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Cessna Sovereign

Outlook

- Cessna announced termination of Sovereign+ production in March 2021
- New Cessna models positioned above and below the Sovereign+ made it superfluous in the manufacturer's product line

Orientation

Description. Twin-turbofan, medium-class business jet.

Sponsor. Privately sponsored by Cessna Aircraft Co.

Total Produced. Two test aircraft and 443 production aircraft through December 2021, including 94 Sovereign+ aircraft.

Application. Medium-range executive transportation.

Price Range. Estimated at \$18.7 million, typically equipped.



Citation Sovereign+

Source: Cessna

Cessna Sovereign**Contractors****Prime**

Cessna Aircraft Co	http://cessna.txtav.com , One Cessna Blvd, PO Box 7706, Wichita, KS 67277 United States, Tel: + 1 (316) 517-6000, Prime
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Subcontractor

Garmin International Inc	http://www.garmin.com , 1200 E 151st St, Olathe, KS 66062 United States, Tel: + 1 (913) 397-8200, Fax: + 1 (913) 397-8282 (G5000 Avionics)
Honeywell Aerospace, Engine Systems	http://www.honeywell.com , 2525 W 190th St, Torrance, CA 90504-6099 United States, Tel: + 1 (310) 527-2200 (APU Development)
Pratt & Whitney Canada	http://www.pwc.ca , 1000 Marie-Victorin Blvd, Longueuil, Quebec, Canada, Tel: + 1 (450) 677-9411, Fax: + 1 (450) 647-3620 (PW306D Turbofan)

Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 22 Commerce Road, Newtown, CT 06470, USA; rich.pettibone@forecast1.com

Technical Data**(Sovereign+)**

Design Features. Sovereign uses the 5.5-foot-wide fuselage of Citation VII and X models, incorporating an 18-inch stretch. Airfoil features 16.1-degree sweep in the leading edge and a relatively straight trailing edge.

	<u>Metric</u>	<u>U.S.</u>
Dimensions		
Fuselage length	19.35 m	63.5 ft
Wingspan	22.05 m	72.3 ft
Height	6.2 m	20.3 ft
Wing area	50 sq m	543 sq ft
Interior		
Length	7.70 m	25.25 ft
Width	1.68 m	5.50 ft
Height	1.73 m	5.75 ft
Weight		
Max takeoff weight	13,959 kg	30,775 lb
Basic operating weight	8,271 kg	18,235 lb
Useful load	5,801 kg	12,790 lb
Max payload	1,254 kg	2,765 lb
Full fuel payload	635 kg	1,400 lb
Performance		
Max range	5,926 km	3,200 nm
Max cruise speed	852 kmph	460 kt
Ceiling	14,326 m	47,000 ft
Takeoff distance (@MTOW)	1,076 m	3,530 ft
Landing distance	792 m	2,600 ft

Cessna Sovereign**Propulsion**

Sovereign	(2)	Pratt & Whitney Canada PW306C turboprops rated 25.67 kN (5,770 lbst) each at sea level.
Sovereign+	(2)	Pratt & Whitney Canada PW306D turboprops rated 26.28 kN (5,907 lbst) each at sea level.

Seating

Two crew plus standard seating for 9-12 passengers, depending on configuration.

Program Review

Background. Cessna announced the Sovereign at the 1998 National Business Aviation Association (NBAA) show with a six-unit sale to Arizona-based Swift Air and a 50-unit sale (plus 50 options) to Executive Jet, but it did not officially launch the program until 2000.

The Sovereign was designed to offer a spacious cabin by medium jet standards, along with excellent short-field performance and reliability. The aircraft also needed to be able to fly coast-to-coast in the United States without refueling.

Cessna flew the first prototype in February 2002. It obtained certification from the U.S. Federal Aviation Administration (FAA) for the Sovereign in June 2004, six months later than planned. Customer deliveries began later that year. European Aviation Safety Agency (EASA) certification was received in March 2005.

Cessna announced new upgrades to the Sovereign at the NBAA's annual conference in October 2012, including a new cockpit with Garmin G5000 avionics and new Pratt & Whitney PW306D engines that boosted the aircraft's range by 150 nautical miles, giving it a maximum range of 3,000 nautical miles (5,556 km). Other enhancements included winglets, integrated automatic throttles, improved short runway performance, and an integrated Cessna Clarity cabin management system.

Cessna delivered the last Sovereign powered by the PW306C in the first quarter of 2013. The upgraded model achieved certification in December 2013. Deliveries began the same month.

Chinese Production Plans Dropped

To increase sales in the Chinese market, Cessna signed two agreements with China's state-owned AVIC in March 2012 designed to increase cooperation in the area of business jets. One agreement covered the establishment of joint ventures to pursue businesses related to the development of general aviation in China, including the creation of an aircraft service network in the country.

The second involved a potential joint venture among Cessna, the Chengdu municipal government, and AVIC subsidiary Aviation Techniques Co that would be involved in production of the Sovereign and Citation Latitude jets for the Chinese market. According to management at Cessna, cheaper labor was not the driving force behind increasing production work in China, since labor accounted for only 15 percent of the total cost of a business jet. Rather, Cessna saw the new deal as a way of avoiding Chinese taxes on imported aircraft; China imposes a 17 percent value-added tax on imported aircraft in addition to a basic import tax of about 5 percent. However, plans to build the Sovereign and Latitude in China were later dropped.

Forecast Rationale

The market's interest in the medium jet segment had waned even before the arrival of COVID-19 in early 2020. Annual deliveries declined each year following 2014, averaging just 22 aircraft in 2018-2019, with the company delivering only eight aircraft in 2019. Production of the Sovereign+ and its closest competitor, the Embraer Legacy 500, both followed the trend line. Gulfstream previously terminated production of its own medium model, the G150, in 2017.

Embraer introduced a new model to the segment, the Praetor 500, in 2019. Despite having a different name, the Praetor 500 is not an all-new aircraft but rather is an upgraded Legacy 500.

Cessna recently introduced the Citation Latitude, which is slightly smaller than the Sovereign, and the Citation Longitude, which is a step above the Sovereign in size.

Cessna Sovereign

The Latitude and Longitude are part of a reorganization of Cessna's product line, and the Sovereign+ is an older model squeezed in between two newer aircraft. Cessna

terminated production of the Sovereign+ in mid-2021 after delivering only three aircraft in the first half of the year.

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