 HYUNDAI Technical Service Bulletin	GROUP FUEL SYSTEM	NUMBER 22-FL-003H
	DATE JUNE 2022	MODEL(S) APPLICABLE VEHICLES BELOW
SUBJECT: ECU SOFTWARE UPDATE (DTC P1441/P1A77/P00B7/P2118/P0401/P0236/P0299)		

Description:

This bulletin provides information related to the Engine Control Module (ECM) software update for Santa Fe Hybrid (TM HEV) / Santa Fe Plug-In Hybrid (TM PHEV) and Tucson Hybrid (NX4 HEV) / Tucson Plug-In Hybrid (NX4 PHEV) vehicles to revise the following DTC logic:

- P1441(PCSV rear and hose missing)
- P1A77(HSG Belt slip)
- P00B7(Excessive ITM motor operating current)
- P2118 (ETC target position failure)
- P0401 (EGR gas flow insufficient)
- P0236 (Turbocharger boost sensor range abnormal)
- P0299 (Turbocharger boost pressure too low)

Applicable Vehicles:

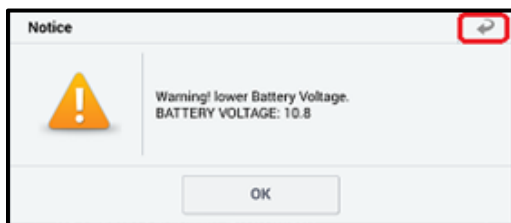
- Certain 2021-2022MY Santa Fe Hybrid (TM HEV) / Santa Fe Plug-In Hybrid (TM PHEV)
- Certain 2022MY Tucson Hybrid (NX4 HEV) / Tucson Plug-In Hybrid (NX4 PHEV)

GDS Information:

Event #	Description
822	TM PE HEV GAMMA2T-GDI DTC MISDIAGNOSIS IMPROVEMENT (P1441/P1A77/P00B7/P0401/P0236/P0299)
823	TM PE PHEV GAMMA2T-GDI DTC MISDIAGNOSIS IMPROVEMENT (P1441/P1A77/P00B7/P0401/P0236/P0299)
835	NX4 HEV GAMMA2T-GDI DTC MISDIAGNOSIS IMPROVEMENT (P1441/P1A77/P00B7/P0401/P0236/P0299)
836	NX4 PHEV GAMMA2T-GDI DTC MISDIAGNOSIS IMPROVEMENT (P1441/P1A77/P00B7/P0401/P0236/P0299)

NOTES:

- Refer to TSB 15-GI-001 for additional tablet-based Mobile GDS ECU update information.
- After the ECU Upgrade process shows 100% complete, **cycle the ignition key to OFF for at least 30 seconds to reset the control unit**. This step is important for establishing normal powertrain communication and to prevent system errors.
- Clear DTC(s) present after the ECU update.
- Start engine to confirm proper operation of the vehicle.



GDS Vehicle Battery Voltage Warning:

If voltage is below 12 volts as per the GDS warning, then select **Back** and run the engine at least 15 minutes to reach an adequate battery state of charge to prevent ECU Update failure. Cycle the ignition **OFF/ON** before retrying ECU update again.

Warranty Information:

Engine / Model	Op Code	Operation	Op Time	Causal P/N	Nature	Cause
Santa Fe (TM HEV) / (TM PHEV)	39131F15	ECM UPGRADE	0.3 M/H	39131-2MTC0 (TM HEV) 39131-2MTF0 (TM PHEV)	E13	ZZ3
Tucson (NX4 HEV) / (NX4 PHEV)	39131F17			39131-2MND0 (NX4 HEV) 39131-2MNH0 (NX4 PHEV)		

NOTE: Normal warranty applies.

NOTICE

You must initially perform all GDS ECU Updates in Auto Mode.

If the ECU Update starts but then fails in Auto Mode, perform the update in Manual Mode to recover.

ROM ID Information Table:

- Perform the ECM Update.
- Verify the ECM ROM ID before updating the software. Refer to the table below.
- **IMMO (O)** = Start Stop Button
- **NON IMMO (X)** = Key Start

VEH	IMMO	Remark	ECU P/N	ROM ID	
				OLD CAL ID	NEW CAL ID
Santa Fe Hybrid (TM HEV)	O	4WD 21MY	391312MTC0	JTM-1NS06F00CF40	JTM-1NS06F183F00
	O	4WD 22MY	391312MTC1	JTM-2NS06F080F00 JTM-2NS06F180F00	JTM-2NS06F283F00
Santa Fe Plug-In Hybrid (TM PHEV)	O	4WD 22MY	391312MTF0	QTM-2NS06F080F00 QTM-2NS06F181F00	QTM-2NS06F283F00

VEH	IMMO	Remark	ECU P/N	ROM ID	
				OLD CAL ID	NEW CAL ID
Tucson Hybrid (NX4 HEV)	O	4WD	391312MND0	JNX41NS06F00LF50	JNX41NS06F196F00
Tucson Plug-In Hybrid (NX4 PHEV)	O	4WD	391312MNH0	QNX41NS06F091F00 QNX41NS06F193F00	QNX41NS06F396F00

If the Automatic ECU Upgrade process fails, **cycle the ignition key to OFF for at least 30 seconds to reset the control unit.** Then resume programming using the Manual ECU Upgrade processes.

After the ECU Upgrade process shows 100% complete, **cycle the ignition key again to OFF for at least 30 seconds to reset the control unit.** This step is important for establishing normal powertrain communication and to prevent system errors.

MODE PASSWORD INFORMATION TABLE: #822 Santa Fe Hybrid (TM HEV)

ECM MENU (#822)	PASSWORD
TM PE HEV GAMMA2T-GDI 39131-2MTC0	3120
TM PE HEV GAMMA2T-GDI 39131-2MTC1	3121

MODE PASSWORD INFORMATION TABLE: #823 Santa Fe Plug-In Hybrid (TM PHEV)

ECM MENU (#823)	PASSWORD
TM PE PHEV GAMMA2T-GDI 39131-2MTF0	3122

MODE PASSWORD INFORMATION TABLE: #835 Tucson Hybrid (NX4 HEV)

ECM MENU (#835)	PASSWORD
NX4 HEV 1.6T-GDI 6AT 4WD 22MY 391312MND0	2132

MODE PASSWORD INFORMATION TABLE: #836 Tucson Plug-In Hybrid (NX4 PHEV)

ECM MENU (#836)	PASSWORD
NX4 PHEV 1.6T-GDI 6AT 4WD 22MY 391312MNH0	4223

NOTE: After the ECU update has been completed:

- Clear any ECM DTC(s) after the ECU update, if present.
- Start the engine to confirm proper operation of the vehicle.