ECOBLUE TROUBLESHOOTING

Technical Service Group

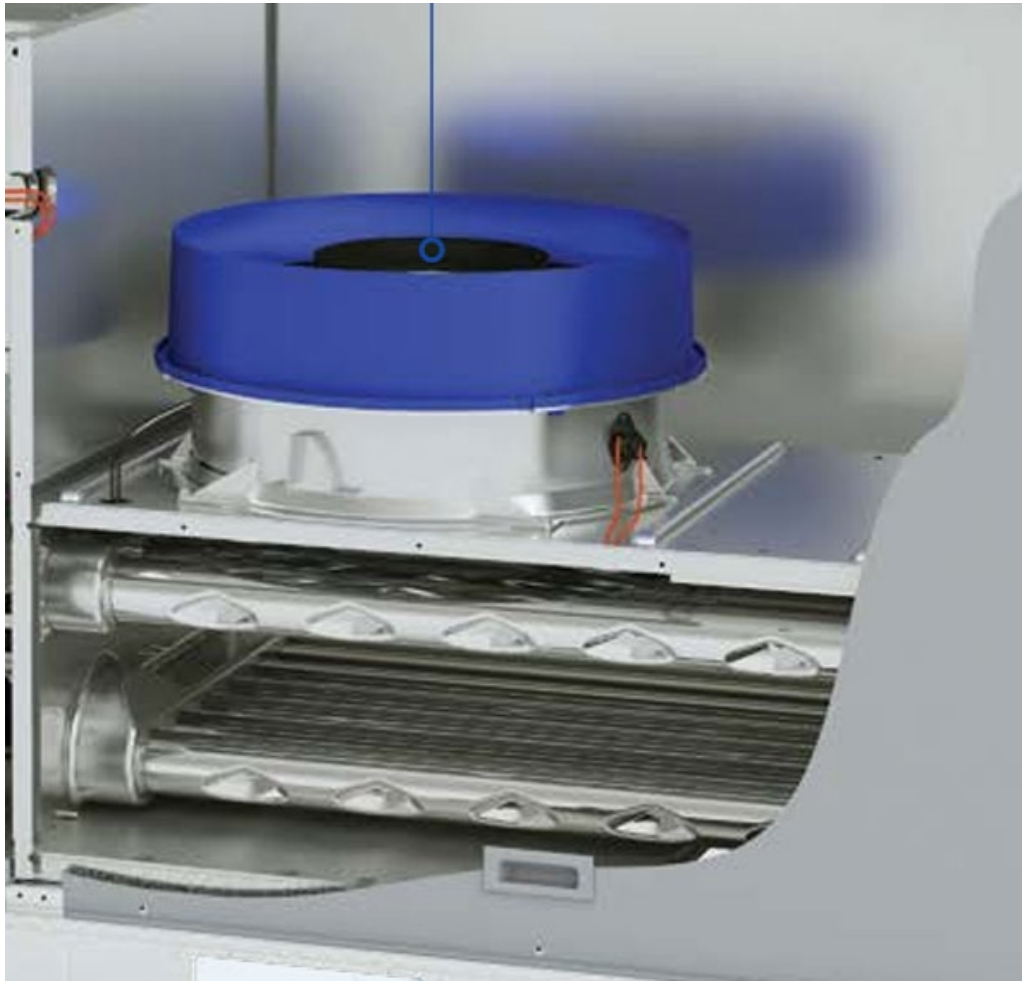
Tuesday, June 18, 2024

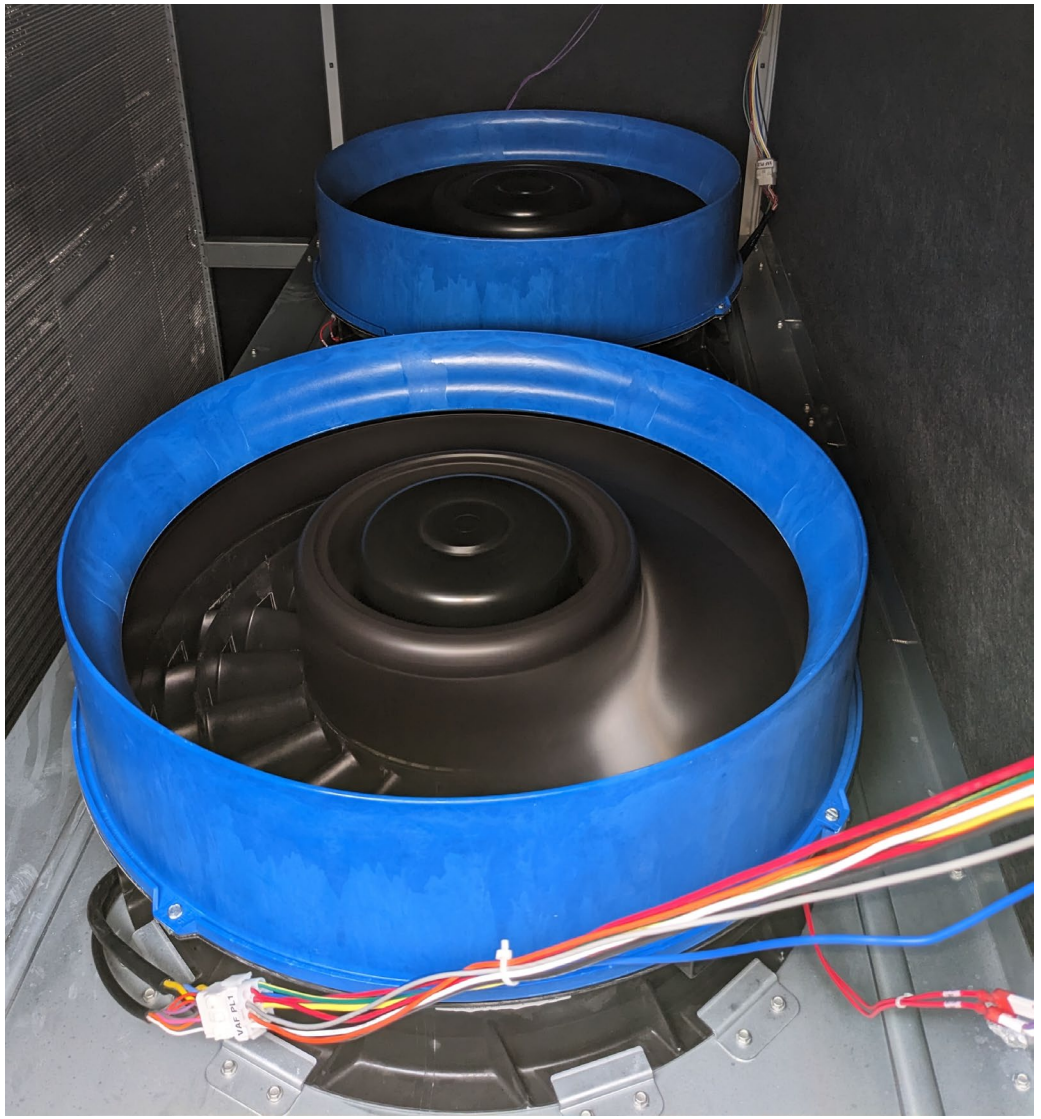
CURRENT 2023+ LINEUP

- 40RF
  - 6 ton to 10 ton
  - units have EcoBlue motor and EcoBlue Board
- 40RU
  - 12.5 ton to 30 ton
  - Units have standard motor and blower wheel
  - BUT have EcoBlue Board
- RTU's are now 48/50FC or 48/50GC
  - Ecoblue single motor –OR- dual motors
  - Single Circuit Refrigeration

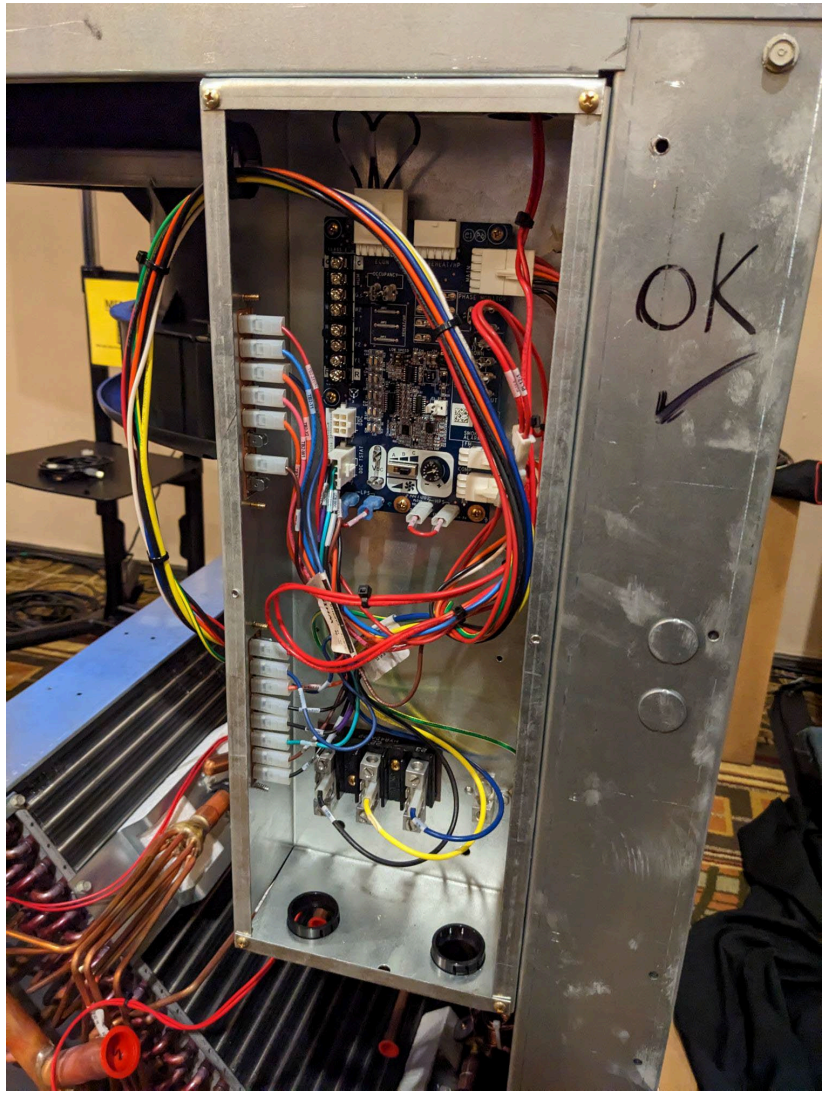
RTU'S

- Single and Double EcoBlue setups





40RF



ECOBLUE STARTUP CAUTION

- HIGH LEG????
- If L1 or L2 OF THE MOTOR is the high leg, then power module will be damaged

- 7.5 tons and up high leg goes to L3 of the unit
- 6 ton and below:
  - Serial 4420Xxxxx and before, high leg on L3
  - Serial after 4420Xxxxx, high leg on L2

ECOBLUE MOTOR DC MODULE

- When motor is supplied HIGH voltage:

1. High voltage from L1 and L2 of motor power up the internal DC module
2. DC module SHOULD produce 10VDC

If motor has internal relay:

3. When motor module makes 10VDC
   - Internal safety circuit is closed (it is N.O.)
4. If motor module doesn't produce 10VDC
   - Internal safety remains OPEN
   - Breaks R-24vac

ECOBLUE BOARD G -> IFO

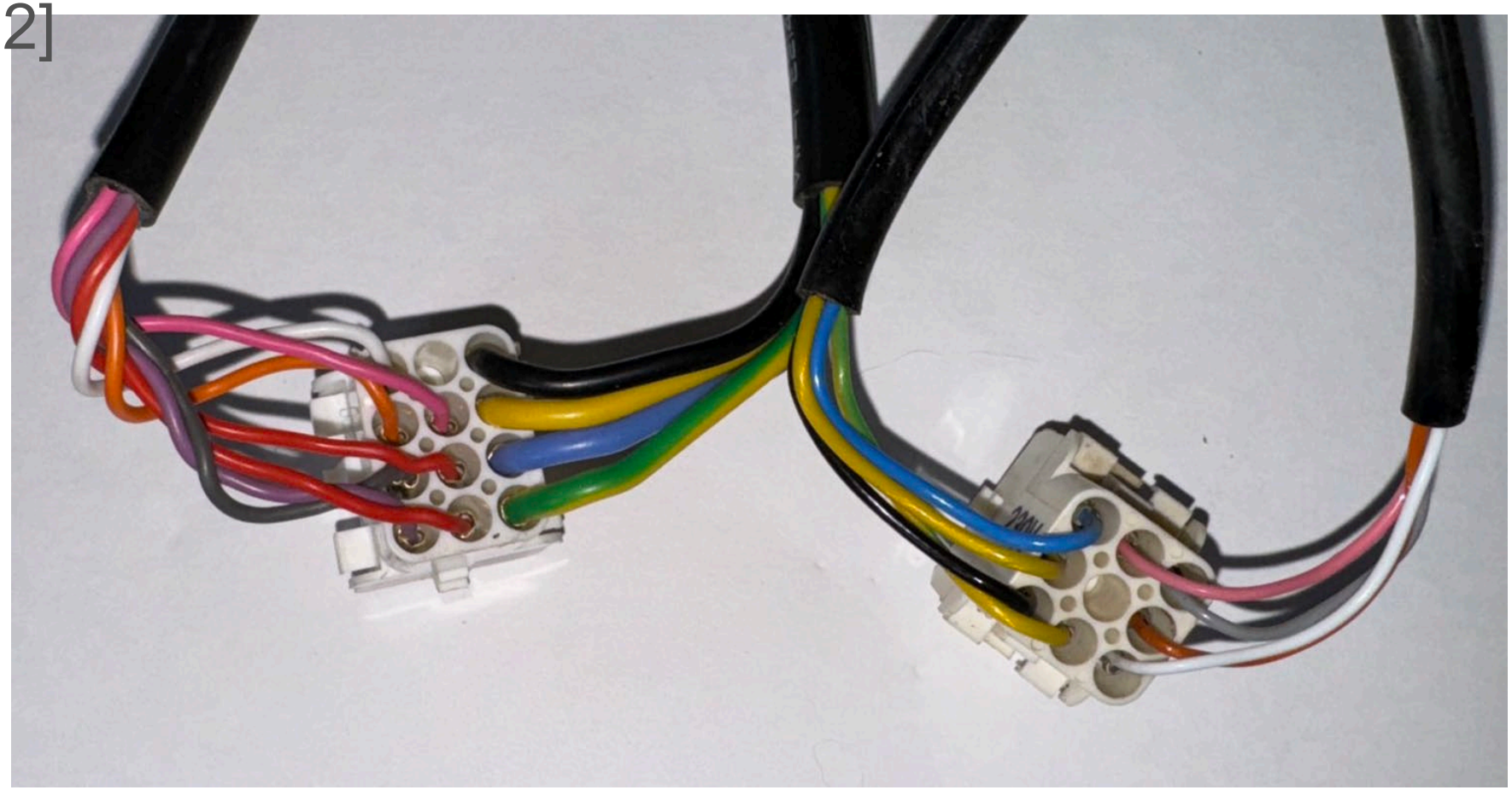
- G input DOES NOT mean fan should turn on
  - G comes to Ecoblue board and goes straight through board to something else, G call is then turned into IFO
- IFO(Indoor Fan Output) determines when logic turns fan on
  - IFO comes to Ecoblue board from one of the following

****G input must be turned into IFO****

1. Defrost Board (Jumper 3 Cut)
2. Ignition Control Board (IGC)
3. Blower Time Delay Board
4. -None- Jumper on Main 4&5

MOTOR HARNESSES

- Two cables come FROM motor & go into one plug [PL1]
- LEFT shows internal RED safety wires; from [PL1] they go to plug [PL12]



MOTOR / BOARD TROUBLESHOOTING

- From motor side of plug PL1:
- Good high voltage = Yes
- Zero VDC from Orange to White= Failed Motor

- From motor side of plug PL1:
- Good high voltage = Yes
- 10VDC from Orange to White = Yes
- 2-10VDC from Grey to White = Yes
- Motor not running = Failed Motor

MOTOR / BOARD TROUBLESHOOTING

- From motor side of plug PL1:
- Good high voltage = Yes
- 10VDC from Orange to White = Yes
- 2-10VDC from Grey to White = No

Leave PL1 and go to control board

- VERIFY IFO inputs!!
- IFO input have 24vac?
  - NO, check tstat inputs and/or 24vac safeties
  - YES, proceed

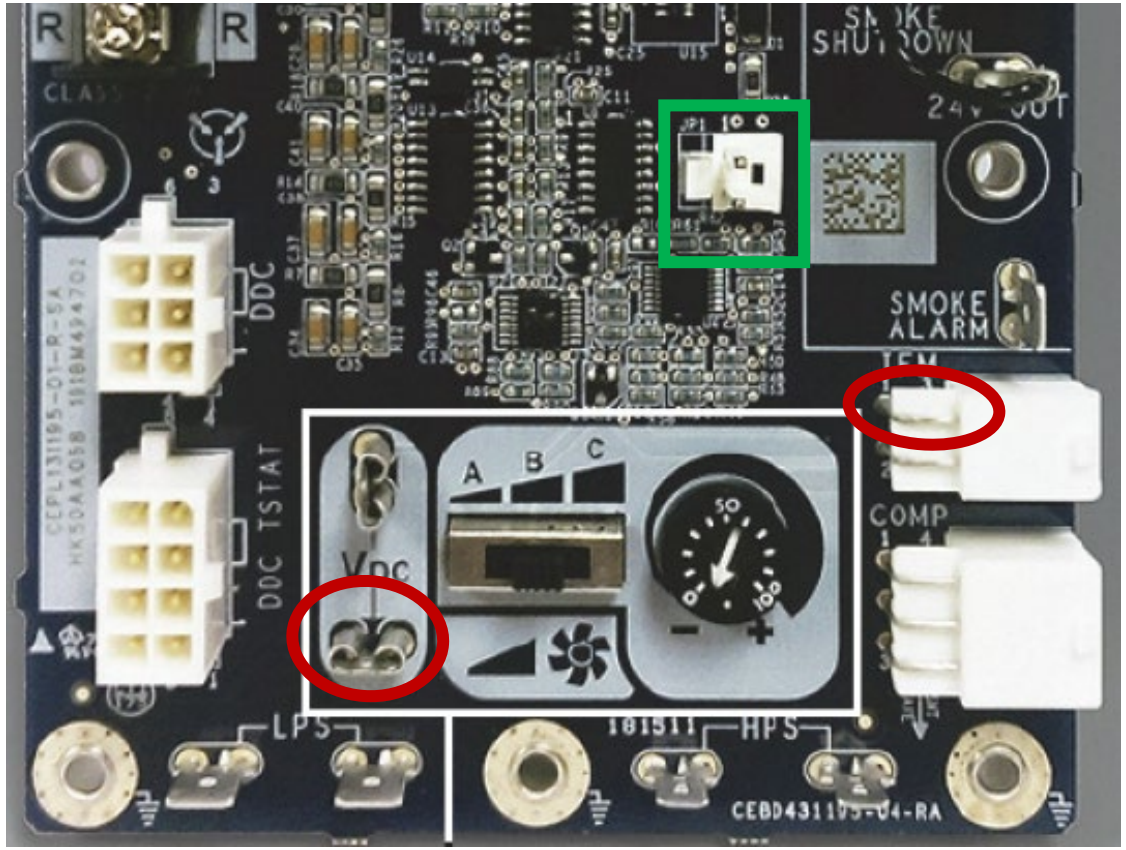
continued on next screen

MOTOR / BOARD TROUBLESHOOTING

Continued

- Check 10VDC supply input (Check across RED)
  - If NO 10VDC then failed harness
  - If YES 10VDC proceed

- Check 2-10VDC output (check 2 PINS)
  - If NO 2-10VDC output = Failed Board
  - If YES 2-10VDC output = Failed Harness



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