

RETARDER ELECTRICAL CHECK

RETARDER CURRENT DRAW CHECK

The current draw check can be carried out with the Telma Retarder connected to the vehicle harness. This will confirm that the electrical function of the retarder is satisfactory.

Any difference in the readings compared to the current draw in the Retarder Specifications will generally result in a reduced performance of the retarder. It may also be an indication of a possible breakdown of the cable harness or a short circuit.

- Connect a voltmeter with range: $12 < V < 30$

Voltage must be measured between the Relay Box earth and positive feed whilst the current draw on each stage is measured. If possible, keep the engine running during these tests and recharge the batteries if the voltage is not at least the nominal voltage of either 12 or 24 volts.

- Measure the current draw on each stage.
 - Use an ammeter with range: $15 < A < 100$ (or use amp shunt)
 - Avoid using long cables for current measurement.

There are several methods of measuring current draw:

Either:

- Remove the cable from the Relay Box positive feed
- Connect the ammeter in series with the feed cable and the positive terminal
- Close each relay in turn noting the current draw readings

Or:

- Keep all the cables connected
- Connect the ammeter between the Relay Box positive terminal and each stage power terminal (**I**, **II**, **III** and **IV**) in turn. The amp draw for each stage can be measured.

Or:

- Use a clamp-type meter around the battery cable
- Close each relay in turn noting the current draw readings

SAFETY NOTE: Caution should be exercised as these tests will immediately energise the retarder with quite substantial current flows occurring.

RETARDER RESISTANCE CHECK

If the current draw tests indicate readings outside those in the Retarder Specifications, further tests should be carried out to determine the cause of the problem.

- Disconnect the Telma Retarder from the vehicle harness at the retarder connector block
- Use a digital ohmmeter with a sensitivity of 0.01 Ohms
- Measure the resistance of each stage

Measurements must be taken stage by stage directly for each retarder circuit, between the connector in the terminal block and the retarder earth terminal. This is to avoid any other resistance such as cables, connectors etc. Care must be taken to ensure accurate readings are taken as sometimes stage and coil resistance can be quite difficult to measure. The retarder must be cool and the terminals or cables must be carefully cleaned to avoid errors

- Disconnect coils in problem circuit

If the resistance of a particular stage is outside that shown in the Retarder Specifications, it is possible to disconnect each coil in the problem circuit to identify whether a particular coil is faulty.

- Check resistance of each coil in problem circuit, ensuring also that there is no continuity between the coil windings and the retarder stator.