Original Gee Bee Sportster, designated Model X, had air-cooled Cirrus engine and rigid landing gear with Goodyear Airwheels. Wire wing bracing attached directly to axles.

The Gee Bee Sportsters

Although they were a short-lived line, the speed and design of aircraft produced by Granville Brothers Company so captured the public fancy that today, nearly 35 years after their demise, they are still well remembered in air racing circles

by PETER M. BOWERS / AOPA 54408

■■ "Gee Bee," standing for Granville Brothers, is a famous name in American aviation history. Although the firm shut down in 1934, the name lives on and has practically become a synonym for the unlimited racing planes of the 1931-1933 period. This is perhaps unfortunate, for the lasting fame of only two high-powered racing models has almost obliterated memory of the interesting line of general aviation *Sportster* models that led up to them.

The fame of the "big" Gee Bees, which rode a winning streak for barely a year, is out of proportion to their actual accomplishments. The first of the unlimited racers, the Model Z, took four first places in the 1931 National Air Races, including the main event, the Thompson Trophy. Piloted by the famous Jimmy Doolittle, Model R-1 set a world's landplane speed record at the 1932 races and also won the Thompson Trophy. A sister ship, the R-2, placed fourth in the Bendix cross-country race and fifth in the Thompson the same year.

While such a short career would not ordinarily make one name outshine others that saw longer service and more consistent winnings, something more than mere technology was working for the Gee Bees. The Horatio Alger development of the firm and its products, the mystique of racing, and the unique appearance of the planes themselves combined, like the breaks of show business, to transform a short and spectacular career into everlasting fame and superstar status.

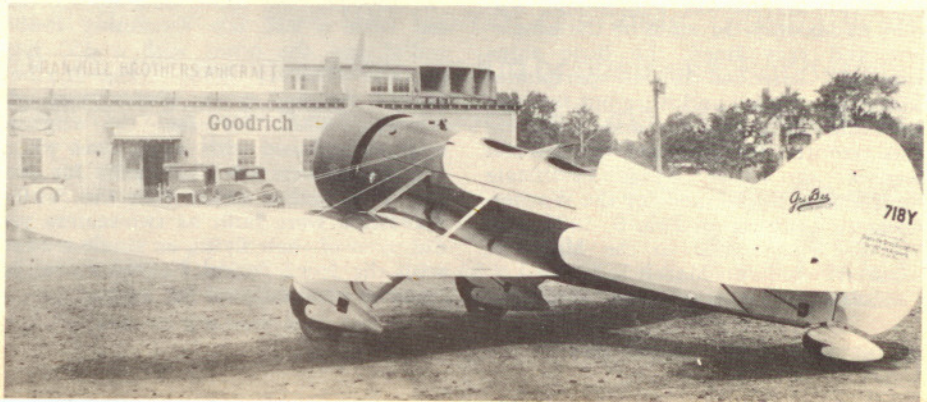
The Gee Bee firm didn't start out as an aircraft manufacturer. Zantford Granville, one of five brothers, started an aircraft repair business in 1925. Unable to obtain a lease on a suitable building located on an airport, he built a complete mobile shop on a truck bed. Business boomed in the period following the Lindbergh flight of 1927 and a formal corporation, Granville Brothers Aircraft, was formed at Springfield, Mass. All five brothers participated in the management and operation. The first product was a small two-seat biplane, the Model A, powered by a 100 h.p. Kinner radial engine. The only unusual feature of this design was side-by-side seating instead of the traditional tandem arrangement used for most open cockpit biplanes of the day.

The next Gee Bee design, designated Model X but given the name *Sportster*, was entirely different. Intended as a relatively low-cost and docile sport plane, it was a single-seat low-wing monoplane that drew heavily on the design features of the revolutionary Travel Air "Mystery Ship" that had beaten higher-powered military models to win the 1929 Pulitzer Trophy Race. (This was the main event of the National Air Races at the time but was replaced in 1930 by the Thompson Trophy Race).

Both designs were an odd mix of old and new. Low-wing monoplanes with

Improved Sportster was fitted with 110 h.p. Warner radial engine and designated Model E. More flying wires were used for added structural strength. Photos by the author

First of the two-seat Model Y Senior Sportsters was powered with 215 h.p. Lycoming engine. This was the model that, with a 450 h.p. Wright J-6-9 Whirlwind engine and front cockpit covered for added streamlining, achieved greatest fame as a racer.



good streamlining were the latest thing, but the wire bracing of the wings was a feature that had pretty well disappeared, along with monoplanes in general, early in World War I. Not until the late 1920's was the monoplane able to stage a comeback. For the low-wing design, wire bracing had certain advantages over struts, and the combination paid off handsomely for Travel Air, Gee Bee, and their numerous imitators. The Gee Bee also took advantage of a then-new development, the Goodyear Airwheel, to simplify design. The fat, low-pressure tires, developed by Mussleman, were capable of taking landing shocks all by themselves and eliminating the need for shock absorbers to be built into the landing gear. By using these wheels, the Granvilles were able to anchor the flying wires directly to the ends of the axles of their Model X.

Fuselage and tail were conventional welded steel tube structures with fabric covering. The wings used solid spruce spars, built-up wood ribs, and were also fabric covered. In addition to the streamlined flying wires that carried the flight loads, short aluminum tube struts were fitted between the top of the wing and the fuselage to transmit the loads of the wing-mounted landing gear to the upper longerons. Power plant was a 110 h.p. inverted American Cirrus, a development of the well-known British air-cooled power plant. Fuel was carried in two wing tanks and was pumped to a small gravity tank in the fuselage. Some *Sportster* models had special jets in the carburetor fed by the wing tanks for inverted flight. In spite of the overall good streamlining, the single cockpit was open.

While the original *Sportster* wasn't intended as a racer, circumstances soon made it into one. It first made headlines through its participation in the 1930 American Cirrus Derby. The derby wasn't an air race in the usual sense, but was a 5,541-mile tour, made up of general aviation planes powered with various versions of the American Cirrus engine built by the sponsoring organization. The tour started at Detroit, Mich., went south and west as far as Los Angeles, Calif., and returned to Detroit. A pure racing design took first place but the sturdy little Gee Bee, piloted by Lowell Bayles of the Brinton-Bayles Flying Service of Springfield, Mass., owner of the plane, took second at an average speed of 116 m.p.h. This was a respectable performance for only 110 h.p.

This performance put the *Sportster* in the aviation spotlight. Its production, to the degree possible in a tiny shop in the first year of the big depression, was soon under way. In spite of the single-seat and racy lines, the little ships were still intended to be sportplanes rather than racers and were put through the engineering analyses and structural tests required for standard commercial licenses. Approved Type Certificate Number 398 was issued for the Warner-powered *Sportster* on Feb. 6, 1931, and ATC-404 was issued to the Menasco-powered version on March 7, 1931.

While all the single-seat *Sportsters* were essentially the same airplane, minor differences soon developed. In spite of its derby performance, the Cirrus engine had its shortcomings and was used as initial equipment in only one other *Sportster*. Those powered with other air-cooled in-line engines, such as the 95 and 125 h.p. Menasco or the 135 h.p. Ranger, were designated Model D, while those with air-cooled Warner Scarab radials of 110-125 h.p. became Model E.

Since the planes were built one at a time, minor improvements were made as experience was gained. This was most apparent in the landing gear. While some contemporary lightplanes were built with rigid landing gear and Goodyear Airwheels and proved quite successful with them, the hot little *Sportsters* dropped in just a little too hard for the airwheels to take all the load. Shock absorbers were added. This meant relocating the flying wires to a more rearward position, where the gear was still rigid, and mounting the wheels on pivoted arms that were attached to conventional oleo-pneumatic shock absorbers. This basic arrangement, which differed considerably from that used on the Travel Air, was later adopted by the famous Boeing P-26 fighter of 1932 and by the Ryan ST *Sport* trainer of 1934 that developed into the Army PT-22 trainer of early World War II.

SPECIFICATIONS AND PERFORMANCE

	Sportster D	Senior Sportster Y
Span	25 ft.	30 ft.
Length	17 ft. 3 in.	21 ft.
Wing Area	95 sq. ft.	138 sq. ft.
Height	6 ft.	—
Power Plant	Menasco C-4 125 h.p.	Wright J-6-7 240 h.p.
Empty Weight	830 lbs.	1,425 lbs.
High Speed	150 m.p.h.	165 m.p.h.
Cruising Speed	130 m.p.h.	140 m.p.h.
Landing Speed	50 m.p.h.	56 m.p.h.
Climb	5,000 ft. in 4 min.	5,000 ft. in 3 min. 20 sec.

The little *Sportsters* were popular, but had the antisocial attributes of all single-seaters. The pilot had to have his fun alone. In response to demand, the Granvilles developed the two-seat Model Y, which they named the *Senior Sportster*. This was essentially a 20% enlargement of the single-seater with two seats in tandem and a larger engine. Only two "Y" models were built, one initially fitted with a 215 h.p. Lycoming R-680 radial and the other with a 300 h.p. Pratt & Whitney R-985 Wasp Jr., but several optional power plants were advertised. Both "Y's" had the original engines replaced with larger ones when the planes were used primarily for racing. It is rather ironic that the *Senior Sportsters* were built as two-seaters yet did most of their flying as single-seaters with the front cockpits covered over to improve streamlining for racing.

Although built originally as standard license types, it was inevitable that the *Sportsters* should undergo modifications to improve their racing capabilities. This was due to the nature of American air racing at the time. Major races like the National Air Races were one-week to 10-day affairs, with as many as 15 or 20 races for airplanes in a great range of engine displacements. Any general aviation pilot who wanted to race his stock model or modified airplane in its class and didn't mind running the engine wide open for the full course could participate. There was no requirement then for "professional" racing status. In addition to the pylon events in front of the grandstands, there were a number of inter-city races scheduled in connection with the Nationals and other major races that sportsmen-pilots could enter. Unfortunately (or fortunately in the eyes of some) these events were whittled out of the races starting in the early 1930's until, by 1939, there were just a few pylon events left, and these were in the province of the professionals.

The *Sportsters* were natural racers in their power plant classes by the simple logic that a little single-seater with a given engine was going to be faster than a bigger stock model with the same engine. The little Gee Bees lost no time in proving the point. However, while they scored an impressive number of wins and lesser places in the 1931 races, their record is little remembered today because of the spectacular sweep of that year's unlimited events by the high-powered Gee Bee Model Z that had been named the *Super Sportster*.

The Model Z crashed during an attempt on the world's landplane speed record in December 1931, so the Granvilles and the Springfield Air Racing Association, that had been formed to finance and race the Model Z, built two improved models for the 1932 racing season. These were also *Super Sportsters*, designated R-1 and R-2. While no new single-seat *Sportsters* were built, existing versions were cleaned up and both *Senior Sportsters* got bigger engines and continued their assault on the pylons. Gee Bee was again the magic name in unlimited racing at the 1932 Nationals, but that was to be the end of it. Although entered in the Nationals the following year, both R-1 and R-2 suffered a series of mishaps and pilot fatalities, and never completed another race. The wrecks of R-1 and R-2 were combined and given R-2's identity for the 1934 races, but this restoration was eliminated in a pre-race crackup. Rebuilt by a new owner, it crashed on takeoff at the start of the 1934 Bendix Transcontinental Race.

The little Model D and E *Sportsters* were pretty well outclassed by this time by new built-for-the-purpose racers in their displacement classes, but the "Y's," with their heavier power plants, continued the Gee Bee winning streak into 1933. However, since they ran in the less publicized events, their more consistent performances were unable to match the dazzling reputation earned by their bigger brothers. □