2016 Freightliner Blower Motor INOP

Devon Crawford 23 posts since Oct 9, 2020

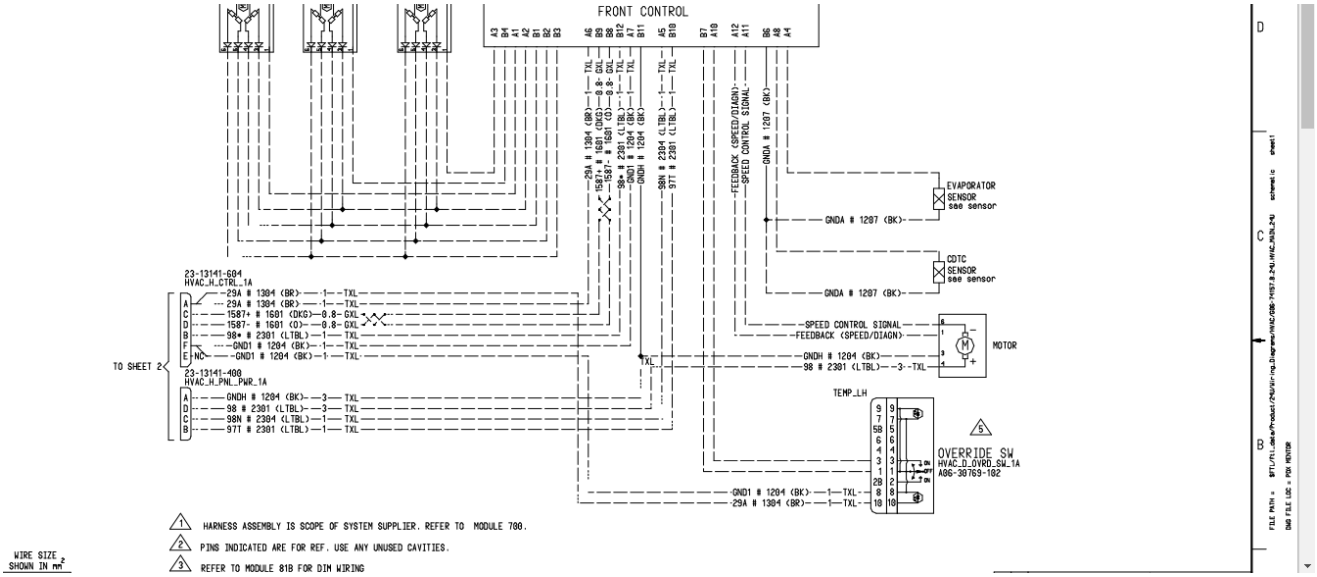
2016 Freightliner Blower Motor INOP Nov 3, 2020 7:07 PM

2016 Freightliner

DD15

Last 6 : GU9745

No blower motor function, previous tech replaced blower motor, resister, and HVAC controls. previous work mentions fuses keep popping, i removed the dash panels to access the blower motor etc, pulled wiring harness out and load tested all wiring coming from blower motor to HVAC controller, all good. have good 12V supply (Pin1) and good Ground (Pin3), at the blower motor connector. pins 4 and 6 only have a max of 4.8V-6V depending on blower motor speed position on controller. wondering what those 2 values should be I'm guessing at full speed I should have a full 12V at at least one of those pins. thanks in advance



Devon Crawford *23 posts since Oct 9, 2020*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 11:56 AM

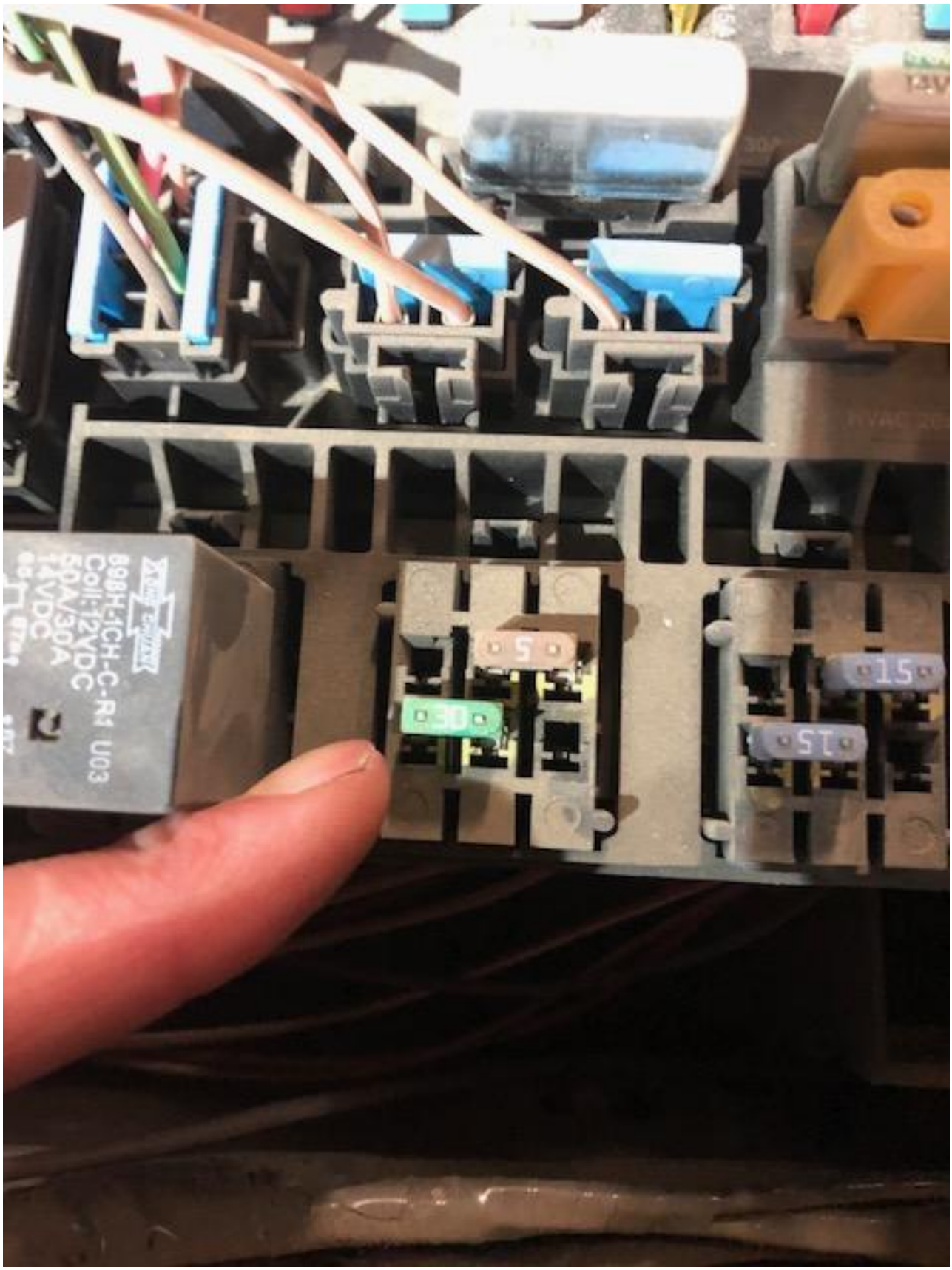
UPDATE> other tech checked values of pins for blower motor of another unit which is the sister truck and both match, original unit still has no blower function

Chris Vanboom *163 posts since Nov 21, 2014*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 3:36 PM

Do you still have 12volts if you back-probe the circuit with everything connected? The most common reason for cab blower fan issues on 122SD is a poor connection at the 30 amp blower fan power fuse. This is an

unlabeled "add-on" fuse on the lower portion of the fuse panel. In many cases the poor connection will allow enough current through to show 12 volts on a meter, but not enough to allow the blower motor to turn. The fuse in question is pictured below:


898H-1CH-C-R4 U03
Coil:12VDC
50A/30A
14VDC
5
30
15
15

 Devon Crawford *23 posts since Oct 9, 2020*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 7:13 PM

i located the 30A fuse, found t the terminals or the fuse very loose, i tested the fuse (12V) across the fuse, load tested the wiring with fuse removed (good), removed terminals from fuse panel, wired in new 30A inline fuse (temporary) , reconnect HVAC controller and blower motor, test operation, still no function on any speed

 Kyle Siebert *4,101 posts since Nov 14, 2014*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 3:40 PM

I assume this is a Cascadia. The blower turns on full when the signal wire reads 2,000 hz to ground. It's off when it reads 2,000 hz no ground. Approx 500 hz to ground would be 25% speed. 1500 hz to ground would be 75% speed. It's confusing, just know when you jump the signal wire to ground, blower will go full speed. You have to hold it to ground for like 5 seconds.

Maybe the controller has no power or ground to it. Or it's got pop spilled all over it and is sticky on the bottom. Could be a spread pin A11.

M2 and Cascadias use the same blower motor. M2 does not use the feedback wire. Only Cascadias want to know how fast the blower motor is turning.

 Kyle Siebert *4,101 posts since Nov 14, 2014*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 3:51 PM

Oh, a Coronado/ 122SD Blower speed signal works opposite. Don't short it to ground. I believe it's looking for hz to power to increase speed. Don't short it to power or ground. It makes it a lot harder to diagnose. Actually have to use a hz meter.

But I agree, backprobe and measure voltage while trying to run it. That goes for any blower motor. If that's good, check the controller power, ignition and ground. Refer to the workshop manual for how the blower hz is supposed to read

 Devon Crawford *23 posts since Oct 9, 2020*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 4:55 PM

hey thanks for the input ! im not sure where or if i can even access workshop manuals in order to see how the blower motor HZ is to work ?

 Kyle Siebert *4,101 posts since Nov 14, 2014*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 7:06 PM

Should be in section 83 HVAC somewhere. When I get a chance I'll take a look.

Devon Crawford *23 posts since Oct 9, 2020*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 7:13 PM

i located the 30A fuse (shown in the comment above rom Chris Vanboom) , found t the terminals or the fuse very loose, i tested the fuse (12V) across the fuse, load tested the wiring with fuse removed (good), removed terminals from fuse panel, wired in new 30A inline fuse (temporary) , reconnect HVAC controller and blower motor, test operation, still no function on any speed

Chris Vanboom *163 posts since Nov 21, 2014*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 7:20 PM

Any HVAC codes if you connect with DDDL or in the dash display? I have seen a few cases where the blower fan gets locked out with the codes below, clearing them might fix the issue - now that the power supply issue is repaired.

010	02	Blower motor: output data erratic or intermittent	The FCU compares the analog output signal (speed signal) with what it thinks it should be. If determined to be in error, this fault will become active. To diagnose: 1. Disconnect blower motor. If fault is no longer active, replace the blower motor. If still active, go to step 2. 2. Disconnect the blower speed signal output wire (pin A11) from the FCU connector. Make sure connector is plugged into FCU after removing wire. If fault is no longer active, check for short to power or short to ground on output wire. If fault is still active, replace FCU.
	12	Blower motor: bad component, speed is invalid or incorrect	This fault can occur if the blower speed feedback differs from the speed control signal being sent by the FCU. See Diagnosis for Blower Speed is Not Available table, in Subject 350 .

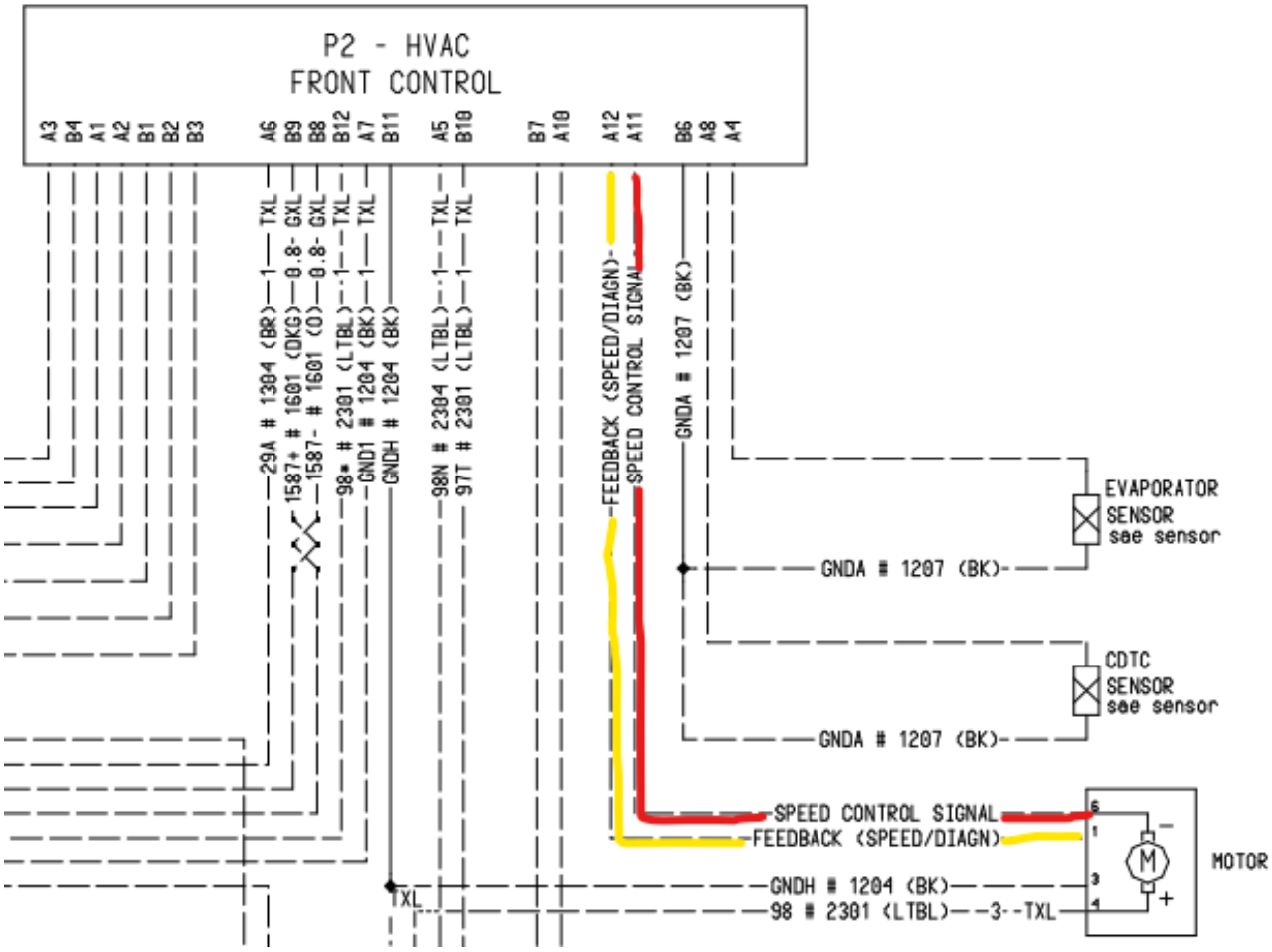
Devon Crawford *23 posts since Oct 9, 2020*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 7:33 PM

i have SID 10 FMI 12 blower motor : bad component, speed is invalid or incorrect

Devon Crawford *23 posts since Oct 9, 2020*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 7:48 PM



from what i gather from the description given by the fault code, the HVAC controller speed signal is different then the blower feedback to controller , correct ?

Devon Crawford *23 posts since Oct 9, 2020*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 8:25 PM

so at the blower motor connector, pin 1 (feedback) have constant 4.9V, never changes unless controller is disconnected then it drops to 0V as should, pin 3 (ground) good, pin 4 (power) which goes to that hidden 30A mini fuse have 12.6V, good, pin 6 speed control (0V with fan off, first speed 1.6V, then 2.2V, and so on up until max speed at 6.1V. all wires from blower motor to controller have 0.1 ohms, and load tested with headlamp. anyone have any further tests or ideas ? from what its telling me the blower feedback is different then what's being sent from the HVAC controller, would that be a faulty blower motor ? its new FYI and ive been told by another tech that a third blower motor has been tested on this unit as well with same result

Kyle Siebert *4,101 posts since Nov 14, 2014*

Re: 2016 Freightliner Blower Motor INOP Nov 4, 2020 8:49 PM

Are the circuits the correct numbers in the correct cavities?

 Devon Crawford *23 posts since Oct 9, 2020*

Re: 2016 Freightliner Blower Motor INOP Nov 5, 2020 2:44 PM

yes the terminals are in the correct cavities. i pulled the wire from the HVAC connector (P2 HVAC Front Control) i back probed the connector cavity A12 (feedback) and the controller is putting out a constant 4.9V, the speed control signal varies based on fan dial position as should, BUT from what I'm seeing the blower should be sending a signal back to the controller using the feedback wire and so the controller is sending a signal down both wires and don't match which cuts out the blower motor and gives me thee bad component fault i currently have. Question is WHY is this occurring as the controller is brand new, and and both thee original and new controller both do the same thing, Faulty parts perhaps ?

 Devon Crawford *23 posts since Oct 9, 2020*

Re: 2016 Freightliner Blower Motor INOP Nov 5, 2020 4:28 PM

UPDATE i removed the feedback wire from the blower motor connector, in hopes to back probe the check blower feedback output, the blower instantly started working on all speeds perfectly