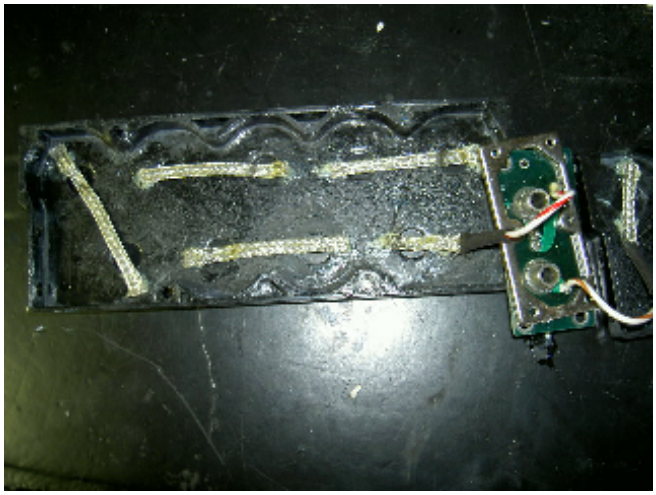
TEK 1502 Battery refurbishment

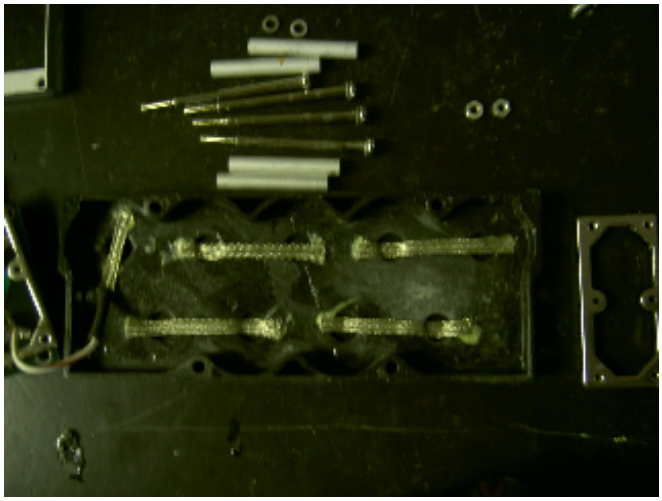
The original cells were 2200mA “C” NiCd cells.
“C” cells are now usually 2500mA and 3300mA.

This procedure means that the unit becomes a carrier for replaceable cells and has a higher capacity than the original unit.
The resulting unit has essentially the same physical dimensions as the original.

1. Waste several hours using all the well known NiCd toasting techniques for short lived and or partial success.
2. Dismantle old battery.
    a. remove fuse
    b. remove heat sink/end plate.
    c. remove long bolts holding the side plates together. Note the “polarization” of these bolts.
    d. “heat pipe” side plates fall off. Clean off the old heat sink compound.
    e. clip wires close to end cells.
    f. remove cells (save for wasting more time trying to revive them!)
3. Wash side panels in hot water.
4. Dry and wipe inside with acetone. Take care, the plastic is soluble in acetone.



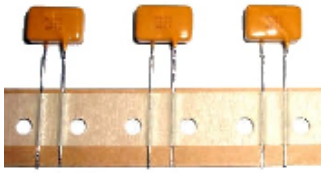
5. Strip 60cm/2ft of silver plated braid from good quality ¼ inch coax.
6. Flatten the coax and put a small dab of neoprene contact adhesive on each end of the long pieces and appropriately on the shorter, end contact, pieces.
7. Put a dab of adhesive, coincident with the braid ends, on the end plates.
8. attach the braid to the end plates.
9. Solder the wires from the socket assembly to the appropriate end braid pieces. Remember to thread the threaded support piece onto the wires. Note the polarity.
10. Solder the wires from the socket assembly to the appropriate end braid pieces. Remember to thread the threaded support piece onto the wires. Note the polarity.



11.Position new cells. Wrap with a single strap of Kaptan tape.

11. Partially assemble socket end into the inside of the bottom end plate. Note orientation/polarity of socket. Do not fully tighten bottom two screws. This eases overall reassembly.
12. Insert threaded end plate into heat sink end
13. Place on other cover plate assembly.
14. Loosely screw the on the socket plate.
15. Attach “heat pipe” side plate. Note correct orientation.
16. Slide in bolts through the spacers and screw loosely into nuts.
17. Repeat for other side plate.
18. Apply heat sink compound to the end of these components.
19. Position the heat sink.
20. Screw the two screw that go into the plastic side plates. This holds the heat sink in position for the more entertaining task of screwing the remaining 4 screws through the heat sink and the plastic end plate into the well hidden threaded end plate.
21. Tighten all the screws.

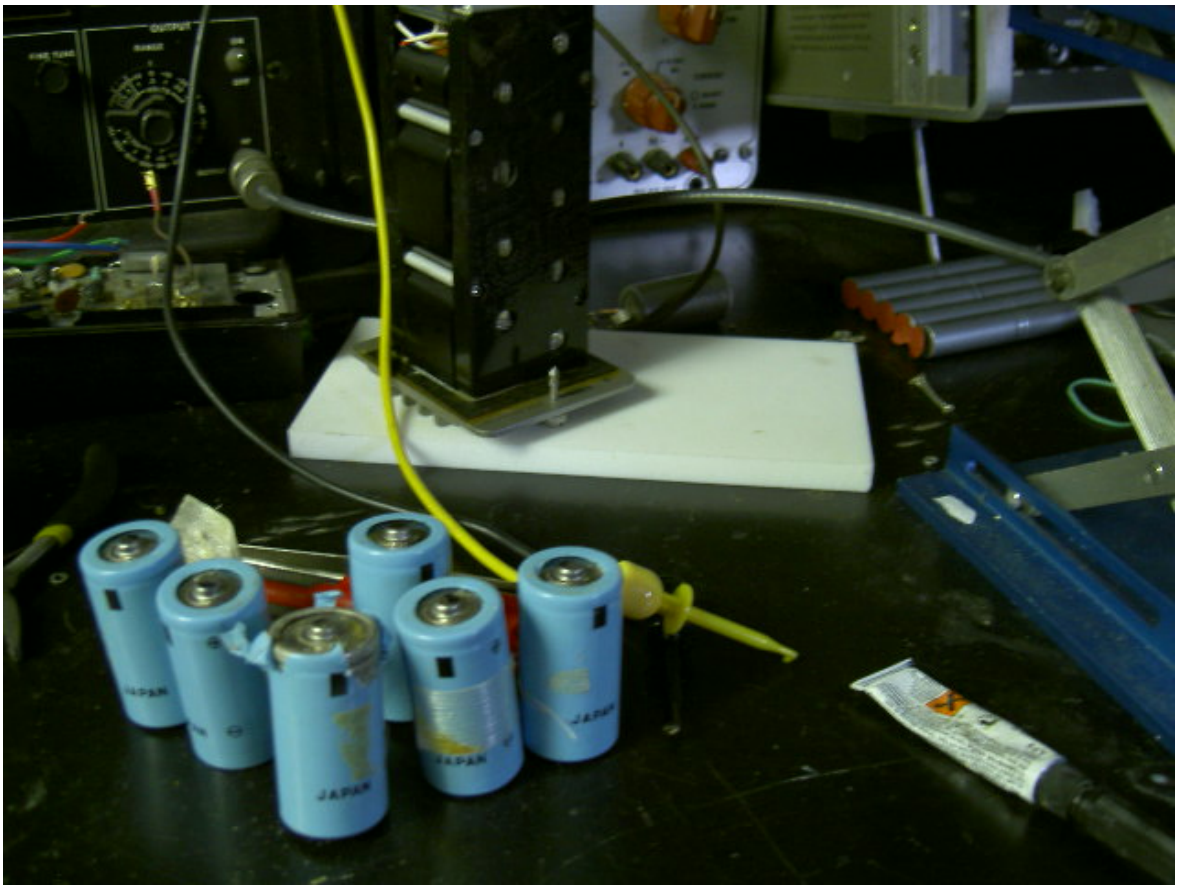
22. replace the fuse.It should be possible to use a 3A



polyswitch

or a Quickblow, with a bit of leg bending. The TEK type parts are very expensive.

23. Give the unit a good equalizing charge at 1.5 A for an hour then 400mA for 24hrs.



The end result and the 6 culprits, including the one that I tried surgery on!