

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A00002AC
Revision 5
Eclipse Aerospace
EA500
September 22, 2011

TYPE CERTIFICATE DATA SHEET NO. A00002AC

This data sheet, which is part of Type Certificate No. A00002AC, 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: Eclipse Aerospace, Inc.
2503 Clark Carr Loop SE
Albuquerque, NM 87106

Type Certificate Holder Record: Eclipse Aviation Corporation transferred ownership to Eclipse Aerospace, Inc., retaining the same address, on September 30, 2009.

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..... Type Certificate originally issued to Eclipse Aviation Corporation on
..... September 30, 2006.

I. Model EA500, (Normal Category), Approved September 30, 2006 (Serial Numbers 000001 – 000038)

Engines Two Pratt & Whitney Canada PW610F-A,
Type Certificate Data Sheet (TCDS) E00074EN

Fuel JET A and Jet A-1 per ASTM D 1655; JP-8 per MIL-T-83133

Fuels not containing icing inhibitors must have MIL-I-27686, MIL-I-85470, or Phillips PFA-55MB fuel system icing inhibitors blended into the aircraft fuel at concentrations not less than 0.10% but no more than 0.15% by volume. The minimum fuel icing inhibitor content during refueling is 0.10% by volume.

Engine Limits

	N1(%)	N2(%)	MAX ITT (°C)	Time Limit
Maximum Take-off	102	100	795	5 minutes
Max. Continuous	102	100	795	Continuous
APR	102	100	795	10 minutes
Transient	103	102	850	20 seconds

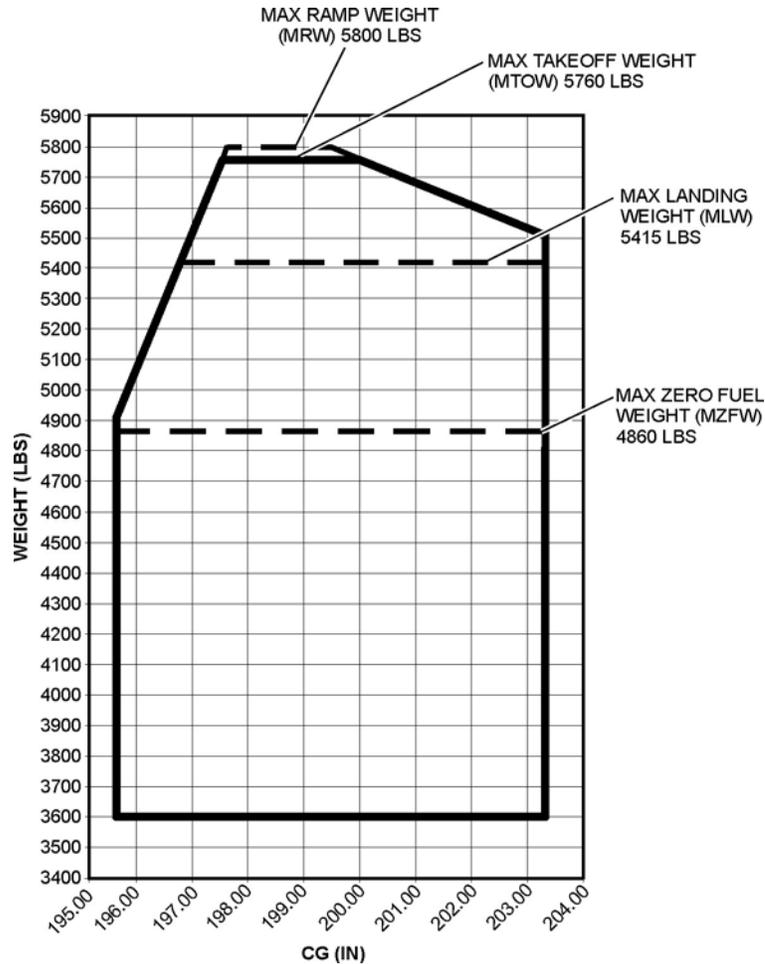
Airspeed Limits

V_o	Maximum Operating Maneuvering Speed	180 KEAS
V_{MO}	Maximum Operating Airspeed	275 KEAS
M_{MO}	Maximum Operating Mach	0.64 M
V_{FE} (Flap T/O)	Maximum Flap Extended Speed	200 KEAS
V_{FE} (Flap LDG)	Maximum Flap Extended Speed	120 KEAS
V_{LO}	Maximum Landing Gear Operating Speed	200 KEAS
V_{LE}	Maximum Landing Gear Extended Speed	275 KEAS
	Maximum tire ground speed	139 KNOTS

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Rev 5 updated aircraft S/N configuration Info, aircraft production basis, various document info and various editorial corrections.

Center of Gravity (C.G.) Range



Forward limits: 195.65 inches aft of datum up to 4,910 lbs with a straight line taper to 197.5 inches at 5,760 lbs.

Aft Limits: 203.25 inches aft of datum up to 5,509 lbs with a straight line taper to 200.0 inches at 5,760 lbs.

Empty Weight. C.G. Range None

Minimum Crew 1 Pilot plus required equipment as specified in the FAA Approved Airplane Flight Manual (AFM)

Maximum Weights	Max. Ramp	5,800 lbs
	Max. Takeoff	5,760 lbs
	Max. Landing	5,415 lbs
	Max. Zero Fuel	4,860 lbs

Number of Seats 6 Max (Includes pilot and crew); Refer to the FAA Approved Airplane Flight Manual (AFM), Document No. 06-100106, revision 4, dated December 13, 2007 or later FAA approved revision, reference Section 6 for seat configurations and moment arms.

Maximum Compartments Weights 260 lbs; 1 compartment, moment arm 217.92 inches aft of datum
 Baggage Compartment floor loading is 100 lb/ft²
 Cabin floor loading is 80 lb/ft²

Fuel Capacity	227.5 gallons (USG) total; 224 gallons (USG) usable; 3.5 gallons (USG) unusable Moment arm 198 inches aft of datum
Oil Capacity	6.48 quarts (USQ) total per engine; 1.15 quarts (USQ) usable per engine
Maximum Operating Altitude	Takeoff 10,000 ft MSL Operating 41,000 ft MSL

Control Surface Movements

Elevator	UP	25° ± 0.5°	DOWN	15° ± 0.5°
Elevator Trim				
Tab	UP	20.0° ± 1.0°	DOWN	20.0° ± 1.0°
Ailerons	UP	15.5° + 0.5°/-0.2°	DOWN	11.6° + 0.5°/-0.2°
Aileron Trim	UP	5.4° ± 0.3°	DOWN	4.8° ± 0.3°
Rudder	LEFT	30° ± 0.5°	RIGHT	30° ± 0.5°
Rudder Trim				
Tab	LEFT	20.0° ± 1.0°	RIGHT	20.0° ± 1.0°
Flaps	Cruise	0° ± 0.5°		
	Takeoff	16.8° ± 0.5°		
	Landing	33.8° ± 1.0°		

For serial numbers 000039 - 000104, 000113 – 000115, 000120 and 000123 – 000124.

For serial numbers 000001-000038 which incorporate Eclipse FAA approved Service Bulletin, SB 500-99-001.

Engines	Two Pratt & Whitney Canada PW610F-A, Type Certificate Data Sheet (TCDS) E00074EN
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Fuel	JET A and Jet A-1 per ASTM D 1655; JP-8 per MIL-T-83133
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Fuels not containing icing inhibitors must have MIL-I-27686, MIL-I-85470, or Phillips PFA-55MB fuel system icing inhibitors blended into the aircraft fuel at concentrations not less than 0.10% but no more than 0.15% by volume. The minimum fuel icing inhibitor content during refueling is 0.10% by volume.

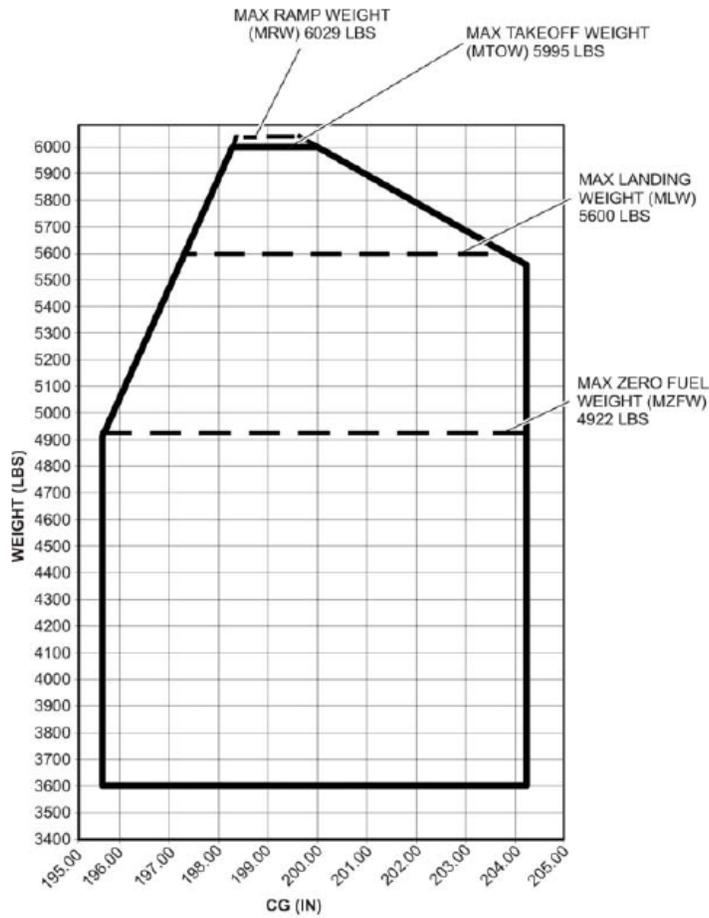
Engine Limits

	N1(%)	N2(%)	MAX ITT (°C)	Time Limit
Maximum Take-off	102	100	795	5 minutes
Max. Continuous	102	100	795	Continuos
APR	102	100	795	10 minutes
Transient	103	102	850	20 seconds

Airspeed Limits

V ₀	Maximum Operating Maneuvering Speed	180 KEAS
V _{MO}	Maximum Operating Airspeed	285 KEAS
M _{MO}	Maximum Operating Mach	0.64 M
V _{FE} (Flap T/O)	Maximum Flap Extended Speed	200 KEAS
V _{FE} (Flap LDG)	Maximum Flap Extended Speed	120 KEAS
V _{LO}	Maximum Landing Gear Operating Speed	200 KEAS
V _{LE}	Maximum Landing Gear Extended Speed	285 KEAS
	Maximum tire ground speed	139 KNOTS

Center of Gravity (C.G.) Range



Forward limits: 195.65 inches aft of datum up to 4,922 lbs with a straight line taper to 197.91 inches at 5,995 lbs.

Aft Limits: 204.37 inches aft of datum up to 5,461 lbs with a straight line taper to 199.74 inches at 5,995 lbs.

Empty Weight. C.G. Range None.

Maximum Weights	Max. Ramp	6,029 lbs
	Max. Takeoff	5,995 lbs
	Max. Landing	5,600 lbs
	Max. Zero Fuel	4,922 lbs

Minimum Crew 1 Pilot plus required equipment as specified in the FAA Approved Airplane Flight Manual (AFM)

Number of Seats 6 Max (Includes pilot and crew); Refer to the FAA Approved Airplane Flight Manual (AFM), Document No. 06-121654, revision 1, dated January 28, 2008 or later FAA approved revision, reference Section 6 for seat configurations and moment arms.

Maximum Compartments Weights 260 lbs; 1 compartment, moment arm 217.92 inches aft of datum
 Baggage Compartment floor loading is 100 lb/ft²
 Cabin floor loading is 80 lb/ft²

Fuel Capacity	254.4 gallons (USG) total; 250.9 gallons (USG) usable; 3.5 gallons (USG) unusable Moment arm 198 inches aft of datum
Oil Capacity	6.088 quarts (USQ) total per engine; 0.832 quarts (USQ) usable per engine
Maximum Operating Altitude	Takeoff 10,000 ft MSL Operating 41,000 ft MSL

Control Surface Movements

Elevator	UP	25° ± 0.5°	DOWN	15° ± 0.5°
Elevator Trim				
Tab	UP	4.1° ± 0.5°	DOWN	20.0° ± 0.5°
Ailerons	UP	15.5° + 0.5°/-0.2°	DOWN	11.6° + 0.5°/-0.2°
Aileron Trim	UP	5.4° ± 0.3°	DOWN	4.8° ± 0.3°
Rudder	LEFT	30° ± 0.5°	RIGHT	30° ± 0.5°
Rudder Trim				
Tab	LEFT	20.0° ± 1.0°	RIGHT	20.0° ± 1.0°
Flaps	Cruise	0° ± 0.5°		
	Takeoff	16.8° ± 0.5°		
	Landing	33.8° ± 1.0°		

For serial numbers 000105 - 000112, 000116 - 000119, 000121 – 000122 and 000125 – 000260.

For serial numbers 000039 - 000104, 000113 - 000115, 000120 and 000123 - 000124, which incorporate Eclipse FAA approved Service Bulletin, SB 500-99-002.

For serial numbers 000001 – 000038, which incorporate Eclipse FAA approved Service Bulletin, SB 500-99-001 and SB 500-99-002.

Engines	Two Pratt & Whitney Canada PW610F-A, Type Certificate Data Sheet (TCDS) E00074EN
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Fuel	JET A and Jet A-1 per ASTM D 1655; JP-8 per MIL-T-83133
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Fuels not containing icing inhibitors must have MIL-I-27686, MIL-I-85470, or Phillips PFA-55MB fuel system icing inhibitors blended into the aircraft fuel at concentrations not less than 0.10% but no more than 0.15% by volume. The minimum fuel icing inhibitor content during refueling is 0.10% by volume.

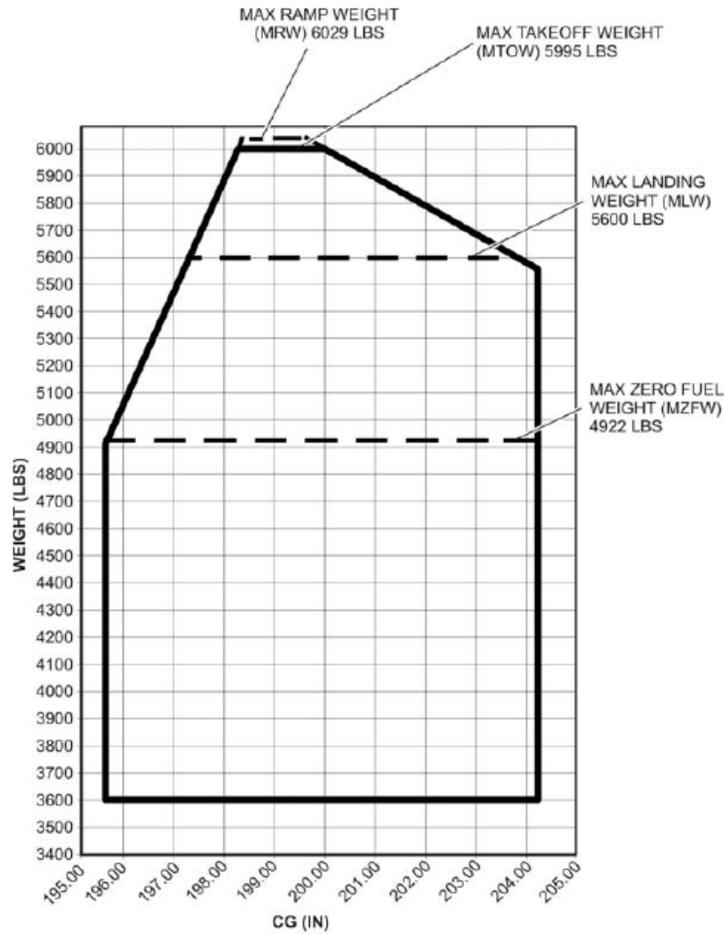
Engine Limits

	N1(%)	N2(%)	MAX ITT (°C)	Time Limit
Maximum Take-off	102	100	795	5 minutes
Max. Continuous	102	100	795	Continuous
APR	102	100	795	10 minutes
Transient	103	102	850	20 seconds

Airspeed Limits

V ₀	Maximum Operating Maneuvering Speed	180 KEAS
V _{MO}	Maximum Operating Airspeed	285 KEAS
M _{MO}	Maximum Operating Mach	0.64 M
V _{FE} (Flap T/O)	Maximum Flap Extended Speed	200 KEAS
V _{FE} (Flap LDG)	Maximum Flap Extended Speed	120 KEAS (if SB 500-99-004 is incorporated, this value is 140 KEAS)
V _{LO}	Maximum Landing Gear Operating Speed	200 KEAS
V _{LE}	Maximum Landing Gear Extended Speed	285 KEAS
	Maximum tire ground speed	139 KNOTS
	Minimum Airspeed Icing conditions (applicable of SB 500-99-004 is incorporated)	165 KEAS

Center of Gravity (C.G.) Range



Forward limits: 195.65 inches aft of datum up to 4,922 lbs with a straight line taper to 197.91 inches at 5,995 lbs.

Aft Limits: 204.37 inches aft of datum up to 5,461 lbs with a straight line taper to 199.74 inches at 5,995 lbs.

Empty Weight. C.G. Range None.

Maximum Weights	Max. Ramp	6,029 lbs
	Max. Takeoff	5,995 lbs
	Max. Landing	5,600 lbs
	Max. Zero Fuel	4,922 lbs

Minimum Crew 1 Pilot plus required equipment as specified in the FAA Approved Airplane Flight Manual (AFM)

Number of Seats 6 Max (Includes pilot and crew); Refer to the FAA Approved Airplane Flight Manual (AFM), Document No. 06-122204, revision 3, dated February 10, 2010 or later FAA approved revision, reference Section 6 for seat configurations and moment arms.

Maximum Compartments Weights 260 lbs; 1 compartment, moment arm 217.92 inches aft of datum
 Baggage Compartment floor loading is 100 lb/ft²
 Cabin floor loading is 80 lb/ft²

Fuel Capacity	254.4 gallons (USG) total; 250.9 gallons (USG) usable; 3.5 gallons (USG) unusable Moment arm 198 inches aft of datum
Oil Capacity	6.088 quarts (USQ) total per engine; 0.832 quarts (USQ) usable per engine
Maximum Operating Altitude	Takeoff 10,000 ft MSL Operating 41,000 ft MSL

Control Surface Movements

Elevator	UP	25° ± 0.5°	DOWN	15° ± 0.5°
Elevator Trim				
Tab	UP	4.1° ± 0.5°	DOWN	20.0° ± 0.5°
Ailerons	UP	15.5° + 0.5°/-0.2°	DOWN	11.6° + 0.5°/-0.2°
Aileron Trim	UP	5.4° ± 0.3°	DOWN	4.8° ± 0.3°
Rudder	LEFT	30° ± 0.5°	RIGHT	30° ± 0.5°
Rudder Trim				
Tab	LEFT	20.0° ± 1.0°	RIGHT	20.0° ± 1.0°
Flaps	Cruise	0° ± 0.5°		
	Takeoff	16.8° ± 0.5°		
	Landing	33.8° ± 1.0°		

For serial numbers 000266 - 000267.**For serial numbers 000105 - 000112, 000116 - 000119, 000121, 000122, and 000125 - 000260 which incorporate Eclipse FAA approved service Bulletins, SB 500-99-004 and SB 500-99-005.****For serial numbers 000039 - 000104, 000113 - 000115, 000120, 000123 and 000124, which incorporate Eclipse FAA approved Service Bulletins, SB 500-99-002, SB 500-99-004 and SB 500-99-005.****For serial numbers 000001 - 000038 which incorporate Eclipse FAA approved Service Bulletin, SB 500-99-001, SB 500-99-002, SB 500-99-004 and SB 500-99-005**

Engines	Two Pratt & Whitney Canada PW610F-A, Type Certificate Data Sheet (TCDS) E00074EN
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Fuel	JET A and Jet A-1 per ASTM D 1655; JP-8 per MIL-T-83133
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Fuels not containing icing inhibitors must have MIL-I-27686, MIL-I-85470, or Phillips PFA-55MB fuel system icing inhibitors blended into the aircraft fuel at concentrations not less than 0.10% but no more than 0.15% by volume. The minimum fuel icing inhibitor content during refueling is 0.10% by volume.

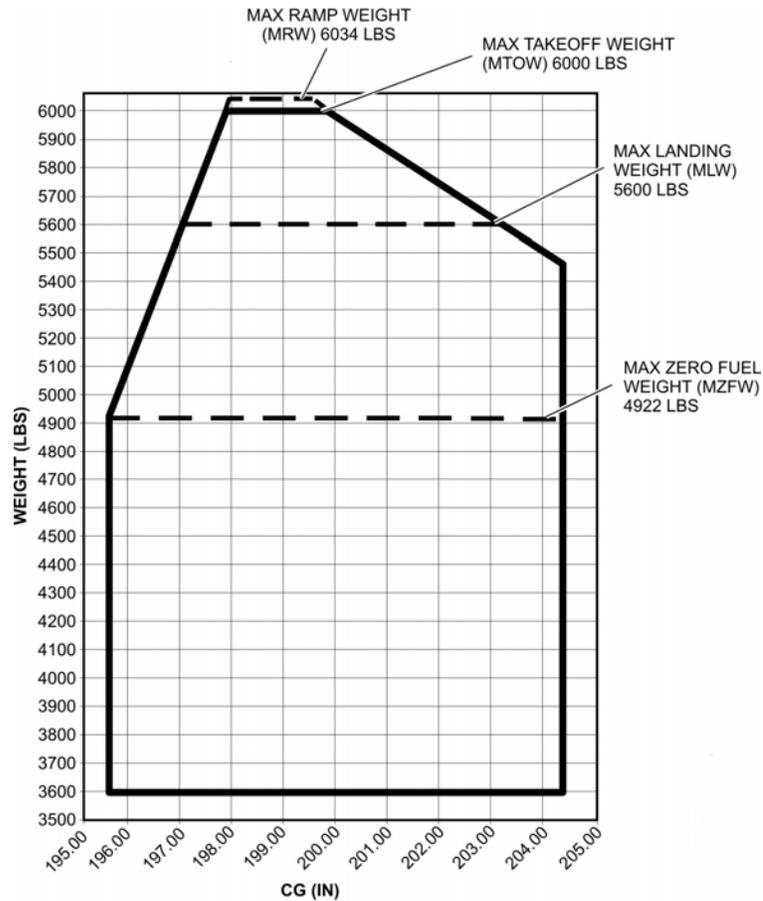
Engine Limits

	N1(%)	N2(%)	MAX ITT (°C)	Time Limit
Maximum Take-off	102	100	795	5 minutes
Max. Continuous	102	100	795	Continuous
APR	102	100	795	10 minutes
Transient	103	102	850	20 seconds

Airspeed Limits

V ₀	Maximum Operating Maneuvering Speed	180 KEAS
V _{MO}	Maximum Operating Airspeed	285 KEAS
M _{MO}	Maximum Operating Mach	0.64 M
V _{FE} (Flap T/O)	Maximum Flap Extended Speed	200 KEAS
V _{FE} (Flap LDG)	Maximum Flap Extended Speed	140 KEAS
V _{LO}	Maximum Landing Gear Operating Speed	200 KEAS
V _{LE}	Maximum Landing Gear Extended Speed	285 KEAS
	Maximum Tire Ground Speed	139 KNOTS
	Minimum Airspeed in Icing Conditions	165 KEAS

Center of Gravity (C.G.) Range



Forward limits: 195.65 inches aft of datum up to 4,922 lbs with a straight line taper to 197.91 inches at 6,000 lbs.

Aft Limits: 204.37 inches aft of datum up to 5,461 lbs with a straight line taper to 199.70 inches at 6,000 lbs.

Empty Weight. C.G. Range None.

Maximum Weights	Max. Ramp	6,034 lbs
	Max. Takeoff	6,000 lbs
	Max. Landing	5,600 lbs
	Max. Zero Fuel	4,922 lbs

Minimum Crew 1 Pilot plus required equipment as specified in the FAA Approved Airplane Flight Manual (AFM)

Number of Seats 6 Max (Includes pilot and crew); Refer to the FAA Approved Airplane Flight Manual (AFM), Document No. 06-122204, revision 3, dated February 10, 2010 or later FAA approved revision, reference Section 6 for seat configurations and moment arms.

Maximum Compartments Weights 260 lbs; 1 compartment, moment arm 217.92 inches aft of datum
 Baggage Compartment floor loading is 100 lb/ft²
 Cabin floor loading is 80 lb/ft²

Fuel Capacity 254.4 gallons (USG) total; 250.9 gallons (USG) usable;
 3.5 gallons (USG) unusable
 Moment arm 198 inches aft of datum

Oil Capacity 6.088 quarts (USQ) total per engine; 0.832 quarts (USQ) usable per engine

Maximum Operating Altitude Takeoff 10,000 ft MSL
 Operating 41,000 ft MSL

Control Surface Movements

Elevator	UP	$25^{\circ} \pm 0.5^{\circ}$	DOWN	$15^{\circ} \pm 0.5^{\circ}$
Elevator Trim Tab	UP	$4.1^{\circ} \pm 0.5^{\circ}$	DOWN	$20.0^{\circ} \pm 0.5^{\circ}$
Ailerons	UP	$15.5^{\circ} + 0.5^{\circ} / -0.2^{\circ}$	DOWN	$11.6^{\circ} + 0.5^{\circ} / -0.2^{\circ}$
Aileron Trim	UP	$5.4^{\circ} \pm 0.3^{\circ}$	DOWN	$4.8^{\circ} \pm 0.3^{\circ}$
Rudder	LEFT	$30^{\circ} \pm 0.5^{\circ}$	RIGHT	$30^{\circ} \pm 0.5^{\circ}$
Rudder Trim Tab	LEFT	$20.0^{\circ} \pm 1.0^{\circ}$	RIGHT	$20.0^{\circ} \pm 1.0^{\circ}$
Flaps	Cruise	$0^{\circ} \pm 0.5^{\circ}$		
	Takeoff	$16.8^{\circ} \pm 0.5^{\circ}$		
	Landing	$33.8^{\circ} \pm 1.0^{\circ}$		

Data Pertinent to All Models and Effectivities

Datum Is located 23.25 inches forward of the nose radome.

Leveling Means Laterally: Forward edge of the baggage compartment floor
 Longitudinally: Left hand outboard seat track in front of the main cabin door

Certification Basis 14 CFR Part 23 through Amendment 55, Part 34 through Amendment 34-3, and Part 36 through Amendment 36-26.

Special Conditions:

- 23-128-SC for Engine Fire Extinguishing System
- 23-121-SC for Electronic Engine Control System
- 23-112A-SC for High Intensity Radiated Fields (HIRF) Protection

Equivalent Levels of Safety Findings:

- ACE-02-19: 14 CFR §§ 23.777(d) and 23.781 Fuel Cutoff Control
- ACE-05-32: 14 CFR §§ 23.1545(a) and 23.1581(d) for Indicated Airspeeds
- ACE-05-34: 14 CFR §23.181(b), Dynamic Stability
- ACE-05-35: 14 CFR §23.1353(h), Storage Battery Design and Installation
- ACE-05-36: 14 CFR §23.1323(c), Airspeed Indicating System
- ACE-06-01: 14 CFR § 23.1545(b)(4), Airspeed Indicator
- ACE-06-05: 14 CFR 23, Appendix H, § H23.5, Installation of an Automatic Power Reserve System
- ACE-07-04: 14 CFR § 23.1545(b)(4), Airspeed Indicator
- ACE-08-12, 14 CFR §§ 23.201(b)(2) Wings Level Stall, and 23.203(a), Turning Flight and Accelerated Turning Stalls for flight into known icing (FIKI)

Exemptions:

None

Icing Approval: Serial numbers 000266 – 000267 and serial numbers 000001 - 000038 which incorporate Eclipse FAA approved Service Bulletins, SB 500-99-001, SB 500-99-002, and SB 500-99-004 and serial numbers 000039 - 000104, 000113 - 000115, 000120, 000123, and 000124 which incorporate Eclipse FAA approved Service Bulletins, SB 500-99-002 and SB 500-99-004 and serial numbers 000105 - 000112, 000116 - 000119, 000121, 000122 and 000125 - 000260 which incorporate Eclipse FAA approved Service Bulletin SB 500-99-004, are approved for flight into known or forecast icing.

Compliance with ditching provisions has not been met for issuance of a Type Certificate.

Type Certificate: A00002AC, issued September 30, 2006

Date of application: July 12, 2001

Model EA500 is defined by Eclipse drawing 06-102100-1002, Revision D, dated November 11, 2008 or later FAA approved revision.

Production Basis	The following Serial Numbers were produced under Type Certificate only: 000001 – 000011 and 000266 - 000267. Serial Numbers 000012 - 000260 were produced under Production Certificate No. 500 issued April 26, 2007.
Serial Numbers:	Aircraft Serial Numbers 000001 - 000260 manufactured by Eclipse Aviation Corporation are eligible. Aircraft Serial Numbers 000266 - 000267 manufactured by Eclipse Aerospace Incorporated are eligible.
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.

NOTES

Note 1	A current weight and balance report, including a 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.
Note 2	The Eclipse EA500 must be operated according to the FAA approved Airplane Flight Manual (AFM), Document No. 06-100106, latest FAA approved revision or 06-121654, latest FAA approved revision, or 06-122204, latest FAA approved revision.
Note 3	FAA approved Airworthiness Limitations for inspection time limits and maintenance checks are included in Chapter 4 of the Aircraft Maintenance Manual (AMM) Document No. 06-117751, revision 18, dated March 17, 2011, or later FAA approved revision.
Note 4	The Eclipse EA500 is Aircraft Group approved for Reduced Vertical Separation Minimum (RVSM). All airplanes are equipped with RVSM capable dual air data system, pilot and co-pilot Primary Flight Displays, and Autopilot. Each operator must obtain RVSM operating approval.
Note 5	The Eclipse EA500 incorporates highly integrated avionics and electrical power generation/distribution systems using software-based line replaceable units (LRU's) which share common digital signal transmission buses. The avionics and electrical power generation/distribution configuration of the Eclipse EA500 as delivered from production is critical to the proper operation of the avionics and electrical power generation/distribution systems. Modification to the LRU software supplied with the Eclipse EA500, replacement of an LRU with a different LRU, addition of a new LRU, alteration of an LRU interface, or changes to the electrical power generation/distribution system could adversely affect the airworthiness of the certified product. Accordingly, no changes to the integrated avionics or electrical power generation/distribution systems may be made without coordination with the Certificate Management Aircraft Certification Office.
Note 6	The Eclipse EA500 shall be maintained according to: Aircraft Maintenance Manual (AMM), No. 06-117751, revision 18, dated March 17, 2011 or later FAA accepted revision

Structural Repair Manual (SRM), No. 06-117755, revision 3, dated January 2009 or later
FAA approved revision

Wiring Diagram Manual (WDM), No. 06-117753, revision 6, dated December 2008 or
later FAA approved revision

Fault Isolation Manual, No. 06-117754, revision 3, dated August 2008, or later FAA
approved revision

Note 7 Any modification or changes in cockpit configuration which may affect aircrew workload,
cockpit noise level or day/night operational capabilities must be evaluated by an FAA Aircraft
Certification Flight Test Pilot.

Note 8 All pilots operating a U.S. registered Eclipse EA500 must be trained and qualified in
accordance with the FAA Accepted/Approved Eclipse training program or equivalent FAA
Accepted/Approved training program.

All pilots operating an Eclipse EA500 that is non-US registered must be trained and qualified
in accordance with the Eclipse training program or equivalent training program that is
Accepted/Approved by the Civil Aviation Authority having jurisdiction.

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