


| | | |
|---|---|--|
|  HYUNDAI Technical Service Bulletin | GROUP RECALL | NUMBER 22-01-042H |
| | DATE MAY 2022 | MODEL ELANTRA (AD) KONA (OS) VELOSTER (JS) |
| SUBJECT: | NU 2.0L ATKINSON ENGINE INSPECTION AND REPLACEMENT (RECALL 203) | |

This TSB supersedes TSB# 21-01-054H-1 to revise the Parts and Warranty Information sections to include both “Reman” and “New” Long Block availability.

***** Dealer Stock and Retail Vehicles *****

As required by federal law, dealer must not deliver new vehicle 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 maintenance or repair.

When a vehicle arrives at the Service Department, access Hyundai Motor America's "Warranty Vehicle Information (VIS)" screen via WEBDCS to identify open recalls.

Description: On certain vehicles listed below, the engine may have been assembled using piston oil rings that were out of specification. This can cause abnormal scuffing of the engine cylinder bores due to chipped piston oil rings which can also result in accelerated engine oil consumption.


Follow the procedures in this bulletin to inspect the vehicle and to determine the applicable repair procedure based on the inspection results.

APPLICABLE VEHICLES:

- Certain 2019-20MY Elantra (AD*) vehicles with 2.0L Nu engines produced through 7/6/2020
- Certain 2019-21MY Kona (OS) vehicles with 2.0L Nu engines produced through 9/1/2020
- Certain 2019-21MY Veloster (JS) vehicles with 2.0L Nu engines produced through 5/27/2020

NOTE: *Elantra (AD) vehicles have VINs starting with “KMH”.


SST Information:

| TOOL NAME | FIGURE / TOOL NUMBER | NOTE |
|--------------------|---|---|
| Knock Sensor Cable |  <p>G1XTD-CP200-QQH</p> | <ul style="list-style-type: none"> • This tool has been initially supplied by HMA through MPA. Each dealer will receive one at the start of this recall. • A Galaxy tablet device equipped with a headphone / microphone port is required. Certain models without this port (such as the Samsung Galaxy Tab S6) are not compatible to use with this tool. Do not use a USB Type C-to-3.5mm Headphone Jack Adapter. |

Parts Information:

| VEHICLE | TM TYPE | REMAN ENGINE LONG BLOCK P/N | NEW ENGINE LONG BLOCK P/N | NOTE |
|---|---------|-----------------------------|---------------------------|---|
| 19MY Elantra (AD) 19-21MY Veloster (JS) | MT | 21101-112ZRQQHRM | 21101-112ZRQQH | (Replace only if inspection result is "NO PASS") |
| 19MY Elantra (AD) 19-21MY Kona (OS) 19-21MY Veloster (JS) | AT | 21101-113ZRQQHRM | 21101-113ZRQQH | |
| 20MY (AD) Elantra | MT | 21101-114ZRQQHRM | 21101-114ZRQQH | |
| 20MY (AD) Elantra | CVT | 21101-115ZRQQHRM | 21101-115ZRQQH | |

- For engine replacement, please ensure to follow standard HMA warranty policy and use a new engine long block if vehicle is within ("5/60") and a Reman when beyond 5/60 (if available).

| PART NAME | FIGURE / PART NUMBER | NOTE |
|--|--|---|
| Engine Service Kit |  <p>21102-N20AKQQH</p> | (For use with above engine long blocks) |
| *** Includes Contents Below *** | | |
| PULLEY-DAMPER | 23124-2E003 (ALT 23124-2E052) | 1EA |
| BOLT-CRANKSHAFT PULLEY | 23127-2E000 | 1EA |
| ROD ASSY-OIL LEVEL | 26611-2E022 | 1EA |
| GASKET-EXMANI | 28521-2E000 | 1EA |
| GASKET-INMANI | 28313-2EAA0 | 1EA |
| KNOCK SENSOR | 39250-2E000 | 1EA |
| BOLT-FLANGE | 11403-08306K | 1EA |
| HOSE ASSY-HEATER | 25480-2E000 | 1EA |
| GASKET-EGR PIPE, A1 | 28491-2E920 | 1EA |
| GASKET-EGR PIPE, B | 28492-2E900 | 1EA |
| O-RING WTC ASSY | 25623-2E000 | 1EA |
| GASKET (FRT MUFFLER) | 28751-2B300 | 1EA |
| NUT (FRT MUFFLER) | 13183-12000 | 2EA |
| SWITCH ASSY-OIL PRESSURE | 94750-37100 | 1EA |

NOTES: Engine long block and service kit are for engine R&R if the inspection result is a "NO PASS".

- During engine R&R, install the applicable Engine Long Block and Service Kit part numbers.
- Reuse other parts not listed under the Service Kit parts list.
- After installing the engine in the vehicle, fill the engine oil level to the top of "F" position.
 - (Engine Oil Fill Capacity: 4.5 liters with 5W20 engine oil)

Warranty Information:

| MODEL | OP CODE | OPERATION | OP TIME | CAUSAL P/N | NATURE CODE | CAUSE CODE |
|----------------------------|----------|---|---------|------------------|-------------|------------|
| ALL (AD/OS/JS) | 11D110R0 | ENGINE VIBRATION INSPECTION | 0.3 | 21101-113ZRQQHRM | B25 | ZZ1 |
| 2019-20MY Elantra (AD) | 11D110R1 | ENGINE VIBRATION INSPECTION AND (REMAN) ENGINE REPLACEMENT | 6.6 | | | |
| 2019-21MY Kona (OS) w/ 2WD | 11D110R2 | ENGINE VIBRATION INSPECTION AND (REMAN) ENGINE REPLACEMENT | 6.7 | | | |
| 2019-21MY Kona (OS) w/ AWD | 11D110R3 | ENGINE VIBRATION INSPECTION AND (REMAN) ENGINE REPLACEMENT | 7.0 | | | |
| 2019-21MY Veloster (JS) | 11D110R4 | ENGINE VIBRATION INSPECTION AND (REMAN) ENGINE REPLACEMENT | 6.8 | | | |
| 2019-20MY Elantra (AD) | 11D110R8 | ENGINE VIBRATION INSPECTION AND (NEW) ENGINE REPLACEMENT | 6.6 | | | |
| 2019-21MY Kona (OS) w/ 2WD | 11D110R9 | ENGINE VIBRATION INSPECTION AND (NEW) ENGINE REPLACEMENT | 6.7 | | | |
| 2019-21MY Kona (OS) w/ AWD | 11D110RA | ENGINE VIBRATION INSPECTION AND (NEW) ENGINE REPLACEMENT | 7.0 | | | |
| 2019-21MY Veloster (JS) | 11D110RB | ENGINE VIBRATION INSPECTION AND (NEW) ENGINE REPLACEMENT | 6.8 | | | |

NOTE 1: Submit claim on Campaign Claim Entry Screen

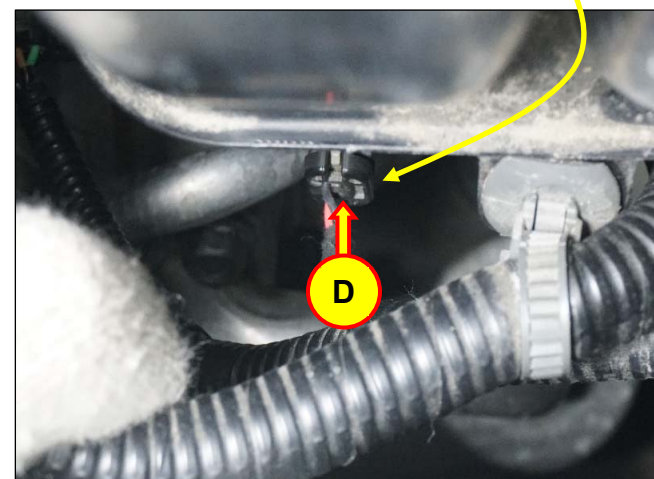
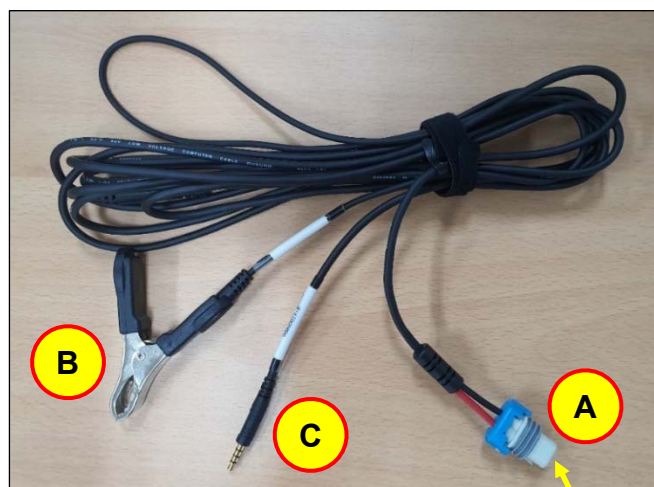
NOTE 2: If a part that is not covered by this recall is found in need of replacement while performing the repair for this TSB, and the affected part is still under warranty, please submit a separate claim using the same Repair Order. If the affected part is out of warranty, submit a prior approval request for goodwill consideration prior to performing the work.

NOTE 3: If the Engine Vibration Inspection cannot be performed on a non-running vehicle due to internal engine damage, submit PA first for the applicable engine part number for engine R&R, then perform the required Engine Vibration Inspection after engine replacement.

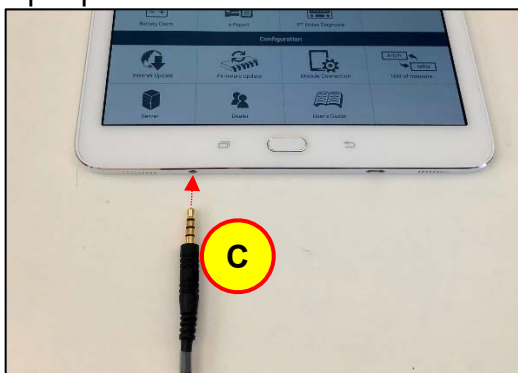
NOTE 4: For engine replacement, please ensure to follow standard HMA warranty policy and use a new engine long block if vehicle is within ("5/60") and a Reman when beyond 5/60 (if available).

Inspection Procedure:

1. Prepare the engine vibration inspection tool and GDS-M.
 - Inspect the vehicle in an area where the ambient noise and vibration levels are minimal.
 - Using the latest GDS-M software update, the VCI must be updated with the latest firmware also.
2. Connect the knocking sensing connector (A) of the engine vibration inspection tool to the knock sensor connector (D).
3. Connect the ground clamp (B) to the battery '-' terminal.
 - Position the vibration inspection tool harness to avoid interference and vibration from the engine components which may affect the inspection result.
 - Route the wiring harness around the engine compartment as shown below.



4. Connect the signal jack (C) to the GDS-M stereo input port.



NOTICE

A Galaxy tablet device equipped with a headphone / microphone port is required. Certain models without this port (such as the S6 tablet) are not compatible for this inspection. Do not use a USB-C jack adapter.

5. Connect the VCI to the vehicle's DLC port and check the Bluetooth pairing condition between the VCI and GDS-M.

- Before pairing: White lamp light
- After pairing: Green lamp light



6. Turn the vehicle ignition 'ON' and prepare the GDS for the inspection procedure.

- Enter the vehicle info into the GDS (E).
- Swipe up on the "More" tab at the bottom of the GDS home screen (F).
- Select the "**Special Inspection**" function (G).

NOTE: If the vehicle is not supported by the inspection program (either wrong model, model year, or engine), then this inspection will not be made possible.



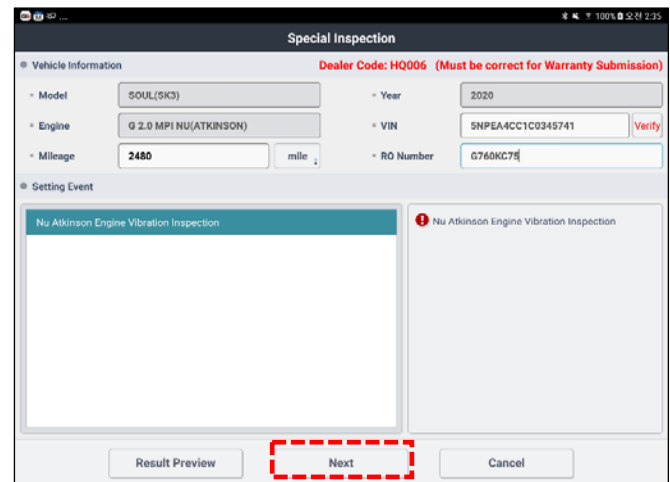
7. Enter the mileage and RO number of the vehicle accurately.

8. Select the "**Nu Atkinson Engine Vibration Inspection**" and press the 'Next' button to proceed.

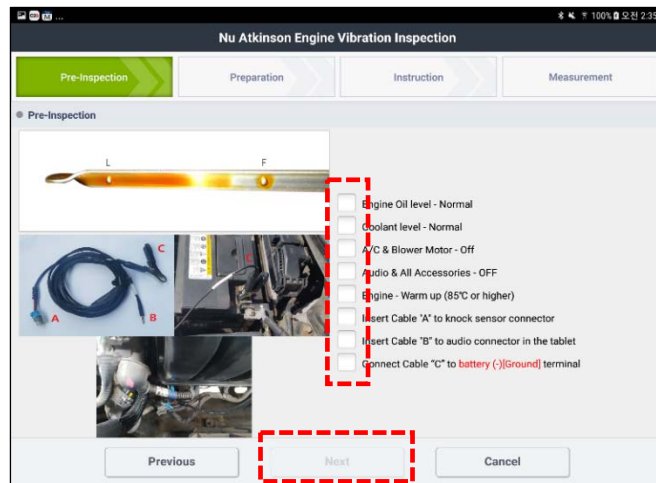
[Refer to link below for guided video information.]



[Hyundai Service Learning - Campaign 203 Service Procedure](#)



9. To obtain accurate inspection results, verify and acknowledge the check items that must be carried out before the inspection test.
 - Check all the precondition items on the list. (The actual monitoring of the Engine Coolant Temperature will be performed at the following screen.)
 - After all the precondition items have been acknowledged with checkboxes, press the 'Next' button to proceed.



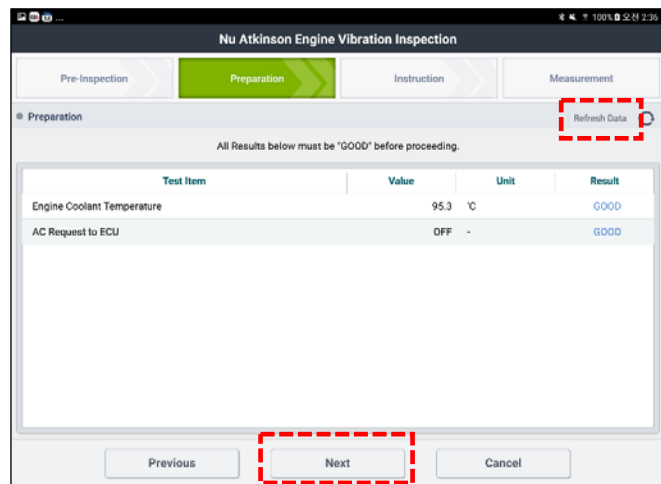
NOTICE

- During the initial vehicle inspection, engine oil level that is abnormally low (**near or below “L” for relatively low miles since last oil change or top off**) due to a possible accelerated engine oil consumption condition will need further diagnosis.
 - Refer to HTSS “Fix it Right” under symptom “Campaign”
- If possible, the engine coolant temperature should be closer to normal operating temperature of 85°C / 185°F (or higher) to help expedite the actual engine inspection procedure.

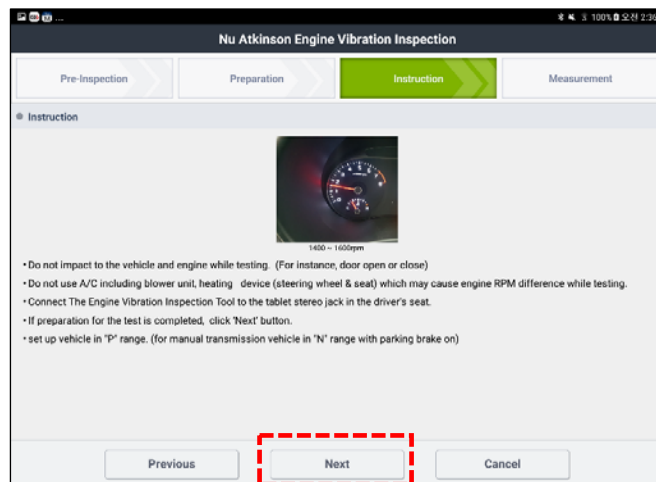
10. The inspection program automatically checks engine sensor data and enables the “Next” button when all conditions are satisfied.

NOTE: A “NOT GOOD” status is displayed if the conditions are not satisfied. Press the “Refresh Data” button to obtain new sensor data after warming the engine and turning off the A/C.

- If all conditions are satisfied, press the “Next” button to proceed.



11. After reviewing the vibration inspection process explanation and precautions, press the “Next” button to proceed.



12. In this screen, the program will perform an internal diagnosis after the “Start” button is pressed while the engine is at **idle speed** and the KS signal is acquired for five seconds.

- A brief warm up of the engine (by slightly raising the engine speed several times) may be required if the coolant temperature is not warm enough to be tested.

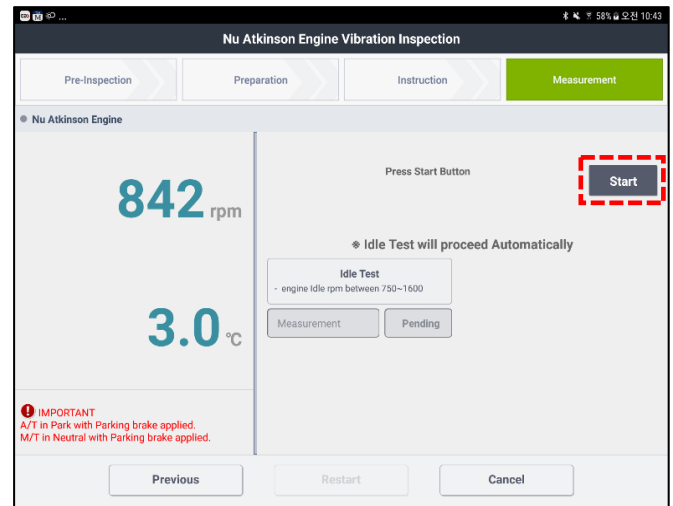
NOTE: If the measured input value is abnormally lower or higher than the expected range, then a sensor check message will be displayed and with the inspection test being canceled.

13. Press the accelerator pedal to maintain an engine rpm target of 1500 ± 100 rpm.

- Maintain a steady engine speed between 1400-1600 rpm for five seconds.

NOTE: If the engine rpm deviates from the specified target range, the engine speed value will be indicated in red color and the time count will be halted.

- When the engine speed is within the target rpm range, the green status bars will continue to illuminate for each measurement cycle.
- Repeat the 1500 ± 100 rpm engine speed test to complete the 3 measurement cycles.

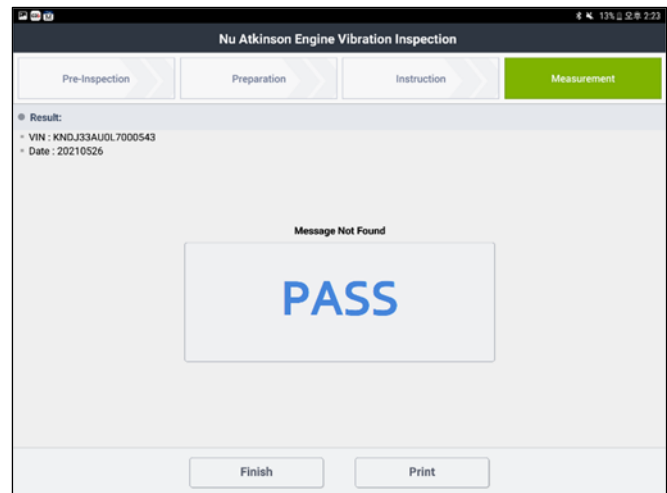


NOTICE

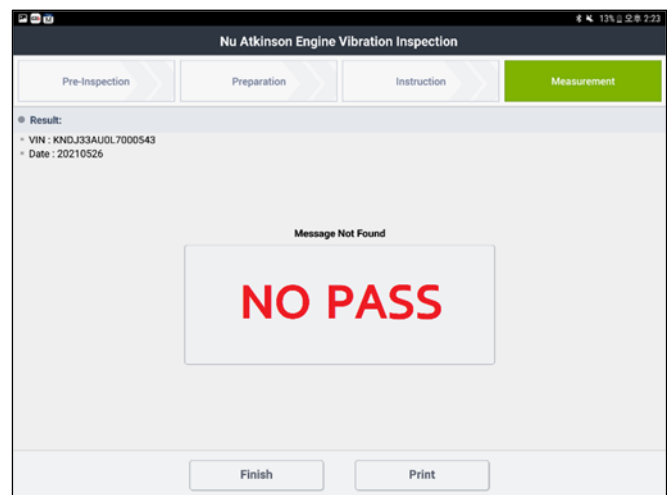
- If a test is repeated for any reason and there is a discrepancy in the results:
 - Refer to HTSS “Fix it Right” under symptom “Campaign”

14. When the inspection test is completed, the result will be displayed. Save a screenshot of the results screen for records.

- If the test result is **PASS**, the measured engine vibration level is determined to be normal. The engine inspection is complete.

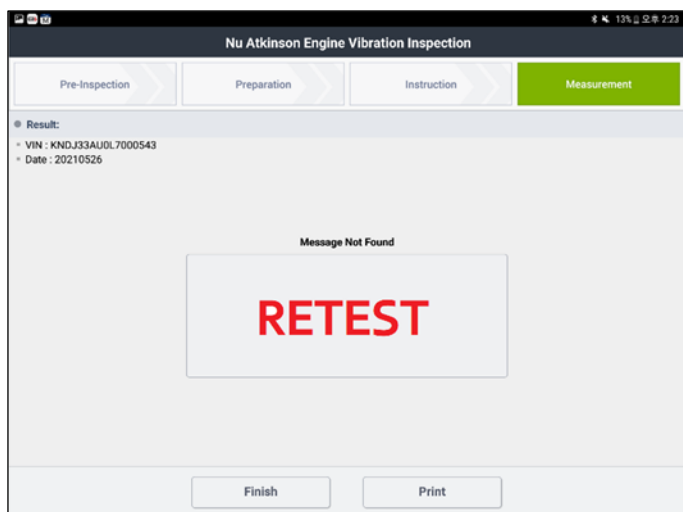


- If the test result is **NO PASS**, the measured engine vibration level is determined to be abnormal.
 - 1) The PA and Engine Diagnosis Worksheet will be automatically created and saved in DRAFT.
 - 2) Complete the information in the Engine Diagnosis Worksheet and apply the Service Manager's signature before submitting the PA.
 - 3) Refer to the service procedures in the appropriate Shop Manual to replace the engine long block with the service kit.



- If the test result is **RETEST**, there is an error detected in measuring the vibration value. Check the inspection tool connections and perform the inspection test again.

NOTE: It may require routing the inspection tool harness away from any interference, checking all connections, and/or restarting the tablet.



15. When the inspection is completed, the inspection results are automatically sent to the server.
- KS measured value, inspection time, dealer code, VIN, vehicle information, mileage, and sensor recording file will be sent.
 - Be sure to check the status in the Results Preview screen and select “Send All Pending” if the test results have not been sent from the tablet to the server.

NOTICE

The basic inspection history and the results sent to the server are available to review through by selecting the “Review Result” button from the Results Preview screen.