	GROUP	MODEL
	TRA	**2021-2023 MY Sorento (MQ4a) and K5 (DL3a) w/2.5L T-GDI w/DCT**
	NUMBER	DATE
	111 (Rev 2, 11/14/2024)	**July 2024**

TECHNICAL SERVICE BULLETIN

SUBJECT:

8-SPEED DUAL CLUTCH TRANSMISSION EOP SENSORLESS LOGIC IMPROVEMENT

NOTICE

This bulletin has been revised to include additional information. New/revised sections of this bulletin are indicated by a black bar in the margin area.

This bulletin provides information to improve the Electric Oil Pump 'EOP' operation logic of the automatic transmission 'A/T' on some 2021-2023MY Sorento (MQ4a) vehicles produced from September 9, 2020 through December 29, 2023 and 2021-2023MY K5 (DL3a) vehicles produced from March 24, 2020 to December 18, 2023, equipped with a 2.5L T-GDI Theta III engines and 8-Speed Dual Clutch Transmissions (DCT). The affected vehicles may exhibit abnormal/harsh shifting, gear slipping, no gear engagement in Drive 'D' and/or Reverse 'R' shift selection, accompanied by a Malfunction Indicator Lamp (MIL) 'ON' illuminated on the instrument cluster with DTC(s) P1C2D03, P1C2D1C, and/or P1C2E92 stored. Follow the procedure outlined in this publication to upgrade the software of the 'A/T' system.

DTC Descriptions:
P1C2D03 - HP EOP Motor Position Sensor
P1C2D1C - HP EOP Motor Position Sensor
P1C2E92 - HP EOP Motor Out of Control

A Vehicle Diagnosis Number (VDN) must be created for a related DTC(s). If a VDN is not created, Warranty claim submission issues WILL occur.

NOTICE

A Technical Service Bulletin is a field fix repair program without customer notification that may be performed during the warranty period. Any dealer requesting to perform this repair outside the warranty period will require DPSM approval.

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ECU Upgrade Procedure:

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

Upgrade Event Name
741.MQ4a 8DCT HP EOP Sensorless Logic Improvement
742.DL3a 8DCT HP EOP Sensorless Logic Improvement

Note: Refer to page 5 for additional instructions after completing this software upgrade.

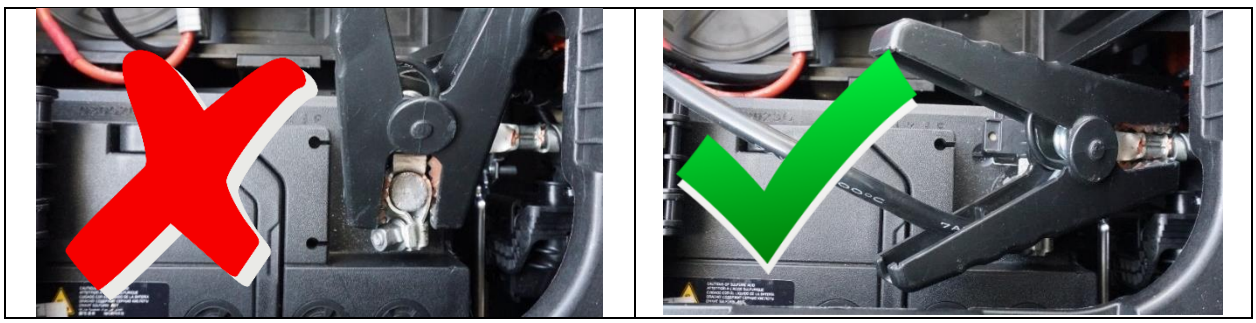
NOTICE

- **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 GDS 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.

Connect the negative (-) terminal to the battery as shown below.



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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 #741 Sorento (MQ4a) or #742 K5 (DL3a)

Model	Engine	IMMO	ECU P/No.	ROM ID	
				Previous	New
Sorento (MQ4a)	2.5 T-GDI Theta III	Yes	954A0 2N180 954A1 2N180	WMQ4T25XXX900NSD WMQ4T25XXX920NSE	WMQ4T25XXX920NSF*
			954A0 2N181 954A1 2N181	WMQ4T25XXW900NS0 WMQ4T25XXW900NS1 WMQ4T25XXW920NS2	WMQ4T25XXW920NS3**
K5 (DL3a)			954A0 2N300 954A1 2N300	WDL3T25XXX900NS8 WDL3T25XXX920NS9	WDL3T25XXX920NSA*
			954A0 2N301 954A1 2N301	WDL3T25XXW900NS0 WDL3T25XXW900NS1 WDL3T25XXW920NS2	WDL3T25XXW920NS3**

Note: *Wave Weight Not Increased (-) or ** Wave Weight Increased (+)

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.

Refer to TSB SST081 for instructions to upgrade the 'A/T' system:

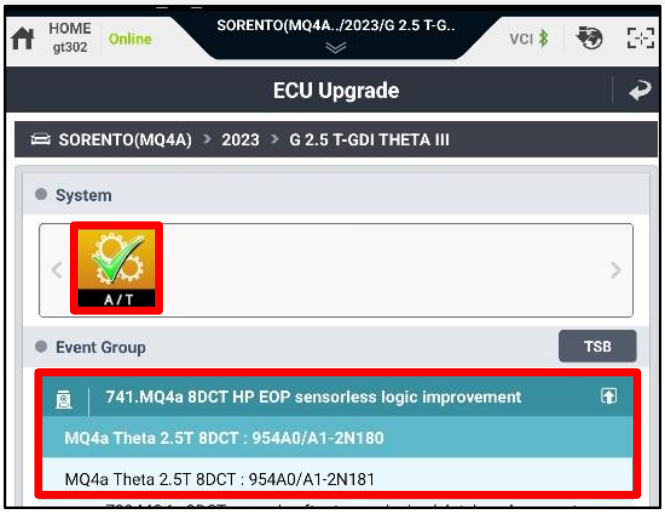
1. **UPGRADE EVENT:**

   741.MQ4a 8DCT HP EOP Sensorless Logic Improvement

   or

   742.DL3a 8DCT HP EOP Sensorless Logic Improvement

2. Proceed to Page 5 and complete the three (3) additional steps.



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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

Event No.	Menu	Password
741	MQ4a Theta 2.5T 8DCT : 954A0/A1-2N180	4648
	MQ4a Theta 2.5T 8DCT : 954A0/A1-2N181	4649
742	DL3a Theta 2.5T 8DCT : 954A0/A1-2N300	4724
	DL3a Theta 2.5T 8DCT : 954A0/A1-2N301	4725

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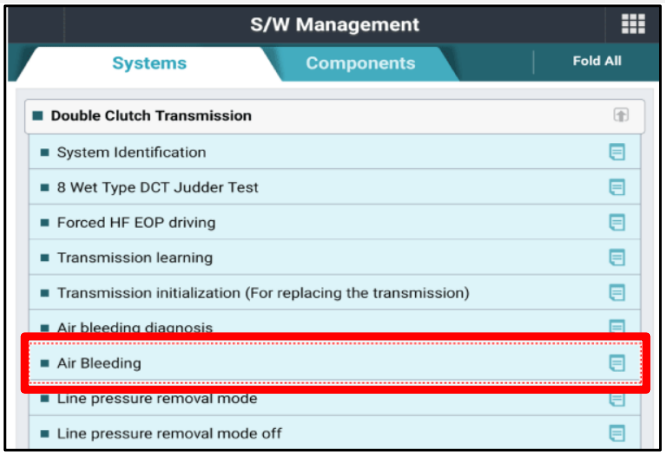
After completing the installation of the software upgrade, proceed to perform the following three (3) steps outlined below:

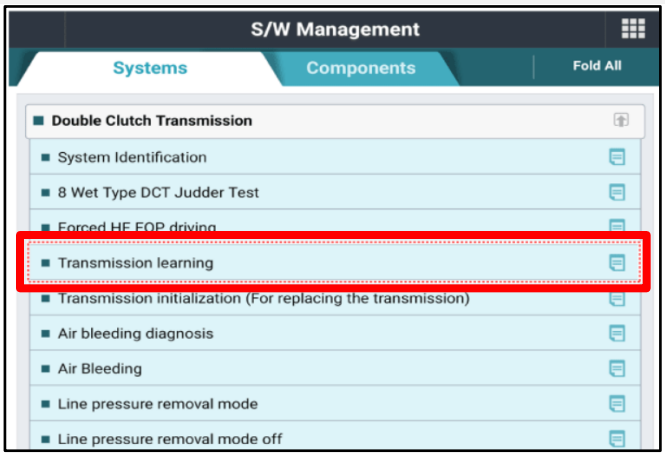
Air Bleeding Procedure:

1. Using KDS, select S/W Management → A/T → Systems → Double Clutch Transmission (or Automatic transmission) → Air Bleeding.



Transmission Learning Procedure:

2. Using KDS, select S/W Management → A/T → Systems → Double Clutch Transmission (or Automatic transmission) → Transmission Learning.



Operation Test:

3. Refer to Page 6 and complete the following three (3) tests to confirm normal vehicle operation:

   A. Stop Test
   B. Creep Test
   C. Drive Test

Operation Tests:

The following test(s) described below can be used to help identify if the TSB related symptom(s) is/are present on the affected vehicle. If a vehicle is in with the decribed symptoms on page one (1) but does not have a related DTC(s) stored, the test(s) described below can be performed to check if a DTC is set during diagnose.

A. Stop Test

1. Ignition '**ON**' and depress the 'Brake' pedal.
2. Shift from **N** → **D**, then **D** → **N**, then **N** → **R**, then **R** → **P**, then **P** → **R**, then **R** → **D**, **D** → **R**.
3. Repeat Step 2, three times (3x) total

   Note: Verify that no shock occurs during shift selection. Be sure to shift into '**P**' once complete.

B. Creep Test

1. Shift to Park '**P**', then **P** → **D**.
2. Slowly release brake pedal for two (2) seconds.
3. Shift from Drive '**D**' to Park '**P**', then **P** → **R**
4. Slowly release brake pedal for two (2) seconds.
5. Shift from Reverse 'R' to Park '**P**', then **P** → **D**
6. Repeat Steps 1-5, three times (3x) total

   Note: Verify the vehicle moves within 1 to 2 seconds upon releasing brake pedal (there should be no rattled or delayed movement). Be sure to shift into '**P**' once complete.

C. Drive Test

1. Drive vehicle to an open straight road with Idle Stop Go (ISG) feature 'ON'.
2. Come to a '**Stop**' in Drive '**D**' while the '**Brake**' pedal is depressed.
3. Release the '**Brake**' pedal and depress the '**Accelerator**' pedal (20-30%) APS
4. Allow vehicle transmission to shift through gears (1 → 8).
5. Depress the brake pedal and come to a complete stop.
6. Repeat Steps 1-5, three times (3x) total

   Note: Verify that the vehicle idles smoothly, turns 'ON' normally during drive while ISG is 'ON' and that the upshift operation is normal (no rattle, hard shift or slippage between shifts is present).

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AFFECTED VEHICLE RANGE:

Model	Production Date Range
Sorento (MQ4a)	September 9, 2020 to December 29, 2023
K5 (DL3a)	March 24, 2020 to December 18, 2023

REQUIRED TOOL:

Tool Name	SST #	Figure	Comments
KDS	N/A		Kia Diagnostic System

WARRANTY INFORMATION:

N Code: W11 C Code: ZZ3

Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
W	46220 2N500	0	8DCT EOP Sensorless Logic Improvement	954A1F03	1.1 M/H	N/A	0

Note: A Vehicle Diagnosis Number (VDN) must be created for DTC(s) P1C2D03, P1C2D1C and/or P1C2E92. If a VDN is not created, Warranty claim submission issues WILL occur. All claims are subject to Warranty review and chargeback.