



GROUP

MODEL

Service Campaign

2021-2023MY
Seltos (SP2) AWD
w/2.0L MPI engine

NUMBER

DATE

SC242

August 2022

VOLUNTARY SERVICE CAMPAIGN

SUBJECT:

TRANSFER CASE LEAKAGE/OVERHEATING
WHEN USING SPARE TIRE (SC242)

This bulletin provides the procedure to inspect the front wheel transfer assembly for oil leakage and update the 4-Wheel Drive (4WD) (also referred to as All-Wheel Drive [AWD]), coupling operation logic software on certain 2021-2023MY Seltos (SP2) AWD vehicles equipped with Nu 2.0L MPI engine, produced from November 20, 2019 through May 18, 2022. Some of these vehicles may exhibit a front wheel transfer assembly oil seal leak, oil burning smell, and possible smoke due to the transfer case overheating when using the spare tire. This may be caused by AWD ECU software detection logic not detecting the installed spare tire, which would normally limit transfer case usage/operation. If the spare tire is in use and not detected, transfer case oil temperatures can rise, and a burning oil smell can be detected. Follow the procedure outlined in this publication as follows:

- If oil leak is present (NG), replace the oil seal and upgrade the AWD coupling logic software.
- If oil leak is not present (OK), upgrade the AWD coupling logic software.

For confirmation that the latest reflash has been applied to a vehicle you are working on, verify the ROM ID using the table on page 4 of this bulletin. Before conducting the procedure, verify that the vehicle is included in the list of affected VINs.



Front Wheel Transfer Assembly Oil Seal

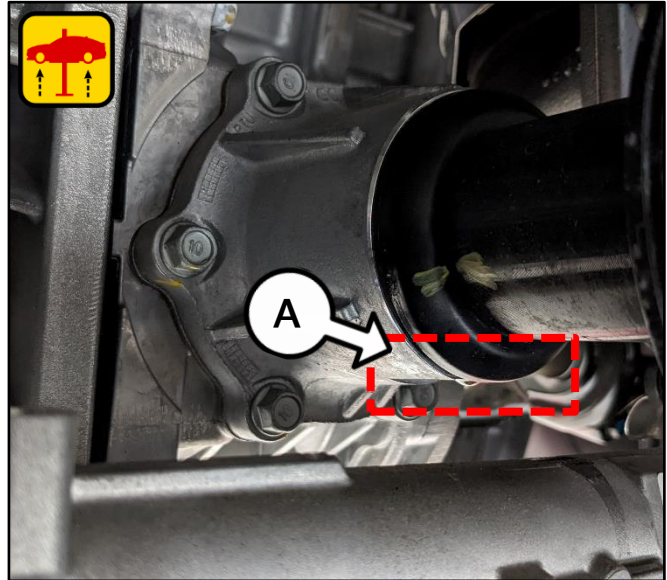
NOTICE

To assure complete customer satisfaction, always remember to refer to WebDCS Warranty Coverage (validation) Inquiry Screen (Service → Warranty Coverage → Warranty Coverage Inquiry) for a list of any additional campaigns that may need to be performed on the vehicle before returning it to the customer.

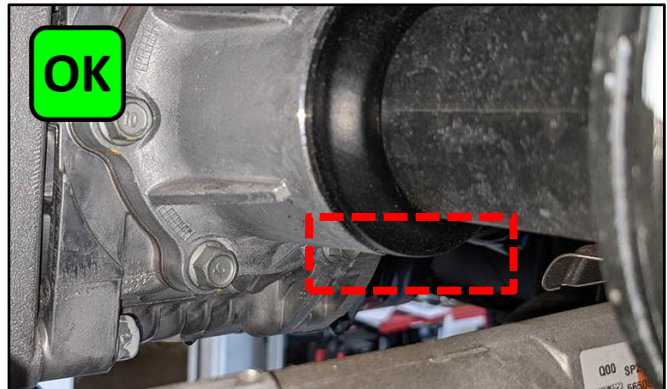
Inspection Procedure:

1. Raise vehicle on lift.
2. Inspect the front wheel transfer assembly output seal area (A) for oil leakage in the area shown.

Note: If necessary, remove engine room undercover for a better view of this area (refer to the "Engine Mechanical System → Engine and Transaxle Assembly → Engine Room Under Cover → Repair procedures" chapter in the applicable Shop Manual on KGIS).



- If oil leak is **not** present (OK), proceed to the 'ECU Upgrade Procedure' on page 4 to complete this service action.

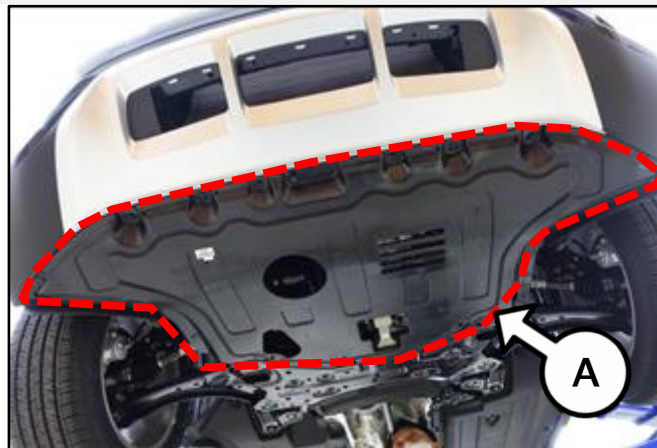


- If oil leak is **present** (NG), proceed to the 'Replacement Procedure' on page 3 to replace the front wheel transfer assembly oil seal.



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Replacement Procedure:

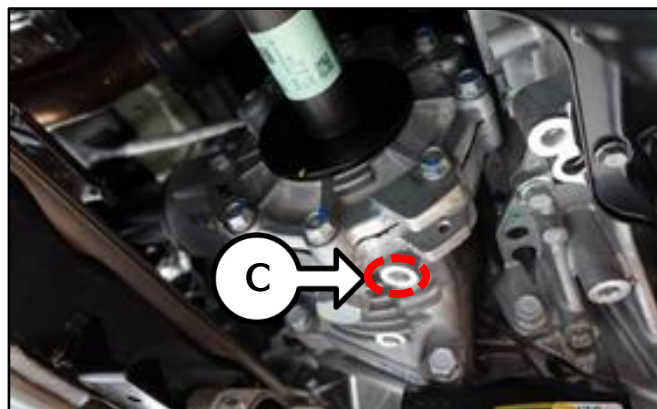
1. Place gear shift selector in "N" (Neutral).
2. Remove the engine room under cover (A) by referring to the "Engine Mechanical System → Engine and Transaxle Assembly → Engine Room Under Cover → Repair procedures" chapter in the applicable Shop Manual on KGIS.
3. Remove the three (3) nuts then remove the engine room rear under cover (B).



4. Remove the oil plug (C) and then drain the transfer fluid. Discard the oil plug gasket.



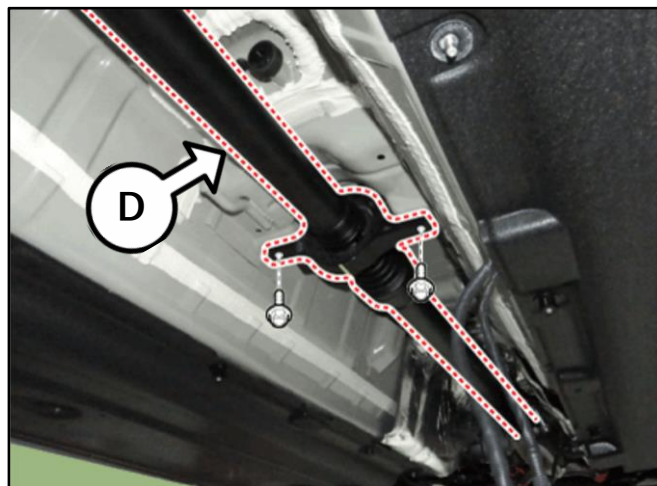
Tightening torque for Oil Plug:
 28.9 - 43.4 lb.ft (39.2 - 58.8 N.m)



5. Remove the propeller shaft assembly (D) by referring to the "Driveshaft and Axle → Propeller Shaft Assembly → Propeller Shaft → Repair procedures" in the applicable Shop Manual on KGIS.


TECH TIP

Use a cable tie to hold/secure the driveshaft end once detached. It is not necessary to remove the propeller shaft completely.



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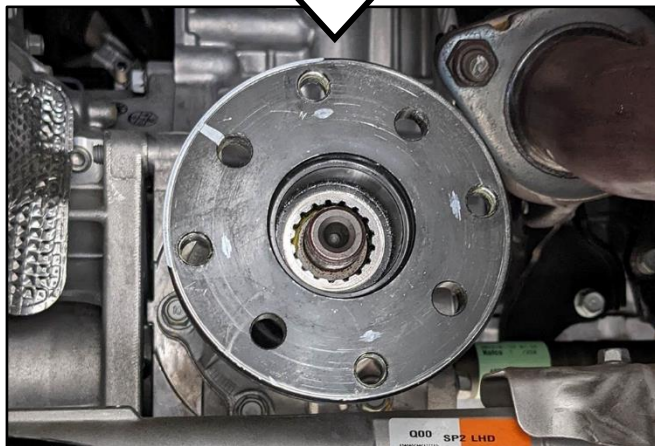
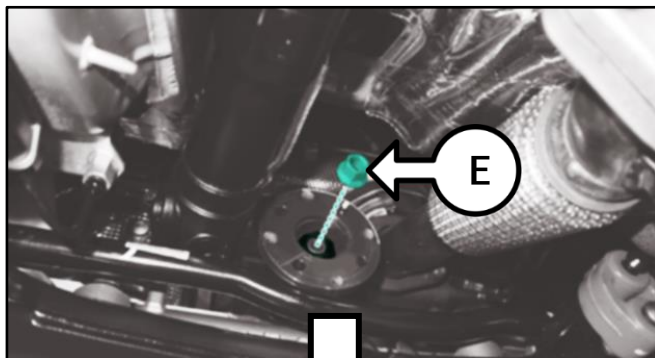
6. Remove the 27 mm rear flange lock nut (E).

NOTICE

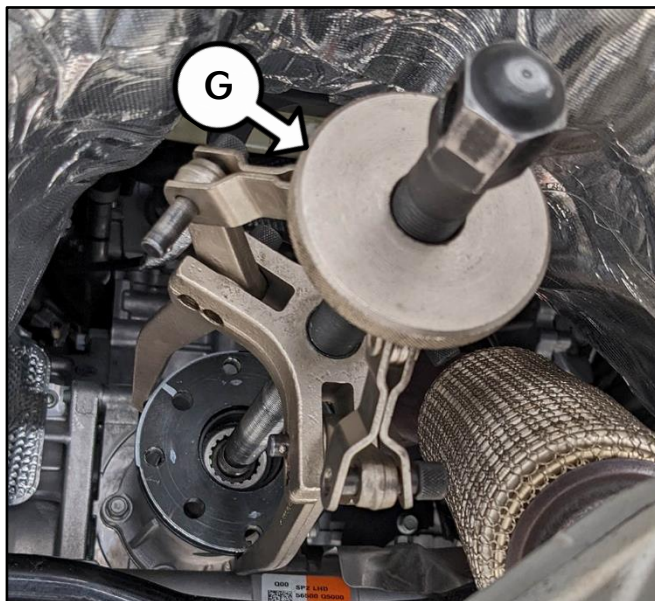
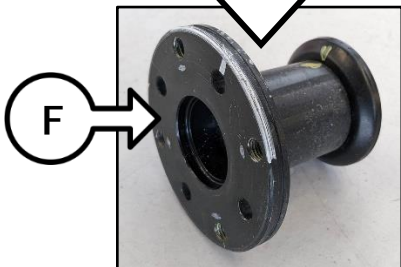
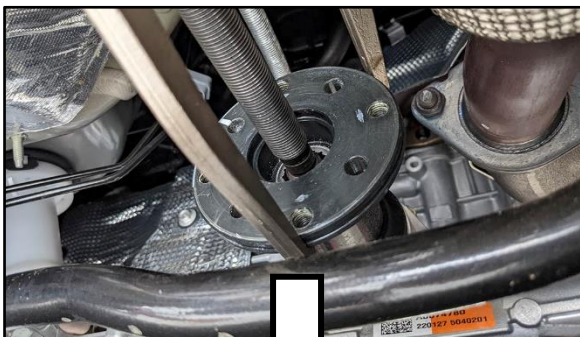
DO NOT reuse the removed 27mm rear flange lock nut (E).



Tightening torque for Lock Nut:
144.7 - 180.8 lb.ft (196.1 - 245.2 N.m)



7. Remove the rear flange assembly (F) with a gear puller (G).



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8. Remove the oil seal (H) using Snap-on® SST #SPS2LS, or equivalent tool.

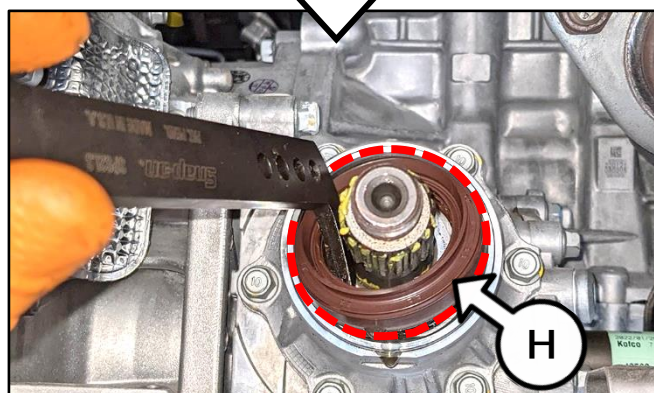
CAUTION

Be careful not to damage the surface of the pinion case when removing the oil seal.



Recommended Tool:
Snap-on® SST #SPS2LS

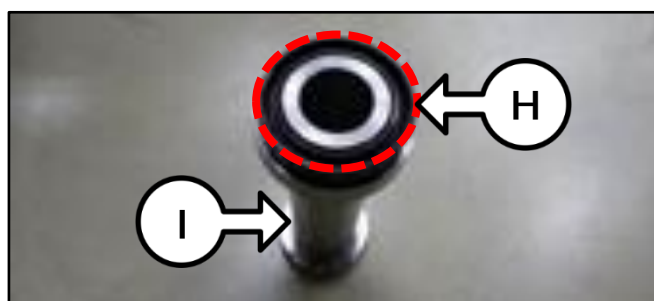
Note: Clean all oil and foreign substances from the pinion case.



9. Apply grease to the new oil seal (H).



10. Insert the new oil seal (H) to the oil seal installer SST (09473-J9000) (I).



11. Install the new oil seal by tapping the head of the SST (09473 J9000) (I) with a rubber hammer or equivalent tool, until the SST touches the backside of the rear flange and the oil seal is fully seated.

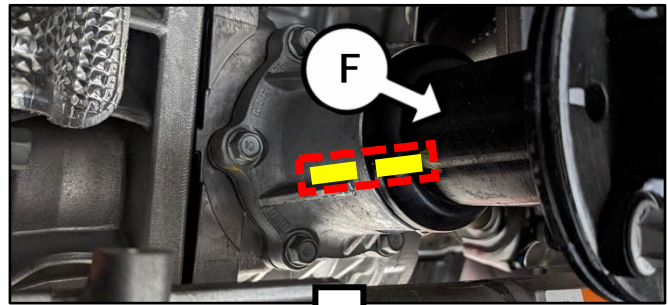
CAUTION

Be careful not to damage the oil seal.

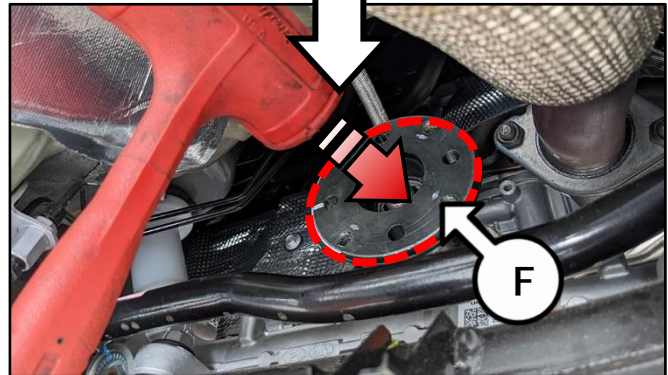


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12. Insert the flange (F) and align the previously made matchmarks on the flange and the pinion case.



13. Completely install the rear flange assembly (F) by tapping with a rubber hammer or equivalent tool.



14. Confirm that the rear pinion flange is properly installed and the gap between the flange and pinion case is less than 1.1 mm.



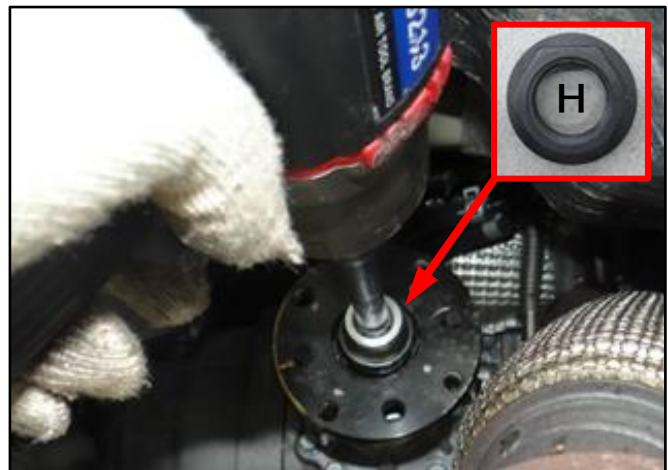
14. Install a new lock nut (H).



Tightening torque for Lock Nut:
144.7 - 180.8 lb.ft (196.1 - 245.2 N.m)

CAUTION

Be sure to follow the specified torque above.

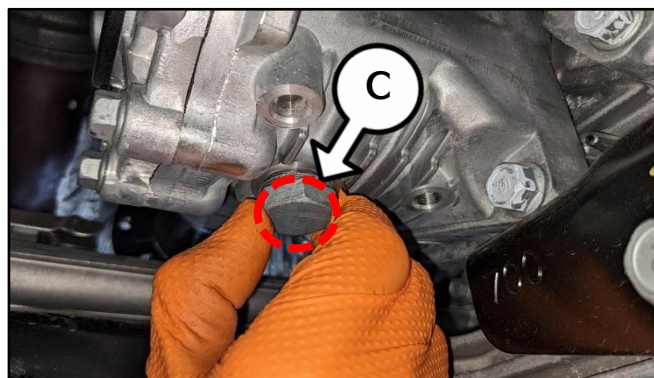


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22. Reinstall the oil plug (C) with a new gasket, and tighten to the specified torque below.



Tightening torque for Oil Plug:
28.9 - 43.4 lb.ft (39.2 - 58.8 N.m)



23. Refill the transfer oil with the recommended type and specifications below.

- Specified Oil: Hypoid gear oil API GL-5, SAE 75W/85 (SK HCT-5 75W/85 or equivalent)
- Capacity: 0.38 - 0.42 L (0.40 - 0.44 qt)

CAUTION

Do not reuse the used oil plug gasket. Replace it with a new one.

Note: For more details on refilling transfer oil, refer to the "4 Wheel Drive (4WD) System → Transfer Assembly → Transfer Fluid → Repair procedures" chapter in the applicable Shop Manual on KGIS.

24. Install all removed parts in reverse order of disassembly, and verify proper transfer case operation.

NOTICE

- When retightening the propeller shaft mounting bolts during reassembly, each bolt and washer **must** be placed in its original position and bolt insertion direction as before. Make identifying marks before removing to make it easier to reassemble in the same locations.
- If position and direction of propeller shaft mounting bolts and washers are reversed, it may cause vibration and noise at high vehicle speeds due to imbalance in the propeller shaft.

25. Proceed to the 'ECU Upgrade Procedure' on page 8.

ECU Upgrade Procedure:

To correct this condition, the ECU should be reprogrammed using the KDS download, as described in this bulletin.

Upgrade Event Name
610. SP2 AWD COUPLING OPERATION LOGIC IMPROVEMENT


NOTICE

- Confirm a fully charged battery (12.3 volts or higher is necessary) is used or utilize a fully charged jump starter box connected to the battery.
- **Ensure the KDS is sufficiently charged at 60% or higher prior to reflash.**
- All ECU upgrades must be performed with the ignition set to the 'ON' position unless otherwise stated.
- **Damaged VCI II units should not be used and promptly replaced.**
- Be careful not to disconnect the VCI-II connected to the vehicle during the ECU upgrade procedure.
- **DO NOT start the engine during ECU upgrade.**
- DO NOT turn the ignition key 'OFF' or interrupt the power supply during ECU upgrade.
- **When the ECU upgrade is completed, turn the ignition 'OFF' and wait 10 seconds before starting the engine.**
- ONLY use approved ECU upgrade software designated for the correct application.

IMPORTANT

It is recommended to ALWAYS check the Electronic Parts Catalog (EPC) to locate the ECU Part Number respective to Auto/Manual Mode ROM IDs. DO NOT reference the parts label affixed to the ECU.

NOTICE

Before attempting an ECU upgrade on any Kia model, make sure to first determine whether the applicable model is equipped with an immobilizer  security system. Failure to follow proper procedures may cause the PCM to become inoperative after the upgrade and any claims associated with this repair may be subject to chargeback.

ROM ID INFORMATION TABLE:**Upgrade Event #610**

Model	System	ECU P/No.		ROM ID	
		Previous	New	Previous	New
SP2	4WD	95447 2D200	95447 2D205	D506V07SP2	D507V15SP2
		95447 2D205			

To verify the vehicle is affected, be sure to check the Calibration Identification of the vehicle's ECM ROM ID and reference the Information Table as necessary.

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NOTICE

Prior to performing the ECU upgrade, be sure to check that the KDS is fully charged.

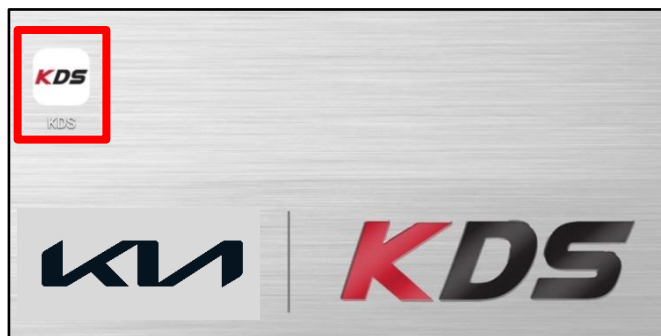
1. Connect the VCI-II to the OBD-II connector, located under the driver's side of the instrument panel.

NOTICE

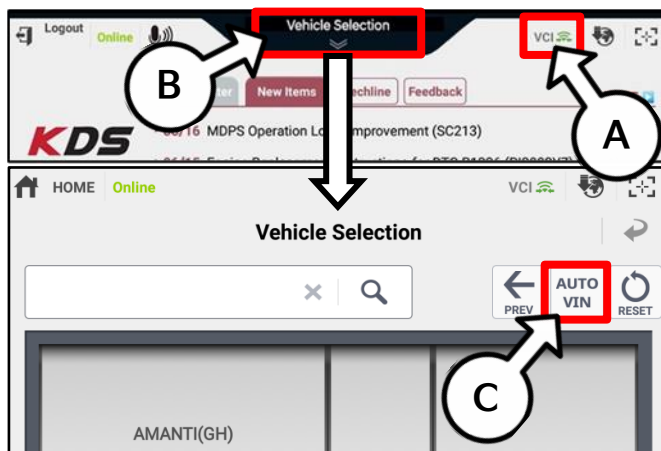
The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.



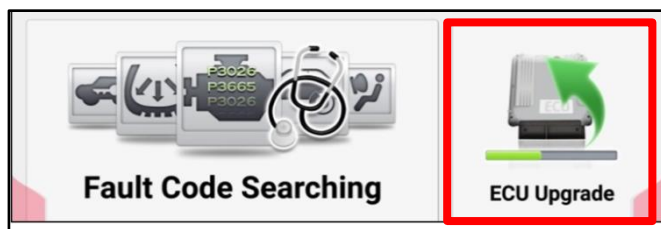
2. With the ignition ON, turn ON the KDS tablet. Select 'KDS' from the home screen.



3. Confirm communication with VCI (A) and then configure the vehicle (B) using the 'AUTO VIN' (C) feature.



4. Select 'ECU Upgrade'.

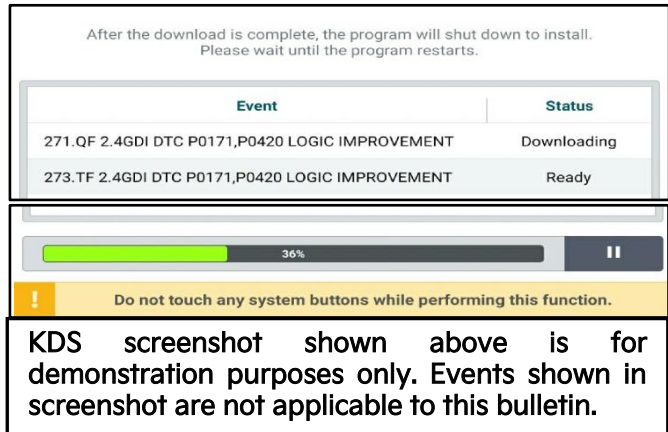


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5. The KDS will check the server for recently uploaded Events and then automatically download Upgrade Event #610.

NOTICE

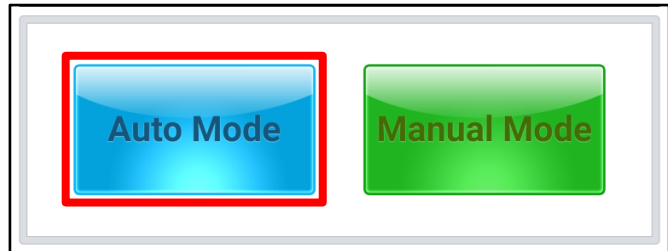
The vehicle must be identified in Vehicle Selection to download an Event for that vehicle.



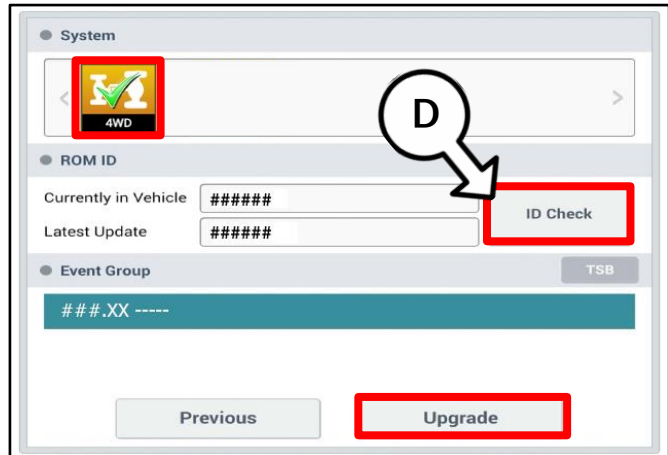
6. Select Auto Mode.

CAUTION

Do NOT attempt to perform a Manual Mode upgrade UNLESS Auto Mode fails. Always follow the instructions given on the KDS in either Auto or Manual mode.



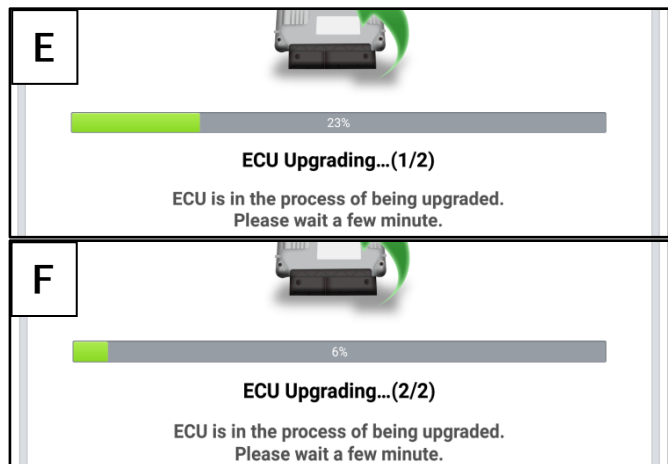
7. Select the 4WD system under the System selection menu.
Touch ID Check (D) and confirm that the latest update is available.
Select Upgrade Event #610 and select Upgrade to continue.



8. The ECU upgrade will begin and the progress of the upgrade will appear on the bar graph. Upgrade part (1/2) (E) will download the upgrade event to the VCI-II. Upgrade part (2/2) (F) will upgrade the ECU.

CAUTION

Do not touch the system buttons (like 'Back', 'Home', 'etc.') while performing ECU Upgrade.

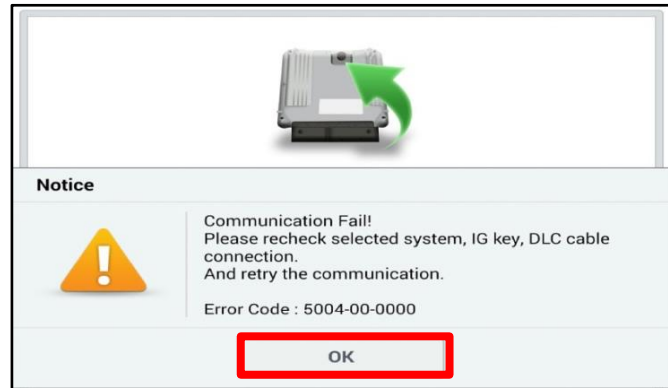


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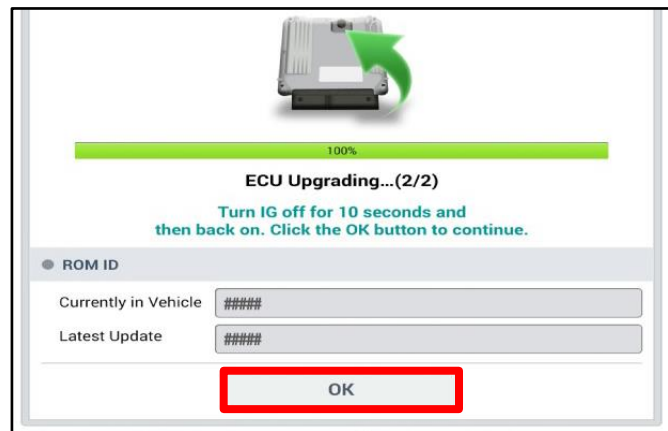
9. If a "Communication Fail" screen appears, verify that the VCI-II and KDS are communicating properly. Select 'OK' and restart the procedure from step 4.

NOTICE

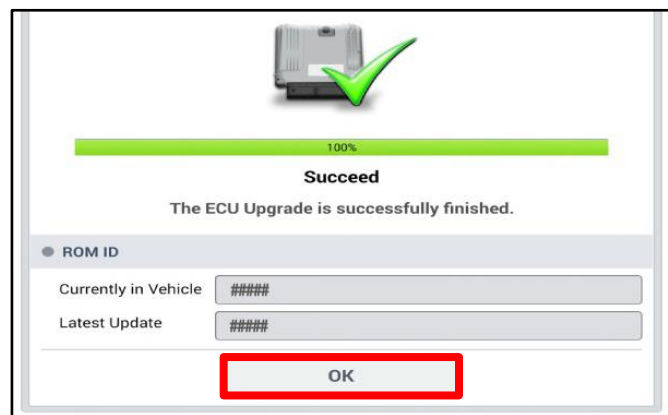
If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.



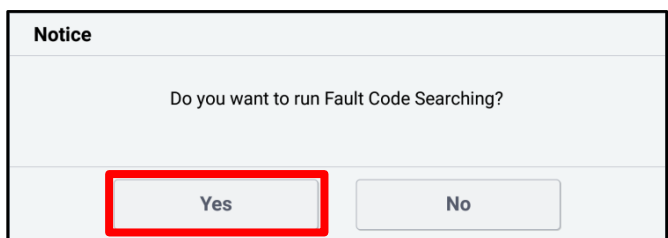
10. When instructed on the KDS, turn the ignition OFF for ten (10) seconds then back on. Select 'OK' to continue.



11. Once the upgrade is complete, select 'OK' to finalize the procedure.



12. When prompted, select 'YES' to check for Diagnostic Trouble Codes (DTC) and erase any DTCs stored such as EPS, ESC, and TPMS that may have been set during the upgrade.



13. Start the engine to confirm normal operation of the vehicle.

Manual Upgrade Procedure:**NOTICE**

The manual upgrade should **ONLY** be performed if the automatic upgrade fails.

If the automatic upgrade fails, turn the ignition 'OFF' for about 10 seconds then place it back in the 'ON' position to reset the control unit BEFORE performing manual upgrade.

See table below for 'Manual Mode' passwords.

Manual Mode ECU Upgrade Passwords



Menu	Password
SP2 AWD : 95447-2D200/2D205	2205

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.
2. Select the **4WD** system under the System selection menu. Select **Upgrade Event #610** and select **Upgrade** to continue.
3. Select the appropriate control unit part number with reference to the ROM ID Information Table on page 2, and select **OK**.
4. Enter the appropriate password from the Manual Mode password table above and select **OK**.
5. The upgrade will begin and the progress of the upgrade will appear on the bar graph.
6. When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Select **OK**.
7. Once the upgrade is complete, select **OK** to finalize the procedure.
8. When prompted, select **YES** to check for Diagnostic Trouble Codes (DTC) and erase any DTCs stored such as EPS, ESC, and TPMS that may have been set during the upgrade.
9. Start the engine to confirm proper operation of the vehicle.

SUBJECT: TRANSFER CASE LEAKAGE/OVERHEATING WHEN USING SPARE TIRE (SC242)**AFFECTED VEHICLE RANGE:**

Model	Production Date Range
Seltos (SP2)	November 20, 2019 to May 18, 2022

REQUIRED TOOL:

Tool Name	Part Number	Figure	Comments
Gear Puller (3 Jaw)	N/A		Refer to Snap-on Tools (or equivalent tool) Used for Rear Flange Removal
Oil Seal Installer	09473 J9000		Used for Installing Transfer Pinion Oil Seal
Oil Seal Remover (or equivalent)	SPS2LS		Snap-on part Recommended for Oil Seal Removal

REQUIRED PART:

Part Name	Part Number	Figure	Qty.
Pinion Oil Seal Kit	47351 3B7KTQQK		1
Hypoid Gear Oil	API GL-5, SAE 75W/85 (SK HCT-5 75W/85 or equivalent)	N/A	0.38 - 0.42 liter (0.40 - 0.44 qt.)

SUBJECT: TRANSFER CASE LEAKAGE/OVERHEATING WHEN USING SPARE TIRE (SC242)**WARRANTY INFORMATION:****N Code: N99 C Code: C99**

Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
R	47351 3B711	0	(SC242) Transfer Case ECU Upgrade and Leak Inspection	220069R0	0.4 M/H	N/A	0
			(SC242) Transfer Case ECU Upgrade, Leak Inspection, and Pinion Oil Seal Replacement	220069R1	1.3 M/H	47351 3B7KTQQK	1

Refer to Warranty Bulletin 2022-32 for claim submission procedures.

Use Sublet code X1 for up to \$6.00 total for Hypoid gear oil. When necessary, manually enter sublet code 'X2' for reimbursement of one roundtrip rideshare expense or up to two (2) days of rental for Pinion Oil Seal replacement. Attach supporting documentation.

NOTICE

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SC242 when accessing the WebDCS system.