

 HYUNDAI Technical Service Bulletin	GROUP FUEL SYSTEM	NUMBER 22-FL-006H
	DATE SEPTEMBER 2022	MODEL(S) TUCSON (NX4/NX4a) SANTA CRUZ (NXT) SONATA (DN8/DN8a) SANTA FE (TMa)
SUBJECT: ECU AND TCU UPDATE FOR DTC P013E/P0456		

DESCRIPTION: This bulletin provides the procedure to update ECU and TCU of a vehicle experiencing any of the following DTC:

- P013E - O2 Sensor Delayed Response - Rich to Lean Bank 1 Sensor 2
- P0456 - Evaporative System (EVAP) - Very Small Leak

NOTE: This ECU Update also contains a prior update for DTC P2074.

WARNING: These models may experience an automatic ignition shutoff after extended time at ignition On when 12V battery SOC falls below 60% SOC. To avoid ECU update failure, stop and run engine at least 20 minutes in event a Battery Warning is seen at start of the ECU Update attempt. It is best to run stock vehicles before ECU update attempt, as they are more likely to be low on SOC.

APPLICABLE VEHICLES: Certain 2022 Tucson (NX4A / NX4), Santa Cruz (NXT), Santa Fe (TMa) and Sonata (DN8 / DN8a) vehicles equipped with 2.5L GDI engine and 8-Speed transmission.

GDS INFORMATION: System Selection: **Engine:**

Event #	Description
854	NX4AT THETA3 2.5GDI ECU S/W IMPROVEMENT FOR DTC P013E / P0456
855	NX4 THETA3 2.5GDI ECU S/W IMPROVEMENT FOR DTC P013E / P0456
856	NX4a THETA3 2.5GDI ECU S/W IMPROVEMENT FOR DTC P013E / P0456
863	DN8a THETA3 2.5GDI ECU S/W IMPROVEMENT FOR DTC P013E / P0456
853	DN8 THETA3 2.5GDI ECU S/W IMPROVEMENT FOR DTC P013E / P0456
857	TMa THETA3 2.5GDI ECU S/W IMPROVEMENT FOR DTC P013E / P0456

NOTE: For these GDS events, **NX4AT = Santa Cruz**

GDS INFORMATION: System Selection: **A/T:**

Event #	Description
776	NX4 NX4a THETA 2.5GDI 8AT ROUGH SHIFT AND HESITATION IMPROVED LOGIC (TCU)
784	NX4AT 2.5GDI 8AT ROUGH SHIFT AND HESITATION IMPROVED LOGIC (TCU)
774	DN8a THETA 2.5GDI 8AT ROUGH SHIFT AND HESITATION IMPROVED LOGIC (TCU)
782	DN8 THETA 2.5GDI 8AT ROUGH SHIFT AND HESITATION IMPROVED LOGIC (TCU)
772	TMa THETA 2.5GDI 8AT ROUGH SHIFT AND HESITATION IMPROVED LOGIC (TCU)

***NOTE :** For these GDS events, **NX4AT = Santa Cruz**

WARRANTY INFORMATION:

Model	Op Code	Operation	Op Time	Causal Part	Nature Code	Cause Code
Santa Cruz (NXT)	20D063R0	ECU + TCU UPGRADE	0.6 M/H	954A1-2N460	I3T	ZZ3
Tucson (NX4a/NX4)	20D063R1		0.6 M/H	39110-2S280 (NX4a) 39110-2S101 (NX4)		
Sonata (DN8/DN8a)	20D063R2		0.6 M/H	39116-2M013		
Santa Fe (TMa)	20D063R3		0.6 M/H	39110-2S274		

NOTE 1: Submit claim on Campaign Claim Entry Screen.

NOTE 2: If a part is found in need of replacement while performing the Service Campaign 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 the repair.

SERVICE PROCEDURE:

NOTICE

You must initially perform GDS ECU and TCU Update in Auto Mode.

- If the ECU or TCU Update starts but then fails in Auto Mode, disconnect the battery cables and touch the cables together for one minute. Reconnect the battery cables, attach a battery charger and perform the update in Manual Mode to recover.
- Refer to the General Instructions found in TSB 15-GI-001 (GDS Mobile).

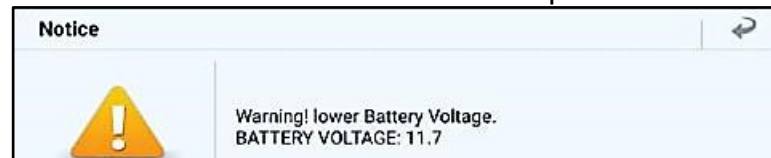
WARNING**GDS-M Vehicle Battery Low Voltage Warning:**

When the vehicle battery is lower than 12 volts, the GDS-M will trigger a Low Battery Voltage Warning. If this Warning occurs,

A. Connect the battery to a fully charged battery jump pack or GR8 charger using "Power Supply Mode" to continue the software update.

OR

B. Select "BACK" to exit the SW update. Then, start the engine and idle with the headlights on for 20 minutes. Return to the SW update after charging the battery.



1. Perform ECU Update in Auto mode.
2. Perform TCU Update in Auto mode if the update applies to the particular vehicle.

NOTE: Some NX4/NX4a vehicles may have previously had this TCU Update done.

3. Check for Diagnostic Trouble Codes and erase any DTC found.

Santa Cruz (NXT):

NXT ECU ROM ID TABLE - Event 854:

MODEL	Part No.	ROM ID	
		OLD	NEW
NX4 AT	39100-2S171	NTDWN5GMFXXXXK5A NTDWN5GMFXXXXK5B NTDWN5GMFXXXXK5C	NTDWN5GMFXXXXK5D
	39100-2S177	NTDWN5GKFXXXXK5A NTDWN5GKFXXXXK5B NTDWN5GKFXXXXK5C	NTDWN5GKFXXXXK5D
	39100-2S172	NTDWN5GSFXXXXK5A NTDWN5GSFXXXXK5B NTDWN5GSFXXXXK5C	NTDWN5GSFXXXXK5D
	39100-2S173	NTDWN5GMGXXXXK5A NTDWN5GMGXXXXK5B NTDWN5GMGXXXXK5C	NTDWN5GMGXXXXK5D
	39100-2S178	NTDWN5GKGXXXXK5A NTDWN5GKGXXXXK5B NTDWN5GKGXXXXK5C	NTDWN5GKGXXXXK5D
	39100-2S174	NTDWN5GSGXXXXK5A NTDWN5GSGXXXXK5B NTDWN5GSGXXXXK5C	NTDWN5GSGXXXXK5D

TCU ROM ID TABLE - Event 784:

MODEL	Part No.	ROM ID	
		OLD	NEW
NX4 AT	954A1-2N450	WNX4T25X2X730NS0	WNX4T25X2X800NS2
		WNX4T25X2X800NS1	
	954A1-2N460	WNX4T25X4X730NS0	WNX4T25X4X800NS2
		WNX4T25X4X800NS1	

Tucson NX4 and NX4a:

NX4 ECU ROM ID TABLE - Event 855: (VINs begin with KM8)

MODEL	Part No.	ROM ID	
		OLD	NEW
NX4	39100-2S262	NXDWD5GMAXXXJ0A NXDWD5GMAXXXJ1A NXDWD5GMAXXXJ1B NXDWD5GMAXXXL6A NXDWD5GMAXXXL6B	NXDWD5GMAXXXL8A

	39100-2S263	NXDWD5GMCXXXXJ0A NXDWD5GMCXXXXJ1A NXDWD5GMCXXXXJ1B NXDWD5GMCXXXXL6A NXDWD5GMCXXXXL6B	NXDWD5GMCXXXXL8A
	39100-2S264	NXDWD5GKAXXXJ1A NXDWD5GKAXXXJ1B NXDWD5GKAXXXL6A NXDWD5GKAXXXL6B	NXDWD5GKAXXXL8A
	39100-2S265	NXDWD5GKCXXXXJ1A NXDWD5GKCXXXXJ1B NXDWD5GKCXXXXL6A NXDWD5GKCXXXXL6B	NXDWD5GKCXXXXL8A
	39100-2S266	NXDWD5GSAXXXJ0A NXDWD5GSAXXXJ1A NXDWD5GSAXXXJ1B NXDWD5GSAXXXL6A NXDWD5GSAXXXL6B	NXDWD5GSAXXXL8A
	39100-2S267	NXDWD5GSCXXXXJ0A NXDWD5GSCXXXXJ1A NXDWD5GSCXXXXJ1B NXDWD5GSCXXXXL6A NXDWD5GSCXXXXL6B	NXDWD5GSCXXXXL8A
	39100-2S268	NXDWD5GMJXXXXJ0A NXDWD5GMJXXXXJ1A NXDWD5GMJXXXXJ1B NXDWD5GMJXXXXL6A NXDWD5GMJXXXXL6B	NXDWD5GMJXXXXL8A
	39100-2S269	NXDWD5GMKXXXXJ0A NXDWD5GMKXXXXJ1A NXDWD5GMKXXXXJ1B NXDWD5GMKXXXXL6A NXDWD5GMKXXXXL6B	NXDWD5GMKXXXXL8A
	39100-2S270	NXDWD5GKJXXXXJ1A NXDWD5GKJXXXXJ1B NXDWD5GKJXXXXL6A NXDWD5GKJXXXXL6B	NXDWD5GKJXXXXL8A
	39100-2S271	NXDWD5GKKXXXXJ1A NXDWD5GKKXXXXJ1B NXDWD5GKKXXXXL6A NXDWD5GKKXXXXL6B	NXDWD5GKKXXXXL8A
	39100-2S272	NXDWD5GSJXXXXJ0A NXDWD5GSJXXXXJ1A NXDWD5GSJXXXXJ1B NXDWD5GSJXXXXL6A NXDWD5GSJXXXXL6B	NXDWD5GSJXXXXL8A
	39100-2S273	NXDWD5GSKXXXXJ0A NXDWD5GSKXXXXJ1A NXDWD5GSKXXXXJ1B NXDWD5GSKXXXXL6A NXDWD5GSKXXXXL6B	NXDWD5GSKXXXXL8A

NX4a ECU ROM ID TABLE – Event 856: (VINs begin with 5NM)

MODEL	Part No.	ROM ID	
		OLD	NEW
NX4a	39110-2S280	NADWN5GMFXXXXJ1A NADWN5GMFXXXXJ1B NADWN5GMFXXXXL6A NADWN5GMFXXXXL6B	NADWN5GMFXXXXL8A
	39110-2S281	NADWN5GMGXXXXJ1A NADWN5GMGXXXXJ1B NADWN5GMGXXXXL6A NADWN5GMGXXXXL6B	NADWN5GMGXXXXL8A
	39110-2S282	NADWN5GMJXXXXJ1A NADWN5GMJXXXXJ1B NADWN5GMJXXXXL6A NADWN5GMJXXXXL6B	NADWN5GMJXXXXL8A
	39110-2S283	NADWN5GMHXXXXJ1A NADWN5GMHXXXXJ1B NADWN5GMHXXXXL6A NADWN5GMHXXXXL6B	NADWN5GMHXXXXL8A
	39110-2S284	NADWN5GMIXXXXJ1A NADWN5GMIXXXXJ1B NADWN5GMIXXXXL6A NADWN5GMIXXXXL6B	NADWN5GMIXXXXL8A
	39110-2S285	NADWN5GMKXXXXJ1A NADWN5GMKXXXXJ1B NADWN5GMKXXXXL6A NADWN5GMKXXXXL6B	NADWN5GMKXXXXL8A
	39110-2S286	NADWN5GSFXXXXJ1A NADWN5GSFXXXXJ1B NADWN5GSFXXXXL6A NADWN5GSFXXXXL6B	NADWN5GSFXXXXL8A
	39110-2S287	NADWN5GSGXXXXJ1A NADWN5GSGXXXXJ1B NADWN5GSGXXXXL6A NADWN5GSGXXXXL6B	NADWN5GSGXXXXL8A
	39110-2S288	NADWN5GSJXXXXJ1A NADWN5GSJXXXXJ1B NADWN5GSJXXXXL6A NADWN5GSJXXXXL6B	NADWN5GSJXXXXL8A
	39110-2S289	NADWN5GSHXXXXJ1A NADWN5GSHXXXXJ1B NADWN5GSHXXXXL6A NADWN5GSHXXXXL6B	NADWN5GSHXXXXL8A
	39110-2S290	NADWN5GSIXXXXJ1A NADWN5GSIXXXXJ1B NADWN5GSIXXXXL6A NADWN5GSIXXXXL6B	NADWN5GSIXXXXL8A
	39110-2S291	NADWN5GSKXXXXJ1A NADWN5GSKXXXXJ1B NADWN5GSKXXXXL6A NADWN5GSKXXXXL6B	NADWN5GSKXXXXL8A
	39110-2S292	NADWN5GKFXXXXJ1A NADWN5GKFXXXXJ1B NADWN5GKFXXXXL6A NADWN5GKFXXXXL6B	NADWN5GKFXXXXL8A

	39110-2S293	NADWN5GKGXXXXJ1A NADWN5GKGXXXXJ1B NADWN5GKGXXXXL6A NADWN5GKGXXXXL6B	NADWN5GKGXXXXL8A
	39110-2S294	NADWN5GKJXXXXJ1A NADWN5GKJXXXXJ1B NADWN5GKJXXXXL6A NADWN5GKJXXXXL6B	NADWN5GKJXXXXL8A
	39110-2S295	NADWN5GKHXXXXJ1A NADWN5GKHXXXXJ1B NADWN5GKHXXXXL6A NADWN5GKHXXXXL6B	NADWN5GKHXXXXL8A
	39110-2S296	NADWN5GKIXXXXJ1A NADWN5GKIXXXXJ1B NADWN5GKIXXXXL6A NADWN5GKIXXXXL6B	NADWN5GKIXXXXL8A
	39110-2S297	NADWN5GKKXXXXJ1A NADWN5GKKXXXXJ1B NADWN5GKKXXXXL6A NADWN5GKKXXXXL6B	NADWN5GKKXXXXL8A

NX4 and NX4a TCU ROM ID TABLE – Event 776:

MODEL	Part No.	ROM ID	
		OLD	NEW
NX4 NX4a	39110-2S280	TNX4G25X0XSC1SS2	TNX4G25X0XSC2SS3
	39110-2S281	TNX4G25X0XSC1SS2	TNX4G25X0XSC2SS3
	39110-2S282	TNX4G25X4XSC1SS2	TNX4G25X4XSC2SS3
	39110-2S283	SNX4G25X0XSC1SS2	SNX4G25X0XSC2SS3
	39110-2S284	SNX4G25X0XSC1SS2	SNX4G25X0XSC2SS3
	39110-2S285	SNX4G25X4XSC1SS2	SNX4G25X4XSC2SS3
	39110-2S286	TNX4G25X0XSC1SS2	TNX4G25X0XSC2SS3
	39110-2S287	TNX4G25X0XSC1SS2	TNX4G25X0XSC2SS3
	39110-2S288	TNX4G25X4XSC1SS2	TNX4G25X4XSC2SS3
	39110-2S289	SNX4G25X0XSC1SS2	SNX4G25X0XSC2SS3
	39110-2S290	SNX4G25X0XSC1SS2	SNX4G25X0XSC2SS3
	39110-2S291	SNX4G25X4XSC1SS2	SNX4G25X4XSC2SS3
	39110-2S292	TNX4G25X0XSC1SS2	TNX4G25X0XSC2SS3
	39110-2S293	TNX4G25X0XSC1SS2	TNX4G25X0XSC2SS3
	39110-2S294	TNX4G25X4XSC1SS2	TNX4G25X4XSC2SS3
	39110-2S295	SNX4G25X0XSC1SS2	SNX4G25X0XSC2SS3
	39110-2S296	SNX4G25X0XSC1SS2	SNX4G25X0XSC2SS3
	39110-2S297	SNX4G25X4XSC1SS2	SNX4G25X4XSC2SS3

Santa Fe (TMa)**TMa ECU ROM ID TABLE - Event 857:**

MODEL	Part No.	ROM ID	
		OLD	NEW
TMa PE	39110-2S274	TADVN5GMH3XXXJ1A TADVN5GMH3XXXJ1B TADVN5GMH3XXXL5A TADVN5GMH3XXXL5B	TADVN5GMH3XXXL8A
	39110-2S275		
	39110-2S276	TADVN5GSH3XXXJ1A TADVN5GSH3XXXJ1B TADVN5GSH3XXXL5A TADVN5GSH3XXXL5B	TADVN5GSH3XXXL8A

TCU ROM ID TABLE - Event 772:

MODEL	P/NO	ROM ID	
		OLD	NEW
TMa PE	39110-2S274	STM2G25NH1	STM2G25NH2
	39110-2S275	STM4G25NH1	STM4G25NH2
	39110-2S276	STM2G25NH1	STM2G25NH2
	39110-2S277	STM4G25NH1	STM4G25NH2

Sonata (DN8) (VINs begin with KMH)**DN8 ECU ROM ID TABLE - Event 853:**

MODEL	Part No.	ROM ID	
		OLD	NEW
DN8	39100-2S278	DNDVD5GMCCXXXJ1A DNDVD5GMCCXXXJ1B DNDVD5GMCCXXXL5A DNDVD5GMCCXXXL5B	DNDVD5GMCCXXXL8A
	39100-2S279	DNDVD5GMC3XXXJ1A DNDVD5GMC3XXXJ1B DNDVD5GMC3XXXL5A DNDVD5GMC3XXXL5B	DNDVD5GMC3XXXL8A

TCU ROM ID TABLE – Event 782

MODEL	Part No.	ROM ID	
		OLD	NEW
DN8	39110-2S278	SDN8G25NB2	SDN8G25NB3
	39110-2S279	SDN8G25NB2	SDN8G25NB3

Sonata (DN8a) (VINs begin with 5NP)**DN8a ECU ROM ID TABLE – Event 863:**

MODEL	Part No.	ROM ID	
		OLD	NEW
DN8a	39100-2SDL0	DNDVN5GMCCXXXJ1A DNDVN5GMCCXXXJ1B DNDVN5GMCCXXXL5A DNDVN5GMCCXXXL5B	DNDVN5GMCCXXXL8A
	39100-2SDM0	DNDVN5GMC3XXXJ1A DNDVN5GMC3XXXJ1B DNDVN5GMC3XXXL5A DNDVN5GMC3XXXL5B	DNDVN5GMC3XXXL8A

TCU ROM ID TABLE – Event 774:

MODEL	Part No.	ROM ID	
		OLD	NEW
DN8a	39100-2SDL0	SDN8G25NB2	SDN8G25NB3
	39100-2SDM0	SDN8G25NB2	SDN8G25NB3

MANUAL ECU/TCU UPDATE:

NOTE: If the ECU or TCU Update starts but then fails in Auto Mode, perform the update in Manual Mode to recover. Refer to the correct password based on model and ECU or TCU Part Number found on ECU/TCU label or in software management.

Santa Cruz NXT - Update Event #854 (ECU):

MENU	PASSWORD
NX4AT THETA3 2.5GDI 39100-2S171	0020
NX4AT THETA3 2.5GDI 39100-2S177	0021
NX4AT THETA3 2.5GDI 39100-2S172	0022
NX4AT THETA3 2.5GDI 39100-2S173	0023
NX4AT THETA3 2.5GDI 39100-2S178	0025
NX4AT THETA3 2.5GDI 39100-2S174	0027

Santa Cruz NXT – Update Event #784 (TCU):

MENU	PASSWORD
NX4aAT 2.5GDI 8AT 39110-2S171/7/2	2171
NX4aAT 2.5GDI 8AT 39110-2S173/8/4	2173

Tucson NX4 (VINs begin with KM8) – Update Event # 855 (ECU):

MENU	PASSWORD
NX4 THETA3 2.5GDI 39100-2S262	8501
NX4 THETA3 2.5GDI 39100-2S263	8502
NX4 THETA3 2.5GDI 39100-2S264	8503
NX4 THETA3 2.5GDI 39100-2S265	8504

NX4 THETA3 2.5GDI 39100-2S266	8505
NX4 THETA3 2.5GDI 39100-2S267	8506
NX4 THETA3 2.5GDI 39100-2S268	8507
NX4 THETA3 2.5GDI 39100-2S269	8508
NX4 THETA3 2.5GDI 39100-2S270	8509
NX4 THETA3 2.5GDI 39100-2S271	8510
NX4 THETA3 2.5GDI 39100-2S272	8511
NX4 THETA3 2.5GDI 39100-2S273	8512

Tucson NX4a (VINs begin with 5NM) – Update Event # 856 (ECU):

MENU	PASSWORD
NX4a THETA3 2.5GDI 39110-2S280	8601
NX4a THETA3 2.5GDI 39110-2S281	8602
NX4a THETA3 2.5GDI 39110-2S282	8603
NX4a THETA3 2.5GDI 39110-2S283	8604
NX4a THETA3 2.5GDI 39110-2S284	8605
NX4a THETA3 2.5GDI 39110-2S285	8606
NX4a THETA3 2.5GDI 39110-2S286	8607
NX4a THETA3 2.5GDI 39110-2S287	8608
NX4a THETA3 2.5GDI 39110-2S288	8609
NX4a THETA3 2.5GDI 39110-2S289	8610
NX4a THETA3 2.5GDI 39110-2S290	8611
NX4a THETA3 2.5GDI 39110-2S291	8612
NX4a THETA3 2.5GDI 39110-2S292	8613
NX4a THETA3 2.5GDI 39110-2S293	8614
NX4a THETA3 2.5GDI 39110-2S294	8615
NX4a THETA3 2.5GDI 39110-2S295	8616
NX4a THETA3 2.5GDI 39110-2S296	8617
NX4a THETA3 2.5GDI 39110-2S297	8618

Tucson NX4 and NX4a – Update Event # 776 (TCU):

MENU	PASSWORD
NX4a 2.5GDI 8AT 39110-2S280/81/86/87/92/93	2280
NX4a 2.5GDI 8AT 39110-2S282/88/94	2282
NX4a 2.5GDI 8AT 39110-2S283/84/89/90/95/96	2283
NX4a 2.5GDI 8AT 39110-2S285/91/97	2285

Santa Fe (TMa) - Update Event #857 (ECU):

MENU	PASSWORD
TMa PE THETA3 2.5GDI 39110-2S274/5	8701
TMa PE THETA3 2.5GDI 39110-2S276/7	8702

Santa Fe (TMa) – Update Event #772 (TCU):

MENU	PASSWORD
TMa PE 2.5GDI 8AT 39110-2S274/6	2252
TMa PE 2.5GDI 8AT 39110-2S275/7	4252

Sonata (DN8) – Update Event # 853 (ECU):

MENU	PASSWORD
DN8 THETA3 2.5GDI 39100-2S278	7731
DN8 THETA3 2.5GDI 39100-2S279	7732

Sonata (DN8) – Update Event # 782 (TCU):

MENU	PASSWORD
DN8 2.5GDI 39110-2S278/9	8252

Sonata (DN8a) – Update Event # 863 (ECU):

MENU	PASSWORD
DN8a THETA3 2.5GDI 39100-2SDL0	3910
DN8a THETA3 2.5GDI 39100-2SDM0	3911

Sonata (DN8a) – Update Event # 774 (TCU):

MENU	PASSWORD
DN8a 39100-2SDL0/M0	8252