

For the Model Builder and Flyer - November 2016 Issue



Full
Size
Plans



It's been an unusually pleasant fall season in western Illinois this year. Of course the crops are being harvested and the trees can no longer hide models in their leaves since most of the leaves are on the ground. Not very windy either with calm mornings and evenings, so get out and fly because winter is coming.

We have a good selection of historical models and the first of a three part series of those great Douglas Rolfe drawings that originally appeared in Air Trails magazines under the title "Air Progress". The first of this series traces the "**Development of the Aeroplane**" beginning in 1490 through 1890. The pages printed full size would fit on 11 x 17 inch paper and framed would make a good addition to a den or "man cave." Watch for the next two of the series in the next two issues of RCMW.

We get questions about where to find supplies and services now that the local hobby shop has gone the way of the public telephone for the most part. So RCMW will be starting a feature where the names and contact information of various suppliers can be found. The first of this series is included in this issue.

Also in this issue is another new design by our regular contributing editor, Bob Aberle. This time Bob provides an updated RC version of the CIVY HEARSE, a PAA Load model originally designed by Paul Gilliam that appeared in the May 1950 issue of **Model Airplane News** magazine. The original had 40 square inches of wing area and was powered by an Arden .19 engine. Bob's version is 250 square inches with electric power and Micro RC.

We've included another of the SMILIN' JACK Sunday comic strips and a 3-View of the SCHOENFELDT FIRECRACKER racer that originally appeared in the December 1972 issue of **RC Modeler** magazine.

Bob Palmer and Ted Goyet developed HI-BOY, a high wing U-Control stunt ship that appeared in the August 1954 issue of **Model Airplane News**. Nice looking ship and interesting discussion of advantages.

The HELIOPLANE FF scale model by Henry Struck represents the prototype STOL design developed by two aero-engineering professors using wings from a production Piper. The ideas later became the basis for the Helio Aircraft. The model comes from the February 1953 Air Trails.

Stanzel, the monoline control folks in Texas had a series of designs. The SUPER V SHARK presented here was one. The plan comes from Lou Cumpston.

Bob Boucher, early supplier of electric motors for models, had this enlarged Cleveland VIKING with electric power and RC control featured in the January 1985 issue of **Model Builder** magazine.

And last, but not least, the Half-A pencil bomber TOP BANANA was a Skyline Products kit that is now OK for SAM competition since it was dated in 1950. Several are being built for competition as you read this.

Roland Friestad, Editor - Sorry to be late for this issue - Unavoidable -

RCMW-FSP --- INDEX

November 2016

- 2 - Editorial
- 3 - Index
- 4 - 003482 - 3-View - SHOENFELDT FIRECRACKER racer
- 5 - SMILIN' JACK Sunday comic strip
- 6 - CIVY HEARSE - Bob Aberle's Electric RC version of Paul Gilliam's PAA Loader
- 16 - 003813 CIVY HEARSE - **full-size-plan**
- 17 - Aeromodeller magazine digital collection - Rare Issues - 1935 through 1942
- 18 - HI-BOY - A high wing UC Stunter by Bob Palmer and Ted Goyet
- 20 - 000231 HI-BOY - **full-size-plan**
- 21 - DEVELOPMENT OF THE AEROPLANE - Part 1 - Douglas Rolfe
- 22 - HELIOPLANE - Henry Struck's FF Scale version of the prototype
- 24 - 000329 HELIOPLANE - **full-size-plan**
- 25 - 000054 SUPER V SHARK - **full size plan**
- 26 - VIKING - Bob Boucher's enlarged Cleveland Viking for Electric RC
- 28 - 001139 - VIKING - **full-size-plan**
- 29 - 004340 - TOP BANANA - **full-size-plan**
- 30 - Model Airplane News - December 1933 - Download complete issue
- 31 - Christmas Gift Idea
- 32 - Back Issue Model Magazines on USB flash drives

ON THE COVER

Cartoonist Martin Filchock gives us his
Impression of the NATS.
From the Cover of the August 1953
Issue of Flying Models

Subscribe to RCMW

RCMW is the only model airplane magazine that provides all plans as full size PDF files in every issue. All pages of the monthly online magazine can be printed out, including the full size PDF files, using your own computer printer.

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.

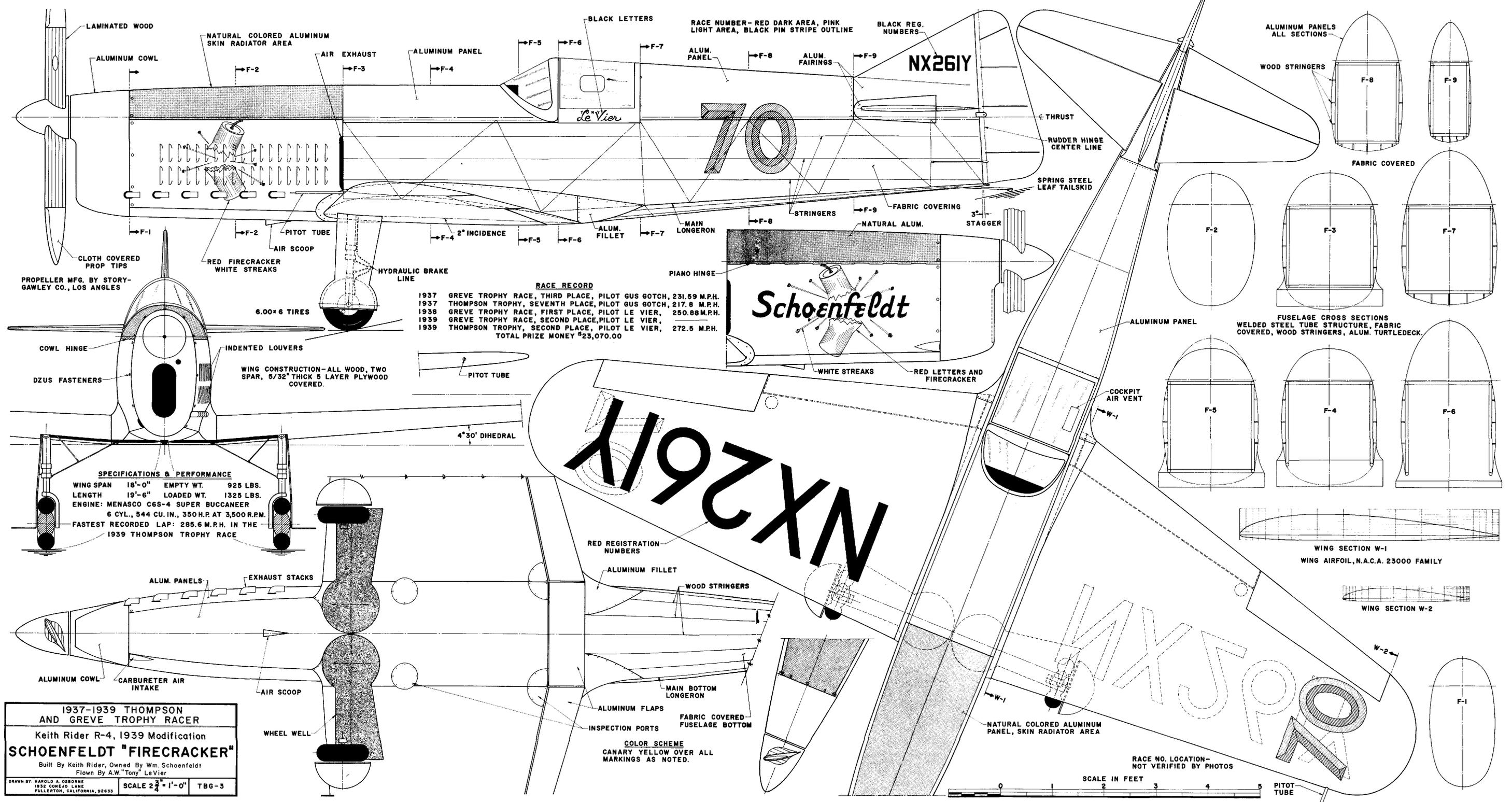
Each issue is full of useful information rather than just a seemingly unending series of advertising for expensive models and equipment.

Subscriptions are \$24 for a full year of 12 issues and you can also download the previous 11 issues on a rotating basis if you wish.

To Subscribe, send \$24 via PayPal to cardinal.eng@grics.net

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Roland Friestad
1640 N Kellogg Street
Galesburg, IL 61401
USA



FROM RC MODELER, DECEMBER 1972 ISSUE

THE BIG BOSS CRUISED ①
THE ROBOT JET PLANE
AT 40,000 FEET BY
REMOTE RADIO CONTROL
UNTIL HE KNEW THAT "THE
HEAD" WAS DEAD FROM
LACK OF OXYGEN---

SMILIN'

LATER, AS THE PLANE WAS
ON IT'S FINAL APPROACH,
"THE HEAD'S" BODY TUMBLED
OUT OF THE SEAT AND
JAMMED THE MANUAL CONTROLS,
WHICH OVERRODE THE RADIO
ROBOT MECHANISM!

JACK

THEN THE WILD PLANE
HEADED TOWARD
THE BIG BOSS!



--AND AS THE PLANE
CRASHES, "THE HEAD"
AND THE BIG
BOSS, ARCH
ENEMIES OF
DEMOCRACY,---



---ARE
OBLITERATED
FROM
THIS WORLD,
THUS ONCE
AGAIN PROVING
THAT CRIME
DOES NOT PAY!

LEAVING ③
THIS
SCENE
WHERE
JUSTICE
TRIUMPHED
WE
FLASH
BACK
HOME
TO
JACK!

THAT'S RIGHT,
SUPERSONIC SABLE,
I REFUSE TO BE
MANAGER OF
YOUR AIRSHOW
UNITS AGAIN!

---IT'S BEEN
PROVED THAT WE
CAN'T GET ALONG
WHEN YOU ARE
MY BOSS!



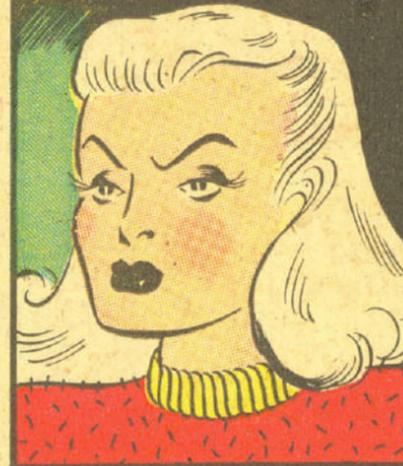
HOWEVER, I
WILL FLY WITH
YOUR OUTFIT
AS LONG AS
I'M ON MY
OWN!

---I HAVE ENOUGH
DOUGH TO DESIGN
AND FINANCE THE
BUILDING OF A FAST
LITTLE MIDGET
RACING PLANE!



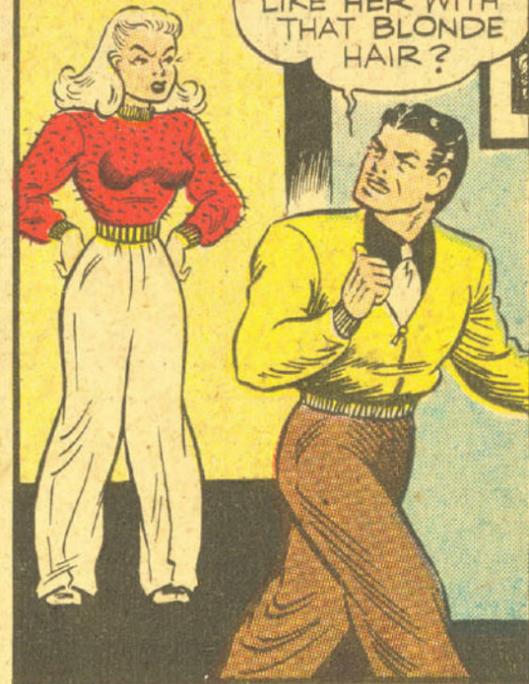
WELL, OKAY--- YOU CAN
RACE COMPETITIVELY,
BUT AS FOR OUR
GETTING ALONG, WE
JUST DON'T, PERIOD!

--- I CAN NEVER
FORGIVE YOU FOR
MAKING LOVE TO ME
WHEN YOU THOUGHT
I WAS MISS GUIDED
MISSILE!



AW, NUTS
I'VE TRIED
TO EXPLAIN,
BUT I
GIVE UP!

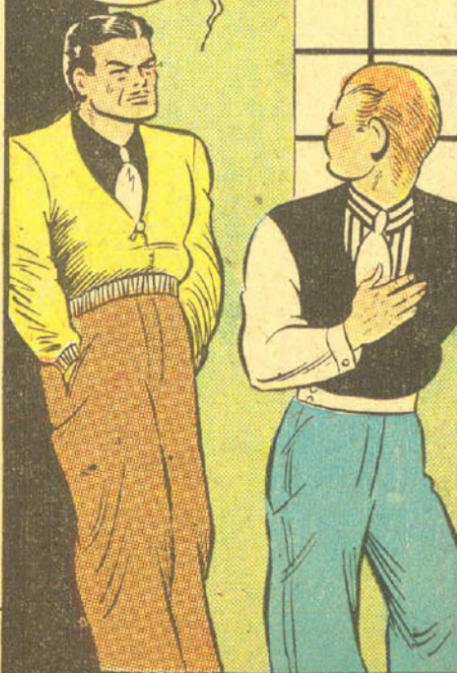
--- IF MISS
MISSILE
STILL GETS
UNDER YOUR
SKIN SO, WHY
DO YOU CONTINUE
TO TRY TO LOOK
LIKE HER WITH
THAT BLONDE
HAIR?



LATER

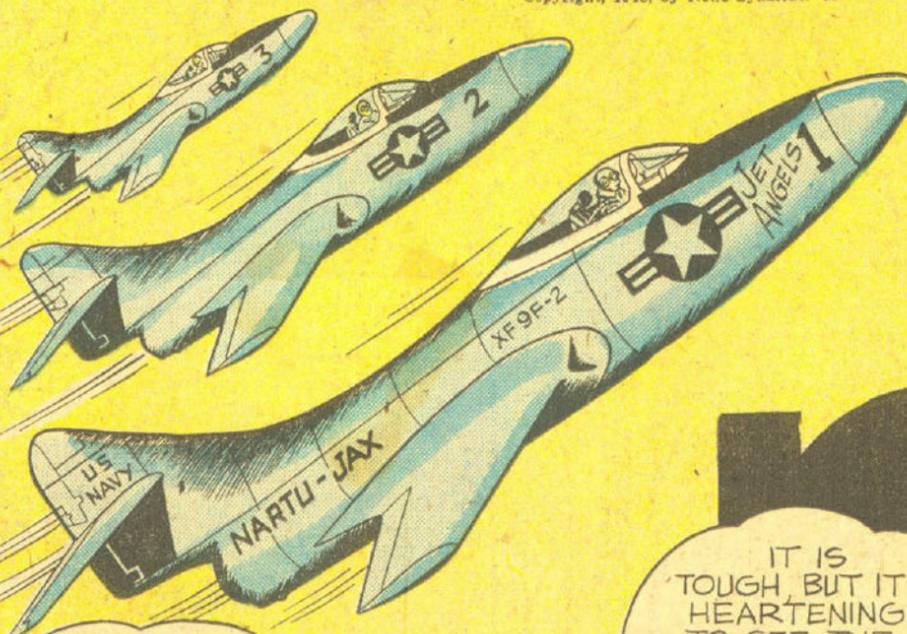
YEAH,
DOWNWIND, IT'S
TOO BAD THAT
SABLE HAS TO
BE LIKE SHE
IS-!

WHAT'S
WRONG
WITH
HER?



SHE'S A WOMAN--- SHE
WON'T LISTEN TO REASON
---WHAT A PROBLEM!

SURE, JACK---
THAT'S TOUGH BUT
SUPPOSE YOU HAD
THE PROBLEMS THAT
YOUR BROTHER, STRETCH,
HAS! HE'S GONE
BACK TO COLLEGE!



YEAH, THAT'S
RIGHT! I DON'T
SEE HOW AN EX-
G.I. WITH A
FAMILY IS ABLE
TO GO TO COLLEGE
-EVEN ON THE
G.I. BILL!



IT IS
TOUGH, BUT IT'S
HEARTENING
TO SEE THE
INGENUITY
THAT THOUSANDS
OF EX-G.I.'S ARE
USING TO SOLVE
THEIR PROBLEMS!
--- STRETCH
AND HIS WIFE
ARE
TRAILERVETS!

TRAILERVETS? WHAT'S THAT?

THAT'S A HAT'S-OFF STORY
ABOUT A BUNCH OF
DETERMINED YOUNG
MARRIED FOLKS---
YOU'LL BE AMAZED TO
HEAR IT, JACK---



MEANWHILE

I WONDER WHICH IS
THE MORE ATTRACTIVE?
SHOULD I LEAVE MY
HAIR BLONDE OR
BECOME A BRUNETTE
LIKE I WAS BEFORE?



CIVY-HEARSE

250

by Bob Aberle

A Free-Flight plane from the fifties, revisited in 2016 with electric power and RC assist.

BACKGROUND

Towards the latter part of the forties fueled ignition engines gave way to the then new glow plug engines. The lack of an ignition coil, condenser and batteries, saved considerable model weight.

With the advent of these first glow engines we began to see improvements in free-flight aircraft design. Planes like Paul Gilliam's CIVY BOY became one of the favorites back then. These new free-flight designs included very large stab areas, which allowed for a rearward location of the CG, along with long tail moment arms.

I recently published a 20 inch span micro version of the CIVY BOY to be flown in the new E-20 electric free-flight contests. You can find my construction article in the March 2016 issue of RCMW.

As a high school student in the early fifties I had always wanted to build a PAA load version of the CIVY BOY, known as the CIVY HEARSE. The original Paul Gilliam construction article appeared in the May 1950 issue of Model Airplane News. It had 400 square inches of wing area and was powered by an Arden .19 glow engine. As a

15 year old I tried to scratch build a reduced size CIVY HEARSE. Unfortunately I didn't have the skills 60 years ago to complete the construction. But now all these years later I decided to try again. The result is this 250 square inch version, with modern electric power and RC assist. It is the subject of this article.

ABOUT THE NEW VERSION

I made a few subtle changes to the original design. But by in large I maintained the overall appearance. I kept the wing rib spacing and airfoil as per the original. I probably could have skipped every other rib, but decided not to. The original had the wing spars going through the center of each rib. I switched to more conventional structure which made assembly a lot easier.

The stab area was 50% of the wing area, with the CG on the wing trailing edge. I made my CG slightly forward of that mark. I'll explain that later on. As I normally do, I added area to the vertical fin and rudder. The original nose was very short, so I extended the motor location about an inch further forward.

For the stab construction I tried something new employing bent sticks instead of ribs. It went together easily and I recommend you try it. Next is a static photo of the completed CIVY HEARSE-250 along with a second photo showing me holding the plane, to give you an idea of the overall size.

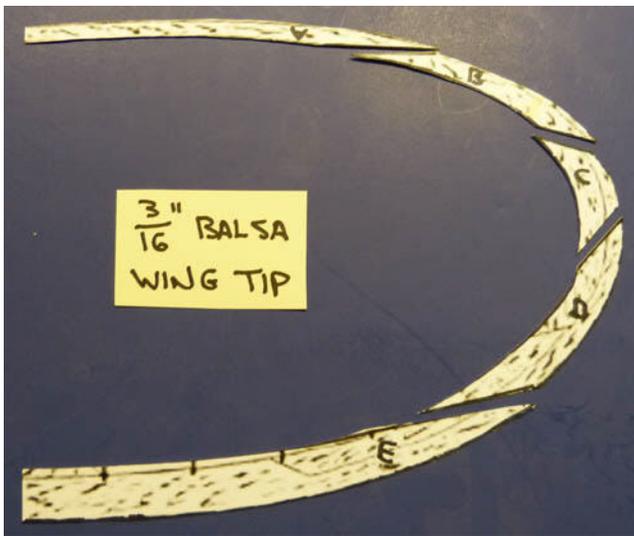


CONSTRUCTION

I like to always start with the wing. As you can see in the next photos there are a lot of wing ribs to cut out. You might want to consider having Bob Holman laser cut a set of wing ribs. His website is as follows:

<http://www.bhplans.com/>

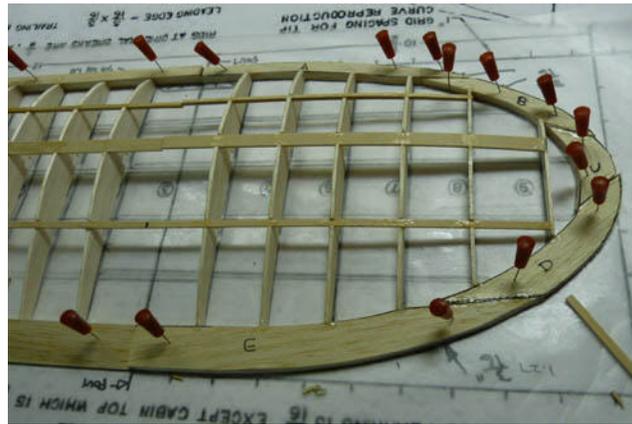
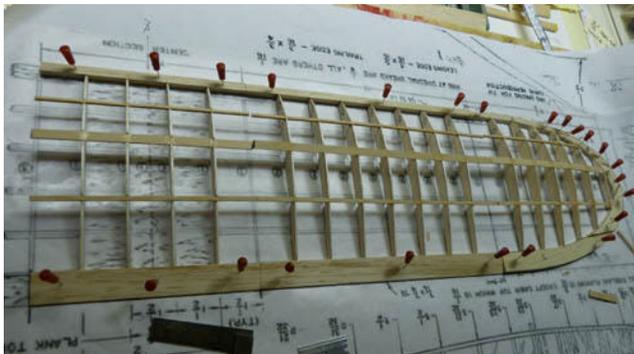




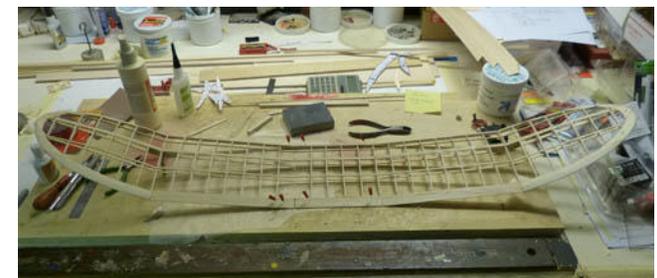
The wing tips are cut from 3/16 inch balsa sheet. Observe the wood grain as shown on the plans.

Keep in mind that the two main wing spars (top and bottom) are made from 1/16 X 1/4 basswood. The rear spars (top and bottom) are made from 1/16 X 1/8 basswood. The forward single spar, actually a turbulator spar, is made from 3/32 square basswood. This basswood can easily be obtained from one of the national craft stores, like A.C. Moore Inc.

The wing construction sequence follows in the next series of photos.



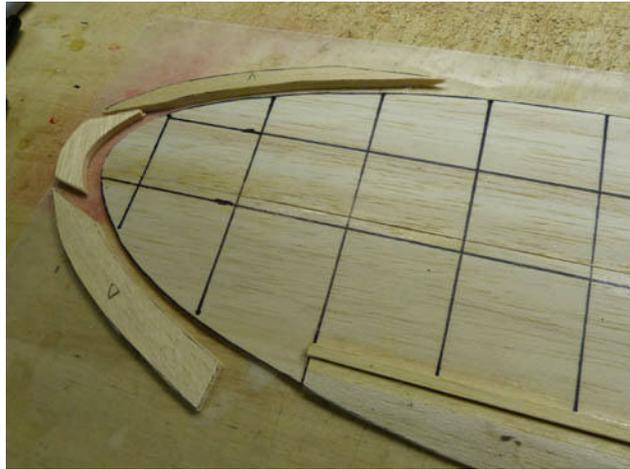
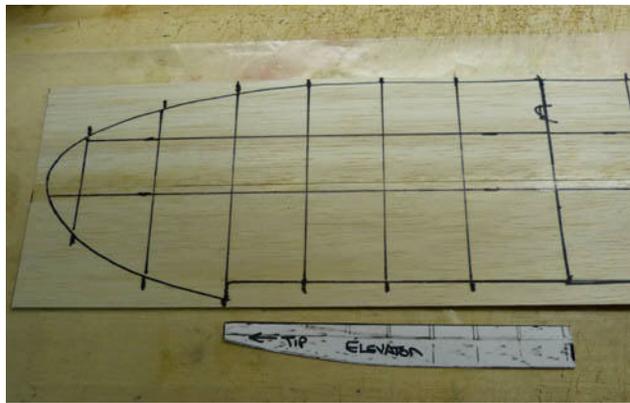
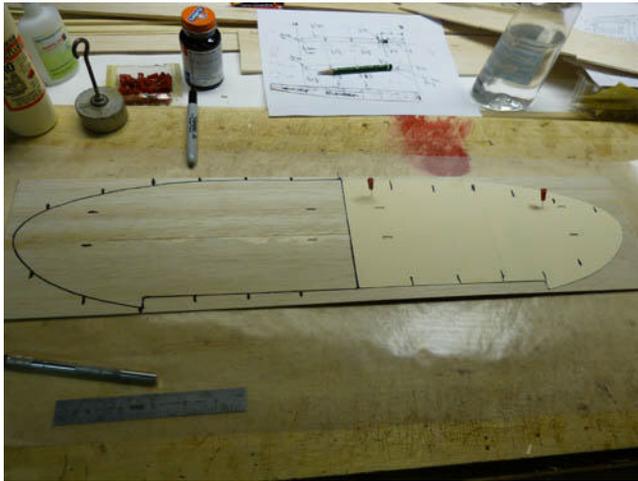
The wing has a flat center section, then comes the main wing panel and finally the tip panel. Both the dihedral and polyhedral joints are reinforced with 1/32 plywood braces.



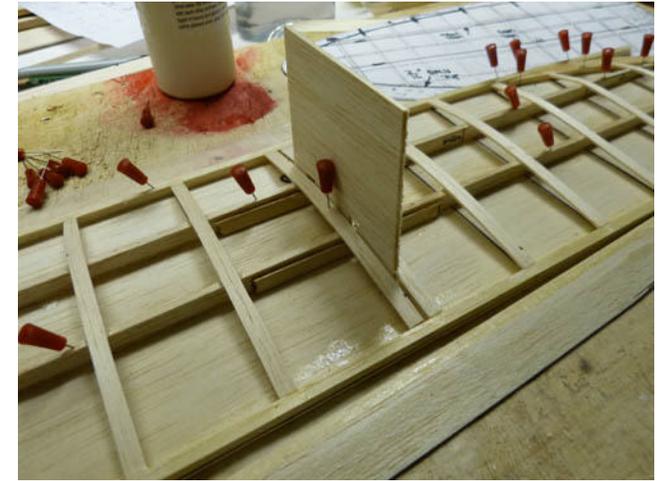
The next photo is the completed wing ready for covering. I believe at this stage it weighed 1.5 ounces.



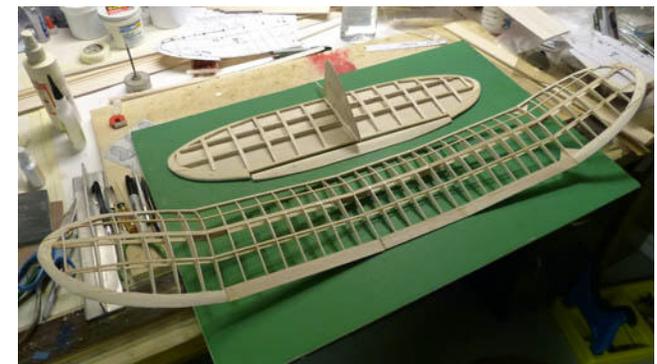
The stab is next. I employed a little different technique than you might expect. First the bottom of the stab is cut from 1/16 balsa sheeting. Next the leading and trailing edges are added along with two spars that taper slightly from the center to the tip. I stripped these spars from 1/8 balsa sheet using a steel straight edge and an X-Acto knife. The final item is the ribs which are bent over the spars to create the airfoil shape. This is the photos sequence:



Leave an open space at the stab center so that the vertical fin can be inserted. Here a scrap piece of 1/16 inch balsa verifies the space required.

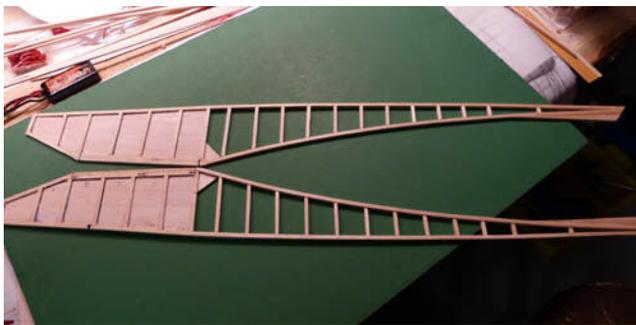
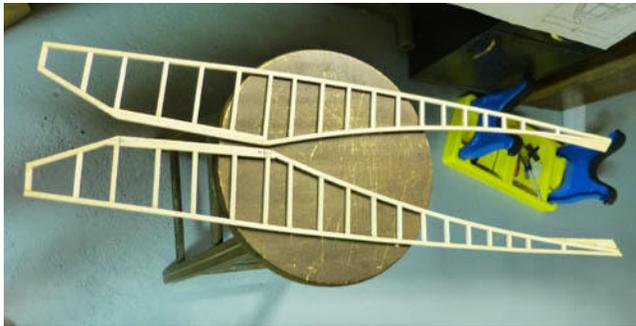


This is the completed stab, now with the elevator, which is made from 3/16 X 3/4 inch trailing stock with an added leading edge of 3/16 square balsa. That makes the total elevator width, 15/16 of an inch.

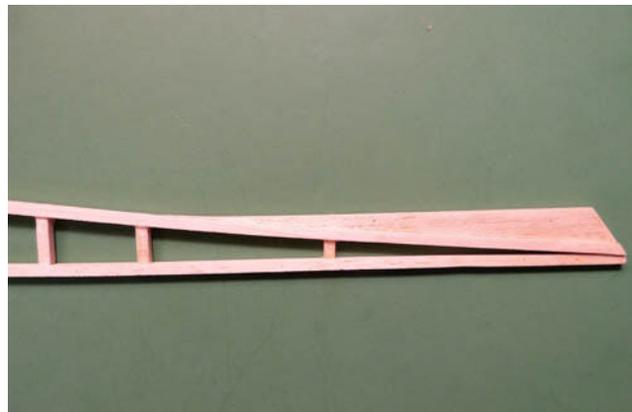
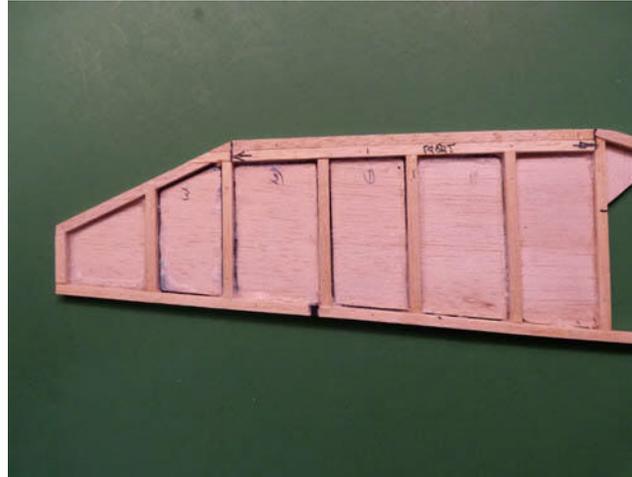


The previous photo shows the completed stab and wing ready for covering. Note that the 1/16 balsa vertical fin and rudder has been added to the stab.

Now we start on the fuselage. It is made up mostly of 3/16 inch square medium balsa. I use scrap balsa to form a building jig of sorts. Each of the two sides is built up individually. The jig



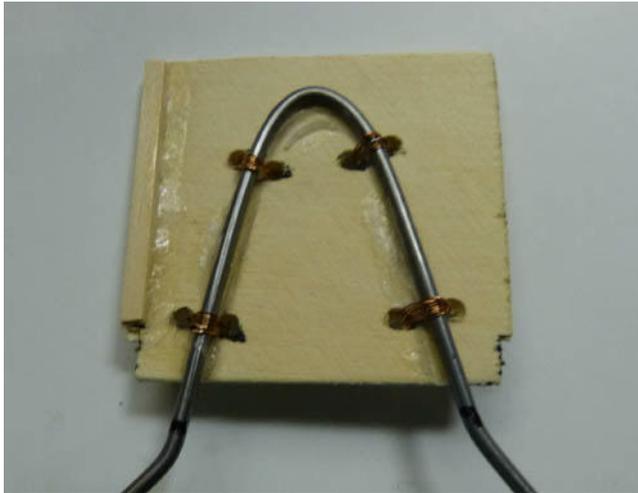
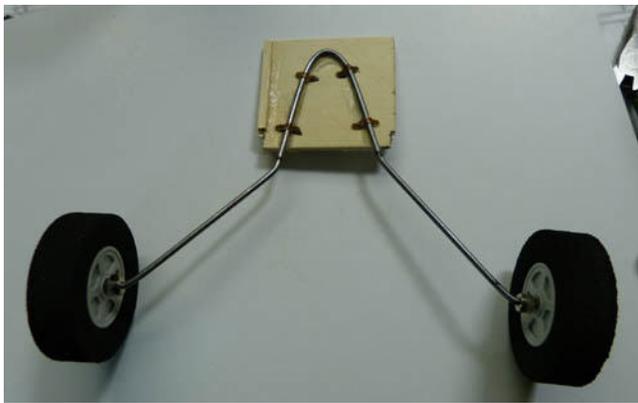
The forward section of the fuselage has 1/16 inch balsa fill from the wing trailing edge position up to the firewall. This balsa should be flush with the outside of the fuselage so be sure you make one left and one right side.



There is a fill piece at the top rear of the fuselage. It is made from 3/16 inch balsa. The stab will rest on this piece, so make sure you make that part exactly as shown on the plans, otherwise your incidence angle might be off.

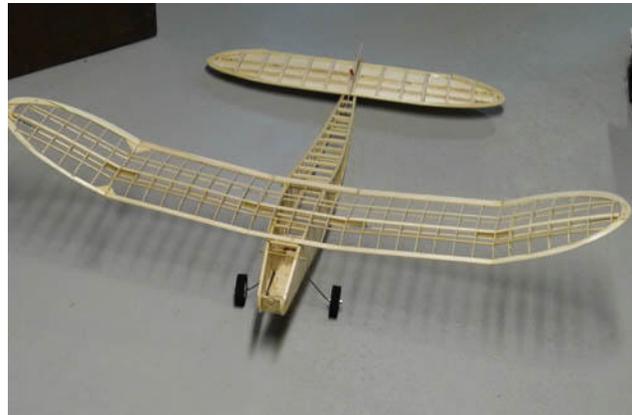


Now we start with the battery compartment. The battery will be inserted into this box from the forward fuselage bottom. Rubber bands hold the battery in place. This compartment is constructed from 1/8 inch medium balsa.

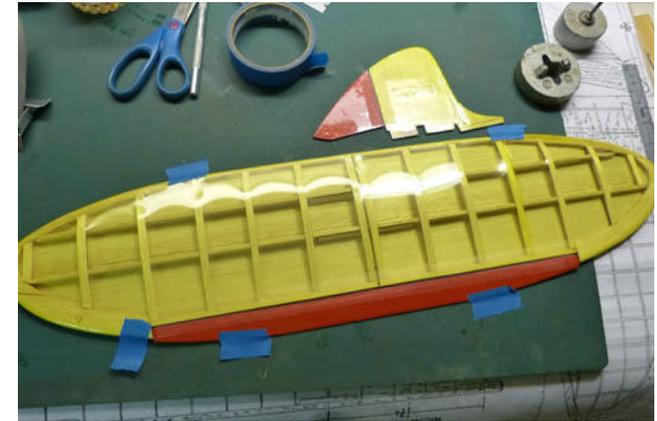


The landing gear is next and it is made from 3/32 inch diameter wire. Note that this gear is attached to a plywood former (F-2) using soft copper wire and 5 minute epoxy cement. Then the former, with the gear, is installed into the fuselage.

By doing it this way the bending is not critical, only the plywood former is. Making the landing gear fit inside the fuselage sides use to cost me a lot of wasted wire until I got the exact fit. Think about that!



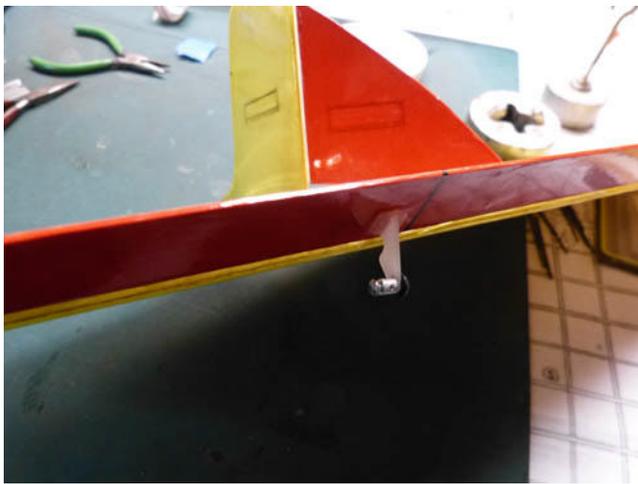
Now we have essentially a completed aircraft, that only requires covering.



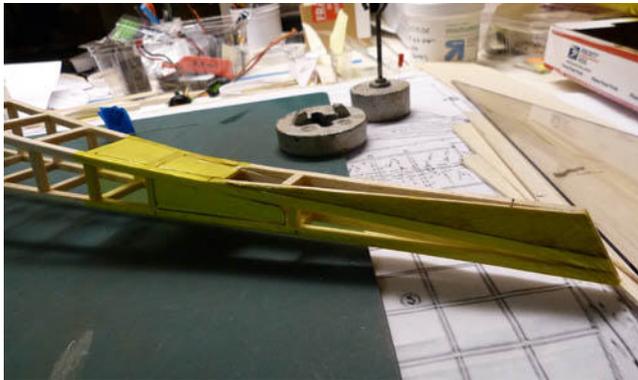
At this point you can cover the stab and elevator. I used Ultracote transparent lite in yellow and BP Hobbies Solite in red opaque. DuBro electric flyer hinge tape can be applied after covering.



Proceed to cover the vertical fin and rudder and hinge the rudder to the fin. The vertical fin then is inserted into the slot built into the center of the stab.



Typically the rudder and elevator are connected the same way. Control wire diameter is .025 inches. A “Z” bend is used at the servo output arm. Back at the tail surfaces I used DuBro Micro Control horns (#919) and Mini EZ Connectors (#915). The EZ connector lets you make easy control surface adjustments at the flying field.

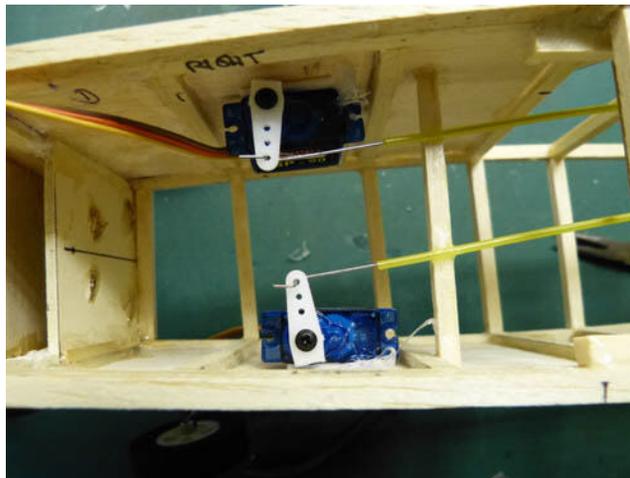


Next step in very important. I pre-cover just the rear portion of the fuselage. This will be the area where the control rod sleeving will penetrate the fuselage side and/or top (as in the case of the rudder).

Now mount the wing to the fuselage temporarily to use as a reference point when attaching the stab/fin. Use 5 minute epoxy to attach the stab to the fuselage.

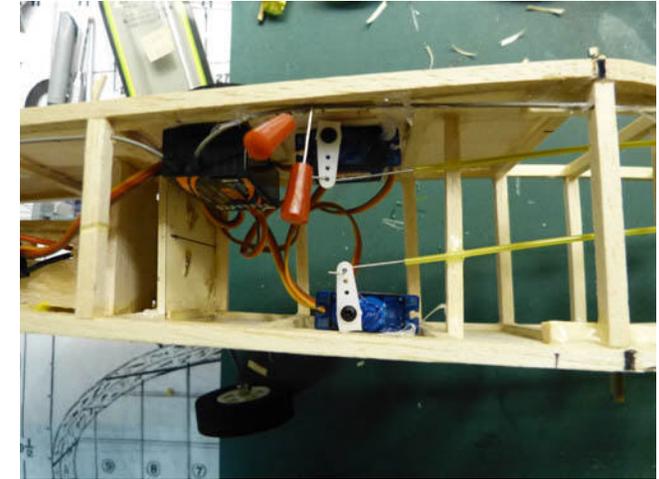


Next comes the servo installation. The elevator servo is inside the left fuselage side while the rudder servo is mounted to the right fuselage side. I use 3M double sided mounting tape



followed up with an application of Permatex clear silicone adhesive/sealant. The two control rod wires travel inside Stevens Aero Models .073 ID yellow Teflon tubing. Make sure you anchor that tubing in at least a half dozen places as it travels from the servo to the control surfaces.

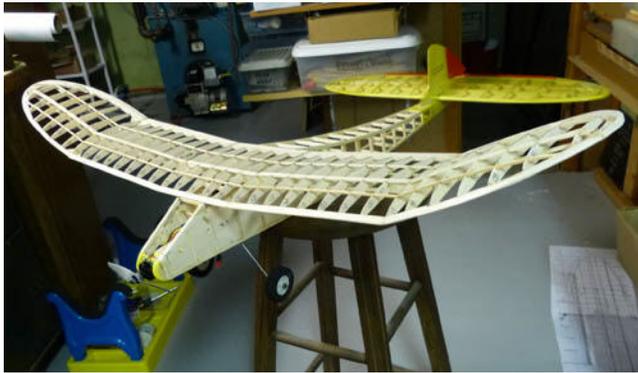
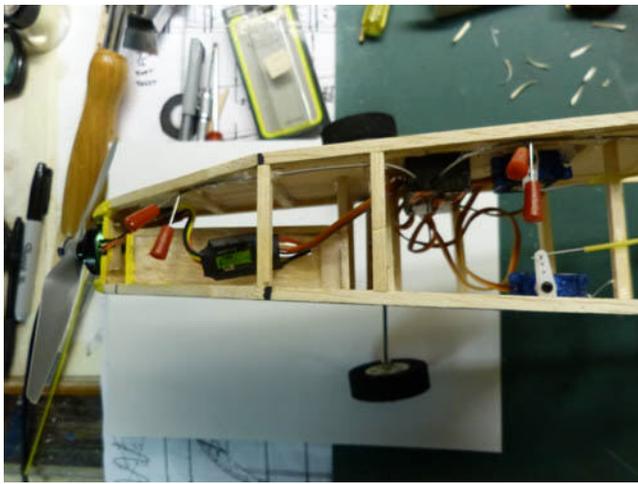
The receiver is mounted on the inside of the right fuselage side, between the servo and the wing leading edge position. Same technique as was the case with the servos.



The ESC sits on top of the battery compartment floor. It is hard wired to the three motor wires. No connector pins were used.

This is a close up of the motor I selected. It is the Innov8tive Designs 2204/40 brushless with a Kv-1570. It is capable of power inputs up to 100 watts operating on 3 cells. Or on two cells it would run more like 60 watts input power. That lower input power can still fly this CIVY HEARSE.

The 3 cell 1400 mAh Li-Po battery pack is inserted into the bottom of the fuselage directly behind the firewall. This pack weighs 4.5 ounces. It is held in place by two small rubber bands.



Close up shots of the elevator and rudder control connections.

Now several static photos of the completed and covered CIVY HEARSE-250 weighing 16.1

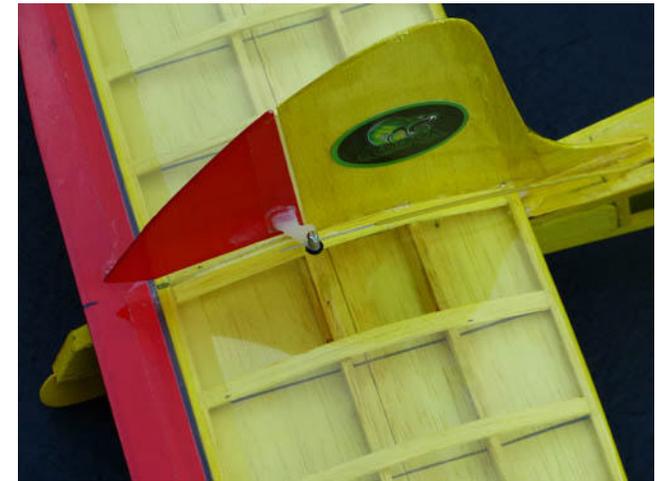


ounces. The transparent covering material makes this an impressive plane in flight.



FINAL CG & CONTROL THROWS

The final CG position ended up about 1 inch forward of the wing trailing edge as shown on the plans. This is my location when using the 4.5 ounce referenced battery pack. The rudder control throw amounted to 3/4 inch on either side of the neutral position. The elevator throw was 5/16 inch either side.

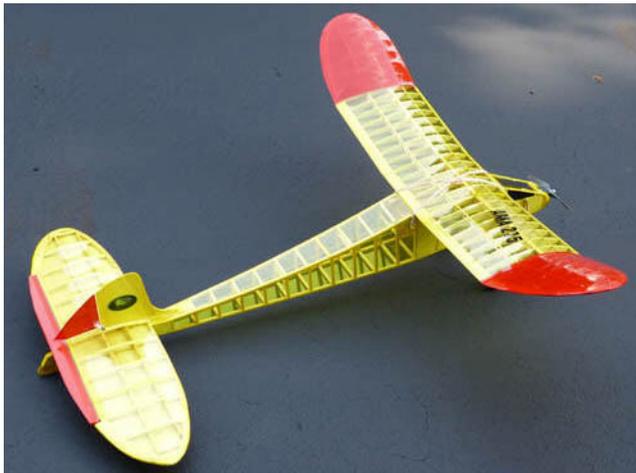


FLYING

First I want to show you my traditional first flight shot of Tom Hunt (President of the SEFLI club and a member of the AMA Hall of Fame). Tom has just released the CIVY HEARSE. Next comes several flight shots that tells the whole story.

For its day, the CIVY HEARSE was a major step forward in free flight design. The big stab and the long tail moment arm can make for challenges in flight. Keep in mind, this plane was originally designed as a free flight without any RC assist.

Early on in our test flying it was apparent that this plane is subject to barrel rolling when control of the rudder and elevator is exercised. To



initially cope with the problem, I added more vertical fin area, which is included on the plans.

I reduced the rudder control throw down to 80% (20% less than full) and added in about 50% expo on the rudder. I also switched from a 3.8 ounce (3 cell 1300) battery to one that weighed 4.5 ounces (3 cell 1400).



Having done all of this the plane flew much better. But we did find that at full power the 100 watts is a little much. That's when the barrel rolling becomes obvious. Knowing this you might want to consider reducing power by going down to a 2 cell battery pack. But if you do choose to do that, make sure the battery pack still weighs at





least 4.5 ounces (either by going to a higher capacity pack or by adding lead weight).

If you decide to go for a 2 cell battery pack let me give you a little tip. Replace the 6 inch diameter APC prop with a larger GWS 8 X 4.3 prop. This will produce a power input of around 60 watts.

Still in all the little CIVY HEARSE flew well and looks just great in flight with the sun shining through that transparent covering.

Consider also that with this design you really end up with two wings (the wing and the stab). So the real benefit of this is a beautiful smooth and slow glide when the power is turned off.

SUMMARY

As a point of information this CIVY HEARSE design marks my 70th published design appearing in RC MICRO WORLD. My first RCMW design appeared in the November 2006 issue. In that ten year period I average 7 designs per year. Many of the 70 were old timer replicas, mostly reduced from their original size. Many more were nostalgia free-flights and RC designs.

In addition to these 70, I also published 7 more designs in RC MICRO FLIGHT from January 2001 until June 2004. This was the forerunner to RCMW.

At 78 I'm running a little out of steam. I hope to continue designing and publishing up until the spring of 2017. I get very little feedback on my published articles. When I do I act upon suggestions right away. So if you have any planes you would like to see as construction articles, please send me an e-mail. I answer everyone, without exception.

Bob Aberle
haberle@optonline.net

SPECIFICATIONS

Model: "CIVY HEARSE-250"

Designed Originally by Paul Gilliam and published in the May 1950 Model Airplane News. Reduced in Size with electric power and RC assist by Bob Aberle (2016)

Type: A park flyer size model for sport and duration flying

Wingspan: 41 inches

Wing Area: 250 square inches

Length: 35.5 inches

Weight: 16.1 ounces

Wing Loading 9.3 oz/sq.ft.

RC GEAR USED:

Horizon Spektrum DX-7 transmitter, Hyperion After Market DSM2 2.4 Ghz receiver and two Altitude Hobbies 9 gram micro servos operating the rudder and elevator.

POWER SYSTEM USED:

Innov8tive Designs brushless outrunner motor (Cobra C-2204/40), APC 6 X 5.5E prop, Cobra 11 amp brushless ESC and an Ace Gems 3 cell 1400 mAh Li-Poly battery (4.5 ounces).

POWER SYSTEM PARAMETERS

Prop: APC 6 X 5.5E

Motor current: 8.8 amps

Voltage: 11.1 volts (under load)

Power Input: 98 watts

Battery Loading: 6.3C

Power Loading: 100 watts/pound

Flight Time: 9.5 minutes with the specified 1400 mAh Li-Po battery.

SOURCE REFERENCES

Aircraft-World - Hyperion receiver, HP-6RXDSFR, DSM-2 compatible for \$13.95.)

<http://www.aircraft-world.com/en/c2734221-hyperion-receivers>

Altitude Hobbies - 9 gram SP-90 micro servos

<http://www.altitudehobbies.com/suppo-sp-90-9g-micro-analog-servo>

BP Hobbies - CA cement, CA accelerator, 5 minute epoxy cement, APC prop and Solite covering material

www.bphobbies.com

Callie Graphics - AMA license number decals

admin@callie-graphics.com

Dave Brown Products - Lite Flite wheels, 2 inch diameter

<http://www3.towerhobbies.com/cgi-bin/WTI0001P?I=LXB921&P=8>

DuBro - Micro control horns, Mini EZ connectors, electric flyer hinge tape and 3/32 inch wheel collars

www.dubro.com

Hobby Partz - Ace Gems 3 cell 1400 mAh Li-Po battery

<http://www.hobbypartz.com/gensacelipo.html>

Innov8tive Designs - Brushless motor and ESC

<http://innov8tivedesigns.com/catalogsearch/result/?q=2204%2F40>

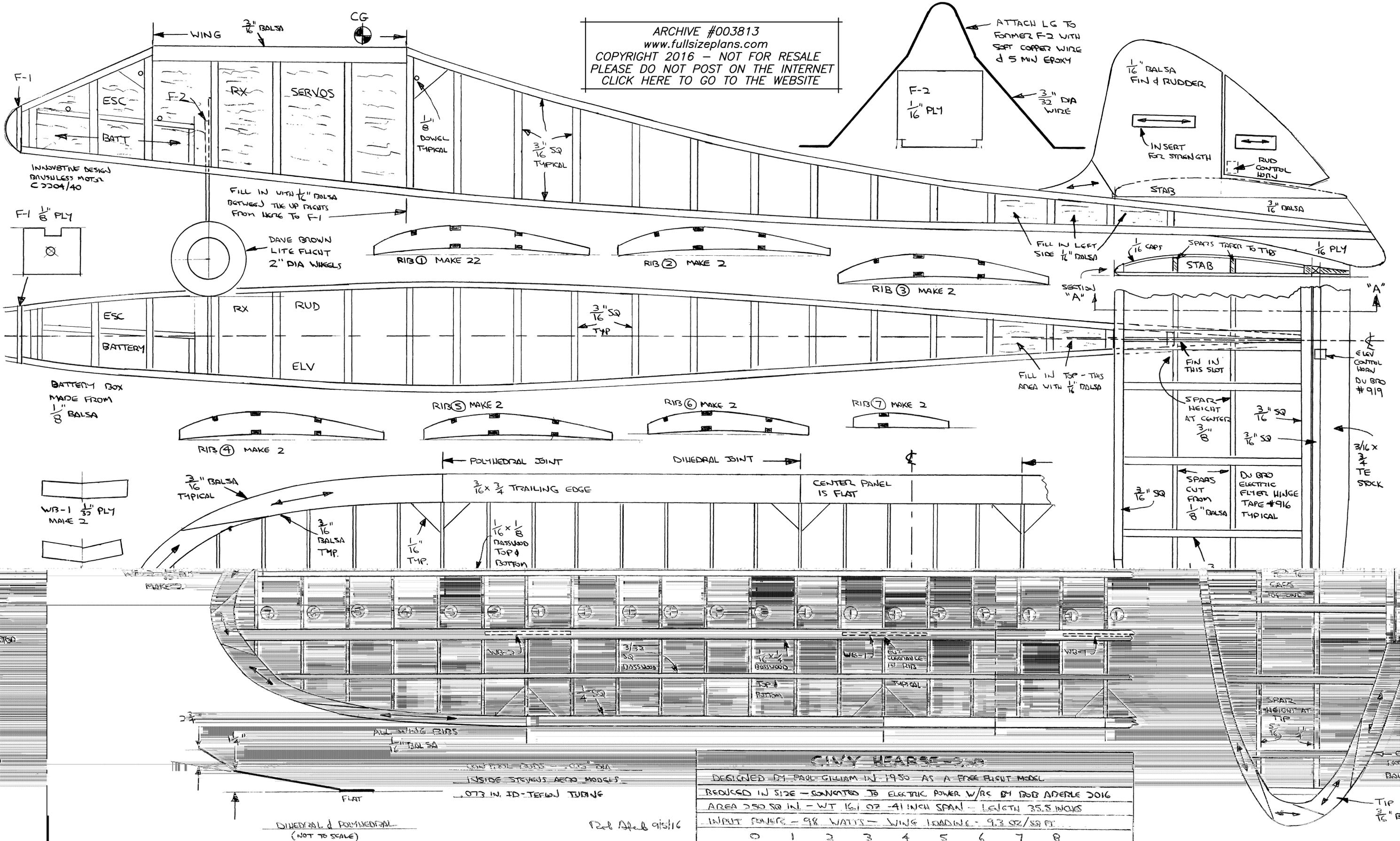
Stevens Aero Models - .073 inch OD Yellow Teflon tubing for the rudder control rod

<http://stevensaero.com/shop/product.php?productid=16639>



“But, Bertha, they weren’t talking about YOU when they mentioned ‘an old TAILDRAGGER’ . . .”

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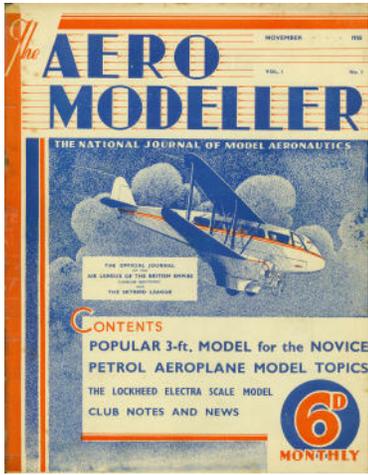


CIVY HEARSE

DESIGNED BY PAUL GILHAM IN 1950 AS A FREE FLIGHT MODEL
 REDUCED IN SIZE - CONVERTED TO ELECTRIC POWER W/RS BY BOB ADERLE 2016
 AREA 250 SQ IN. - WT 16.1 OZ - 41 INCH SPAN - LENGTH 35.5 INCHES
 INPUT POWER - 98 WATTS - WING LOADING - 9.3 OZ/SQ FT

0	1	2	3	4	5	6	7	8
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Now Available!!
The early issues of
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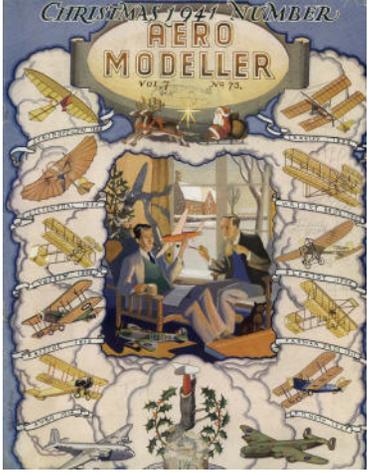
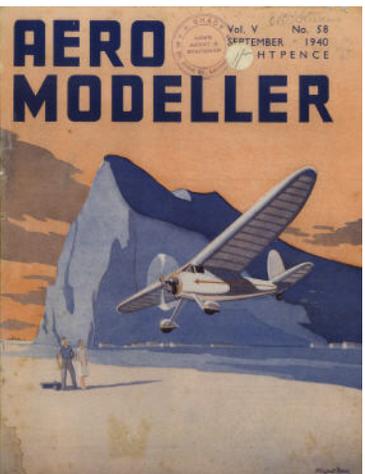
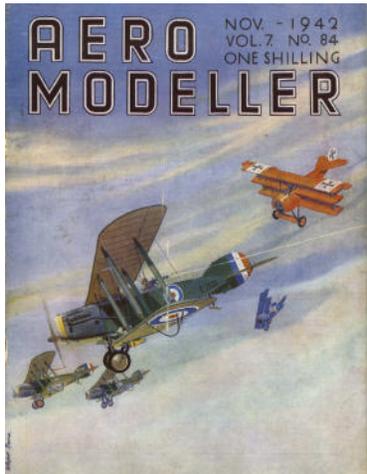
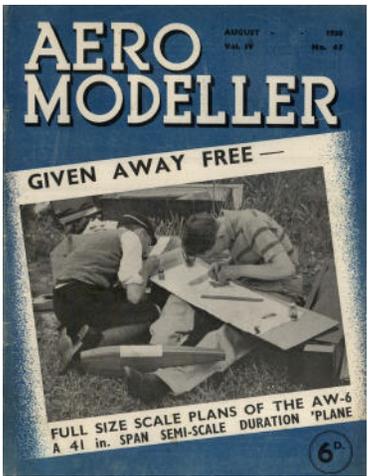


Now, after several months and hundreds of hours of work, we have available high-resolution digital copies of the British Aeromodeller magazine starting with the very first issue dated November 1935, shown above, and through the December 1942 issue. These issues are extremely rare and hard to find. These 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 - Postage paid

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HI BOY!

by **BOB PALMER & TED GOYET**

This model design appeared in the August 1954 issue of **Model Airplane News**

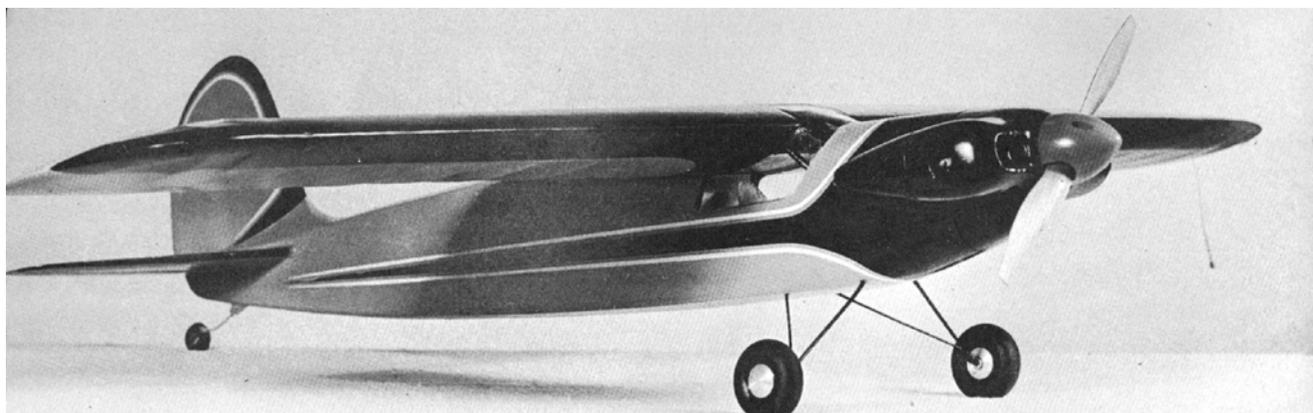
The first really new stunt plane design in five years, this high-wing cabin job was perfected by two West Coast experts. Maneuverability is tops.

We're going to introduce to you a completely new stunter: wing area approximately 400 sq in., span 46 in., length 44 in., weight with Fox .19, 2 lb.

Almost every model has a little story behind it, and here's how this little jewel came about. Every year, I (that's Bob Palmer) usually attend two of the contests of the season in the Frisco area and on one of these occasions, I became acquainted with Ted Goyet, one of the better pilots there.

As we conversed, the idea of trying a high wing stunter came to both of us. We discussed its problems, and what you would need to be able to fly it through the pattern.

A low winger lends itself to stunting as a natural. In stunting, if you have experienced a low winger doing tighter stunts upside down than right side up, the reason is that a high winged plane will do tighter loops than a wing on the bottom.



This is because the wing is above the center of gravity. Now when you turn a low wing over into inverted flight, you have a high wing, so we've done the same thing, only in reverse, and flying the Hi-Boy bears this out. It does tighter inside loops than outside loops.

At a later contest, I received word that Ted had come down with polio. I wrote him a letter and found that he had almost finished a high winger and wanted to know if I would be interested in finishing it and trying it out. I told him I would be very interested.

Ted had done a wonderful job on the plane, and I made very few changes. However, we did decide to change the engine installation to one I had used on the Pow Wow and Smoothie. I think highly of this method. You're not bothered with turning the ship upside down to check out your tank, etc.

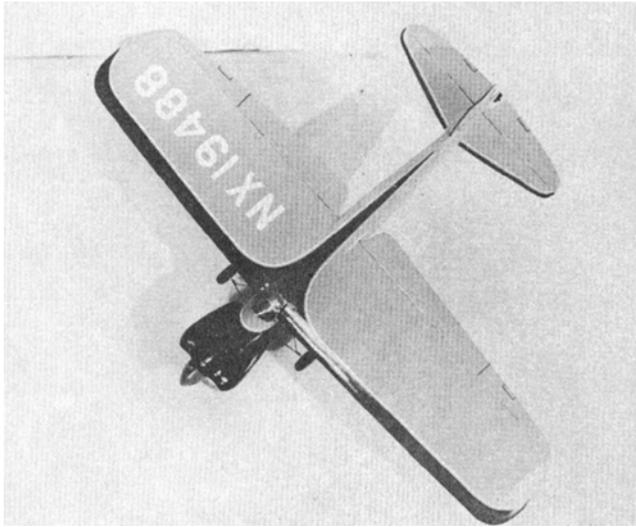
We are actually giving you a choice between the cheek cowl system you see in the picture and the one on the drawing. The one on the picture is a little harder and costlier, being composed of balsa blocks.

This plane flies very well, accomplishing the stunts with ease and assurance. Its long tail moment and engine moment make it a very groovie and stable model. For a sport model, this is very good. V braces from the fuselage up to the wing would really enhance the appearance.

The plans are very clear, but one of the things to look for is the method of cutting the ribs. The wing is tapered. To have shown each rib would have used up too much space.

Take 11 pieces of 3/32 sheet balsa wood, and cut larger than the root rib. Place the tip rib template, (template should be made from 1/8 plywood), over root rib template with chord lines and trailing edge lined up and drill two clearance holes for 6/32 bolt, one at each end of the tip rib template within 3/4 in. of trailing edge, and 3/4 in. of leading edge.

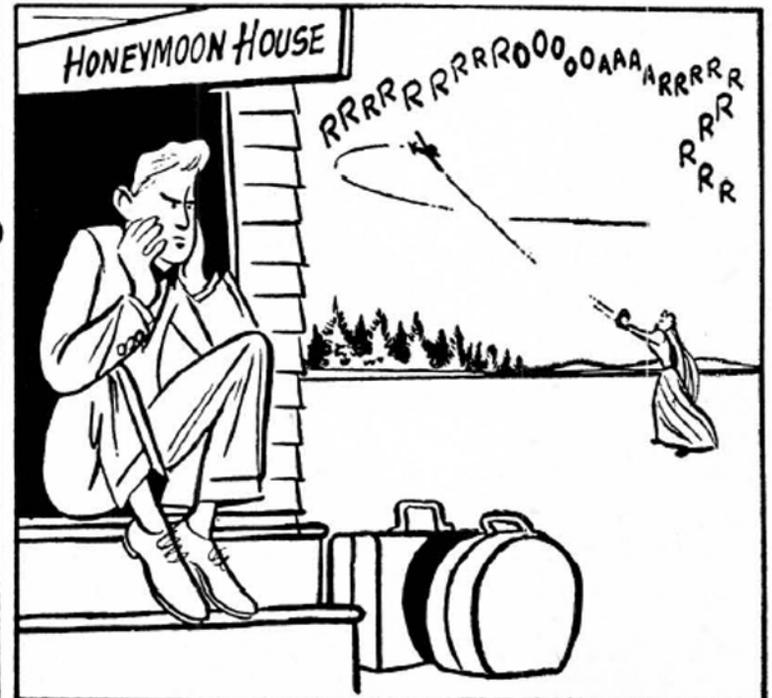
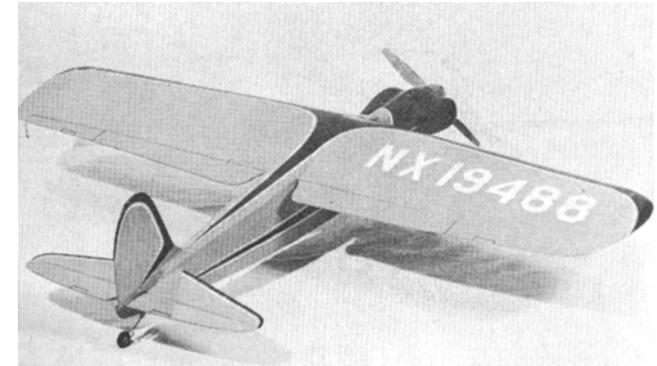
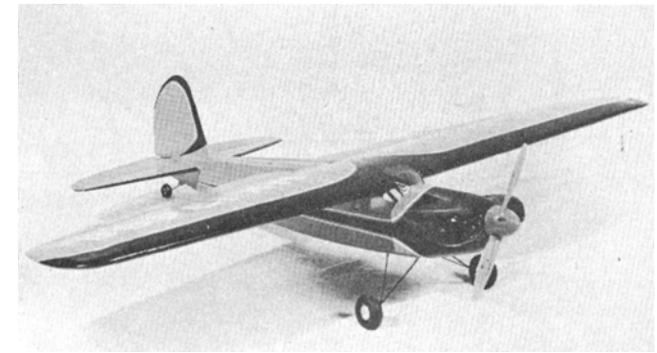
Now stack the balsa wood and drill these holes. Insert the bolts and tighten. You are now ready to carve half of the wing ribs. By carving the balsa in a straight line from one template to the other, including the spar slots, you will have completed the ribs. Remember, for the right wing, use only 10 pieces, for the right wing is 2 in. Shorter.



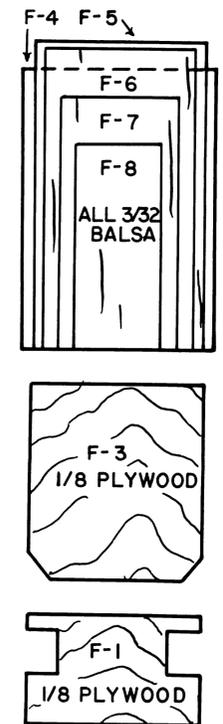
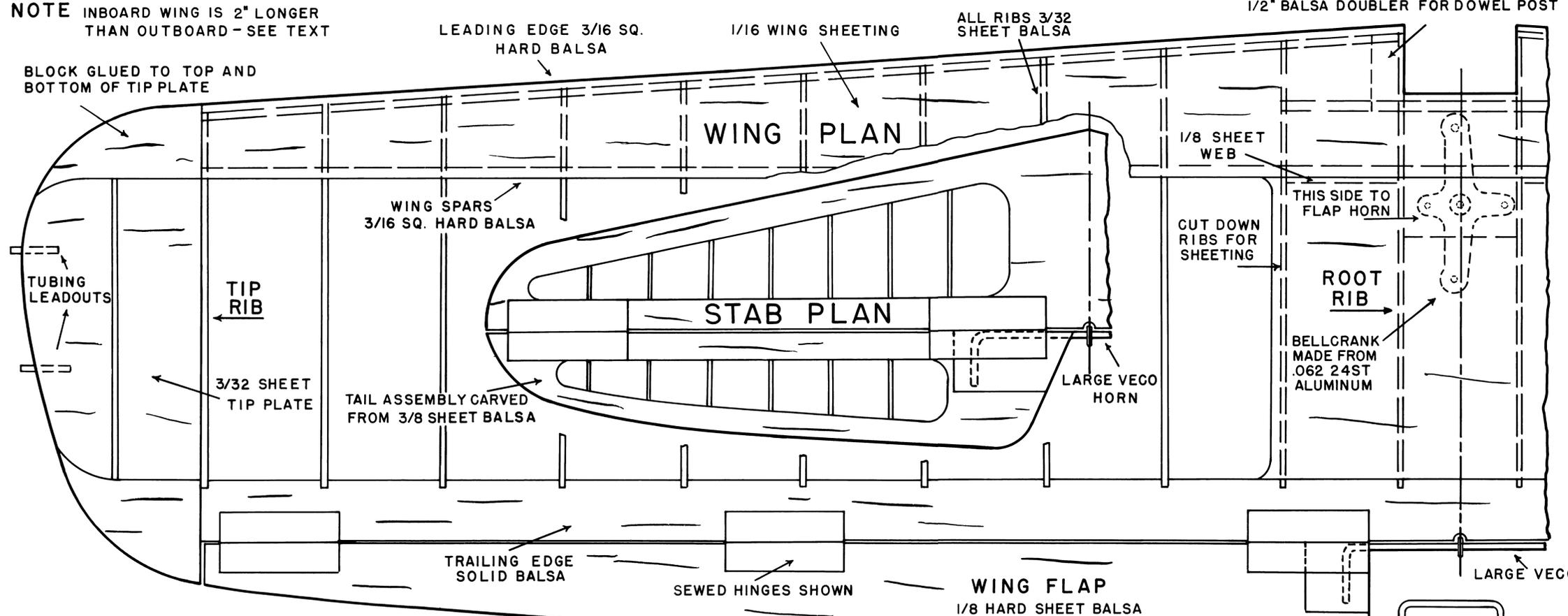
Trailing edge is spliced in the center, and wing spars are spliced. You will notice a 1/2 in. thick balsa doubler on the root rib. This is very necessary as the wing has no support in the L.E. Also, F2 is a solid piece. We have a connecting dowel between these pieces to give strength to this area.

Please note that you will have to make a special bellcrank. Make from .051 or .062 aluminum.

Recommended motor for this plane is Fox .19, Torp .19, Cameron .19, Veco .29, Torp. 29, Orwick .29, or Fox .29. I would advise sticking to a .19. The original had a Fox .19 installed and was flown on 55 ft. of line and speed was up to almost 60 mph.



NOTE INBOARD WING IS 2" LONGER THAN OUTBOARD - SEE TEXT

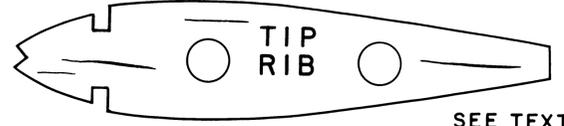
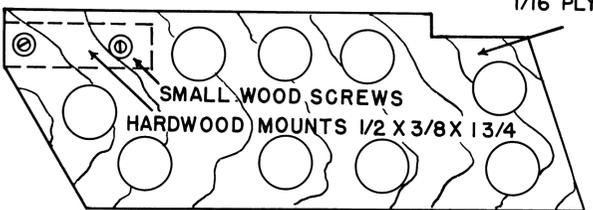


"HI BOY"

DESIGNED BY
TED GOYET AND BOB PALMER

FROM AIR TRAILS
AUGUST 1954

NOSE DOUBLER PATTERN



SEE TEXT FOR METHOD OF MAKING WING RIBS

INSTRUMENT PANEL



NOTE PLACE 1/2 OZ. LEAD IN OUTBOARD WING TIP

LNDG. GEAR PATTERN

3/32 DIA. WIRE

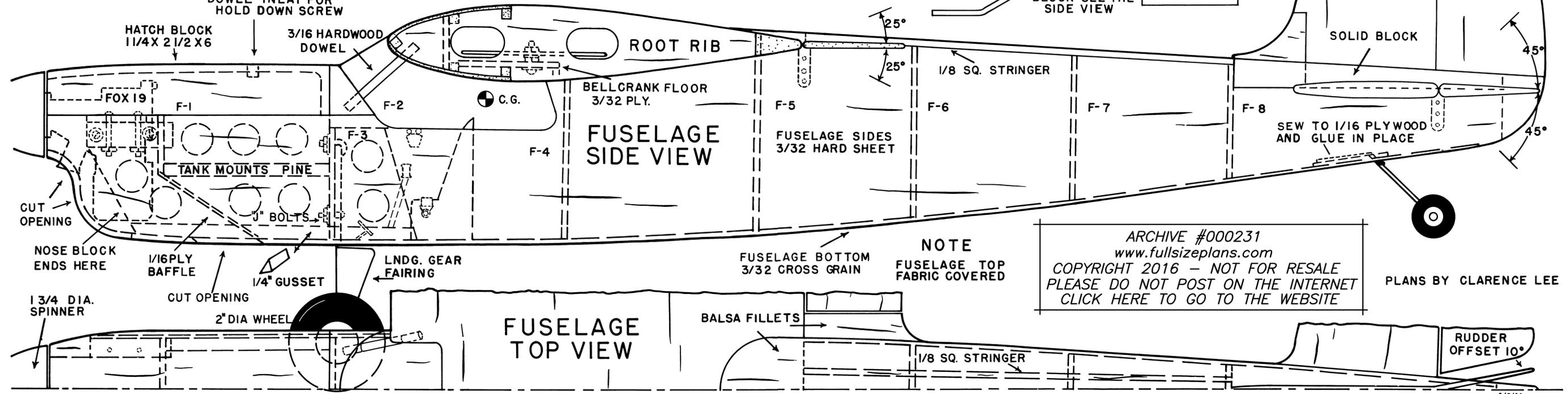
CARVED FROM BLOCK SEE THE SIDE VIEW

RUDDER

1/8 SHEET

SOLID BLOCK

SEW TO 1/16 PLYWOOD AND GLUE IN PLACE

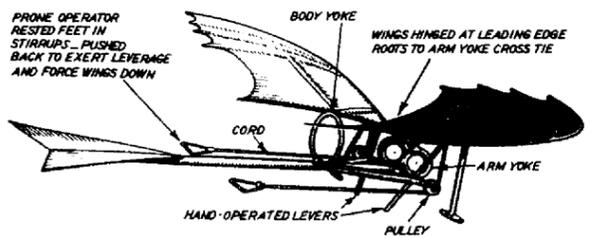


Air Progress

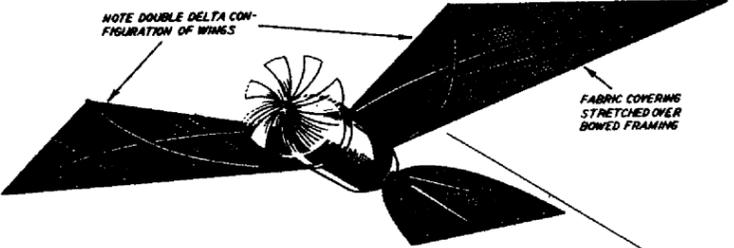
DEVELOPMENT OF THE AEROPLANE

Part 1 (1490-1890)

By DOUGLAS ROLFE



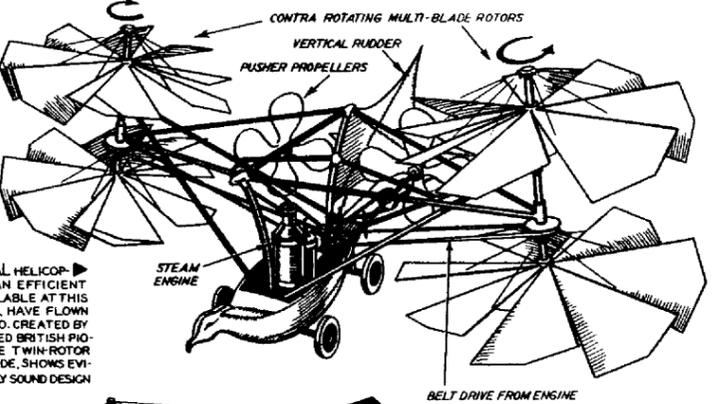
▲ 1490 FIRST SCIENTIFIC APPROACH TO THE PROBLEMS INVOLVED IN HEAVIER-THAN-AIR FLIGHT WAS THIS MAN-POWERED ORNITHOPTER DEvised BY LEONARDO DA VINCI—A BRILLIANT 15TH CENTURY MASTER-CRAFTSMAN, ARTIST AND ENGINEER. IT FAILED TO FLY BUT WAS A NOTEWORTHY EFFORT



▲ 1857-1879 TWO STAGES IN THE APPROACH TO TRACTOR MONOPLANE DESIGN ARE PICTURED HERE. EARLIER MODEL BY DU TEMPLE WAS STEAM-POWERED—HAD SINGLE, MULTI-BLADE PROPELLERS. TATIN (BELOW) FAVORED TWO 4-BLADED PROPELLERS AND A COMPRESSED AIR POWER PLANT. TATIN ULTIMATELY SUCCEEDED (MUCH LATER) IN PRODUCING A GENUINE MAN-CARRYING PLANE

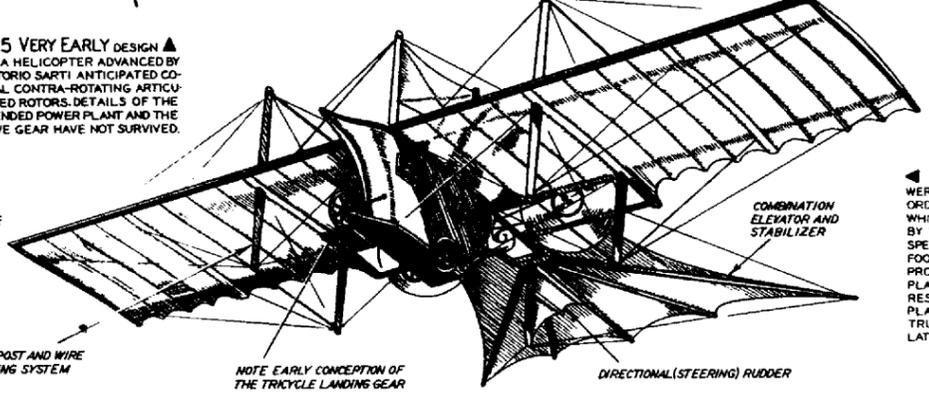


1825 VERY EARLY DESIGN FOR A HELICOPTER ADVANCED BY VITTORIO SARTI. ANTICIPATED CO-AXIAL, CONTRA-ROTATING ARTICULATED ROTORS. DETAILS OF THE INTENDED POWER PLANT AND THE DRIVE GEAR HAVE NOT SURVIVED.

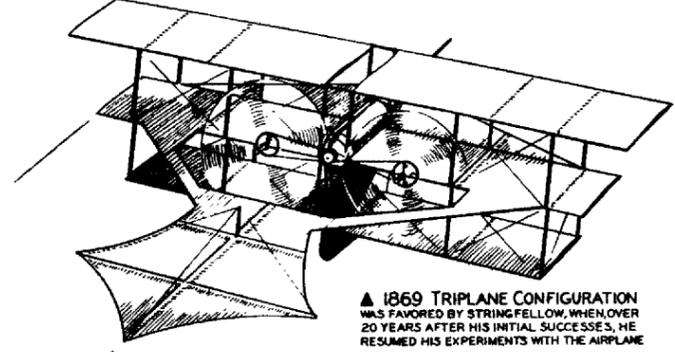


1842 FIRST PRACTICAL HELICOPTER DESIGN WHICH, HAD AN EFFICIENT POWER PLANT BEEN AVAILABLE AT THIS EARLY DATE, MIGHT WELL HAVE FLOWN MORE THAN 100 YEARS AGO. CREATED BY SIR GEORGE CAYLEY, NOTED BRITISH PIONEER, IT INTRODUCED THE TWIN-ROTOR SYSTEM AND, THOUGH CRUDE, SHOWS EVIDENCE OF BEING A BASICALLY SOUND DESIGN

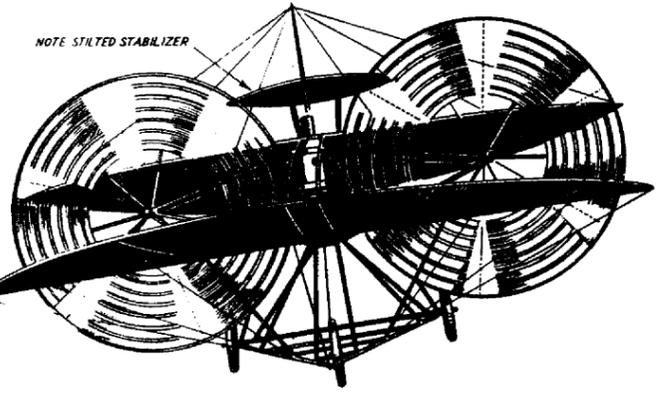
CURIOUS SAIL-LIKE APPENDAGE WAS MOST LIKELY INTENDED AS DIRECTIONAL CONTROL OR STABILIZING SURFACE



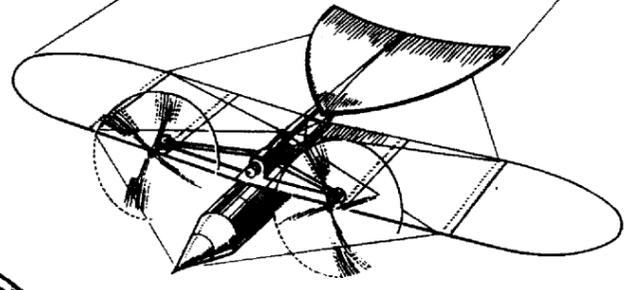
▲ 1842 HUGE AIRLINERS WERE ANTICIPATED IN THIS EXTRAORDINARY AND HISTORIC DESIGN WHICH WAS ACTUALLY PATENTED BY WILLIAM SAMUEL HENSON. THE SPECIFICATIONS CALLED FOR 150-FOOT WING SPAN, 20-FT. DIAMETER PROPELLERS AND A STEAM POWER PLANT. CONFIGURATION CRUDELY RESEMBLED THAT OF PRESENT AIRPLANES. AND THE HENSON WING-TRUSS WAS OFTEN BORROWED BY LATER, MORE SUCCESSFUL DESIGNS



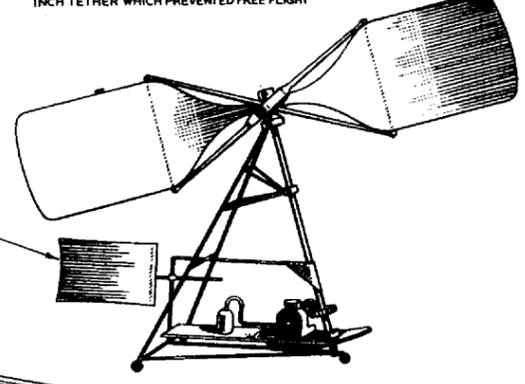
▲ 1869 TRIPLANE CONFIGURATION WAS FAVORED BY STRINGFELLOW. WHEN OVER 20 YEARS AFTER HIS INITIAL SUCCESSSES, HE RESUMED HIS EXPERIMENTS WITH THE AIRPLANE



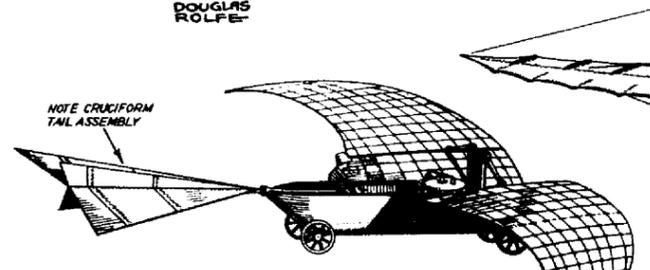
▲ 1867 ROCKET PROPULSION WAS THE ULTIMATE DREAM OF BUTLER & EDWARDS WHEN THEY CONCEIVED THIS SIMPLE DESIGN. A SOLID FUEL PROPELLANT GUNPOWDER WAS INTENDED WITH ASCENT AND DESCENT CONTROLLED BY CHANGING THE CENTER OF GRAVITY BY MOVING THE MACELLE BACK AND FORTH



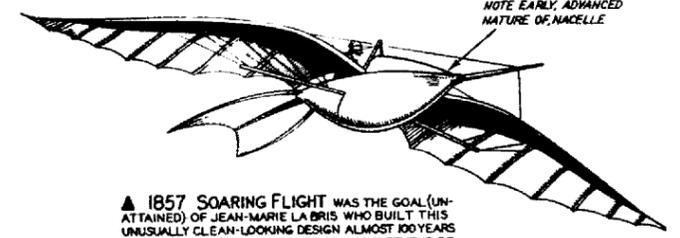
▲ 1875 CAPTIVE FLIGHT WAS FIRST DEMONSTRATED BY THOMAS MOY—PIONEER MEMBER OF THE ROYAL AERONAUTICAL SOCIETY. 120-POUND TANDEM-WING MONOPLANE SHOWN HERE WAS POWERED BY A 3-H.P. STEAM ENGINE AND TESTED ON AN INDOOR CIRCULAR TRACK, ROSE TO THE FULL LIMITS OF THE SIX INCH TETHER WHICH PREVENTED FREE FLIGHT



▲ 1871 "LITTLE HENRY" TYPE HELICOPTER WAS ACCURATELY FORECAST BY POMES & DE LA PAUZE IN THIS EARLY STAB AT ROTARY WING DESIGN. PROVISION WAS MADE FOR VARYING PITCH OF THE 2-BLADED ROTOR BUT THE MEANS WHERE BY THIS WAS CONTROLLED IS LOST IN OBSCURITY. A GUNPOWDER ENGINE PROVIDED MOTIVE POWER



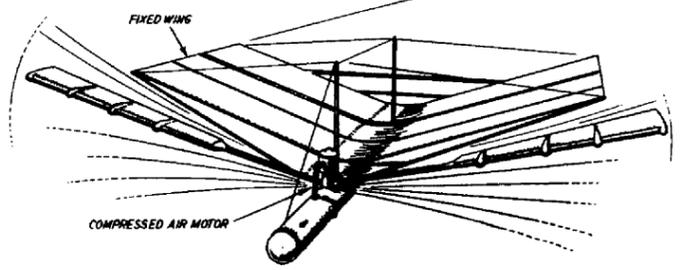
1847 GULL-WING CONFIGURATION WAS A FEATURE OF THIS CURIOUS AND LITTLE KNOWN DESIGN ATTRIBUTED TO AN EX-GERMAN ARMY OFFICER NAMED WERNER SIEMENS. IN OLD PRINTS IT IS MENTIONED AS A ROCKET-PROPELLED PLANE BUT WAS MORE PROBABLY A STEAM-POWERED ORNITHOPTER



▲ 1857 SOARING FLIGHT WAS THE GOAL (UN-ATTAINED) OF JEAN-MARIE LA BRIS WHO BUILT THIS UNUSUALLY CLT AN-LOOKING DESIGN ALMOST 100 YEARS AGO. LAUNCHED FROM A HORSE-DRAWN CART IT IS BELIEVED TO HAVE ACTUALLY LIFTED FROM THE CART

A chief fallacy attendant on aviation history is the wide spread belief that the Wright Brothers "invented" the "aeroplane." While it is conceded today that the Wrights were indeed the first to demonstrate practical, heavier-than-air powered flight, it in no way detracts from their fame to point out that they developed a practical airplane rather than invented it. In many ways they were indebted to such men as Lillienthal, Pilcher, Herring, Chanute and other early pioneers who experimented with gliding and powered flight. Where the Wrights went beyond their predecessors and contemporaries was in their invention of a satisfactory means of longitudinal and lateral control, and in the development of a practical power plant. This issue traces some of the pre-Wright attempts to

produce a satisfactory airplane. All the designs shown here (and they represent only a few of the many advanced) seem slightly fantastic when viewed from the standpoint of present Air Progress, and many never got beyond the sketch book stage, but a careful study of these early efforts will reveal that practically every basic approach to powered flight, including reaction-propulsion, had either been envisaged or explored by these early apostles of aviation. Chief drawback of this period—ignorance of the laws governing flight and, even worse, complete lack of suitable power plants—prevented these very early pioneers from achieving their goal. Next month we shall see how rapidly the "aeroplane" developed, and how close became the race to be first to fly.



▲ 1890 FLAPPING FLIGHT WAS PERFECTED BY LAWRENCE HARGREAVE, AUSTRALIAN PIONEER OF THIS TYPE OF POWERED FLIGHT. HE LATER DIRECTED HIS TALENTS TOWARDS DEVELOPING BOX-KITE GLIDERS

HELIOPLANE

by Henry Struck

This model by Henry Struck appeared in the February 1953 issue of Air Trails magazine. The Popular Science article info was furnished by Mark Braunlich

Hank, the renowned Connecticut craftsman and former National Champ, comes up with this remarkable Half-A, F/F or U/C'er

Editor's Note - The full-size working drawings for quick construction of the Helioplane from Air Trails Plan Service are included after this article.



*Original prototype posing as a "Hanger Queen"
Photo from Mark Braunlich*



A view of the Free Flight scale version of the model - OK Cub .039 engine

The model was scaled from original three-view drawings obtained through the courtesy of Professor Otto Koppen of M. I. T., the designer of the Helioplane. The configuration of the full-scale ship satisfies so many of the requirements for a good flying model that it almost seems to have been designed for that purpose!

Powered by an .039 Cub the model has turned in many realistic flights even with scale dihedral. The giant 9 ft. propeller of the big ship, driven through a multiple "V" belt at about 1200 rpm, operates at optimum blade efficiency with the engine turning over at its normal speed. This is an ideal feature for rubber-powered flying scale enthusiasts.

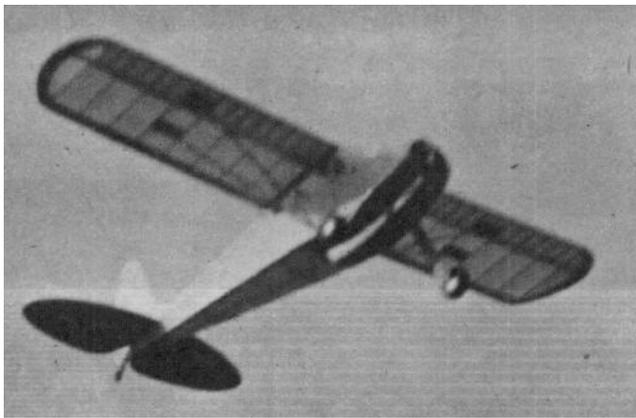
Modifications have been indicated on the plans that permit the basic model to be built in three versions, free flight gas, rubber powered, and control line.

Construction is quite conventional and rugged. Assemble the fuselage sides one atop the

other and join when dry with cut-out formers of 1/16" sheet. Note the construction at the cabin. The sloping former F-1 allows the wing to slide ahead in a crack-up, as well as faithfully reproducing the contours of the windshield. Use hard balsa for the longerons, spars, leading and trailing edges.

The center airfoil is fiat bottomed to rest on the fuselage top, while the other sections are undercambered. After assembling the wing panels on the plans, join the spars at the center section with 1/16" plywood gussets.

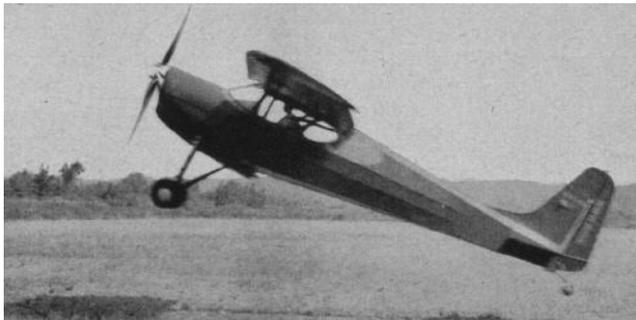
For a free flight gas powered model mount a 1/8" plywood firewall in the nose, blocking it in place with 1/8" sheet balsa at each side. Use an .020 to .039 cu. in. engine for best results. Fuel-proof thoroughly. Make the upper cowl block removable to permit access to the engine for maintenance.



Free Flight scale version built from Struck plans by Gordon Dorr of Deep River, Connecticut

For a rubber-powered version build up a removable nose plug and fit with bearings of large-face bushings. Cement 1/8" hard sheet balsa at the rear of the fuselage to receive a 3/16" dowel to hold the rubber motor.

For maximum performance use a folding propeller with about 50% slack in the rubber and a tensioner device to avoid bunching of the knots, with resultant shifting of the C.G.



This shows STOL capabilities - Photo from October 1949 Popular Science

For a control line flyer install an .049 to .099 engine in the same manner as for free flight. Cement a 3/32" plywood plate in the cabin and bolt a small bell crank to it. Cut the horizontal tail to the smaller outline shown and hinge the elevators with cloth strips. Cement a wire line guide to the #6 rib in the left wing.

Sand the model thoroughly before covering. Use red gas tissue applied while wet. When dry brush on clear dope plasticized with a few drops of castor oil in each eight ounces to minimize warpage.

Note that the wing and landing gear "V" struts are not cemented to the fuselage or main landing gear struts in order to permit the parts freedom of movement. The wing is held to the fuselage by a couple of rubber bands hooked on the projecting dowels at the cabin.

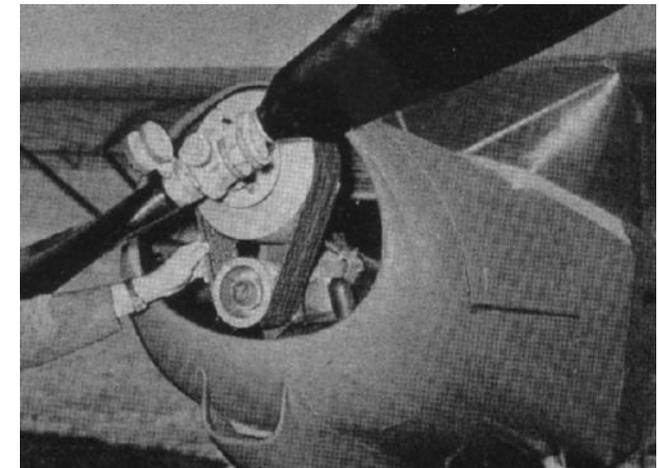
Balance the model about 2" from the leading edge for free flight gas power. For rubber power the C.G. may be shifted to 2-1/2" from the leading edge.

Test-glide over tall grass by hand launching to check the setting of the tail. Bend the elevator up slightly to correct diving, or down to correct stalling. Bend the rudder to obtain a slight turn to the left for gas power, or to the right for rubber power.

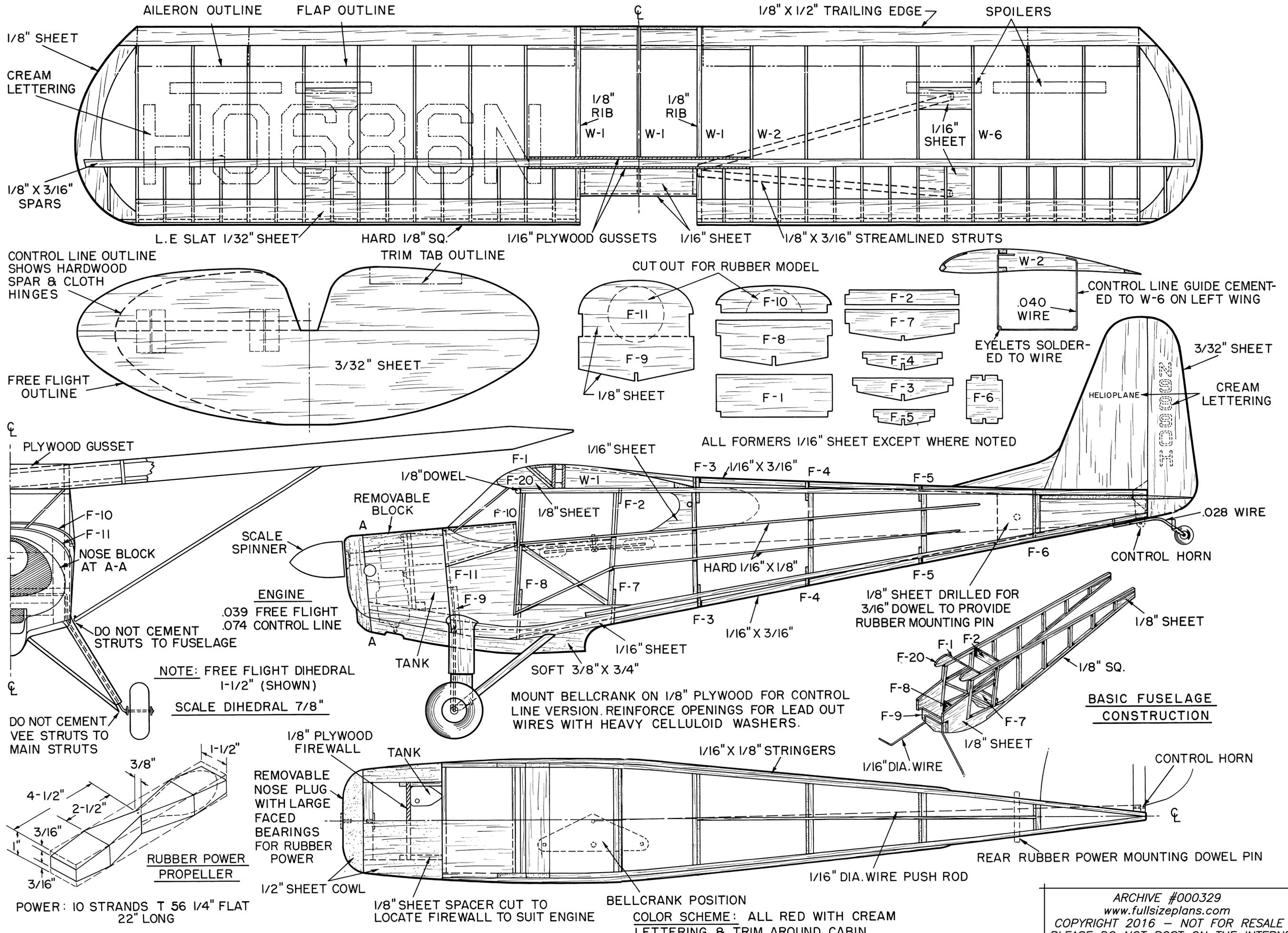
As a control line model the C.G. should be about 1" from the leading edge. Fly the model on 25 to 35 ft. lines, using the longer lines in calm weather.

The original ship was colored all red with cream lettering and trim. Colored tissue with Trim-Film cut for lettering will produce the lightest job for free flight.

A coat of clear fuel proofer should be applied to the entire ship if gas powered. Fuel-proof colored dopes may be used for the control line model.



View of multiple V-Belt speed reduction that Allows the use of a large diameter prop Photo from October 1949 Popular Science



DESIGN BY HENRY STRUCK - PUBLISHED IN AIR TRAILS FEBRUARY 1953 & REPRINTED IN RCMW NOVEMBER 2016

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SUPER "V" SHARK

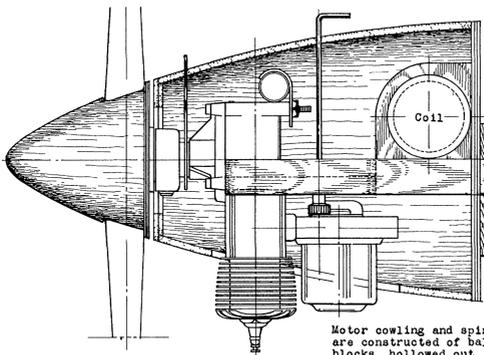
VICTOR STANZEL & CO.

First In Control Line Flying
SCHULENBURG, TEXAS

DESIGNED FOR CLASS "B" AND "C" MOTORS

Fully Protected by U.S. Patent
& Patents Pending

After cementing the dorsal fin base strip to the top edge of the formers, to the rear of the cockpit, the entire cowling, from the front end to the rudder post, is covered with 3/32" thick balsa veneer and sanded into smooth flowing lines and contours. The cockpit enclosure is of celluloid.

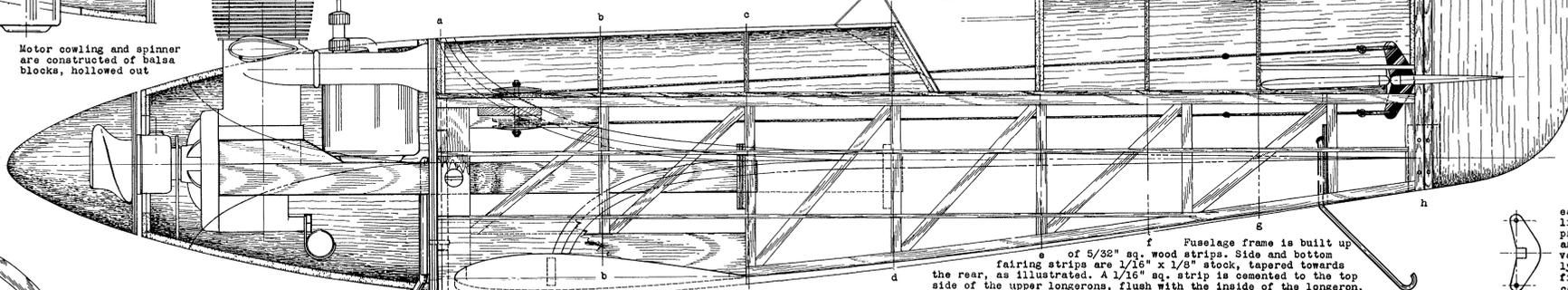


Side view of Ohlsson "23" inverted installation. Motor is mounted between motor rails on short insert mounting blocks, as illustrated by bottom view below. The coil should be mounted forward of the fire-wall, directly above the motor rails, while the batteries may be carried between the rails to the rear of the fire-wall. An extension wire is soldered to the fuel mixture control, as illustrated.

High pitch propellers should be used on all motor installations.

Motor cowling and spinner are constructed of balsa blocks, hollowed out

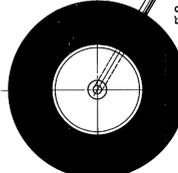
Cowling formers, furnished in printed form, should be carefully cut out and cemented to the top side of the fuselage frame, after the 1/16" cowling base strips have been cemented into place.



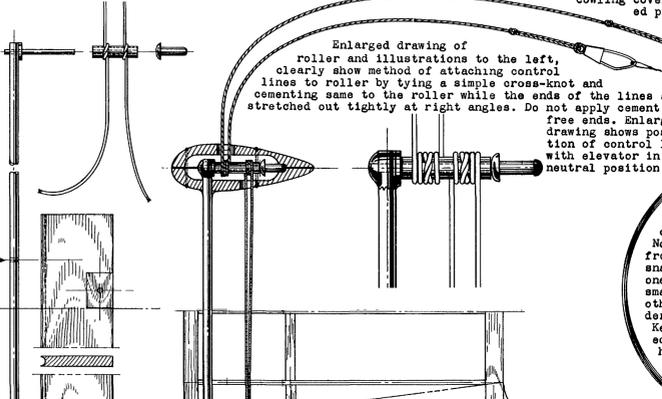
Fin and rudder are constructed of solid balsa planks. A hardwood rudder post, formed as per pattern at left, is cemented to the rear end of the fuselage frame. The fin is cemented against this post and down on the dorsal fin base strip, as illustrated. The rudder also is provided with a hardwood spar to which it is securely cemented. Sheet metal hinge strips shown in dotted lines, are used for attaching the rudder to the rear end of the fuselage and fin. These serve to hold the rudder in proper adjustment when flying model. Rudder should be set to counter act the flight circle in order to keep the control lines tight.

The stabilizer and elevator are also constructed of solid balsa wood and are cemented to hardwood spars, as illustrated. The stabilizer is cemented to the top side of the longerons, having a wedge shaped block fitted on each longeron directly under the stabilizer so as to give the stabilizer the proper angle of attack. Cloth hinges are used for attaching the movable elevators to the stabilizer, as is clearly shown. The control horn is formed of fibre, as per pattern at left, and is cemented to the elevator spar. Paper clip wire links, with ends securely soldered together, are used for attaching the elevator lines to the control horn, as illustrated.

Ohlsson "60" motor mounts on short 5/16" x 3/8" hardwood spacer rails, set on the upper side of the main motor rails. Other types of motors may require minor changes in the mounting set-up, as for example, the Ohlsson "23" inverted installation illustrated elsewhere. In using class "C" motors, the batteries and coil should be mounted between the motor rails to the rear of the fire-wall. Batteries and coil are not illustrated, however, simple mountings may be easily devised for the various ignition accessories.



New "G" Line Control device consists of a simple 5/32" dia. roller mounted rotatably at the end of a 1/8" dia. steel wire control arm. A light weight braided silk line, wound around the roller, runs over two small pulleys mounted at the top and bottom of the hardwood control arm mounting plate, centrally of the fuselage, back through the fuselage, where the ends are attached to the elevator control horn. Revolving the roller back and forth, moves the elevator up and down. A second heavier silk or linen line, also wound around the roller connects up with the steel "G" lines, as illustrated. The steel lines, in turn, are connected to the cross-bar of the directional control stick, held in the hand of the operator. Moving the stick up and down revolves the roller which in turn moves the elevators.

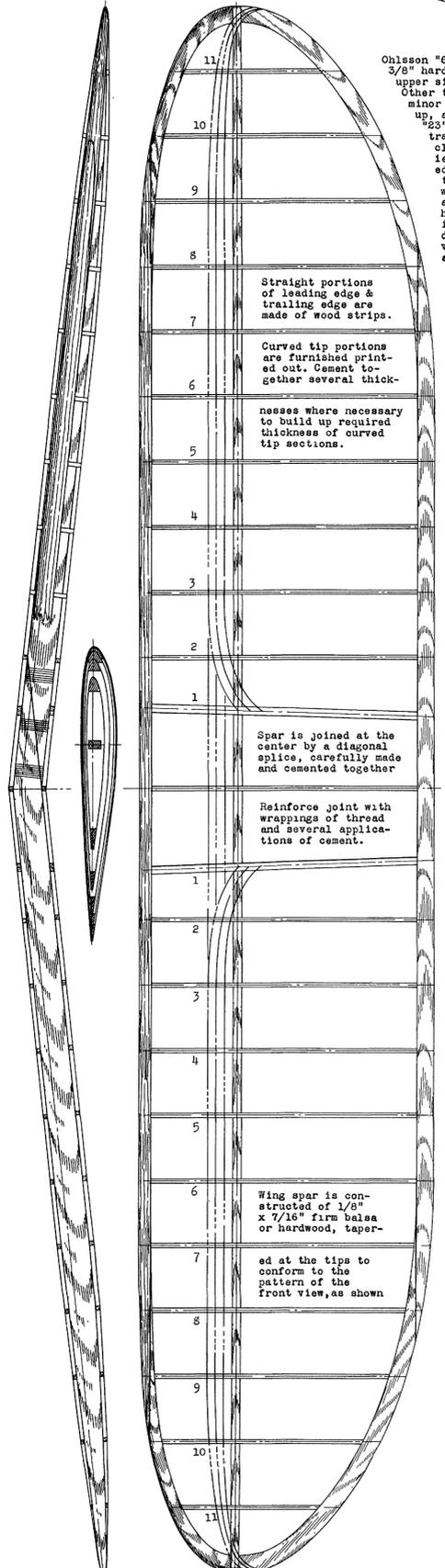


Enlarged drawing of roller and illustrations to the left, clearly show method of attaching control lines to roller by tying a simple cross-knot and cementing same to the roller while the ends of the lines are stretched out tightly at right angles. Do not apply cement to free ends. Enlarged drawing shows position of control lines with elevator in neutral position.

Steel "G" Lines

The "G" Lines consist of two equal lengths of No. 2 or 3 music wire, from 50 to 75 ft. long. A snap may be attached to one end of each line and a small loop formed at the other end. Carefully solder all wire fittings. Keep wires neatly coiled and well oiled. Method of double looping silk and linen lines to metal fittings is illustrated to right.

The tail skid is formed of 1/16" spring steel wire, securely tied and cemented to a 1/16" thick plywood plate, as illustrated above. The plate, in turn, is securely cemented into the fuselage frame.



Straight portions of leading edge & trailing edge are made of wood strips.

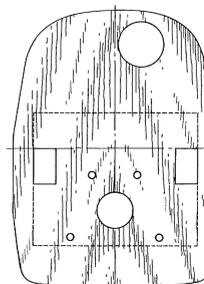
Curved tip portions are furnished printed out. Cement together several thicknesses where necessary to build up required thickness of curved tip sections.

Spar is joined at the center by a diagonal splice, carefully made and cemented together.

Reinforce joint with wrappings of thread and several applications of cement.

Wing spar is constructed of 1/8" x 7/16" firm balsa or hardwood, tapered at the tips to conform to the pattern of the front view, as shown.

Assembly drawing of roller control device illustrates various parts and how they go together. A hardwood mounting plate shaped to be cemented into the fuselage frame, serves to hold the 1/8" steel wire arm securely fixed to the fuselage. The forward edge of the plate is grooved to receive the wire arm which is securely tied thereto with wrappings of thread. A small nail is driven into the mounting plate through a hole drilled through the wire arm to keep same from turning. A 1/16" dia. steel pin is driven into a hole drilled through the tip of the control arm, a small washer with a 1/16" center hole is slipped over the pin, up against the 1/8" wire arm and the whole assembly is securely soldered, making sure that the washer is squarely in position. The roller is built up by wrapping gummed paper on a 5/8" length of brass tubing, to a diameter of approximately 5/32".

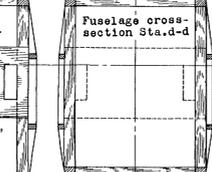
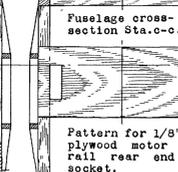
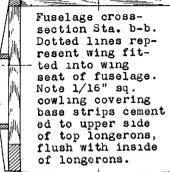
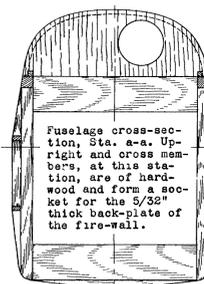


Instrument Panel. Paste on 1/16" sheet balsa and trim to fit against cockpit end of forward fuselage cowling.

Pattern layout for 1/8" plywood fire-wall. Dotted lines indicate 5/32" thick hardwood back plate securely cemented and bradded to rear side of fire-wall.



Bottom view inverted Ohlsson "23" installation. Inner sides of motor rails are slightly cleared so motor will fit between them. 1/4" sq. hardwood insert rails are securely bradded and cemented to inside of each rail for mounting base. Cylinder and fuel tank clearance holes are cut into motor cowling as illustrated by the upper half of this view.



Fuselage cross-section Sta. a-a. Upright and cross members, at this station, are of hardwood and form a socket for the 5/32" thick back-plate of the fire-wall.

Fuselage cross-section Sta. b-b. Dotted lines representing fitted into wing seat of fuselage. Note 1/16" sq. cowling covering base strips cemented to upper side of top longerons flush with inside of longerons.

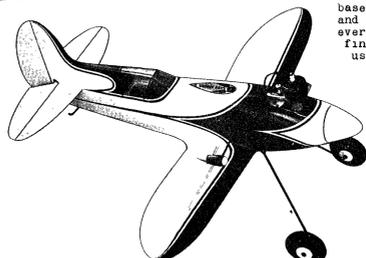
Fuselage cross-section Sta. c-c. Pattern for 1/8" plywood motor rail rear end socket.

Fuselage cross-section Sta. d-d.

Above front view of 1/8" wire control arm, roller assembly and streamlined covering shell, illustrates the position of the control device relative to the fuselage frame.

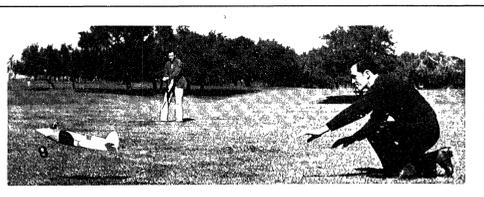
The wing is built up separately, finished and covered on the top, side before it is securely cemented into the wing seat in fuselage frame. Wing fairings, carved of solid balsa, as illustrated in broken lines, may be used.

The finished model illustrated has a base coat of white trimmed with red and a narrow stripe of blue. However, any color combination or finish design desired may be used.



Landing gear struts are formed of 1/8" spring steel wire, using the dotted line extended drawing as a full size pattern. The steel wire strut is securely soldered into a sheet metal holder, as illustrated above, and the struts bend forward at the lower edge of this holder to the extent illustrated by the side view. The metal plate is cut to form of the extended dotted line pattern and the side edges bend up right angles, as shown above. Holes are drilled through the plate for fastening the landing gear assembly to the fire-wall by means of machine screws and nuts. A 1/2" hole, drilled through the metal plate and fire-wall assembly facilitates assembling of ignition wires between battery, coil and motor.

Streamlined hardwood wheels may be fitted with bronze eyelets for bearings. Stop washers, soldered to the axle, as illustrated, serve to keep the wheels in place.



PLAN FROM LOU CUMPSTON

Electric Cleveland VIKING

by Bob Boucher



Astro Flight was one of the early electric power suppliers back in 1985 when owner Bob Boucher came up with this enlarged version of the Cleveland VIKING as a vehicle for his Cobalt 05 motors. Nice looking model but think about the same model 30 years later and using the more powerful motors and batteries of today. Should be a great flyer and lots of fun. Our regular full size plan is included.

Article and plan from the January 1985 issue of Model Builder magazine.

INTRODUCTION

I had been searching for a different old timer model for my Astro Cobalt 05 geared motor. My Playboy flew great, but the pylon was a hassle to build and made installation of all that electricity difficult. I wanted a nice cabin job with a Playboy style wing. My search ended in Rider's Hobby Shop in Ann Arbor, Michigan.

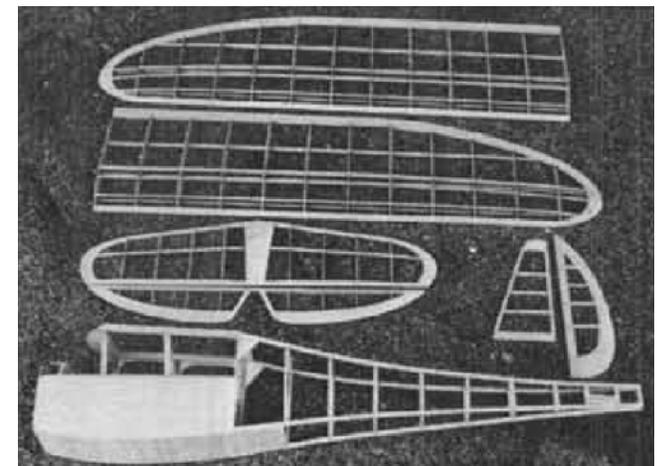
Rider's had a cute little Cleveland Viking hanging from the ceiling. The Viking was designed at a 48-inch span, so I had Bob Sliff and John Lupperger blow up the Cleveland plans to 62 inches.

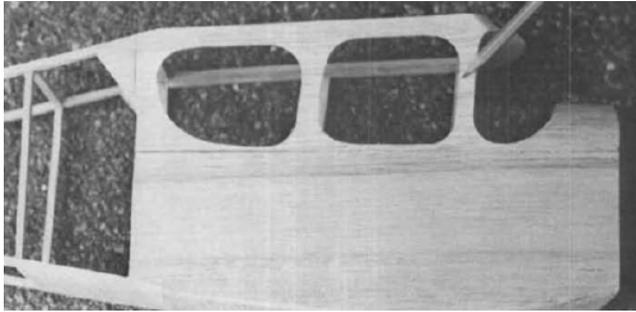
A few weeks later, the first Viking was finished and just in time for the Reno Nats. For power I used the Astro geared Cobalt 05 motor, a seven cell Sanyo 800 MAH battery, the Astro electronic on-off motor control, and a Rev-Up 11X7 prop. My Monokoted model weighed 36 ounces, complete with Futaba radio.

I balanced the model on the spar and set the elevator throw to 15 degrees and the rudder throw to 30 degrees. The V-dihedral wing has about a 1/8 inch of tip wash-out for good luck.

The Viking flew beautifully right off the board. It is very stable and easy to fly, but still quite responsive to radio command. I was able to average over 10 minutes of glide time from a 1-1/2 minute motor run, more than enough to max. On many flights I got over 20 minutes. I packed up the Viking and headed for Reno.

The thin air at Reno was a problem. The prop just did not bite enough air to get a really good climb. I borrowed a 12X8 Top Flite prop, and it worked much better, but still more prop was needed for best results. Bob Sliff had a 16X8 Zinger which he cut to a 12-inch diameter to fit the SAM rules. His Cobalt 05 Playboy beat me by 30 seconds, so I had to be satisfied with second place. Just wait till next year!!!





Cover cabin sides with 1/16" sheet balsa. Cabin window area and top of cowl are formed from a single sheet.

WEIGHT SUMMARY

Wing	5.7 oz	
Fuselage	4.4 oz	
Tail	0.5 oz	
Control rods	0.5 oz	
w 1"leels	1.0 oz	
Subtotal airframe.....	12.1 oz	
Futaba receiver	1.5 oz	
Two S.33 servos	1.3 oz	
250 MAH rec. bat	2.0 oz	
Switch harness	0.5 oz	
Subtotal radio	5.3 oz	
Cobalt 05 motor.....	6.00z	
7-cell 800 ma battery	8.6 oz	
Swi tch harness	05 oz	
Gear box	1.5 oz	
11X7 prop	0.5 oz	
Astro motor control	1.5 oz	
Subtotal Power	18.6 oz	
All up \veight	36.0 oz	

EXPECTED PERFORMANCE

I use a computer program to simulate the climb and glide polars of my models. The program contains a simplified model of the propeller characteristics and calculates the expected climb altitude as a function of lift coefficient.

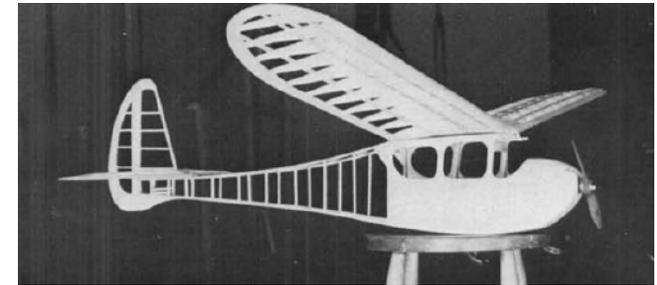
The results of these calculations indicated that the best climb is obtained with a climb angle of 20 degrees. Substituting a direct drive with 8X4 prop indicated that the model benefits from the geared motor but should be able to max even with the direct drive prop.

CONSTRUCTION

The Viking is built from scaled-up Cleveland plans and uses the standard built-up construction used in almost all old timers. This type of construction is light and strong; with the new super-glues it is quite easy to build.



Wet mold balsa motor tube over drive motor.



Nice thing about transparent covering, whether it's silk and clear dope or see thru film, you can still see that framework. Something you can't get with foam and fiberglass.

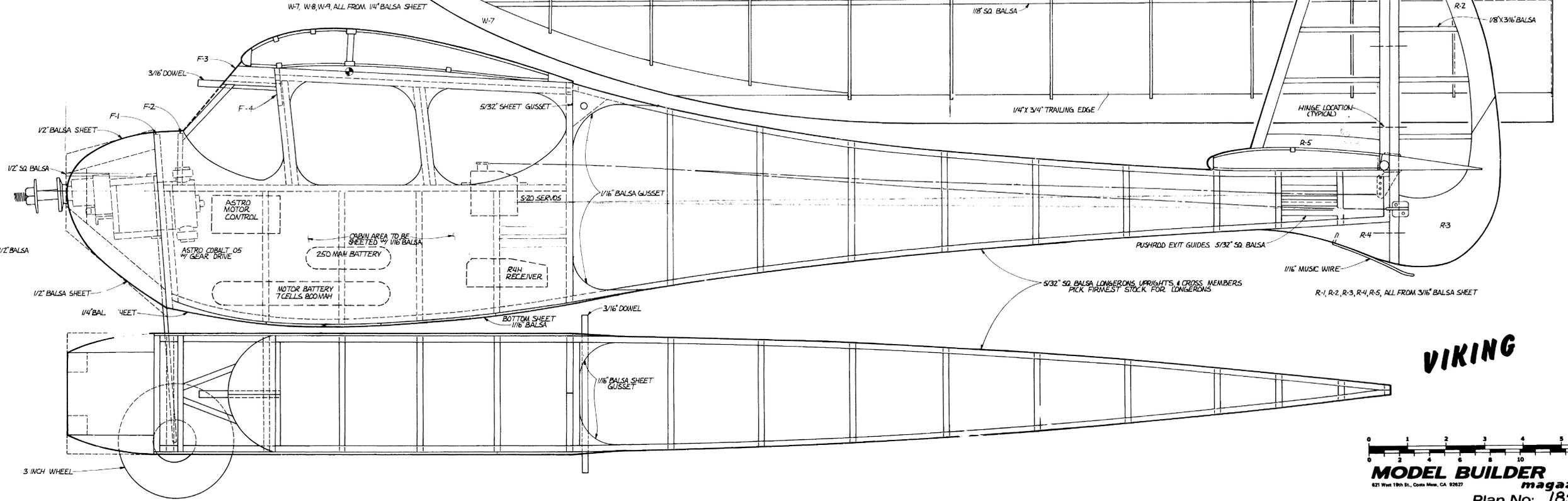
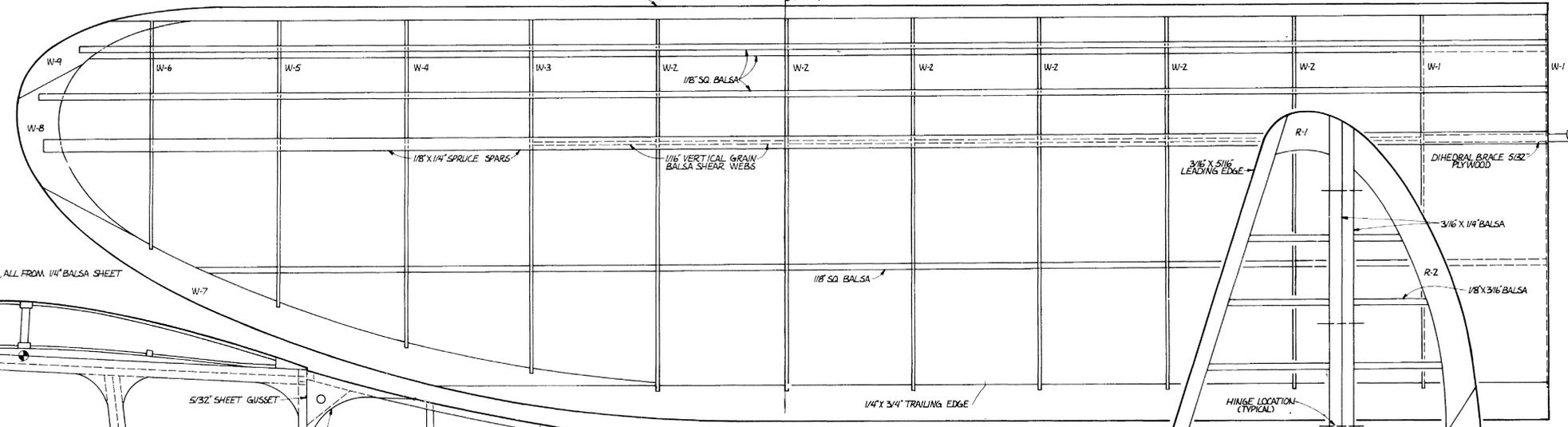
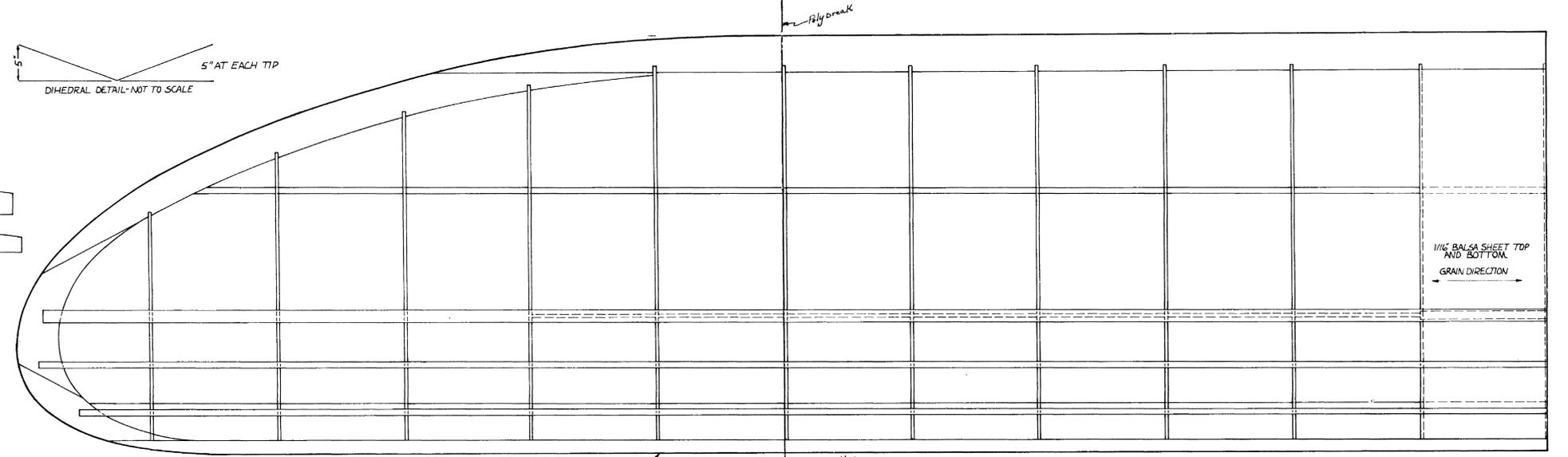
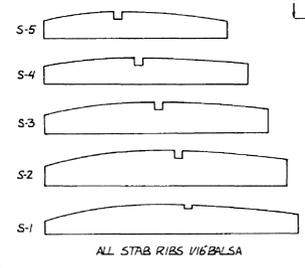
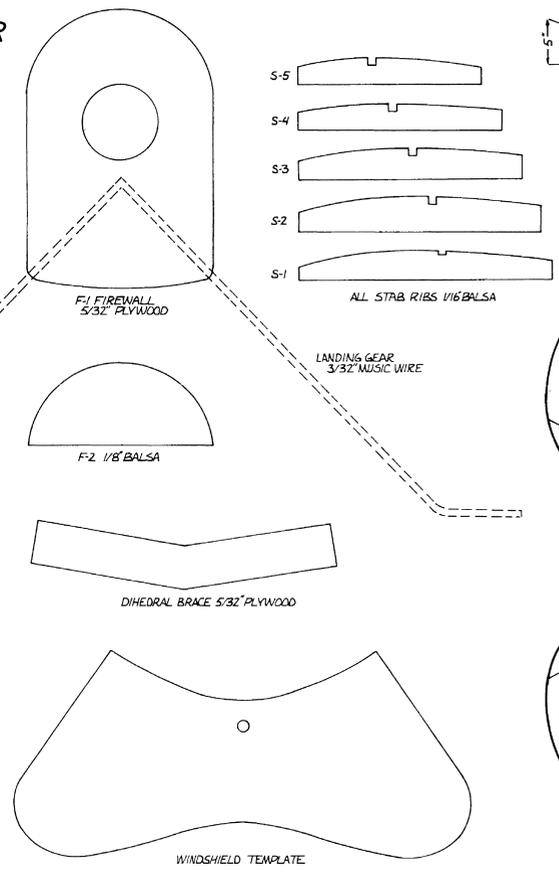
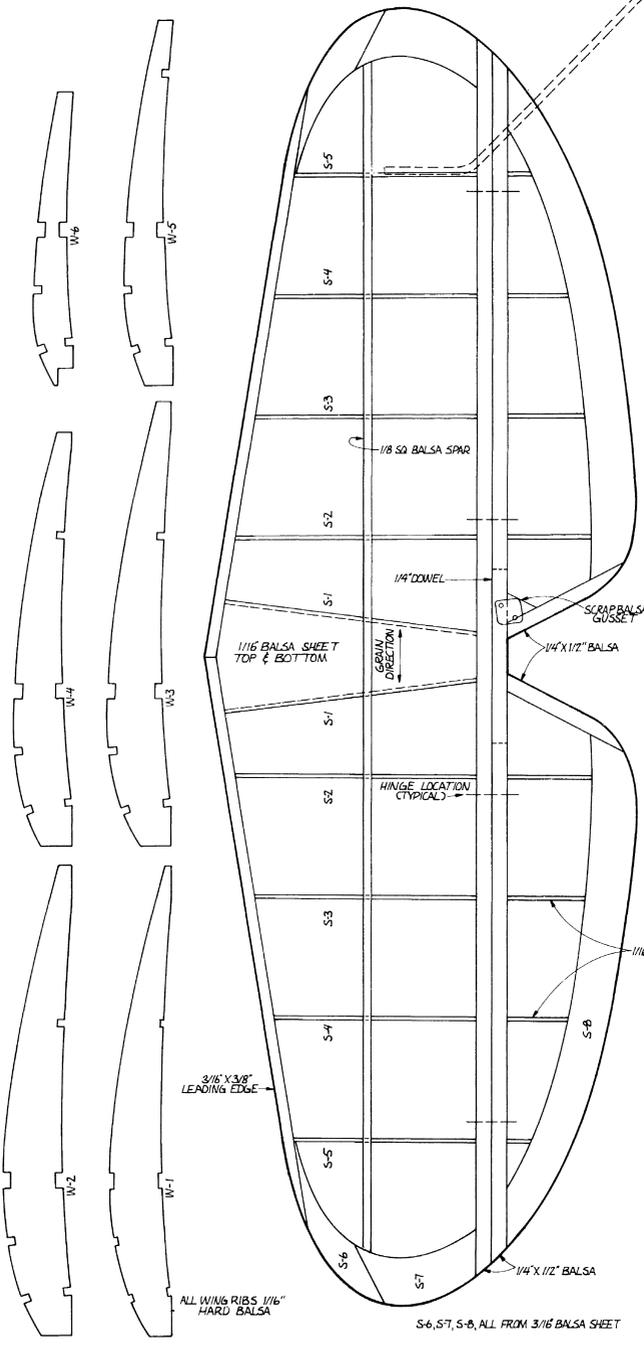


R/C MODIFICATIONS BY: BOB BOUCHER & BOB SLIFF
 DRAWN & INKED BY: JOHN LUPPERGER

SPAN: 63 INCHES
 AREA: 500 SQUARE INCHES
 FLYING WEIGHT: 32-40 OUNCES
 MOTOR: ASTRO 05 WITH GEAR DRIVE
 RADIO: 3 CHANNELS
 RUDDER, ELEVATOR, MOTOR ON/OFF

PLAN PUBLISHED
 IN MODEL BUILDER
 JANUARY 1985
 PLAN FROM
 MIKE McINTYRE

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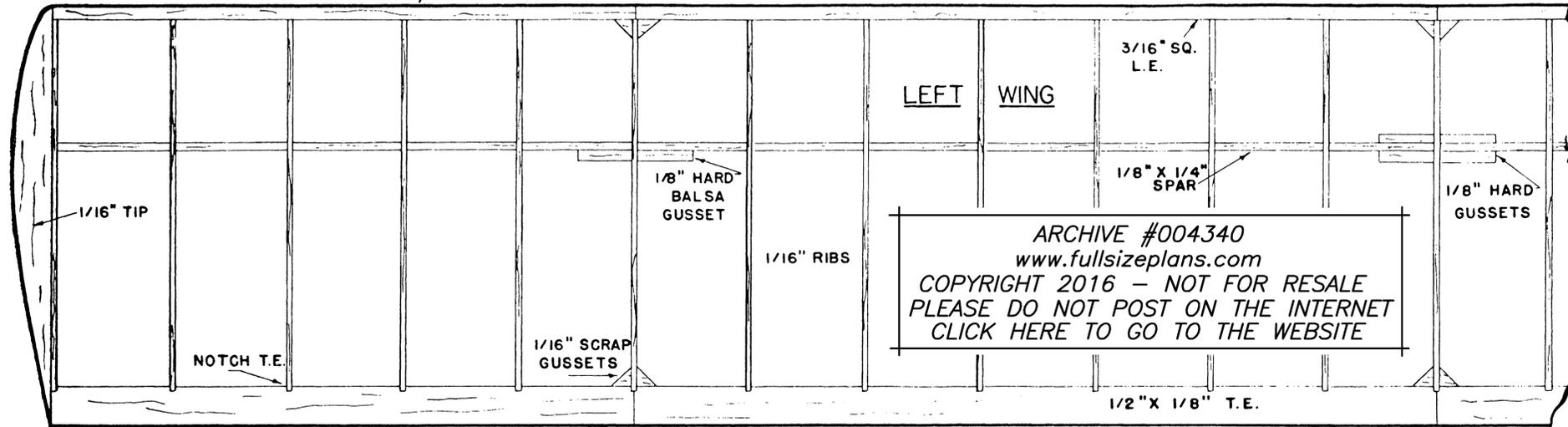


VIKING



MODEL BUILDER magazine
 Plan No: 1852
 621 West 19th St., Costa Mesa, CA 92627

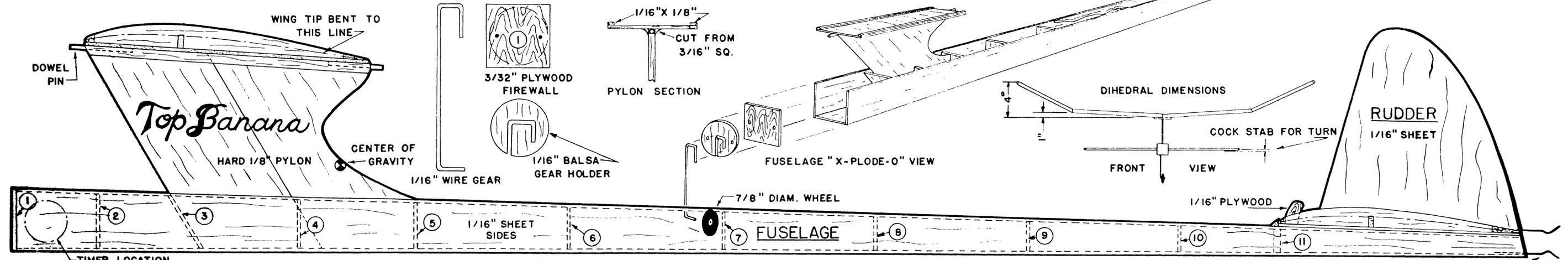
NOTE: TO BUILD RIGHT WING PANELS, OIL PLAN & TURN OVER.



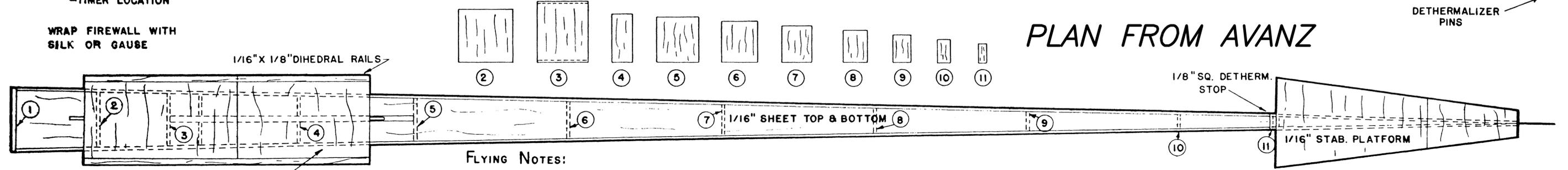
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FINISHING INSTRUCTIONS:

1. SAND ENTIRE MODEL WITH FINE SANDPAPER.
2. COVER WITH YELLOW TISSUE.
3. DOPE WITH THREE COATS OF THINNED & PLASTISIZED FUEL-PROOF CLEAR DOPE.
4. TRIM WITH COLORED FUEL-PROOF DOPE AS DESIRED.
5. DECORATE WITH DECALS & DON'T FORGET A NAMEPLATE.

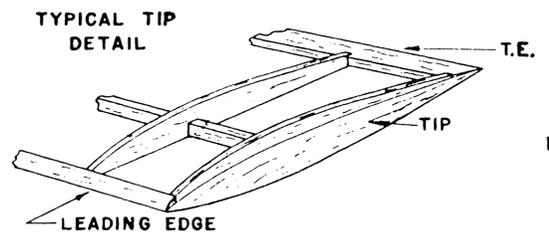
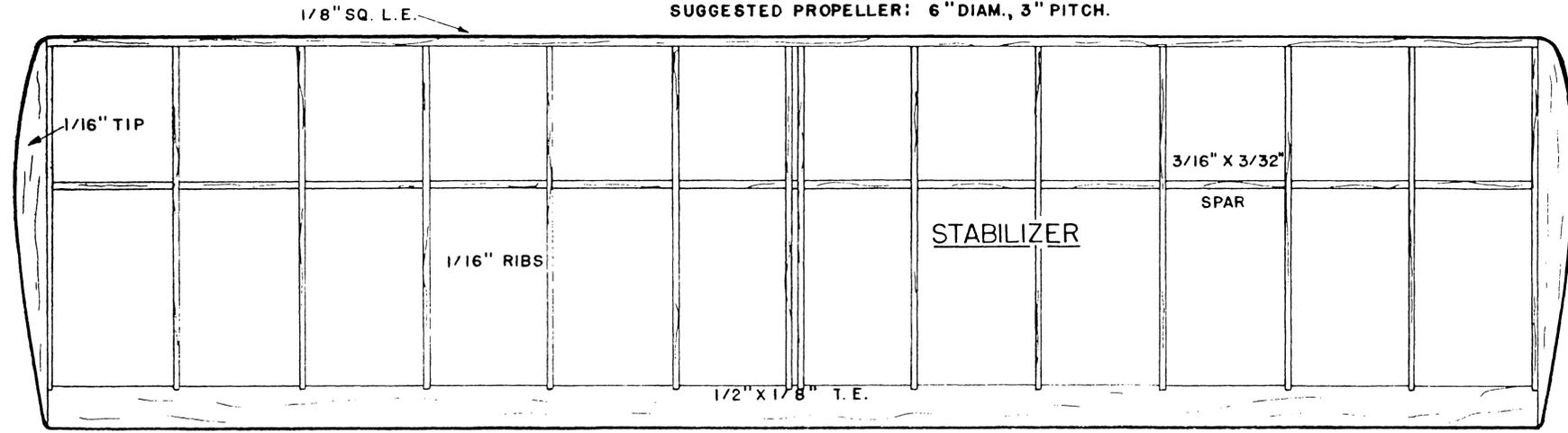


PLAN FROM AVANZ



FLYING NOTES:

NO DOWNTHRUST OR SIDETHRUST ARE NECESSARY.
OUR SHIPS FLEW BEST WITH LEFT CLIMB & GLIDE.
DON'T FORGET TO KEY WING & STAB.
SUGGESTED PROPELLER: 6" DIAM., 3" PITCH.



DETHERMALIZER FUSE:
WE USE UNTREATED AWNING CORD.

TOP BANANA

DESIGNED BY: J. M. Jackson & W. P. Hutz, 6-18-1950
WING SPAN - 36 INCH. FUSELAGE LENGTH - 29.6 INCH.
WING AREA - 200 SQ. IN. STAB - 43% OF WING AREA.
POWER - WASP .049, TORP .049, ANDERSON .065.

Digitally cleaned by Mephisto

SKYLINE PRODUCTS COMPANY.

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 selection is the December 1933 issue of **Universal Model Airplane News**. This was the predecessor of the current Model Airplane News magazine.

This issue has an article about the DC-1 by Donald Douglas, info about WWI Fokker development, an aerodynamics discussion by Charles Hampson Grant, several 3-Views and three model airplane projects with plans. Even the old ads will make you envious when you read the prices.

To get your copy, just go to the following link and click on the download button that after a short time will appear in the upper right corner of your browser screen. The issue will be downloaded as a PDF file and you can read or print out any or all of the pages as you choose.

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

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

As a note of interest, this issue is 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. This issue is nearly 120 megabytes because it contains about 120 pages.

See pages 32 & 33 of this issue if you want all issues from Vol 1, No 1 through December 1952 on a single USB Flash Drive.



A Gift Suggestion

This may not be the most subtle way to suggest a suitable gift for Christmas or some other occasion but here it is anyhow.

As a lifelong modeler I have received a lot of ties, scented soap, pen and pencil sets, and even socks and underwear.

If you have ever heard the following -- "I would like to get you something you could use for modeling but I have no idea what you need," here's an idea -----

It might not be the most subtle way to make a hint, but how about printing out pages 17, 32 and 33 from this issue of RCMW and just making them available to someone who wouldn't know what you might like to have. You could even circle certain items of interest.

Or maybe even drop a few hints about a subscription to RCMW. It only costs \$24 for an entire year.

An email message to me at cardinal.eng@grics.net

would get things working in plenty of time for the upcoming holidays. Have her get in touch with me and I'll do the rest

Roland Friestad, Editor

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.

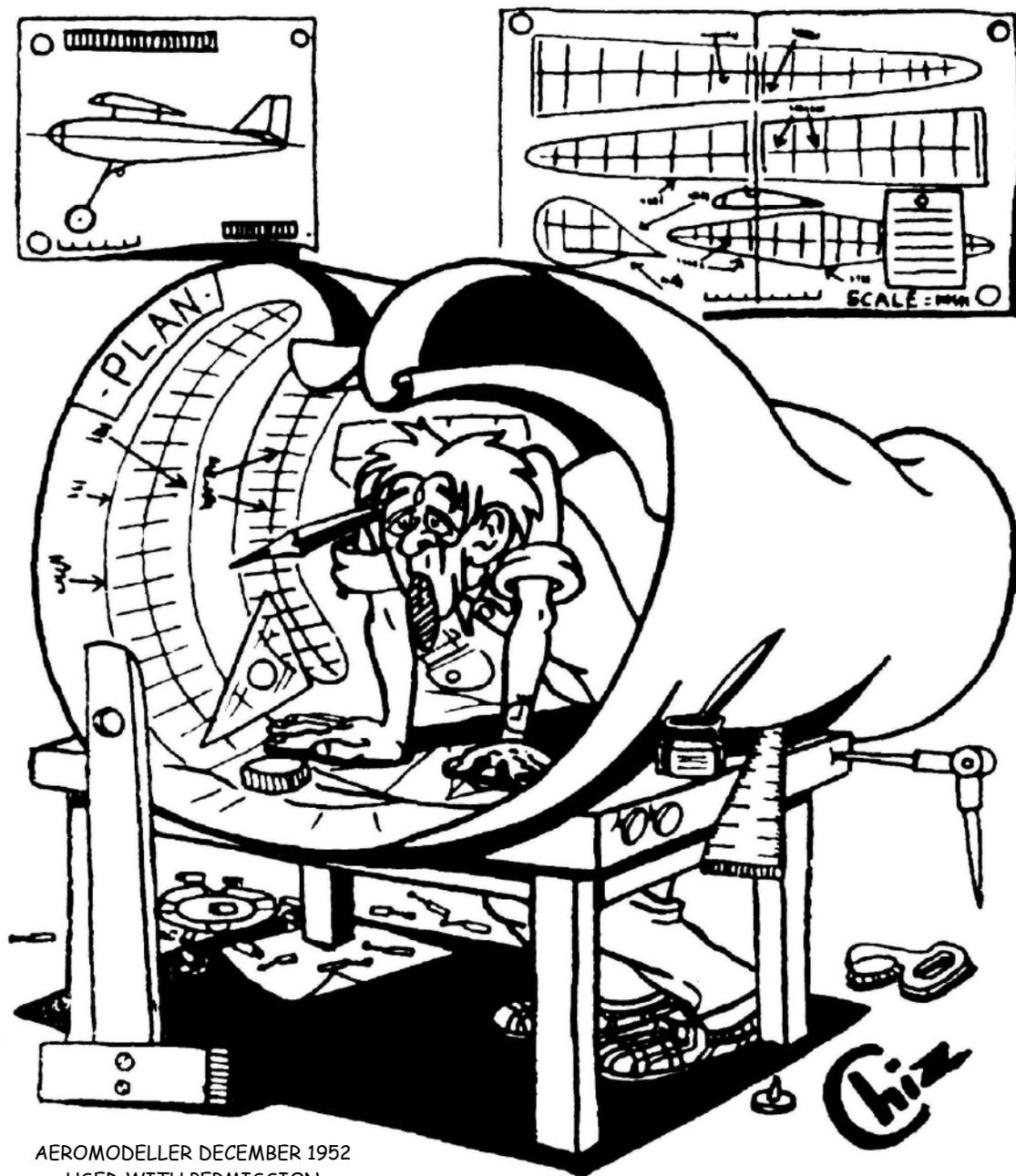
That's NOT the way it was in the past, when you had to build a model before you could fly it. If you're an old-timer, as I am, you have fond memories of Air Trails, Flying Models, Model Airplane News, Aeromodeller and many of the several other magazines available "way back when".

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?"

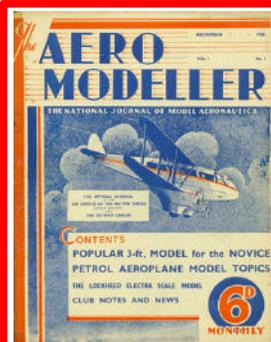
I admit to being a bit of a "nut case" but have been collecting these magazine for over 50 years and now I am trying to digitize them to preserve them for other modelers. They are now available as digital PDF files. See the details on the next page.

Keep 'em Flying - Roland Friestad



AEROMODELLER DECEMBER 1952
USED WITH PERMISSION

All Collections Furnished On Our Custom 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

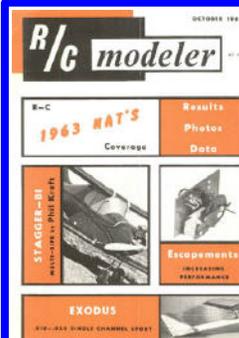
MODEL BUILDER - This magazine ran from the first issue of September~October 1971 through the final issue dated October, 1996 -

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

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Or check or money order to
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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

RCMW November 2016 - Page 33