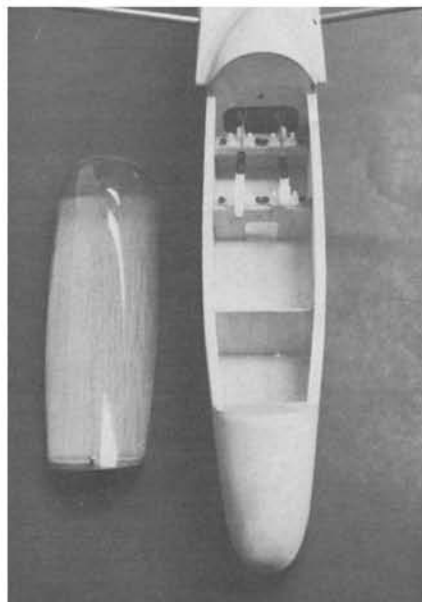


Photos by the Author

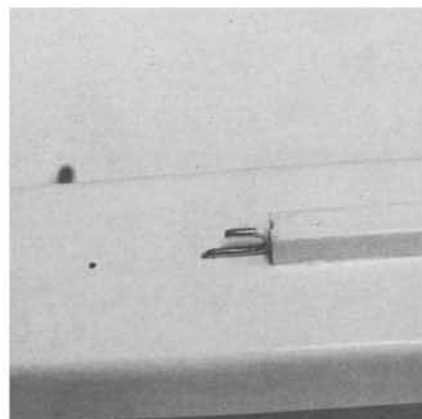
FM Tests the Astro Flight Monterey

by Gene Fuller

Above, the Monterey and the Blue Max systems are an ideal combination. Below, the radio compartment, sans radio. Snap-in servo mounts are used for S-4B servos. Fuse is covered with Sil-Ray.



Towhook is mounted just behind rock maple skid. Hole at left is for towhook placement in still air. Don't use second hole in windy weather!



An R/C Sailplane for thermal soaring and slope. 100 inches in span, 620 sq. in. area, and a 2-1/4 lb. weight combine to give some enjoyable flying. Monocoque construction keeps down weight by eliminating internal framework.

Of all the numerous sailplane kits I've built, the *Monterey* was the easiest and quickest to build. Building time ran a week and a half without pushing. This sailplane is designed to fly slope and thermal. We won't get to wring the ship out on the slope until the Cumberland, Md. meet. The *Monterey* has proven to be an adequate ship for thermal soaring with its Eppler 387 airfoil. The 387 airfoil does have a sharper stall characteristic than the 385 and others which are better suited for thermal soaring alone, but it does have better penetration qualities, being thinner. It is best to keep the ship moving along a bit faster than you'd normally expect, to prevent any stalls from occurring. Keep the speed up when making the landing approach too. The ship can be flown in 35 mph winds with ease—we had the opportunity to do it.

The *Monterey* has quite a dihedral, about 21 degrees total for both panels. This much dihedral is not necessary for thermal soaring but it comes into its own in gusty winds and turbulence. The ship is more maneuverable in tight quarters and it's much easier to make the spot landing circle with this amount. If you still don't like this amount you can reduce it to about 12 degrees without any ill effects. If you have plans to slope soar the ship, you'd best leave it stock. Mine is very quick and responsive to the controls, and it's built exactly as per the plans.

I had some misgivings about building a ship such as this without spars in the wings. In corresponding with Bob Boucher, designer and president of Astro Flight, I was assured that the soft steel rod would bend before the wings broke. Bob was right and it did. We did get a compression crack in the upper wing skin once when we towed the ship up on the electric winch too hard in a strong wind but it was easily repaired in an hour. The balsa in our kit for the wing

sheeting was very light. Bob said that we should use hard balsa or extend the center sheeting to rib F7 if we wanted more strength. Bob was surprised to hear that our wings only weighed 7-1/2 oz. for the pair. The fuselage, completely finished and ready to fly with radio installed, weighs 28-1/2 oz. for an all up weight of 2 lbs. 4 oz. With an area of 620 sq. in., this gives a wing loading of 8.4 oz. per square ft. Our *Monterey* could have been finished up lighter but a little strength was desirable for flying slope. The fuselage was finished by doping on a covering of Sil-Ray, coating with Formula II Hobbypoxy glue, sanding and then two coats of Hobbypoxy white. The tail surfaces were not covered with Sil-Ray—only with the glue. This finishing method added a little bit of weight, but it turned out very strong.

In starting out, I mentioned that the *Monterey* was easy and quick to build. Plans for both wings are included, allowing the builder to work on both simultaneously. The wings can be built in two evenings. The rest of the ship can be built in a few more—and finishing can take as long as you like. We know of one that was built in a week and was off into a thermal on its first flight. The ship had been entirely covered with MonoKote, which is about the fastest finishing method. Only the wings of ours were covered with MonoKote. The new Plum Crazy color was used and goes very well with white. The accent stripe on the fuselage side is gold trim MonoKote, which sticks to the Hobbypoxy quite well.

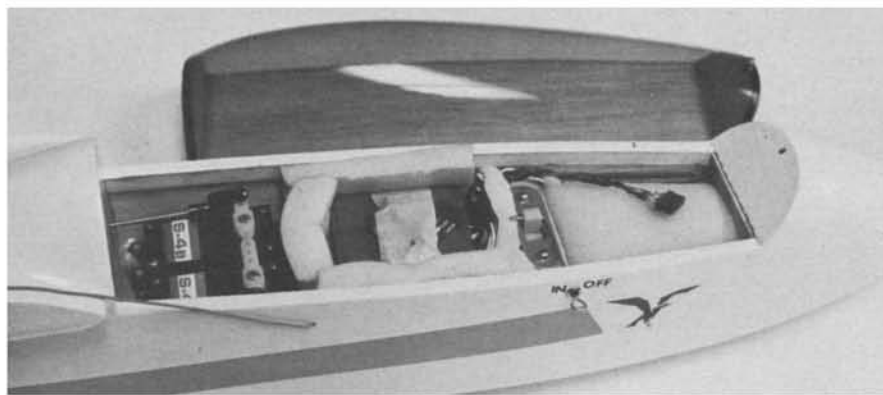
The *Monterey* will accept any of the smaller radio systems with ease. Some of the older or larger systems will require a smaller (225 mA) battery pack and/or several new, smaller servos. We installed the Blue Max system in the ship with the 500 mA pack and there was room to spare. Any of the later model radios should fit OK.



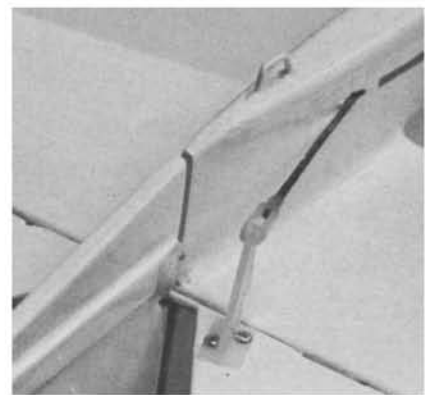
Above, Gene and the Monterey, one week after beginning assembly. Fuselage is covered and ready for painting and wings are ready for MonoKoting. Above right, electric winch launches are easy! Point nose up slightly, step on foot switch and release. Hand tows and hi-starts work well too.



Carl Goldberg fittings were used at tail—snap links are unbelievably strong! Sig Epoxolite is used for fillets on all surface joints.



The Blue Max radio system fits easily into the radio compartment with enough room for foam wrapping. Canopy is held on with one wood screw, easy to remove for charging. Blue Max system has a charge plug through the switch, making it unnecessary to unplug battery for charging.



Webs are important and should fit perfectly, for strength. The wing will fold up without them so do them right. All wing joints must fit right.

For control linkages we used 1/4" sq. hard balsa with the new Carl Goldberg Snap-Links at the control surfaces. These have since proven to be very reliable—the *Monterey* having been flown onto all types of terrain—we've never had one open up unless we pried it open for adjustments.

The kit did not include a nose skid which when installed, can save the ship's belly from being scraped up. A piece of 3/8" sq. rock maple motor mount material was used, running from the towhook to the noseblock. The nose skid and the small wire skid at the tail come in handy when landing on pavement. You might wish to add this to yours although it's not really necessary if you're flying on good terrain.

The *Monterey* has adequate control surfaces. The rudder is very effective set up with maximum throw. The elevator should be set for minimum throw on a sailplane as they are normally sensitive. The ship can easily do a loop with minimum elevator travel.

When launching the *Monterey* on either winch or hi-start, it's amazing to see how much the wings flex. The wings bow upwards at the tips. This is of no consequence though, as the wings are stressed to do this. The mild steel rod will bend before the wings break, adding more dihedral. If you launch too hard and bend the rod, bend it back to the proper shape before the next FLYING MODELS

flight. In dead air, launching where there is hardly any wind to launch into, we found that the towhook can be moved back 1-1/4" to help get a steeper climb.

Astro Flight recommends using a power pod from D & R Plastics with either a Cox TD .049 or .051 engine and a 6x3 propeller. Cox Red Can fuel should be used too, to develop the most power. The power pod should add about 2 oz. of weight and give the ship about 1000 feet of altitude on a full tank. If you don't have a winch or hi-start available, this is an ideal combination to get the ship airborne. A 300 meter hi-start is available from Astro Flight for \$29.95.

For thermal soaring, the center of gravity can be moved back 1/4" to 1/2" from the spot shown on the plans. For slope, the extra weight is needed up front to keep the nose down and to aid penetration. When ready to make a landing approach feed in a little down trim to ensure that the speed is kept up, and the *Monterey* can be maneuvered right in to the spot landing zone. Touch a wing tip inside the circle as the ship flies around it and it will drop itself right into the spot.

The *Monterey* is an easy way to get into R/C thermal or slope soaring and is priced at \$29.95. Available at your dealer or direct from Astro Flight, Inc., 2301 Cheryl Pl., Los Angeles, CA

