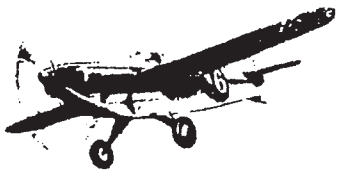
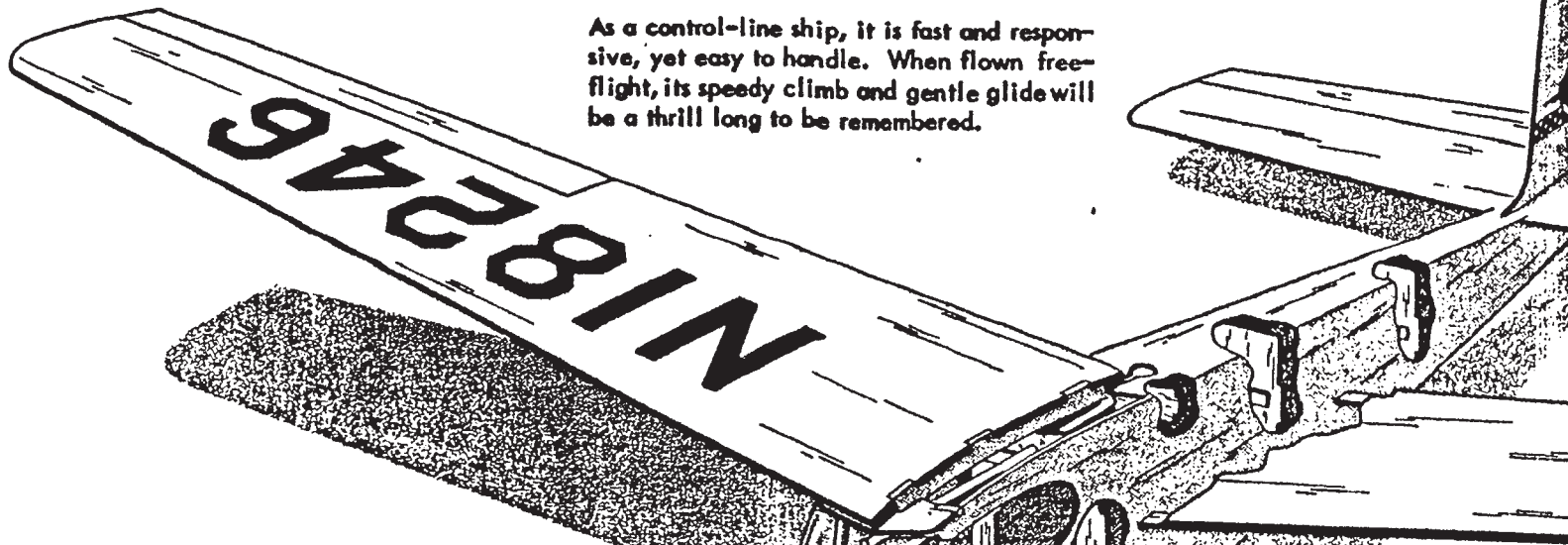
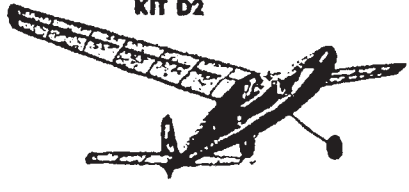


The Ranger 30 is a model that has been flown both control-line and free-flight. Its strong, simple, modern design makes it very successful in the hands of the novice modeler.

As a control-line ship, it is fast and responsive, yet easy to handle. When flown free-flight, its speedy climb and gentle glide will be a thrill long to be remembered.



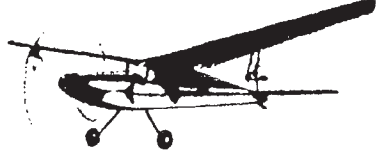
SHOESTRING
KIT D2



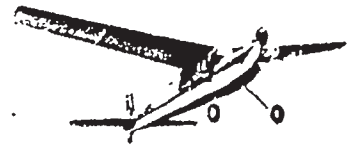
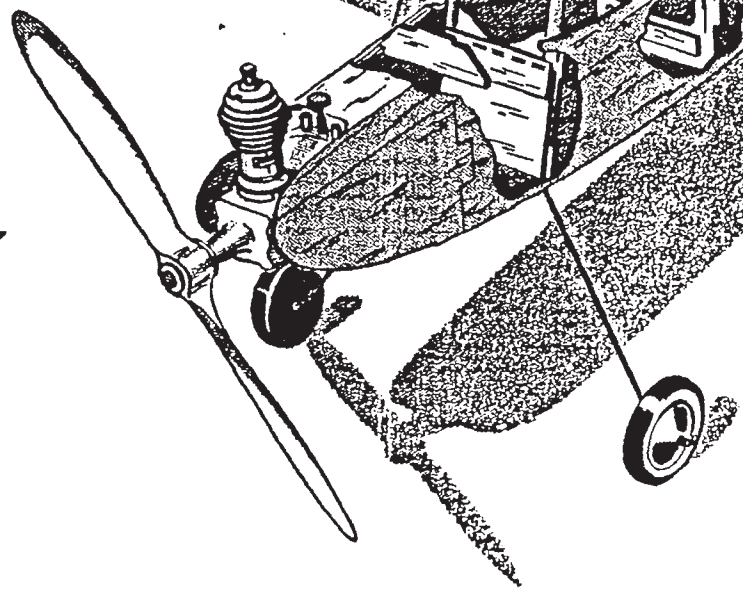
RANGER 28
KIT D5



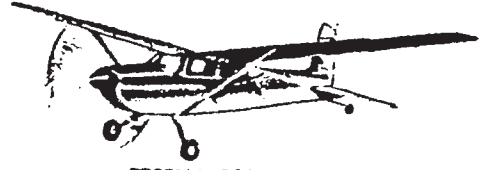
SPIRIT OF ST. LOUIS
KIT D1



RANGER 21
KIT D3



RANGER 30
KIT G2



CESSNA 180
KIT D4



1/2A BLAZER
KIT G1



Here's HOW TO BUILD YOUR MO



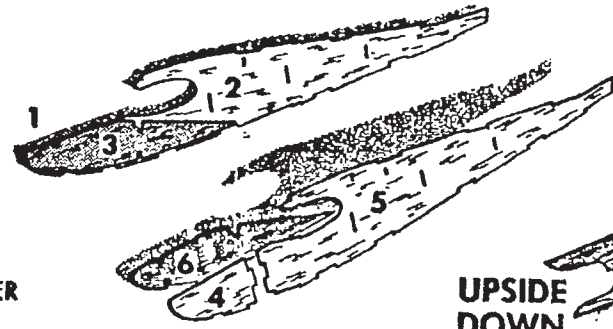
WINGS



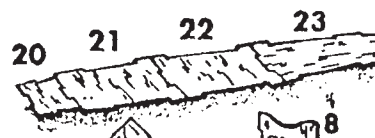
STABILIZER



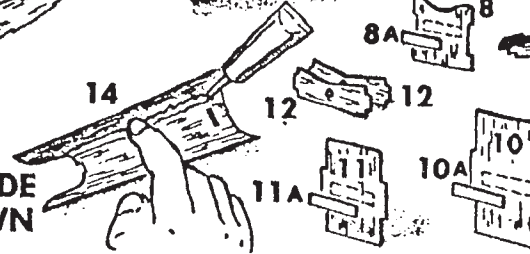
RUDDER



2 Assemble the fuselage sides: 1, 2, 3, and 4, 5, 6.

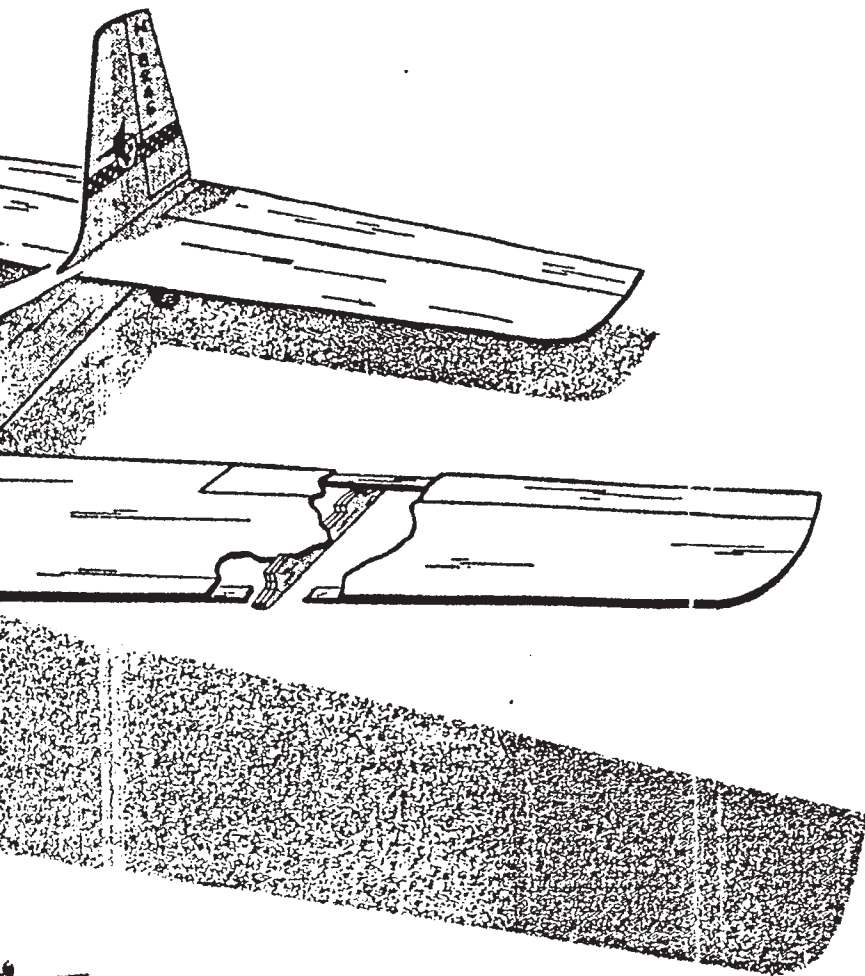


UPSIDE DOWN



3 Carefully cement together the parts pictured. Turn 14 upside down and rub cement into all of creases.

1 Using regular model airplane cement and pins, join wings and tail surfaces as shown.



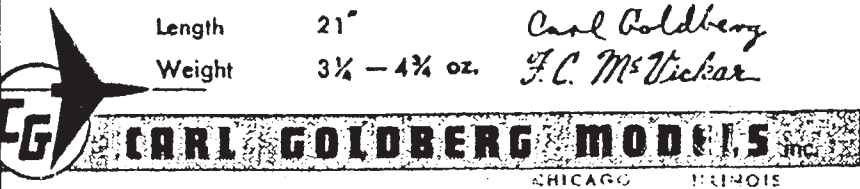
RANGER 30

FLYING MODEL, KIT G2

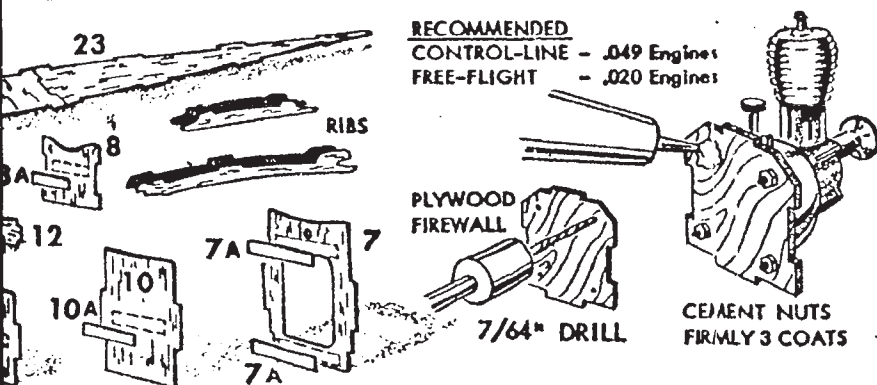
CONTROL LINE OR FREE FLIGHT MODEL
FOR .020 TO .049 GAS ENGINES

Wingspan 30"
Length 21"
Weight 3 1/4 - 4 1/4 oz.

Designed and drawn by:
Carl Goldberg
F.C. McVicker



MODEL RIGHT!



RECOMMENDED
CONTROL-LINE - .049 Engines
FREE-FLIGHT - .020 Engines

PLYWOOD
FIREWALL

7/64" DRILL

CEMENT NUTS
FIRMLY 3 COATS

Parts pictured above.
Cement into underside

4 For .049 engine, fit engine to firewall, mark hole locations, drill 7/64" holes. Cement nuts firmly - 3 coats. For .020 engine, do not drill - use sheet metal screws given in kit.

CONTROL LINE FLYING

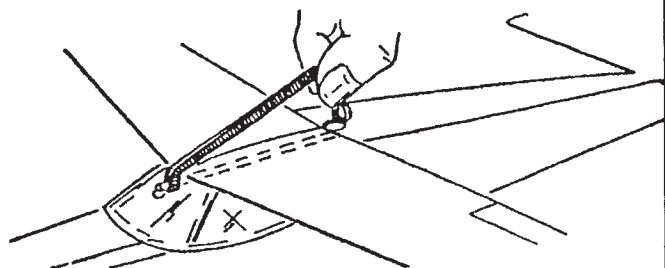
Make sure your wings and tail assembly are perfectly flat and free of warp. Steam out any warps as suggested in step 15.

Use flying lines of dacron or thin cotton thread about 35 feet long. Your control handle can be a piece of broom stick or any other stick about 4-1/2" long, with a hole at each end. Adjust the lines until the elevator is neutral when your handle is vertical. Then tape the line to the handle so it can't shift.

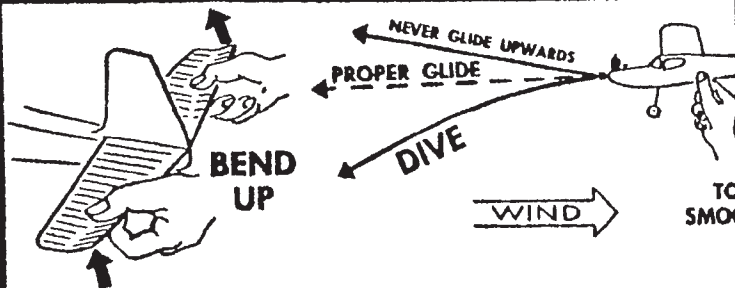
Take-off run should begin heading downwind. It's important to remember to hold the nose down whenever the model is flying into the wind.

You have control of your model only when you can feel it pulling. Whenever the pull stocks off, start stepping back instantly to keep the lines tight.

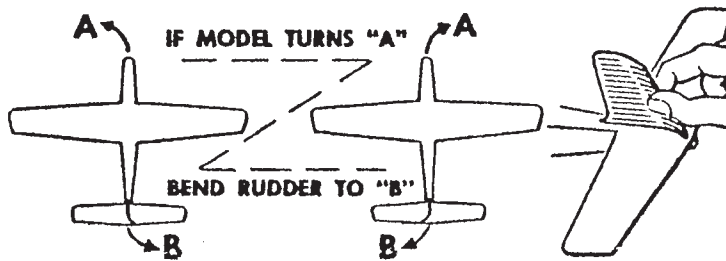
FREE FLIGHT FLYING



1 Attach wing with 2 ordinary rubber bands 1-3/4" long. Make sure the wings and tail assembly are perfectly flat and free of warps. Steam out any warps as suggested in step 15.

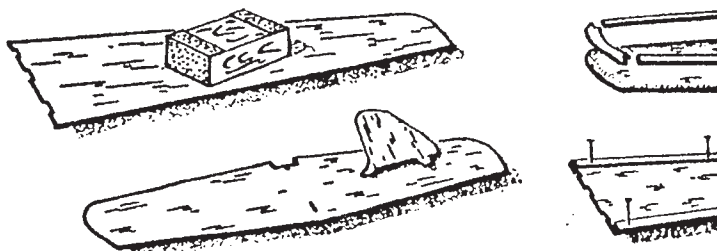


3 Make test glides over tall grass. Should model dive, bend tail up a little at a time until the glide is smooth.



5 If model turns, bend rudder for opposite turn to get straight test glides. After power test flights, make any corrections necessary as in steps 3 and 4.

SANDPAPER BLOCK



5 Sand wings and tail flat and smooth with 4/0 sandpaper and wooden block. Do not round wing edges yet.

6 Cement on and pin to

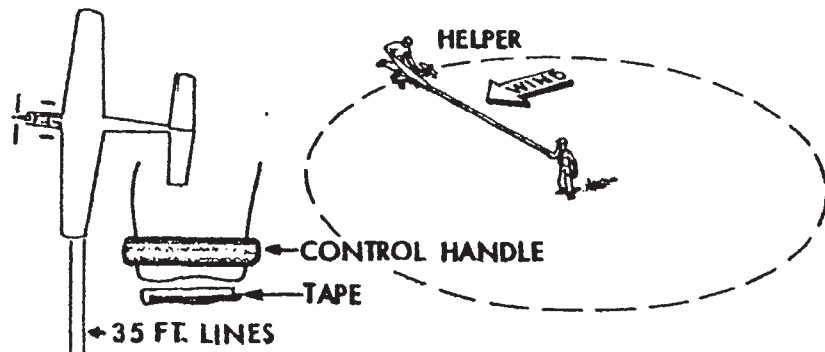
CONTROL LINE FLYING INSTRUCTIONS

Make sure your wings and tail assembly are perfectly flat and free of warps. Steam out any warps as suggested in step 15.

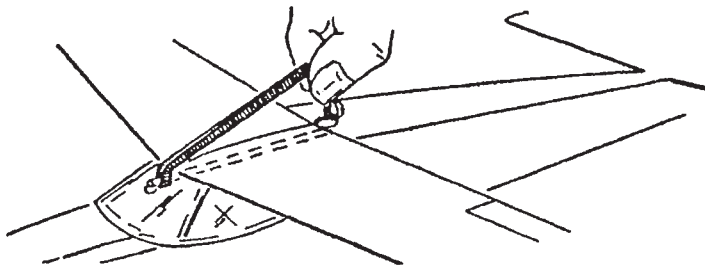
Use flying lines of dacron or thin cotton thread about 35 feet long. Your control handle can be a piece of broom stick or any other stick about 4-1/2" long, with a hole at each end. Adjust the lines until the elevator is neutral when your handle is vertical. Then tape the line to the handle so it can't shift.

Take-off run should begin heading downwind. It's important to remember to hold the nose down whenever the model is flying into the wind.

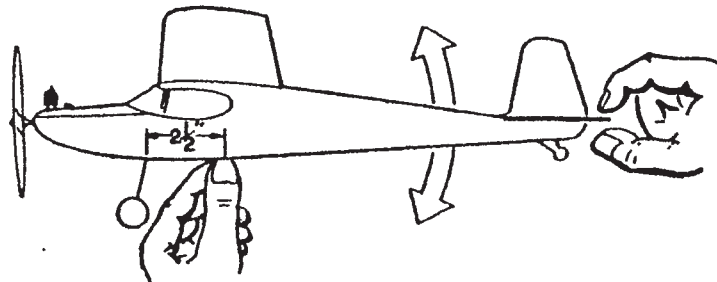
You have control of your model only when you can feel it pulling. Whenever the pull slows off, start stepping back instantly to keep the lines tight.



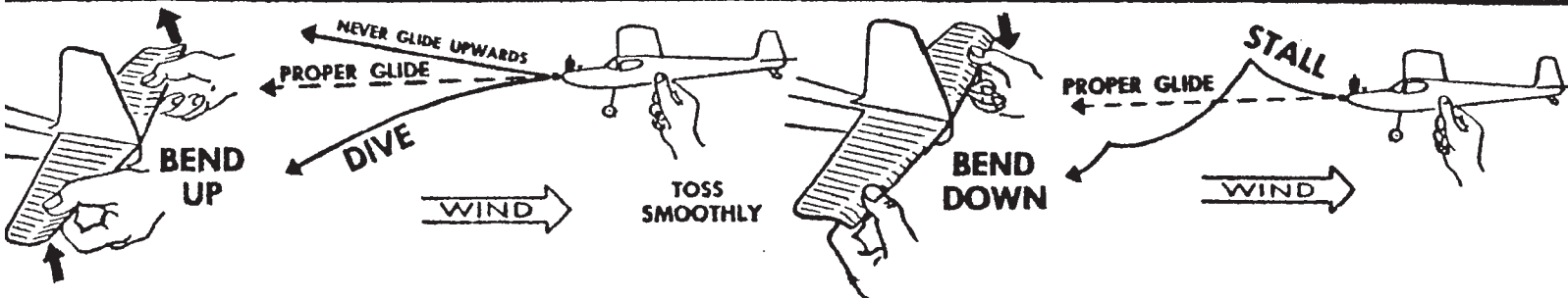
FREE FLIGHT FLYING INSTRUCTIONS



1 Attach wing with 2 ordinary rubber bands 1-3/4" long. Make sure the wings and tail assembly are perfectly flat and free of warps. Steam out any warps as suggested in step 15.

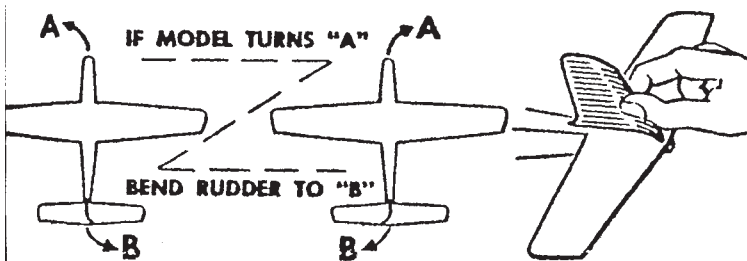


2 Balance model on your finger tips. Cement small weights in front or back to make model balance at point shown.



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

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 to get straight test glides. After power test flights, make any corrections necessary as in steps 3 and 4.

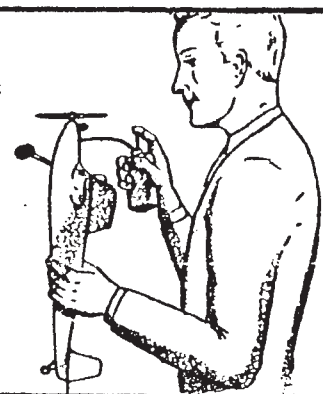
Practice running your engine at home until it's second nature.

Do your flying in open country or in a very large park on calm days. Hand launch into any light breeze.

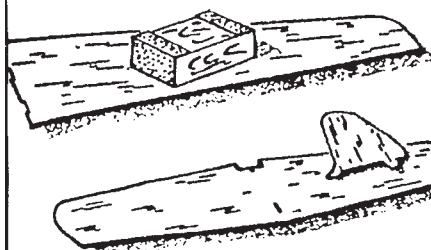
This model climbs so high that it can be lost if the engine is allowed to run too long in flight. Make sure the engine never runs over 30 seconds in the air - 15 to 20 seconds is safer and will give long beautiful gliding flights.

To get short runs, hold the ship vertical as shown. Carefully pump in fuel until the first bubble appears at the other tank filler tube. This will give runs of 15-25 seconds.

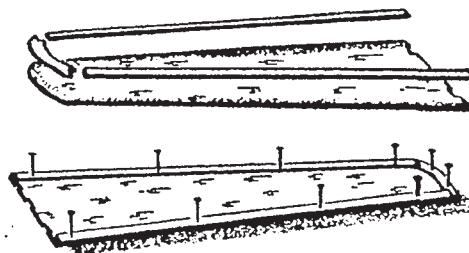
6 Best of luck!



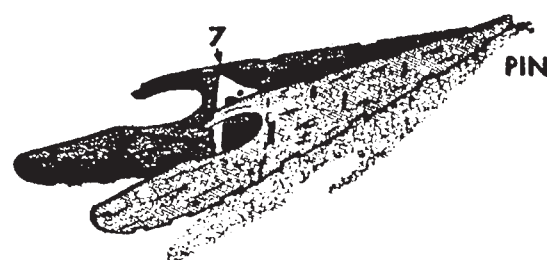
SANDPAPER BLOCK



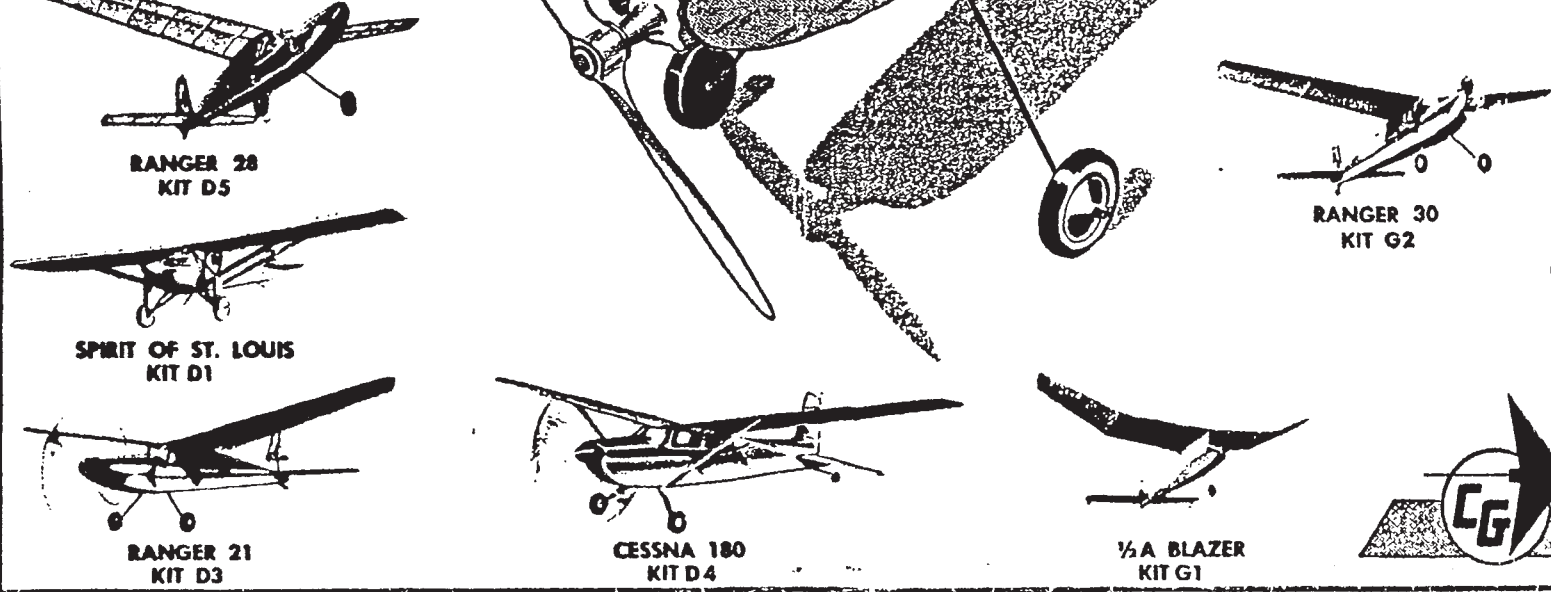
Sand wings and tail flat and smooth with 4/0 sandpaper and wooden block.



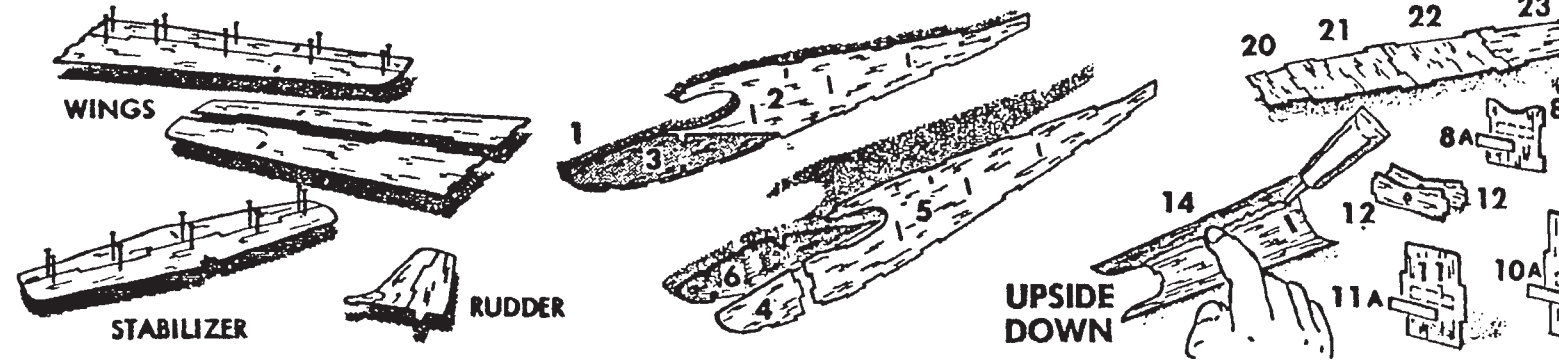
Cement outline doublers to wings.



Cement former 7 between fuselage sides. Very accurately cement rear of fuselage.



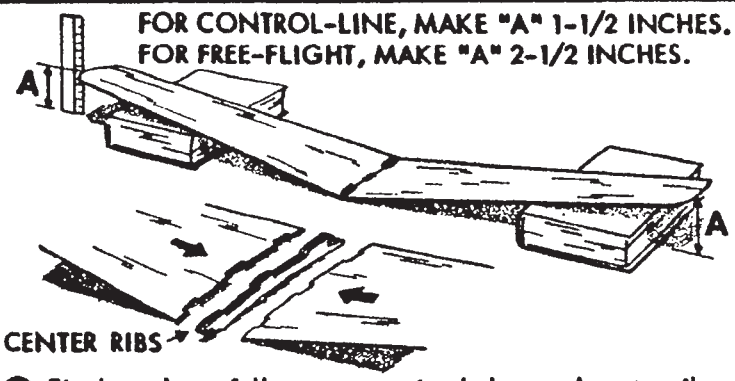
Here's HOW TO BUILD YOUR MODEL



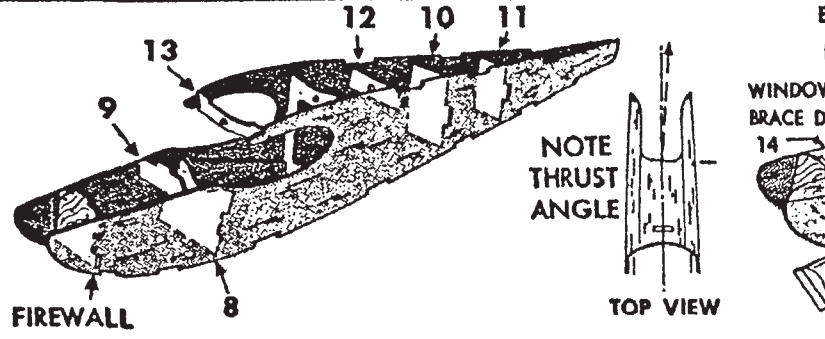
1 Using regular model airplane cement and pins, join wings and tail surfaces as shown.

2 Assemble the fuselage sides: 1, 2, 3, and 4, 5, 6.

3 Carefully cement together the parts pictured. Turn 14 upside down and rub cement into creases.

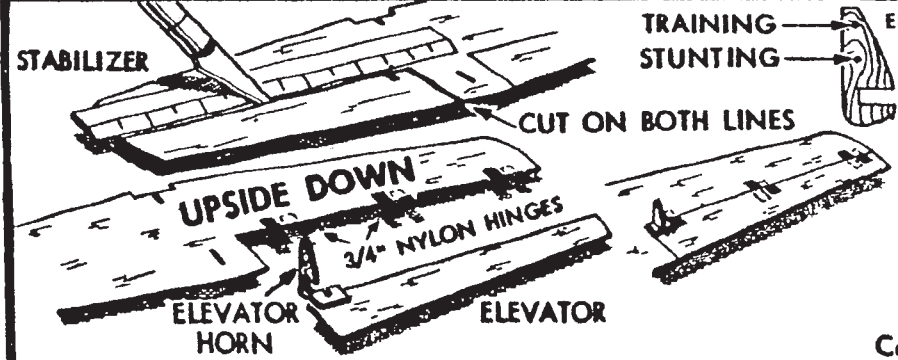


8 Firmly and carefully, cement wing halves and center rib together.

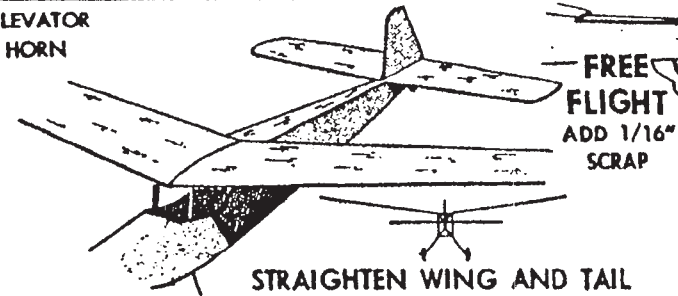


9 Cement in place all remaining formers and firewall. Note special "right thrust" angle setting of firewall.

10 Cement time, cement



14 Cut one elevator free as shown. Cement 24 and plywood elevator horn to elevator. Add nylon hinges, and draw elevator very close to stabilizer.



15 Cement tail assembly firmly in place, then check alignment with wing, from front and rear. Carefully remove any warps in wing and tail by reverse-twisting in steam over pot of boiling water.

16

RANGER 30

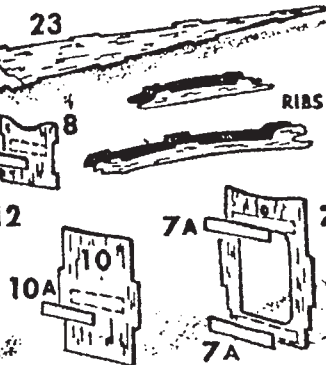
FLYING MODEL, KIT G2

CONTROL LINE OR FREE FLIGHT MODEL
FOR .020 TO .049 GAS ENGINES

Wingspan 30" Designed and drawn by:
Length 21" Carl Goldberg
Weight 3 1/4 - 4 1/4 oz. F. C. McVicker

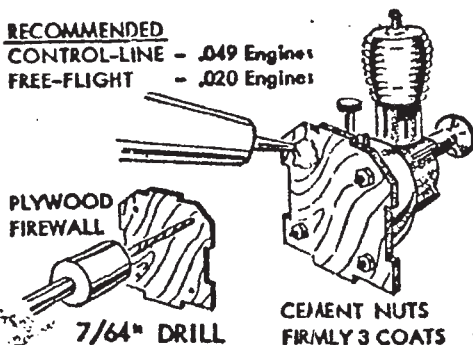
CARL GOLDBERG MODELS, Inc.
CHICAGO ILLINOIS

MODEL RIGHT!



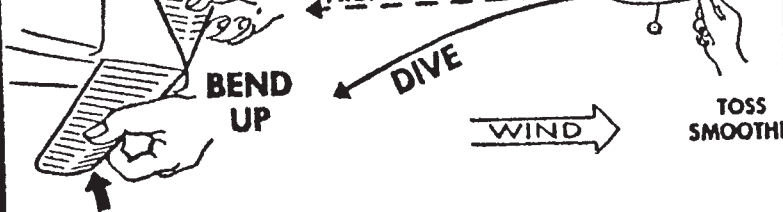
parts pictured above.
Cement into underside

RECOMMENDED
CONTROL-LINE - .049 Engines
FREE-FLIGHT - .020 Engines

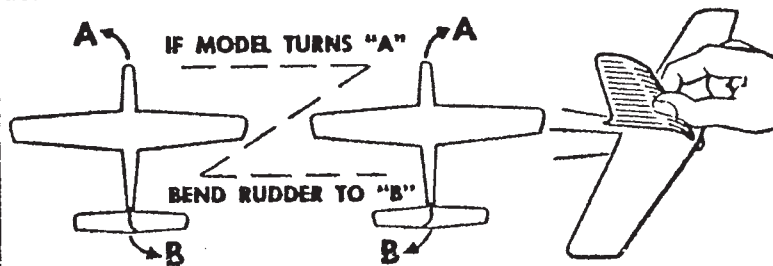


For .049 engine, fit engine to firewall, mark hole locations, drill 7/64" holes. Cement nuts firmly - 3 coats. For .020 engine, do not drill - use sheet metal screws given in kit.

4



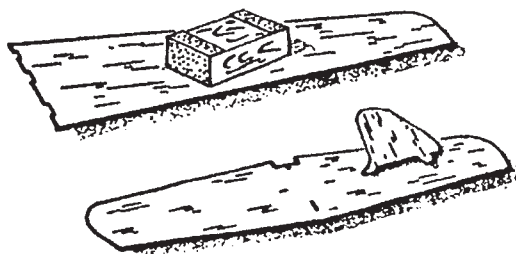
3 Make test glides over tall grass. Should model dive, bend tail up a little at a time until the glide is smooth.



5 If model turns, bend rudder for opposite turn to get straight test glides. After power test flights, make any corrections necessary as in steps 3 and 4.

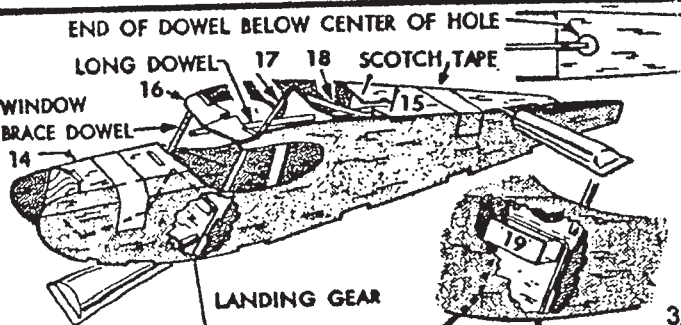
6

SANDPAPER BLOCK

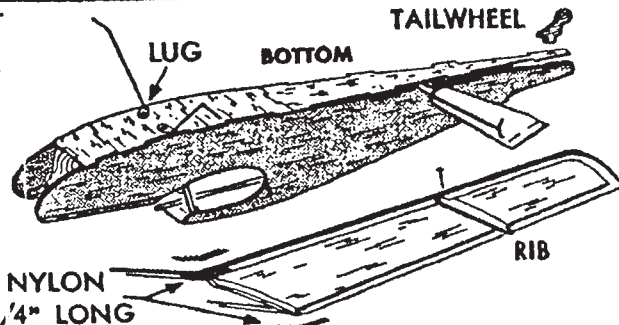


5 Sand wings and tail flat and smooth with 4/0 sandpaper and wooden block. Do not round wing edges yet.

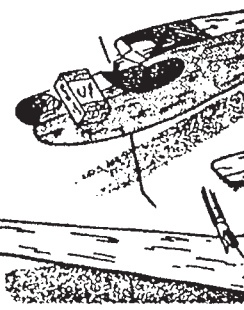
6 Cement outline and pin to flat



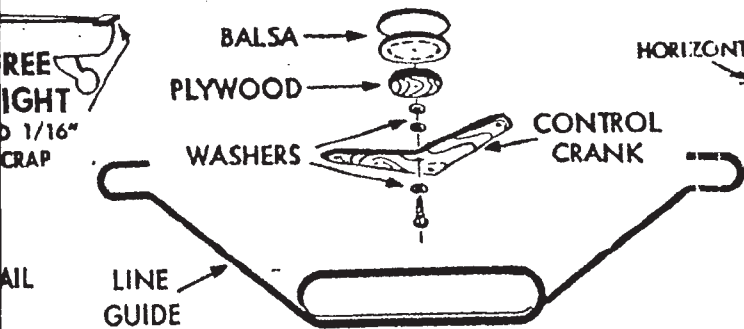
Cement 14 in place. Set 15 in place, lift up part of one edge at a time, and cement. Cement long dowel, then 16, 17, and 18. Firmly cement window brace dowels, landing gear, and 19.



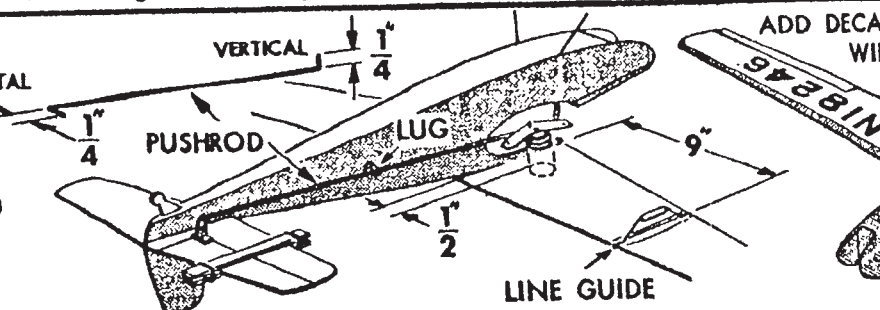
11 Set entire bottom in place, lift up part of one edge at a time, and cement. Add tailwheel and lugs. Cement nylon and ribs to wing.



12 Sand all parts except where joined. Careful

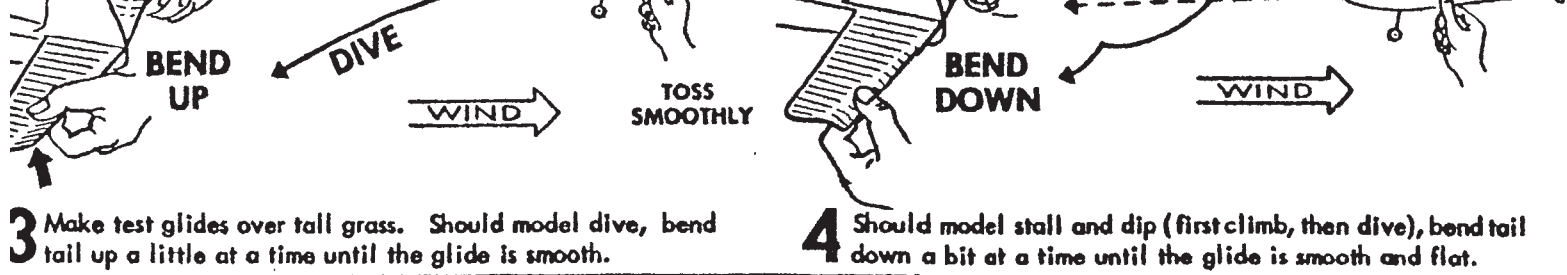


16 Bend line guide from short piece of wire furnished. Cement disks together, then screw control crank in place. Allow crank to turn freely.



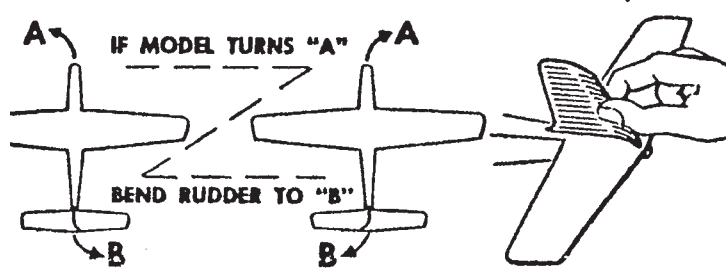
17 Make 1/4" right angle bends at each end of long wire pushrod. Use scrap sticks and rubber bands to hold elevator neutral. Cement disk assembly firmly to wing and 1/2" from fuselage side. Add line guide and lug.

18 Apply color coats.



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

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 to get straight test glides. After power test flights, make any corrections necessary as in steps 3 and 4.

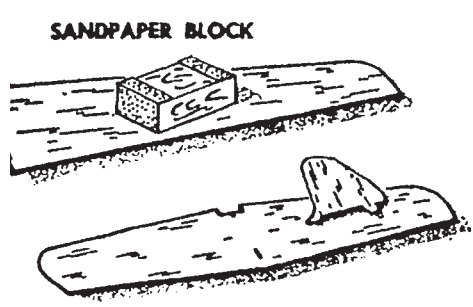
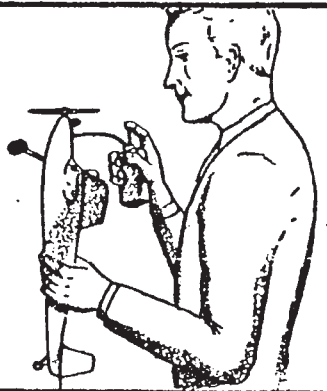
Practice running your engine at home until it's second nature.

Do your flying in open country or in a very large park on calm days. Hand launch into any light breeze.

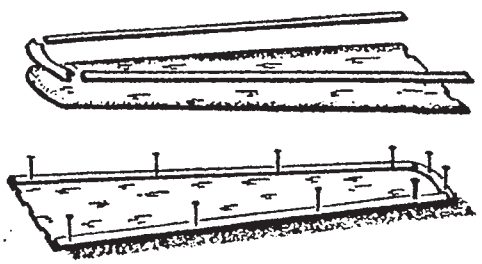
This model climbs so high that it can be lost if the engine is allowed to run too long in flight. Make sure the engine never runs over 30 seconds in the air - 15 to 20 seconds is safer and will give long beautiful gliding flights.

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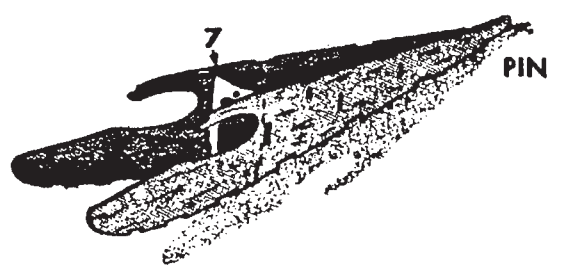
6 Best of luck!



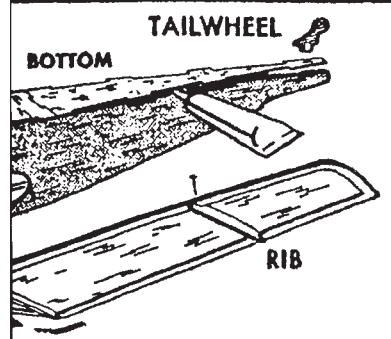
Sand wings and tail flat and smooth with 4/0 sandpaper and wooden block. Do not round wing edges yet.



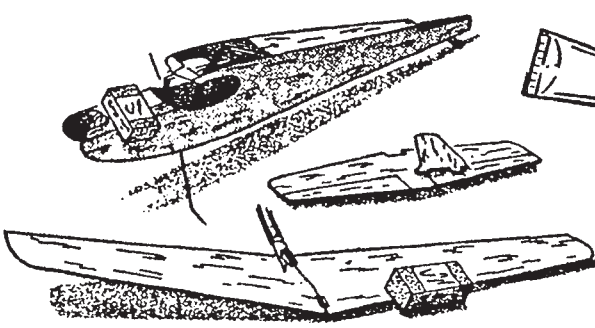
6 Cement outline doublers to wings, and pin to flat surface.



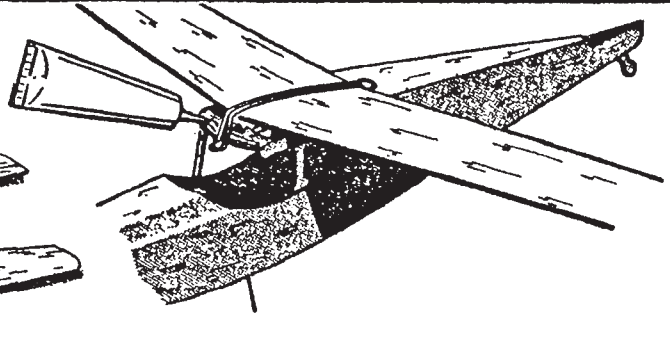
7 Cement former 7 between fuselage sides. Very accurately cement rear of fuselage together, and pin.



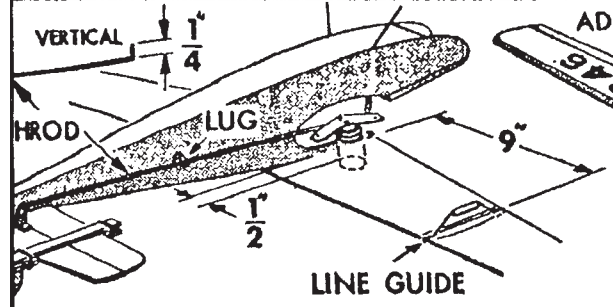
Bottom in place, lift up part of one time, and cement. Add tailwheel. Cement nylon and ribs to wing.



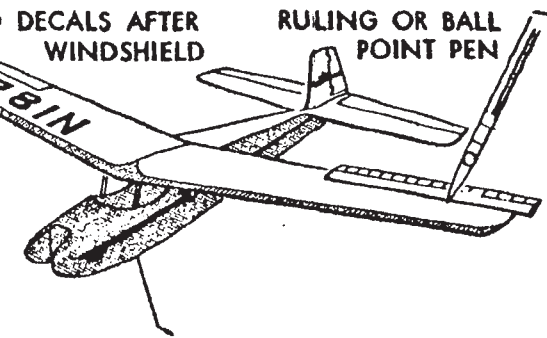
12 Sand all parts, rounding edges except where parts are to be joined. Carefully cut off rib tops.



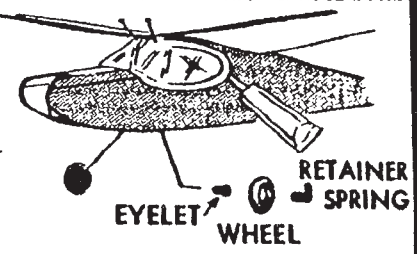
13 Wing should be firmly cemented in place for control-line. Use rubber band to hold while drying.



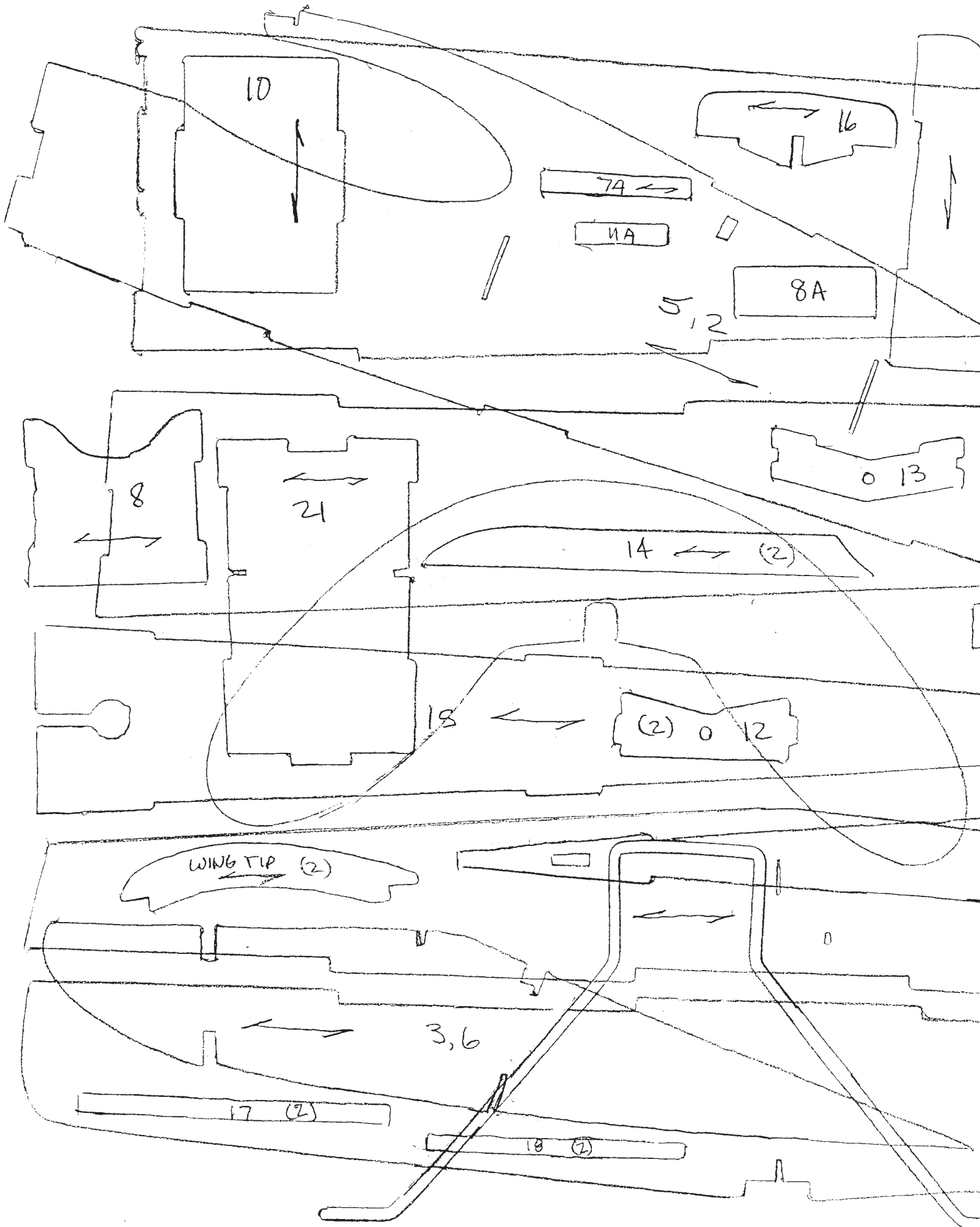
* right angle bends at each end of long wire. Use scrap sticks and rubber bands to hold neutral. Cement disk assembly firmly to wing on fuselage side. Add line guide and lug.

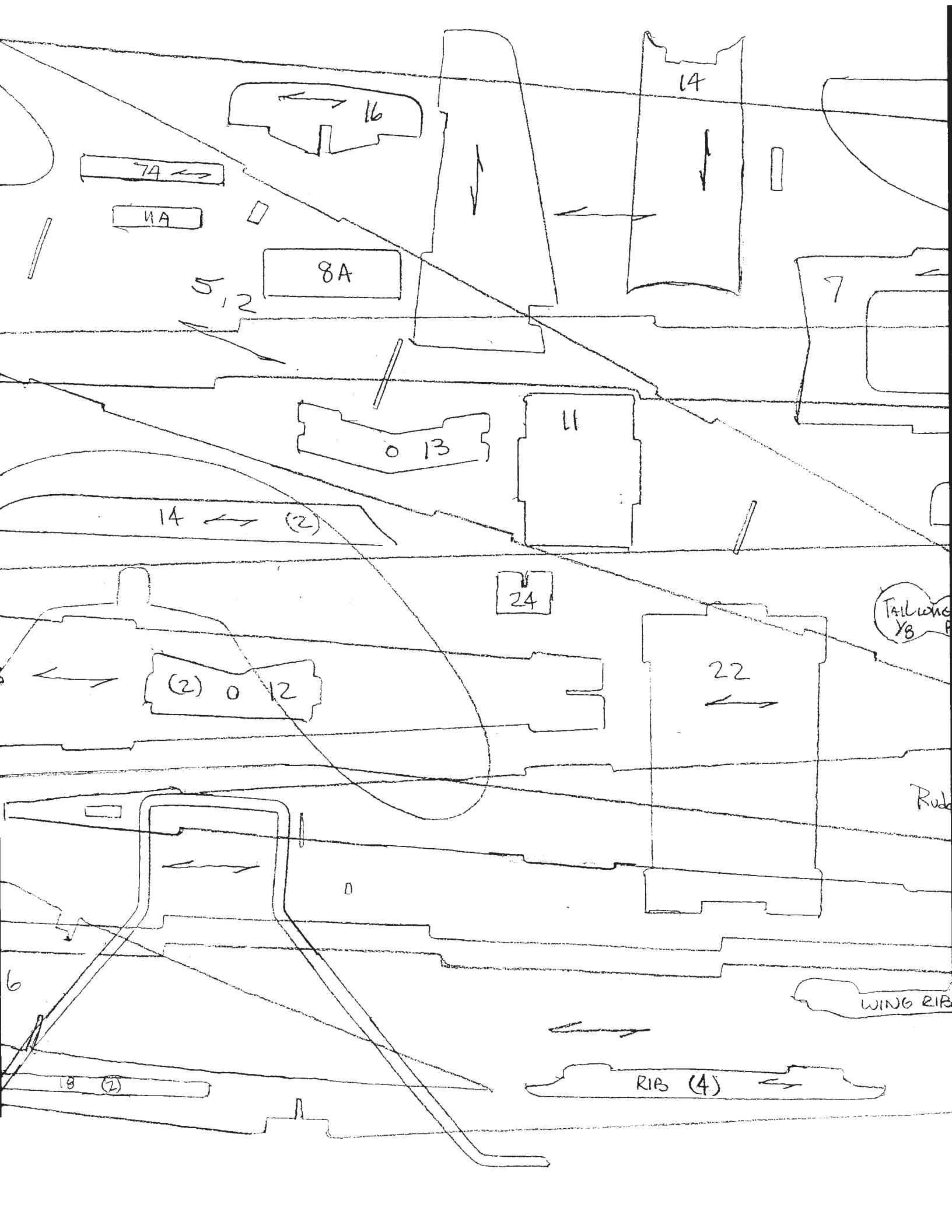


18 Apply 1 coat clear dope, 2 thin coats color dope. Sand lightly between coats. Add control surface markings.



19 Cement windshield in place. Apply 1 coat fuel proofer all over, including windshield. Apply 2 coats in and around nose and underside of fuselage. Add decals, wheel assembly and engine.







RANGER 30

Drawn By:
 RON SCHNEIDER
 10/14/02