



An Aero Commander restoration

Checklist complete

**One man's claim on
Aero Commander's
glory days**

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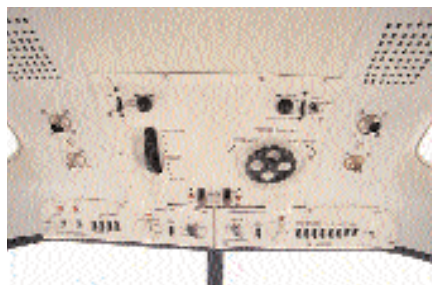
T. Alan Hart—a Jasper, Texas, lawyer—had some specific ideas in mind when he pondered buying his next airplane. It had to be a classic twin-engine design with fast cruise speeds, a decent useful load, a spacious cabin, and an up-to-date panel. The airplanes he'd known and owned before—a Rockwell Darter and two different Beechcraft Bonanzas (an F35 V-tail and an A36)—served him well, but that was then. Now he has a family of five and needed an airplane large, stable, and powerful enough to carry them and their baggage in style. Sure, business trips were going to claim some of his missions, but mostly Hart would use his airplane for fun flying.





Hart made what many might call an oddball choice—a 1960 Aero Commander 500B. But this wasn't just any old run-of-the-mill 40-year-old piston twin, the kind that's more often than not starting at the junkyard. Hart went to Air-center Inc., a Chattanooga, Tennessee, firm that specializes in the modification and restoration of older Aero Commanders. Gary Gadberry, president of Air-center, found Hart a near-basket-case Aero Commander 500B in Montana, then completely restored it to Hart's desire—sorry about that.

To put the 500B in perspective, we should delve a little bit into the Aero Commander story. The Aero Commander line began in 1952 when Ted Smith, a designer who cut his teeth working on the Douglas A-20 Havoc and A-26 Invaders during World War II, formed his own company (Aero Commander) and came out with the Model 520. This piston twin was followed by the models 560 (1954), 560A (1955 to 1956), 680S (1955 to 1956), 560E (1957 to 1960), and 680E (1957 to 1959). These airplanes were high-rollers in their day. Distinguished by their geared engines—some of which were supercharged, ranging from 260 horsepower (the 520) to 295 hp (the 680s)—cruise speeds up to 190



This Commander 500B's cockpit has the style and architecture of the early 1960s but a panel full of much more modern avionics.

knots, and big-airplane touches such as deice boots and propeller alcohol, these big twins cut a huge profile in the 1950s. President Eisenhower even used a Model 520 as Air Force One for a time. They were the piston twin to have.

By 1958, Aero Commander decided it wanted a chunk of the multiengine trainer market and came out with the first of the 500-series models. The quirky, maintenance-hungry geared engines were ditched in favor of direct-drive, 250-hp Lycoming O-540 engines with 2,000-hour recommended time between overhauls (TBO), two-blade propellers, and a reduced gross weight of 6,000 pounds (earlier Aero Commanders had maximum gross weights as high as the 680E's 7,500 pounds).

Between 1960 and 1965, the basic 500 underwent extensive redesign. The wing and fuselage stayed the same, but with the 500A the formerly roundish engine nacelles were squared off and the main landing gear articulated as it cycled up and down. This let the main gear stow flat in the nacelle. Other improvements included a panel, power quadrant, and interior redesign; overwing exhaust stacks; standard dual hydraulic pumps; and a gross weight increase to 6,250 pounds.



The 500B came out simultaneously with the 500A. The B model was the more desirable of the two, what with its 290-hp IO-540 engines (A-models used 260-hp Continental IO-470s), three-blade propellers, and maximum gross weight of 6,750 pounds. The 500B proved very popular: 240 were sold over its five-year production run, making it the best selling of all the piston-powered Aero Commanders. This was in spite of its \$87,000 standard-equipped price tag—a whole lot of money back in 1960. Options were more reasonably priced. A set of copilot instruments was only \$725; a lavatory compartment was listed at \$1,600.

After the 500s came a bewildering array of piston-powered Aero Commander models—560Fs, 680Fs, 680FLs, and 680 FLPs (these were pressurized)—most of which have long since slipped into the deeper recesses of general aviation history. The one standout exception is the 500S, better known as the Shrike. This airplane had a pointy nose, eyebrow windows, a cabin door just aft of the pilot's seat, and a macho appeal, thanks to the huge amount of publicity given it by airshow performer Bob Hoover, who used a Shrike in his legendary routines.



That's the Aero Commander story in a nutshell. The 500s rode the crest of the piston-powered line, but they faded with the company's turn toward turbo-prop models—called *Turbo Commanders*—in 1965. After Rockwell bought out Aero Commander in 1972, the turboprop models had their name changed to Twin Commanders, a name that has stuck to this day.

But back to Alan Hart. Gadberry gutted Hart's original-condition 500B and fitted it out with no less than 46 different modifications and upgrades. These included all 18 of the supplemental type certificated (STCed) modifications held by Aircenter Inc. on the 500- and 600-series Aero Commanders and Twin Commanders. The most noteworthy modifications to Hart's airplane included:

The "Cool Air" Freon/R-134A air-conditioning system of 16,500 BTUs (air conditioning wasn't available on original airplanes); high-output, 90-ampere/hour Electro System alternators—these power the air-conditioning and prop anti-ice systems, and include alternator failure lights (generators

Aircenter Inc.'s interior refurbishment was done to Hart's specifications—right down to the University of Texas "Longhorn" logos on the headrests (above). Aero Commanders' main landing gear articulate as they retract, letting them stow flat in the engine nacelles.

Barbecue and Bell Field

Today, Jasper County-Bell Field in Jasper, Texas, may look like a sleepy little country airport, but that won't last long if plans come to fruition. The county recently formed JEDCO—the Jasper Economic Development Commission—and one of its goals is to develop Bell Field's economic potential. This includes construction of an office park, a fire station, and the expansion and improvement of the airport's hangars, runway, and taxiways. To help set the works in motion, Jasper County set up a booth at AOPA Expo 2000 in Long Beach, California.

Jasper's Steve Seale manned the booth single-handedly. Once a full-time lawyer, Seale now limits his practice to pro bono work with juveniles so that he can work full time at Bell Field. He owns LEMA, the airport's FBO and fuel dealership (LEMA stands for the first initials of the names of his four children). With no small help from his ebullient delivery and down-home personality, Seale made his Expo trip worthwhile. He convinced Explorer Aircraft, the Australian firm developing the single-engine, turbine-powered Explorer turboprop to move its headquarters from Colorado to Jasper (see "Turbine Explorer 500T: 'Honey I Shrunk the Caravan!'" June 2001 *Pilot*). This was the first feather in JEDCO's hat.

Seale's new fuel farm at the airport is doing well, too. He gives discounts to volume buyers who make repeat visits, and the word is getting out. A fractional ownership firm will divert flights for up to an hour and a half away from direct routes, just to tank up on LEMA's fuel. Then there are the Army helicopters from nearby military bases. And the well-heeled vacationers who show up in their Gulfstreams and Learjets to go bass fishing at the Sam Rayburn Reservoir.

The day *AOPA Pilot* visited Jasper, Seale was ecstatic over a recent sale. "Oh, oh, that Gulfstream bought 500 gallons!" Chock full of stories, it doesn't take much for Seale to launch into a wild, amusing tale. Like the time a Learjet owner let him fast-taxi the jet—at 100 kt. Or the time he flew down a river—at 50 feet agl—in Alan Hart's Bonanza. "It wasn't 50 feet at all! More like a thousand," Hart is quick to correct.

If Texas is barbecue country, then Bell Field is one of its capitals. By the time we finished our photo shoot of Hart's Aero Commander, Seale had been slow-cooking pork and venison for some eight hours. We joined what has become a ritual of sorts at Bell Field: an evening gathering around Seale's barbecue. It was a time of jokes, more tall tales, and East Texan hospitality. And somehow it was odd to pick out the Explorer folks' Australian accents in the midst of so many Texans.

Seale's barbecues double as promotional attractions. Everybody passing through East Texas, take note: Every third Saturday there's free barbecue at Bell Field, courtesy of Steve Seale. And get this—20 cents off every gallon of fuel you buy from LEMA.

"I just got tired of that lawyering," Seale said. "Hey, I got four kids and a Bonanza, I'm the only employee here, and in the mornings I'm down at juvenile court. But you know what, I like it, and we're going to make this thing happen."

General aviation needs more Steve Seales. Stop by Bell Field for some cheap gas and free barbecue. The cooker's out on the lawn next to the FBO building, across the way from the hammocks.

—TAH

Commander and Twin Commander fleet. Fortunately, the 500B doesn't have this problem. Prior to 1966 all Aero Commanders were certified in the Normal category. But a change to the Utility category brought the addition of a stainless-steel spar strap/cap to the central aluminum structure. The corrosion is caused by the interaction between aluminum spar webs and the stainless-steel straps. This made the FAA issue a service bulletin to inspect for damage and a costly AD to repair the corrosion should any be found. The 500B spar has no stainless components, and thus no spar-corrosion-related SBs or ADs.

The price for the airplane, plus all the improvements and modifications? Hart glances down at his documents and pronounces, "\$227,912. Now that's a lot of money, but look what I've got. An airplane that'll cruise at 180 kt and burn 15 gph a side, carry my whole family on a three-hour trip, has a 1,779-pound useful load, radar, ice protection, and two engines! It may be 40 years old, but it looks like new. What new high-performance airplane can you buy at that price?"

He's right. The pointy Shrike nose, eyebrow windows, and stinger tail cone trick you into thinking that the airplane is much younger and more stylish than

were used on original Aero Commanders); S-Tec System 50 autopilot; extended baggage compartment; new fuel cells; new vacuum pumps; Shrike nose; Shrike eyebrow windows; "Stinger" tail cone; flap gap seals; new paint and interior; and Argus 3000 moving-map display.

Other items in Aircenter's work package included a wing inspection to comply with two service bulletins concerning fuselage rivets and wing brackets to the single-piece spar, plus zero-timed factory overhauls of the engines; new bearings in the fuel pumps; overhauls of the hydraulic pumps; and much more. All airworthiness directives (ADs) and service bulletins (SBs) are complied with, and for all practical purposes this 6,200-hour airframe is in like-new condition.

The mention of a wing spar AD is bound to raise questions about the spar corrosion problems that have plagued some models in the Aero

Commander piston twins route their exhaust stacks out the tops of the engine nacelles. Hart has modified his 500B with two signature features of the later-model Commanders 500S Shrikes: eyebrow windows and a pointy nose.





its years, and the new paint job and interior further belie its age.

Flying this 500B was a real thrill. It's like flying a small airliner, what with its overhead panel and jam-packed instrument switches. The hardest part of flying any multiengine Commander isn't flying at all—it's taxiing! Ted Smith loved oddball steering, so you must learn how to hold your feet lightly atop the rudder pedals as you gingerly press on them to go one way or the other. The trouble here is that you'll press too gingerly and find yourself needing to steer more aggressively. That forces you to stomp on the rudder pedal, and now you've done it...you're lurching from side to side as hydraulic and brake power team up to set you swaying back and forth on your way to the runway.

V_{MC} is a very low 65 kt—thanks to the great directional control afforded by the Aero Commander's huge rudder—and

rotation comes at 70 or so kt. Lightly loaded, Hart's 500B showed 2,100 fpm during climbout at the V_{YSE} of 108 kt. Catching up—and joining up—with our photo ship (AOPA's Beechcraft A36 Bonanza, with the aft doors removed) was no problem at all, but you can't fail to notice that the Aero Commander has a heavy control feel during maneuvers and plenty of inertia. Add power, and it takes a while for the 500B to accelerate; pull back on the throttles, and it'll be a while before you slow down. It's what you'd expect of an airplane that weighs a good 2,000 pounds more than a high-performance single.

Landings? As with any large airplane the key is to think ahead. The hydraulically powered landing gear certainly helps slow you down once you're below 156 kt, and once you've reached the inconveniently low speed of 118 kt, the flaps can start coming out. The goal is to

cross the threshold at approximately 100 kt, flare slightly, and wait for touchdown. The flare can be tricky for the uninitiated because your seating position is low to the ground. The closer you get to the runway the faster you seem to be going (what I call the *rocket-sled effect*), but this is an illusion. Be strong of will, wait, and an acceptable landing will follow.

The day I, *AOPA Pilot* Senior Editor Al Marsh, and freelance photographer Mark Schaible came to Jasper County-Bell Field we could spot Hart's Aero Commander parked in front of his hangar. It was the only airplane visible on the airport, and as such seemed to rule the roost. After our flight Hart carefully taxied his pride and joy—N121SP—to his hangar's lead-in center stripe. After shutdown he hitched his golf cart up to the nosewheel towbar, put the cart in reverse, and silently rolled his stately steed into his hangar.

There's an office and kitchen in Hart's hangar. A sign—"T. Alan Hart, Lawyer"—hangs on the wall. Inside, there are pictures of Hart's father, Dewey, next to airplanes he owned. There were a lot: a North American P-51, a Grumman Mallard, a Cessna 210, a Mooney Mite, a Beechcraft Queen Air, a Piper J-3 on floats, a Beechcraft Twin Bonanza, a Pietyenpohl Air Camper, an Aero Commander 560, and an Aero Commander 681. Dewey passed away, I was told. I couldn't help but wonder what he might think of his son's 500B.

It fascinates me every time: a father's passion for flying carried on by his family. Now Hart's grinning as we close the hangar doors. "We had moon disks—



Jasper, Texas, attorney T. Alan Hart owns what must be one of the finest restorations among the dwindling ranks of the classic Commander 500 series.

SPECSHEET

1960 Aero Commander 500B

Price new: \$87,000
Current market value: \$106,000 to \$112,000

Specifications

Powerplant2 Lycoming IO-540, 290 hp ea
Propeller .. Hartzell, 3-blade, constant speed
Length.....35 ft 1.25 in
Height14 ft 6 in
Wingspan49 ft 6 in
Wing area255 sq ft
Wing loading 26.4 lb/sq ft
Power loading.....11.6 lb/hp
Seats7
Cabin length.....10.8 ft
Cabin width4.3 ft
Cabin height.....4.4 ft
Empty weight4,740 lb
Maximum gross weight6,750 lb
Useful load2,010 lb
Payload w/full fuel1,074 lb
Fuel capacity, std156 gal/936 lb
Baggage capacity250 lb (32 cu ft)

Performance

Takeoff distance over 50-ft obstacle....1,000 ft
Rate of climb, sea level1,600 fpm
Single-engine rate of climb320 fpm
Cruise speed/fuel consumption
 @ 75% power, best power, 8,000 ft
 179 kt/28.0 gph
Service ceiling21,000 ft
Single-engine service ceiling.....8,000 ft
Landing distance over 50-ft obstacle....1,155 ft

Limiting and Recommended Airspeeds

V_{MC} (min control w/critical eng inop) ..65 kt
 V_Y (best rate of climb)117 KIAS
 V_{YSE} (best single-engine roc).....108 KIAS
 V_A (design maneuvering).....135 KIAS
 V_{FE} (max flap extended)118 KIAS
 V_{LO} (max gear operating)156 KIAS
 V_{NO} (max structural cruising)200 KIAS
 V_{NE} (never exceed)250 KIAS
 V_{S1} (stall, clean)71 KIAS
 V_{SO} (stall, in landing configuration)...63 KIAS

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

hubcaps—on that Pietenpohl,” he said, laughing. “Not exactly legal, of course.

i Links to additional information on the Aero Commander may be found on AOPA Online (www.aopa.org/pilot/links.sthml).

One day we took off and flew around. When we landed, the hubcaps were gone. I guess some farmer has a set of moon disks...” Hart and I get into his monstrous pickup

truck and head down the airport access road. It's time for barbecue. But that's another story.

AOPA

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