SyberJet SJ30

Outlook

- Two new SJ30 versions are in development
- The SJ30i first flew in 2019, and features the new SyberVision flight deck
- The follow-on SJ30x features more powerful engines

Orientation

Description. Twin-turbofan-powered, short/medium-range, light business/executive transport aircraft.

Sponsor. The SJ30 is privately sponsored by SyberJet Aircraft.

Status. Production of the SJ30 was halted in 2010, but SyberJet is developing a pair of upgraded models known respectively as the SJ30i and SJ30x.

Total Produced. Through 2022, one SJ30-1 flying prototype, four SJ30-2 flying prototypes, four SJ30-2 production aircraft, and two ground test articles were produced.

Application. Business/executive transportation. Additional civil applications include air ambulance, small package express, and general freight.

Price Range. SJ30i, $8.5 million; SJ30x, $9.0 million. Both are estimates in 2023 U.S. dollars.

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SJ30-2

Source: Sino Swearingen

Contractors

Prime

SyberJet Aircraft	http://www.syberjet.com, 597 North 1500 West, Cedar City, UT 84721 United States, Tel: + 1 (435) 238-7165, Fax: + 1 (435) 586-0289, Prime

Subcontractor

Honeywell Aerospace, Business Aviation	http://www.honeywell.com, 19019 N 59th Ave, Glendale, AZ 85308 United States, Tel: + 1 (602) 822-3000 (Core Avionics)
Williams International	http://www.williams-int.com, 2280 E West Maple Rd, PO Box 200, Walled Lake, MI 48390 United States, Tel: + 1 (248) 624-5200, Fax: + 1 (248) 669-0040 (FJ44 Turbofan Engine)

Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 75 Glen Road, Suite 302, Sandy Hook, CT 06482, USA; rich.pettibone@forecast1.com

Technical Data

(SJ30i/SJ30x)

Design Features. Cantilever low-swept-wing monoplane. Aircraft characteristics include a T-tail, all-metal construction, and aft-mounted turbofan engines. The airframe is constructed of aluminum. The landing gear are retractable tricycle type, with twin wheels on each unit.

	Metric	U.S.
Dimensions		
Length	14.26 m	46.80 ft
Height	4.33 m	14.19 ft
Wingspan	12.90 m	42.33 ft
Cabin length	3.80 m	12.45 ft
Cabin height	1.31 m	4.30 ft
Cabin width	1.44 m	4.71 ft
Cabin volume	5.39 cu m	191 cu ft
Weight		
Max takeoff weight	6,327 kg	13,950 lb
Max landing weight	5,772 kg	12,725 lb
Max zero fuel weight	4,763 kg	10,500 lb
Performance		
Mmo above 29,500 ft	Mach 0.83	Mach 0.83
Service ceiling	14,935 m	49,000 ft
NBAA IFR range(a)	4,630/4,769 km	2,500/2,575 nm

Propulsion

SJ30i	(2)	Williams FJ44-2A turbofan engines rated 10.2 kN (2,300 lbst) each.
SJ30x	(2)	Williams FJ44-3AP-25 turbofan engines rated approximately 11.1 kN (2,496 lbst) each.

Seating

Pilot and passenger or copilot on the flight deck; up to five passengers in the main cabin.

(a) Mach 0.76; one pilot and two passengers; 100-nautical-mile alternate.

Variants/Upgrades

SJ30-1. Original SJ30 version; powered by a pair of 8.45-kN (1,900-lbst) Williams FJ44-1A engines. First flight occurred in February 1991. The SJ30-1 was later essentially shelved by Sino Swearingen in favor of development of the SJ30-2.

SJ30-2. Increased-performance version announced at the 1995 National Business Aviation Association (NBAA) show. The SJ30-2 was powered by a pair of 10.2-kN (2,300-lbst) Williams FJ44-2A turbofans. Maximum speed (above 29,500 ft) was Mach 0.83. IFR range was 2,500 nautical miles. Fuel capacity was greater than that of the SJ30-1, and the fuselage was stretched by 1.32 meters (4.33 ft).

SJ30i. SyberJet is developing an upgraded version of the SJ30-2, dubbed the SJ30i. The improved model is powered by FJ44-2A engines. The aircraft also features a new interior.

The SJ30i made its first flight in October 2019. The aircraft used in the flight was an SJ30-2 (S/N 005) that had been converted to the new configuration.

The SJ30i is equipped with a new glass cockpit called SyberVision. The new cockpit features core avionics supplied by Honeywell (based on the Primus Epic 2.0 system), and includes up to four 12-inch liquid crystal displays. Standard items include the SmartView synthetic vision system (SVS), the INAV moving map display system, dual flight management systems, and onboard weather radar.

In November 2021, SyberJet announced several new standard features for the SyberVision flight deck suite.

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These include Voice Playback Intelli Audio & Bluetooth (for control of all voice, navigation, and inter-cockpit communications), two-dimensional airport moving maps, LP Approach and VFR Approach navigation functions, user profiles, a synoptic linked VFR checklist, a day/night mode setting for E-Charts, the Smart Runway/Smart Landing situational awareness function, and various enhancements to the INAV moving map display system.

SJ30x. SyberJet has also launched development of a re-engined SJ30 model. Originally called the SJ30PLUS, this new model is now known as the SJ30x. Compared to the SJ30i, the SJ30x features longer range, improved hot-and-high performance, increased payload, single-point pressure refueling, and more powerful engines. The SJ30x is powered by a pair of Williams FJ44-3AP-25 turbofan engines.

Program Review

Background. Ed Swearingen, creator of the JetStar, the Metro, and the Merlin, among other aircraft, launched design of a new light jet in 1983. This new jet was originally called the Fanjet.

The Fanjet was publicly announced in 1986. Initially, Swearingen pursued the project on his own. In 1988, Gulfstream entered the picture and agreed to certify and produce the Swearingen invention, calling it the Gulfjet. Allen Paulson, then the CEO of Gulfstream, said that the Gulfjet would provide a second member for the Gulfstream business jet family, with the other being the Gulfstream IV.

Meanwhile, Rolls-Royce and Williams agreed to cooperate on development of the FJ44 engine for the Gulfjet, while Rolls-Royce would provide marketing and customer support.

Gulfstream Exits

In the fall of 1989, Gulfstream withdrew from the Gulfjet program. The company said that the development timing of the aircraft no longer fit into its long-range plans.

With the Fanjet back under his control, Ed Swearingen scoured the U.S. for investment capital to get his aircraft to market. One of his principal investors at that time was Texas businessman Doug Jaffe. In 1991, Swearingen said that $200 million was necessary to get the SJ30 (as the aircraft was now called) into production.

Original Design Details. The original SJ30 version, later known as the SJ30-1, was an all-metal, low-wing aircraft. Its airfoil was fitted with leading-edge slats and Fowler-type flaps and spoilerons for reduced stall speed and good low-speed handling characteristics, and featured a specially designed section that varied constantly from tip to root. The SJ30 also incorporated a special wing-fuselage fairing, which placed the wing spar beneath, rather than through, the cabin.

Original design specifications called for a maximum cruise speed of 450 knots (Mach 0.81), balanced takeoff field length of 997 meters (3,270 ft), a stall speed of 80 knots, and a maximum takeoff weight of 4,195 kilograms (9,250 lb). The SJ30 was initially designed to haul five or six passengers some 2,000 nautical miles in single-pilot operations. These original specifications subsequently changed, with maximum takeoff weight increasing by 1,150 pounds. Range fell slightly, as did maximum cruise speed (from 450 to 445 kt).

Subsequently, the cabin of the SJ30 was redesigned, and the fuselage was slightly lengthened. Swearingen also lengthened the landing gear and changed the wing's 1.5-degree anhedral to 1.5-degree dihedral. This resulted in new wing spars.

Formation of Sino Swearingen. In January 1995, a 50/50 joint venture called Sino Swearingen Aircraft Company was established by Swearingen Aircraft and Sino Aerospace Investment Corp. The latter was a consortium of Taiwanese investors led by Taiwan Aerospace Corp. Other shareholders in Sino Aerospace Investment Corp included Chin Fong Commercial Bank, President Enterprises Corp, Ton Yi Industrial Corp, Tuntex Distinct Corp, United Microelectronics Corp, and Yaohua Glass Company Ltd.

Lockheed Corp (later merged into Lockheed Martin Corp) was instrumental in bringing together Swearingen Aircraft and Sino Aerospace Investment Corp. As part of an offset package on a Taiwanese F-16 order, Lockheed Martin supplied $10 million in cash to the SJ30 program. It did not become a shareholder in the enterprise. Lockheed Martin was also to provide technical assistance on the program and assist in developing the management team.

Sino Swearingen Aircraft Company was responsible for SJ30 development, certification, and production. It was incorporated in 1997. The company was later succeeded by Sino Swearingen Aircraft Corp.

SJ30-2 Announced

New Version. In September 1995, at the NBAA show in Las Vegas, Nevada, Sino Swearingen announced an increased-performance version of its SJ30 light business

jet, called the SJ30-2. Development of the SJ30-1 was essentially shelved, with Sino Swearingen concentrating its efforts on the SJ30-2 (described in the **Variants/Upgrades** section of this report).

Original Prototype Retired. Sino Swearingen retired the original SJ30 prototype in April 1999. Initially built in the SJ30-1 configuration, it was later converted to the SJ30-2 standard. It made its first flight in the SJ30-2 configuration, though still powered by FJ44-1A engines, in November 1996. The aircraft was re-engined with FJ44-2As in mid-1997, and flight testing resumed in September 1997. It was a structurally non-conforming prototype, although it was aerodynamically similar to the conforming prototypes that followed.

First Conforming SJ30-2 Prototype. Sino Swearingen rolled out the first conforming SJ30-2 prototype (S/N 002) in July 2000. This aircraft made its initial flight in November 2000.

In March 2001, Sino Swearingen completed the first ground test article (TF2). It was used for static testing, which was completed in February 2005. A second ground test article (TF3) was also produced, and was used for fatigue testing.

The Spanish company Gamesa Aeronautica was originally selected by Sino Swearingen to build SJ30 wings and fuselages. However, Sino Swearingen terminated the contract with Gamesa in 2001. After considering a number of options, Sino Swearingen then decided to locate wing and fuselage production at its manufacturing facility in Martinsburg, West Virginia. Final assembly was also planned to occur at the Martinsburg plant but, in 2003, the company decided that final assembly would take place at its facility in San Antonio, Texas.

Prototype Crash. The SJ30-2 program suffered a setback when the initial conforming prototype (S/N 002) crashed in April 2003. After an interruption in the flight test program, flight testing resumed in July 2003 with the second conforming prototype (S/N 003). This aircraft had made its initial flight in March 2003.

S/N 003 was subsequently joined in flight testing by the third conforming prototype (S/N 004), which made its initial flight in October 2003. Sino Swearingen accelerated the flight test program in an attempt to make up for the delay caused by the crash.

The fourth SJ30-2 conforming flight test aircraft (S/N 005) joined the flight test program in 2005. S/N 005 was originally intended to be the initial customer aircraft. After the loss of S/N 002, however, S/N 005 was allocated to the flight test effort. S/N 006 thus became the first aircraft to be delivered to a customer.

FAA Certification

The SJ30-2 was granted type certification by the U.S. Federal Aviation Administration (FAA) in October 2005. The certification approved the aircraft for day, night, VFR, IFR, single-pilot, and full-performance envelope operations.

In April 2006, the SJ30-2 received FAA approvals for the cabin interior and flight into known icing.

First Delivery

The first official delivery of an SJ30-2 occurred in November 2006. The aircraft (S/N 006) was delivered to Doug Jaffe, who had retained a significant shareholding in Sino Swearingen. The "J" in the SJ30 designation stands for Jaffe.

In September 2007, Sino Swearingen delivered the second customer SJ30 (S/N 007) to Hamish Harding, chairman of Action Aviation, an SJ30 distributor.

Ownership Changes

In September 2007, Sino Swearingen announced that a controlling interest in the company would be acquired by Action Aviation Investors, a joint venture between Action Aviation and the investment group ACQ Capital. Plans called for the original Taiwanese investors in Sino Swearingen to retain a minority interest in the firm and continue to have representation on the company's board.

Sino Swearingen said at the time that the proposed deal would ensure that it had the necessary capital to initiate full-scale production of the SJ30 and establish long-term relationships with suppliers and customers. The company said that the transaction was expected to close by the end of October 2007. However, completion of the deal was delayed. Subsequently, in February 2008, ACQ Capital withdrew its participation, causing the deal to founder.

The collapse of the deal set the stage for the June 2008 acquisition of an 80 percent stake in Sino Swearingen by Dubai-based Emirates Investment & Development Company PSC, which is also known as Emivest. The remaining 20 percent was held by a variety of shareholders, including Ed Swearingen, Doug Jaffe, and Sino Swearingen's original Taiwanese investors.

Established in 1997, Emirates Investment & Development is a private equity investment firm that has holdings in a number of areas, including manufacturing, construction, real estate, telecommunications, finance, and the food and beverage industry.

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Emirates Investment & Development gave Sino Swearingen a fresh corporate identity in October 2008, renaming the firm Emivest Aerospace Corp.

Emivest SJ30s

In September 2009, Emivest Aerospace delivered an SJ30 to U.S. businessman Harry Mohney. The aircraft (S/N 008) was the first SJ30 to be delivered under the Emivest brand, and the third SJ30 to be delivered in the history of the program.

In December 2009, Emivest delivered a second SJ30. This aircraft (S/N 010) was delivered to the actor Morgan Freeman.

Acquisition by MT LLC

Emivest Aerospace filed for Chapter 11 bankruptcy in October 2010. The firm was suffering from a lack of working capital, as well as from a moribund business aviation market. After entering Chapter 11, the company continued low-level operations with debtor-in-possession financing. Meanwhile, a search was underway for a buyer for the firm.

In April 2011, a Utah-based company called MT LLC, the parent company of SJ30 supplier Metalcraft Technologies, purchased the assets of Emivest Aerospace for $3.5 million in cash. MT also assumed $2.5 million in debts and other deferred obligations. Metalcraft had produced the aft fuselage of the SJ30-2, as well as some 70 percent of the aircraft's sheet metal components.

The asset purchase by MT did not include the leaseholds on Emivest's aircraft final assembly plant in San Antonio and wing and fuselage manufacturing facility in Martinsburg. MT subsequently moved the Martinsburg production line and tooling to Metalcraft's plant in Cedar City, Utah.

In June 2011, MT began operations as SyberJet Aircraft. In 2013, SyberJet and Metalcraft began operating as subsidiaries of a holding company known as MSC Aerospace. In 2021, Metalcraft was sold by MSC Aerospace to ARCH Precision Components Corp. SyberJet has remained a subsidiary of MSC Aerospace.

SyberJet maintains a presence in San Antonio. The firm's San Antonio office houses engineering, sales, marketing, and customer service personnel as well as some production staff. Aircraft final assembly takes place in Cedar City.

Forecast Rationale

SyberJet continues to work toward FAA certification and service entry of the SJ30i, its new version of the SJ30 light business jet. Customer deliveries of the SJ30i may begin in 2024.

SyberJet is planning a limited production run for the SJ30i. Five incomplete aircraft inherited from former SJ30 manufacturer Emivest Aerospace are to be completed as SJ30i models. Production is then to transition to the improved-performance SJ30x. The initial SJ30x (S/N 015) is to be the first aircraft built entirely by SyberJet.

The main sales competition to the SJ30i and SJ30x includes other light business jets such as the Cessna CJ3+ and Embraer Phenom 300E. Operators willing to trade cabin space for performance could give the new SJ30 models serious consideration.

Pending further information, we are not currently issuing a forecast for the SJ30i or SJ30x.

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