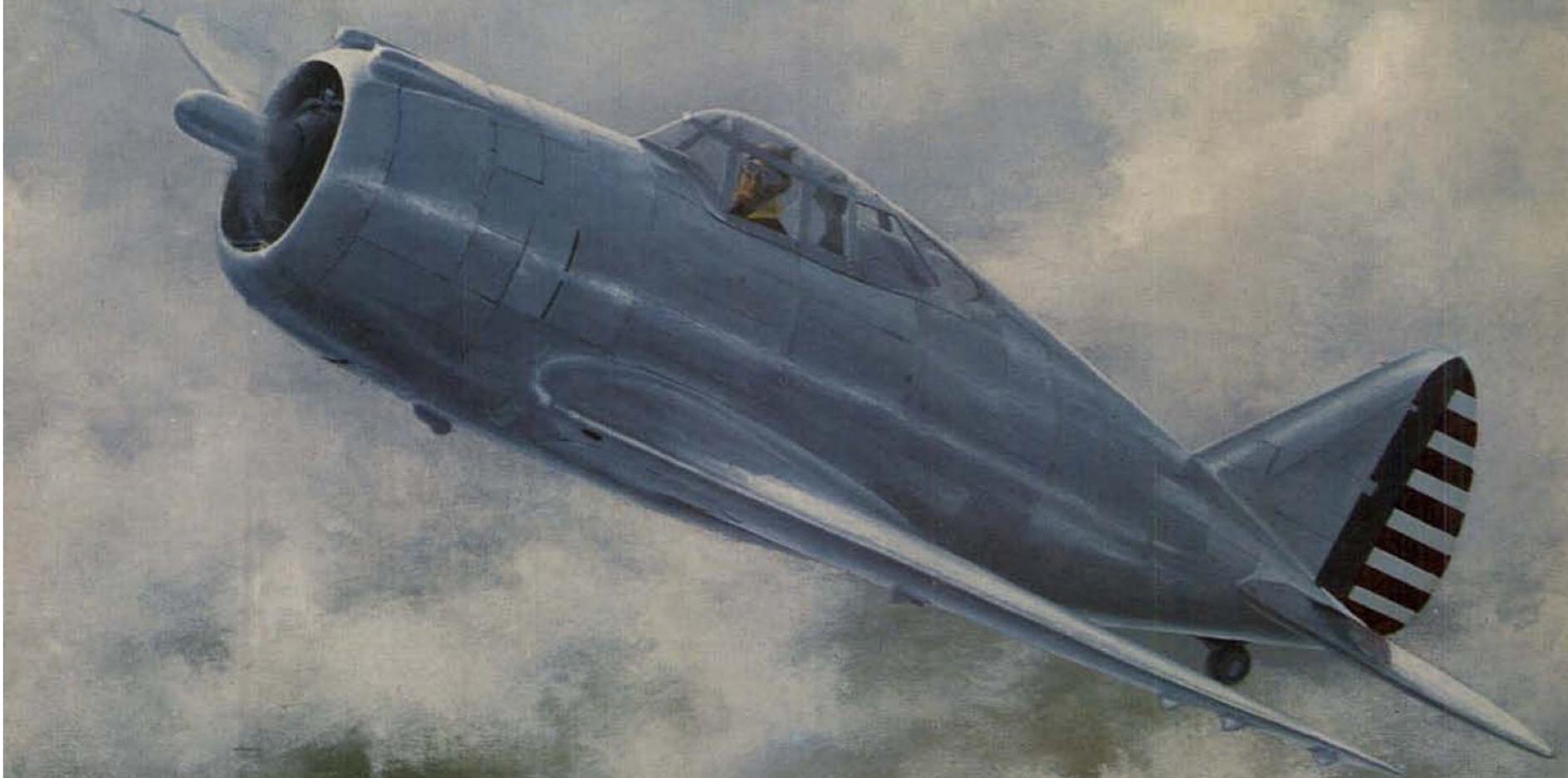


RCMW-FSP

October 2018



Cover by Bob Benjamin - Model Builder - February 1983 - Republic P-43 "Lancer"

RCMW-FSP - Index - October 2018

We have made a revision to the way the RCMW Index Page works. It will make it much easier to browse each issue of the magazine.

We are assuming you are using the Adobe Acrobat Reader or a browser like CHROME that works like the Acrobat Reader.

We can provide the FREE Reader software if you wish, Just Click on this link [CLICK HERE FOR ADOBE READER](#)

On the left side of the issue you will see several icons. Click on the Bookmark icon as shown.



A list of Bookmarks will appear on the left edge of the screen as shown in the column. If you click on a given bookmark you will be taken directly to that area of the issue. This makes it a lot easier to navigate around the pages.

More About Our Archives & Catalog

We have another website www.digitekbooks.com that serves as a repository of our archives of books and brochures on all things aviation and machine shop related. The back pages of RCMW has a brief a list of digital model magazine collections and books available on the digitekbooks website - See pages 27 to 34 of this issue.

About This Month's Cover

This month's cover is from a painting by Bob Benjamin that appeared as the cover of the February 1983 issue of *Model Builder*. The Republic P-43 "Lancer" is not well known as many others. The construction article in that issue of *Model Builder* was of a winning scale model of the P-43 by Col. Art Johnson who flew P-43's and P43A's in 1942.

Why Subscribe ??

RCMW is the only model airplane magazine that provides all plans as full size PDF files for every issue. All pages can be printed out. The plans are reduced to fit the 8-1/2" x 11" paper size but there is a link on each plan page that allows the reader to download the full size PDF file.

If you like to build models you will appreciate the ability to see again antiques, old classics, reproductions of kits, as well as new designs made for the reliable, lightweight Micro RC equipment currently available.

If you are one of the "Buy-&-Fly" fraternity and would like to learn how to build and repair models, RCMW is also the magazine to read.

Each issue is full of plans, projects, books and magazines rather than just a seemingly unending series of advertising for expensive models and equipment.

Subscriptions are \$24 for a full year of 12 issues.

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Roland Friestad
1640 N Kellogg Street
Galesburg, IL 61401
USA

For the Model Bulder and Flyer - October 2018 Issue



Full
Size
Plans



Winter is coming. Time to check to see that the snow-blower is ready to go and will start up after about 8 months being repeatedly moved around in the garage to get it out of the way of whatever was the current project at the time. Also time to use those occasional days with no wind and heavy moist air that seems to work better for rubber powered free flight jobs. At least that's my experience, your mileage may differ.

We were surprised at the response to the "Lucky Terrell" book that could be downloaded using the link in the September issue of RCMW. We have many more of these kinds of books and will be making them available in upcoming issues. Many of these flying adventure books were written by pilots who had actual experience in WWI and WWII. Some are adventure novels and some are autobiographical. Watch for more in coming issue of RCMW.

In this issue we have a very nice looking rubber powered endurance model called the NEW YORKER, a design by the well known late Frank Zaic. I think I'm going to build that one myself.

Speaking of Frank Zaic, he published 18 books, known by the orange covers on them all. Full of drawings and articles about model airplane design, construction and flying, we have all of them available as digital copies listed in the catalog at the end of this issue. My personal collection of them all has been referred to a LOT over the past 50 or 60 years.

Our book download is a bit unusual this month. It's the May 1933 issue of National Geographic from the Dave Shipton estate and is full of photos and information of 1933 civilian and military aircraft and details.

THIRTEEN is a nice looking stunter that you UC flyers would like to build as it takes a .15 engine rather than the popular Fox 35.

There's an article about a couple of projects aimed at getting more young people into building and flying model airplanes. Give it a try.

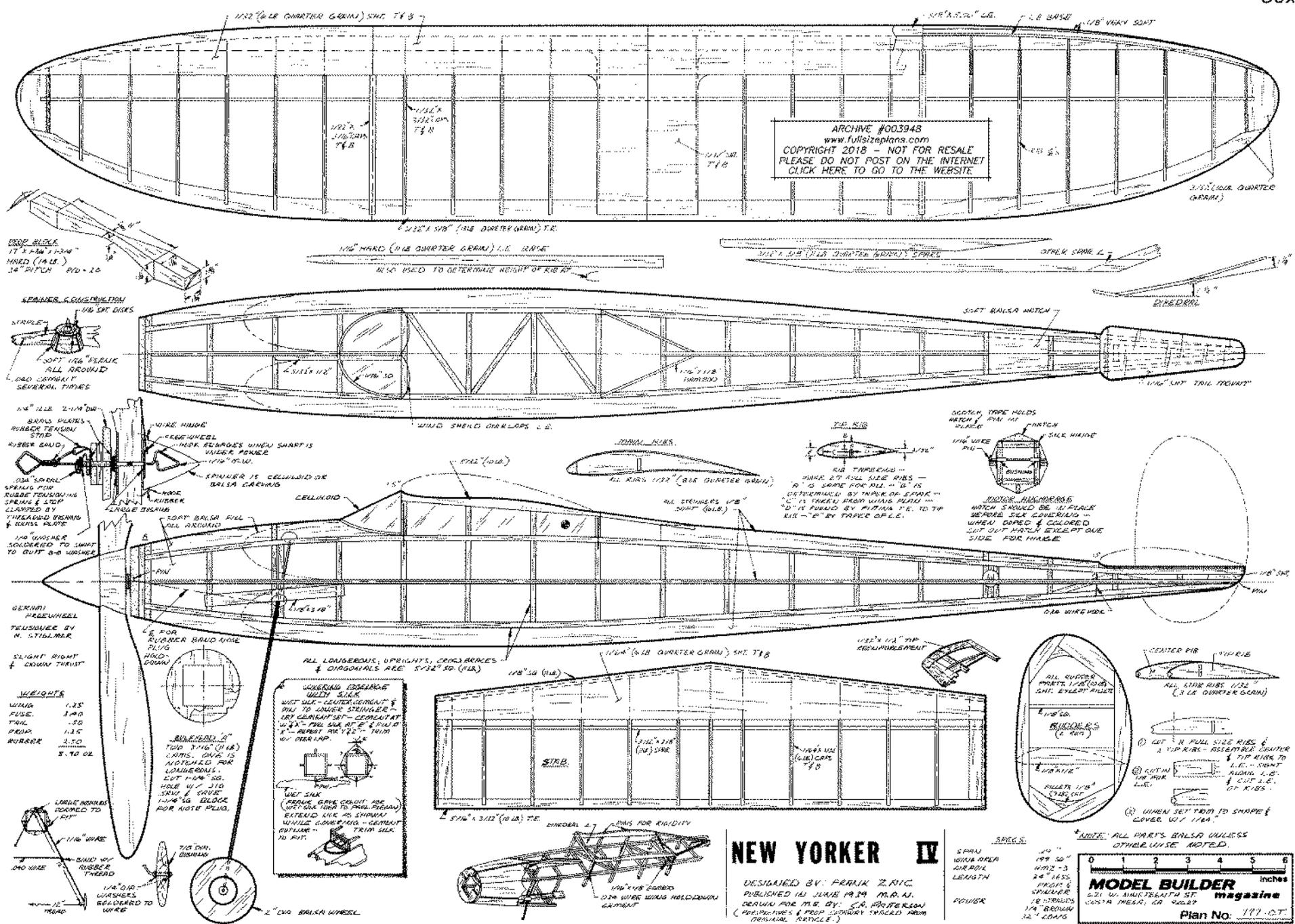
How about a British free flight model named GEORGE, which is the same name the RAF guys gave to an autopilot. Supposedly the design flies so well that it is almost like being on autopilot. Let me know your results if you decide to build one.

Another book download for this month is Volume 1 of the MODEL BUILDER'S MANUAL, also part of a series but we don't have the rest of them in the archives (YET), Lots of good projects.

How about building Ken Willard's DRAKE free flight amphibian. Looks like an easy to build and maybe even convertible to lightweight RC.

Another download is the complete issue of MODEL BUILDER for March 1981. Lots of good stuff there also

Keep 'em Flying,
Roland Friestad, Editor



ENLARGED FROM JULY 1977 ISSUE OF MODEL BUILDER

[CLICK HERE TO DOWNLOAD THE FULL SIZE PDF FILE](#)

A Rare Book From The ARCHIVES of the Digitek Books Collection

Here's the next in our series of monthly downloads of books available **FREE** to RCMW subscribers.

Our book this month is the May 1933 issue of NATIONAL GEOGRAPHIC magazine. It is of particular interest because more than half of the issue is dedicated to aircraft, both civilian and military of the period. Some of the photos are quite rare.

The section titled "Flying" covers mostly civilian aircraft and shows the status of air transportation in the early 1930's. Quite different from the "cattle car" methods in practice today.

The military planes section give us a lot of aerial views of the country and comparing the views to similar views that can be seen today give a really good idea about how far we have come. The following section about "How the United States Grew" rounds out some great historical perspective on the USA.

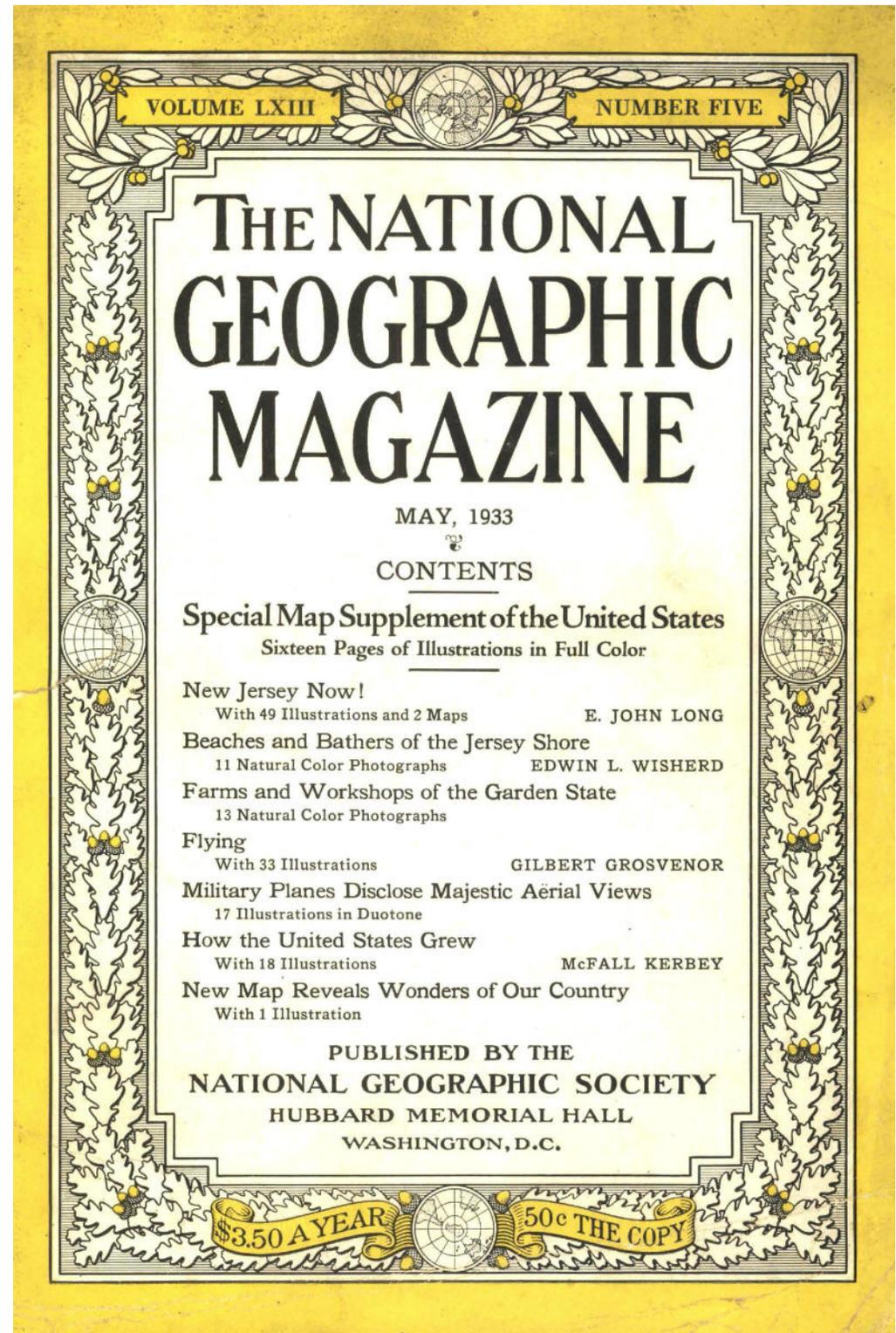
This book was donated by the Dave Shipton estate

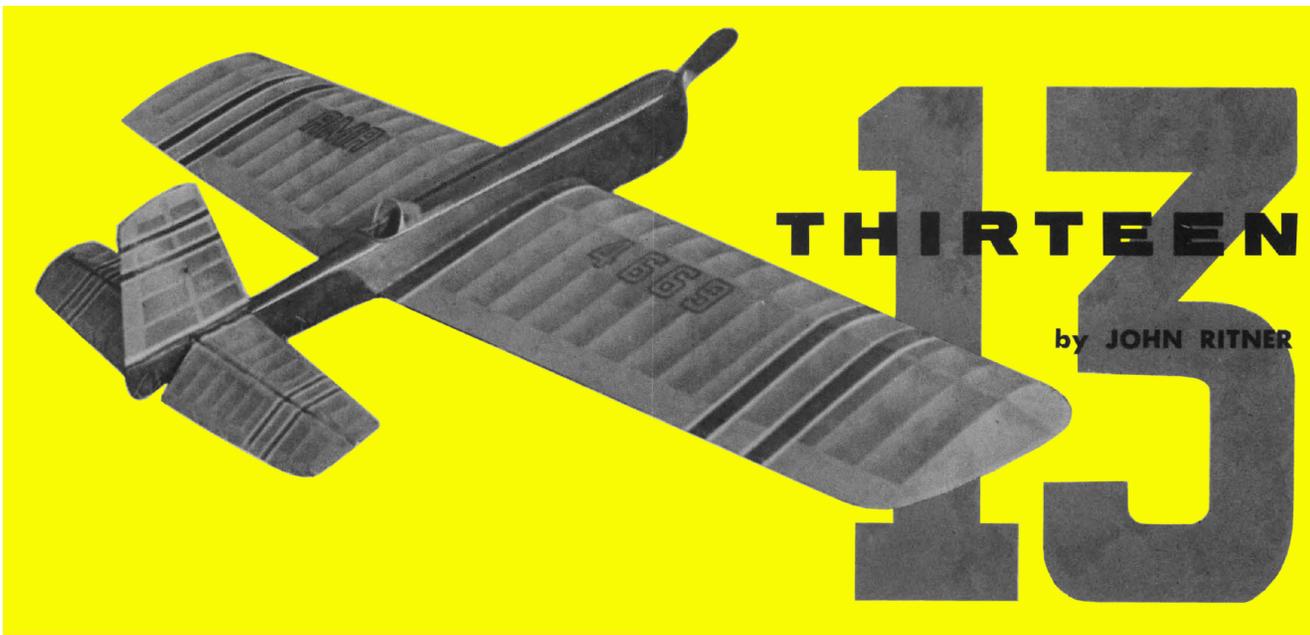
To download the May 1933 issue of NATIONAL GEOGRAPHIC, click on the link below ---

[-- CLICK ON THIS LINK PLEASE --](#)

This download link will expire on December 31, 2018, so if you'd like this for your own collection, better do it now. A selection of digital books and magazine collections are available on our sister website. They include AIR TRAILS - MODEL AIRPLANE NEWS - FLYING MODELS - MODEL BUILDER - RC MODELER - AERO-MODELLER and many others - Just click on the link below

www.digitekbooks.com





This nice looking UC stunt model appeared in the December 1957 issue of Model Airplane News. Now all I need to do is find my old Fox 35 and get this issue of RCMW done so I can get started on it.

This long-span stunter for .29-.35 engines has an impressive rack-up of wins on the coast. Outstandingly easy to fly through stunts, the Thirteen is the end product of a long series of stunt models. All of these models were of the same general design; long tail-moment arm, medium length nose-moment arm and slightly above average size.

The Thirteen in the photos is five years old and has consistently been a winner in W.A.M. Contests. It weighs 24 ounces and flies 75 mph on 60-foot .012 lines with a Fox .35 running a 10 x 6 prop.

This basic design flies level with almost no corrections from the pilot, yet it is capable of very tight maneuvers due to the light wing loading. Square eights, triangular eights, you name it, they are a snap with this model.

Construction is simple, even with a tapered wing, so don't let this part scare you away. These instructions are set up so that you can build straight through; that is, one part will be drying while you are building others. It took me three days from start to first flight.

The model was built for the first Plymouth Internationals which was the only meet in which the design failed to place. I did not have the cooling duct then and the engine overheated. I have flown in all types of weather since I installed the duct and have had no cooling problems.

Select some quarter grained medium weight 1/8" sheet for the fuselage sides and cut them to the specified shape. Cement the motor mounts to each side and set aside to dry.

Make two 1/8" plywood rib templates, one tip, and one center. Cut 25 rectangular pieces from 3/32" sheet and bolt these between the plywood templates. Cut the balsa down to about 1/16" from the plywood all around with a long sharp knife. (The family butcher knife well sharpened works extremely well.)

Sandpaper the balsa down to the plywood, cut the spar notches and you have the ribs for one half of the wing. Repeat this procedure for the other half. Drill the holes for the lead wires while the ribs are stacked together.

Return to the fuselage and join the two sides with the firewall and first bulkhead. Do not forget to cut the hole in the firewall because your engine will overheat unless a good way to cool it is provided.

While the fuselage is drying, cut the wing spars from 1/4" hard sheet. They are tapered so that the wing will bend along its entire length and not break in the center. It is very essential that they are tapered.

The two-piece trailing edge is cut from 3/32" medium sheet, the rear sides beveled with sandpaper and cemented together. While trailing edges are still tacky, pin them to the plan and slide the rib trailing edges into them.

Cement the top spar in place, then the leading edge. Cut the tip from 3/16" sheet and put it in place. When this structure is dry, take it off the plans and add the remaining spar. Build the other panel in the same manner.

When both halves are dry apply a liberal coating of cement to the spars, leading edges and trailing edges. Let this first coat dry, then apply a second coat and join together, add the center joiners, and you have a wing.

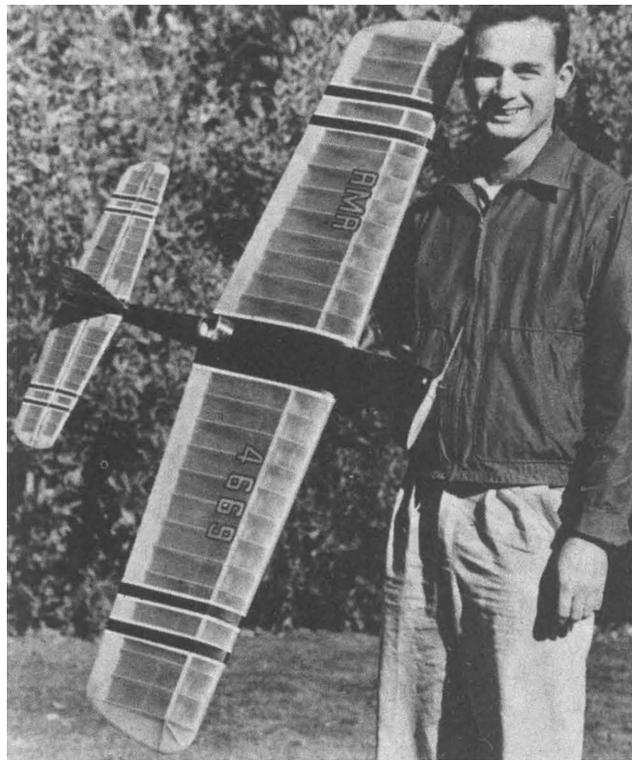
The stabilizer and elevator are built directly over the plans. The ribs for these assemblies are merely 1/16" sheet rectangles which are sanded to a symmetrical airfoil when the structure is dry.

Plank the bottom of the wing center section with 1/16" sheet. Cut out the bellcrank mount; install the bellcrank with balsa pushrod attached. Wrap the wire to the wood with thread. (I use a wood pushrod because it eliminates those annoying bushings which are necessary with a wire pushrod.)

Cement the bellcrank mount to the spar. Install the lead out wires and metal tubing guides at the tip. Plank the top of the wing center. Cement one ounce of lead to the outboard wing tip. Sand the center planking.

Cement the leading edge of the wing to the fuselage, pull the rear of the fuselage sides together and cement the wing fuselage joint along the entire length. Add the remaining bulkheads and cement the top block in place.

The elevator horn now is installed on the elevator. Drill two holes in the spar and cut a notch to receive the horn. Cut the fabric hinges to size and join the elevator to the stabilizer.



Build the rudder in the same manner as the stabilizer. Hook up the pushrod to the bottom hole in the elevator horn and solder a washer to the wire to retain it. Cement the stabilizer in position and put a small piece of fabric over the joint.

Carve and sand the top fuselage block and add the rudder. A small amount of offset will be necessary if the model is flown in a counterclockwise direction. No offset is used when the model is flown clockwise due to the slipstream effect on the outside of the rudder.

The fuel tank is the same as the one used in the "Twelve" (November 1954, MAN). It is 1-3/4" x 1" x 2-3/4" made from tin can metal with 3/32" I.D. brass tubing vents. It should be located at this time so that the cooling duct and landing gear assembly may be installed.

The landing gear is assembled by bending 3/32" steel wire to the required shape and threading it to the 1/8" plywood mount. The thread then is well cemented and the assembly cemented to the fuselage.

At this time every joint should be cemented. A cement skin should be formed around the wing-fuselage joint, the stabilizer-rudder joint, and the motor mount-firewall joint. Cement scrap blocks to the inside of the cowl so that a streamlined nose may be formed with sandpaper when the blocks are dry. Put the bottom fuselage planking in place and trim to shape.

The entire model should be sanded smooth. The covering is what makes a model look good, especially this type of model which cannot be covered with filler.

Do not use any filler or colored dope on the flying surfaces because this would raise the wing loading to a point which would cause the model to mush and to become tail-heavy.

Coat the entire fuselage and all surfaces that will be in contact with the covering with one coat of clear butyrate dope. Sand smooth and cover the entire model with wet silk. The silk must not be stretched too tightly and the dope should be applied through the silk where it touches the frame edges to hold it in position. Trim with a sharp double-edged razor.

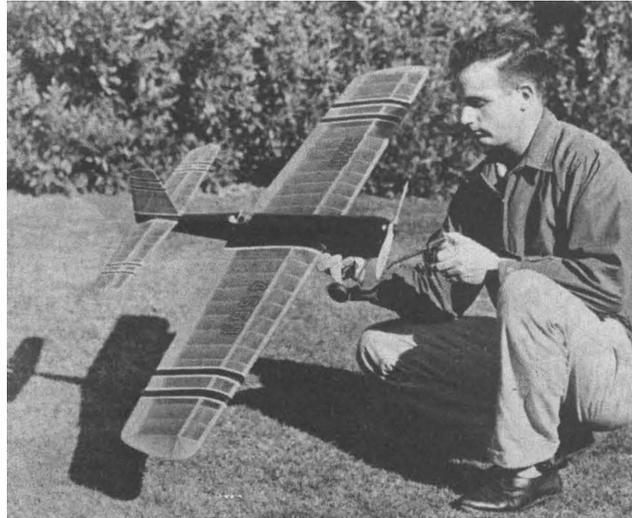
Apply five thin coats of clear butyrate to all surfaces, sanding between each coat. The fuselage is covered with two thin coats of colored dope over the clear.

Slit a piece of black rubber tubing and cement it around the cockpit edge. Cut the windshield from celluloid and slide it into an appropriate length of aluminum tubing. Bend the aluminum to shape and cement the assembly to the fuselage.

Before attempting to fly the model, check to see if it has any warps. Warps may easily be removed by holding the warped surface over a steaming kettle and twisting in the opposite direction. Hold in this position until cold. The model should balance slightly in front of the spar.

My Fox-powered model has been flown in contests all over California from elevations of 6,000 feet to sea level, and has consistently come out on top. I do not use spinners because a spinner that is slightly out of track can cause enough vibration to ruin the smooth flow of fuel to the engine.

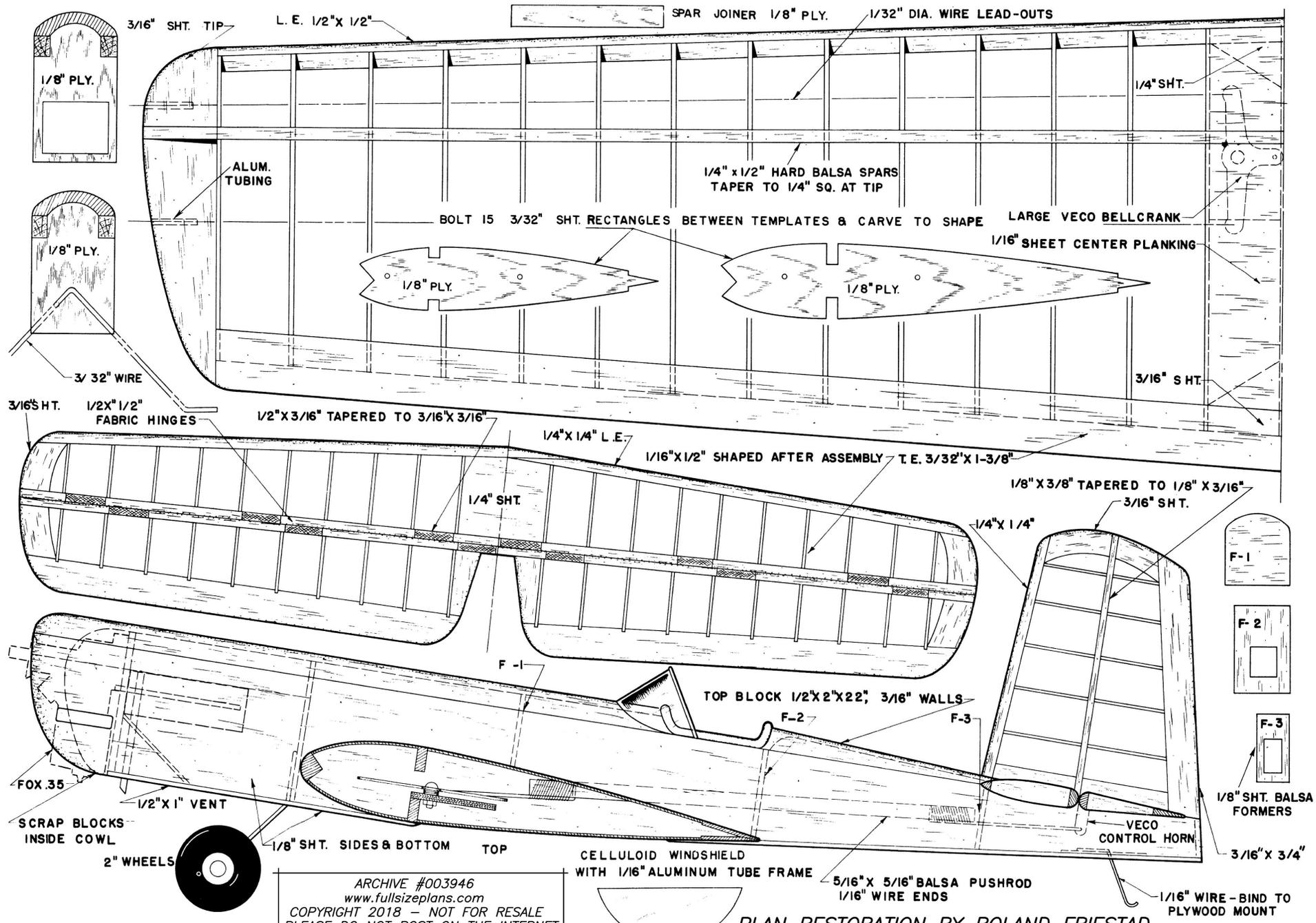
Flying is easy as this model really flies in a groove. It may help you to fly from the elbow out, that is, keep your wrist stiff and fly with your entire arm. Move your arm in a smooth round circle and the model will do a smooth loop.



This technique can be used in all maneuvers with excellent results. Smoothness is the key to winning stunt contests, so practice and keep that engine running smoothly. An engine that is running on fuel that does not have enough oil can be ruined in one run. I use a three-to-one mixture of methanol and castor oil with a small amount of nitromethane added on very cold days.

Here's a last word on glow plugs which sometimes cause trouble after they have been used with about a gallon of fuel. The element becomes pushed up into the case and causes the engine to run slightly ragged, especially when it is rich. This can easily be remedied by pulling it out slightly with a pin.





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PLAN RESTORATION BY ROLAND FRIESTAD
 FROM DECEMBER 1957 MODEL AIRPLANE NEWS

New Plans Methods by Editor

This is a reprint of the information that we had on page 14 of the September issue, in case some of our subscribers missed it.

As long time subscribers know, RCMW has always made fullsize PDF files of plans available as part of our subscription. That will not change.

But we are making two changes in how we deliver those plans. Previously the plans were embedded at full size in each page of RCMW. While that worked quite well, it did sometime cause a problem with getting them printed.

If a subscriber just printed out the issue using his home printer and the free Adobe Acrobat Reader software, the plans would be automatically reduced to fit the size of the paper being used, even though the files were actually full size plans.

Downloading and viewing each issue took longer because the fullsize plans took longer to load. Also if a reader wanted to have a plan printed at 100% scale (fullsize) the entire magazine file would need to be taken to the print shop with instructions to print whichever page was desired at 100%. An inconvenience in some cases.

But if your print supplier was not local and the file needed to be sent to the print shop over the internet, a bit of explaining was needed which could sometimes be confusing.

So we are making a couple of changes to make it easier. The plans shown in each issue of RCMW will always be available FREE at full scale to subscribers, but the pages of RCMW will have the plans reduced to fit the page. When the page is printed on your regular home computer printer you will see no change.

There will be a separate download link for each of the plans, similar in function to the download links we use for back issues of model magazines and books.

Just click on the link for the full scale plan you wish and it will be downloaded automatically to your computer. There are several different browsers being used but if you can receive the issues of RCMW then receiving the plans as separate files should work OK also. Give it a try as this issue is the second one using this new capability.

Now if you want to send a file to a print shop using the internet you only need to send the file you wish to have printed and tell them to make it at 100%. Of course you can also have them scale the plans up or down if you wish by requesting a different percentage.

As usual the dimensions shown in the upper right hand corner of the plan represent the finished dimensions to the OUTSIDE of the black border when the plan is printed at 100%. Please

note that large format printers normally have an accuracy of +/-1%. If the borders are a bit off the operator can print at 101% or 99% or make some other adjustment

That's the first change, now for the second one. When you visit the RCMW website you will see the old reliable menu on the left side of the page, but after you login you will see a more extensive menu that will only be visible to active subscribers.

Among other things you will see at the bottom of the additional menu items one entitled "Download plans" When you click on this selection you will be taken to a list of plans available for download, the plans from the current issue and many additional plans. Subscribers can download these plans as part of the subscription.

I say many additional plans because as I write this, there aren't a lot of plans in the list. But new plans will be added every week and eventually we will have all plans that have appeared in both RCMW and the Society of Antique Modelers magazine, SAM Speaks.

By the end of the year this list should contain several hundreds of plans and eventually several thousands.

Also, if you are looking for a special plan not shown and if we have it in our archives, we will add it to the list. We are working with many modelers around the world who have extensive collections and we swap back and forth.

So, if you can't find it, maybe we can, it never hurts to ask.

Model Magazine Back Issues

We had an email message recently from a modeler who said his children and grandchildren were not interested in having his collection of back issue of model magazines. He wanted some suggestions on how to get rid of them without just throwing them in the trash. We agree with him that it would be a shame to just discard them.

The problem is that with less interest in building models there isn't as much demand for back issues. Here are a few suggestions that we made --

SUGGESTIONS FOR OLD COPIES OF
Model Builder & Flying Models -

Local school libraries -

Waiting room of local Airport FBO -

Dentist and Doctor offices -

Boy scout troops -

Local Hobby Shop (not too many of those left anymore) -

Little Free Libraries (if you have any locally) -

Donate to your local library for their book sale -

Take a batch to a model contest and give them away or sell them for 5 or 10 cents a copy - You could even just give the money to a local model club.

Ebay is a possibility but I would place an ad for the whole lot (tell how many pounds) for \$5 or \$10 dollars and winning bidder must come and pick them up -

Selling them one at a time on eBay is an exercise in frustration -

Hope these suggestions are helpful. The main thing is to give your old copies away to someone who will use and appreciate them.

And now for some blatant advertising. Take a look at the ad in the end of this issue and you could get rid of the back issues and replace them with our digital collections on a USB Flash Drive.

One of our flash drives can hold over 10,000 back issue of model magazines. They are about the size of a credit card and are much more resistant to damage than a DVD which can easily become scratched and unreadable. Check it out !!

AMA Alpha FF Model

I had occasion to stop by the AMA recently and purchased a copy of their ALPHA rubber powered free flight model that is part of their model airplane "Flight School" program.

It's a well designed model with good instructions and even includes a 20 to 1 winder for the rubber motor in each kit and includes enough good quality rubber strip to make several motors. It seems a bit steep at 8 bucks but then I come from a time when the top price on Comet kits was about a dollar.

Wings and tail surfaces are a foam plastic, the stick fuselage is balsa and the propeller is molded plastic. Assembly is quick and easy with a thorough page of instructions. Would be great

for teaching a bunch of school kids to introduce them to models. A great indoor flyer.

If you go to the following web site there is more information including several videos ---

www.amaflightschool.org/alpha

The Free Flight Rescue Project

There is another project for getting kids interested in model building being organized by Dick Bertrand, a long time modeler. He is being helped by interested and experienced modelers around the country and possibly even in other countries.

If you can round up a batch of interested kids at your local school a number of kits are available either free or at very low cost. The kits are balsa construction and need to be assembled and glued together which makes for two or three sessions from assembly to getting them flying.

Bob Holman, who laser cuts kits for the Society of Antique Modelers and other groups is making a special price on the kits. RCMW has contributed to this effort so that kits can be sold at very low cost or even given to kids who don't have the money to buy them.

For more information contact Dick Bertrand at his email address ---

freeflightrichard@gmail.com

GEORGE

C. A. RIPPON

"GEORGE" was a term used by the RAF in WWII to refer to the autopilot. This design, which appeared in the August 1941 issue of Aeromodeller was apparently so named by the author since he claimed that the design was so stable that it flew like it was on autopilot. He refers several times to the "Duraplane" wing design. We'll try to find out more about the design and the previously designed model that is referred to in the text. An "Autopilot" wing sounds a bit too good to be true.

Fully detailed description and plans for building the model that won the 1940 "Flight Cup" competition.

It is an interesting fact that the only times that I've used the original Duraplane wing design I've got away on thermals, and had a spot of bother with the fin both times, which, with a more conventional type of wing, may have proved

disastrous; but, beyond a fine demonstration of spin correction, nothing untoward happened; and this happens to be the strong point of the wing design.

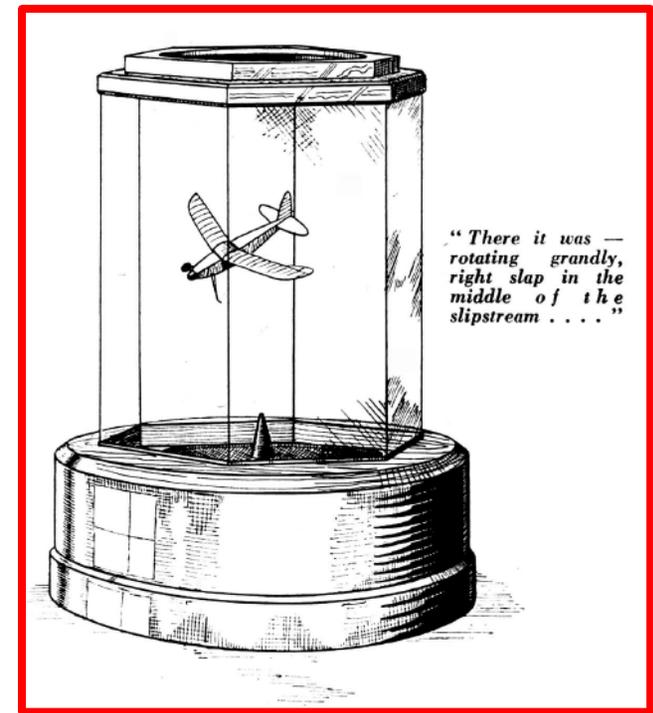
At the last Model Engineering Exhibition the R.A. F. Had a demonstration vertical wind tunnel in which various solid 1/72 scale models of well known aircraft were spun, and in the course of conversation about models and modelling, I pointed out to the sergeant in charge that aeromodellers designed their models to avoid accidental spinning.

"Oh," said he, " but we can make any model 'plane spin in this tunnel."

"But not without distorting the trim," I replied.

The argument waxed hot, and in the end I declared I would make him a model he couldn't spin without radical alteration. He accepted my challenge, so I made a miniature Duraplane.

Well, they played with it on and off for a couple of days, trying this dodge and that (loading the tail with Plasticine was one !). At last he came along and invited me to see my model spinning slowly and perfectly!



Believe me, it looked good. There it was, rotating grandly, right slap in the middle of the slipstream from the fan, and by varying the speed it rose and fell, practically under perfect control. But what had he done to get this result?

He had had to remove one wing flap and one wheel, which had the result of upsetting the side areas. When these parts were replaced, the model would commence one rotation only, and then the pressure on the outer flap would increase, and never once did it fail to straighten the model up and cause it to dive out of the slipstream.

In the "Flight" Cup Contest, these features were reproduced, for on the second flight the fin, which was of light construction, developed a warp which, after the power had run down, caused the model to turn too violently to the right.

It so happened that at the critical moment the model was soaring at about 150--200 ft., nearly over a clump of trees surrounding a pond. On the model turning in over this hazard it flew into a severe down-draught (no doubt caused by the water), and then the fun began. The model started to spin viciously, did about one-and-a-half circuits, and then the outside flap took control and out she came.

Once more the model came within the influence of the downdraught, the right-hand turn accelerated into a spin, but once more she came out. After about four of these episodes, the model finally veered away from the vicious down-draught to make a perfect landing on the far side of the trees.

Naturally, I took precautions before the third flight to ensure that the fin did not "do the dirty" on me, but here was a case in point where the precaution of extra stability once more saved the day.

Having excused myself for using Duraplane wings (said he, tongue in cheek !), let us consider a few interesting facts about the new S.M.A.E. Formula Contest.

Those of you who remember Mr. Knight's "Kinglet" will recollect that it had 1 sq. ft. of area, weighed about 5 to 5-1/2 oz., and had a 12 in. fine pitch hardwood airscrew driven by eight strands of 1/4 in. flat rubber.

Many of these models were made and flown ("many" being a very conservative estimate) and I've lost count of the number of people who commenced their model activities with the good old "Kinglet." The average duration of this birch, wire and silk model was 30 to 60 sec., according to how well it was built and

trimmed, but it is worth noting that even rough jobs were capable of sound flying, and I well remember timing one of them for eight minutes out of sight!

A few years ago the Northern Heights were casting around for a new popular contest for the President's Cup, and the "Kinglet" specification seemed to me to meet the case for a popular model, the size being suitable for carting around, the cost of building it modest, and it was capable of a good average performance.

I felt that with the added convenience and ease of balsa wood construction, here was the job we needed. In order that we could compare results better, we decided to limit the weight of rubber to 1 oz. and, curiously enough, those of us who have flown the type do not find any advantage at all in increasing the amount of rubber, providing you do not increase the diameter of the airscrew above 14 in.

As we seem to be able to get the models up to a soarable height with a 14 in. diameter propeller easily, I cannot see any advantage in either increasing the loading per sq. ft. of the model, or the drag occasioned by the bigger propeller.

After several years' trial of this competition, the resultant models proved quite worth while, and very interesting, and this brought us to 1940 and the S.M.A.E. competition programme.

Owing to the desirability of curtailing soaring models and the probable difficulties with supplies and increased cost of building models, the present "S.M.A.E. New Formula" was put forward as a possible solution of the problem, and,

as usual, there cropped up a number of criticisms which have since proved groundless !

I was told that it was a retrograde step for one thing, and would stifle enterprise. All I can say now is that events have proved otherwise, because both my models, built to the specification, i.e. the Air Cadet and the "Flight" Cup winner, have proved steady and sturdy flyers, and have given good account of themselves.

I felt that to justify the formula it was up to me to "have a go," and so I designed "George" adapting, as was natural for me, the Duraplane wing. I broke fresh ground as far as I was concerned in using a diamond fuselage, in order to get a parasol lay-out with the minimum interference between the wing and the fuselage.

The undercarriage was a simple but effective sprung cantilever type with which I had been experimenting for some time, and it seems to be the complete answer to all the criticisms levelled at the conventional plug-in cantilever undercarriage.

The tail sat upon the two horizontal longerons, and was located and kept secure by the saddle to which the fin was fixed. Altogether a simple, effective and portable model.

The wing, which was built in two halves, and joined in the centre by tape, could be folded for convenience, and when in the open position, was held together with wire forks. The bearers for the wing were arranged so that the incidence could be varied.

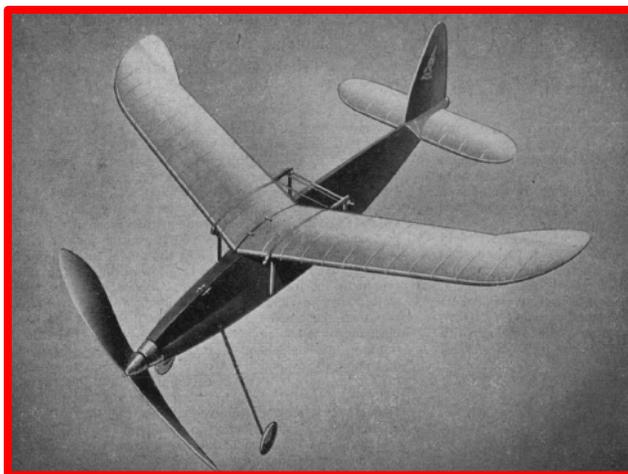
The airscrew was a fairly slow-running specimen, and, it will be noted, has well swept back blades, which have the effect of steadying the running and cancelling out a lot of the rubber "slap" that we get when the speed of revolution of the rubber motor coincides with a "period" in the model.

Just a point of interest to those of you who have an "Air Cadet" model. You can definitely improve it by making a pair of wings to the specification of those on "George", the only modification necessary being to lengthen the runners that are on top of the fuselage in a forward direction, as the swept-back wing will sit farther towards the nose of the model. You will then be able to "push" the model, using less down-thrust, and not be worried by the model "peeling off" at the top of the climb into a spin or side-slip, with its consequent disastrous finish.

The "Duraplane" wing as used on "George" has the flaps arranged somewhat differently to the original version. On that, the wing had no built-in "wash-out" but about five degrees on the flaps, which were well aft of the C.G. and C.P.

In to-day's specimen the wing has a reversal of incidence from the centre to the tips, and the flaps (when the model is flying level) have no negative or positive incidence; but they have a powerful extra corrective effect when the model tends to stall or dive.

Something of the same idea has been used in the form of small discs mounted on rods which stick out well behind the main wing on some American indoor models, and I assume the effect is much the same.



One most useful effect is that if the model takes-off and attempts to turn right or left too suddenly, the speeded-up outside wing is depressed, and before the model can dive into the ground or turn over it is clear away.

Of course, the usual precautions must be taken to avoid unwanted warps; although the type of wing is a great help to safe flying it is not an excuse for bad work !

Longitudinal stability is further improved to the extent that the wings may be moved quite a long way fore and aft of their correct setting without any disastrous results, so that, should you change your propeller and it is not of the same weight as the one replaced (and you forget to check the longitudinal balance) nothing very serious may be noticed. If the propeller is lighter, as the power dies off and the lifting tail loses its effect, the model will probably sink on an even keel.

Conversely, if the model is nose-heavy it will not dive into the ground but simply refuse to climb, for as soon as the downward speed increases the inverted flaps are depressed and the nose is lifted, or maybe the tail drops a little. So

you see the thing is foolproof so long as your work is reasonably accurate.

BUILDING INSTRUCTIONS

THE construction of "George" calls for no special comment, as it follows well known and sound principles.

The fuselage, a quite ordinary square box structure, is made from 3/32 in. sq. balsa wood, and is strengthened at the front by extra stringers, which build it into an eight sided nose, which lends itself to a good entry, and fairs nicely with a spinner propeller.

As is usual, two of the fuselage sides are built one on top of the other with pieces of waxed paper in between the two to avoid them inadvertently sticking together, and as the structure is square, it is a good idea to cut each set of four cross-members at the same time. You will then get them all alike, and when the final assembly of the fuselage is taken in hand you then have the minimum amount of fitting to do.

When the fuselage is complete, turn it diagonally and use the two horizontal longerons as the "datum line." From this all measurements for rigging must be made, so please be quite certain that you do not distort your longerons in the assembly.

It will be noted that under the tail seating the tail end of the fuselage is strengthened by cross-grained 1/32 in. sheet balsa wood, and the bamboo tail skid is fixed by means of glue and thread.

The tail-plane slides into the open portion above, and the fin, which is held in position by two small rubber bands, keeps all secure. There is room, too, for a little packing to prop the leading or trailing edge of the tail up, should it prove necessary.

The tail-plane has an outline of 3/32 in. sq. birch which, when the tail has been built, is sanded down to a "D" section, giving it a good entry. The type of construction follows the method described for the "Air Cadet," and is simple and effective.

A "V" shaped piece of 1/8 in. flat balsa wood, suitably lightened, serves to locate the tail-plane correctly. It will be noted that the centre section is covered with 1/32 in. Sheet balsa wood on top and underneath.

The fin also has an outline of 3/32 in. sq. birch, and the front end of it pokes through the 3/32 in. sheet balsa wood saddle, and locates in a hole in the top longeron at the point where it is reinforced to take the motor peg.

A "V" shaped 22 s.w.g. wire saddle, the lower ends of which form two hooks for the front rubber band, is cemented in place. The fin, therefore, sits very securely in position, and the whole tail assembly need never give you any trouble.

A small 1/16 in. sheet balsa wood trimmer is built into the rear of the fin, but note especially that the birch wood trailing edge is *not* cut away, the fin is independent, but is made a neat fit. Care should be taken to ensure that the trimmer doesn't flop about.

The principle of the undercarriage explains itself on the drawings, and is a modification of the popular "plug-in" leg cantilever type. Many

people seem to experience a great deal of trouble with plug-in legs and the paper tubes, and it was on this account that I experimented with rubber sprung specimens, and the method depicted is as near "fool proof" as possible, and very effective,

The important feature to observe is that the top of each leg must be about 1/2-inch away from the balsa wood plate, through which the doubled rubber band is threaded and secured by the bamboo pin. This is to allow the leg to swing backwards quite freely.

It will be noticed that there are two balsa wood struts fixed inside the fuselage in the same plane as the undercarriage legs. These serve a double purpose; they prevent the tension on the rubber band springs pulling in the undersides of the fuselage, which possibility is, of course, accentuated when the model lands, and they also serve to prevent the legs swinging forward, and act as a steady for them. Care should be taken, therefore, to see that they are fitted forward of the legs.

The actual bamboo legs are of a flat oval section, and taper from top to bottom. They pass through balsa wood plates, which may be reinforced by sheet celluloid or thin plywood, and are retained in their correct position by a binding of thread at the point of entry into the fuselage.

The hole in the balsa wood plates should be a snug fit so that the legs may swing to and fro, but not twist, otherwise a "drunken expression" is given to the undercarriage.

The wheel axles are flattened where they are bound to the leg, in order to prevent the axle twisting. The holes at the top of the legs are best burnt through with red hot 16 s.w.g. wire; this,

providing excessive pressure is not used, prevents the bamboo splitting. A binding of fine thread consolidates the job.

To fix the undercarriage into position all you need is a piece of straight (20 s.w.g.) steel wire, with a long narrow hook at one end and a loop to hook on to your finger at the other. Thread the wire hook through from the top of the fuselage and out of the appropriate hole at the bottom. Thread your rubber band through the top of the bamboo leg, and hook your wire "puller" into" it, and as you draw it through note carefully that the leg is the correct way round, otherwise your wheel will be facing inwards.

Having drawn it through, and before disengaging the "puller," push your fine bamboo pin through the rubber loop, relax - and "bob's your uncle." "Fit and forget!" No spreader should be necessary if the instructions have been followed correctly.

The Wing

It must be pretty obvious from my earlier remarks that I would not go to the trouble of making a wing which entails a fair amount more thought in lay-out, and extra work, than the more conventional type, unless I had satisfied myself that I was, definitely going to gain.

Wings embodying "inherent stability" would have been developed more for full-sized aircraft, if every known rule of the game hadn't been broken through the demands of war and the era of machines that could be "chucked about" very quickly.

Slowly but surely transport 'planes are reverting to "inherent stability," but the modern difference is that the stability is to a large extent under direct control of the pilot, and is represented by such gadgets as "George," the automatic pilot, flaps and slots, etc., and the pilot can cut them out, or let them in to suit the conditions of the moment.

Well, we model flyers want all of the "inherent stability" all of the time, and this wing is my contribution towards the solution of the problem of maintaining height and equilibrium. Not the perfect solution, maybe, but very satisfying and dependable.

The two half-wings have main spars of 1/16 in. sheet balsa wood, and they *do not* taper in thickness; the thickness of the section remains constant up to the last two or three ribs.

Each half-wing is swept back 16-1/2 deg., and is tapered towards the tip on the trailing edge only. By using a master rib section which has the last one inch or so of the trailing edge portion parallel, it is quite easy to cut out a set of ribs and fit them between the leading and trailing edge.

You will find that the amount of under-camber diminishes towards the tips of the wings and so gives the effect of washout. The leading edges are of 1/8 in. sq. hard balsa wood set into the ribs diamond fashion, and the ribs, which are 1 in. apart, are of 1/32 in. sheet balsa wood.

So that the centre portions shall sit firmly in place and maintain the correct incidence the undersides of the wings are reinforced with 1/32 in. sheet balsa wood of hard quality, and at the points where the shaped pins plug in, are further reinforced locally on the inner side of the ribs.

The wings are covered with 1/32 in. sheet balsa wood over the centre bays. The dihedral angle is determined by the angle at which the centre ribs are set, and if the angle is found to be insufficient (I won't say incorrectly built in, we never make mistakes do we? Or do we?) it can be adjusted by sandpapering the end ribs carefully.

As the two half-wings are held together on the underside by two tapes, it is an easy matter to reset them after the adjustment.

Points to watch out for to avoid trouble are :-

- (1) Be certain that the two half-wings are swept back exactly the same amount.
- (2) That no warps are built into them.
- (3) That they register correctly at the centres.
- (4) That the dihedral angle is equal on each wing half.
- (5) That the flaps are exactly similar, and are glued flat onto the underside of the trailing edges at the wing tips, not a negative or positive angle to them.

The wing tip flaps are cut from hard 1/16 in. sheet, and in order that they remain flat, a portion is cut out, and in addition, very thin celluloid sheet is cemented round the edges, which helps not only to keep each one flat, but reinforces the cross grain of the wood, so that it doesn't split or curl up. It will be noted that the straight edge of the underside of each flap is bevelled and faired into the underside of the wing.

The pins are made from 20 s.w.g. steel wire, and it's a good idea to bush the holes into which they fit. The wings are secured to the incidence pylons by light rubber bands drawn across fore and aft.

The pylons are made from 1/4 in. by 1/16 in. bamboo, bent by means of dry heat (not burnt) to the shape of the diamond, and bound lightly where they touch each longeron and just a spot of glue to secure them.

The holes for the incidence adjustment are burned through with 20 s.w.g. steel wire, and the incidence pieces are shaped from 1/16 in. plywood, the pins securing them in place run right across, and are made from bamboo. The rubber bands which hold the wings in place also serve to secure the incidence pieces.

The Airscrew

The airscrew, as I have already explained, is a special design of my own, and you are not bound to use one exactly like it, but what is advisable is to keep to the same diameter pitch ratio, because I have found the happy combination which suits the 1 oz. weight rubber motor specified.

The motor I found best to give me a quick take-off and good climb was 1 oz. of 1/4 in. by 1/24 in. Dunlop, made into a skein of 6 strands tensioned by a "lance" type rope tensioning system. This is the same method as explained in my article on the Air Cadet.

The diameter of the airscrew is 14 in., and the working pitch 22-1/2 in. I can spot some of the duration fans raising their eyebrows at this information, especially my friends of the Halifax Club, who I noted in Club Reports would have liked to have been permitted to use more than 1 oz. Of rubber.

I suspect that they were trying to get a "quart out of a pint pot," in other words, they were probably using paddle wheel propellers with steep

itches. It can't be done; if your motor weight is limited you must try other means of getting the desired results than by having too much drag occasioned by wide blades and steep pitches.

George's propeller has a very fine pitch at the extreme tip, and it increases pretty quickly to the working point 21 in. From the tip. From there to the boss the change of pitch is more gradual, and the "air brake" effect of the almost parallel blade seems to slow the propeller up just enough to use up the power efficiently, the average run of the motor being 60 seconds actual (about 75 seconds static on test) on 800 turns, with a well "run in" new motor.

Fully wound it gives 2-1/2 to 3 in. oz. torque, quite sufficient to give the model a fine, lively take-off, and which calls for careful adjustment of the "lifting tail" to avoid loss of climb.

I notice that many flyers overlook this very important point, for they mess around for hours with finger turns until they are satisfied that the model is "just right," then on go full turns with the winder, and they find the model just *isn't* right, and they glumly pick up two propeller blades from where the model "hit the deck!"

Please, for your own pocket, and peace of mind, be sure that your longitudinal trim is correct for full power, and that it will climb, and not dive straight into the ground. I know! I've had some! We've made these mistakes in the past, that's why I take this opportunity of reminding you of it.

The average duration of George in "still air" (i.e. When the Northern Heights "Gnats" come out about 8-10 in the evening) has been 80-100 seconds on 700 turns, which for a model

possessing quite a lot of parasitic drag is not too bad; when the air is lively the duration is seldom less than 120- 180 seconds.

In the competition which was run under perfect soaring conditions, the times were 120 seconds not fully wound ("safety first"), 170 seconds on the second flight timed out of sight behind a farm; actually the model was about 4-1/2 minutes in the air. On the third flight it disappeared into the clouds after 998 seconds.

So I'm sure you'll agree that 1 oz. of rubber is all that is necessary for good results with models built to the new S.M.A.E. formula, and I hope that

my experiences and suggestions will help many of you to make a real effort to pull off the " Flight Cup " in the future.

The weights of the component parts are as follows --

Fuselage and undercarriage --- 1-7/8 oz.

Wings --- 1-1/8 oz.

Tail and fin ---3/8 oz.

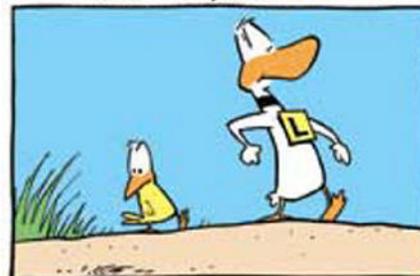
Airscrew and nose block, shaft, rubber peg and two bobbins, and ball race --- 7/8 oz.

Rubber motor --- 1 oz.

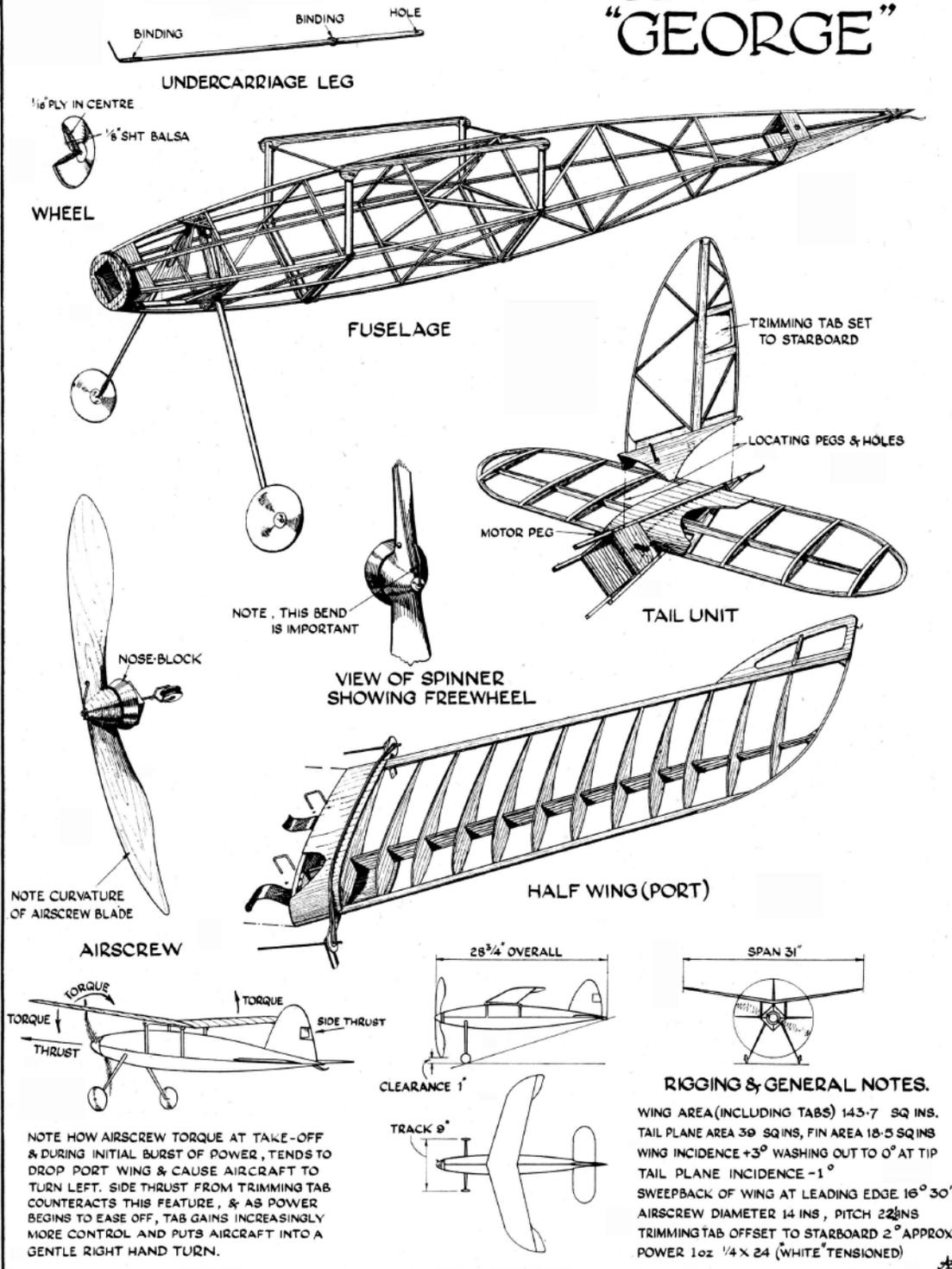
Total weight --- 5-1/4 oz.

SWAMP

by Gary Clark



DETAILS OF "GEORGE"



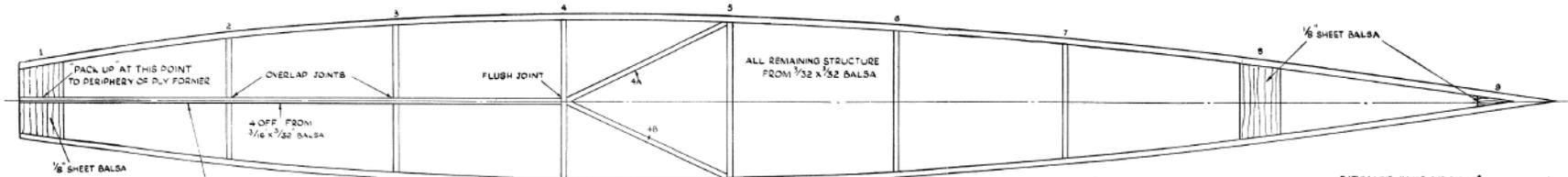
Note the unusual type of wing, a well known "Rippon" feature, and noted for the extreme stability it imparts to any model.

These detailed sketches, when studied in conjunction with the building instructions, leave no points unanswered to the builder, and should enable a first class replica to be produced by the most recent newcomer to aero-modelling.

Page 19 is a reduced size copy of the actual plan as it originally appeared in the magazine. It is a mixture of several different scales and if printed at 100% will be the same size as originally published. The original size copy can also be downloaded using the link on page 19

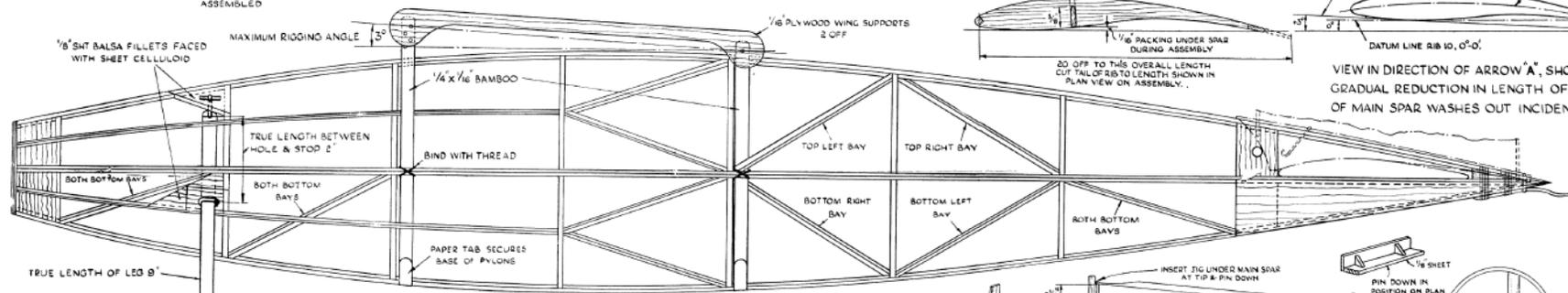
Page 20 is a reduced size copy of the plan as it was provided by Aeromodeller when a full size printed plan was purchased. The full scale version can also be downloaded using the link provided.

CUT 4 OFF, EACH CROSS MEMBER 1-9 INCLUSIVE

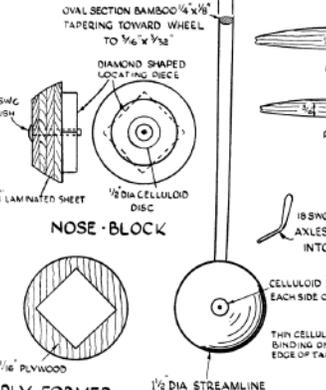


NOTE - THESE MEMBERS ARE ADDED AFTER BASIC STRUCTURE IS ASSEMBLED

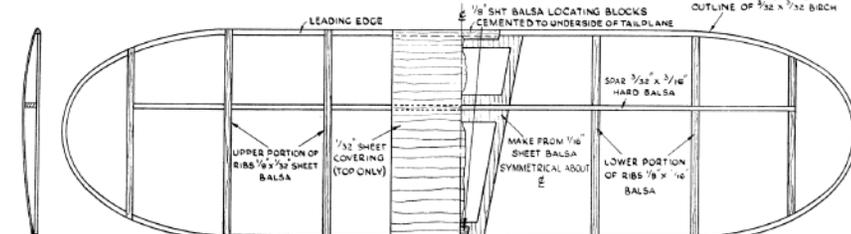
FUSELAGE BASIC STRUCTURE 2-OFF



ASSEMBLY OF FUSELAGE



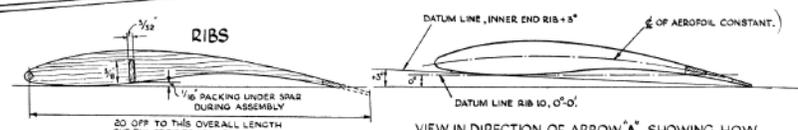
MAKE TABS FROM 1/16" HARD SHEET BALSA, NOTE INSERT CENTRE RIB WHICH KEEPS TAB FLAT. COVER TOP & BOTTOM SURFACES, CEMENT TO WING AFTER WING HAS BEEN COVERED



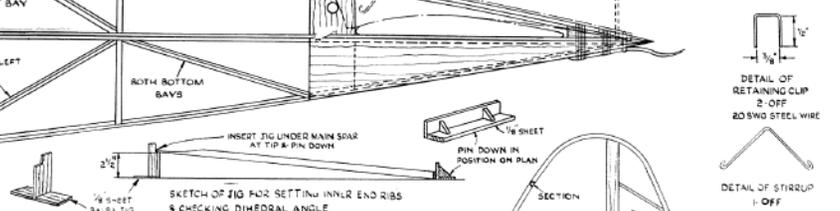
HALF PLAN OF COMPLETE STRUCTURE

HALF PLAN SHOWING TOP OF RIBS & SHEET COVERING REMOVED.

PLAN FROM DAVID BAKER HERITAGE LIBRARY DIGITIZING & RESTORATION BY ROLAND FRIESTAD

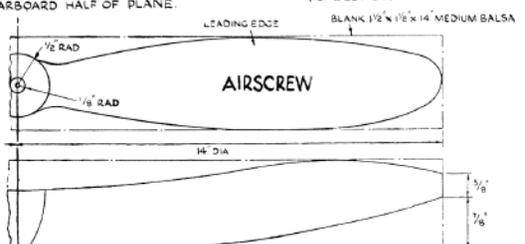
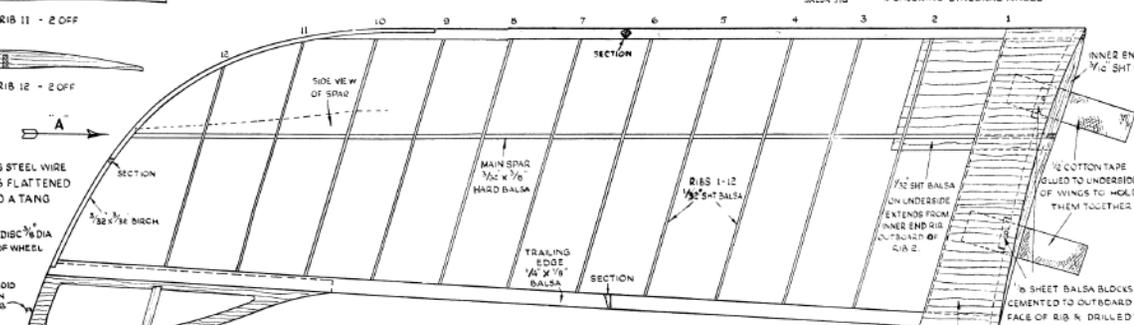


VIEW IN DIRECTION OF ARROW 'A', SHOWING HOW GRADUAL REDUCTION IN LENGTH OF RIBS AFT OF MAIN SPAR WASHES OUT INCIDENCE.



MAIN PLANE (PORT HALF DRAWN)

TRACE ONTO TRACING PAPER & REVERSE FOR STARBOARD HALF OF PLANE.



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"GEORGE" THE 1940 "FLIGHT" CUP WINNER. DESIGNED BY C.A. RIPPON. NORTHERN HEIGHTS MODEL FLYING CLUB. TRACED BY J.B.



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Another Rare Book From The ARCHIVES of the Digitek Books Collection

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Here is the first in a series of books published by Science and Mechanics, this one in 1946. It contains 14 projects of model building including boats, radio control for models, a home made metal melting furnace, patternmaking, several engines to build and even a working model of a 75 mm Anti-Aircraft Gun.

Of particular interest are the articles on patternmaking and building a metal melting furnace. Now you can make your own castings. But remember, the handling of molten metal can be dangerous if adequate protective clothing and good practices are not carefully done. Digitek-Books, whose website is mentioned below had additional books on metallurgy, foundry practice and patternmaking. Making your own casting can be very satisfying but remember to be careful.

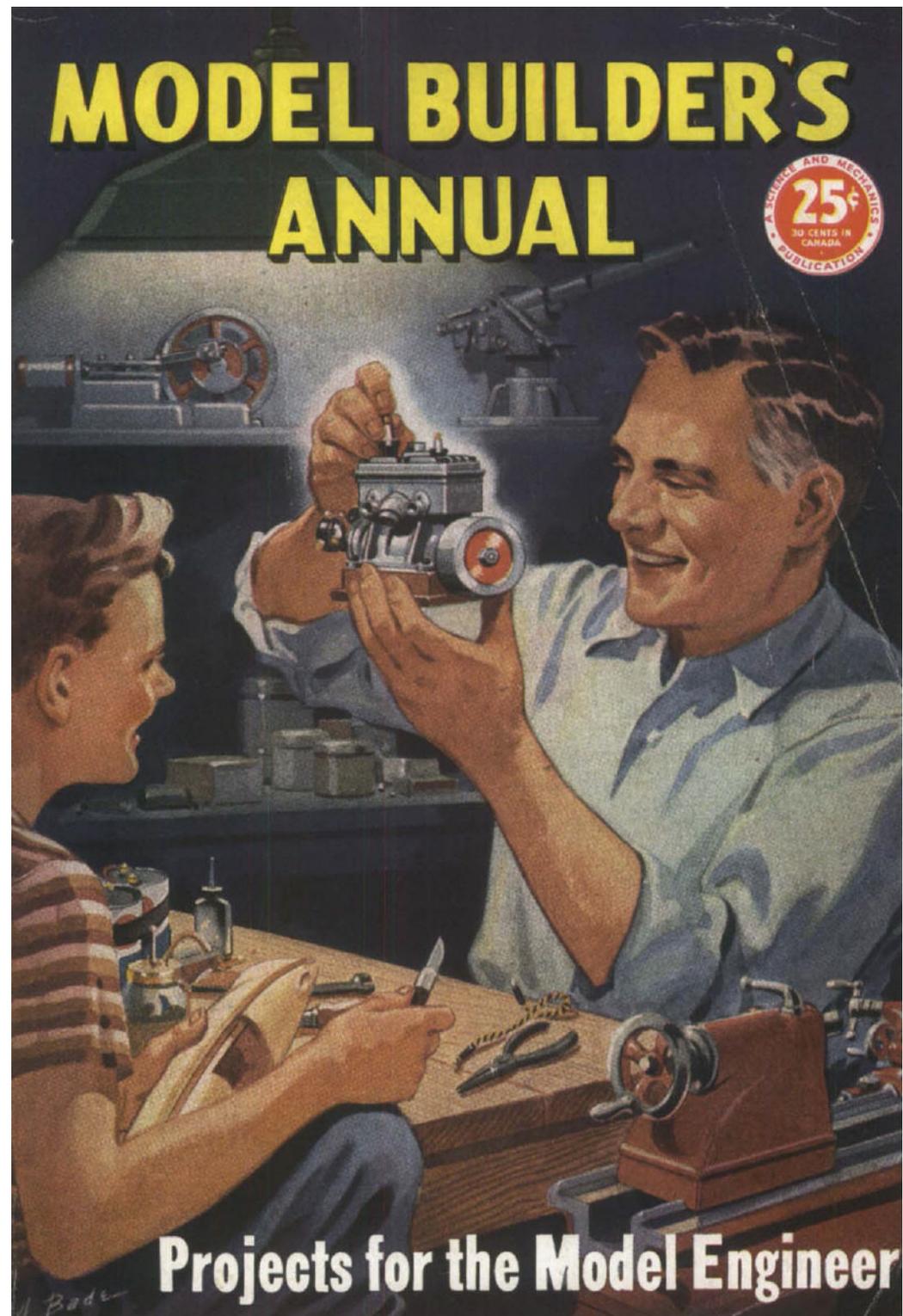
This book was donated by Gene Wallock

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the Drake... by Ken Willard

This easy-to-build little amphibian by Ken Willard appeared in the November 1951 issue of Model Airplane News. Give it a try. Would make a nice little electric RC ship, but build an RC boat for retrieval too.

Model amphibians present a unique challenge. Not only must they have air and water stability, they must have a hull and float design that permits water take-offs. Yet, when the wheels are down, the hull and the floats are protected and flying on land won't damage their structure.

The Drake was designed to meet this challenge. It flies equally well on field, or lake. Only minor adjustments are required to make the transition from landplane to seaplane, and the effect on flight characteristics is hardly noticeable.

Some may question the flat-bottomed hull, but experiments show that for model work this type of hull is highly satisfactory; the author has

used the basic hull design of the Drake on models all the way from 18" jobs powered by the Campus A-100 up to the design shown here with equal success.

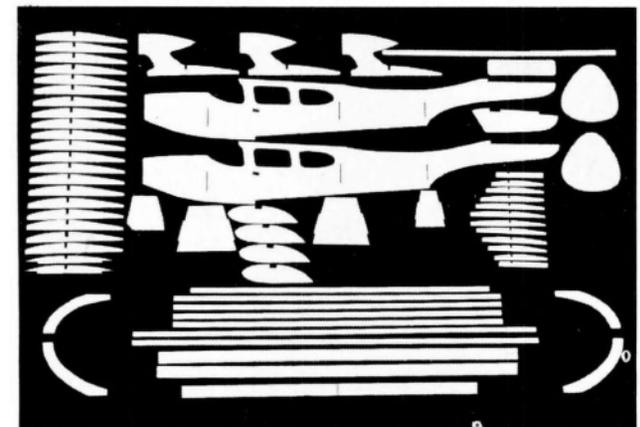
The flat bottom gives a "sea sled" effect which makes water take-offs very successful. It also assures that the sponson-pontoons, which provide water stability when the model is at rest, will ride free of the water during take-off. When the model is "on the step" the sponson-pontoons are well out of the water; also, the flat bottom of the hull resists lateral tipping when the model has attained "step speed."

Simplicity is the keynote in the Drake. A brief look at the photos and the plans will show how sheet balsa and strip balsa are used to yield the lines with a minimum of carving and fitting. Once you've collected the 1/16" sheet and the 3/16 x 1/4, 3/16 x 3/16, and the trailing edge stock from your local hobby dealer, you're ready to start.

Enlarge the plans to full size, cut out the templates from 1/16" sheet as called for on the plans, follow the step-by-step instructions for assembling them. and in a few hours you'll be ready to test fly the Drake.

HULL

1. Cement 3/16" sq. braces to sides in cabin and wing mount area as shown.
2. Cement tail former to one side, then cement other side to tail former, aligning sides carefully. Let dry.
3. Insert all bulkheads, except noseblock, and cement. Pin together if necessary until dry.
4. Cement 3/16" sq. crosspieces in place at top of windshield and on bottom at step. Trim ends to fit angle at which sides are set by bulkheads.
5. Press forward part of hull sides inward and cement nose bulkhead block in place. Hold together with pins until thoroughly dry.



These are the sheet balsa parts used on prototype. Slight changes were incorporated in the drawings. Looks like prefabrication!

6. Insert 3/16 x 9/16 x 11" sponson crosspiece (made out of three pieces of 3/16" sq.) in hull sides. Make sure it is centered, then cement into place. Reinforce with gussets of 1/8" flat scrap balsa, cut to fit snugly against crosspiece and the 3/16" sq. side braces.

7. Cement dowels for windshield and wing and tail mounting rubber bands in place.

8. Cover top and bottom with 1/16" sheet, grain running crosswise of hull.

9. Cut out windshield and windows from cellulose acetate and cement in place. Crease windshield slightly where it curves around dowels. This makes it easier to install.

10. Add tail platform, making sure it will hold tail surface level with the wing.

11. Add the piece of trailing edge stock on top of fuselage which serves as a wing aligning block.

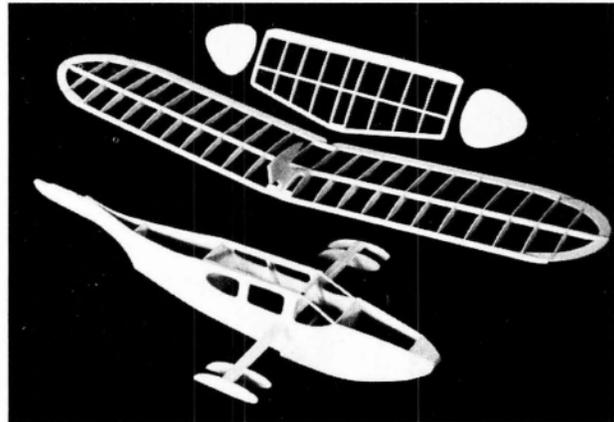
12. Sand smooth. Round the corners slightly at top of hull. but keep corners sharp on the bottom.

13. Finish by covering entire hull with colored paper doped to the wood: dope the paper with four coats of thin clear dope, then fuel proof it.

SPONSON-PONTOONS

1. The two sides of each sponson-pontoon are cemented to the 3/16 sq. x 11 /B XXXX long leading edge and trailing edge braces which are trimmed to shape shown on side view.

2. Cement the pontoons on the crosspiece. The notch at top of sides slides on crosspiece and provides the proper angle.



Skilled model designers will rave about the ingenuity, realism, and simplicity so nicely combined in both structure, assembly.

3. Cover top and bottom with 1/16" flat stock, wrapped completely around nose. Wet the outside of the balsa to help in curving it around nose.

4. Sand smooth, cover with paper, and dope.

5. Add 1/4 x 3/16 leading edge to crosspiece between hull and pontoon. Round to shape.

6. Add piece of trailing edge stock to rear of crosspiece between hull and pontoon. Trim crosspiece to fit trailing edge smoothly.

7. Sand the streamlined crosspiece smooth, cover and dope as on hull.

LANDING GEAR

1. This is optional for flying as landplane. Bend the wire to the shape shown, and hold main gear in place with rubber bands looped over dowels at top of hull. Gear is shock absorbing.

2. Tail skid can be permanent if desired.

WING

1. The wing is of conventional construction except for the engine mount. Build each panel flat on the table, except the tip pieces which should be sloped up to meet the spar. Trim the tip rib to fit snugly. Notching the trailing edge to receive the ribs is optional, but adds to the strength.

2. To join the left and right panels and obtain proper dihedral, block up each tip 2-1/2" from the table top, trim the bottom of the leading edges and trailing edges at the center so bottom edge of center section ribs can lie flush on table. L.E., T.E. and spar of each panel should be trimmed to proper length to butt joint at center of wing.

3. Cut two spar joining plates from 1/16" hard flat stock to fit in center section when wing is joined and dihedral blocks are in place, then cement spar center sections and plates firmly in place.

4. Cement 1/16" flat bracer across center section at L.E. and 3/16" sq. brace at trailing edge. Trim to fit.

5. Engine mount pylon can be 1/8" plywood, or three laminated pieces of 1/16" hard balsa, with grains running in different directions for strength. Shape is shown in side view (piece going into center section is shown in heavy dotted lines.)

6. Line engine pylon up, fore and aft, and cement in place. Brace thoroughly with 3/16" sq. braces running from pylon to center section ribs. And along pylon from L.E. to spar. Braces should be trimmed to snug fit, and placed so as to be well inside the wing center section after it has been covered.

7. Cover top and bottom of center section with 1/16" flat stock.

8. Shape the leading edge, sand the entire wing structure smooth, and cover with colored paper.

9. Providing a mounting wall for the engine on the pylon is a matter of individual taste. The author used two pieces of white pine, shaped to provide a circular mounting wall, and cemented to the pylon sides. grain running vertical. Mounting holes were drilled, and balsa fairing added to streamline the pylon. Cutouts in the balsa fairing were provided to allow access to mounting nuts.

TAIL-SURFACES

1. Build the stabilizer, flat on the table in the conventional manner. Make tab from 1/16" flat stock and attach with soft wire hinges which will bend for adjustments.

2. Make rudders from 1/16" flat sheet. Put tab as shown on left rudder only.

ADJUSTING AND FLYING

1. The model should balance at the spar. Add weight to nose or tail if required. Nose weight can be 3" strips of solder running straight back from nose block along bottom of hull. They serve also as skids when the model noses up.

2. Note the angle shown on the stabilizer tab. This is because of the high mounting on the engine. The model should be adjusted to glide with the tab setting as shown; then, under power, the propeller blast on the tab overcomes the nosing down tendency which would ordinarily occur with a high mounted engine. When the engine quits, the tab is not so effective, and a smooth transition from power flight to gliding flight results.

3. The wing and tail are held on by rubber bands. The aligning block at the trailing edge of the wing on the hull helps to keep the wing on straight. The stabilizer is aligned by setting the center ribs parallel to the edges of the tail platform. It can then be pinned in place, or dowels can be inserted in the tail former, projecting up and holes made in the stab leading edge center brace and trailing edge to fit the dowels. This is optional.

4. The model flies equally well either to the right or to the left. Whichever direction is your preference, offset the engine thrust line slightly in the opposite direction, and use the rudder tab to get the desired turn. When flying from the water, don't try to get small circles, as they will hamper the take-off characteristics.

5. Before flying from the water, the entire model should be checked for leaks. It must be completely water tight; otherwise it will absorb water which will destroy the balance. If all joints have been properly cemented, and the paper covering goes over the whole structure, the doping and fuel proofing will also waterproof the model. To check for leaks. dunk the hull in the bathtub briefly. If bubbles appear, note where they come from, dry the hull and seal the leak with cement. Check the wing and tail also. Rough landings on the water during testing may make the model nose over, and then everything gets wet. But no harm is done if the structure is water light.

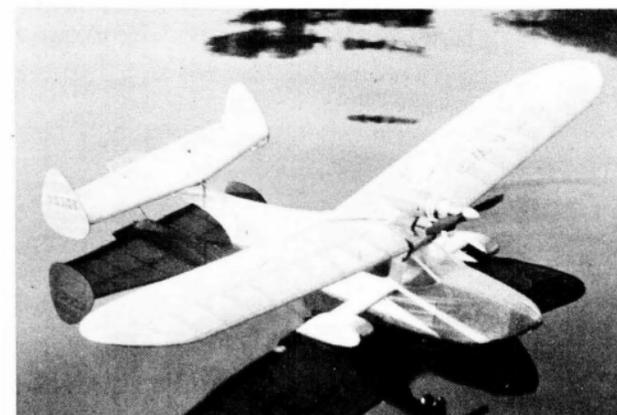
6. Test flights with the prototype were made first with the Infant .020 (yes, the Infant not only flies this 7-1/2 oz. model, but will lift it from the water) to check the adjustments, then the Torp .035 and .049 were successively installed. Beautiful 20 foot long take-offs with the Infant were replaced by snappy four foot runs with the Torp

.049. The model flies well with any of the half A motors, but unless you have an Infant for moderate power tests, better run your engine a little rich at first. Dunking won't hurt the model. but sometimes the water makes the engine very balky, even though you blow the water out thoroughly and squirt in fuel following a ducking.

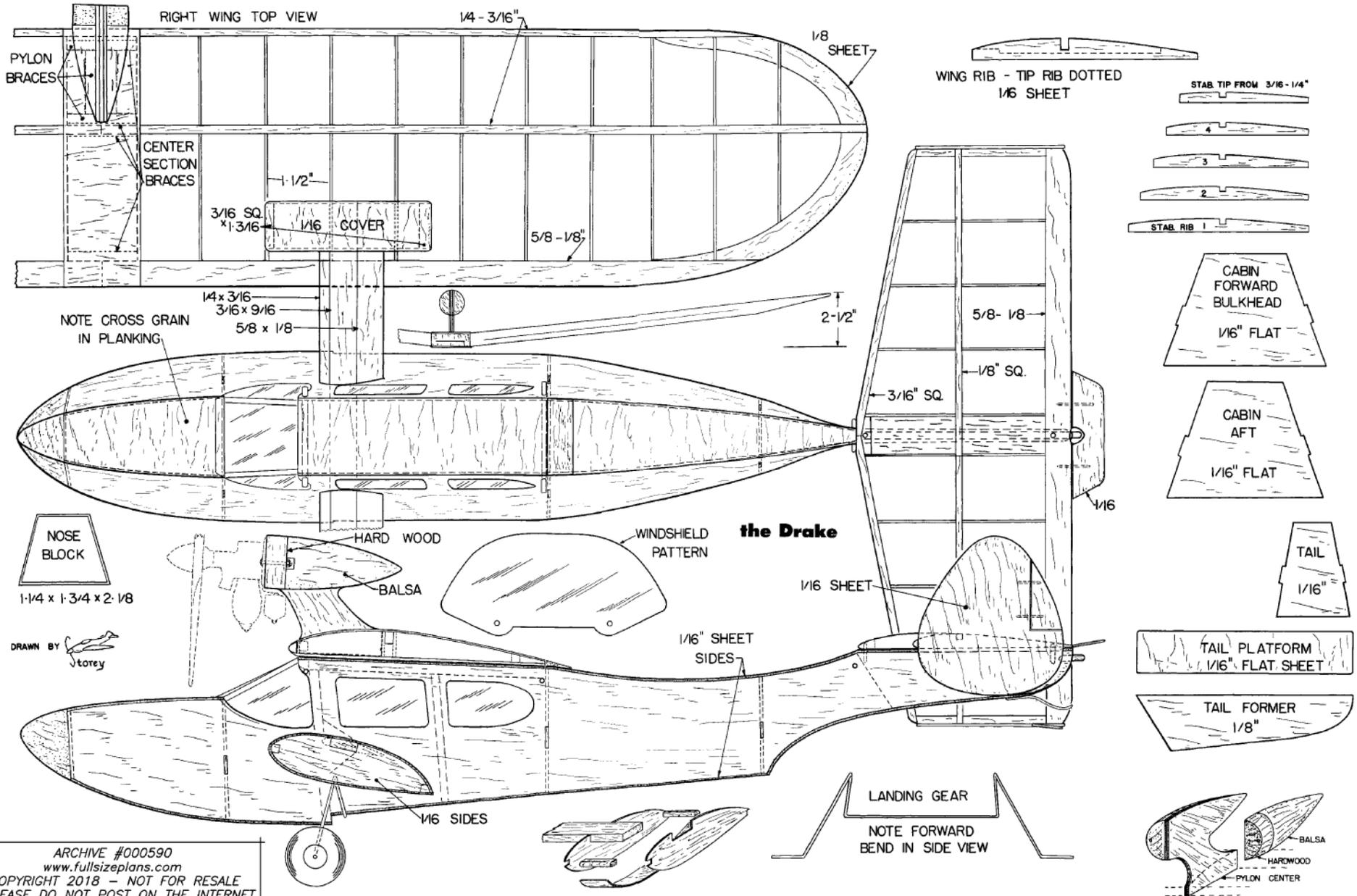
7. When flying as a landplane, the wheels change the balance slightly and you'll have to readjust the model. A little modeling clay added to the tail will reestablish the balance, since it will have a much longer moment arm from the balance point than the wheels.

8. The wheels are so located as to protect the pontoons from crash landings, but the position does have the slight drawback of causing the model to nose forward on the hull on some landings, then drop back on the tail skid. This is where the strip solder nose weights prove doubly useful, as they also protect the hull.

Once in a blue moon do you see an amphibian as nice as this one. It flies on .02 to .049's.



The Drake floats nose high out of water which means planing characteristics are good, that landings will be smooth.



NOSE BLOCK
1-1/4 x 1-3/4 x 2-1/8

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FROM MODEL AIRPLANE NEWS NOVEMBER, 1951

[CLICK HERE TO DOWNLOAD THE FULL SIZE PDF FILE](#)

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 **FREE** for download to RCMW subscribers.

This issue contains several construction projects, particularly scale projects including the KIMPREL DORMOY BATH-TUB, Skymasters WACO YQC-6, VIRI OH-11K Peanut scale by Walt Mooney and a twin gas engine free flight winner, the HANDLEY-PAGE 0/400. Lots of stuff to work on and read about, and the cover isn't too bad either !!

Download the complete issue and relive the days when you were 35 years younger - If you're less than 35 years old then just marvel about how much different things were "way back then".

To download the March 1981 issue of MODEL BUILDER, click on the link below ---

[-- CLICK ON THIS LINK PLEASE --](#)

This download link will expire on January 1, 2019, so if you'd like this issue for your own collection, better do it now.

A selection of digital books and magazine collections are available. They include AIR TRAILS - MODEL AIRPLANE NEWS - FLYING MODELS - MODEL BUILDER - RC MOD-ELER - AEROMODELLER and many others - Just click on the link below to visit.

www.digitekbooks.com



Digitized 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.

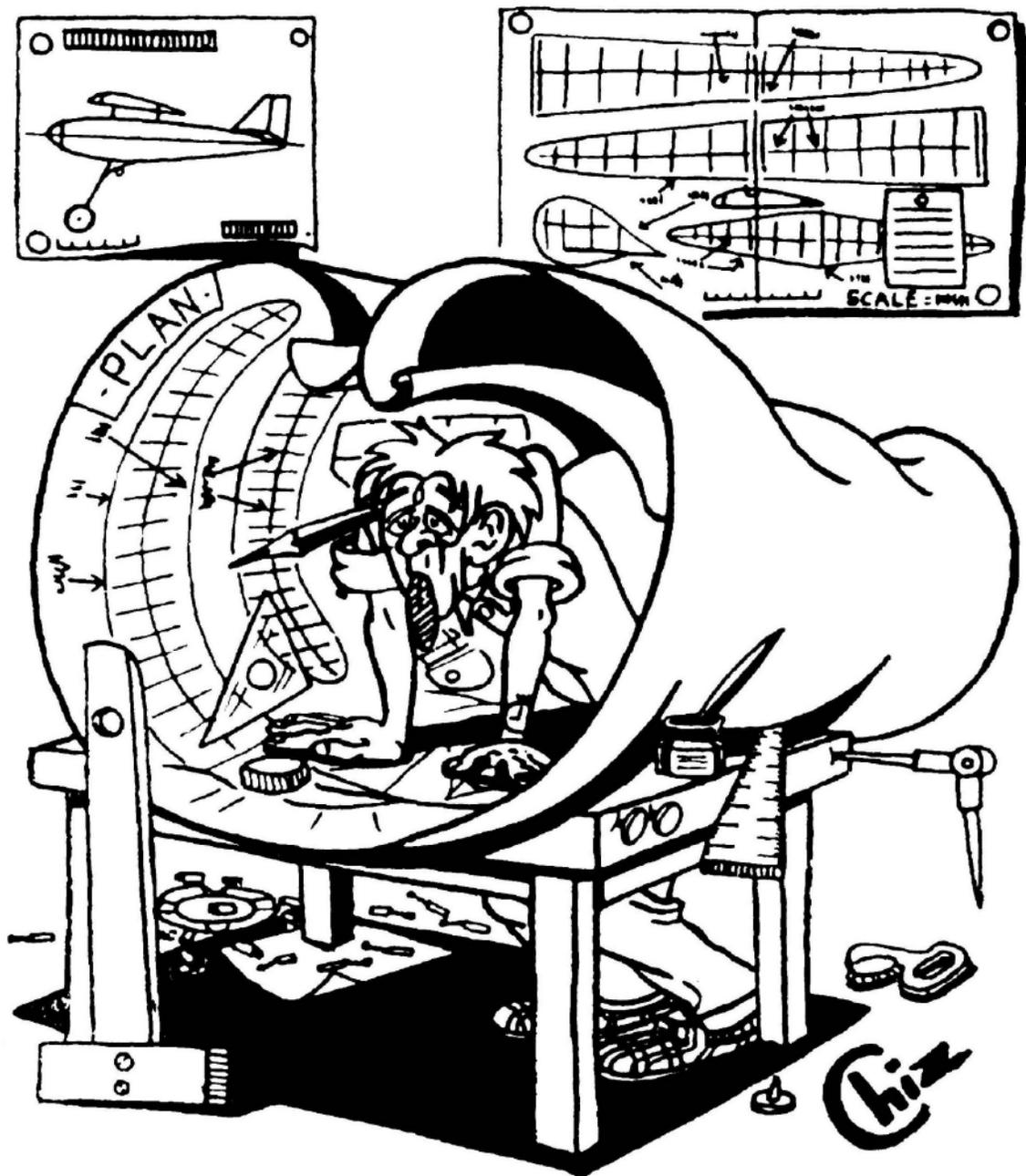
That's NOT the way it was in the past, when you had to build a model before you could fly it. If you're an old-timer, as I am, you have fond memories of *Air Trails*, *Flying Models*, *Model Airplane News*, *Aeromodeller* and many of the several other magazines available "way back when".

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 60 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 catalog and order information on the next pages.

Keep 'em Flying - Roland Friestad - Cardinal Engineering



AEROMODELLER DECEMBER 1952
USED WITH PERMISSION

AIR TRAILS MAGAZINE AND AIR TRAILS ANNUALS



Air Trails was one of the premier model airplane magazine and claimed the largest circulation of any.

It started as an out growth of an earlier publication, **Bill Barnes Air Adventurer** which later became **Bill Barnes Air Trails**. By the February 1937 issue the publisher had dropped Bill Barnes from the title and the magazine became known as **Air Trails**.

Over subsequent years there were several other names but it was known as Air Trails for the longest period of its publication so we are referring to the entire collection under that name.

The earlier publications consisted mostly of aviation related adventure stories but by the time it had become Air Trails, model building and aviation had become so popular that the adventure story content was being reduced in favor of construction articles and plans for model builders and competitors.

Many well known model designers are represented throughout the entire series. Also well known full scale aviation luminaries were often represented in articles about aviation de-

velopments and the need for people knowledgeable and interested in aviation. This was particularly evident during the years just prior to and during WWII.

These issues are filled with great plans, 3-views of actual airplanes, wonderful cut-away drawings of model and full-size airplanes, and lots of technical information about engines, aerodynamics and how-to-do-it articles.

With 460 issues in the entire collection you will have more than enough to keep you fascinated over those long evenings when the glue is drying or the humidity is too high to dope a model.

Any or all of the approximately 45,000 pages can be printed on your own computer using the free Adobe Acrobat reader that is furnished with each collection. That way the printed pages can go to your workshop and the original digital copies are not damaged with glue, dope, and coffee cup rings.

Order the dates that interest you or the entire collection at the special price shown.

Catalog - D001009 - Air Trails Annuals
All Issues Published - 1938 thru 1969
25 Issues - \$30

Catalog - D001010 - Air Trails Magazine
January 1937 thru December 1943
84 Issues - \$50

Catalog - D001011 - Air Trails Magazine
January 1944 thru December 1950
84 Issues - \$50

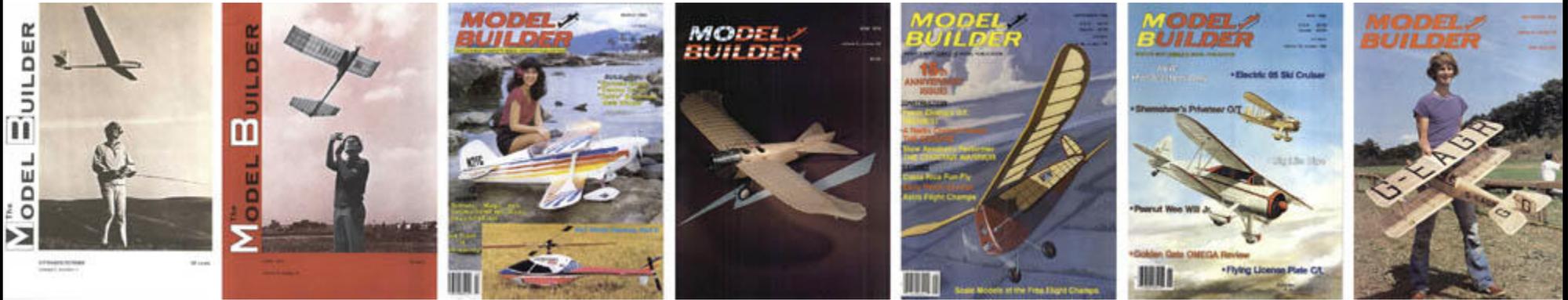
Catalog - D001012 - Air Trails Magazine
January 1951 thru December 1961
132 Issues - \$50

Catalog - D001013 - Air Trails Magazine
January 1962 thru December 1971
96 Issues - \$50

Catalog - D001014 - Air Trails Magazine
January 1972 thru March 1975 - End of Run
39 Issues - \$25

**Catalog - D001015 - Air Trails Magazine & Annuals
Complete Collection - 460 Issues Total
Special Price - \$200**

MODEL BUILDER MAGAZINE

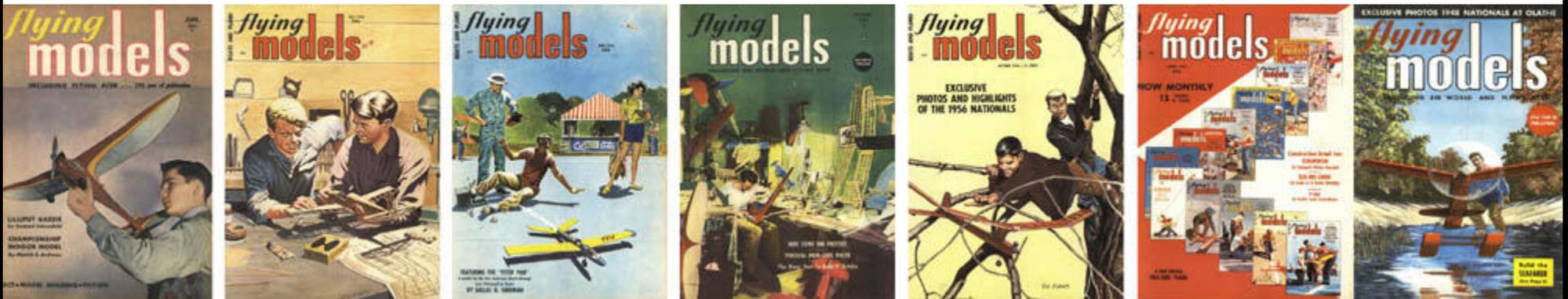


Model Builder magazine began publication with the first issue which appeared in September~October 1971, at about the time that the venerable Air Trails magazine was nearing the end of its publication run in 1975. Model Builder quickly became one of the most popular general interest model magazines in the USA and continued so until publication was discontinued with the final issue dated October 1996.

This collection includes every issue published from the first to the last.

Catalog - D001001 - Model Builder Magazine
The Complete Run - Sep~Oct 1971 thru Oct 1996
295 Issues - \$75

FLYING MODELS MAGAZINE



Flying Models first appeared in June of 1947 and until the middle of 2014 remained in publication. It is no longer being published at the time of this writing (January 2015). As other publications became more specialized in various areas of model building, Flying Models continued to cover areas of general interest to model builders while other magazines specialized in ARF (Almost Ready to Fly) models.

This digital collection includes all 123 issues from June of 1947 thru December of 1963

Catalog - D000013 - Flying Models Magazine
June 1947 (First Issue) - thru December 1963
123 Issues - \$50

MODEL AIRPLANE NEWS MAGAZINE



The first issue of Model Airplane News hit the newsstands in July of 1929 and is still being published today. Volume 1, No. 1, is quite rare and difficult to find. We were loaned that issue by the late David Baker of England which was the last one missing from our archives.

We have digitized every issue from the first one from July of 1929 through the December 1952 issue.

These are available in two separate collections, one covering July 1929 thru December 1942 and one covering January 1943 thru December 1952 a total of 281 issues.

Catalog - D001002 - Model Airplane News Magazine
July 1929 (Vol. 1, No.1) - thru December 1942
161 Issues - \$50

Catalog - D001004 - Model Airplane News Magazine
January 1943 thru December 1952
120 Issues - \$50

RC MICRO FLIGHT & RCMW-FSP MAGAZINES



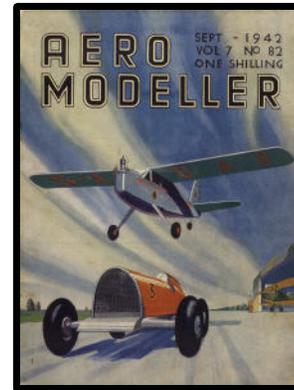
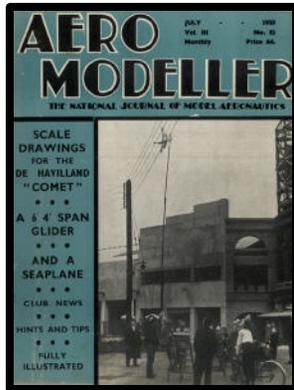
RC Micro Flight, a printed magazine edited by John Worth ran from 1999 through 2004 and was replaced by the online magazine RC Micro World, also edited by John. RC Micro World was combined with Full Size Plans to become RCMW-FSP. This collection includes all issues of RC Micro Flight and all issues of RC Micro World & RCMW-FSP through 2013.

Please note that starting in 2012, full size PDF files of plans published in RCMW-FSP are included in this collection too.

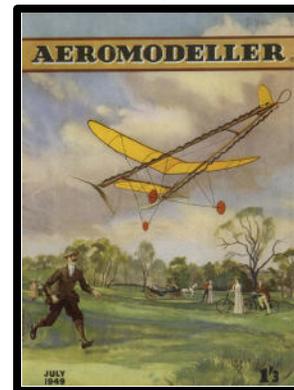
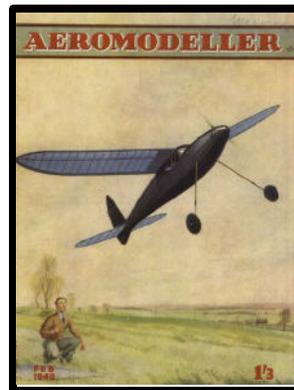
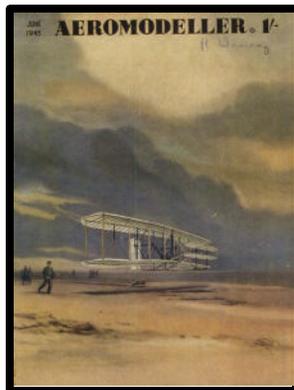
Catalog - D001016 - RCMF & RCMW-FSP
RCMF Complete Run & RCMW-FSP 2005 thru 2013
\$35

AEROMODELLER MAGAZINE - DIGITAL COLLECTIONS

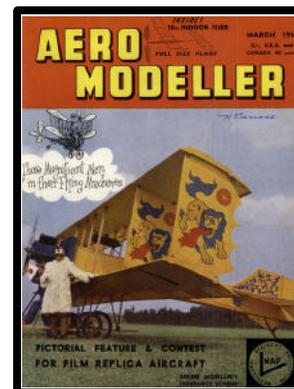
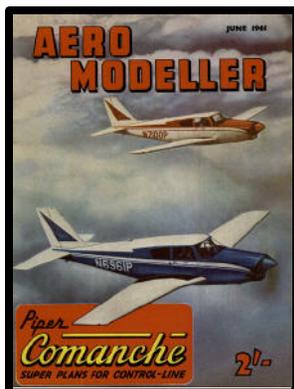
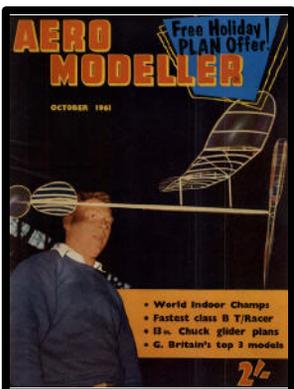
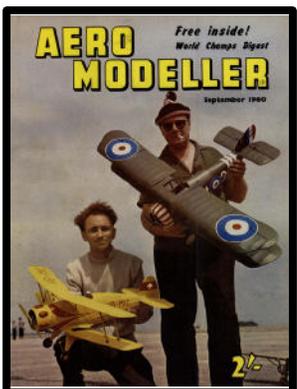
VOLUME 1, NUMBER 1 THROUGH DECEMBER 1942 - 85 ISSUES - \$60



JANUARY 1943 THROUGH DECEMBER 1949 - 84 ISSUES - \$60



JANUARY 1950 THROUGH DECEMBER 1960 - 240 ISSUES - \$75



Now, after several years and many hundreds of hours of work, we have completed work on high-resolution digital issues of the British magazine AEROMODELLER starting with the very first issue dated November 1935, through December 1969, over 400 issues

The early issues from 1935 through the 1940's war years are rare and hard to find. These earliest issues are from the late Ivor F collection in Australia, with thanks to his son Tahn Stowe.

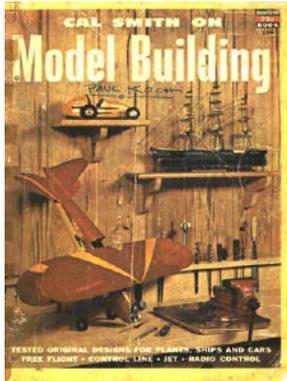
More recent issues are from Richard Barlow of Canada, Bill Vanderbeek, The Society of Antique Modelers library, Gene Wallock, Roland Friestad and other donors.

Catalog - D001047 - AEROMODELLER magazine
Vol. 1, No. 1 (October 1935) through December 1942
85 Issues - \$60

Catalog - D001065 - AEROMODELLER magazine
January 1943 through December 1949
84 Issues - \$60

Catalog - D001033 - AEROMODELLER magazine
January 1950 through December 1969
240 Issues \$85

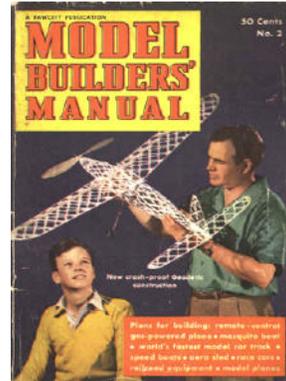
Catalog - D001263 - **SPECIAL PRICE**
All Three Of The Above - Save \$30
407 Issues - \$175



This book by Cal Smith has 148 pages of Free Flight, U-Control and RC plans and articles by the highly respected model builder and artist. Also boats and cars. Published in 1952 by Fawcett this issue is a classic but kind of hard to find.

D000010 - Cal Smith on Model Building

\$4.00

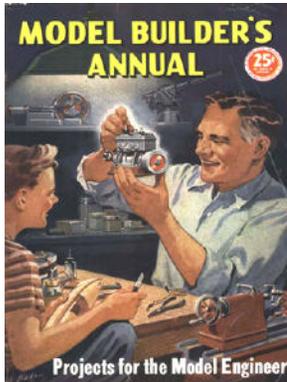


This second in the Fawcett series of model builders manuals was published in 1941, probably just before the start of WWII. Strong on model airplanes and boats with two plans for race cars and several other hints and kinks and DIY projects. 148 pages.

D000014

MODEL BUILDER'S MANUAL No 2

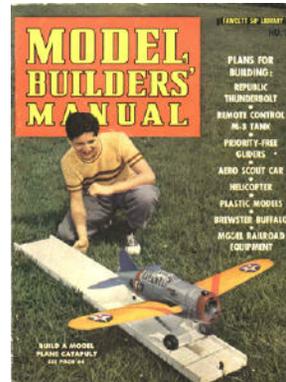
\$4.00



Published in 1946 by Science and Mechanics, here are 100 pages of articles on building engines for model airplanes, cars and railroads. Included are plans for a metal melting furnace and pattern and foundry practice. Even a working Anti-Aircraft gun.

D000011 MODEL BUILDER'S ANNUAL

\$4.00

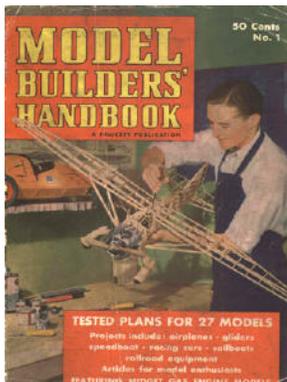


Fawcett's third in the series, published in 1942 has a wider variety of projects including a DIY metal lathe and a model sub-machine gun as well as the usual model airplane, boat and car projects. And how about a steam powered model destroyer.

D000015

MODEL BUILDER'S MANUAL No 3

\$4.00



This Fawcett publication of 1939 was the first of a series and has many model airplane designs, several model boats and two model race cars, plus articles on covering, a wind tunnel, range finder, how to build a jig saw and a Nelson Naval Cannon.

D000012

MODEL BUILDERS HANDBOOK No.1

\$4.00

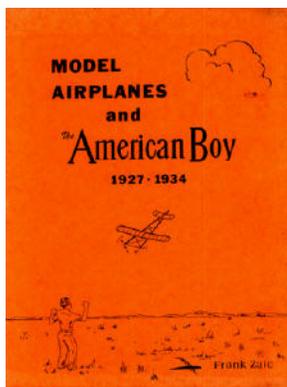


How about a 6 ft RC model by William Winter and Walt Schroeder? This 148 page issue published in 1950 may have been the last of the series. Lots of scale UC airplanes and a couple of FF jobs with several boats and cars and a 1 hp steam engine.

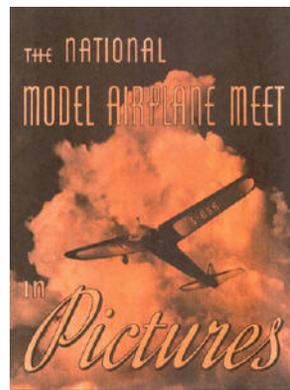
D000016

MODEL BUILDER'S MANUAL No 4

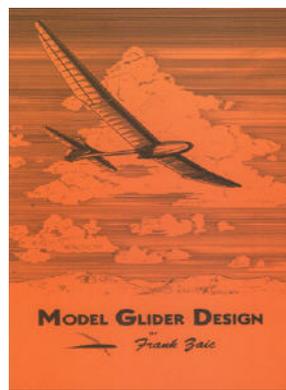
\$4.00



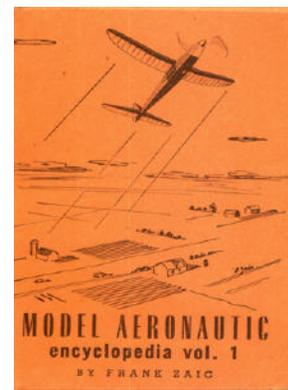
D001032 \$4.00
Model Airplanes and the American boy



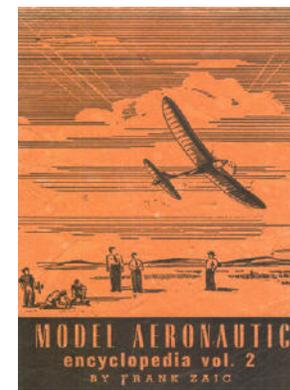
D001237 \$4.00
1939 NATS in Pictures



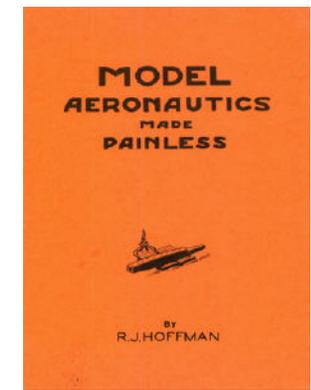
D001259 \$4.00
Model Glider Design



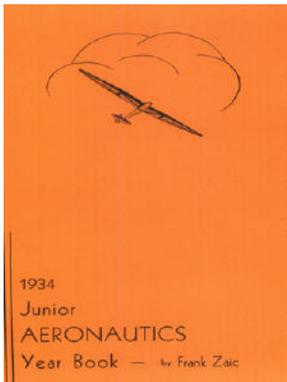
D001275 \$4.00
Model Aeronautic Encyclopedia, Vol 1



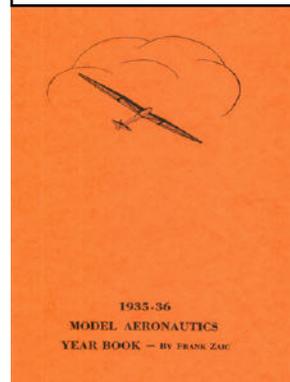
D001276 \$4.00
Model Aeronautic Encyclopedia, Vol 2



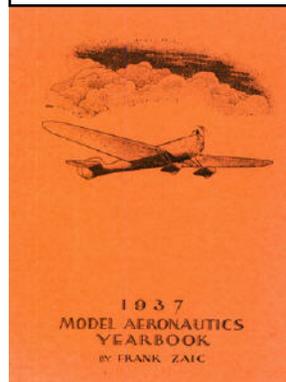
D001277 \$4.00
Model Aeronautics Made Painless



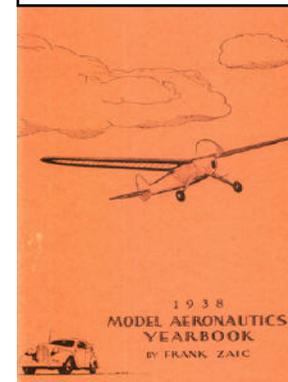
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D001278 \$4.00
Model Aeronautics Year Book - 1935-36



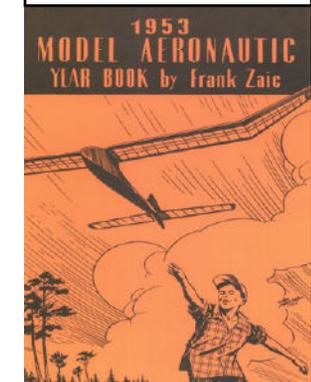
D001279 \$4.00
Model Aeronautics YearBook - 1937



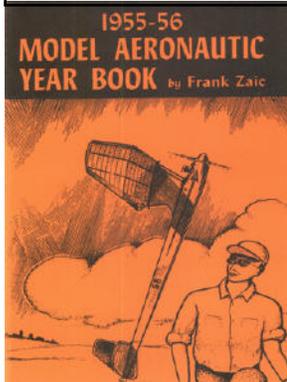
D001281 \$4.00
Model Aeronautics Yearbook - 1938



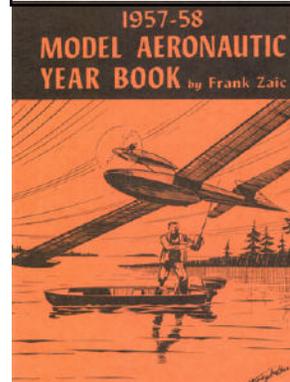
D001282 \$4.00
Model Aeronautic Year Book - 1951-52



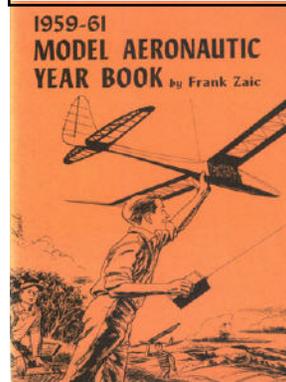
D001407 \$4.00
Model Aeronautic Year Book - 1953



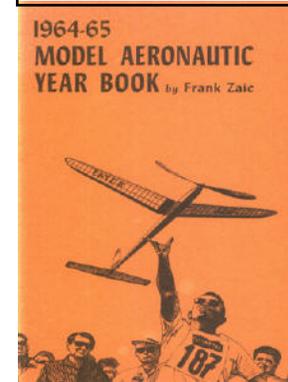
D001283 \$4.00
Model Aeronautic Year Book - 1955-56



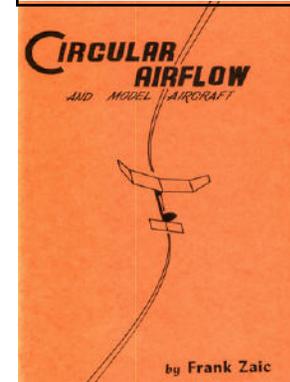
D001284 \$4.00
Model Aeronautic Year Book - 1957-58



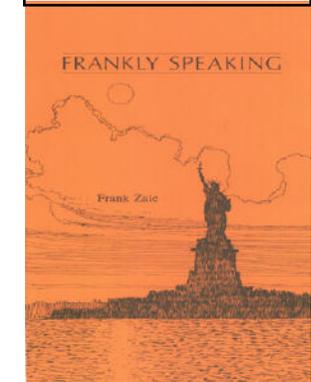
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	\$50.00	D001002 - MODEL AIRPLANE NEWS - #1 TO 1942
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