



WINTER PROJECTS 2021



Featured Member:

Rick Young

Flight Instructor

Builder & Pilot

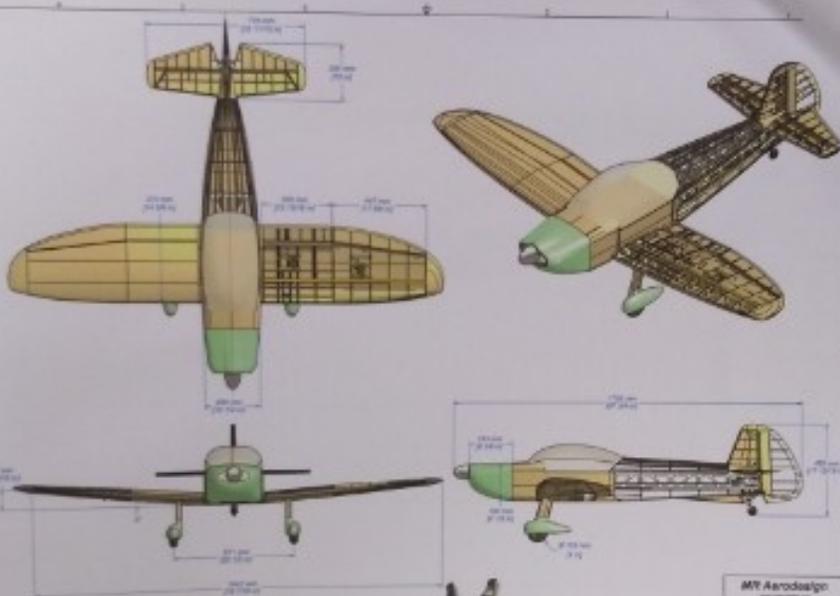


Mudry Cap 10b

Building manual
Manuel de montage



MR Aerodesign
Martin Rousseau



MR Aerodesign
Martin Rousseau

MR Aerodesign	
Cap 10b (807)	
Overall view	
Scale	1:100
Date	2012.01.01
Version	0

Wing span :	80" (2.03m)
Length :	65" (1.65m)
Engine :	Quadra 52 e
Weight :	15lb (6.8 Kg)
Wing area :	882 po2 (0.569 m2)

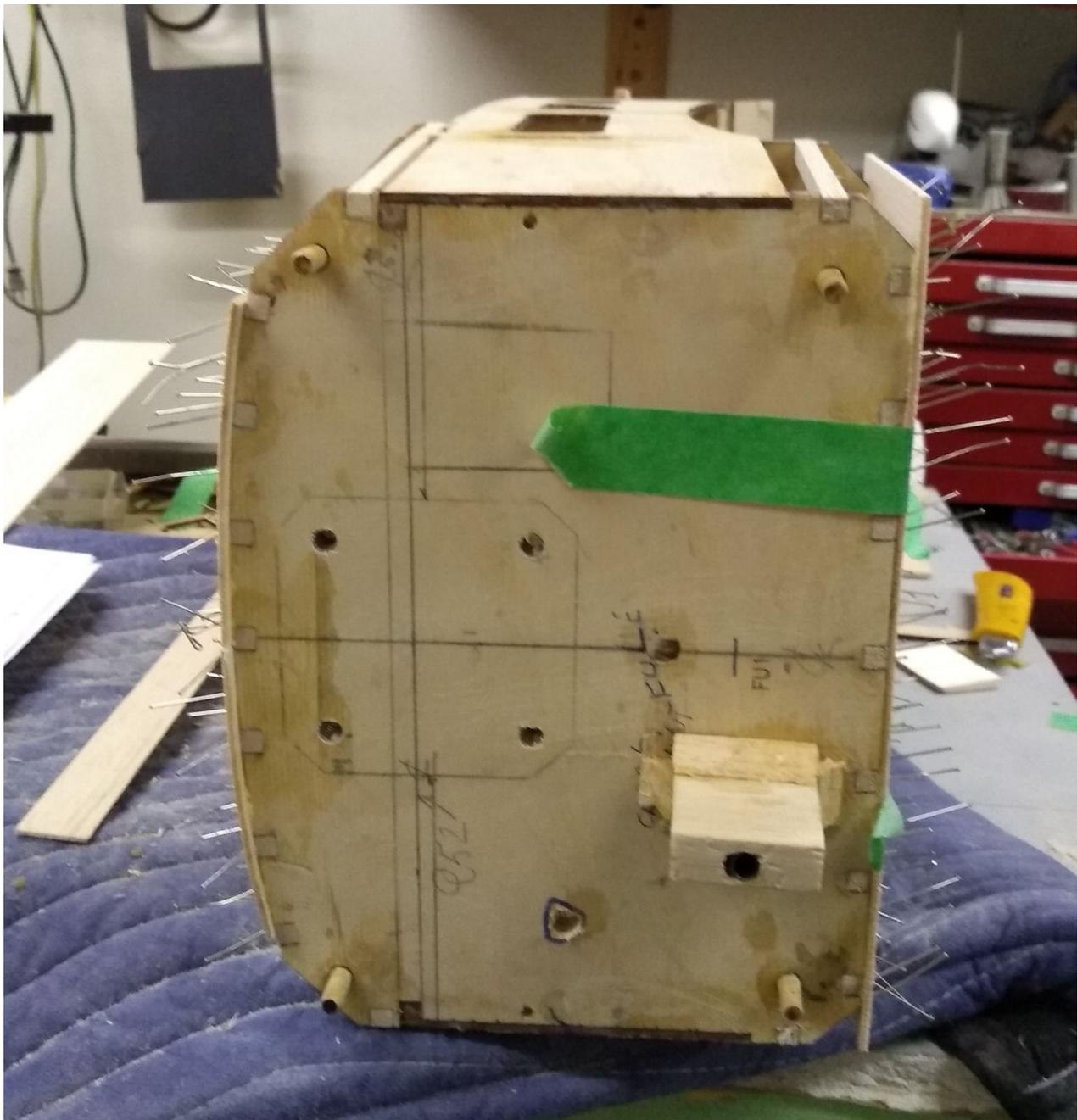
The following presentation is a general editorial describing in part how I built the “ Cap 10 b aero plane. I am not saying this is the right or wrong way to do things, only that it is the way I do things based on what I have learned over the years from different people.

This plane is a combination of balsa, and plywood. There are some metal bushings I made on the lathe for the landing struts. I use a variety of glues and epoxy, namely finishing resin, 30, 15 and 5 minute epoxy and wood glue like Weld bond or Carpenters. The one thing you must realise is that you can't make a plane crash proof but you can try to add structural strength to better handle flight loads and increase lifespan. By that I mean a weak structure will not last if you fly hard or fail in flight or landing.

The fuselage:

When I laminated the bulkheads, I used finishing resin or 30 minute epoxy. I take a Roberson screwdriver and a hammer and punch indentations to the mating surfaces. This gives the epoxy a good grip and lets the glue penetrate into the plywood deeper and acts like nails. When laminating balsa I use a knife and scratch up the two wood pieces for increased glue strength. I used wood glue on all sheeting on the fuselage and wings as it sands better. CA is hard to sand and leaves high edges, wood glue sands almost the same as balsa. When I glued the firewall on the plane I punch marked the bulkhead sides and then pinned the bulkhead by drilling holes through the fuselage into the edge of the firewall and glued in toothpicks or skewers. This will add more strength along with the use of triangular $\frac{1}{4}$ stock around the bulkheads with ca glue to the fuselage sides and wood glue on the stringers. Remember I fly gas engine planes and they vibrate, unlike electrics and when you get to the larger size planes a little extra weight won't hurt you. Example, on a 16 lb plane, 16.5 or 17lbs is nothing unless your competing or need the best performance out of the plane, with sport flying who cares.

This pic shows the firewall and you can see where the engine will be mounted as well as the holes for the fuel line, throttle pushrod location etc., and drawing for location of ignition module.

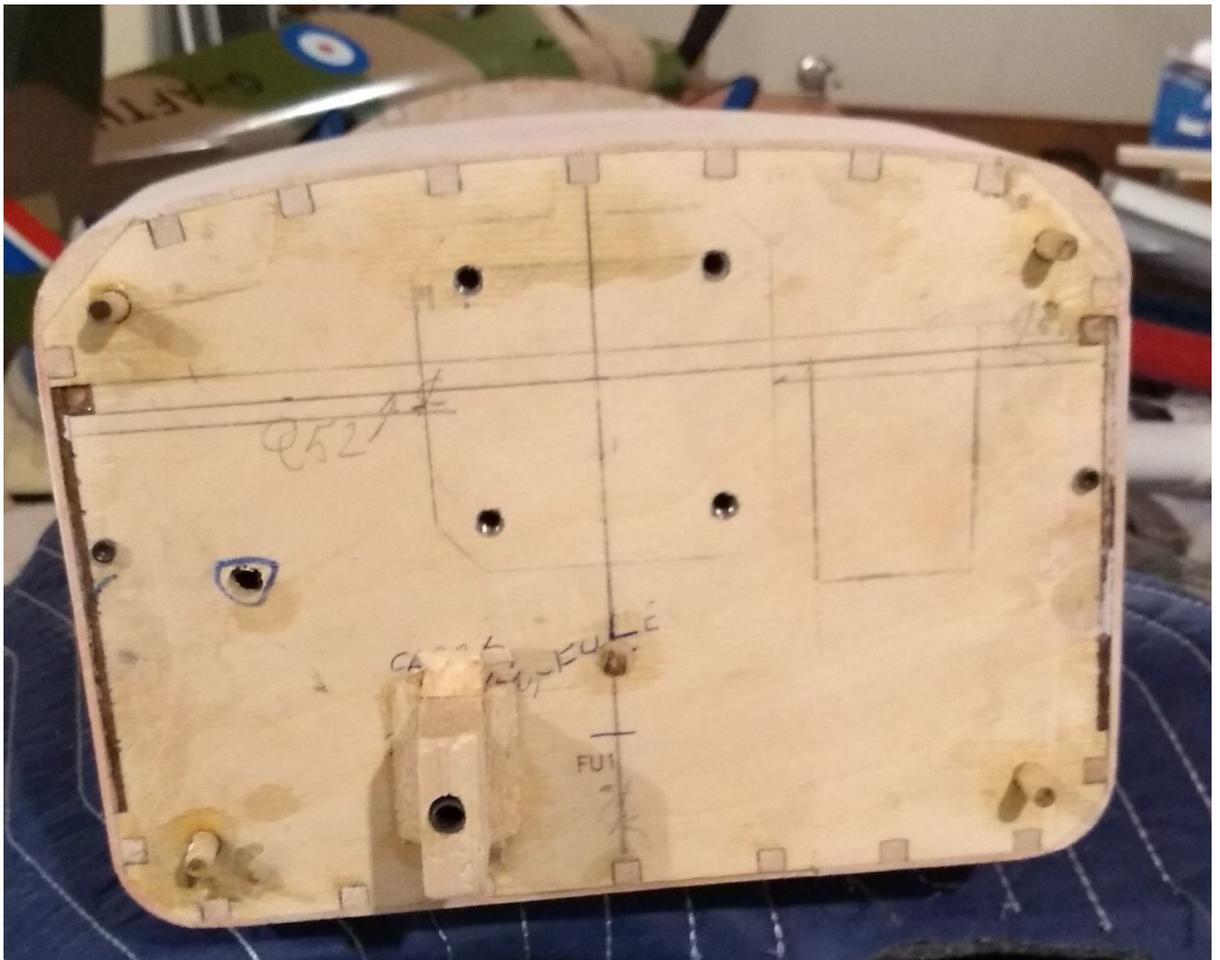


Here we see the front section of the fuselage. The sheeting is glued on with carpenter's glue and pinned in place until dry.



This is an update on the firewall. The fuel line came in too close to where the muffler will be and I had to move it over to the very edge . Should be good now.

On the left side of the body I have drawn in where the ignition module will be located and now I'm ready to proceed.



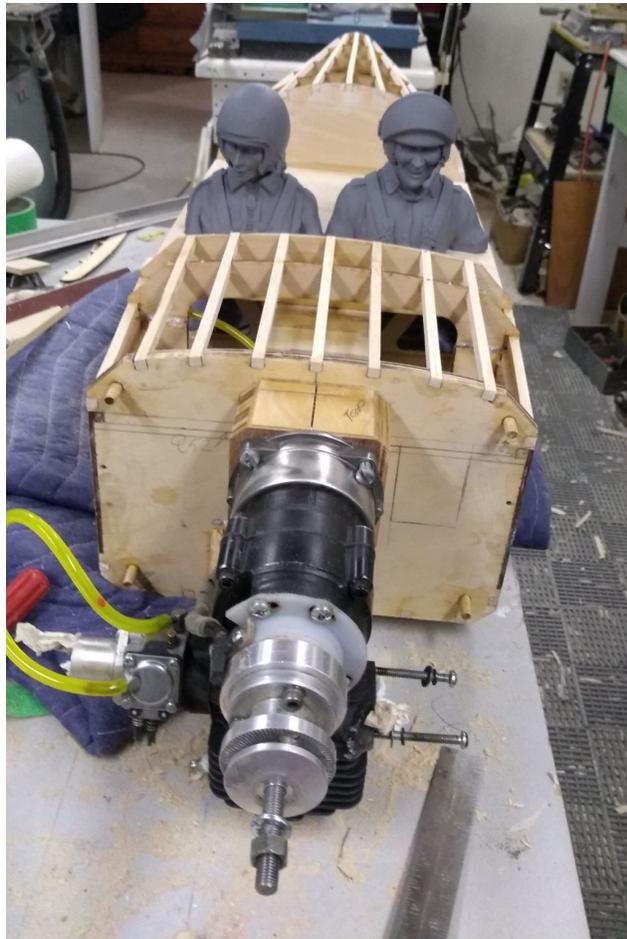
This picture is where I was fitting the aileron hinges and fine sanding for optimum movement. I also took this time for filling in some low spots with light weight spackling. Remember to put on a little extra then sand it down to smooth it out.



This pic shows the rudder being fitted with the hinges to the vertical fin. Checking for freedom in movement, fill in low spots and sand out for a smooth surface. Later it will be fitted to the fuselage.



At this point the engine is temporarily mounted and the engine spacer block is fitted and checked for cowl clearance. The throttle push rod unit is installed and distance check for drive washer to firewall. The pilots have been set in to see what they might look like when finished.



The engine is a Quadra 52 converted to electronic ignition. It will be mounted 1/4 inch lower center line than the plans call for to accommodate the cowl fitting. This should not make a difference in flight performance. The wood block behind the engine is approximately 3 “ thick with a lightening hole through the center. This is all bolted together using 4 1/4 x 20 bolts and blind nuts. The engine module will go on the left side of the crank case and the muffler will be fitted when it arrives. The engine cowl can now be test fitted and all necessary cut out can be adjusted to fit properly. The cowl will have to be spot puttied and sand out for a smooth finish



The wheel pants are now prepared for mounting and installation of the roly things.

The pants came with the kit and are made of fiberglass. They had lots of pin holes and required finishing with spot putty. Extensions will be made to close the distance to the wing surface. All will require careful sanding for a smooth finish.

Here we see the test mounting of the landing gear to the bottom of the wing. At this point it is necessary to make corrections for toe in or toe out as well as final fitting for extensions.



This will conclude part one of the project as it will get to large to send. The conclusion of the build will be sent out latter.