

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A00009DE
Revision 6
Adam Aircraft
A500
Issue Date: May 11, 2005
Revision Date: March 6, 2007

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. Adam Aircraft Circle
Englewood, CO 80112

I. Model A500, 6PCLM (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	<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Vo (7,000 lbs)</td> <td>166 KCAS (164 KIAS)</td> </tr> <tr> <td>Vo (6,150 lbs)</td> <td>154 KCAS (152 KIAS)</td> </tr> <tr> <td>V_{FE} (Fully Extended)</td> <td>150 KCAS (147 KIAS)</td> </tr> <tr> <td>V_{NE}</td> <td>228 KCAS (225 KIAS)</td> </tr> </table>	Vo (7,000 lbs)	166 KCAS (164 KIAS)	Vo (6,150 lbs)	154 KCAS (152 KIAS)	V _{FE} (Fully Extended)	150 KCAS (147 KIAS)	V _{NE}	228 KCAS (225 KIAS)
Vo (7,000 lbs)	166 KCAS (164 KIAS)								
Vo (6,150 lbs)	154 KCAS (152 KIAS)								
V _{FE} (Fully Extended)	150 KCAS (147 KIAS)								
V _{NE}	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.								

Page No.	1	2	3	4
Rev. No.	6	6	6	6

	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	5,700 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	100 lbs. at 287.85 aft of datum 0 lbs for aircraft 0004, 0006, 0007, 0008, 0009, 0010, prior to incorporation of AMI-01-06-0003			
Fuel Capacity	230 gallons total; 200 gallons useable 180 gallons useable for Serial numbers 0004, 0006, 0007, 0008, 0009, 0010, prior to incorporation of AMI-01-06-0003 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 18,000 ft MSL Operating 12,500 ft MSL for serial numbers 0004 thru 0010 prior to incorporation of AMI 01-06-0010.			
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 for Serial Numbers 0004 0006 thru 0010	
		Landing	32° ± 1 for Serial Numbers 0005, 0011 and up (Serial Number 0004,0006 thru 0010 upon incorporation AMI-01-06- 001, specified in note 9.	
Additional Limitations:	Limited Life Parts:	Airframe 1200 flight hours (See Note 3)		
	Operations:	Day and night, VFR / IFR Day/VFR for serial numbers 0004, 0006 thru 0010 prior to incorporation of AMI-01-06-0001, specified in		

note 9. Flight into known icing conditions is not approved

Environmental Limitations: No flight in temperatures:
 Below -40°F (-40 °C)
 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 S, or later FAA approved revision. Serial numbers 0004, 0006, 0007, 0008, 0009, 0010, were manufactured in accordance with the FAA approved revision of Master Drawing List:, Document E-01-000-01, Revision R, prior to incorporation of AMI-01-06-0001, specified in Note 9.

Serial Nos. Eligible 0004 and up.

Certification Basis 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.

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

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.

Exemptions:
 None

Production Basis The following Serial Numbers were produced under Type Certificate only: 0004, 0005. 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

The following Serial Numbers were produced under an Approved Production Inspection System: 0006, 0007, 0008.

The following Serial Numbers were produced under PC number PC720NM: 0009 and subsequent.

Equipment The basic required equipment as prescribed in the applicable airworthiness regulations must be installed in the aircraft for certification.

In addition to the above required equipment, the following equipment are also required:

1. Airplane Flight Manual and Pilot's Operating Handbook for the Adam Aircraft A500, document number C-01-001-01, Revision 1 for Serial Numbers 0004, 0006, thru 0010, prior to incorporation of AMI-01-06-0001, specified in note 9.
2. Airplane Flight Manual and Pilot's Operating Handbook for the Adam Aircraft A500, document number C-01-001-01, Revision A or later FAA approved revisions for Serial Numbers 0005, 0011 and up. Serial Numbers 0004, 0006 thru 0010 after incorporation of AMI-01-06-0001, specified in note 9.

3. 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 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.
- NOTE 2 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 180 lbs at (+258.0 inches) for model A500.
For Serial Numbers 0004, 0006, 0007, 0008, 0009, 0010, the certified empty weight and loading corresponding center of gravity location must include unusable fuel of 300 lbs at (+258.0 inches) prior to incorporation if AMI-01-06-0001, specified in Note 9.
- NOTE 3 Refer to Section 4 of the Instructions for Continued Airworthiness, Document No. C-01-001-02, for all airworthiness limitations.
- NOTE 4 Refer to FAA Approved Airplane Flight Manual and Pilot's Operating Handbook for the Adam Aircraft A500 (AFM), document number C-01-001-01, Revision 1 for additional environmental limitations for Serial Numbers 0004, 0006, 0007, 0008, 0009, 0010, prior to incorporation of AMI-01-06-0001, specified in note 9.

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 A, or later FAA approved revision, for additional environmental limitations for Serial Numbers 0005, 0011 and up. Serial Number 0004, 0006, 0007, 0008, 0009, 0010 after incorporation of AMI-01-06-0001, specified in note 9
- NOTE 5 Installation of additional flight-critical electronic equipment will require review by the FAA Aircraft Certification Office to determine whether aircraft-level lightning and/or High Intensity Radiated Field (HIRF) testing is required.
- 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 Major structural repairs must be accomplished in accordance with FAA approved Adam Aircraft repair methods or other methods approved by the FAA.
- NOTE 9 Serial No. 0004, 0006, 0007, 0008, 0009, 0010 eligible with reconfiguration as per Aircraft Modification Instructions AMI-01-06-0001, Revision D, or later FAA approved revision. Aerodynamic modifications as per AMI-01-06-0003 are required on Serial No. 0004, 0006, 0008, 0009, 0010.

.....END.....