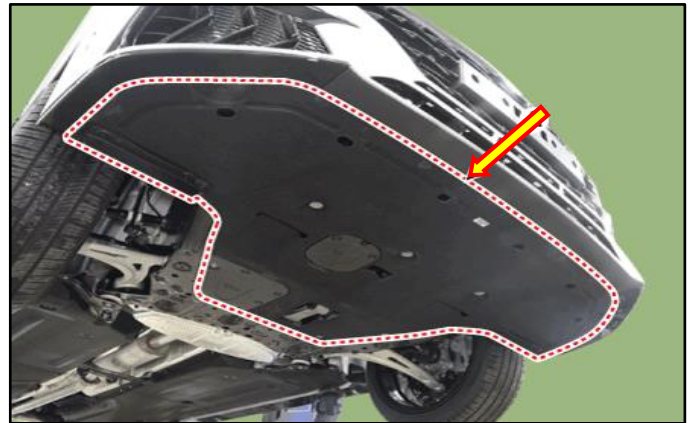
This TSB includes Repair validation photos. Refer to the latest Warranty Digital Documentation Policy for requirements.

**Inspection & Replacement Procedure: (LX2)**

1. Record the preset radio stations.

Disconnect the negative (-) battery cable.

Lift the vehicle on a hoist and remove the undercover.

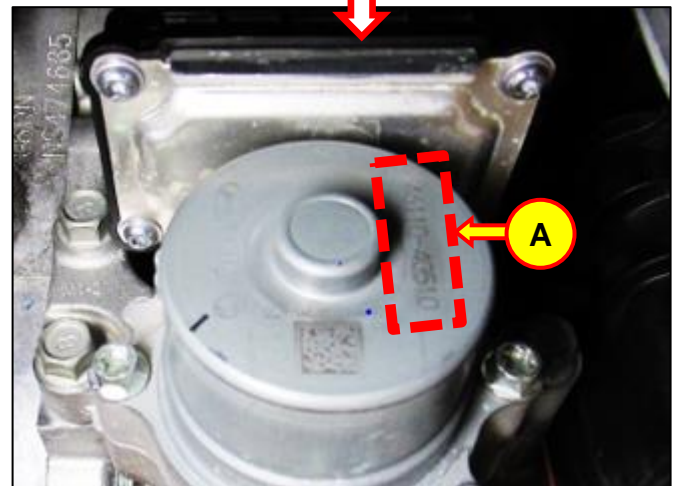
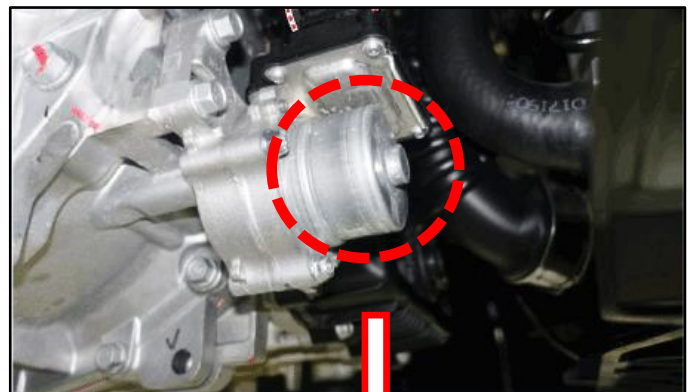


2. Check the EOP part number (A).

**i Information**

Use the part number on the part surface (A) as shown.

- If the part number is as follows, take a STUI picture as directed in step 3 below. Then reinstall the undercover and return the vehicle to the customer.
  - **46110-4G500**
  - **46110-4G510**
- If the part number is as follows, take a STUI picture as directed in step 3 below. Then continue to the Replacement Procedure to replace the EOP controller.
  - **46110-4G530**



3.

**STUI**



Using STUI, take a photo of the existing EOP with the part number visible, including the last 6 digits of the VIN and date of the inspection on a piece of paper.

Upload the photo to STUI.

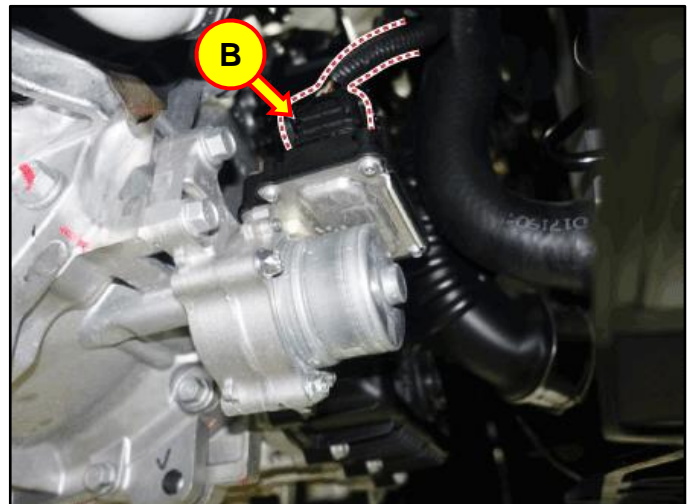


**Replacement Procedure: Palisade (LX2)**

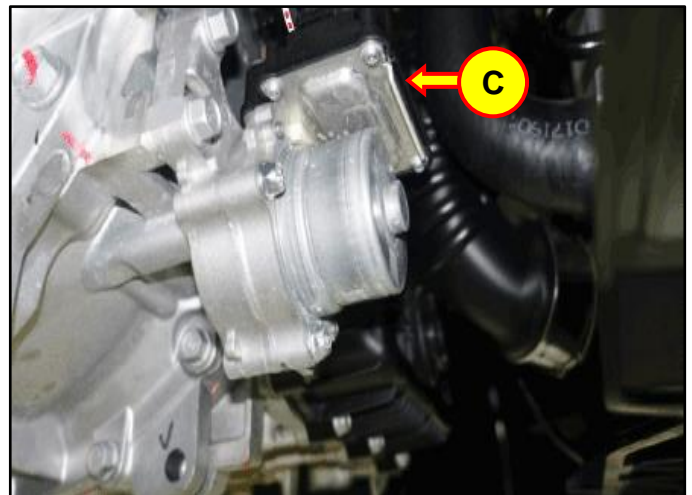
1. Disconnect the EOP controller connector (B).

**i Information**

Release the connector hook and then pull it upward.



2. Remove 2 EOP controller bolts using the wrench and remove the EOP controller (C).



3.

**STUI**



Using STUI, take a photo of the new controller (right) next to the existing controller (left) with the last 6 digits of the VIN and the date of the repair on a piece of paper.

Upload the photo to STUI.



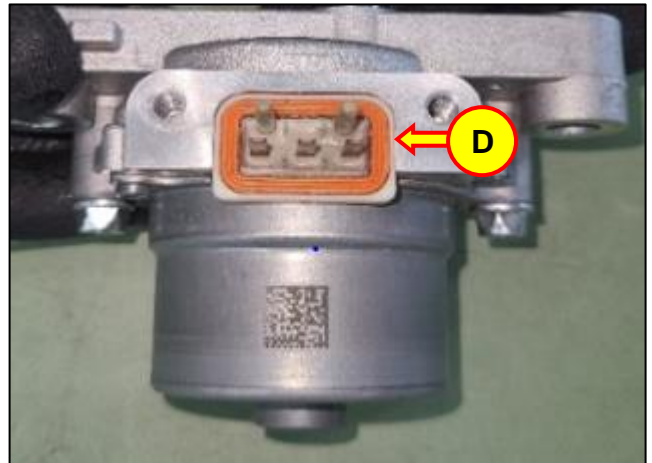
4. Use a mirror to confirm the orange seal (D) is attached to the EOP.

Install the new controller.

Reinstall the bolts and torque to specification.  
**Torque: 6~7 lb-ft (8~10 N.m, 0.8~1.0 kgf.m)**

**NOTICE**

- If the orange seal became separated when replacing the controller, be sure to install it onto the EOP.
- When installing the controller make sure there are no gaps between the controller and the EOP.



5. Reconnect the EOP connector.
6. Reconnect the negative (–) battery cable.  
Input the customer's radio presets.
7. Start the engine and confirm no ATF leaks are found.
8. Reinstall the undercover.
9. The service procedure is now complete.  
Return the vehicle to the customer.

**STUI**

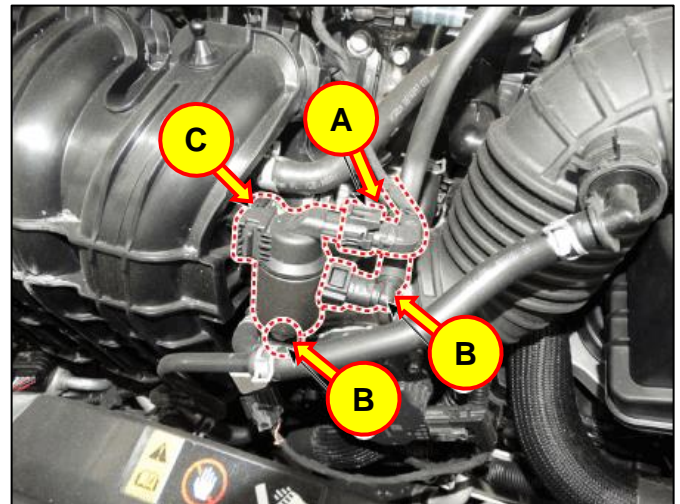


This TSB includes Repair validation photos. Refer to the latest Warranty Digital Documentation Policy for requirements.

**NOTICE**

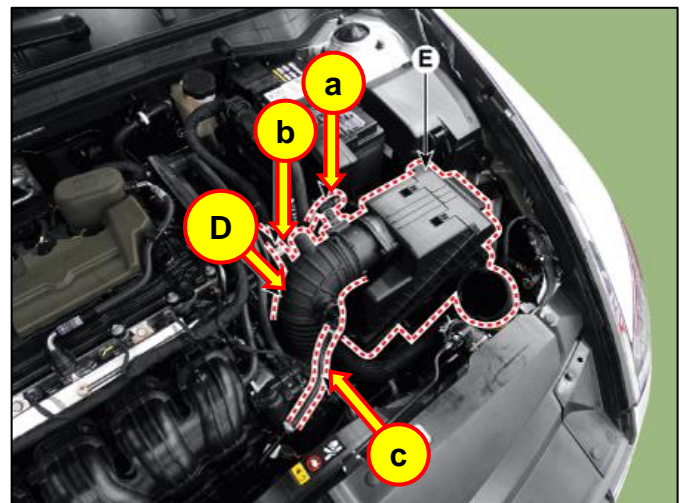
All Sonata (DN8) and Tucson (NX4) require the EOP to be replaced 100%. You do not need to check the EOP part number.

1. Record the preset radio stations.  
Disconnect the negative (-) battery cable.
2. Disconnect the purge control solenoid valve connector (A)  
Disconnect the vapor hoses (B).  
Remove the purge control solenoid valve (C).

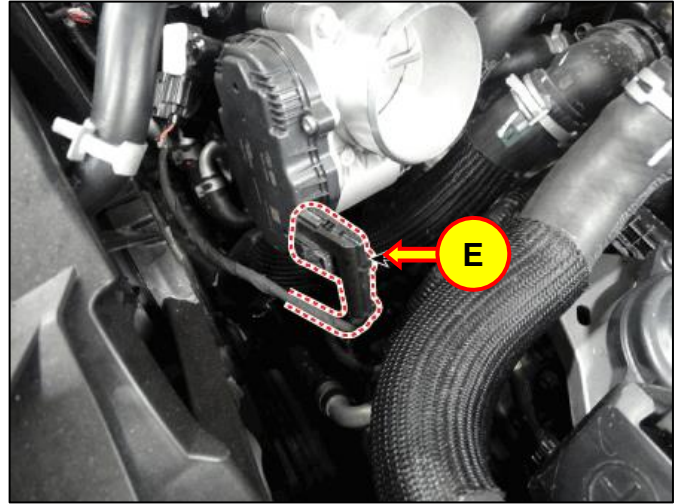


3. Disconnect the intake hose (D).  
Disconnect the MAFS & IATS connector (a).  
Disconnect the brake booster vacuum hose (b).  
Disconnect the breather hose (c).

**Hose clamp Torque:** 2~3 lb-ft (3~5 N.m  
(0.3~0.5 kgf.m)



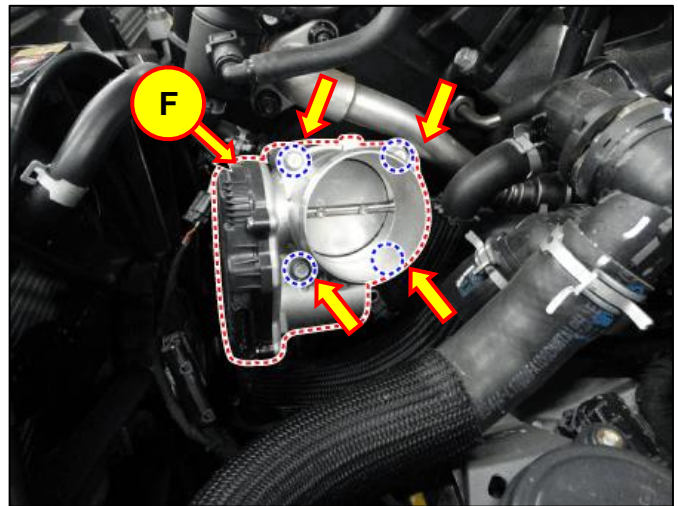
4. Disconnect the ETC module connector (E).



5. Remove 4 mounting bolts and remove the ETC Module (F).

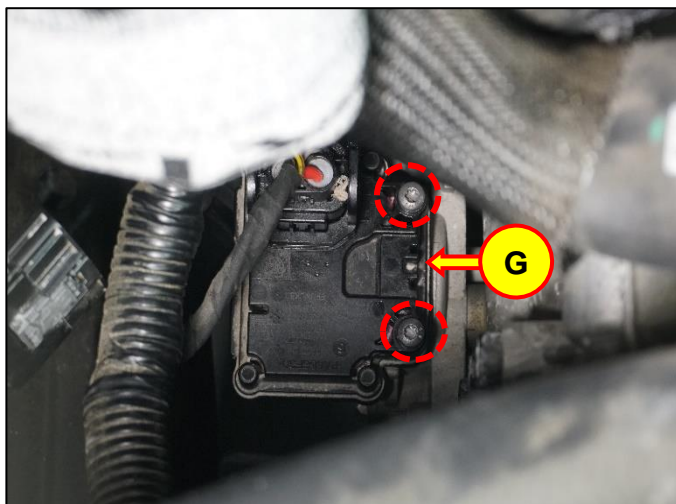
Electronic throttle body Installation bolt:

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



6. Use a 25T Torx wrench and a long extension to remove 2 EOP controller fixing bolts. Remove the controller (G).

**Torque:** 6~7 lb-ft (8~ 10 N.m, 0.8 ~ 1.0 kgf.m)





7.

**STUI**



Using STUI, take a photo of the new controller (right) next to the existing controller (left) with the last 6 digits of the VIN and the date of the repair on a piece of paper.

Upload the photo to STUI.

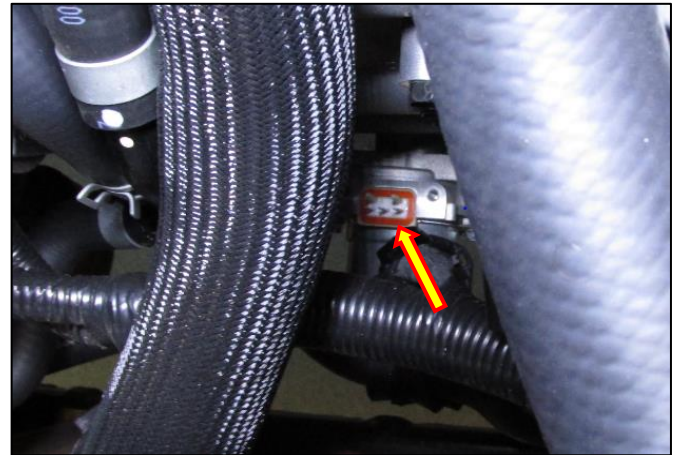


8. Confirm the orange seal is correctly in place on the EOP.

Reinstall the new controller.

Reinstall 2 bolts and torque to specification.

**Torque: 6~7 lb-ft (8~10 N.m, 0.8~1.0 kgf.m)**



9. Reconnect the EOP connector.

10. Reconnect the negative (-) battery cable.

Input the customer's radio presets.

11. Install all remaining parts in reverse order of removal.

12. Start the engine and confirm no ATF leaks are found.

13. The service procedure is now complete.

Return the vehicle to the customer.

**STUI**



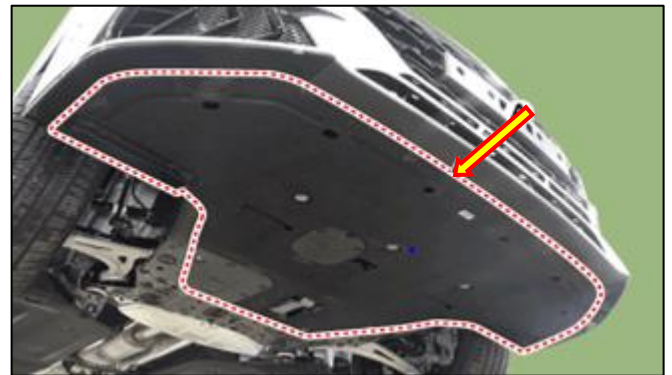
This TSB includes Repair validation photos. Refer to the latest Warranty Digital Documentation Policy for requirements.

**Replacement Procedure:**

**NOTICE**

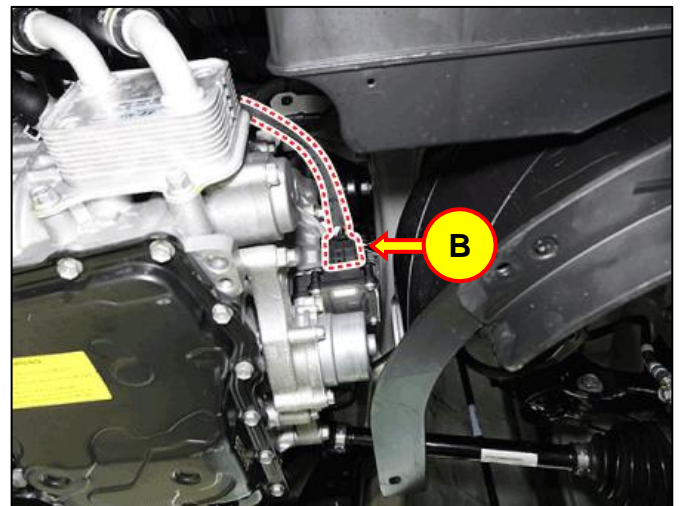
All Elantra (CN7) and Kona (OS) require the EOP to be replaced 100%. You do not need to check the EOP part number.

1. Record the customer's radio presets.  
Disconnect the negative (-) battery cable.  
Lift the vehicle on a hoist and remove the undercover.



2. Disconnect the electronic oil pump connector (B).

Release the connector hook and then pull it upward.

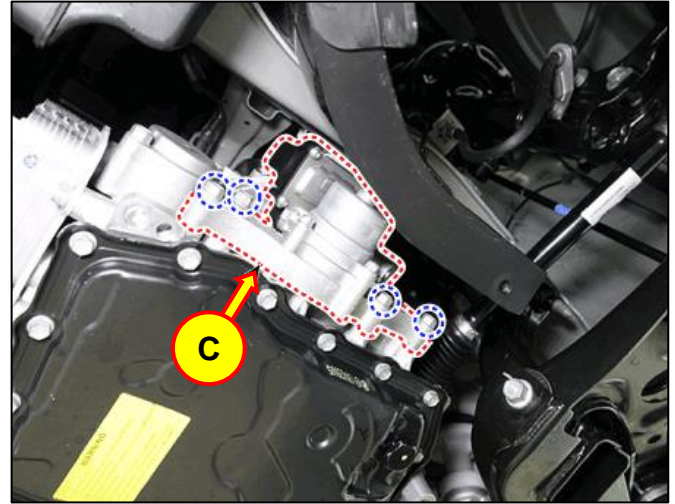


3. Remove 4 bolts and remove the electronic oil pump (C).

**Torque: 15~19 lb-ft (20~26 N.m, 2~3 kgf.m)**

**NOTICE**

Remove the electronic oil pump and housing as a single unit.



4. Use the 25T TORX wrench to remove 2 EOP controller bolts and remove the EOP controller (D).

Install a new EOP controller.

Reinstall the bolts and torque to specification.  
**Torque: 6~7 lb-ft (8~10 N.m, 0.8~1.0 kgf.m)**



- 5.

**STUI**



Using STUI, take a photo of the new controller (right) next to the existing controller (left) with the last 6 digits of the VIN and the date of the repair on a piece of paper.

Upload the photo to STUI.



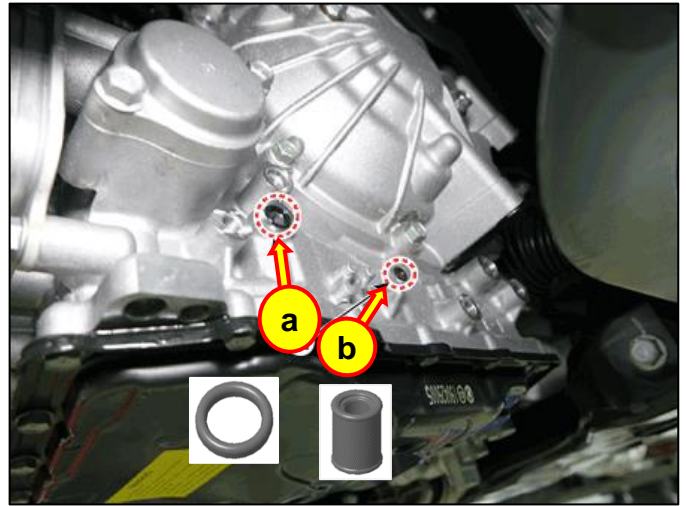
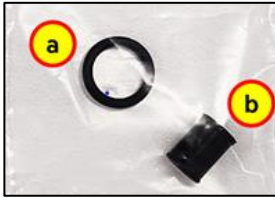
6. Confirm the orange seal is attached to the EOP.



7. Install new O-rings and seals (Do not reuse the old O-rings and seals).

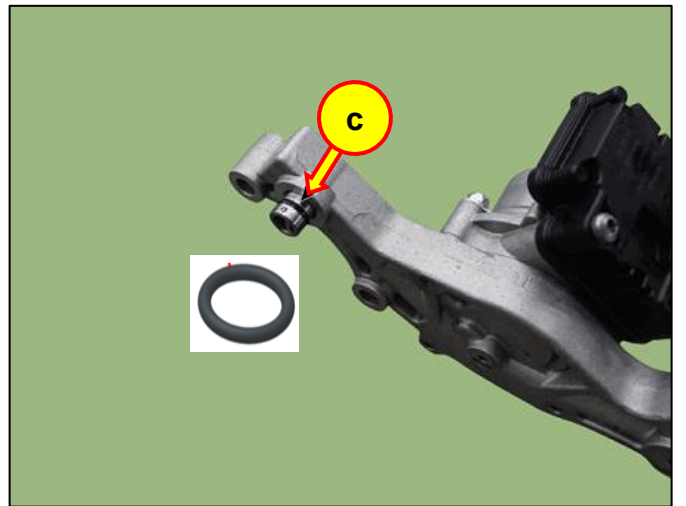
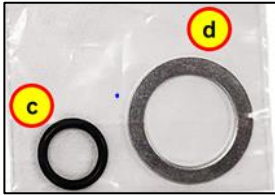
**O-rings and seals:**

- (a) IVT case inlet O-ring: 45266-39000
- (b) IVT case drain seal: 45263-3B000



8. Install a new O-ring (c) on the EOP.

- (c) EOP check valve O-ring: TM360-8R000
- (d) Oil plug gasket: 45323-39000

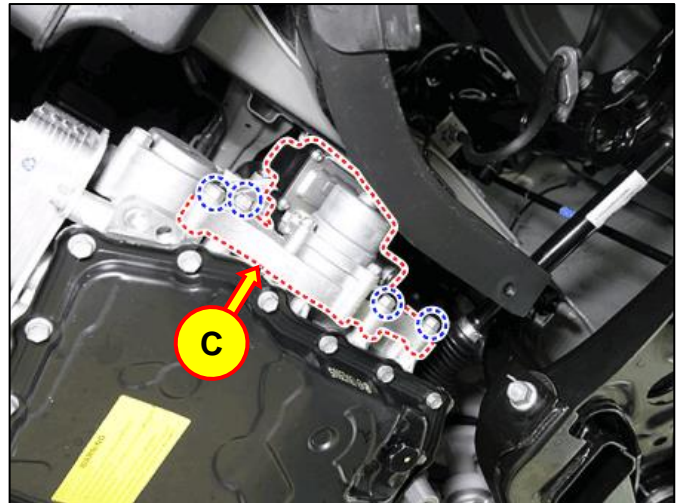


**NOTE: O-rings (a) and (c) are different size. Be careful to install the correct O-ring.**

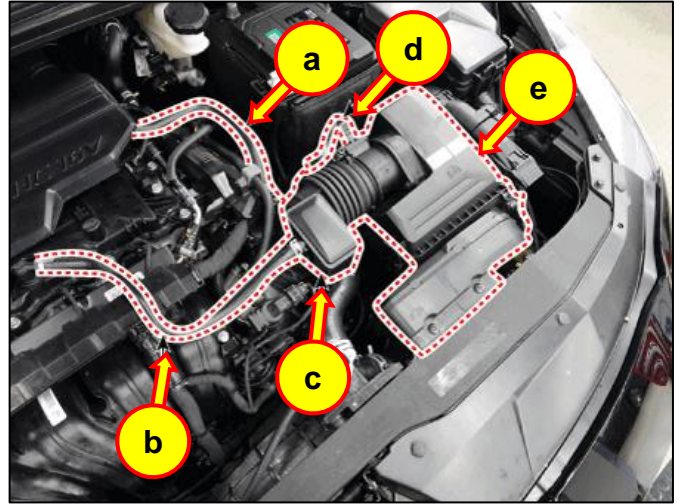
- (a) IVT case inlet O-ring:  $\Phi 9.75 \times 2.6$
- (c) EOP check valve O-ring:  $\Phi 10.2 \times 1.9$

9. Install the EOP (C) and torque the bolts to specification.

**Torque: 15~19 lb-ft (20~26 N.m, 2~3 kgf.m)**



10.
  - Disconnect the breather hose #1 (a).
  - Disconnect the breather hose #2 (b).
  - Disconnect the air intake hose (c).
  - Disconnect the connector (d).
  - Remove the air cleaner assembly & air duct (e).



11. Remove the IVT fluid injection plug.



12. Add approximately 1.0 liter of SP-CVT1 through the IVT fluid filler hole.  
Install a new oil plug gasket.  
**(P/N 45323-39000).**  
Reinstall the IVT fluid injection plug.  
**Torque: 25~32 lb-ft (34~44 N.m, 3~4 kgf.m)**



13. Reconnect the negative (–) battery cable.  
Input the customer's radio presets.

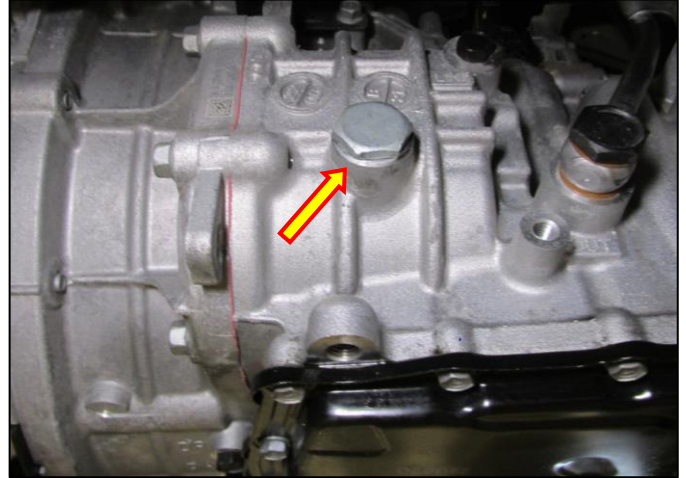
14. Start the engine to warm up the IVT fluid.

Attach a GDS and select vehicle -> **Data Analysis** -> **Oil temperature sensor**.

Monitor the GDS until the IVT fluid is 122°F~140°F (50°C~60°C).

15. Move the shift lever from P -> D -> P two times. Hold each position more than 2 seconds. Return the shift lever to P.

16. Lift the vehicle and remove the IVT fluid level check plug.



17. Allow the IVT fluid to flow out until it flows in a thin steady stream. If necessary, add additional IVT fluid until it flows in a thin steady stream.

Install a new oil plug gasket, **(P/N 45323-39000)**.

Reinstall the IVT fluid level check plug.

**Torque: 25~32 lb-ft (34~44 N.m, 3~4 kgf.m)**

18. Reinstall all removed parts in the reverse order of removal.

19. Start the engine and confirm no IVT leaks are found.

20. The service procedure is now complete.

Return the vehicle to the customer.