RCMW-FSP

August 2017

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ON THE COVER

The May 1949 issue of Air Trails magazine had a nice article about soaring and our cover is extracted from the Air Trails cover.

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1640 N Kellogg Street
Galesburg, IL 61401
USA

For the Model Bulder and Flyer - August 2017 Issue

Cloud 9
RC Micro World

Full Size Plans

Hopefully the 95 degree temperatures have passed now that August has begun. I know that those in other areas of the country (and world) think we are a bunch of wimps here in west-central Illinois but our average temperatures for this time of year is about 85 degrees. Funny how much difference 10 degrees can make.

We stumbled across three neat pencil drawings by well known aviation artist Douglas Rolf while looking through the May 1949 issue of ***Air Trails***. They are scattered throughout this issue of RCMW.

MISS AMERICA was a well known Scientific kit in the 1930's and Joe Wagner put together a half size replica for the January 1961 issue of ***Model Airplane News*** magazine. We also have an original copy of the 1930's plan courtesy of Ron Boots and will publish that in the near future for you real Old Timer fans.

Referring to the Douglas Rolf drawings mentioned above, the reason we were looking at the May 1949 ***Air Trails*** was for the CRUISER article in this issue. By Chuck Hollinger it is a pretty little free flight model that can be flown with rubber or CO2 power. Bet it would make a nice RC Micro model too.

Speaking of RC Micro adaptations, Bob Aberle has come up with a RC Micro version of the HUMMINGBIRD design reprinted in thise pages a few issues back.

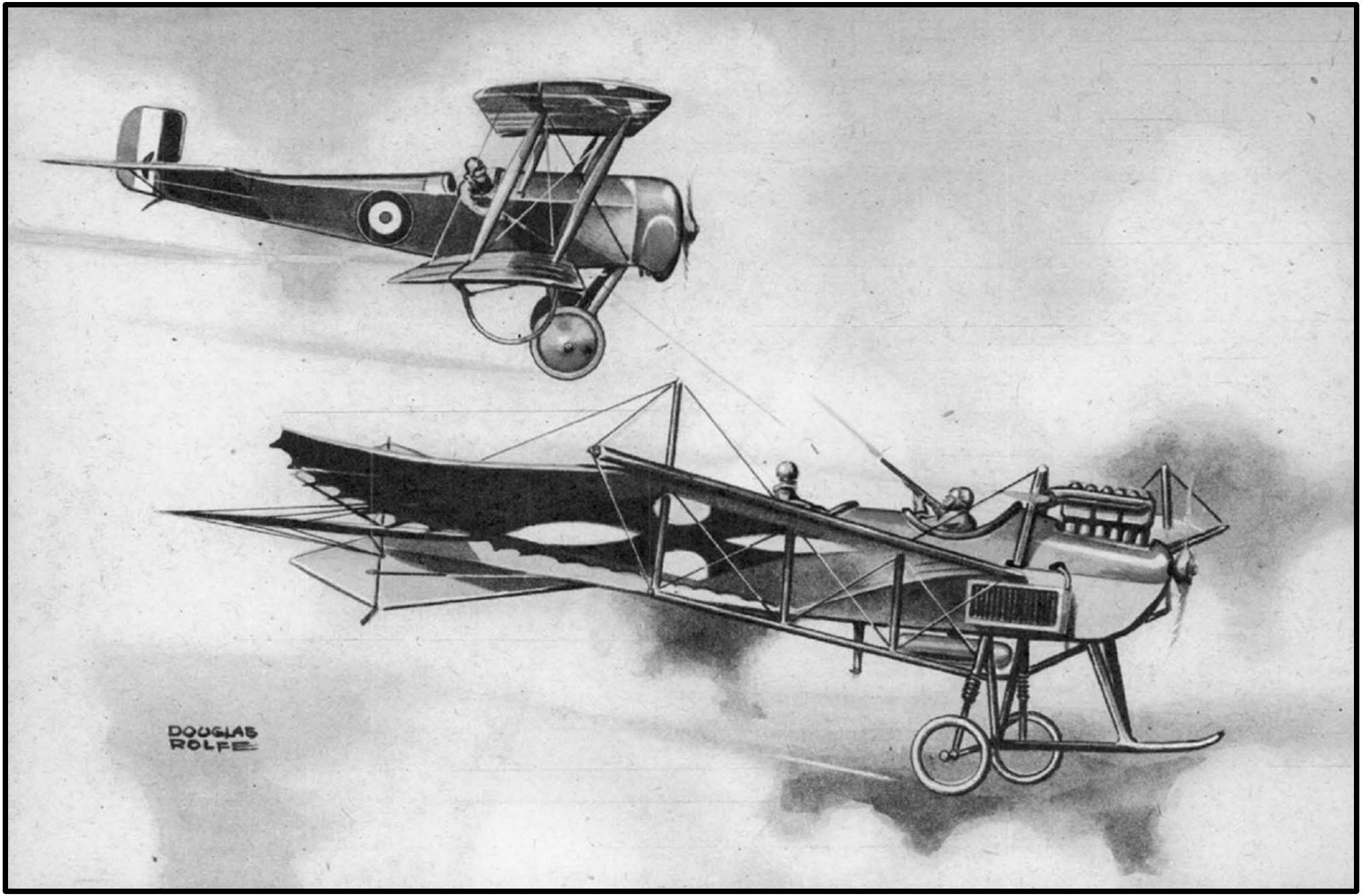
Paul Bradley gave us the OK to reprint his restoration of a JASCO X-18 model. Full size plans including color are in this issue. Thanks Paul.

Our regular monthly complete magazine download this time is the Christmas issue of ***Aeromodeller*** from Decenber if 1962. This issue also includes two full size fold-out plans as the last two pages of the digital magazine.

More aviation adventure stories, this time two short stories from the same ***Bill Barnes Air Adventurer*** issue that provided last months full length Bill Barnes adventure. Rather than a "flipbook" as seen last month, these stories are a PDF file you can download and save to your computer for reading later. Just the thing for bedtime reading.

Don't forget our digital collections of back issue model magazines. A list and prices are starts on page 26.

Keep 'em Flying,
Roland Friestad, Editor



Early aerial combat was conducted with opposing airmen taking pot shots at each other with pistols or rifles. Here an English Bristol Scout piloted by Lanoe Hawker tackles a German Rumpler Taube observation plane. Though usually little damage was inflicted in such duels, in this 1914 incident the British pilot shot down his opponent. The Scout flew 80-90 mph; the Taube, 75.

Miss America 1960

by Joe Wagner

This model by Joe Wagner appeared in the January 1961 issue of Model Airplane news. It's a half size reproduction of Frank Zaic's 1935 original free flight design that was an extremely popular Scientific kit during those early years. The following text is Joe Wagner's original construction article.

Those of you who remember the original will swear that the posed model is the 1935 bird. The author has succeeded in capturing all the original detail and excitement of the '35 Miss America.

Very popular in 1935-the 1960 version should be equally as popular. Amazing weight and power strides. Original 4 lbs. with 7 It. span-latest 42 in. only 9 ozs .

Franklin D. Roosevelt had been president for only two years, and had just signed the Social Security Bill ... The country was in the depths of the depression. . . The dirigible "Macon" crashed into the Pacific, and Will Rogers and Wiley Post were killed in the crash of their plane in Alaska. . . Sir Malcolm Campbell set a new automobile speed record of 301 mph in his "Bluebird" ... Huey Long was assassinated ... Jim Braddock won the World's Heavyweight Boxing Championship: from Max Baer. . . People were humming the latest song hits: "I'm In The Mood For Love", "Blue Moon", and "Sunny Side Of The Street" ...

And from farmers' pastures and school athletic grounds and small airports all over the country a brand new sound was arising: the soul-stirring roar that was the song of the first gas model airplanes !

The first practical gas-powered model to be flown in the United States-designed and built by Maxwell Bassett and powered by a hand-made Brown .60-had only appeared in 1932; yet by 1935 a few far-sighted manufacturers were already making kits for these newfangled contraptions.

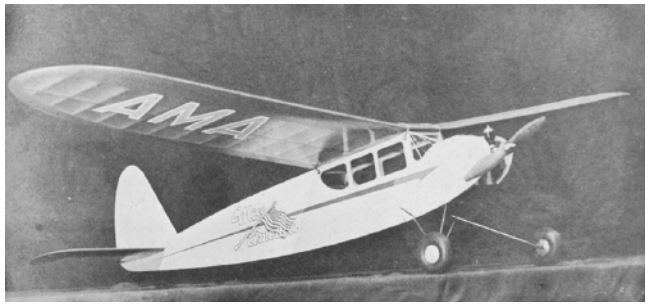
One of them was the Scientific Model Airplane Company of Newark, N.J. Founded in 1928, by '35 they had an excellent line of scale rubber-powered models, such as Monocoupes, Gee Bees, and Wacos; plus a complete stock of the new miracle model-building material: Balsa Wood!-and then they introduced their first gas model airplane kits: Herb Greenberg's "Red Zephyr" and Frank Zaic's "Miss America".

The "Miss America" of 1935 had a wingspan of seven feet, and weighed nearly four lbs. ready to fly. The kit came complete with airwheels, a finished 14" propeller, all the necessary cement and dope, formed landing gear -plus full-size plans, hardware, covering material, and enough balsa to build a dozen of today's half-A free flight models.

It sold for $9.50-about the equivalent of $40.00 now (1960) (editor's note - about $350 in 2017 dollars) -and was a magnificent flier.

Powered by a Brown .60 or a "Baby Cyclone" .36 and flown on a full tank of gas, the "Miss America" soon became a familiar sight soaring through the skies on bright Sunday afternoons.

This "Miss America" in miniature was designed and built in an attempt to recapture some of the magic of those long-ago days of model flying. It is an almost perfect halfsize copy of the original, and nearly all of the original construction methods have been retained. The Cox .020 provides just about the right "scale" power, and even the propeller is exactly half the size of the prototype's.



Construction:

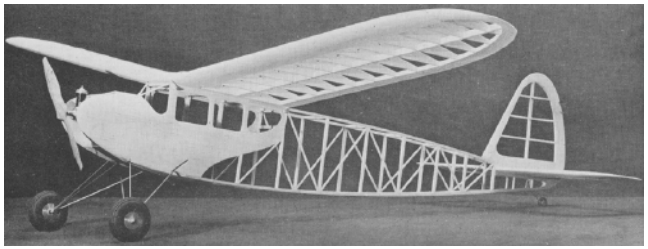
Start by tracing the fuselage front sides onto a 1/16" medium balsa. Cut out carefully and add the internal braces and doublers-making sure to build a LEFT and a RIGHT side! Next, pin these fuselage front sides over the plan-it's best to build the sides simultaneously, one atop the other-and add the longerons, uprights, and diagonals. When dry, remove from the plan and separate; then add the bulkheads and cross-members.

At this point, the landing gear must be made. Bend the wires as accurately as possible to the shapes shown, then clean thoroughly with fine sandpaper and attach temporarily to the fuselage with thread lacing. When sure that everything is properly aligned, wrap the joints with fine copper wire and solder.

The gear .can now be removed from the fuselage, cleaned of excess flux, and permanently laced in place .with heavy thread. The shock-absorbing feature is faithfully copied from the original "Miss America". The natural spring of the wire will tend to keep the gear in the forward position, but it is best to add a light coil spring as shown for insurance.

The fuselage can be completed by thoroughly wetting the outsides of the upper nose portions, bending and gluing them firmly around the nose bulkheads, then adding the bottom and tail planking. The tail-wheel assembly can also be made and installed at this time.

Construction of the rudder should present no problem; but a useful trick in making up parts of this type is to cut all the outline pieces considerably oversize, the only precision required is at the joints. Glue these together, and then cut to exact outline shape after the assembly dries. The



remaining parts are then added, allowed to dry, then the rudder is carefully sanded to a streamline shape-after which the tab is cut free and hinged in place with soft copper wire.

When the wings are complete, they will look exactly like the wings of the original 7 -foot "Miss America", but they are made using a special technique that absolutely eliminates any possibility of the wing ever warping after it is finished.

First step is the accurate cutting out of all parts. Next, make up the trailing edges, complete with tip pieces, and notch them as shown. Now, pin the main spar down on the plan, with shims of 1/32" balsa under it to allow for the thickness of the bottom leading edge planking. Make sure the spar is square to the work table surface, then add the ribs and attach the trailing edge. Make the leading edge from quite soft 1/8" sq. balsa, as it has a rather severe bend near the tip.

After attaching the leading edge and allowing the assembly to dry, the wing frame can be removed from the plan and the secondary spars added. Sand the leading edge, top and bottom, so that it blends smoothly in with the rib contour.

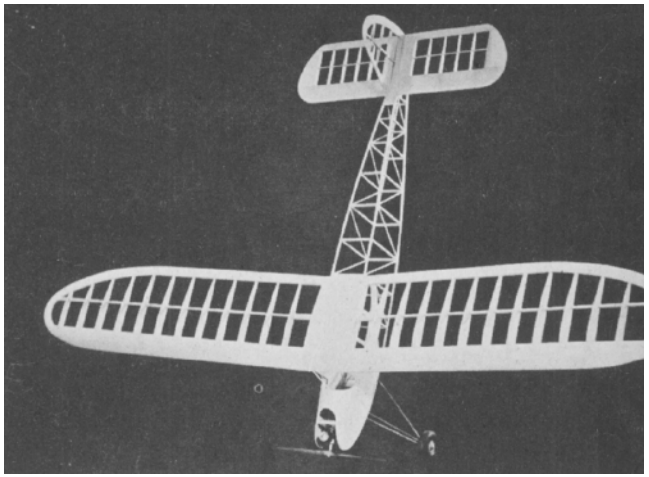
Cut the pieces of 1/32" balsa for the bottom leading edge planking a bit oversize all around except for the end which joins the tip piece; this must be a proper fit. Now-soak the planking in water for two hours! After this, it is glued in place, but since ordinary model cement will not hold reliably to water-saturated wood, it is recommended that a "white" glue, such as "Wilhold" or "Elmer's Glue" be used.

Use plenty of pins when attaching the bottom planking-the glue having been liberally applied to all ribs as well as the spar and leading edge. Let dry at least overnight. Next, trim off the excess planking and then attach the wings together with the dihedral braces. Make sure that the wings have the same dihedral at each tip before setting aside to dry!

Afterwards, take a piece of scrap 1/32" sheet balsa, and, using it as a gage to check the fit, carve and sand the top edge of the wingtip so that the top leading edge planking can be applied smoothly all the way to the end of the tip. Only cut away the areas that will actually be covered by the planking; the rest of the wingtip will be shaped during final sanding of the completed wing frame.

Now comes the tricky part. Cut one top planking piece, oversize all around, and soak in water for two hours. Pin half the wing down firmly on the building board (the other half sticking up in the air) by means of pins inserted down diagonally through the BACK of the spar.

Let the leading edge and the tip extend over the edge of the board by at least 1/2 inch everywhere but be sure the wing is perfectly flat, because after the top planking is attached, the wing will remain in the exact same shape as it was when pinned to the board. Be very certain not to build any warps in! Make sure to pin the panel FLAT!



Now the wet, top planking can be applied, again using lots of glue and pins, especially along the leading edge. The tip area may be a bit tricky since there is a slight compound curve; but with a little patience and a half-dozen spring clothes pins, it can be readily made to fit smoothly into place.

Check by feeling to make sure that the planking is contacting the ribs tightly all along the span; add a pin or two in any doubtful spots. Now, let this assembly dry overnight before moving it!

The same procedure is carried out with the other wing panel. Finally the center ribs are added and then the center planking (top and bottom) then the wing is finish-sanded smooth all over and is now ready to cover. Before covering, thoughjust check the strength of the uncovered framework!

The whole reason for the rather involved method of construction given above is that balsa wood expands appreciably when really saturated with water, and then shrinks just like tissue as it dries. This shrinkage "pre-stresses" the wing structure and provides a powerful anti-warping force.

The stabilizer is made up by first cutting out and assembling the spars, ribs, trailing edge, and tips. This assembly cannot be pinned down flat to the board, since it has a symmetrical airfoil, so care is necessary to keep the structure straight.

Next, the top and bottom planking are applied soaking wet-and after drying overnight the front planking edge is trimmed and sanded straight and flush with the front spars. Now add the leading edge and the center planking.

When thoroughly dry, sand to the section shown, so that the stabilizer will fit the fuselage precisely. Finally, the trim tabs are cut free and hinged with soft wire.

Cement the rudder in position on the stabilizer, using the fuselage as a jig to insure correct fit and alignment. Make sure the rudder is perfectly straight with the fuselage centerline!

Now, cover all the components with lightweight Silkspan or Jap tissue, then dope as desired; preferably using Aerogloss since it needs no additional fuel-proofing.

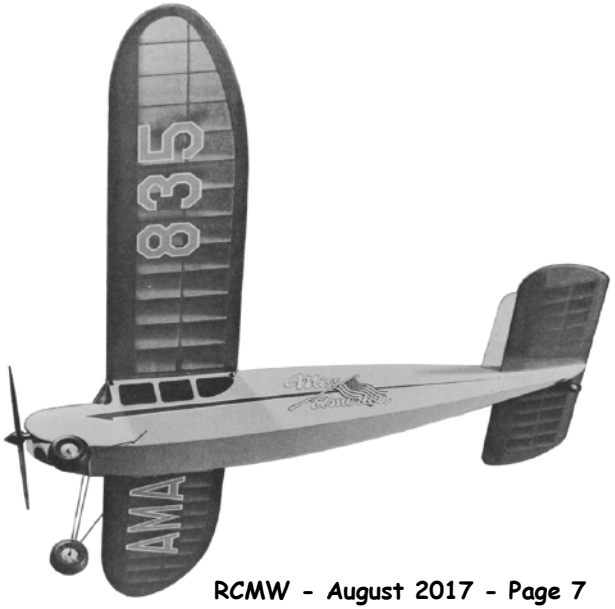
Our model was finished exactly like the original "Miss America"; red wings and stabilizer; gray fuselage and fin. The trim is likewise a duplicate of the 1935 model-we had to make our own decals for this.

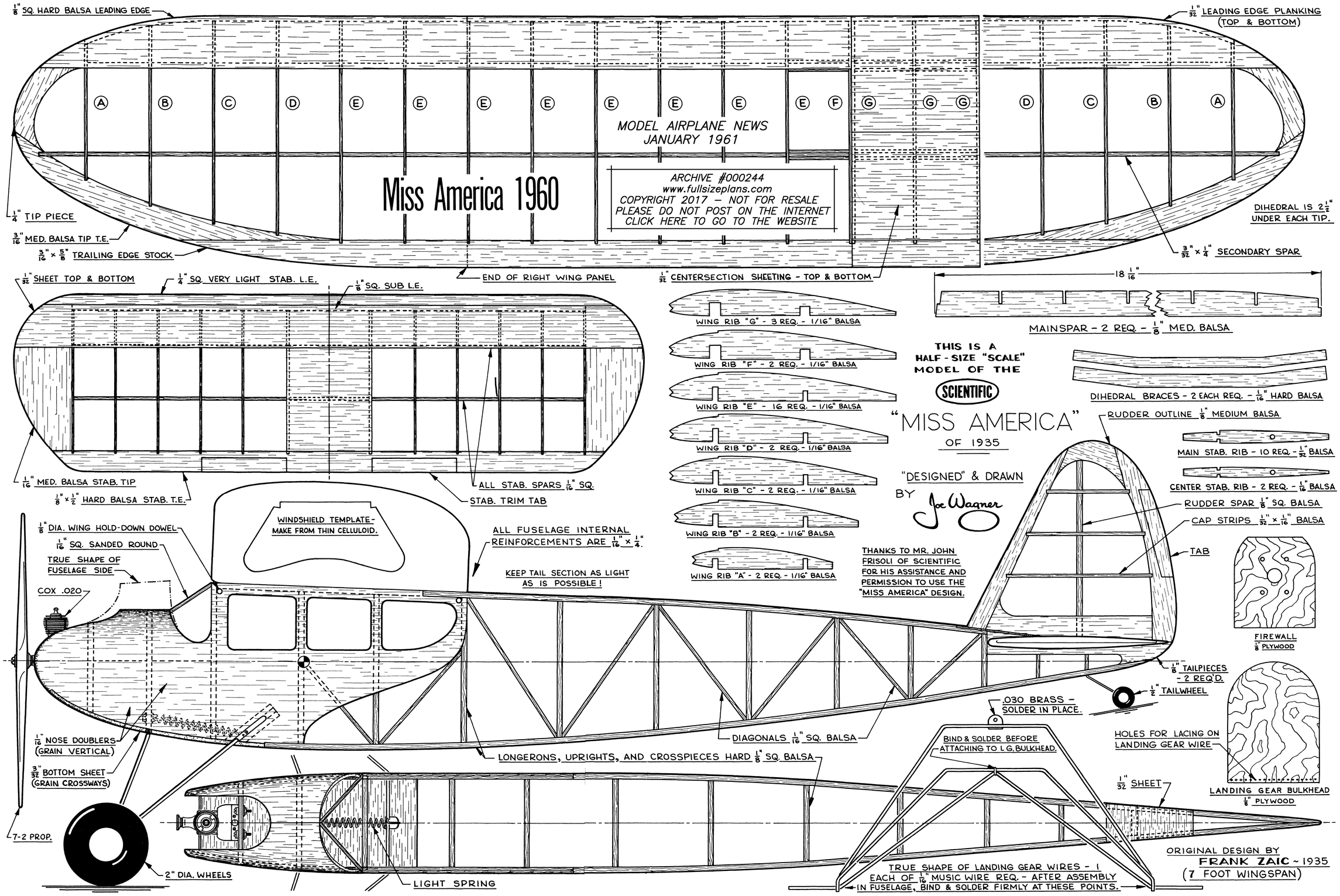
After painting is complete the wing hold-down dowels are added, then the windshield and side windows. Cement the stabilizer-rudder assembly carefully in position. Now, a Cox .020 and a pair of 2" wheels are all that are needed and the model is finished.

Because of the long tail of this airplane and the light weight of the Cox engine, it is quite possible that the model will tum out a little tail-heavy-on our ship we compensated for this by using a fairly heavy pair of wheels and making a steel spinner for the engine. If additional nose weight is needed, lead shot can be cemented at the bottom rear of the firewall. Our model, ready to fly, weighed exactly nine ounces.

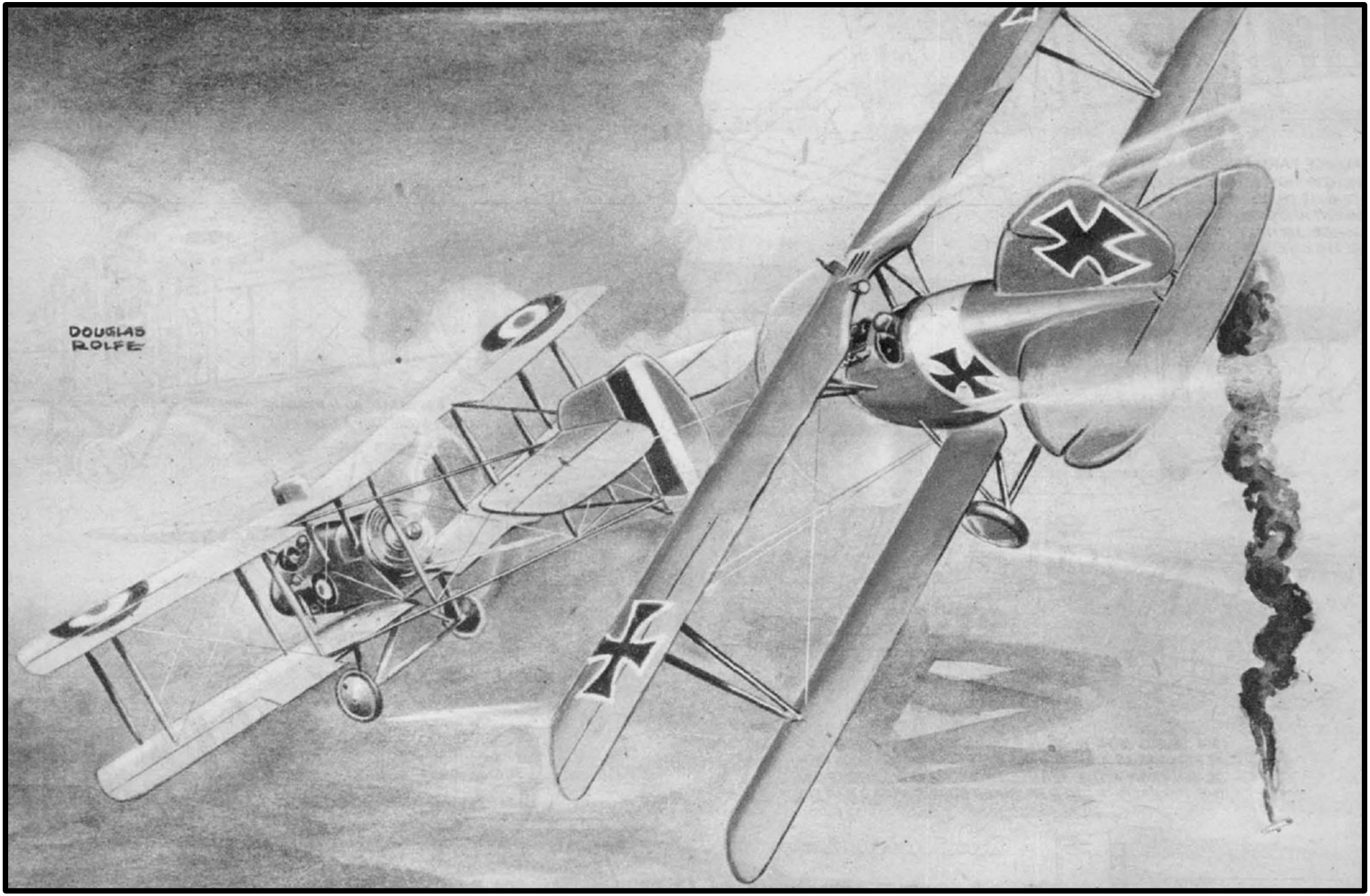
Flying the "Miss America" is no problem. If it has been accurately built according to the plans and instructions, and balanced exactly at the point shown, all that remains is to fire up the engine and let the model go! Owing to the limited power used on a model of this size, adjustments are not at all critical and the trim tabs may be set to make the model fly just about any way you may happen to want.

We fly our "Miss America" on a full tank of fuel, just like the original, and we would consider it sacrilege to install a dethermalizer. After all, in 1935 we built model airplanes to stay up-not to come down!





PLAN FROM R. FRIESTAD COLLECTION – ORIGINALLY PUBLISHED IN JANUARY 1961 MODEL AIRPLANE NEWS



Major Lanoe Hawker, V.C., commander of the Royal flying Corps' crack No. 24 squadron is shot down in a de Havilland DH-1 by the rising young German ace Rittmeister Manfred Freiherr von Richthofen, whose victory was due to the fact that his heavier, more powerful (160-hp) Albatross D-111 could outclimb his opponent's single seat fighter (100-hp Monosoupape Gnome rotary radial).

CRUISER

by Charles Hollinger

This slick Free Flight model appeared in the May 1949 issue of Air Trails magazine and has flown 21 minutes. Shown as rubber or CO2 powered but would make a nice electric powered model with modern micro RC equipment.

HERE'S a little sport ship fully flight-tested that will give you real performance as a rubber powered model or with a CO2 motor in the nose. Most modelers agree that the "ideal" model has between 100 and 150 sq. in. of wing area.

Ships this size seem to be extremely consistent and very easy to handle. After all, a pound of rubber isn't required to get them into the air.

Our first CRUISER wasn't designed with contests in mind. Nevertheless, it proved its capabilities by putting in flights as high as twenty-one minutes out of sight. The one in the photos has more than two hundred flights to its credit with only a few rips in the covering as the result.

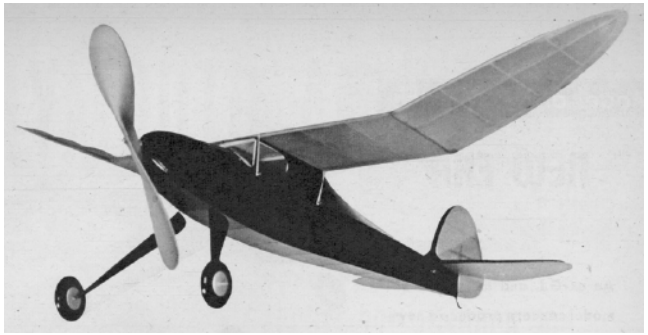
The construction is so simple that with the full size plans the little Ship can easily be completed in two evenings' work.

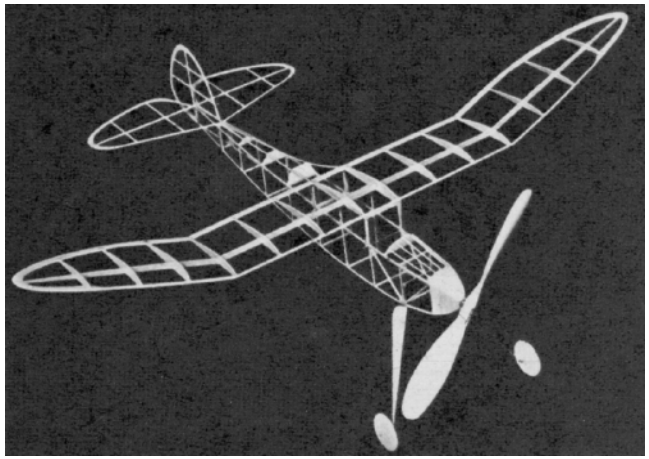
If you intend powering your Cruiser with a Herkimer O.K. CO2 engine, use hard balsa throughout, while if it is to be rubber powered with T -56 use medium stock for the longerons and spars and soft sheet for the bulkheads and wing ribs.

When joining the two fuselage sides together first turn them upside down and cement the cross-pieces in place at the widest part of the fuselage. Check for squareness with a right angle then pull the rear together cementing in the remaining braces.

The landing gear is bent right over the layout and fitted to the fuselage with the extra brace strip and plenty of glue.

Carve the nose block from hard balsa, sand to final shape and cut apart. Cement small circular block to the rear of the front nose block. Drill a hole 3/32" in diameter with 3 degrees right thrust in the nose section. Insert the aluminum tubing which acts as a bushing and use plenty of cement.





Soft 1/16" x 3/32" strips are used for the complete tail assembly. When constructing the wing make it in one unit. After ribs and tips are dry cut the leading and trailing edges at the dihedral breaks and raise tips to the correct dihedral.

Cover the co~plete ship with rubber model Silkspan tissue using full strength clear dope as the adhesive. After model is covered spray the tissue with water and allow to dry, then thin out the clear dope and apply two light coats.

Don't hurry the carving of the prop. All the experts will tell you that the propeller is one of the most important parts of any flying model.

The number of inexperienced modelers who don't know a rubber motor must be lubricated amazes me. The best bet is to get a small bottle of rubber lube at your local hobby shop, but if this isn't possible rub some castor oil into the strands and your new model will not disintegrate because of a broken motor.

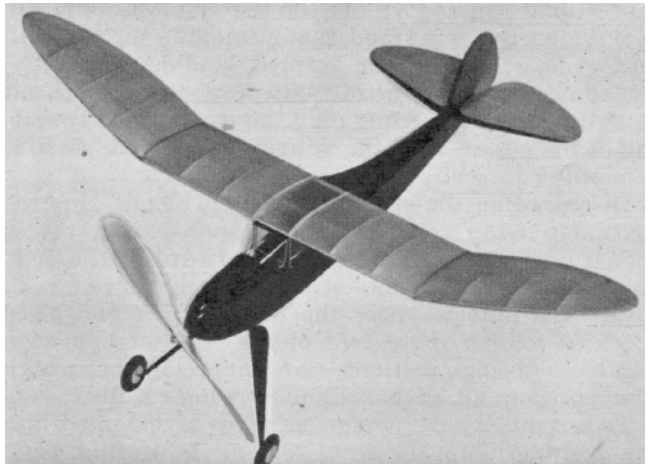
Like the majority of rubber models the CRUISER performs best when adjusted to fly to-the right under power and in the glide. This is achieved by the three degrees right thrust built into the nose block and a slight amount of right rudder.

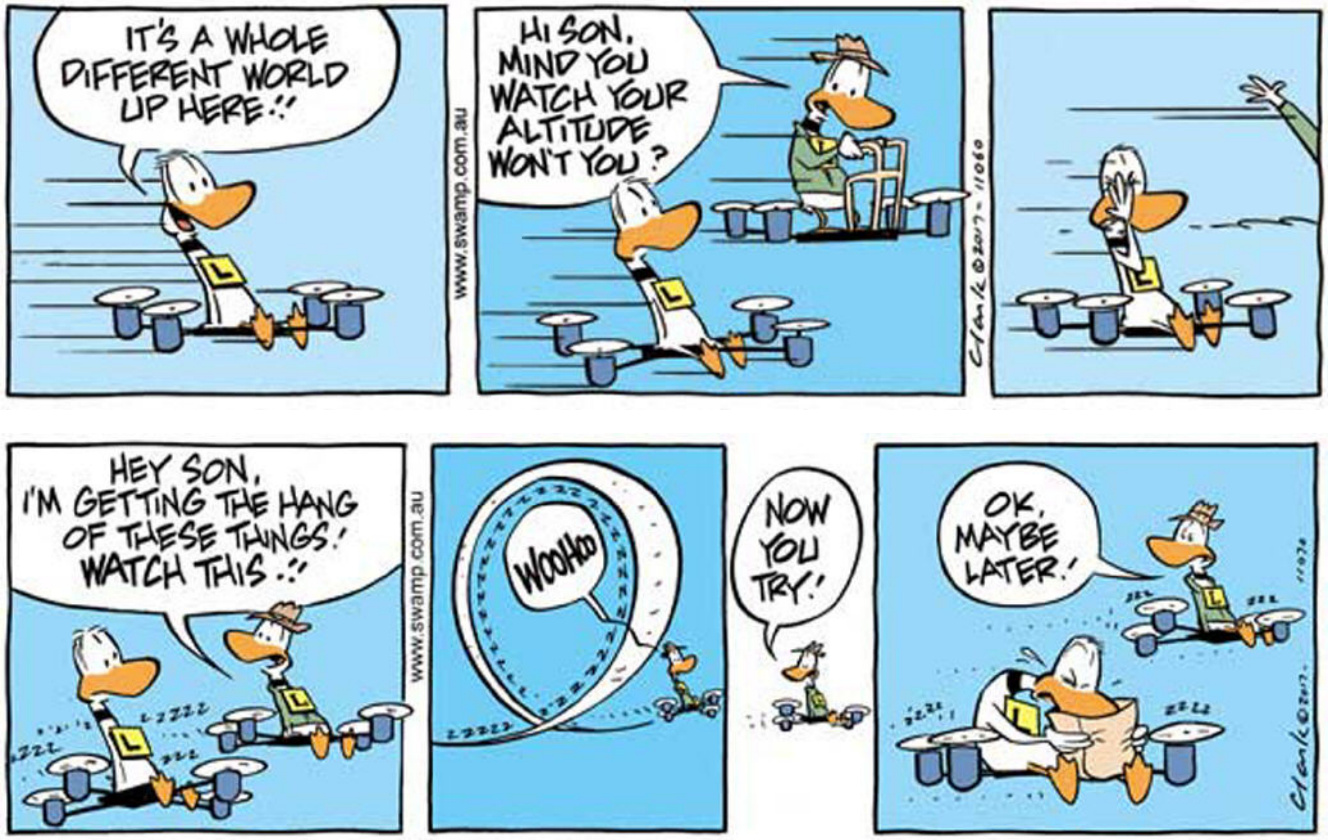
If the model still makes too large a circle or flies straight, twist the wing slightly askew so the right tip is back about half an inch. Don't forget that the center of gravity location determines the flight characteristics, so be sure the CRUISER balances perfectly level when supported on the finger tips at the spar.

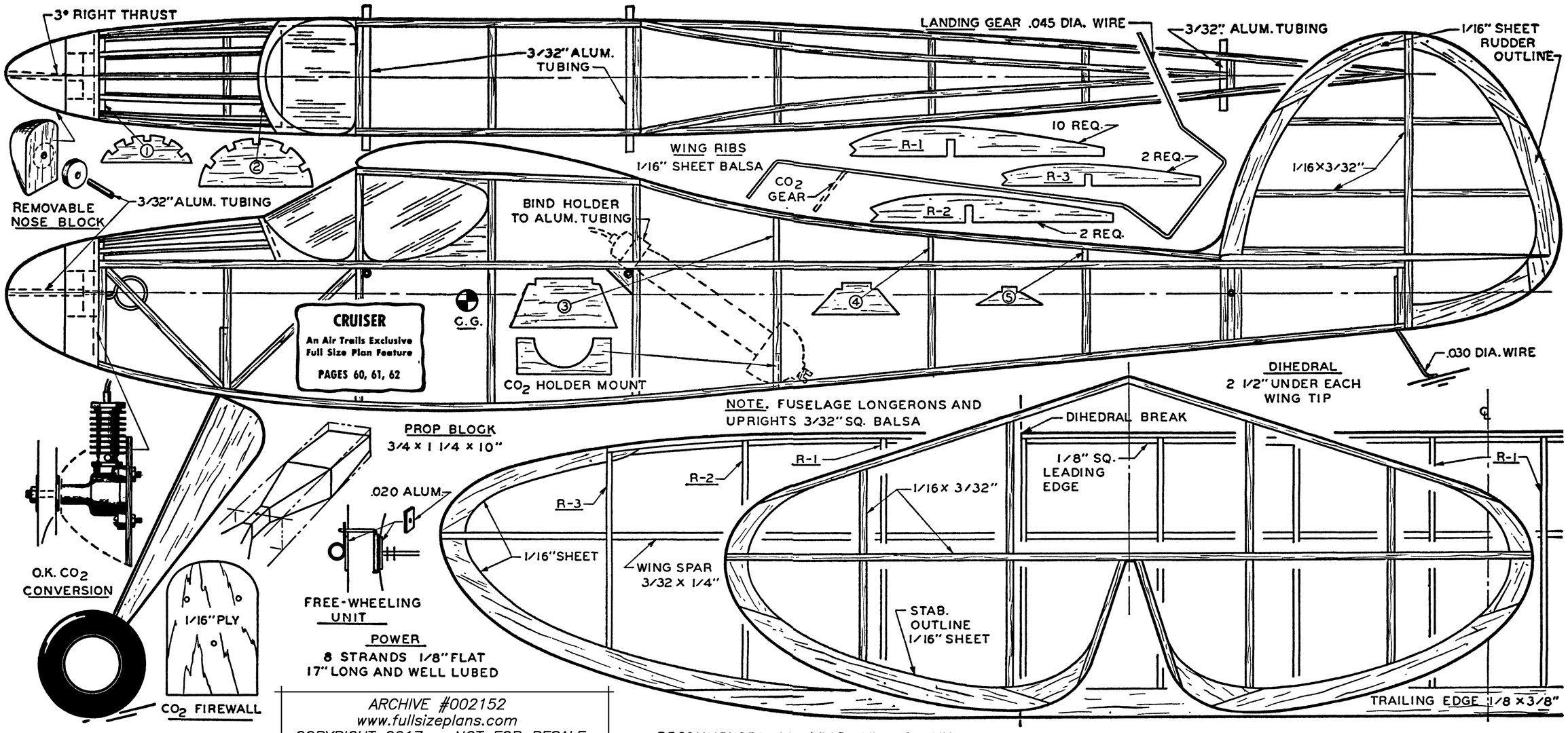
For the CO2 version use only two degrees right thrust but balance at the wing spar same as noted above. Before applying power, hand-glide first, adjusting wing and rudder for a slight right turn. Start the rubber model's test flights with about seventy-five turns, gradually building up the number.

Your first power flights with the CO2 should be done on a partially spent cartridge. And above all be sure the prop is pulling and not pushing, for even the "experts" have made the boner of launching with the prop going in the wrong direction.

Why not get out the camera and take shots of your CRUISER on the ground and in the air? We recommend a minimum shutter speed of one hundredth of a second for gliding flight and two hundredths of a second for take-offs.

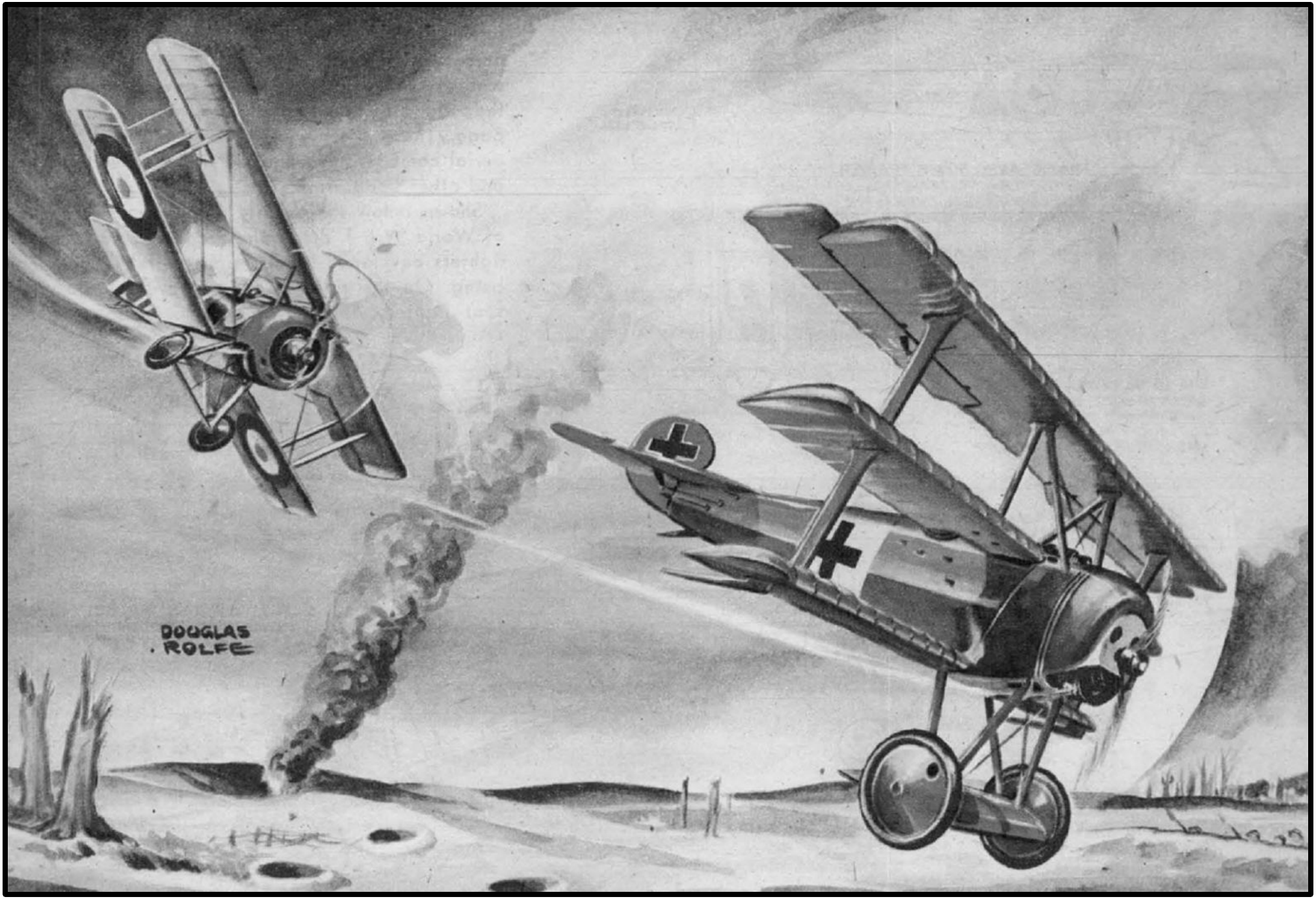






FROM AIR TRAILS MAY 1949

DESIGN BY CHARLES HOLLINGER



End of von Richtofen: A young Canadian flying a Sopwith Camel catches the Red Baron near the ground in his Fokker Triplane DR-I immediately after the German had shot down his last victim. The Camel mounted two .30-cal. synchronized Vickers guns; the Fokker had two .30-cal. synchronized Spandau guns. Sopwith had 130-hp Clerget rotary radial, Fokker, 110-hp Oberursel rotary.

HUMMINGBIRD 140

by Bob Aberle

This was originally a free-flight model designed by Paul Plecan that appeared in the April 1950 issue of *Flying Models* Bob Aberle has revised it by converting it to electric power and Micro RC.

BACKGROUND

I get my inspiration for new design projects from many sources. I read every RCMW and learn of new planes thanks to the fact that the editor, has access to thousands of plans as well as construction articles.

A recent issue of RCMW contained the plans for an interesting design by Paul Plecan that appeared in the April 1950 ***Flying Models*** magazine. The model was called the HUMMINGBIRD and was small in size and intended for .020 to .049 glow engine power.

Paul Plecan was a noted model designer back in the fifties. Most of his aircraft were sport or contest type free-flight models. I liked the appearance of Paul's HUMMINGBIRD design and asked for approval to re-visit this lovely little model aircraft design from 67 years ago.

CHANGES MADE to ORIGINAL

Before I get started let me show you photos of my re-visited HUMMINGBIRD, which is the subject of this construction article.

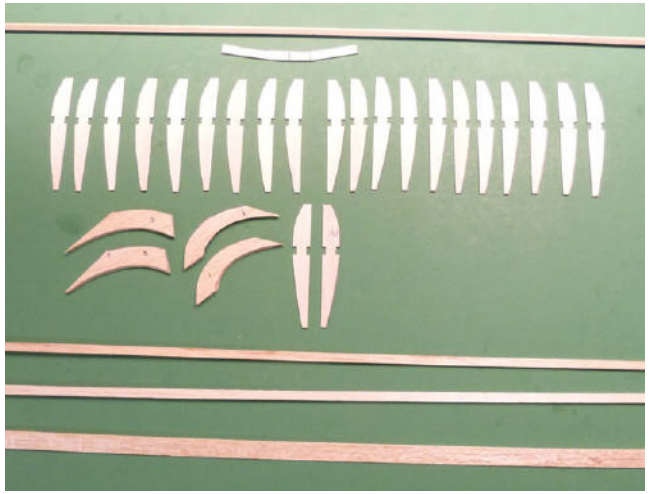
I'm shown in one photo holding the HUMMINGBIRD to give you an idea of the size.

The original model was 140 square inches, with a span of 32 inches. I decided to keep the same size. Construction wise I made some changes to bring the design up to today's standards. The single main wing spar was replaced with two spars (an upper and lower). I used a diferent approach for the wing leading edge construction, which I will describe in a moment.

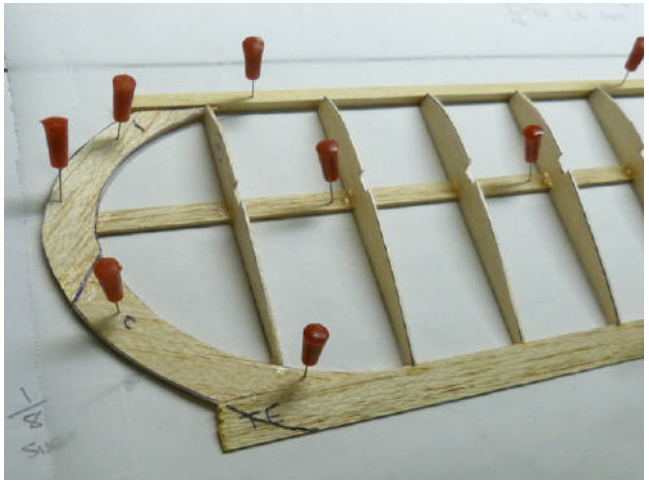
The built-up stab was replaced by simple sheet balsa. I selected 3/16 square balsa stringers and cross pieces for the fuselage, instead of the original 1/8 square and did increase the vertical fin area, like I do with most of my small size models. The one thing I didn't do was increase the nose length to minimize changing the entire appearance of the model. I'll have more to say about this later in the text.

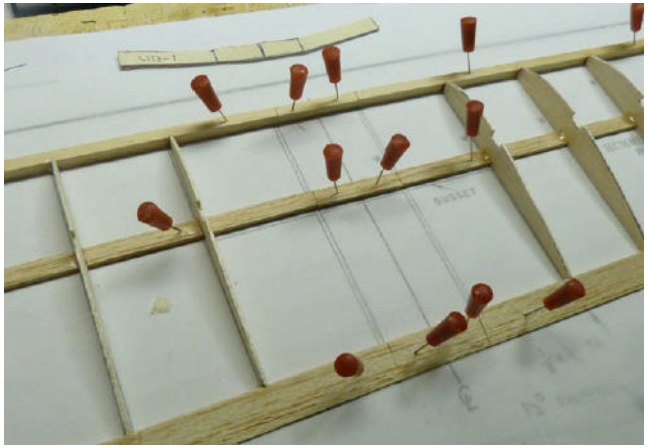
CONTRUCTION NOTES

I usually start out by making my own kit of the various parts. The ribs are easy to cut out because this plane has a flat bottom airfoil with a constant chord.



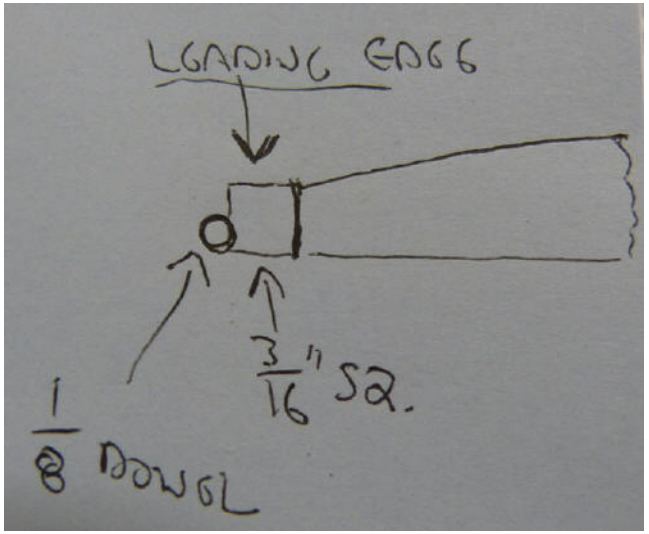
The wing spars were fashioned from 1/16 x 1/4 basswood (which is a hardwood). Medium to hard balsa could be substituted. Here are several photos of the wing structure taken in sequence.

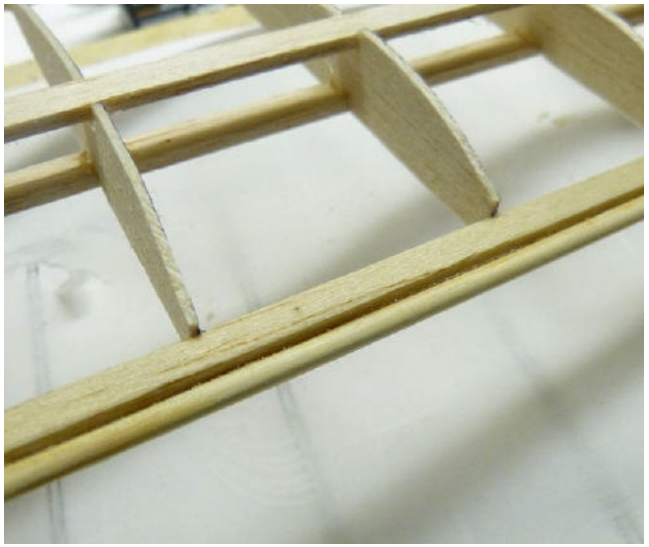




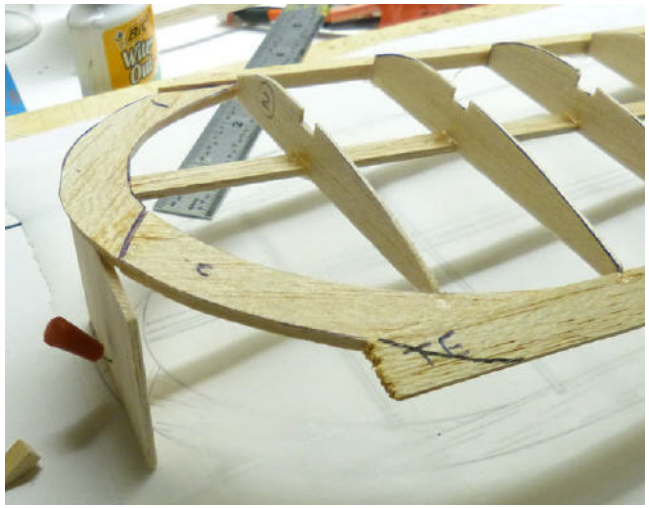
There are many ways to fashion a wing leading edge. I generally use a diamond shape configuration. But this time I simply placed the 3/16 inch square leading edge flat on the plans.

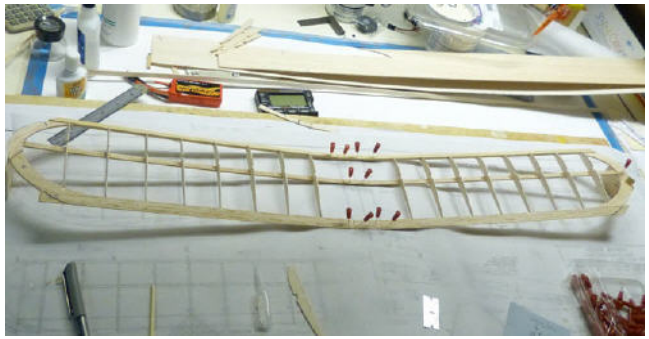
I realized by doing that I had to trim off half of that leading edge stock to achieve the proper airfoil shape. Then it dawned on me, I could add a 1/8 inch diameter hard wood dowel in front of the 3/16 square leading edge. This is a sketch of what I did.

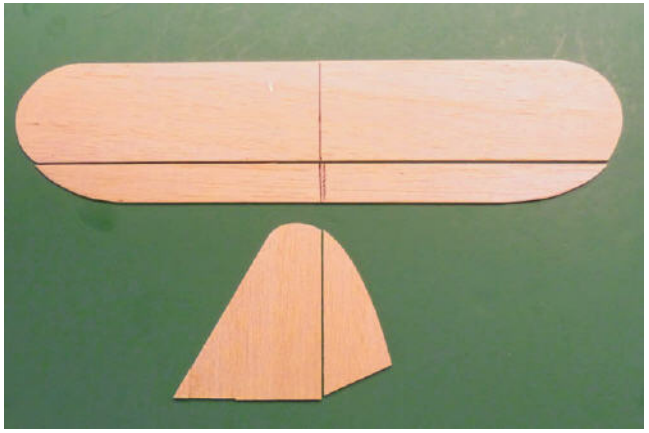




This adds a lot of strength to the leading edge, with little weight penalty. The dihedral joint is next. Only a single 1/32 ply wing brace is necessary. Keep in mind that the very center of this wing has a flat section. Best news was that the covered wing weighed only 1.1 ounces. That is very light, for such a strong wing. Here are the remainder of the wing construction photos.





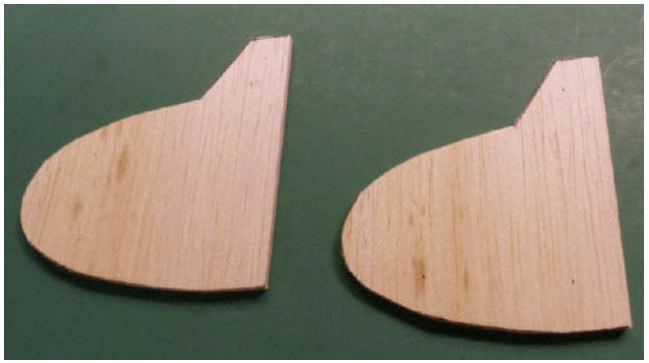


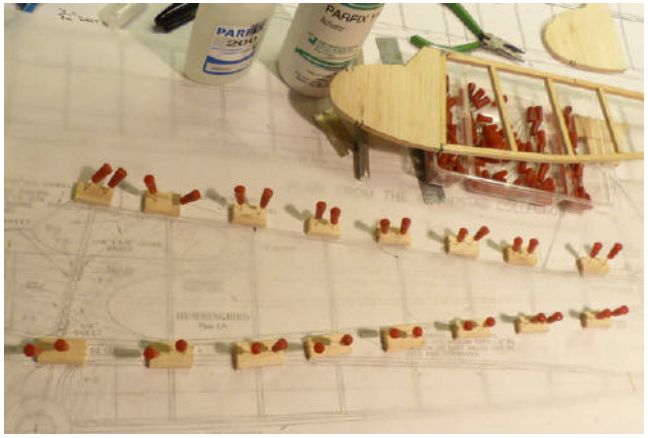
The stab, elevator, vertical fin and rudder were cut out at this time from 3/32 inch medium balsa sheet.

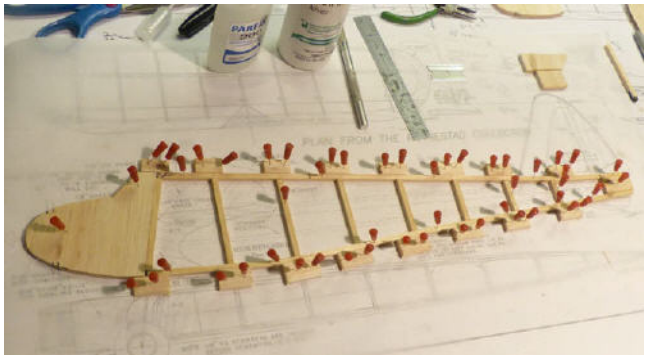
NOW FOR THE FUSELAGE

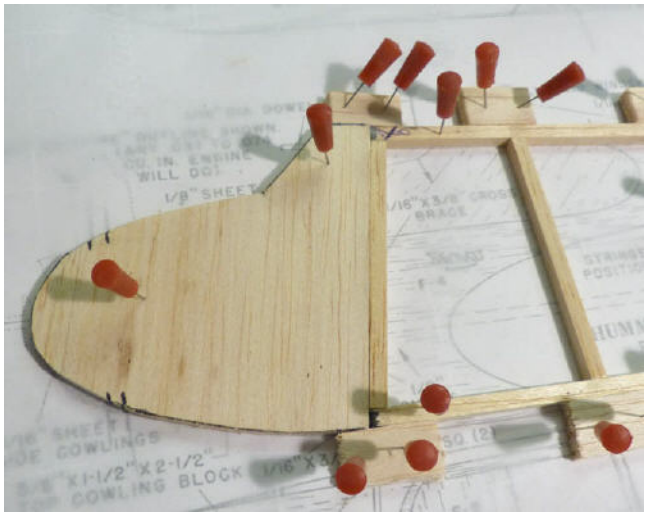
The basic fuselage structure is made from 3/16 square medium balsa because I felt that 1/8 inch square was too thin. The front portion, forward of the wing leading edge position, is made from 3/16 balsa sheet.

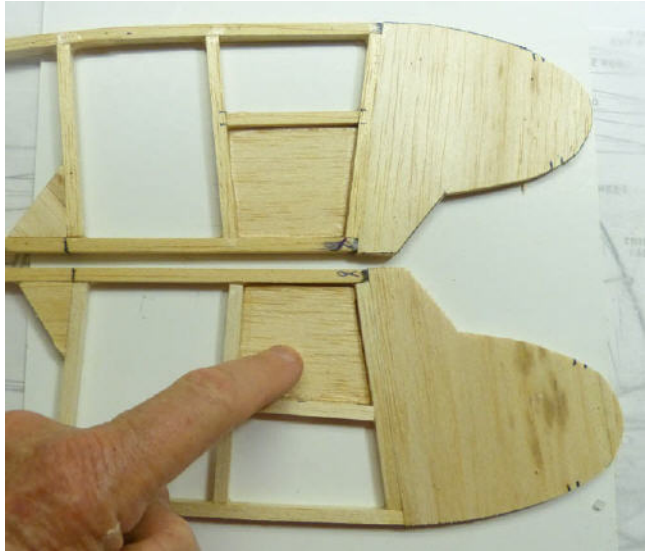
I make the two sides, one at a time by fashioning an assembly jig using scrap 3/16 inch balsa and Midwest push pins. Part of the first bay, behind the wing leading edge, is filled in with 1/16 balsa. Make sure that that sheet is flush with the outside of each side. The two servos will get to be attached to this balsa fill later on. Here are the fuselage sequence photos during the early construction phase.

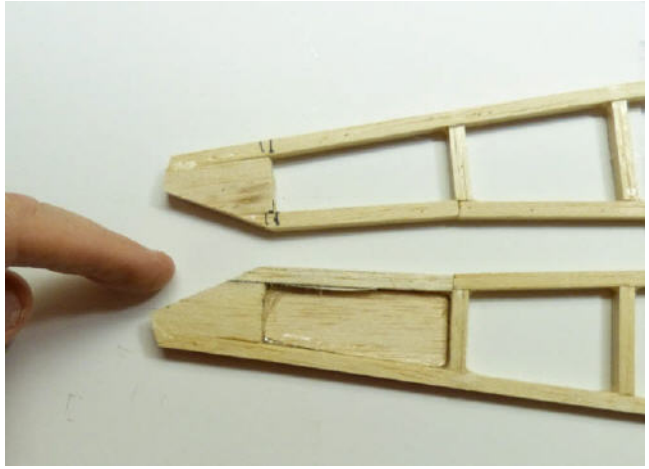




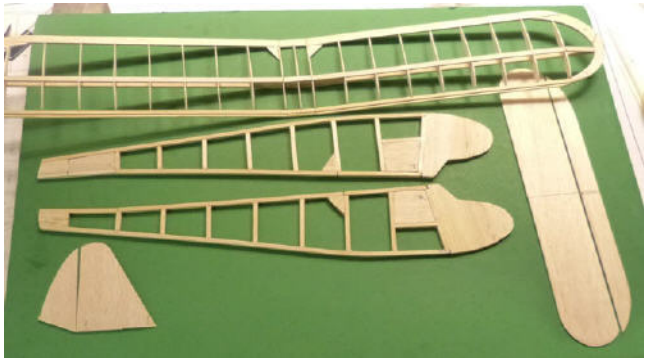


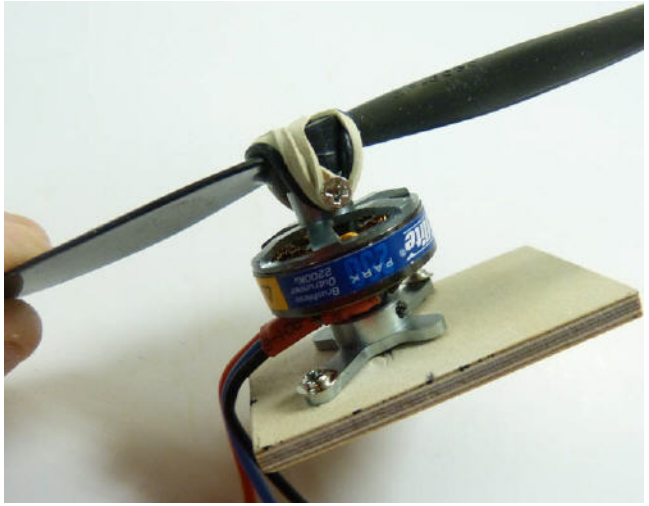






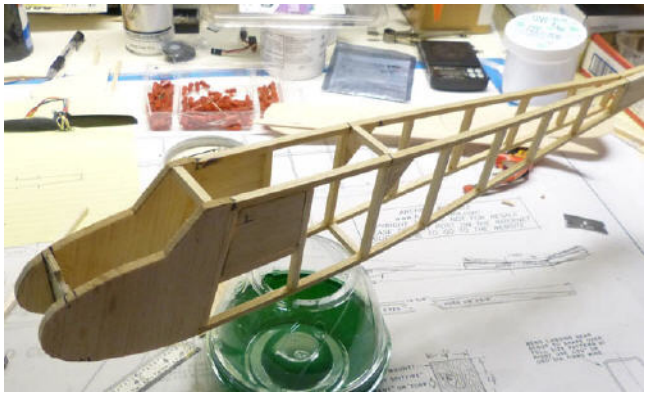
Now with the first part of the fuselage structure completed, lets move on to the assembly phase including the joining of the two fuselage sides, the adding of the stab and vertical fin, the firewall and motor mount and the radio system installation.

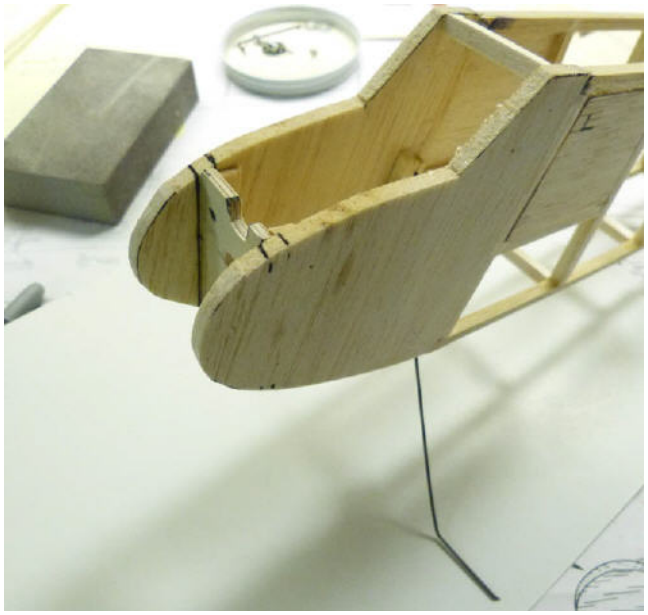




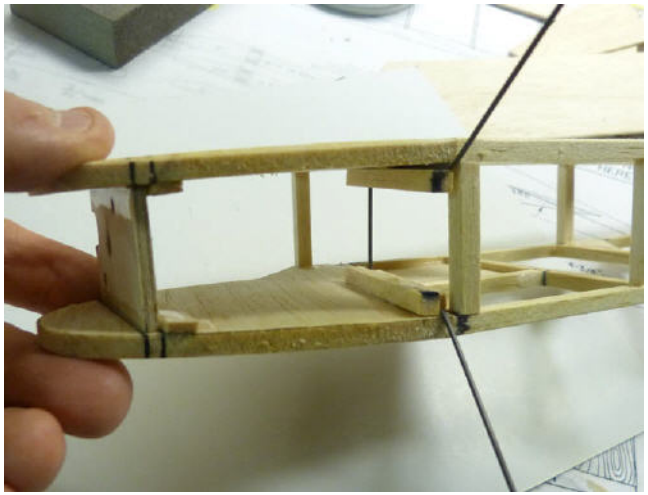
This is the mounting of the E-Flite PARK-250 brushless motor to the 1/8 inch ply firewall.

Next is the joining of the two sides with a few of the cross pieces to start.

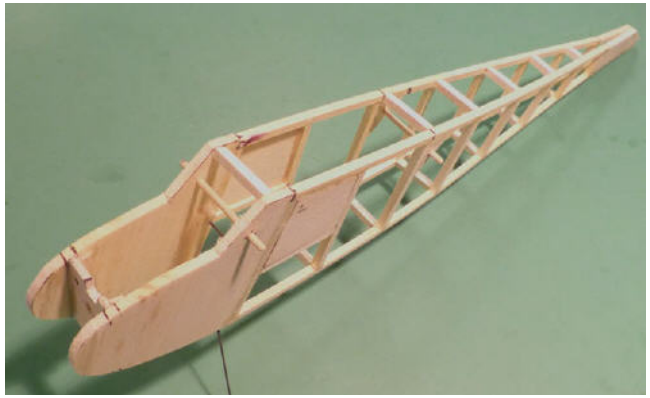




The firewall and motor get installed next.



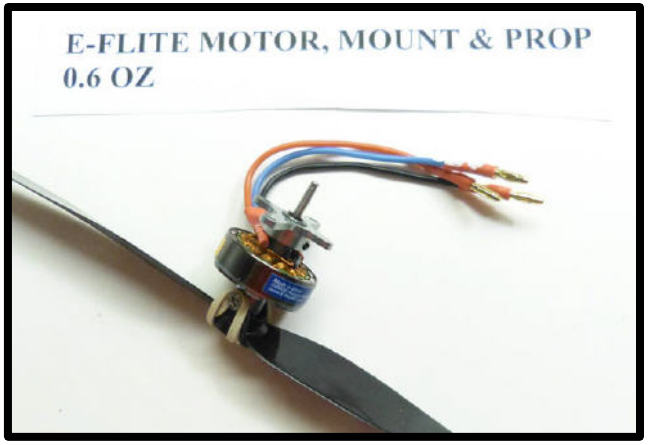
The .047 inch diameter main landing gear strut is attached with the help of 5 minute epoxy cement.

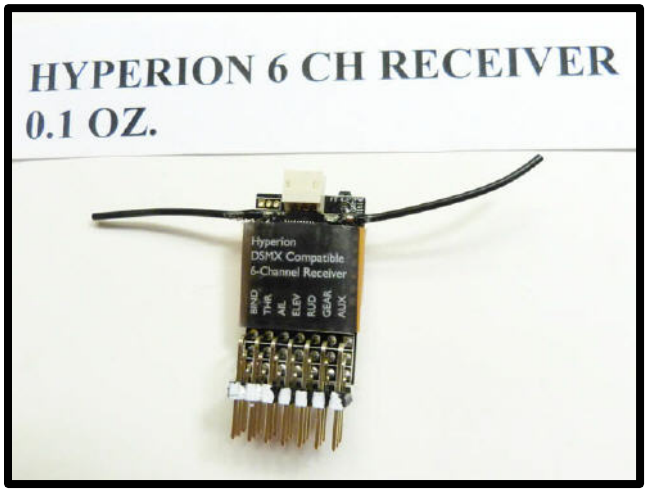


This is the finished fuselage, waiting for the tail surfaces and RC system.

RADIO and POWER SYSTEMS

Let me talk a little about the RC and power systems. The weight of both amounted to a total of just 4.1 ounces. That included the 2 cell 1300 mAh battery which by itself weighs 2.6 ounces. You will note in the next photos that the E-Flite Park-250 motor, the mount and the prop comes to only 0.6 ounce. Without extending the nose length, it seemed that I would definitely come out tail heavy. But surprisingly, and with careful placement of that battery, I came out balanced right on the main wing spar.

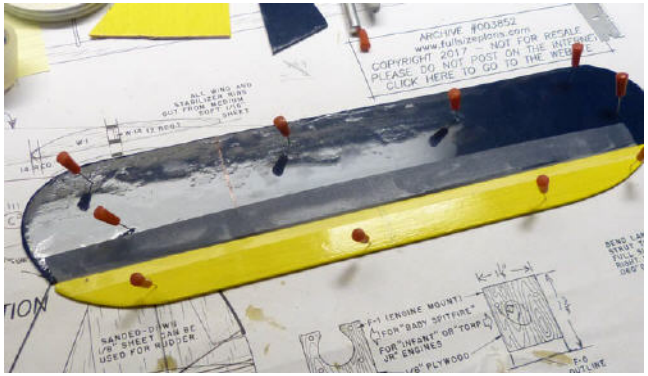




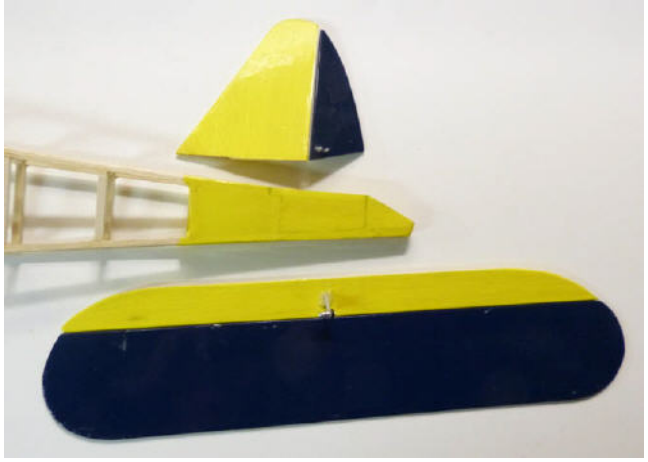
I can't say enough good things about the Hyperion 6 channel receiver. It can be operated by just about all existing Spektrum transmitters. It weighs a mere 0.1 ounce and costs approx. $20.00. I use this receiver in most of my planes and rest assured it is a full range receiver, despite its small size.

NOW BACK TO THE CONSTRUCTION

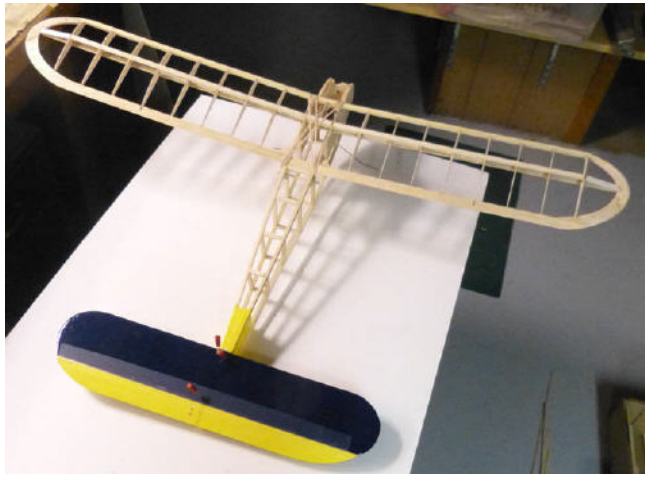
Now we are ready for the tail surfaces. My choice for covering material is Solite (aka Solarfilm) that I obtain from BP Hobbies. For this plane I chose medium blue and yellow. I've had readers ask why all of my planes are red and yellow. So this time it will be blue and yellow.



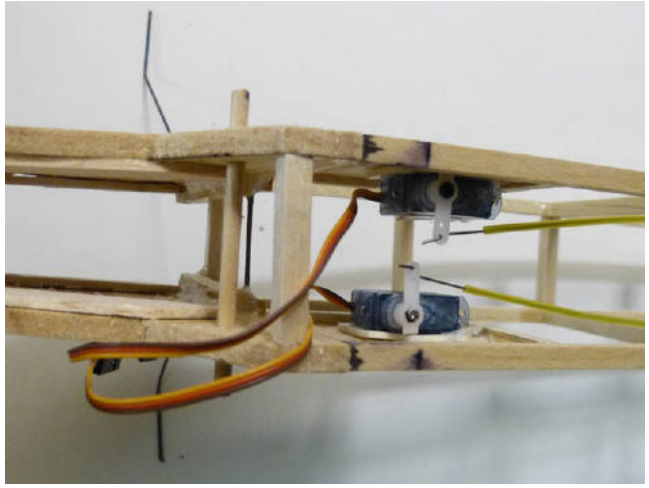
After coverng the stab and elevator, the elevator is attached to the stab using DuBro electric flyer hinge tape (# 916). I pin the two surfaces to my building board. A few pieces of 1/32 inch balsa acts as a good spacer allowing for plenty of control motion. The vertical fin and rudder is treated the same way as the stab.



This next step is very important. You will note that I partially covered the rear portion of the fuselage, usually up to several inches forward of the stab leading edge. Slots are cut to allow for the passage of the Stevens yellow Teflon control rod tubing. Years ago I use to first install the tubing, then cover the fuselage. On occasion the heat from the iron melted the tubing and the wire could not move freely inside the tubing. This way that problem is solved. But remember, cover first, then add the tubing.

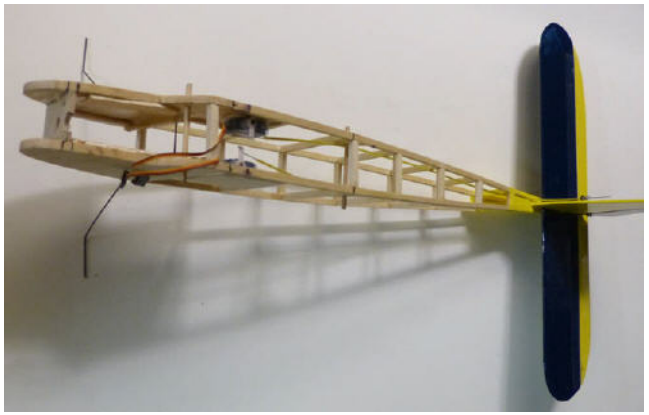


Before mounting the covered stab and fin to the aft end of the fuselage install DuBro micro control horns (# 848) and their Mini-EZ connectors (#915) and attach the wing to the fuselage. This will allow you to align the stab to the wing. I pin the stab in place and tack it with some medium CA. After that I apply a coating of 5 minute epoxy cement. Install the vertical fin/rudder assembly similarly, aligning it to the wing.

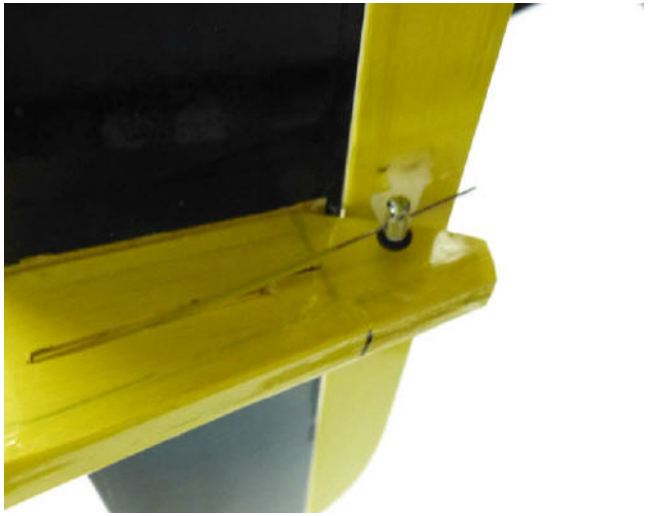


The Altitude Hobbies 4.3 gram micro servos can be attached to the 1/16 balsa fuselage fill, using first 3M double sided mounting tape

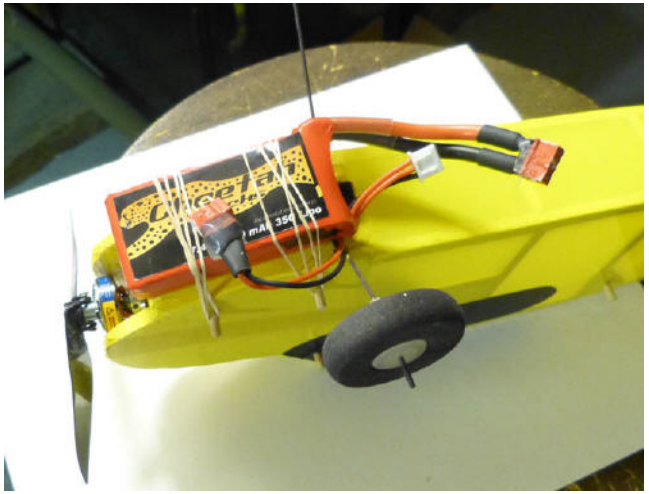
followed by an application of Permatex Adhesive Sealant (Clear RTV Silicone).



The control rods consist of .025 inch diameter wire that runs inside the yellow Teflon tubing. All of these items are listed in the sources section at the end of this article. Make sure that this tubing is anchored often inside the fuselage. Failure to do this could end up with very sloppy control movement.



A close up of the elevator control horn.



The two cell 1300 mAh Li-Po battery is attached with Velcro tape to the underside of the forward fuselage. Then I added two 1/8 inch dowels to allow for a few rubber bands to make sure the battery pack doesn't drop like a bomb in flight. Some may criticize having the battery hang out like this. But keep in mind that without lengthening the nose I needed as much weight as possible and as far forward as possible. You probably could stand the battery up vertically against the firewall, but likely the top of the battery would have to stick out the top of the fuselage. Its your call! Doing it my way the plane balanced perfectly on the main wing spar.

You will see that I applied simulated side windows and a front windshield. The material used was obtained from Amazon and is called Magic-Cover Self Adhesive Flat Black Contact shelf paper. The exact website is provided in the Sources Section at the end of this article. These windows really “dress-up” the aircraft.

FINAL CG and CONTROL THROWS

As I have already mentioned, I was able to get my HUMMINGBIRD to balance at the main wing spar location using the 2.6 ounce two cell 1300 mAh Li-Po battery. If you don't like that battery hanging off the bottom of the fuselage, there are other things you might consider. You could make the tail lighter by switching from 3/32 to 1/16 balsa sheet. Or you could cut lightening holes in the 3/32 inch balsa.

Another idea might be to shorten the fuselage length. An inch shorter in the tail would never be noticed as much as going one inch longer in the nose. Doing any or all of the above, you could then re-locate the battery inside the fuselage. These are things you might consider.

For control throws, I ended up at the first flight session with both the rudder and elevator travel at 3/8 inch on either side of the neutral positions. As time goes along I think I might consider adding more rudder control and less elevator.

FLYING

Now with some nice summer weather upon us, choosing a day for the first flight was easy. As usual, I used the SEFLI club field on the east end of Long Island in the town of Calverton, NY. As usual, Tom Hunt gets the first flight, while I take the photos. This is a shot of Tom Launching on the first flight.

This was also my first use of a new camera, a Panasonic Lumix FZ-200. I'm really going to enjoy this new camera. Our field is quite rough and hand launching a plane this size is a must.

First flights were good, but we did come up with several changes to make flying easier. Those changes have already been incorporated into the final plans. I added a little more dihedral to the wing. I had actually made it a little less, and found that I had gone a little too far. I also added a little more area to the rudder. These were just minor changes.

At 8 ounces total weight and running 37 watts input power, I can obtain close to 20 minute flights with this two cell 1300 mAh battery. I come out to the field with three packs and I'm good for the entire flying session.

SUMMARY

Everyone at my club field thinks this is a cute little aircraft. It builds easy and is easy to fly. I'm hoping somebody will produce a laser cut kit or even a short kit.

I do receive reader comments at times that indicate that the stick balsa fuselages are difficult to build. I used stick construction for years, so for me it is not a problem. But I recently mentioned an alternative to stick construction. Why not just use sheet balsa? You just cut out two sides. Then there is no need for a fuselage jig.

You might also consider an assembly jig like the one sold by Bob Holman.
http://www.bhplans.com.

I always encourage my modeling friends to look for the easy way. If you decide to build a HUMMINGBIRD, please write and send me some photos. Enjoy!

Bob Aberle
baberle@optonline.net

SPECIFICATIONS

Model: HUMINGBIRD-140
Designed originally in 1950 and published in the April 195 FLYING MODELS magazine. Converted to electric power and RC in 2017.
Type: A Park Flyer size RC sport design.
Wingspan: 32 inches
Wing Area: 140 square inches (same as the original)
Length: 23 inches
Weight: 8.0 ounces
Wing Loading 8.25 oz/sq.ft.

RC GEAR USED

Horizon Spectrum DX-9 transmitter operating on 2.4 GHz, a Hyperion HP-DSMX6RX compatible 6 channel receiver and two Altitude Hobbies 4.3 gram micro servos, operating the rudder and elevator controls.

POWER SYSTEM USED

Horizon Hobbies E-Flite PARK-250 brushless motor, a Hobby King 10 amp brushless ESC and a BP Hobbies Cheetah 2 cell 1300 mAh 35C Li-Po battery pack.

POWER SYSTEM PARAMETERS

Prop: GWS 6 X 3 prop
Motor current: 4.71 amps
Voltage: 7.92 volts
Power Input: 37 watts
Battery Loading: 3.62C
Power Loading: 74 watts/lbs
Flight Time: 16 minutes at full throttle

SOURCE REFERENCES

Aircraft World Hyperion HP-DSMX6RX Compatible 6 channel receiver compatible receiver
https://www.aircraft-japan.com/en/p2729585-hp-dsmx6rx

Altitude Hobbies - Two 4.3 gram micro servos)
http://www.altitudehobbies.com/suppo-sp-90-9g-micro-analog-servo

Amazon - Self adhesive contact shelf paper used to make simulated windshield and side windows
https://www.amazon.com/Magic-Cover-Self-Adhesive-18-Inch-24-Feet/dp/B000VYGMLG

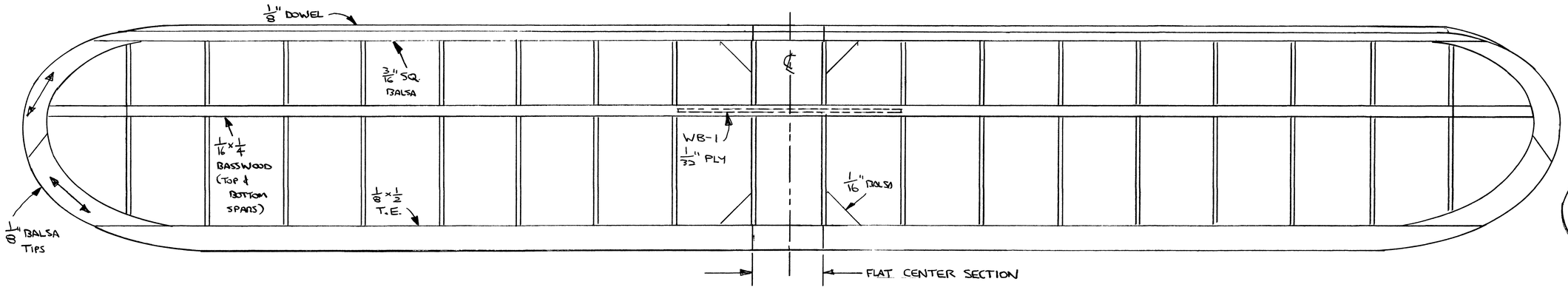
BP Hobbies - CA cement, CA accelerator, Solite covering material, 5 minute epoxy cement, GWS 6 X 3 prop and a Cheetah 2 cell 1300 mAh 35C Li-Po battery pack
www.bphobbies.com

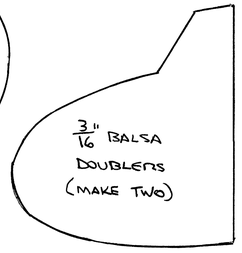
Callie Graphics (AMA license number decals)
admin@callie-graphics.com

DuBro - 1.50 inch diameter Mini-Lite Wheels (#150MW), micro control horns, mini EZ connectors, electric flyer hinge tape and 1/16 inch diameter wheel collars
www.dubro.com

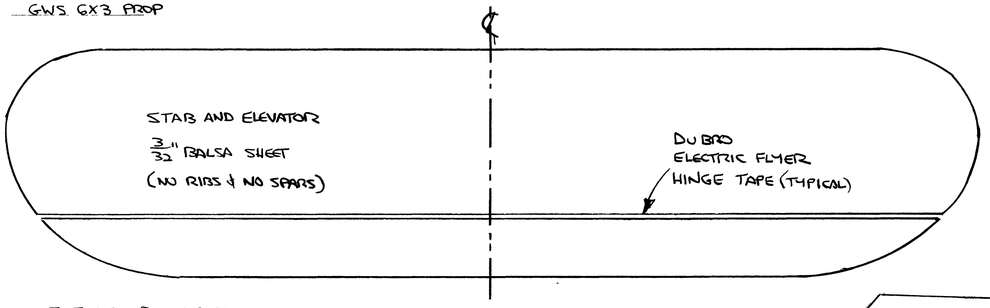
Horizon Hobby - Spectrum DX-9 transmitter and an E-Flite PARK-250 brushless motor
http://www.horizonhobby.com/

Stevens Aero Models - .073 inch OD Yellow Teflon tubing for elevator and rudder control rods
http://stevensaero.com/shop/product.php?productid=16639

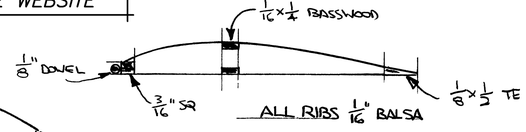


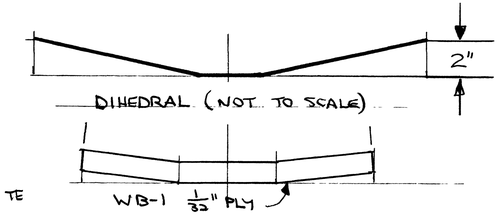


GWS GX3 PROP



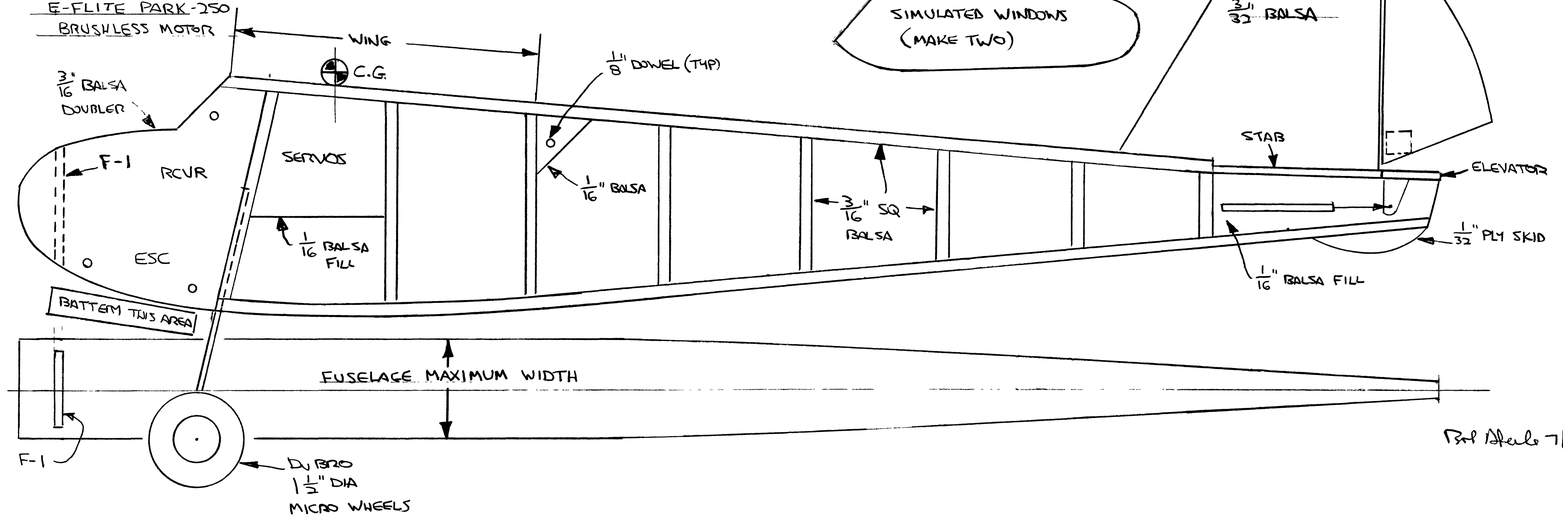
FRONT WINDSHIELD



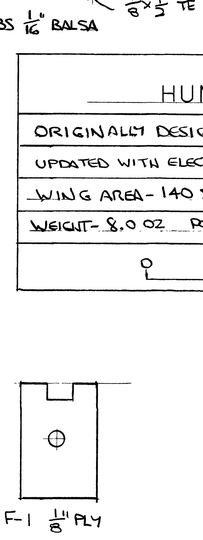


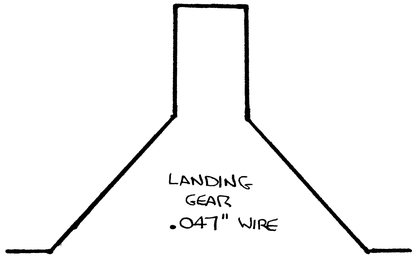
HUMMINGBIRD-140
ORIGINALLY DESIGNED BY PAUL PLECAN IN 1950
UPDATED WITH ELECTRIC POWER & RC BY BOB ABERLE - 2017
WING AREA - 140 SQ. IN. WING SPAN - 32 INCHES LENGTH - 23 INCHES
WEIGHT - 8.0 OZ POWER INPUT 37 WATTS POWER LOADING 74 WATTS/LBS
0 1 2 3 4 5 6

E-FLITE PARK-250 BRUSHLESS MOTOR



SIMULATED WINDOWS (MAKE TWO)





Bob Aberle 7/15/17

Some Notes From the Editor

NUMBERS IN THE CORNER OF PLANS

RCMW plans normally have two numbers in the upper right corner just inside the border. These numbers show the dimensions to the OUTSIDE of the border when the page is printed at 100% or full size. We have found the at the small bar scale on most plans, typically 6 to 10 inches long are not always correct and are so short that a slight error in the scale can make a big difference in the size of the plan. We make every effort to correct for these errors and putting the correct dimensions in the corner also allows for quick and easy determination of the correctness of the plan when printed by a copy shop. Be aware that large format printer/plotters usually only specify an accuracy of +/- 1%.

ADVERTISING IN RCMW

You most likely have noticed that, except for the digital magazine collections shown in the back pages of RCMW, we don't have any commercial advertising. This is because both the printed and online versions of our "friendly competitors" seem to be more like expensive catalogs than publications with any real content. Even the "Product Reviews" seem to be closer to sales pitches than giving you real information.

To prevent that and give our subscribers real content instead of what is really a sales pitch we do not carry commercial advertising. We do list sources of products as a convenience only and you can choose to follow up or not as you wish.

SPEAKING OF SOURCES

Now that there are not as many local hobby shops around, modelers are forced to shop online or by mail. That may have even been more economical in the past but the rapidly rising cost of shipping makes that less of a good deal than it may have been in the past. Also without the advice of the local hobby shop owner it's not always easy to find the special supplies or parts you may need.

RCMW will be adding a separate menu selection that will take you to a list of sources for various supplies along with links that you can click to take you to the supplier's website for more information. Whether you use these links is up to you and they will not be intrusive as much of the advertising in online publications can be.

FLYING ADVENTURE STORIES

The aviation adventure stories in this issue of RCMW and the Bill Barnes story in the July issue are experiments to see if their is an interest in them. The occasional Phineas Pinkham stories that we reprint are pretty much “tongue in cheek” efforts and amusing but not taken very seriously.

There are a lot of good aviation stories out there and they will downloadable so that readers who want them can save them and read them as desired.

CONTESTS & FUN FLYING

If your club or group has an upcoming contest or get-together let us know and we will be glad to put a free notice or brochure on the website. Click on the menu link for more details.

SPECIAL INTEREST GROUPS & CLUBS

There are many clubs and groups that put out regular (or irregular) newsletters. There will also be a menu item with links to these resources, all of whom are eager to hear from you and offer assistance. Check it out by clicking on the manu link and maybe make a whole batch of new flying buddies.

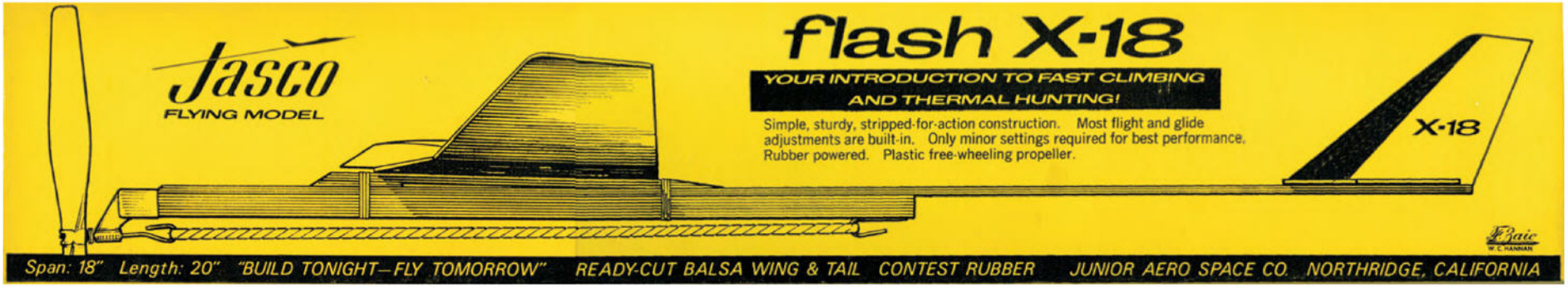
FREE PLANS & STUFF

Lots of folks offer freebies, but there is usually some sort of "string" attached. RCMW provides free full size plans in every issue and the only string is the cost of an annual subscription, $24. Plans can be printed on your own computer printer using "tiling" or by a professional copy shop at reasonable prices. No expensive shipping.

Quite a few other sources for free plans are also out there, some good and some not-so-good. The JASCO X-18 plan in this issue is from one of the very good ones, Paul Bradley. Paul and his brother Ralph are long-time modelers and have a lot of things worth looking at so check out their website at ----

www.parmodels.com

We will tell you about others as we go along so check out the links menu items often.

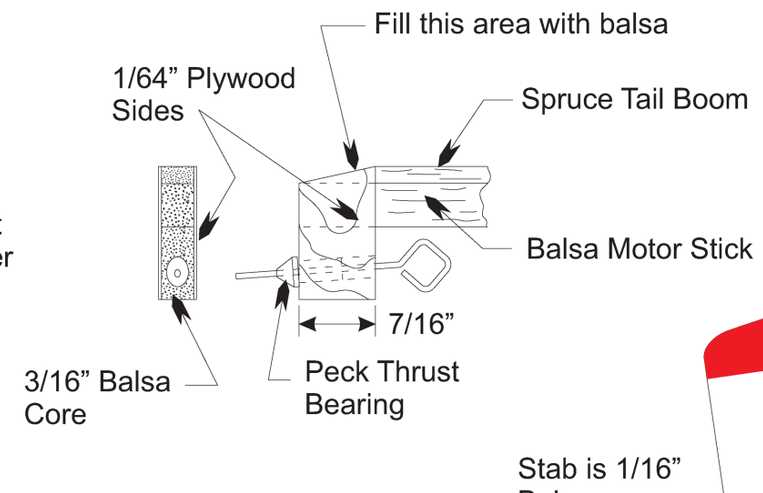


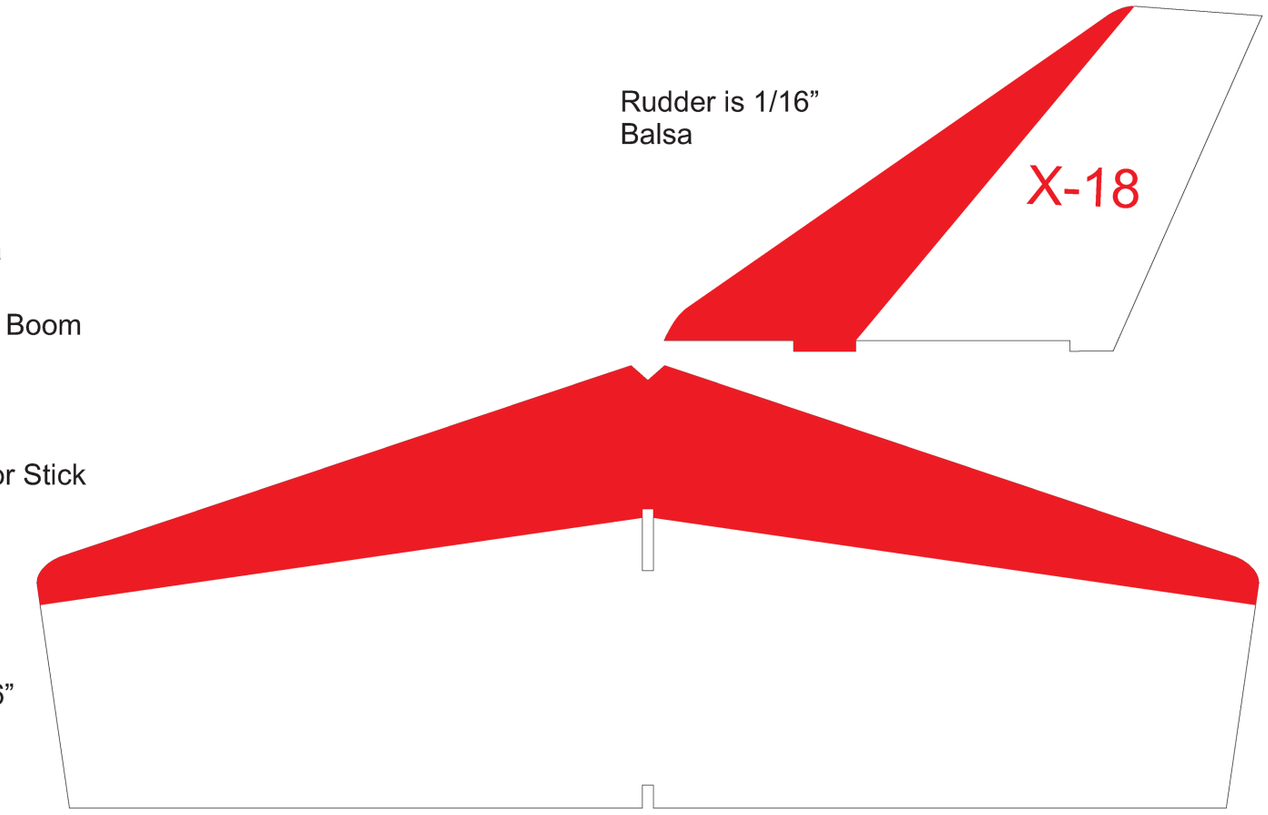
JASCO Flash X-18 Reproduction Drawing Package

By Paul Bradley

Use a 7” prop for this model. The original kit used a plastic prop hanger that fits over the nose of the balsa fuselage stick. An alternative front end can be made up using this drawing.

Style of original kit plastic prop hanger



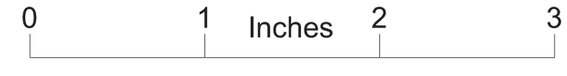


Motor Stick 1/4”x3/16” Balsa Strip 11.5” Long

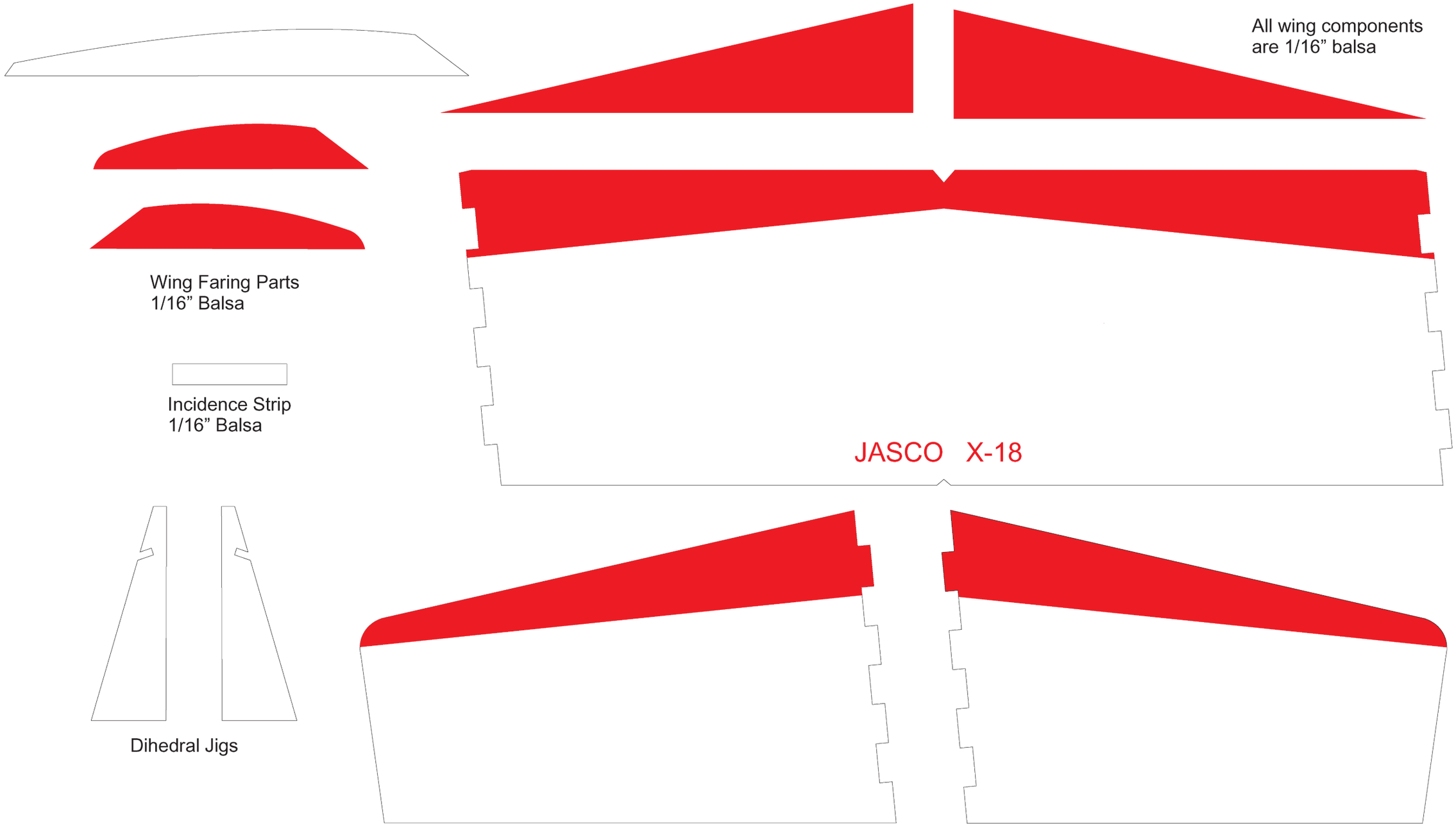
Tail Boom 3/16”x3/32” Spruce 18” Long

Wing Rest 3/16”x3/32” Spruce 5.5” Long

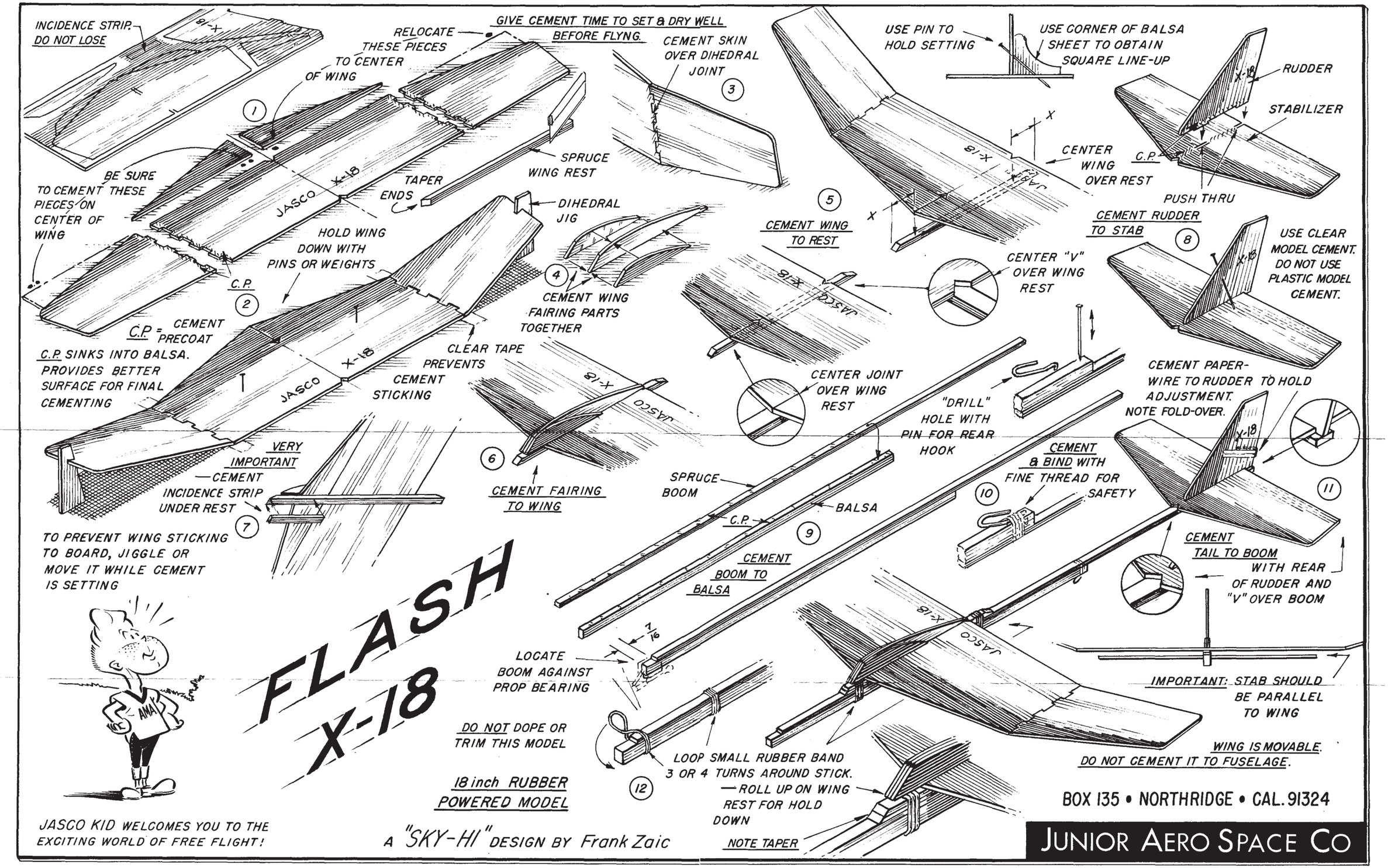
JASCO Flash X-18



8.5x14



JASCO Flash X-18


INCIDENCE STRIP. DO NOT LOSE
GIVE CEMENT TIME TO SET & DRY WELL BEFORE FLYNG.
RELOCATE THESE PIECES TO CENTER OF WING
1
BE SURE TO CEMENT THESE PIECES ON CENTER OF WING
JASCO X-18
TAPER ENDS
SPRUCE WING REST
C.P.
2
C.P. = CEMENT PRECOAT
C.P. SINKS INTO BALSA. PROVIDES BETTER SURFACE FOR FINAL CEMENTING
HOLD WING DOWN WITH PINS OR WEIGHTS
CLEAR TAPE PREVENTS CEMENT STICKING
VERY IMPORTANT —CEMENT INCIDENCE STRIP UNDER REST
7
TO PREVENT WING STICKING TO BOARD, JIGGLE OR MOVE IT WHILE CEMENT IS SETTING
CEMENT SKIN OVER DIHEDRAL JOINT
3
DIHEDRAL JIG
4
CEMENT WING FAIRING PARTS TOGETHER
6
CEMENT FAIRING TO WING
USE PIN TO HOLD SETTING
USE CORNER OF BALSA SHEET TO OBTAIN SQUARE LINE-UP
X
CENTER WING OVER REST
5
CEMENT WING TO REST
CENTER "V" OVER WING REST
CENTER JOINT OVER WING REST
RUDDER
STABILIZER
C.P.
PUSH THRU
CEMENT RUDDER TO STAB
8
USE CLEAR MODEL CEMENT. DO NOT USE PLASTIC MODEL CEMENT.
CEMENT PAPER-WIRE TO RUDDER TO HOLD ADJUSTMENT. NOTE FOLD-OVER.
11
"DRILL" HOLE WITH PIN FOR REAR HOOK
SPRUCE BOOM
BALSA
C.P.
9
CEMENT BOOM TO BALSA
CEMENT & BIND WITH FINE THREAD FOR SAFETY
10
CEMENT TAIL TO BOOM WITH REAR OF RUDDER AND "V" OVER BOOM
IMPORTANT: STAB SHOULD BE PARALLEL TO WING
WING IS MOVABLE. DO NOT CEMENT IT TO FUSELAGE.
LOCATE BOOM AGAINST PROP BEARING
7/16
DO NOT DOPE OR TRIM THIS MODEL
18 inch RUBBER POWERED MODEL
12
LOOP SMALL RUBBER BAND 3 OR 4 TURNS AROUND STICK. —ROLL UP ON WING REST FOR HOLD DOWN
NOTE TAPER
FLASH X-18
AMA
JASCO KID WELCOMES YOU TO THE EXCITING WORLD OF FREE FLIGHT!
A "SKY-HI" DESIGN BY Frank Zaic
BOX 135 • NORTHRIDGE • CAL. 91324
JUNIOR AERO SPACE CO

WITH RUDDER STRAIGHT, FOUR STRANDS OF 5/32 WILL ROCKET THE MODEL INTO A VERTICAL "DEAD STICK". TWITCH RUDDER TO RIGHT UNTIL MODEL TRANSITIONS INTO A RIGHT GLIDE BEFORE IT "DEAD STICKS."

NOTE: RUDDER IS THE ONLY FLIGHT ADJUSTMENT OR CONTROL YOU NEED. ALL OTHER ADJUSTMENTS ARE BUILT INTO THE DESIGN.

Jasco for Flying Models

TRANSITION FROM POWER TO GLIDE

CHECK BOOM TO MAKE SURE IT IS ALWAYS STRAIGHT. VERY IMPORTANT.

AFTER FEW DAYS: CUT OUT CORNER CEMENT FILLET. OTHERWISE, IT MAY IN TIME PULL THE BOOM DOWN.

STALLING OR SLOPPY GLIDE MAY BE CAUSED BY NOT ENOUGH RIGHT RUDDER, WING TOO FAR FORWARD OR COMBINATION OF BOTH.

UNSCREW UNTIL ALMOST OUT. HOOK NAIL HEAD BEHIND CHUCK JAWS SO THAT IT WILL NOT PULL OUT WHILE WINDING. USE 2" NAIL WITH VERY THIN HEAD. FORM HOOK AFTER NAIL IS IN CHUCK.

FILE OFF POINT

WINDING WITH A HAND DRILL

STEEP TURN IN GLIDE - MAY BE CAUSED BY TOO MUCH RIGHT RUDDER, WING TOO FAR BACK OR COMBINATION OF BOTH.

FIRST TEST FLIGHT SHOULD BE MADE IN CALM WEATHER.

START FLYING WITH WING 3" FROM FRONT. MOVE WING BACK AND FORTH TO OBTAIN SMOOTH CIRCLING GLIDE WHILE ADJUSTING RUDDER FOR RIGHT TURN GLIDE.

UNDER FULL POWER TOO MUCH RIGHT RUDDER, WING TOO FAR FORWARD, OR COMBINATION OF BOTH MAY CAUSE TAIL CHASING.

3 in

CEMENT COAT BOTH SIDES TO PREVENT CRACKING WHILE ADJUSTING.

1 in

1 in

KNOT

TO SENSE WHEN RUBBER IS REACHING MAX TURNS, CHECK HOW MUCH ELASTICITY IS LEFT. WHEN RUBBER TIGHTENS SO THAT YOU CAN ONLY MOVE IT ABOUT ONE INCH EACH WAY, IT IS TIME TO STOP WINDING.

WHEN FULLY WOUND — THE MODEL WILL CLIMB VERY STEEPLY, AND MAY LEVEL OUT WITH STRAIGHT RUDDER. BUT IT MAY NOT BE IN A DEFINITE GLIDE PATTERN. SLIGHT RIGHT RUDDER WILL SMOOTHEN THE TRANSITION INTO A CIRCLING GLIDE.

J. Zaic

LONG EXPOSURE TO SUN OR MOISTURE MAY WARP THE MODEL AND CHANGE ADJUSTMENTS.

APPLY A DROP OF OIL ON BEARING EVERY 5th FLIGHT

BE SURE TO EVEN UP KNOTS SEVERAL TIMES WHILE YOU ARE WINDING

TIE ENDS WITH SQUARE KNOT BEFORE LUBRICATING. WET RUBBER. HOLD & PULL VERY HARD AS PER ARROWS.

RUBBER SUPPLIED IN KIT MAY BE 1/8 OR 1/4 FLAT, ENOUGH TO MAKE UP TWO MOTORS. (CONTEST GRADE)

MAKING MOTOR FROM 40" LENGTH OF 1/8 FLAT

RUBBER MUST BE LUBRICATED. USE JUST ENOUGH CASTOR OIL TO WET. RUB-IN BETWEEN PALMS.

MAKING MOTOR FROM 20" LENGTH OF 1/4 FLAT

Right Only

PAPER-WIRE HOLDS ADJUSTMENTS. ADJUST RUDDER GRADUALLY TO OBTAIN TRANSITION TO RIGHT.

JAM KNOTS TOGETHER

TO TIE RUBBER ENDS AFTER IT HAS BEEN LUBED.— WASH AS BEST YOU CAN. TIE WITH TWO OVERHAND KNOTS.

CONDITION RUBBER FOR MAX TURNS BY PRE-WIND.

CHECK RUBBER AFTER EVERY LANDING & REMOVE GRIT.

RUBBER CONDITION	SAFE TURNS
NO LUBE NO STRETCH	275
NO LUBE STRETCHED	340
LUBED NO STRETCH	400
LUBED STRETCHED	460

IF YOU LIKE SPECTACULAR FLYING, EXPECT TO BREAK MOTORS. — IF UNABLE TO OBTAIN CONTEST RUBBER LOCALLY, SEND 50¢ TO JASCO FOR 20 Ft. OF 1/8th OR 10 Ft. OF 1/4. YOU CAN ALSO ORDER 5/32. 17 Ft.-50¢

LAUNCHING

HOLD PROP WITH LEFT HAND & MOTOR STICK WITH RIGHT. WHEN FULLY WOUND, LAUNCH ALMOST VERTICALLY. WITH HALF TURNS, LAUNCH AT 45°. NEVER LESS. HAVE WIND ON LEFT CHEEK.

Back Issue
MAGAZINE ARCHIVES
from the Digitek Books Collection

Here's the next in our series of monthly back issues of model airplane magazines available for download to subscribers. This month's choice is the December 1962 issue of ***Aeromodeller.*** This is the Christmas issue which is usually twice the normal size and it also includes two full size foldout plans. The plans are the last two pages of the PDF file.

We have a nearly complete collection of Aeromodeller although only November 1935 (the first issue) through December 1969 have currently been digitized. Another 120 issues from 1970 and 1980 should be available in digital form in 2018. The currently available digital collections are listed starting on page 31 of this issue of RCMW.

-- CLICK ON THIS LINK PLEASE --

This download link will be expire on November 1, 2017, so if you'd like this issue for your own collection, better do it now.

As a note of interest, these issues are stored in the "cloud" that you see mentioned as one of the latest of the buzzwords used by the computer folks. I use a service called Mediafire which can easily handle very large files that would otherwise cause problems with downloading.

There are more digital magazine collections and books available on our other website at **www.digitekbooks.com** Take a look and you might find something that you have been looking for. Many more will be added in the coming weeks so check back often. Hobby machine shop literature too !!

Short Stories From Bill Barnes Air Adventurer Magazine

SKY BRONC

&

DEAD RECKONING

from the Digitek Books Collection

In our last issue, July, 2017, we included as a test one of the Bill Barnes stories that appeared in the pulp magazine ***Bill Barnes Air Adventurer***. This was the predecessor to the popular model magazine ***Air Trails***.

The July story was about 100 pages long and we made it as "Flipbook", also known as an "eBook" or "ePub". It worked well but the disadvantage was that readers would need to remain logged in to the internet to read the story. We felt that perhaps a better way to present stories was the same way we provide RCMW and the full size plans in each issue, as stand-along PDF files. Using this method subscribers can download the stories and read them without having to be connected to the internet continually.

So here's another trial but this time you can save the stories on your own computer and read them at your leisure. Please let us know what you think about periodically including aviation adventure stories in issues of RCMW. Send an email to the editor, all opinions welcome.

-- CLICK ON THIS LINK PLEASE --

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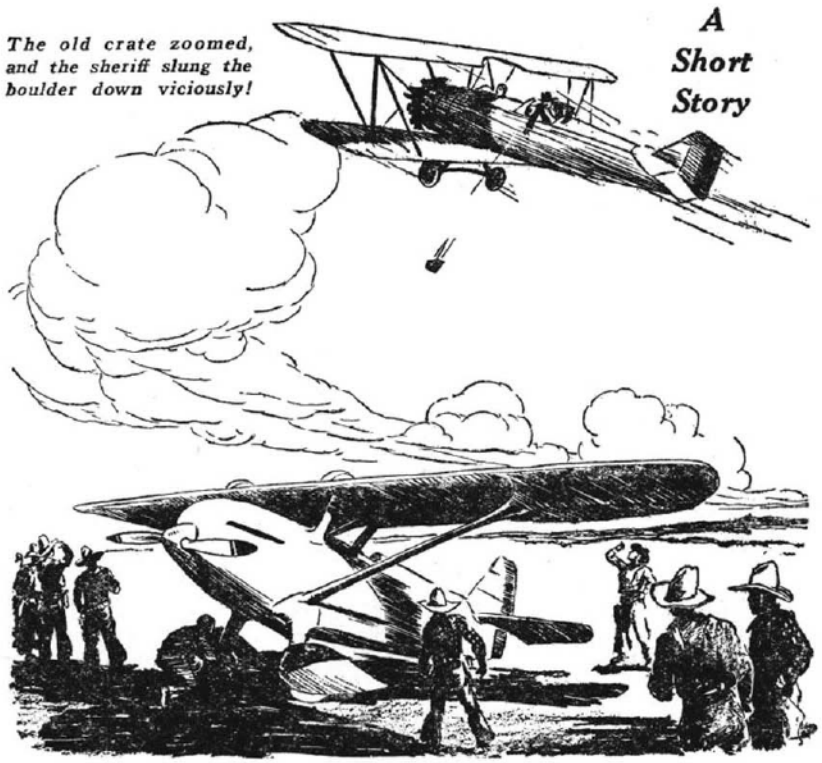


The Sky Bronc

by Roger Furlong

Tom Rode a New Kind of a Western Pony—With Wings

Where was the ground?

Dead Reckoning

by Ace Terry

Back Issues of Model Airplane Magazines

If you're like me, you enjoy paging through model airplane magazines and plans, sometimes to find a project to build, to research a particular aircraft, or to just spend some pleasant time away from the daily grind.

If you like to build models, the magazines of today don't offer much since they are primarily expensive catalogs of ready- to-fly models. There's nothing wrong with RTF or ARF models but they don't offer much to interest model BUILDERS.

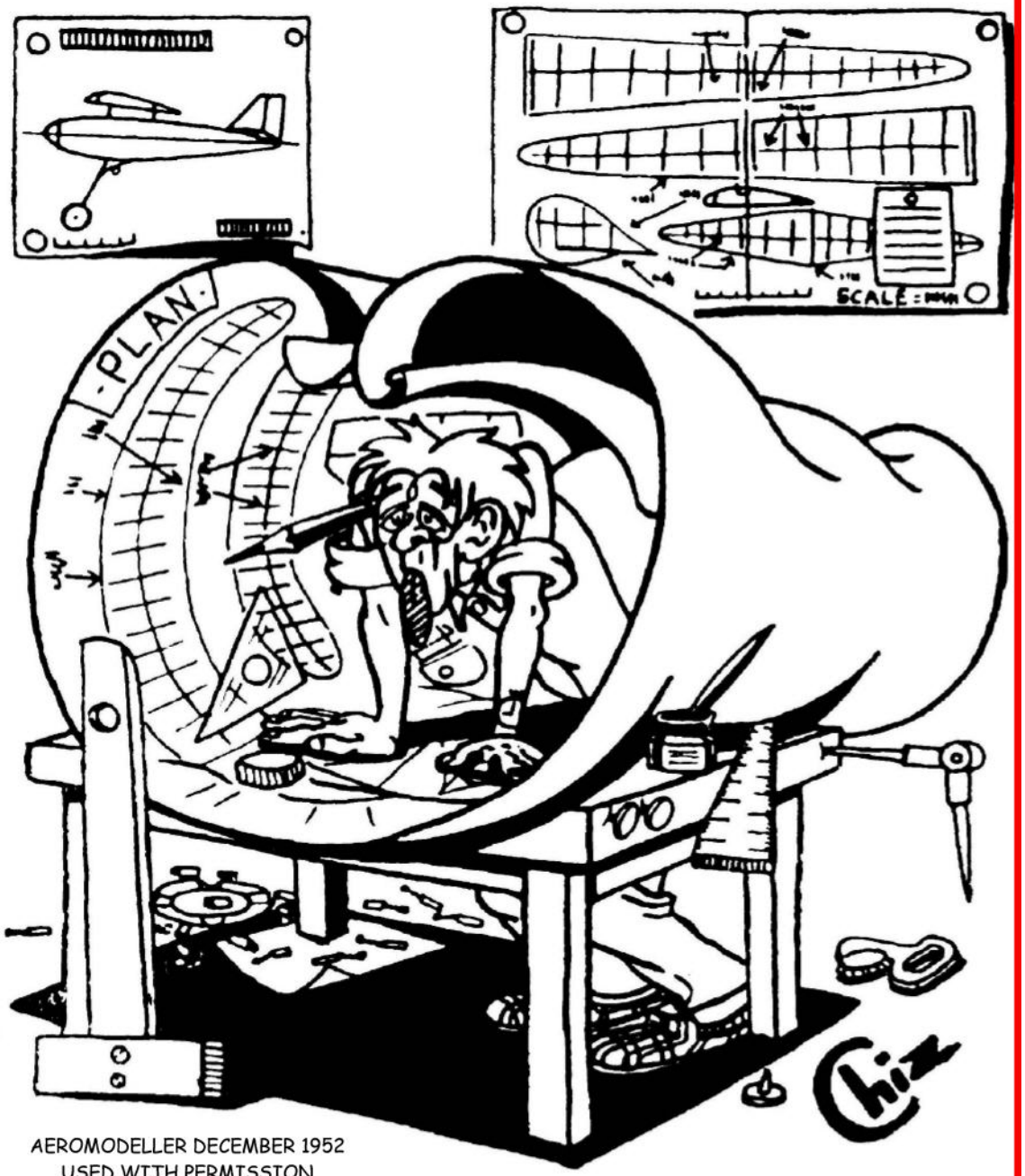
That's NOT the way it was in the past, when you had to build a model before you could fly it. If you're an old-timer, as I am, you have fond memories of Air Trails, Flying Models, Model Airplane News, Aeromodeller and many of the several other magazines available "way back when".

If you're a relative newcomer to modeling and want to learn how to build them, those old magazines can provide a wealth of useful information, plans and how-to-do-it articles.

There are several problems with those old magazines. They are sometimes hard to find, often in bad condition, and in many cases they are so fragile that they can fall apart just by turning the pages. This is because they were often printed on pulp paper, also known as newsprint. Newsprint is inexpensive, but has residual chemicals that cause it to deteriorate when exposed to the air and particularly to sunlight. Your wife or "significant other" might also ask "When are you going to get rid of all those smelly old magazines?"

I admit to being a bit of a "nut case" but have been collecting these magazine for over 50 years and now I am trying to digitize them to preserve them for other modelers. They are now available as digital PDF files. See the details on the next page.

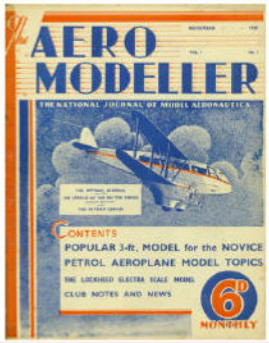
Keep 'em Flying - Roland Friestad



AEROMODELLER DECEMBER 1952
USED WITH PERMISSION

Prices Effective April 1, 2016 - Subject to change without notice

Great Gifts for Modelers Digital Magazines on USB Flash Drive Cards



AEROMODELLER, the premier British model airplane magazine is being digitized. **Ready now are all 240 issues from 1950 and 1960** including the full size plans that were sometimes included in each issue. On the left is a reproduction of the November 1935 cover of Vol 1, No 1. All of the earlier issues will also be available later in 2016

Catalog # D001033 - $75 - Postage Paid

AIR TRAILS - This magazine went under several names. The final issue was published in March of 1975. There are 435 monthly issues included in the complete set and priced as follows ---

D001010 - January 1937 through December 1943 - 84 issues - $50

D001011 - January 1944 through December 1950 - 84 issues - $50

D001012 - January 1951 through December 1961 - 132 issues - $50

D001013 - January 1962 through December 1971 - 96 issues - $50

D001014 - January 1972 through March 1975 - 39 issues - $25

AIR TRAILS ANNUALS -
D001009 - 1938 through 1969 - All 25 issues - $30

D001015 - SPECIAL - Complete set including the annuals - $200

MODEL AIRPLANE NEWS - The first issue of this magazine was published in July of 1929 and it is still being published. We have the following collections currently available ---

D001002 - July 1929 through December 1942 - 161 issues - $50
D001004 - January 1943 through December 1952 - 120 issues - $50

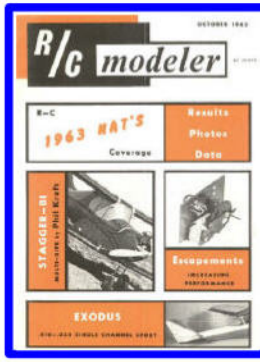
MODEL BUILDER - This magazine ran from the first issue of September~October 1971 through the final issue dated October, 1996 -

D001001 - The complete run - 295 issues - $75

FLYING MODELS - The first issue of this magazine to use the name was published in June of 1947 and it is no longer published. We have the following collection currently available ---

D000013 - June 1947 through December 1963 - 123 issues - $50

RC MICRO FLIGHT & RC MICRO WORLD - The complete run of RC Micro Flight, 1999 through 2004 and all issues of RC Micro World, 2005 through 2012 are available - D001016 - $30



RC MODELER - Now available is the digital collection of the early issues of this magazine. The collection includes all issues from Vol 1, No 1 (October 1963) through December 1972. 109 issues all on a single USB Flash Drive.

D001017 - $50 - Postage paid

All prices include postage paid worldwide

Send payment using Paypal to
cardinal.eng@grics.net

Or check or money order to
Roland Friestad
1640 N Kellogg Street
Galesburg, Illinois 61401
USA

Makes a Great Gift for Modelers
Circle your interests and give this sheet to someone who has a hard time finding you a gift

Prices Effective April 1, 2016 - Subject to change without notice

Now Available!!
The early issues of
AEROMODELLER
Computerized in High Resolution
On Custom USB Flash Drives

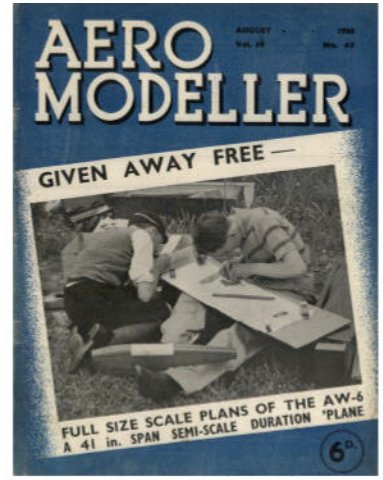
Our crack staff hard at work digitizing plans, magazines and books

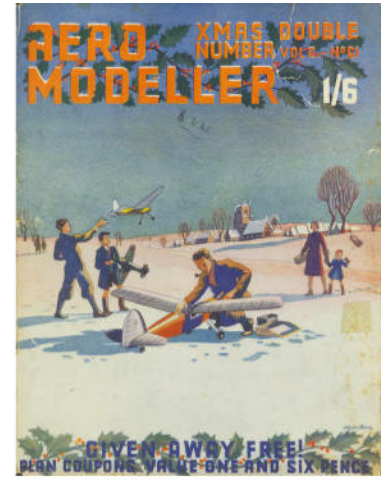
Now, after several months and hundreds of hours of work, we have available high-resolution digital copies of the British Aeromodeller magazine starting with the very first issue dated November 1935, shown above, and through the December 1942 issue. These issues are extremely rare and hard to find. These early issues are from the late Ivor F collection in Australia, with thanks to his son Tahn Stowe.

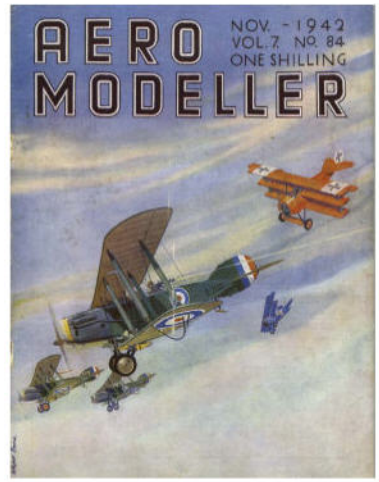
Furnished on our custom made USB Flash Drives this collection is priced at only $60 US, postpaid world-wide. PayPal, Money Order or check drawn on a USA bank. Catalog number - D001047 - 85 issues -

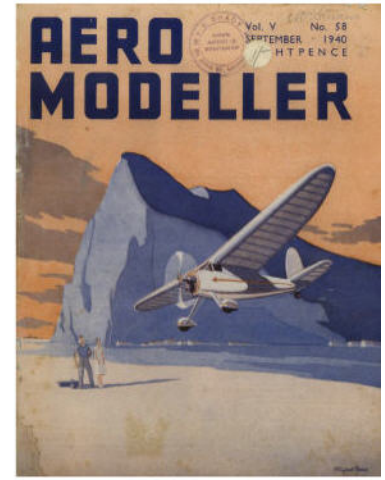
Roland Friestad
1640 N Kellogg Street
Galesburg, Illinois, 61401
USA
cardinal.eng@grics.net

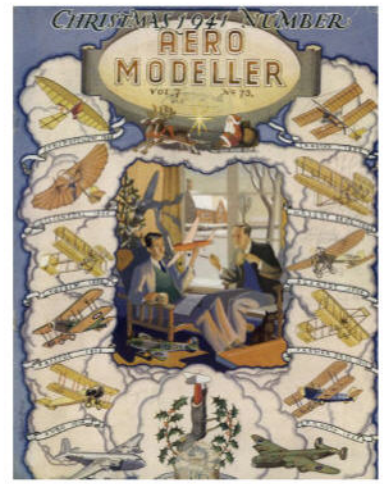
P.S. - Don't forget to include your name and address - Sometimes people forget !!











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