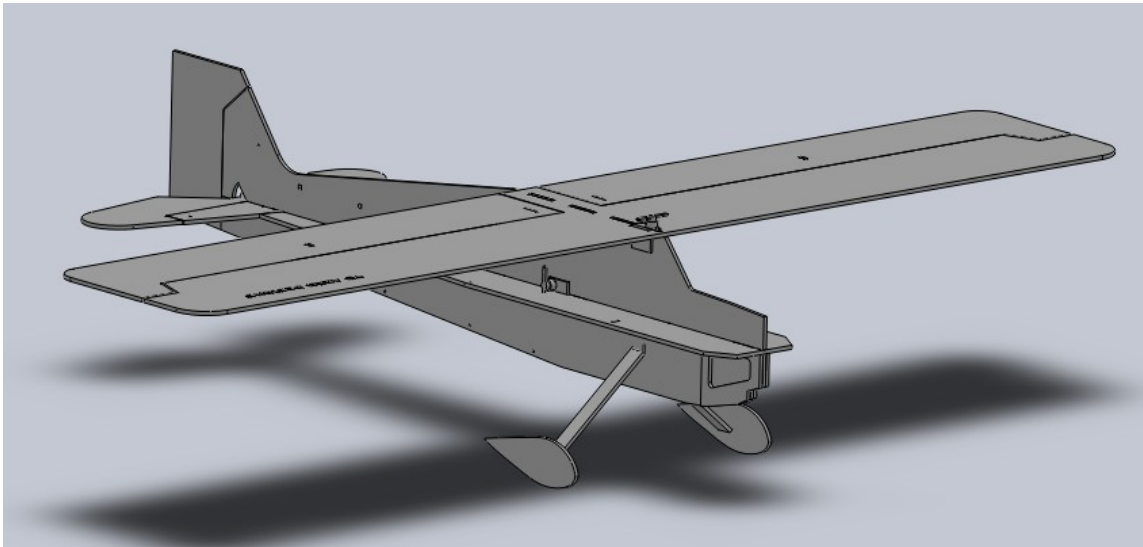


TDAerodesigns Citabria

**Builders manual
Rev IR**



Copyright 2011 tdaerodesigns all rights reserved.

**Thank you for downloading the Citabria plans.
We hope you enjoy building and flying it.**

The build complexity is simple and the build time required is only a few hours after the foam has been cut out. Only simple hand tools and a measuring tape is required to complete the build. Please also download the drawing to assist in the build.

Specifications:

- Wingspan: 34" (864mm)
- Length" 26" (660mm)
- Flying weight: approximately 5.4 oz
- Four channel control (elevator, rudder, aileron, throttle)

Required equipment for completion

Motor: 320g to 450g thrust brushless motor

Recommend .

Speed controller. 12-20 amp

Lithium polymer battery Turnigy Nano tech 2 cell 7.4v x 460mah lipo used.

2 sub-micro servos. Used: Blue Arrow D05010MG

1 mini servo (ailerons). Used E-flight

Landing gear wheels.

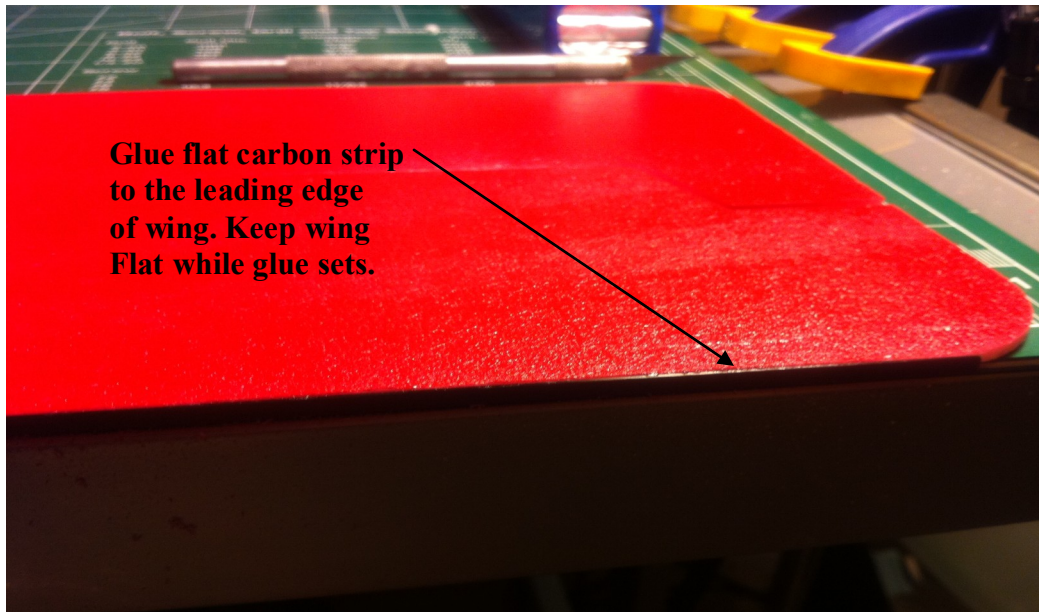
Micro control horns (four required). Recommend Dubro #848

Building materials required:

1. **Blenderm medical tape** for the control surface hinging. Most hobbyshops carry it under the DuBro brand name.
2. Hot glue for servo's
3. Foam safe CA glue
4. .040 x .118 x 44" flat carbon bar. They are usually sold in 36-39" lengths
5. .040 carbon rod. Approximately 3 pieces of stock is needed. Usually sold in 36" lengths
6. .070 carbon rod for the servo control rods

Step 1: Wing assembly

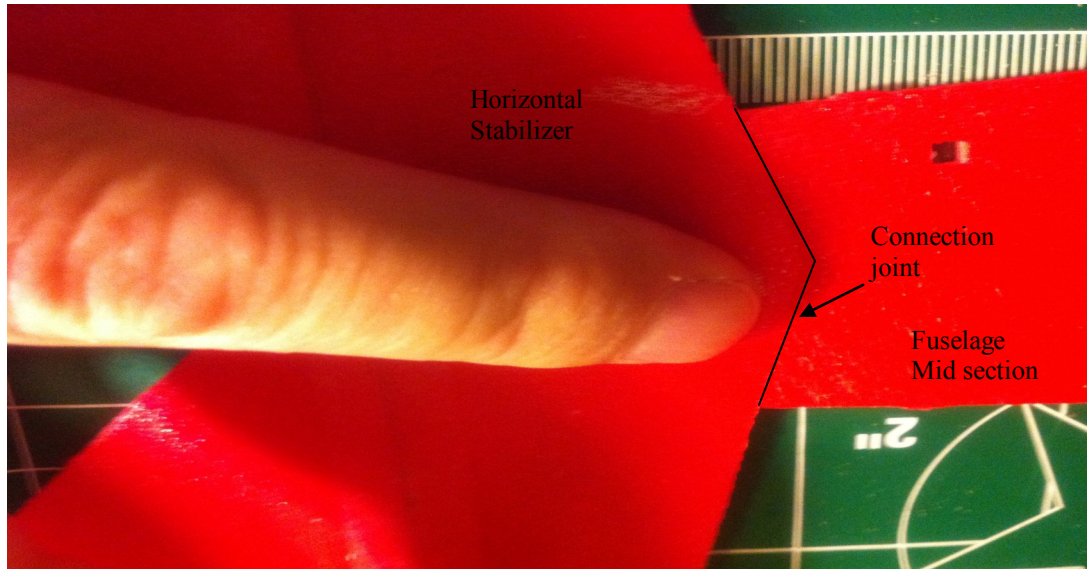
1. Sand aileron hinge edge side of wing at a 45° angle to form hinging surface.
2. On a flat surface, align wing tip and aileron tip flush and apply hinge tape to upper surface.
3. Apply hinge tape to bottom side of the hinge line near the servo horn.
4. Repeat procedure to opposite aileron.
5. Glue .118 X .040 (approx 32" length) carbon bar to the leading edge of wing.



View wing leading edge

Step 3 : Fuselage assembly

1. Take horizontal stabilizer (DWG. item 5) and sand a 45° bevel on the trailing edge
2. Center the elevator to the horizontal stabilizer (dwg. item 8) and apply hinge tape to the upper surface hinge line. Verify free movement.
3. Glue the horizontal stabilizer to the fuselage mid section (dwg item 7). Verify the horizontal stabilizer remains square.



4. On the upper fuselage, glue the two fuselage side supports (DWG. Item 13) to the upper fuselage (DWG item 4). The angled leading edge of the support will be flush with the forward angled edge of the upper fuselage and in between the wing and mid fuselage.
5. Pre-check the fitment of the upper fuselage to the mid fuselage. When satisfied with the fit, glue in place.
6. Take the two nose braces (DWG. item 11) and glue to the lower fuselage aligning with the forward nose.
7. Glue the strut doublers (DWG. item 14) in place on the lower fuselage
8. Pre-check the fitment of the lower fuselage to the mid fuselage. When satisfied with the fit, glue in place.
9. Cut all tail and fuselage strut rods per the drawing and glue in place.

Landing Gear

1. Start out with approximately 4" length of .040 wire. Bend a 1/2" section 180° at one end. Then at approximately 3/4" bend at a 45°. See photo.
2. Install the wheel. Leaving enough room for the wheel to freely float bend the wire up 90°. See photo 2.
3. Bend the wire back 90° for the wheel pant cover. See photo 3.

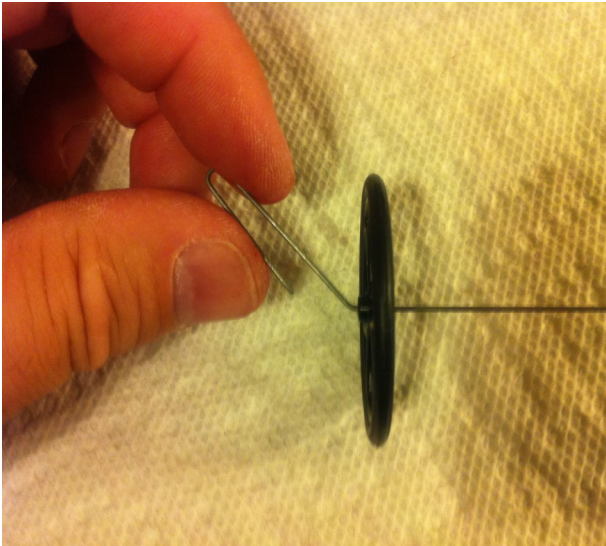


Photo 1

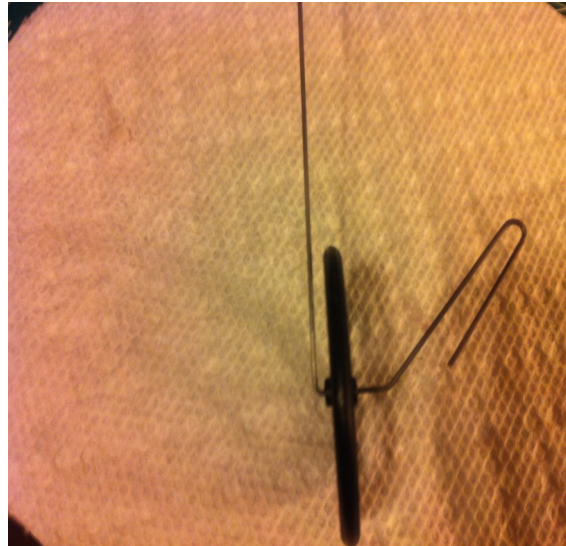


Photo 2



Photo 3

Landing gear continued

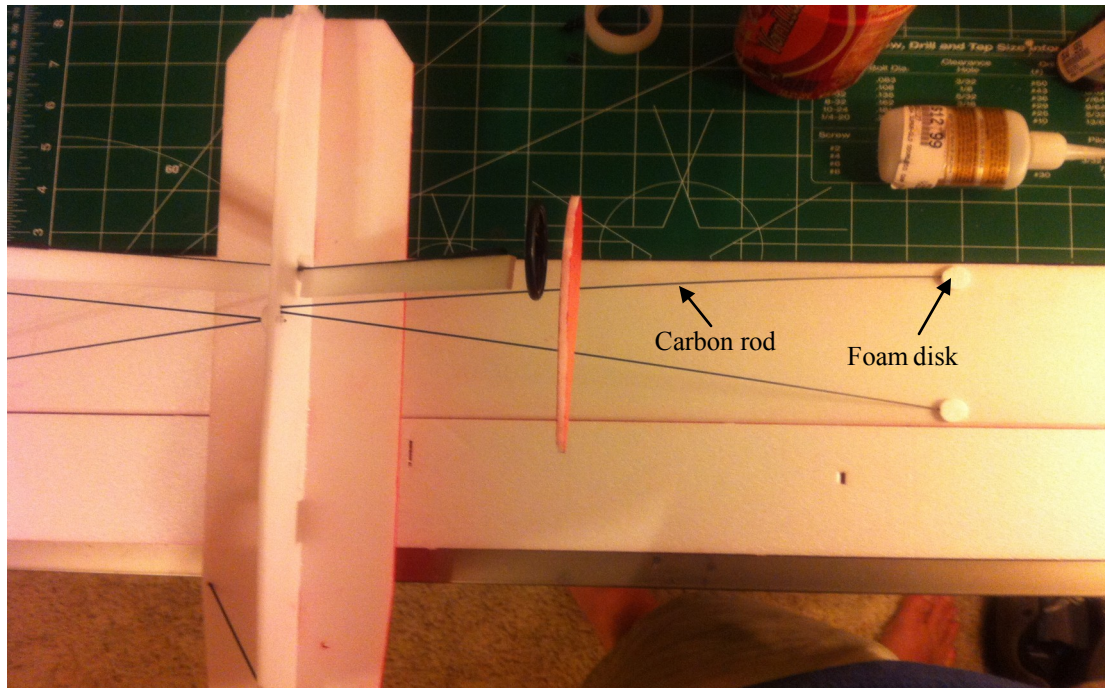
4. Cut two 6" length's of .040 x .118 carbon bar. Insert each bar through the lower fuselage slot and into the mid fuselage slot and glue.
5. Take two of the small round disks and make a slit through half of the diameter. Glue in place each disk on each side of the lower fuselage with the carbon bar going through the slit made in the disk.
6. Take the landing gear wheel assembly and place the u-bent end to the front side of the carbon bar and using a piece of heat shrink tube and shrink it around the gear and carbon bar.
7. Glue a strut pant to each carbon bar.
8. Hot glue the wheel pant to the landing gear wheel assembly. Hot glue works well for this component.



Gear layout

Wing to fuselage assembly

1. Check fit the wing fit to the completed fuselage assembly prior to gluing in place.
2. Cut four 12" lengths of .040 carbon rod. Glue into place per the drawing. You may choose to install the carbon bars overlapping each other in an "X" pattern. Either method is acceptable.
3. Glue a round foam disk over each carbon rod where they insert into the wing.
4. While you are installing the carbon rod, ensure that the wing remains square to the fuselage.
5. Cut two 5" lengths of .040 carbon rod and install them per the drawing from the wing leading edge to the upper fuselage to form the wing leading edge struts.



Final assembly

I used the typical carbon rod, z-bend wire and heat shrink tube method for making the control rods. I also used Ø.070 carbon rod, eliminating the need for control rod guides to the elevator and rudder.

CG location starting point is 1" back from the leading edge. You may find that moving to a further aft position will suit most flying styles.

I hope you all enjoy this design and would love to receive feedback on it.

CHEERS!

Thomas Dellaca

Tdaerodesigns.com