TYPE-CERTIFICATE

DATA SHEET

NO. EASA.IM.A.638

for
Cub Crafters Inc. CC19-180

Type Certificate Holder
Cub Crafters Inc.

1918 South 16th Ave.
Yakima, WA 98903
United States of America

For models: CC19-180

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SECTION A: MODEL A DESIGNATION

A.I. General

1. Type/ Model/ Variant	
1.1 Type:	CC19-180
1.2 Model:	CC19-180 (sales designation: XCub)
1.3 Variant:	N/A
2. Airworthiness Category	Normal, Utility
3. Manufacturer	Cub Crafters Inc. 1918 South 16th Ave. Yakima, WA 98903 USA
4. EASA Type Certification Application Date	27 June 2016 – EASA Form 30
5. State of Design Authority	Federal Aviation Authority (FAA) USA Seattle Aircraft Certification Office 1601 Lind Avenue SW Renton, WA 98055 USA

5.1 Certification Basis:

Part 23 of the Federal Aviation Regulations (FAR) effective December 18, 1964, as amended by 23-1 through 23-62. FAR 36 as amended on the date of certification.

6. State of Design Authority Type Certificate Date	02 June 2016
7. EASA Type Certification Date	18 December 2017

A.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	02 June 2016 (FAA Application Date)
Type Certificate Date	
2. Airworthiness Requirements	CS-23 Amendment 4
3. Special Conditions	None
4. Exemptions	
Not available under EASA regulation.	
5. (Reserved) Deviations	None
6. Equivalent Safety Findings	
CRI D-101 - CS 23.807 Emergency Exit.	
7. Environmental Protection	
ICAO Annex 16, Volume 1 as recorded in CRI N-01 Noise Database	

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition

The Cub Crafters CC19-180 is defined by Cub Crafters Document Master Document List XC10000MDL Rev. C or later approved revision.

2. Description

The Cub Crafters CC19-180 is a two seat, tail-wheel aircraft using tube-and-fabric construction with a gross weight of 1043 kg (2,300 lbs).

3. Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for airworthiness certification.

Additional Equipment Necessary for Type Certification: Reference the latest Approved Revision of "CC19-180 Pilots Operating Handbook and FAA Approved Flight Manual."

4. Dimensions

Span 10.5m (34.3 ft)

Length 7.3m (23.8 ft)

Height 2.6m (8.4 ft) Maximum Height (level attitude)

Wing Area 16.2 m² (174.8 ft²)

5. Engine

5.1. Model	Lycoming Engines, Division of AVCO Corporation
5.2 Type Certificate	E-286

5.3 Limitations

Maximum takeoff power: 180 horsepower at 2700 RPM

Maximum continuous power: 180 horsepower at 2700 RPM

See Engine Type Certificate Data Sheet E-286 for additional limitations.

6. Load factors

Normal Category

Maximum positive load factor 3.8G

Maximum negative load factor -1.52G

Utility Category

Maximum positive load factor 4.4G

Maximum negative load factor -1.76G

Flaps down:

Normal and Utility Category

Maximum positive load factor 2.0G

Maximum negative load factor No inverted manoeuvres approved

7. Propeller

7.1 Model	Hartzell Propeller, Inc. HC-C2YR-1N/NG8301-5
7.2 Type Certificate	P-920

7.3 Number of blades	Two (2)
7.4 Diameter	198 cm (78in). No diameter reduction allowed High Pitch angle: 29.0º-30.0º Low Pitch Angle: 9.7º-10.0º
7.5 Sense of Rotation	Clockwise (Pilot Perspective)

8. Fluids

8.1 Fuel	100 (green) or 100LL (blue) grade aviation fuel.
8.2 Oil	Lycoming Service Instruction 1014
8.3 Coolant	N/A

9. Fluid capacities

9.1 Fuel

One 92.7 liters (24.5 gallon U.S) tank in each wing at 2.1m (84.5 inches) aft of datum; 87 liters (23 gallons U.S) usable in each wing, 5.7 liters (1.5 gallons U.S) unusable in each wing; 185.5 liters (49 gallons U.S.) total; 174.1 liters (46 gallons U.S.) usable; 11.4 liters (3 gallons U.S.) unusable.

Note: add weight of unusable fuel to the certificated weight.

9.2 Oil

7.6 liters (8 quarts) total at 47cm (18.4 inches) aft of datum.

See Lycoming Service Instruction 1014 for approved oil.

9.3 Coolant system capacity	N/A

10. Air Speeds

V_O at 1043 kg (2300 lbs)	86 KCAS
V_O at 898 kg (1980 lbs)	79 KCAS
V_{FE} (46º Flaps)	73 KCAS
V_{NO}	117 KCAS
V_{NE}	142 KCAS

11. Flight Envelope

The flight envelope is defined in the applicable approved Aircraft Flight Manual (XC10000AFM); the flight envelope is listed in section 6.

Maximum Operating Altitude	4267 m (14,000 ft)

12. Approved Operations Capability

Operational Limitations: Day-Night, Visual Flight Rules (VFR)

Airframe Life Limits: See the latest approved revision of the CC19-180 "Airplane Maintenance Manual." XC10000AMM

13. Maximum Masses

Normal Category

Maximum Ramp:	1043 kg (2,300 lbs).
Maximum Takeoff:	1043 kg (2,300 lbs).
Maximum Landing:	1043 kg (2,300 lbs).

Utility Category

Maximum Ramp:	898 kg (1,980 lbs).

Maximum Takeoff:	898 kg (1,980 lbs).
Maximum Landing:	898 kg (1,980 lbs).

14. Centre of Gravity Range - *Straight line variation between points.*

Normal Category

Aft Limits:	202 cm (79.5in) aft of datum: 726 kg (1,600 lbs) to 1043 kg (2,300 lbs.) 199 cm (78.5in) aft of datum: 570 kg (1,300 lbs.)
Forward Limits:	183 cm (72.0in) aft of datum: 590 kg (1,300 lbs) to 762 kg (1,680 lbs.) 201 cm (79.1in) aft of datum: 1043 kg (2,300 lbs.)

Utility Category

Aft Limits:	198 cm (78.0in) aft of datum: 590 kg (1,300 lbs) to 898 kg (1,980 lbs.)
Forward Limits:	183 cm (72.0in) aft of datum: 590 kg (1,300 lbs) to 762 kg (1,680 lbs.) 192 cm (75.4in) aft of datum: 898 kg (1,980 lbs.)

15. Datum

152.4cm (60 inches) forward of the wing leading edge.

16. Control surface deflections

Wing flaps:	0º, 16º, 33º, 46º ± 1.0º
Ailerons:	Up: 20º ± 1.5º Down 14º ± 1.5º
Elevator:	Up 25º ± 1.5º Down 15º ± 1.5º
Stabilizer:	Up 4.9º +0.1º/-0.0º Down 2.5º +0.0º/-0.1º
Rudder:	Left 22.5º +0/-0.75º Right 25º +0/-0.75º

See the latest approved revision of the CC19-180 "Airplane Maintenance Manual", or other approved data, for control system rigging instructions and setting flaps up (0º) configuration.

17. Levelling Means	See latest approved revision of the CC19-180 "Pilot's Operating Handbook and FAA Approved Flight Manual."
18. Minimum Flight Crew	One (1) Pilot
19. Maximum Passenger Seating Capacity	
Two (2) seats total	Pilot located at 184 cm (72.2 in) aft of datum Passenger located at 248 cm (97.5in) aft of datum

20. Baggage/ Cargo Compartments

The baggage area is divided into two areas. The forward cargo area has a capacity of 82 kg (180 lbs) and the aft area has a capacity of 23 kg (50 lbs). As defined in the latest approved revision of the CC19-180 "Pilot's Operating Handbook and FAA Approved Flight Manual".

21. Wheels and Tyres	The main wheels carry 6:00 x 6 tires as standard equipment. 8:50 x 6 tires and 26 x 10.5-6 tires are offered as optional equipment.

22. (Reserved)

A.IV. Operating and Service Instructions

1. Flight Manual (AFM)	Aircraft Flight Manual XC10000AFM initial release dated 2nd June 2016 or later approved revision
2. Maintenance Manual (AMM)	Aircraft Maintenance Manual XC10000AMM initial release dated 18th July 2016 or later approved revision
3. Structural Repair Manual	N/A
4. Weight and Balance Manual	Aircraft Flight Manual XC10000AFM initial release dated 2nd June 2016 or later approved revision
5. Illustrated Parts Catalogue	N/A

A.V. Notes

SECTION ADMINISTRATIVE

I. Acronyms & Abbreviations

AFM	Airplane Flight Manual
Amdt.	Amendment
AMM	Airplane Maintenance Manual
CS	Certification Specifications
EASA	European Aviation Safety Agency
ft	feet
IAS	Indicated Airspeed
ICAO	International Civil Aviation Organization
kg	kilograms
km/h	kilometres per hour
KCAS	Calibrated Air Speed (knots)
KIAS	Indicated Air Speed (knots)
POH	Pilot Operating Handbook
TCDS	Type Certificate Data Sheet
TCDSN	Type Certificate Data Sheet Noise

II. Type Certificate Holder Record

Cub Crafters, Inc.
1918 South 16th Ave.
Yakima, WA 98903
USA

III. Change Record

Issue	Date	Changes	TC Issue No. & Date
Issue 01	18 Dec 2017	Initial Issue	Initial Issue, 18 Dec 2017
Issue 02	16 Feb 2018	Correction of Type name and Airworthiness Category in section A.I.	Initial Issue, 18 Dec 2017

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