
Type Acceptance Report

TAR 11/21B/6

CUB CRAFTERS CC18-180

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Executive Summary

New Zealand Type Acceptance has been granted to the Cub Crafters Model CC18-180 based on validation of FAA Type Certificate number A00006SE. There are no special requirements for import.

Applicability is currently limited to the Models and/or serial numbers detailed in Appendix 1, which are now eligible for the issue of an Airworthiness Certificate in the Standard Category in accordance with NZCAR §21.191, subject to any outstanding New Zealand operational requirements being met. (See Section 5 of this report for a review of compliance of the basic type design with the operating Rules.) Additional variants or serial numbers approved under the foreign type certificate can become type accepted after supply of the applicable documentation, in accordance with the provisions of NZCAR §21.43(c).

1. Introduction

This report details the basis on which Type Acceptance Certificate No.11/21B/6 was granted in the Standard Category in accordance with NZCAR Part 21 Subpart B.

Specifically the report aims to:

- (a) Specify the foreign type certificate and associated airworthiness design standard used for type acceptance of the model(s) in New Zealand; and
- (b) Identify any special conditions for import applicable to any model(s) covered by the Type Acceptance Certificate; and
- (c) Identify any additional requirements which must be complied with prior to the issue of a NZ Airworthiness Certificate or for any subsequent operations.

2. ICAO Type Certificate Details

Manufacturer:	Cub Crafters, Inc. (FAA Production Certificate No. 722NM)
Type Certificate: Issued by:	A00006SE Federal Aviation Administration
Model:	CC18-180
MCTOW	2300 lb. [1043 kg.]
Max. No. of Seats:	2
Noise Standard:	FAR Part 36
Engine:	Lycoming O-360-C4P or -C1G Type Certificate: E-286 Issued by: Federal Aviation Administration

Propeller: Sensenich 76EM8
Type Certificate: P4EA
Issued by: Federal Aviation Administration

Sensenich W80CM8
Type Certificate: P27NE
Issued by: Federal Aviation Administration

McCauley 1A200/FA
Type Certificate: P-874
Issued by: Federal Aviation Administration

3. Type Acceptance Details

The application for New Zealand type acceptance was from the manufacturer, dated 30 August 2010. There is no known importer at this time. The CC18-180 is a tandem two-seat high-wing tailwheel light aircraft of traditional steel tube and fabric construction.

Type Acceptance Certificate No. 11/21B/6 was granted on 18 November 2010 to the Cub Crafters Model CC18-180 based on validation of FAA Type Certificate A00006SE. Specific applicability is limited to the coverage provided by the operating documentation supplied. There are no special requirements for import into New Zealand.

Cub-Crafters started out as rebuilders and modifiers of the Piper PA-18 Super Cub aircraft. The company eventually developed a complete aircraft that was entirely of their own manufacture, which was virtually identical but utilised more modern materials. This was type certificated in 2004 as the CC18-180 “Top Cub”. (LSA and amateur-built versions are also available.) A single serial number CC18-180A model on the type certificate was the first example, and differs by having smaller fuel tanks and is not eligible for floats.

4. NZCAR §21.43 Data Requirements

The type data requirements of NZCAR Part 21B Para §21.43 have been satisfied by supply of the following documents, or were already held by the CAA:

(1) ICAO Type certificate:

FAA Type Certificate Number A00006SE

FAA Type Certificate Data Sheet number A00006SE at Rev. 3 dated May 7, 2008
– Model CC18-180 approved December 16, 2004

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the CC18-180 is FAR Part 23, as amended by Revisions 23-1 through 23-55. One equivalent level of finding was made, which has been reviewed and accepted by the CAA. This is an acceptable certification basis in accordance with NZCAR Part 21B Para §21.41 and Advisory Circular 21-1A, as FAR 23 is the basic standard for Normal Category Airplanes called up under Part 21 Appendix C. There are no non-compliances and no additional special conditions have been prescribed by the Director under §21.23.

(ii) *Special Conditions:*

Nil

(iii) *Equivalent Level of Safety Findings:*

ACE-02-11 – ELOS to FAR 23.807 Emergency Exit Requirements

The emergency exit on the CC18-180 is a push-out window on the LHS. This is slightly under the required elliptical dimensions, but was accepted because the extra corner size and shape means it has 20% larger area, it can be used in any aircraft attitude, and there is one exit for only two occupants.

(iv) *Airworthiness Limitations:*

See CC18-180 AMM Chapter 04-00 – Airworthiness Limitations

(3) Aircraft Noise and Engine Emission Standards:

(i) *Environmental Standard:*

The Model CC18-180 has been certificated under FAR Part 36, including Amendments 36-1 through 36-24.

(ii) *Compliance Listing:*

Aero Acoustics Inc. Report AA1787 – FAR 36 Appendix G Noise Certification of the Cub Crafters Inc., CC18-180 – Measured FAR/ICAO Noise Levels at 2300 lb: 82.8 dB(A) [with McCauley propeller]; 77.1 dB(A) [with Sensenich propeller]

(4) Certification Compliance Listing:

Report CR2001-001 – Cub Crafters CC18-180 Type Certification Program
Compliance Checklist – Project TC 7142 SE-A

(5) Flight Manual: CC18-180 Pilot's Operating Handbook and FAA Approved Airplane
Flight Manual – Report TC10000AFM – CAA Accepted as AIR 3154

(6) Operating Data for Aircraft:

(i) *Maintenance Manual:*

CC18-180 Aircraft Maintenance Manual – Manual Number TC10000AMM

(ii) *Current service Information:*

Service Bulletins

(iii) *Illustrated Parts Catalogue:*

Not separately produced.

(7) Agreement from manufacturer to supply updates of data in (5), and (6):

CAA 2171 from Cub Crafters Inc. Director of Engineering dated 30-8-10

(8) Other information:

Report CR-1104-301 Dynamic Tests of Front Seat

Report CR-1104-301 Addendum A – Analysis of Modified Front Seat Back

Report CR-1104-302 Dynamic Analysis of Rear Seat

5. Additional New Zealand Requirements

Compliance with the retrospective airworthiness requirements of NZCAR Part 26 has been assessed as they are a prerequisite for the grant of an airworthiness certificate.

CAR Part 26 – Subpart B – Additional Airworthiness Requirements

Appendix B – All Aircraft

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
B.1	Marking of Doors and Emergency Exits	<i>To be determined on an individual aircraft basis</i>
B.2	Crew Protection Requirements – CAM 8 Appdx. B # .35	Not Applicable – Agricultural Aircraft only

Compliance with the following additional NZ operating requirements has been reviewed and were found to be covered by either the original certification requirements or the basic build standard of the aircraft, except as noted:

CAR Part 91 – Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
91.505	Seating and Restraints – Safety belt/Shoulder Harness	FAR §23.562
91.507	Pax Information Signs – Smoking, safety belts fastened	Not Applicable – Less than 10 passenger seats
91.509 Min. VFR	(1) ASI (2) Machmeter (3) Altimeter (4) Magnetic Compass (5) Fuel Contents (6) Engine RPM (7) Oil Pressure	FAR §23.1303(a) N/A – <i>No Mach-No. limitations</i> FAR §23.1303(b) FAR §23.1303(c) FAR §23.1305(a) FAR §23.1305(b)(2) FAR §23.1305(a)(2)
91.511	Night VFR Instruments and Equipment	Not Applicable – Approved for Day VFR only
91.513	VFR Communication Equipment	Operational requirement – Compliance as applicable
91.517	IFR Instruments and Equipment	Not Applicable – Approved for Day VFR only
91.519	IFR Communication and Navigation Equipment	Not Applicable – Approved for Day VFR only
91.523	Emergency Equipment (a) > 10 pax – First Aid Kits/ Table 7; Fire Ext./ Table 8 (b) More than 20 pax – Axe readily available to crew (c) More than 61 pax – Portable Megaphones per Table 9	Not Applicable – Less than 10 passenger seats Not Applicable – Less than 20 passenger seats Not Applicable – Less than 61 passenger seats
91.529	ELT - TSO C126 406 MHz after 22/11/2007	Artex ME406 ELT available as factory option
91.531	Oxygen Indicators - Volume/Pressure/Delivery	Not fitted as standard.
91.533	Oxygen Equipment for Non-Pressurised Aircraft	Operational requirement – Compliance as applicable
91.541	SSR Transponder and Altitude Reporting Equipment	Operational requirement – Compliance as applicable
91.543	Altitude Alerting Device - Turbojet or Turbofan	Not Applicable – Approved for Day VFR only
91.545	Assigned Altitude Indicator	Not Applicable – Approved for Day VFR only
A.15	ELT Installation Requirements	<i>To be determined on an individual aircraft basis</i>

Attachments

The following documents form attachments to this report:

Cub Crafters Drawing TC10001 CC18 Aircraft Geometry
Copy of FAA Type Certificate Data Sheet Number A0000SE

Sign off

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David Gill
Team Leader Airworthiness

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Checked – David Selby
Airworthiness Engineer

Appendix 1

List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
CC18-180	Cub Crafters, Inc.	11/21B/6	18 November 2010