

TECHNICAL SERVICE BULLETIN

Model Years Affected:	2008 - 2013
Models Affected:	All
Component Name:	CAN Network
Component Serial Number (Range):	N/A
Flat Rate (if applicable):	(N/A, included in Troubleshooting)
Immediate Action Required (Yes/No):	NO

OVERVIEW

What is CAN data? CAN is an acronym for Controller Area Network. It is the bus system that all of the electronic modules use to interact throughout the boat.

List of CAN Modules:

- Engine ECM
- Depth transducer
- Medallion Stereo module
- Mux switches
- Power modules
- Touch switch module
- Viper
- MMDC
- Surf Gate control module

RULE #1 - The first step in diagnosing all CAN issues is to utilize DIACOM to access CAN Network data.

The CAN network is the backbone of the electronics system with many modules connected to it. The CAN network must be functioning for the electronic modules to transmit data. Connecting DIACOM to the CAN bus will allow confirmation of data being transmitted on the bus. This will confirm the wire harness is ok and that none of the modules are shorting the bus.

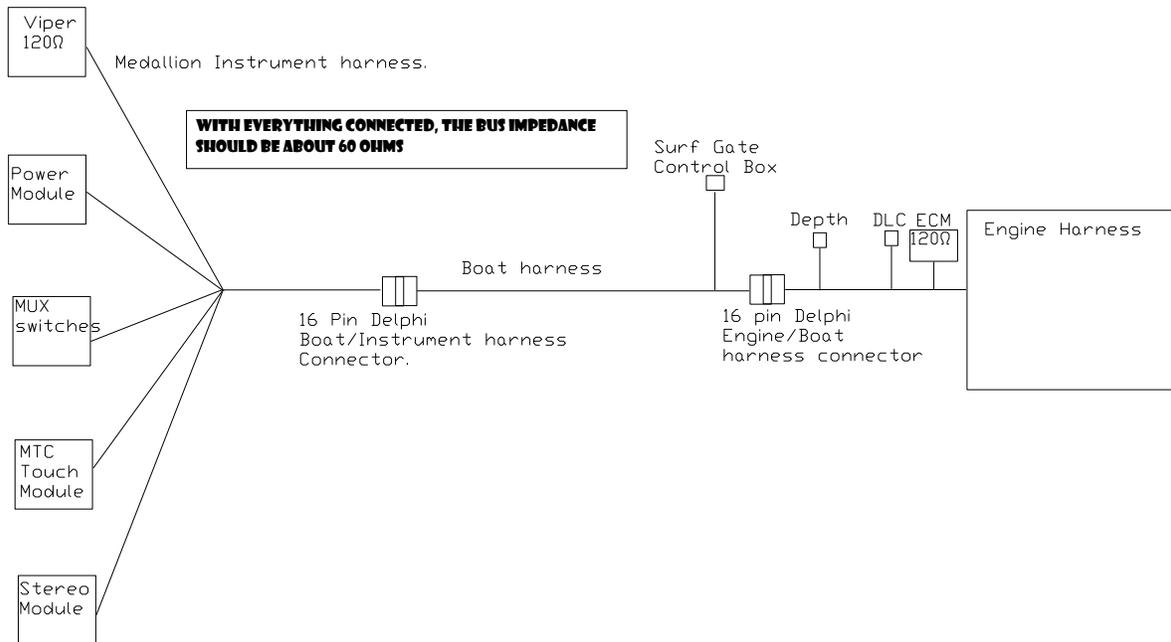
RULE # 2 - A CAN bus failure could occur due to a short within a module or a harness failure. Therefore harnesses and modules must be isolated from each other to identify the failed component.

TROUBLESHOOTING STEPS

Is the Engine communicating? You will need to verify with Diacom that the engine is communicating with the CAN components. If Diacom is unable to establish a CAN connection, it's a good indication that the CAN network is not operating.

Steps to Determine Failure Type

1. Isolate the boat harness from the engine by disconnecting the 16 pin Delphi engine/boat harness connector (see diagram).
2. CAREFULLY "hot wire" the engine by using a jumper wire between the red B+ terminal and the purple wire in the engine connector. You do not need the engine running to establish communication. NOTE: you must first ensure the engine is OFF, no fuel vapors are present, and you are qualified to perform this procedure SAFELY).
3. Attempt to connect with Diacom , **if not successful:**
 - a. It is likely the problem is located in an engine electronics component. **(Make sure you have the depth transducer unplugged before you make this determination).**
 - b. You must use your OHM meter to check for a short (see" Normal OHM Values on the CAN bus" below):
 - i. Disconnect the ECM, DLC and boat harness
 - ii. Is there a short between CAN Hi and CAN Low?
 - iii. Is there a short to ground on CAN Hi or CAN Low circuits?
 - c. If you find a short, we recommend you replace the engine harness.
 - d. If no short is identified, we recommend you replace the ECM.
4. Attempt to connect with Diacom , **if successful:**
 - a. It is likely the problem is in the boat harness or instrumentation system forward of the engine.
 - b. To determine if there is a boat harness error:
 - i. Measure the resistance at the boat harness instrument connector: testing the 16 pin Delphi connector, on the harness side, you should see approximately 120 Ohm +/- 10 ohm in a normal situation between CAN Hi & CAN Low circuits. (small red & black wires) Pin locations L & K. If you see 120 Ohms, the harness is ok.
 - ii. If 120 Ohms is not measured, **unplug the boat harness** from the engine, **testing at the DLC**, you should see 120 Ohm +/- 10 ohm between CAN Hi & CAN Low. (checking the engine harness here)
 - iii. With the boat harness unplugged at both ends, the CAN circuits should test open or infinite resistance to each other and to ground/shield. If continuity is found between any of these 3 conductors, the CAN circuits in the boat harness should be replaced.
 - c. **If the harness checks out ok, refer to Medallion troubleshooting service guides to troubleshoot individual modules.**



SUMMARY

If the CAN system and ECM module tests okay, the next step is to utilize the Medallion troubleshooting service guides to troubleshoot individual modules. After troubleshooting the individual modules, replace the appropriate component when diagnosed as a possible failed module.