



THE NEW Beechcraft SUNDOWNER

Increased visibility
and speeds well above
factory numbers add a
few surprises to
a comfortable flight

By BERL BRECHNER / AOPA 466558

■ ■ Dewdrops that had fallen over the Maryland countryside overnight glistened on the new paint of the Beechcraft Sundowner. By chance, the new plane had been tied down adjacent to its brother (four years removed), a Beech Musketeer. The plane in the next spot was aging; its paint was so washed out that it would no longer collect the beads of dew.

"The Sundowner is not a Musketeer," stressed Pete Agur, Beech Aircraft Corporation's young southeast zone manager. Looking at the two planes side-by-side, it would be hard to deny their relationship; however, using and flying the Sundowner proved it to be several paces ahead of its older brother.

Since its inception three years ago, the Sundowner has suffered from an identity crisis, being either confused with its predecessor, or overshadowed by that Beech classic, the Bonanza, or lost among the two other light singles Beech offers—the Sierra and the Sport.

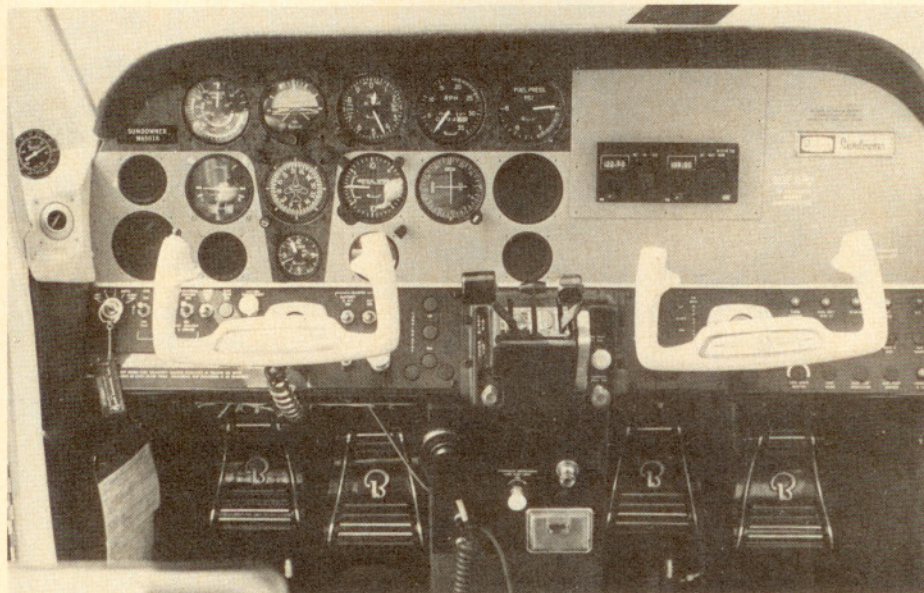
The aircraft offers a mixture of features. For instance, with 180 horsepower it has 30 more horses than Beech's basic airplane, the Sport, yet it has neither controllable pitch prop nor retractable gear, both of which are found on the Sierra a step up. The plane has a base price of \$21,000. And the Sundowner, flown recently by The PILOT, with only a King nav/com set (\$2,200), plus the middle-of-the-road comfort/convenience package and several other small options, was priced at \$26,623, before taxes and registration costs.

Apparently, such an airplane does interest a good number of pilots, because 1,600 of them have purchased the plane since the Musketeer first came out in 1962. If you want good speed, quality workmanship, and four seats, but are not interested in a retractable model, the Sundowner may be the plane to choose.

One of the big changes from the Musketeer—and one of the nicest—was the granting of a door on the pilot's side of the cabin. No more broken kneecaps or footprints on the upholstery.

The Sundowner may look a little snub-nosed and chunky, and its fixed gear with no wheel fairings seems very out of place, but the plane is utilitarian.

Inside the cabin, Beech craftsmanship is apparent. Seats are richly colored, woven fabric with vinyl trim. The panel has a fake-tortoise-shell material that emphasizes the T-placement of the basic flight instruments. Large, stretch-open pockets line the two doors and the seat backs for quick stowage of charts, sunglasses, or a computer. Wall-to-wall carpeting is standard, all the way to the back of the luggage area. The cabin, in total, is a pleasant, eye-appealing combination of good taste, excellent workmanship, and utility. Leg room and head room are good, and 270 pounds can be carried in the 24.3 cubic feet of baggage



An imitation-tortoise-shell backing highlights the sensible T-arrangement of the primary flight instruments.

space.

A look at the outside of the plane again showed craftsmanship, but revealed a couple of features that might bother some pilots. For one, the cowl provided only one small opening for the oil filler neck. Further inspection of the engine compartment would require removal of the top cowling, which is latched on with 16 Dzus fasteners and another eight screws. Also, the flap hinges extend three or four inches below the bottom wing surface, leaving them more vulnerable than you might wish. The plane is equipped with flush-locking, nonventing gas caps—good for the airflow, but sometimes hard on the fingertips.

Beech thoughtfulness, however, has provided pleasant features to offset any bothersome points. The ELT, which is standard equipment, is located deep in the tailcone. But Beech has put a little opening in the fuselage to permit you to poke a finger in and check the ELT switch position. A spring-loaded hatch closes when your finger is removed. Landing light and taxi light (both options) are mounted on opposite wingtips to shine over a broader field of view at night. There are also two static vents, one on each side of the fuselage.

As you look over the aircraft, you see a slot between the aileron leading edge and the wing. The slot, explained Agur, allows air to flow over the control surface even at high angles of attack, providing aileron control all the way into a stall. Flying the plane later proved this to be true.

All three tires are the same size, 600-6, which makes rough-field handling good, and tire pressures easy to remember. The mains are spaced wide, almost 12 feet apart, giving great taxi stability,

but leaving the uninitiated dragging a wheel in the dirt on occasion. Nosewheel steering is tough enough to demand a touch of toe brake (standard on the pilot's side), in the direction of your turns. But once you're used to it, the craft handles comfortably and firmly on the ground.

In the cockpit, a couple of changes are in evidence since The PILOT's last check (May 1972) on the Sundowner. Formerly, both the magnetic compass and the outside temperature gauge were near the center-bottom of the windshield. Now the temperature gauge is in a niche at the far left corner of the windshield, and the compass is mounted toward the top-center of the Plexiglas. Neither makes a noticeable dent in visibility.

The panel is an inch or two lower than in previous models, and is substantially lower than it was in the Musketeer. Peering over the nose is easy. In flight, the pilot sits slightly aft of the wing leading edge, which reduces downward and rearward viewing. But three side windows (one at the baggage compartment) add a little peace of mind when it comes time for a turn, either in the air or on the ground.

Instrument layout on the panel is fine, but the switches are another matter. In a line along both sides of the pilot's control column is an array of toggle switches. Some control lights, another activates pitot heat, another is for electric trim, one more is for the fuel boost pump, and two others are the master switches. Most are two-position switches, but one has three positions. Most are off when down, but the beacon/strobe light is off in the middle position and on in the down position. For the pilot unfamiliar with the plane, it takes a little getting used to.

The engine controls, though, are comfortably planted in a center-panel con-

sole. Left to right are throttle, carb heat and mixture, each with a distinctively shaped handle for tactile recognition. All three controls were black on the Sundowner I flew, but Agur said the factory would be color-coding the controls (black, blue, and red) to distinguish them even further.

Heat and defroster controls are to the right of the console, beside a space for an optional electric flap control. Standard flaps are manual, operated by a four-position, floor-mounted hand lever.

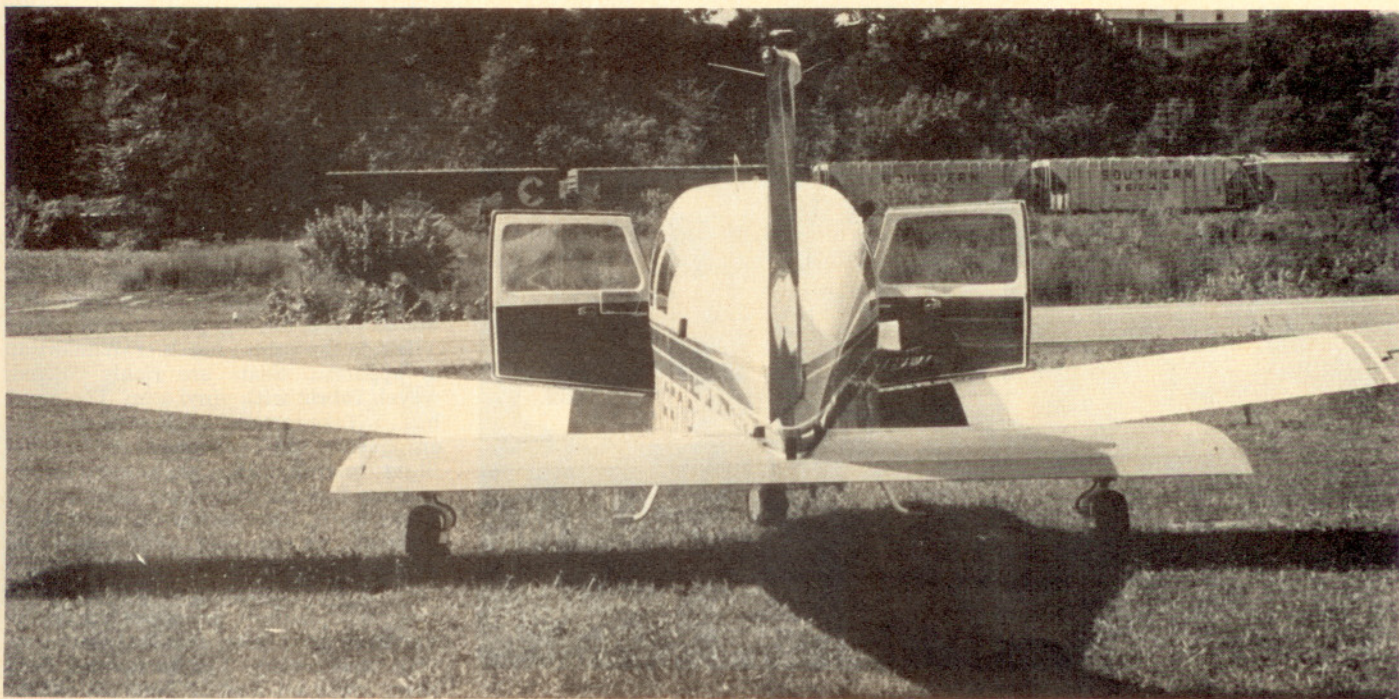
The Lycoming O-360 engine is a carburetor-type, and starting procedures were normal. After takeoff we headed away from the Washington, D.C., area toward Berkeley Springs, W. Va. On climbout at 80 mph, the vertical speed indicator showed 700 fpm as we passed through 1,500 feet. Temperature at that altitude was 72°. We were not heavily loaded; two passengers and about three-quarters of the 52 usable gallons left us roughly 335 pounds below the craft's maximum gross weight of 2,455 pounds.

Passing through 3,000 feet (full throttle is used throughout the climb), I let airspeed creep up to 95, but was still getting a climb at more than 650 fpm. At 5,500 feet, holding 95 mph indicated, the rate-of-climb indicator showed 575 fpm.

Visibility was extremely good. The large windshield that creeps back almost over your head, combined with that lowered panel, allows easy forward and upward scanning. Right after takeoff, if climbout is normal, you can even see over the nose to the horizon in front of you.

En route, I wound around the sky a bit with some turns and stalls to get more of a feel for the airplane. The ailerons provide a very positive feel, with a moderately fast roll that stops almost instantaneously when the aile-

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Two doors and widespread mains are distinctive (and laudable) characteristics of the Sundowner.

rons are neutralized. During steep turns the Sundowner's nose drops fast and demands strong up-elevator force to hold altitude.

Stalls were smooth, pretty much straight ahead, and evidenced no extreme characteristics. Power off, no flaps, the stall came at an indicated 63 mph. With full flaps it came around 55. In a turn, the craft would fall in the direction of bank, and there was always a little bit of elevator buffeting before the stall.

A couple of speed checks at 7,500 feet proved that the plane repeatedly exceeded "book" speeds. Full throttle at that altitude gives about 75% power and 2,600 rpm. According to the book, I should have been going 131 mph. My computed true airspeed, however, was 139. At 2,500 rpm, or 65% power, the book shows 118 mph. My airspeed figured out to 131 true.

Agur explained that Beech had been stung a couple of years ago by using old performance figures, after their planes had been slowed down with options (cabin steps, ELT antennas, more ventilation, etc.). Thus, they could not match the published numbers. So the company has conservatively reflown its planes and come up with new performance figures—and its production airplanes more than live up to the numbers.

I later tried an economy cruise setting, about 58% power and 2,300 rpm at 5,500 feet. The book said I should have been going about 105 mph. According to my airspeed indicator and my whiz wheel, however, I was moving at 121 true. Moreover, the plane was burning only 7.9 gallons per hour.

Although sound levels inside the cabin were generally quite acceptable, at full power the cabin resonated with a throaty engine noise that, without earplugs, would become quite objectionable if it continued for any length of time.

At Potomac Airport near Berkeley Springs, I headed for my first landing. Agur told me to hold my airspeed up to the flare, or we would drop in hard. No problem. Two notches of flaps on final and about 80 mph gave a smooth but firm landing—nothing unusual for a low-wing craft. Without working too hard, the normal landing and roll to a stop consumed about 1,000 feet. Full flaps and an approach speed of 70–75 mph would have cut a couple of hundred feet off the distance, but would have made flare a little touchier.

The shock-absorber system on the plane is simple and maintenance-free. Bumps are contained by rubber discs, or "biscuits," as Agur called them. No oil or air is anywhere in the system.

Temperature at the 413-foot-msl field was about 86°. Even so, takeoff consumed little more than 1,000 feet, flaps down one notch.

By the way, the plane is placarded against slips of more than 30 seconds' duration. Fuel flow can be interrupted when the rule is broken.

There is no published short field take-off procedure for the Sundowner, but Agur demonstrated his method. Full throttle, no flaps, begin roll. At between 60 and 65 indicated, drop two notches of flaps and haul back on the yoke. The Sundowner popped up like a high-rise elevator, putting us a hundred feet or so above the runway very quickly after about 500 feet of ground run.

Ventilation in the Sundowner was a problem. No doubt about it, it was hot, both on the ground and in the pattern. The company, said Agur, is redesigning the cabin airflow system, which should make things much better. The change will soon be coming off production lines, he said.

Marketing for the Sundowner and the other two light singles has received new emphasis at Beech. The key is the Beech Aero Center program, which offers training, sales, and service for the Sierra, Sundowner, and Sport.

There are currently about 115 centers around the nation, and 32 of them have the Beech Aero Club, an aviation "country club/flying club" where socializing and flying are combined for members. The number of clubs is steadily increasing.

Beech's new emblem, a red, white, and blue bull's-eye with a plane in the middle, is spread around the company's planes, Aero Centers, and sales literature. Said one official in Wichita: "What we're trying to do is make that Beech logo and Aero Club concept as popular as McDonald's golden arches." □

BEECHCRAFT SUNDOWNER 180

SPECIFICATIONS

Engine	Lycoming O-360-A4J, 180 hp
Propeller	76 in, fixed pitch
Empty weight	1,500 lb
Useful load	955 lb
Gross weight	2,455 lb
Baggage	270 lb
Wingspan	32 ft 9 in
Wing area	146 sq ft
Length	25 ft 8.5 in
Height	8 ft 3 in
Fuel capacity	58 gal
Oil capacity	8 qt
Wing loading	16.78 lb/sq ft
Power loading	13.61 lb/hp
Basic price	\$21,000

PERFORMANCE

Top speed	138 mph
Cruise, 75% power	131 mph
Range, 75% power (includes allowance for start and taxi, plus 45-min reserve)	529 mi
Service ceiling	12,600 ft
Rate of climb	792 fpm
Takeoff distance (over 50 ft obstacle)	1,955 ft
Landing distance (over 50 ft obstacle)	1,484 ft
Stall, flaps down	59 mph