FAC created a class of model in a category based loosely on the Comet series of 54-inch wingspan models of times past. I wanted to build a model that would compete in this newer category. I’ve always had a soft spot for Hazel Sigafoose’s full-size Clipped Wing Cub, which is now hangared in Wisconsin.

First step was to photograph the full-size airplane now owned by Mark Robotti. As it turns out, Jim Ladwig knew Mark and put me in touch with him. The full-size airplane is hangared about an hour’s drive from my home. Mark was very gracious in allowing me full access to any part of the aircraft that I needed. I spent a whole day taking photos.

The serious work started when I returned home. The fundamental outline of the airplane was a SIG 56-inch wingspan RC kit. Outlines were used in a 3D modeling software called SDRC/I-DEAS (which I consider the Rolls Royce of 3D modeling software). Airfoil is at ten percent of the cord. This seemed to look about right comparing full-size to the model form factor. Plus, it just looked right so I used it. The design process took about four months. I started work on the model bits and pieces at the same time I was designing. Actually, the entire build took place while continuing the model design.

The wing features two main "I" beam structures with ribs from .050 thick balsa material with cap strips. Each rib and "I" beam spar had to be constructed as a separate sub-kit to get the desired result. My thoughts for this process, as I recall, took about three weeks of fiddling. Material was, in most cases, at six lbs per cubic foot. I used nothing heavier than that.

Fuselage, stabilizer, fin/rudder were constructed in the usual manner. Fuselage primarily used 3/16 square, four lb balsa with vertical and diagonal truss work of 3/32 x 3/16 balsa.
Engine details were provided in a kit from a specialized manufacturer of such items in 1/6th scale. Unfortunately, they no longer offer the engine in 1/6th scale. Assembly time was about a week; detail and paint, another couple days.

Fin/Rudder and stabilizer were fabricated featuring laminated outlines for each component. Ailerons were separated from the wing for covering at a later time. Fin was attached to the fuselage same as full-size airplane.

Stabilizer utilized two carbon fiber tubes as fuselage pass-throughs as connectors to give a scale look exactly the same as the full-size airplane when assembled.
Cowling and nose required quite a bit of 3D modeling to accomplish the desired result. Formers were developed and laser cut, assembled, and wrapped with 1/16 sheet balsa. Nose components were developed and fabricated from 3/32 sheet balsa and laminated to form a rough shape to be smoothed to final shape.

Scale engine details required considerable fit-up making sure there were no issues as finishing progressed. As the Continental Engine is horizontally opposed, each side at this scale worked out to be 1/4 inch difference from side to side. Allowances had to be made for the proper appearance.

Nose cutouts finished-up and fitted to the cowl. Cooling air, external cylinder head air scoops were 3D modeled and turned into flats, laser cut, and formed from 100 LB artist watercolor paper. These had to fit-up to the valve cover bolt head pattern when formed. Keep in mind, the holes were only .020 diameter! See next images:
One of the significant design tasks was simulating the landing gear. Once again, I relied heavily on 3D modeling to accomplish the design and fabrication. It was important from the modeling standpoint to have the gear, at 1/6th scale, be fully functional. How long it will last during hard landings is still anyone’s guess. All the tubing used is stainless steel needle tubing. Fuselage fairings fabricated from very hard 20 lb balsa and silk covered. Each LG fairing also had special lugs fit to allow fit-up to the fuselage in a scale manner.

In addition to the fundamental LG latitude of movement and related to same, LG bungee cord covers were designed. Molds had to be fabricated to vacuum form the covers. On this airplane they are a somewhat streamlined shape. Initial thoughts were to use Trexler balloon wheels but decided against it for the simple reasons they didn’t look right (too fat) nor did they have the scale tread on them.
Tail wheel Parts and LG dry fit-up:

Continuing construction had me planning final assembly, paint and masking. All the paint
masks were created using Frisket brand airbrush masking. Some of which is shown here, starting with the nose of the model which is colored to match the full size. Notice considerable detail is added to this assembly and it's pretty much ready to add to the fuselage.

Water slide decals were fabricated and added to the valve covers along with more engine detailing. I should mention at this juncture, as this model is 1/6th scale, there is no way to skip details on the airplane. Every detail that is on the full-size airplane needs to be shown simply because of its size. Notice that there are actual miniature screws holding the valve covers in place.

Next task was the arduous and tedious task of paint. A person may think this was a simple task and, frankly, I thought it would be one of the easier things to do --- was I ever wrong. I may build models of this size in the future but probably not one with this complex of a color scheme. Having said that, after completing the task, I amazed myself when it all came together.

Started with the fuselage and tail feathers. As you may gather, tail feathers were the simplest. As the Frisket only comes in a 17-inch length I didn’t have to splice any Frisket as I did on the wings and fuselage. All the color splits on the fuselage and wings were greater than the 17-inch sheet size of the Frisket, which created its own set of issues.
Wings presented the most difficulty due to having to create long narrow masks for color separation. However, as is always the case, we figure out what is needed and work to that end. One of the more critical of problems was figuring out how many coats of color were needed for each swatch so that it matched the previous color swatch of the same color. In the end it all worked out.
Finally ready to add some detail. Note the wing is in one piece. There’s a good reason for this. If the wings are separate panels, there would have to be a clever way of getting all the details added to the struts and strut joints, none of which replicated the full scale airplane. Thus, the wing had to be one piece. The full scale airplane has a lot of detail related to the wing struts themselves.
Fuselage detailing:
Moving on to final component assembly:

Landing Gear assembly:
I've intentionally disregarded a significant amount of work for this article because it would require too many additional pages, unfortunately. If you'd like some how-to's and the fiddly bit information, you may always call me and we can talk through it.

Final assembly and just about ready to fly, minus prop and nose bearing. These components have been fabricated but not shown in the photos here.
A transport box was built with a few inches to spare all around. Would you believe it's too big to fit in our travel vehicle?! I'll be able to get it flying but only locally. Oh well...