

BUILDING TIPS for the "Miles Mohawk" Kit # FF-17
By Rick Foch , Feb 2010

The Easy Built Miles Mohawk features a minimal, but adequate structure, and can be built to the plans for a charming SAM scale model of one of Charles Lindbergh's personal aircraft.

I decided to make a few simple modifications to increase the scale appearance, improve the flight performance and make the model a little easier to cover. Here's what I did:

Tail Surfaces

Instead of building separate adjustable elevators and rudder, I built the vertical tail in one piece. I made the two stab halves and their elevators as a one piece unit as well, like most models.

Wing

The wing features a fairly thick airfoil (the real Miles is very thick) and widely spaced ribs and a single spar on the upper surface. I added two additional top spars by cutting two more 1/16" sq. spar notches into the top of the ribs: one, halfway between the kit spar and the leading edge and the other halfway between the kit spar and the trailing edge. These two extra spars reduce the covering sag between ribs which improves the scale appearance and airfoil performance, too. Also the extra spars help maintain the slight curve in the root rib, allow you to shrink the wing covering before you glue the wings to the fuselage, and still get a good wing/fuselage fit. I also added a strip of 1/16" X 1/8" against the bottom of the rib where the landing gear attaches to provide a little more support for insuring a strong glue joint between the wing and landing gear strut.

Landing Gear

I used the kit components but slightly reshaped the struts and pants to make them more closely resemble those shown on the photograph on the kit box, which is Charles Lindbergh flying his Mohawk.

Fuselage

To accommodate the new one-piece stab, I built a slot with 2 strips of 1/16" sq. balsa in the fuselage ahead of the tail post. I made the slot 1/16" wide at the rear and 1/8" wide at the front to allow for stab incidence adjustments during test flights. At the very front of the fuselage behind the nose block, I inlaid 1/16" balsa sheet into the first bay to add a little more strength in an area that gets a lot of handling. I also inlaid a rib-shaped piece of 1/16" sheet into each side frame to form a base to glue each wing panel to the fuselage.

The only other modification to the fuselage was to use a formed one-piece canopy instead of one made of separate pieces of wrapped plastic sheet, as drawn. Most Miles monoplanes had very distinctive, blow-molded compound-curve windscreens and I wanted to capture this distinctive feature. So, I carved a canopy from a small block of hard balsa and sanded it to shape, checking its fit on the fuselage. When I was satisfied

with the fit and shape, I added pieces of 1/8" sheet balsa to the bottom and rear of the canopy to allow the plastic to form an edge past the desired part. I then smoothed the canopy mold with 400 grit sandpaper. Next, I wetted the surface to raise the grain and after a day of drying, I re-sanded it, again using 400 grit sandpaper. A good friend of mine has a vacuum former and formed a canopy from thin clear plastic over my mold. Because of its simple shape, I am confident that you could also plunge-form the Mohawk canopy or even simply stretch soft plastic over a canopy mold. For specific details, there are several internet sites and old model airplane construction articles that show how to form small canopies. Regardless, a realistic formed canopy really sets the model a cut above the rest, and was not that hard to do, especially since the rest of the Miles Mohawk is very simple to build and cover.

Finish

The full-size Mohawk was orange and black so the kit's Easy Built orange and black tissue is just right. I applied two coats of thinned nitrate dope to seal and raise the grain, then lightly sanded (400 grit) all the structure that touches the tissue. Next, I attached the covering with thinned white glue and set the parts aside to dry overnight. I gently water-shrunk the tissue and let the components again dry overnight, with the wings and tail surfaces clamped and pinned to flat surfaces to keep them from warping. I then brushed on two coats of well-thinned nitrate dope and once again clamped and pinned the wings and tails to flat surfaces overnight to help keep them flat. Control surfaces were drawn using a finepoint black marker. The landing gear and nose block had 3 thick coats of nitrate dope, with a good sanding with 400 grit paper after each coat. Then they were given one smooth coat of orange and black, Tamiya Acrylic plastic paint. The orange stripe for the fuselage was cut from a piece of orange copy paper attached with a coat of full-strength nitrate dope. Colored copy paper that can be found at copying centers such as Kinko's and Staples. The entire model was assembled using Ambroid model cement and the canopy frame was made from 1/16" wide silver pinstripe tape.

I hope these tips will help you enjoy building your version of Charles Lindbergh's Miles Mohawk. This Easy Built kit provides a neat example of a fine vintage British aeroplane that is aerodynamically clean, lightweight and a very flyable scale model!