Troubleshooting - DAVIE 4 communication problems

Communication with DAVIE

Communication between DAVIE4 and the PMCI-2 occurs over the V-CAN network. DAVIE is particularly sensitive during programming operations. The following steps will ensure that the CAN network is not compromised.

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Before the troubleshooting can be started, please make sure that:

- The NEXIQ USB-Link is connected to the truck diagnostic port and DAVIE computer.
- The ignition is switched ON and the DAVIE4 application is running.

The LEDs on the NEXIQ USB-Link indicate different failure modes:

- Top LED is not illuminated – NEXIQ USB-Link is not receiving power from vehicle.
- Middle LED is not illuminated – NEXIQ USB-Link is not communicating with PMCI-2.
- Bottom LED is not illuminated – NEXIQ USB-Link is not communicating with computer.

Troubleshooting - DAVIE4 communication problems

Step 1 - Check the DAVIE4 operating system

Step 1A
DAVIE4 can only operate in Windows 7 or newer.
Action

1. Check the computer's operating system.

Is the DAVIE computer running on the correct operating system?	
YES	NO
	Update to the above mentioned operating system.
Go to step 2A.	Go to 4A

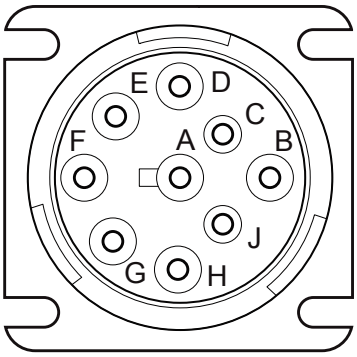
Step 2 - Check the battery voltage

Step 2A
If the system voltage drops too low, CAN communication can be compromised. Action 1. Check the battery voltage.

Is the battery voltage greater than 12.4 V?	
YES	NO
	Charge the battery and check that it has more than 12.4 V.
Go to 3A	Go to 4A

Step 3 - Check the V-CAN network

Step 3A
Action 1. Switch the ignition off, disconnect the NEXIQ USB-Link and wait at least 5 minutes for all devices on the CAN network to stop broadcasting. 2. Measure the resistance of pins C and D in the diagnostic port.



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Is resistance between 50 and 70 ohms?	
YES	NO
	Problem detected in the V-CAN network. Repair the problem with the V-CAN network.
Go to 3B	Go to 4A

Step 3B	
Action 1. Connect the breakout wiring harness (42-02452) to the vehicle's wiring harness without connecting it to the PMCI-2 ECU. 2. Measure the resistance between diagnosis connector pin C and PMCI-2 pin B47 (J2-47). 3. Measure the resistance between diagnosis connector pin D and PMCI-2 pin B55 (J2-55).	
Is the resistance on each circuit less than 2.8 ohms?	
YES	NO
	Problem detected in the V-CAN network. Repair the problem with the V-CAN network.
Go to 3C	Go to 4A

Step 3C	
Action 1. Check for continuity between diagnosis port pin C and earth. 2. Check for continuity between diagnosis port pin D and earth.	
Does either circuit have a short to earth?	

YES	NO
Problem detected in the V-CAN network. Repair the problem with the V-CAN network.	
Go to 4A	Go to 3D

Step 3D

The V-CAN network is sensitive to the number of messages on the network. Too many devices communicating at once can overload the network and result in reduced message integrity.

Action

1. Examine the vehicle for non-Original Equipment devices on the V-CAN network (such as data-loggers).

Are there other devices connected to the V-CAN network?

YES	NO
Disconnect the devices.	
Go to Step 4A	Go to Step 4A

Step 4 - Set up communication with the PMCI-2 ECU

Step 4A

Action

1. Connect DAVIE to the diagnostic port and try communicating with the PMCI-2 ECU.

Is DAVIE now able to communicate with the PMCI-2 ECU?

YES	NO
Proceed with repair.	Replace the PMCI-2 ECU.

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