TYPE-CERTIFICATE
DATA SHEET

NO. EASA.A.620

for
EXTRA NG

Type Certificate Holder
Extra Aerobatic Aircraft GmbH
Kirchstr. 158
46514 Schermbeck
Germany

For models: EXTRA NG
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SECTION A: EXTRA NG

A.I. General

1. Type/ Model/ Variant
   1.1 Type EXTRA NG
   1.2 Model EXTRA NG
   1.3 Commercial Designation EXTRA NG
   1.4 Variant -/-

2. Airworthiness Category CS-23, Normal, Aerobatic

3.a Type Certificate Holder Extra Aerobatic Aircraft GmbH
   Kirchstr. 158
   46514 Schermbeck
   Germany

3.b Manufacturer Extra Flugzeugproduktions- und Vertriebs GmbH
   Schwarze Heide 21
   46569 Hünxe
   Germany

4. EASA Type Certification Application Date 12 December 2014

5. State of Design Authority EASA

6. State of Design Authority Type Certificate Date N/A

7. EASA Type Certification Date 11 October 2019

A.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements 11 October 2016


3. Special Conditions SC-E23.0863-01 issue 2 - Smoke System (when equipped with option „Smoke System“ EASA approval no.10075041)

4. Exemptions None

5. (Reserved) Deviations None

   ELOS-D23-0785d-01, Double action seat belt system
   ELOS-CS23 777/781, Position and shape of Engine Controls

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition
EX-01102.01 EXTRA NG Type Specification (latest issue).

2. Description
Tandem two-seat, high-performance (unlimited) aerobatic airplane in carbon fibre composite construction, single reciprocating engine & tractor propeller, low wing cantilever monoplane with fixed main gear in tail-wheel configuration.

3. Equipment
EX-01102.03 EXTRA NG Equipment List

4. Dimensions
Span: 8.3 m / 27.23 ft
Length: 7.1 m / 23.33 ft
Height: 2.52 m / 8.27 ft
Wing area: 10.94 m² / 117.76 ft²

5. Engine
5.1. Model
Textron-Lycoming AEIO-580-B1A

5.2 Type Certificate
EASA IM.E.027

5.3 Limitations
Rated power at 2700 RPM: 235 kW/ 315 HP
Rated power at 2600 RPM: 228 kW/ 306 HP
Maximum RPM (Take-off and max. continuous):
With propeller model 1:
  Normal & Aerobatic Category: 2 600 RPM
  Aerobatic Category only: 2 700 RPM
With propeller model 2: 2 700 RPM
Maximum engine oil temperature: 118.3°C / 245°F

Oil Pressure ranges:
  Minimum at idle speed: 172 kPa / 25 psig
  Normal operating: 379 - 655 kPa / 55 - 95 psig
  During start and take-off: 793 kPa / 115 psig

Fuel Pressure ranges:
  Max. inlet to injector: 448.2 kPa / 65 psig
  Min. at inlet to injector: 200 kPa / 29 psig
  Min. at idle at inlet to injector: 87.2 kPa / 12 psig
  Max. cylinder head temp. (CHT): 240.6 °C / 465 °F

6. Load factors
Normal Category: +6 g / -3 g at MTOW 950 kg

Aerobatic Category:
  ACRO I (single seat ops): ±10 g at MTOW 820 kg
  ACRO II (double seat ops): ±8 g at MTOW 900 kg
  ACRO III (double seat ops): ±6 g at MTOW 950 kg
7. Propeller

7.1.1 Model 1
MT-Propeller MTV-9-B-C/198-25
7.1.2 Type Certificate
EASA.P.096
7.1.3 Number of blades
3
7.1.4 Diameter
1 980 mm / 77.95"
7.1.5 Sense of Rotation
Right-hand tractor (viewed in direction of flight)
7.2.1 Model 2
MT-Propeller MTV-14-B-C/190-130
7.2.2 Type Certificate
EASA.P.017
7.2.3 Number of blades
4
7.2.4 Diameter
1 900 mm / 74.80"
7.2.5 Sense of Rotation
Right-hand tractor (viewed in direction of flight)

8. Fluids

8.1 Fuel
See POH/AFM
8.2 Oil
See POH/AFM
8.3 Coolant
N/A
8.4 Smoke Oil
See POH/AFM

9. Fluid capacities

9.1 Fuel
Total capacity: 196 l / 51.8 US gal.
Usable capacity: 193 l / 51.0 US gal.
Usable capacity for aerobatics: 73 l / 19.3 US gal.
9.2 Oil
Minimum sump capacity: 8.5 l / 9 qts
Maximum sump capacity: 15.1 l / 16 qts
9.3 Coolant system capacity
N/A
9.4 Smoke Oil
Total capacity: 36.5 l / 9.6 US gal.

10. Air Speeds

V0 Operating Manoeuvring Speed:
Normal Category: 144 kIAS / 141 kCAS
Aerobatic Category: 161 kIAS / 158 kCAS

VNO Max. Structural Cruising Speed:
Normal Category: 144 kIAS / 141 kCAS
Aerobatic Category: 161 kIAS / 158 kCAS

VNE Never Exceed Speed:
221 kIAS / 220 kCAS

11. Flight Envelope
Max. operating altitude above MSL: 3 048 m / 10 000 ft

12. Approved Operations Capability
Day-VFR

13. Maximum Masses
Maximum take-off weight MTOW:
Normal & ACRO III Category: 950 kg / 2 095 lbs
ACRO II Category: 900 kg / 1 984 lbs
ACRO I Category: 820 kg / 1 808 lbs
Maximum landing weight MLW: 902 kg / 1 989 lbs

14. Centre of Gravity Range
Forward limit: 636 mm / 25.0" / 21.2% MAC
Rear limit: 805 mm / 31.7" / 33.2% MAC

15. Datum
Firewall
16. Control surface deflections

- Aileron: ± 30°
- Elevator: ± 25°
- Rudder: ± 30°
- Elevator trim tab: ± 35°

17. Levelling Means

Canopy frame

18. Minimum Flight Crew

1 Pilot (rear seat)

19. Maximum Passenger Seating Capacity

1 (front seat)

20. Baggage/Cargo Compartments

Max. mass in baggage compartment: 20 kg / 44 lbs
The baggage compartment must be empty for aerobatics. See POH/AFM for further information.

21. Wheels and Tyres

- Main Wheel Tyre Size: 5.00-5, min. 6-ply
- Tail Wheel Tyre Size: Solid rubber 125/50-75 ZL

22. (Reserved)
### A.IV. Operating and Service Instructions

<table>
<thead>
<tr>
<th>1. Flight Manual</th>
<th>Pilot’s Operating Handbook (POH) and Airplane Flight Manual (AFM) EX-01701.00 (and approved supplements)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Maintenance Manual</td>
<td>Airplane Maintenance Manual (AMM) EX-01702.00 (and approved supplements)</td>
</tr>
<tr>
<td>3. Structural Repair Manual</td>
<td>Section 51 of the AMM</td>
</tr>
<tr>
<td>4. Weight and Balance Manual</td>
<td>Section 6 of POH / AFM</td>
</tr>
<tr>
<td>5. Illustrated Parts Catalogue</td>
<td>N/A</td>
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</table>
A.V. Notes

1.) Lifetime limited to 1500 hours until the completion of the Fatigue testing.
2.) A standard Certificate of Airworthiness can only be issued for an aircraft which is equipped with:
   - The 4-blade propeller MTV-14-B-C/C190-130 in combination with the exhaust silencer system type Gomolzig EA300-606000.
   - The 3-blade propeller MTV-9-B-C/C198-25 in combination with the exhaust silencer system type Gomolzig EA300-606000 and reduced maximum take-off engine rotational speed of 2600 RPM.
   Otherwise a Certificate of Airworthiness can only be issued for aerial work.
3.) For more certified optional equipment refer to approved AFM/POH Supplements latest revision.
4.) Structure is qualified up to 72°C (161.6°F). Structure temperatures (composite) above 72°C (161.6°F) are not permitted. Not to exceed this temperature limit, colour specification for composite structure of the manufacturer (document EA-03205.19) has to be complied with.
SECTION ADMINISTRATIVE

I. Acronyms & Abbreviations

°C Degrees Celsius / Centigrade
°F Degrees Fahrenheit
AFM Airplane Flight Manual
Amdt. Amendment
AMM Airplane Maintenance Manual
CHT Cylinder Head Temperature
CRI Certification Review Item
CS Certification Specifications
EASA European Union Aviation Safety Agency
ESF Equivalent Safety Finding
ft Feet; 1 foot = 0.3048 m
ft² Square feet; 1 ft² = 0.093 m²
g Acceleration (9.81 m/s²)
HP Horsepower; 1 HP = 0.7355 kW
ICAO International Civil Aviation Organization
in. or ″ Inch; 1″ = 25.4 mm
kCAS Knots Calibrated Airspeed
kg Kilogrammes
kIAS Knots Indicated Airspeed
kPa Kilopascal; 1 kPa = 0.145 psig
kW Kilowatt; 1 kW = 1.3596 HP
l Liter
lb Pound; 1 Pound = 0.4536 kg
m Meter; 1 m = 3.2808 ft
m² Square meter; 1 m² = 10.764 ft²
MAC Mean Aerodynamic Chord
max. Maximum
min. Minimum
MLW Maximum Landing Weight
mm Millimeters
MSL Mean Sea Level
MTOW Maximum Take-Off Weight
N/A Not Applicable
POH Pilot's Operating Handbook
psig Pounds per square inch gauge; 1 psig = 6.895 kPa
qts quarts = ½ gallon = 0.95 litre
RPM  Revolutions per minute
US gal.  US Gallon (3.785 liters)
VFR  Visual flight rules
V_{NE}  Never exceed speed
V_{NO}  Maximum structural cruising speed
V_{O}  Maximum operating manoeuvring speed

II. Type Certificate Holder Record
EXTRA Aerobatic Aircraft GmbH
Kirchstr. 158
46514 Schermbeck

III. Change Record

<table>
<thead>
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<th>Issue</th>
<th>Date</th>
<th>Changes</th>
<th>TC Issue No. &amp; Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue 02</td>
<td>06 Jan. 2020</td>
<td>Manufacturer (see 3.b); editorial changes</td>
<td>Initial Issue, 11 Oct. 2019</td>
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