

## *Super Stearman*

Review by Al Lewis

As a relative newcomer to the world of gas RCs I decided early that I didn't have the patience, or the time, to build from kits. With that determined I entered into chancy world of ARFs. I had put together several very nice planes with great results and a lot of help from my neighbor and good friend Mike Everhart. I guess like everyone else in the sport I always had one plane in the back of my mind that I just had to have. I already owned a good trainer, the Nexstar, a great war bird P-51D Mustang, and a good stunt flyer the Sukhoi SU-31. I continually browsed the web looking for my "dream plane" not quite sure what I was even looking for. Then I finally found it, the Great Planes Super Stearman. This was a plane that had everything I could possibly want. It was not only a large scale but had beautiful details and appointments that would impress any flyer. I set out to find and read every review on the plane I possibly could. The first was very positive but had two problems. The first was that the author had used a Zenoah G23 gas engine and I definitely wanted to stay away from gas. The second was that he had used the aileron connectors with two servos instead of four servos. That led me to a recent review in one of the monthly RC rags where the reviewer had both used four servos for the ailerons and an OS 1.20 four stroke engine. As I had planned to use a Magnum 1.2 I figured that this would be the closest thing I would get to the plane I wanted to build. I happened to be in San Diego at the time doing some work on the USS Ronald Reagan at North Island but thanks to the power of the internet I was not only able to order everything I would need but, also confer with my neighbor and good friend Mike Everhart about what all I would need and what extras would be good to have. After all was said and done I purchased the plane, the magnum 1.20 four stroke engine, a Futaba PCM receiver with seven digital servos, the usual volt watch and beeper and, at Mike's insistence, an on-board glo driver. This later came in handier then I had thought thanks to the ingenuity of the second reviewer who had also used one. With everything on the way to the house I was set. All I had to do now was finish fixing an aircraft carrier and hop a plane for home to get started on my dream plane. As that wouldn't be for a few weeks I had Mike collect the packages from home and open everything to ensure nothing was broken or missing.



## **SPECIFICATIONS**

**Model:** Super Stearman **Airplane Type:** Sport IMAA legal - **Manufacturer:** Great Planes Model Distributors P.O. Box 9021; Champaign, IL 61826-9021  
<http://www.greatplanes.com/index.html> - **Street Price:** \$379.99 - **Wing Span:** 71.5" top wing 69" bottom wing- **Wing Area:** 1466 sq. in. - **Airfoil:** Semi-symmetrical - **Wing Structure:** Balsa and ply. - **Wing Joiner Method:** Plywood brace. - **Fuselage Structure:** Balsa, ply and fiberglass cowl. - **Fuselage Length:** 57 inches - **Pushrod Type:** steel with plastic guide tubes - **Pushrods Installed:** No - **Hinges Included:** Yes, CA type. - **Radio Included:** No - **Flight Controls:** Ailerons, Elevator, Rudder, Throttle. = **Engine Included:** No - **Engine Mount Installed:** No - **Engine Mount Type:** 2-piece heavy-duty composite (for 2 & 4-strokes only,) - **Fuel Tank Included:** Yes, 16 oz. - **Recommended Weight:** 14 - 15 lbs. - **Assembly Instructions:** A 40-page illustrated instruction manual - **Hardware:** Metric & SAE - **Hardware Included:** Yes - **Items Needed to Complete:** Two 12 -inch aileron extensions, two six inch dual connectors, Ernst receptacle to connect top wing ailerons, propeller, foam for cushioning, fuel filter, fueler valve, EDR 103 Glowlite with Deluxe wiring harness, radio 5 channels (minimum), standard 600-2000 mAh .

## **COMPLETED MODEL**

**Finished Weight:** 15.5 lbs. - **Wing Loading:** 23.5 oz/ft - **Engine Used:** Inverted magnum 1.20 four stroke, Prop: Master Airscrew 16 x 8, Wt. w/muffler 57oz. - **Muffler Used:** Magnum stock. **Prop shaft to Ground:** 14-inches. - **Radio Used:** Futaba 7CAP, Futaba R138DP (PCM) receiver, 7 Futaba S3151 digital servos - **Covering/Finishing Used:** Pre-covered with Top Flite Monokote - **Special Items:** See text. - **Actual Assembly Time:** approx. 50 hours.

**CHEERS:**

1. Great looking sport model.
2. Nice stable flying airplane.
3. Great packaging.
4. Great details

**JEERS:**

1. Monokote covering was loose.

**REVIEW:**

**The Kit**

I purchased the kit via the Internet from Tower Hobbies. As I also purchased the engine and all accessories with the exception of the Glowlite I split the order up and got three \$25.00 discounts. The plane arrived via FedEx with no exterior damage. Inside the shipping box was a colorful 48"x16"x13" box containing the Stearman parts. All special parts, fiberglass clad landing gear, cabanes, turtle deck were wrapped carefully in protective styro-wrap with all major parts, wings fuse, packaged and sealed in plastic bags.





Further inspection revealed the covering was loose on the wings, rudder, elevator and fuselage (especially the fuselage.) After approximately 3-1/2 hours of ironing and using a heat gun we eventually had the covering laid down. I had expected this as both reviews had criticized the plane for loose covering.

### **Wing & Tail Feathers**

Assembly starts with the typical installation of the ailerons using the CA type hinges. Next the wings are joined with 30-minute epoxy using the supplied plywood braces. The kit comes with a hardwood box that mounts atop the engine mount for counter-weights. The Manufacturer recommends up to 18 ounces of weight be placed in here to balance the plane. Ouch! Instead I followed the second reviewer and put both a four cell 1500 mAh Futaba battery (for the receiver, etc.) and the single C-cell battery to power the Glowlite. They both fit beautifully and with the aid of a little foam wrapping were snugly in place. These could be charged from remote receptacles which I mounted in the forward cockpit. I decided on the larger Futaba battery for the added servos and didn't want to trust to a 600 mAh which came with the receiver.

### **Landing Gear**

This plane has, without doubt, the most beautiful landing gear I have ever seen. Instead of the normal bent aluminum with white paint Great Planes has encased the aluminum in a molded fiberglass that add great detail to the plane and really makes it stand out. In addition to this they also provided painted cabanes and N-struts. The wheel pants are great but you will need micro-balloons when assembling them as they have a hard wood former inside for the strut to bolt to.



### Magnum 1.20 Engine Installation

Thanks to pre-installed nuts in the firewall the adjustable engine mount went in great and gave the engine the necessary one degree of down thrust and three degrees of right. In order to set the length from the thrust washer to the firewall, 6 1/4 inches, you must first assemble the dummy engine into the cowl. This is a bit lengthier than usual as the dummy engine is sent with the aluminum tubes for the pushrod tubes and requires painting and some amount of detailing prior to being epoxied in. With that done setting the engine in was routine and YES that spinner does come with the plane.



With the engine installed the only other thing necessary was to drill a couple of large holes, one through the inside back of the cowling, battery box and the firewall for the battery cables to exit and

another through the firewall by the cylinder for the plug wire itself. As these were rather large to accommodate the large connectors we then sealed them with some clear silicone.

### **Servo Installation**

The servo installation was rather unremarkable with one exception. As we had never dealt with a wing span of these proportions we found it necessary to pull the y-connector through the top wing half and then connect the servo and pull it back through. Several models I have built recommend that you put shrink wrap over the connection to ensure it doesn't part during flight however, I have found that the Futaba J female connectors have a small rectangular slot on the back side and if you place a drop of thin CA in the slot after firmly connecting the two plugs they pretty much become one. I once attempted to get two of these apart on a crashed model and could only do so with the add of a sharp exacto knife rendering them useless. We then cut a small hole near the left front cabane mount to exit the wire and plug which can be wrapped around the cabane and plugged into an Ernst connector we mounted in the fuselage at the base of the cabane. With regards to the elevator rod connection to the servo, the plane uses two rods to actuate the elevators as they are not connected in the middle. Instead of using the wheel retainers the kit recommends I took another tip from the review and silver soldered these together.

### **Final Assembly**

With all of the major components together there were a few detail items to take care of. One of these was the turtle deck which needs to be trimmed and glued in place. This was a little tedious but nothing any builder can't handle easily. Next was the question of the flying wires. These are not supplied but the instructions do tell you exactly what to use and how to install them. I'm afraid I really copped out on this one and only installed the permanent wires in the tail section. Although they look great and give the plane a great finish you have to keep in mind that the wings have to both be removed for transport requiring you to re-thread these elastic flying wires every time you take the plane out. Bolting the bottom wing on and then putting in the 8 4-40 SHCS into the top wing was more than enough work for me so I didn't bother with the main wing flying wires.

### **Balancing**

The airplane was balanced with the CG set 5 1/2 inches back from the lead edge of the top wing. With the wing incidence set and checked, mine was at 2 degrees for both wings, and the

batteries in the forward box the plane balance perfectly without any off the extra dead weights called for in the instructions.

### **Flight Testing**

Okay, so I'm a coward. The simple truth of the matter is I know my skills and limitations and I wasn't about to put \$1000.00 airplane in the sky for the first time. I got nervous just transporting it to the field. I took a long hard look at Mike when the subject was brought up and he nearly threw me out of his garage so I enlisted the skills of one of the top people I know in the club, Terry Hubbard. I had not only taking great pleasure in watching Terry fly but knew of his skills in building planes. Mike and I had run about 1/2 gallon of Wildcat 10% through the engine on the break-in procedure and then switched to a 16x8 prop and ran the engine for a further 20 minutes adjusting the mix with this prop. The engine was still a bit tight but with the Glowlite we were able to get it to idle smoothly at 2000 rpm. We arranged to meet Terry at the field between 8:00 and 8:30 on the Saturday. Luck was with me that day as the normal gray cloudy skies had given way to beautiful blue skies with a few high clouds and a slight breeze. Mike and I had checked out every connection and screw on the plane the night before and went over them all again at the field I assembled the plane and placed it on the start up stand and nervously waited for Terry.





On his arrival Terry looked over the plane and then went about instilling great confidence in me about my choice of test pilots. He asked us more questions about this thing than we knew you could ask. He then went about conducting test upon test on the plane and radio both with the engine off and then again with the engine running. This was a good sign!! By golly, I was going to take home a whole plane with this guy flying!! After we went over everything Terry finally taxi tested the plane several times. He observed the throws on the elevator and rudder and increased them slightly. The engine was still tight but started behaving itself after it got warmed up. I had adjusted the Glowlite to energize the glow plug from about 1/3 throttle down. Terry taxied the plane around a couple of times and then Mike held it in place so Terry could clear the engine out. After this it was taxied to the far end of the runway and throttled up for the take-off. The plane rose off of the runway rather nicely but then tried to climb. It seems that it required quite a lot of down elevator to trim it to level flight. In fact it required more than the radio could give it on the quick trim button. Terry climbed the plane out of the field and quickly got it under control. As it circled the field the thing flew beautifully scale. This was definitely not a plane you could jerk off the runway and pull straight up. This plane requires air speed to fly and the 1.20 engine brings that in gently. In the air the plane could pass for the real thing at a distance. The ailerons were a bit touchy but nothing a little exponential could cure. After several passes around the field with the plane doing well Terry made a couple of rolls and one loop. The plane handled them great! After a low pass down the runway and a mock approach run Terry brought the plane around and settled it down on the runway. The flight was over, the plane trimmed out and my nervous tension relieved. Terry taxied the plane back to the stand and we went into the radio and trimmed everything out there with the quick trims centered. I then put the plane back on the start up table and ran it for about 15 more minutes just to get some more time on the engine.

### **Conclusion**

The Super Stearman is just that, super! I can't tell you how much I've enjoyed building it and watching it fly for the first time. Terry said he was definitely impressed with the plane. Now I can't wait to fly it but that will have to wait for a little more time on the sticks and good weather. In the mean time maybe I can con uh! talk Terry into test flying my new P-51!!



### **Acknowledgments**

My deepest thanks goes out to Mike Everhart for all of his hard work in helping me to prepare this great plane. Of course I'll be forever grateful to Terry Hubbard. Terry's not only a skilled pilot and instructor but a great guy to turn out that early to help out a fellow club member. I won't forget his kindness soon.