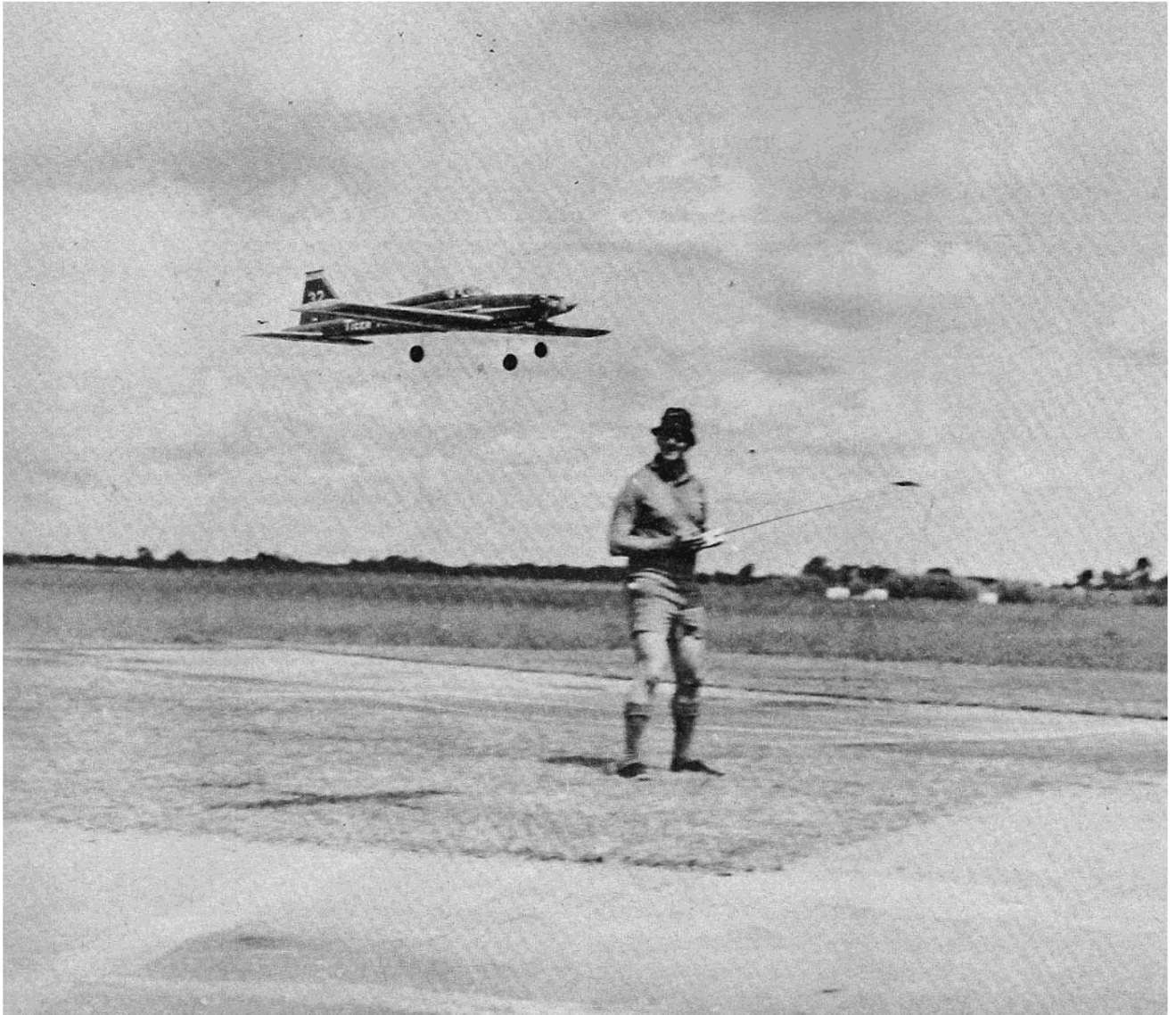


tiger

BY RICH BRAND



panzer

INTRODUCTION

The "Tiger Panzer" is a highly aerobatic model designed primarily for F.A.I. pattern flying. I have no doubt that the design is suitable for the AMA Pattern, as the model is quite capable of performing flick maneuvers. However, this does not distract from its docile characteristics.

The fuselage shape is derived from the well-known Northrop F5 strike reconnaissance fighter. Being semi-scale, therefore, the model looks very attractive whilst flying, and can be painted in a variety of military colours.

The model, itself, is an updated version of my "UDI Panzer," which I flew at the 6th World Championships in 1967. The prototype "Tiger Panzer" first flew in 1969 and was fitted with retracts. This necessitated positioning the nosegear retract to one side of the fuselage so that an oblong 8 oz. fuel bottle could be placed alongside. All subsequent models have been fitted with fixed undercarriage.

The "Tiger Panzer," in my opinion, can be flown by both novice and expert alike, and is a joy to fly. The construction is relatively simple and should present no problems. I sincerely hope you decide to build the "Tiger Panzer."

CONSTRUCTION

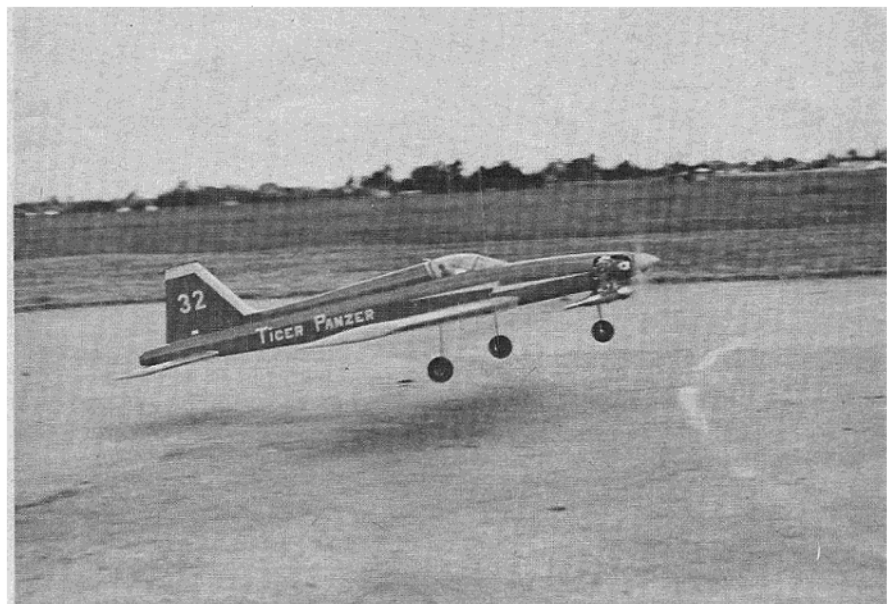
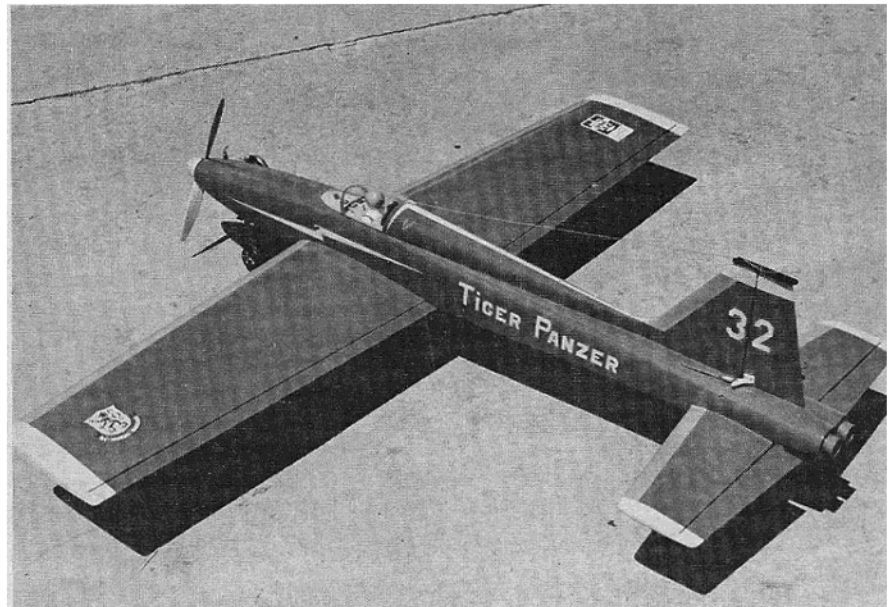
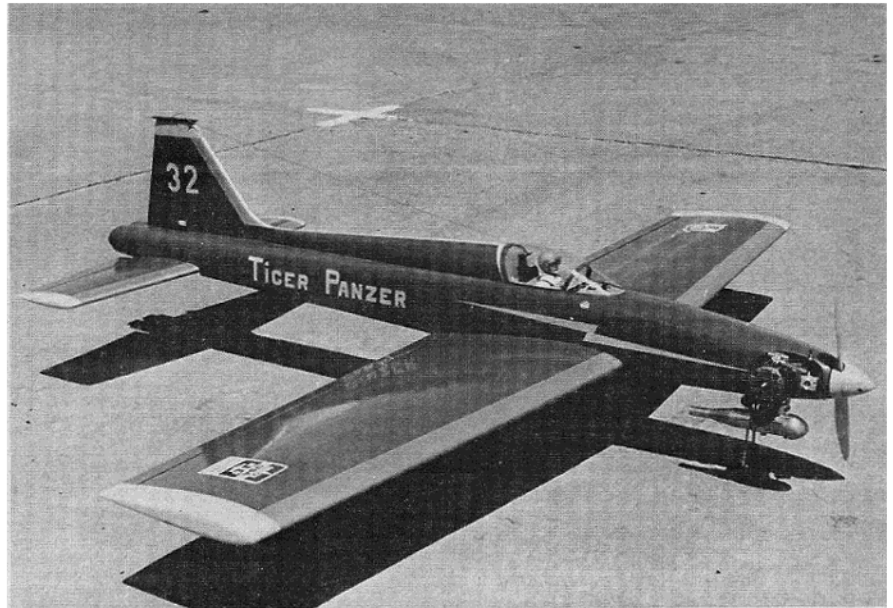
WING:

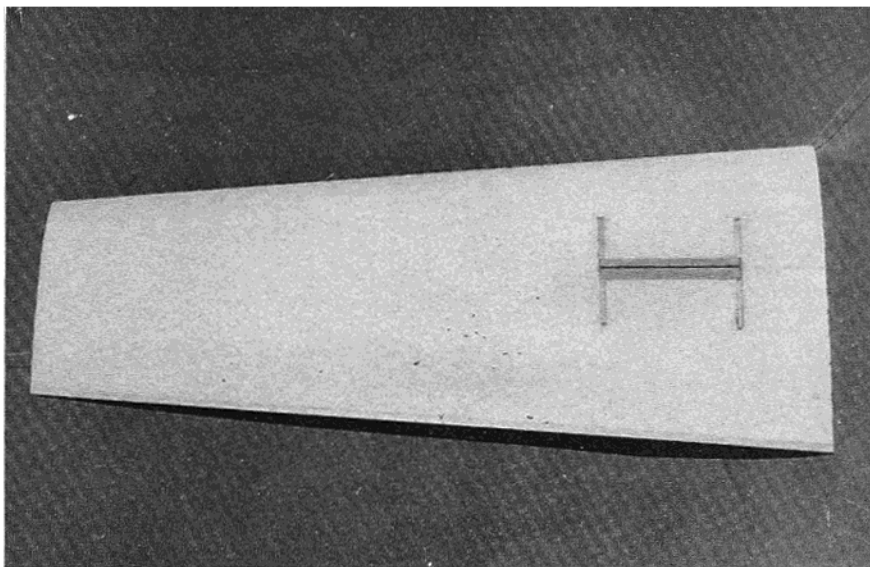
Start by building the wing. After cutting out the foam cores glue the rear spar in place. Next, epoxy glue the undercarriage mounts in position.

The wing is now ready for sheeting. Cover the cores with one piece of 1/16" prepared balsa sheeting. Apply contact adhesive to both sheeting and foam cores with a sponge to prevent excess glue weight. Use Titebond glue on areas where wood meets wood. The method used by myself when covering cores is as follows:

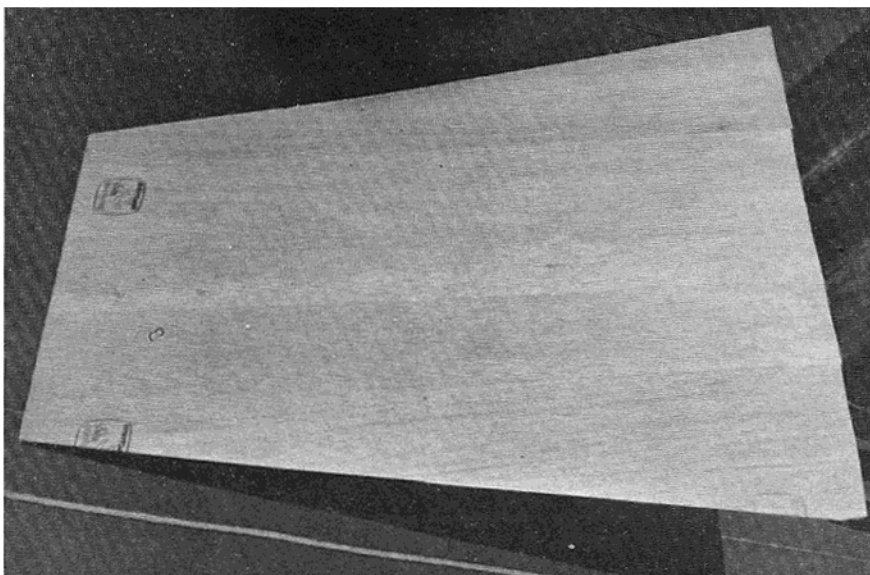
Wet the leading edge portion of the sheeting with ammonia. Make the initial contact between the foam core and sheeting at right angles. Now, slowly roll the core until one side of the wing is covered. Trim the sheeting at the rear spar. Now, roll the core over to make contact on the other

Prototype #3 of the Tiger Panzer is painted dark blue with yellow and silver trim ala Blue Angels. Author Rich Brand, of the Rhodesian Air Force, is a world renowned F.A.I. competition flyer and his Tiger Panzer is one of the finest high performance pattern ships in existence today.

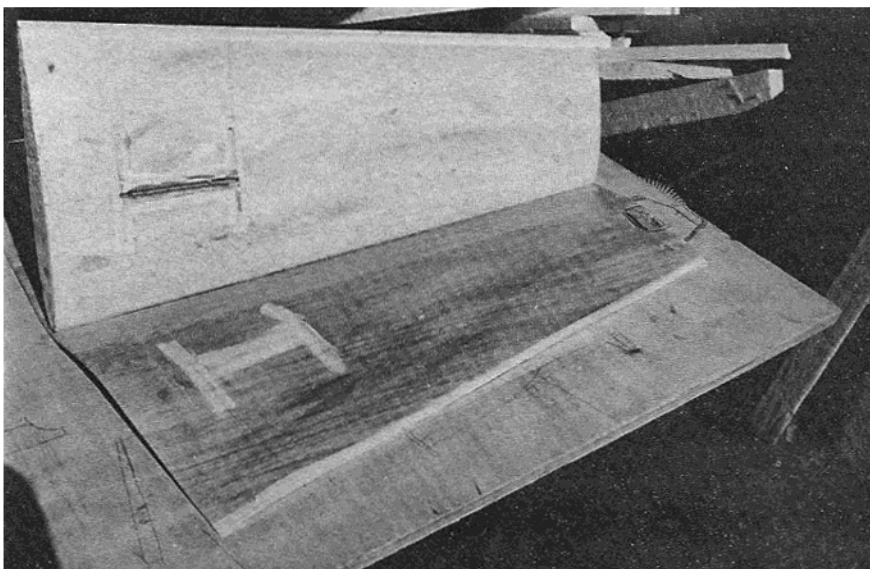




Foam wing core with landing gear mount in position.



One piece balsa sheeting for foam wing core.



Both foam and sheeting coated with contact adhesive.

side. Trim the sheeting at the rear spar, and use pins to ensure that no warps develop while drying. Allow the wet leading edge to dry with the wing standing upright. Failure to do this, i.e. allowing the wing to dry lying flat on the table, could result in a leading edge warp. At this stage the two wing halves can be lightly sanded and trimmed. The cutouts to accept servo and dihedral braces can now be made using the balsa sheeting as templates. Carefully sand each wing root to obtain the correct dihedral as indicated on the plan. Glue the two halves together and insert the oversize dihedral braces with epoxy glue. Ensure perfect alignment at this stage by viewing the wing from the rear. Fill the bottom of the servo cutout with 3/16" sheeting. Next shape the ailerons from a straight 3/8" sheet to the desired section. You will find a small razor plane a useful tool for this job. Make up the wing tips from 3/8" balsa and glue to the wing. Epoxy glue the plywood Camloc support in position and fiberglass the entire centre section. Epoxy glue the aileron control horns in position. Fix the locating dowel in position. Finish the wing by applying two coats of baby powder and dope. Cover with lightweight tissue and continue applying thin coats of baby powder and dope sanding between coats until the surface is prepared for spraying. The ailerons are finished the easy-does-it method.

FUSELAGE:

First draw the basic fuselage outline on one sheet, which is then taped and pinned to the other sheet. Next, cut out the fuselage sides with a jigsaw, thus ensuring two perfectly matched sides. Glue the triangular fillet strips in place and pin the fuselage doublers in position. I use contact adhesive for the doublers. Now pin one fuselage side onto a straight building board. No fuselage jig at all is required, as the plan will show. Glue bulkheads F2, F3, F4, and F5, in position. F2 should have been previously prepared and blind nuts fitted for nosewheel block and engine mount. When dry, glue on the other side of the fuselage, ensuring that it runs parallel from front to back. Do not forget to glue the triangular reinforcing fillets to F2 and F4. At this stage all top and bottom sheeting can be fitted, and F6 glued in place. When dry, remove the fuselage from the building board. Fill the engine compartment with scrap balsa and cut out to accept the engine

mount and engine. With the engine bolted in position, glue F1 in place. The wing can now be attached and Camlocs can be fitted. The turtle deck can be made out of foam covered with 1/16" balsa or, if preferred, can be carved from balsa block.

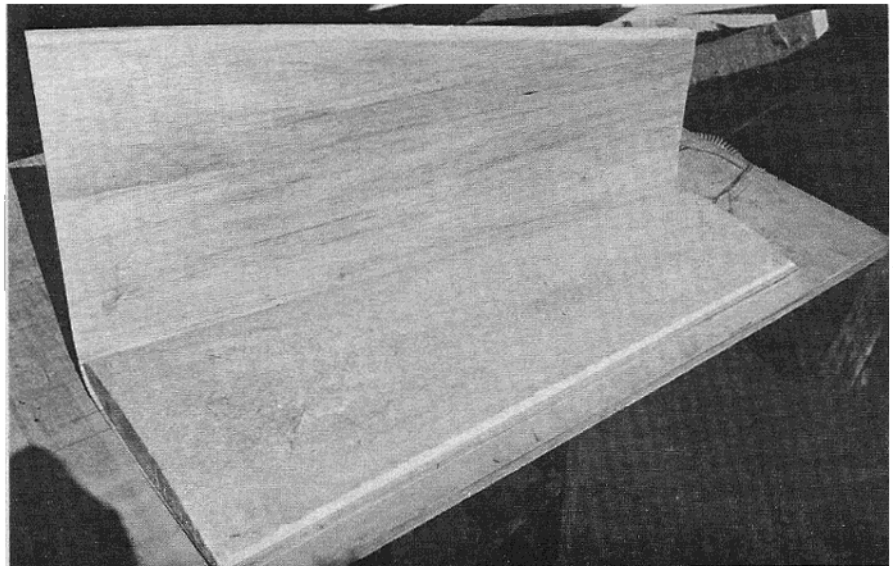
At this stage temporarily glue the 1/8" ply canopy support in place, and pin the turtle deck to the top deck. The windscreen can be made out of acetate sheeting using the basic windscreen pattern as a guide. Next, cut the Du-Bro canopy to fit. With windscreen, canopy, and turtle deck held in place with pins, draw the outline of these on the fuselage top deck. The cutout to accept the tail fin can also be made. Now the entire fuselage can be shaped using a balsa plane and sanding block. Be sure not to transgress the outline already marked. When shaping of the fuselage is complete two coats of baby powder and dope are applied. Cover both the fuselage and turtle deck with silk and continue with thin coats of baby powder and dope, sanding between coats until the surface is ready for colour spraying. At this stage the canopy floor can be painted, instrument, pilot, and ejector seat, fitted. Glue turtle deck in place and then fix the canopy to the fuselage with epoxy glue. Mask off the canopy and fillet with Hobbypoxy Stuff.

TAILPLANE AND ELEVATOR:

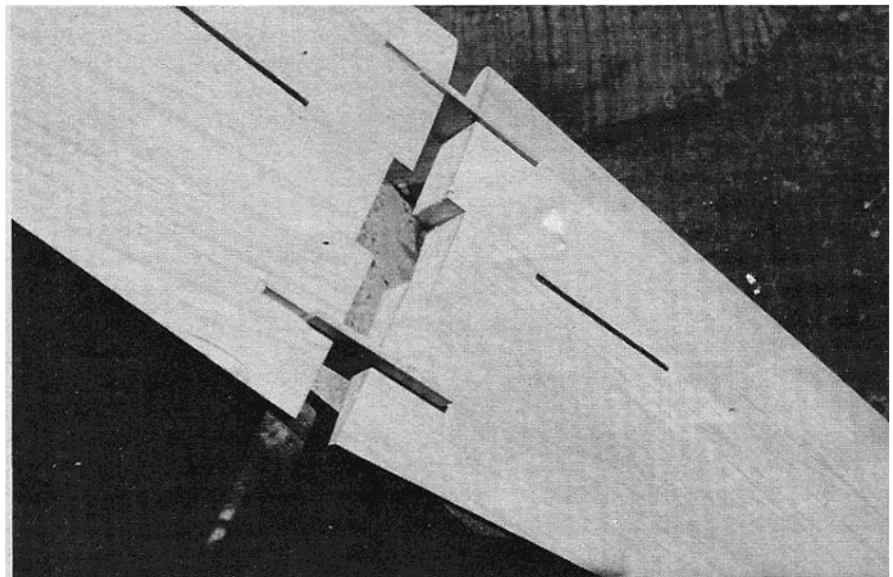
Cut the two halves out of foam. The rear cut line may be lined up with the edge of the foam block. Mark the front cut line on the foam cores and cut off using a sharp modeling knife. Glue the leading edge (oversize) and the trailing edge to the cores. Shape the trailing edge to the foam contour. Cover the two halves with 1/16" sheet using contact adhesive and Titebond, where applicable. Glue the two halves together with epoxy glue and insert the 3/16" balsa braces as shown. Strengthen the centre section with fibreglass cloth. Now shape the elevator from 3/8" balsa and tack glue onto the tailplane. Cut the tips from 3/8" balsa and glue in place. Shape and sand the entire unit and cut away the elevator when complete. The tailplane is given two coats of baby powder and dope. Cover the lightweight tissue and apply thin coats of baby powder and dope sanding between until the surface is ready for colour spraying. The elevator is finished the easy-does-it method.

FIN AND RUDDER:

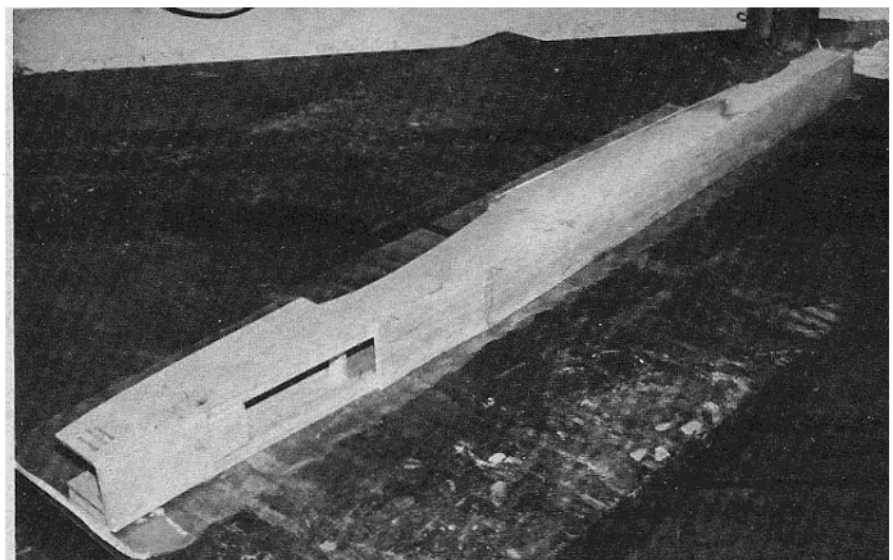
This is fairly straightforward as the plan will indicate. The tailplane and



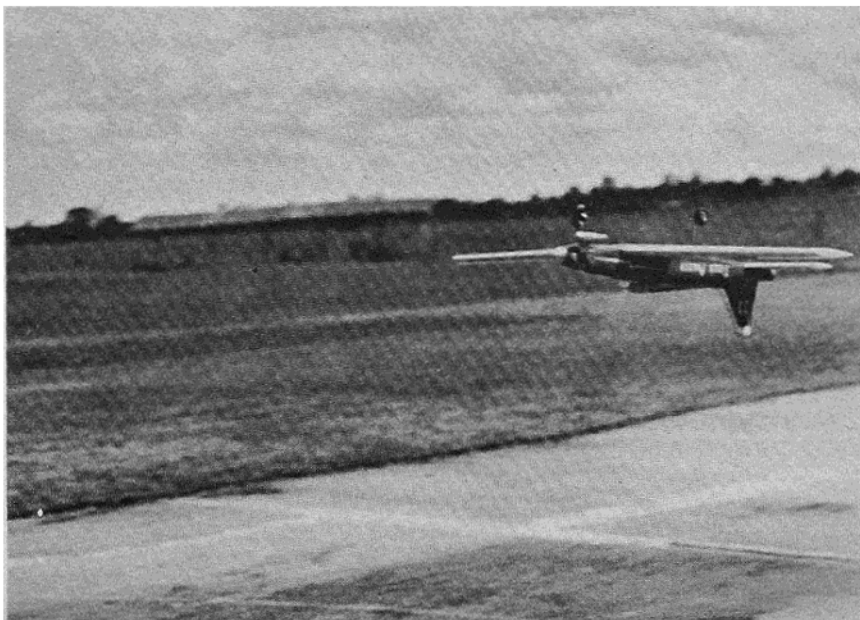
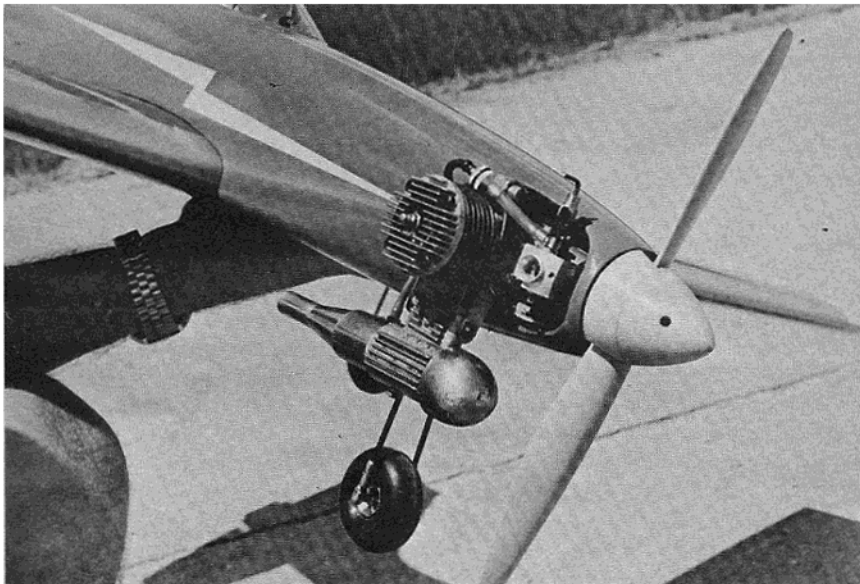
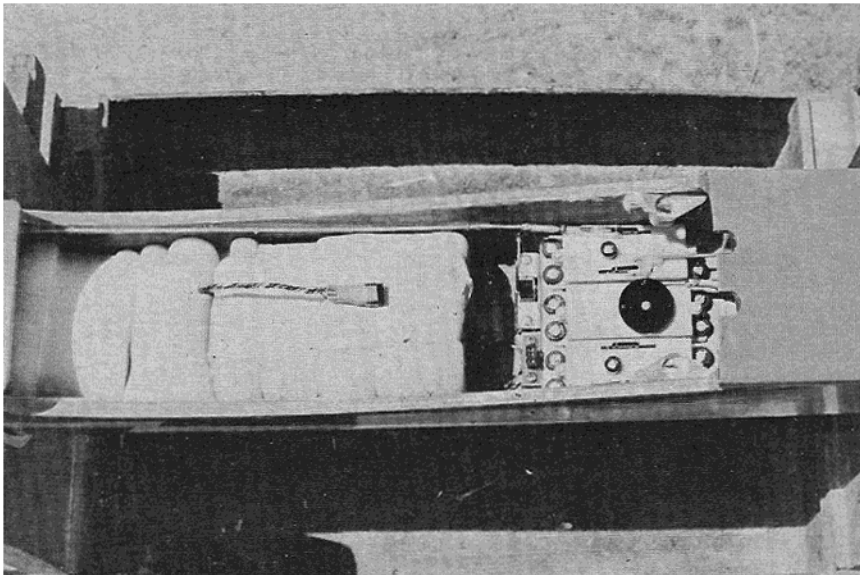
In this photo, one panel side has been covered.



View of wing showing servo cutout and oversize balsa dihedral braces.



Fuselage is built on its side. This particular prototype used conventional motor bearers.



elevator are shaped as a unit before cutting away the rudder. Both fin and rudder are finished using the easy-does-it method.

FINAL ASSEMBLY

When all components are ready for spraying, final assembly can take place. With the wing in position, trial fit the tailplane and check alignment. When aligned, epoxy in place or, if preferred, this can be made removable. Attach the fin to the fuselage in a similar manner. Use Hobbypoxy Stuff to fillet the tailplane and fin, as required. Be careful not to sand through the silk. At this stage the ailerons, elevators, and rudder may be fitted. I use 5-Minute Epoxy on the hinges to speed things up. Once completed, carefully check the entire airframe for any dents or irregularities. If any, fill with Hobbypoxy Stuff then give the model two final coats of clear dope. You are now ready to colour spray the model. I will not cover this procedure as the paints available in Rhodesia, differ somewhat from those available elsewhere. I prefer to fit in the equipment once the model has been colour sprayed. I will not detail the radio equipment installation as this will vary accordingly.

FLYING

Set up the control movements and C.G. as indicated on the plan. The weight of the model can be up to 7½ lbs. or possibly more. The "Tiger Panzer" is very easy to fly and has no vicious characteristics whatsoever. Once the roll rate has been adjusted to your requirement set the elevator movement. This is determined by increasing the elevator up-movement until a spin is easily achieved. The rudder should be adjusted to your requirement. All-in-all, the "Tiger Panzer" is a delight to fly, and should give any modeller hours of enjoyment. If you have any problems, whatsoever, please feel free to write to me at Private Bag, 7722 Causeway, Rhodesia, South Africa.

Good building and happy flying. □

TOP, LEFT: View of radio equipment installed in fuselage. CENTER, LEFT: H.P. .61 with Kavan carburetor and muffler used on prototype #3. LEFT: Rich Brand makes a low inverted pass with the Tiger Panzer.