BUDGET BEECHCRAFT

Sundowners may be slow, but speed isn't everything.

BY J. JEFFERSON MILLER

THE Beech C-23 Sundowner is a little bulldog of an airplane. Its beamy cabin, squarish wings and stubby legs give the machine an appeal that is more utilitarian than visceral. But if you are looking for reliable, economical transportation, the humble Sundowner may be just the airplane for you.

Economy and ease of operation have always been the strong points of the Model 23 series. The line was introduced in 1962 with the unveiling of the Beech Musketeer, a four-seat, 160-hp trainer/personal airplane. From a marketing standpoint, the airplane's purpose was to acquaint pilots with a Beechcraft product early in their flying careers, thus attempting to instill brand loyalty.

The Musketeer represented a departure for Beech in a number of areas. For one thing, it was Beech's first fixed-gear airplane since the Travel Air series of the 1920s. There were, however, innovative elements of the design.

It was the first production Beechcraft with a laminar flow wing. To construct it, Beech employed labor-saving and weight-reducing techniques: Lightweight aluminum honeycomb ribs were bonded to wing skins rather than riveted, producing a wing surface that is smooth and undimpled.

The airplane initially was offered with a 160-hp Lycoming O-320. But several hundred were built with a 165-hp, fuel-injected Continental IO-346A. The engine is no longer in production. But one owner of an IO-346A-equipped Musketeer, a former Beech sales manager, reports that parts availability for these engines is still good.

Over the years, Musketeers also were offered with 150-, 180- and 200-hp engines. Then, in 1972, The Musketeer line was revamped and renamed. To create the Sundowner, the 180-hp Musketeer was given a slightly wider fuselage and a more streamlined cowling, and a second door and larger windows were added.

A two-seat, 150-hp version, dubbed the B-19 Sport, served as the Beech trainer until the introduction of the Skipper in 1979. And the 200-hp, retractable-gear Model 24 Sierra supplanted the 200 hp Musketeer Super R as the high performance version. Many design elements of the Musketeer family of airplanes, such as the basic wing and fuselage structure, were incorporated in the original design of Beech's multiengine Duchess.

All of these airplanes have been discontinued, and the Liberal, Kansas, plant where they were built has been shut down. Today, there are 2,271 fixed-gear variants of the Musketeer registered with the Federal Aviation Administration. Only 783

PHOTOGRAPHY BY ART DAVIS


N21KM

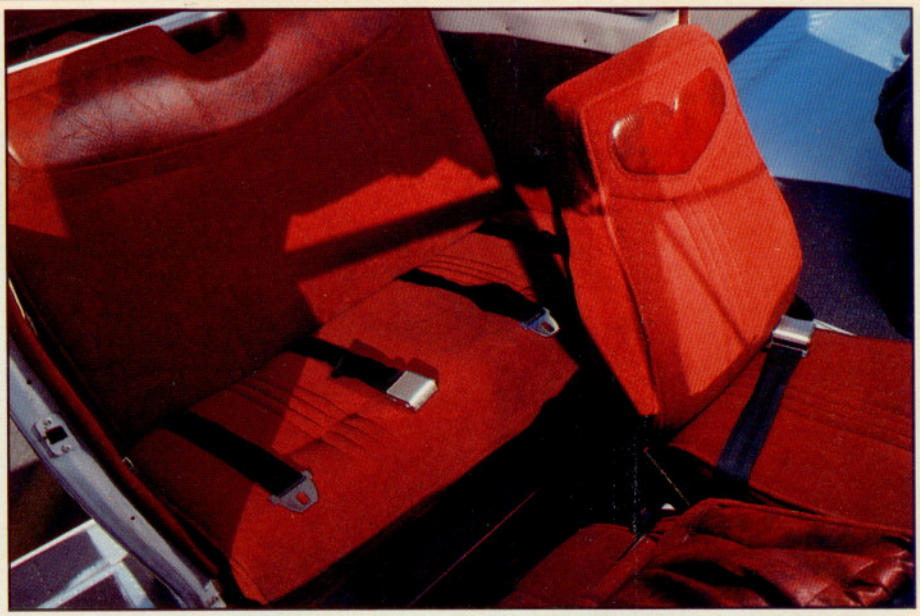
Sundowners are on the civil registry.

Many Sundowners can be found on the ramps of Beech Aero Centers, where they are available for rent. Every now and then, however, you find a well-appointed Sundowner that is privately owned and operated.

We found one parked right across the ramp from AOPA headquarters. That Sundowner belongs to one of our own staff members, Kenneth W. Medley, AOPA 389736, the association's regional representative for the Mid-Atlantic area (see "Ground Support: Field Work," November *Pilot*, p. 65).

Medley's airplane, which is shown in the accompanying photographs, is 12 years old. Thanks to a thorough progressive maintenance program, N21KM carries its age well. Medley bought the airplane in 1978. In the years since, he has invested in a new paint job, major engine overhaul, new windshield and new windows, new interior, DME and encoding altimeter.

Two-One-Kilo-Mike is equipped with King KX-170B nav/coms and an Edo-Aire Mitchell single-axis autopilot. The radios and autopilot are original equipment, and they are in good working or-



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For Ken Medley, the C-23's appeal is based on comfort, economy and Beech quality.

der. Many Sundowners are IFR-equipped with modern solid-state avionics. Beech offered 10 avionics packages for the aircraft. A prospective purchaser could select Collins Microline, King Silver Crown or Narco Centerline equipment.

The Sundowner is in a class with the Piper Archer in terms of complexity, power, and comfort. Both have 180-hp Lycoming engines. But the Archer is 10 knots faster at a 75-percent power cruise speed (129 knots versus 119).

Sundowners originally sold for about $4,000 more than Archers. According to the *Aircraft Bluebook Price Digest*, the new list price for a 1977 Sundowner with average equipment was $37,373, versus $33,930 for a 1977 Archer. On the used market, however, Archers command considerably higher prices than Sundowners. In many cases, comparably equipped Archers sell for $8,000 to $10,000 more than Sundowners. (The Piper Archer was introduced in 1975, superceding the Cherokee 180, which also sells for significantly more than a Sundowner of like vintage.)

Grumman American Tigers also sell for more than Sundowners, by about $3,000. When new, the Sundowner was the more expensive of the two. The Tiger, another out-of-production, 180-hp, fixed-gear single, cruises 20 knots faster than the Beech, without sacrificing much comfort.

Is the Sundowner less expensive because it is slower? Perhaps. But other factors, such as the popularity of the Archer and the Cessna 172 (which offers performance similar to the Sundowner's on 20 fewer horsepower) may also help explain the price gap. Whatever the reasons, it is something of a bargain.

According to the latest *Bluebook* figures, average retail prices for Sundowners range from $13,250 for a 1972 model to $51,000 for one built in 1983. For Sundowners built in the middle years of the aircraft's production (1977 to 1979), prices range from $20,000 to $23,000.

Sundowner loyalists won't debate the notion that their airplanes are tortoises compared to other 180-hp models. But they contend that the Sundowner's strengths lie in other areas. First, there is that intangible reward—the cachet of owning a Beechcraft. For many pilots, the company name is synonymous with quality and luxury.

And then there are the more substantive virtues, such as the airplane's rugged construction. Structural limit loads for the Sundowner are +6 and -3 Gs. Initial Sundowner purchasers were offered an optional aerobatic package which included cowling strakes, a ventral fin, strakes ahead of the stabilator, a G-meter, quick release doors and a checkerboard paint job. Thus modified, the sedate Beech Sundowner was approved for loops, rolls and other maneuvers.

Without the aerobatic modifications, the Sundowner can be operated in either the Normal or Utility categories. To operate in the Utility category only the front seats can be occupied, gross weight is limited to 2,030 pounds and the aft CG limit is 114 inches, versus 118.3 inches in the Normal category.

A 1974 airworthiness directive rescinded the aerobatic certification of the Sundowner and prohibited intentional spins in the Utility category. The airworthiness directive was issued in order "to prevent inflight situations in which prompt spin recovery may not be assured." Installation of Beech spin improvement kit 23-4007-1 reinstated aerobatic certification and lifted the restriction on spins.

The Sundowner's cockpit is spacious and comfortable. Two large adults can ease into the front seats without much elbow jostling. With a door on each side, it is not necessary to crawl over a seat to settle into the Sundowner.

Visibility out the high-domed, single-piece windshield and out the large side windows is quite good. Large windows for the rear seat passengers help prevent back seat claustrophobia.

The panel is logically organized with instruments in the standard T-arrangement, and it has plenty of room for optional avionics. The power quadrant houses throttle and mixture control levers with the carburetor heat control situated between them. A simple "Johnson bar" manual flap actuation system, similar to the one found in Piper Cherokees, extends flaps to 15, 25 and 35 degrees. Some Sundowners are equipped with an optional electrical flap actuation system.

With full fuel (60 gallons), an IFR-equipped Sundowner's payload is about 550 pounds and range is 546 nautical miles at 75 percent power with a 45-minute reserve. Loaded with four average-sized adults, you will be limited to 20 gallons of fuel. The Sundowner makes a nearly ideal family airplane, if your family consists of Mom, Pop and two pre-adolescents.

Up to 270 pounds of luggage can be

stored in the airplane's baggage compartment. The baggage door appears to be large enough to accommodate bulky suitcases. The Sundowner has a rather generous CG range. However, as with any airplane, weight and balance should be checked before takeoff.

Though somewhat sluggish in terms of speed, the Sundowner is not cumbersome in control response. Roll control is swift and sure, similar in feel to that of the Bonanza. The ailerons are a modified Frise design: The leading edge of the raised aileron drops slightly into the airstream beneath the wing to counteract adverse yaw. The rudder and stabilator also are fairly light and responsive controls.

Owners praise the Sundowner's stability. Medley, who is an instructor and FAA-designated flight examiner, says the Sundowner is a terrific instrument training airplane. Indeed, the Sundowner is so simple that the pilot can concentrate on the business of flying the gauges with few distractions. Also, nothing happens very fast on an approach, so there is plenty of time to think ahead of the airplane.

If the Sundowner can be said to have any weaknesses in handling, they would have to be those encountered while landing. A National Transportation Safety Board study of 33 single-engine models found that the Sundowner had the highest incidence of hard-landing accidents.

Reading through the FAA's accident/incident reports reveals some common factors in these accidents. Gusty winds play a role in a number of mishaps. In many cases, it appears that the pilot landed hard on the nose gear

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first, causing the airplane to porpoise down the runway until the nose gear either broke off or cocked to one side, inducing a ground loop. In many of these accidents, the aluminum alloy landing gear struts (usually the nose gear) either bent or snapped off.

With only front seat occupants aboard and no baggage in the rear, it is somewhat difficult to achieve a nose-high flare in the airplane. In about two dozen attempts, I never managed to hold the nosewheel off for more than a fraction of a second longer than the mains.

The following airworthiness directives for Model 23- and Model 19-series airplanes require repetitive inspections. In most cases, the inspections are no longer required if certain modifications have been made. The first two digits of an AD number denote the year of issuance.

- 72-24-3. Inspection of oil filter adapter bracket.
- 73-20-7. Inspection of wing attach points. Required at each 100-hour or annual inspection.
- 74-14-5 and 74-23-9. Spins and other aerobatic maneuvers prohibited until Beech modification kits are installed.
- 75-1-4. Fuel selector valve modification.
- 76-7-12. Inspection of Bendix ignition switch.
- 78-9-7 R2. Inspection of Bendix magnetos.
- 80-25-7 R1. Inspection of Stewart-Warner oil cooler.
- 82-13-1. Inspection of Bendix magnetos.
- 84-26-2. Inspection of paper air induction filters. Required every 500 hours.

But landing a Sundowner is not a daunting experience. Adherence to recommended approach speeds will ensure that the airplane is not too slow to flare or so fast that an early touchdown may induce a porpoise. Beech recommends 68 knots on final with full flaps. Medley suggests 74. Both work well, although with Medley's speed there is more time to round out and a bit more float.

Service difficulty reports (SDRs) do not betray any particular hidden weak spots in the Sundowner. However, when inspecting a Musketeer, Sundowner or Sport prior to purchase, it would be a good idea to give the landing gear and surrounding structure a careful going over for signs of damage from a hard landing.

For those considering the purchase of the Sundowner's close cousin, the Sport, SDRs do highlight a few areas that merit close attention during a pre-purchase inspection: Fuel cells should be checked for signs of delamination; the firewall, for corrosion; the right keel assembly that runs under the right-side rudder pedals, for cracks; and the stabilator spar, for cracks, following the procedures outlined in Beech service instruction 1167.

Most of the airworthiness directives affecting Sundowners should have been attended to by this time. A list of ADs requiring repetitive inspections accompanies this article. In most instances, modification kits have been made available that, when installed, eliminate the need for continued inspections. One very recent AD (85-5-2) must be complied with. It requires a modification of the fuel selector valve.

The Sundowner may not stir the

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blood of pilots whose main purchase criteria are stylishness and speed. But the airplane's comfortable interior, pleasant handling, economical operation and quality construction should appeal to those looking for an inexpensive, but not cheap, airplane. □

1974 Beech C-23 Sundowner

Base price, new: $19,350

Current market value: $15,500

Specifications

Powerplant	Lycoming O-360-A4J, 180 hp @ 2,700 rpm
Recommended TBO	2,000 hr
Propeller	Sensenich fixed pitch, 76 in
Length	25 ft 9 in
Height	8 ft 3 in
Wingspan	32 ft 9 in
Wing area	146 sq ft
Wing loading	16.78 lb/sq ft
Power loading	13.61 lb/hp
Seats	4
Cabin length	7 ft 11 in
Cabin width	4 ft
Cabin height	3 ft 8 in
Empty weight, basic aircraft	1,425 lb
Empty weight, as tested	1,542 lb
Gross weight	2,450 lb
Useful load	1,025 lb
Useful load, as tested	908 lb
Payload w/full fuel	665 lb
Payload w/full fuel, as tested	548 lb
Fuel capacity	360 lb (352.8 lb usable) 60 gal (58.8 gal usable)
Oil capacity	8 qt
Baggage capacity	270 lb

Performance

Takeoff distance ground roll	1,132 ft
Takeoff distance over 50-foot obst	2,004 ft
Max demonstrated crosswind component	17 kt
Rate of climb, sea level	765 fpm
Max level speed	123 kt
Cruise speed/range w/45 min rsv, std fuel (fuel consumption)	
@ 75% power 7,500 ft	115 kt/546 nm (65 pph/10.8 gph)
@ 65% power 7,500 ft	106 kt/601 nm (54 pph/9 gph)
@ 55% power 7,500 ft	94 kt/632 nm (45,6 pph/7.6 gph)
Service ceiling	12,600 ft
Landing distance over 50-ft obst	1,493 ft
Landing distance, ground roll	746 ft

Limiting and Recommended Airspeeds

Vx (Best angle of climb)	69 KIAS
Vy (Best rate of climb)	75 KIAS
Va (Design maneuvering)	117 KIAS
Vfe (Max flap extended)	96 KIAS
Vno (Max structural cruising)	133 KIAS
Vne (Never exceed)	152 KIAS
Vs1 (Stall clean)	63 KIAS
Vso (Stall in landing configuration)	51 KIAS

All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, at sea level and gross weight, unless otherwise noted.