

## COMMANDER 114B

# PLAN B

*The 114 begins to live up to its potential.*

BY MARK R. TWOMBLY

See the word "Experimental" above the Commander 114B's door? Well, forget it; the limitation no longer applies. The Federal Aviation Administration's new-airplane seal of approval, the type certificate, was signed for the 114B sometime after this photo shoot. Commander Aircraft Company is cranking up assembly at its facility in Bethany, Oklahoma, and is beginning to deliver new airplanes to dealers. ■ The 114B thus joins the most highly competitive class of general aviation airplanes outside of corporate jets: four-place, normally aspirated single-engine retractables. The group also includes the Aerospatiale TB-20 Trinidad, Mooney MSE, Beech F33A Bonanza, and even the limited-production Bellanca Super Viking. ■ The 114's base price of \$169,500 is second highest among the clan but not when you consider that Bendix/King IFR avionics and dual brakes are included.

PHOTOGRAPHY BY MIKE FIZER



A 114B equipped with flight control system, DME, ADF, strobes, and area navigation system would retail for about \$200,000.

The "B" suffix suggests—correctly—that this Commander was preceded by a model "A" and an original, unalphabetized version.

The Rockwell International Commander 114 was introduced in 1976 as the logical follow-on to the Commander 112, the first single to be certified under Federal Aviation Regulations Part 23. The basic difference between the two models was the engine: 200 horsepower in the 112, 260 hp in the 114. The 114A Gran Turismo, with a higher gross weight, replaced the 114 in 1979. That was the end of the line, though. Commander production ceased in 1979 after about 1,135 had been built, of which some 485 were 114s and 114As.

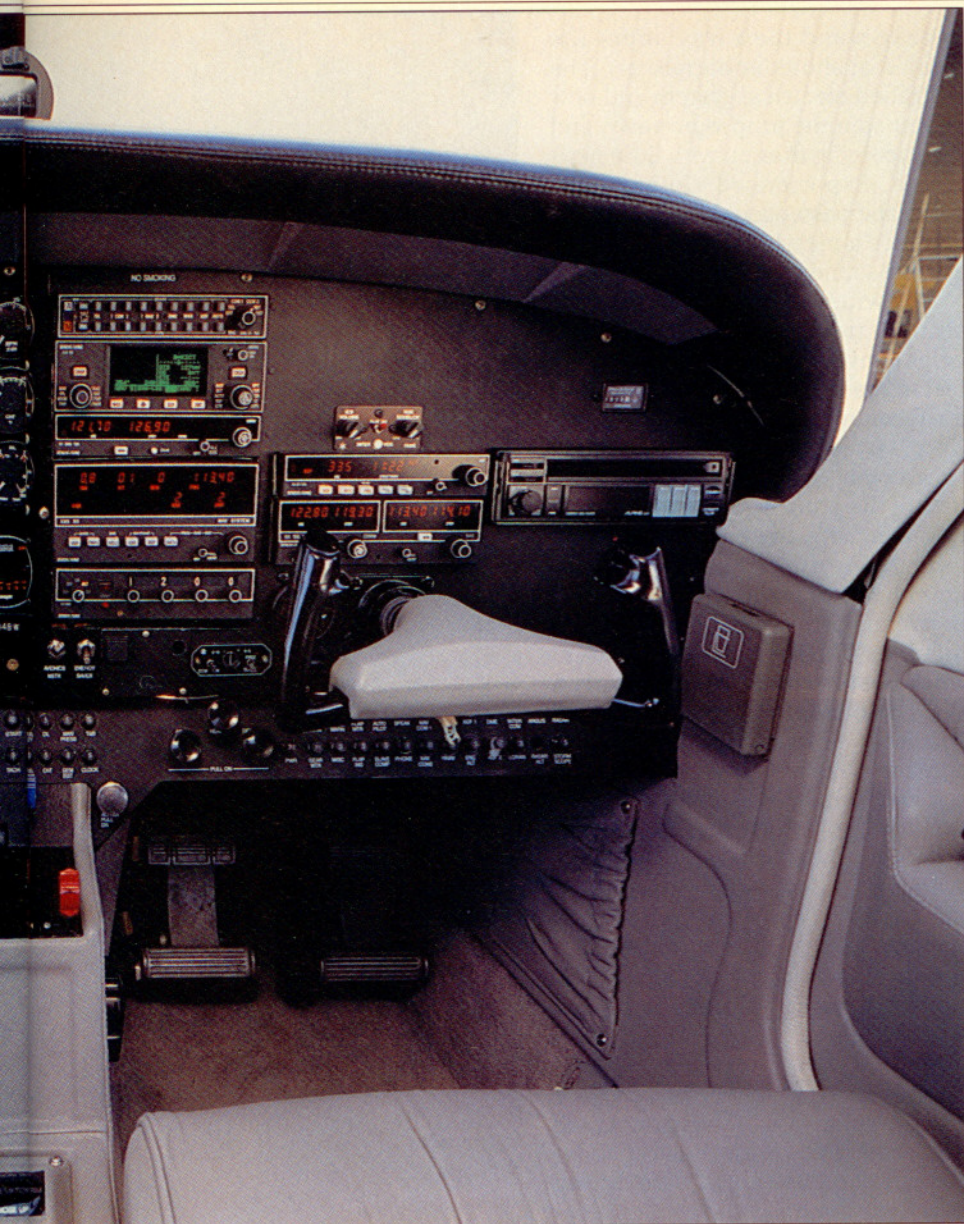
Gulfstream American (now Gulfstream Aerospace) picked up the Commanders as part of a larger deal to acquire the rights to the Rockwell Commander twin turboprops. Except for parts and technical support, the Commander singles lay dormant in the hands of Gulfstream. Then, Commander Aircraft, founded specifically to bring back the handsome singles, acquired the type certificate, tooling, and the remaining stock of parts. Commander has been four years developing a new airplane that blends the best features of the original with changes that address some of its shortcomings.

The basic Rockwell single design is more than two decades old, but it still looks fresh and appealing. The performance potential of the original 114 was unrealized, however. It managed to deliver only about 150 knots, maybe a little less. And like wide ties and platform shoes, the 114 cabin—one of the widest and tallest among piston singles—bore a peculiarly late 1960s/early 1970s look: lots of molded plastic and glossy vinyl. Thus, when Commander Aircraft set about to improve on the 114, the immediate objectives were to bring the cabin up to the standards of today's luxury cars and to make the airplane go faster.

First, the cabin: Plastic and vinyl have been replaced by leather and fabric. Each of the four seats is upholstered in expensive-smelling leather with the gathers and tucks that befit finely crafted chairware. Side walls are







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a combination of color-coordinated carpet, leather, and fabric (English woolens), and the fabric headliner is nicely padded.

The original 114's plastic instrument panel fascia has been rejected in favor of a professional-looking black metal panel. Mechanical engine instruments have been replaced with smaller electronic instruments, and all instruments are internally lighted. The panel reflects some carefully considered rearrangement of instruments, gauges, and switches. Power controls, cowl flap lever, pitch trim and indicator, and fuel selector are conveniently arranged on a center pedestal, as they are on the original 114.

With headset on, headroom in the 114B is about on par with an F33A, which is noted for its generous cabin height. Commander claims the 114B cabin is just an inch shorter than the F33A and 4 inches narrower than the TB-20. The F33A is the longest, followed by the 114B and MSE, which are the same length. Raw measurements don't tell the full story, however; the shape of the fuselage cross section, fuselage taper, seat shape and position, and legroom all affect comfort.

No question, Commander has done a nice job improving the insides. Would the pampered driver or passenger of one of today's superb new sport-luxury cars be satisfied sitting in the 114B? I think yes. When you climb inside the cabin and pull the doors shut, you feel a muffled, big-car-like "whump" rather than the sharp, metallic slam typical of light airplanes.

That's not to say the 114B is as quiet as a luxury car. It's simply not possible to achieve that kind of parity in a piston-powered single. But the 114B's soundproofing—four layers thick in some spots—and the extensive leather, fabric, and foam do a good job of soaking up noise and vibration.

Entering and exiting the cabin is easy with two wide doors, each of which opens about 90 degrees. The drawback to double doors is twice the potential for gapping in flight, which is a significant noise generator. Commander is changing the way it fits the doors to the fuselage to reduce the gapping.

Almost all of the remainder of the changes to the 114 to make it a 114B have taken place ahead of the windshield. Most noticeable is the new



engine. I expect most pilots will fly their 114Bs at about 65-percent power, flight plan for about 155 KTAS, and, with 68 gallons usable fuel, fly for up to 4.5 hours with an hour's reserve.

Gross weight of the 114B is 3,250 pounds, same as the 114A. Empty weight is 2,080 pounds. With the tanks full, 762 pounds of people and bags could be loaded aboard.

The 114B shares the same flying qualities as the earlier Rockwell-built versions. The hinged ailerons become quite heavy as speed increases but retain some effectiveness even after the wing has stalled. The 151-KIAS limitation for deploying the first notch of flaps allows for quick slowdowns and precipitous descents from cruise. The gear can be extended at 130 KIAS, and it goes down—or up—fast, thanks to the new electrical system. Gear and flap extension and power changes have little effect on attitude because of the high stabilizer.

The drag increase with full flaps is noticeable, however, and the airplane descends rapidly if the power is retarded to idle. Carry a bit of power all the way to touchdown and hold what seems like a slightly nose-down attitude, and the 114B rolls onto the runway. That trailing link gear helps soak up minor imperfections in pilot technique. Crosswind landings are not quite so easy given the lack of rudder area.

Commander Aircraft was formed in June 1988 by Randall Greene. Greene set up shop in a former FBO complex of three hangars on the north side of Wiley Post Airport near Oklahoma City. The plant where Rockwell built 112s and 114s after moving production from Albany, Georgia, is on the southeast corner of the field. It now belongs to Gulfstream.

In 1991, Greene was forced to sell majority interest in the company in order to attract major new investment. Controlling interest in Commander Aircraft now is in the hands of Special Situations Investment Holdings, Limited (SSIH), a Washington, D.C.-based limited partnership investment firm. SSIH acquires financially ailing or bankrupt companies with the intention of making them profitable for eventual resale. KuwAm (a contraction of Kuwaiti American) Corporation is the general partner of SSIH. Greene



still sits on the Commander board as vice chairman. Wirt Walker, who is chairman of the board of KuwAm and serves in that same capacity at Commander Aircraft, said about \$8 million will have been invested in the company before cash begins to flow to the positive side of the ledger.

William Boettger was hired as president and CEO of Commander in August 1991. He brought years of general aviation manufacturing experience, most recently as president of Teledyne Continental Motors. Before that, he managed Cessna Aircraft's Pawnee Division, where he oversaw some 5,000 employees who sent up to 30 new Cessna sin-

gles out the door each day. That was about 15 years ago, during general aviation's salad days. Boettger's appetite is much more modest today. He hopes to deliver 188 new 114Bs in 1992 and 200 in 1993.

The 114B will be sold through retail dealers. Commander has been on a hectic schedule demonstrating N114BW to prospective dealers and hopes to sign up 15 to 20 in the United States with an almost equal number abroad.

Commander Aircraft has made the transition from a single-minded focus on development to one of producing and delivering airplanes. But the tinkering is not over. Boettger predicts another 10 knots can be extracted by fixing more of the 114's draggy characteristics—better wing-to-fuselage and fin-to-stabilizer junctures, retractable steps, smoother wing skins, faired flap hinges, brush seals between prop spinner and cowl, and other detail refinements. The company also plans to certify a turbocharged Lycoming 540 in the 114.

But these are future endeavors. The first cut at a much-improved airplane has been made. Commander Aircraft is on its way. □

Commander 114B		Rate of climb, sea level	
Base price: \$169,500		1,070 fpm	
		Max level speed 164 kt	
		Cruise speed/endurance w/45-min rsv, (fuel consumption)	
		@ 75% power 160 kt/4.2 hr (85.8 pph/14.3 gph)	
		@ 65% power, best economy 155 kt/4.8 hr (75.6 pph/12.6 gph)	
		@ 55% power, best economy 149 kt/5.8 hr (67.2 pph/11.2 gph)	
		Service ceiling 16,800 ft	
		Landing distance over 50-ft obstacle 1,200 ft	
		Landing distance, ground roll 720 ft	
<b>Limiting and Recommended Airspeeds</b>			
		$V_X$ (best angle of climb) 75 KIAS	
		$V_Y$ (best rate of climb) 100 KIAS	
		$V_A$ (design maneuvering) 118 KIAS	
		$V_{FE}$ (max flap extended) 111 KIAS	
		$V_{LE}$ (max gear extended) 187 KIAS	
		$V_{LO}$ (max gear operating) 130 KIAS	
		$V_{NO}$ (max structural cruising) 148 KIAS	
		$V_{NE}$ (never exceed) 187 KIAS	
		$V_{S1}$ (stall, clean) 61 KIAS	
		$V_{SO}$ (stall, in landing configuration) 56 KIAS	
<b>Specifications</b>			
Powerplant	Lycoming IO-540-T4B5D, 260 hp @ 2,700 rpm		
Recommended TBO	2,000 hr		
Propeller	McCaughey, three-blade, 77-in diameter		
Length	24 ft 11 in		
Height	8 ft 5 in		
Wingspan	32 ft 9.1 in		
Wing area	152 sq ft		
Wing loading	21.4 lb/sq ft		
Power loading	12.5 lb/hp		
Seats	4		
Cabin length	6 ft 3 in		
Cabin width	3 ft 11 in		
Cabin height	4 ft 1 in		
Empty weight	2,080 lb		
Max ramp weight	3,260 lb		
Gross weight	3,250 lb		
Useful load	1,170 lb		
Payload w/full fuel	762 lb		
Max takeoff weight	3,250 lb		
Fuel capacity, std	70 gal (68 gal usable)		
	420 lb (408 lb usable)		
Oil capacity	8 qt		
Baggage capacity	200 lb, 22 cu ft		
<b>Performance</b>			
Takeoff distance, ground roll	1,040 ft		
Takeoff distance over 50-ft obstacle	2,000 ft		
Max demonstrated crosswind component	19 kt		

For more information, contact Commander Aircraft Company, 7200 N.W. 63rd Street, Bethany, Oklahoma 73008; telephone 405/495-8080.

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.