

## Document Information

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Vehicles affected: All Models

Location: Powertrain Systems – HVAC

Concern: A/C not cooling followed by Climate System Fault warning message

Condition: Permanent

## Diagnostic Trouble Codes

HVAC:

B1A2B27 HVAC: Sensor Evaporator High Rate

B1A2B22 HVAC: Sensor Evaporator O/C

## Measure

1. Ensure the A/C gas is in the correct level
2. Ensure the HVAC module is on the latest / correct software
3. Connect the MDS and in HVAC actual values check the Evaporator Temperature value. If equal to 10.0 °C, this is the value the HVAC software overwrites on CAN when an evaporator voltage fault occurs
4. Access the HVAC module and connector MB152. With the connector still connected measure the voltage between pin 1 and 3 at the back of the MB152 connector. With ambient temperature close to 25 °C, the voltage should be around 1.6 V. If it's higher than 4.9V, the HVAC issue could be due to:
  - Evaporator sensor harness problem
  - Evaporator sensor fault

5. To check the harness of the evaporator sensor, follow the steps below:
6. Disconnect MB152 of the HVAC module
7. Measure the resistance of the evaporator sensor across Pins 1 and 3 Reference values are based on ambient temperature:
  - $10^{\circ}\text{C} = 18.46 \text{ k ohms } \pm 3\%$
  - $15^{\circ}\text{C} = 14.60 \text{ k ohms } \pm 3\%$
  - $20^{\circ}\text{C} = 11.65 \text{ k ohms } \pm 3\%$
  - $25^{\circ}\text{C} = 9.34 \text{ k ohms } \pm 3\%$
  - $30^{\circ}\text{C} = 7.54 \text{ k ohms } \pm 3\%$
8. Access inline connector IMBIU
9. Disconnect IMBIU and check all pins to ensure are tight.
10. Then reconnect the IMBIU ensuring is fully engaged. Attempt to clear the fault(s) and check operation of the HVAC (ensure MB152 is re-connected)
11. If the original concern is still present proceed to the next step
12. If the resistance values at step 7 were correct, repeat the same measurement but this time across Pins 5 and 6 at the inline connector IMBIU. Reference values same as above
13. If still measuring open circuit, next step will be to check the evaporator sensor connector. To access this connector the HVAC inlet unit has to be removed.
14. If visually all is OK, a new evaporator sensor with it's harness need to be ordered and installed (part number 11A4135CP)

## Parts Information

11A4135CP - HVAC Harness

## Attachments

Image 1: Location of IMBIU (12C vehicles)

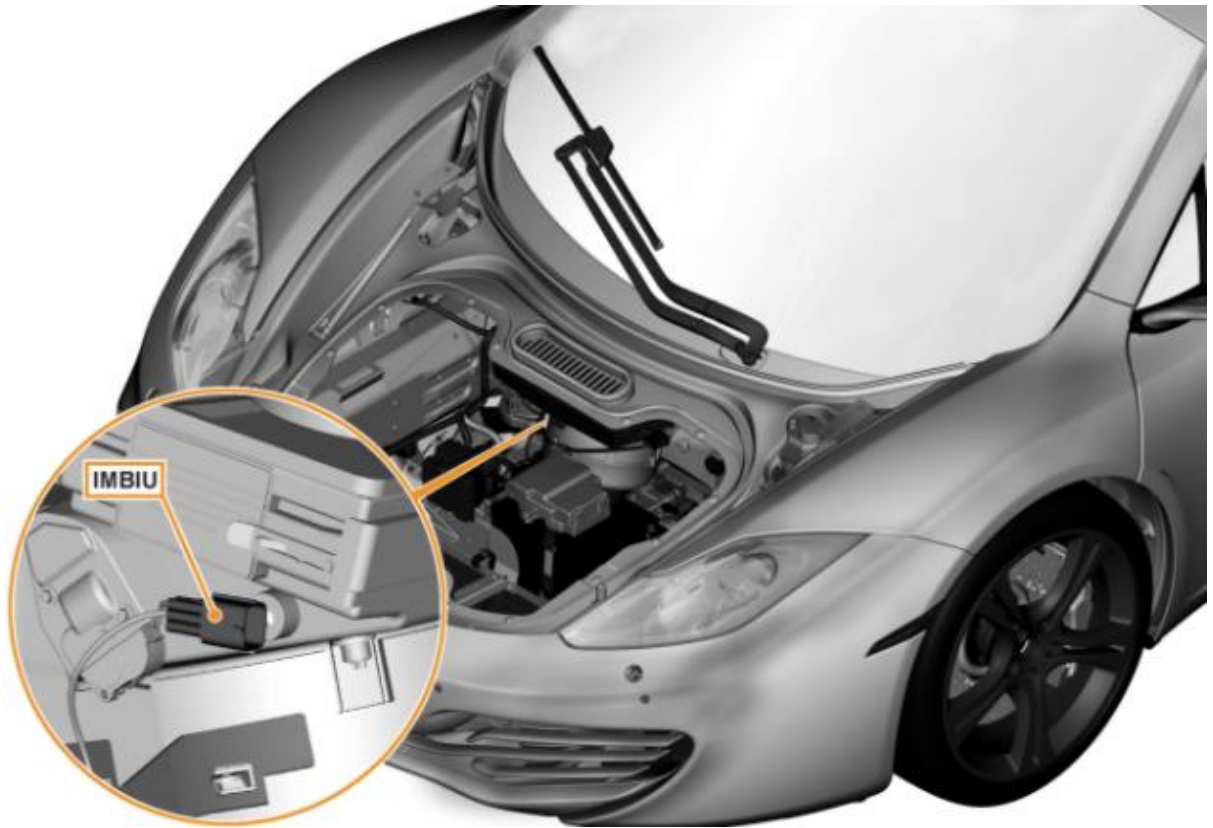
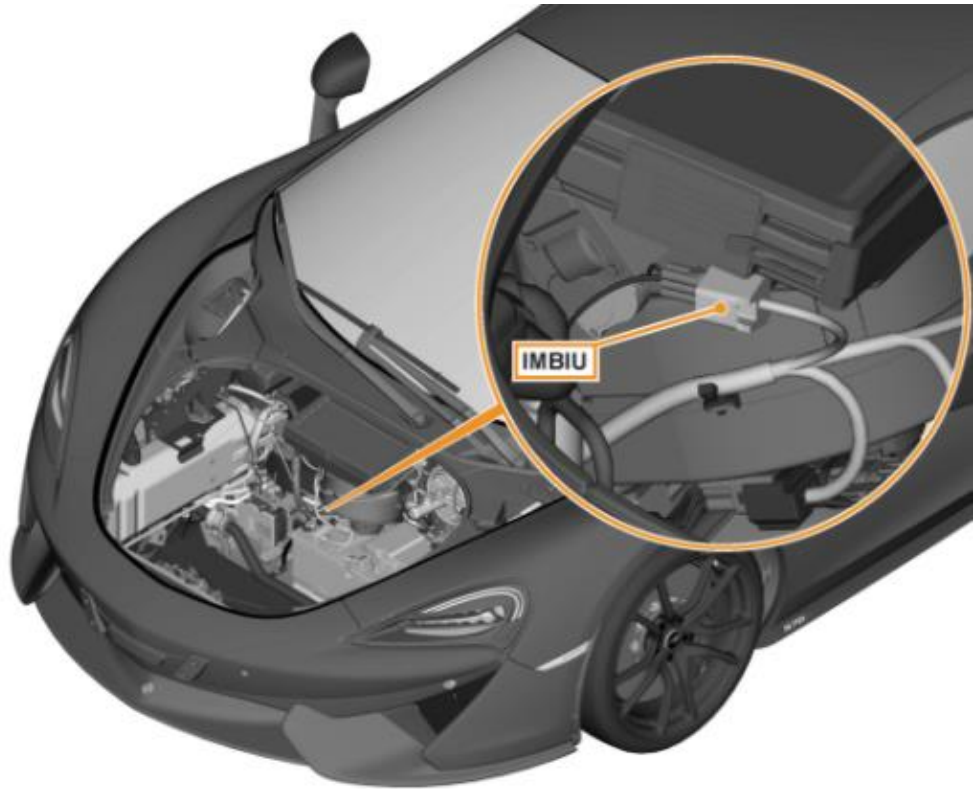


Image 1: Location of IMBIU (Sports Series vehicles)



## MTI Updates Information

N/A

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