

David Harding

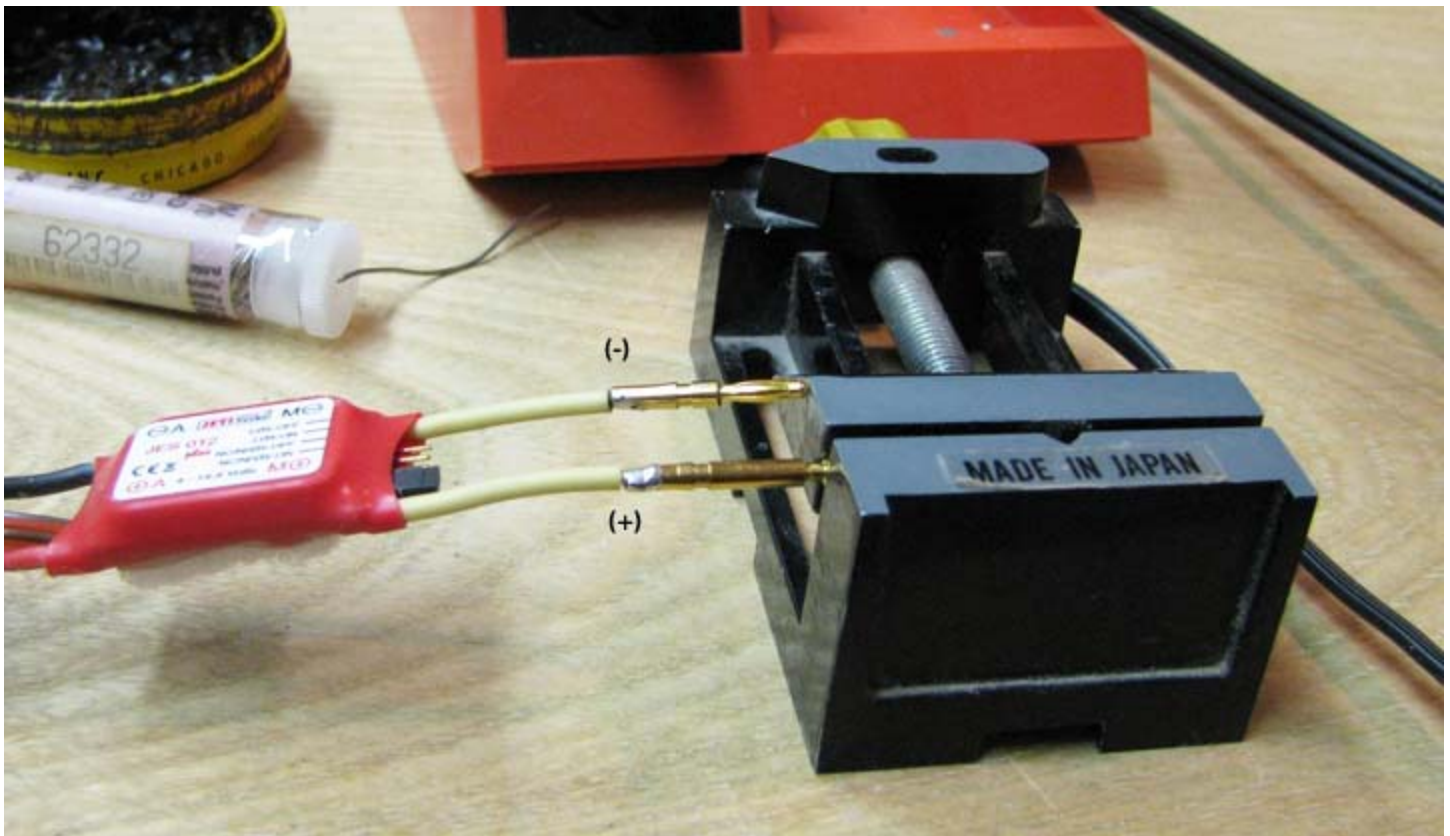
From: Tandy C. Walker [tandyw@flash.net]
Sent: Thursday, February 18, 2010 12:42 AM
To: Undisclosed-Recipient: ;@smtp101.sbc.mail.mud.yahoo.com
Subject: 64 Speed 400 Cloudster - Connectors Between ESC and Motor

Speed 400 Cloudster Project

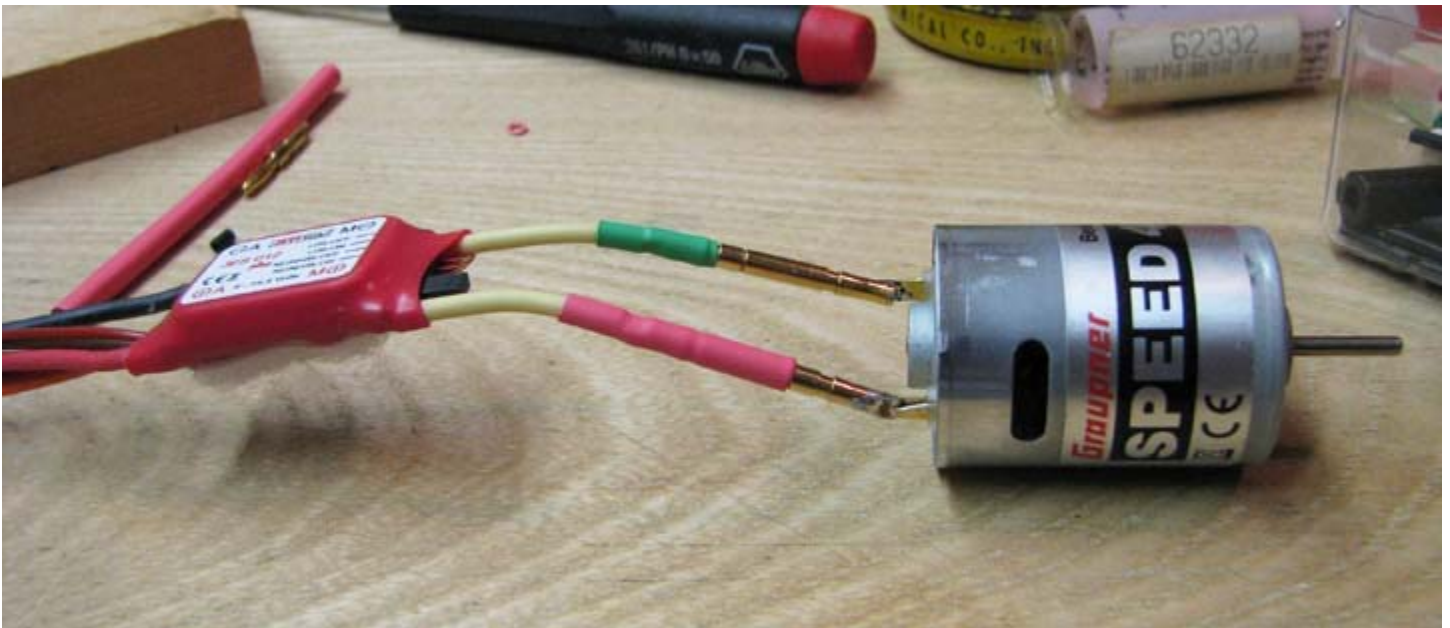
Most of the afternoon today was spent wiring up the Electronic Speed Control (ESC) to Speed 400 motor using the polarized connectors recommended by Jay Burkart. The close proximity of the motor to the ESC dictated a close tolerance hook up with very little wire involved. As per Jay's recommendation, the male connector was soldered directly to the (+) motor terminal and the female connector was soldered directly to the (-) motor terminal as shown below. Notice that the connectors are angled up about 35 degrees to the axis of the motor in order to line up with the connectors coming from the ESC.



This picture shows how short the ESC wires had to be cut. The male and female connectors are soldered to the ends of the wire as shown below.



Red heat shrink tubing completely covers the ESC (+) female connector to prevent it from coming in contact with the male (-) connector when they are not connected to the motor as shown below. Notice how little wire is used.

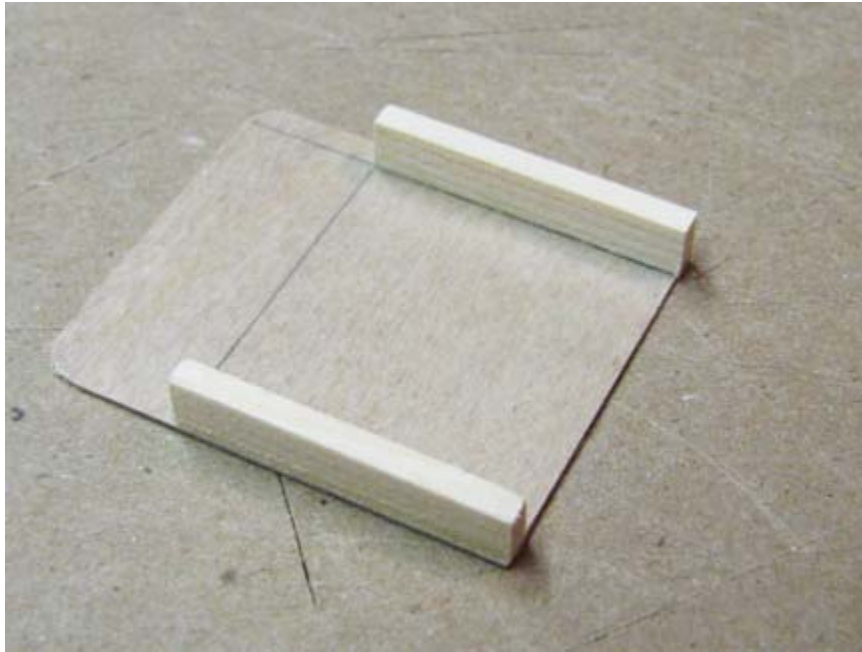


For installation, the ESC is first connected to the motor. Then the ESC is inserted through the hole in the firewall from the front and back through the hole in the bulkhead under the turtle deck planking. Once through, the ESC is secured to the Velcro pad shown below. Of course it is virtually impossible

to get the ESC in the proper position on the Velcro pad because it keeps sticking to the Velcro pad as soon as it touches it.



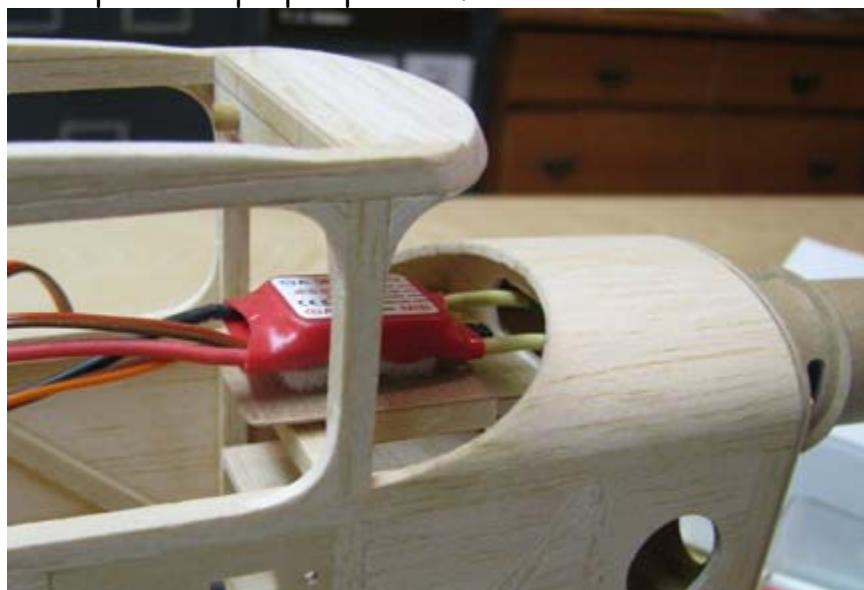
Therefore, to solve this problem, a Velcro separator cover was made as shown below. The cover consist of a 1/64" plywood plate with two 1/8" X 3/16" spruce runners glued to the edges as shown below.



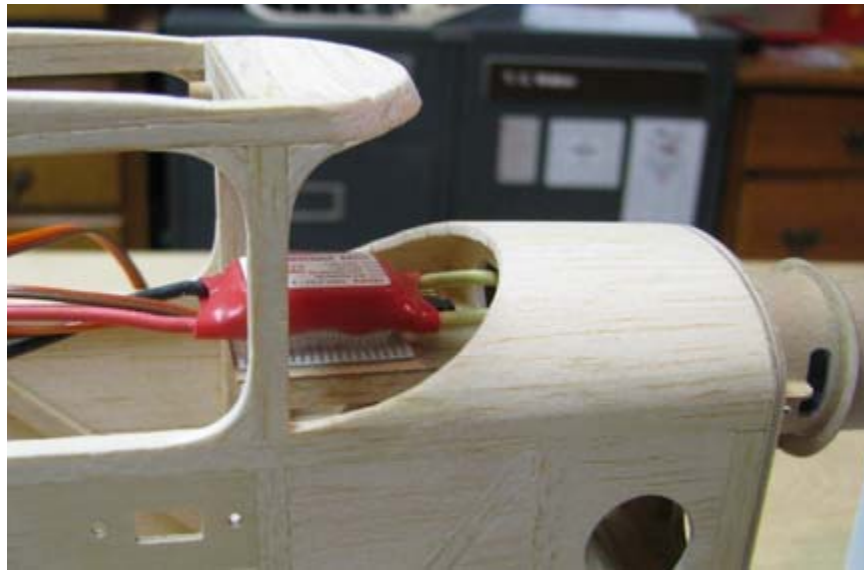
The Velcro cover is dropped into place over the Velcro pad and is held there by the two runners on each side as shown below.



In the picture below, the ESC has been connected to the motor, inserted through the hole in the firewall from the front, and back through the hole in the bulkhead under the turtle deck planking. Notice that the fussy side of the Velcro on the ESC is kept separate from the hook side on the pad by the Velcro cover and can be placed in proper position.



Once the ESC is in proper position, the ESC is simply raised up and Velcro cover is slipped out, allowing the Velcro fussy side to mate with hook side as shown below.



With a slight downward pressure on the ESC, it is firmly secured to the Velcro pad as shown below.



So now we have the motor and ESC wiring and installation worked out. Tomorrow will be spent wiring up the LI-Po battery to the ESC using the polarized connectors and determining if the battery can be installed and connected to the ESC from the cabin opening under the wing without having to have a hatch opening in the bottom of the fuselage.....Tandy