

This document is uncontrolled when printed. Before use, check the Knowledge Base within the McLaren Retailer Portal to verify that this is the current version.

McLaren Artura Engine Oil Leak Diagnosis Guide – Oil Cooler

Document Information

Location: Powertrain

Topic: McLaren Artura Engine Oil Leak Diagnosis Guide - Oil Cooler

Condition: N/A

Diagnostic Trouble Codes: N/A

Measure

If an Artura is found to have a leak from the oil cooler area (oil or coolant), Please follow the steps below



1. Raise vehicle on ramp as per McLaren Service Portal (MSP) instructions
2. Remove engine underfloor
3. Capture images prior to any cleaning, clearly showing the leaking area. Label images: "Pre-Cleaning"
4. Take picture of engine number and label image "Engine Number"
5. Clean area thoroughly using degreaser/solvent
6. Add engine oil dye to the engine - Please refer to latest update of KA-01458 for correct dye and torch to use

Care Point: Do Not use leak detector spray / chalk spray

7. Start engine and run at increased idle speed (3,000 rpm) using engine oil check procedure until procedure is complete (this will ensure that the engine oil temperature reaches 90°C)
8. Turn off engine and allow car to stand for 20 minutes on the ramp in preparation for inspection
9. Inspect engine. Capture images and label images "Cycle 1", clean area again thoroughly, capture images and label images "Post Cycle 1"

Care Point: If there is a clear and active leak after step 9, please stop the warm up cycles and submit a TR with supporting images/video

10. Complete warm up/cool down cycle and inspection a further 4 times capturing images. Name image folders respectively:

- "Cycle 2" & "Post Cycle 2 (after cleaning)"
- "Cycle 3" & "Post Cycle 3 (after cleaning)"
- "Cycle 4" & "Post Cycle 4 (after cleaning)"
- "Cycle 5" & "Post Cycle 5 (after cleaning)"

Care Point: In case of uncertainty on final assessment, please update TR with supporting images correctly labelled

Care Point: If no further oil leak is observed, then the initial oil residue is potentially due to excessive oil used in the build process

11. If there is obvious evidence of an oil leak from the oil cooler after the 5 cycles continue to step 12. If no leak is present, carry out road test (including EV mode), recheck for leaks. Capture images and label "Post Road Test" (before cleaning)

Care Point: If no further oil leak is observed, then the initial oil residue found previously is due to excessive oil used in the build process - No further action required

12. Identify the location of the oil leak using a UV light

- Oil Cooler – Cylinder Block Joint

If there is a leak identified, proceed to the next step.

13. Follow the MSP instructions to drain the oil from the engine

Care Point: The engine oil MUST be FULLY drained before continuing

14. Remove the Oil Cooler bolts recording the crack off torque & back-to-mark (BTM) torque

If the digital torque wrench used does not have crack-off torque capability, then only record BTM torque by following this procedure:

- Mark the bolt
- Untighten/crack-off by ~30°
- Tighten back to mark (smooth and slow movement) and record the torque

15. Remove fixings for oil cooler

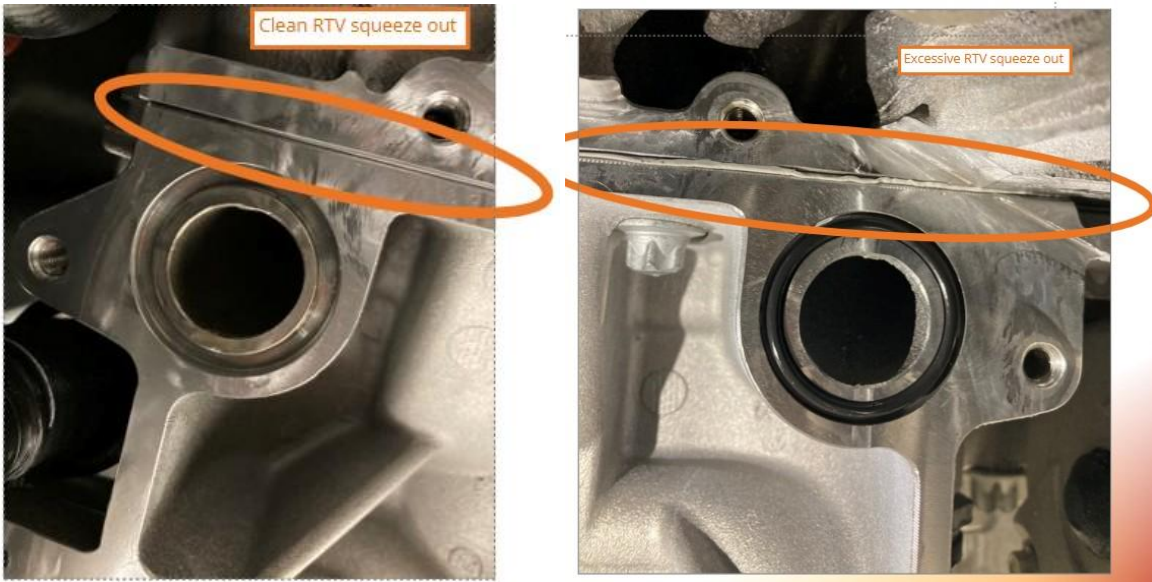
16. Remove oil cooler with o rings ensuring the o rings are kept with the cooler in their respective positions. When returning the cooler and o rings these should be packaged/labelled in their respective positions. Mark bolts as per their position when fitted to the cooler

17. Inspect oil cooler face, and through holes escalate any concerns for review on TR providing images Example:



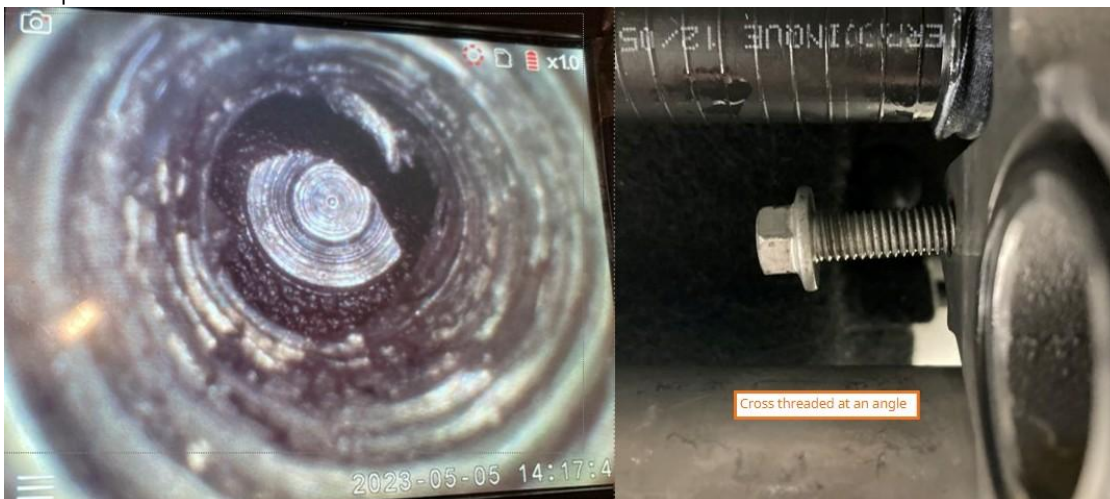
18. Inspect block interface for RTV Squeeze out, escalate if concerned with squeeze out on TR to the Technical Support team

Example of clean face vs high squeeze out:



19. Check the block threads, are these clean and the bolts have not been fitted cross threaded/damaged?

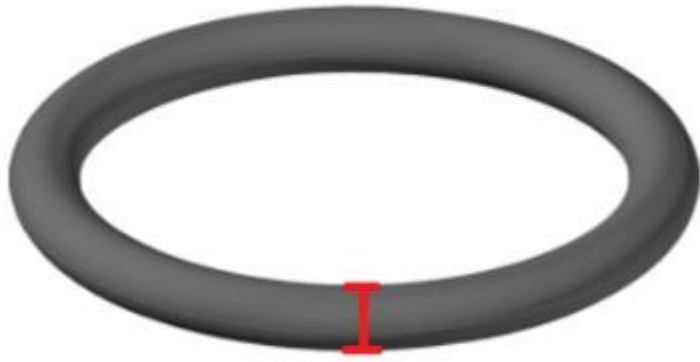
Example:



20. Measure cylinder block o ring recess using the document attached in the link Measurement of Cylinder Block

21. Submit a TR with a description of your findings and supporting images labelled "Oil Cooler"

22. Replace oil cooler seals with seals advised by Technical Support ensuring new seals and new bolts are used as per MSP instructions



Cross section Measurement

Repair Validation:

With the floor panel removed, follow Steps 1 to 9 to validate that no leak is present anymore

Once this test has been successfully completed (no oil leaks), rebuild the vehicle as per MSP instructions

After performing the engine health checks and a road test, return the vehicle on the ramp and inspect for any leakages

Remove the engine underfloor to check and confirm that the repaired area has remained dry

Parts Information

N/A

Attachments

N/A

This document is uncontrolled when printed. Before use, check the Knowledge Base within the McLaren Retailer Portal to verify that this is the current version.