 HYUNDAI Technical Service Bulletin	GROUP Engine Mechanical	NUMBER 22-EM-007H
	DATE JUNE 2022	MODEL(S) Elantra (MD / UD), Elantra GT (GD), Elantra Coupe (JK)
SUBJECT: NU ENGINE CYLINDER BLOCK INSPECTION & REPLACEMENT		

This TSB supersedes TSB# 21-EM-001H-1 to revise the Parts and Warranty Information with the latest update.

Description: This bulletin describes the procedure to inspect an engine exhibiting noise between the cylinder block and piston due to possible scuffing on one or more cylinder walls. Follow the procedure outlined in this bulletin to inspect the engine and replace the engine long block along with service kit if scuffing is observed.

Applicable Vehicles: Certain 2011-2016MY Elantra (MD/UD) vehicles with 1.8L engine
 Certain 2013MY Elantra GT (GD) vehicles with 1.8L engine
 Certain 2013MY Elantra Coupe (JK) vehicles with 1.8L engine

Parts Information:

Part Name	Part Number	REMARKS																														
LONG BLOCK	21101-110ZTFFHRM	14~16MY UD/MD																														
	21101-111ZTFFHRM	11~13MY UD/MD and 13MY JK																														
	21101-113ZTFFHRM	13MY GD																														
SERVICE KIT	21102-N18M1FFF	<table border="1"> <tr> <td>26611-2E022</td> <td>ROD ASSY-OIL LEVEL</td> <td>1</td> </tr> <tr> <td>28521-2E000</td> <td>GASKET-EXMANI</td> <td>1</td> </tr> <tr> <td>28313-2E200</td> <td>GASKET-INMANI (+VCM)</td> <td>1</td> </tr> <tr> <td>28313-2E000</td> <td>GASKET-INMANI</td> <td>4</td> </tr> <tr> <td>39250-2E000</td> <td>KNOCK SENSOR</td> <td>1</td> </tr> <tr> <td>11403-08306K</td> <td>BOLT-FLANGE</td> <td>1</td> </tr> <tr> <td>25480-2E000</td> <td>HOSE ASSY-HEATER</td> <td>1</td> </tr> <tr> <td>25623-2E000</td> <td>O-RING WTC ASSY</td> <td>1</td> </tr> <tr> <td>28751-2B300</td> <td>GASKET (FRT MUFFLER)</td> <td>1</td> </tr> <tr> <td>13183-12000</td> <td>NUT (FRT MUFFLER)</td> <td>2</td> </tr> </table>	26611-2E022	ROD ASSY-OIL LEVEL	1	28521-2E000	GASKET-EXMANI	1	28313-2E200	GASKET-INMANI (+VCM)	1	28313-2E000	GASKET-INMANI	4	39250-2E000	KNOCK SENSOR	1	11403-08306K	BOLT-FLANGE	1	25480-2E000	HOSE ASSY-HEATER	1	25623-2E000	O-RING WTC ASSY	1	28751-2B300	GASKET (FRT MUFFLER)	1	13183-12000	NUT (FRT MUFFLER)	2
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SST Information:

Description	Part Number	Figure	Remarks
Digital Inspection Borescope / Camera	Commercially Available Equivalent		Purchase borescope tool from commercial retailers or suppliers.

NOTE: A commercially available inspection borescope with an output to a digital display screen is required. It must provide clear resolution to inspect cylinder wall surfaces using a 90 degree camera probe adapter.

Circulate To: General Manager, Service Manager, Parts Manager, Warranty Manager, Service Advisors, Technicians, Body Shop Manager, Fleet Repair

Warranty Information:

Model	Op. Code	Operation	Transmission Type	Op. Time	ENGINE Replacement Part	Causal Part	Nature Code	Causal Code
Elantra (MD), Elantra (UD), Elantra Coupe (JK), Elantra GT (GD)	10D009R0	Cylinder Block Inspection Only	Both	0.5 M/H	N/A	22135-2E000	Q52	ZZ5
14-16MY Elantra (MD/UD)	10D009RH	Cylinder Block Inspection and Long Block Replacement	Manual	6.6 M/H	21101-110ZTFFHRM	21101-110ZTFFHRM		
14-16MY Elantra (MD/UD)	10D009RI	Cylinder Block Inspection and Long Block Replacement	Automatic	6.8 M/H	21101-110ZTFFHRM	21101-110ZTFFHRM		
11-13MY Elantra (MD/UD), 13MY Elantra Coupe (JK)	10D009RJ	Cylinder Block Inspection and Long Block Replacement	Manual	6.6 M/H	21101-111ZTFFHRM	21101-111ZTFFHRM		
11-13MY Elantra (MD/UD), 13MY Elantra Coupe (JK)	10D009RK	Cylinder Block Inspection and Long Block Replacement	Automatic	6.8 M/H	21101-111ZTFFHRM	21101-111ZTFFHRM		
13MY Elantra GT (GD)	10D009RL	Cylinder Block Inspection and Long Block Replacement	Manual	6.6 M/H	21101-113ZTFFHRM	21101-113ZTFFHRM		
13MY Elantra GT (GD)	10D009RM	Cylinder Block Inspection and Long Block Replacement	Automatic	6.8 M/H	21101-113ZTFFHRM	21101-113ZTFFHRM		

NOTE 1: Submit Claim on Campaign Claim Entry Screen

NOTE 2: Submit campaign labor operation based on Engine replacement part used.

NOTE 3: PA approval required for Op codes with Engine replacement.

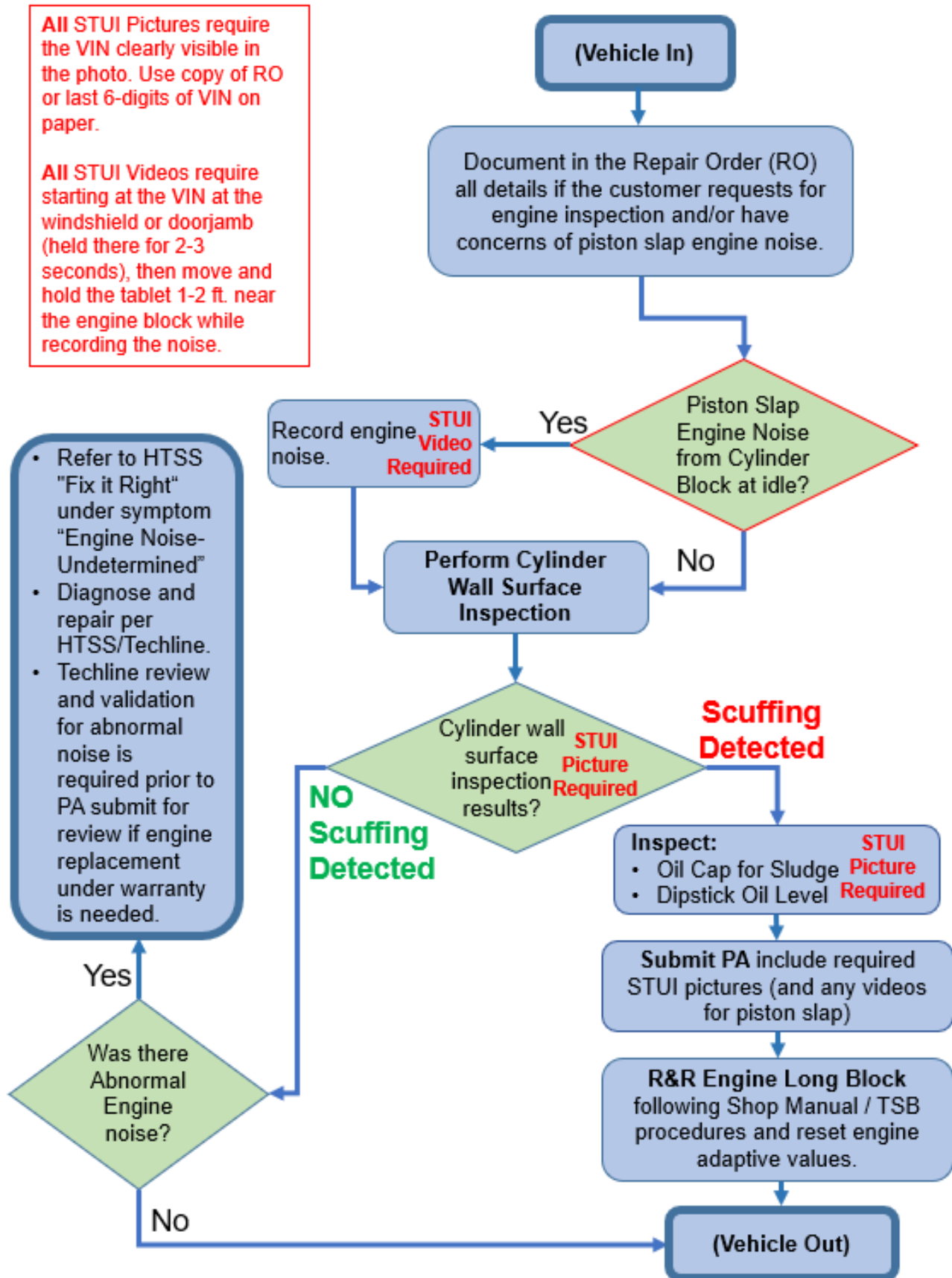
NOTE 4: Labor for engine installation with the service kit is included in campaign labor op time.

NOTE 5: For any other parts in need of replacement or if additional labor is required while performing this repair, follow the process below.

- Submit one compiled separate claim using the same Repair Order number **AND**
- Submit with **NTT** using the engine Causal Part number associated with the Engine replacement Op Code used **AND**
- Ensure part replacement and punch times are accurate and that they match the labor performed along with the service manager's signature approving the TT time.
 - For TT time best practices, refer to Hyundaidealer.com > Service Tab > Documents Library > Warranty > ATT-NTT Documentation and Claim Submission Guide
- **If the part replacement does not require additional labor**, follow the above steps and use the system minimum of 0.1 labor time with a quantity of 1.

NOTE 6: Warranty Policy Applies

Service Procedure Flowchart:

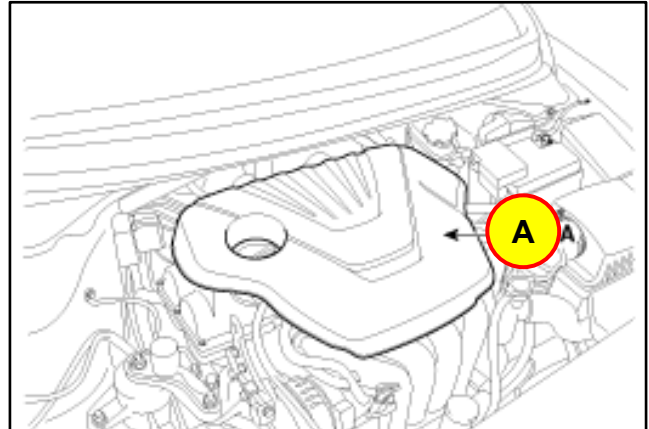


Service Procedure:

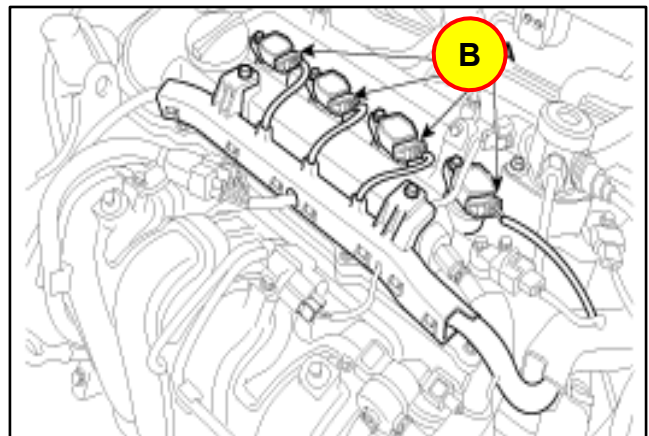
A. Cylinder Wall Surface Inspection

1. Verify the engine is off.

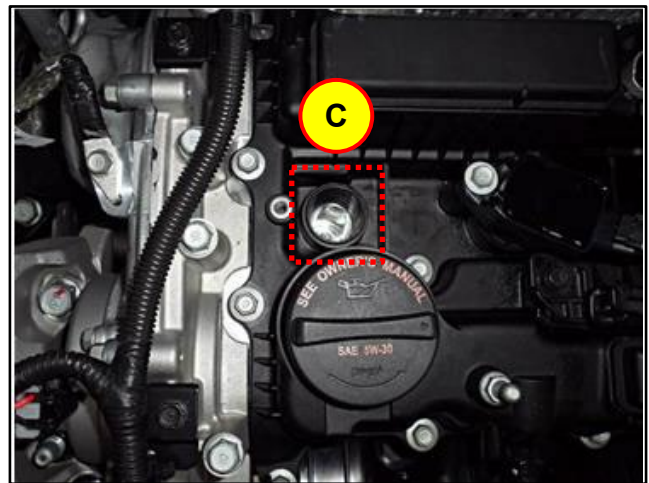
Remove the engine cover (A).



2. Disconnect the coil connectors, and remove the spark plugs (B).



3. **NOTE:** In this step, a borescope camera will be inserted through the spark plug holes (C) to inspect the cylinder walls for scuffing.
 - a) Rotate the engine to Cylinder #1 TDC (Top Dead Center).
 - b) Inspect cylinders #2 and #3.
 - c) Remove the borescope camera from the spark plug hole (to prevent crush damage to the probe tip when rotating the engine).
 - d) Rotate the engine 180 degrees for Cylinder #1 BDC (Bottom Dead Center).
 - e) Inspect cylinders #1 and #4.



4. Inspect the cylinder walls for signs of vertical scuffing pattern (refer to the reference pictures as shown on the right for scuffing examples).

➤ **If no scuffing is found**, then inspection is complete. Reinstall all parts in reverse order of removal.

➤ **If scuffing is identified**, use STUI to take a picture of the borescope display of each identified cylinder wall surface if scuffing is found.

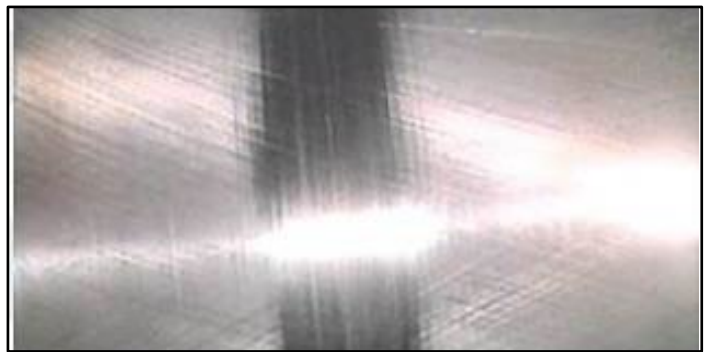
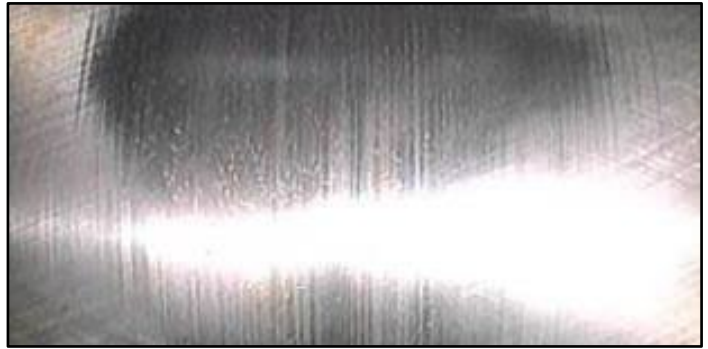
Once completed, upload the images using the STUI Camera "Select a picture in Gallery" function.

❖ In addition, the following 2 items must be included for PA approval process.

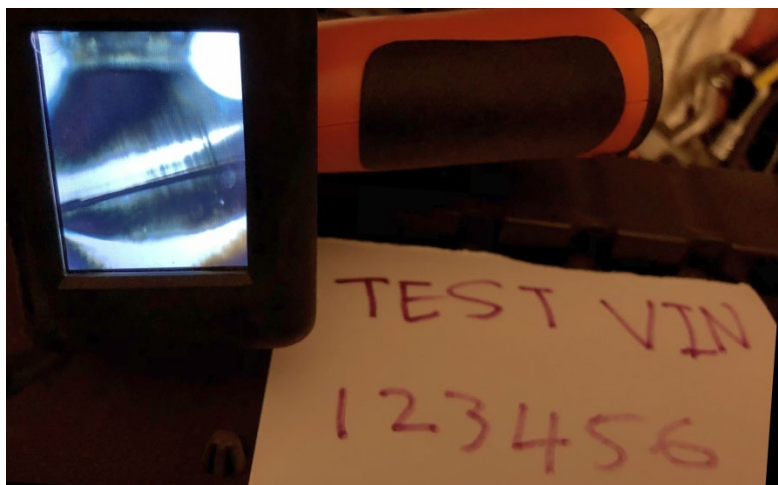
- a) Picture of the oil cap underside
- b) Picture of oil level on dipstick

(All STUI pictures require the VIN clearly visible in the photo. Use copy of RO or last 6-digits of VIN on paper.)

Submit PA with STUI pictures to replace the engine long block assembly.



NOTE: Some borescope units may display the vertical scuffing differently (not up/down). Be sure to position the borescope display accordingly to show the vertical scuffing correctly per below for the STUI pictures.



B. Engine Long Block Replacement

1. Replace the Engine Long Block Assembly using the appropriate engine P/N and service kit listed in the Parts Information section.
 - Refer to the shop manual for the engine replacement procedure.

NOTICE

Refer to the following TSB:

- **17-EM-001 “INTAKE AND EXHAUST SYSTEM INSPECTION AND REPLACEMENT GUIDELINES DURING ENGINE REPLACEMENT” to inspect and clean the related engine components prior to reinstallation.**

2. Reinstall all remaining parts in reverse order of removal.
3. The service procedure is complete.