

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A00009DE
Revision 1
Adam Aircraft
A500
Issue Date: May 11, 2005
Revision Date: November 1, 2005

TYPE CERTIFICATE DATA SHEET NO. A00009DE

This data sheet which is part of Type Certificate No.A00009DE 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: Adam Aircraft
12876 E. Jamison Circle
Englewood, CO 80112

I. Model A500, 3PCLM (Normal Category), Approved May 11, 2005

Engines	(Front & Rear) Teledyne Continental Motors TSIO-550-E, Engine Type Certificate E5SO	
Fuel	100LL (blue) minimum grade aviation gasoline	
Engine Limits	Maximum takeoff power 350 horsepower at 2700 rpm and 38.5 In. Hg. (limited to 5 minutes maximum) Maximum continuous power 324 horsepower at 2500 rpm and 38.5 In. Hg. (continuous full rich) See Engine Type Certificate Data Sheet E5SO for additional limitations	
Propeller and Propeller Limits	Hartzell Model PHC-H3YF-2UF/FC7693DF (Front) Hartzell Model PHC-H3YF-2LUF/FLC7693DF (Rear) Hartzell Spinner Assembly Part Number D4512-5LP Propeller Type Certificate P35EA (See NOTE 1) Maximum Diameter: 78 inches Minimum Diameter: 76 inches Number of blades: 3 Feathering: 81.1° +2°/-0° (Front) 78.1° ±1° (Rear) Low Pitch: 16.9° ±0.2° (Front) 16.4° ±0.2° (Rear) Pitch limits measured at 30 inches radial distance See Propeller Type Certificate Data Sheet P35EA for additional limitations	
Airspeed Limits	Vo (7,000 lbs) Vo (6,150 lbs) V _{FE} (Fully Extended) V _{NE}	166 KCAS (164 KIAS) 154 KCAS (152 KIAS) 150 KCAS (147 KIAS) 228 KCAS (225 KIAS)
C.G. Range	Forward limits: 244.2 inches aft of datum up to 6,500 lbs with a straight line taper to 245.0 inches at 7,000 lbs. Aft Limits: 249.0 inches aft of datum up to 7,000 lbs.	

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	Datum: Station 0 (STN 0) is located 143.0 inches forward of forward bulkhead			
Empty Weight. C.G. Range	None.			
Leveling Means	Cabin floor inside door			
Weight Limits	Max. Ramp	7,050 lbs		
	Max. Takeoff	7,000 lbs		
	Max. Landing	6,750 lbs		
	Max. Zero Fuel	6,500 lbs		
	Min. Flying	6,150 lbs.		
Minimum Crew	1 Pilot			
Number of Seats	6 Total: 2 Front at 180 to 185 inches aft of datum 2 Center Forward at 239 inches, Aft at 231 inches 2 Aft at 278 inches aft of datum			
Maximum baggage	None allowed			
Fuel Capacity	230 gallons total; 180 gallons useable LH & RH wing tanks each at 258 inches aft of datum (See NOTE 2)			
Oil Capacity	Forward Engine - 12 quarts in sump plus 1 quart in filter at 116.0 inches aft of datum Aft Engine - 12 quarts in sump plus 1 quart in filter at 333.0 inches aft of datum			
Maximum Operating Altitude	Takeoff 10,000 ft MSL Operating 12,500 ft MSL			
Control Surface Movements	at the trailing edge:			
	Elevator	UP	27°±1°	DOWN 17°±1°
	Elevator Trim Tab	UP	10°±2°	DOWN 23°+0°/ -1.0°
	Ailerons	UP	24° ± 1°	DOWN 9°±2°
	Rudder	LEFT	25° ± 1°	RIGHT 25° ± 1°
	Flaps	Cruise	0° ± 1°	
		Takeoff	15° ± 1°	
		Landing	40° ± 1	
Additional Limitations:	Limited Life Parts: Airframe 250 flight hours (See Note 3)			
	Operations:	Day, Visual Flight Rules (VFR) Flight into known icing conditions is not approved		
	Environmental Limitations:	No flight in temperatures: Below -40°F (-40 °C) Below 40°F (4 °C) in visible moisture No takeoff below -7°F (-22 °C) (See Note 4)		
Design Data:	The airplane shall be manufactured in accordance with the latest FAA approved revision of Master Drawing List:, Document E-01-000-01, Revision N, or later FAA approved revision.			
Serial Nos. Eligible	0004 and on.			

Certification Basis	<p>14 CFR Part 23 effective February 1, 1965, as amended by 23-1 thru 23-55 (Normal Category) and 14 CFR 36 as amended by 36-1 thru 36-25. Original application for type certification, dated March 23, 2001, extended to February 12, 2002, and reapplication on March 4, 2005.</p> <p>Special Conditions: 23-135-SC for High-Intensity Radiated Fields (HIRF). See NOTE 5. 23-165-SC for Inflatable Four-Point Safety Belt with an Integrated Airbag Device</p> <p>Findings of Equivalent Levels of Safety: Equivalent Levels of Safety findings (ACE-05-01) made to the provisions of 14 CFR 23.161(d). Refer to FAA ELOS letter dated January 4, 2005 for Adam model A500.</p> <p>Exemptions: None</p>
Production Basis	<p>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. Serial Numbers 4 & 5.</p>
Equipment	<p>The basic required equipment as prescribed in the applicable airworthiness regulations must be installed in the aircraft for certification.</p> <p>In addition to the above required equipment, the following equipment are also required:</p> <ol style="list-style-type: none"> 1. Airplane Flight Manual and Pilot's Operating Handbook for the Adam Aircraft A500, document number C-01-001-01. 2. Kinds of Operation Required Equipment as defined in "Airplane Flight Manual and Pilot's Operating Handbook for the Adam Aircraft A500", Document No. C-01-001-01.
NOTES	
NOTE 1	<p>The rear engine must be equipped with Teledyne Continental Motor's part number 656018, Revision D, and 656019, Revision D, tail pipe assemblies and the external shape of the rear cowling must be as defined by the following drawings: 01-88500-500, Revision D, 01-88541-500, Revision G, 01-88542-500, Revision D or later FAA approved revisions.</p>
NOTE 2	<p>A current weight and balance report including list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification. The certificated empty weight and loading corresponding center of gravity location must include unusable fuel of 300 lbs at (+258.0 inches) for model A500.</p>
NOTE 3	<p>Refer to Section 4 of the Instructions for Continued Airworthiness, Document No. C-01-001-02, for all airworthiness limitations.</p>
NOTE 4	<p>Refer to FAA Approved Airplane Flight Manual and Pilot's Operating Handbook for the Adam Aircraft A500 (AFM), document number C-01-001-01, Rev -, or later FAA approved revision, for additional environmental limitations.</p>
NOTE 5	<p>Installation of additional flight-critical electronic equipment will require review by the FAA Aircraft Certification Service to determine whether aircraft-level lightning and/or High Intensity Radiated Field (HIRF) testing is required.</p>

- NOTE 6 All placards specified in the FAA Approved Airplane Flight Manual and Pilot's Operating Handbook for the Adam Aircraft A500 (AFM), document number C-01-001-01 Rev - or later FAA approved revisions must be displayed in the airplane in the appropriate locations.
- NOTE 7 Exterior colors are limited to those specified in Adam Aircraft "A500 External Paint Color Limitations" Document No. C-01-012-01.
- NOTE 8 Structural repairs must be accomplished at FAA certified repair stations rated for composite aircraft structure work, in accordance with FAA approved repair methods.

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