



Tim Stock

Non-starting Volvo shows importance of load testing

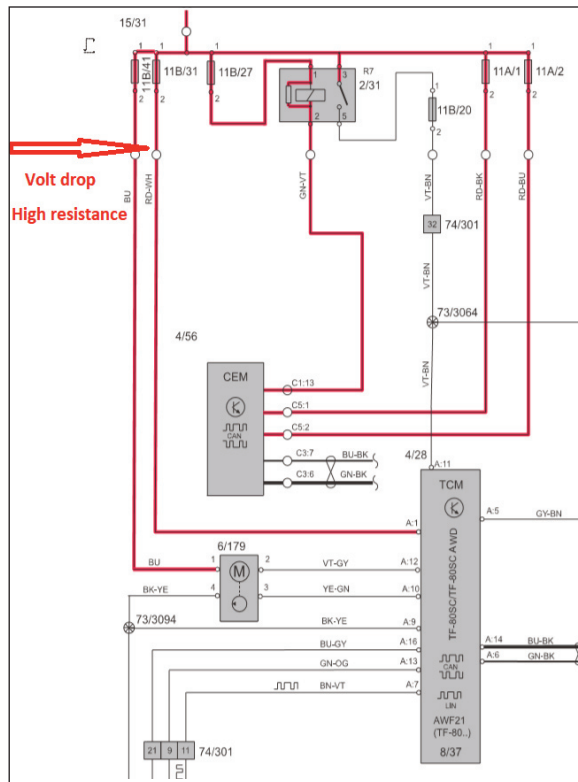
It has always been important during diagnostic testing to perform electrical testing in a running state. This means when checking circuits, it is best practice to load test or volt drop the circuits to prove they are capable of carrying the voltage and current they require.

Recently a garage was presented with a Volvo XC60 that had been parked for 2 months. When attempting to start the Volvo, a message flagged on the display. "Place transmission in Park"

The first garage tried to solve the issue, but then passed it to a Volvo specialist workshop to continue with the diagnosis.

The Volvo specialist garage had checked codes and every module flagged the TCM as no communication. They attempted to communicate with the module, but were unsuccessful.

They proceeded to check power supplies to the module, then the



ground connection was checked and finally the CAN voltages. All proved good, and without a substitute module available, they installed a replacement module. There were still no comms with the new module.

This is when they called the Technical line for support with the issue. Going over the testing they had done, we discovered they had done all the tests with the TCM module disconnected.

Explaining the principles of load testing to the technician, and how a voltage can disappear when put under working loads, he repeated the test and found the power supply to the TCM dropped to 1 volt when connected. On investigation, corrosion in the loom was found to be the cause of the high resistance.

So this proves it is always better to perform parallel testing of these systems with everything connected, and in it's running state.

Even a slight high resistance will only show up when current is flowing in the circuit.