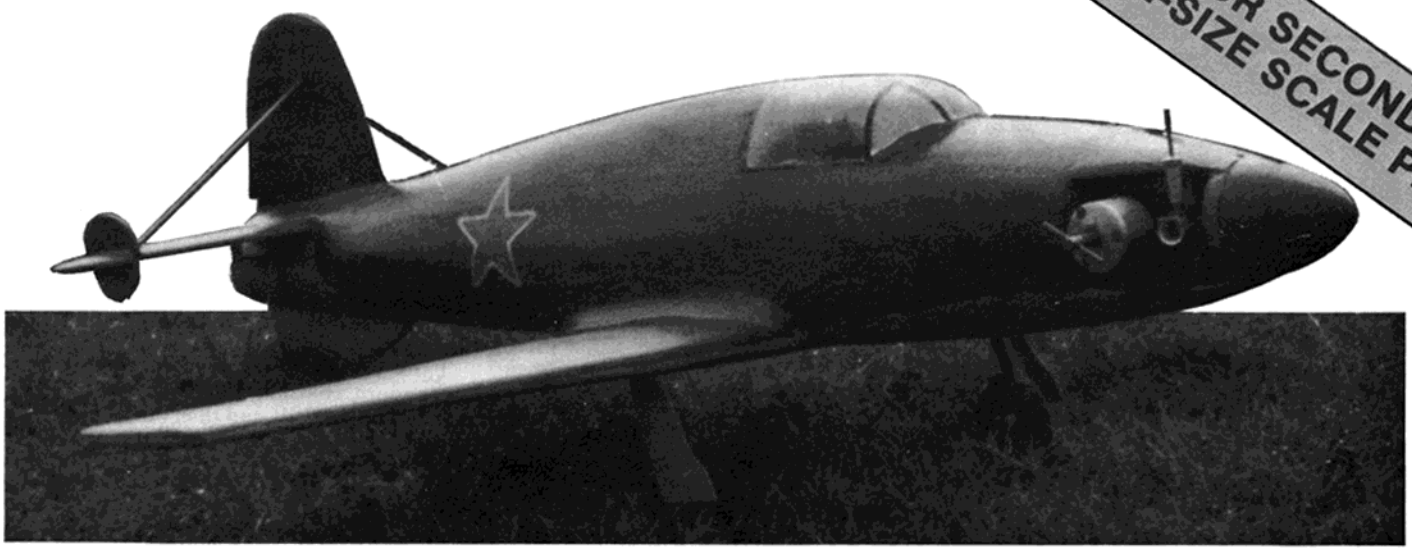
OUR SECOND FULL-SIZE SCALE PLAN



BERZENIAK-ISAEV BI-1

Go Russian around with this latest control-line rarity from Dave and Jym Leddy

THE BERZENIAK-ISAEV BI-1 was a single seat target defence interceptor designed around 1940 in the Soviet Union. It made its first powered flight on May 15th 1942. Its power plant was one 1,100 lb Dushkin Bi-fuel rocket motor which gave a powered flight time of 8-15 minutes. Armament was two 2mm ShVAK Cannon. A multi-chamber rocket motor was evolved to provide cruising and combat speeds but the new motor was erratic under test and its weight had increased. By this time the authorities were needing fighter with a good endurance and the short-range interceptor was cancelled.

The model is 24¾in. span and is powered by a PAW 1-5cc diesel. The prototype flew straight from the building board and is a very stable machine.

The wings

The 1/8in. hard balsa main spar is pinned directly to the plan on one side. The trailing edge, previously notched, is then pinned to the plan on the appropriate packing pieces. The ribs are now added and when they are completely dry the leading edge and scrap sheet tips are added. Tilt the completed half of wing and pack it up so that the opposite half of the spar can be pinned to the plan. The second half of the wing can now be built in exactly the same way as the first. When set remove the wing from the plan and cover the top with 1/16in. soft balsa sheet. If an undercart is to be fitted, epoxy and thread the main undercarriage to the 1/8in. ply wheel brace and then glue the whole assembly into the bottom of the wing, making sure that it slopes forward. The assembly is reinforced with 1/8in. sheet gussets and then the bottom 1/16in. sheeting can be added. The wing can now be sanded and put to one side.

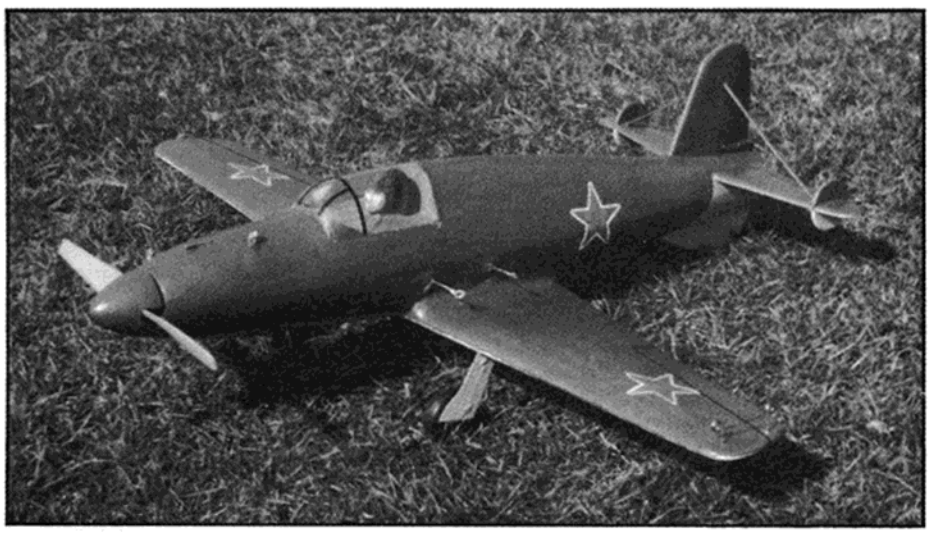
Fin and tailplane

These are cut from 3/16in. balsa and sanded to shape. The 14 swg wire joiner can be put in a piece of plastic tubing (we used a scrap from an R/C snake) before being glued in place.

Fuselage

Pin the hard 1/8in. balsa upper and lower clutch pieces to the plan. Cut the 3/8 × 3/8in. hardwood bearers to length and drill the lower one for the bellcrank mounting block. Blue the bearers into position, making sure they are packed up with scrap 1/16in. to ensure they are on the true vertical centre line. Now add half formers F2 to F10 ensuring they are correctly positioned (and vertical). Add the 1/8 × 1/4in. balsa stringer and leave to dry thoroughly. Remove from the plan and carefully add the other halves of formers F2 to F10, making sure the tank of your choice is correctly positioned in the fuel tank bay. The 1/8 × 1/4in. balsa stringer is then glued in place and the fuselage skeleton is glued in position on the wing. The bellcrank is now fixed in place and after the cockpit floor has been carefully located the upper half of the fuselage is planked with 3/8 × 1/16in. balsa strips, making sure the fuselage does not twist or bend. Glue on the 3/16in. balsa platform at the rear and then fix on the fin, rudder and tailplane. Connect up the 16 swg push rod and make and fix the 18 swg lead outs in place. When you are satisfied that the movement is correct and free complete the

continued on p.55

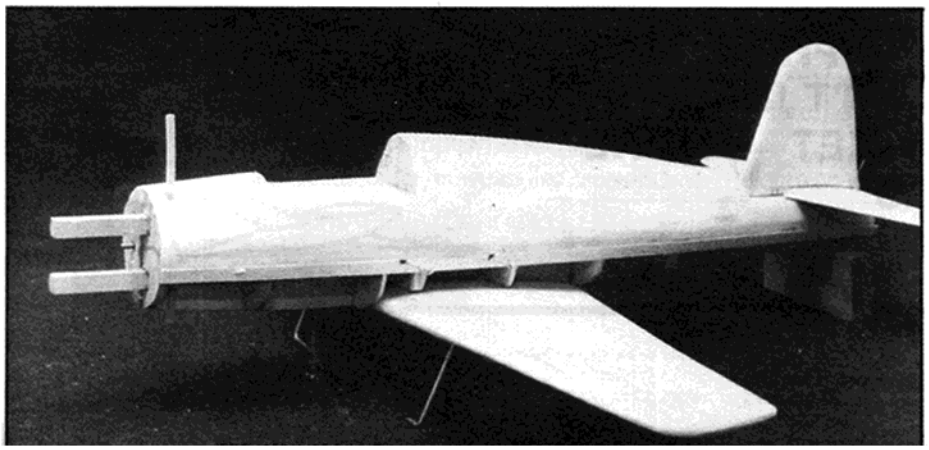


Heading and photo, right: We bet few of you could identify this one! Great satisfaction comes from modelling a scarce subject – try it and see... Simple camouflage of dark green upper surfaces and light blue underside is highlighted by the red-with-yellow-outline Soviet insignia.

BI-1 from p.35

balsa planking. Fit your chosen engine into position and then fill in between formers F1 and F2 with soft block. Soft block is also glued either side of the fin. When a hard 3/16in. tail skid with a piano wire protector has been added the model is ready to be sanded.

Structure of the BI-1 is relatively simple but take care to keep true alignment when planking the fuselage.



Finishing

The prototype was covered in light-weight tissue paper applied with three coats of sanding sealer. At this stage the detail parts, tail, finlets, braces and wheel covers, having previously sand-sealed, can be added to the model, and a further coat of sanding sealer applied. After a final light sanding the model can be painted with matt enamel paints and fuel proofed with a matt polyurethane varnish. A commercial canopy was cut up to fit and the pilot was bought from the local toy shop (having started life as a frogman).

The model was balanced on the front lead-out and has been flown on 30 - 40ft. line with no problems, although for smooth ground take-offs the under-carriage may need to be bent forward slightly.