DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A8SO
Revision 21
(Pitts)
S-1S
S-1T
S-2
S-2A
S-2S
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S-2C
February 15, 2005

TYPE CERTIFICATE DATA SHEET NO. A8SO

This data sheet, which is part of Type Certificate No. A8SO prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Sky International Inc. (See Note 6)
672 South Washington Street
Afton, Wyoming 83110

Model S-1S, 1POLB (Acrobatic Category), Approved 13 February 1973.

Engine — Lycoming IO-360-B4A with Bendix Injector No. RSA-5AD1

Fuel — 100/130 minimum grade aviation gasoline

Engine Limits — 180 HP @ 2700 RPM for all operations

Propeller and Propeller Limits — Sensenich, fixed-pitch, 76EM8-0, diameter 76 in., no cutoff permitted.

Prop. Pitch vs. Allowable Static RPM

Prop Pitch *	Minimum	Maximum
56"	2350	2450
57"	2325	2425
58"	2300	2400
59"	2275	2375
60"	2250	2350
61"	2225	2325

* at 28.5 inch blade station.

S.L. Static RPM limits at full throttle. No additional tolerance permitted.

Propeller Spinner — Pitts 1-602 required

Avoid continuous operation between 2150 and 2350 RPM

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Airspeed Limits (CAS)	V_{NE} (never exceed) 203 MPH (176 kts) V_A(maneuvering) 154 MPH (134 kts) V_{NO} (maximum structural cruising) 154 MPH (134 kts) (For acrobatic maneuver entry speeds see Airplane Flight Manual)
C.G. Range	(+65.00 to +66.00) at 1150 pounds (+64.00) at 1115 pounds or less (+67.00) at 970 pounds or less Straight line variation between points given
Datum	65.06 inches forward of lower wing leading edge
Leveling Means	Upper fuselage longerons at cockpit
Maximum Weight	1150 pounds
Maximum Baggage	15 pounds (@ +113.50)
Number of Seats	One (@ +91.50)
Fuel Capacity	20 U.S. gallons (@ +59.63) (19 U.S. gallons usable) See Note 1 for unusable fuel
Oil Capacity	8 quarts (@ +33.26) (4 quarts usable)
Control Surface Movements	Ailerons UP 25° ± 2° DOWN 23° ± 2° Elevator UP 25° ± 2° DOWN 25° ± 2° Elevator tap UP 7.5° ± 2° DOWN 42° ± 2° (elevator neutral) Rudder LEFT 30° ± 2° RIGHT 30° ± 2°
Manufacturer's Serial Nos.	Pitts Aviation Enterprises, Homestead, Fla. 001. Aviat Aircraft, Inc. Afton, Wyoming 1-0001 through 1-0064 Pitts Aerobatics 1-0065 and up

<u>Model S-1T, 1POLB (Acrobatic Category), Approved 24 July 1975, S/N 1007 and up approved September 15, 1982.</u>

Engine	Lycoming AEIO-360-A1D with Bendix Fuel Injector No. RSA-5AD1 (S/N 002 only) Lycoming AEIO-360-A1E with Bendix Fuel Injector No. RSA-5AD1 (S/N 1007 and up).
Fuel	100/130 minimum grade aviation gasoline
Engine Limits	200 HP @ 2700 RPM
Propeller and Propeller Limits	Hartzell HC-C2YK-4CF/FC7666A-2 Constant Speed Pitch: High 28° ± 1/2° , low 13 ½ at 30" station, 72" minimum diameter, 74" maximum diameter. Avoid continuous operation between 2000 and 2350 RPM, avoid continuous operation (red arc) above 2600 RPM in aerobatic flight and full throttle level flight.

Propeller Spinner	Hartzell 836-60 required
Propeller Governor	Hartzell F6-3A (S/N 002 only) Hartzell F6-58Z (S/N 1007 and up)
Airspeed Limits (CAS)	V_{NE} (never exceed) 203 MPH (176 kts) V_A (maneuvering) 154 MPH (134 kts) V_{NO} (maximum structural cruising) 154 MPH (134 kts) (For acrobatic maneuver entry speeds see Airplane Flight Manual)
C. G. Range	(+60.37 to +62.20) at 1150 pounds (+59.35) at 1115 pounds or less (62.48) at 970 pounds or less Straight line variation between points given.
Datum	60.56 inches forward of lower wing leading edge
Leveling Means	Upper fuselage longerons at cockpit
Maximum Weight	1150 pounds
Number of Seats	One (@ +90.46)
Maximum Baggage	15 pounds (@ + 113.50)
Fuel Capacity	20 U.S. gallons (@ +59.50), (19 U.S. gallons usable) See Note 1 for unusable fuel.
Oil Capacity	8 quarts (@ +29.26) (4 quarts usable)
Control Surface Movements	Ailerons UP 25° ± 2° DOWN 25° ± 2° Elevator UP 25° ± 2° DOWN 25° ± 2° Elevator tab UP 7.5° ± 2° DOWN 42° ± 2° (Elevator neutral) Rudder LEFT 30° ± 2° RIGHT 30° ± 2°
Manufacturer's Serial Numbers	Pitts Aviation Enterprises, Homestead, FL 002 Aerotek, Inc, Afton, Wyoming 1007 through 1012 Pitts Aerobatics 1013 and up

Model S-2, 2 POLB (Acrobatic Category), Approved 8 March 1971

Engine	Lycoming IO-360-B4A with Bendix Fuel Injector No. RSA-5AD1
Fuel	100/130 minimum grade aviation gasoline
Engine Limits	180 HP @ 2700 RPM for all operations
Propeller & Propeller limits	Sensenich, fixed-pitch, 76EM8-0-61, diamteter 76 inches no cutoff permitted.

Prop. Pitch vs. Allowable Static RPM

Prop Pitch *	Minimum	Maximum
56"	2350	2450
57"	2325	2425
58"	2300	2400
59"	2275	2375
60"	2250	2350
61"	2225	2325

* at 28.5 inch blade station.

S.L. Static RPM limits at full throttle. No additional tolerance permitted.

Avoid continuous operation between 2150 and 2350 RPM.

Propeller Spinner	Pitts 2-6002 required
Airspeed Limits (CAS)	V_{NE} (never exceed) 203 MPH (176 kt.) V_A (maneuvering) 154 MPH (134 kt.) V_{NO} (maximum structural cruising) 154 MPH (134 kt.) (For acrobatic maneuver entry speed see Airplane Flight Manual)
C.G. Range	(+95.58 to +96.50) at 1500 pounds (+92.35) at 1350 pounds or less (+97.12) at 1440 pounds or less Straight-line variation between points given
Datum	97.81” forward of lower wing leading edge
Leveling Means	Upper fuselage longerons at rear cockpit
Maximum Weight	1500 pounds
Number of Seats	2 (1 @ +108.61), (1 @ +136. 59)
Maximum Baggage	20 pounds (@ +157.81)
Fuel Capacity	24 U.S. gallons (@ +80.81), (23 U.S. gallons usable) See Note 1 for unusable fuel
Oil Capacity	8 quarts (@ +50.81) (4 quarts usable)

Control Surface Movements			
	Ailerons	UP 27° ± 2°	DOWN 20° ± 2°
	Elevator	UP 27° ± .75°	DOWN 27° ± .75°
	Elevator tab	UP 7° ± 2°	DOWN 19° ± 2° (elevator neutral)
	Rudder	LEFT 30 ± .75°	RIGHT 30 ± .75°

Manufacturer’s Serial Nos.	Pitts Aviation Enterprises, Homestead, Fla 1001 Aerotek, Inc., Afton, Wyoming 2001 and up

Model S-2A, 2POLB (Normal and Acrobatic Category), Approved 11 Jun 1971.

The Model S-2A (S/N 1001, 2001 thru 2205) is identical to the Model S-2 except for (1) 200 HP engine, (2) constant speed propeller and associated control, and (3) normal category weight and C.G. range. S/N 2206 and up are further modified by (1) Lycoming AEIO-360-A1E engine (2) 3" longer landing gear, and (3) 2" wider fuselage in forward cockpit area. S/N 2219, 2231 and up are further modified by incorporation of symmetric ailerons and aerodynamic counter balances.

Engine	Lycoming IO-360-A1A with Bendix Fuel Injector No. RSA-5AD1 and as modified by STC SE469SO (Serial Numbers 1001, 2001 through 2085). Lycoming AEIO-360-A1A with Bendix Fuel Injector No. RSA-5AD1 (Serial Numbers 1001, 2001 and up). Lycoming AEIO-360-A1E with Bendix Fuel Injector No. RSA-5AD1 (Serial Numbers 2206 and up).
Fuel	100/130 minimum grade aviation gasoline
Engine Limits	200 HP @ 2700 RPM
Propeller and Propeller Limits	Hartzell HC-C2YK-4AF/FC7666A-2 Constant Speed Pitch: High 24° ± 1/2° , low 13 1/2° at 30" station, 72" minimum diameter, 74" maximum diameter. Avoid continuous operation between 2000 and 2350 RPM. Avoid continuous operation (red arc) above 2600 RPM in aerobatic flight and full throttle level flight.
Propeller Spinner	Hartzell 836-60 required
Propeller Governor	Hartzell F6-3A (S/N 1001, 2001 through 2205) Hartzell F6-58Z (S/N 2206 and up)
Airspeed Limits (CAS)	V_{NE} (never exceed) 203 MPH (176 kt.) V_A (maneuvering) 154 MPH (134 kt.) V_{NO} (maximum structural cruising) 154 MPH (134 kt.) (For acrobatic maneuver entry speeds see Airplane Flight Manual)
C.G. Range	Normal Category: (+94.50 to +96.13) at 1575 pounds (+92.35) at 1350 pounds or less (+97.50) at 1472 pounds or less Acrobatic Category: (+95.58 to +97.50) at 1500 pounds (+92.35) at 1350 pounds or less (+97.12) at 1400 pounds or less Straight line variation between points given
Datum	97.81" forward of lower wing leading edge
Leveling means	Upper fuselage longerons at rear cockpit
Maximum weight	Normal category 1575 pounds Acrobatic category 1500 pounds
Number of seats	2 (1 @ +108.61), (1 @ +136.59)

Maximum baggage	20 pounds (@ + 157.81)
Fuel Capacity	24 U.S. gallons (@ + 80.81), (23 U.S. gallons usable) See note 1 for unusable fuel.
Oil Capacity	8 quarts (@ + 54.81) (4 quarts usable)
Control surface Movements	Ailerons unsymmetrical UP 27° ± 2° DOWN 20° ± 2° Ailerons symmetrical UP 25° ± 2° DOWN 25° ± 2° Elevator UP 27° ± .75° DOWN 27° ± .75° Elevator tab UP 7° ± 2° DOWN 19° ± 2° (elevator neutral) Rudder LEFT 30° ± .75° RIGHT 30° ± .75°
Manufacturer's Serial Numbers	Pitts Aviation Enterprises, Homestead Fla. 1001 Aerotek, Inc., Afton, Wyoming 2001 through 2270 Pitts Aerobatics 2271 and up

Model S-2S, 1 POLB (Normal and Acrobatic Category), Approved 29 May 1981.

The Model S-2S is identical to the Model S-2A except for (1) 260 HP engine, (2) single cockpit, (3) a fuel system utilizing two fuel tanks, and (4) forward fuselage modification.

Engine	Lycoming AEIO-540-D4A5 with Bendix Fuel Injector No. RSA-5AD1
Fuel	100/130 minimum grade aviation gasoline
Engine Limits	260 HP @ 2700 RPM for all operations
Propeller and Propeller Limits	Hartzell HC-C2YR-4CF/FC8477A-4 Constant Speed. Pitch: High 32° to 34°; low 11° ± 0.1° at 30" station, 78" minimum diameter, 80 maximum diameter.
Propeller Spinner	Hartzell 836-60 required
Propeller governor	Hartzell F6-59Z
Airspeed Limits (CAS)	V_{NE} (never exceed) 203 MPH (176 kts) V_A (maneuvering) 154 MPH (134 kts) V_{NO} (maximum structural cruising) 154 MPH (134 kts) (For acrobatic maneuver entry speeds see Airplane Flight Manual)
C.G. Range	Normal Category: (+ 94.50 to +96.13) at 1575 pounds (+92.35) at 1350 pounds or less (+97.50) at 1472 pounds or less Acrobatic Category: (+95.58 to +96.50) at 1500 pounds (+92.35) at 1350 pounds or less (+97.12) at 1440 pounds or less Straight line variation between points given.

Datum	97.81" forward of lower wing leading edge.		
Leveling Means	Upper fuselage longerons at rear cockpit.		
Maximum Weight	Normal Category 1575 pounds Acrobatic Category 1500 pounds		
Number of Seats	One (@ + 137.52)		
Maximum Baggage	20 pounds (@ 157.81)		
Fuel Capacity	35 U.S. gallons (15 gal @ +92.0 and 20 gal. @ +107.2) (33 U.S. gallons usable) See Note 1 for unusable fuel		
Oil Capacity	12 quarts (@ +68.60) (6 quarts usable)		
Control Surface Movements	Ailerons (Symmetrical)	UP 25° ± 2°	DOWN 25° ± 2°
	Elevator	UP 25° ± .75°	DOWN 27° ± .75°
	Elevator tab	UP 7° ± 2°	DOWN 19° ± 2° (elevator neutral)
	Rudder	Left 30° ± .75°	Right 30° ± .75°
Manufacturer's Serial Number	Aerotek, Inc., Afton, Wyoming 3000 through 3011 Pitts Aerobatics 3012 and up		

Model S-2B, 2 POLB (Normal and Acrobatic Category), Approved 6 April 1983.

The model S-2B is identical to the Model S-2A except for (1) 260 HP engine, (2) wings and landing gear moved forward 6", and (3) upper wing auxiliary tank.

Engine	Lycoming AEIO-540-D4A5 with Bendix Fuel Injector NO. RSA-5AD1
Fuel	100/130 minimum grade aviation gasoline
Engine Limits	260 HP @ 2700 RPM For all operations
Propeller and Propeller Limits	Hartzell HC-C2YR-4CF/FC8477A-4 Constant Speed. Pitch: High 32° to 34°; low 11° ± 0.1° at 30" Station, 78" minimum diameter, 80" maximum diameter. MT Propeller MTV-9-BC/C190-18A Constant Speed. Pitch: High 29 to 31; Low: 13 +/-0.2 at 26.18" Station. 74.8" diameter, no cutoff permitted. (S/N) 5298 and up) See Note 3. Hartzell HC-C3YR-1A/7690C or 7690E Constant speed Pitch: High: $32^o \pm 1^o$, Low: $9.4^o \pm .1^o$ at 30" Station, 78" minimum diameter, 80" maximum diameter. Hartzell HC-C3YR-4A/C7690E Constant speed Pitch: High: $32^o \pm 1^o$, Low: $9.4^o \pm .1^o$ at 30" Station, 78" minimum diameter, 80" maximum diameter.

Propeller Spinner	Hartzell 836-60 required with Hartzell HC-C2YR-4CF/FC8477A-4 MT P-308 required with MTV-9-BC/C190-18A Hartzell C-3570(P) required with HC-C3YR-1A/7690C or 7690E Hartzell D-7267-P required with HC-C3YR-4A/C7690E		
Propeller Governor	Hartzell F6-59Z required with Hartzell HC-C2YR-4CF/FC8477A-4 or HC-C3YR-4A/C7690E or MT Propeller MTV-9-BC/C190-18A Hartzell E2-2 required with HC-C3YR-1A/7690C or 7690E		
Airspeed Limits (CAS)	V_{NE} (never exceed) 212 MPH (184 kts) V_A (maneuvering) 154 MPH (134 kts) V_{NO} (maximum structural cruising) 154 MPH (134 kts) (For acrobatic maneuver entry speed see Airplane Flight Manual)		
C.G. Range	Normal Category: (+ 88.50 to +90.20) at 1700 pounds (+86.35) at 1475 pounds or less Acrobatic Category: (+89.58 to +90.50) at 1625 pounds (+86.35) at 1475 pounds or less Straight line variation between points given.		
Datum	91.81” forward of lower wing leading edge.		
Leveling Means	Upper fuselage longerons at rear cockpit.		
Maximum Weight	Normal Category 1700 pounds Acrobatic Category 1625 pounds		
Number of Seats	2 (1 @ +105.15) (1 @ +136.50)		
Maximum Baggage	20 pounds (@ + 157.81)		
Fuel Capacity	29 U.S. gallons (24 gal. @ +81.32 and 5 gal @ +81.75) (28 U.S. gallons usable) See Note 1 for unusable fuel		
Oil Capacity	12 quarts (@ +49.70) (6 quarts usable)		
Control Surface Movements	Ailerons (symmetrical)	UP 25° ± 2°	DOWN 25° ± 2°
	Elevator	UP 27° ± .75°	DOWN 27° ± .75°
	Elevator tab	UP 7° ± 2°	DOWN 19° ± 2° (elevator neutral)
	Rudder	LEFT 30° ± .75°	RIGHT 30° ± .75°
Manufacturer’s Serial Numbers	Pitts Aerobatics, Afton, Wyoming 5000 and up		

Model S-2C, 2 POLB (Normal and Acrobatic Category), Approved 4 June 1998.

The model S-2C is identical to the Model S-2B except for (1) wings, tail and ailerons of different shape (2) Bottom of fuselage of different shape. The S-2C is approved for +6, -5 g limit load operation.

Engine: Lycoming AEIO-540-D4A5 with Bendix Fuel Injector NO. RSA-5AD1 Fuel 100/130 minimum grade aviation gasoline

Engine Limits: 260 HP @ 2700 RPM
For all operations

Propeller and Propeller Limits

Manufacturer:		Hartzell
Model Number:		HC-C3YR-1A/7690C or 7690E HC-C3YR-4A/C7690E
Number of Blades:		3 Composite
Diameter	Maximum:	80 inches (1.98 m)
	Minimum:	78 inches (1.98 m)
Propeller Pitch settings		
High:		$32^o \pm 1^o$
Low:		$9.4^o \pm .1^o$ @ 30 inch station
Propeller Type:		Constant speed and hydraulically actuated.

Propeller Spinner: Hartzell C-3570(P) required with HC-C3YR-1A/7690C or 7690E
Hartzell D-7267-P required with HC-C3YR-4A/C7690E

Propeller governor: Hartzell F6-59Z is used with HC-C3YR-4A/C7690E
Hartzell E2-2 is required with HC-C3YR-1A/7690C or 7690E

Airspeed Limits (CAS): V_{NE} (never exceed) 212 MPH (184 kts)
V_A (maneuvering) 154 MPH (134 kts)
V_{NO} (maximum structural cruising) 154 MPH (134 kts)
(For acrobatic maneuver entry speed see Airplane Flight Manual)

C.G. Range: Normal Category:
(+ 88.50 to +90.20) at 1700 pounds
(+86.35) at 1475 pounds or less-Straight line variation between points given.

Acrobatic Category:
(+88.50 to +90.20) at 1700 pounds
(+86.35) at 1475 pounds or less
Straight line variation between points given.

Datum: 91.81" forward of lower wing leading edge.

Leveling Means: Upper fuselage longerons at rear cockpit.

Maximum Weight: Normal Category 1700 pounds
Acrobatic Category 1700 pounds

Number of Seats: 2 (1 @ +105.15) (1 @ +136.50)

Maximum Baggage: 20 pounds (@ + 157.81)

Fuel Capacity	29 U.S. gallons (24 gal. @ +81.32 and 5 gal @ +81.75) (28 U.S. gallons usable) See Note 1 for unusable fuel		
Oil Capacity	12 quarts (@ +49.70) (6 quarts usable)		
Control Surface Movements	Ailerons (symmetrical)	UP 28.5° ± 2°	DOWN 22° ± 2°
	Elevator	UP 27° ± .75°	DOWN 27° ± .75°
	Elevator tab (elevator neutral)	UP 25° ± 2°	DOWN 25° ± 2°
	Rudder	LEFT 30° ± .75°	RIGHT 30° ± .75°
Manufacturer's Serial Numbers	Aviat Aircraft Inc. , Afton, Wyoming 6001 and up		

Data pertinent to all models

Empty weight C.G. Range: None.

Equipment: The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis) must be installed in the aircraft for certification. In addition, the following is required.

S-1S
a. FAA approved flight manual dated February 13, 1973, or later FAA approved revision.
b. See approved equipment list Airplane Flight Manual, Weight and Balance Section.

S-1T
a. FAA approved flight manual dated July 24, 1975, or later FAA approved revision.
b. See approved equipment list Airplane Flight Manual, Weight and Balance section.

S-2
a. FAA approved flight manual dated March 8, 1971 or later FAA approved revision.
b. See approved equipment list Airplane Flight Manual, Weight and Balance Section.

S-2A
a. FAA approved flight manual dated June 11, 1971 or later FAA approved revision.
b. See approved equipment list Airplane Flight Manual, Weight and Balance Section.

S-2S
a. FAA approved flight manual dated May 29, 1981 or later FAA approved revision.
b. See approved equipment list Airplane Flight Manual, Weight and Balance Section.

S-2B
a. FAA approved flight manual dated April 4, 1983 or later FAA approved revision.
b. See Approved equipment list Airplane Flight Manual, Weight and Balance Section.

S-2C
a. FAA approved flight manual dated June 4, 1998 or later FAA approved revision.
b. See Approved equipment list Airplane Flight Manual, Weight and Balance Section.

Optional Equipment: Refer to Weight and Balance Section of the Airplane Flight Manual for Optional equipment.

Certification Basis	FAR 23, effective February 1, 1965, including amendments 1 through 6. Application for type certificate, August 16, 1968. FAR 36, dated December 1, 1969, plus amendments 36-1 through 36-11.
Production Basis	Production Certificate No 419, except the Model S-2. Prior to original certification of each Model S-2 aircraft, an FAA representative must perform a detailed inspection for workmanship, materials and conformity with the approved technical data and a check of the flight characteristics.
Export Eligibility	Aircraft will be eligible for issuance of an export certificate of airworthiness subject to compliance with Federal Aviation Regulations Part 21, Subpart L, Section 21.321 through 21.339. Special requirements of specific foreign countries are contained in Advisory Circular 21.2.
NOTE 1.	Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions must be provided for each aircraft at the time of original certification. The empty weight and the corresponding center of gravity location must include the following unusable fuel: S-1S – 6 pounds (@ +59.63) S2 and S-2A – 6 pounds (@ + 80.81) S-1T – 6 pounds (@ +59.50) S-2S – 6 pounds (@ +92.00) and 6 pounds (@ +107.20) S-2B – 6 pounds (@ +81.32) S-2C – 6 pounds (@ +81.32)
NOTE 2.	All placards required in the approved Airplane Flight Manual must be installed in the appropriate locations.
NOTE 3.	S-2B aircraft S/N 5000 and up are approved for installation of the MT Propeller when installed in accordance with serialized AVIAT Kit S-2B-Pitch limits and diameter for the MT Propeller are shown on page 9 of this Type Certificate Data Sheet. An FAA Approved Flight Manual revision for the MT Propeller, for the Pitts S-2B is required.
NOTE 4.	S-2B aircraft S/N 5000 and up are approved for installation of the 3 blade Hartzell Composite Propeller when installed in accordance with serialized AVIAT Kit S-2B-526. Pitch limits and diameters for the propeller are shown on page 9 of this Type Certificate Data Sheet. An FAA Approved Flight Manual revision for the 3 blade composite Propeller, for the Pitts S-2B is required.
NOTE 5.	The S-2C aircraft S/N 6001 and up are approved for installation of the Electronics International, Inc. FLC-1CAB electronic fuel quantity indicating system per the Type Design data for that model.
NOTE 6.	AVIAT AIRCRAFT INC: Box 1240, 672 South Washington Street, Afton, Wyoming is licensed by Sky International, Inc. to manufacture and obtain airworthiness certificates for the Model aircraft listed in this Type Certificate Data Sheet.

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