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
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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

   CRI B-102, Aerodynamic Stability  
   CRI D-102, Position and shape of engine controls

7. Requirements elected to comply: none

8. Environmental Standards: ICAO Annex 16, Volume I, Chapter 10  
   (Utility Category)

9. (Reserved) Additional National Requirements: none


A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: MDL-XA42-0240-001

2. Description: 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. The XA42 is designed as aerobatic and touring aircraft for VFR-day operation.

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 m² / 121,10 ft²
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: 15,151 / 16 US qt
      Minimum sump capacity: 8,521 / 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

<table>
<thead>
<tr>
<th>Category</th>
<th>MTOW</th>
<th>max. load factors</th>
<th>max. wing fuel</th>
<th>Maneuvers</th>
</tr>
</thead>
<tbody>
<tr>
<td>UTILITY</td>
<td>999 kg 2200 lbs.</td>
<td>+ 4.4 g -2.0 g</td>
<td>full</td>
<td>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°</td>
</tr>
<tr>
<td>ACRO II</td>
<td>999 kg 2200 lbs.</td>
<td>+8 g -8 g</td>
<td>2 x 20 L 2 x 5.3 gal.</td>
<td>unlimited, see AFM-XA42-0040-002-C() para. 2.9.2</td>
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<tr>
<td>ACRO III</td>
<td>850 kg 1874 lbs.</td>
<td>+10 g -10 g</td>
<td>empty</td>
<td></td>
</tr>
</tbody>
</table>

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°
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

1d. Flight Manual Supplement AFM-XA42-0040-002-S10.02 if equipped with Propeller No. 2 (refer to A.III.7.2.1).

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

   CRI B-102, Aerodynamic Stability
   CRI D-102, Position and shape of engine controls

7. Requirements elected to comply: none

8. Environmental Standards: ICAO Annex 16, Volume I, Chapter 10
   (Utility Category)

9. (Reserved) Additional National Requirements: none


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 m² / 121,10 ft²
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 \( \pm 30^\circ \)
- 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:

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

1b. Flight Manual Supplement AFM-XA41-0040-002-S10.01 if equipped with Propeller No. 2 (refer to B.III.7.2.1).
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  Luftfahrt-Bundesamt
OSD  Operational Suitability Data
SC   Special Condition
TC   Type Certificate
TCDS Type Certificate Data Sheet

II. Type Certificate Holder Record

III. Change Record

<table>
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<td>18 March 2011</td>
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<td>01, 21 March 2011</td>
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<td>2</td>
<td>01 February 2012</td>
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<td>Sections A.III.13, A.IV</td>
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<td>08 December 2015</td>
<td>S/N corrected in A.VI and B.VI; OSD data added</td>
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