Bennett DC ref error 2024 Updated

Could be one of several things:

Check DC buss voltage at the cap banks at the copper strips on both sides in the bottom of the generator cabinet, one is cathode side and one is anode side. Should be about 340-380 vdc on either side of the cap bank. If not there or voltage significantly out of range, check the DC bridges on the caps. Those can fail and the failure is usually due to a shorted IGBT or FET Inverter Driver. Usually but not always. Sometimes the bridges fail on their own.

Check -10.2v reference on the micro board at TP1.

If not there, check for 24vac to Micro board (the two solid yellow color wires at the molex connector J1 on the micro). If not there, check fuses. The 24 vac that feeds the micro is the same 24 vac to the collimator.

In early vintage generators the 24 vac comes from fuses F8 and F11 and feeds both the collimator and micro board. In later vintage generators it is F16 and F17 that feeds the micro and F8 and F11 supply the collimator. .

Check for +/-15vdc on Regulated power supply bd. Check the fuse on the regulated power supply board. If not there, check F5 and F6.

If F5 or F6 blows again, start disconnecting KV boards and Line Monitor board to see if fuse will hold. The small 6 pin ribbon cable connectors. That's what supplies +15/-15 to these boards.

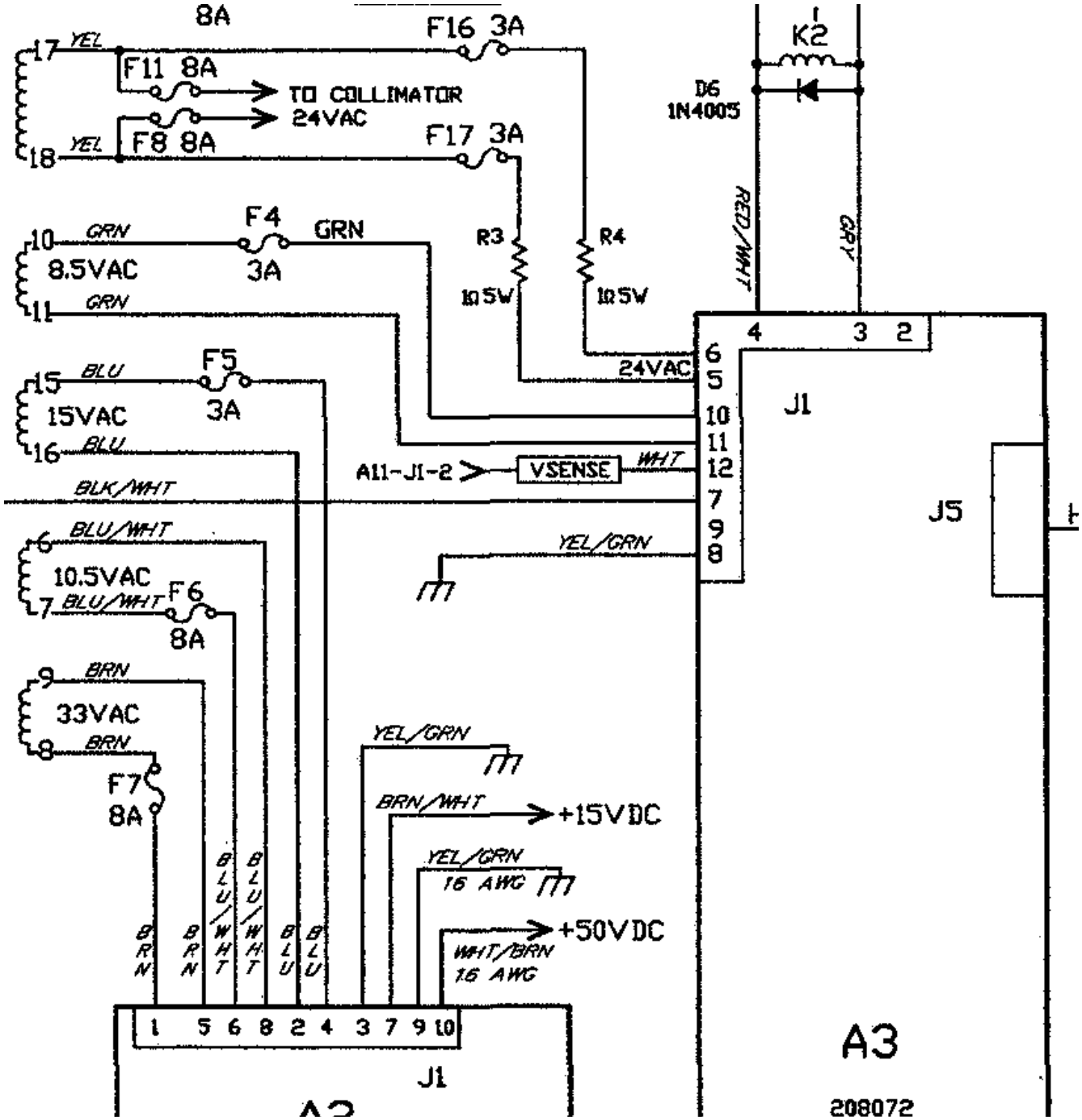
If all 3 boards are disconnected from +/-15vdc and fuse still blows.....bad Power supply board.

Bad KV or Line monitor board could have taken out the Power Supply Bd.

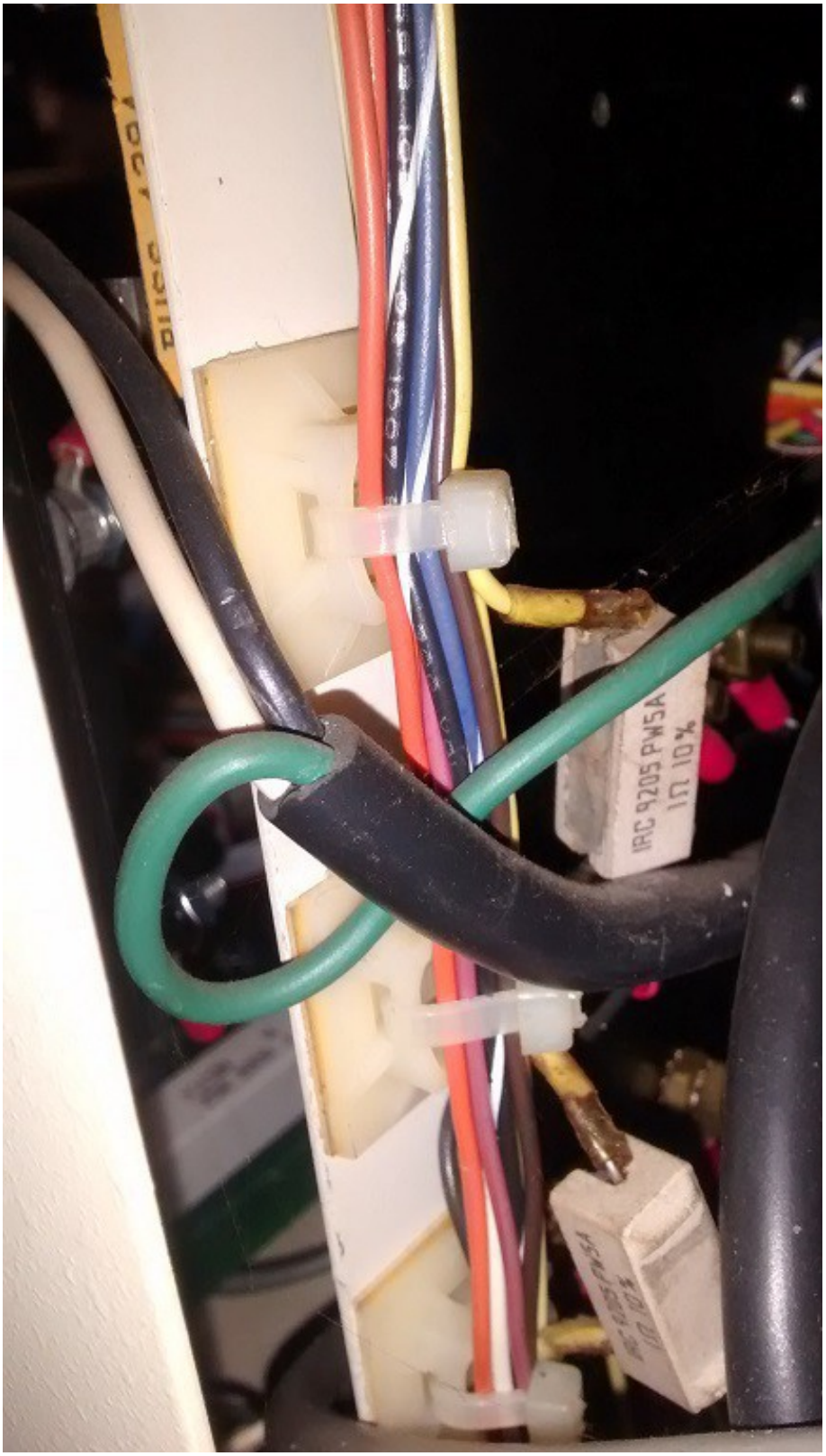
Also, on all vintage generators there are two 1 ohm 5 watt resistors that are in series with the 24 vac that goes to the micro, R3 and R4.

They are somewhat hidden behind the bakelite panel on the right hand side of the generator just past the on off breaker. Sometimes these resistors go open.

See the following schematic and photo.



If the fuses are good and you still don't have 24 vac to the micro, check if either or both of these resistors are open.


IRC 9205 PWSA
1Ω 10%