

# Magic Timers Tech Note – 21-3

## Incorrect Battery and Timer Connections, not just Polarity



This information applies to all Magic Timers but it is particularly applicable to VR timers that are used with 2 cell LiPo batteries because of the higher voltages and current draw.

It is very important that batteries are connected to the timer with the correct polarity [the + and – the right way around]. This is obvious to most people.

But it is also **VERY IMPORTANT** that the battery not be connected to **ANY OTHER** connections on the timer. On the Standard and Extended VR timers the battery is connected to 2 pins on the “inner” row or connection pins that are next to the circuit board. Take great care not to connect the battery to the pins on the outer row or the pins next to the power pins on the inner row. Doing this may damage the microcontroller. It will not stop the microcontroller from working but what it will do is “blow out” one pin on the microcontroller and stop one of the servos from working. Before our timers are shipped to customers we verify that all servos are working.

The start button on a Rubber, Electric or Power timer or the hook switches on a Glider timer connect 2 pins together. Connecting these to the wrong pins such as the positive and negative connection to a servo will create a direct short circuit across those

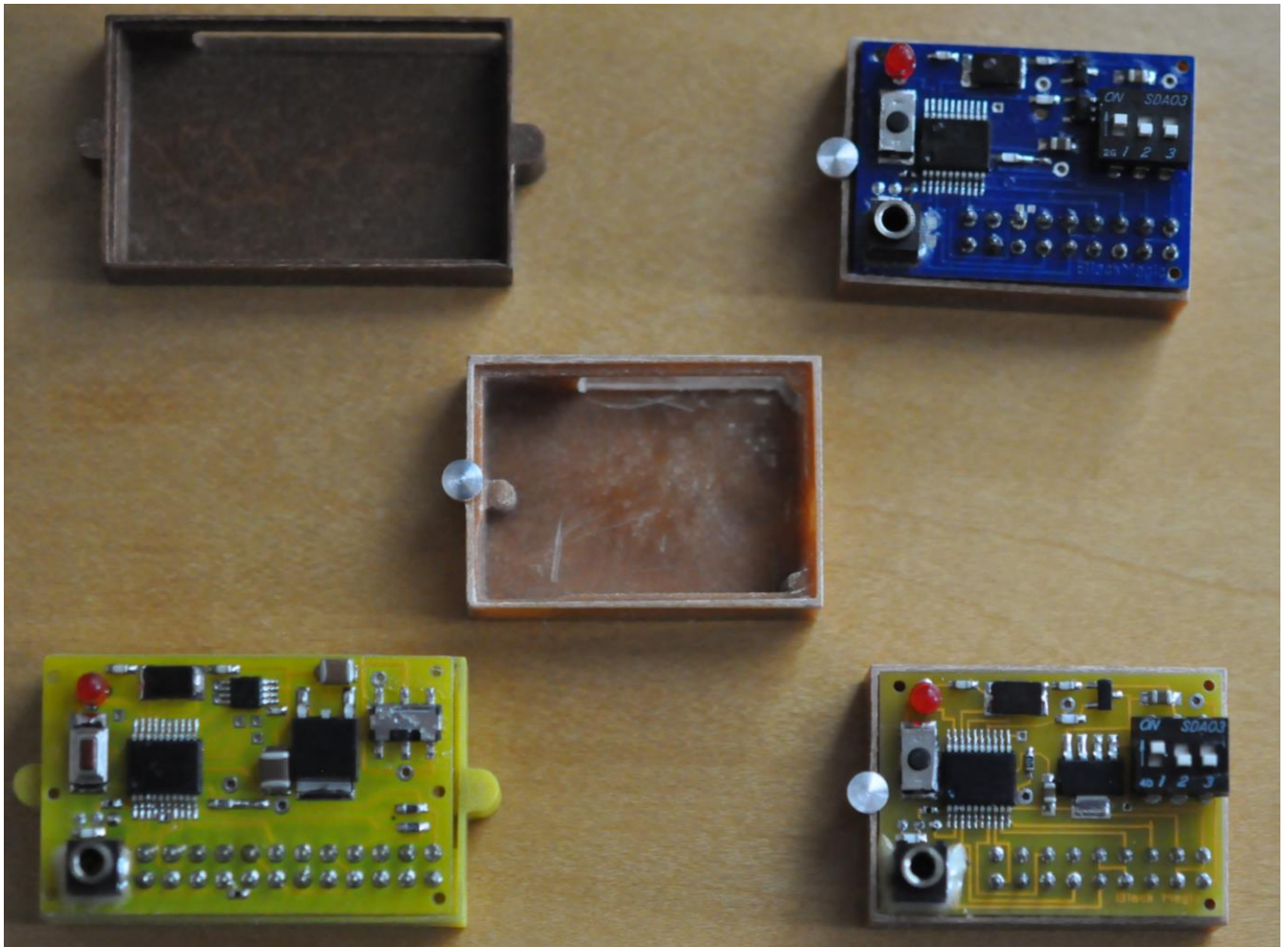
pins. This can damage several components on the timer, generally signified by heat and smoke. Again this can be repaired but take care.

There is a Pin Out sheet available for each model Magic Timer that is normally sent to you when you purchase a timer. If you do not have it, please request it from Magic Timers. This sheet shows how the timer should be connected and what each pin is used for. The sheet explains how to make sure that you have connected the timer the right way. Read this and understand this. If you are not certain check with Magic Timers or a friend who has experience with Magic Timers. NEVER try plugging things in at random to see what works !

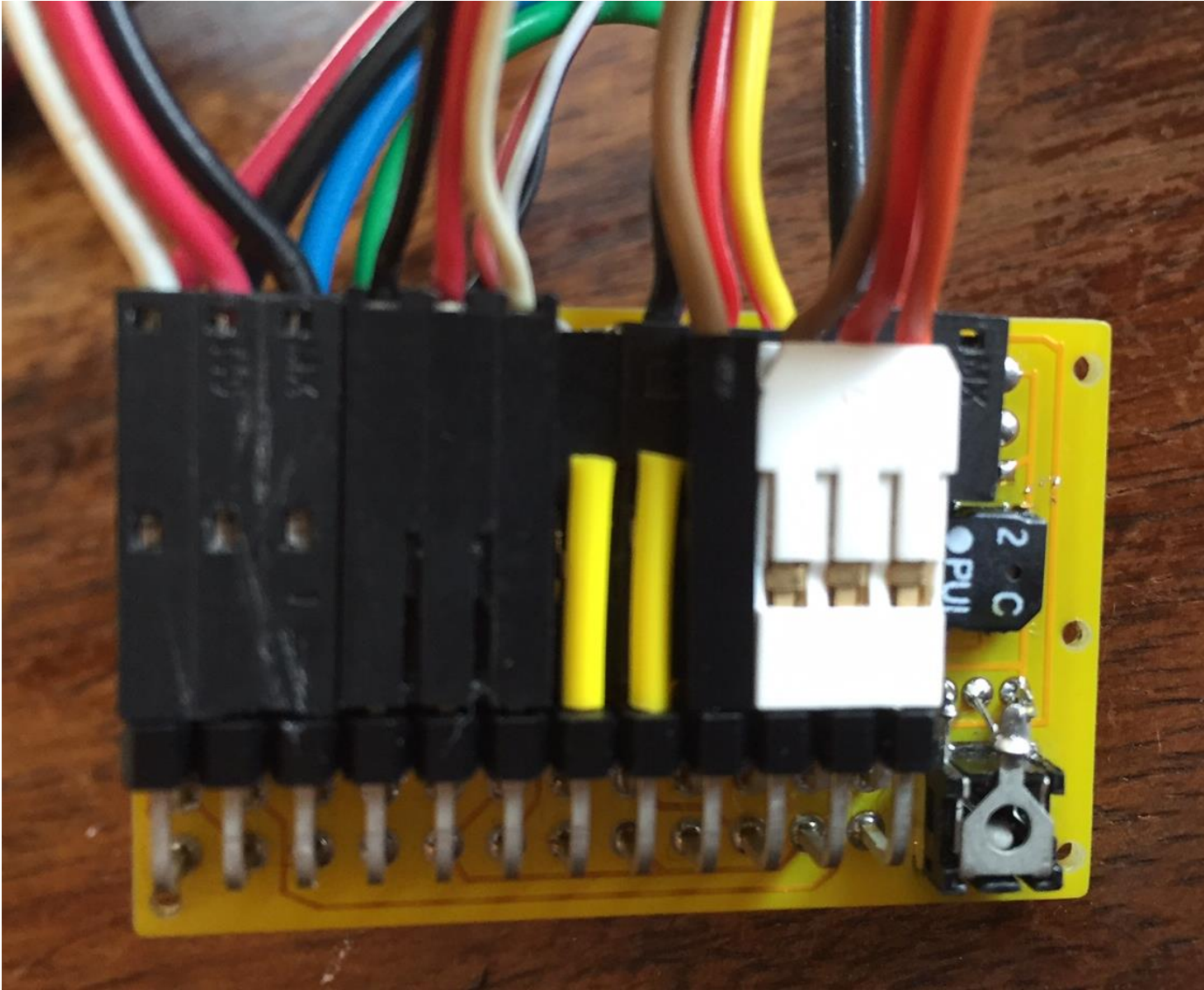
Check the quality of the wires that you use to hook up the battery, tow hook, start button, servos and RDT, make sure there is no damaged insulation, exposed conducting metal or little strands or wires hanging out of connectors.

If a timer has been damaged in this way the microcontroller has to be replaced. This can be done by sending the timer back to Magic Timers.

The timer must be mounted in the model so that it does not move around and accidentally touch any conducting surfaces. NEVER leave the timer just hanging by it's wires! You can mount the timer in a support on any non-conduction material, including wood. Magic Timers also supplies mounting boxes and here are some pictures.



You may not be using all the connections on your timer and we recommend that you cover the unused connections with plastic or shrink tubing. Here is a picture showing the back of a 4/5 Servo VR Timer where the person is using a M&K Impulse hook. For this type of hook the OLA connection is made to what would be the Hook Servo pin when using a Relatch Hook. Next to this control pin are the pins that would provide power to the hook servo. These pins can be live. So in this example they have been covered with the yellow plastic tube to prevent them being touched accidentally.



You can ask us if you have additional questions.

To e-mail Magic Timer write to [magictimers@yahoo.com](mailto:magictimers@yahoo.com)

***“We count the seconds, the rest is up to you.”***