

# ARCHIVED REPORT

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## Cessna Citation Bravo - Archived 6/2008

### Outlook

- Deliveries fell to 18 aircraft in 2006 from 21 in 2005
- Bravo production line closing
- Cessna's own CJ3 close enough in performance and price to absorb Bravo's market share

### Orientation

**Description.** Twin-turboprop-powered, short-range, executive/business transport aircraft.

**Sponsor.** Citation series privately sponsored by Cessna Aircraft Company.

**Status.** Production ended.

**Total Produced.** Through 2005, Cessna delivered 349 Citation 500s, 342 Citation I/550s, 686 Citation II/550s, 159 Citation S/II/S550s, 519 Citation V/V Ultras, 337 Bravos, and 15 T-47A trainers.

**Application.** Short-range executive/corporate personnel transportation. Additional military applications include flight training, communications, flight inspection, air ambulance, and VIP/government personnel carriage.

**Price Range.** Citation Bravo, \$5.7 million in 2006 dollars.



Citation Bravo

Source: Cessna

## Cessna Citation Bravo

## Contractors

## Prime

<b>Cessna Aircraft Co</b>	<a href="http://www.cessna.com">http://www.cessna.com</a> , PO Box 7706, Wichita, KS 67277 United States, Tel: + 1 (316) 517-6000, Prime
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## Subcontractor

<b>Aircraft Security &amp; Alert Systems</b>	3863 Royal, Dallas, TX 75229 United States, Tel: + 1 (214) 956-9563, Fax: + 1 (214) 956-9960 (Locking Systems)
<b>Honeywell Aerospace, Air Transport &amp; Regional</b>	<a href="http://www.honeywell.com/sites/aero/">http://www.honeywell.com/sites/aero/</a> , 21111 N 19th Ave, Phoenix, AZ 85027 United States, Tel: + 1 (602) 436-2311 (Color Weather Radar; Primus 1000 Avionics System)
<b>Pratt &amp; Whitney Canada</b>	<a href="http://www.pwc.ca">http://www.pwc.ca</a> , 1000 Marie-Victorin Blvd, Longueuil, J4G 1A1 Quebec, Canada, Tel: + 1 (450) 677-9411, Fax: + 1 (450) 647-3620, Email: <a href="mailto:marketing@pwc.ca">marketing@pwc.ca</a> (PW530A)

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## Technical Data

(Bravo)

**Design Features.** Low-straight-wing design; cruciform tail with highly swept vertical stabilizer and unswept horizontal surfaces.

	<u>Metric</u>	<u>U.S.</u>
<b>Dimensions (External)</b>		
Length overall	14.38 m	47.17 ft
Height	4.57 m	15.0 ft
Wingspan	15.90 m	52.20 ft
<b>Dimensions (Internal)</b>		
Cabin internal width	1.5 m	4.92 ft
Cabin height, max	1.45 m	4.75 ft
Cabin length (excluding cockpit)	4.75 m	15.7 ft
<b>Weight</b>		
Operating, empty weight	3,984 kg	8,783 lb
Max TOW	6,486 kg	14,300 lb
Maximum fuel	2,204 kg	4,860 lb
<b>Capacities</b>		
Standard fuel	2,808 liters	742 gal
<b>Performance</b>		
NBAA IFR Range, 45-min reserves and 100 nm (185 km) alternate	3,230 km	1,744 nm
Max cruise speed, at 33,000 feet	746 kmph	403 kt
Ceiling	13,715 m	45,000 ft

## Cessna Citation Bravo

**Propulsion**

Citation Bravo (2) UTC P&WC PW530A turbofan engines, rated 12.23 kN (2,750 lbst) each at takeoff.

**Seating**

Citation Bravo 7 passengers.

## Variants/Upgrades

**Citation 500.** The first Citation, introduced in 1972 and powered by 2,200-lbst Pratt & Whitney Canada JT15D-1 turbofans. Total of 349 built through 1977.

**Citation I/501.** Replaced 500 in 1977, built until 1985. Powered by JT15D-1A turbofans; 342 were built.

**Citation II/550.** A 7- to 10-seat model with fuselage stretched 3.75 feet, more fuel and baggage capacity, uprated JT15D-4 turbofans, and a high-aspect-ratio, increased span wing. Replaced by S/II in 1984, revived in 1985. Deliveries restarted in 1987, ended in 1988.

**Citation S/II/S550.** Certificated in 1984 with FAA exemption for single-pilot operations. The S/II features new supercritical wing technology to reduce high-speed drag and retain good slow-speed handling characteristics and short-field capability. Powered by JT15D-4B fans for greater thrust at high altitudes, and modified cabin for 115 percent increase in tailcone baggage area volume. Through 1988, 159 Citation S/IIs were delivered.

**Citation V/560.** Stretched (by 20 in) versions appeared in 1987 with JT15D-5As of 2,900 lbst each for 16 percent more thrust than Citation S/II. Deliveries began in March 1989, and 274 were delivered.

**Citation V Ultra.** Replaced Citation V in 1994; featured uprated JT15D-5Ds, 345-pound payload increase, 400-pound max TOW increase, interior refinements, and Honeywell Primus 1000 digital flight control system.

**Ultra Encore.** Much improved, re-engined follow-on to Ultra (see "Cessna Encore" report in this tab).

**Citation Bravo.** Announced in 1994; replaced Citation II. Powered by PW530A engines, it offers 20 percent more thrust than the II, plus 15 percent lower fuel consumption. Also requires less takeoff roll, climbs to altitude much faster, and cruises 20 knots faster.

**T-47A.** Modified Citation S/IIs for the Undergraduate Navy Flight Officer (UNFO) program; 15 ordered in 1983. Replaced Rockwell T-39s.

**OT-47B.** A military version of the Bravo, fitted with modified APG-66 radar and WF-360 IR tracking systems. The USAF ordered five units in 1995.

## Program Review

**Background.** Initially dubbed the Fan-Jet 500, the Citation prototype flew in September 1969 and was certificated in 1971. Cessna built 349 by December 1976, when the aircraft was replaced by the improved Citation I, itself phased out of production in August 1985.

The Citation II was announced in 1976 and certificated in 1977. It was replaced by the improved Citation S/II in 1984. Citation II production resumed in 1987. Citation V was certificated in late 1988, with deliveries starting March 1989. This model was replaced by the V Ultra in 1994.

### *Series Proliferates*

Not content with its near-monopoly of the low end of the business jet spectrum, Cessna launched the Citation III in the late 1970s. This all-new design, with high-swept wing and T-tail, Garrett TFE731 turbofans, and an opulent interior, sold very well despite the severe depression in business aviation from 1981 to 1988. The Citation III was added to the Cessna business jet line and represented an entirely different approach. This aircraft, a true medium-range, medium-cabin type, required a new fuselage, wing set, and engines, and was certificated in April 1982. Deliveries began in 1983. Subvariants of the III appeared in 1991 and 1992 as the VI and VII, respectively.

## Cessna Citation Bravo

In September 1994, Cessna announced the Citation II replacement, touting Bravo as doing everything the Citation II does, only better.

## Timetable

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<u>Month</u>	<u>Year</u>	<u>Major Development</u>
Sep	1969	Citation 500 prototype first flight
Sep	1971	Citation 500 certificated
	1972	Initial Citation 500 deliveries
Sep	1976	Citation I, II, III models announced
Dec	1976	Initial Citation I deliveries; Model 500 goes out of production
Mar	1978	Certification, initial deliveries of Citation II
Apr	1982	Citation III certificated
Jan	1983	Initial Citation III deliveries
May	1983	Citation II selected for USN UNFO requirement
Aug	1984	Initial Citation S/II deliveries
Sep	1984	Citation II production completed
Jan	1985	Initial T-47A deliveries
Aug	1985	Citation I discontinued
Sep	1985	Citation II returned to Cessna product line
Dec	1988	Citation V certificated
Dec	1988	Cessna terminates production of Citation S/II
Mar	1989	Citation V deliveries begun
Sep	1994	Citation Bravo announced; Ultra deliveries begun
Jan	1996	Ultra chosen for U.S. Army C-XX requirement
Early	1997	Bravo certificated
Early	2000	Replacement of Ultra with Encore

## Forecast Rationale

Cessna delivered 18 Citation Bravos in 2006, down from 21 in 2005 and 24 in 2004. Deliveries of the aircraft have been slipping steadily since 2002, and with the CJ3 selling well, Cessna appears to have decided that production of the Bravo was no longer necessary.

The Bravo was clearly viewed as an older design. The newer CJ3 model costs more than a Bravo, but it offers greater payload, speed, range, and altitude, as well as lower operating costs, more up-to-date avionics, and better runway performance. In essence, the CJ3 is close enough in accommodations and performance to the Bravo to make the Bravo largely superfluous to

Cessna's Citation line. Cessna's CJ4, due to enter service in 2010, has been mentioned in the trade press as a Bravo replacement, but it is a bigger and substantially more expensive aircraft directed at a different market niche.

Cessna announced in July 2006 that the last Bravo was on the production line for fall 2006 delivery. As of this writing, Cessna has not formally announced the end of production of the Bravo, but production of the Bravo appears to have ceased. In all, 337 Bravos were built during the aircraft's production run.

## Ten-Year Outlook

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No further production expected.

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