# **Beechcraft Premier IA**







Raytheon Aircraft Co., as far as we know, isn't concerned with the very-light-jet (VLJ) groundswell. Instead, its jets are designed for a blend of speed, interior spaciousness, and comfort.

The Beechcraft Premier I, rolled out in 2001, has been a fair success—with 133 total sales. Its big draws are its merging of a 451-knot maximum cruise speed with a six-seat cabin featuring berthable seats, an aft lavatory, and a choice among five different refreshment-center designs. The cockpit features the popular Rockwell Collins Pro Line 21 avionics suite, and the airplane is certified for single-pilot operations.

The newest Premier, dubbed the Premier IA, is an incremental improvement over its predecessor. It retains the 2,300pound static-thrust Williams International FJ44-2A engines that power the Premier I, touts the same speeds and performance numbers, and has the same Pro Line avionics, but several noteworthy changes have been made. IAs began production in September 2005, at serial number 435.

**BY THOMAS A. HORNE** 



# **Extra features**

One welcome addition to the Pro Line 21 is Rockwell Collins' Integrated Flight Information System (IFIS)-a feature first introduced on Raytheon's Hawker 800XPi models in June 2005, and a system that's been used in larger business jets such as Falcons and Challengers since 2004. The IFIS talks to the Pro Line's displays via an Ethernet connection, and can support electronic charting (JeppView services from Jeppesen) and datalinked graphical and textual weather information from either XM WX Satellite Weather or Universal Weather and Aviation datalink services.

**The Premier IA** cockpit features the Rockwell Collins Pro Line 21 avionics suite, but can be ordered with datalink weather and Jeppesen electronic chart views via the IA's **Integrated Flight** Information System. The IA's cabin (right) has more comfortable seats than the Premier I's, and a restyled overhead lighting arrangement.







Williams International FJ44-2A engines of 2,300 pounds thrust give the IA its 450knot cruise speeds—making it the fastest single-pilot business jet on the market (above). The IA also claims a cabin that's 32-percent larger than its nearest competitor—a reference to Cessna's entry-level Citation jets.

The hardware and software modules to enable these services are options: \$31,610 for the XM package; \$73,595 for the Universal option; and \$28,095 for Collins' ECH-5000 enhanced map overlays, which provide such nice-tohave features as superimposition of the aircraft's location on approach charts and airport diagrams. Rockwell Collins reports that most customers

opt for XM satellite weather services, and order the full line of weather products. This includes graphical METARs, sigmets, Nexrad imagery, and storm-cell echo tops, as well as textual METARs, terminal area forecasts, and airmets. The IA comes with a Collins TWR-800 weather radar as standard equipment. Its TWR-850 turbulence-detecting Doppler radar is a \$38,030 option.

The electronic charts and datalink services go a long way toward minimizing a paper-cluttered cockpit, and are especially welcome in single-pilot

SPECSHEET

Raytheon/Beechcraft Premier 1A Average equipped price: \$6.1 million

#### **Specifications**

PowerplantTwo Williams Internation	onal FJ44-2A, 2,300 lbst
Recommended TBO	
Length	
Height	
Wingspan	
Wing area	
Wing loading	50.6 lb/sq ft
Power loading	2.72 lb/hp
Seats	
Cabin length	
Cabin width	
Cabin height	5 ft 5 in
Basic operating weight	
Max ramp weight	
Max takeoff weight	
Zero-fuel weight	
Max useful load	4,040 lb
Payload w/full fuel	
Max landing weight	
Fuel capacity, usable	
Baggage capacity, nose	
Baggage capacity, lavatory	
Baggage capacity, external/aft	400 lb, 44 cu ft

#### Performance

Takeoff field length, MGTOW, sea level

@ 15 deg C/59 deg F	
Two-engine rate of climb	
Single-engine rate of climb	
Max cruise speed/range, 33,000 ft	
Max operating altitude	
Single-engine service ceiling	
Landing distance	3.170 ft

## Limiting and Recommended Airspeeds

/p (rotation)	104	KIAS
(takeoff decision speed)	.102	KIAS
(takeoff safety speed)	.116	KIAS
(max flap extended)	.200	KIAS
(max gear extended)	.200	KIAS
(max gear operating)		
Extend	200	KIAS
Retract	.180	KIAS
/e1 (stall, clean)	.108	KIAS
(stall, in landing configuration)	92	KIAS

For more information, contact Raytheon Aircraft Co., Post Office Box 85, Wichita, Kansas 67201-0085; 316/676-7111; www.raytheonaircraft.com/beechcraft.

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.

situations. The front office of an IA can be a busy place, and the extra situational awareness comes in very handy, indeed.

## **Cabin comfort**

Cabin changes have made the IA a better place for passengers, too. At Raytheon, the marching orders are "cabin first" in the design department, and it really shows in the new Premiers. Company officials are quick to point out the cabin's large size, stating that it's modeled after those used in Raytheon's Hawker series of super-midsize jets. In fact, Raytheon's mid-size Hawker 800XP cabin is just 4 inches taller and 6 inches wider than that of the Premier IA. The IA's "boss' seat"—seat number four, or the first forward-facing seat at the right side of the cabin—now has its own independent heat control, which controls cabin temperature and operates off the right bleed-air system. Cockpit temperature is controlled by the pilot, and runs off the left bleed-air system.

Cabin seats are more comfortable than the Premier I's, having been restyled and re-contoured for more support; the I's large circular overhead dome lights have been replaced with individual reading lights; there's new recessed, indirect overhead lighting that runs the length of the cabin: the first four seats translate, swivel, and are berthable; the old circular window reveals have been replaced with a cleaner, flush-to-thesidewall design; and a new single-action side-table design is less of a protrusion into the cabin space than the previous design was. As for refreshment centers. you can opt for a top-end unit that includes the basic features, plus an Airshow flight information display, a 10inch color monitor, a CD/DVD player for audio and video programs, adjustable shelves, and storage drawers.

# A pilot's airplane

But passengers don't have all the fun. The Premier IA is very much a pilot's airplane that just happens to have a plush cabin. Up front, you have the thrills that come with taking off, climbing at 250 KIAS and 4,200 fpm, and reaching 23,000 feet in 9 minutes, as I experienced on my flight with four aboard. It took us 23 minutes to reach an altitude of 37,000 feet, where we settled into a 450-KTAS cruise at outside air temperatures only 2 degrees Fahrenheit below standard.

I flew the ILS 1R approach into Wichita Mid-Continent Airport, and then made the short hop across town to Raytheon's home base at Beech Field. Final approach speed worked out to be 120 KIAS with full (30 degrees) flaps, with airspeed across the threshold targeted at 110 KIAS. After touchdown, I got to sample two other improvements in the IA. The brakes are less "grabby" and easier on the passengers, thanks to a new brake master cylinder design that does away with the actuating cables used by the Premier I. The I's brakes were perhaps too effective, and neophytes could find



IAs can be fitted out with one of several refreshment-center designs. The Airshow system (on the display above) shows the airplane's location; it also can show DVDs.

themselves lurching from side to side as they taxied. Not anymore.

The Premier IA also has a new liftdump system. Premier Is have an automatic lift-dump feature that deploys when three wheel-actuated squat switches make contact with the runway. Then the outboard, middle, and inboard spoilers deploy to put more weight on the wheels and slow the airplane significantly after touchdown (if the lift-dump system fails, pilots are advised to add 53 percent to the airplane's landing distance). But if one or more squat switches don't make contact, there's no lift dump on the I models. The IA uses a manual lift-dump lever that gives all lift-dump control to the pilot.

## A league of its own

At \$6 million, the Premier IA isn't the least expensive light business jet. But its unique combination of speed, cabin comfort, and advanced composite construction puts it in a league all its own. The IA's typical mission, Raytheon says, is flying three passengers 740 nm in one hour, 45 minutes. It's doubtful that a VLJ could do that. "There's nothing 'very light' about any of Raytheon's airplanes-unless you're talking about the weight savings from the carbon-fiber fuselage," said a Raytheon representative. "We specialize in making derivatives of existing designs. There's not one product we make that doesn't have a derivative planned for it." Makes you wonder what the Premier II will look like. ACPA

*E-mail the author at tom.horne@ aopa.org.* 

▶ Links to additional information about Premier I business jets may be found on AOPA Pilot Online (www. aopa.org/ pilot/links.shtml).