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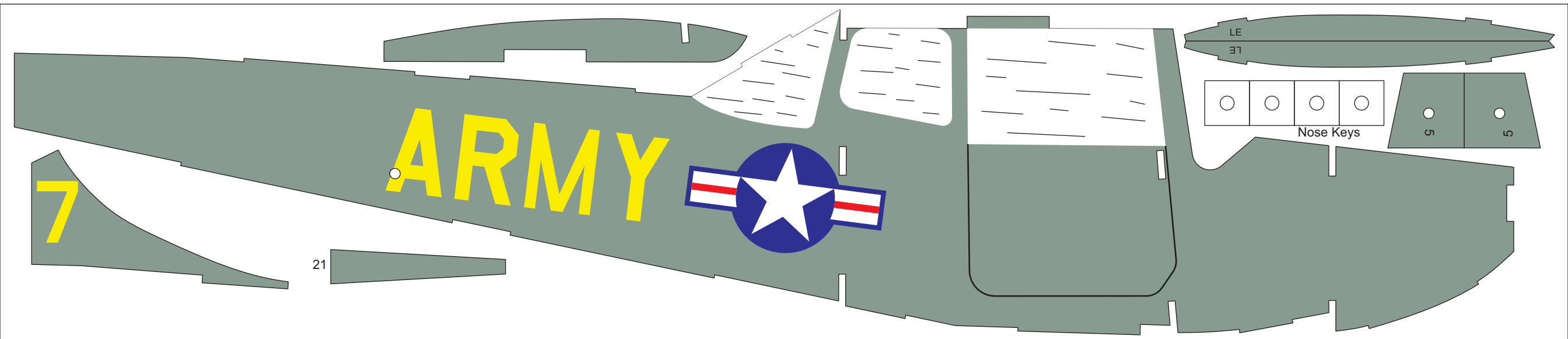
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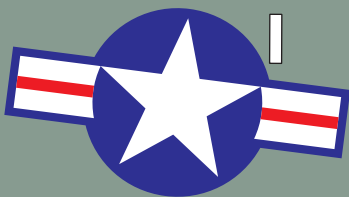
Nose Keys

21

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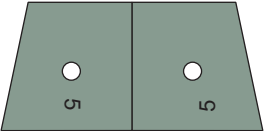
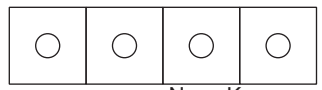
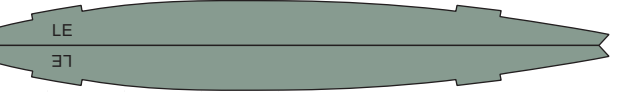


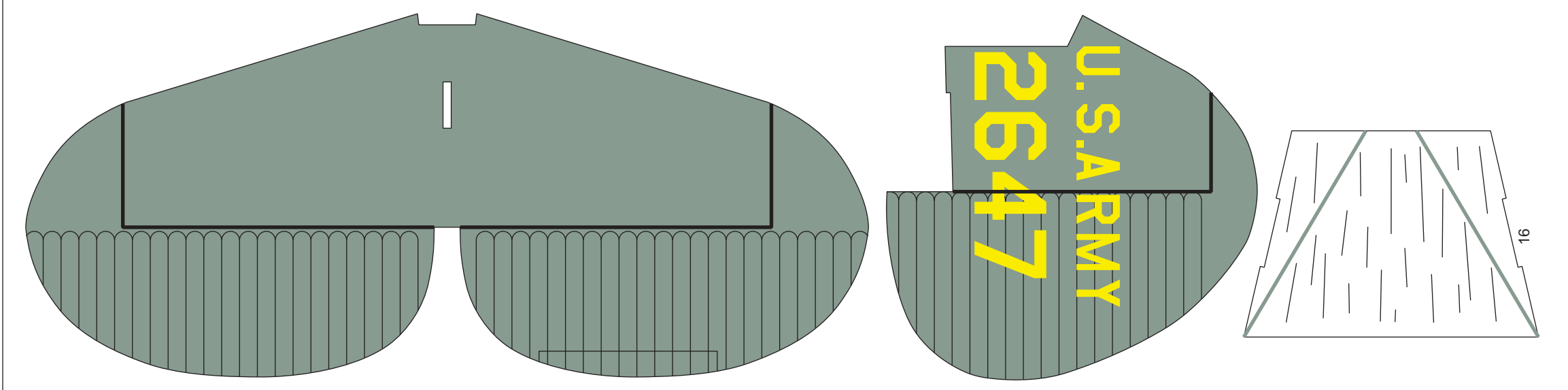
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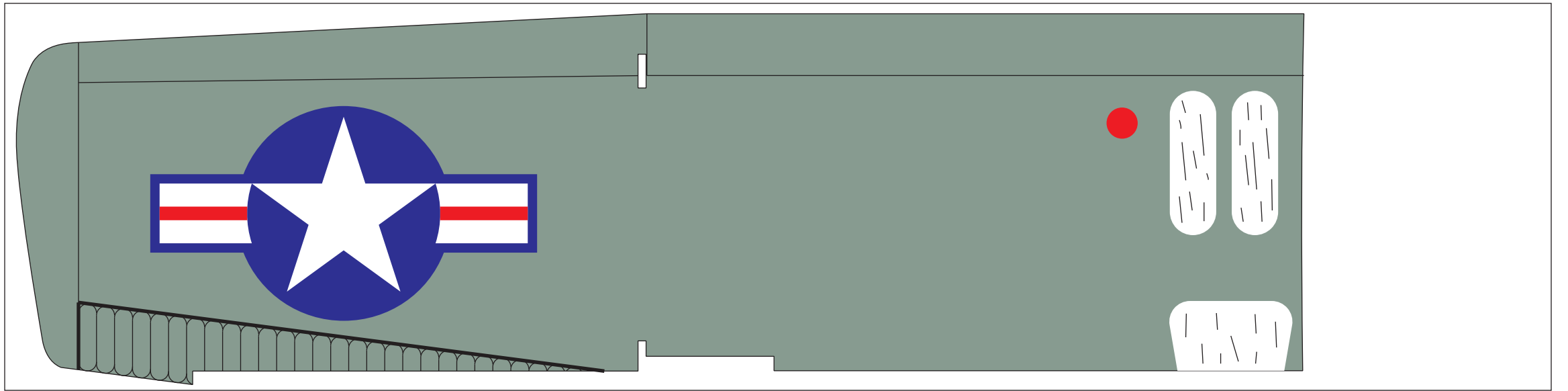


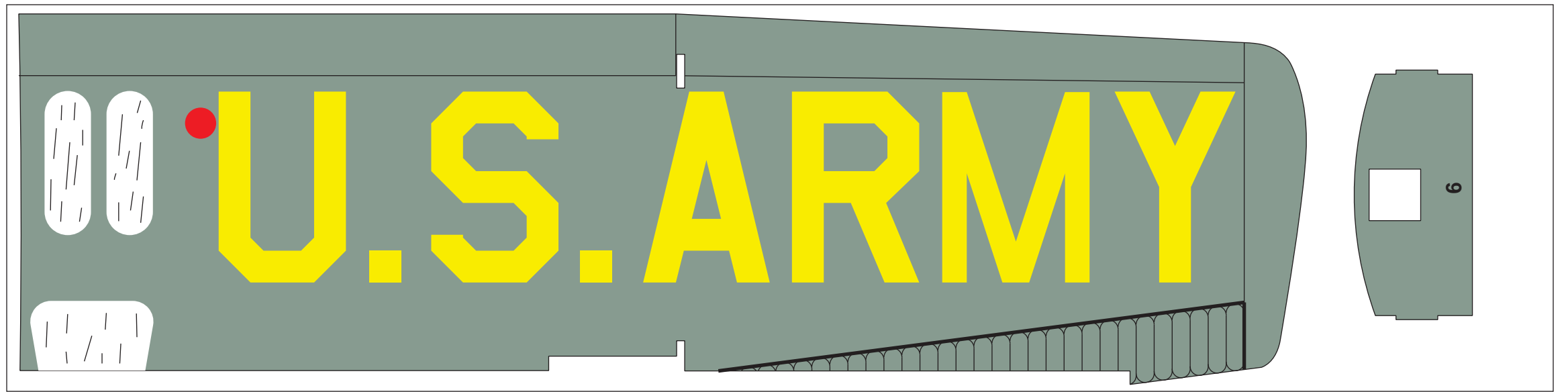
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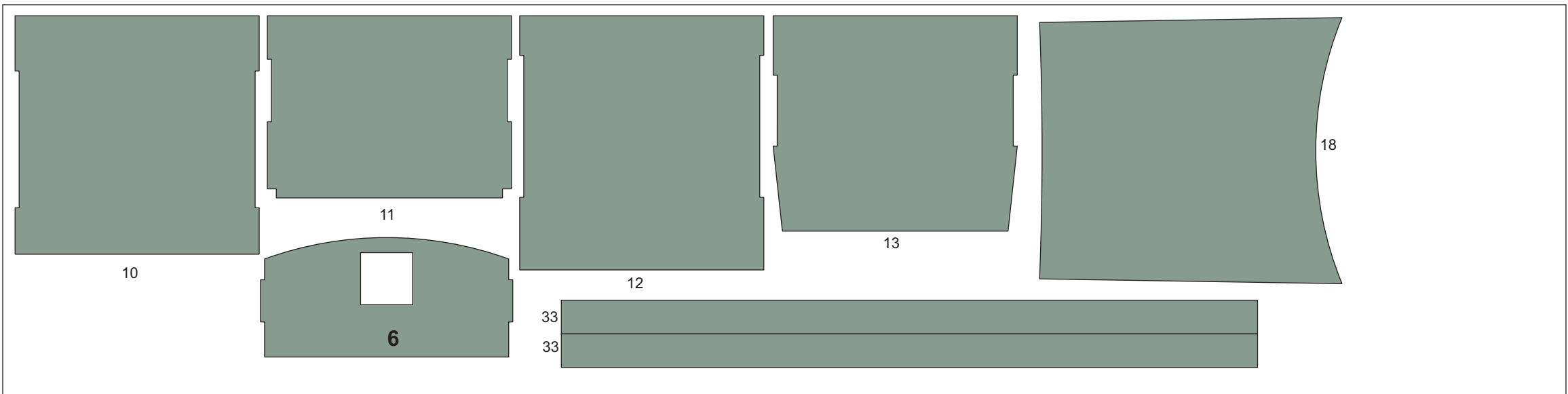
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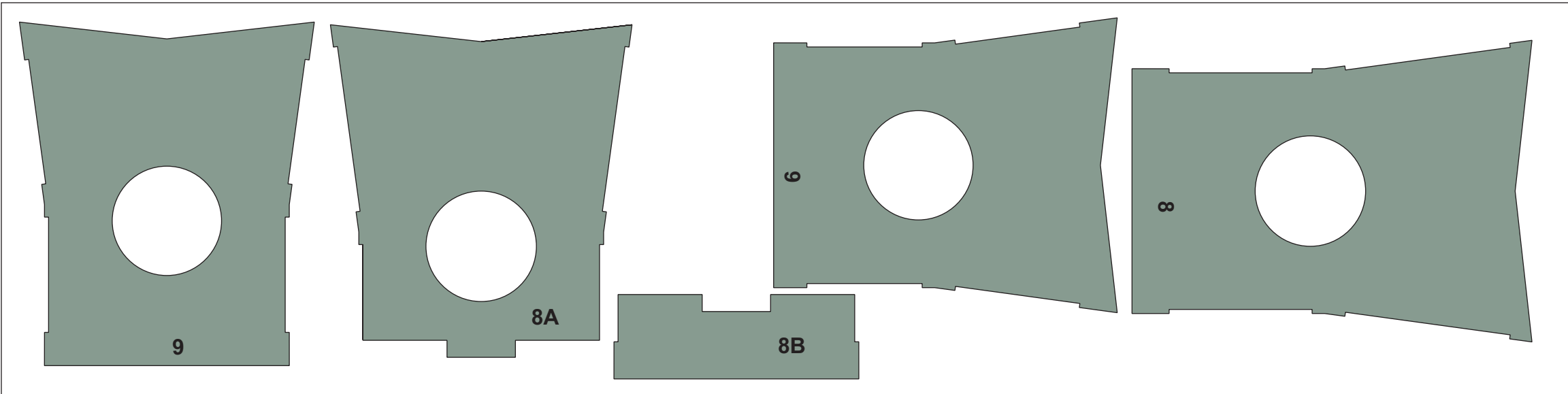


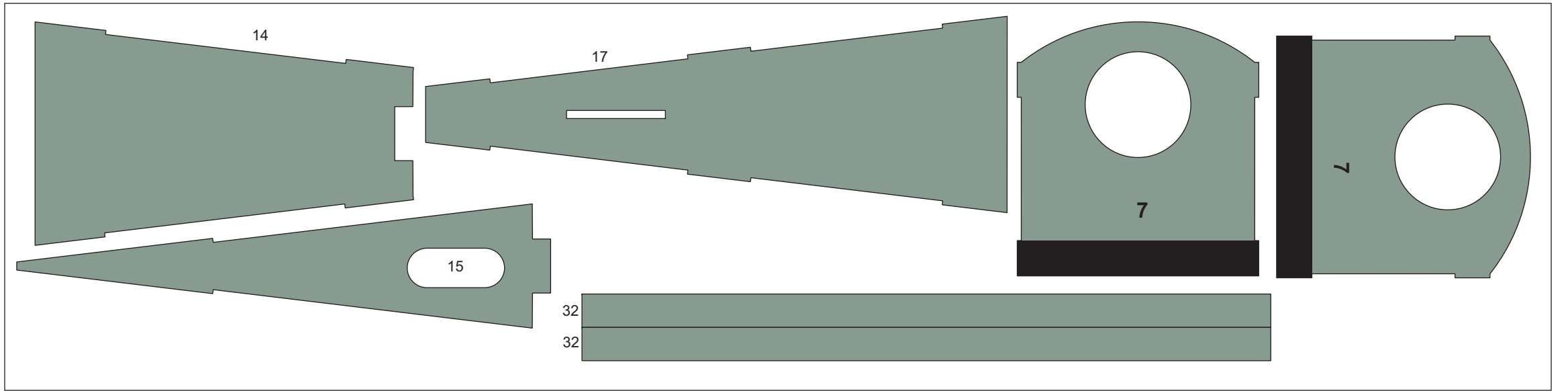


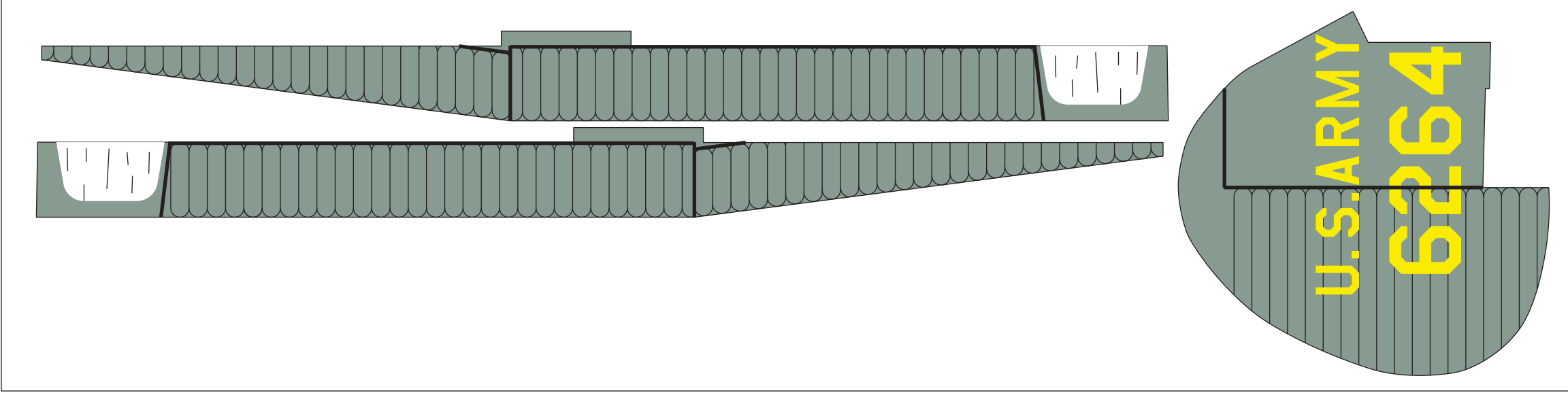


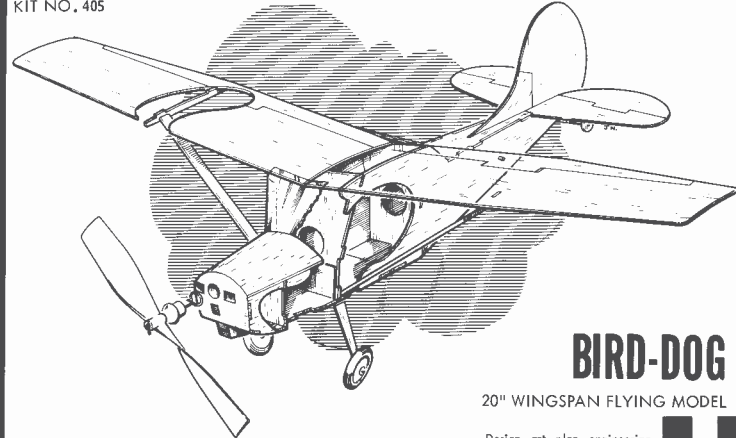












BIRD-DOG

20" WINGSPAN FLYING MODEL

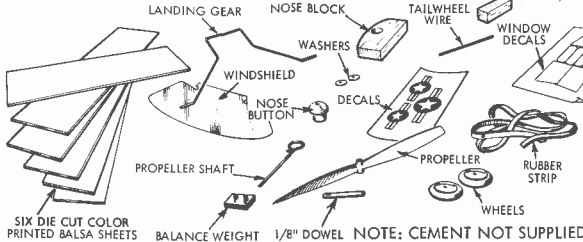
Design, art, plan, engineering and original model by -

Jim Newman

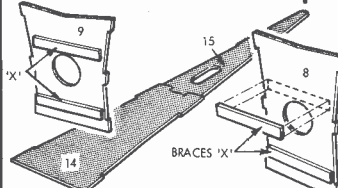
MIDWEST PRODUCTS CO. HOBART, IND.



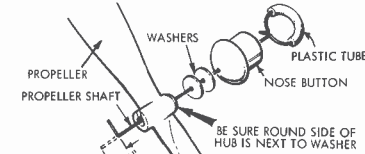
IDENTIFY AND CHECK YOUR PARTS :



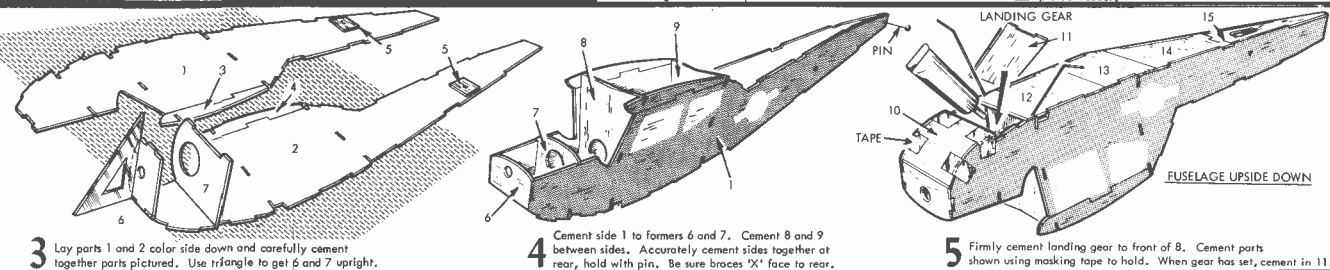
Follow these steps for EASY BUILDING!



1 Carefully cement together the parts shown above. Use regular model airplane cement.



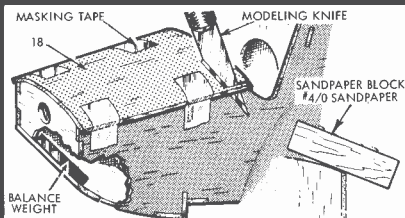
2 Assemble propeller as in picture. Bend end of shaft 90° and slip plastic tube from electrical wire over hook to protect rubber.



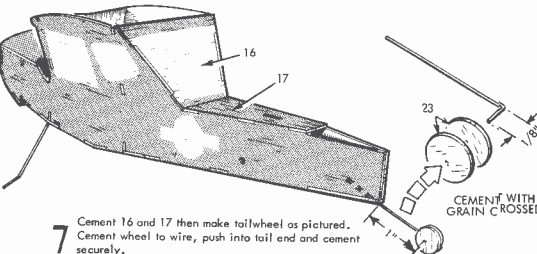
3 Lay parts 1 and 2 color side down and carefully cement together parts pictured. Use triangle to get 6 and 7 upright.

4 Cement side 1 to formers 6 and 7. Cement 8 and 9 between sides. Accurately cement sides together at rear, hold with pin. Be sure braces 'X' face to rear.

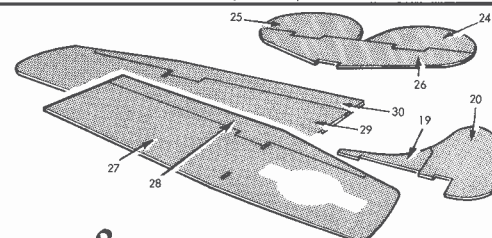
5 Firmly cement landing gear to front of 8. Cement parts shown using masking tape to hold. When gear has set, cement in 11.



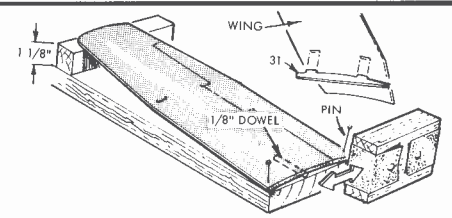
6 Cement weight firmly inside nose. Sand level on sides then cement on 18 using tape to hold. Carefully trim off excess.



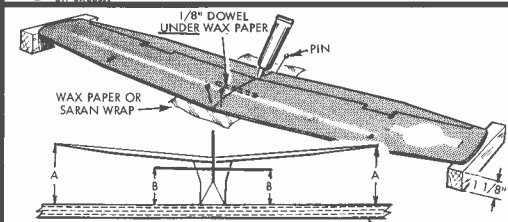
7 Cement 16 and 17 then make tailwheel as pictured. Cement wheel to wire, push into tail and cement securely.



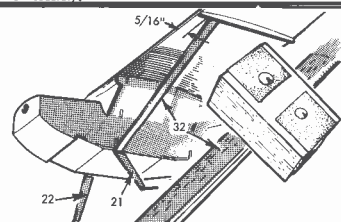
8 Cement together the wing and tail parts shown above.



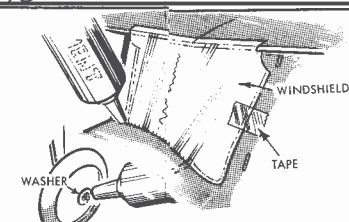
9 Cement rib 31 under each wing to give curvature. Pin wings to edge of bench. Prop up tips and sand end of wing as shown.



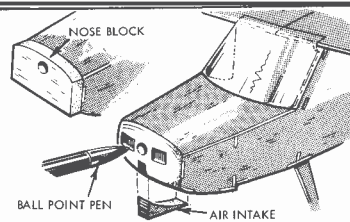
10 Cement ends of wings then pin and support as shown until set. Cement wing and tail to fuselage then look at model from rear. Line up wing and tail before glue dries.



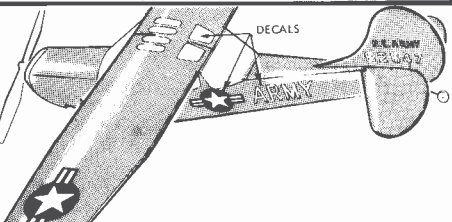
11 Cement parts 32 together, color side out. Sand edges round then cement into fuselage holes and against ribs. Cement 21 and 22 to landing gear.



12 Tape windshield in place and cement around edge. Cut small paper washers and cement to axles to retain wheels.

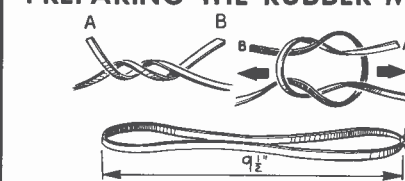


13 Cement noseblock to 6, round off corners and make intake from block supplied. Cement under nose, draw on other intakes.

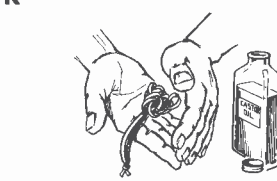


14 Peel decals and windows from sheet and apply to model (Tweezers are helpful). Use your paint box to touch up edges of bare wood.

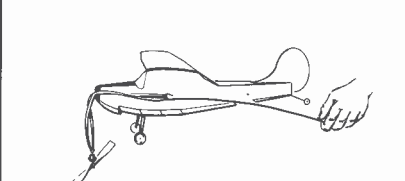
PREPARING THE RUBBER MOTOR



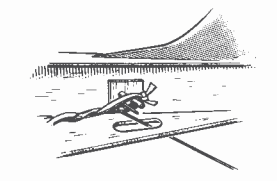
1 Join ends of rubber with square knot to make loop.



2 Put small drop of castor oil in palm of hand. Rub motor between hands KEEPING OIL OFF KNOT or it may slip open.

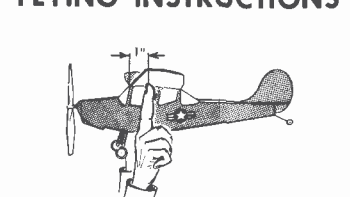


3 Use florist's wire or solder to pull rubber through model. Keep knot to rear.

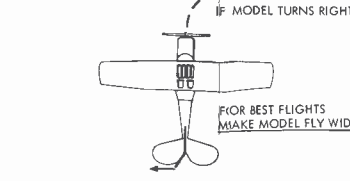


4 Before unhooking wire, push dowel through fuselage, making sure it goes through rubber loop.

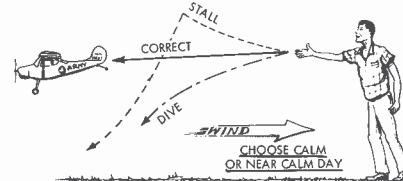
FLYING INSTRUCTIONS



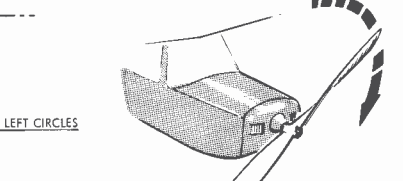
1 Balance model on fingertips. Add modeling clay under nose or tail until it stays level.



3 Control turning by bending rudder. Aim for a wide left circle.



2 Launch level and smoothly. If model climbs sharply then dives (stalls), bend rear edge of stabilizer down a little or put clay under nose. If it dives, bend it up or put clay under tail. Continue until smooth glide is obtained.



4 Turn propeller in direction shown to wind up rubber 150 turns for average 10 second trip.

Hi!

We have put a lot of effort into making sure that each of our models gives you maximum enjoyment in assembly and flying. After this model we are sure you will want to build the other exciting airplanes in the same range and which are pictured below.

Why not send for catalog showing the remainder of our products? Use the handy coupon below.

Good luck and happy flying.

Frank Gardner

MIDWEST PRODUCTS CO.

CARDINAL

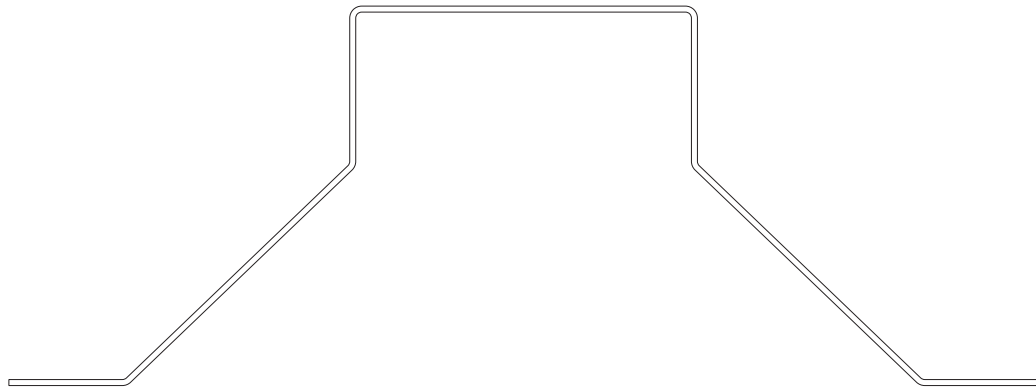
PIPER CUB

CITABRIA

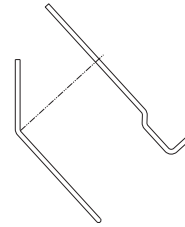
Please send me your illustrated catalog of models and accessories. I enclose 25¢ to cover cost.

Name _____ Address _____

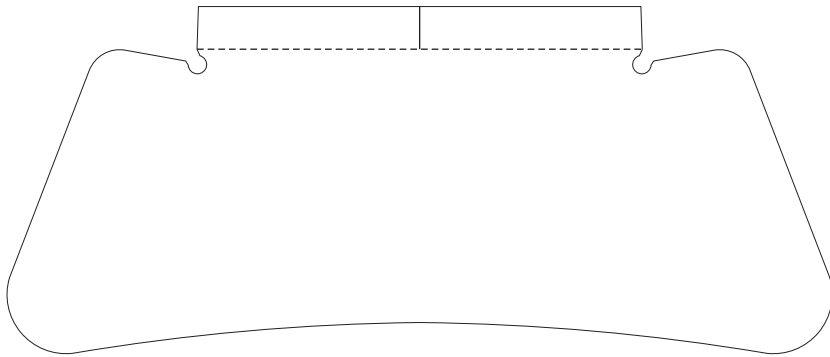
City _____ State _____ Zip _____



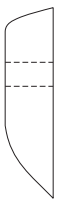
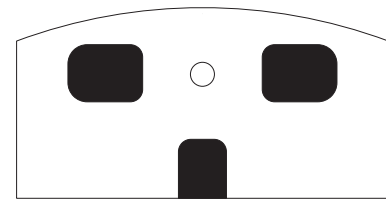
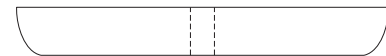
Landing Gear Pattern - Make from .032 music wire. Use 1" Wheels



Tail Wheel Leg Pattern - Make from .025 music wire



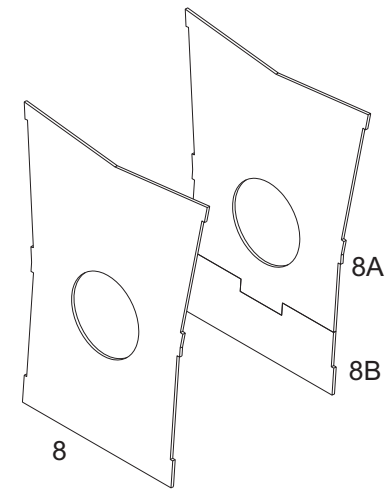
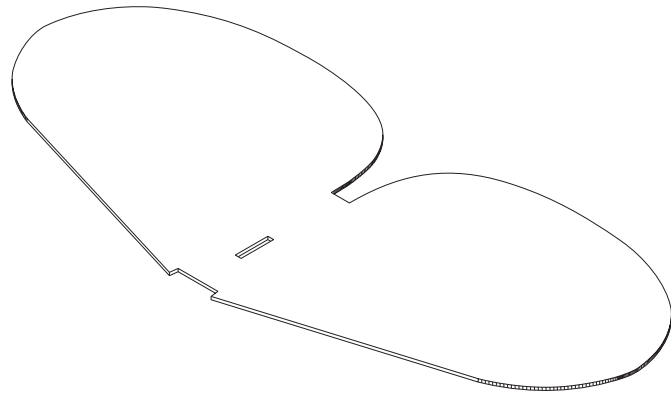
Windshield Pattern



Nose Block - Make from 1/4" balsa

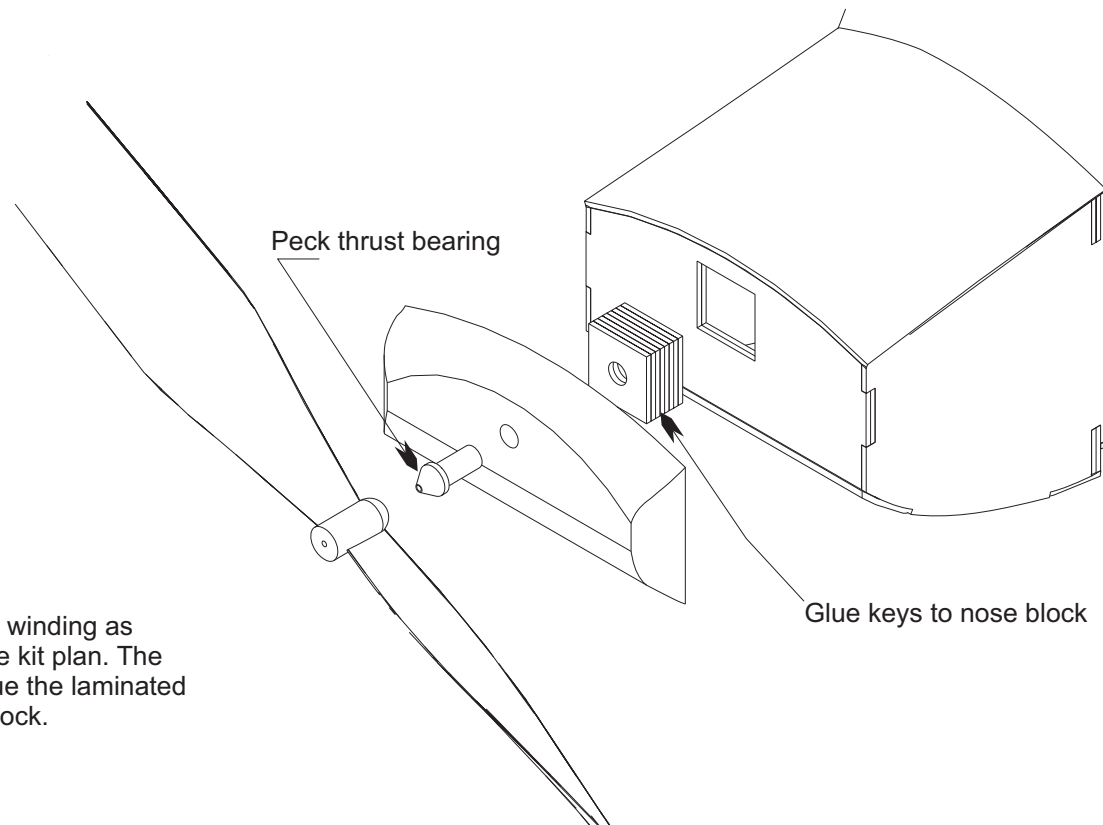
Midwest L-19 Bird Dog

Modifications to Original



One lamination of fuselage former 8 is in two pieces to allow it to fit within a 3" wide sheet of balsa.

Note: The stab and elevators are one piece as opposed to multiple pieces as shown on the plan.



The nose block is removable for stretch winding as opposed to the fixed block shown on the kit plan. The nose block is made from 1/4" balsa. Glue the laminated key block to the rear face of the nose block.

Midwest L-19 Bird Dog



L-19 BIRD DOG

RUBBER BAND POWERED HIGH FLYER

MIDWEST PRODUCTS CO.



NO PAPER - ALL DIE
CUT Balsa WOOD FOR
QUICK EASY ASSEMBLY

22 Wingspan
Formed wire landing gear
Propeller, wheels
and Decals included

PRINTED & DIE CUT WOOD

Note: The kit box states the wing span is 22 inches. It is actually 20 inches.

