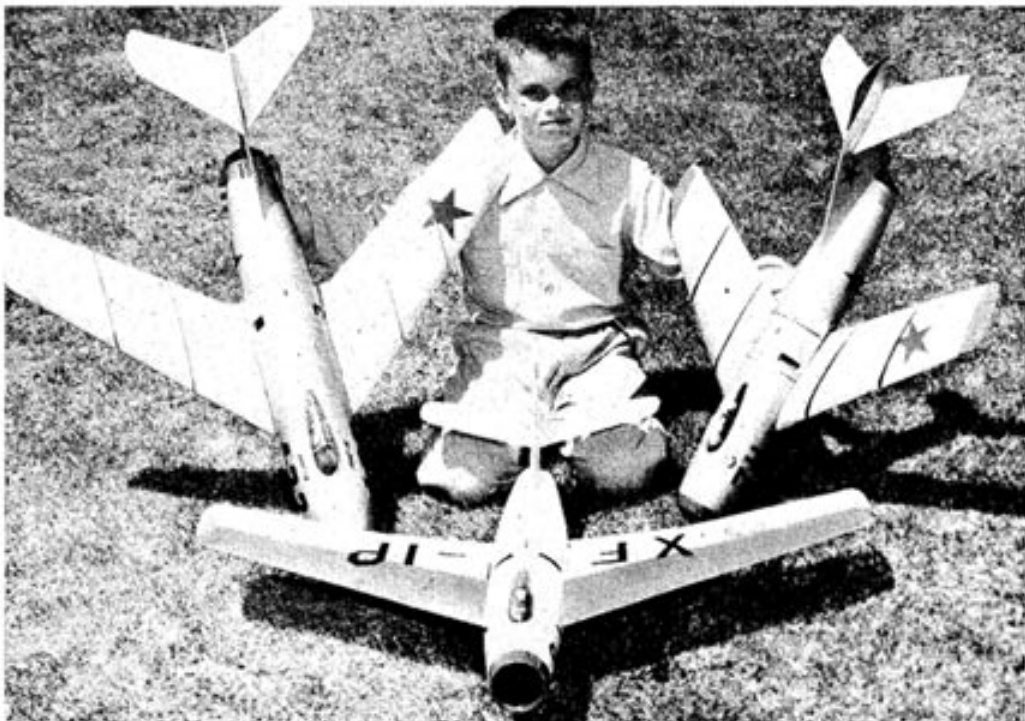


# The MIG 15

By W. H. PAXTON, JR.

*Practically a squadron of these little MIGs was built before the author turned loose this splendid flying, ducted fan .049 job.*



Large MIG, left, weighed 14 ounces; smaller one, right, but 7.5. Foreground, experiment in areas.

▶ This model of a Russian MIG-15 (captured by America at the end of the Korean War) is powered by a standard Wasp .049 engine driving a metal fan giving sufficient thrust to produce a nice rate of climb. It will provide the most realistic flights you've ever seen.

Construction is amazingly simple as a result of several years' study and building of nine versions of this airplane, incorporating improvements and simplifications as developed. For instance, the mid-body bulkheads can all be cut by jig saw at the same time and planking the double-contoured fuselage is held to a minimum by using sheet balsa covering on the mid-body.

Step-by-step construction details follow: Drill holes in tin strip to match mounting holes in Wasp engine fuel tank and solder on 3-48 nuts. Cut out Minus-2, Minus-3 and Minus-4 mounts from 1/8" basswood plywood. File or sand front edges on Minus-3 and Minus-4, as noted

on drawing. Cement Minus-2, Minus-3 and Minus-4 mounts together after locating plate nuts to holes in Minus-2 mount. Use Ambroid or other fuelproof cement and tie with thread as noted.

Add 1/16" square strips and cover aft portion of cone with Art Paper. Form forward cone of Art Paper and cement in place. Give complete assembly one coat of sealer and three coats of hot fuelproof dope.

Bulkhead rings are next cut out of 1/16" or 1/8" balsa or basswood plywood, as specified on the drawing. Stringers are then cut from 1/8" balsa sheet or 1/8" x 1/4" balsa. The basic mid-body portion is then assembled by keying-in parts, as noted in the isometric view on the drawing.

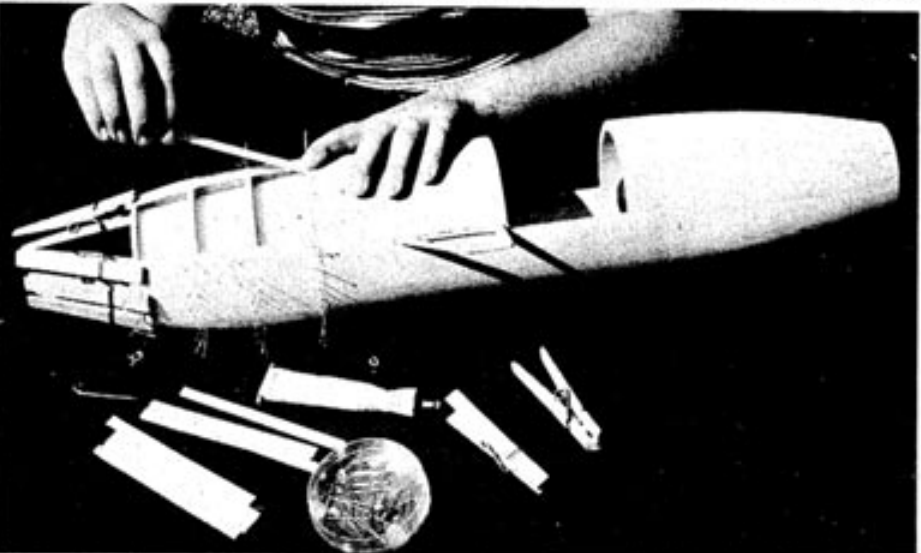
Drill holes in hatch members for latch pins and locating side pins and then cut through Minus-26 at front and rear of hatch, which can then be removed. Mid-body is then lined with 1/64" balsa, as

Mid-body covered with 1/32 inch sheet balsa. Nose and aft sections are planked with 1/16 x 1/4 balsa strips, side by side, cemented, pinned, as is shown here. When sanded smooth, it looks real good.



The 1/64 inch thick balsa liners are cut to fit, sanded smooth as shown, cemented in position.

Nose, aft, sections lined Art Paper. With mid-body, one sealer, three fuelproof dope coats.



shown in photograph. Nose and aft sections are then assembled and are then lined with Art Paper, trimming to fit. Inside lining of nose, mid-body and aft sections are then given one coat of sealer and three coats of hot fuelproof dope.

Assemble tail cone as shown on drawing. Give sealer and dope coats as above, followed by one coat of hot fuelproof dope. Cut out thrust deflector from soft .020 aluminum and install in aft section along with tail cone assembly. Use Ambroid cement or equivalent. Nose and aft sections may then be cemented to mid-body, taking care to obtain correct alignment. Clothespins may be used to advantage here while cement is drying.

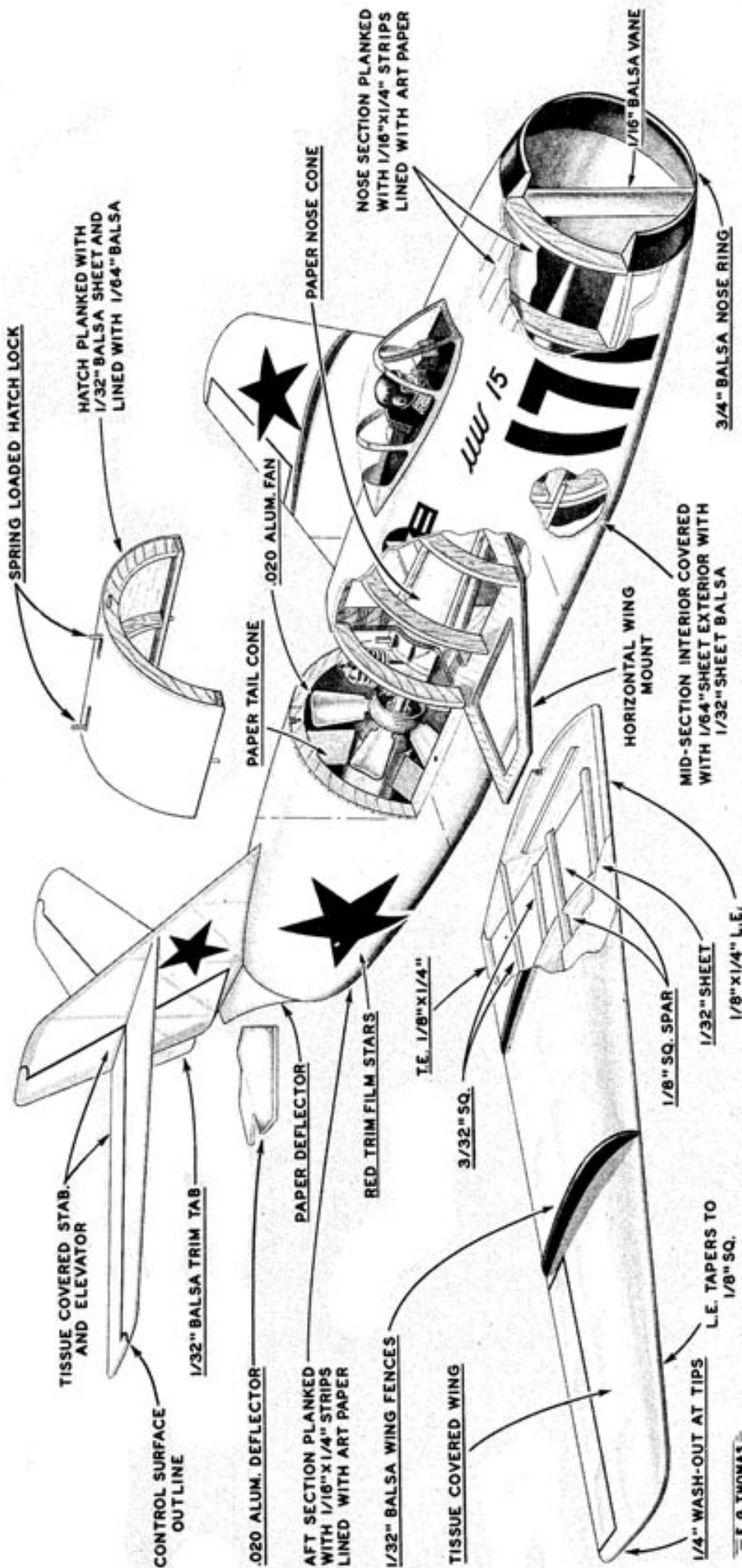
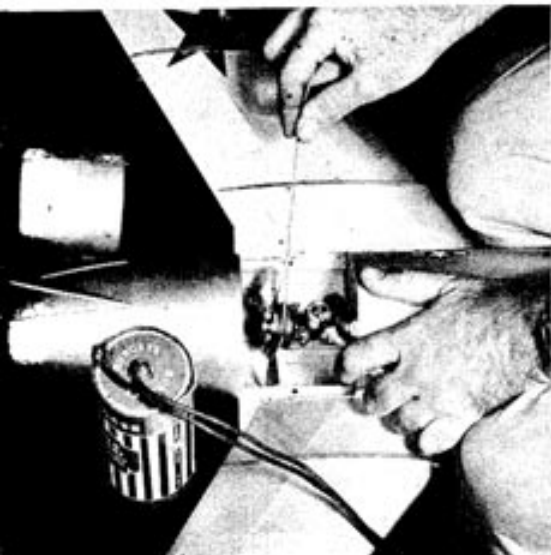
The mid-body is next covered with 1/32" balsa sheet and nose and aft sections are planked with 1/16" x 1/4" strips, as shown in photograph. Always start planking by having first joint between two adjacent pieces fall along horizontal or vertical center lines. This will later be of great assistance in aligning rudder, wings and cockpit canopy.

The nose block is then cut from a 3/4" soft pine block and cemented in place. Fuselage is sanded down with gradually decreasing grades of sandpaper with a final sanding of 320 grit paper. Exterior is then given one coat of sealer, two coats of nitrate dope and one coat of clear hot fuelproof dope.

Hatch assembly is next completed from details on drawing and sealed and doped inside and out, same as mid-body. Springs for latch mechanism are wound from a guitar "E" string which can be purchased at any music store.

The rudder is next assembled directly on the plans, using soft balsa as specified. Parts as noted on the drawing are not assembled on the plans but are added at the time the rudder is cemented in place on the fuselage. After cementing to the fuselage, rudder and trim tab are covered with Japanese tissue and water-sprayed. This is followed by two coats of nitrate  
(CONTINUED ON NEXT TWO PAGES)

Piece of string wrapped around a bottle cap is used to start motor, just like outboard engine.





Proper method of hand-launching is demonstrated by author's son. Wash-out at tips is clearly shown.

## The MIG-15

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dope and one coat of clear hot fuelproof dope. To avoid warps, do not cut out tissue for stabilizer until after final coat of dope has dried.

Stabilizer is next assembled directly on the drawing, covered with Japanese tissue, doped same as rudder and cemented in place on rudder. Wing ribs are next cut out by tracing through plans with carbon paper to balsa wood, taking care to obtain accurate location of slots in first two ribs which position the wings to the body and establish the amount of dihedral.

Right-hand wing can then be assembled directly on the plans. Use template for setting angle of rib A. Right-hand wing must then be traced on tissue or transparent drawing paper and turned over for assembly of left-hand wing. Leading edges are covered with 1/32" sheet balsa and complete assembly sanded smooth. Wings are then slipped onto fuselage wing mounts and cemented into place after careful check of alignment.

Usually, you will find that this type of wing automatically warps into about a 1/4" washout at the wing tip, which is desired. If not, a little steam will produce this washout, following which the wings are covered with Japanese tissue and doped, as were the rudder and stabilizer.

The complete airplane is then given a single coat of Aero Gloss Silvaire aluminum, sprayed on if possible. Red and

black trim and decals are then added as noted. Wing fences are cut from 1/32" balsa painted red and then cemented to wing ribs as shown. The cockpit canopy may be purchased at any hobby shop and silver strips added as shown. Area under cockpit is painted dull black. Pilot and accessories are carved from balsa and painted to suit. Canopy is cemented in place with Ambroid.

Metal fan is cut from .020 aluminum. Blade angles may vary slightly from those shown, but should be as consistent as possible on all six blades. Drill hole through center of bottle cap to match propeller shaft and install engine and fan.

Airplane is now complete and, if proper selection of wood and care in building have been observed, it should weigh less than 8 oz. with engine and fan installed. Stabilized angle should be correct as shown and model should balance at CG point noted.

Trial glide and first flights should be made in tall grass. Clay may be used at nose or tail to provide proper glide angle. Obtain long smooth glide before attempting any power flights. Starting engine is accomplished with string wrapped around bottle cap, as noted in photograph. Glide and flying speed are fast, as is to be expected on this type of airplane. Tail deflector should be set at about angle shown to prevent stall or loop on first flights. Gradually adjust deflector to give smooth climb, which will be followed by a long floating glide. Model shown climbed to the left and glided to the right. Happy flying!



Eighth model built with author, Bob Holland and George Casselberry of Holland Engine Co.

A good speed of 25-40 mph is attained as No. 117 buzzes the ground. Climbs like free flight.

