

## YESTERDAY'S WINGS

# The Star Cavalier

by PETER M. BOWERS / AOPA 54408

■ ■ The "Lindbergh boom" of the late 1920s made the public aviation conscious and opened up a market for a whole crop of new, low-powered designs that were better suited to the needs of the private pilot than the open-cockpit biplanes that had been the industry standard since World War I.

One of these was the Star Cavalier, introduced in September 1928 by the tiny Star Aircraft Co. of Bartlesville, Okla. Although the new craft looked like nothing more than a contemporary Ryan Brougham or Curtiss Robin scaled down to use a lower-powered engine, the Cavalier had a lot of design experience behind it. It was created by a two-man team, William D. "Billy" Parker, general manager of the company, and E. A. Riggs, chief designer. Both had been designing and building airplanes since before World War I.

Everything about the Cavalier was conservative. The structure used welded steel tubing for fuselage and tail, and wood for the wings, all with fabric covering. The cabin seated two, side-by-side, at dual stick controls. This arrangement had been tried several times for both commercial and military two-seaters but wasn't well suited to open-cockpit biplanes. It was a natural, however, for the post-Lindbergh crop of monoplanes.

Besides making for easier communication, side-by-side seating is the logical solution to the weight and balance problem that plagues light tandem-seaters. The lighter the airplane, the greater the percentage of the overall weight taken up by the relatively fixed weight of the crew. With side-by-side seating, where both crew members sit right on the center of gravity, there is no significant change of trim if one seat is not occupied.

Although the Cavalier was flown in 1928, it was not awarded an approved type certificate until April 1929, when the Model B, powered by the 55-hp Velie M-5 air-cooled radial, received ATC No. 138. Production was virtually on a custom basis, and only 13 Cavalier B's are known to have been built.

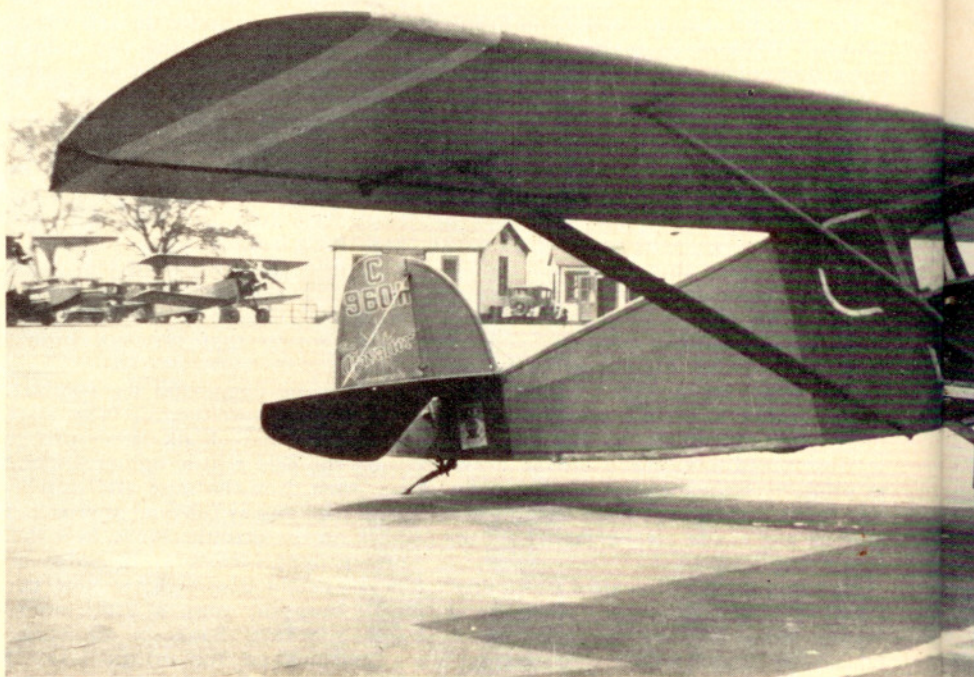
The Velie engine proved to have many shortcomings, and several competing models were tried. The same airframe with a 65-hp Le Blond 5-D, designated "Cavalier C," received ATC 255 in Octo-

### STAR CAVALIER

#### Specifications and Performance

	Cavalier B	Cavalier E
Span	31 ft 6 in	31 ft 6 in
Length	19 ft 11 in	20 ft 1 in
Wing area	157 sq ft	157 sq ft
Powerplant	Velie M-5 55 hp @ 1,750 rpm	Lambert R-266 90 hp @ 2,375 rpm
Empty weight	862 lb	919 lb
Gross weight	1,400 lb	1,425 lb
High speed	100 mph	115 mph
Cruising speed	85 mph	98 mph
Initial climb	575 fpm	850 fpm
Ceiling	10,000 (service)	16,000 (absolute)
Range (28 gallons)	500 mi	355 mi
Price	\$2,985	\$3,450

The Star Cavalier was a side-by-side two-seater powered by various small radial engines. This is a Model B; its powerplant is the 55-hp Velie M-5. Airframe and structural details of the B, C, and D models were identical.



ber 1929, but only two were built. Two more, with the 80-hp British Siddley Genet engine, were designated "Cavalier D." These did not qualify for a full ATC but got the lesser Category 2 certificate 2-191.

By this time, the depression was well under way, and competition for the few customers that remained was fierce within the industry. Parker and Riggs saw a need to improve the basic design and soon introduced the Cavalier E. This model incorporated an extensively redesigned fuselage and tail assembly and introduced many refinements. One of the most noticeable of these externally was replacement of the original round-section steel-tube lift struts—



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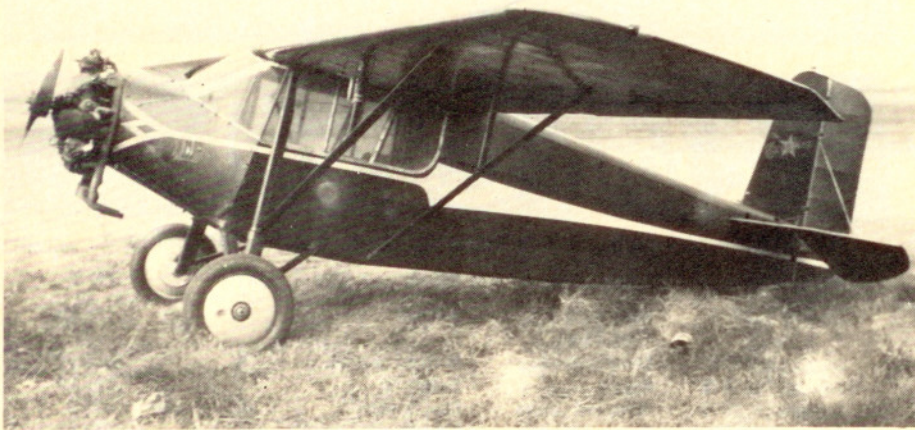
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February 9, 1976	Hong Kong & The Orient	Chicago	16	799.00
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March 1, 1976	Russia	Baltimore	9	559.00
March 1, 1976	Hong Kong & The Orient	Oakland	16	699.00
March 2, 1976	Mayaland Cruise	New Orleans	13	from 1,095.00
March 6, 1976	Caribbean Cruise	Baltimore	7	from 599.00
March 6, 1976	The Great Escape in Hawaii	Boston	8	599.00
March 8, 1976	Hong Kong & The Orient	Pittsburgh	16	799.00
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\*Plus 10% taxes and services. \*\*Plus 15% taxes and services.

The Cavalier E featured an extensively redesigned fuselage, larger tail surfaces, a longer nose, and a redesigned landing gear. Power was supplied by a 90-hp Lambert R-266.



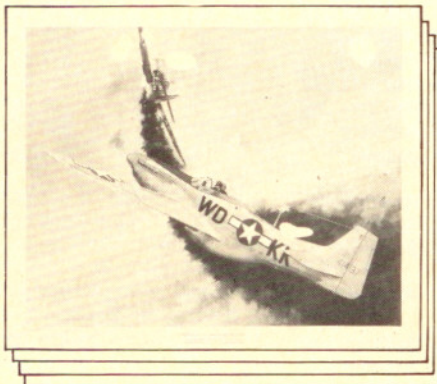
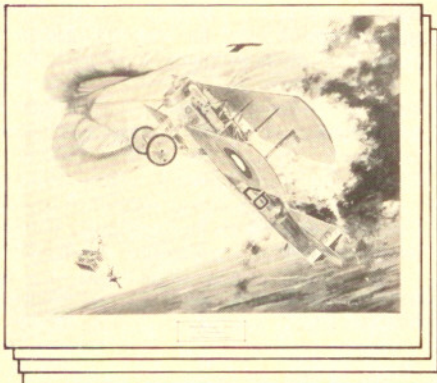
which had been faired with sheet metal —by streamlined tubing. Another was replacement of the rubber-ring shock absorber system by an oleopneumatic type that incorporated a long compression strut, running from the axle to the point where the front spar of the wing attached to the fuselage. ATC 321 was awarded to the Model E in May 1930.

All the improvements did little, unfortunately, to help the Cavalier catch up with the competition, notably the very similar Monocoupe, powered by the same engine but having both racier lines and snappier performance. An effort was made to increase the speed of one Model E by clipping the wing three feet and adding wheelpants and an engine speed ring. This modification brought the top speed up to 126 mph, but it wasn't enough. The production run of E's was only 13, through 1931.

Although the company suspended practical production, it did not go out of business. A few other Cavaliers were built, the last being a Model B turned out in 1936.

As nearly as can be determined, 38 Cavaliers were produced in all. Of these, two survive today in the hands of antiquers. □

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