



M33 FOR CO₂

By JACK HEADLEY . . . This strange little "bathtub" style Messerschmitt makes a perfect project for any of the average size CO₂ power units currently available.

• Every aircraft company seems, at one period in its history, to have strayed from the path of common sense, and committed itself to some outlandish and totally impractical projects. Most of these projects are begun in good faith, but finally end up as just another Edsel of the airways. You can probably think of quite a few of these fiascos for yourself.

Even Messerschmitt, or BFW as it was during the time we're discussing, was no exception. Its products up to this time (the 1930s) had been mainly small transports and trainers, and, like most companies of this era, was existing on a shoestring. In fact, a couple of unfortunate crashes saw the company into bankruptcy shortly after. However, just before this occurred a variety of the most curious projects were considered. For example, the M32, which was to be a flying wing amphibian, powered by two diesel engines, geared to a single pusher propeller, and having a rocket for take-off assistance. All this for "1 Fuhrer and 2 passagiere", as the poster said! Or how about the M34, which was apparently a derivation of the above. This was to have a range of 20,000 km, which is roughly half way around the world, at a speed of 200 mph!

All this expertise after having only built a handful of very conventional short range transports. However, as you will have noticed from the model photos shown here, we didn't make a model of either of these imaginative aircraft. Instead we chose the one in between, the M33. This was a project in a totally different direction from the M's 32 and 34. The M33 was to be a very cheap

single seat kit project for the home builder. Powered by a DKW car engine, it fell into the "bathtub" category of lightplanes which spring up occasionally, even nowadays. Only a mock up was ever built, and BFW seems then to have gone dormant until history decided to provide the background for its re-awakening.

But enough of the past, on to our model. As soon as I saw the plans for the M33 I decided that some sort of a model could be made of it, and it seemed the best power plant would be the CO₂ motor. A few quick sketches were made to get the rough model dimensions, then a more detailed layout was produced for the final design. As usual, I made a few "improvements" for the sake of modeling convenience, so I can't claim that the design shown is an accurate scale model. However, it flies well, is quite durable, and provides a lot of modeling pleasure, so what more do you want?

Let's start with the wings, as we need these during the construction of the boom. Initially, the wing is made as a single, flat unit, straight on top of the plan. After pinning the leading, trailing edge, and lower main spar down to the building board, the 1/32 sheet ribs can be made and glued into place. The centersection ribs, shown with an * on the plan, are not installed at this time. Add the wing tips next, followed by the 1/8 square top main spar. When dry, the wings are cut in half at the center, then cover the centersection top and bottom with 1/32 sheet.

You'll notice on the plans a strip of

3/32 sq. half way along the wing. This is a support for the wing braces. This piece can be added next. A couple of holes in this strip are for the ends of the bracing threads.

Cover the wing with lightweight tissue, water shrink, then apply a couple of coats of clear dope. The wing braces are actually only for effect, and are made from elasticised thread. Make up a couple of U-shaped lengths of thread, and epoxy the ends into the 3/32 support in the wings. The other end of the thread is stretched over the U/C leg to represent a set of wing bracing wires.

The horizontal is made from three pieces of 1/16 sheet, arranged with the grain directions as shown on the plans. I tried this scheme in the hope that a warp-free tail would result, and, so far, it seems to have worked.

The vertical is made in two pieces, top and bottom. The bottom half, with the grain running horizontally, should be made from a tough piece of wood. The top half is made from two pieces of 1/16 sheet, the grain in the aft part running vertically. This back piece serves as a rudder, and can be bent along the grain for trim.

The bottom of the vertical is an integral part of the tail boom, and this will be discussed in the next section. The top vertical is cemented to the boom and tailplane later. Don't glue the "rudder" piece of the vertical onto the tailplane (see plans for details).

A small wire skid is epoxied to the lower corner of the bottom vertical.

The "fuselage" is not really a fuselage in the accepted sense, instead we have

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