

## Electro Streak

**A high performance four-channel electric from Great Planes Model Manufacturing. It's a hot performer!**

• Being involved in a particular hobby for a long period of time can sometimes create a ho-hum attitude. To take this attitude away you need to find something new or different to stimulate your enthusiasm.

I must admit that over the last few years I have looked at electric powered models but was disappointed by their lack of performance in general. Most examples were gliders or basic trainers with electric motors installed and were very limited because of the weight involved. Yet the idea of a flight without the messy cleanup later still seemed the way to go.

Great Planes Model Manufacturing Company has taken a giant step into the electric powered radio controlled market with a kit which is the subject of this month's review. The "Electro Streak" is a state of the art design capable of aerobatic performance. Great Planes describes it as "a very smooth and stable flyer," yet it will perform all basic pattern maneuvers such as rolls, inside and outside loops, snap rolls, spins, inverted flight, Immelmans, hammer heads, Cuban 8's, and many others!! This looks like the plane I have been waiting for. My enthusiasm has just been stimu-

### By DICK MASON

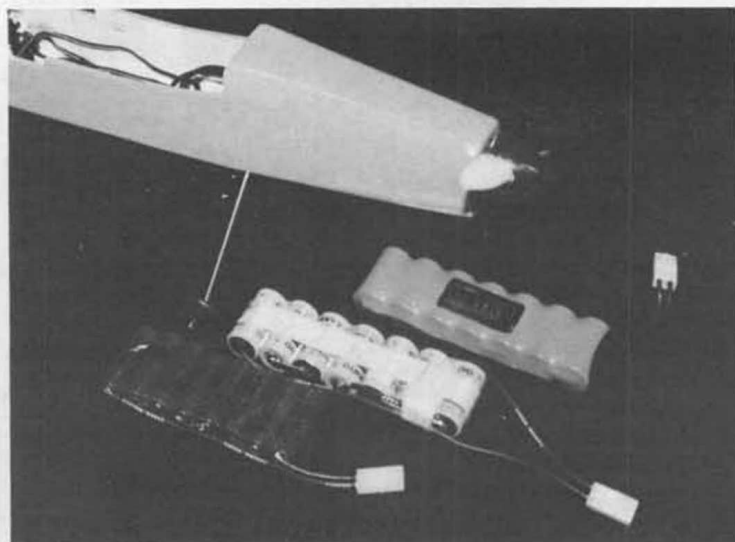
lated!  
**KIT**

Everything was packaged well. Sheet material was rubber banded together and all small pieces, both wood and metal, were sealed in plastic bags. The "Goldfire" motor was packaged in its own box and glued to the far inside left of the box to protect the fragile wood next to it. I understand from talking to others that this kind of quality and care is typical of a Great Planes kit. Also included is the 1988-1989 catalog and information about the Robart Speed Control. The plans are full size and very descriptive. They are all that is really necessary to build the model, but the manufacturer has included the most in-depth, complete building manual I have ever seen. From the first page to the last it contains a wealth of information about the Electro Streak and electric flying in general.

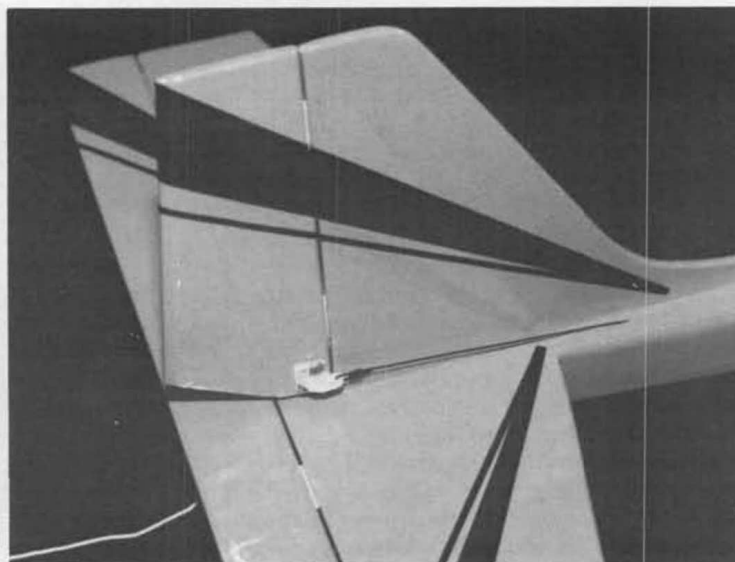
After reading the manual through you realize this model is something different. All balsa wood selected was as light as possible to obtain maximum performance. All through the building process light weight



is emphasized. You are looking for a finished flying weight of 40.5 ounces without landing gear and 42 ounces with the 1/8 inch spring steel gear with wheels. This sounds like it might be fairly easy, but it



Some of the batteries that were tried included two seven-cell 1200 mAh packs with Sanyo SCE and SCR cells, and an eight-cell 800 mAh pack (left). Latter gave more power but very short flights.



Cable operated rudder control is standard and all necessary hardware for it is included in the kit. Gives very positive control.



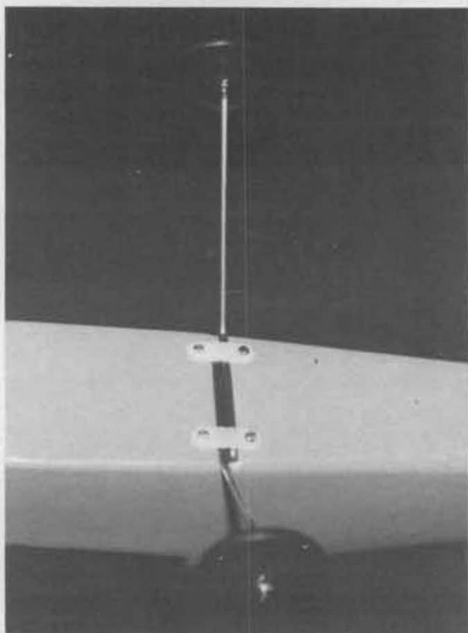
# PRODUCTS IN USE

takes care throughout the whole project to achieve this.

I decided to follow the instruction book step-by-step and see what happened. The first thing you must do is read the manual from cover to cover. An electric airplane is a whole new breed of animal. Even though the basic airframe is the same as gas powered models, you must learn different building procedures and terminology. Things like electric speed controllers, bat-



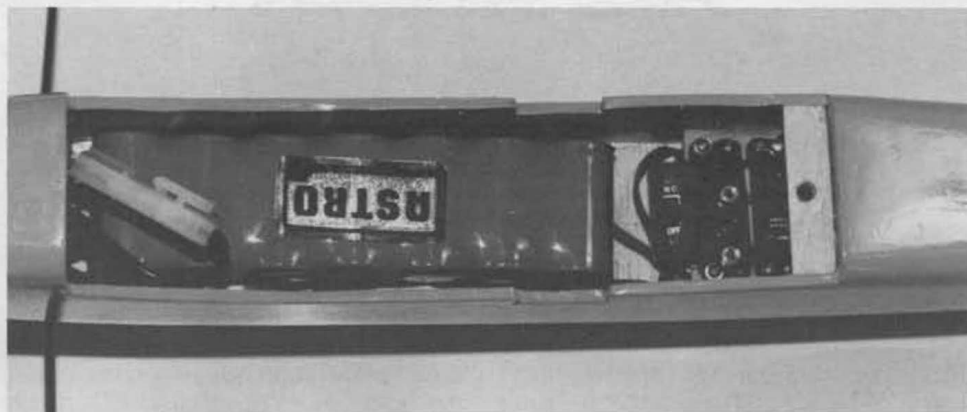
Front view with the prop and spinner removed shows the aluminum prop adapter mounted on the "Goldfire" electric motor, which is included as part of the Electro Streak kit. The bottom hole is an inlet for battery cooling air.



A landing gear on this model is optional, however, the gear struts are included in the kit for those (like our reviewer) who fly off of hard surfaces. Nylon straps hold the gear in place.



Our reviewer also chose to install a steerable tail wheel, controlled by cables from the rudder servo. Light, clean installation.



The finished fuselage, with all of the radio and electric power system components installed, including an Astro Flight seven-cell 1200 mAH pack.

tery selections, and battery chargers begin to surface. As you read through the first five pages you receive all the information necessary to build, finish, and fly your electric plane. All die-cut pieces are punched out perfectly and in case you forget which piece is which, they are all identified on page 5 of the manual. On to the "good stuff." On page 6 we start building.

## BUILDING

If you follow the manual step-by-step, you will have no problem with the construction. However, I would like to mention an area in which you might experience a problem. As you start putting the fuselage together around the four formers, you must use extreme care. The construction is so light it is possible to warp the fuselage. Mine did slightly but I was able to correct this when the top and bottom sheeting

3/8 balsa. The lightweight framework is then attached to the fuselage. The wing is even easier to build. All pieces fit together as if they were custom made. I have never built a quicker wing. Each rib has "alignment feet" which allows the rib to sit flat on the building board. After the wing is 99% complete, they are removed. Between the ribs, horizontal and vertical webbing is glued in place. This makes a strong but extremely light wing. The two halves are joined together, then 2-inch wide fiberglass cloth is applied to the center section. I used thin CA glue as per instructions and it worked out well. That completes the basic building section.

All servos, pushrods, and electronic components are now test fitted and then



Above: The ultra-clean lines of the Electro Streak show up well in this photo. The airplane has a fast, flat glide, so plan your landing approaches accordingly.

was attached. A quick trial fit of the electric motor in former #1 and former #2 found the right thrust perfect and just a little sanding of the top of former #2 made the down thrust correct also. Everything else went according to plan. I chose to install the landing gear and a steerable tail wheel because I fly off of a paved runway. Because the push rod for the elevator runs through the narrow rear of the fuselage, I used a free pivoting tail wheel mounted on a 1/16 plywood base. An extra set of cables were then attached to steer it. Page 13 has you stop and weigh the basic fuselage. It must weigh 2-1/2 ounces at this point. Mine was right on the money.

With the fuselage now complete, the next step is the tail feathers. They are quickly built up over the plans from 3/16 x



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tronics radio where the throttle servo lead normally would. Receiver harnesses are available from Robart and fit most popular radios.

### COMPLETION

The airframe was final sanded and covered in yellow and red MonoKote. Black pinstriping was added to match the vinyl cursive letter on the top of the wing. These letters are not supplied with the kit but may be purchased at a local advertising store where vinyl letters are available.

All servos, electronic components, push rods, landing gear, and velcro for the motor batteries are now installed. You can use the placement of components as shown on the plans without concern about the correct balance because your motor batteries can be moved easily to correct any problems. All pieces except the servos are installed using velcro. Do not use any foam around the receiver, battery pack, or speed controller. This would block or restrict the cooling air flow through the fuselage.

Great Planes recommends breaking in your "Goldfire" motor by running it without the propeller for at least a half hour. They also recommend doing this at a lower voltage. This allows the brushes to seat and provide full power for the first flights. The motor is now installed with a 7 x 6 Grish propeller supplied with the kit. The prop is attached directly to the motor shaft by a small aluminum prop adapter hub included with the kit. If you intend to use a 1-1/2 inch plastic spinner that snaps on, be sure and do one of the following: Assemble the hub, prop, and spinner together before attaching them to the motor shaft, or modify the three spinner snap lugs as mentioned in the plans. Snapping the front section on later without these precautions could bend the output shaft and ruin your motor.

### MOTOR BATTERIES

Great Planes strongly recommends a good quality 7-cell 1200 mAH battery pack. This will give you maximum flight time. Tom, from Robart Manufacturing, asked me to try an 8-cell 800 mAH pack and monitor the difference. The 800 mAH pack was later tried and although performance was up slightly because of the higher voltage, the flight duration was only 2-1/2 minutes. The 1200 pack offers the best choice all around. The manual was very informative and covered batteries very well. Any other questions were answered by Gary Hamilton, of Taft, California, and the guys at B & F Hobbies here in the Bakersfield area.

### FLYING

All control surface throws were set according to the manual and proved to be just right. Once trimmed out, the Electro Streak was everything the Great Planes people said it would be. This model is as smooth as any pattern plane I have ever flown. They said it was "highly maneuverable" and they were right again. Snaps rolls, and three-turn spins are effortless. I thought flying four-stroke engines with mufflers was quiet, but this is unbelievable! The only sound you hear is the prop. About 3-1/2 to 4 minutes of flying with the 1200

### Streak ...

removed. The instruction manual explains that you must have either an on/off switch or electronic speed controller to control the motor from the transmitter. My thought was, how awful it would be to have a project like this without proportional speed control. I contacted Tom

Walker of Robart Manufacturing and discussed the project I was working on. Tom was very helpful and one week later UPS delivered a model HQ500 Series Electronic Throttle and receiver harness. Boy! was I impressed. This unit is beautifully made and best of all it works perfectly. The HQ500 features proportional speed control with high speed and neutral adjustment. It has the capability of operating from 6 to 24-cell battery packs. This means it can handle up to 35 volts DC with an efficiency rating of 98%. All this in a small package that measures only 1.25 x 2.25 x .625 inches and weighs only 1.9 ounces. Other models are available from Robart with a proportional prop brake. The receiver harness plugs directly into my Air-

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pack and it's time to land. Be sure and make your approach low and shallow because this is one clean airplane. Keeping the nose slightly elevated will help bleed off airspeed. All surfaces were effective right to the ground.

#### SUMMARY

If you are like me and have never built or flown an electric airplane this is the one for you. Although it is not a beginner's airplane, anyone who has mastered the basics of R/C flying can fly it. Great Planes has made the transition from gas models to electric an enjoyable one.

Good luck and great flying. •

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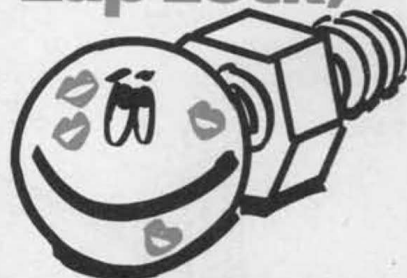
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