

The Coyote E is designed as an easy-to-build foam airplane for anyone interested in constructing a model from plans.

Simplistic construction and gentle flight characteristics await you  
by Mike Hausner

# MIKE HAUSNER'S COYOTE E

**M**y goal was to design a foam model that went beyond the usual flat-sheet wing. I was also interested in enticing members of our club, The Village E-Flyers in central Florida, to build an airplane from plans. Newcomers can be intimidated by the covering process and all of the tools required, so this model is made of 3mm and 6mm Depron foam sheet. It had to be easy to build, but I wanted a model that flew well, too.

I made the decision to use a three-dimensional flat-bottomed wing and a simple, self-jiggling, built-up fuselage. I used the basic shape of the full-scale RANS Coyote ultralight airplane and, because I only had pictures to go by, I applied model design parameters to proportion the model. As designed, the model has sufficient strength for normal flight loads and mild aerobatics. Don't be tempted to overpower it. The prototype shown above flies fine on 87

watts of power.

The tools required to construct the model are limited to the basics: a hobby knife, a straightedge and ruler/yardstick, drafting triangles, a hobby saw (for the plywood parts), a 6-inch square, blue painter's tape, sandpaper and a sanding block, pliers, wire cutters, a felt marking pen, and a flat building surface. Most of the gluing on this model is with contact cement. Use epoxy or CA adhesives where noted. Before starting, read the instructions completely to get a better idea of the building process. The entire construction article, materials list, and the free plans in PDF format, can be found online at [www.ModelAviation.com/coyote](http://www.ModelAviation.com/coyote) or in the digital edition.

## Flying

The results were better than I had expected. Ground handling with the steerable tail wheel was excellent. As I advanced the throttle to three-quarters on the maiden flight, the tail came up, and with a touch of up-elevator, the

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(800) 435-9262, ext. 507  
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Again, the entire article, materials list, and the free plans in PDF format can be found online at [www.ModelAviation.com/coyote](http://www.ModelAviation.com/coyote) or in the digital edition.

Landing is a treat! Simply reduce throttle, add a notch or two of flaps if you like, and control the descent with throttle. I have seen no tendency to bounce on landing. The biggest surprise was how the model handles the wind. It seems to fly like a much-larger airplane. I had complete control and the Coyote E wasn't getting kicked around by the wind like some of my other aircraft. Don't bother with the flaps in windy conditions or you may be landing backward.

In the air, the Coyote E is responsive without being touchy. The model only requires half throttle to fly, which gives you reserve power for vertical maneuvers. The aircraft is not a powerhouse, but it will loop from level flight.

As expected with a flat-bottom wing, rolls and inverted flight require some elevator input. The flaps are effective and require some up-elevator to counter the downward pitching moment and some throttle to overcome the added drag.

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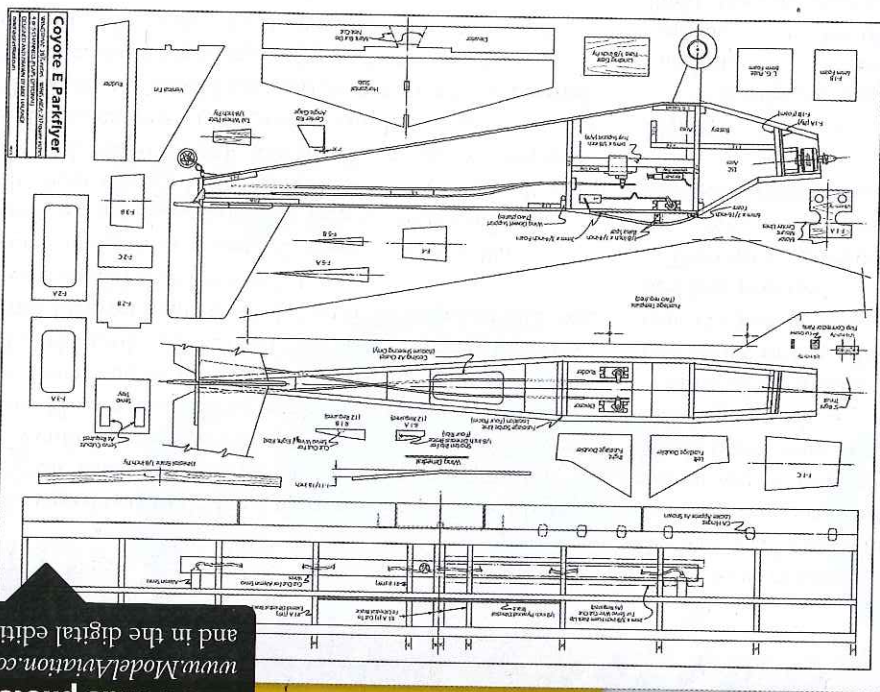
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Coyote E Parkflyer

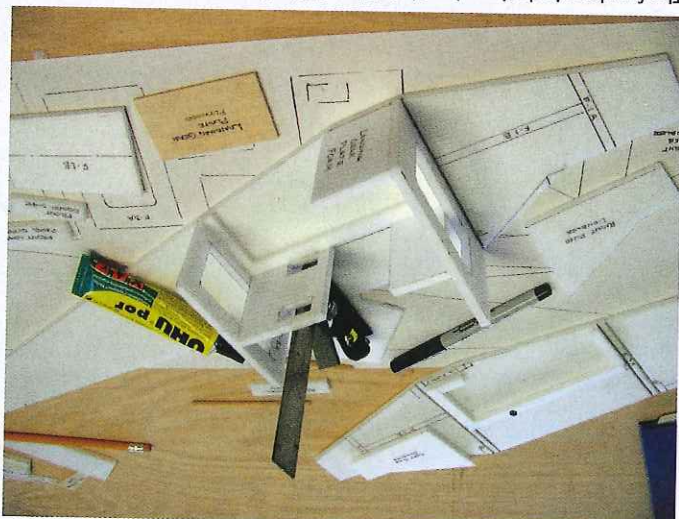
See bonus photos at [www.ModelAviation.com](http://www.ModelAviation.com) and in the digital edition.

SPECIFICATIONS

Type:	Electric sport model
Wingspan:	39 inches
Wing area:	239 square inches
Weight:	18 ounces
Wing loading:	10.8 ounces per square foot
Power system:	100-watt brushless motor, 20-amp ESC
Propeller:	APC 8 x 3.8
Battery:	Three-cell 1,320 mAh LiPo
Radio:	Four-channel; four micro servos (five if you add flaps)
Construction:	Foam

Wing spars are made with 6 mm foam sandwiched between two hard balsa sticks.

Photos by the author



The fuselage is designed so that it is self-igniting. Here the landing gear support, receiver tray, and servo tray are being glued in place.

24" Shee... 960 1/8... 961 1/4... 962 1/4... 963 3/8... 964 1/2... 965 1/4... 966 5/16... 967 3/8... 968 1/2... 969 3/4... 970 1/2... 971 1/4... 972 3/8... 973 1/2... 974 3/4... 975 1/4... 976 5/16... 977 3/8... 978 1/2... 30" Shee... 062 1/3... 063 1/4... 064 3/8... 065 1/2... 066 3/4... 067 1/4... 068 3/8... 069 1/2... 070 3/4... 071 1/2... 072 3/8... 073 1/4... 074 1/2... 075 3/8... 36" Shee... 001 1/3... 002 1/4... 003 3/8... 004 1/2... 005 3/4... 006 1/4... 007 3/8... 008 1/2... 009 3/4... 010 1/4... 011 3/8... 012 1/2... 013 3/4... 014 1/4... 015 3/8... 016 1/2... 017 3/4... 018 1/4... 019 3/8... 020 1/2... 021 3/4... 022 1/4... 023 3/8... 024 1/2... 025 3/4... 026 1/4... 027 3/8... 028 1/2... 029 3/4... 030 1/4... 031 3/8... 032 1/2... 033 3/4... 42" Shee... 080 1/3... 081 1/4... 082 3/8... 083 1/2... 084 3/4... 085 1/4... 086 3/8... 087 1/2... 088 3/4... 089 1/6... 090 3/8... 091 1/4... 092 3/8... 093 1/2... 094 3/4... 095 1/4... 096 3/8... 097 1/2... 098 3/4... 099 1/4... 100 3/8... 101 1/2... 102 3/4... 103 1/4... 104 3/8... 105 1/2... 106 3/4... 107 1/4... 108 3/8... 109 1/2... 110 3/4... 111 1/4... 112 3/8... Please vi... are no... We accep... for order... charges... fee on o...