

# RADIO CONTROL

# MICRO FLIGHT

JUNE 2001

## MODEL REVIEW



### MEGATECH **Merlin** by Don Ross

like package deals. When assembled by a reputable company, they give you the benefits of careful engineering (so the components match) and volume purchasing (so they cost less). The Merlin electric RC park flyer is a good example; Megatech bundles everything you need to fly this entertaining plane into one well-packaged box and sells it for a great price. Inside, you

will find a fuselage made of carbon-fiber rods and a set of thin but very strong foam-sheet wings and tail feathers with leading and trailing edges reinforced by carbon-fiber rod (not dowels). The receiver, speed control and servos have already been installed, and you will need just a few minutes to attach the rudder and stabilizer and to hook in the wire pushrods. The motor, prop, drive battery, charger

and transmitter are also included. The only thing you must supply is a pack of 8 "AA" alkaline batteries for the transmitter. The motor battery also powers the electronics and cuts off the motor at low voltage to leave power for the receiver and servos to get you home.

The ball-bearing-equipped, geared motor slides right onto the motor stick; simply plug it into the circuit as you would plug in a lamp

*Continued on page 4*

## IN THIS ISSUE

**1 Cloud 9**  
Electronically  
Controlled CO<sub>2</sub>?  
by John Worth

**PLAN OF  
THE MONTH**  
**Dream Stik**  
by Beau Christian

**2 On the Fly**  
by Tom Atwood

**HOW TO**  
**4 Convert a Cox**  
**free-flight to RC**  
by Mike Blott

### PRODUCT REVIEW

**5 Castle**  
**Creations**  
**Pixie-7P**  
A programmable  
electronic speed  
control  
by Bob Aberle

**HOW TO**  
**6 Cub Canard**  
by Ed Couch

### FLIGHT REPORT

**8 Northeast**  
**Sailplane**  
**Products**  
**Pique 3**  
by Thayer Syme

### PRODUCT REVIEW

**13 JETI JES 06-3P**  
Proportional  
control for  
the AstroFlight  
Brushless 010  
by Bernard Cawley Jr.

**14 Micro Scoop**  
2001 Toledo  
RC Expo  
by Bob Aberle

**16 Source Guide**

**ON THE WEBSITE**  
[www.rcmicroflight/may01](http://www.rcmicroflight/may01)

# Playmate Jr.

*Suprising speed!*

by Dave Robelen • [aplusfarm@hovac.com](mailto:aplusfarm@hovac.com)



About 16 years ago, I designed and published a plan for a low-wing, 3-channel model I called the "Playmate." Many modelers enjoyed this design and built it from both plans and kits. As I became more involved with the RC electric micro-flight movement, I began to look for a model that I could scale down. The more I examined the possibilities, the more the Playmate looked like the top candidate. Of course, this concept of "a model of a model" is old news to the free-flight fellows who already enjoy flying "older" models in smaller sizes.



*Continued on page 2*

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## PLAYMATE JR.

found the engine easy to make: I used a drill to spin the round parts while I shaped them with a Dremel tool fitted with a cutoff wheel.

- I carved a prop for the prototype, but a Peck Polymers 6-inch plastic prop trimmed to 5.75 inches works just fine.

- The most suitable motor for this model is the DC5-2.4 geared with 4.2:1. I installed mine (and the dummy engine) with double-sided carpet tape, and I used a balsa scrap—sanded to the side-thrust angle—to keep it aligned.

- I installed a tiny switch and unisex connectors (available from Cloud 9 RC). To balance my model, I put two cells in the rear of the cabin. The electronics fit rather snugly; trial-fit and plan their positions.

- Music wire makes very nice pushrods; 0.020-inch-diameter is stiff enough.

- My hinges are plastic tape applied to one side of

the surface, and I allowed a 1/32-inch hinge gap.

- Set the Playmate Jr. up with the control throws shown on the plan, and double-check the balance point.

- If you have a tachometer, check prop rpm; I recorded 3,900 to 4,000rpm on a fresh charge.

### AIR TIME!

Hand-launch the Playmate Jr. or take off from smooth pavement, and practice some "soft stuff." My Playmate Jr. climbs at any setting over 75% throttle. Be gentle with the controls at first while you get a feel for this little thoroughbred; things can happen pretty quickly. My Playmate Jr. does more maneuvers than any of my previous models: loops, stall turns, smooth rolls, snap rolls, true spins and touch and go's. On 5 cells, maximum duration is about 6 minutes. Spend some time get-



ting used to your new little bird, and be thorough when you trim it to ensure smooth flight, especially in maneuvers. Enjoy, and let me know how you make out.

See the Source Guide on page 16 for manufacturers' addresses. †

## MEGATECH MERLIN

Continued from page 1

at home. It takes about an hour to completely assemble the Merlin, and that includes applying the neat decals. These decals use a mounting method that is new to me—each decal is furnished on a heavy brown top paper with a removable transparent plastic cover. Remove the plastic face cover, place the decal face down on the surface, slide it easily into position, and then wet the top paper with a sponge. Wait 10 seconds, and slide the top paper off; this leaves a decal that consists of just a layer of paint.

The pushrods slide inside plastic guides, and the carbon-fiber undercarriage and wheels snap together like Lego-brand plastic building bricks. The back of the 12-inch prop is recessed to lock in the rear nut, and there's even an extra prop for us duffers.

A peak charger that runs off your car battery and plugs into the cigarette lighter is furnished with the kit. The 6-cell, 600mAh, NiMH battery charges quickly and produces 7 minutes of flight at full power and about 15 minutes at cruise. The RC frequency is in the 72MHz band so there are no interference problems with 27MHz stuff nearby.

With 511 square inches of area on the



The Speed 280-size motor and 5.6:1 gearbox are enclosed in a clear plastic housing and slip easily onto the motor stick. The stick itself is carbon fiber, as are the rest of the structural elements.



The two servos come installed in the fuselage, along with the receiver and speed control. The pushrods are prebent and hook in easily after the tail has been attached.



The tail surfaces and wings are made of thin but very strong sheet foam, and all the control horns come installed.

49 1/2-inch-span wing carrying a flying weight of just 17 ounces, you have a potential floater. The wing loading is 4.8 ounces per square foot (0.93 grams per square inch)—low enough for a decent thermal flight.

The Merlin's handling is very predictable, and the first flights are uneventful. The model's big wheels permit smooth ground handling and easy ROG at 3/4 throttle. The Merlin climbs briskly, and power control is smooth throughout the range. The model is quite rugged; it survived a few wall landings in a tight indoor site. Beginners flying in tight spaces will need to avoid having the large rudder area cause the plane to bank

### SPECIFICATIONS

Wingspan: 49.5 in.  
 Wing area: 511 sq. in.  
 Length: 30 in.  
 Weight: 17 oz.  
 Motor: Speed 280, geared 5.6:1  
 Prop: 12x8  
 Radio: 3-channel (included)  
 Price: \$199.95 (package), \$79.95 (kit only)

too steeply. New kits will sport a 7-cell battery that should permit loops from level flight and the zooming takeoffs so beloved by glow-power fliers.

Altogether, the Merlin system is a very good buy for anyone who wants to get into micro RC. It performs as well as any park flyer I have

seen and can handle indoor flying in all but the smallest sites. The complete system costs \$199.95. For those who already have an RC system, the kit alone with ball-bearing gearbox and prop is just \$79.95.

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