

Climate control systems and LIN components

A recent case on climate system issue gave us something different that was unexpected.

A Nissan Note 2014, the customer complaint was that the system would not blow cold with the temperature set to minimum. The first task was to check the refrigerant quantity, so the AC system was Re-Gassed. The refrigerant gas level was not too low, but was due for a service after 2 years since the last inspection. This did not solve the issue of warm air coming from the vents, so a further investigation into the heating system was the next step.

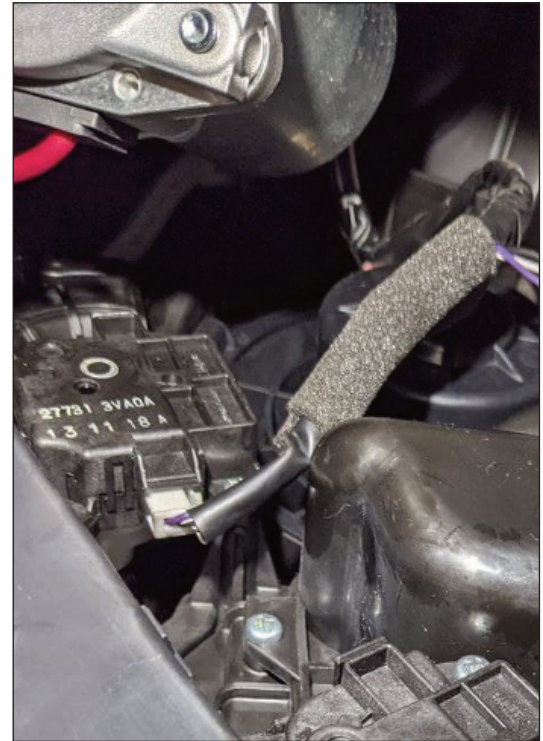
The blend motor was inspected to see if it was closing the hot air off, and it was not completely shutting, suspecting a faulty motor. Having three wires going to the actuator, a quick test to confirm the power and ground, the 3rd wire is the control signal.

All looked good, so to confirm the

actuator was the fault, the blend motor and Mode motor were swapped. This is where something strange happened. When operating a mode change, the motor that was connected to the blend door operated. And when changing temperature nothing happened to either motor.

After examining the wiring diagram of the control motors fitted to this system, it was noted that they all share the same Power supply Ground and Signal lines. This means that no matter what connector they are connected to, they are assigned to a specific location within the heater assembly, and cannot be moved for test purposes.

So when replacing a faulty motor, make sure of the specific location, as this is important. They may look like all the same component and part number, but each one has a specific LIN Identity on the network.



A part may have the same number, but it has its own address on the LIN and is not interchangeable