

V-MUX Six Step Troubleshooting

Version 2

- 1) Understand how the vehicle is supposed to operate.
 - a) The key to fixing any vehicle problem is understanding how it is supposed to work.
 - b) If you do not have the V-MUX Relationship report, request it from the OEM that manufactured the vehicle.
 - c) Verify that a problem exists. Occasionally people will think there is a problem due to a lack of understanding of how the vehicle is supposed to work.
- 2) Check V-MUX Inputs.
 - a) With V-MUX Diagnostics connected to the vehicle, toggle the input on and off, and check for messages in the lower portion of the application. If you see the correct command when you toggle on and off with the switch, it is not an input problem.
 - b) Remove the input connector from the node and use a multimeter to verify that you are getting a good +Batt or Gnd signal to the node through the harness. The Relationship report will tell you which signal you are looking for.
 - c) If you are concerned that the input on the node itself is bad, you can use a jumper wire to put either a +Batt or Gnd signal to the input to see if the command toggles. Verify you are using the right signal by looking at the Relationship report.
 - d) Common problems with Inputs on the V-MUX Network:
 - Faulty switch.
 - Faulty switch wiring.
 - Burned out diode inline with the input.
- 3) Check V-MUX Outputs.
 - a) With V-MUX Diagnostics connected to the vehicle, send the applicable command(s) to turn the suspect output on and off. If the device turns on, it is not an output problem.
 - b) Remove the output connector from the node and jump 12V to the applicable pin on the connector. If the device turns on, then the device itself is fine as well as the wire to it.
 - c) If you are concerned that the output on the node itself is bad, you can use a multimeter to check for 12V on the pin. Toggle the command or switch on and off and check for voltage at the pin. Note that in the off state, an output may “float” between 6v and 9v.
 - d) Common Problems with Outputs on the V-MUX Network:
 - Bad device grounds.
 - Bad connections.
 - Blown bulbs.

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- 4) Verify V-MUX Communications.
 - a) Using either your V-MUX Diagnostic software or a Vista display, verify communication between the nodes. If all nodes respond, every node is powered, programmed, and communicating.
 - b) Monitor network traffic with V-MUX Diagnostics.
 - i. Indications of heavy V-MUX traffic
 - Collision counter increases rapidly with no or little commands being shown.
 - Digital commands scroll off the screen so rapidly that they can't be read, or the same command is being issued over and over again.
 - ii. Indications of no V-MUX traffic
 - System Voltage does not display in the upper portion.
 - No Digital Command states in the lower portion.
 - Pinging nodes from V-MUX Diagnostics yields no response.
 - c) Common problems with communication on the V-MUX network:
 - Water in the communication Y connectors (DT04-3P-P007).
 - Improper Grounding to the nodes. Review the V-MUX Installation manual from our website.
 - Pinched or cut wires.
 - Bad crimps or connections.
 - Bad switch toggling on and off at a high rate of speed.
- 5) Split the vehicle into smaller segments.
 - a) Rather than trying to diagnose a problem on the entire vehicle, break it into smaller segments to try to pin point where the problem exists.
 - b) In the case of communications, that may mean breaking the communication lines into smaller segments or disconnecting nodes.
- 6) Ask for Help.
 - a) The OEM that manufactured the vehicle should be your primary resource for understanding how it was built and operates. If you do not understand how something is supposed to work, or how the truck was wired, call the OEM.
 - b) The V-MUX hardware and software are designed and manufactured by Weldon Technologies. If you are having problems understanding how to use the software or how to troubleshoot a particular problem, call Weldon Technologies at 1-800-989-2718.
 - c) The latest software and manuals are always available at www.v-mux.com
 - V-MUX Installation Manual
 - V-MUX Diagnostics and Downloader Manuals
 - V-MUX Connector Spec and Network Layout Manual
 - Latest Software releases