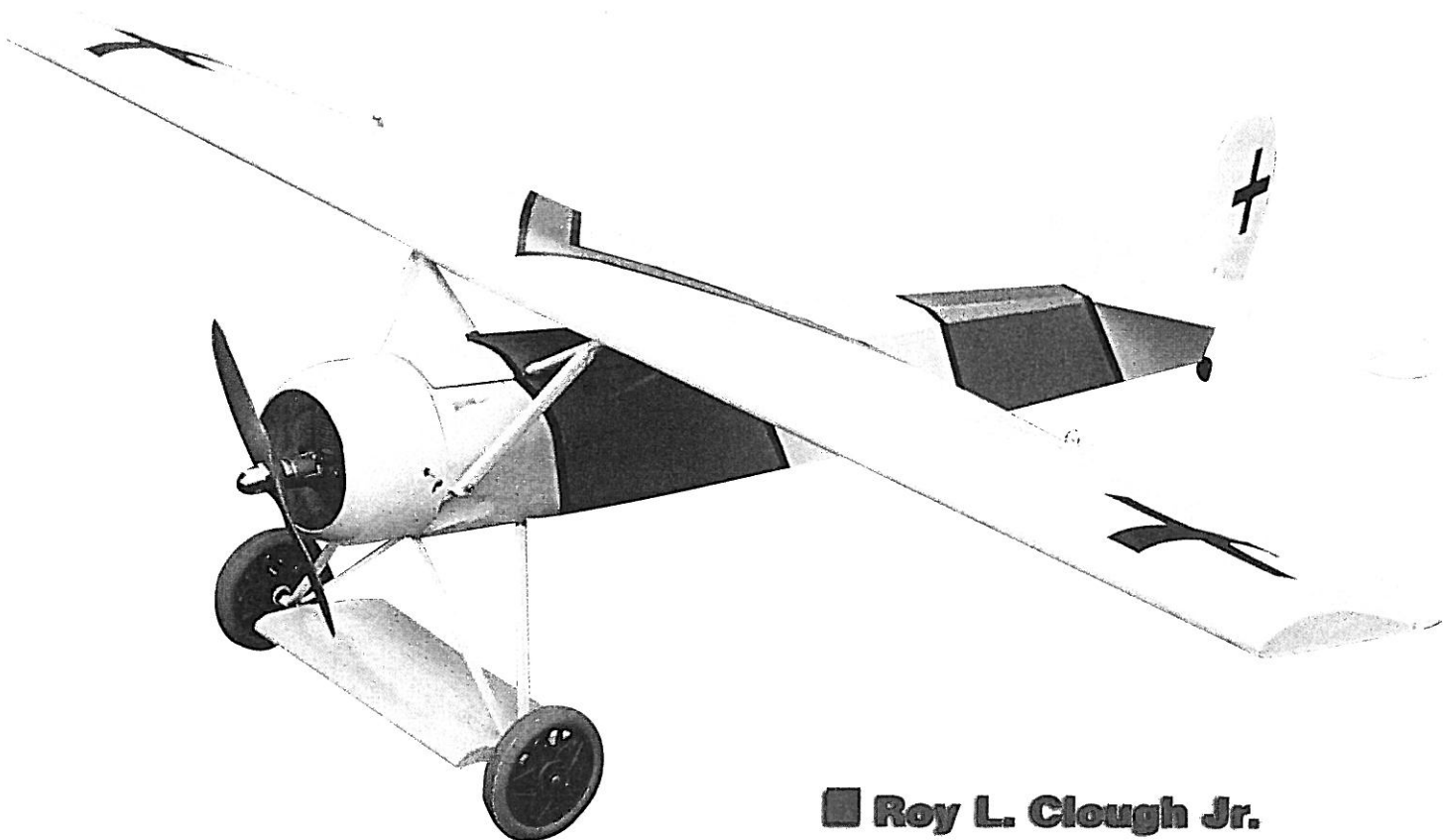


FAKER D-8



■ Roy L. Clough Jr.

Why a D-8?

And why, of all things, call it a “Faker” D-8?

The Fokker D.VIII, a superior WW I German fighter, arrived on the scene in 1918—too late to offer much aid and comfort to beleaguered German fighter pilots. Nicknamed “The Flying Razor,” its lack of external bracing, a factor in its reputation for being almost invisible when coming head-on at adversaries out of a bright sky, was not an unmixed blessing.

Despite the success of the D.VII, Fokker had not yet mastered all of the intricacies of cantilever wing design. High-speed dives in the D.VIII could result in wingtip twisting, leading to catastrophic failure.

Despite the original’s structural problem, the basic design remains a good aerodynamic layout. The hundreds kitted and built over three-quarters of a century reflect its enduring popularity with model builders everywhere.

My D-8 worked up as “stand-off scale” in that it covers the major points of the design well enough to be instantly recognizable as a D-8.



Test pilot Ed Libby, president of the Winnepesaukee RCers, looks over the Faker before a flight.

But since it's not a true scale model down to the last bolt and rivet, I tagged it the Faker D-8.

Sight- and sound-wise our model is a good scale-type performer. Powered with an Enya 46 four-stroke, it will loop from level flight, rolls well, and performs the usual scale aerobatics. It's not really that far off scale. The wing and tail feathers retain original proportions; the major difference is a longer and narrower fuselage that greatly mellows the usual rabbit air and ground response of short-nose-moment tail-draggers.

It builds and flies just great. Its choice of construction materials make it an eye-opening adventure in scratch-building. Paper-faced foamboard is dirt cheap to buy and paper-doll easy to cut out and assemble. (Don't think of it as a "substitute." Knowingly used, it's a superior material with which to build crash-resistant and easily repairable model airplanes.)

Besides foamboard, brown bag paper, lumberyard half-round molding and dowels, Tyvek® house wrap, baby stroller wheels, plastic folder spine landing gear fairings, mustard-jar fuel tank, a plastic bottle cowl, blue foam, and yes, even balsa wood, round out the list.

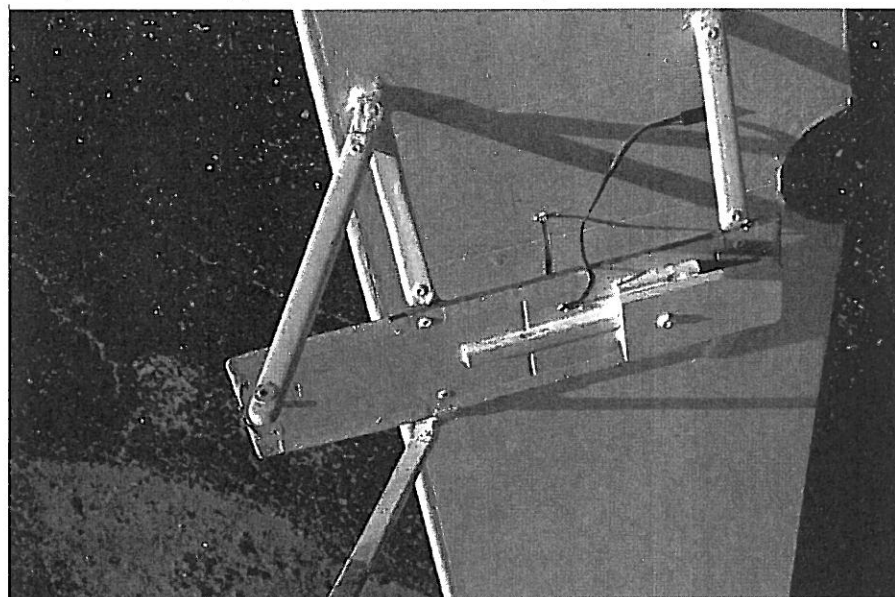
The landing gear wing, set in flexible tacky craft glue, has an adjustable incidence strut to fine-tune flight trim.

Aileron hookup uses 1/32 wire that pulls the ailerons up, but buckles a bit when pushing them down against air pressure. This "spring-loading" prevents excessive yaw and flutter. Fuel system is built around a Gulden's plastic mustard jar, which has a shape just right for this installation. (The mustard is good, too.)

An easily assembled glow plug remote terminal, located behind the cowl area,



The 1,700-mAh battery pack is well forward. Mustard-jar fuel tank also visible.



Cabane is a faithful copy of the original. Field assembly is rapid.



Cowl is cut from a one-gallon mayonnaise jar. Engine is an Enya 46 four-stroke.

Faker D-8

Type: RC Sport

Wingspan: 64½ inches

Engine: Enya 46 four-stroke

Functions: throttle, elevator, rudder, aileron

Flying weight: 96 ounces

Construction: Foamboard, balsa, and plywood

Covering/finish: Tyvek® and low-temp film

facilitates startup. Landing gear fairings are plastic folder spines.

One of the best features is the model's quick field assembly. All it takes is one 1/4-inch nylon bolt and two 3-48 locknuts.

CONSTRUCTION

Construction is largely foamboard, edged with balsa where applicable. Cowl cheeks and spreader bar wing are carved to shape from blue foam. These areas should be covered with silkspan or Skyloft set in diluted white glue before painting or covering with iron-on film. The headrest turtleback of the original airplane was covered with wet brown-bag paper, dried taut, and was clear-doped and painted.

Details of the bulkheads, landing gear installation, cabane anchor, battery shelf, and tank installation should be quite clear from the plans. Landing gear fairings are plastic spines used to clip clear report covers. They are readily available at any stationers. Cut them to length, snap them over the wire L.G. struts, and hold in place with Goop™ household cement at either end.

Tail surfaces are simple to make. Glue them to the fuselage on the balsa inserts. Use ready-made control horns on elevators and rudder. Connect them to the servos with your favorite style of pushrods.

Wing is very simple, but must be assembled in the right order. Ribs are glued to a foamboard lower surface, then the spar is dropped in place and spliced at center. Note that the aileron spars are tapered to match the ends of the outer wing ribs. Sand the outer part of the balsa aileron stock to conform to this thickness.

A 1/8 hardwood dowel protects the non-moving parts of the wing's trailing edge. A small block of soft balsa or blue foam is sanded to shape the wing's cockpit area cutout.

Install the wing's cabane anchors with brass fittings, pop rivets, and rivet burrs in four places. Be sure to use aluminum rivets; steel rivets produce excessive "crush" when popped in place. Add the 1/16 balsa leading edge sheeting that rounds out the airfoil.

The plan shows installation of the aileron bellcranks and servo. Fasten the bellcranks to squares of Lite Ply to distribute stress. Glue to inner wing surface in positions shown.

The single 1/32 wire aileron actuator rod is easy to install. Make a Z bend for the servo arm in the middle of a 36-inch length of music wire. Remove the servo arm, poke one end through the hole in either outboard rib (D), and thread through to the center section.

Slip on the servo arm and continue on through, turning the servo arm into position at the Z bend and replacing it on

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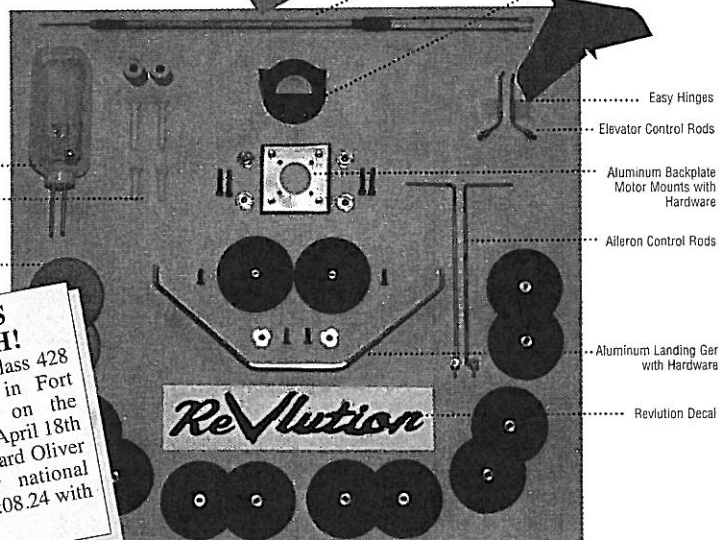
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the servo stud. You now have free wire projecting past the position of the aileron bellcrank arms, so Z-bend both to match.

The shorter rods to the aileron cranks can be bent from softer wire. Be sure to make the V-bends to allow for final aileron position adjustment. Attach the short rods to the aileron cranks and make up and slip on the thin 1/32 plywood slotted pass-throughs.

Remove the bellcranks and hook up everything. Glue the pass-throughs lightly in place. Replace the aileron bellcranks.

While the wing is still wide open, hook up the servo to a receiver (or servo exerciser) and check out aileron position with your transmitter. When OK, tighten up everything and get ready to cover the wing.

Having discovered Tyvek® a few years back and applying this lightweight high-strength material to wing joints and reinforcing patches, it was inevitable that I discover it could be shrunk with a high-temp heat gun. (There is an ancient adage about the dangers of a little knowledge!)

I decided to cover the D-8 wing with the stuff, knowing that if I could do so, I'd have a wonderfully tough, tight covering that would accept water-based latex paint.

I cut a full length piece of Tyvek® and glued it to the wing's structure with white glue (leading edge only, not the balsa sheeting). I worked it reasonably smooth, let the glue dry, and put the heat gun on it. I quickly learned the results could be elegant or disastrous, and that the difference in temperature was only a few degrees. The surface would become wonderfully taut just before it melted through! Somehow I managed to finish it with only a couple of holes I covered over with patches that I tell people are "inspection covers."

You have a much easier choice for covering the wing: use low-temperature iron-on film. Cover top and bottom and you'll have nothing to paint and fuelproof! A couple of years' experience since building the original (painted) D-8 has taught me that low-temp film is just about

the best finish possible for foamboard.

Because of the short nose moment, I feared that the airplane might finish tail-heavy. To head off this eventuality I decided that if ballast was needed, to put the extra weight into something useful. Locate a four- or five-cell 1,700 mAh battery pack far forward, as shown.

Surplus stroller wheels were cheap and a little bit heavier than regular airplane wheels. The rugged landing gear, sandwiched between plywood blocks, plus a heavy brass prop spinner nut, contributed to bringing the balance point exactly where it should be.

Since this is by no means a beginner's project, and since experienced builders already have their own notions of switches, wiring, tank venting, and filling schemes, they are omitted here. One point: With the superior suction of four-stroke engines and the close proximity of the tank, I found that an exhaust pressure line was unnecessary.

No particular flying instructions are needed. The airplane tracks neatly, with no tendency to ground-loop; the tail comes off automatically, and a twitch of the stick will ease it into a rock-solid climb. Have fun! →

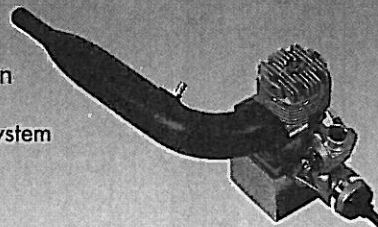
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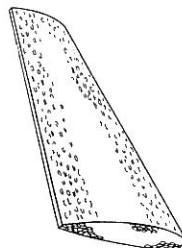
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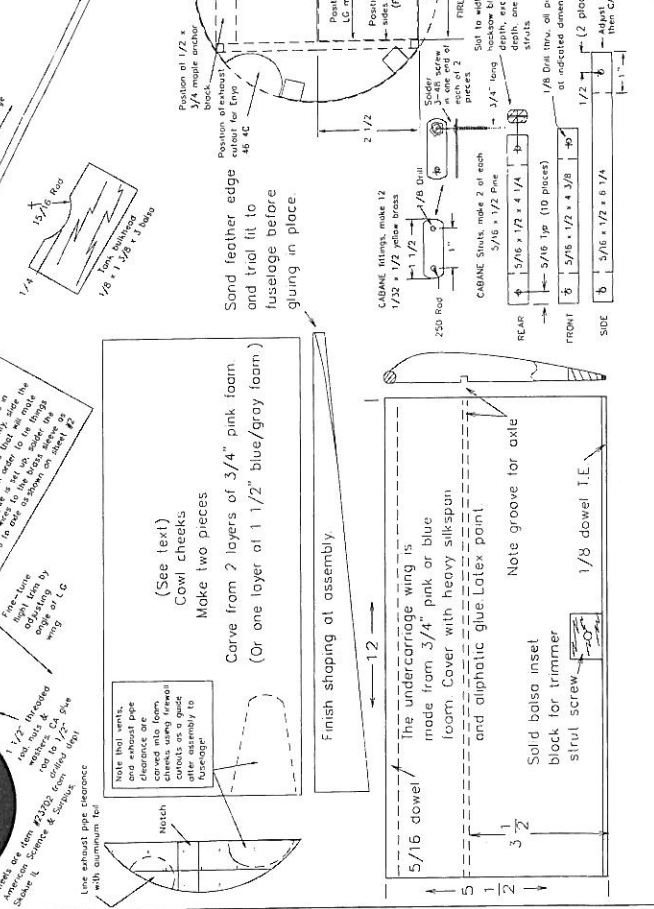
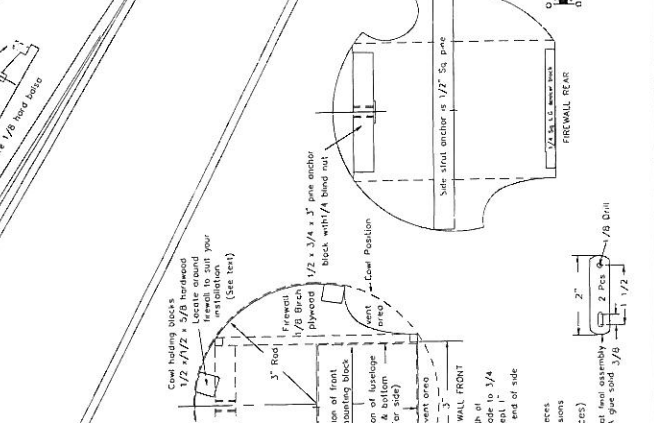
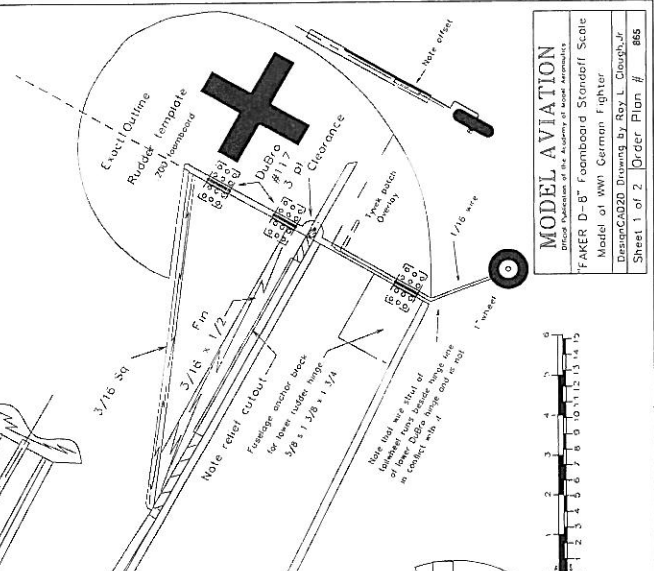
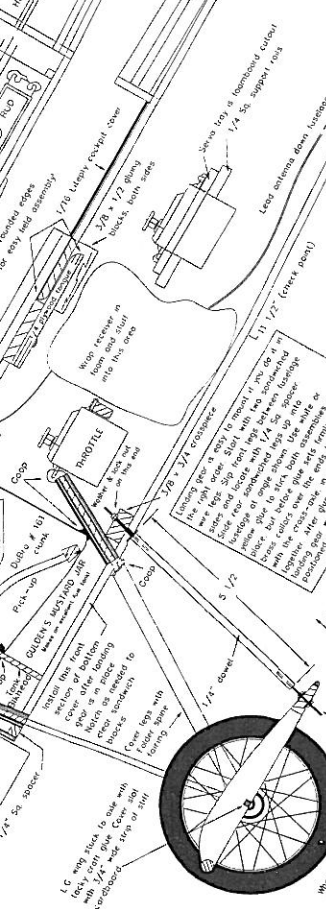
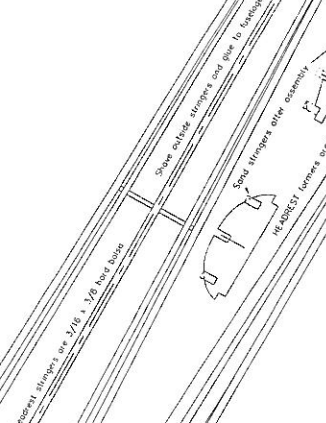
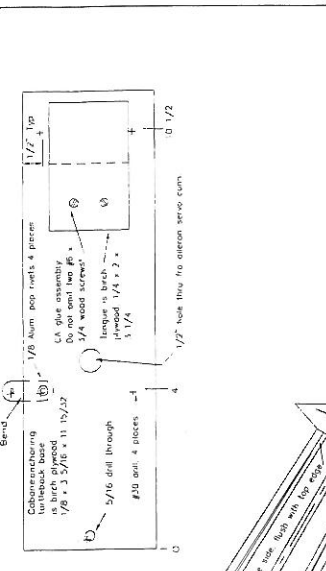
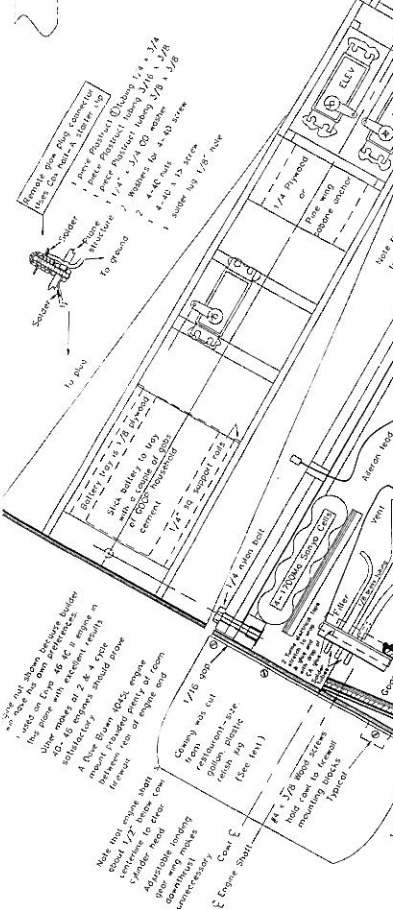
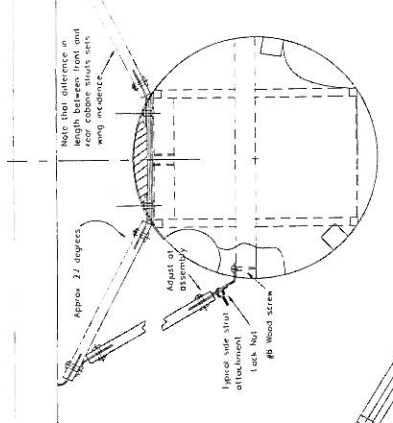
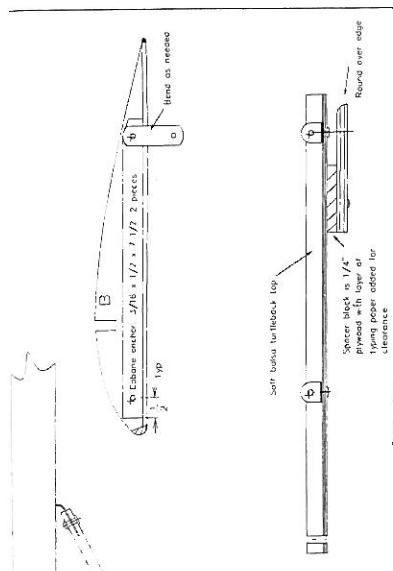
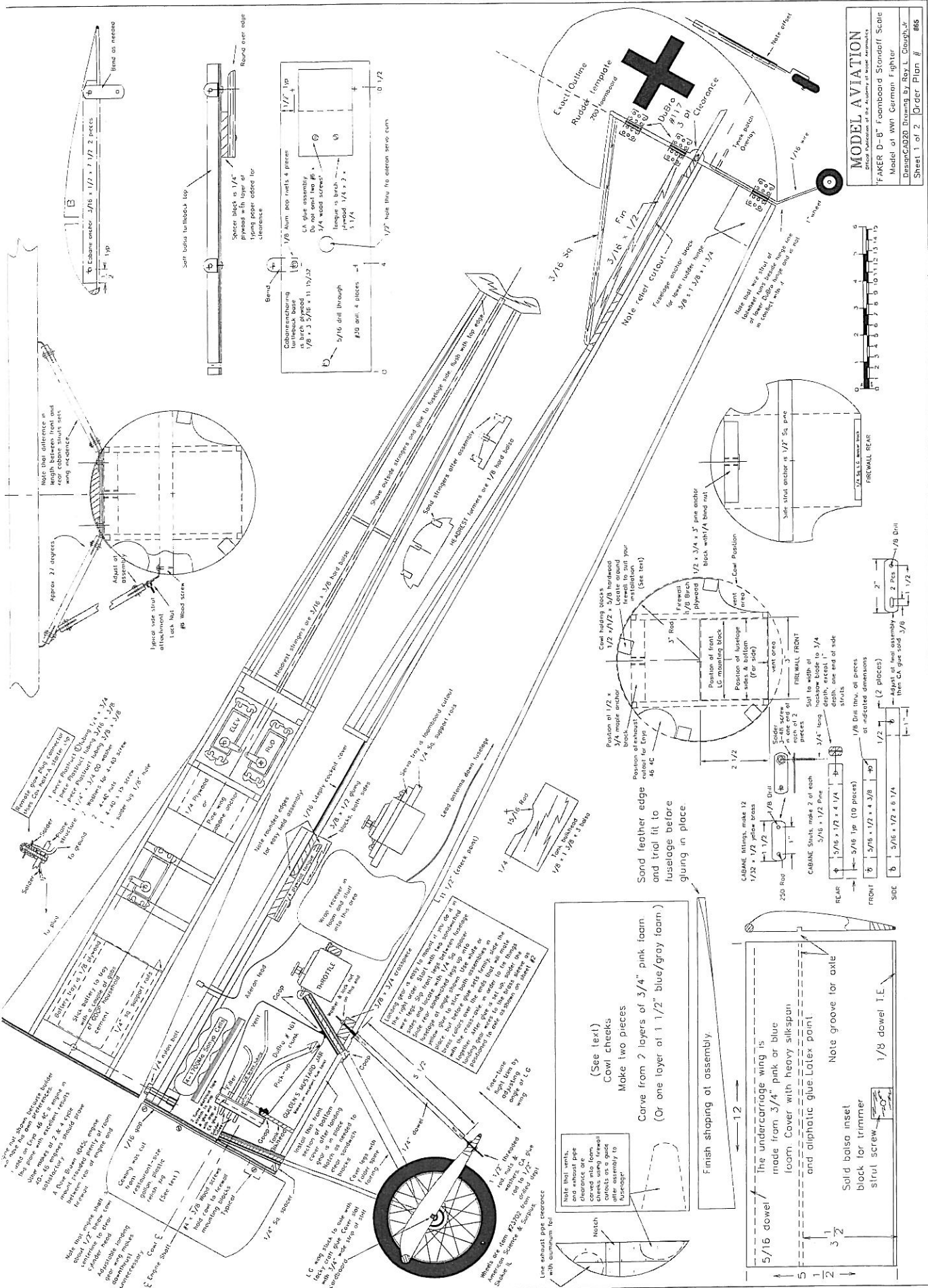
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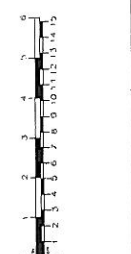
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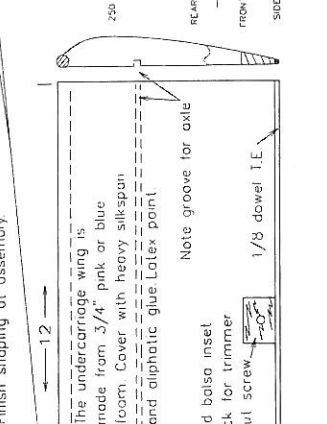
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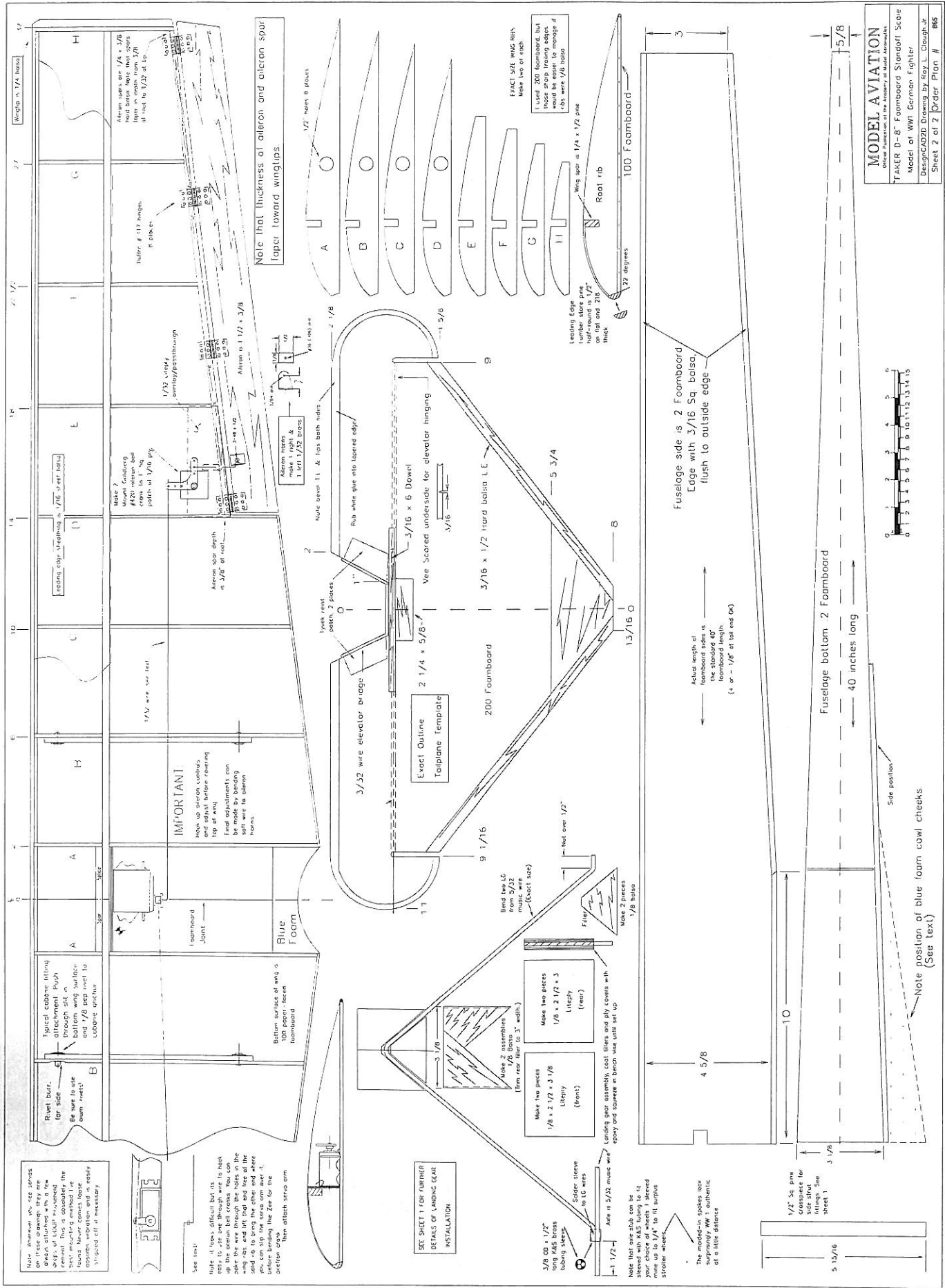
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 Sheet 1 of 2 Order Plan # 865



(See text)
 Cowling checks
 Make two pieces
 Carve from 2 layers of 3/4" pink foam
 (Or one layer of 1 1/2" blue/gray foam)



Finish shaping of assembly
 Note groove for axle
 5/16 dowel
 Solid balsa inset block for trimmer strut screw
 1/8 dowel I.E.



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