

TWO BIG



HAFFKE'S MODEL E

The man who has designed more Gee Bee models than anyone else, turns his talents to the Sportster E.

By Henry Haffke Photos by the author

Five years ago, I built a model of the Gee Bee Senior Sportster Model Y, which turned out to be a beautiful flying craft. In searching for documentation on the aircraft, I eventually came in contact with Bob Granville, who was one of two surviving members of the famous five-brother team which designed and built the great Gee Bee aircraft of the early 1930s. Bob put me in touch with his other brother, Ed, and the two of them answered my request for documentation on the Model Y.

Ed passed away a short time after I first wrote to him, and I never met him—except through our correspondence. However Bob Granville and I became very close friends and I gained a wealth of information on all of the aircraft that the Granvilles had built. Few are familiar with all the aircraft that emerged

from their tiny factory at the edge of the Springfield Airport in Springfield, Massachusetts. As I became aware of all of this, my interest intensified and I probed for more information. Bob's interest in what he and his brothers had done was rekindled by my inquiries and together, we searched for more minute facts on the history of these aircraft.

We planned to write a book together, telling the whole story, which has never really been told. The story would be based on facts, not the garbage that has been written, read, and rewritten by authors over the years. My dear friend Bob Granville passed away over a year ago, and I have promised his family that I would complete the book. I need only a few more details about the youth of the five brothers before

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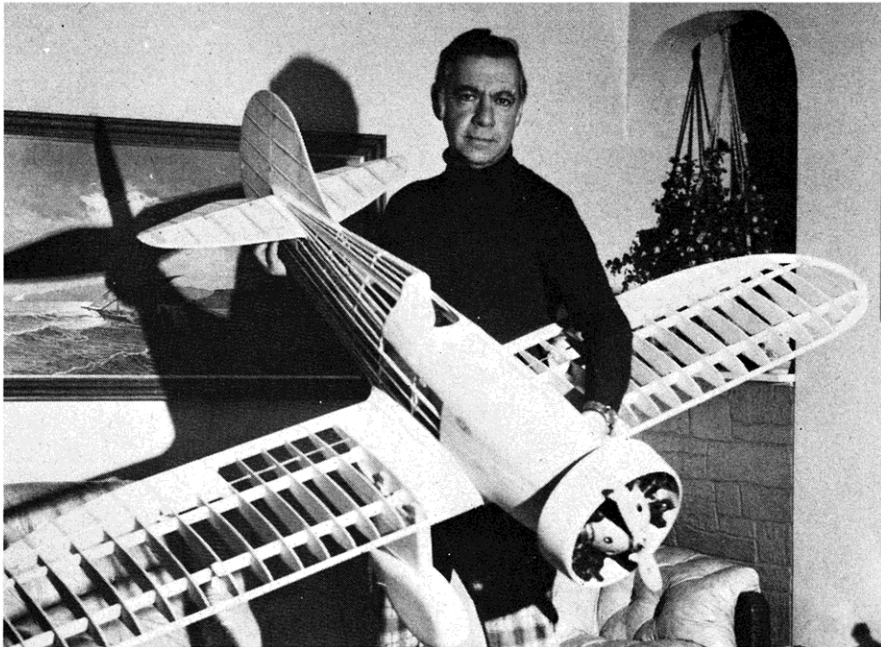
EDITOR'S PREFACE

Some of our readers may question our sanity in presenting two Gee Bees in the same issue. Not only are the two aircraft the same Model E variant of the Gee Bee Sportster series, but they are even painted in the same identical schemes. Well, we sort of felt that the old saw of "Twice as much is better" applied here; but it was more important to give our readers a chance to compare two independent works. One would think that anyone scaling a specific airplane would wind up having the identical model as anyone else who was doing the same thing. After all, a 1/4-scale Gee Bee Model E should look the same, no matter who builds it.

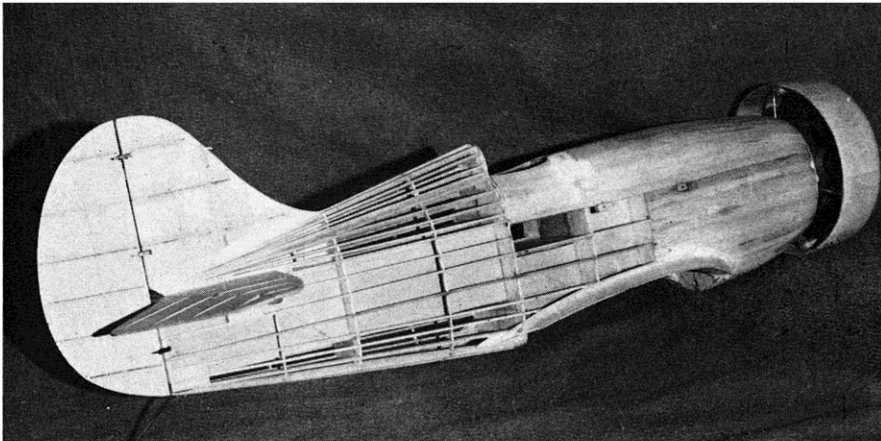
But, the plans show some amazing differences. We urge our readers to order both sets from Hal Osborne, and compare for yourself. The differences may be subtle, as you'll see, but they are there. If nothing else, this set of two parallel articles show just how non-parallel two "identical" airplanes can be. These two machines point up the graphic problems any judge is confronted with. The real question is: If you were a scale judge, which

HAFFKE'S MODEL E

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Joe Gallagher, who constructed the prototype, shows how big the Model E really is.



The fuselage framework shows a crutch-type structure, over which the stringers and sheeting are built. Note sheet empennage, with raised balsa slivers to simulate ribs.

putting it together. In our search for information, we were able to locate several of the men who owned and flew the Gee Bees. Also, eye witnesses to some of the accidents were interviewed and their stories were found to be very different from what had been written. One of those who were located was Bill Sloan, who owned not one, but two of the Model E Sportsters. Bill and I have carried on extensive correspondence for several years now. He has been extremely helpful in the research I have been conducting. There was always a question as to just how

around 50 hours on it when he obtained it. He had logged an additional 50 hours on it, when Zantford Granville contacted him with a proposition. Grannie needed a ship to be flown in the 1930 Ford Air Tour, and there was not enough time to build one. He asked Bill if he would return NC46V, for which Grannie promised to build him a new one. Bill told me that the prospect of having an aircraft built especially for him was more than he could pass up, and he agreed to return his first aircraft to Springfield. Lowell Bayles flew the NC46V in the Tour and won his class. In August of that year, Bill Sloan flew his gleaming new yellow and green Gee Bee Model E Sportster NC72V (Ser. #8) from the Gee Bee plant in Springfield. Bill raves over the way the two Sportsters flew. He performed in a lot of air shows. Bill has told me that he did everything in the aircraft that anyone had ever done in a plane . . . and he also feels that he probably did some things that no one had ever done before. The Sportster would do anything, and was a real joy to fly. He participated in many air races held in the area, and says that the Model E could not be beaten in its class. "Racing the Sportster was like taking candy from a baby," he reports.

He logged 995 hours in NC72V before selling the craft to Jack Wyman, of Philadelphia. Times were bad and he needed the money. Later when he was able to purchase another aircraft, he could find nothing that satisfied him after flying the Gee Bees. His time in the two Sportsters totaled over 1,000 hours which is undoubtedly the most time anyone ever logged in Gee Bees. His NC72V was the last Sportster built by the Granvilles. After the aircraft was owned by Jack Wyman, it was purchased by Johnny Crowell of Charlotte, N.C.

Johnny was a well known air show performer of his day, and correspondence with him relates the same feelings as those of Bill Sloan. He remembers most that it was "A hell of a good flying airplane." Later, Johnny Crowell traded the Gee Bee to Bill Sweet and Don Walters for a biplane they had. Don flew the Gee Bee in Bill's National Air Shows, and also raves over the ship's flying characteristics. He was making a landing at an air show one day when a truck suddenly pulled in front of him. The resulting mishap wrecked the Gee Bee and put Don in the hospital. The man and woman in the truck were killed, but the baby the woman was carrying in her arms

many of the Sportsters were built and Bill's records of the definitive serial numbers of his aircraft solved the long time question.

I have had other historians question my facts, because they misread things that had been written. Pictures had been found that gave false identities to some of the craft, creating subjects that never existed. For instance, there are a couple of pictures of NC11044 where the sun on the very shiny finish of the craft reflected out part of the last 4 and thus NC11041 was created. Later investigation proved that I was right and that NC11041 was indeed not a Granville-built craft.

Bill Sloan heard of a Gee Bee for sale and made a trip to Springfield, where he purchased the Model E (serial #7) NC46V. This craft had

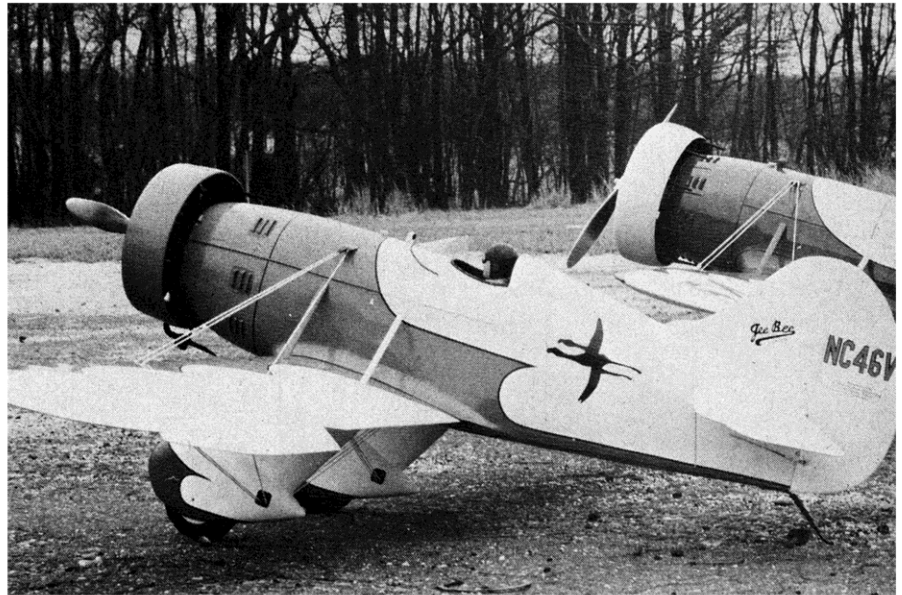
was thrown clear of the wreck and emerged without an injury. This happened near the end of the air show season. After the last show, Bill Sweet got Don out of the hospital (against doctor's orders) and drove him back home with the wrecked Gee Bee on a trailer behind them. The Gee Bee was taken back to Springfield, where the Granville Brothers put it back in flying condition over the winter.

Don wrecked the aircraft again when the Warner quit on him while practicing aerobatics. He located a field and set up a landing, while trying desperately to get the engine started again. The engine caught just before he reached the field, and he pulled up. But the engine quit again, and this time the field he had to land in was not big enough and he ran into a fence . . . completely wrecking the Gee Bee, even though he was not hurt. The craft was used for parts and was not repaired. The red and white wing of NC72V is now in the EAA Museum.

I have not been able to find out for sure how this color scheme came about, and I can only assume that, when the craft was rebuilt after Walters' first accident that it was repainted in the red and white color scheme. I know that the craft was still yellow and green when Walters obtained it from Johnny Crowell. There is a picture of NC72V as "Miss Amoco" with their logo painted on the sides. The Amoco colors were red, white and blue, so I can understand the aircraft being red and white when appearing as "Miss Amoco."

Bill Sloan's first Gee Bee (NC-46V) was used as a demonstrator and air show ship at Springfield, and was not sold again. In 1932, when Russell Boardman test flew the R-1 without a fin and very little rudder, he requested more fin and rudder area. This addition was installed at Bowles Airport in Agawam, Massachusetts, just across the Connecticut River from Springfield. Bowles was the field where all of the Gee Bees were test flown after their initial takeoff from tiny Springfield Airport. The additional fin and rudder area was added to the R-1 by Bob and Zantford Granville over the weekend following its first flight. On that Monday morning Boardman was to make the second hop with the revised tail surfaces.

He climbed into NC46V for the short flight to Bowles Airport where the R-1 was waiting. He took off in the little Sportster (which some claim was his first time in the craft). He attempted a loop on takeoff, it



The Model E was one of the most popular of the Sportster series. There are four paint schemes from which to choose.

is reported, which he had done many times in the Senior Sportster Model Y. However, the Senior was powered by a 300 hp P&W Wasp and the 110 hp Warner was just not enough engine to do what the Wasp would . . . Boardman ended up in the woods off the end of the field. His injuries prevented him from making further flights at the time, and Jimmy Doolittle became the pilot for the R-1 in the 1932 National Air Races a few weeks later. The crashed Sportster was beyond repair, and thus ended the life of NC46V.

Two other Model E Sportsters were built. The first was serial #4 and was painted Army blue and yellow. This craft had the spatted landing gear, as it was built before the full fairings were used for the first time on the #5 aircraft built by the Granvilles (Model D Sportster). The other Model E was serial #6, and was built for Skip Tibert. This NC11044 aircraft was red and white and was washed out when the pilot let someone else take it up for a flight.

The #4 aircraft was being delivered to a customer in early 1934 by Zantford Granville when it met its end. Zantford was making an approach to Spartansburg airport in South Carolina when the accident occurred. Reports in the newspaper of the town tell of airport workers on the runway being seen by the pilot just before touchdown, causing him to pull up suddenly and losing control of the craft.

A female member of the Granville family has told me that she does not feel that this theory is correct. Gran-

nie was too good a pilot to have lost control during an aborted landing approach. He was not scheduled to land at the airport where the mishap occurred. Her feelings are that Grannie may have felt sick, and was attempting to get on the ground at the nearest point. She feels that Grannie may have suffered the same fate that took the life of his father, and also the lives of each of his brothers—a fatal heart attack. The condition of Grannie's body when returned to Springfield, particularly the change in his hair, is what made her firmly believe that this is what may have happened.

* * *

All of the Model E Sportsters are gone, but we can re-create them in model form, as they make superb flying subjects. They were truly one of the most outstanding aircraft of their type in the history of aviation. Their pilots raved over their performance, and the Gee Bees leave behind a record of unparalleled air show performances and racing victories in their class.

The Model E is not a difficult subject to build. Everything goes together quite easily and quickly. Any of the four Sportster E subjects can be built from the plans and the only real difference was the landing gear on #4 (which is detailed on the drawings). The other three aircraft all had the fully faired landing gear legs and pants. The only other noticeable difference that can be seen in some pictures is a difference in the engine cooling louvers—which differed in number and location slightly from one model to another. Each aircraft was a different color combination, so there is a nice choice when deciding which one to model.

Fuselage:

Make up two basic fuselage sides of 4" wide sheet. Also make two 1/4" balsa wing saddle doublers. These doublers are glued to the insides between formers #3 and #6. Cut out the one-piece ply former #3, and the 1/4" ply firewall. Install them in their proper locations and let dry completely. While this is drying, put the structure upside down on a flat surface to keep proper alignment. Cut out the remaining formers and when the above structure is dry, install them. Add the top and bottom 1/4" sq. stringers to the nose section, and add the side stringers of 1/4 x 1/8" balsa.

Prepare the tail surfaces of soft 1/4" balsa and glue the stab and fin in place. The remaining top fuselage stringers may now be added. Taper the ends of the stringers where they meet the fin and stab. The lower stringers may be added after the wing is fit to the fuselage. Plank or sheet the forward section of the fuselage with 3/32" balsa. Add the 1/8" ply compression strut mounting plates. Glue the 1/8" ply tail-skid base and cut a spruce or pine block for mounting the skid, and add this to the ply base. When all stringers have been added, the fuselage can be sanded to final smoothness.

Tail Surfaces:

The tail surfaces are simply cut from 1/4" balsa and the edges are rounded. Scale hinges may be made of plywood (as shown) or your fa-

vorite commercial hinges may be used. The elevator halves are joined with one of the commercially available horns, such as those made by Sig.

Wing:

Prepare all ribs from the appropriate material and taper the bottom of the rear spar, as shown on the drawings. Mark the spars for rib locations and slide ribs on the spars. Support the spars on two leveling blocks between rib A, A-1, and between the last two outboard rib Cs. While the spars are supported on the leveling blocks (these blocks can be any height so long as they keep the ribs clear of the working surface), the ribs may be glued to the spars. Weight the top of the spars until the glue dries completely before proceeding. Add the 1/2" sq. leading edge and the trailing edge. Also add the 3/8" balsa block at the aileron location.

The tip parts can be cut from 1/4" balsa and should be added now. When this basic structure is dry, it may be removed from the leveling blocks. The second panel can be built in the same manner, except that it is built upside down on the leveling blocks, so as to have a right and a left panel. The 1/8" ply plates are added for attachment of the flying wires and the compression strut mount. Flying wire plates are needed on both top and bottom surfaces, while the compression strut mount plates are needed only on the top surface.

The landing gear mounting blocks are made of 1/8" ply, and may be installed in the cut outs in the inboard ribs. The ailerons are built by tack gluing the aileron leading edge in place and adding the aileron base sheet. Half ribs are added top and bottom, completing the aileron structure. The aileron can be removed from the wing after sanding to final shape, and a pine block can be installed at the inboard end for attachment of the torque tube. Drill the block for the torque tube.

Torque tubes are made of 1/4" aluminum tubing or similar, and are held to the aileron with a long screw through the bottom of the aileron. A 4-40 bolt is installed in the inboard end of the tube and this becomes the aileron servo crank. Use a ply bushing where the tube goes through the final rib B and a short piece of small tubing in the outer end of the aileron fits into a ply bushing at rib F. No hinges are needed with this installation as the aileron has bearing surfaces at ribs B and F. The two wing panels are joined after the aileron installation is completed.

The wing panels are joined by sliding the dihedral braces into one wing panel and gluing, and, when this is thoroughly dry, the panels may be joined by sliding the other panel onto the dihedral braces and gluing. Using the leveling blocks under one

The big wheel pants are made from balsa. The rigging is all done with elastic thread.



panel to keep it square to the building surface, the other tip is propped up and supported in a square position until the glue has dried completely. The center section can now be sheeted with 3/32" balsa, and the wing is ready for final sanding.

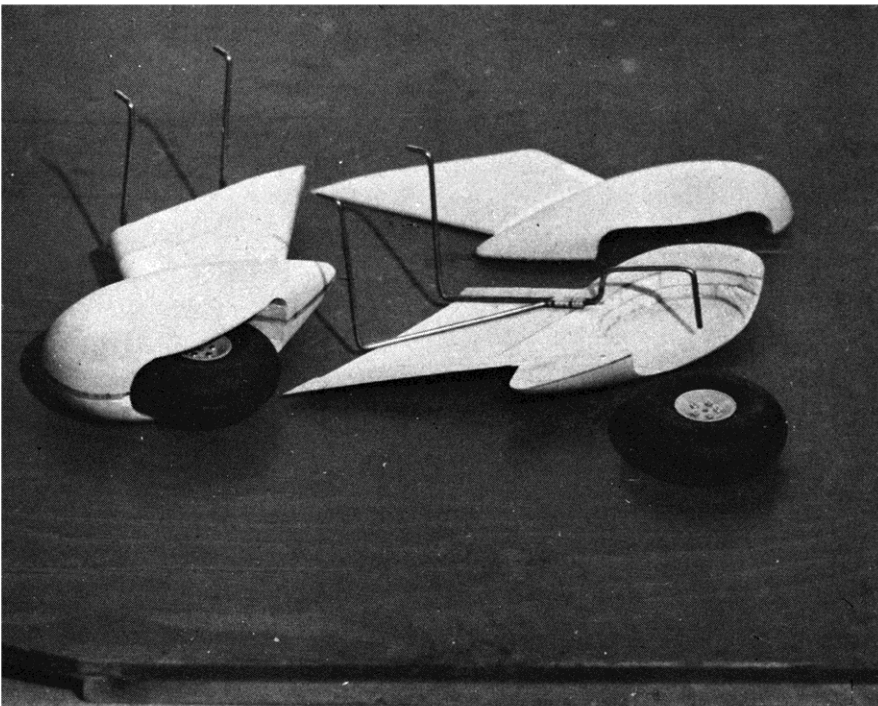
Landing Gear:

The landing gear parts are formed of the proper size music wire. The front and rear legs are mounted in the wing blocks with straps and screws. Bind the two legs together with fine copper wire and solder. The landing gear fairings are built up of layers of ply and balsa. Refer to the drawings and laminate these parts together. Clamp tightly or weight heavily until completely dry. When dry, install a locating dowel in the front and rear of wheel fairing. Tack-glue the two halves of each fairing together and carve and sand to shape. Install the wheels with a collar on each side and then sandwich the landing gear fairing halves around the wire legs. The halves may be glued together, or may be held together with screws.

Cowl:

The cowl is formed around a 9 1/4" diameter cylinder. If you cannot find a cylinder of this size, a simple cowl forming device can be made by cutting two 9 1/4" circles out of ply. Join the two discs together with a spacer of proper thickness. Cut strips of 3/32" ply 3 1/2" wide and form

The carved wheel pants, with the landing gear struts exposed. Some wire bending and soldering needed, but nothing very complex.



them around the cowl form. Add a second layer of 3/32" ply over the first—with the glue joints staggered from the first.

When the ply has dried, add three layers of 3/32" balsa, using the same procedure as with the first layers of ply. The layers can be held tightly in position with masking tape, or large rubber bands can be stretched around each laminate as it is added. This will hold the layer tight while the glue dries. When all layers have been built up and the entire structure is completely dry, it may be removed from the form and can be carved and sanded to final shape. The cowl is attached to the firewall with "L" shaped brackets of music wire. These brackets are held to the cowl and firewall with screws.

Dummy Engine:

Any model with a big radial cowl needs a dummy engine. The drawings show the layout for a very effective looking dummy Warner Scarab radial engine. The crankcase and shroud is made of a plastic bowl, or it can be made of a couple of layers of 1/2" balsa shaped as shown. Cylinders from Williams Bros. are glued to the crankcase, so as to form a snug fit inside the cowl ring. Trim the cylinders for this fit and the whole thing can be permanently glued to the cowl ring so that the cowl and engine are removed as a unit. They could be built as separate units if preferred, so that the model could be flown without the dummy engine in place when desired.

Detailing:

Of course, the detailing of any scale model can be carried as far as the builder desires. The main thing with the Gee Bee Sportster is the wing struts and brace wires. These are the things which give the model its character. The wing struts can be made of streamline aluminum tubing, or may be carved from spruce or balsa. The material is not important, as they are strictly for appearance and are not needed for strength. The brace wires are also not needed for strength and can most easily be made from the elastic cord available from any sewing center.

Brace wires are made by making a small hook, which is attached to the end of each brace wire. This hook is used to attach the wire to an aluminum bracket which extends through the fuselage. Three holes are drilled in each end of the bracket for attaching the three brace wires. The brace wires may be threaded down through the wing and then through the landing gear fairings. They can be attached on the other end to a small aluminum bracket screwed to the landing gear mount block, at the base of the opposite landing gear fairing. By using the elastic material, the wires will be taut at all times and can be easily removed.

Finishing:

There are many ways to effectively finish any model, and you may have your favorite method. Our Gee Bee was finished in a unique way which cuts finishing time and weight. The structure was prepared by a smooth sanding, and then it was given a coat of Corverite's Balsarite. The model was covered with Permagloss Coverite, and trim was applied with one of the plastic covering materials. This finishing method works very well if you can get the proper colors of these materials for the particular model you are doing. This gives a very light and durable finish.

The colors of the various Gee Bee Sportsters are as follows:
Serial #4 NC856Y Blue and Yellow
Serial #6 NC11044 Red and White
Serial #7 NC46V Green and Cream
Serial #8 NC72V Green and Yellow

All of these had a black pinstripe dividing the colors.

FLYING

The Model E Sportster is not a large model, as 1/4-scale airplanes go. It is just a little larger than



most .60-powered models. It is very peppy on a good .60, and more power is not needed. Be sure to mount the engine with about 1/8" of right offset. The model is short coupled and, without the side thrust there will be a noticeable left yaw when going into the high throttle mode. If the engine offset is used and the model is balanced where shown, it will be a very stable flying craft.

I like to fly my taildraggers in the grass and, as our club field has both a hard top and grass surface, I always use the grass strip. The E will track very straight on grass, and the tail will come up immediately. It will lift off probably before you expect it to, as it has a very light wing loading and needs very little speed to fly. Mine fooled me on

my first flight, and it was in the air with full up elevator (which I was holding to keep the tail down). It floundered a few seconds, until I straightened it out with rudder and down elevator, at which time it regained its composure and I got my breath back.

The Gee Bee climbed out nicely, and the rest of the flight was very uneventful. It did everything I tried, and I found that it was very gentle, yet would respond to the slightest control movement. The elevators, though not touchy, are very effective and require less movement than would be thought to execute a loop. The model is surprisingly fast, in spite of all that drag from the big radial front end, struts, and brace wires. It slows up very well for land-

ing. To stretch the landing approach, a little power is needed. It is a very enjoyable model to fly, and any Gee Bee is a beautiful thing in the air.

If anyone wishes to use his Gee Bee for contest work, I will be glad to assist with documentation. I have a good selection of original photos of all of the Model E Sportsters, and will be very glad to have prints made for anyone who needs them. Write to me directly: Henry Haffke, 1038 West Elmer Rd., Vineland, NJ 08360. Good luck with your Gee Bee and I hope you enjoy it as much as I have mine. □

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