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| <b>Reference</b>     | SSM75540  |
| <b>Models</b>        | Defender / L663<br>Discovery Sport / L550<br>New Range Rover Evoque / L551<br>Range Rover / L405<br>Range Rover Sport / L494<br>Range Rover Velar / L560  |
| <b>Title</b>         | Air Conditioning Inoperative. No HVAC DTC's Stored. (PHEV – Electric AC Compressor only)  |
| <b>Category</b>      | Electrical  |
| <b>Last modified</b> | 28-Sep-2021 00:00:00  |
| <b>Symptom</b>       | 208000 Climate Control  |
| <b>Attachments</b>   | Low suction pics1.pdf (Low suction pics1.pdf)   |
| <b>Content</b>       | <p><b>Note:</b><br/>The failure mode in this SSM document ONLY applies to vehicles where the Air Conditioning system is inoperative and there are <b>NO HVAC DTC's</b> stored. Correct diagnosis using the detailed procedure below can only be achieved when the vehicles Air Conditioning system is inoperative.</p> <p><b>Issue:</b><br/>Electric Air Conditioning compressor will be inhibited as designed by a Low Suction Pressure Inhibit. This will cause Air Conditioning to be non-operational causing no cabin cooling.</p> <p><b>Cause:</b><br/>The <b>Low Suction Pressure Inhibit</b> can be caused by a <b>possible</b> faulty Low Suction Pressure/Temperature sensor or electrical wiring issue.</p> <p><b>Action:</b><br/>Carry out an Autoscan DTC read with Pathfinder and check for DTC's stored in the HVAC Module. If there are HVAC DTC's stored, then this SSM is not relevant. If there are HVAC DTC's stored, then please refer to TOPIX for DTC help text and repair instructions.</p> <p><b>Diagnostic Procedure:</b><br/>CAUTION: This procedure requires a minimum of <b>Pathfinder version 347</b> or later.</p> <p>NOTE:</p> <ul style="list-style-type: none"> <li>• The Jaguar Land Rover (JLR) approved diagnostic equipment will read the Vehicle Identification Number (VIN) for the vehicle and automatically take the vehicle out of 'Transportation mode' if required.Procedure:</li> </ul> <ol style="list-style-type: none"> <li>1. Connect the JLR approved battery support unit.</li> <li>2. Connect the JLR approved diagnostic equipment to the vehicle and begin a new session.</li> </ol> <p>Follow the JLR approved diagnostic equipment prompts.</p> |

4. Engine running in Power Mode 7 or in EV with '**READY**' displayed on the instrument cluster.
5. Select '**MAX AC**' on climate control panel.
6. Select '**ECU Diagnostic**'
7. Select '**HVAC Control Module (HVAC)**'
8. Select '**Live Data**'
9. Select the following '**DID's**'  
98E1 – AC Compressor Inlet Pressure  
9A51 – Electric AC Compressor Inhibits
10. Start Live Data recording and run AC system for 5 minutes.
11. Create pdf file
12. When all of the tasks are complete, exit the session.
13. Disconnect the JLR approved diagnostic equipment and the JLR approved battery support unit.
14. Check results of **DID 9A51** for any listed Electric AC Compressor Inhibits as shown below. If an Inhibit is shown as **YES** for **Low Suction Pressure**, then please pay attention to **DID 98E1** data value as shown below. If a value of **250Kpa** is displayed, then further tests will be required which are listed further down the SSM document.

**See Fig 1 & 2**

**Electrical wiring checks to be carried out.**

If a value of 250 kPa is displayed when checking DID 98E1, then the following electrical checks will be required.

**See Fig 3**

Wiring checks at Low suction pressure connector C1H472A. Carry out drag test on pins to ensure no splayed pins. Ensure pins are secure in connector.

**Following checks with Ignition on (Power Mode 6)**

Check connector C1H472A Pin 4 for 5v Supply

Check connector C1H472A Pin 1 for 0 volts

**Following checks with Ignition OFF (Power Mode 0 or 4) with Access to HVAC module Connectors.**

Wiring checks at HVAC Module connectors C3H101A and C3H101B. Carry out drag test on pins to ensure no splayed pins. Ensure pins are secure in connector.

Carry out continuity checks between:

**Sensor HVAC Module**

**C1H472A Pin 2 and C3H101A Pin 20**

**C1H472A Pin 3 and C3H101B Pin 28**

**Please also check wires for short together, short to ground and short to Batt.**

If all of the above wiring checks are good, then the Low-Pressure Suction pressure and temperature sensor should be replaced following Topix guidance. After sensor replacement AC performance should

be tested and also ensure that DID 98E1 - AC Compressor Inlet Pressure is now reading a correct pressure which matches the pressure of the Low-pressure gauge on the AC Service Machine.

Please ensure that the **new** sensor is light brown in colour matching the old sensor.

**If after the Low-Pressure Suction sensor has been replaced and AC does still function correctly then a Technical Assistance (TA) should be submitted to Local Technical Support (LTS) documenting all of the above checks and results also attaching the pdf file of the DID results.**

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