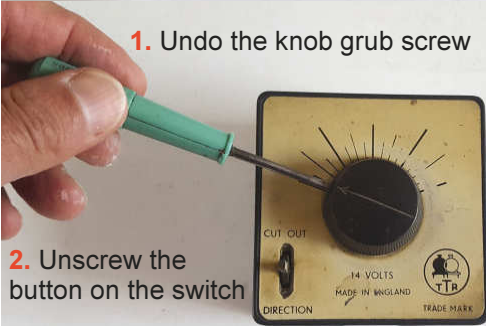


472 REPAIR



Steve White

1. Undo the knob grub screw



2. Unscrew the button on the switch

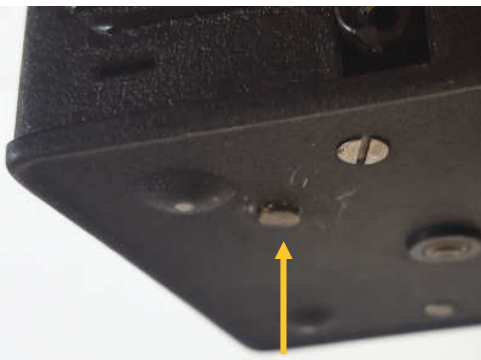
3. Pull off the speed knob



Carefully prise up the knob from both sides with two screwdrivers if stiff.



4. Turn the unit over. Using long-nose pliers, squeeze the retaining clips so they are half-way removed. Then ease them off using pliers or a screwdriver



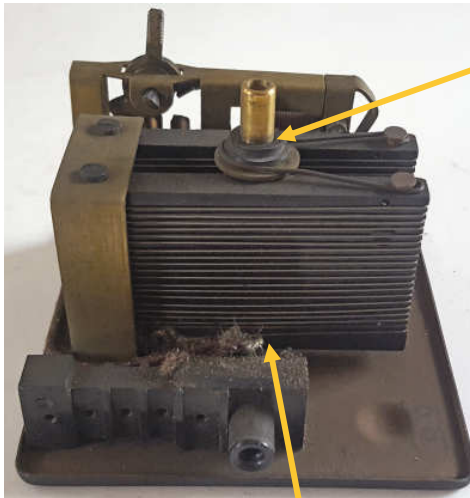
5. While easing the front panel off, nudge the two exposed metal ends so that they pass through the holes. This can be a fiddly process.



6. This is the view with the top fascia plate removed. Now remove the metal casing by pulling it upwards.



7. These are the dismantled parts.



8. Check that the wire from the socket is firmly soldered to the base of the resistance wiring, and that the resistance wire is not broken.



9. Check that the soldered joints on both sides of the switch are firm, and that the resistance wire is not broken on this side.

If the switch spring is weak or inoperative it cannot be replaced unless the switch rivet/pivot is removed.



10. Refitting the metal case to the base and fascia plate is tricky. Carefully squeeze the case so that all 4 sides are located inside the base.



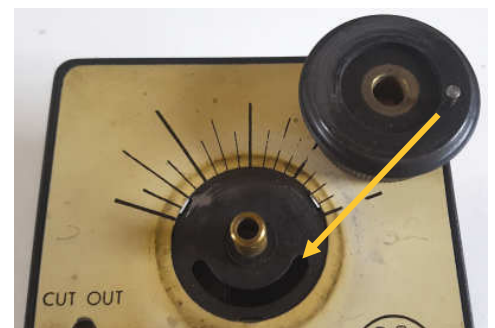
11. When refitting the top, the two rods must protrude from the two holes in the base. The central hole must fit around the spindle's locating washer.



12. Nudge the end of the brass rods with a screwdriver to make them central in the holes.



13. Use long-nose pliers to assist with refitting the two clips on the brass rods.



14. Refit the button. Fit the knob with the locating pin at minimum speed, also aligning the mark on the spindle with the position of the grub screw.

ADDITIONAL TIPS FROM MARTIN DRAYSON

3. The knob can be hard to remove. Pull it up evenly from both sides with the fingers or with two screwdrivers. Whilst doing so, note the mark left by the grub screw on the spindle.

6. I don't separate the fascia from the main casing. I lift the two parts off together. It keeps the casing in shape for reassembly.

9. A broken return spring on the switch is a very common fault. I have original springs in stock, but you need to file or grind the end of the pivot pin where it is flattened to allow it to be withdrawn. Note the orientation of the spring before removing it, to ensure that the replacement is fitted correctly. A tricky job.

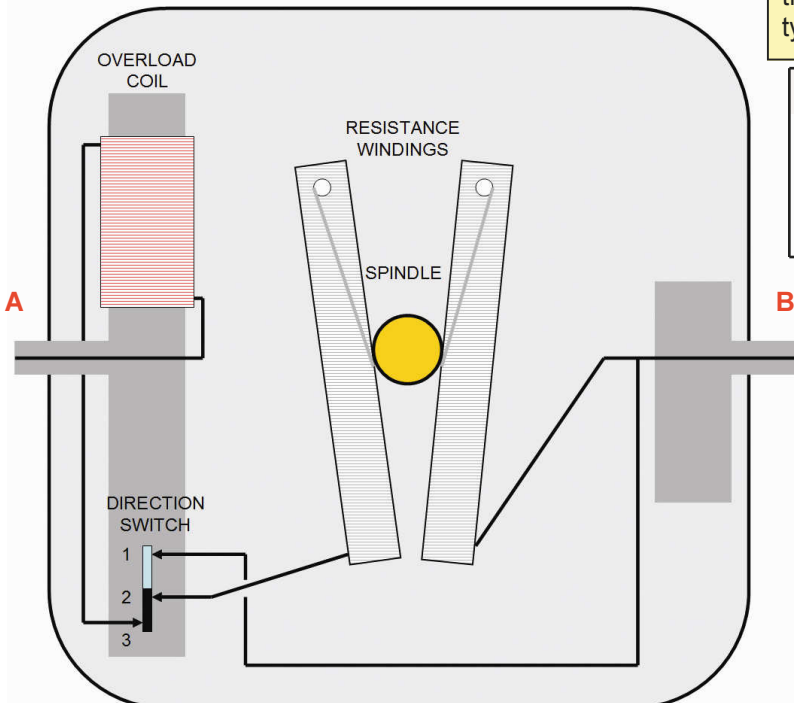
14. When refitting the knob, line up the grub screw as closely as possible onto the original screw impression on the centre spindle. The resistance of the controller is varied as the contact points of the spiral centre spindle move up and down between the resistance plates. If the centre spindle is heavily grooved by the resistance wires intermittent contact will occur. Try filing the grooves away or replacing the spindle.

If the knob is slightly out of position, the test loco can suddenly run at full speed as the knob approaches the minimum setting. It is usually difficult to adjust the position of the knob by simply slackening the grub screw. After slackening the screw, turn the controller on its side and grip the lower end of the centre spindle with a pair of fine pointed pliers or tweezers inserted into the bottom bearing. It is then possible to turn the knob to a position where it operates correctly; then tighten it finally.

The sensitivity of the overload trip is adjusted by bending the bracket to which the coil spring is attached. Do not alter this setting unless you are confident to do it.

Don't throw faulty or scruffy controllers away. They may be repairable, or provide vital parts to repair another one.

MD



The Trix AC system is quite complex. The column on the far right illustrates the reversing sequence using the controller.

The diagram above shows the flow of electric current. 14 volts AC is supplied to socket **A**. This flows through the overload coil, then to the switch. If the switch is in its central position, pins 2 and 3 are connected and current flows through the resistance winding to the loco via socket **B**.

If the loco derails and creates a short circuit the excessive current drawn causes the overload coil to operate a lever which moves the switch to the off position. Other causes of excessive current will also operate the safety overload.

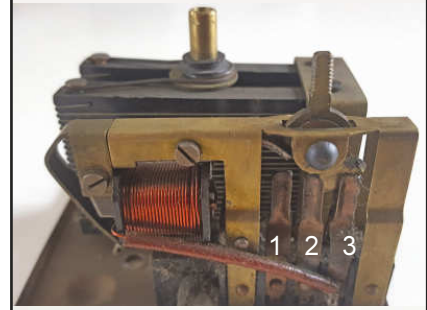


Showing locating washers and spring

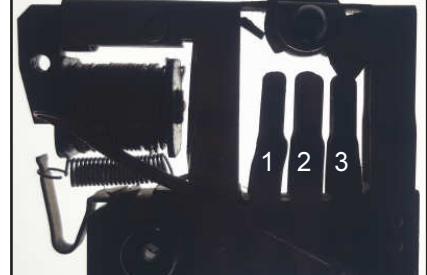


The TTR AC Power Unit 492 incorporates the same controller mechanism and safety cut out. The knob is not interchangeable with that of the Controller type 472.

SWITCH OPERATION

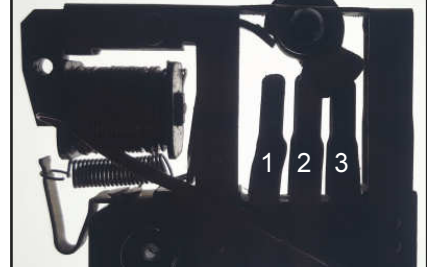


'OFF'



Controller off, no current flow

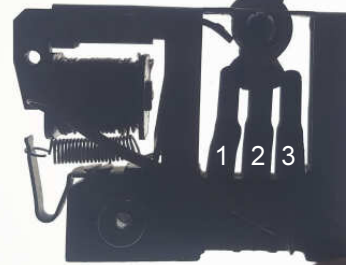
'ON'



2 and 3 connect, allowing current to flow through resistance windings

'DIRECTION'

As the lever is pulled forwards, 1, 2 and 3 momentarily connect, allowing full voltage to be applied to operate the loco's reversing coil



When the lever is fully depressed, 1 and 2 remain connected, but no current flows to the loco, allowing its reverser to disengage



Use the connection diagram alongside to follow current flow

SW