

JR 9303 Sailplane Radio

Modification Procedures

Hank Schorz AMA 5857 hschorz@actlit.com

March 1st, 2005



Reasons For Modification

The following modifications are suggested in order to allow easier use of two of the 9303's often used (for sailplane pilots) switches.

The two front panel three position switches (left most three position switch designated as land/cruise/launch and right most three position switch designated as speed/cruise/thermal) need to be manipulated during flight. The switch on the right cannot be easily changed with the radio being supported by the left hand and the pilots right hand in use on the right stick (pitch and roll axis). The left switch does not suffer this since the left switch can be thrown with the thumb of the left hand even while supporting the radio. The radio can be programmed in such a way to use the Elevator D/R switch on the far left front for launch (down is launch mode up is normal flight mode) and the Land/Cruise/Launch for Speed/Cruise/Thermal. In doing this, the internal programming labels will be incorrect and it is difficult to program the radio. A better solution would be to (assume the switch positions are numbered left to right -1 thru 6 as follows: 1-Elev D/R, 2 - Land/Cruise/Launch, 3 - Flap trim, 4 - Flaperon Trim, 5 - Speed/Cruise/Thermal, 6 - Aile D/r):

- Move the Elevator D/R Switch (1) to the Speed/Cruise/Thermal Switch (5) Position
- Move the Land/Cruise/Launch Switch (2) to the Elev D/R Switch (1) Position and rotate the switch 180 degrees so that Launch is Down
- Move the Speed/Cruise/Thermal Switch (5) to the Land/Cruise/Launch Switch (2) Position

The front panel would then go from:

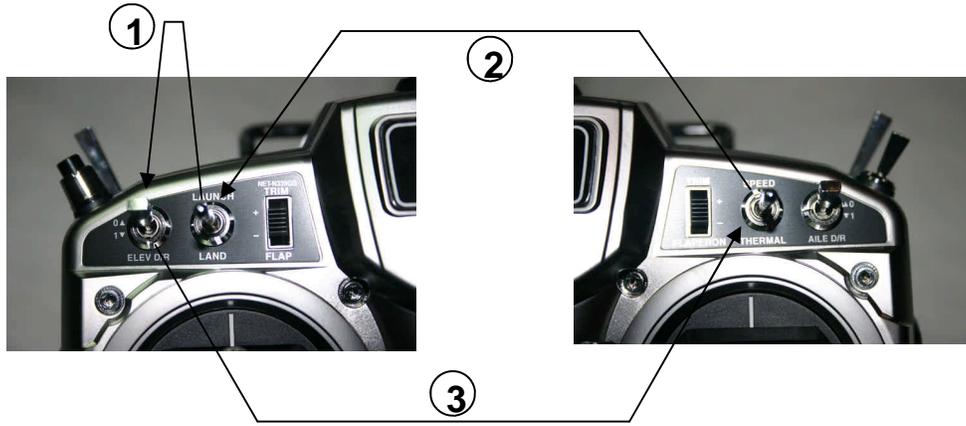
Elev D/R	Launch Cruise Land	Trim Flap	Trim Flaperon	Speed Cruise Thermal	Aile D/R
-------------	--------------------------	--------------	------------------	----------------------------	-------------

To:

Land Cruise Launch	Speed Cruise Thermal	Trim Flap	Trim Flaperon	Elev D/R	Aile D/R
--------------------------	----------------------------	--------------	------------------	-------------	-------------

One can do this with the existing radio, the addition on a 6" piece of hookup wire, and 4 small tyraps. If one desired the two three position switches on the left to be of differing "feel", either of those switches could be replaced by a standard three position (on-off-on) miniature toggle switch with the desired "bat" handle.

Following are the instructions that describe the modification. ***Understand that this modification will (I would guess) void the normal warranty.***



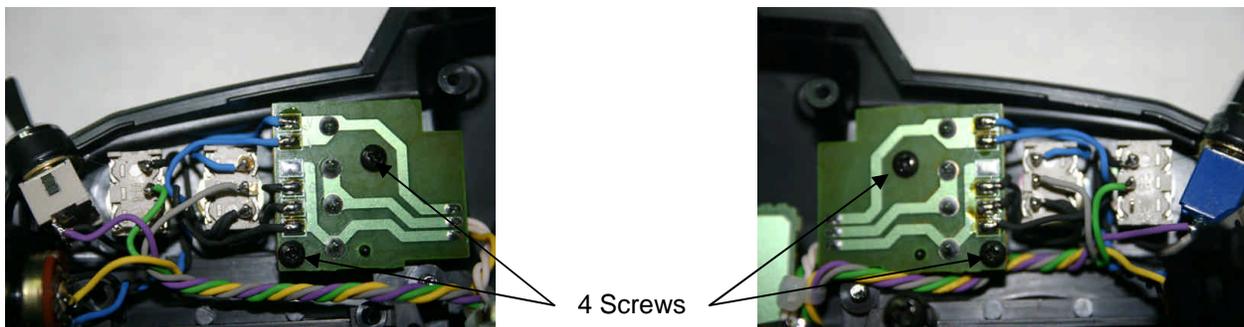
1. Place the transmitter face down on a soft towel and remove the six rear panel screws and carefully lift off the rear panel to the left as shown below.



2. Carefully disconnect the connector that holds the cable from the back panel to the main circuit board. Place the rear panel housing aside.



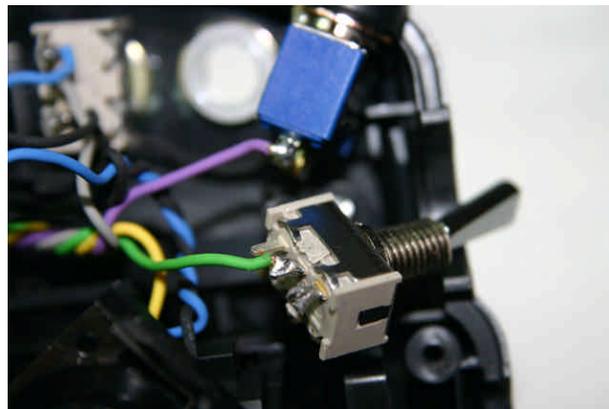
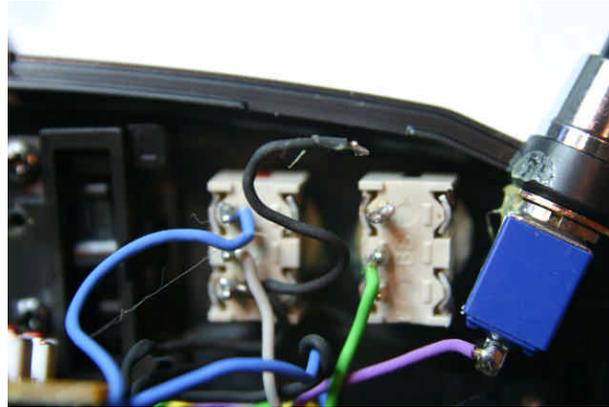
3. Remove the four screws (two on each side) that hold the flap and flaperon trim circuit boards in place. Set these screws aside for final reassembly.



4. Fold the loose circuit boards up and away from the flap and flaperon trim controls. This will give you plenty of working room.

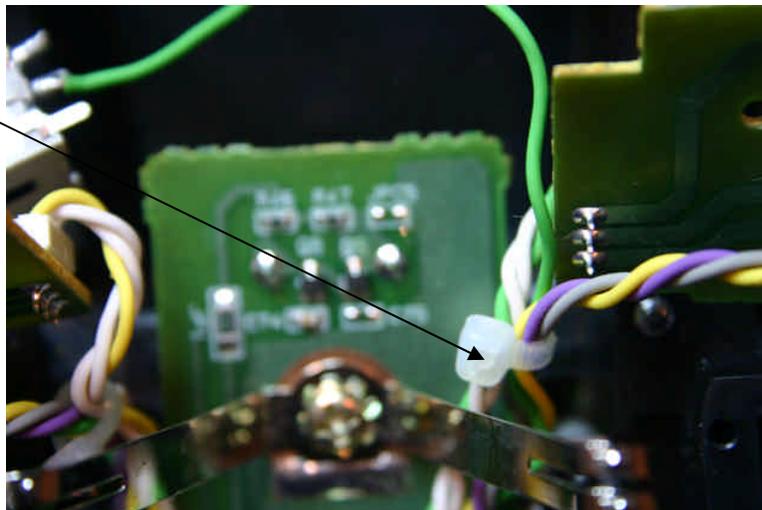


5. From the Elev D/R switch unsolder the black wire on the top terminal. This will leave the switch with only the green wire connected to the middle terminal. Then Carefully (and without scratching the panel or damaging the switch nut) remove the front switch nut for the Elev D/R switch. Be sure to leave the washers behind on the back of the front panel.

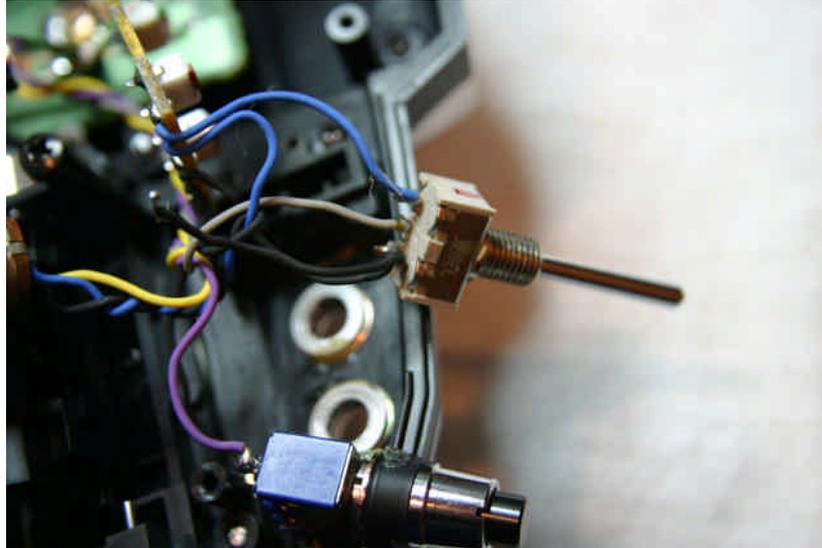


6. Cut the tyrap shown to allow the switch and green wire to hang loose.

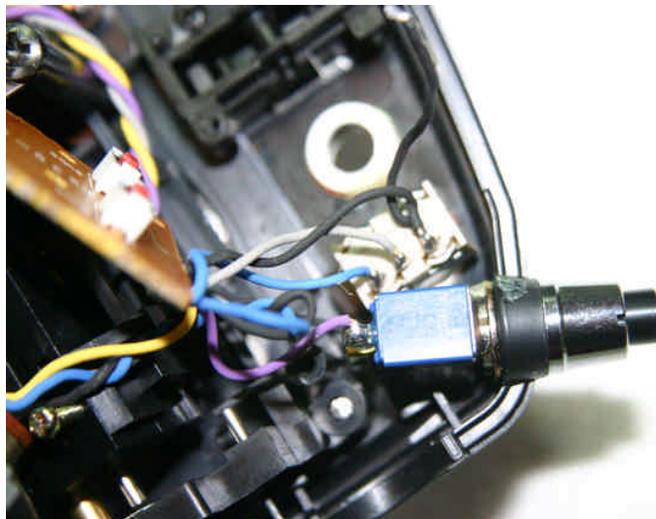
Remove tyrap



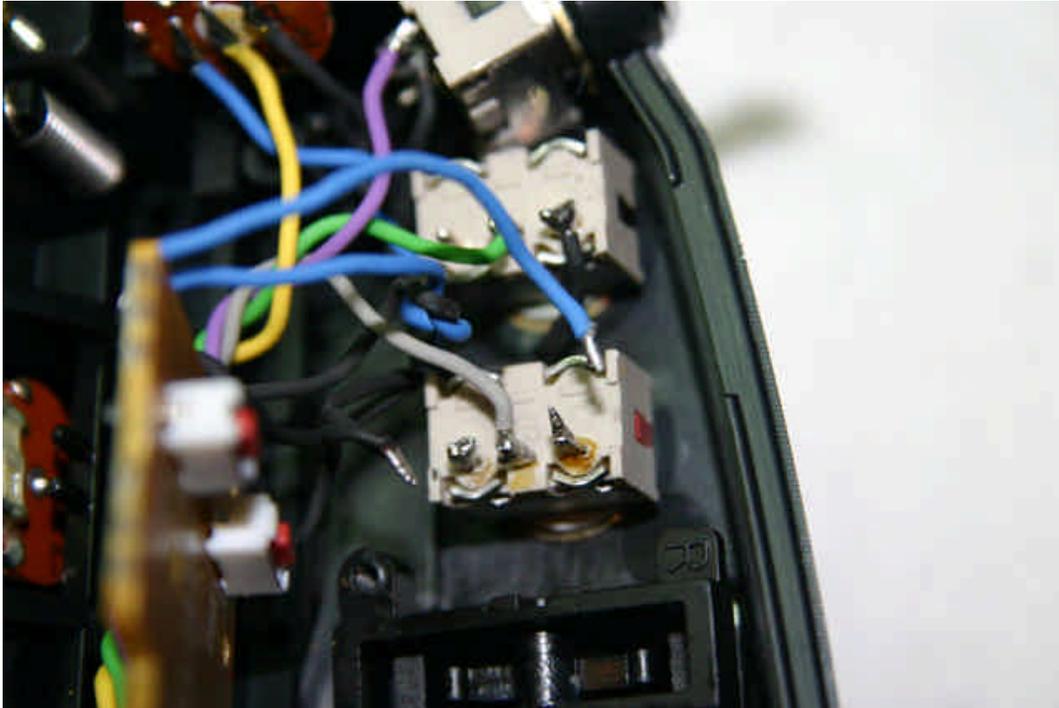
7. Loosen the front panel switch nut from the current Land/Cruise/Launch Switch that was next to the Elev D/R Switch and remove the Land/Cruise/Launch Switch. Be sure to leave the washers in place on the front panel.



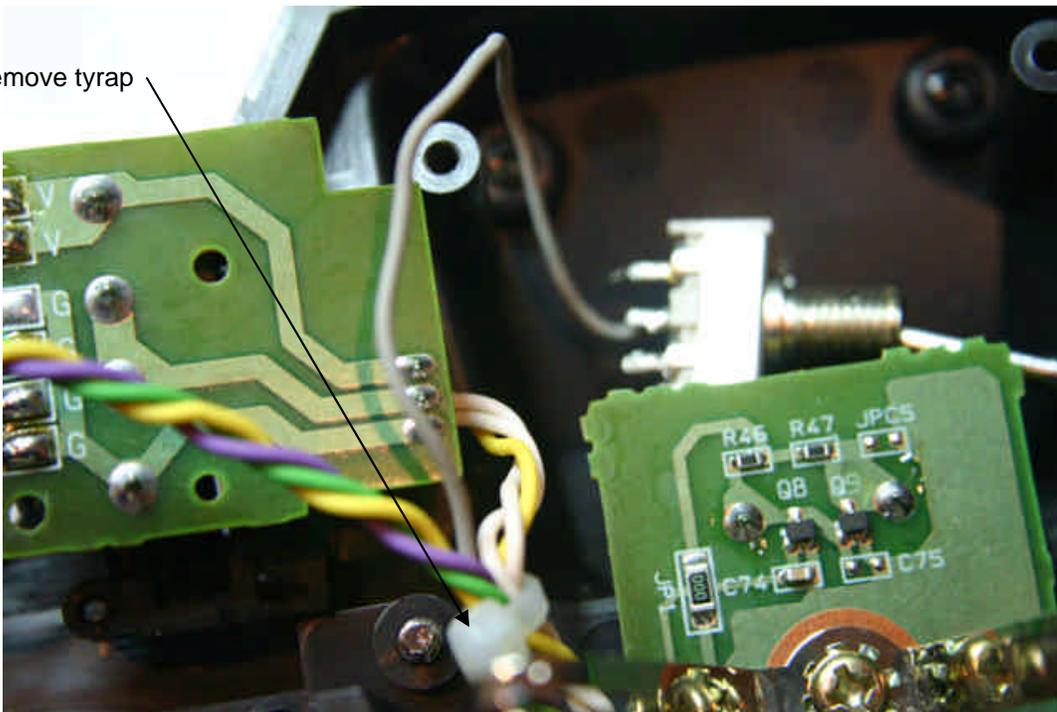
8. Rotate the Land/Cruise/Launch Switch 180 degrees so that the black wires are now on top and remount the switch in the hole left by the removal of the Elev D/R switch.



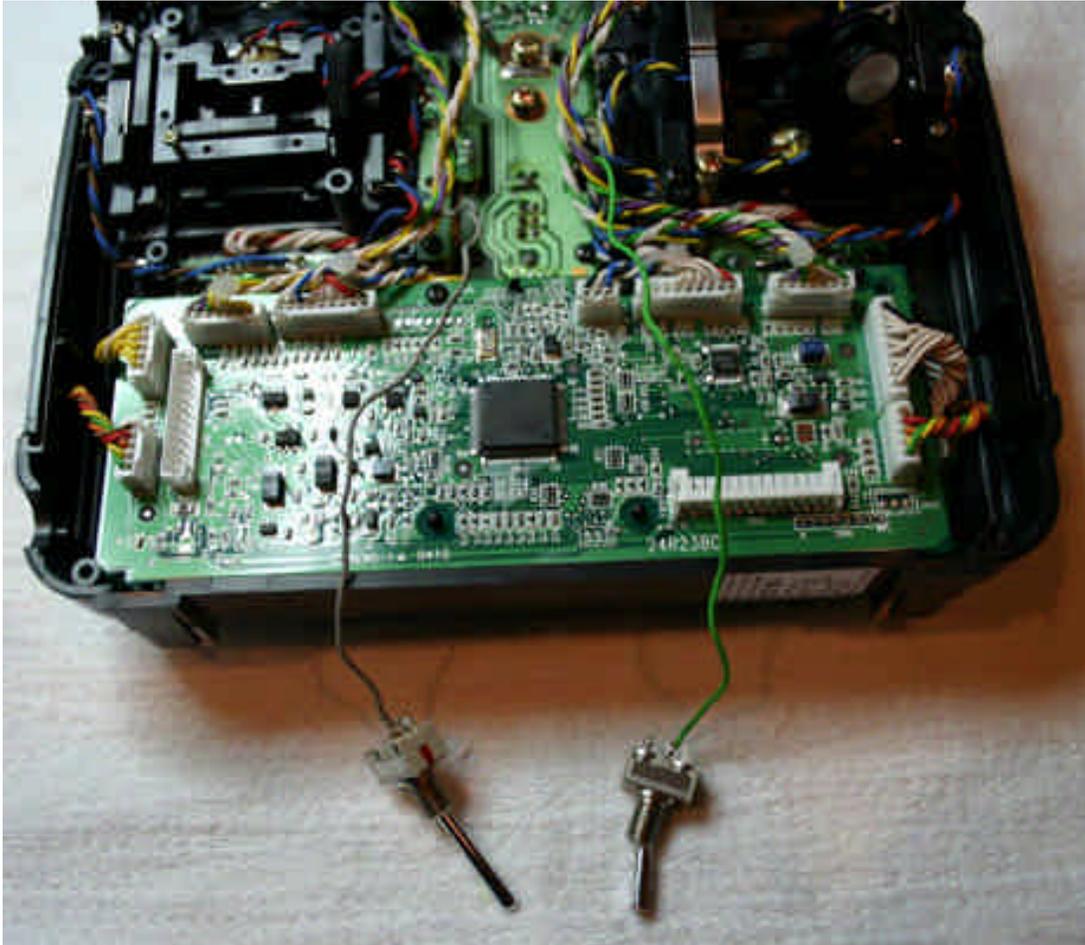
9. On the Speed/Cruise/Thermal Switch (the three position front panel switch on the right) unsolder the top blue wire and the bottom black wire, remove the switch, and cut the marked tyrap. Be sure to leave the washers on the back of the front panel.



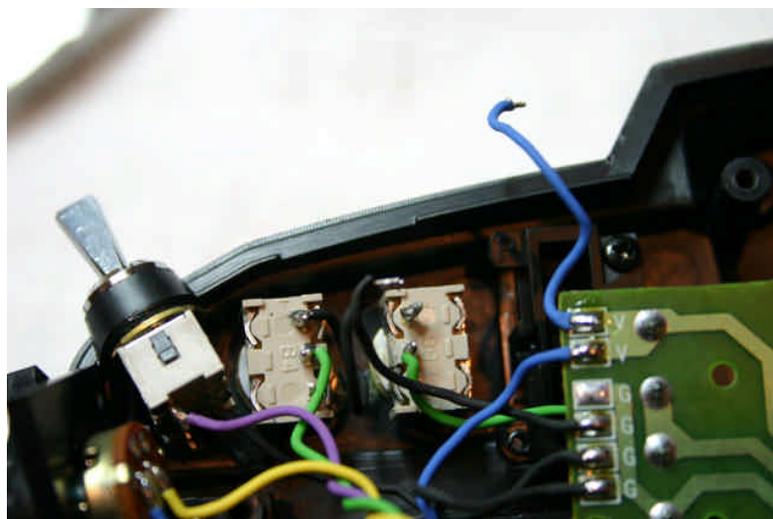
Remove tyrap



10. Reroute the two switches as shown unwinding the wires from the harnesses..



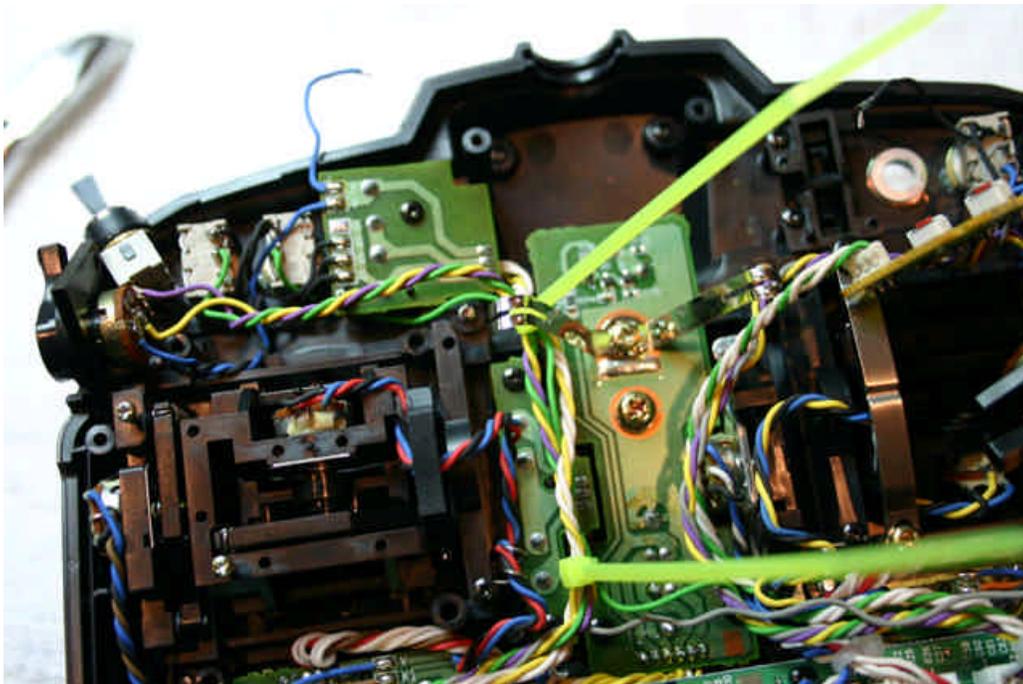
11. Install the Elev D/R Switch (Short Bat Handle) in the front panel hole where the Speed/Cruise/Thermal switch was located and tighten the front panel nut.



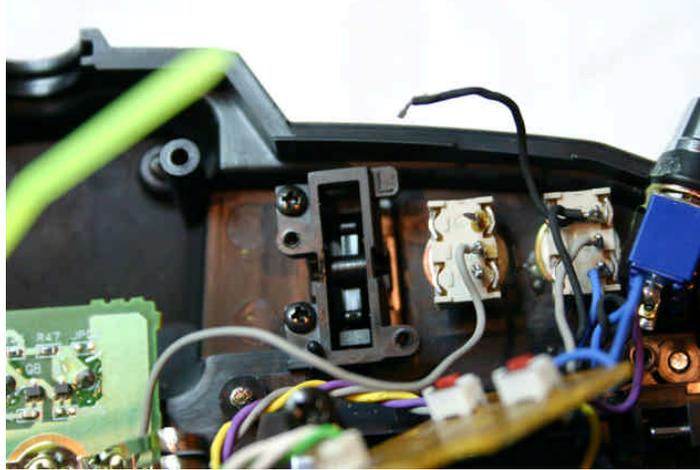
12. Solder the two black wires you removed from the Speed/Cruise/Thermal Switch onto the top terminal of the Elev D/R Switch you installed in the last step.



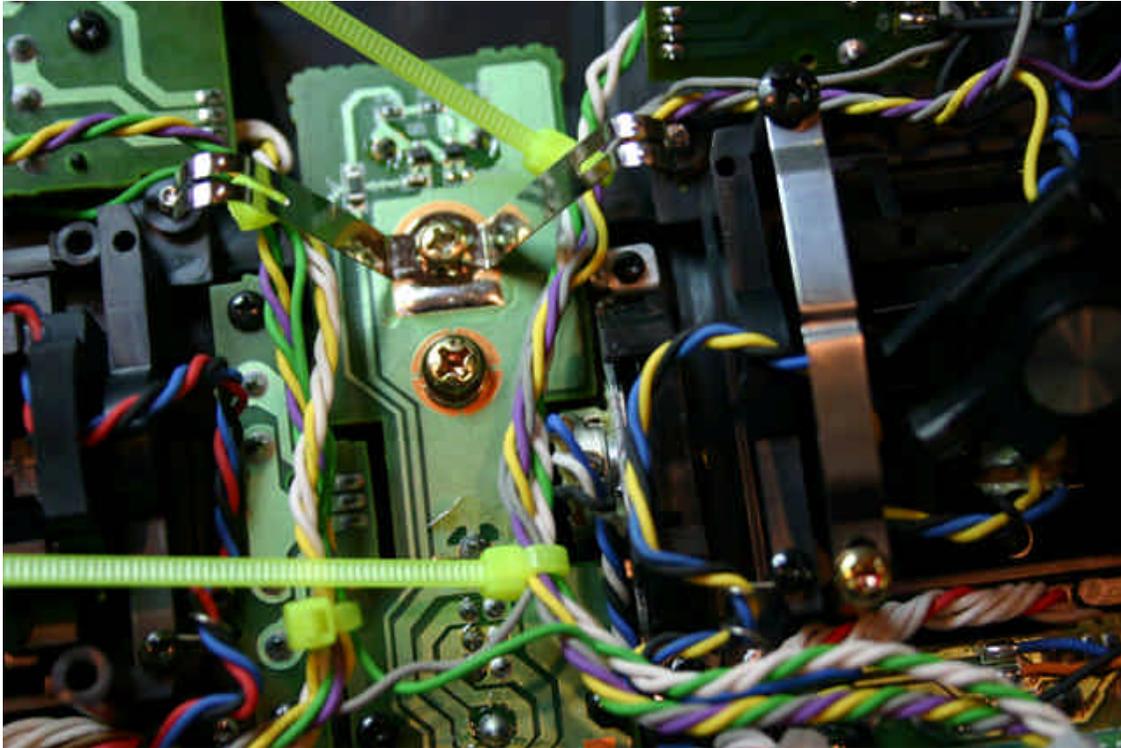
13. Route the green wire to the Elev D/R Switch you installed two steps ago and lock it to the harness with two ty-raps as shown.



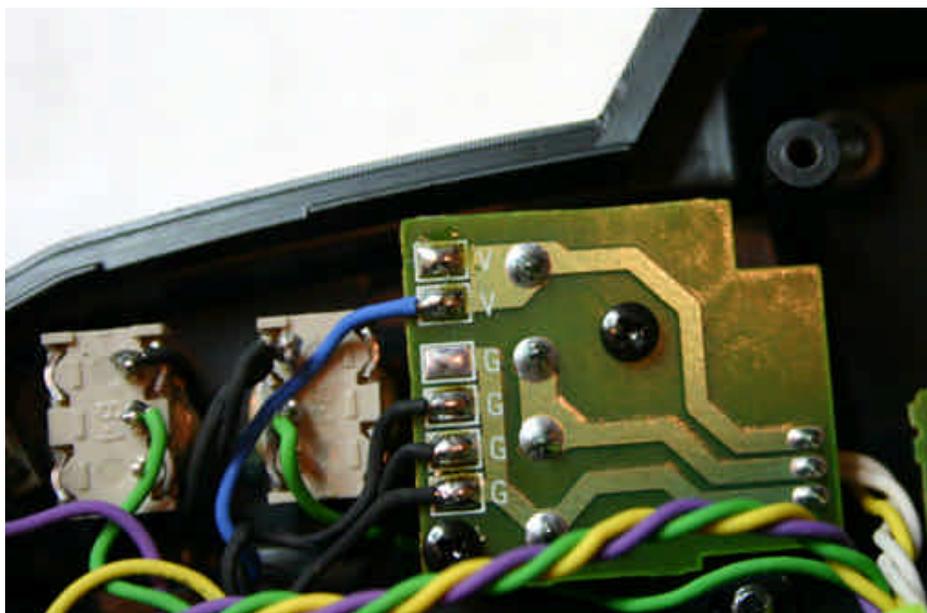
14. Mount the remaining Speed/Cruise/Thermal Switch in the second front panel hole, tighten the switch nut, and wire the black wire to the bottom terminal of the switch as shown.



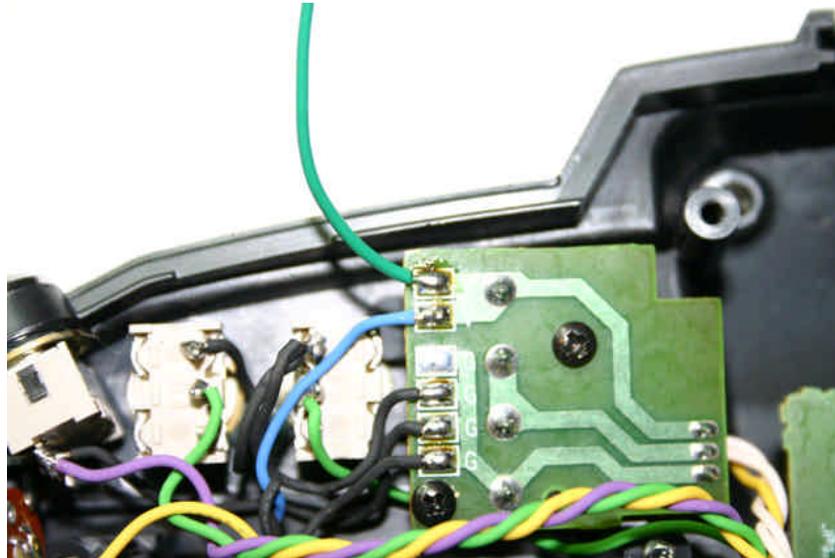
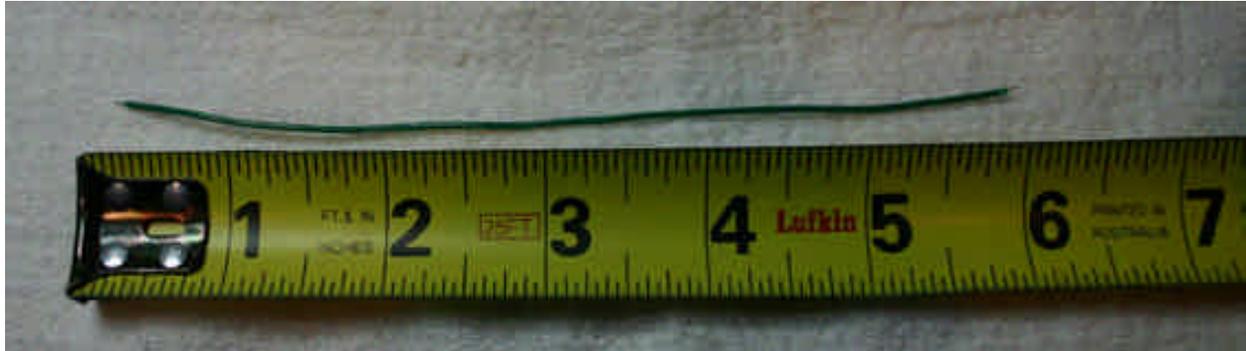
15. Route the gray wire going to the Speed/Cruise/Thermal Switch as shown and next to the harness on the right (from the back) and lock it in place with two tyraps. Reinstall the Flaperon Trim circuit board with two of the four screws you removed and saved earlier.



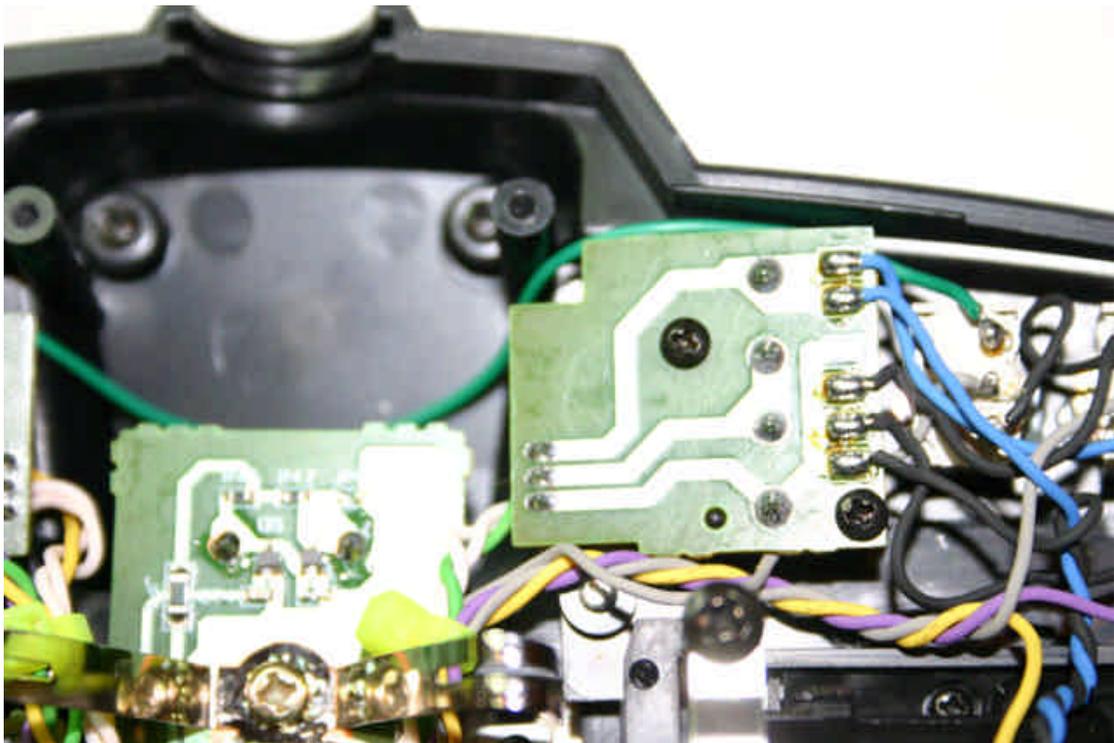
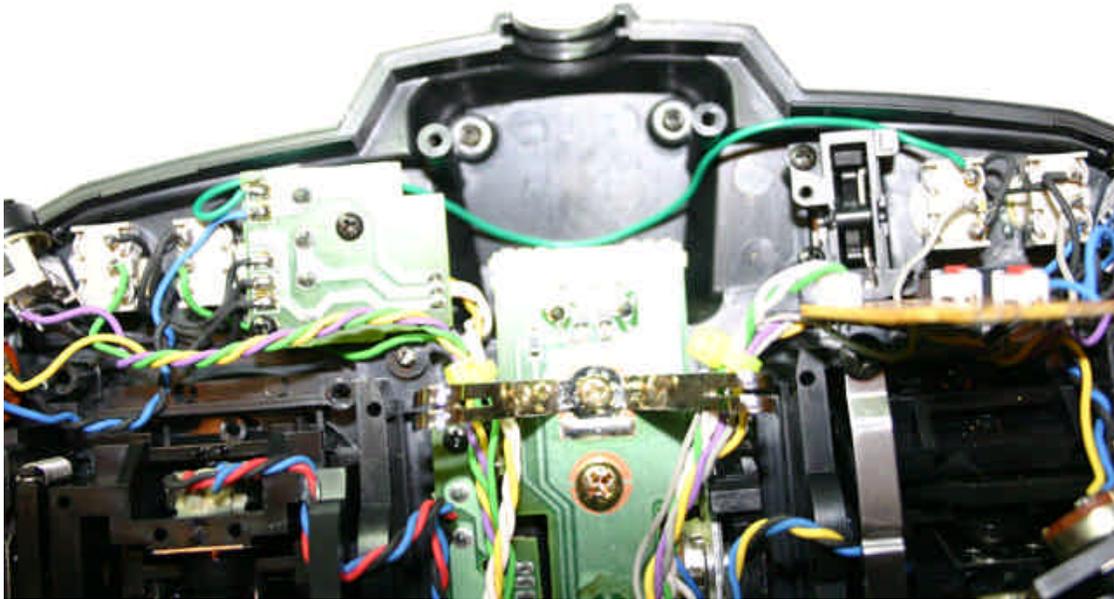
16. Disconnect the short blue wire from the top connector of the Flaperon Trim Control circuit board (marked V).



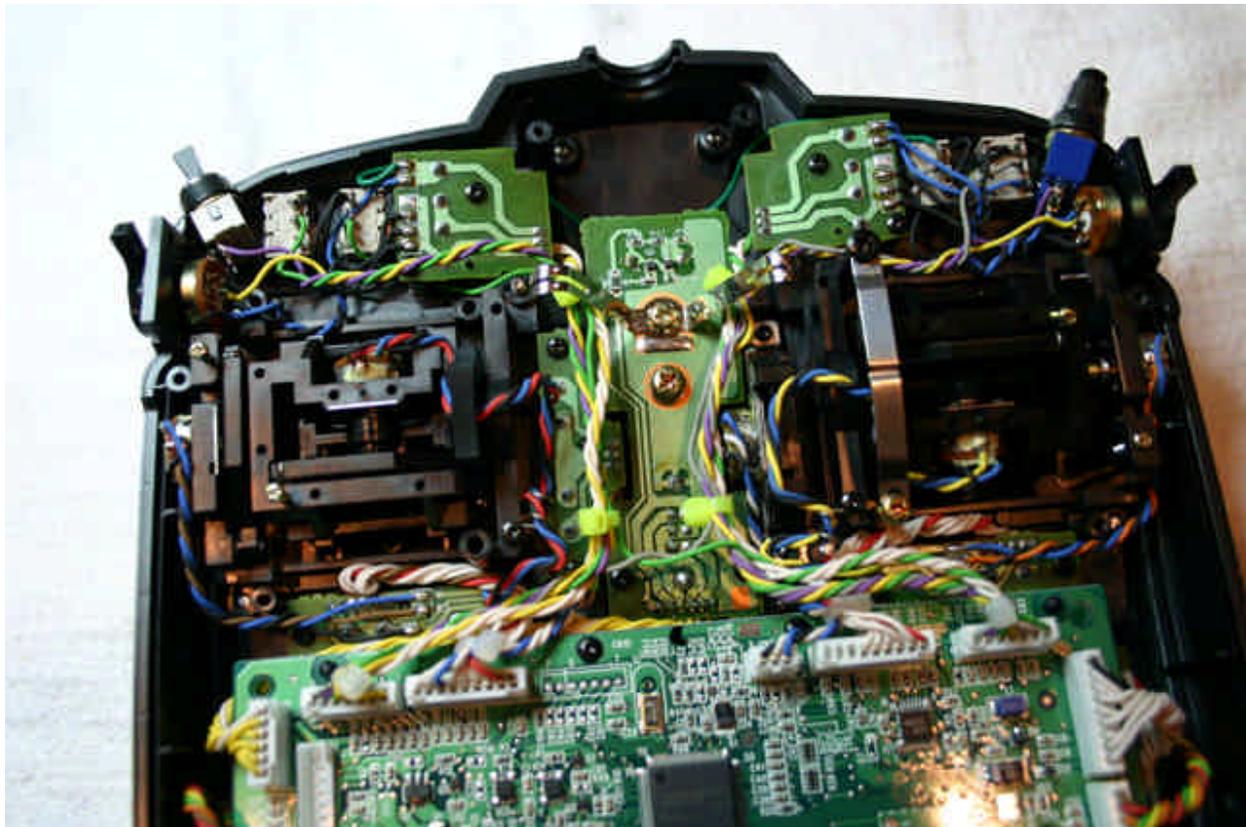
17. Cut a 6 inch length of hookup wire (blue would be good). Solder one end of the wire to the top connector on the Flaperon Trim circuit board (the place where you removed the short blue wire). Solder the other end to the top terminal of the Speed/Cruise/Thermal Switch.



18. Route the new wire as shown, and then mount the Flap Trim circuit board with the two remaining (of the four) screws.



19. Check to be sure that the front panel looks like the picture below. Also check that the back of the transmitter against the photo below. If all is ok, then lay the back next to the transmitter, connect the cable you disconnected at the start, close the transmitter, say a short prayer, and install (do not over tighten) the six back screws.



20. Relabel the front panels as shown below.



21. Turn on the radio and test. It should all work!!!!!!!!!!!!