GROUP | MODEL
--- | ---
Safety Recall Campaign | 2020-2021MY Soul (SK3) and 2021MY Seltos (SP2) w/2.0L Nu MPI engine

NUMBER | DATE
--- | ---
SC209 | June 2021

SAFETY RECALL CAMPAIGN

ENGINE VIBRATION INSPECTION AND REPLACEMENT (SC209)

This bulletin provides information to perform an engine vibration inspection and, if necessary, replace the engine long block on some 2020-2021MY Soul (SK3) produced from November 24, 2018 through October 24, 2020 and some 2021MY Seltos (SP2) produced from November 20, 2019 through October 15, 2020 vehicles equipped with 2.0L Nu MPI (Atkinson) Engine. The piston oil rings in the affected vehicles may have been improperly heat-treated during production, resulting in excessive oil ring hardness. Excessive oil ring hardness can lead to chipping of the piston oil ring’s outer periphery and scuffing of the engine cylinder bore. A scuffed cylinder bore can lead to increased oil consumption which will eventually result in abnormal noise from the engine and/or illumination of the oil pressure warning lamp. If the vehicle is continually operated in this condition, connecting rod bearing seizure can occur. A seized connecting rod bearing can result in engine damage, thereby increasing the risk of an engine stall and/or in certain cases a fire, due to a connecting rod puncturing the engine block allowing engine oil to leak onto a hot exhaust. An engine stall increases the risk of a crash, and a fire increases the risk of injury. Before conducting the procedure, verify that the vehicle is included in the list of affected vehicles.

A TL PWA must be obtained prior to an engine long block replacement. If a TL PWA is not granted Parts Ordering and Warranty claim submission issues WILL occur.

NOTICE

There is no charge to the vehicle owner for this repair. Under applicable law, you may not sell or otherwise deliver any affected vehicle until it has been repaired pursuant to the procedures set forth in this bulletin.

NOTICE

To assure complete customer satisfaction, always remember to refer to WebDCS Warranty Coverage (validation) Inquiry Screen (Service → Warranty Coverage → Warranty Coverage Inquiry) for a list of any additional campaigns that may need to be performed on the vehicle before returning it to the customer.
Inspection Procedure:

1a. ‘START’ the engine and allow to reach normal operating temperature.

1b. Shut engine ‘OFF’.

**NOTICE**

Engine coolant temperature should be above minimum test temperature: 185°F (85°C).

2a. Connect the engine vibration inspection harness audio jack (A) to KDS.

2b. Connect the knocking sensing connector (B) of engine vibration inspection harness to the knock sensor connector on the vehicle.

2c. Connect the clamp (C) to the battery (-) terminal.

**IMPORTANT**

If the vibration inspection harness is placed over the engine components, external vibration may negatively affect to the inspection result. Route the wiring around the engine (yellow outline) shown in the photo.
3. Connect the VCI to the vehicle’s OBD2 port and confirm the Bluetooth pairing condition between KDS and VCI.

4a. Match the vehicle model (D) on the top of KDS screen.

4b. Turn the ignition to ‘ON’.

4c. Select ‘Special Inspection’ mode (E).

5a. Enter the vehicle information (Mileage, RO#). The VIN is recognized automatically.

5b. **IMPORTANT**

Verify that the VIN is correct.

Select ‘Nu Atkinson Engine Vibration Inspection’. And then select ‘Next’.

Nu Atkinson Engine Vibration Inspection Video
6. Confirm all “Pre-Inspection” conditions by selecting the check boxes.

Once conditions are checked off, select ‘Next’.

7. The program will automatically check the engine sensor data.

Once activated, select ‘Next’ as all conditions are now complete.

**NOTICE**

If the conditions are not met, a ‘NOT GOOD’ message will display. Confirm the requirements are met, then select ‘Refresh Data’.

8a. Read and follow the instruction displayed to recognize the measuring process.

8b. Select ‘Next’.
9. In the “Measurement” stage, select the ‘Start’ while engine is idling.

The program will test the knock sensor reading for 5 seconds to check internal system and confirm it is working normally.

Celsius 95.3° = 203.54° Fahrenheit

**NOTE:** If the measured vibration test is too low or abnormally higher than the set value, a pop-up message will display to check the audio jack input (microphone) or knock sensor connector.

10a. By lightly pressing down the accelerator pedal, keep the ‘rpm’ value between 1400 and 1600 rpms. A total of three (3), 15 sec. tests are required.

**NOTE:** If the rpm value is above the required range, the color of rpm value displayed will change to a red color and the time counter will reset.

Celsius 95.3° = 203.54° Fahrenheit

The successful measurements will display “Completed” on the screen.
**PASS:** If the measured engine vibration test has a normal condition, capture the screen image/screenshot for record keeping and attach to the warranty claim using Attachment Type - ‘XX’: Other. Select ‘Finish’.

**NOTICE**

**REQUIREMENT:** Take one (1) clear image/screenshot of the test result (Pass, No Pass or Retest). (Attachment Type - ‘XX’: Other).

(Campaign is complete, no further action is required).

**Note:** All measured data value and transferring results are available by selecting ‘Review Results’ in the initial screen.

10b. **NO PASS:** If the measured engine vibration test is abnormal capture the screen image/screenshot for record keeping and attach to the warranty claim using Attachment Type - ‘XX’: Other. → Open a Techline case online for further instructions.

Select ‘Finish’ and replace the engine long block by referring to the “Engine Mechanical System → Engine And Transaxle Assembly → Repair procedures” chapter in the applicable Shop Manual on KGIS. Refer to page 7 information.

**IMPORTANT**

Save a copy of the screenshot(s) for your records. Submit with a PWA.

**NOTICE**

If the KDS is not connected to the internet, up to five (5) results will stay pending in the queue until the KDS is reconnected with the “Special Inspection” application open, before a sixth (6th) test can be conducted.

Engine crankcase oil specification and fill capacity: 5w20 engine oil 2.0L Nu: ~4.23 US Qts.

Required product: Full synthetic type 5w20 API SM, ILSAC GF4 or higher grade.
RETEST: If there’s an error on the measured engine vibration test, check the jack input (microphone) and knock sensor connection and perform measuring test again.

NOTE: If the results keep displaying ‘RETEST’ (more than 2 times), open a Techline case online for further instructions.

① IMPORTANT

Save a copy of the screenshot(s) for your records. Submit with a PWA.

NOTICE

If the KDS is not connected to the internet, up to five (5) results will stay pending in the queue until the KDS is reconnected with the “Special Inspection” application open, before a sixth (6th) test can be conducted.
SUBJECT: ENGINE VIBRATION INSPECTION AND ENGINE REPLACEMENT (SC209)

AFFECTED VEHICLE RANGE:

<table>
<thead>
<tr>
<th>Model</th>
<th>Production Date Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soul (SK3)</td>
<td>November 24, 2018 to October 24, 2020</td>
</tr>
<tr>
<td>Seltos (SP2)</td>
<td>November 20, 2019 to October 15, 2020</td>
</tr>
</tbody>
</table>

REQUIRED TOOL:

<table>
<thead>
<tr>
<th>Tool Name</th>
<th>Part Number</th>
<th>Figure</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Vibration Inspection Harness</td>
<td>G1XTD CP200QQK</td>
<td></td>
<td>Connects to KDS</td>
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</table>

REQUIRED PART: ENGINE LONG BLOCK

<table>
<thead>
<tr>
<th>Model</th>
<th>Part Number</th>
<th>Figure</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK3 (M/T)</td>
<td>21101 122ZRQQK*</td>
<td>21101 122ZRRQQKR</td>
<td>1</td>
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<tr>
<td>SK3 (CVT)</td>
<td>21101 123ZRQQK*</td>
<td>21101 123ZRRQQKR</td>
<td></td>
</tr>
<tr>
<td>SP2 (CVT)</td>
<td>21101 126ZRQQK*</td>
<td>21101 126ZRRQQKR</td>
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</table>

OTHER REQUIRED PARTS:

<table>
<thead>
<tr>
<th>Model</th>
<th>Part Name</th>
<th>Part Number</th>
<th>Figure</th>
<th>Qty.</th>
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</thead>
<tbody>
<tr>
<td>ALL</td>
<td>Engine Service kit</td>
<td>21102 N20AKQQK</td>
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<td>1</td>
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</table>

*Please temporarily order the QQK parts as the Reman part numbers (QQKR) are not yet set up in the system. They will be set up shortly.

AFTER ENGINE REPLACEMENT:

TOP-OFF THE ENGINE OIL AS RECOMMENDED.

Engine crankcase oil specification and fill capacity: 5w20 engine oil 2.0L Nu: ~4.23 US Qts.
Required product: Full synthetic type 5w20 API SM, ILSAC GF4 or higher grade.
### WARRANTY INFORMATION:

**N Code: N99  C Code: C99**

<table>
<thead>
<tr>
<th>Model</th>
<th>Claim Type</th>
<th>Causal P/N</th>
<th>Qty.</th>
<th>Repair Description</th>
<th>Labor Op Code</th>
<th>Op Time</th>
<th>Replacement P/N</th>
<th>Qty.</th>
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<tbody>
<tr>
<td>ALL</td>
<td></td>
<td></td>
<td>O</td>
<td>(SC209) Engine Vibration Inspection Pass</td>
<td>211081R1</td>
<td>0.3 M/H</td>
<td>N/A</td>
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<tr>
<td>SK3</td>
<td></td>
<td>23040 2E850</td>
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<td>(SC209) Unable to perform Engine Vibration Inspection Engine Replaced under Normal Warranty</td>
<td>211081R6</td>
<td>0.1 M/H</td>
<td>N/A</td>
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<td>SP2</td>
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<td>211081R7</td>
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<td>SK3 (CVT)</td>
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<td>23040 2E850</td>
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<td>(SC209) Engine Vibration Inspection No Pass and Replacement (SK3, M/T and CVT)</td>
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<td>7.1 M/H</td>
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<tr>
<td>SP2 (FWD)</td>
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<td>6.4 M/H</td>
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<td>6.7 M/H</td>
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</tbody>
</table>

Refer to Warranty Bulletin 2021-11 for claim submission procedures.

A TL PWA must be obtained prior to an engine long block replacement. If a TL PWA is not granted Parts Ordering and Warranty claim submission issues WILL occur.

**NOTICE**

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SC209 when accessing the WebDCS system.