

FEDERAL AVIATION ADMINISTRATION

A7WE Revision 4 AERO COMMANDER (Intermountain) (Callair)  B-1 B-1A  February 1, 1989
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TYPE CERTIFICATE DATA SHEET NO. A7WE

This data sheet which is a part of Type Certificate No. A7WE prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Civil Air Regulations/Federal Aviation Regulations.

Type Certificate Holder: Airplane Services, Inc.  
 Rt. 1, Box 480  
 Greenwood-LeFlore Airport  
 Greenwood, Mississippi 38930

**I. Model B-1, (Restricted category) approved March 11, 1966**

Engine	Lycoming IO-720-A1A
Fuel	100/130 minimum grade aviation gasoline
Engine limits	2650 rpm (400 hp) for all operations
Propeller and propeller limits	Hartzell HC-A3VK-4/V8433-4 constant speed Pitch settings at 30 in. station Low 13½°                      High 33½° Diameter: Not over 80 in., not under 78 in. Governor assembly, Hartzell F4-1 is required with this propeller.
Airspeed limits	Vne - Never exceed                      135 mph (117 knots) EAS Vno - Max structural cruising        107 mph ( 93 knots) EAS Vp - Maneuvering                        107 mph ( 93 knots) EAS Vfe - Flaps extended                    100 mph ( 87 knots) EAS
C.G. Range	Aft of datum +21" to +23.5"
Empty Weight	None
C.G. Range Datum	Leading edge of wing at fuselage
Maximum weight	4500 lbs.
Leveling means	Bottom of first rib, outboard of fuselage
No. of seats	1 (+77.0)
Hopper capacity	1500 lbs. (+21.5)
Fuel capacity	75 gal. total - 2 tanks, 37½ gal. each (+31.3) (3½ gal. unusable per tank)
Oil capacity	17 quarts (-38.5), (12 quarts usable)

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Control surface movements	Measured from neutral position of control surface at inboard rib or maximum chord rib.
Rudder	Left $21^{\circ} \pm 1^{\circ}$ Right $21^{\circ} \pm 1^{\circ}$
Elevator	Up $25^{\circ} \pm 1^{\circ}$ Down $20^{\circ} \pm 1^{\circ}$
Elevator trim tab (elevator neutral)	Up $20^{\circ} \pm 1^{\circ}$ Down $20^{\circ} \pm 1^{\circ}$
Ailerator (flaps up)	Up $20^{\circ} \pm 1^{\circ}$ Down $14^{\circ} \pm 1^{\circ}$
Aileron droop	Down $15^{\circ} \pm 1^{\circ}$
Flaps	Down $24^{\circ} \pm 1^{\circ}$
Empennage top brace wire adjustments	775 lb. $\pm$ 50 lb. (Use suitable streamline wire tensionometer.)
Serial numbers eligible	10,000 and subsequent

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**II. Model B-1A, (Restricted Category) approved February 13, 1967**


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Engine	Pratt & Whitney IR-985-AN1, -AN3 or AN14B or 1B-5 with one 4½N and one 9N crankshaft damper. (Engine must be modified to incorporate fuel injection in accordance with Supplement Type Certificate SE4-1136.)
Fuel	80/87 minimum grade aviation gasoline
Engine limits	Take-off (one minute) - 2200 rpm (450 hp, full throttle at sea level) Maximum continuous - 2100 rpm (360 hp at sea level)
Propeller and propeller limits	1. Western Propeller Repair W2-1-9'0" ground adjustable Pitch setting at 42 in. station - $11\frac{1}{2}^{\circ}$ Diameter - 108 in. No reduction in diameter permitted. 2. Hartzell HA-B3Z30-1/10160-6 ground adjustable Pitch setting at 30 in. station - $20^{\circ}$ Diameter - 95 in. No reduction in diameter permitted. Placard "Avoid cont. operation between 1600 and 1800 rpm" required.
Airspeed limits	Vne - never exceed 135 mph (117 knots) EAS Vno - max. structural cruising 107 mph ( 93 knots) EAS Vp - maneuvering 107 mph ( 93 knots) EAS Vfe - flaps extended 100 mph ( 87 knots) EAS
C.G. range	Aft of datum +21" to +23.5
Empty weight	None
C.G. range Datum	Leading edge of wing at fuselage
Maximum weight	4500 lb.
Leveling means	Bottom of first rib, outboard of fuselage
No. of seats	1 (+77.0)
Hopper capacity	1500 lbs. (+21.5)
Fuel capacity	75 gal. total - 2 tanks, 37½ gal. each (+31.3) (3½ gal. unusable per tank)
Oil capacity	32 quarts (-24)

Control surface movements	Measured from neutral position of control surface at inboard rib or maximum chord rib			
	Rudder	Left	$21^{\circ} \pm 1^{\circ}$	Right $21^{\circ} \pm 1^{\circ}$
	Elevator	Up	$25^{\circ} \pm 1^{\circ}$	Down $20^{\circ} \pm 1^{\circ}$
	Elevator trim tab (elevator neutral)	Up	$20^{\circ} \pm 1^{\circ}$	Down $20^{\circ} \pm 1^{\circ}$
	Aileron (flaps up)	Up	$20^{\circ} \pm 1^{\circ}$	Down $14^{\circ} \pm 1^{\circ}$
	Aileron droop			Down $15^{\circ} \pm 1^{\circ}$
	Flaps			Down $24^{\circ} \pm 1^{\circ}$
Empennage top brace wire adjustments	775 lb. $\pm$ 50 lb. (Use suitable streamline wire tensionmeter.)			
Serial nos. eligible	10,000 and subsequent.			

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**DATA PERTINENT TO ALL MODELS**

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Certification Basis	CAR 8.10(a)(1) effective October 11, 1950. Restricted type certificate issued March 11, 1966. Application for type certificate March 1, 1964.
Production basis	None
Export eligibility	Aircraft will be eligible for issuance of an Export Certificate of Airworthiness subject to compliance with Federal Aviation Regulation Part 21, Subpart L, Sections 21.321 through 21.339. The applicable procedures are contained in Advisory Circular 21-2.
Equipment	The basic required equipment as prescribed in the applicable Airworthiness Regulations (see Certification Basis), must be installed in the aircraft for certification. Additional required items of equipment are listed in the FAA Approved List 78-83. The FAA has not evaluated the alternator or generator for cooling with electrical load in excess of 5 amperes.

NOTE 1. Current weight and balance report including list of equipment included in certificated weight empty, and loading instructions, when necessary, must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center of gravity must include 7 gallons of unusable fuel at (+31.3) for either model, and 5.0 lb. of undrainable system oil at (-38.5) for the Model B-1, and 2.0 lbs. of undrainable oil at (-36) for the Model B-1A.

NOTE 2. (a) In addition to the operating limitations in this data sheet, area, economic, passenger and other appropriate operating limitations required in accordance with FAR 21.25 shall be shown on placards or listing accessible to the pilot.

(b) The following placards must be displayed in front and in clear view of the pilot (applicable to both Models B-1 and B-1A unless noted otherwise):

- (1) "This airplane must be operated as a Restricted Category airplane in compliance with the operating limitations stated in the form of placards and markings."
- (2) "This airplane limited to day VFR operation only."
- (3) "Design maneuvering speed 107 mph, demonstrated crosswind velocity 15 mph."
- (4) "Restricted" displayed at entrance to cockpit.
- (5) For Model B-1A with Hartzell HA-B3Z30-1/10160-6 propeller only, "Avoid cont. operation between 1600 and 2800 rpm," in full view of the pilot.

NOTE 3. Models B-1 and B-1A (restricted category) are the same as Normal Category Models B-1 and B-1A, respectively, except for the installation of spray or dust dispensing equipment and deletion of flexible fuel hose assemblies approved under TSO C53. Prior to operation in the Normal Category, all external dispensing equipment must be removed and flexible hose assemblies in the engine compartment must be replaced with sleeved assemblies in accordance with IMCO Drawing No. 18500 for the Model B-1 or No. 18628 (Rev. C or subs.) for the Model B-1A. When certificated in the Normal Category, FAA Type Certificate Data Sheet A8WE applies.

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