There are several notes I need to provide to aid you with the enclosed package. The original kits used 1/16" balsa. Since I wanted to print these directly on balsa sheet I developed the parts for 1/32" balsa sheet. My printer will handle up to 1/20" sheet, but I find 1/32" is a little easier to handle in the printer. As a result, some of the parts have been drawn to allow for cross grain laminations. The fuselage formers are a good example. The fin as also been drawn with a mirror image to allow for markings on both sides. This works fine as long as you are using 1/32" sheet stock. If you find the wing halves and stabilizer are a little weak with your 1/32” stock, print two sets of parts. They can then be laminated to give a strong surface with printing on both sides. The wing halves will automatically have the correct orientation when you set them up for a left and right hand side.

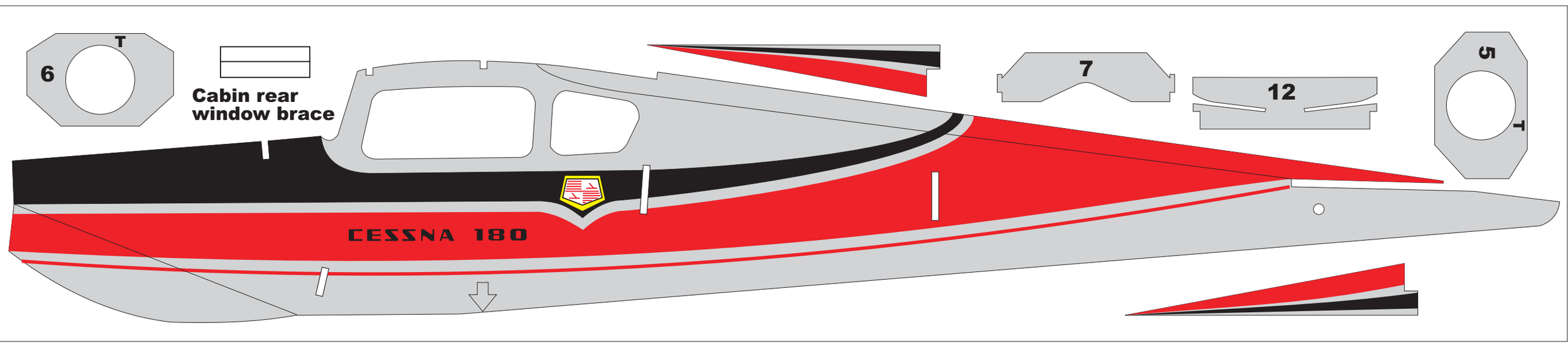
I like to use a removable nose for winding. The parts have been drawn with this in mind. An un-colored nose former has been drawn that is to be part of the fuselage structure. A colored nose piece has also been drawn. The piece when backed with a piece of 1/64" plywood becomes the removable part. The nose former is located to allow the removable piece to nestle inside the fuselage sheeting. I like to use a Peck thrust bearing for 1/32" prop shafts in the removable nose piece. Please see the diagram that comes just before the scanned kit plan in this package.

When using 1/32" sheet for the fuselage sides, I was concerned about the load of a fully wound motor on the rear motor peg. I like to use a piece of 3/32" aluminum tubing for the rear peg. Makes holding the model in a winding stooge very easy. To create a bit more strength at the rear peg, I apply a 3/8" diameter disk of plywood to the inside of each fuselage side at the peg location. This has proven to be more than adequate for a fully wound motor of 1/8" Tan II rubber. A piece of 3/32” OD aluminum tubing is used for the rear motor peg.

The original Goldberg kits did not have any color applied to the balsa. I have added color and markings in a manner similar to the old Top Flite Jigtime models. Carl Goldberg was responsible for the Jigtime series when he was with Top Flite. The colors chosen are based on the kit box art. Some additional markings were also added to create the look of the corrugated flying surfaces used on Cessna aircraft.

I do hope you build and enjoy a model from this plan package.

Paul Bradley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Cabin rear
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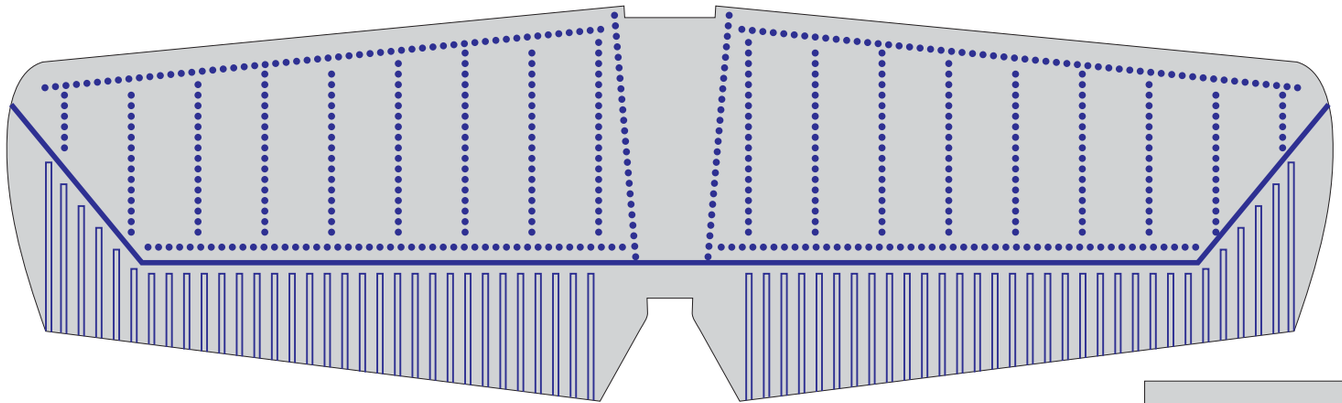
CESSNA 180

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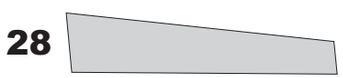
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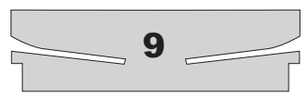
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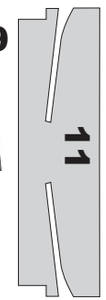
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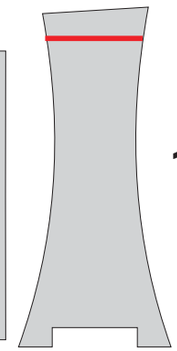
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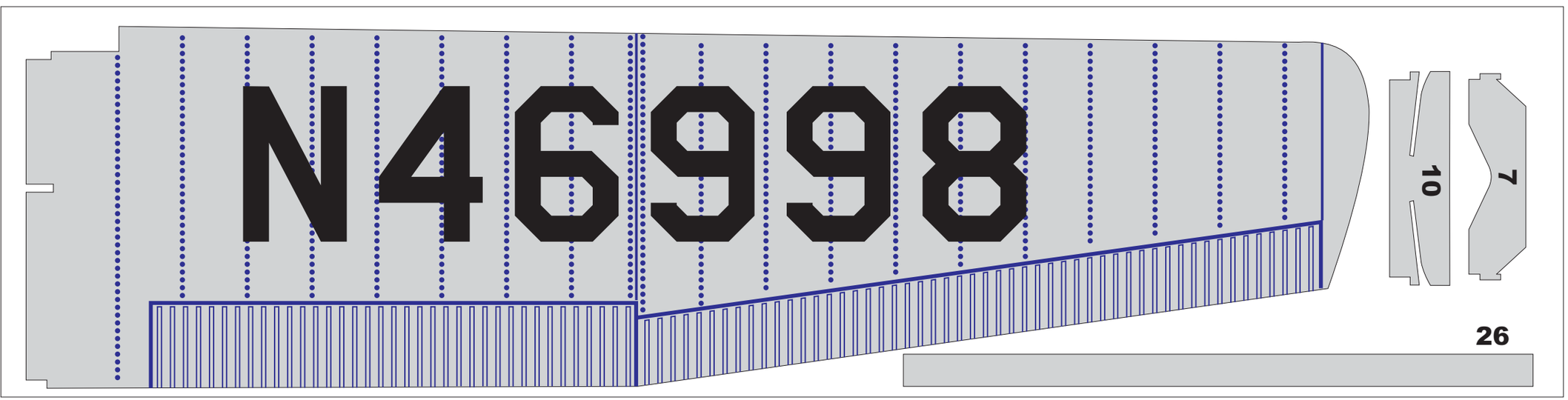
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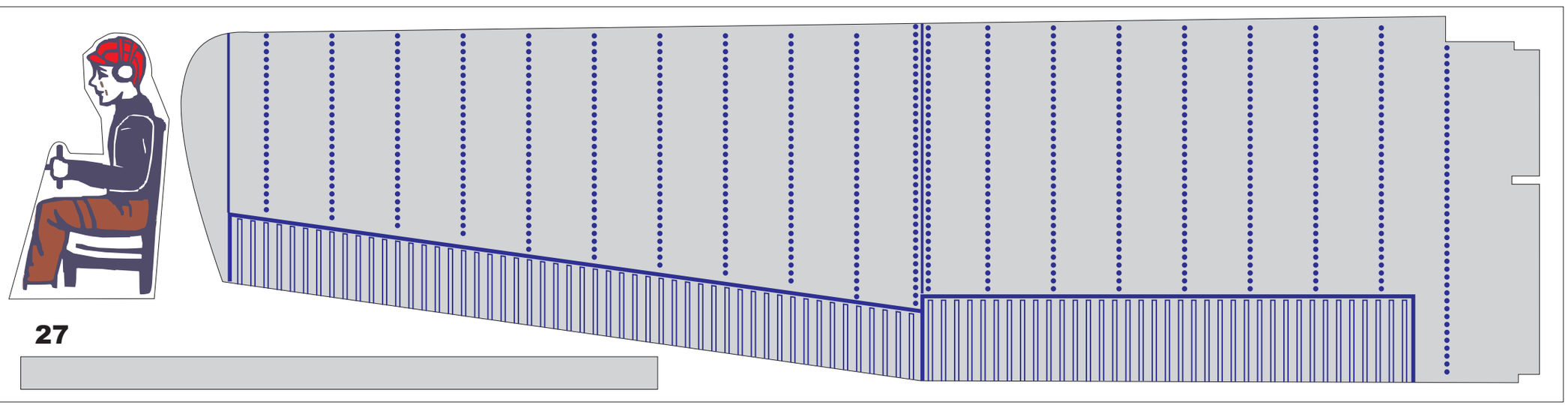
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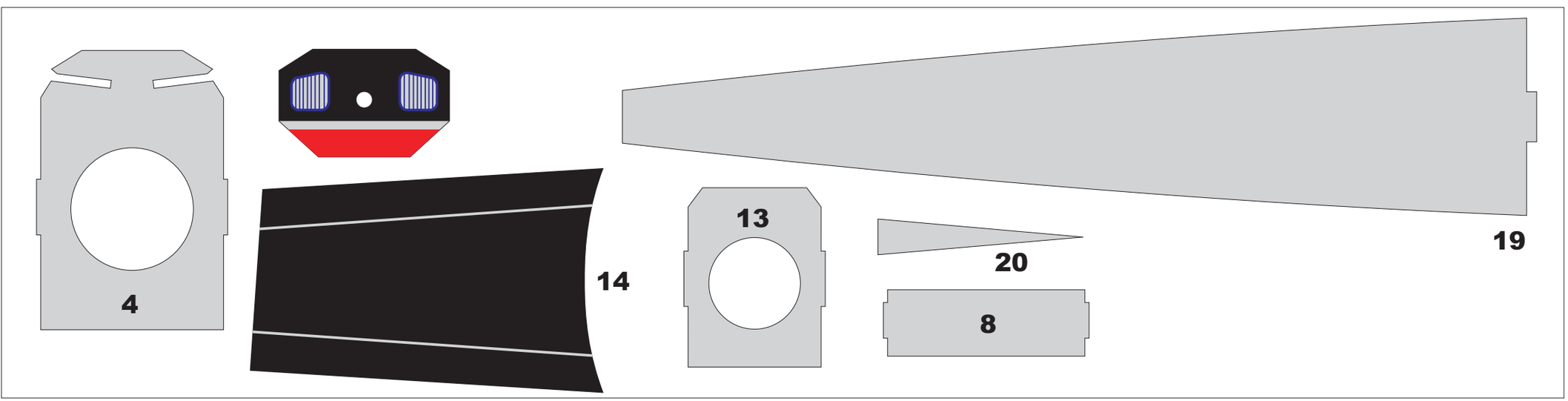
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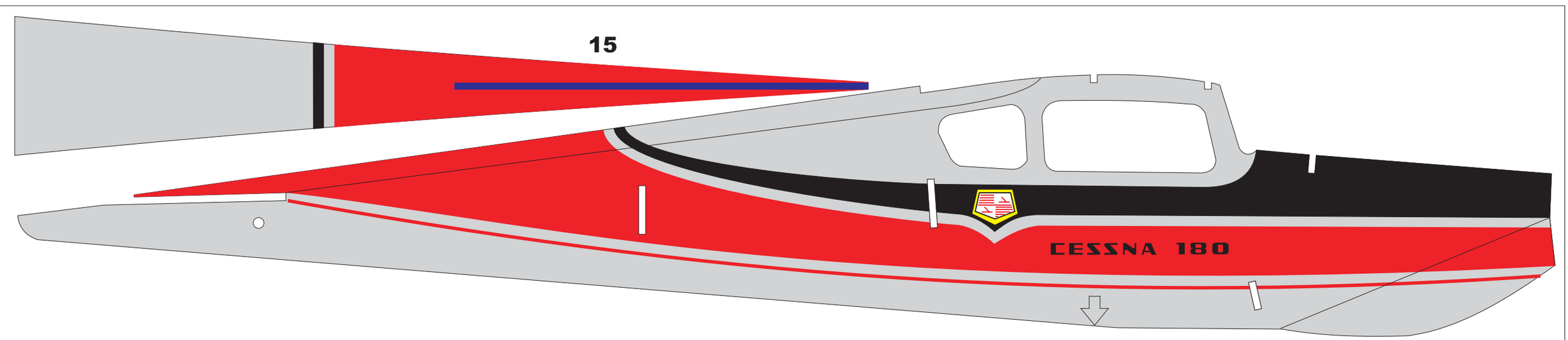
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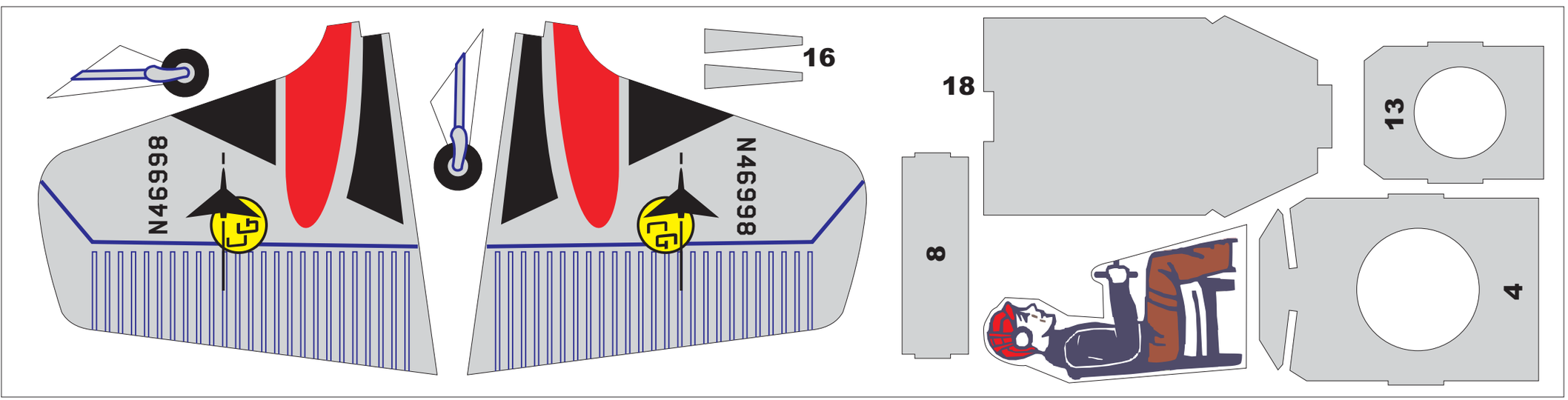
CESSNA 180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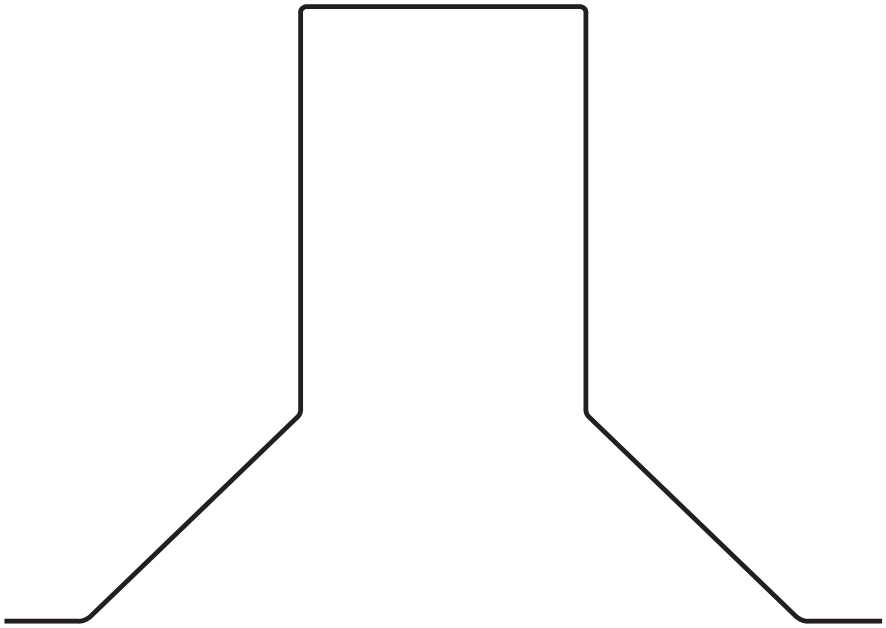
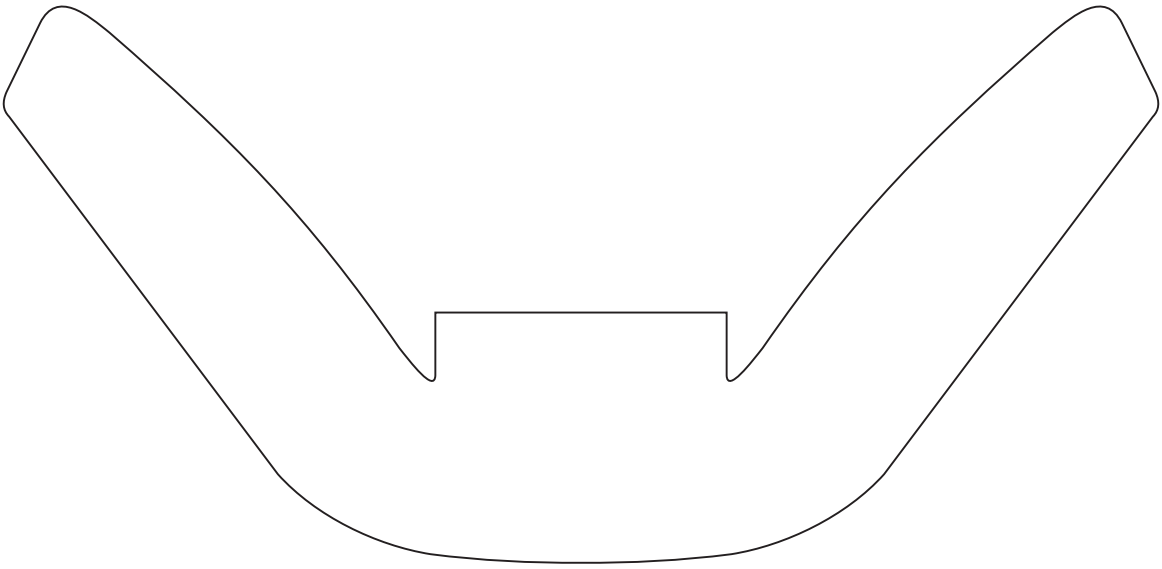
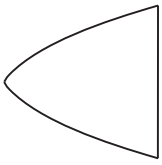


Make landing gear from .025 music wire.
Use 7/8” diameter wheels.



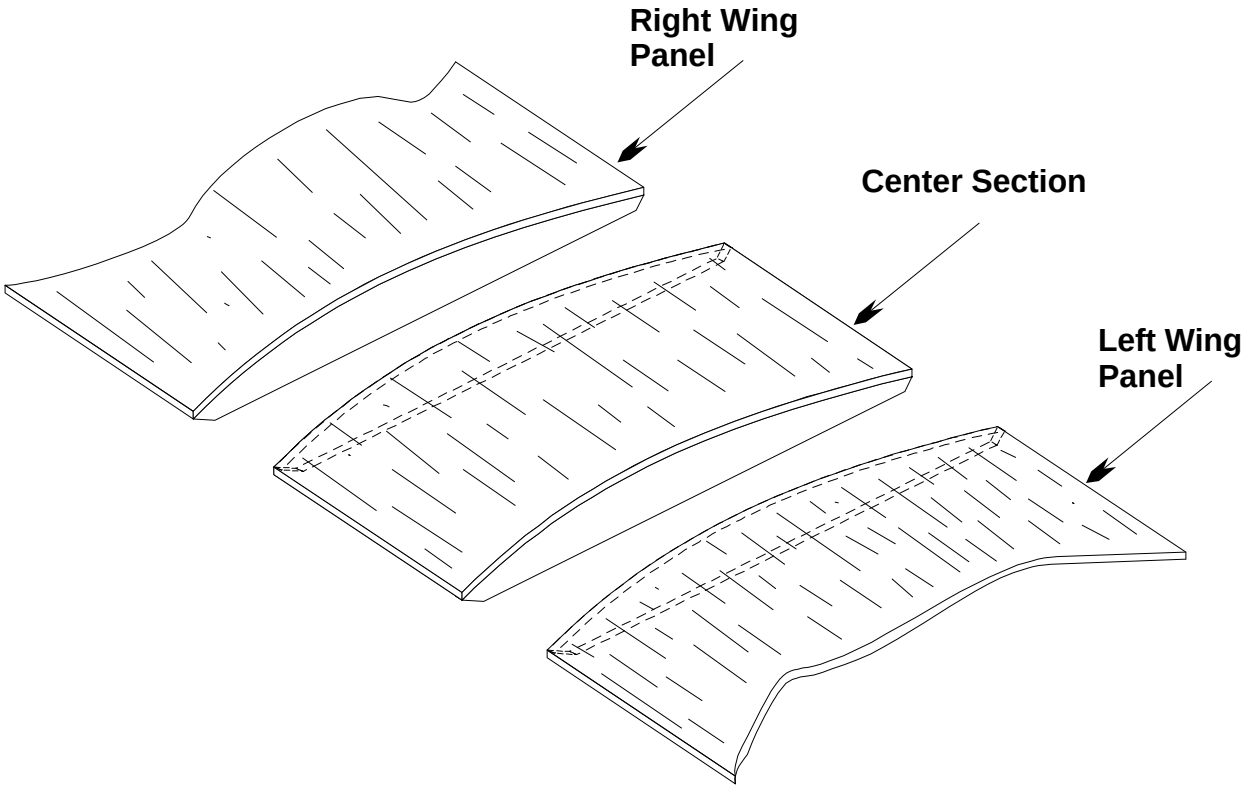


Spinner

Kit spinner was red

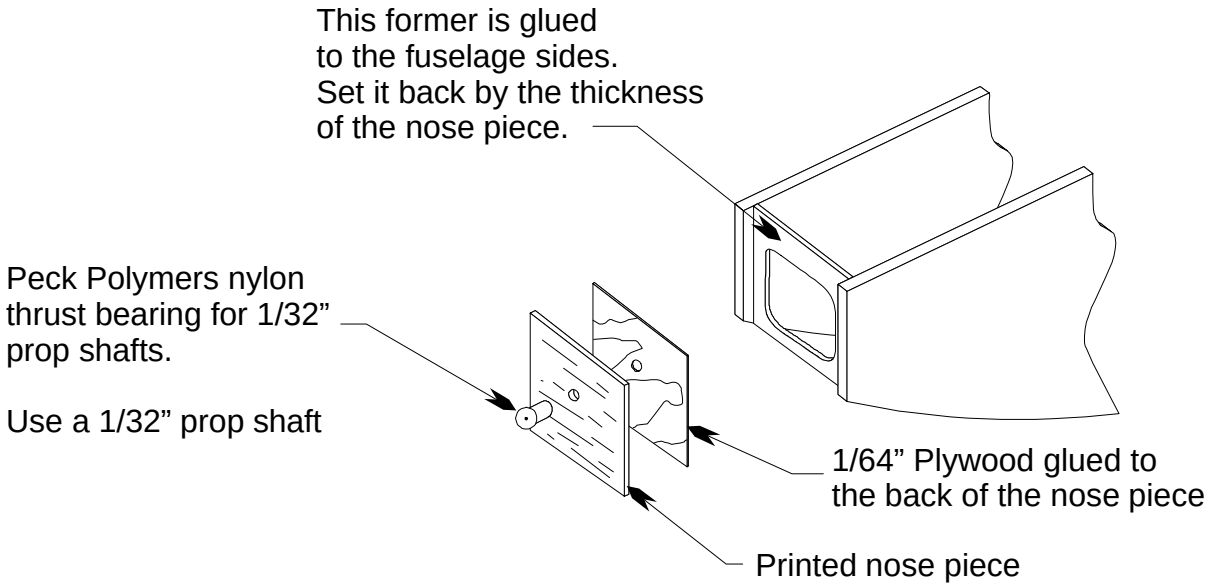
Cessna 180

Wing Center Section Assembly



For wings that have a flat center section, follow these steps. Glue ribs to each end of the center section. Glue a rib to the root end of each wing panel. Block up the tip of each wing panel and sand the root vertical using the edge of the work bench as a guide. Glue each wing panel to the center section. The wing assembly will fit over the fuselage sides with the ribs to the outside.

Removable Nose Assembly

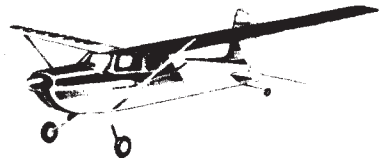


The Cessna 180 is a modern all-metal plane, purchased by many large companies to transport their executives in speed, safety and comfort to distant plants and appointments. In beauty and efficiency, the 180 is second to none.

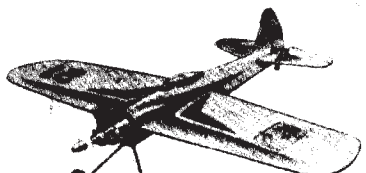
With a 230 horsepower Continental engine, it has a top speed of over 165 m.p.h. and cruising speed of 150 m.p.h. It has large wing flaps enabling slow, accurate landings and short take-offs. The 180 also may be fitted with amphibious floats containing wheels. With these it can alight on land or water, thus greatly increasing the choice of landing areas.

RANGER 30
KIT G 2

SHOESTRING
KIT D 2

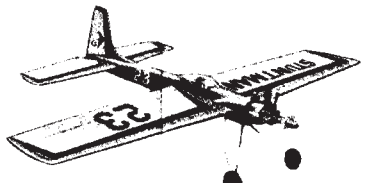


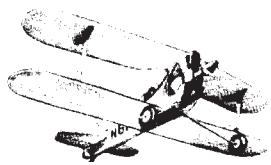
CESSNA 180
KIT D 4



LI'L JUMPIN' BEAN
KIT G 8

SWORDSMAN 18
KIT G 3





CESSNA 1

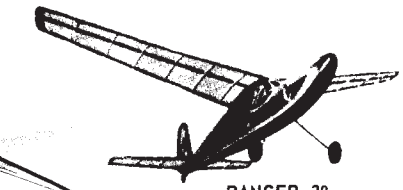
FLYING MODEL, KIT D4

FLIES 15-30 SEC., 15

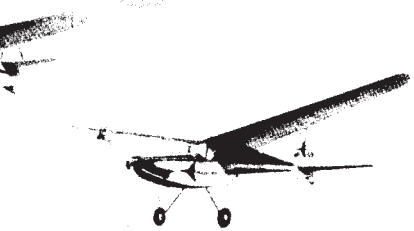
Wingspan	21"
Length	15"
Weight	1⅛ oz.

Desianed and

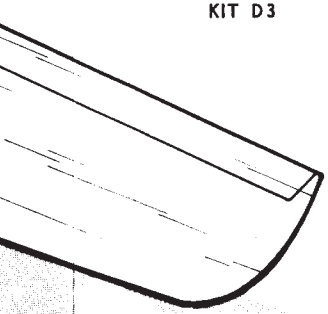
SPIRIT OF ST. LOUIS
KIT D 1



RANGER 28
KIT D 5



RANGER 21
KIT D3



NA 180

ODEL, KIT D4

SEC., 150-300 FT.

Designed and drawn by:

Carl Goldberg

Geo. J. Wittenberg

Steve G. Bryce Jr.

YOUR SUGGESTIONS WANTED!

Modelers often have ideas for improvements. We will be happy to hear from you by post card or letter on:

1. Your suggestions.
2. What you like best about our models.
3. What three new models you'd like to see us bring out.

Be sure to include your name, age, and address so we can reply and thank you.

HOW TO WIN YOUR PILOT'S LICENSE!

A pilot must of course study, practice and finally pass certain tests before he can win the coveted certificate. The performance standard set for your model is not difficult, but it will take some effort. So read the following carefuly.

First, build your model carefully and accurately, following instructions. Cement all the joints firmly. Sand the entire model neat and smooth, with rounded edges especially on the wing and tail. Keep it light.

Second, follow the Flying Instructions to get your model in perfect "flying trim." Get lots of practice in flying it, and learn to make small adjustments to help it fly more smoothly. Study and follow the section on How to Make Extra Long Flights. Keep practicing.

Third, have your model timed to see how long it can stay up. The timer can be your teacher, scoutmaster, parent or a friend, and should use a stopwatch or a sweep-second watch. When you have successfully achieved the necessary time as shown in the application, fill it out and send it in with 10c to cover the handling and mailing costs.
Within a short time (allow three weeks), you will receive a handsome certificate inscribed in your name, giving real recognition to your building and flying achievements!

LICENSE APPLICATION

To Carl Goldberg Models, Inc.
Chicago Ill.

I am enclosing 10c to cover the costs of handling and mailing my pilot's license. My plane, the [illegible], had to fly at least 1 minute 1 seconds to qualify. It made a flight of seconds.

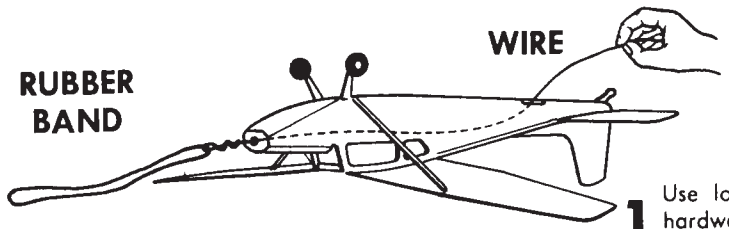
Timer's Signature

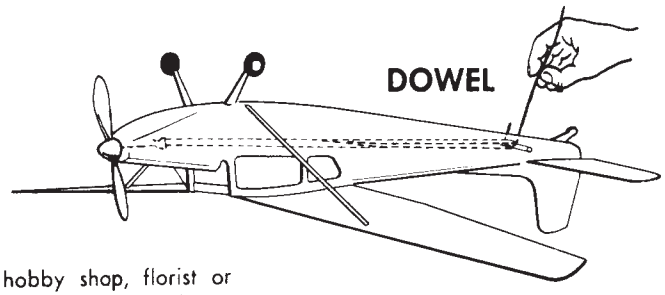
Name Age

Address

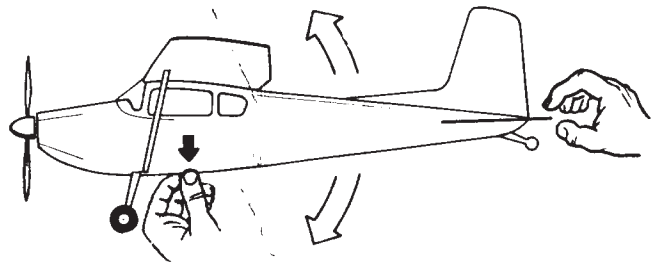
City State

FLYING INSTRUCTIONS

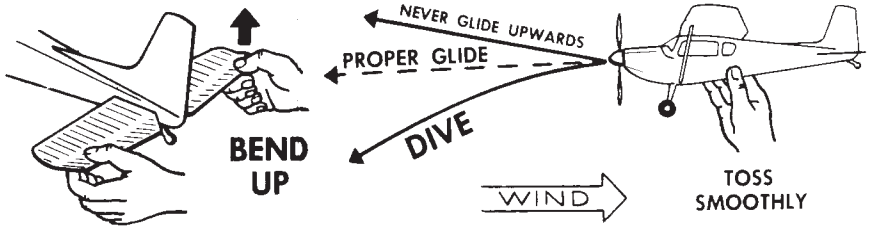




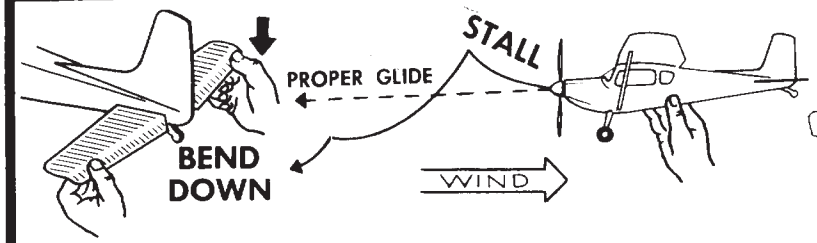
1 Use long wire (from hobby shop, florist or hardware) to help install rubber motor. Insert dowel at rear.

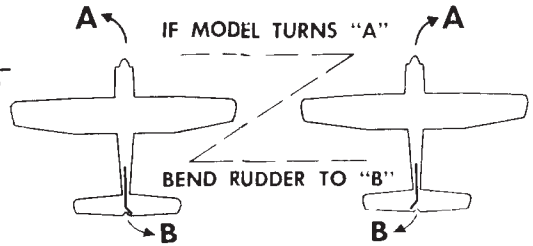


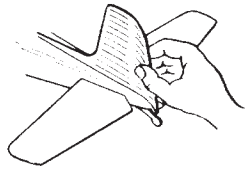
2 Balance model as shown. Add modeling clay to front or rear to make model balance at arrow.



3 Make test glides over tall grass. Should model dive, bend tail up a little at a time until the glide is smooth.

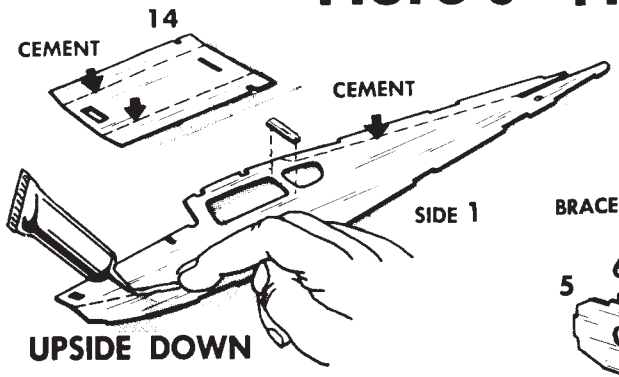




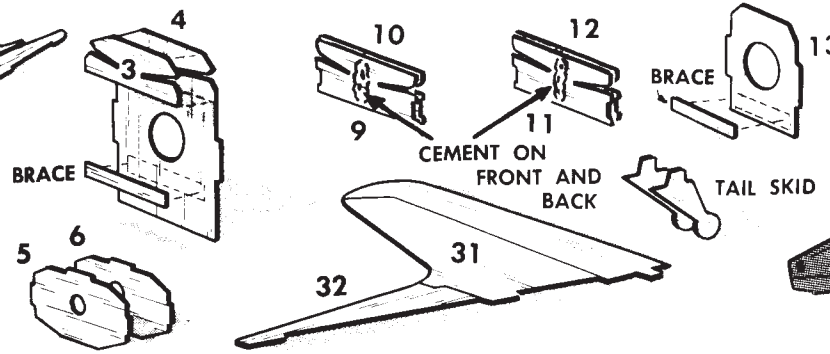


4 If model turns, bend rudder for opposite turn in order to get straight

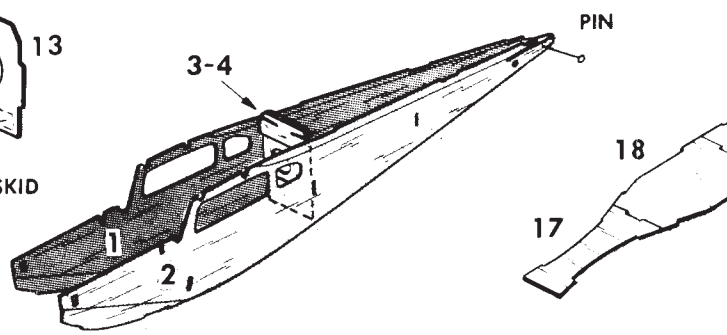
Here's HOW TO BUILD YOUR MODEL RIGHT!



1 Turn fuselage sides 1 and 2 upside down, and rub regular model airplane cement into underside of creases. Do same with 14.

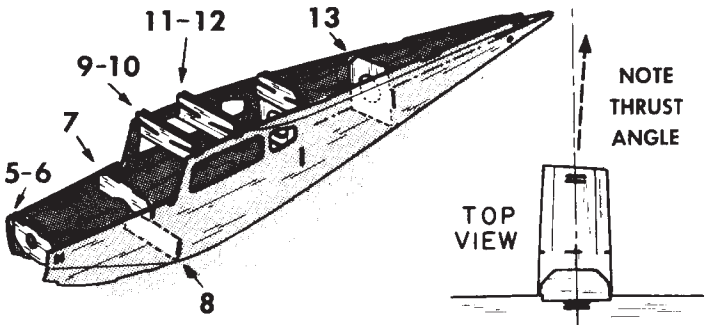


2 Carefully cement together the various parts pictured above.

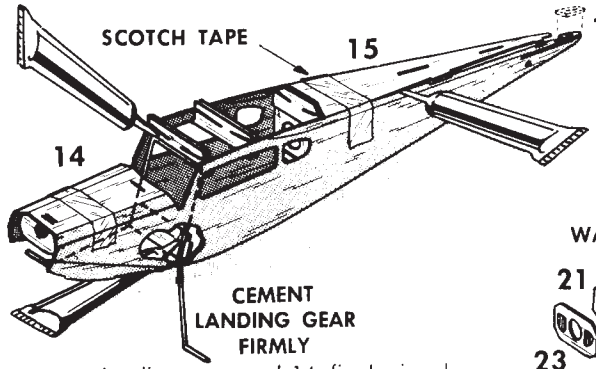


3 Cement formers 3-4 between fuselage sides. Very accurately cement rear of fuselage together.

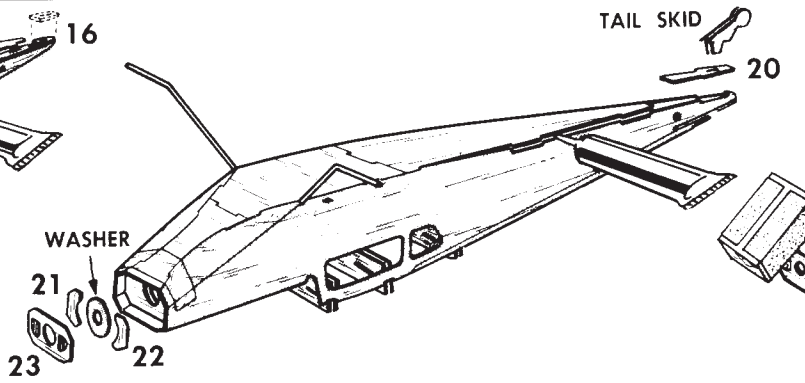
4 Join bottor



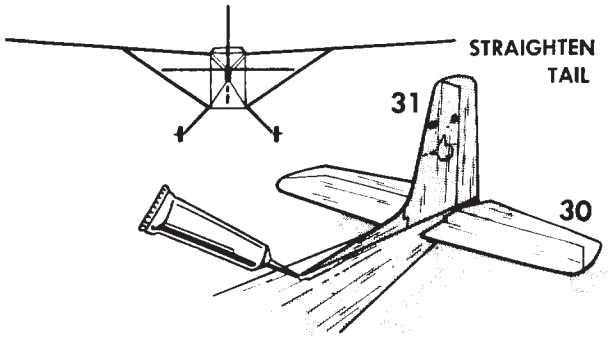
5 Cement in place all the remaining formers. Note special "right thrust" angle at front of fuselage.



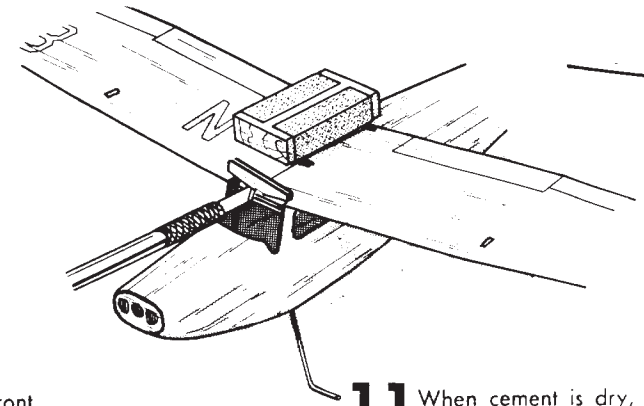
6 Cement landing gear and 14 firmly in place. Set 15 in place, lift up part of one edge at a time, and cement. Add rear segment 16.



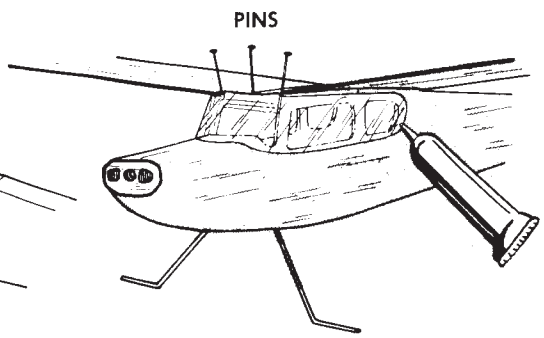
7 Set entire bottom in place. Add rear segment 20, tailskid, balance washer and 21, 22, 23.

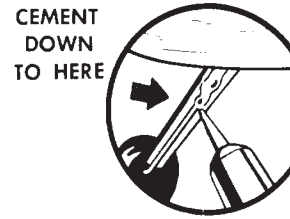


10 Cement tail carefully in place. Look at model from front and rear for correct line-up. Straighten before cement dries.



11 When cement is dry, cut off tops of formers and sand smooth. Cement windshield in place.

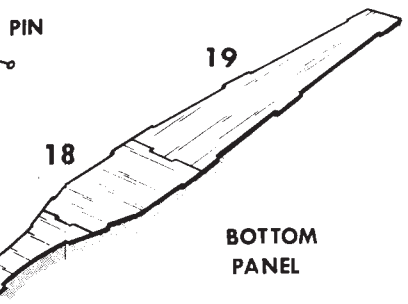




12 Sand all str where parts to upper p

ERG MODELS inc.
CHICAGO ILLINOIS

GHT!

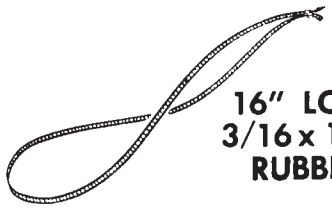


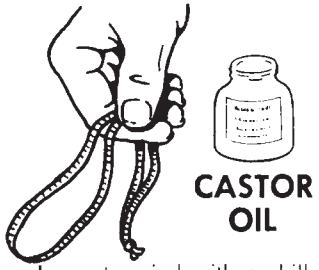
4 Join bottom panels 17, 18, and 19.

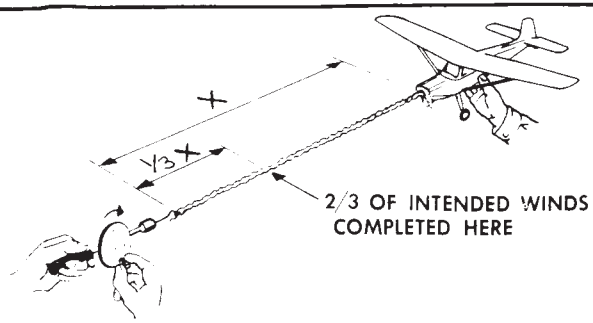
4 Should model stall and dip (first climb, then dive), bend tail down a bit at a time until the glide is smooth and flat.

5 If model turns, bend rudder for opposite turn in order to get straight flights. Wind motor 100 turns, and make several test flights. Make corrections for better flights by bending tail as in steps 3 and 4.

HOW TO GET EXTRA LONG FLIGHTS!



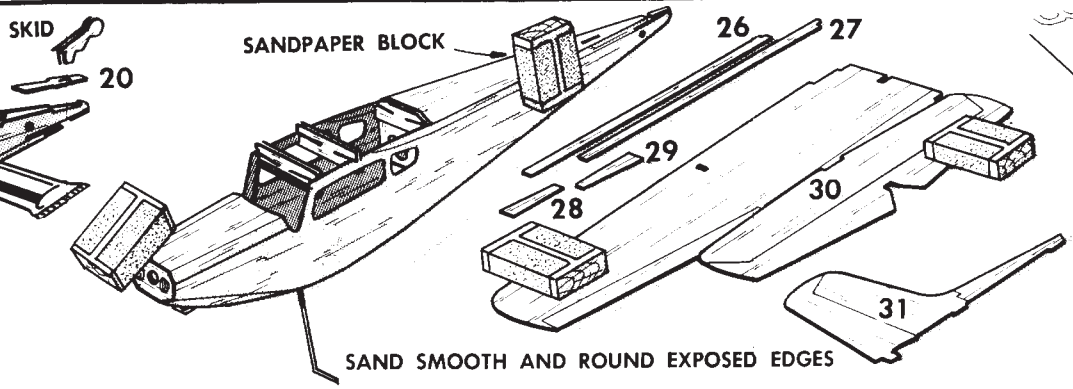




6 For a longer, more powerful motor, see your dealer for rubber 3/16 x 1/30 x 32". Tie the ends with a square knot. Rub castor oil into the motor so it can take many more turns without breaking. Don't get castor oil on the knot or it will come undone, and you'll have to rub dust into it to get the knot to hold.

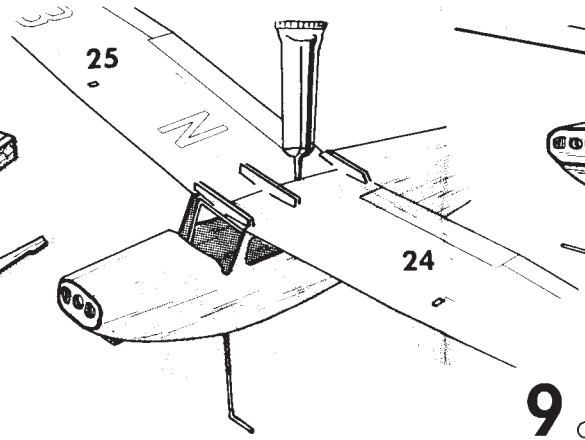
Learn to wind with a drill, with a hook firmly tightened in place for winding. Stretch the motor 3 to 5 times its length, and wind while coming back in gradually. You should have about ⅔ of your intended number of turns by the time you have come back in about ⅓ of the distance.

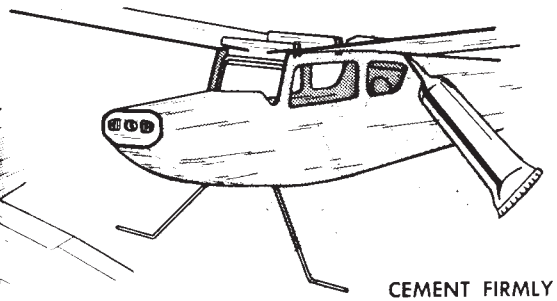
Practice winding for maximum turns and power. It's best to practice with the motor outside the plane, hooked on a nail, in case it should break. You should be able to get from 750 to 1000 turns. In good, calm flying weather, and with your plane adjusted to fly smoothly, this amount of turns should enable you to get long flights of 20 to 30 seconds duration. Good luck!



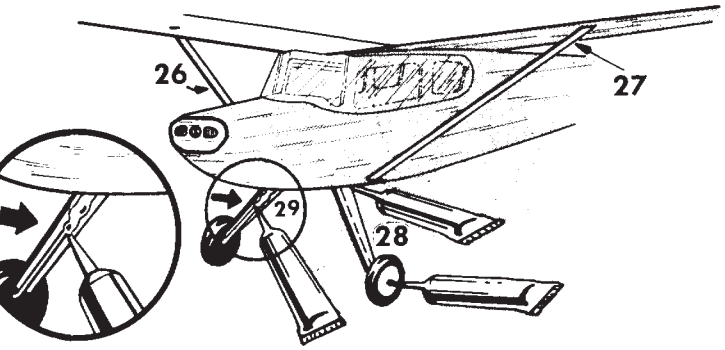
ent 20,

8 Sand all parts smooth except formers, using 4/0 sandpaper. Round off square edges on wings and tail except where parts will join.

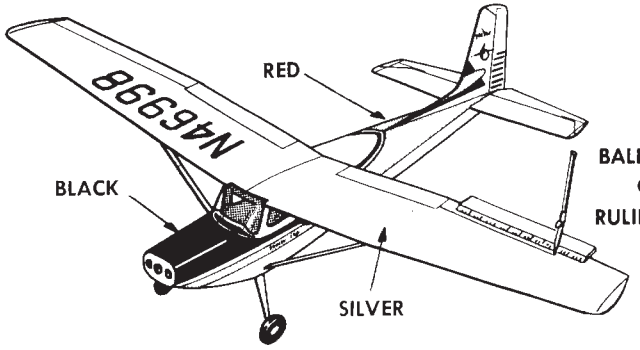




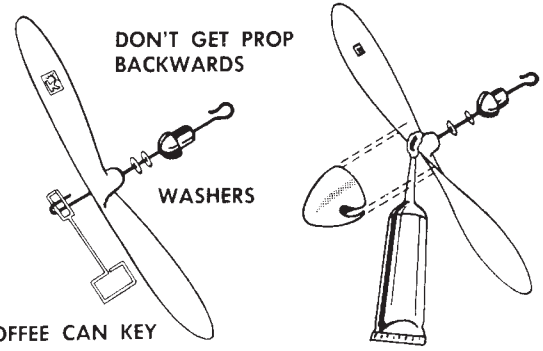
9 Cement wings carefully in place.



2 Sand all struts smooth, and round off edges except where parts join. Note wire is cemented solidly to upper portion of fairings 28 and 29.



13 Model may be clear doped one thin coat and sanded smooth. Add trim lines and decals. Keep model light for long flights. If beauty is more important, apply 2 thin coats color dope before lines and decals.



14 Assemble propeller parts as shown. Bend and cement shaft to prop, then add spinner.