Boeing P12 (Model 100) Construction Notes

By Chris Spangenberg

This document was composed from excerpts of Chris Spangenberg's Boeing P12 build-log presented on RCScaleBuilder.com. This quarter scale Boeing P12 design by David P. Andersen has additional details and parts lists available on his plans that are available for free download at MNBigBirds.com.

The Boeing P12 has always been my favorite airplane, and I think I know why. When I was a kid, I remember it was featured on the cover of Model Airplane News. That magazine had great covers in those days that were paintings of aircraft in flight against bright colorful backgrounds. Well, now David Andersen has drawn plans in quarter scale for both the army and navy versions. In Navy uniform, it was designated the Boeing F4B series. This article describes the army version.

Anyone seriously thinking of building any other version of this design will have to confront the unique design of the tail skins. In full scale, the skins were hydro formed over machined aluminum forms.

One unique feature in this model is the fact that the fuselage is designed to split at the cockpit, allowing the fully rigged wings and forward fuselage to be transported while assembled. At the flying site, the aft fuselage can be easily joined to the front section with four readily

available bolts in the cockpit. Anyone who has spent the better part of a perfect flying day rigging the wings of a scale biplane should appreciate this nifty feature.

The separation between the fore and aft sections is located on scale panel lines, and should be nearly unseen when assembled.

I was lucky to have purchased a Williams Brothers quarter scale engine kit that will be an outstanding scale feature on this airplane. If you are considering this project, I'd suggest looking around the internet for any available, because they could be a little scarce right now.

Dave's plans show a couple of optional landing gear designs. Both the Army and Navy types are featured as well as a couple of suggested commercial options. The plans are easy to read and understand with building tips printed beside the drawings.

An interesting thing to note is that the leading edge of the rudder actually is concave, wrapping around the trailing edge of the vertical fin.

I'm not sure what the advantage would be in this feature, but it's worth considering if we want to be accurate.

Here are a couple of photos that show the framed up wing being prepared to accept the aileron spar and leading edge of the aileron. Since I cut the parts by hand, I chose to cut the slots in the ribs while the structure was pinned to the table. After marking the cuts using a small square, I cut the slots a bit undersized, then using a sanding bar, opened them to accept the spar. With some careful sanding I was able to get a nice fit that would have been more difficult if I had made the ribs in two pieces.

So ... here are those photos. The second photo just shows those parts assembled.

The following photos all feature the wing tip of the lower right wing. I'm building the lower wing in two parts that will be joined at the dihedral joint when both are complete.

The plans show a DA60, however I believe that is basically a suggestion. I think when completed, this will be a rather massive airplane so I'm considering a Valach 70 or perhaps a GT80 that's on my shelf. The scale engine on this airplane should hide most engine choices but an inverted single should nearly disappear. I'm building this model with the split fuselage as designed, however one could easily make both wings removable.

The lower wing is attached with dowels at the leading edge and nylon bolts at the rear, so nothing would need to be modified there. The upper wing attachment could be changed to include bolts at the junction between the cabane struts and wing. This is such an attractive airplane with so many color schemes, that it would be a shame to allow transportation issues to cause anyone to shy away.

Below are two photos of the lower wing's center section. One shows the lower wing center section from the leading edge. The second shows the same area from the trailing edge. These both depict slight changes from the original plans. I added two balsa blocks just behind the rear spar to accept the holes drilled for the wing hold down bolts. These blocks will provide some added strength to prevent crushing when the bolts are tightened. The shot from the front shows the addition of an insert installed between the upper and lower spar caps of the main spar. This half inch thick plywood insert creates a sturdy mount for the two dowels that attach the wing to the fuselage.

I added a slight modification to the wing that will allow the flying wires to enter the wing surface in a scale manner. The plans as drawn do not include this feature, one that is, I believe worth the bit of extra work to achieve. Essentially you use silver solder to threaded 4-40 rod. Make sure you have decent silver solder. I use solder with 40% silver. It's the silver that gives the solder its strength. You need to determine the length of the wire before you solder things. One way to do that is to use two thin bits of music wire with a wheel collar connecting the two.

Put the wire at each connection end. The wheel collar makes the wires adjustable. Once you have each side done you can remove the wires and use them to confirm the wire length you need. It's time consuming but it works.

This small modification to the plans will allow the flying and landing wires to emerge from beneath the skin of the wing as compared with earlier aircraft where those wires were attached to the wing structure externally. Here is a photo of a full scale P12 showing this feature.

The photos above show my modification to the lower spar of the top wing with the fittings visible in the small openings. As can be seen, the cross section of the spar has been reduced to allow scale positioning of the flying wires.

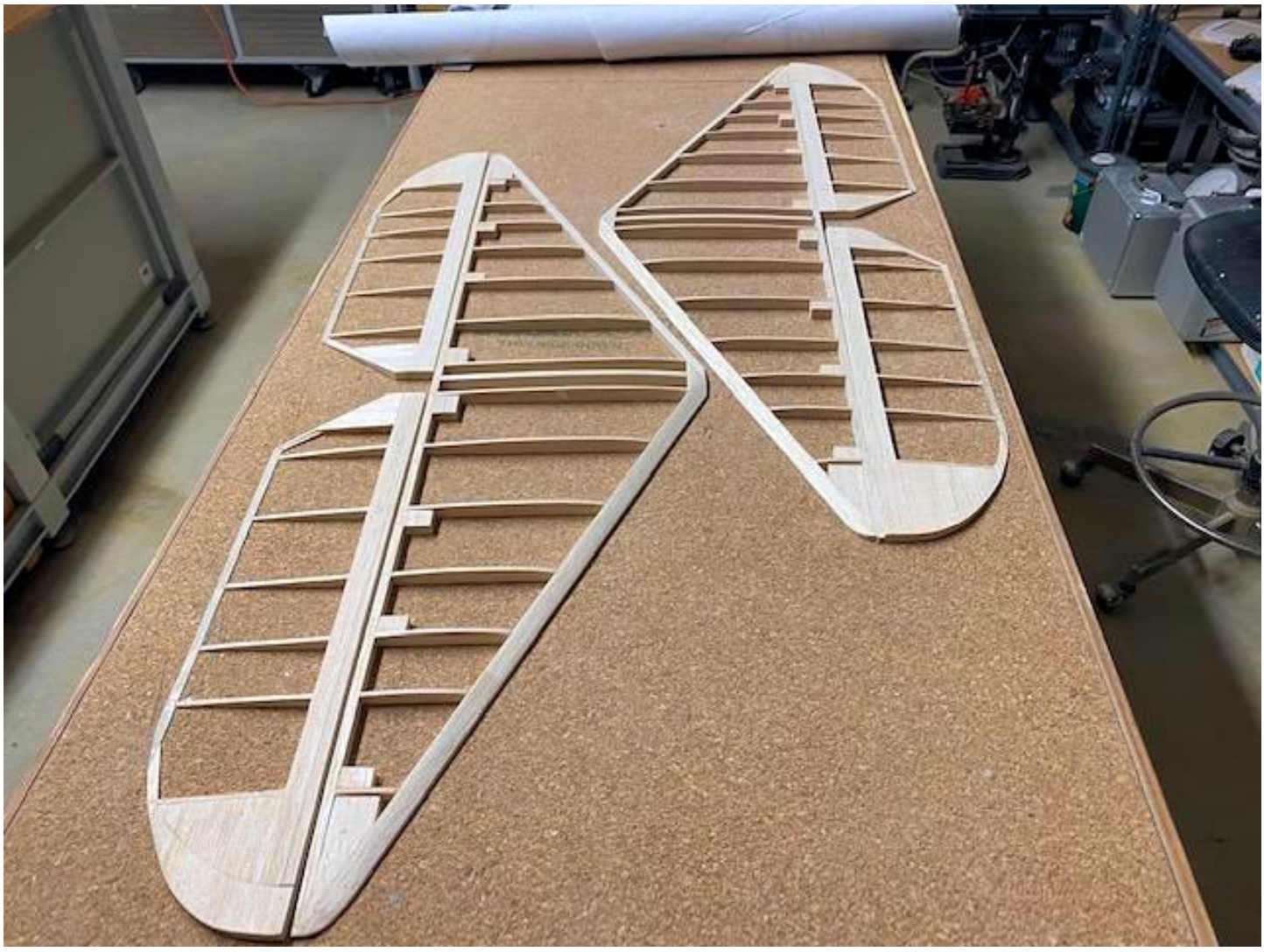
The photo on the left shows the extra parts that restore the strength in the spar. The tapered block is fitted between the upper and lower spar caps. The two plywood doublers, one on the front face of the spar and the other smaller one on the rear face help carry the load across the reduced spar section. The two fittings are attached to the block between the spar caps with a 4-40 bolt. The fittings are DuBro 4-40 clevis ends. This modification would be very easy to accomplish if done before assembling the wing.

The flying wires on this airplane are simply a scale feature. The airplane is designed with wing structure strong enough without wires but if the airplane is ever submitted to judging, I think they are necessary. My wires will have 4-40 threads on each end with one end having left hand threads. They can be tightened by rotating the wire, so it would not be too time consuming to install and remove them. This airplane will remain rigged with wings installed in transport because it's designed with a two piece fuselage that separates just forward of the cockpit. We will see how that works out since the forward half of the airplane with wings installed could turn out to be a bit difficult to manage. Seems that these airplanes are always a compromise since we need to fit them into our vehicles.

This airplane has a unique landing gear, slightly different on Army and Navy versions. Both use a basic telescoping strut that can be obtained from Sierra Giant Scale. Daryl has a strut originally designed for a Ziroli Stearman that he is slightly updating to fit this design. I will fabricate the detail portions of the gear. The availability of this gear should make this design even more appealing to fans of this airplane.

The photo below shows the framing for the stab and elevators. The plans show an upper and lower framework built flat on the work surface, then sheeted and then joined together. The stab is one piece supported by a strut beneath and by two wires between the upper surface trailing edge and the fin.

The full scale airplane had a two part stab that could be trimmed up or down by raising or lowering the leading edge. It's been suggested that perhaps I should consider making my stab as a two part unit, and I've decided to postpone skinning these parts until I have the aft fuselage in process so that I can better understand how this will all work. Converting the stab will be quite easy while the frame is all exposed as it is now.



This photo shows the inverted fuselage on the bench. The four bolts thread into the plywood former just forward of where they lie. Their function will be to attach the rear half of the fuselage to the forward section just ahead of the cockpit.

This design allows the wings to remain fully attached and rigged for transport. The aft fuselage with rudder and elevator servos and their linkage will be mounted in the aft section. The bolts are accessible through the cockpit.

Elevator and stab,
sheeted and combined.

Above is a photo of the fin and rudder. On this airplane, the leading edge of the rudder is concave and the rounded aft edge of the fin fits into the rudder. This is an unusual feature of this airplane. I can't imagine why it's so designed.

The full-sized tail surfaces as well as the ailerons were formed with hundreds of stiffening ridges in the skin that will be replicated in the model by half round plastic strips available from Evergreen Scale Models.

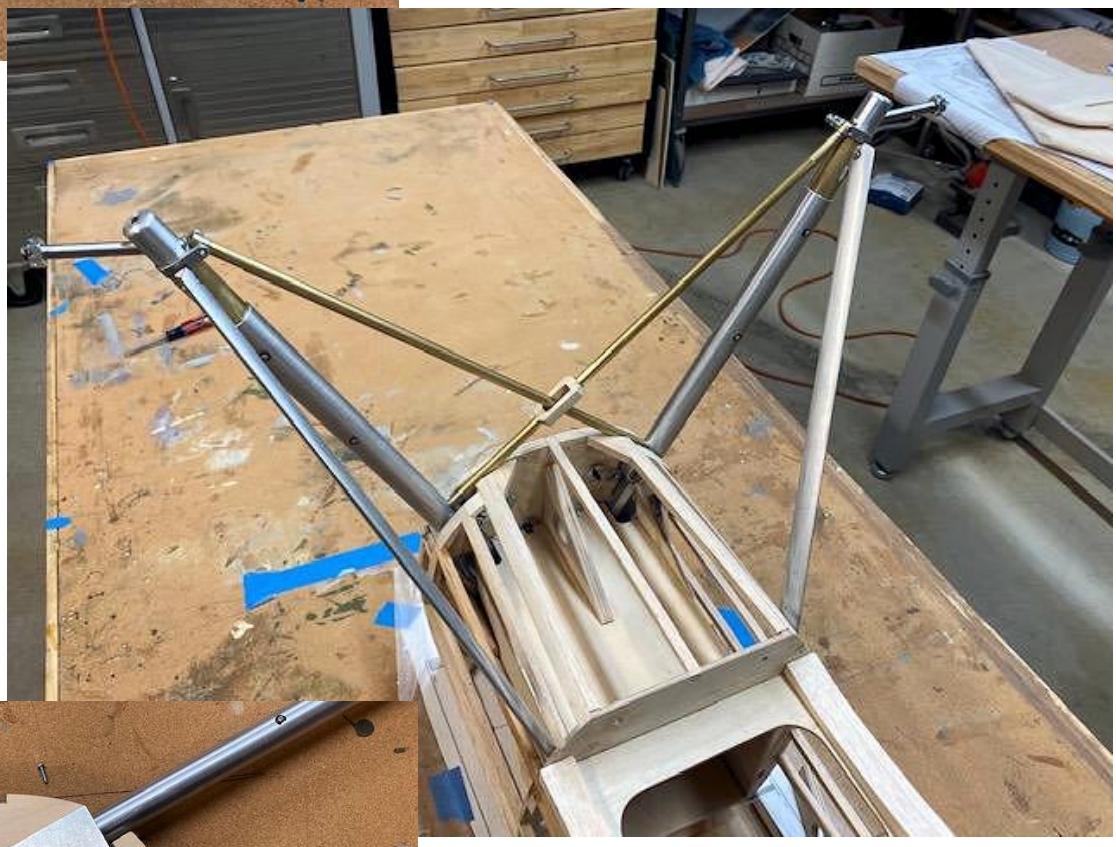
Here is a photo of those surface ridges I mentioned. The strips in the foreground are 0.100 half rounds. The ones in the background are .125 I will use the smaller ones, spaced a bit closer to each other than they are on this test sample. They are very easy to round off at the ends. Just a light sanding.

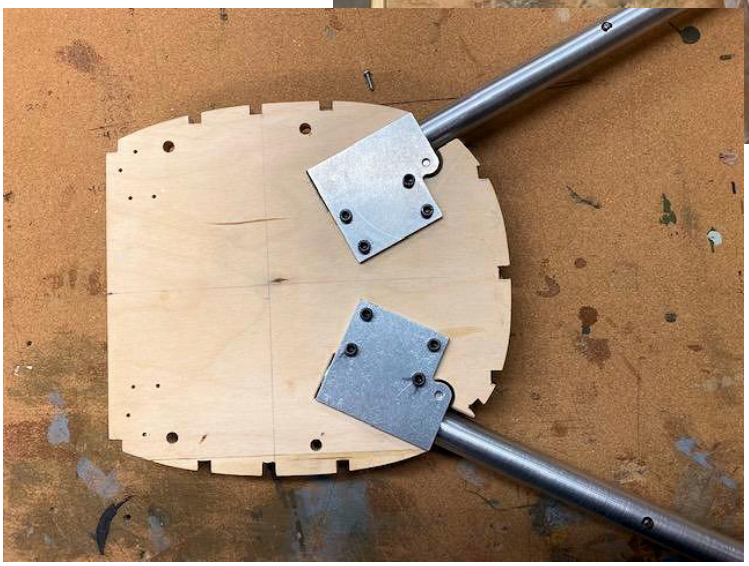
These are photos of the full-size scale gear. The plans show a couple of suggested gear arrangements; however I opted for a more scale functioning gear for my airplane. I used gear legs made by Sierra Giant Scale (www.sierragiant.com) for an eighty inch Ziroli Stearman. Darryl made me a set a couple inches longer than stock. I then made the rest of the parts out of Brass and aluminum tube, some flat brass sheet and a bit of DuBro hardware. After staring at the thing for a very long time, I started making parts. I think the results are pretty good. This gear works nearly the same as the full scale, with a couple concessions to keeping it simple. This design was operated by both the Army and Navy. The gear was slightly modified on Navy versions; however the gear I am using would also work on the Navy airplane with slight modification.

Next, the gear components:

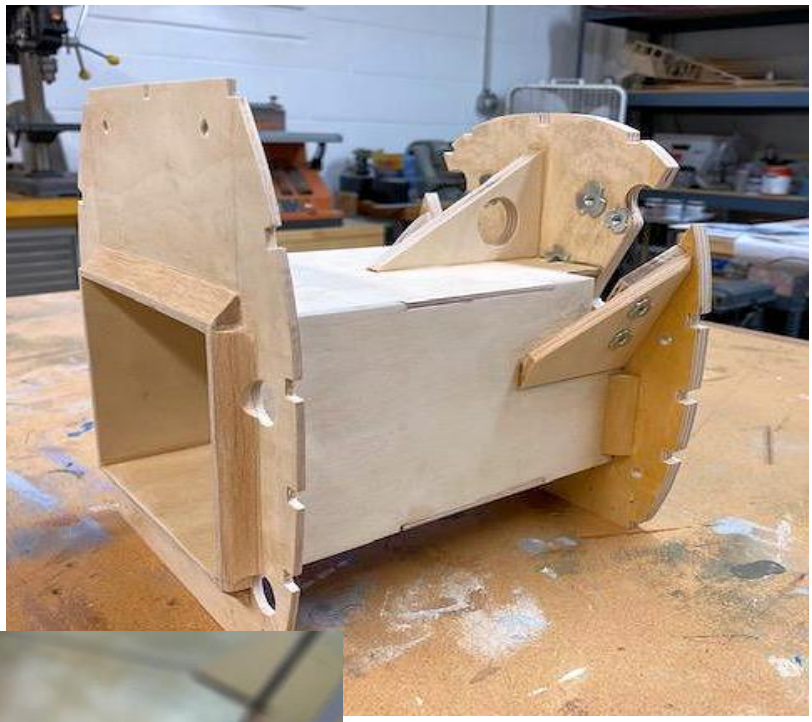
The second photo shows that the springs have been removed from the struts. When put back in, the legs extend approximately an inch. When they do, the brass cross tubes telescope to accommodate the extension.

The last photo shows the gear mounts on the firewall.





This photo to the right shows the connection fitting that ties the aft strut to the fixed lower end of the gear leg. I used a DuBro fork to attach the two pieces. It is set into the airfoil aluminum tube using JB weld.



The photo above should answer a couple of questions. This shows the gear extended and shows that the airfoiled alum strut is attached to the fixed portion of the main strut. In operation, there should not be any relative motion. To provide for any fore and aft movement of the main strut in less than perfect landings, the airfoiled strut mounts to the airframe with a sliding rod in a brass tube set into that end of the strut with JB Weld,

The fitting at the lower end of the main strut is also attached with JB Weld. There is a machined shoulder there on the strut. Part of the challenge in figuring out the gear details involved how the full scale gear operated. The brass cross tubes were actually fixed length steel members that curved near the bottom and became the axles. The main and aft struts were hinged at the fuselage. This design would have been too complicated to produce, so my design was a necessary compromise. The main strut will wave a wrap around alum fairing.

The full scale gear swings when the main strut extends. This causes a change in the wheel camber producing the characteristic tilt in the wheels while in flight. The model gear has the axle fixed at an angle that should approximate that look. If it causes any ground handling problems, only the lowest portion of the gear will need some modification. Daryl at Sierra Giant Scale will label the gear as Boeing P12 for you.

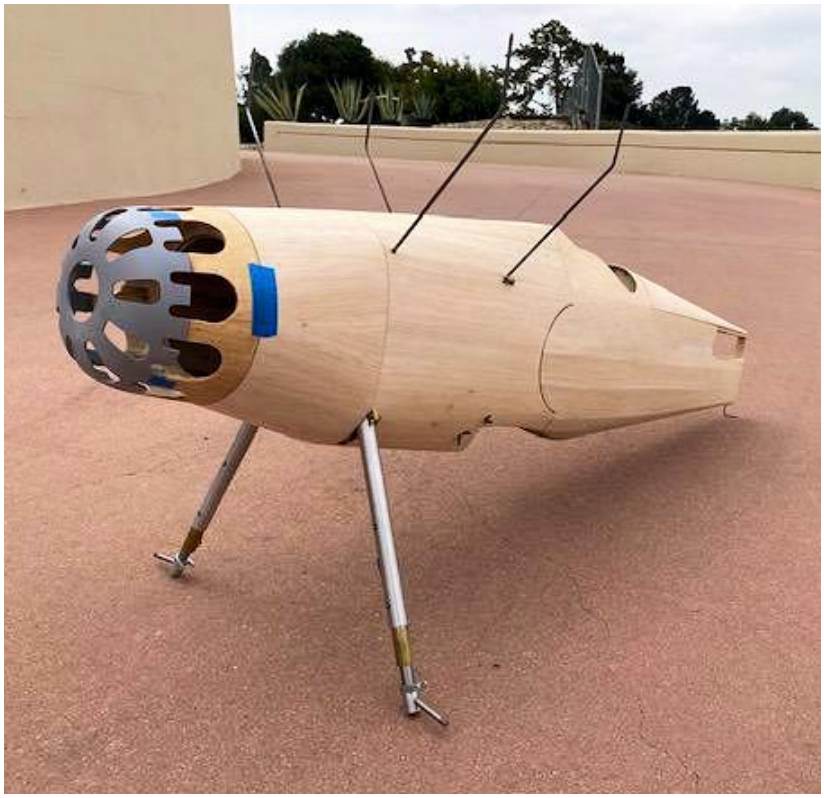
I have found a solution for golden age wheels ... I purchased small wheelchair wheels from wheelchairparts.net. I ordered #3CW157 inch and a quarter x eight inch units. They cost about thirty($32.00) bucks for two. I turned down the tire to a scale shape and diameter on my drill press without any problems except for the black mess from sanding.

The full scale airplane had 30-5 tires that scale down to 7.5 inch dia and one and a quarter inch width. The hub is a bit wide, however it can easily reduced to a scale width without fancy equipment. Now to the best part ... I contacted Chad Veich who going to print scale golden age wheel covers for these wheels. This gives us all a way to build accurate, sturdy scale wheels in the absence of William Brothers. THANK YOU CHAD!

Here are some pictures of the wheels, before and after reshaping. The paper wheel cover in the photo was used to get an idea what the wheel could look like.

Here is the cowl with the scale engine with one cylinder so you can see what it will look like later. Next is a photo of the cowl pieces. At first I thought I'd turn a form on a wood lathe, and then mould a fiberglass cowl. That seemed to be too many steps, so I made these parts "old school". The forward piece was made of several rings of half inch balsa stacked carved, sanded, glassed and primed. The other part is simply bulkheads, stringers and sheeting. This effort will allow access to the scale engine as well as the actual power plant for service.

This is the fuselage with the forward cowl pieces taped in position. These parts will carry a Williams Brothers radial engine and pretty much conceal the Valach 70 engine mostly hidden behind the lower cylinders.



Here are a couple of photos of the joining area of the two piece fuselage featured in this design. The first photo shows the plywood former that mates with an identical former in the aft fuselage. You can see the threaded bolt holes for the quarter twenty bolts that are available through the cockpit. You can also see one of the anchors for the lower wing bolts.

The half round cut away feature is the separation between the fabric and sheet metal sections on the full scale airplane. It is lined with a strip of 1/64th plywood as is the other piece on the aft fuselage. These are carefully fitted and sanded to achieve a perfect fit. Amazingly, it was not as difficult as I was afraid it would be.

The second picture shows the cockpit with the four bolts that join the two fuselage sections. The upper two will be hidden by, or disguised by the instrument panel.

I used one of those metal body shapers that have a cutting surface made of perforated steel for major cutting. I then used 60-grit sandpaper on down to 150 to finish. I found that folding the paper in half, then holding it in a curved shape pulling against the wheel as it turns worked best for me.

Here's a picture of two of these shapers. Both are made by Stanley and they are called Surform. I think Home Depot has them. I found that a light touch works best on a spinning wheel. Here's a tip ... Do not try to use a small plane as I tried. The blade will grab and cut more tire than you want.

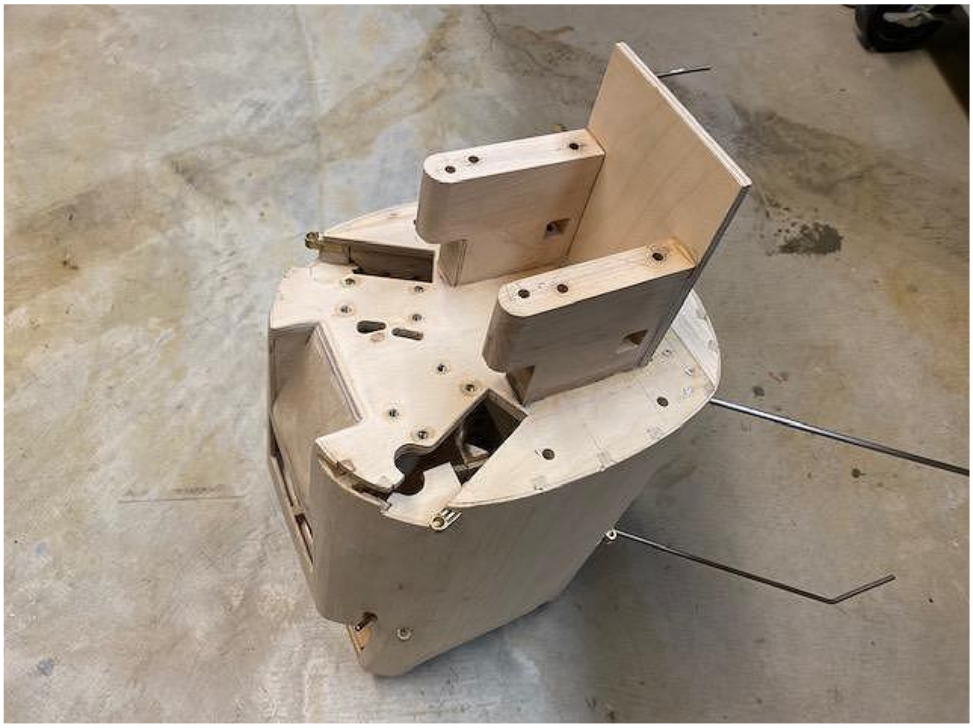
The cowl is made of three pieces. The aft section bolts to the firewall, the second portion mounts the scale engine and the forward most part is the nose bowl. The Valach 70 is a pretty massive engine, but it does hide pretty well behind the scale engine. In the side view, you can see the cylinder head, however there is another small fairing that resides behind the cylinder and an oil cooler in the same area that should help hide, or at least disguise the exposed engine.

The wires in the photo are the cabane struts minus their fairings. The fuselage on this airplane separates at the cockpit so that the wings can remain fully rigged for transport.

The nose bowl was made of balsa rings stacked and sanded to shape, then glassed and the cooling slots were cut and sanded to final shape. The scale engine is a Williams Brothers kit with some aluminum stuff added.

This is a picture of the full scale engine and cowl. Those cooling louvers are my next task. This airplane has a bunch of these pesky things.

I've spent a bit of time making sure that my engine installation will be functional and that cooling will be adequate, so I added a small cooling duct in the lower firewall to help extract heat that could build up within the cowl.

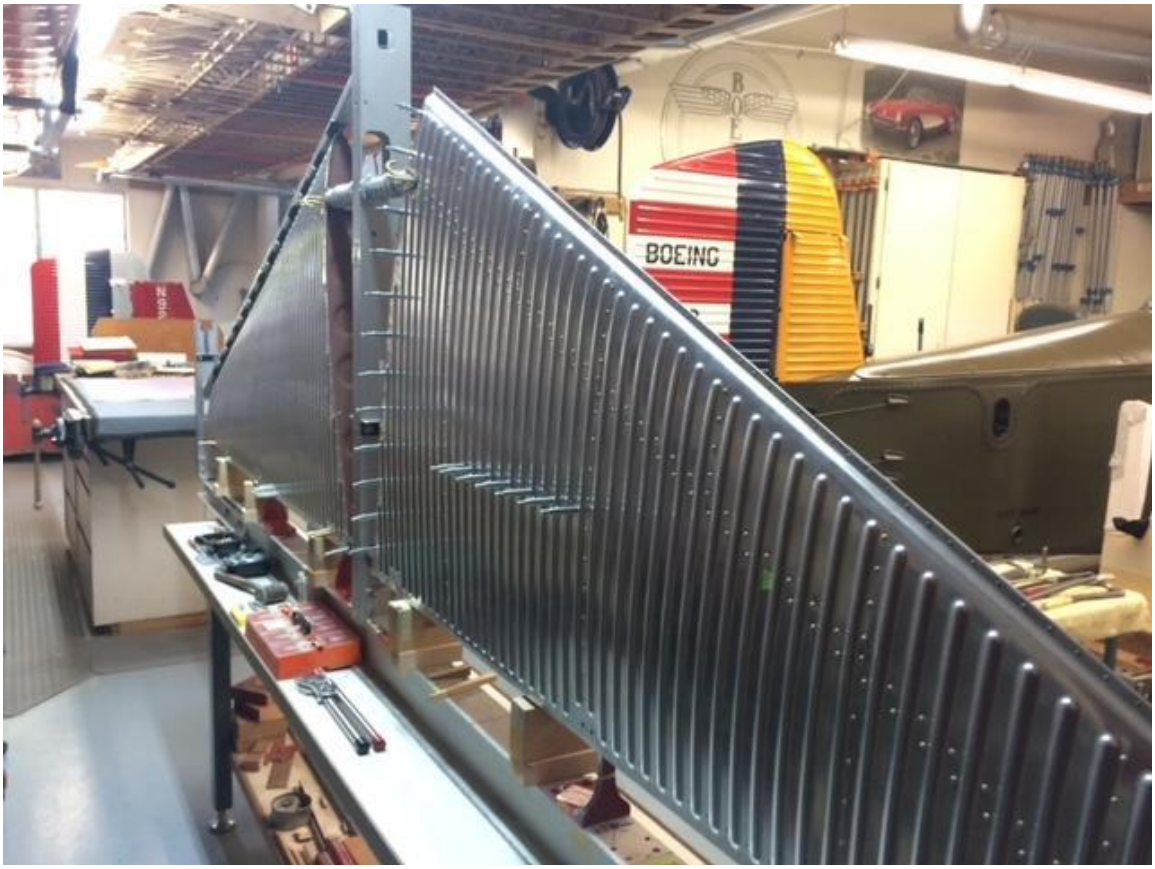


Here's a photo of the Valach 70 on its mount made of maple blocks. The engine mounting bolts go through the firewall.

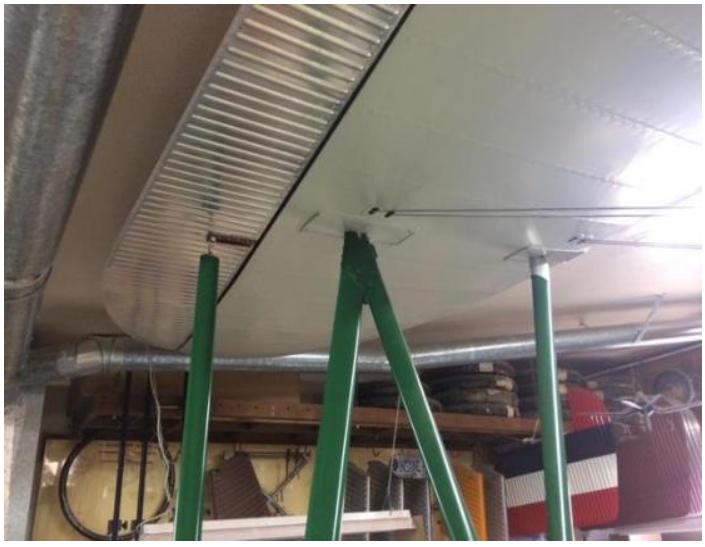
This photo shows the gun troughs on the upper cowl. My original plan was to form them from rolled 1/64th plywood, but instead I decided to cut the basic slots, then use soft balsa under the plywood that was then carved and sanded to the proper shape. This seems to be the best method I've tried. They turned out pretty good. Does anyone know of a source for quarter scale 30cal Browning gun barrels?

Boeing airplanes of the late twenties and early thirties had stiffening ridges formed in the aluminum skin. These skins were assembled over fairly basic structure, with the skin providing much of the strength. The challenge in this project is producing a realistic version of all those ridges.

I used half round plastic strips made by Evergreen Scale Models. These were glued to the glassed surface of the built up balsa surfaces. It seems that there is no quick and easy way to do this. However, given enough patience and time ... it can be done. So far I have the lower surface of one aileron done.



This photo shows the full size stab in its fixture. Note the ridges and the flange along the leading edge. Both top and bottom skins had this feature. When assembled, a small U shaped strip was riveted over this flange. This feature is involved in all the control surfaces as well as the vertical and horizontal stabilizers. I used a strip of 1/32 plywood to fabricate these features.



This view shows the flange as described, and the aileron.

This photo shows the aileron with the plastic strips attached. I used thick CA to glue them on.

The triangle is a tool I made to align the strips. It's an extended T square type of thing that helps keep each strip 90 degrees to the trailing edge.

Without this tool, and just using a spacer to align each one would magnify any tiny error after several strips are in place.

After getting one aileron surface done, I wasn't convinced that I had figured out the best method for adding this surface detail. Since I can't complete the aft fuselage until the stab is installed, and I sure don't want to add these strips while the stab is on the airplane, I decided to next add these strips to the lower surface of the stab. This step will also show how much weight I'm adding to the wrong end of my airplane. It will also allow more time to refine my method of putting these pesky details on the model.

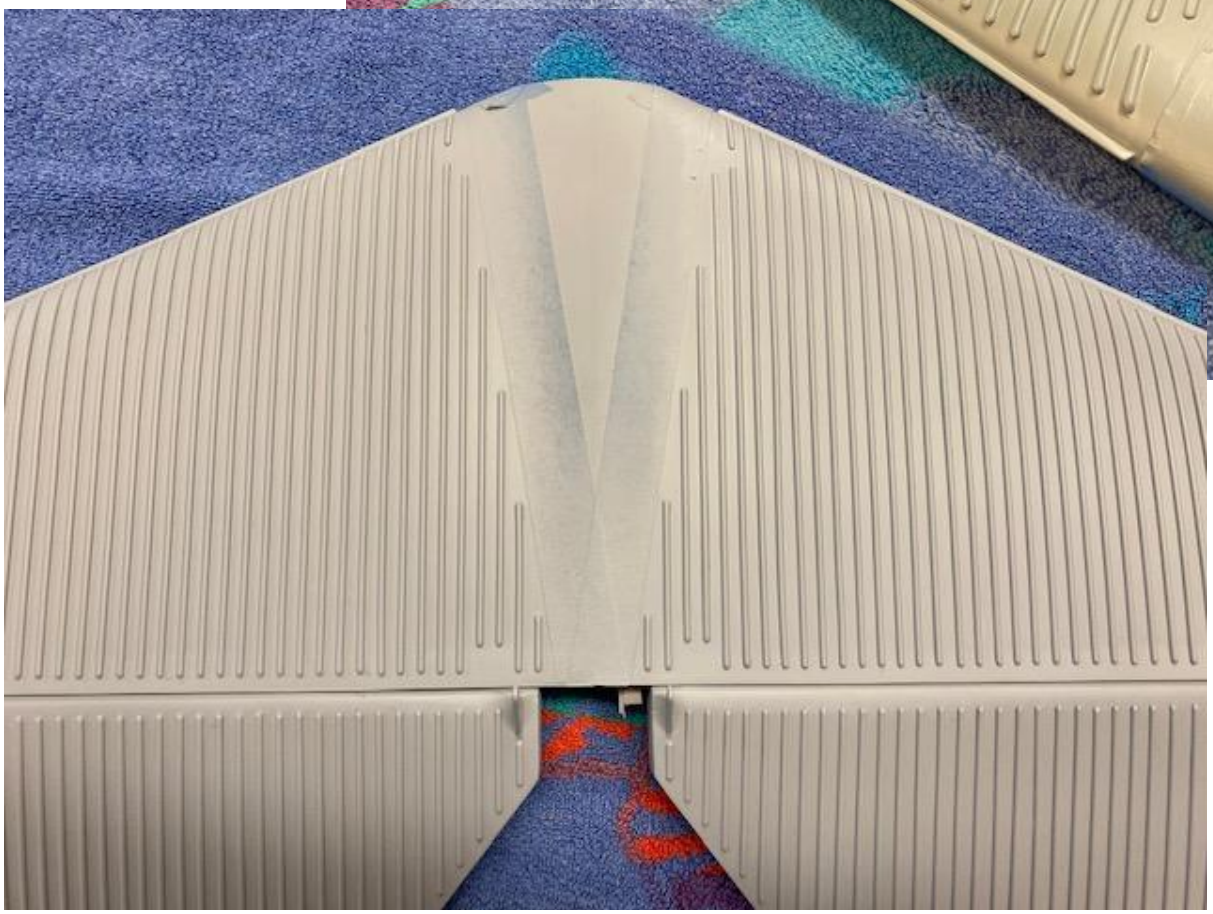
Here's what I've learned so far:

1. Start these exercises on the lower side of the airplane... Mistakes won't be so obvious.
2. I use thick CA glue with an extended set up time so you have time to position each strip.
3. Have some de- bonder handy.. You'll be adjusting a few more than you want.
4. Make a tool to check the alignment of every strip. They have a tendency to get crazy...thus the need for de- bonder. I'm now using a triangle aligned with the trailing edge. It has a strip of wood glued to one edge to follow the trailing edge.
5. I used the strips that are .100 in width. They are available in 0.125 as well. The larger ones seemed a bit large. This is a decision that was made by eye ball after staring at my test sample for what seemed to be hours.
6. Most of the strips extend onto the curved surface of the stab. I glued the flat portion first, followed by the portion on the curved leading edge. The glue in this section was applied using a small piece of card stock upon which the glue was applied. It was slipped under the strip. This worked pretty well except that I would find these small strips of card stock stuck to my shoes and sleeves when the building session was over.

This method seems to work pretty well, and after weighing the stab, it looks as though I've added 3/4 ounce to my stab at this point. So... my guess is that my stab that weighed six and a quarter ounces in primer will end up gaining about three ounces when all this detail is added.

I'm including a couple of photos that show the lower surface of the stab and elevators. I found that even with careful work, some of the strips still needed a bit of a touch up to correct the way they faired into the curved surface at the leading edge. Some needed a bit of sanding to perfect the rounded ends, and a few needed to be repositioned. They can be carefully removed with debonder and a little work with a #11 X-Acto blade. After removal, the excess debonder can be removed with Q tips or paper towel. I can see that I still need to reposition one at this time. Just a note here ... there are 252 strips on the lower surface of the stab and elevators and I figure that it takes about three minutes to measure, fit, sand and glue each one. You can do the math ... It takes a long time to do this!!

I hope this stuff is helpful, because the prospect of doing this task kept me from attempting this airplane for two decades. Like most things, once you commit, you do find a way.



The leading and trailing edge strips were 1/32 plywood. I just placed the surface on a ply sheet and carefully traced the edge with a sharp pencil. I then cut it out with a #11 X-Acto blade. It surprised me how easy it was to achieve a perfect fit with just a little sanding. After gluing these pieces to the edge, I then used my horizontal belt sander to reduce the width to scale. I used CA to attach these features, and found that it was pretty easy to keep a straight line if I took my time.

Here's what I've learned so far … This detail will add WEIGHT to the wrong end of my airplane. It seems that this detail added 5.5 ounces to an already heavy component.

There does not seem to be a better alternative except perhaps a three D printed skin or entire tail assembly. So ... I'll just try to keep the rest of the aft fuselage as light as possible and keep believing that the surface detail is worth the weight.

For you guys working on the Bates version, you have this fun to look forward to also. David Andersen suggested on his plan, an alternate solution that would be lighter but not really scale. One could use several layers of trim tape to suggest the appearance of ribbing. Not a bad idea if one is building a plane not intended to ever be looked at by a serious scale judge.

The second thing I discovered was that no matter how careful you are in this process, you will need to remove and adjust these strips more times than you believe. CA debonder works really well for this as long as you have some Q Tips and paper towels to quickly remove excess fluid on the stab. It seems that in addition to the use of spacers, you will find it necessary to use a little 'Eye Ball" adjusting to keep everything lined up. This is really important in keeping the ribs in line across the hinge line.

The weight gain was not a surprise, but it still hurt when I put the work on the scale. After discussing incidence angles with David Andersen, I decided to mount the stab with one degree positive to compensate for the anticipated down flow from the upper wing. I hope this is a good choice since I've had previous short coupled biplanes that always needed a little down elevator trim for level flight. Hope I'm right with this choice. I used my laser leveler and after about a thousand checks and re-checks, I committed to epoxy it all together. Amazingly, everything looked good the next morning,

You can also see that I have chosen to make the upper part of the fuselage removable as in the full scale version. At this point I'm still fitting the pieces together so the junction is still a bit rough. In the full scale version, the junction of these too parts is not really perfect, however I plan create a clean line, so some craftsmanship judge won't ding me for a wobbly line.

Been working on surface detail such as panel lines, piano hinges and louvers. Have some photos that show a bit of all that, but first a loud THANK YOU to Brad P who is building another Boeing biplane on the site. He has 3D printed about a million latches that secure all the panels to the airframe on these airplanes. Can't even guess how many hours his work will save. I was not looking forward to making nearly one hundred of those little buggers.

The full scale P12 has aluminum strips that frame each panel, so I used aluminum duct tape cut into narrow strips. That seems to work pretty well so far, as does the use of small diameter plastic rod for simulated piano hinges. Now in primer it's looking pretty good.

The feature that had me in the "avoidance mode" was the prospect of making louvers. My "old school" method was to first lay out the louvers on thin aluminum sheet. Then drill a bunch of holes followed by careful work with small files to achieve the hole shape of typical louvers.

Next step was to place a blob of Bondo over each hole on the back side of the piece. I did one hole at a time since the Bondo cures pretty fast. While it had the consistency of cheese, it was easy to cut away excess Bondo in the hole by just using the curved edge of the hole to guide the #11 X-Acto blade. I was surprised how well this worked, and I'm pretty happy with the results. To make these first four examples, it took three evenings.

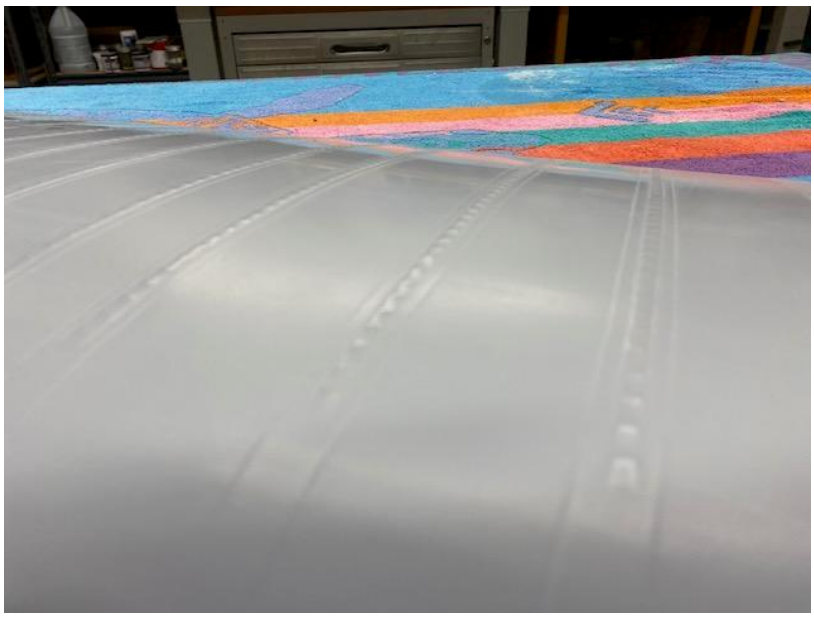
Hope someone dreading such a task tries my method... It works!

First step, cutting the holes

Louvers in primer

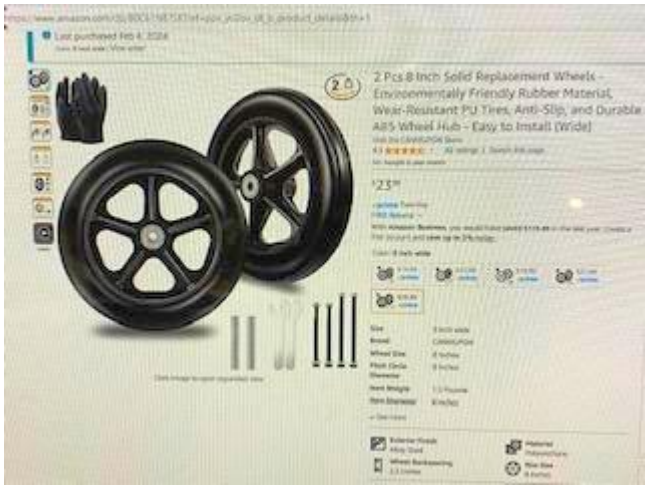
Nose louvers inlaid and blended in with Evercoat and red body filler, then primed. I think they look pretty good, and they are not hard to make. Picture below shows the upper wing being mounted with temporary outboard struts of quarter inch balsa to maintain alignment.

Here's the fairing on the full size and on the model



Here's the full scale rib stitch detail. These planes had very close stitch spaces of only one inch since they were pretty fast aircraft. And here's a shot of my upper wing stitching and tape detail.

The latest project has been the hunt for quarter scale golden age wheels that are the correct diameter and width. Unable to find any, it was time to make some. I found some perambulator (pram) wheels on Amazon that are very close to perfect after a little work. I am including some photos that show what the full scale item looks like, some pictures of the various parts I made and the results so far. I'm waiting until the entire airframe is complete to see if the tire is a bit too fat. At that time the tire can be turned on my drill press and sanded a bit more if necessary.



Here is the Amazon page and the full scale example.

This is the tool used to turn the balsa disk for the wheel cover and the balsa wheel disk made with the tool.

Next is the outside wheel cover with detail.

Here's the inner piece with disk brake detail. Styrene and sewing pin rivets used for details.

This picture shows the wheels on the model. This picture does not include the struts that form an X between the two main struts.

Here's the modified wheel after the tread was removed. This photo also shows the Delrin bushing. The tread was removed by mounting the wheel on my drill press and turning it using 60, 80 and 120 grit sand paper. I found that a light touch with the sand-paper, using no block, avoided any out of round problems.

The picture on the left shows the tool used to make the slightly domed wheel covers. A disk of quarter inch plywood with a bolt was chucked in a hand drill held in my vice. Then a ring of sixteenth ply was glued to a circular piece of quarter inch balsa and turned to the proper shape with sand paper.

This photo shows the wheel cover sitting on the turning tool. This is included to show some of the detail parts made of styrene. The wheel itself is 5 1/4 inch dia. Except for the weight of these things, this product seems the perfect golden age quarter scale wheel solution. The best part is the price! Twenty four($24.00) bucks.

They are advertised as 8 inch, but are 7.5 after the tread is removed.

Tail feathers got their yellow paint, and the wings that were painted last week are getting the1930s stars with the red center. I ordered the olive drab for the fuselage from Warbird Colors, so it seems that I'll soon have a completed airplane. I plan to break in my Valach 70 next week and this thing will finally come alive.

Here she is with a few things left to accomplish. Still need to install all the flying wires and complete detailing the scale engine. At this time the weight is 27 pounds.

Here's my pilot with a serious expression, waiting for the test flight.

The yellow is Tamiya acrylic flat yellow. The fuselage is War Bird Colors olive drab. Finding a yellow that looked correct was really frustrating until I checked out what the plastic guys use.

After a disappointing effort to get my Valach 70 to run well enough to trust, I decided to switch to electric power. That conversion took a while and involved a bit of effort to get the motor, the speed control and 12s batteries all inside the cowl while still including the scale engine. Since I had added a lot of scale detail to the aft end, the batteries needed to be located ahead of the firewall to get the Center of Gravity (CG) correct.

First Flight

Without too much detail, I'll just tell you that the P12 is now complete and it flew yesterday. It weighs 30 lbs with batteries installed and flies really well. I am including several photos of the maiden flight that took place at Prado Field near Carona, California. These photos were taken by my friend Brad Osborne, a multiple US Scale Masters champion. Thanks Brad!

Boeing P12 Maiden Flight

March 2026, Photo by Brad Osborne

- Weight-30# with batteries
- Batteries two 6s lipo 5000
- Motor- Dual Sky 6000
- ESC- FlyFun 160A
- Prop 24/12 Xoar wood IC type
- Paint- Tamia flat yellow
- Olive Drab Warbird Colors

This Boeing P12 is one of a long list of really nice flying, scale airplanes designed by David Andersen.

It has long been my desire to build this early fighter and now, thanks to David, I have one to fly and enjoy.

It has always been my policy to fly only one time on test day, always inspecting the airplane in the shop before any more flights. This has proven to be a good practice that more than once has prevented potential disasters in later flights. Because of this I have only this short flight that went very well. Ground handling was really good, lift off was at mid throttle and most of the flight was at similar power settings. The plane rolled well and landed really nicely with just a little skip after touching down.

I think that I will perhaps upgrade my batteries to 6000 ma after more test flying to insure longer flight times. I'll report my results after more flights.

Here's an update on my P12 test flights. I now have aprox. ten(10) flights on this airplane and I've added larger batteries to provide more flight time.

Initial flights used two 5000 ma 6s batteries that provided five minute flights with aprox thirty percent remaining. Today I flew with 9000ma 6s batteries, landing after a similar five minute flight.

Checking the batteries after landing, I was pleased to see that I still had nearly sixty percent remaining. I believe that this will allow ample flight time to complete all the maneuvers necessary in scale competition. The larger batteries add nearly a pound of additional weight, however the airplane carried the added weight with no problem.

I'm really enjoying this new airplane.