



Poland, who was regularly sending me their magazine called Modelarz.

In one of the issues there was a 3-view of the Pilatus Porter. Right away I liked what I saw, especially the attractive color scheme. This particular paint scheme was used on an aircraft which flew into the Himalayas in hopes of catching or photographing a Yeti — The Abominable Snowman.

From the magazine layout I made drawings and built the model a short time later. That model was about the same size as the one presented here. It was powered with a 1-ccm engine. I had a lot of flights with it, until the day when, after hand launching, I realized that the switch on the plane was left in the "off" position. The model climbed in right-hand circles, beautifully, never to be seen again.

accurate, with the reduction being 1:11.25.

The model can be powered with 035 geared to 05 straight electric motors or by gas engines from .051 to .09.

CONSTRUCTION

Wing:

When building the model try to use light balsa everywhere except for the wing spars. Build light yet strong.

Now, cover the plans with clear plastic and start by building the wings in two halves, to be joined on the centerline later.

Cut out all of the ribs. Notch the 3/16" x 1/2" trailing edge stock 1/16" x 3/16" deep to accept the ribs.

Pin the bottom front and rear spars to the building board, right on top of the plan. Do the same with the trailing edge, lining up the notches with the rib locations. Glue all of

the ribs to the spars and trailing edge making sure all ribs are square. Glue on the top spars and leading edge. Now build the other wing half the same way.

To join both halves, first remove the section of the bottom spars as shown on the plans, then lay them flat on the plans and pin the root ribs to the board so that they will not move. Place blocks under each wingtip to get the proper dihedral (7/8" ea. tip).

Glue in the main spar and rear spar dihedral braces along with the front brace which supports the dowel. Glue on the top 1/16" balsa sheeting over the root ribs. Flip the wing over and add the bottom sheeting.

Referring to the plans, locate and glue the balsa filler blocks in place between the top and bottom main spars. Attach pre-bent piano wire (with thread) to this area to hold

the wing struts. Put the wing aside for now.

Fuselage:

Build the fuselage in three sections to be joined together later. The rear section is built by pinning the 1/4" square top and bottom longerons to the building board and gluing in all of the uprights. Once both sides are done, stand them upright and pin the bottom longerons to the board, right over the plan (top view). Place 90° squares on both sides of these structures and glue in the cross braces.

At the rear, glue on the 1/16" plywood piece to hold the 1/16" i.d. aluminum tubing for the tail wheel. This tube should be attached to the plywood with strong thread before it is glued to the fuselage. (The tail wheel can be made steerable, or left to caster as you wish.)

PILATUS PORTER

A neat looking, great flying sport scale model for 05 electric or .09 2-stroke power.

By Laddie Mikulasko

The sport-scale model of the Pilatus Porter takes me back 25 years to the time when I was just starting to fly R/C.

At that time, I had to build the radio myself. It was a most primitive effort. The transmitter had an on/off switch and one pushbutton. When the button was pressed, a radio signal was sent. The receiver would pick it up and turn on a relay or small electric motor.

The motor had a strong thread wrapped around the shaft, which was attached to a horn on one side of the rudder. On the other side of the rudder was a horn with a rubber band tied to it and attached to the fuselage.

When a radio transmission was received, the motor would wind up the thread on its shaft and pull the rudder to the left. With no signal present, the rubber band would pull the rudder to the right. So, with no signal, the model would climb gently to the right. Holding the button down would turn the model into a left-hand descending spiral. To fly "sort of" straight, required a steady stream of pulses.

As I said before, it was crude but I had a lot of fun.

After I had learned to fly a simple high wing model, I wanted to build a scale model since I was flying U-Control scale at the time. I was corresponding with a modeler in

Some years later I was looking for a suitable model for my 05 Leisure electric motor. Despite having a large selection of 3-views from around the world, I chose the Pilatus without hesitation.

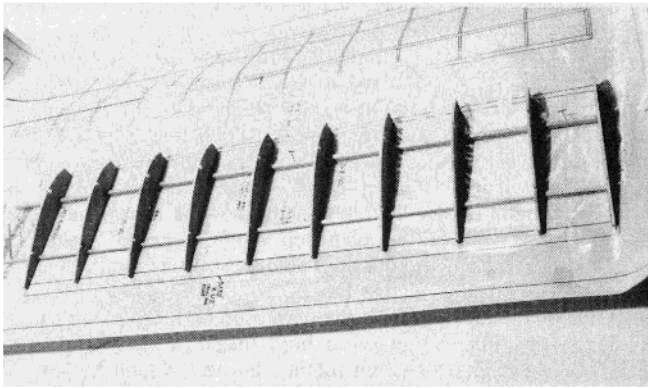
After I drew the plan (trying to keep it simple), the model was built in no time using cyanoacrylate glue. It took longer to decorate the model than to build it. It was worth it; the model looks great in the air.

The flying characteristics were as I expected — gentle and well-mannered, with rudder, elevator, and speed controller. If desired, you can have full span ailerons, using the outline indicated on the plan.

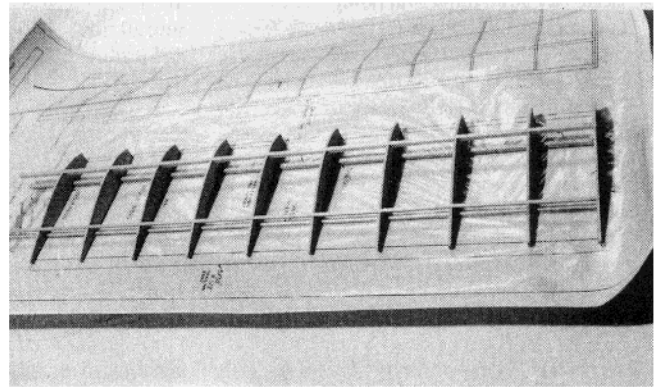
For sport scale purposes, the outline is

PILATUS PORTER PC-6

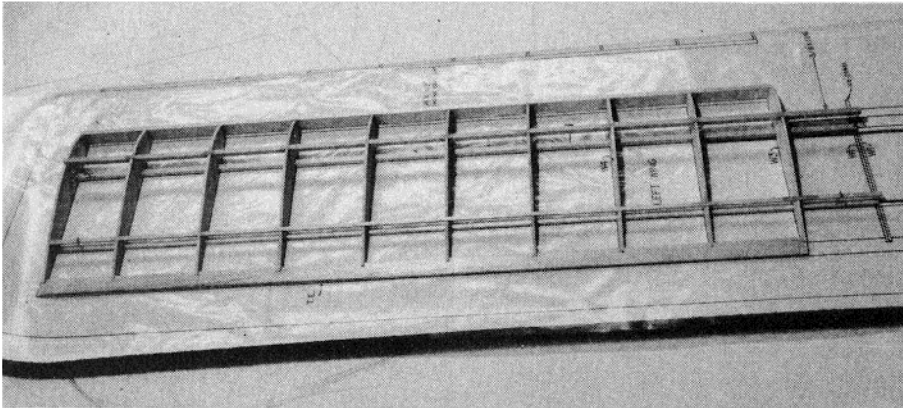
Designed By:	Laddie Mikulasko
TYPE AIRCRAFT	Sport Scale 1:11.25
WINGSPAN	53 Inches
WING CHORD	6 1/2 Inches
TOTAL WING AREA	344 1/2 Sq. In.
WING LOCATION	High Wing
AIRFOIL	Clark Y (Mod.)
WING PLANFORM	Constant Chord
DIHEDRAL EACH TIP	7/8 Inch
OVERALL FUSELAGE LENGTH	36 1/4 Inches
RADIO COMPARTMENT SIZE	(L) 13" x (W) 4 1/2" x (H) 4"
STABILIZER SPAN	18 3/4 Inches
STABILIZER CHORD	4 Inches
STABILIZER AREA	73 1/2 Sq. In.
STAB AIRFOIL SECTION	Flat
STABILIZER LOCATION	Top of Fuselage
VERTICAL FIN HEIGHT	7 1/2 Inches
VERTICAL FIN WIDTH	4 1/2 Inches
REC. ENGINE RANGE	05 Electric; .09 Glow
FUEL TANK SIZE	2-4 Oz.
BATTERY PACK:	6-7 Cell (7.2-8.4 V)
LANDING GEAR	Conventional
REC. NO. OF CHANNELS	3 or 4
CONTROL FUNCTIONS	Rudder, Elev., Throt. (Speed controller) All. (Opt.)
BASIC MATERIALS USED IN CONSTRUCTION	
Fuselage	Balsa & Ply
Wing	Balsa & Ply
Empennage	Balsa
Wt. Ready To Fly	36 Oz. (2 1/4 Lbs.) (Elect.)
Wing Loading	15 Oz./Sq. Ft.



The start of building the half of the wing.



The top spars were glued on.



The trailing and leading edge are added.

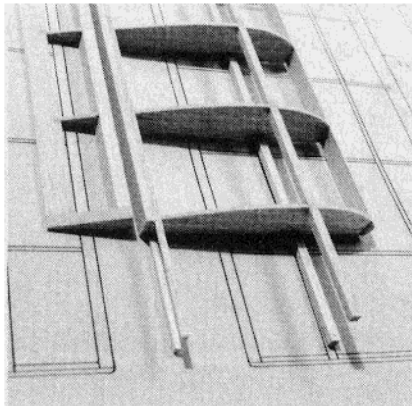
To build the center section, cut out two fuselage sides from 1/16" balsa sheet. (Cut out the windows now.) On the inside, glue on all longerons and uprights. Stand both sides upright, and glue in former F2 and all bottom cross braces.

With strong thread, attach the pre-bent piano wire to the bottom plywood cross brace. These will hold the wing struts to the fuselage later on. Add the 1/8" balsa filler on top of the plywood at this time.

Glue in the balsa floor and then all top braces. Make sure that the fuselage sides are 90° to the building board.

The nose section can be built two ways. If the cowl is vacuum formed in one piece, then the nose section goes up to former F-1. If vacuum-forming is not used, then follow this sequence for a built-up nose. First, cut out two front fuselage sides and glue on longerons and uprights. The top longeron should be long enough to reach front former F-A.

Glue each side to the center section of the fuselage, checking that the front is aligned with the top view on the plan. Glue in formers F-1, F-A, the instrument panel, and former F-3. Now glue the top longeron in



If aileron version is built, this is the time to separate aileron and add leading edge to it.

the notches in those three formers.

At the bottom, between formers F-1 and F-2, glue in the balsa block. Then glue on the balsa block to the front of F-A. Glue on 1/16" balsa sheeting to the top of the front section.

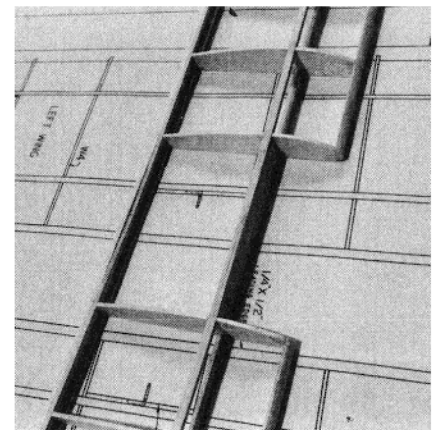
Glue in the 1/16" plywood former F-4.

Glue the rear section to the center section of the fuselage. Place the wing on top of the fuselage and pin it in place so that it doesn't move. Glue on the fairing and end plate at the trailing edge which completes the wing saddle.

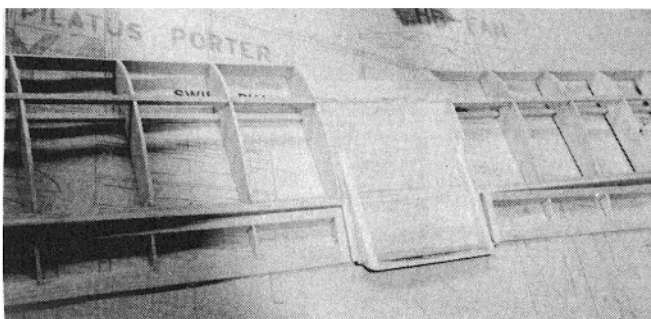
Drill the hole in former F-4 for the 1/8" wing dowel right into the wing's front brace and again at the trailing edge. Drill the two sets of holes, one in the fuselage and one in the fairing above the wing, to accommodate the hold-down dowels.

Sand the fuselage, making sure that the corners are rounded. Now we can build the removable bottom half of the cowl.

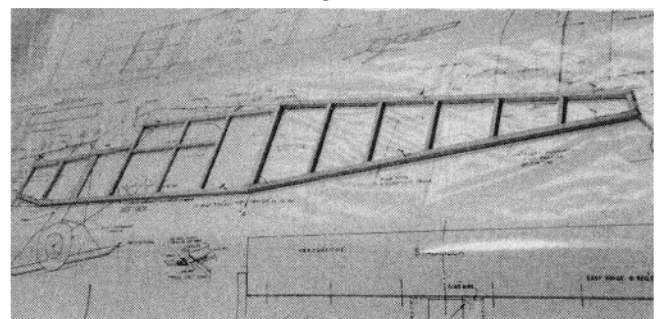
Cut out F-B and F-C and join them



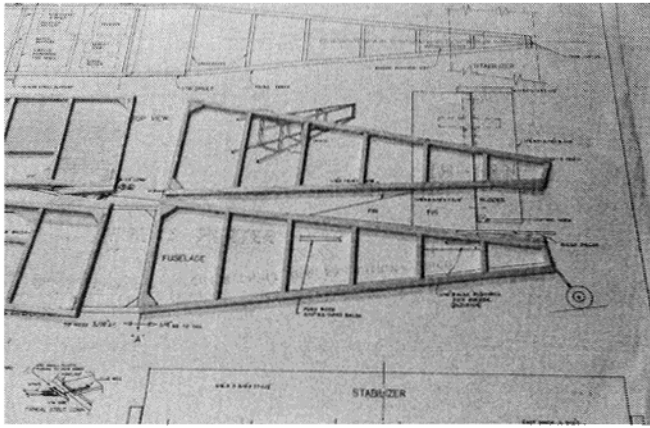
Both halves are joined with dihedral braces glued in.



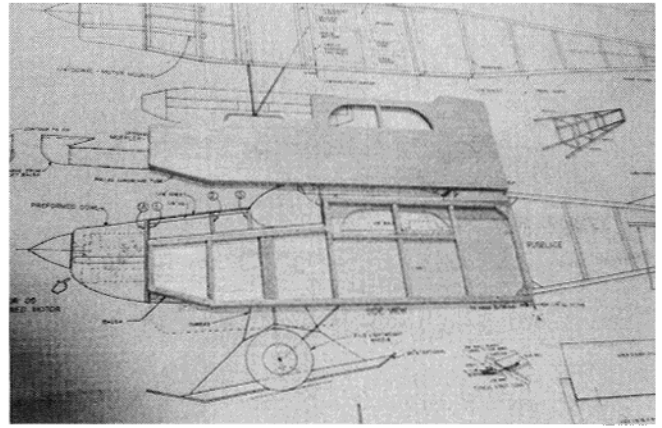
The wing is completed.



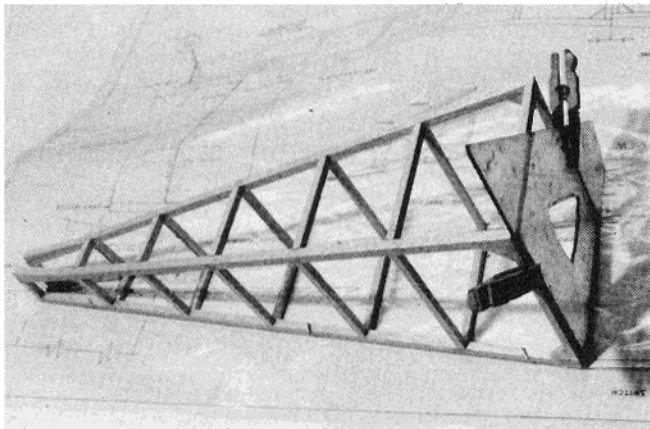
One side of the fuselage being built. With instant glues this goes fast.



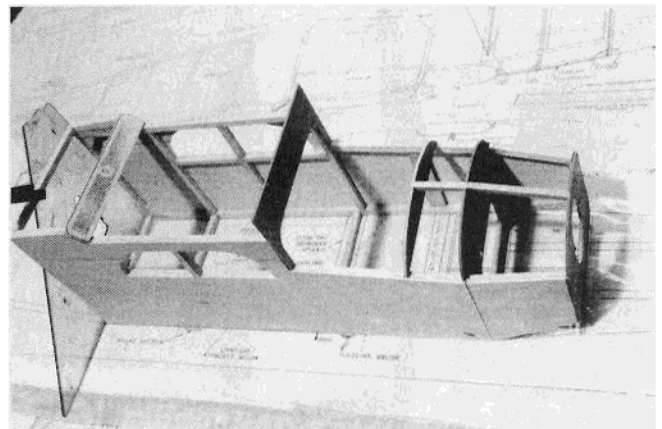
As mentioned in article, the fuselage is built in three sections.



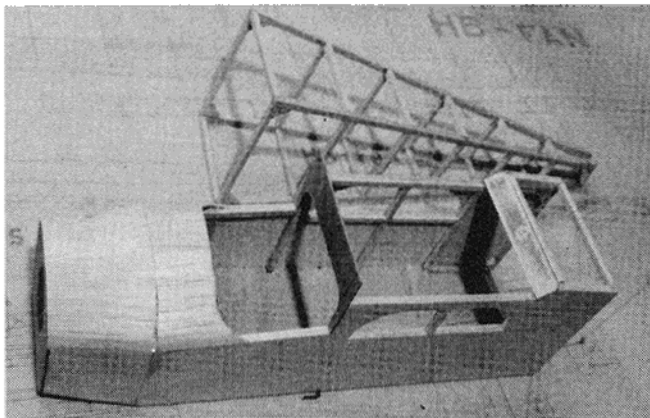
The middle section frame with balsa sheeting on outside.



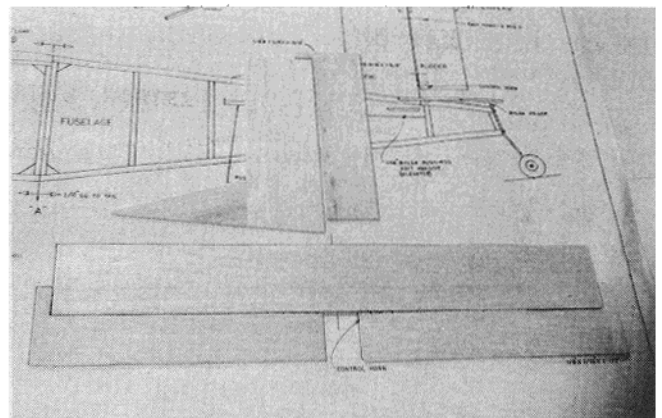
The plastic square is used as guide to keep the sides square with the building board.



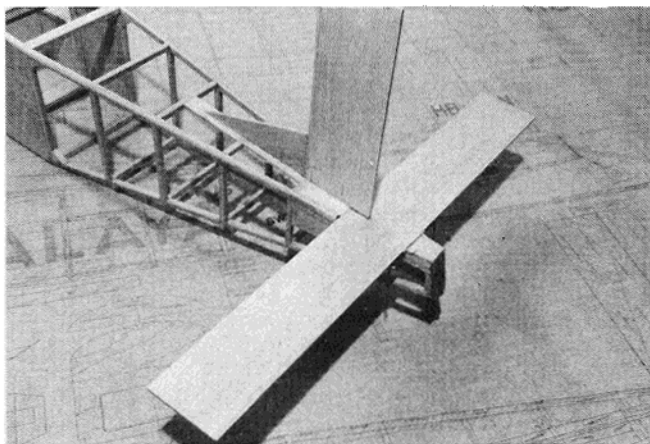
The middle section with all formers in. Notice the vertical cut at the former F2.



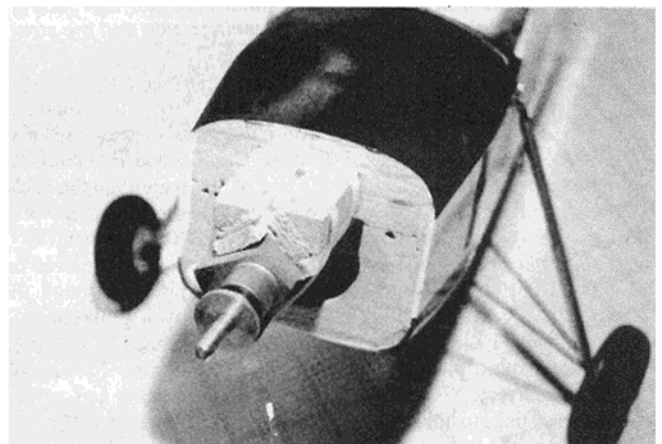
The floor sheeting was glued in.



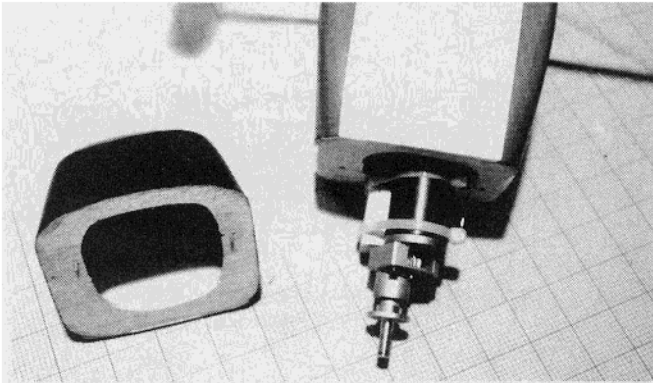
The tail surfaces are ready for installation.



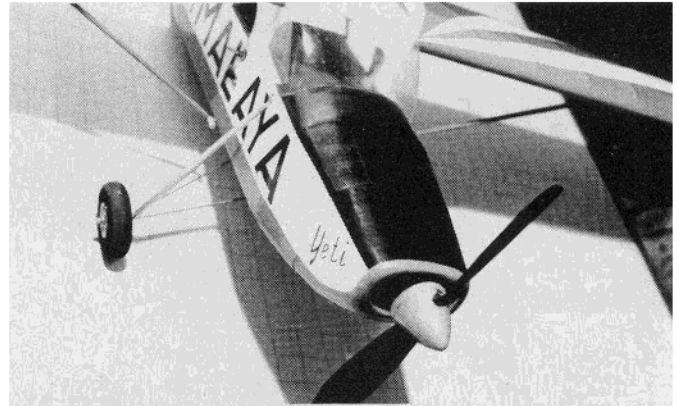
The tail surfaces on the fuselage.



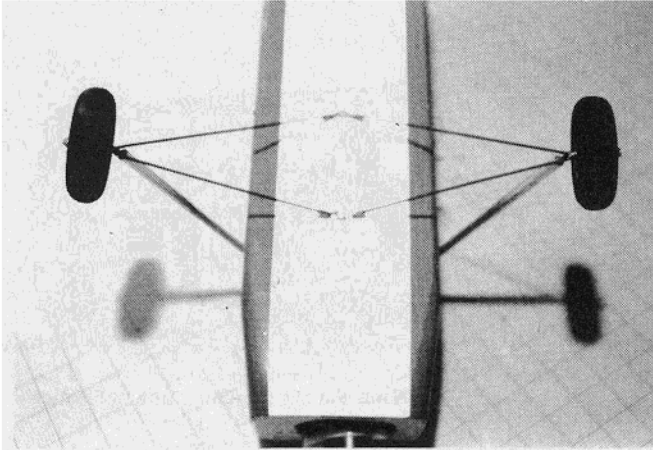
The Astro 035 Cobalt geared motor held to triangular balsa stock with tie wraps.



The cowl was vacuum formed over balsa mold. The cowl is held to the firewall with two small screws.



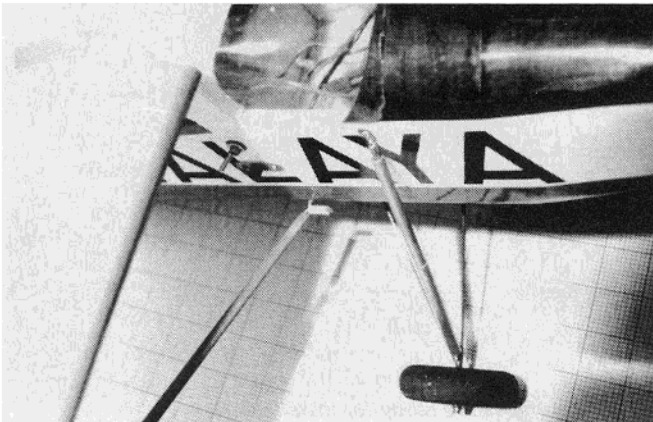
The screws can be reached through the opening in the front.



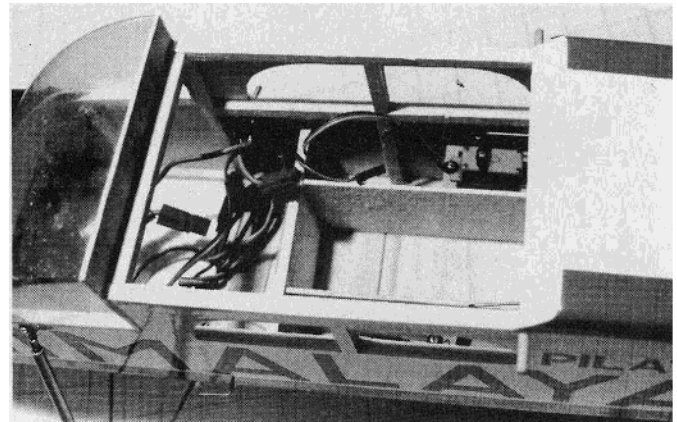
The eye lugs were soldered to the end of the wires. Two self tapping screws are holding them to the cross braces in the fuselage.



The aluminum tubing was slipped on, and eye lug soldered to the end of main leg.



Notice attachment of the strut. The small diameter fuel tubing was slipped onto wire coming out on fuselage side and the strut end.



Lots of room to install radio and battery pack.

together with the 3/16" square side bearers.

To make the plastic bottom shell, start by cutting a balsa block to fit between formers F-A and F-1. Cut out and glue F-B and F-C templates to the ends. Draw a side view of the cowl shape on the block and sand the block so that it gradually changes shape from the rear to the front.

Now drill a 1/2" hole in the base of this mold and glue in a 1/2" dowel approximately 10" long. From .020" thick acetate, cut out a piece 12" square. With thumbtacks every 2" apart, pin this plastic to two pine sticks to hold it on opposite sides in your hands.

Insert a baking rack inside your electric

oven about 12" below the top element. Put two bricks on the rack, 11" apart. Take the plastic and set it on the bricks, so that the wood is resting on the bricks. Place some weight on the sticks, so that the plastic does not pull them off the bricks when it sags from the heat.

Turn the oven on "grill" and observe the plastic through the window of the closed oven door. Have a helper ready, holding the mold by its stick. As soon as the plastic begins to smoke, open the oven door quickly and, with a finger, press the plastic to test its softness. If satisfied, put on oven mitts and, in a quick move, grab both wooden sticks and press and pull the

stretchy plastic over the wooden mold. Keep holding it in place for 10 to 20 seconds, while the plastic cools off.

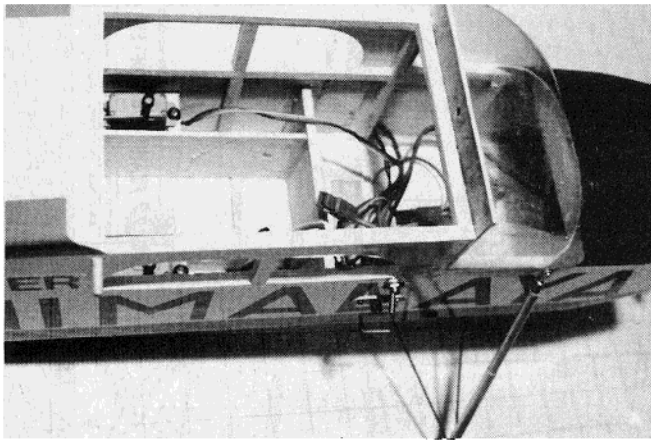
Trim excess plastic from the perimeter of the mold, and glue your bottom shell to the previously prepared frame.

On the front of former F-B, glue on the balsa block and sand it to the required contour.

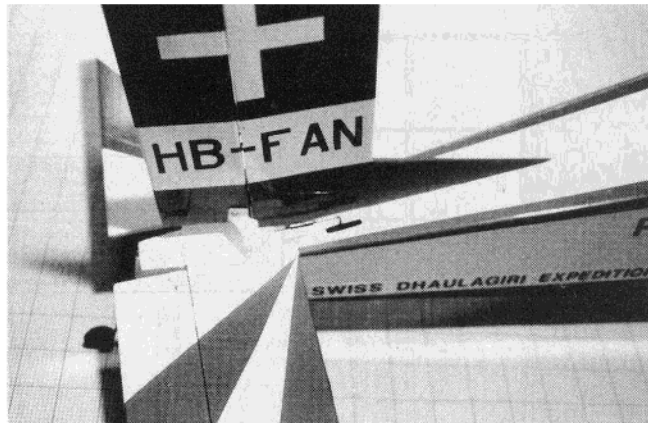
The canopy is molded using the same method as used for the cowl.

Tail Section:

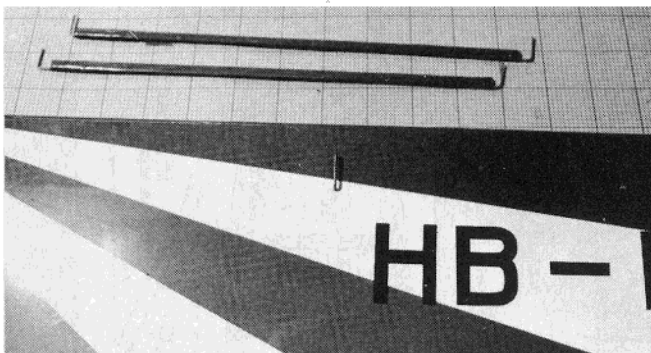
The tail surfaces are all cut from soft 1/8" balsa sheet. Sand all of them as shown on the plans and fit them to the fuselage. (Glue in place after covering is complete.)



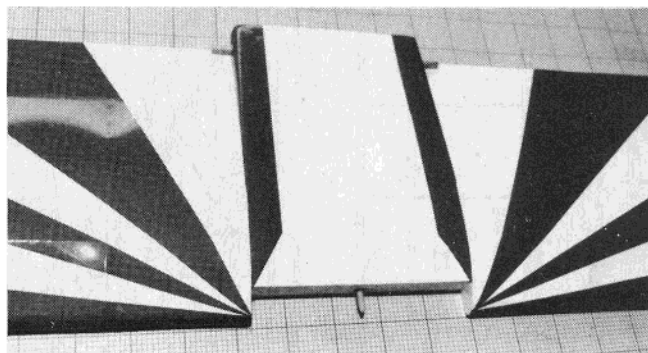
The side windows were left open for better cooling.



Simple exit of rudder control rod. The rudder can be coupled with the tail wheel.



The strut attachment point and struts themselves are shown. Again the fuel tubing is used to hold the strut to the wing.



The center section of the wing shown with dowels glued in.

Make the landing gear out of 3/32" piano wire. Bend it to shape and then solder electrical eye-lugs to the ends. You can add any dummy telescopic shocks to the main legs. I made mine out of K/S aluminum tubing. With self-tapping screws, mount the landing gear to the fuselage and align it with the plans. Wrap the legs at the hub with copper wire and solder it together. When finished, remove the landing gear.

The wing struts are made from 1/4" x 1/8" spruce, with pre-bent piano wire attached to both ends with thread.

I covered my ship with iron-on Aerospa, distributed by Balsa USA. Cover the whole model with white and then apply the red trims. The large black letters were cut out from trim sheet. Small letters on mine were done with Letraset. Take a clean piece of glass and transfer all words onto the glass

surface. Then, take a good-quality clear tape, like Scotch Magic Tape, and press it onto the letters to remove them in one strip. Gently lift the tape from the glass with all of the letters stuck to it. Now position the tape over the fuselage and stick it to the covering.

Glue the tail assembly in place, carefully aligning with fuselage and wing.

Install all hinges. In my case, I used Sig Easy Hinges.

Install the landing gear.

Install the radio.

To save weight, you can use a miniature airborne type R/C System.

Install the motor and the battery. The fuselage has enough room to accommodate any 6 or 7 cell pack (or up to .09 glow engine).

Balance the plane by moving the battery pack and securing it in its place with balsa

cross braces.

Install the wing struts. They are held to the wing and fuselage with small diameter silicone fuel tubing, slipped on over the end wires. I copied this method from well known scale modeler, Steve Gray.

The wing is held to the fuselage with two rubber bands wound around the dowels on either side of the fuselage.

Flying the model is the most enjoyable part. I am confident that you will like the characteristics of the Pilatus Porter.

To help you with your project, Easy-Built Models, P.O. Box 12, Grimsby, Ontario, Canada L3M4G1, can supply you with a set of molded parts, a full set of decals, or a complete kit.

Good luck, and happy flying.

□



The completed model with skis.