

 <b>HYUNDAI</b> <b>Technical Service Bulletin</b>	GROUP <b>FUEL SYSTEM</b>	NUMBER <b>23-FL-001H</b>
	DATE <b>FEBRUARY 2023</b>	MODEL(S) <b>APPLICABLE VEHICLES BELOW</b>
<b>SUBJECT:</b> ECU SOFTWARE UPDATE (DTC P1441/P1A77/P00B7/P2118/P0401/P0236/P0299)		

**This TSB supersedes 22-FL-003H to remove the Tucson Hybrid/Plug-in.**

**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) 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)

**GDS Information:**

Event #	Description
<b>822</b>	TM PE HEV GAMMA2T-GDI DTC MISDIAGNOSIS IMPROVEMENT (P1441/P1A77/P00B7/P0401/P0236/P0299)
<b>823</b>	TM PE 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.

**SUBJECT: ECU SOFTWARE UPDATE (DTC P1441/P1A77/P00B7/P2118/P0401/P0236/P0299)**

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

**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

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

**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.