

Anyone who is involved in modeling for a few years seems to have their own favorite model design from the past. Maybe your favorite is your first model, the best one you ever flew, or possibly it's the one that your buddy always flew to beat you. It's OK to admit that now, and he'll appreciate it, too. Your editor, Bob Hunt, for example, holds fond memories of the San De Hogan, an early 1950's free flight model, that he flew in younger days.

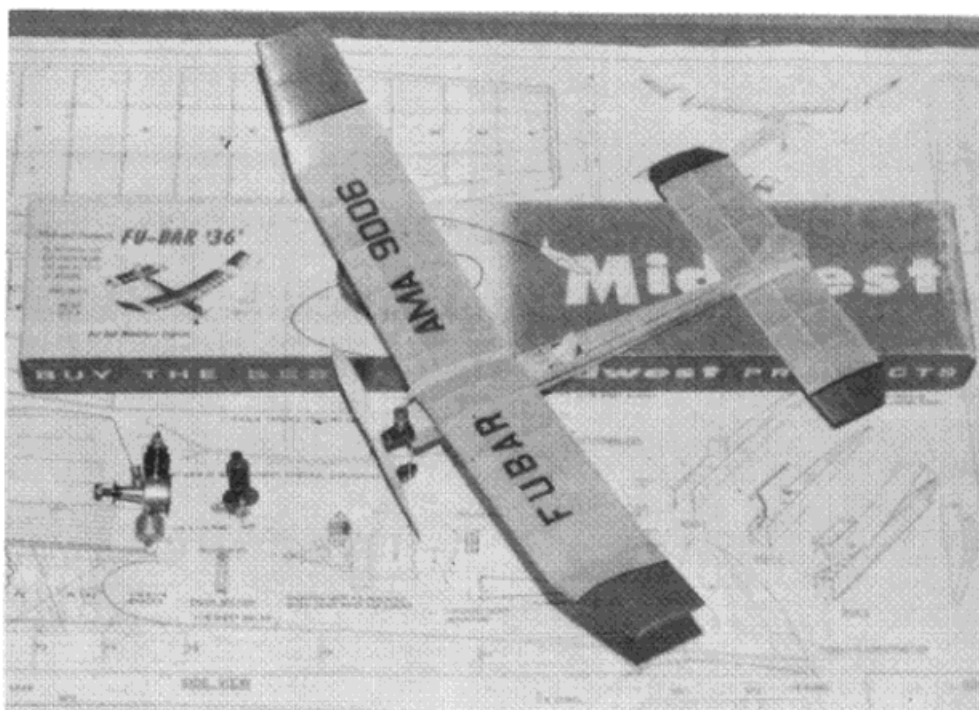
These nostalgia trips are fun, and as many modelers are discovering, even if you are not old enough to remember the Old Timer or Nostalgia event models when they were new, the planes and events are still satisfying.

The FU-BAR brings out pleasant thoughts of early model flying days for me. It, too, is a 1950's design and was sold in kit form for both 1/2A and BC sizes. Recently I had a chance to obtain an original FU-BAR 36 kit from a collector. Coincidentally, another collector accepted a trade of a tired Wasp .049 for an equally tired Torpedo .049. My first serious free flight model was just such a combination of FU-BAR 36 and Torp .049. It was built in about 1952. I do recall some difficulties in keeping the fuel tank attached (it was held on below the crankcase with a screw) in hard landings, but the plane usually flew quite well. It is especially remembered for being my first lost model (engine timer stuck, about 90 sec run, plane was returned about a week later having flown about 15 miles), and later for having won my first trophy. From what I can recall it probably ended its flying career due to that pre-epoxy problem of losing the motor mount due to fuel soaked glue joints (I agree, the good-old-days weren't all good.) That's enough of my nostalgic ramblings. I'll close out this introduction by saying that the FU-BAR is a fairly representative model from the 1950's. Its appearance is distinctive due to the turned-down stab tips — used for skids on take off — and for the rather different pop-down stab dethermalizer (DT), necessitated by the stab mounting.

The FU-BAR is the latest in this series of CO₂ replicas. Scaling the older designs down to CO₂ size allows those of us with space problems and many model appetites to continue building old favorites and otherwise interesting models without filling up the workshop and house with models. (Don't worry, Bob, the replica San De Hogan will be coming soon, but when I got the FU-BAR kit plan, I just had to do it first!)

Construction

Construction of the FU-BAR replica is quite simple, especially if you've ever built any small kit stick models. Begin with the wing by laying out the leading edge (LE) and trailing edge (TE) pieces. To save yourself some grief later on, sand the TE to its triangular shape before pinning it down. If you wait to shape the TE until after the wing is completed, there will be a lot of stress on the ribs and rib/TE joints, probably resulting in some regluing. Cut out the ribs to match the various patterns. For smoother covering later on, pin all the main panel ribs together for sanding and spar notching. Fit and glue the ribs, except for the center and polyhedral



PHOTOGRAPHY AL LIDBERG AND MRS LIDBERG

The Lidberg Fu-Bar rests atop the box and plans for the original Fu-Bar 36 as produced by Midwest. Al's model is 4/9 the size of the original and is powered by a Telco CO₂ motor. This little gem flies well.

Fubar

By Al Lidberg

A CO₂ remake of a popular kit from the 1950's.
A fine schoolyard flyer.

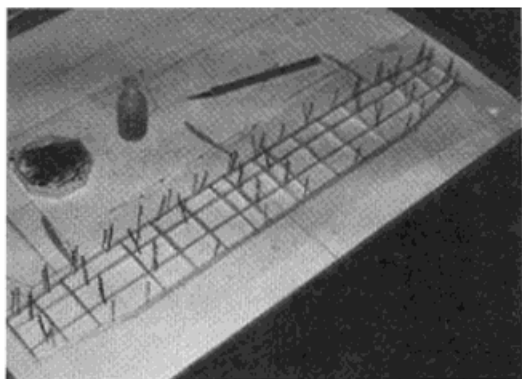
break ribs, in place. When dry, saw through the spars at the polyhedral breaks to separate the tip panels. Sand the mating edges of the tip panels to the proper angle and glue them back to the main panels, now with ribs in place. Now, cut the wing in half and sand, glue, etc. for the center break. Remove from the board and add the sheet wing tips.

Build the stab in much the same manner, but run the spar only out to the break ribs. When dry, the tip panels are removed (yes, they are fragile 'U' shapes, so treat them gently). Now, the main panels is shimmed up 1/4" and the tips are sanded to match. Glue them in place and add the remaining small pieces of spar stock.

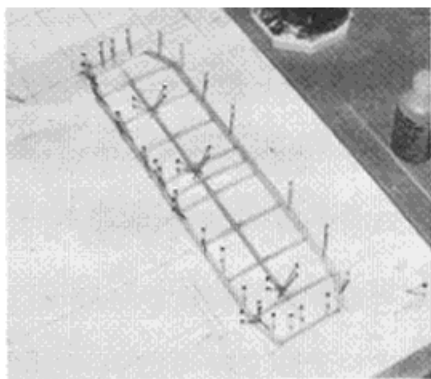
Begin the body by cutting out all the pylon parts. Glue together the 1/16" sheet core and the hardwood strip. Add the 1/2" sheet laminations on each side. Make the wing platform and glue it on. Trace and cut out the rest of the body parts. Bend the landing gear (LG)

wire and attach it to the motor mount with soft copper wire or heavy thread, plus epoxy or Hot Stuff. Now pin the body bottom down to the building board with the forward end overhanging slightly. Glue on the motor mount, with LG hanging down, and the formers. Add the sides, joining them together at the rear. Glue in the two pieces of 1/16" sq, which will support the pylon. After removing from the board, add the body top. Cut out the stab mount and do a dry fit to make sure that the stab and mount fit the body before gluing in place. Check the fit of the pylon and, making sure it is straight, glue it in securely. Cut out and add the fin, making sure it is straight up and down plus fore and aft.

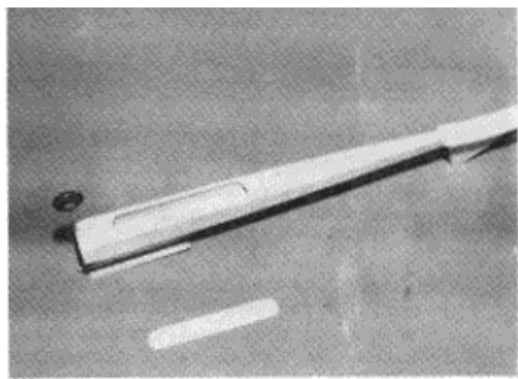
Use a sanding block to smooth the wing and stab prior to covering. Cover with light tissue using clear dope as an adhesive. If you can find it, nitrate dope is nicer to work with, both for covering and doping. To minimize



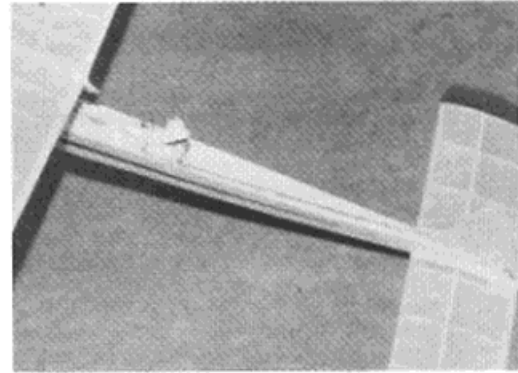
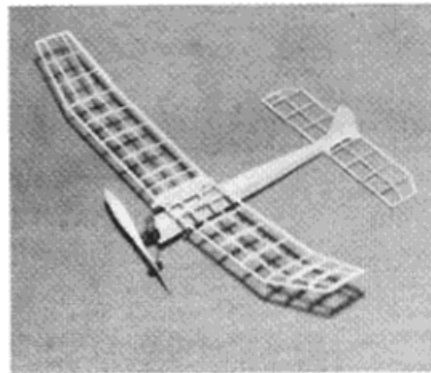
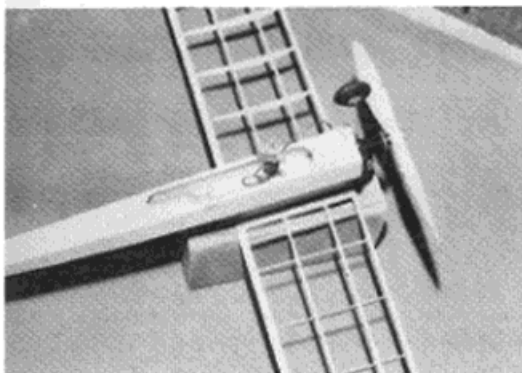
Framing out the wing (above). Al uses plenty of pins to hold parts in place during construction. Engine and tank mounting (below). Note CO₂ filler and tank installation protected by landing gear.



Stab parts pinned to plan during construction (above). Use of Hot Stuff speeds construction. Fu-Bar awaiting covering (below). Simple construction and box fuselage makes covering easy.



Completed fuselage (above) with cutout for the CO₂ tank and plumbing. Cover can be fabricated from cutout piece. DT detail (below). Line goes from stab to fuse just behind trailing edge.



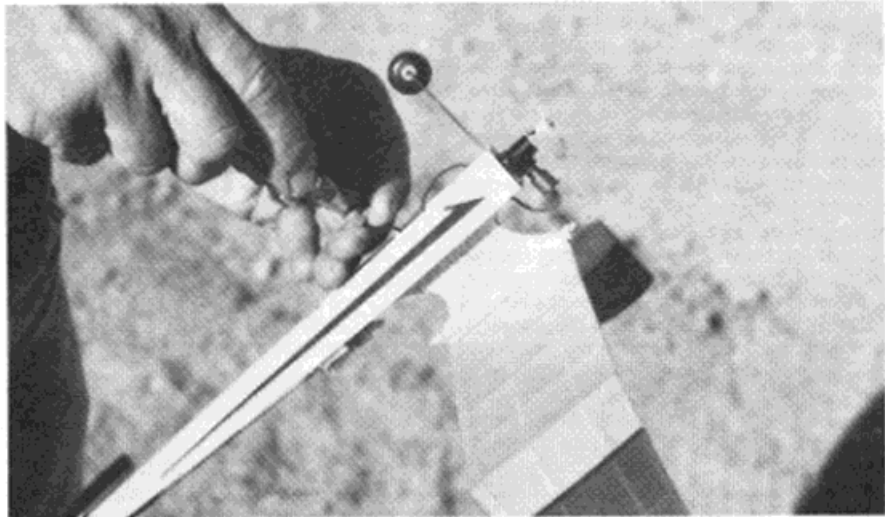
warps, plasticize the nitrate with 10 drops of castor oil per ounce of dope. Sig Litecote is an acceptable substitute and needs no additional plasticizer. After covering, lightly water shrink the tissue and give the surfaces plus the body one very thin coat of dope. Tissue trim and your name and phone number can now be added, using thinned dope for the adhesive. One more very thin coat of dope can be added over all.

Motor installation

The replica FU-BAR is built to allow easy installation and removal of the motor and tank. Bend the CO₂ line to fit the body with the tank about as far back as the line will allow. Later when you're checking the balance, brace the tank in place with some scrap sheet balsa, making sure that the tank outlet is slightly elevated. The charge fitting is just allowed to hang (saves the weight of building it in) below the body.

Final details

A dethermalizer (DT) is very handy for keeping the model within the confines of a small field and is definitely recommended. Make up the hooks and other fittings and install them now. Tubing for the DT line can be $\frac{1}{16}$ " aluminum tubing or Hot Stuff Super T tubing. In either case Hot Stuff and baking soda or epoxy can be used to hold it in place. If arranged as shown on the plan, the stab will pop down at about a 45° angle. Assemble the plane and check for proper balance, moving the tank as needed. If required, small bits of clay or lead can be added to the nose or tail. Check the wing and stab for warps and steam them flat if necessary. Try some test glides, working toward a left turn of 50°,



Giving tank a liquid charge. Charger is pointed down while held in right hand. Left hand supports charge fitting while plane hangs from tubing. Copper tubing is fragile but with care it works well.

or so, in diameter. Use the fin tab for turn adjustments and try thin card stock shims over the stab LE or TE to correct diving or stalling.

Flying

Set the motor's throttle for about a 1 minute run. This is a slow setting and you should be able to see problems as they develop, but before they become serious. Climb should be to the right and with no evidence of stalling or looping. Some adjustment of the thrust line may be required (probably have to add some down thrust and right thrust), espe-

cially as more power is added. Start with gas charges (charger pointing up) for shorter runs, switching to liquid charges (charger pointing down) for longer, stronger runs as the flight adjustment process is completed. The replica FU-BAR flies just about like the 'big' one and should give you many satisfying flights.

Quite obviously, the FU-BAR design is one of my favorites. I hope that it can be one of yours. Incidentally, FUBAR is an old military term, meaning "fouled up beyond all recognition." I can assure you that it is not descriptive of our model!