



# Great Planes Ultra Sport 60

BY AL TUTTLE

**W**hen asked by Bill Northrop if I would like to do a product review on the Great Planes Ultra Sport 60, I jumped at the chance, as for the past several years I have been involved in the heavy iron end of the sport and welcomed a change of pace.

In due time, the kit arrived via UPS. The box and contents were unscathed in spite of the fact that it was shipped from Urbana,

Illinois, to Newport Beach, California, and finally to Port Orange, Florida. This was unusual for me anyway, as lately some of my UPS packages have been received in varying degrees of damage. One flattened package actually had tire tread marks on it!

The kit box is very attractive and its contents were well packed, with absolutely no shipping damage. First inspection revealed that the balsa and ply die-cut sheets looked

very good. The ply die-cut parts were easily removed. There are two sheets of rolled plans, one of the fuselage and empennage and the other of the wing. Plans show an optional retract installation and several different four- and two-stroke engine installations. I thought that this was great as too many of today's kits only show one type of engine installation.

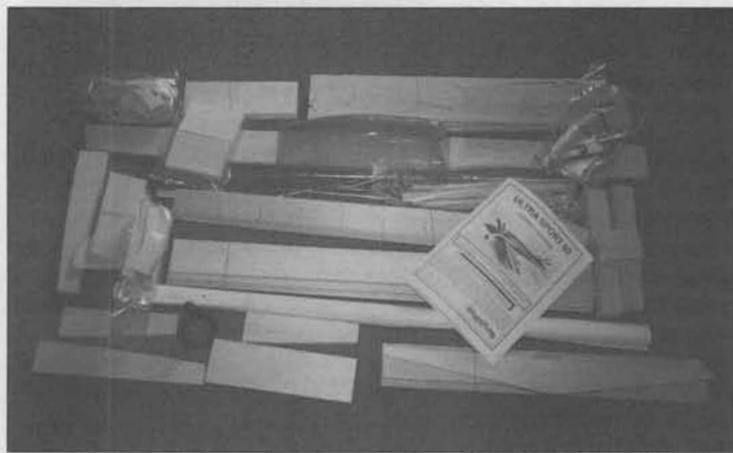
The manual has a section on flight trimming, and a flight trimming chart which should be a big help not only to the newcomer but to old timers as well. The last two pages contain the parts list, complete with all part numbers. The cover page has a photo of the completed model and a warning that this is neither a toy

and just as heavy. I couldn't push a T-pin through it. If your piece is as hard, I advise you to drill lightening holes in this piece or replace it altogether. I didn't, and ended up with a tail heavy airplane. The hinges were next installed, but not glued into the control surfaces.

#### WING ASSEMBLY

The wing is constructed next. It is of the D-

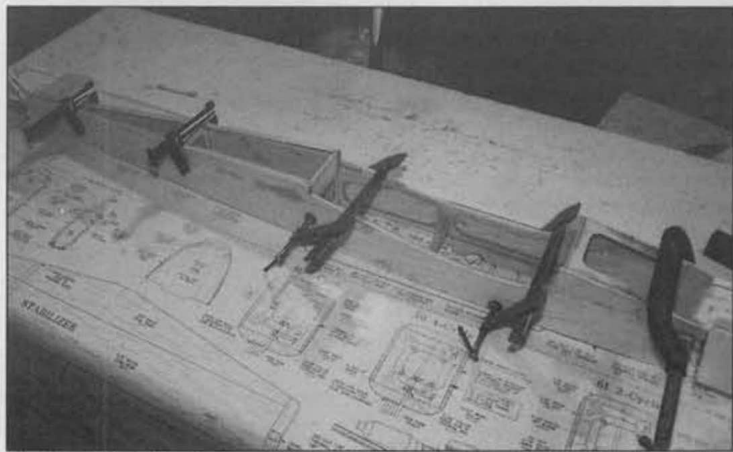
shear webbing and leading edge sheeting installed. All wing pieces fit together well, and when both panels were butted together the fit was perfect. The wing tips are balsa blocks glued to the wing, then carved to shape. Fiberglass cloth is installed at the center section. Here again, the instructions are precise and the photos self-explanatory. There is a section, however, that could



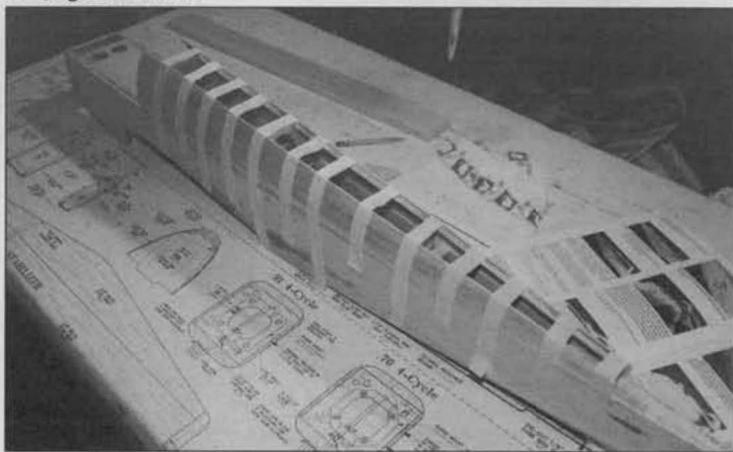
What you see is what you get for your \$124.95. Kit quality is typical Great Planes . . . excellent!



The partially finished right-hand wing panel upside-down on the workbench. Construction is completely conventional D-tube, yielding a strong, stiff, light structure.



The lower fuselage is assembled upside-down directly over the plan. Note the die-cut 1/8-inch plywood doublers glued to the inside of the balsa fuselage sides.



Turtledeck sheeting being added to the fuselage top.

nor a beginner's airplane, and to join the AMA.

The inside front page has the table of contents. Page three contains the introduction, precautions and common abbreviations used in the book and on the plans. Page four has a section titled *Decisions You Must Make Now*, plus other items required and supplies and tools needed. Page five has the die drawings identifying the die-cut parts. Construction starts on page six. Because this was a product review, I followed the instruction book to the letter (except for one slight deviation in construction sequence) and made no changes in the construction itself.

#### EMPENNAGE ASSEMBLY

The first item built is the "Tail Feathers" (that's what the book calls them). Fin and rudder are pre-cut balsa and went together easily, and the parts shape conformed well to the plan. The horizontal stab and elevators were also assembled from pre-cut balsa and the fit was good as well. The only problem here was that the 3/8-inch thick sheet balsa stab rear was as hard as a rock

tube type and construction is straightforward. The Great Planes people thoughtfully included a pre-shaped trailing edge jig for use if the wing is to be built over the plans. Holes are already punched in the die-cut wing ribs for those who elect to use a Great Planes Wing Jig, available from your local hobby dealer. I decided to build my model as a taildragger and installed the landing gear blocks accordingly, as shown on the plans.

The leading edge sheeting is prepared, the die-cut balsa ribs removed and the edges sanded smooth. The bottom spar is put in place and the ribs, top spar, trailing edge,

cause one to get into trouble. Prior to glassing, the instructions call for sanding "flats" on the leading and trailing edges at the center section. The instructions tell you how much material to remove. This step is critical, as it determines the fit to the fuselage. I would suggest that this sanding step, the fiberglass step and the wing dowel installation be moved to the section where the motor mount is to be drilled. At this stage, the fuselage is completed to the point where the wing can be fitted. Recognizing this potential problem, I fiberglassed the center section first and did not sand in the flats or install the wing dowels until at the section just suggested. This change resulted in a perfect wing/fuselage fit.

#### FUSELAGE ASSEMBLY

The fuselage sides are of 3/16-inch balsa with 1/8-inch die-cut plywood doublers. There are two sizes of die-cut plywood firewall spacers for use with either two- or four-stroke engines. The proper spacers are installed when assembling the doublers to the balsa fuselage sides. Here again, the die-

#### ULTRA SPORT 60 SPECIFICATIONS:

Suggested retail price.....	\$124.95
Wingspan.....	61-1/2 inches
Wing Area.....	707 sq. in.
Weight.....	7 lbs.
Engine.....	60-.65 cu. in. 2-Cycle
	.70-.91 cu. in. 4-Cycle
Radio.....	4-6 Channel

cut plywood doublers fit perfectly. The lower fuselage is assembled upside down over the fuselage top plan view. The 1/4-inch ply firewall is then drilled for the engine mount and fuel line exits and installed into the fuselage. Instructions call for the drilling of engine mounting holes in the motor mount at this time. The servos and pushrod guide tubes are installed and the wing is fitted to the fuselage.

The turtledeck is added next. The turtle-deck sides are 3/32-inch sheet balsa with a 1/2-inch balsa top. After the adhesive cures, the top and sides are carved and sanded to shape. The nose section pieces are installed next. The top is of 1/2-inch balsa and the

razor plane can make short work of this tedious task, however.

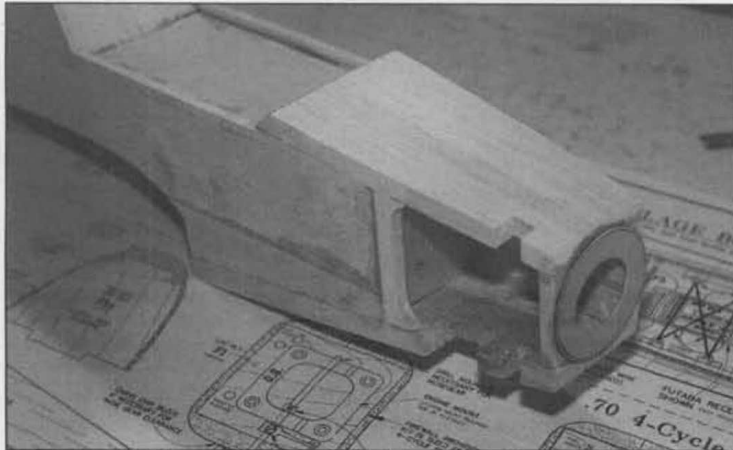
Next, the wing is attached to the fuselage and the wing fairing blocks are assembled to the bottom of the wing and then carved and sanded to shape. Optional wing fillets can be installed if desired; die-cut ply material is included in the kit for this option. The horizontal stab and fin are assembled to the fuselage and the servos, control horns and pushrods installed. All pushrods are furnished with the kit. The rudder and elevator pushrods have short lengths of plastic tubing installed at 2-1/2 inch intervals on the wire rods, which act as spacers for smooth operation inside the pushrod guides.

anced laterally, to compensate for the side-mounted engine.

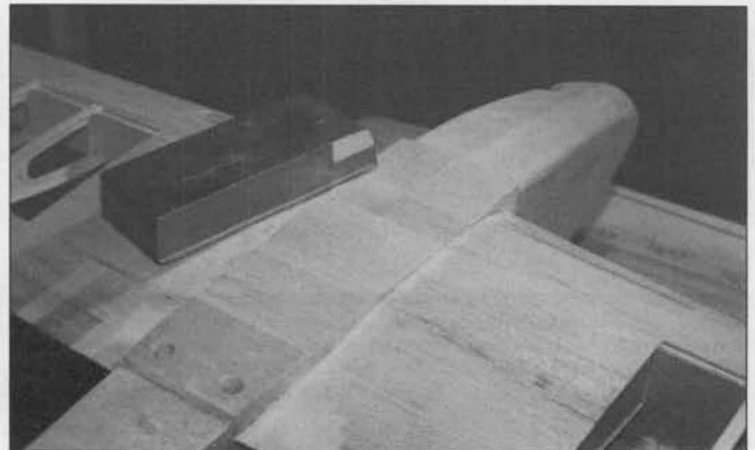
#### COVERING

I covered the model using Coverite's Black Baron film. The colors are metallic red, metallic blue, and white. The metallic colors really stand out and certainly add a lot to the plane's appearance. The pilot, canopy, control surfaces, radio, engine and fuel tank are now installed and the plane balanced as per the instruction manual. The instructions are very precise and clear on this vital step. Total construction time: 110 man-hours.

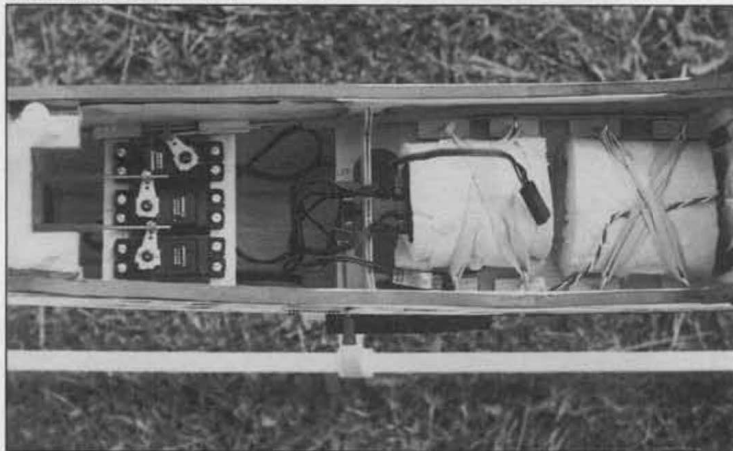
The last sections of the manual are Pre-Flight and Flying. These sections are well written and easily understood. There is a



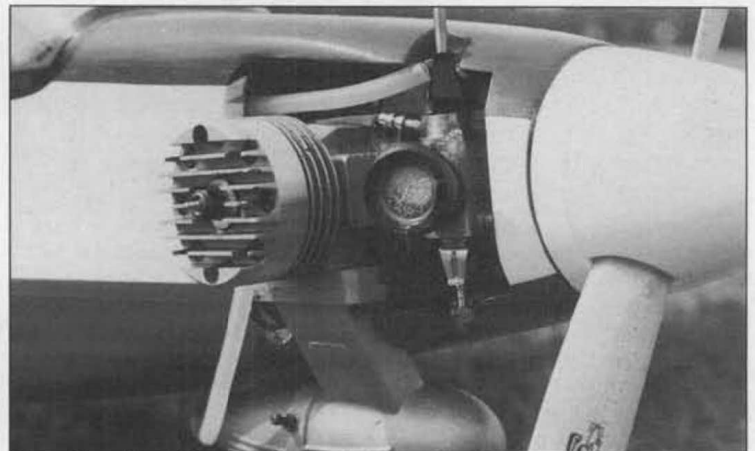
Nose section is formed by gluing thick balsa pieces in place, then carving and sanding the whole thing to shape. This is probably the most tedious task required on the entire model.



The underside wing fairing blocks installed and in the process of being sanded to blend into the fuselage.



Close-up of the Airtronics Vision radio installation. Rx and battery are wrapped in foam and secured with rubber bands for easy removal if necessary.



The author chose the new Fox Eagle .74 for his Ultra Sport and couldn't be more pleased with this combination . . . see text for comments.

chin and nose sides are of 3/8-inch balsa. The length of these pieces is determined by the particular engine used.

The instructions and photos clearly show how the parts are fitted around the engine, which is temporarily mounted during this step.

#### FINAL ASSEMBLY

Now comes the fun! If you are into wood carving, this next operation is for you, as the fuselage nose area is to be sanded to shape. The instructions state that some heavy sanding is required to properly shape the nose area. This is the understatement of the year! There is a *helluva* lot of hacking, carving and sanding involved. A good wood rasp and

#### FINISHING

The entire airframe is final sanded as smooth as possible and all dings and cracks filled in. The canopy is prepared and fitted to the fuselage, but not installed at this time. A nice feature with this canopy is that it has a protective plastic coating on both the inside and outside of the canopy to protect it from scratches. This plastic film is removed just prior to canopy installation.

The entire engine compartment must be thoroughly fuelproofed. I extended the fuelproofing over the outside of the fuselage nose area as well. With the engine temporarily installed, the wings can now be attached to the fuselage and the plane bal-

highlighted box with recommended control surface throws for both high and low rates.

#### ENGINE

I chose the new Fox Eagle .74 BB Ring Schnuerle engine, as I have used the Fox Eagle .60 III in the past and have found it to be reliable, extremely powerful and possessing an excellent rpm ratio between idle and full throttle. The engine was broken in using the Stu Richmond break-in method. The break-in procedure is involved and takes several hours to complete. However, the results are well worth it, as I ended up with a strong, smooth running, easy-to-handle engine.

## MODEL PLAN SERVICE

Complete set of MB plans, 12 pages, 8.5 X 11", \$2.00 ppd.

All Full-Size plans purchased from **MODEL BUILDER Magazine** include a reprint of the construction article, if building instructions were part of the article.

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## ULTRA SPORT

I can't say enough about this Fox engine; it is easy to start and is a real honker! Service is outstanding, too. A few months ago, I saw a Fox .74 powered model smite the ground vertically. The engine was severely damaged and was sent in to Fox on Monday and was returned all repaired and ready to run less than a week later. The repair bill was modest and the modeler was totally satisfied. That's what I call service!

### FLYING

As stated earlier, the model came out tail heavy and several ounces of lead in the nose was required to balance the plane. Weight of the model, ready to fly, less fuel, is 7-3/4 lbs. Radio is an Airtronics Vision and their #741 servos. Fuel used is Byron's 15% nitro, castor-synthetic blend. I have been using Byron fuel since it became available and have run it in everything from .25 through S.T. 3000 two-stroke engines as well as several four-stroke engines, and have yet to experience any problems with

the fuel.

The model was test flown on what the Floridians call a windy day, and what the rest of the country calls a light breeze. Although the crosswind component was 90 degrees to the runway, it did not appear to bother the model's track very much. It was readily apparent that I had over-propped the plane, so the flight was kept short. Landing in the crosswind was uneventful.

The prop was changed to a wooden Zinger 12x6, and another flight was made. A few rolls and snap maneuvers were attempted, as well as knife-edge flight. The model performed very well, and appeared to have no nasty traits. The model now has over a dozen flights on it, and the only fault I can find is that the wing appears to need a bit more dihedral, as it is slightly unstable around the longitudinal axis. When trimmed for level flight, it will wander into a very shallow left or right turn and continue until brought out of it. During knife-edge flight, it is fairly difficult to hold the wings in a vertical position.

All in all, this is a nice, stable, easy flying airplane and flies like a Super Kaos. If you have been flying moderately high performance high-wing four-channel trainers, the Ultra Sport 60 would make a good first low-wing model. It has a large speed envelope, which allows you to fly it at high speeds or just laze around the sky at half throttle. Landings are slow and predictable. Rudder, elevator and aileron controls are effective right down to stall speed.

The Fox .74 engine is an ideal choice for this model, as it has the power for vertical maneuvers, starts easily and has a beautiful idle. The engine was over-compressed, inasmuch as it would hesitate and slobber when going from idle to high speed. Two .010-inch shims were placed under the head, which cured the hesitation problem. I look forward to many happy flights with this engine and plane.

I want to thank my flying buddies, Don MacGeorge and Stu Richmond, for the help and antagonism given me during this project.

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