



## ***European Aviation Safety Agency***

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**EASA**

**TYPE-CERTIFICATE  
DATA SHEET**

EASA.A.011

EA 400

Extra Flugzeugproduktions- und Vertriebs GmbH

Schwarze Heide 21  
D-46569, Hünxe  
Germany

For models: EA 400  
EA 400-500

Issue 24 February 2012

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## **SECTION A: EA 400 (SALES DESIGNATION: EXTRA 400)**

### **A.I. General**

1. Data Sheet No.: EASA.A.011
2. a) Type: EA 400 (Sales Designation: EXTRA 400)  
b) Model: --  
c) Variant: --
3. Airworthiness Category: Normal
4. Type Certificate Holder: EXTRA Flugzeugproduktions- und Vertriebs-  
GmbH  
Schwarze Heide 21  
D-46569, Hünxe  
Germany
5. Manufacturer: EXTRA Flugzeugproduktions- und Vertriebs-  
GmbH  
Schwarze Heide 21  
D-46569, Hünxe  
Germany
6. Certification Application Date: 16<sup>th</sup> of April 1993
7. National Certifying Authority LBA
8. National Authority Type Certificate Date: 22<sup>nd</sup> of July 1997

### **A.II. EASA Certification Basis**

1. Reference Date for determining the applicable requirements: 16<sup>th</sup> of April 1993
2. Airworthiness Requirements: FAR 23, Amendment 45 (9<sup>th</sup> of July 1993)  
For operation in known icing conditions additionally compliance has been shown with:  
FAR 23.49 Amdt. 23-50  
FAR 23.1093 Amdt. 23-51  
FAR 23.1323 Amdt. 23-51  
JAR 23.1323 Amdt. 23-1
3. Special Conditions: Fire Protection of Engine mount Fuselage Connection (LBA I 335-1086.SF2/94, dated 6<sup>th</sup> of April 1994)  
Roll Control in Supercooled Large Droplets (LBA-

212.SF 1/02, dated 27<sup>th</sup> of September 2002)

4. Exemptions: None
5. Deviations: None
6. Equivalent Safety Findings: See Equivalent Level of Safety Item List Doc. No. EA-05406.01
7. Requirements elected to comply: None
8. Environmental Standards: Lärmschutzforderung für Luftfahrzeuge (LSL), dated 1<sup>st</sup> of January 1991
9. (Reserved)
10. (Reserved)

### **A.III. Technical Characteristics and Operational Limitations**

1. Type Design Definition:

Type Specification	EA-05100.01
Equipment List	EA-05100.06
Equipment List Electric/Avionic	EA-05100.07
Document List	EA-05100.03
  
2. Description: single engine landplane, reciprocating engine, six-seats, fibre-composite construction, high wing with T-tail configuration, retractable tricycle landing gear with nose wheel, pressurized cabin
  
3. Equipment: refer to POH Doc. No. EA-05701, Equipment-List
  
4. Dimensions:

Span:	11.68m (38.3ft)
Length	9.57m (31.4ft)
Height	3.09m (10.14ft)
Wing area	14.3m <sup>2</sup> (154sq.ft)
  
5. Engine:
  - 5.1.1 Model: TSIOL-550-C
  - 5.1.2 Type Certificate: LBA Data Sheet No. 4612
  - 5.1.3 Limitations:

Take-off power	261 kW / 350 BHP
Max. take-off rotational speed	2600 RPM
Manifold pressure	1.30 bar / 39.5"Hg
Continuous power	242 kW / 325 BHP
Max. continuous rotational speed	2500 RPM
Manifold pressure	1.24 bar / 37.5"Hg
  
6. Load factors:

Wing Flaps retracted	+4 to -1.6 g
Wing flaps extended (15° or 30 °)	+2 to 0 g
  
7. Propeller:
  - 7.1 Model: MT-Propeller MTV-14-D/195-30a
  - 7.2 Type Certificate: LBA Data Sheet No. 32.130/78
  - 7.3 Number of blades: 4
  - 7.4 Diameter: 1950 mm +/-0mm
  - 7.5 Sense of Rotation: Right-hand tractor (viewed in direction of flight)
  
8. Fluids:
  - 8.1 Fuel: 100/100LL minimum grade aviation gasoline
  - 8.2 Oil: Engine: SAE 20W-50; SAE 30 and SAE 50
  - 8.3 Coolant: External reservoir: 60/40 mixture of ethylene glycol / distilled water (ethylene glycol: ETX 6024 or TCM P/N

653125 or equivalent)

9. Fluid capacities:
- 9.1 Fuel: Standard fuel tank: Total: 468 litre  
Usable: 404 litre
- 9.2 Oil: Engine: Total: 12.2 litre / 13 US Quarts  
Maximum: 11.4 litre / 12 US Quarts  
Minimum: 7.6 litre / 8 US Quarts
- 9.3 Coolant system capacity: 12 Litre / 3.2 US Gallons
10. Air Speeds: Design Manoeuvring Speed  $V_A$ :  
MTOW (1999kg) 156 KIAS  
@1450kg 133 KIAS  
Flap Extended Speed  $V_{FE}$ :  
Flaps 15° 120 KIAS  
Flaps 30° 109 KIAS  
Maximum Landing Gear Operation Speed  $V_{LO}$ :  
140 KIAS  
Maximum Landing Gear Extended Speed  $V_{LE}$ :  
140 KIAS  
Maximum Structural Cruising Speed  $V_{NO}$ :  
188 KIAS  
Never Exceed Speed  $V_{NE}$ : 219 KIAS
11. Maximum Operating Altitude: 7620m (25,000ft)
12. Allweather Operations Capability: IFR, FIKI
13. Maximum Weights:  
Take-off 1999 kg  
Zero Wing fuel 1959 kg  
Landing 1999 kg
14. Centre of Gravity Range:  
Forward limit 12% MAC up to 1600kg  
21% MAC at 1999kg  
(varies linearly between mass limits)  
Rear limit 38% MAC  
(MAC is 1322mm; 0%MAC is at 3200mm aft reference datum)
15. Datum: 3.115m in front of the front edge of main wheel bay
16. Control surface deflections:  
Aileron: 27° upward, 19° downward  
Pitch: 33° upward, 18° downward

- |   |  |                          |
|---|--|--------------------------|
|   | Yaw:   | 25° left, 25° right      |
|   | Pitch trim tab:                                    | 20° upward, 30° downward |
| 17. Levelling Means:                    | Spirit level on the upper edge of lower cabin door |                          |
| 18. Minimum Flight Crew:                | 1  |                          |
| 19. Maximum Passenger Seating Capacity: | 5  |                          |
| 20. Baggage/Cargo Compartments:         | 90 kg  |                          |
| 21. Wheels and Tyres:                   | Nose Wheel Tyre Size                               | 5.0-5 6ply               |
|   | Main Wheel Tyre Size                               | 15x6.0-6 6 ply           |
| 22. (Reserved):                         |  |                          |

**A.IV. Operating and Service Instructions**

1. Flight Manual:  
Pilot's Operating Handbook & Airplane Flight Manual      Doc. No. EA-05701
2. Technical Manual:  
Maintenance Manual      Doc. No. EA-05702
3. Repair Manual:  
Maintenance Manual Ch. 51      Doc. No. EA-05702
4. Manual for Operation:  
Pilot's Operating Handbook & Airplane Flight Manual      Doc. No. EA-05701
5. Spare Parts Catalogue:  
none
6. Table of Dimensions, Limits and Clearances:  
Maintenance Manual      Doc. No. EA-05702
7. Instruments and aggregates:  
List of Applicable Publications      Doc. No. EA-05710



**A.V. Notes:**

- 1 This certification applies to serial numbers 3 and on
- 2 Approved Noise Levels in accordance to LSL (1<sup>st</sup> gen. 1991): 79.7 dB(A)
- 3 Colour specification for composite structure: see Maintenance Manual Chapter 04
- 4 Airplane serial numbers 003 through 027 eligible for flight into icing when modified with Extra Service Bulletin SB-400-01-92 or later LBA approved revision. Airplane serial 028 and above have shown compliance to applicable icing requirements and are approved for operation in known icing conditions.

## **SECTION B: EA 400-500 (SALES DESIGNATION: EXTRA 500)**

### **B.I. General**

1. Data Sheet No.: EASA.A.011
2. a) Type: EA 400  
b) Model: EA 400-500 (Sales Designation: EXTRA 500)  
c) Variant: --
3. Airworthiness Category: Normal
4. Type Certificate Holder: EXTRA Flugzeugproduktions- und Vertriebs-GmbH  
Schwarze Heide 21  
D-46569, Hünxe  
Germany
5. Manufacturer: EXTRA Flugzeugproduktions- und Vertriebs-GmbH  
Schwarze Heide 21  
D-46569, Hünxe  
Germany
6. Certification Application Date: 05<sup>th</sup> of July 2001
7. (Reserved)
8. (Reserved)

### **B.II. EASA Certification Basis**

1. Reference Date for determining the applicable requirements: 05<sup>th</sup> of July 2001
2. Airworthiness Requirements: FAR 23, Amendment 45, issued 09<sup>th</sup> of July 1993;  
JAR 23, Amendment 1, issued 1<sup>st</sup> of February 2001 affected by the change to EA 400-500 according CRI A-01;  
In addition for the major flight deck upgrade involving electronic avionic equipment eligible for single pilot IFR day/night compliance has been shown with for the following paragraphs:  
JAR 23.1311 Electronic display instrument systems  
JAR 23.1431 Electronic equipment
8. Special Conditions: CRI C-01 Fire Protection of Engine mount-Fuselage -Connection

- |                                    |   |
|------------------------------------|---|
| 4. Exemptions:                     | None  |
| 5. Deviations:                     | None  |
| 6. Equivalent Safety Findings:     | CRI D-01 Emergency Exits 23.807(b)(2)<br>CRI G-01 Airspeed Limitations 23.1505(c) |
| 7. Requirements elected to comply: | None  |
| 8. Environmental Standards:        | CRI A-03 ICAO, Annex 16, Volume 1, Chapter 10                                     |
| 9. (Reserved)                      |   |
| 10. (Reserved)                     |   |

### **B.III. Technical Characteristics and Operational Limitations**

1. Type Design Definition:   Type Specification                   EA-0B100.01  
                                  Equipment List                    EA-0B100.06  
                                  Document List                    EA-0B100.03
2. Description:               single engine turboprop, six-seats, fibre-composite construction, high wing with T-tail configuration, retractable tricycle landing gear with nose wheel, pressurized cabin
3. Equipment:               refer to POH EA 400-500 Doc. No. EA-0B701
4. Dimensions:             Span:                11.60m (38.1ft)  
                          Length               10.13m (33.23ft)  
                          Height              3.37m (11.06ft)  
                          Wing area          14.3m<sup>2</sup> (154sq.ft)
5. Engine:
  - 5.1.1 Model:               Rolls-Royce 250-B17F/2
  - 5.1.2 Type Certificate:   FAA E10CE
  - 5.1.3 Limitations:       Max. take-off propeller rotational speed    2030 RPM  
                              Max. continuous propeller rotational speed 2030 RPM  
                              Min. continuous propeller rotational speed 1900 RPM
6. Load factors:           Wing Flaps retracted                         +3.8 to -1.5 g  
                              Wing flaps extended (15° or 30 °) +2 to 0 g
7. Propeller:
  - 7.1 Model:                MT-Propeller MTV-5-1-D-C-F-R(A)/CFR210-56
  - 7.2 Type Certificate:     LBA TCDS 32.130/103/PR
  - 7.3 Number of blades:   5
  - 7.4 Diameter:            2100 +/- 5mm
  - 7.5 Sense of Rotation:   Right-hand tractor (viewed in direction of flight)
8. Fluids:
  - 8.1 Fuel:                 JET A or JET A-1 (ASTM D1655-03 or later)
  - 8.2 Oil:                  Engine & gearbox: MIL-PRF-7808L or later; or MIL-PRF-23699F or later
  - 8.3 Coolant:             --
9. Fluid capacities:
  - 9.1 Fuel:                Standard fuel tank: Total:   680 litre  
                              (see B.V. Note 4)                                   Usable: 652 litre
  - 9.2 Oil:                 Engine external oil tank:

Maximum: 5.18 litre

Minimum: 4.08 litre

- |   |   |
|---|---|
| 9.3 Coolant system capacity:                      | --  |
| 10. Air Speeds:                                   | <p>Design Manoeuvring Speed <math>V_A</math>:</p> <p>MTOW (2130kg) 156 KIAS</p> <p>@1545kg 131 KIAS</p> <p>Flap Extended Speed <math>V_{FE}</math>:</p> <p>Flaps 15° 120 KIAS</p> <p>Flaps 30° 109 KIAS</p> <p>Maximum Landing Gear Operation Speed <math>V_{LO}</math>:<br/>140 KIAS</p> <p>Maximum Landing Gear Extended Speed <math>V_{LE}</math>:<br/>140 KIAS</p> <p>Maximum Structural Cruising Speed <math>V_{NO}</math>:<br/>188 KIAS</p> <p>Never Exceed Speed <math>V_{NE}</math>: 207 KIAS</p> |
| 11. Maximum Operating Altitude:                   | 7620m (25,000ft)  |
| 12. Allweather Operations Capability:             | IFR   |
| 13. Maximum Weights:<br>(see B.V. Note 4)         | <p>Take-off 2130 kg</p> <p>Zero Wing fuel 1945 kg</p> <p>Landing 2000 kg</p>  |
| 14. Centre of Gravity Range:<br>(see B.V. Note 4) | <p>Forward limit 18% MAC up to 1600kg<br/>25% MAC at 2130kg<br/>(varies linearly between mass limits)</p> <p>Rear limit 34.5% MAC<br/>(MAC is 1322mm; 0%MAC is at 3200mm aft reference datum)</p>   |
| 15. Datum:  | 3.115m in front of the front edge of main wheel bay   |
| 16. Control surface deflections:                  | <p>Aileron: 27° upward, 19° downward</p> <p>Pitch: 33° upward, 18° downward</p> <p>Yaw: 25° left, 25° right</p> <p>Pitch trim tab: 20° upward, 30° downward</p>   |
| 17. Levelling Means:                              | Spirit level on the upper edge of lower cabin door  |
| 18. Minimum Flight Crew:                          | 1   |

- |   |                      |                 |
|---|----------------------|-----------------|
| 19. Maximum Passenger Seating Capacity: | 5                    |                 |
| 20. Baggage/Cargo Compartments:         | 90 kg                |                 |
| 21. Wheels and Tyres:                   | Nose Wheel Tyre Size | 5.0-5 6ply      |
|   | Main Wheel Tyre Size | 15x6.0-6 10 ply |
| 22. (Reserved):                         |                      |                 |

#### **B.IV. Operating and Service Instructions**

1. Flight Manual:  
Pilot's Operating Handbook & Airplane Flight Manual      Doc. No. EA-0B701
2. Technical Manual:  
Maintenance Manual      Doc. No. EA-0B702
3. Repair Manual:  
Maintenance Manual Ch. 51      Doc. No. EA-05702
4. Manual for Operation:  
Pilot's Operating Manual & Airplane Flight Manual      Doc. No. EA-0B701  
(see B.V. Note 4)
5. Spare Parts Catalogue:  
none
6. Table of Dimensions, Limits and Clearances:  
Maintenance Manual      Doc. No. EA-0B702
7. Instruments and aggregates:  
none

**B.V. Notes:**

- 1 This certification applies to serial numbers 1002 and on.
- 2 Approved Noise Levels in accordance to ICAO Annex 16, Chapter 10:  
76.7dB(A)
- 3 Colour specification for composite structure: see Maintenance Manual Chapter 04
- 4 For operational reasons a reduced MTOW is available for airplanes registered in the EU. No physical changes to the airplanes other than additional limitation placards are necessary for this MTOW reduction. A Supplement to the POH/AFM is available.

With Extra Kit 33778 installed limitations are as follows:

Fuel:	Standard fuel tank:	Total:	468 litre
		Usable:	440 litre
			(Aux. fuel tanks must be empty)
Maximum Weights:	Take-off		1999 kg
	Landing		1999 kg
Centre of Gravity			
Range:	Forward limit		18% MAC up to 1600kg
			23.3% MAC at 1999kg
			(varies linearly between mass limits)



## **ADMINISTRATIVE SECTION**

### I. Acronyms

### II. Type Certificate Holder Record

Extra Flugzeugbau GmbH:

until 15<sup>th</sup> of September 2003

Extra Flugzeugproduktions- und Vertriebs GmbH:

from 15<sup>th</sup> of September 2003

### III. Change Record

<b>Issue</b>	<b>Date</b>	<b>Changes</b>	<b>TC Issue No. &amp; Date</b>
Issue 01	16 July 2004	Change to EASA TCDS; addition of Model EA 400-500	Original, 16 <sup>th</sup> of July 2004
Issue 02	26. November 2004	Editorial changes (Info: EASA TCDS replaces LBA TC N° 1085)	
Issue 03	16. June 2011	IFR day/night certification EA 400-500	
Issue 04	24. February 2012	EA 400-500: Added option of reduced MTOW 1999kg	