



European Aviation Safety Agency

EASA

**TYPE-CERTIFICATE
DATA SHEET**

A.507

XA42

XtremeAir GmbH

Harzstrasse 2, Am Flughafen Cochstedt
39444 Hecklingen
Germany

For model: XA42
XA41

CONTENT

SECTION A: XA42

- A.I. General
- A.II. Certification Basis
- A.III. Technical Characteristics and Operational Limitations
- A.IV. Operating and Service Instructions
- A.V. Operational Suitability Data
- A.VI. Notes

SECTION B: XA41

- B.I. General
- B.II. Certification Basis
- B.III. Technical Characteristics and Operational Limitations
- B.IV. Operating and Service Instructions
- B.V. Operational Suitability Data
- B.VI. Notes

ADMINISTRATIVE SECTION

- I. Acronyms
- II. Type Certificate Holder Record
- III. Change Record

SECTION A: XA42

A.I. General

1. Data Sheet No.: EASA.A.507
2. a) Type: XA42
b) Model: XA42
3. Airworthiness Category: Utility Category
Aerobatic Category
4. Type Certificate Holder: XtremeAir GmbH
Harzstrasse 2, Am Flughafen Cochstedt
39444 Hecklingen
Germany
5. Manufacturer: XtremeAir GmbH
Harzstrasse 2, Am Flughafen Cochstedt
39444 Hecklingen
Germany
6. Certification Application Date: 30 July 2007

A.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements: 31 March 2008
2. Airworthiness Requirements: CS-23, Amdt. 1
For detailed information see CRI A-01, revision 5, dated 16 January 2012.
3. Special Conditions: SC-E23.863-01, Smoke system
SC-F23.1309-02, Protection from Effect of HIRF
SC-F23.1309-03, Protection from the Effect of Lightning Strike - Indirect Effects

- | | |
|---|--|
| 4. Exemptions: | none |
| 5. Deviations: | none |
| 6. Equivalent Safety Findings: | CRI B-101, Stall Warning
CRI B-102, Aerodynamic Stability
CRI D-102, Position and shape of engine controls |
| 7. Requirements elected to comply: | none |
| 8. Environmental Standards:
(Utility Category) | ICAO Annex 16, Volume I, Chapter 10 |
| 9. (Reserved) Additional National Requirements: | none |
| 10. Operational Suitability Certification Basis: | MMEL: CS-GEN-MMEL, Initial Issue |

A.III. Technical Characteristics and Operational Limitations

- | | |
|----------------------------|---|
| 1. Type Design Definition: | MDL-XA42-0240-001 |
| 2. Description: | <p>The XA42 is an unlimited aerobatic, two-seater airplane in fibre composite construction. It has a low-wing design and a conventional tail with a fixed tail wheel. The single engine propulsion system uses a constant speed propeller. A six-cylinder, four stroke piston engine acts directly on the propeller.</p> <p>The XA42 is designed as aerobatic and touring aircraft for VFR-day operation.</p> |
| 3. Equipment: | see AFM XA42-0040-002-() |
| 4. Dimensions: | Wing span: 7,50 m / 24,61 ft
Total length: 6,67 m / 21,88 ft
Maximum height: 2,54 m / 8,33 ft
Wing area: 11,25 m ² / 121,10 ft ² |

5. Engine:

- 5.1.1 Model: Lycoming AEIO-580-B1A
5.1.2 Type Certificate: EASA.IM.E.027
5.1.3 Limitations: Take-off & continuous power: 235 kW / 315 HP
Max. rotational speed: Aerobatic: 2.700 rpm
Utility: 2.670 rpm

6. (reserved)

7. Propeller:

- 7.1.1 Model 1: MT Propeller MTV-9-B-C/C203-20d
7.1.2 Type Certificate: LBA 32.130/65
7.1.3 Number of blades: 3
7.1.4 Diameter: 2030 mm - 50 mm

7.2.1 Model 2: MT Propeller MTV-14-B-C/C190-130
7.2.2 Type Certificate: EASA.P.017
7.2.3 Number of blades: 4
7.2.4 Diameter: 1900 mm - 50 mm

8. Coolant: None

9. Fluid capacities:

- 9.1 Fuel: Total: 275 l
Usable: 273 l
Usable for aerobatics: 57 l

9.2 Oil: Maximum sump capacity: 15,15 l / 16 US qt
Minimum sump capacity: 8,52 l / 9 US qt
Oil Specifications see AFM

9.3 Coolant system capacity: Not applicable

9.4 Smoke Oil capacity: 28 l / 7.4 US gal

Straight paraffin oil, viscosity 30-50 cts at 20°C (68°F),

Smoke oil type: initial boiling point > 330°C (626°F).
For example: Fauth FC05, Texaco Canopus 13 or equivalent.

10. Air Speeds (IAS): Never exceed speed: V_{NE} 225 kts
Maximum structural cruising speed: V_{NO} 185 kts
Maneuvering speed: V_A 174 kts

11. Maximum Operating Altitude: 4572 m / 15.000 ft

12. Allweather Operations Capability: VFR-day, Flights in known or expected icing conditions are prohibited.

13. Maximum Weights: Maximum empty weight: 670 kg / 1477 lbs
Maximum take-off and landing weight

- Utility: 999 kg / 2200 lbs
- Acro I and II: 999 kg / 2200 lbs
- Acro III: 850 kg / 1874 lbs

Category	MTOW	max. load factors	max. wing fuel	Maneuvers
UTILITY	999 kg 2200 lbs.	+ 4,4 g -2,0 g	full	acrobatic maneuvers, including spins, are prohibited except Stalls, Chandelles, Lazy eights, Steep turns and similar maneuvers in which the angle of bank is not more than 90°
ACRO II	999 kg 2200 lbs.	+8 g -8 g	2 x 20 L 2 x 5.3 gal.	unlimited, see AFM-XA42-0040-002-C() para. 2.9.2
ACRO III	850 kg. 1874 lbs.	+10 g -10 g	empty	

14. Centre of Gravity Range: Forward: 550 mm behind datum (25 % MAC)
Rear: 700 mm behind datum (33 % MAC)

15. Datum: Forward face of firewall

16. Control surface deflections: Aileron $\pm 30^\circ$
Elevator $\pm 27^\circ$

- | | | |
|--|----------|----------------|
| | Trim tap | $\pm 3^\circ$ |
| | Rudder | $\pm 30^\circ$ |
17. Levelling Means: Horizontal frame of cockpit canopy cut out
18. Minimum Flight Crew: 1 Pilot (rear seat)
19. Maximum Passenger Seating Capacity: 1 (front seat)
20. Baggage/Cargo Compartments: Max. 10 kg behind pilot's seat (no aerobatic manoeuvres allowed with baggage)
21. Wheels and Tyres: Main wheel: 5.00-5 10ply
Tail wheel: 105/45-65 solid rubber
22. (Reserved):

A.IV. Operating and Service Instructions

- 1a. Airplane Flight Manual: AFM-XA42-0040-002-A(),
EASA approved March 18, 2011
- 1b. Airplane Flight Manual: AFM-XA42-0040-002-B(),
EASA approved October 6, 2011 for aircraft complying with AM-2011-016
- 1c. Airplane Flight Manual: AFM-XA42-0040-002-C(),
EASA approved October 16, 2012 for aircraft complying with AM-2011-047
- 1d. Flight Manual Supplement AFM-XA42-0040-002-S10.02 if equipped with
Propeller No. 2 (refer to A.III.7.2.1).
2. Maintenance Manual (incl. Airworthiness Limitation): AMM-XA42-0040-001-B()
3. Operating and Installation Instructions for propeller/engine
4. Service Information and Service Bulletin

A.V Operational Suitability Data

Master Minimum Equipment List (MMEL) XA42-MMEL-A.00, Initial issue, dated 1 December 2015, EASA approved 08 December 2015, or any later EASA approved issue.

A.VI. Notes:

1. Affected serial numbers: 107 and up.
2. The composite structure is qualified up to 72 °C (161.6 °F).
3. The structure is designed for full and abrupt aileron control inputs up to V_{NE} .

SECTION B: XA41

B.I. General

1. Data Sheet No.: EASA.A.507
2. a) Type: XA42
b) Model: XA41
3. Airworthiness Category: Utility Category
Aerobatic Category
4. Type Certificate Holder: XtremeAir GmbH
Harzstrasse 2, Am Flughafen Cochstedt
39444 Hecklingen
Germany
5. Manufacturer: XtremeAir GmbH
Harzstrasse 2, Am Flughafen Cochstedt
39444 Hecklingen
Germany
6. Certification Application Date: 4 October 2007

B.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements: 15 February 2009
2. Airworthiness Requirements: CS-23, Amdt. 1
For detailed information see CRI A-01, revision 5, dated 16 January 2012 and Annex A to CRI A-01.
3. Special Conditions: SC-E23.863-01, Smoke system
SC-F23.1309-02, Protection from Effect of HIRF
SC-F23.1309-03, Protection from the Effect of
Lightning Strike - Indirect Effects

- | | |
|---|--|
| 4. Exemptions: | none |
| 5. Deviations: | none |
| 6. Equivalent Safety Findings: | CRI B-101, Stall Warning
CRI B-102, Aerodynamic Stability
CRI D-102, Position and shape of engine controls |
| 7. Requirements elected to comply: | none |
| 8. Environmental Standards:
(Utility Category) | ICAO Annex 16, Volume I, Chapter 10 |
| 9. (Reserved) Additional National Requirements: | none |
| 10. Operational Suitability Certification Basis: | MMEL: CS-GEN-MMEL, Initial Issue |

B.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: AM-2012-003
2. Description:

The XA41 is a single-seat unlimited aerobatic airplane of carbon fibre composite construction. It has a low-wing design and a conventional tail with a fixed tail wheel landing gear. The propulsion system consists of a six-cylinder, four stroke piston engine acting directly on a constant speed propeller.

The XA41 is designed as an aerobatic and touring aircraft for VFR-day operation.
3. Equipment: see AFM-XA41-0040-002-()
4. Dimensions:

Wing span:	7,50 m / 24,61 ft
Total length:	6,42 m / 21,06 ft
Maximum height:	2,54 m / 8,33 ft
Wing area:	11,25 m ² / 121,10 ft ²

5. Engine:

- 5.1.1 Model: Lycoming AEIO-580-B1A
- 5.1.2 Type Certificate: EASA.IM.E.027
- 5.1.3 Limitations: Take-off & continuous power: 235 kW / 315 HP
Max. rotational speed: Aerobatic: 2.700 rpm
Utility: 2.670 rpm

6. (reserved)

7. Propeller:

- 7.1.1 Model 1: MT Propeller MTV-9-B-C/C203-20d
- 7.1.2 Type Certificate: LBA 32.130/65
- 7.1.3 Number of blades: 3
- 7.1.4 Diameter: 2030 mm - 50 mm

- 7.2.1 Model 2: MT Propeller MTV-14-B-C/C190-130
- 7.2.2 Type Certificate: EASA.P.017
- 7.2.3 Number of blades: 4
- 7.2.4 Diameter: 1900 mm - 50 mm

8. Coolant: None

9. Fluid capacities:

- 9.1 Fuel: Total: 277 l
Usable: 266 l
Usable for aerobatics: 57 l

- 9.2 Oil: Maximum sump capacity: 15,15 l / 16 US qt
Minimum sump capacity: 8,52 l / 9 US qt
Oil Specifications see AFM

- 9.4 Coolant system capacity: Not applicable

- 9.4 Smoke Oil capacity: 28 l / 7.4 US gal.

Smoke oil type: Straight paraffin oil, viscosity 30-50 cts at 20°C (68°F),

initial boiling point > 330°C (626°F).
For example: Fauth FC05, Texaco Canopus 13 or equivalent.

10. Air Speeds (IAS):
- | | | |
|------------------------------------|-----------------|---------|
| Never exceed speed: | V _{NE} | 225 kts |
| Maximum structural cruising speed: | V _{NO} | 185 kts |
| Maneuvering speed: | V _A | 174 kts |
11. Maximum Operating Altitude:
- 4572 m / 15.000 ft
12. Allweather Operations Capability:
- VFR-day, Flights in known or expected icing conditions are prohibited.
13. Maximum Weights:
- | | | |
|-------------------------|-------------------|--|
| Maximum empty weight | | |
| • Utility: | 670 kg / 1477 lbs | |
| • Acro: | 670 kg / 1477 lbs | |
| Maximum take-off weight | | |
| • Utility: | 999 kg / 2200 lbs | |
| • Acro: | 850 kg / 1874 lbs | |
| Maximum landing weight | | |
| • Utility: | 999 kg / 2200 lbs | |
| • Acro: | 850 kg / 1874 lbs | |
14. Centre of Gravity Range:
- Forward: 550 mm behind datum (25 % MAC)
Rear: 700 mm behind datum (33 % MAC)
15. Datum:
- Forward face of firewall
16. Control surface deflections:
- | | |
|----------|--------|
| Aileron | ± 30 ° |
| Elevator | ± 27 ° |
| Trim tap | ± 3 ° |
| Rudder | ± 30 ° |
17. Levelling Means:
- Horizontal frame of cockpit canopy cut out
18. Minimum Flight Crew:
- 1 Pilot (rear seat)
19. Maximum Passenger Seating Capacity:
- n/a

20. Baggage/Cargo Compartments: Max. 10 kg behind pilot's seat
(no aerobatic manoeuvres allowed with baggage)
21. Wheels and Tyres: Main wheel: 5.00-5 10ply
Tail wheel: 105/45-65 solid rubber
22. (Reserved):

B.IV. Operating and Service Instructions

- 1a. Airplane Flight Manual: AFM-XA41-0040-002-(), EASA approved January 31, 2012 or later revisions approved by EASA.
- 1b. Flight Manual Supplement AFM-XA41-0040-002-S10.01 if equipped with Propeller No. 2 (refer to B.III.7.2.1).
2. Maintenance Manual (incl. Airworthiness Limitations): AMM-XA42-0040-001-B()
3. Operating and Installation Instructions for propeller/engine
4. Service Information and Service Bulletin

B.V. Operational Suitability Data

Master Minimum Equipment List (MMEL) XA42-MMEL-A.00, Initial issue, dated 1 December 2015, EASA approved 08 December 2015, or any later EASA approved issue.

B.VI. Notes:

- (1) Affected serial numbers: 05 and up
- (2) The composite structure is qualified up to 72 °C (161.6 °F).
- (3) The structure is designed for full and abrupt aileron control inputs up to V_{NE} .

ADMINISTRATIVE SECTION

I. Acronyms

AFM	Airplane Flight Manual
Amdt.	Amendment
AMM	Airplane Maintenance Manual
CRI	Certification Review Item
CS-23	Certification Specification for Small Aircraft (Part 23)
EASA	European Aviation Safety Agency
LBA	Luffahrt-Bundesamt
OSD	Operational Suitability Data
SC	Special Condition
TC	Type Certificate
TCDS	Type Certificate Data Sheet

II. Type Certificate Holder Record

III. Change Record

Issue	Date	Changes	TC Issue No. & Date
1	18 March 2011	-	01, 21 March 2011
2	01 February 2012	Certification Basis updated (CRI D-102), New model added	02, 01 February 2012
3	18 October 2012	Sections A.III.13, A.IV	-
4	04 January 2013	Sections A.III.7, A.IV, B.III.7, B.IV	-
5	27 February 2013	Sections A.III.5/B.III.5: TO & continuous power (kW) corrected	-
6	08 December 2015	S/N corrected in A.VI and B.VI; OSD data added	-