



HYUNDAI

Technical Service Bulletin

GROUP	NUMBER
RECALL	25-01-074H
DATE	MODEL(S)
OCTOBER 2025	SANTA FE (MX5A) TUCSON (NX4A)

SUBJECT: ENGINE REPLACEMENT DUE TO INSUFFICIENT CONNECTING ROD BOLT TORQUE (RECALL 281)

*** IMPORTANT**

Vehicle repairs related to safety recalls are critically important and must be performed properly in accordance with TSB procedures. Review this bulletin in its entirety prior to beginning any repair work.

As required by federal law, dealers must not deliver new vehicles for sale or for lease to customers until all open recalls have been performed. Dealers must also perform all open recalls on used vehicles, demo, and rental vehicles prior to placing them into customer use and whenever an affected vehicle is in the shop for any maintenance or repair.

Access the “Vehicle Information” screen via WebDCS to identify open recalls.

Description: Certain Santa Fe (MX5A) and Tucson (NX4A) vehicles equipped with 2.5L GDI or 2.5T-GDI Theta III engines may have engine connecting rods installed with low torque on the connecting rod bolts during engine assembly. Connecting rods that have been installed with low torque could result in abnormal knocking noise from the engine and/or illumination of the oil pressure warning light. If the vehicle is continually operated with a loose connecting rod, the engine could become damaged and eventually stall the vehicle during operation. A vehicle stall at highway speeds can increase the risk of a crash. In limited instances, a damaged connecting rod could puncture the engine block and cause engine oil to leak, which, in the presence of hot surfaces in the engine compartment, could increase the risk of a fire. This bulletin provides instructions to replace the engine sub-assembly.


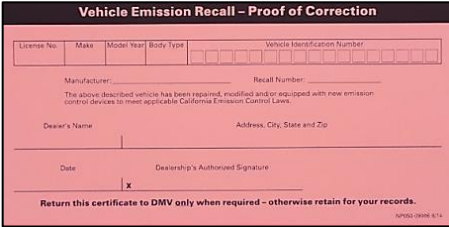

***i* Information**

A Prior Approval (PA) request is **NOT** required to order the engine for this recall.

Applicable Vehicles (Certain):

Model Year	Model	Engine	Production Dates
2025 - 2026	Santa Fe (MX5A)	2.5T-GDI Theta III	02/05/2025 – 08/07/2025
	Tucson (NX4A)	2.5L GDI Theta III	02/18/2025 – 08/08/2025

SUBJECT:**ENGINE REPLACEMENT DUE TO INSUFFICIENT
CONNECTING ROD BOLT TORQUE (RECALL 281)****Parts Information:**

Model	Part Name	Part Number	Figure	Remarks
	Campaign Sticker	NP001-RC281	 <p style="text-align: center;">281</p> <p>Dealer Code: Date:</p> <p style="text-align: right;">NP001-RC281</p>	Apply to all vehicles regardless of state.
Santa Fe (MX5A) Tucson (NX4A)	Vehicle Emission Recall - Proof of Correction Card	NP050-09006		Order only for states: CA, CO, CT, DE, ME, MD, MA, NJ, NY, OR, PA, RI, VT, WA
	Coolant	00232-19098		Qty: 2 gal
Santa Fe (MX5A)	Engine Oil	Use Hyundai OEM Authorized Synthetic Engine Oil		Use 0W-30 Full Synthetic Oil Dealer will be reimbursed under 00232-FSYN030WAR Qty: 8 qts
Tucson (NX4A)				Use 0W-20 Full Synthetic Oil Dealer will be reimbursed under 00232-HSYN020WAR Qty: 8 qts





SUBJECT:**ENGINE REPLACEMENT DUE TO INSUFFICIENT
CONNECTING ROD BOLT TORQUE (RECALL 281)****Parts Information (continued):**

Model	Part Name	Part Number	Remarks
Santa Fe (MX5A)	Engine Sub-Assembly (DCT) – 25MY	24HS1-2SK00	Qty: 1
	Engine Sub-Assembly (A/T) – 26MY	26HS1-2SK00	Qty: 1
	Gasket-Port	28313-2T000	Qty: 1
	Gasket-ETC	28312-2T000	Qty: 1
	Gasket-Catalyst Case	28535-2T200	Qty: 1
	Gasket-Exhaust Manifold	28521-2T000	Qty: 1
	Gasket (Oil Drain Pipe)	28246-2G430	Qty: 2
	Gasket (Water Feed Pipe)	28246-2S300	Qty: 1
	Gasket (Water Feed Washer)	17512-12000	Qty: 4
	Gasket-Oil Drain	28246-2T000	Qty: 1
	Gasket (Oil Feed Pipe)	58797-1R000	Qty: 2
	Gasket-Exhaust Pipe	28751-3S100	Qty: 1
	Gasket-Exhaust Pipe	28751-2S000	Qty: 1
	O-Ring	25462-2S000	Qty: 1
	O-Ring	25462-2S500	Qty: 1
	Gasket-Thermostat Case	25623-2S600	Qty: 1
	Pin (Tie Rod End)	57799-4D200	Qty: 4
	Bolt (Steering Joint)	56415-L1000	Qty: 1
	Bolt (Roll Rod Mount)	21991-P6000	Qty: 1
	Nut-Castle	49551-4T000	Qty: 2
	Bolt (Propeller Shaft)	11435-10256-K	Qty: 7 (AWD Only)
	O-Ring (Discharge Side)	97690-34350	Qty: 1
	O-Ring (Suction Side)	97690-34330	Qty: 1
	Nut-Self Locking (Exhaust Manifold)	10225-10007-K	Qty: 4
	Drive Plate Bolt (A/T)	23311-25050	Qty: 8
	Flywheel Bolt (DCT)	23231-25200	Qty: 8

SUBJECT:**ENGINE REPLACEMENT DUE TO INSUFFICIENT
CONNECTING ROD BOLT TORQUE (RECALL 281)****Parts Information (Continued):**

Model	Part Name	Part Number	Remarks
Tucson (NX4A)	Engine Sub-Assembly	12HS1-2SK00	Qty: 1
	Gasket-PCV FKM	28411-2S020	Qty: 1
	Gasket-Port	28411-2S010	Qty: 3
	Gasket-Throttle Body	28411-2S000	Qty: 1
	Gasket-EGR Pipe	28493-2S000	Qty: 1
	Gasket-EGR Pipe (EGR Pipe Assy 'C')	28493-2S030	Qty: 1
	Gasket-EGR Pipe	28493-2S010	Qty: 1
	Gasket-Catalyst Case	28535-2SAD0	Qty: 1
	Gasket-Exhaust Pipe (Front Muffler)	28751-3S100	Qty: 2
	O-Ring (Water Inlet Pipe)	25462-2S000	Qty: 1
	O-Ring (Water Inlet Pipe)	25462-2S500	Qty: 1
	Gasket-Thermostat Case	25623-2S600	Qty: 1
	Pin (Tie Rod End + LCA Ball Joint)	57799-4D200	Qty: 4
	Bolt (Steering Joint)	56415-L1000	Qty: 1
	Bolt (Roll Rod Mount)	21991-P6000	Qty: 1
	Nut-Castle	49551-4T000	Qty: 2
	Bolt (Propeller Shaft)	11435-10256-K	Qty: 7 (AWD Only)
	O-Ring (Discharge Side)	97690-34350	Qty: 1
	O-Ring (Suction Side)	97690-34330	Qty: 1
	Nut-Self Locking (Exhaust Manifold)	10225-10007-K	Qty: 4
Drive Plate Bolt	23311-25050	Qty: 8	

SST Information:

Tool Name	Tool Number	Figure	Remarks	Ordering Information
Lift Table	AGALIFTXL			Website: https://hyundaiessentialtools.com/ Email: Hyundaitools@snapon.com Phone: 1-855-763-9199 Hours: 7 AM – 7 PM CST
Ball Joint Puller	09568-2J100		Santa Fe (MX5A) For separating tie rod end ball joint	
	09568-1S100		Tucson (NX4A) For separating tie rod end ball joint	
Drive Belt Remover	09252-C1000		For removal & installation of water pump belt	
Ball Joint Remover	09568-4R100		For separating lower arm ball joint	

NOTE: Commercially available equivalent tools may be used.

SUBJECT:**ENGINE REPLACEMENT DUE TO INSUFFICIENT
CONNECTING ROD BOLT TORQUE (RECALL 281)****Warranty Information:**

Model	Trans	Op. Code	Operation	Op. Time	Causal Part	Nature Code	Cause Code
Tucson (NX4A)	2WD	51DA44R0	Engine Sub-assembly Replacement (Wheel Alignment Adjustment Included)	8.7 M/H	12HS1-2SK00	Q71	ZZ3
	4WD	51DA44R1		9.1 M/H			
Santa Fe (MX5A)	2WD	51DA44R2		8.1 M/H	24HS1-2SK00		
	4WD	51DA44R3		8.4 M/H			

NOTE 1: Submit claim on Claim Entry Screen as “Campaign” type.

NOTE 2: If a part is found in need of replacement while performing this recall 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 performing the work.

NOTE 3: This TSB includes repair validation photos. Op times include VIN, mileage, and repair validation photo(s) as outlined in the Digital Documentation Policy.

NOTE 4: The incident parts are subject to callback through the normal Warranty Technical Center (WTC) parts return process. **Claim is subject to debit if the part is not returned.**

NOTE 5: All Op codes reimburse two (2) gallons of pink coolant and eight (8) quarts of full synthetic engine oil.

NOTE 6: A Prior Approval (PA) number is not required for this engine replacement.

SUBJECT:

**ENGINE REPLACEMENT DUE TO INSUFFICIENT
CONNECTING ROD BOLT TORQUE (RECALL 281)**

Service Procedure:

DIGITAL DOCUMENTATION



This TSB includes repair validation photos. Refer to the latest Warranty Digital Documentation Policy for requirements.

NOTICE

Applying the recommended torque to all fasteners is essential to reduce potential issues from occurring after the service procedure.

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Engine Replacement Procedure

1. Remove the engine sub-assembly referring to the shop manual:
 - Santa Fe (MX5A):
Engine Mechanical System > Engine and Transaxle Assembly > Engine and Transaxle Assembly > Removal
 - Tucson (NX4A):
Engine Mechanical System > Engine and Transaxle Assembly > Engine and Transaxle Assembly > Repair Procedures



NOTICE

If the vehicle arrives with a seized or damaged internal rotating component, refer to **TSB 23-EM-002H (or latest version), Intake and Exhaust System Inspection and Replacement Guidelines During Engine Replacement** to inspect, clean, and/or replace affected components.

SUBJECT:**ENGINE REPLACEMENT DUE TO INSUFFICIENT
CONNECTING ROD BOLT TORQUE (RECALL 281)**

2. Transfer the following components from the **original** engine sub-assembly to the **new** engine sub-assembly:
 - Starter and Alternator Assembly
 - Throttle Body
 - Drive Plate / Flywheel
 - Full Drive Belt Kit (Idler, Belt Tensioner, Water Pump Pulley, Serpentine Belt)
 - Integrated Thermal Management (ITM) Module
 - Oil Level Rod
 - A/C Compressor Assembly and Mounting Bracket
 - Front Transfer Case Assembly (if applicable)
 - Engine Front Wiring Harness
 - Roller Tappet for the High-Pressure Fuel Pump
 - Turbocharger Assembly and Drain/Feed Lines (if applicable)

3. Transfer all remaining components to the **new** engine sub-assembly, by referring to the shop manual:
 - Santa Fe (MX5A):
Engine Mechanical System > Engine and Transaxle Assembly > Engine and Transaxle Assembly > Removal and Installation
 - Tucson (NX4A):
Engine Mechanical System > Engine and Transaxle Assembly > Engine and Transaxle Assembly > Repair Procedures

4.

**DIGITAL
DOCUMENTATION**

Using the STUI camera function, take a photo of the **new** engine sub-assembly's serial number.

Upload the photo to STUI.

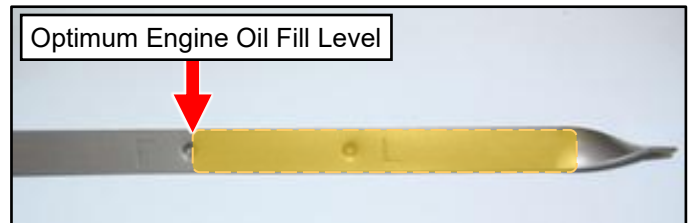
NOTE: If the STUI camera function is **NOT** used, write the last 6 digits of the VIN and date of repair on a piece of paper to include in the photo.



5. Install the new engine sub-assembly referring to the shop manual:
 - Santa Fe (MX5A):
Engine Mechanical System > Engine and Transaxle Assembly > Engine and Transaxle Assembly > Installation
 - Tucson (NX4A):
Engine Mechanical System > Engine and Transaxle Assembly > Engine and Transaxle Assembly > Repair Procedures
6. Reinstall all remaining parts in the reverse order of the removal process.
7. Reinstall and connect the cooling system components, then fill the cooling system with **~35 - 50%** coolant, diluted with distilled water.
8. Add **7.19 quarts** of engine oil for the initial dry fill.

**Information**

- Santa Fe (MX5A): **SAE 0W-30**, API SN PLUS/SP or ILSAC GF-6 (or higher)
- Tucson (NX4A): **SAE 0W-20**, API SN PLUS/SP or ILSAC GF-6 (or higher)



9. Remove the fuel pump fuse from the engine fuse box cover.
 - Santa Fe (MX5A): **20A**
 - Tucson (NX4A): **20A**
10. Crank the engine for **5 seconds** to prime the lubrication system, then reinstall the fuel pump fuse.

11. Start the engine and perform the cooling system air bleeding process by referring to the shop manual:

Refer to the shop manual:

- **Engine Mechanical System > Cooling System > Coolant > Replacement (Santa Fe) / Repair procedures (Tucson)**

Check for any coolant leaks during the air bleeding process.

The screenshot shows the S/W Management interface for a vehicle with VIN 5NMP44GL3SH068791 and B28AAca526250529001F. The mode is 'Integrated Thermal Module Coolant Filling Mode'. The purpose is to assist with coolant refilling by opening the coolant flow line for engines with an ITM. The enable conditions are: 1. IG ON, ENG RUN; 2. Transmission position P / Parking brake ON; 3. Vehicle speed 0km/h (0 mile/h); 4. Coolant temperature is 90°C or under. The concerned component is ITM, and there are no DTCs, fail safe issues, or other concerns listed.

Purpose	This mode assists coolant refilling by opening the coolant flow line for the engine equipped with an ITM.
Enable Condition	1. IG ON, ENG RUN 2. Transmission position P / Parking brake ON 3. Vehicle speed 0km/h (0 mile/h) 4. Coolant temperature is 90°C or under
Concerned Component	ITM
Concerned DTC	-
Fail Safe	-
Etc	-

12. Turn **OFF** the engine, then wait **~10 minutes** to allow oil to return to the oil pan.

Verify the engine oil level is still at the **“Full”** mark.

13. Perform a wheel alignment by referring to the shop manual:
- **Suspension System > Tires/Wheels > Alignment > Alignment (Santa Fe) / Adjustment (Tucson)**

14.

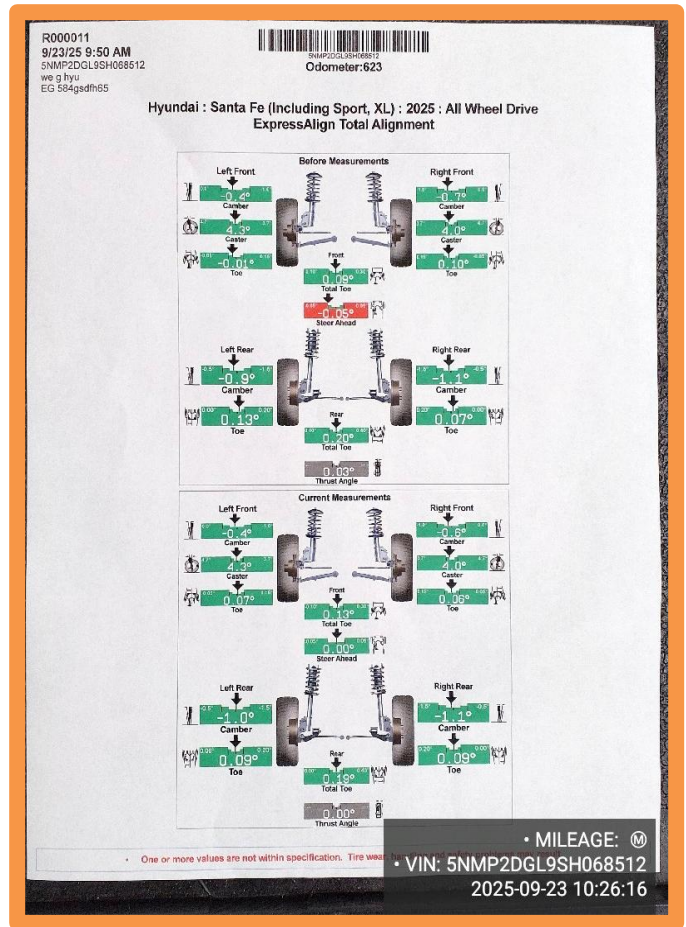
DIGITAL DOCUMENTATION



Using the STUI camera function, take a photo of the completed alignment sheet clearly showing the VIN and date of alignment.

Upload the photo to STUI.

NOTE: If the STUI camera function is **NOT** used, write the last 6 digits of the VIN and date of alignment on a piece of paper to include in the photo.



15. Verify all fluids have been filled to recommended levels, then complete the following quality checks:

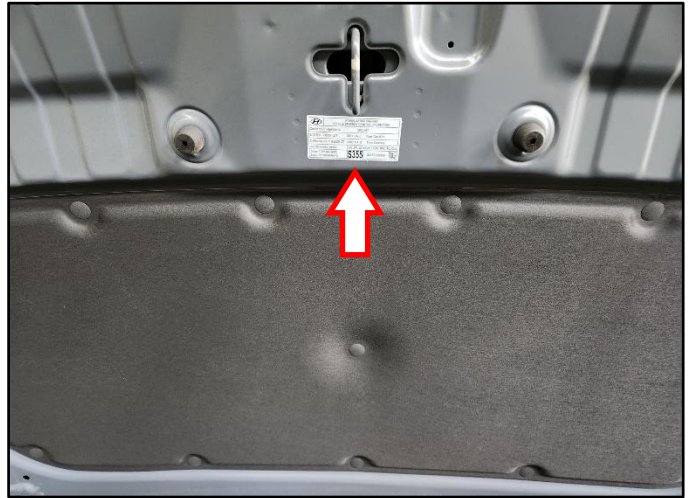
- Erase all DTCs that have incidentally occurred during the engine sub-assembly replacement.
- Reset the engine adaptive values using GDS.

16. Proceed to [Campaign Sticker Application \(for All Vehicles\)](#) on the next page.

SUBJECT:**ENGINE REPLACEMENT DUE TO INSUFFICIENT
CONNECTING ROD BOLT TORQUE (RECALL 281)****Campaign Sticker Application (for All Vehicles)**

1. Fill in the Dealer Code and Date on the Campaign Sticker, and apply adjacent to the existing Emission Label, on the underside of the hood, as shown.

Be sure to clean the mounting surface to ensure proper label adhesion.



- 2.

**DIGITAL
DOCUMENTATION**



Using the STUI camera function, take a photo of the campaign sticker.

Upload the photo to STUI.

NOTE: If the STUI camera function is **NOT** used, write the last 6 digits of the VIN and the date of repair on a piece of paper to include in the photo.



3. Proceed to the next section and complete the [Vehicle Emission Recall - Proof of Correction Card](#) for the states listed.

If **NOT** applicable to your state, the repair process is complete.

SUBJECT:

ENGINE REPLACEMENT DUE TO INSUFFICIENT
CONNECTING ROD BOLT TORQUE (RECALL 281)

Vehicle Emission Recall – Proof of Correction Card (for Vehicles Registered in Certain States)

For vehicles registered in California, Colorado, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington:

VEHICLE EMISSION RECALL - PROOF OF CORRECTION CARD

A Vehicle Emission Recall - Proof of Correction card must be filled out for all vehicles registered in California, Colorado, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington. Residents of these states, who own an affected vehicle, will be required to possess a Vehicle Emission Recall - Proof of Correction card as evidence of voluntary service campaign completion, when they apply for vehicle registration renewal.

WHAT TO DO WITH THE CARD:

The Vehicle Emission Recall - Proof of Correction card must be completed by the Dealership’s Service Manager using a permanent ink pen. A fine point pen is recommended. When filling in the information, copy the information directly from the vehicle, not from the repair order.

ALL INFORMATION MUST BE PRINTED AND NEAT.

The copy of the card shown below indicates the areas to be filled in. Each area must be filled in.

The completely filled out Vehicle Emission Recall - Proof of Correction card should be given to the owner of the vehicle upon completion of the Campaign.

- | | |
|-----------------------------------|--|
| 1. Enter Vehicle’s License Number | 7. Enter Dealership Name |
| 2. Enter “Hyundai” | 8. Enter Dealership’s Address
NOTE: Enter the physical address, not the mailing address (not a P.O. Box) |
| 3. Enter Model Year | 9. Enter Date of Repair |
| 4. Enter Model (e.g. Tucson) | 10. Service Manager Sign Here |
| 5. Enter the vehicle’s VIN Number | |
| 6. Enter Recall Number 281 | |

Vehicle Emission Recall – Proof of Correction

License No. 1	Make 2	Model Year 3	Body Type 4	Vehicle Identification Number 5
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Manufacturer: _____ **2** Recall Number: _____ **6**

The above described vehicle has been repaired, modified and/or equipped with new emission control devices to meet applicable California Emission Control Laws.

Dealer's Name _____ **7** Address, City, State and Zip _____ **8**

Date _____ **9** Dealership's Authorized Signature _____ **10**

Return this certificate to DMV only when required – otherwise retain for your records.

NP050-09006 8/14