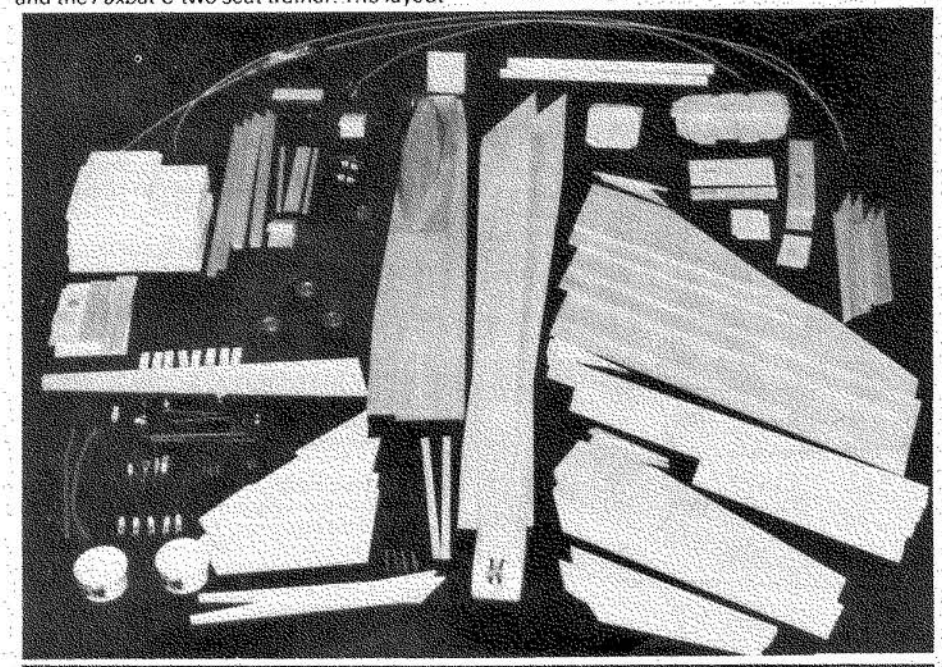
FOXBAT A MiG-25 for .25's... by Alex Weiss

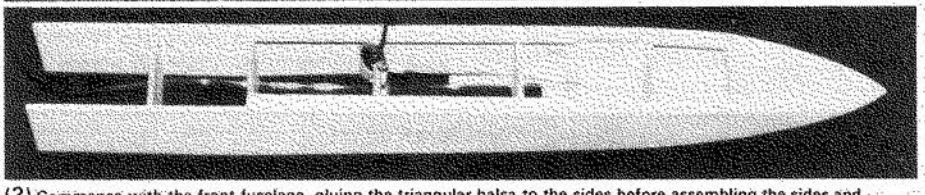
Your FREE Christmas Plan — grab some 3/16in. sheet and three function radio — you're almost there!

I WAS ATTRACTED to this particular design because I felt that it was well suited to a pusher layout for a 0.25cu. in. engine, the nose looked long enough to make nose ballast unnecessary, and the close coupled wing to tailplane layout should give excellent control at high angles of attack.

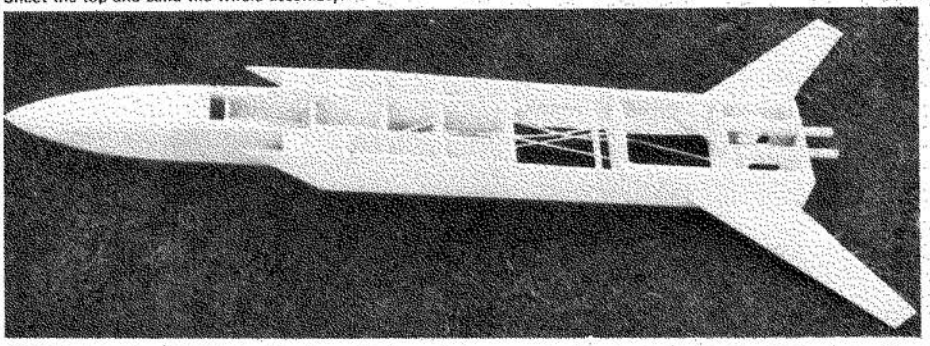
The MiG-25 is in widespread service with the Soviet air defence forces and has been delivered to a number of overseas air forces, including those of Algeria, Libya and Syria. There are three versions of the aircraft; the *Foxbat A* single seat interceptor, the *Foxbat B* and *D* high altitude reconnaissance aircraft, and the *Foxbat C* two seat trainer. The layout is very similar to that of the McDonnell Douglas F-15, the most noticeable differences being the MiG-25's wing anhedral, angled out fins of lower aspect ratio than the F-15's, and the under fuselage fins. The *Foxbat A* which I chose to model is most likely to be seen with a mixture of *Aphid, Ash* or *Acrid* air to air missiles hung on the four underwing pylons.



(1) Start by cutting yourself out a kit of parts. You will need seven sheets of 4in. wide 3/16in. balsa and six sheets 3in wide. The total weight of these 13 sheets should not exceed 1½lb. The heaviest timber should be used for the forward fuselage.



(2) Commence with the front fuselage, gluing the triangular balsa to the sides before assembling the sides and formers. Ensure that you have made the cut-outs in the formers for the noseleg, servo connections and aerial tube. Sheet the top and sand the whole assembly.



(3) Add the rear fuselage sides and formers, with the engine bearers spaced to suit your engine. The tailplane locks the rear section together. The snakes to the control surfaces and throttle should be added at this stage.

The model featured in the plan has a 34in. wingspan and is 50in. long. It is a single piece model, but should still fit on the rear seat of most family saloons. Finished either in silver or olive drab, with Soviet five pointed red stars, the model looks mean and hungry sitting on the ground, and fast and aggressive in the air. The alternative of brown and sand camouflage top surfaces and a sky blue underside, with the appropriate Middle East markings, makes it easier to distinguish the orientation of the *Foxbat* in the air. I think that the addition of four air to air missiles, made from ½in. balsa dowel and scraps of card and painted white with black exhausts, is well worth the effort as they do enhance the looks of the aircraft. The *Foxbat* provides an excellent dogfighting partner for my *Viggen* (Plan RM 242, see **Radio Modeller** Sept '81) and provides a rugged durable model which should give lots of pleasure to all you sports fliers. Deviations from accurate scale have been kept to a minimum, bearing in mind the needs of a practical model, whilst the pusher motor is remarkably unobtrusive. No unusual constructional techniques are used, the model being built almost entirely from 3/16in. balsa sheet. The two principles I have adhered to as far as possible are to keep everything simple, and to avoid any unnecessary weight in the airframe. The model, therefore, uses a three function radio, and a modern, high power output 0.25cu. in. Schneurle ported engine, and is relatively cheap both to build and fly. Do not under any circumstances underpower the *Foxbat*. As an example, the manufacturer's quoted power output for the OS 25 FSR is 75 per cent higher than for their OS 25 R/C. Construction time, including paint finish, is short, so that even the slowest builder should have no difficulty in having a *Foxbat* airborne by Easter.

Rather than give a usual "cut out piece A and glue piece B" sequence, the following series of captioned photographs should give all the necessary information.

Checklist

So your pride and joy is ready for her first flight. The essential checks are:

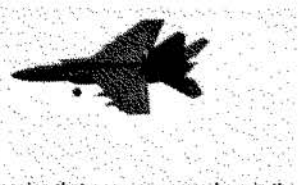
1. Is the C of G in the right place? If not, add ballast until it is. The prototype ended up with 2½oz of lead in the nose, and still weighed only 3lb 14oz.

2. Will the aircraft tilt easily about its mainwheels with the fuel tank full? If not, bend the main legs back until she does.

3. Are the control throws correct? Those shown on the plan are ideal for the first flight, i.e. ½in. up and down for the elevator and ⅛in. each way for the ailerons. All controls

Coming in to land, the *Foxbat* shows her characteristic nose-high attitude and vice-free low speed handling. The twin fins are especially distinctive.

During a low pass, the *Foxbat* banks away from the camera, clearly exposing her four *Aphid* air-to-air missiles.



One could well imagine that one was somewhere in the Soviet Union judging from the look of the *Foxbat* when airborne. Only the nosewheel gives it away as a model.

should be in line with the main surfaces at neutral.

4. Using a 9 × 6 pusher prop, will the engine run reliably:

(a) with the nose up at 15° — not too rich?

(b) with the nose down at 45° — not too lean?

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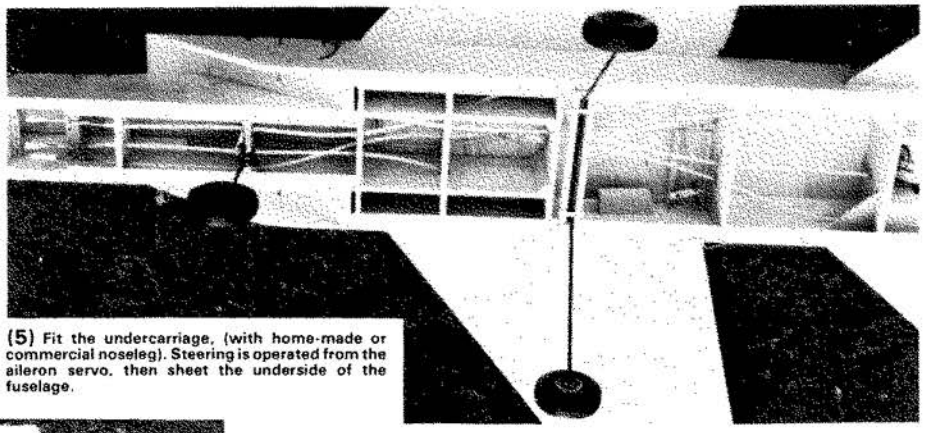
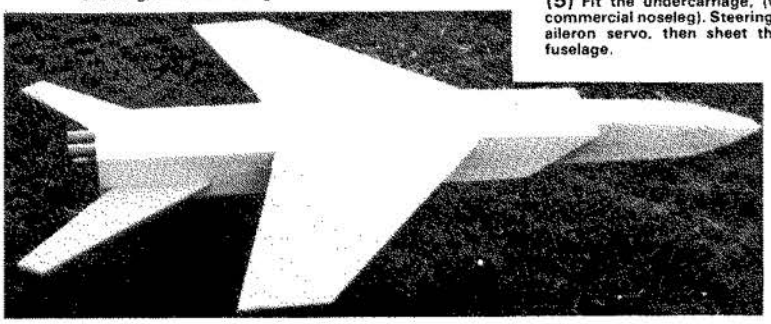
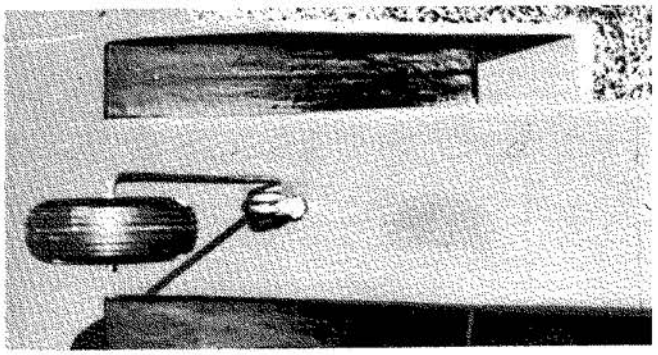
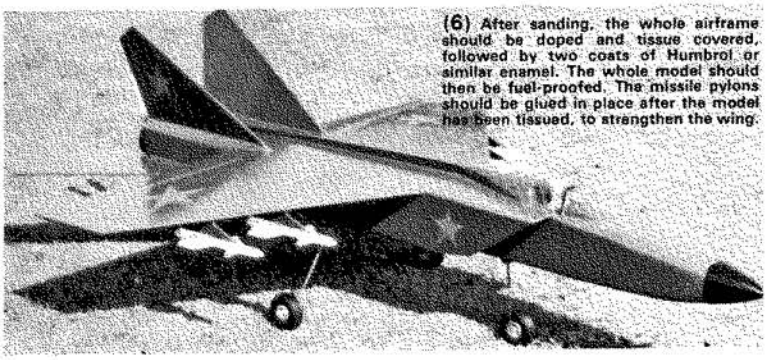
(4) The wing is made from straight grained 4in. wide sheet, and the two halves are then glued in place on the fuselage. Accurate bevelling of the centre joint to give the 5° *anhedral* angle is important. Before fitting the top sheeting, finish all linkages.



(5) Fit the undercarriage, (with home-made or commercial noseleg). Steering is operated from the aileron servo, then sheet the underside of the fuselage.



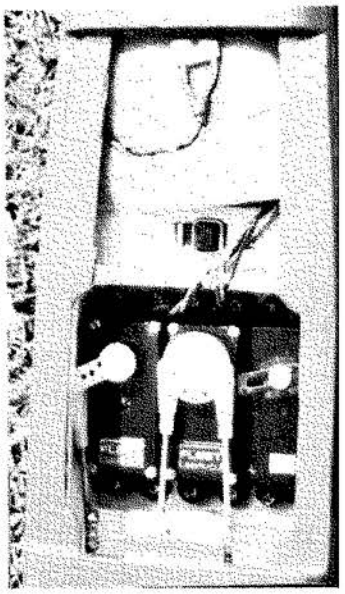


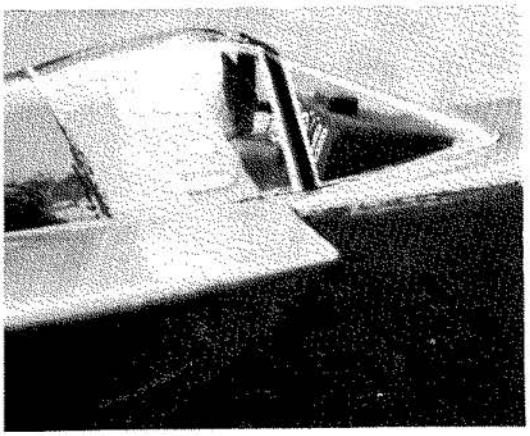


(6) After sanding, the whole airframe should be doped and tissue covered, followed by two coats of Humbrol or similar enamel. The whole model should then be fuel-proofed. The missile pylons should be glued in place after the model has been tissued, to strengthen the wing.

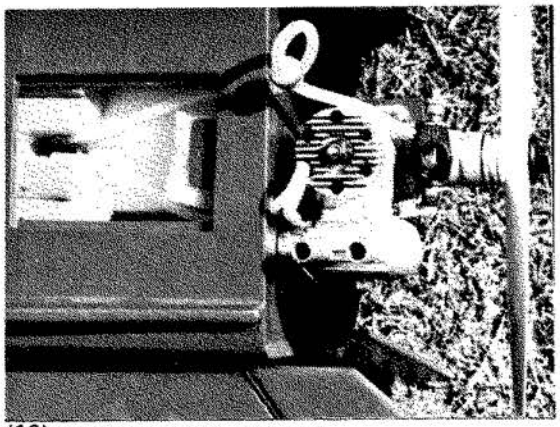
(7) The air intakes are a distinctive feature and have been filled to minimise their drag. Formers F12 should be painted black.

(8) The radio bay is roomy enough to allow three servos to be mounted side by side, with the receiver and battery in front. Both the radio and tank hatches are under the fuselage, so that they are hardly noticeable.



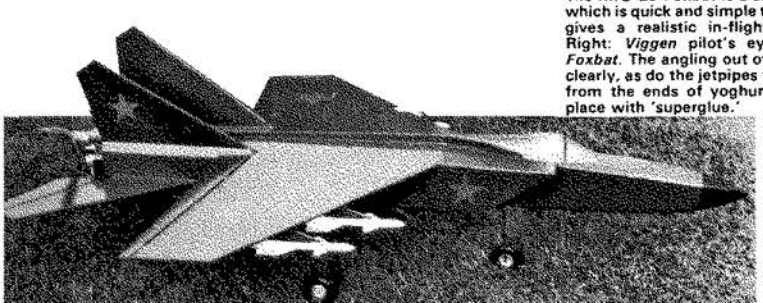


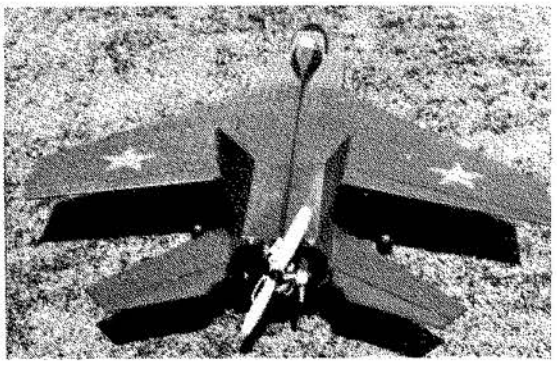
(9) The cockpit is cut from the front part of an 11in. commercial canopy, with soft block bending into the rear strake which runs to the back of the fuselage. Don't miss out the pilot and cockpit details.



(10) For best performance, use a good 0.25cu. in. engine, mounted inverted. Add a helicopter or dumpy silencer and a 4oz slant type clunk tank with the outlet pipes at the forward end.

The MiG-25 *Foxbat* is a distinctive model which is quick and simple to construct, yet gives a realistic in-flight performance. Right: *Viggen* pilot's eye view of the *Foxbat*. The angling out of the fins shows clearly, as do the jetpipes which are made from the ends of yoghurt pots glued in place with 'superglue.'





Flying

Right. Line her up on the runway, open the throttle and let her accelerate for about 15 yards, then pull back on the elevator and the *Foxbat* will rotate and lift off. Establish her in a ten degree climb, and once you have reached a safe height, turn her back towards you. Try to get used to the look of her in the air; the twin fins help with orientation, but remember she is a small aircraft, and flies relatively fast. *She is definitely not for beginners.*

Rolling manoeuvres are simple, the ailerons giving an excellent response. Vertical manoeuvres should be started from a shallow dive, and care taken not to use too much elevator to avoid a steep rise in induced drag. However, with a 1:1 power to weight ratio, and low profile drag, you will find loops and Cuban eights easy. Wing overs at low speed at the top of a climb can show the exceptional rate of pitch change which can be obtained without any difficulty.

Landings are simple providing you get the nose up on the final approach, and use power if the rate of sink starts to increase. The speed on finals is slow, and the *Foxbat* is difficult to stall. Smooth touchdowns on the mainwheels only are the almost inevitable result of a correctly set up approach. Come on then, join the Soviets and get yourself airborne with your own MiG-25 *Foxbat*.