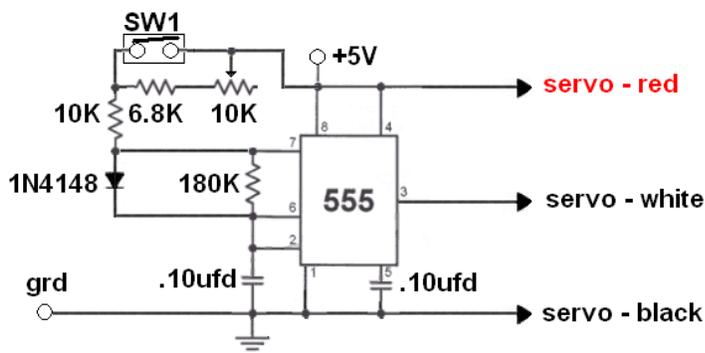


Are you tired of paying \$15 to \$20 each for turnout motors? How about building your own for around \$10? If this sounds like something you are interested in, read on! I was not the first person to come up with the idea of using radio control servos for turnout control, but I did not want to purchase really fancy, and expensive, controls to operate a simple turnout controller. This control design will NOT work directly with your DCC controller without additional equipment from the DCC manufacturer. However, if that is what you really want, it can be connected by using accessory decoders available from the DCC manufacturers. I am not going into that for this article. This controller is designed to operate a servo by using a simple SPST (ON/OFF) switch. If you use a DPDT switch, you can use one side to control the servo and the other side to control the frog on your turnout. Let's get started!

Below is a schematic of the basic circuit you need to construct to control the servo. It needs to have a 5 volt DC supply to operate the control board and the servo. The circuit is rather particular about the power supply, so if you don't have the proper DC power supply, either make your own or purchase one. One supply should be adequate to operate all the servo driven turnouts you have since it is most unlikely you will be driving too many multiple turnouts at the same time. My circuit was constructed on a Radio Shack experimenters board. I chose this because it is readily available, already etched, and convenient in size for my uses. If you don't have the required parts in your junk drawers, they are common parts you should be able to obtain inexpensively from DigiKey, Radio Shack, Mouser or other electronic suppliers in your area or on the web. When you have all your parts assembled, orient the Radio Shack board as shown in Figure 2. Make sure the bottom holes that are circled in the diagram are vertical as indicated. Figure three shows the completed board with all components soldered on and wires attached. The 10K potentiometer allows you to adjust the throw of the arm on the servo when the SPST switch is open to meet your requirements. Adjust it to the amount of throw you need for your turnouts. I used SG-90 servos that I obtained from Hobby Partz on line. These are inexpensive servos that are very compact and more than adequate for



Switch 1 ON turns servo to one direction, OFF returns switch to opposite direction.

Figure 1

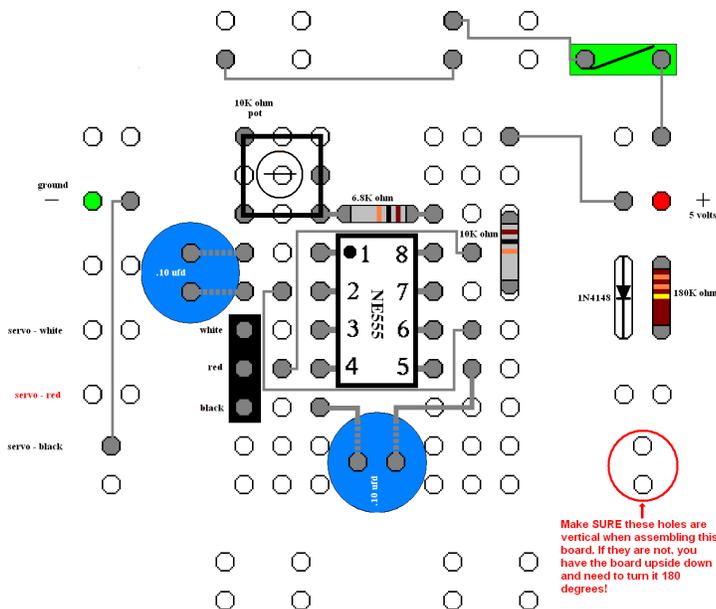
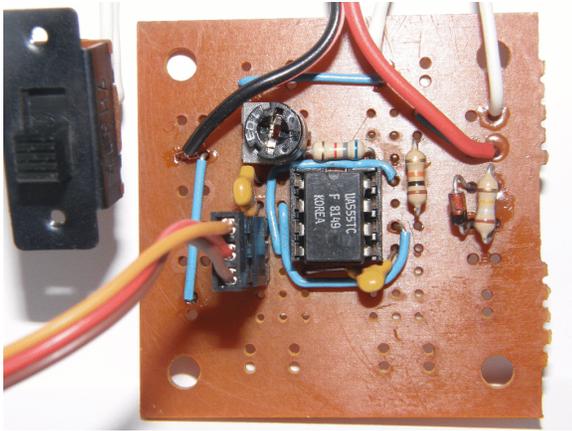


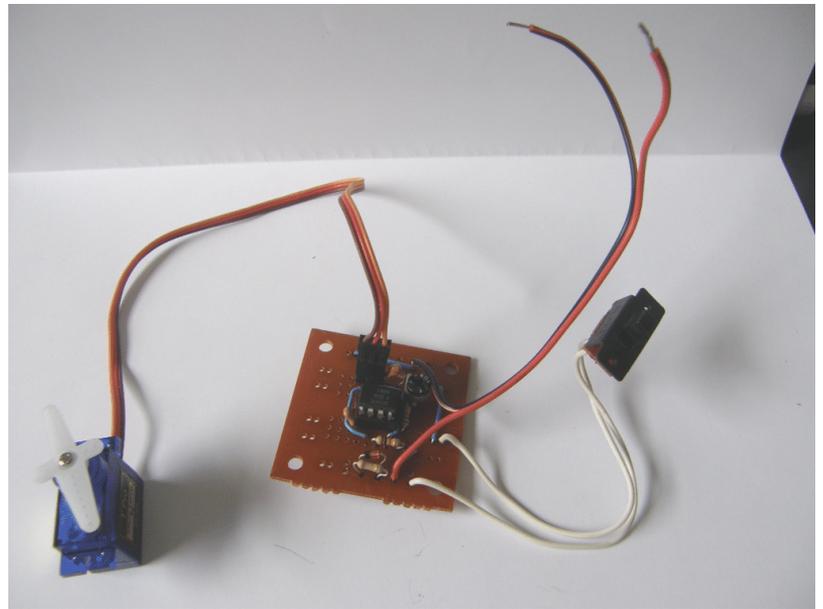
Figure 2

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**Figure 3**

turnout control. Take your time and check all your connections and solder joints before operating the circuit. You may also find other uses for this controller than turnouts. Let us know what you think.



**Figure 4**