

 HYUNDAI Technical Service Bulletin	GROUP ENGINE MECHANICAL	NUMBER 25-EM-002H
	DATE JUNE 2025	MODEL(S) SEE BELOW
SUBJECT: CVVD ACTUATOR OIL SEAL REPLACEMENT		

Description: Certain 2020-2022MY Tucson Hybrid and Santa Fe Hybrid vehicles equipped with the 1.6T-GDI Gamma II HEV engine may experience an engine oil leak originating from the Continuous Variable Valve Duration (CVVD) Actuator Oil Seal. Follow the service procedure below to replace the CVVD Oil Seal.

Applicable Vehicles (Certain):

- 2022MY Tucson Hybrid (NX4 HEV) produced from 01/20/2021 – 02/28/2022
- 2022MY Tucson Plug-in Hybrid (NX4 PHEV) produced from 06/30/2021 – 02/28/2022
- 2021-2022MY Santa Fe (TM HEV) produced from 12/18/2020 – 02/28/2022
- 2022MY Santa Fe Plug-in Hybrid (TM PHEV) produced from 05/13/2021 – 02/28/2022
- 2023MY Santa Fe Hybrid (TMA HEV) produced from 10/10/2022 – 12/29/2023

Parts Information:

Model	Part Name	Part Number	Figure	Quantity
Tucson Hybrid (NX4 HEV)	Oil Seal	22443-2M810FFF		1
Tucson Plug-in Hybrid (NX4 PHEV)				
Santa Fe Hybrid (TM HEV)	High-Pressure Fuel Pipe	35305-2M414FFF		
Santa Fe Plug-in Hybrid (TM PHEV)				
Santa Fe Hybrid (TMA HEV)				

SST Information:

Tool Name	Tool #	Figure	Remarks
Oil Seal Installer	MPN1BJSOS0400		Commercially available and/or source from local supplier or retailer

Example:

- Orion Motor Tech (OMT) Seal Driver Set

Circulate To: General Manager, Service Manager, Parts Manager, Warranty Manager, Service Advisors, Technicians, Body Shop Manager, Fleet Repair

Warranty Information:

Model	Op. Code	Operation	Op. Time	Causal Part	Nature Code	Cause Code
Tucson Hybrid (NX4 HEV)	22443F01	CVVD Actuator Oil Seal Replacement	0.7 M/H	Refer to WEBLTS for applicable part to labor op code combination	B33	ZZ1
Tucson Plug-in Hybrid (NX4 PHEV)						
Santa Fe Hybrid (TM HEV)						
Santa Fe Plug-in Hybrid (TM PHEV)						
Santa Fe Hybrid (TMA HEV)						

NOTE 1: Normal warranty applies.

NOTE 2: Submit claim on Claim Entry Screen as “Warranty” type.

NOTE 3: Op times include VIN, Mileage, and repair justification photo(s) 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.**

NOTE 5: If a part is found in need of replacement while performing this TSB 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.

Service Procedure:**DIGITAL DOCUMENTATION**

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

NOTICE

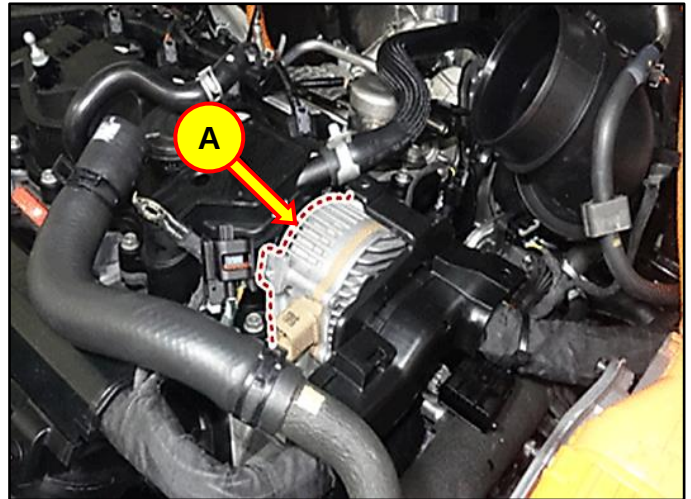
Applying the recommended torque to all fasteners is essential to reduce potential issues from occurring after the service procedure.

CVVD Actuator Oil Seal Replacement

1. Remove the CVVD Actuator (A) by referring to the shop manual:
 - Engine Control / Fuel System > Engine Control System > CVVD Actuator > Repair procedures

NOTICE

Replace the high-pressure fuel pipe when removed. Do **NOT** reuse.



2.

DIGITAL DOCUMENTATION

Using STUI, take a photo of the CVVD Oil Seal leak with the last 6 digits of the VIN and the date of inspection on a piece of paper.

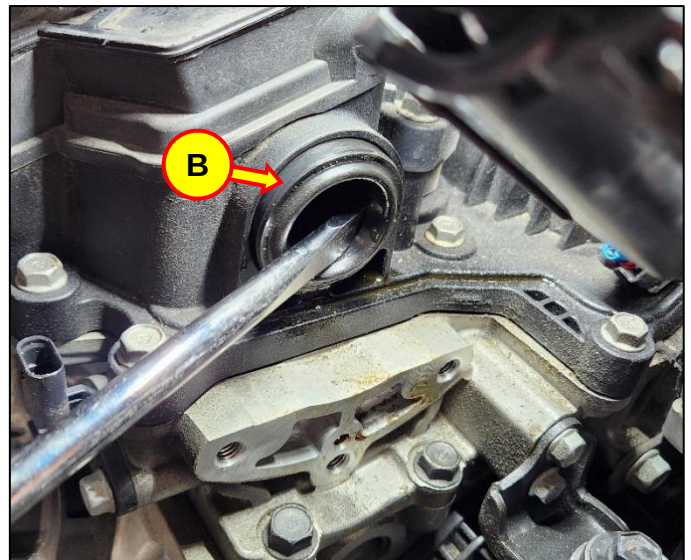
Upload the photo to STUI.



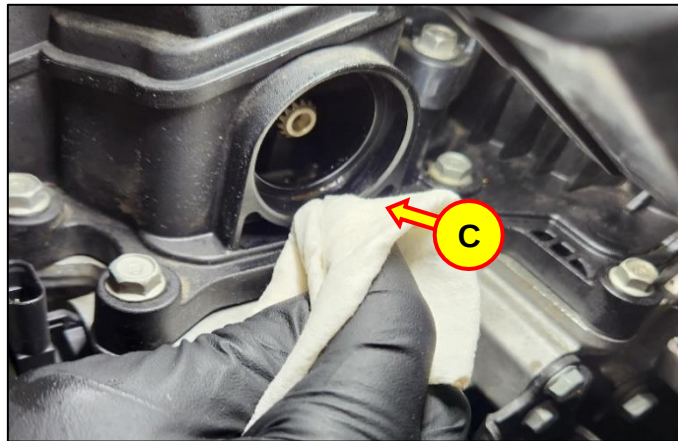
3. Using a commercially available seal puller or a flat head screwdriver, apply an outward force to remove the oil seal (B).

NOTICE

Avoid all impact/damage to the rocker cover.



4. Clean the seal mounting area using a shop rag or towel (C).



5. Using a commercially available seal installer (D) and hammer, install the new oil seal to the rocker cover until it has seated flush to the cover.

NOTICE

Avoid all impact/damage to the rocker cover.

i Information

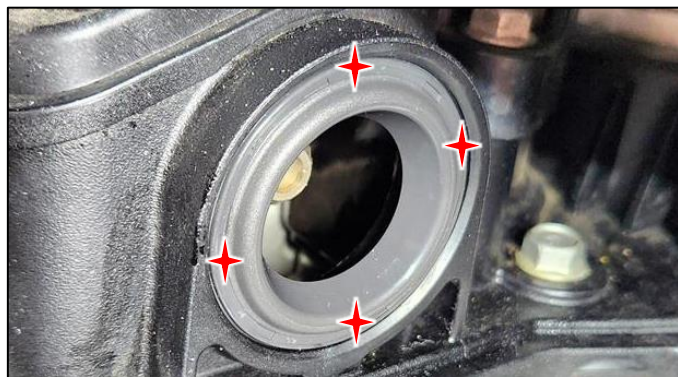
Ensure the oil seal is installed evenly.



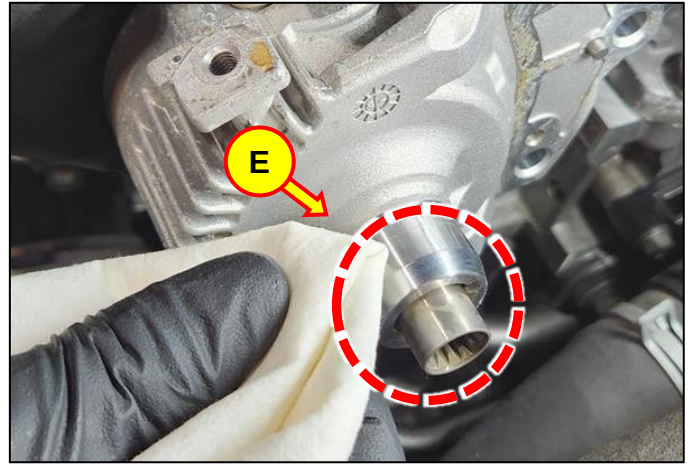
6. To verify the CVVD seal has seated evenly, you may use a small ruler to measure the depth of the seal at 4 different points.

i Information

Seal depth specification: 2–3mm



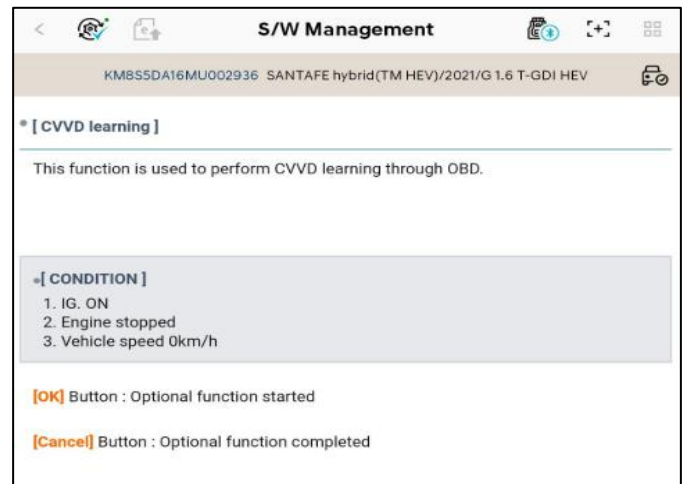
7. Clean the oil residue (E) off the CVVD actuator prior to installation.



8. Reinstall all parts in the reverse order of the removal process.
9. Perform the CVVD Intake Adaptation calibration using the GDS and clear ALL DTCs that may have incidentally occurred.

Refer to the shop manual:

- **S/W Management > Engine - Engine Control > CVVD Learning**



10. Start the vehicle and verify there are **NO** engine oil leaks present.
11. The service procedure is now complete.