I. Introduction.

Thank you for purchasing the Scotty's Sled Shed Component Kit for Heathkit Signal Tracer T-2.

This kit was developed to reduce the frustration of trying to source replacement components that sometimes are not available from one location. Forcing the customer to purchase a single component from a source where the shipping costs more than the component(s).

There are multiple obsolete components that require substitution to bring the T-2 back to specs.

The bathtub multi-section caps have been outdated for quite some time. There are chemicals inside you do not want to risk spilling out. The Bathtub cap has been substituted with modern film caps and phenolic style solder lug.

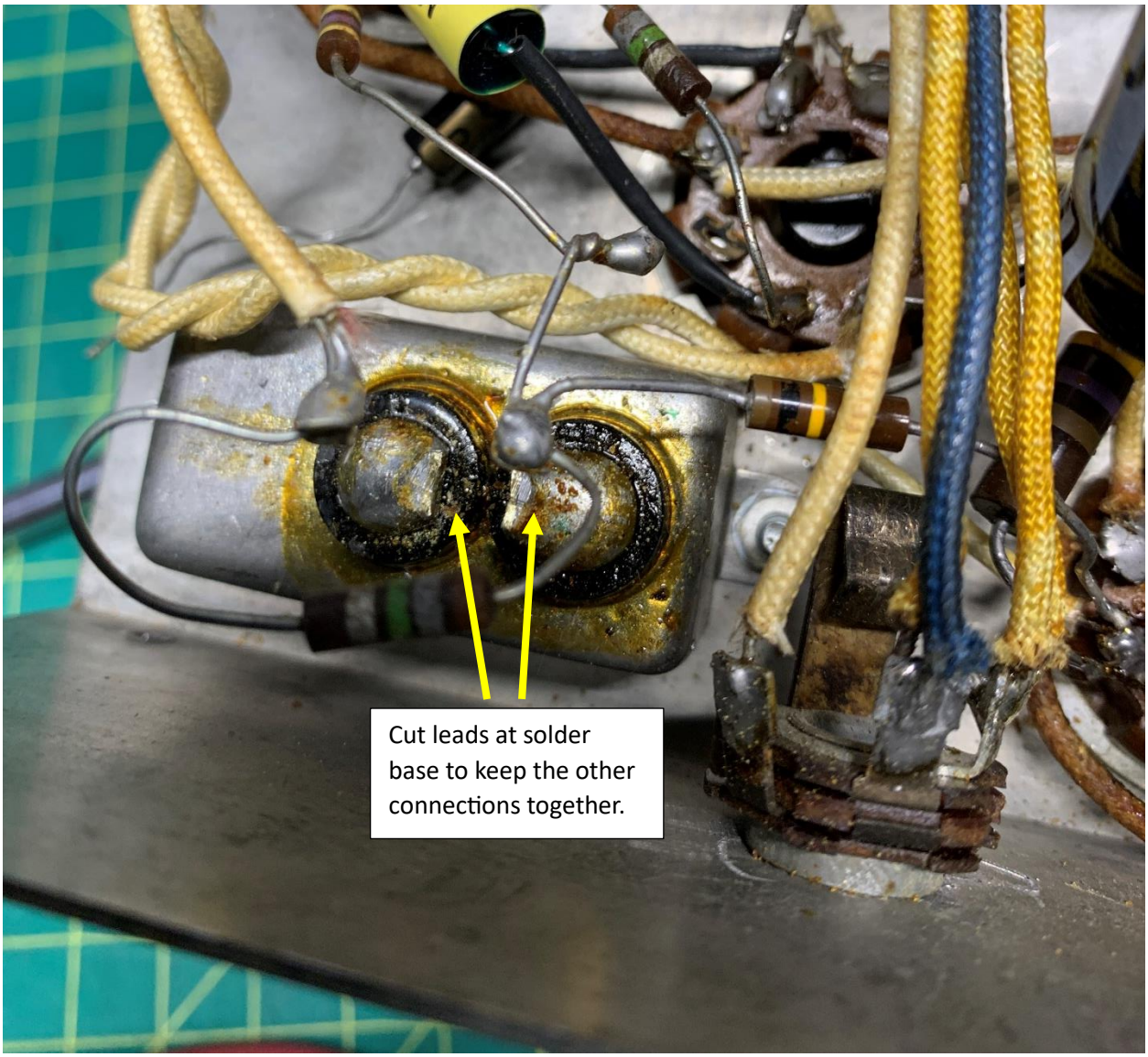
Before you get started there is a list of items to be aware of.

1. Due to constant supply chain challenges, Scotty's Sled Shed reserves the right to substitute component OEMs. If there is an orange bodied resistor in installation guide images and you receive a blue bodied resistor, it is due to component substitutions. The OEM component list is 1/2watt for all resistors except the T11 470ohm. There may be a mix of ½ and 1watt resistors in your kit depending on supply chain. If the price was same or less for 1 watt, then we will supply a 1watt resistor.
2. Scotty's Sled Shed LLC is only providing you with components for a DIY installation.
3. The following instructions are only a guide and may contain some errors. Experienced users may have a preferred method of installation.
4. **CAUTION: Lethal voltages are present in these devices**. If you are not aware of that by now, you should NOT be performing this upgrade.
5. Scotty's Sled Shed LLC is NOT liable for any damage caused to your equipment, bench, house, Power supply or that your wife is mad at you for working on this 50-year-old piece of equipment. You are ON YOUR OWN.
6. Customer assumes all responsibilities and agrees to check all resistances, capacitance, and voltages before and after installation.
7. Customer assumes all responsibility to know how to read a schematic and perform the task this kit requires.
8. Customer assumes all responsibility to SAFELY perform procedures following the Heathkit OEM manual.
9. You get the point; you are responsible for yourself.
10. Please be sure to download the manual if you do not have it. They are readily available online at: https://www.vintage-radio.info/heathkit

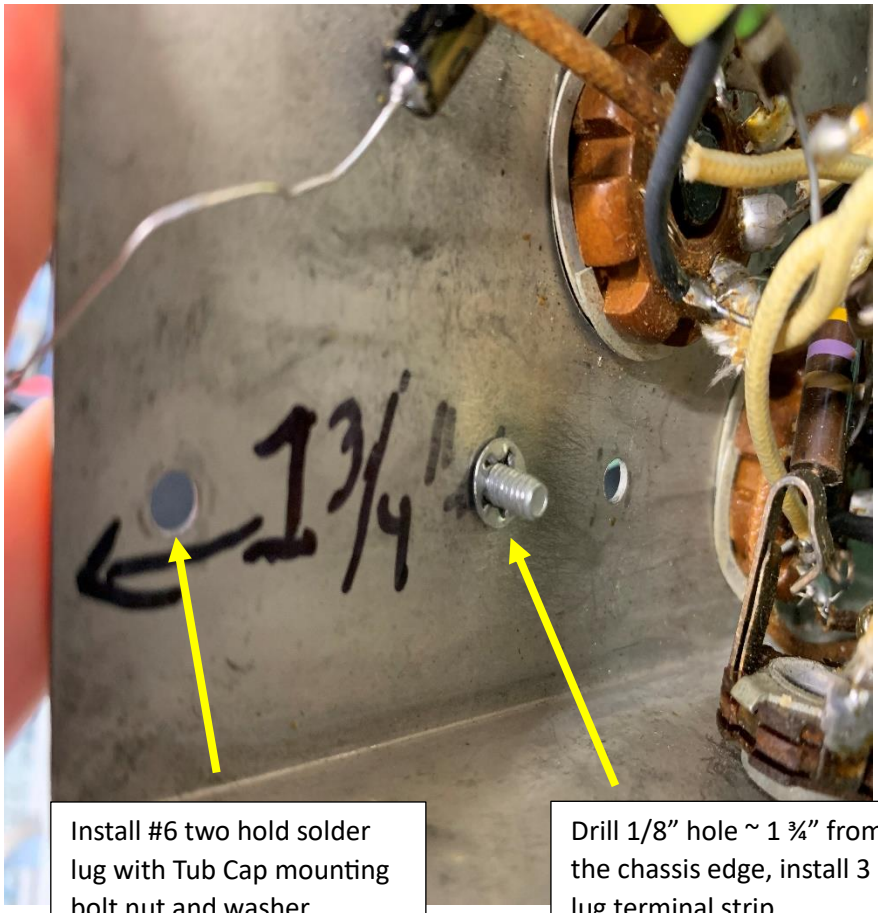
II. Installation.

Assembly and Installation guide for the Heathkit T-2 Component Kit.

1. Open the bag and check all components listed on the bag cover are included.
2. To aid in the process, you may find it helpful to take multiple pictures and videos of your existing Signal Tracer inside and out noting how components are installed. The T-2 was sold as a kit so no two units are installed the same way.
3. **Remove the Bathtub Capacitor T14.** Starting with capacitor T-14, mark the components where they were installed and review the OEM manual.
    a. I just cut the leads off at the base of the Tub cap to leave the K11, 012, 016 intact to remove the Tub Capacitor.
    b. Remove the Tub Capacitor-save the mounting hardware for later.



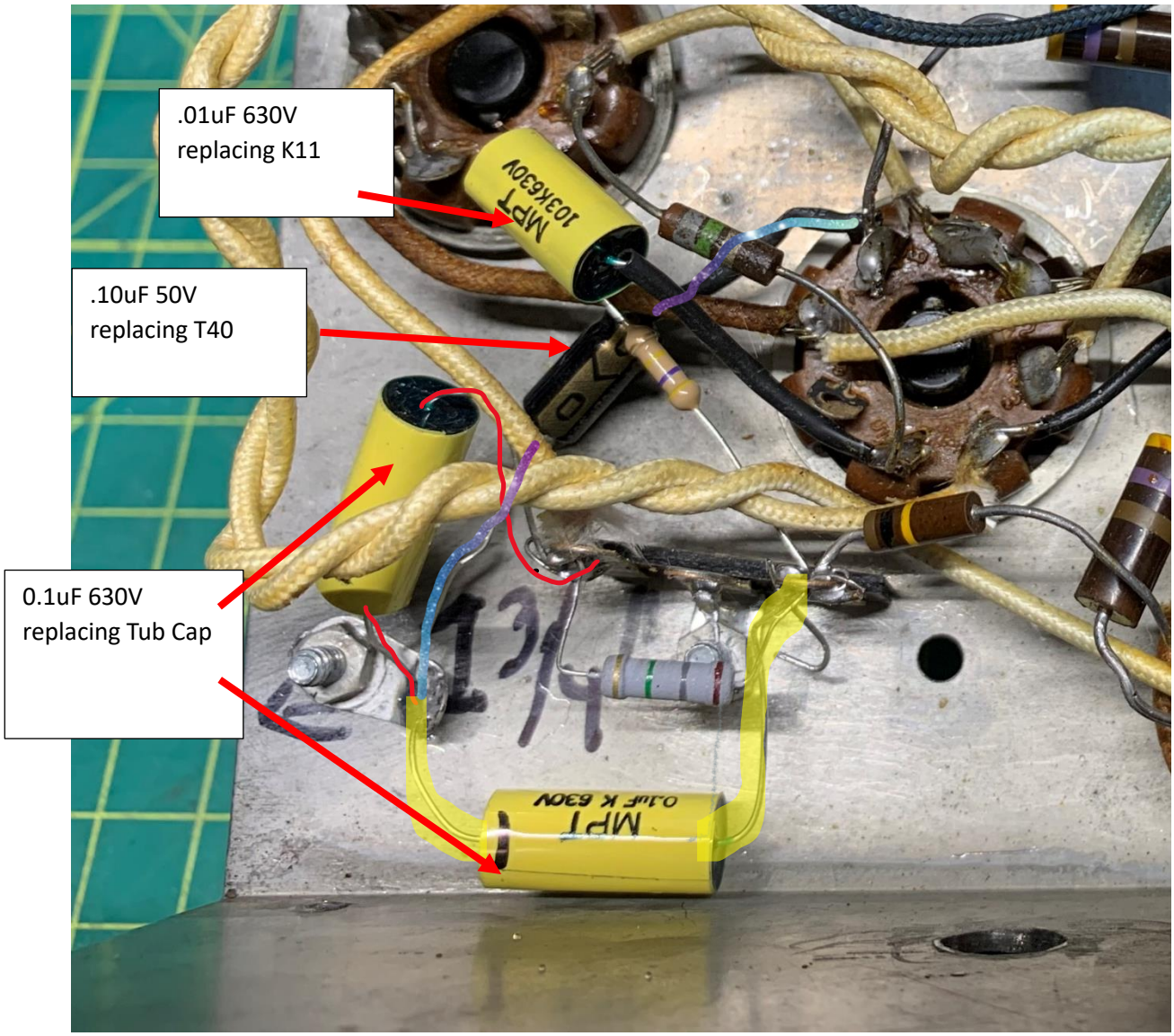
4. **Installing the phenolic 3 lug solder terminal strip.**
    a. Drill a 1/8" hole approximately 1 ¾" of an inch from the left edge of chassis.
    b. Use a wire brush to clean the area on top and bottom around the hole to make a good connection.
    c. Install one of the Tub Capacitor bolts with toothed washer from top side.
    d. Install the 3-lug solder terminal and tighten with the nut.
    e. In the far-left hole near edge of chassis where you remove the tub capacitor, clean top and bottom around the whole with a wire brush.
    f. Install the other Tub Capacitor bolt, tooth washer and one of the supplied #6 solder lugs. Tighten.



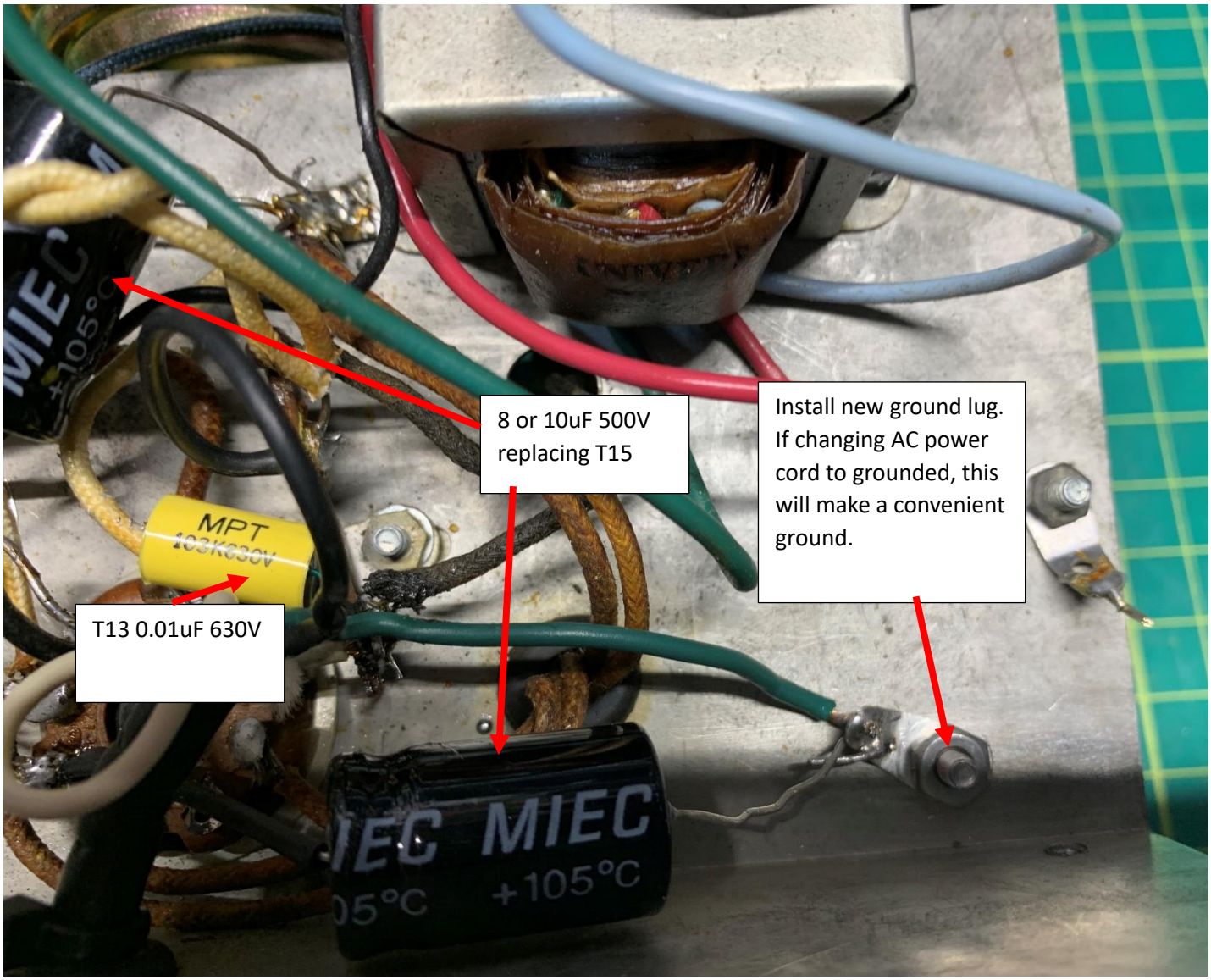
Install #6 two hold solder lug with Tub Cap mounting bolt nut and washer.

Drill 1/8" hole ~ 1 ¾" from the chassis edge, install 3 lug terminal strip.

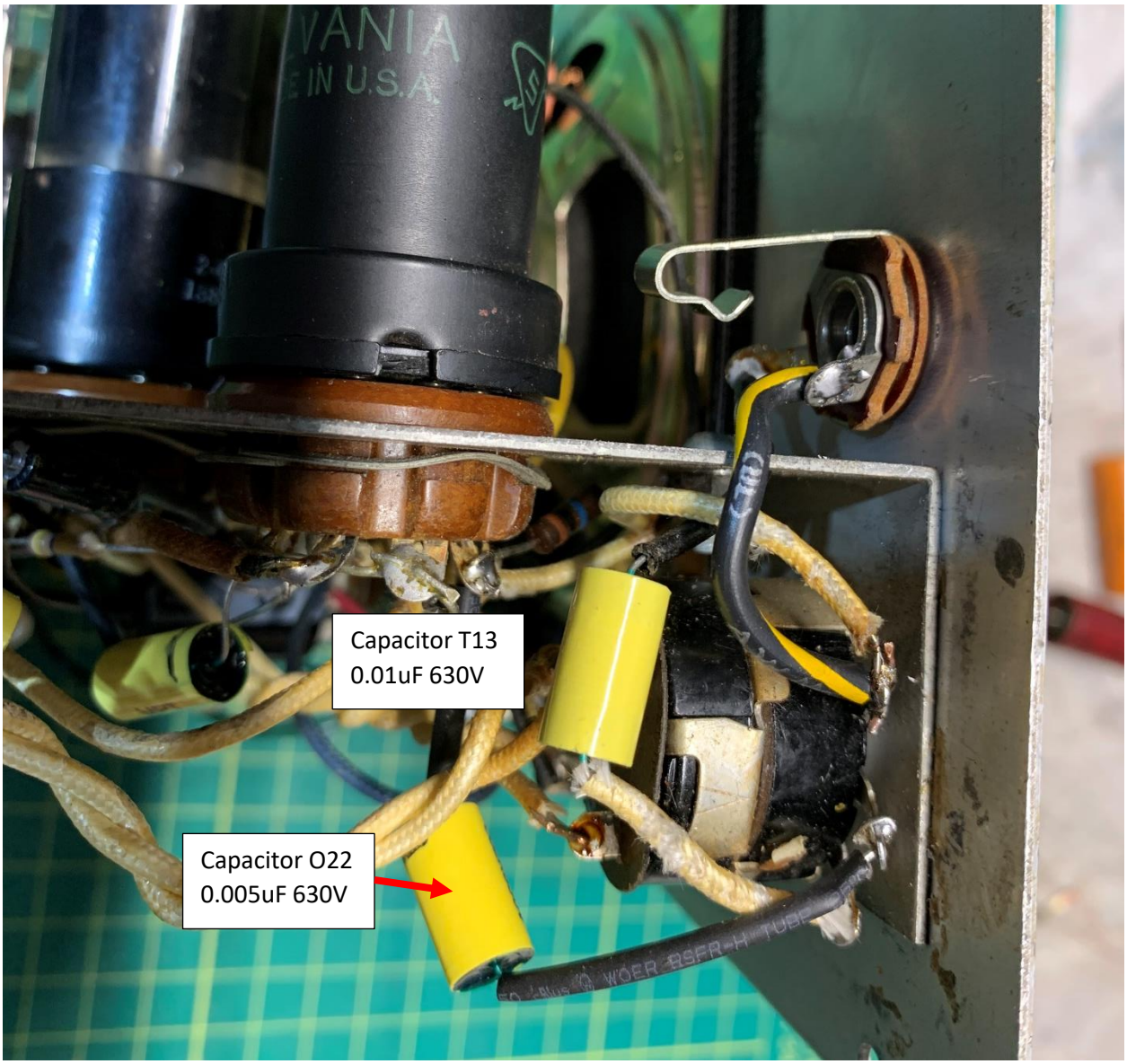
5. Install two 0.1uF 630v film capacitors to each outside lug of the 3-lug terminal strip and run the other end to the #6 ground lug on the upper hole. Leave the bottom hole open for use of ground for other components.
6. Following the original layout, you can choose to replace the original resistors or re-use them if they are in spec. Replacing will ensure longer life.
    a. The 1.8M ohm resistor goes between the 0.1uF caps on the left and right tabs of the 3-lug connector.
    b. This is a good time to replace Capacitor T40 (10uF) at Pin 8 of the 6K6 tube and run the negative side to the newly installed #6 lug or the center lug of the 3-lug terminal strip.
    c. Solder your connections.
    d. Replace Capacitor K11 with the .01uF 630v film capacitor.



7. **Remove T15.**
    a. Drill a 1/8" hole approximately 1.5" in from the right side of the chassis as close to the lip of the back of the chassis that will allow you room to work. Be careful of the transformer on the other side.
    b. Install new bolt, tooth washer, solder lug and nut. Connect the negative side of one of the 8uf (or 10uF if substituted) 500V electrolytic cap and connect the Positive to pin 6 of the 6X5 tube (refer to manual to validate connection).
    c. Connect the other 8uF (or 10uF sub'd) 500V electrolytic cap to Pin 6 of the 6X5 tube and the negative side to either 037 ground lug or the center lug of the 3-lug terminal installed that replaced the T14 Bathtub capacitor.
8. **Replace capacitor T13 with a 0.01uF 630V film capacitor.**



9. **Replace Capacitor 022 with 0.005uF 630V film capacitor.**
10. **Replace Capacitor T13 with 0.01uF 630V film capacitor.**



11. Continue to replace any out of spec, or all resistors.
12. Double-check your work and all solder connections.
13. Double-check Polarity for T15 and T40 capacitors. Negative side goes to chassis ground.
14. Highly suggest installing 3 prong AC grounded power cord. Hot (black in USA) side goes to the switch.
15. Replace Xtal Diode V42 if desired. You can make your own probe. The polarity of diode doesn't matter. Suggest placing anode probe side and the supplied 0.001uF ceramic cap between the test lead and the diode. This will improve RF efficiency and block any DC going up the probe to the XTAL diode.

I welcome feedback on any tips or tricks you find to make the project go faster.

Also like to see customer pics of final installs.

If you find an error in this document, please kindly let me know at mysledshed@yahoo.com

Please be professional in your communique.

Thank you, and good luck!

73's

Scotty

W8AOR