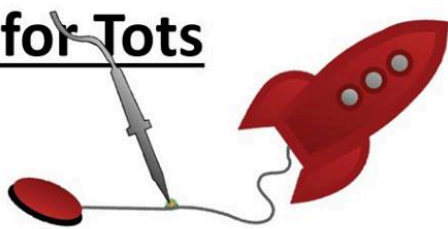


Watts for Tots



Toys can be very difficult to adapt. Stuffed animals with the “squeeze me” switches are EASY in comparison to the RC cars, planes, & helicopters kids have now. So, how do you adapt a remote control toy? Here’s my guidance on some ways. This is a bit more difficult & less forgiving, so don’t be shy about asking for help.

1. Get Your Tools Together

There are some important tools you’ll need before you start. We have provided them for you.

- Screwdriver
- Wire cutter/stripper
- Soldering iron
- Solder & Flux
- Electrical tape
- Female connector
- Super glue (optional)
- Electric drill
- Sand paper (220*)
- Rubbing alcohol



2. Play with the Toy

Drive the car around. Think about how the kiddo will want to play with it too.

3. Make a Plan in your Head

Most cars go forward, back, & turn left & right. Each one of these actions would require a switch, which adds up quickly & not every family will have four switches. At a minimum, you want to go forward & back. I threw in a right turn with reverse so the kiddo has a little more control with only two switches.

4. Safety First

Take the batteries out of the remote control. If you don’t, you may be in for a shock. Oh, & don’t lose the screws & stuff that you take off. You will need them again when you put the toy back together.

5. Open the Remote Control

Remotes controls are generally built in two halves & held together with some screws. Remove the screws & gently separate the two halves. I used a small flathead screwdriver to wedge the halves apart. Once the two halves are separated, some other parts (like the control knobs) may come loose. You’ll set those aside with the screws you removed.

Look at the printed circuit board (PCB for short). Notice the small switches on the knobs. These are the switches that control the car’s movement. You are going to “bypass” these switches & wire in a connector. It’s a bit challenging because they are so small, but we aren’t actually going to solder on the switches. We are going to solder the PCB somewhere else (which will be a lot easier).



A Guide to Adapting an RC Car

Written by Daniel Cavender



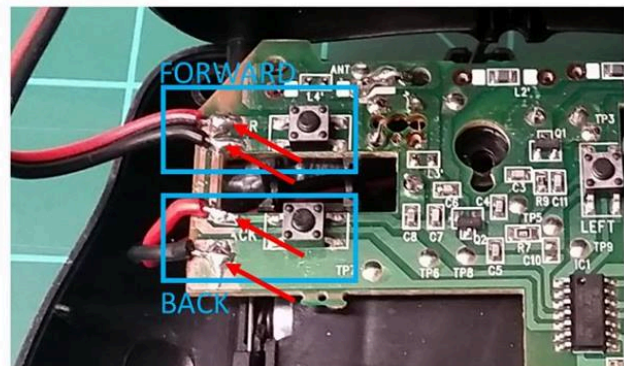
6. Mount Switch Connectors

Drill two 5/16” holes into the handles on the top half of the remote control (as shown below in the photo). Unscrew the plastic housing from two pre-made female connectors. Then, feed the wires through the holes from the top & press-fit the connector into the hole. They should snap into place & stay.



7. Solder Wires to the PCB

This is where stuff gets real... But, you’re ready for this. First, get the sandpaper & lightly sand the left side of the PCB to remove the green coating & expose the copper “traces,” then wipe it clean. There are several traces close together, so you want to be very careful to ensure you’re soldering to the correct one. You’ll want to trim the wires to an appropriate length before you solder them down to the PCB. Apply some flux to the trace & wire. Load some solder onto the iron. Then, hold the wire in place against the trace. Watch the flux boil & the solder flow against the trace to lock the wire in place. To check & see if you are soldering the correct wires to the correct traces, use a multi-meter or put batteries in the remote & give it a go.



8. Reassemble Remote Control

Do a little spot cleaning with some rubbing alcohol to remove flux residue, then start buttoning the controller shut. If you don’t have any parts left over, you’ve done pretty good. Plug in a switch & try it out. You just made some lucky kiddo’s Christmas more special. Thank you. Now, on to the next toy!