

The first steps to cure your Icom IC-7100 shut down problem

By Tallman

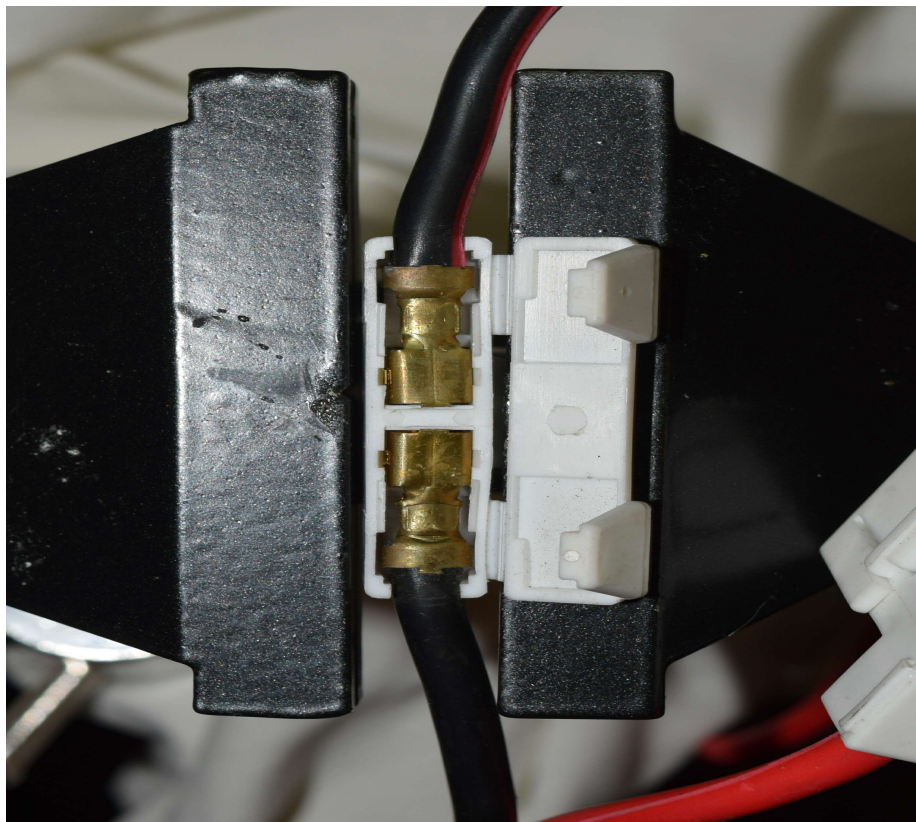
I bought this Icom IC-7100 at a steep discount from a vendor in the Dallas, TX area knowing full well that it had some sort of problem. What the problem was not mentioned in any detail. Just that the customer was unhappy and returned it for credit.

I got it and tested it with no problem at first. After about six weeks of use it shut down one time and that gave me a little concern. It did not repeat the problem until I installed it in my truck and I know that my power cables were in good shape. I have other radios and linears that run just fine on this cable with no problems. The power attachments are at the 200 amp alternator and the engine block. Inline is also a noise filter rated for 100 amps.

I called Icom Technical support and got a "Super Tech" who has worked on this problem before and had some valuable tips and points to check to locate the problem.

- 1: Check the voltage at the back radio when keyed in RTTY mode.
- 2: Check fuses and connection lugs in side the connectors.
- 3: Install a ferrite bead on the cable between control head to the radio body.

When I checked the voltage on my test bench the voltage it was dropping down to 11.3 volt and I have a 50 amp Megawatt power supply so there was plenty of current available. I was going just to fix this problem. I opened the back of the fuse holders and pried the connector clips out of case and inspected them under 20x microscope. The color did not look right and showed some indications of heating.

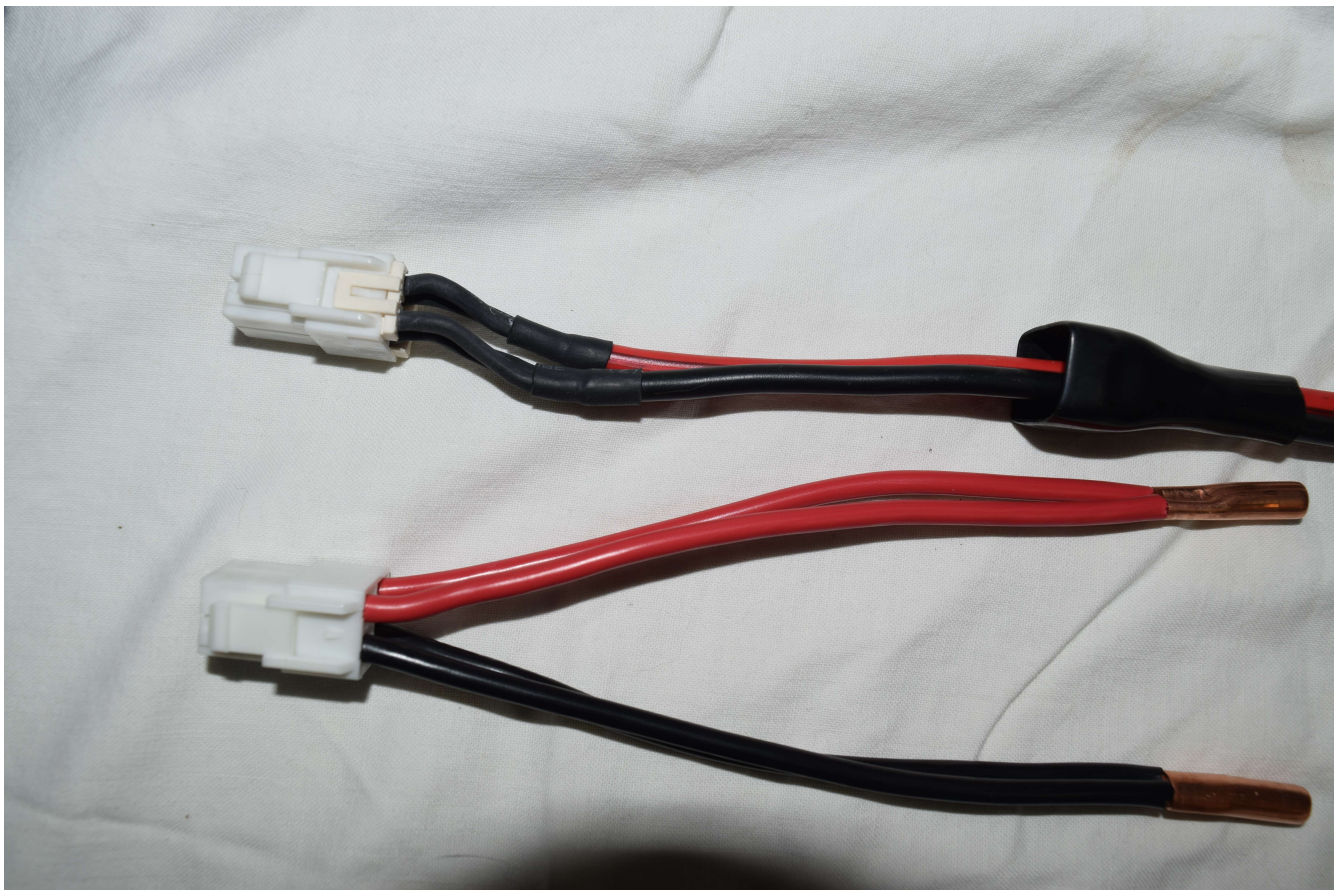


This indicated to me that there was a resistance between the wire and connector clip. I did not have replacement parts available and ended up soldering the existing connectors as they were. I don't like soldering wires where the solder and melting insulation will mix, but at this point I really did not have a choice. I soldered all four connectors and reassembled for more testing.

Back on the bench and retested the voltage at the back of the radio, the drop was lessened and only dropped 1.0 volts. I checked the the connector at the back of the radio and it was above room temperature. Only slightly but noticeable. I had purchased some 12 gauge red and black wire a while back but I still needed the pins. Available from Digikey I bought the pins and the connector body as well.

Pin Part number: 455-2377-1-ND

Connector body: 455-2351-ND



Here is photo of that portion of the repair, the copper tubing is 1/4" used instead of the insulated crimp connectors. You can't solder insulated connectors, tinning is advised before making connections. It might be a little over kill, but I like it that way. The 12 ga. wire was soldered into the pins before insertion the connector body.

To finalize the connections after soldering I covered the copper tubing with two layers of thick heat shrink tubing on each connection and a layer of PVC electrical tape not pretty but it works.

I retested and the voltage only dropped .5 volts. I gained two volts at the connector and three watts of RF output.