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Citation CJ3

Cessna's **best-ever** light jet?

TEXTRON AVIATION NOW HAS DELIVERED NEARLY 500 CITATION CJ3/CJ3+ light jets since the aircraft made its production debut in late 2004. This is the firm's bestselling, current production light jet. This airplanes' prices are rising on the resale market, according to Gavin Woodman, co-founder of Aerocor, a new light jet brokerage firm based in Los Angeles.

No wonder. They will climb to FL 450 at MTOW in about 30 min. and cruise at more than 400 KTAS, assuming standard day temperatures, based on our observations. That's 25-kt. faster than Textron predicts in the flight planning guide.

Operators also say Textron's advertised range and speed numbers are conservative. Cessna predicts a top cruise speed of 380 KTAS or Mach 0.66 at FL 450 at mid weights. We've had to pull back the thrust at FL 450 to avoid triggering the Mach 0.737 overspeed warning alert.

Cessna says the aircraft will fly 1,830 nm with full fuel and three passengers. Operators say the aircraft will fly more than 1,900 nm with four passengers at high-speed cruise. Slow down and it will cruise more than 2,000 nm. Some say that its range is virtually the same as the $900,000 more expensive CJ4.

Runway performance is a strong suit. It needs only 3,180 ft. of pavement for takeoff on a sea-level standard day and only 4,750 ft. of runway when departing *BCA*'s 5,000 ft. elevation, ISA+20C airport. It can depart Mexico City at MTOW on a 26C day.

Power comes from two 2,820-lb. thrust Williams International FJ44-3A engines, having a relatively low, 2.09:1 bypass ratio. This enhances high altitude performance. There's little time savings for cruising below FL 430 to FL 450 on trips longer than one hour.

The standard cabin has a forward, right-side refreshment center, a center four chair club section and two forward facing seats in the aft cabin. The cabin is comfortable for four people, dovetailing nicely with aircraft's 800-lb. tanks-full payload. The full width, fully enclosed aft lavatory has an internally service flush toilet. Popular options include a side-facing seat in place of the right-side galley and a belted potty seat, providing an 8-passenger cabin.

There's a 20-cu.-ft. compartment in the nose that's handy for storing crew gear, engine nacelle duct and probe covers. The aft baggage compartment accommodates another 50 cu. ft. of gear.

First generation aircraft, s.n. 1 to 293 that were produced from 2004 to 2009, have Rockwell-Collins Pro Line 21 avionics, featuring three 8 in. by 10 in. LCD screens, dual Pro Line 21 comm, nav and transponder radios, a single FMS-3000 with TSO C-129 GPS receiver, single scanning DME and solid-state weather radar. A second FMS-3000 or Garmin GPS panel mount radio was optional. It costs at least $120,000 to upgrade this series of aircraft to ADS-B, more if the aircraft has dual FMS-3000 boxes.

Second generation aircraft, s.n. 294 to 415, built from 2009 to 2014, have upgraded FMS-3000s capable of LPV approaches, a 12-channel GPS-4000S WAAS receiver, TDR-94D Mode S diversity transponders, standard TCAS II and a USB thumb drive database update capability. A second FMS-3000, GPS-4000A and DME-4

The CJ3+, the third-generation model, has been in production since 2014. Serial number 451 and subsequent aircraft are fitted with Garmin G3000 touchscreen avionics, in keeping with Textron's gradual move to Garmin avionics for all its business jets.

For hourly operating expense, budget 165 gph for fuel burn, $313.60 for Williams TAP Blue engine program, $251.72 for Textron's Pro Parts and $298 for Pro Tech labor.

What's not to like about the CJ3? Some systems have little or no redundancy. A single 28 volt DC-powered hydraulic pump, for instance, supplies the power brake and anti-skid system. If it fails, you're down to using the back-up pneumatic brake system with no differential braking and no anti-skid.

D. RAMSEY LOGAN/WIKIPEDIA

The electrical system has two, highly reliable 29 volt DC starter-generators. But, they feed a common, parallel buss distribution system. If something shorts out, it can blow a cross-tie current limiter, disabling part of the electrical system if a generator fails. Some other light jets use a split bus architecture isolate faults to one side of the system, thereby helping to prevent total electrical system failures.

The CJ3's windshields are stretched acrylic plastic, essentially the same design of the original Citation 500 of the early 1970s. Engine bleed air must be used for anti-ice protection because they lack the internal electrical heating elements of glass windshields.

Over-wing refueling ports are used to replenish Jet A rather than single-point pressure refueling. And the internally service toilet means that blue water must be carried through the cabin.

These nits apparently aren't detracting from the aircraft's appeal in the used markets. Woodman says first-generation models now command $3.5 million. Second generation aircraft go for $5.0 million to $5.5 million. Forget buying a used CJ3+. "You can't find one for sale," says Woodman.

The CJ3 and CJ3+ are hot sellers on the used aircraft market. Few competitors offer their balance of handling ease, runway performance, operating efficiency and 1,900 nm to 2,000 nm range, plus strong factory service center support from Textron Aviation. **BCA**