DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A00001AC
Revision IR
Sino Swearingen
SJ30-2
October 27, 2005

TYPE CERTIFICATE DATA SHEET NO. A00001AC

This data sheet which is part of Type Certificate No. A00001AC prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of Title 14 of the Code of Federal Regulations.

Type Certificate Holder — Sino Swearingen Aircraft Corporation
1770 Sky Place Blvd
San Antonio, TX 78216

Type Certificate Holder Record — Type Certificate initial issuance to Sino Swearingen Aircraft Corporation

1 - Model SJ30-2, (Commuter Category), Approved October 27, 2005

Engines — Two Williams-Rolls, Inc. International FJ44-2A Turbofans

Fuel — Commercial kerosene JET A, JET A1, per ASTM-D1655, or JP-8 per MIL-T-83133.

Fuels not containing icing inhibitors must have MIL-I-27686 or MIL-I-85470 fuel system icing inhibitor added in amounts not less than 0.10% nor more than 0.15% by volume.

Dupont Stadis 450 anti-static additive or equivalent is permitted to bring fuel up to 300 conductive units, but not to exceed 1 part per million.

SOHIO Biobor JF biocide additive is approved at a concentration not to exceed 20 parts per million (270 ppm total additive) of elemental boron.

Engine Limits Static thrust standard day, sea level

Takeoff (5 minutes) static thrust, sea level	2,300 lbs
Maximum continuous static thrust, sea level	2,300 lbs

Max permissible engine rotor operating speeds (Takeoff and Maximum Continuous):

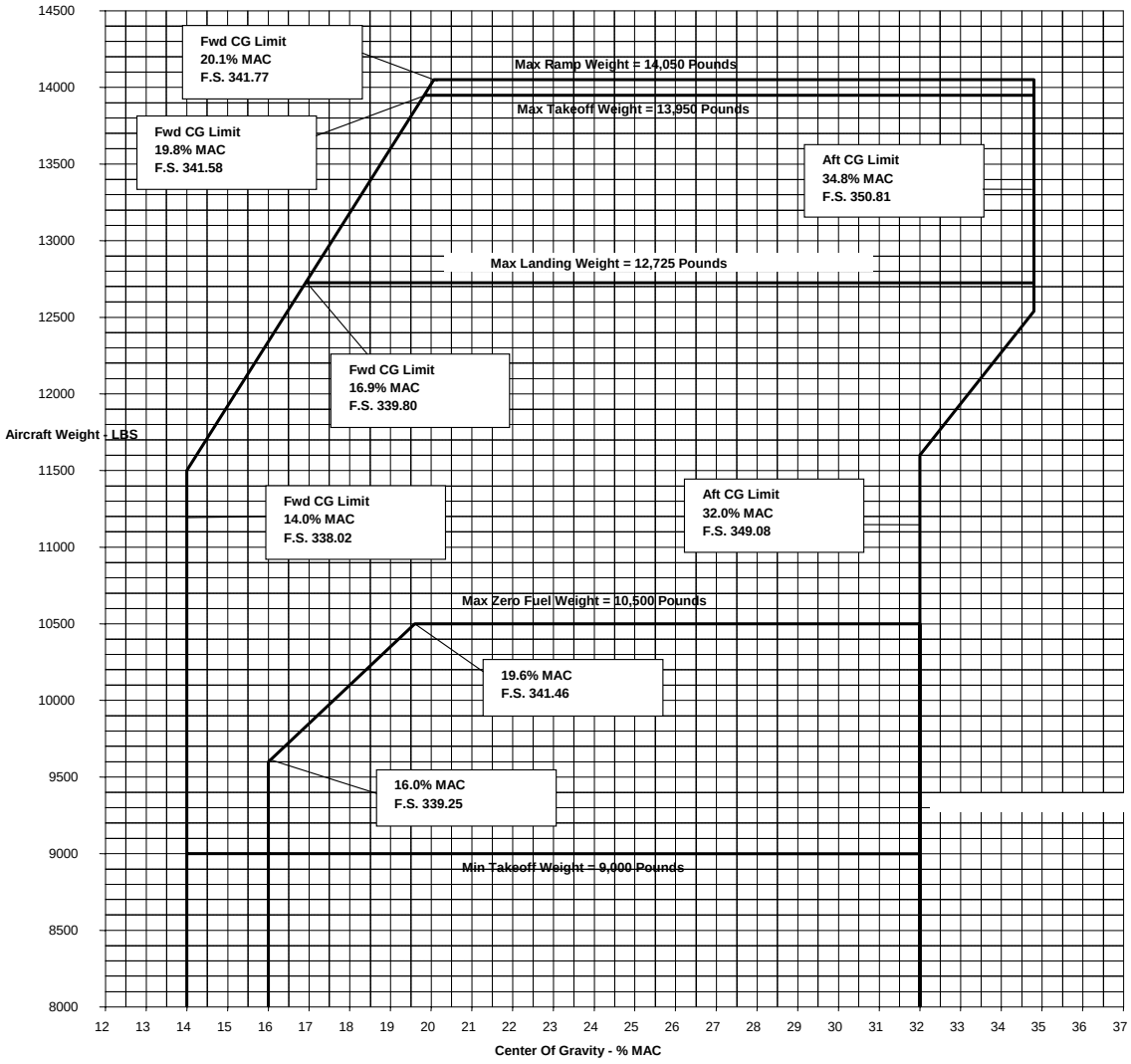
Low pressure rotor, N1 (30 seconds)	106.4%
Low pressure rotor, N1	105.2%
High pressure rotor, N2	98.8%

All other engine limits as noted in engine TCDS E3GL.

Airspeed limitations

V_{MO} (Maximum Operating Speed)	
Sea level to 29,500 feet	320 KCAS
above 29,500 feet M_{MO} (Maximum Operating Mach No.)	0.83
V_A (maneuvering speed at sea level)	255 KIAS (255 KCAS)
See AFM for variations with altitude.	
$\mathbf{V}_{FE}$ (Flaps extended)	
10 degrees	200 KIAS (199 KCAS)
20 degrees	200 KIAS (199 KCAS)
31 degrees (landing)	170 KIAS (169 KCAS)
V_{MCA} (Minimum control speed) Air	
Takeoff	79 KCAS
Landing	76 KCAS
V_{MCG} (Minimum control speed) Ground	85 KCAS
V_{LO} (landing gear operating)	
V_{LO}	225 KIAS
$V_{LO(EMER)}$	160 KIAS
V_{LE}	225 KIAS
Maximum autopilot operating speed	Any normal operating speed
Maximum tire ground speed	160 knots

Center of Gravity Range



Forward Limits: 14% MAC from 8,000lbs to 11,500lbs. Linear variation from 14% MAC (11,500lbs) to 20% MAC at 14,050 MAC

Aft Limits: 32% MAC from 8,000lbs to 11,700lbs. Linear variation from 32% (11,700lbs) to 34.75% MAC (12,500lbs). 34.75% MAC from 12,500lbs to 14,050lbs

All CG data is with landing gear extended and flaps/slats retracted**.**

Empty Wt. C.G. Range None

Datum	FS 0.00 is located 86.01 inches forward of the nose of the aircraft.
Mean Aerodynamic Chord	61.48 inches. The leading edge of the mean aerodynamic chord is 329.41 inches aft of the datum.
Leveling Means	Leveling Means: Locate leveling tool at FS 245 in the center of the cabin for longitudinal and lateral leveling.

Maximum weights

Takeoff	13,950 lbs.
Landing	12,725 lbs.
Zero Fuel	10,500 lbs.
Ramp	14,050 lbs.

Minimum Crew for all Flights (see Note 5 for cockpit equipment/arrangement restrictions):

One pilot (in the left pilot seat) plus additional equipment as specified in the Kinds of Operations Equipment List (KOEL) contained in the Limitations Section of the FAA Approved Airplane Flight Manual

OR

One pilot and one copilot

Number of Seats	Maximum two (pilot and copilot or passenger) at FS 188.0
Maximum Baggage	Aft baggage 500 lbs (See AFM for loading instructions)
Fuel Capacity (Usable)	713 U.S. GAL (4850 lbs at 6.8 lb./gal.) – Arm 352.62 (See Note 1 for unusable)
Oil Capacity	3.27 Quarts usable per engine – Arm 452.50

Maximum Operating Altitude 49,000 feet (flaps and gear retracted)
18,000 feet (flaps or gear extended)

Control Surface Movements

Rudder	Right	27.5° ± 0.5° hingewise
	Left	27.5° ± 0.5°
Rudder Trim	Right	37.5° ± 1.5° hingewise
	Left	37.5° ± 1.5°
Ventral Rudder	Right	30.0° ± 1° hingewise
	Left	30.0° ± 1°
Elevators	Up	22.0° ± 0.5° streamwise
	Down	17.2° ± 0.5°
Horizontal Tail Incidence	L. E. Up	1.7° +0.4° / -0.2°
	L. E. Down	14.3° ± 0.5°
Ailerons	Up	15.5° ± 0.5° hingewise
	Down	11.3° ± 0.5°
Wing Flap/Slat	Cruise	UP, Multiple tolerances
	Takeoff	10°, 20°, Multiple tolerances
	Landing	LDG, Multiple tolerances
Speedbrake	Extended	30° ± 2° hingewise

All Control Surface movements are in accordance with the Instructions for Continued Airworthiness.

Manufacturers Serial Numbers 005 and up

Certification Basis – SJ30-2:

14 CFR part 23, effective February 1, 1965, as amended by Amendments 23-1 through 23-55 (3/1/02) including §23.562 for all seat places.
14 CFR part 36 effective December 1, 1969, as amended by Amendments 36-1 through 36-26 (8/4/05).
14 CFR part 34 as amended by Amendments 34-1 through 34-3 (11/30/04).
Title 49 U.S.C. Section 44715.

Special Conditions as follows:

23-ACE-87; additional requirements for:

HIRF, performance, takeoff, takeoff speeds, accelerate-stop distance, takeoff path, takeoff distance and takeoff run, takeoff flight path, climb, climb one engine inoperative, landing, balked landing, stall speed, trim, static longitudinal stability, demonstration of static longitudinal stability, static directional and lateral stability, stall demonstration, stall characteristics, stall warning, vibration and buffeting, high speed characteristics, flight flutter testing, out-of-trim characteristics, pressure vessel integrity, fasteners, landing gear, ventilation, air conditioning, pressurization, airspeed indicating system, static pressure system, oxygen equipment and supply, maximum operating limit speed, minimum flight crew, airplane flight manual, operating limitations, operating procedures, and performance information.

23-105-SC; additional requirements for:

Side-facing lavatory seat.

Exemptions as follows:

No. 6742 for certification in the commuter category.

No. 6791 for landing gear loads from 14 CFR 23.25, 23.29, 23.235, 23.471, 23.473, 23.477, 23.479, 23.481, 23.483, 23.485, 23.493, 23.499, 23.723, 23.725, 23.726, 23.727, 23.959, 23.1583(c)(1) and (2), Appendix c23.1, Appendix D23.1.

Equivalent Level of Safety Findings as follows:

No. ACE-98-3 on emergency exit dimensions (14 CFR 23.783(f)(1))

No. ACE-01-02 for digital only N_2 and fuel flow display (14 CFR 23.1305)

No. ACE-05-17 ELOS for 1-g stall criteria March 4, 2004, 14 CFR 23.69(a)(4), 23.69(b)(5), 23.143, 23.145(a), (b)(1) thru (b)(5), 23.147(a), 23.149 (b), 23.157(b)(4), 23.233 (a), 23.729(a)(1), (a)(2), 23.735(a)(2), (e), 23.1001 (b)(1), (b)(3), 23.1323 (b)(1), (b)(2), (e), 23.1545(b)(3), (b)(4), Special Condition 23-ACE-87, dated 31 October 1997: Special Condition 4(b)(1), Special Condition 6(a), Special Condition 10(c), 10(d), 10(d)(3), 10(d)(4), Special Condition 11, Special Condition 12(b), Special Conditions 13(a), (a)(1), (a)(2), (a)(3), (b), (b)(1), (b)(2), Special Condition 14(b), (c)(1), (c)(2)(i), (c)(3), (d), Special Condition Special 16(a)(2), (b)(1), (b)(2), (b)(3), (c)(4), (b)(2)(ii), (c), (d), (d)(5), Special Condition 17(a), (b)(1), Special Condition 18(a)(2), Special condition 20(c), Special Condition 39(b)(2),

No. ACE-05-16 ELOS requested for airspeed indicator markings. (14 CFR 23.1545 (b)(4))

No. ACE-05-15 ELOS requested for storage battery design and installation. (14 CFR 23.1353(h))

Compliance with ditching provisions have not been met for issuance of a Type Certificate.

Compliance with ice protection for flight into known or forecast icing has not been demonstrated for issuance of a Type Certificate.

Exemptions: (See Item 22 above).

Type Certificate: A00001AC, issued October 27, 2005

Date of application: July 2, 2003

Model SJ30-2 is defined by SSAC drawing 30-00001, limited to the 30-00001-005 configuration.

Production Basis

None. Prior to original certification of each aircraft, an FAA representative must perform a detailed inspection for workmanship, materials, conformity with the approved technical data, and a check of the flight characteristics

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis and MMEL) must be installed in the aircraft for certification. (Refer to Limitations Section of FAA Approved Airplane Flight Manual for Kinds of Operation Equipment List)

Additional or special equipment necessary for type certification:
Autopilot, Yaw Damper and Rudder Bias are required to be operational for single pilot operation.

NOTES

Note 1 A current weight and balance report, including a list of the equipment included in the certification empty weight and loading instructions when necessary, must be provided for each aircraft at the time of original airworthiness certification.

The certificated empty weight and corresponding center of gravity location must include:

Unusable fuel (undrainable)	20 lbs at Arm 382.5
Unusable fuel (drainable)	53 lbs at Arm 307.0
Full Oil	16 lbs at Arm 452.5
Full Hydraulics	9 lbs at Arm 393.2

Note 2 Airplanes must be operated according to the FAA Approved Airplane Flight Manual (AFM), SJ30-2 FM-00 (SSAC document # 30-030) or later approved revision. Placards as defined by drawings 30-81100, 30-90032 and 30-96001 must be installed.

Note 3 Airworthiness Limitations

Model SJ30-2 is not eligible for a Standard Certificate of Airworthiness, or introducing the aircraft into service, until the Instructions for Continued Airworthiness are available in accordance with §21.50(b).

Note 4 All replacement seats or alterations of existing seats (crew and passenger), although they may comply with TSO C39, must be approved in accordance with the requirements as shown in the certification basis.

Note 5 Approval for operation with a minimum crew of one pilot is based upon the cockpit equipment installation and arrangement evaluated during FAA certification testing. No significant changes may be made to the installed cockpit equipment or arrangement (EFIS, autopilot, avionics, etc.), except as permitted by the approved MMEL, without prior concurrence from the responsible Aircraft Certification Office.

Note 6 Model SJ30-2 airplanes are approved for high altitude operations (altitudes above 41,000 feet), by Special Conditions. Any modifications to the pressure vessel must be approved in accordance with the requirements as shown in the certification basis.

Note 7 S/N SJ30-2 005 meets the airworthiness requirements for operation in Reduced Vertical Separation Minimum (RVSM) airspace. Until group approval is obtained, each aircraft must receive individual RVSM operating approval directly from the FAA.

Note 8 This aircraft is not eligible for a Standard Certificate of Airworthiness, or introducing the aircraft into service, until:

a. Completion of 150 hours of F&R testing
b. FAA Approval of AFM SJ30-2 FM-01
c. FAA Approval of the pilots abbreviated checklist SJ30-2CL-01

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