

FEDERAL AVIATION ADMINISTRATION

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| A8WE<br>Revision 4<br>AERO COMMANDER<br>(Intermountain)<br>(Callair)<br><br>B-1<br>B-1A<br><br>February 1, 1989 |
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TYPE CERTIFICATE DATA SHEET NO. A8WE

This data sheet which is a part of Type Certificate No. A8WE 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, (Normal 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 | Pitch settings at 30 in. station<br>Low 13½°                      High 33½°<br>Diameter: Not over 80 in., not under 78 in.<br>Governor assembly, Hartzell F4-1 is required with this propeller.   |
| Airspeed limits                | Vne - Never exceed                      135 mph (117 knots) EAS<br>Vno - Max structural cruising        107 mph ( 93 knots) EAS<br>Vp - Maneuvering                        107 mph ( 93 knots) EAS<br>Vfe - Flaps extended                    100 mph ( 87 knots) EAS |
| C.G. Range                     | +21.0 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)  |
| 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<br>(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<br>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, (Normal Category) approved March 2, 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)<br>Maximum continuous - 2100 rpm (360 hp at sea level)   |
| Propeller and propeller limits | 1. Western Propeller Repair W2-1-9'0" ground adjustable<br>Pitch setting at 42 in. station - $11\frac{1}{2}^{\circ}$<br>Diameter - 108 in.<br>No reduction in diameter permitted.<br>2. Hartzell HA-B3Z30-1/10160-6 ground adjustable<br>Pitch setting at 30 in. station - $20^{\circ}$<br>Diameter - 95 in.<br>No reduction in diameter permitted.<br>Placard "Avoid cont. operation between 1600 and 1800 rpm" required. |
| Airspeed limits                | Vne - never exceed 135 mph (117 knots) EAS<br>Vno - max. structural cruising 107 mph ( 93 knots) EAS<br>Vp - maneuvering 107 mph ( 93 knots) EAS<br>Vfe - flaps extended 100 mph ( 87 knots) EAS   |
| C.G. range                     | Aft of datum +21" to +23.5   |
| Empty weight                   | None   |
| C.G. range<br>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)   |
| Oil capacity                   | 32 quarts (-24)  |

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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<br>(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<br>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 3 effective May 15, 1956, with amendments 3-1 thru 3-8.<br>Type Certificate A8WE issued March 11, 1966.<br>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. FAA Approved Airplane Flight Manual is required for Model B-1. |

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. The following placards must be displayed:

- (a) In front and in clear view of the pilot:
  - (1) "This airplane limited to day VFR operation only."
  - (2) "Design maneuvering speed 107 mph, demonstrated crosswind velocity 15 mph."
  - (3) "This airplane must be operated as a normal category airplane in compliance with the operating limitations stated in the form of placards, markings, and manuals. No acrobatic maneuvers including spins approved."
  - (4) For Model B-1A with Hartzell HA-B3Z30-1/10160-6 propeller only, "Avoid cont. operation between 1600 and 1800 rpm."
- (b) Adjacent to hopper compartment filler door:
  - (1) "1500 lb. Max."

NOTE 3. Models B-1 and B-1A (normal category) are the same as Restricted Category Models B-1 and B-1A, respectively, except for the installation of sleeved flexible fuel hose assemblies in the engine compartment and deletion of all external dispensing equipment. When certificated in the Restricted Category, FAA Type Certificate Data Sheet A7WE applies.

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