Type Acceptance Report

TAR 18/21B/18

CESSNA T303

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Executive Summary

New Zealand Type Acceptance has been granted to the Cessna Model T303 based on validation of FAA Type Certificate number A34CE. There are no special requirements for import.

All serial numbers listed under the FAA type certificate have been type accepted in New Zealand, which are now eligible for the issue of an Airworthiness Certificate in the Standard Category in accordance with NZCAR §21.177, 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.)

NOTE: The information in this report was correct as at the date of issue. The report is generally only updated when an application is received to revise the Type Acceptance Certificate. For details on the current type certificate holder and any specific technical data, refer to the latest revision of the State-of-Design Type Certificate Data Sheet referenced herein.

1. Introduction

This report details the basis on which Type Acceptance Certificate No. 18/21B/18 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.

The report covers all models included on the State-of-Design type certificate which have been granted type acceptance in New Zealand. Appendix 1 details which models have been type accepted in accordance with the provisions of CAR Part 21B and which were certificated prior to that under NZCAR Section B.9 and are now type accepted under the transitional arrangements of Part 21 Appendix A(c).

2. Aircraft Certification Details

(a) State-of-Design Type and Production Certificates:

Manufacturer:	Cessna Aircraft Company
Type Certificate Holder:	Textron Aviation Inc. (since July 29, 2015)
Type Certificate:	A34CE
Issued by:	Federal Aviation Administration
Production Approval:	Delegation Option Manufacturer No. CE-1 FAA Production Certificate 4

(b) Models Covered by the Part 21B Type Acceptance Certificate:

(i) **Model:** T303

MCTOW:	5150 lb. [2336 kg]
Max. No. of Seats:	6
Noise Standard:	FAR Part 36
Engine:	Continental TSIO-520-AE and LTSIO-520-AE
	Type Certificate: E8CE Issued by: Federal Aviation Administration
Propeller:	McCauley 3AF32C506 or 507/82NEB-8
	Type Certificate: P22EA Issued by: Federal Aviation Administration

3. Application Details and Background Information

The application for New Zealand type acceptance of the Cessna T303 model years not covered by the existing type acceptance was from the type certificate holder by email. The T303 is an all-metal low-wing six-seat light retractable twin with two flat six turbocharged air cooled engines.

Type Acceptance Certificate Number 18/21B/18 was granted on x April 2018 to the Cessna Model T303 based on validation of FAA Type Certificate A34CE. There are no special requirements for import into New Zealand.

The original Model 303 was designed as a light multi-engined trainer originally with 160 hp engines. It was developed into the larger and heavier T303 Crusader. The T303 incorporated a number of advanced features, being the first entirely new piston twin from Cessna in over a decade. These included bonded structures around the integral fuel tank, a supercritical wing section and counter rotating propellers, while standard equipment included integral airstairs and a full IFR avionics suite.

The first, and so far, only, example of the Cessna T303 Crusader on the New Zealand Civil Aircraft Register is serial number T30300110 registered ZK-EXA.

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) State-of-Design Type certificate:

FAA Type Certificate Number A34CE

FAA Type Certificate Data Sheet no. A34CE at Revision 7 dated July 29, 2015 – Model T303 approved August 24, 1981

(2) Airworthiness design requirements:

(i) Airworthiness Design Standards:
The certification basis of the Cessna T303 is FAR Part 23 effective February 1, 1965, including Amendments 23-1 through 23-21, plus FAR 23 paragraphs §23.1545 and §23.1416 at Amendment 23-23.

This is an acceptable certification basis in accordance with NZCAR Part 21B Para §21.41, because FAR Part 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:
Nil

(iv) Airworthiness Limitations:
See the aircraft Maintenance Manual.

(3) Aircraft Noise and Engine Emission Standards:

(i) Environmental Standard:
The Model T303 has been certificated for noise under FAR Part 36, including Amendments 36-1 through 36-11.

(ii) Compliance Listing:
See Advisory Circular 36-1H Appendix 7 and Flight Manuals (Section 4).

Model:	MTOW:	Engine:	Propeller:	RPM:	Noise Levels	
					MdbA	CdbA
T303	5150	TSIO-520-AE	3AF32C506	2400	76.5	74.3

(4) Certification Compliance Listing:

Cessna Report DM-T303-0: Original Certification of the Model T303, plus:
-Addendum 3: Certification of the 1983 Model Changes
-Addendum 7: Approval of the 1984 Model Changes
S-T303-33: Substantiation, Critical Loads and Structural Materials Summary

(5) Flight Manual:

CAA AIR Number:	***Cessna Publication:***	***Title:***
AIR 2184	D1596-13	Model T303 (1982) Pilot's Operating Handbook
AIR 3703	D1602-13	Model T303 (1983) Pilot's Operating Handbook
AIR 3704	D1607-13	Model T303 (1984) Pilot's Operating Handbook

(6) Operating Data for Aircraft, Engine and Propeller:

(i) Maintenance Manual:
Cessna T303 (1982-84) Service Manual – Publication D2532-13

(ii) Current service Information:
Service Bulletins

(iii) Illustrated Parts Catalogue:
Cessna T303 (1982-1984) Parts Catalog – Publication P689-12

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

Textron Aviation Publications are now available through the Textron Aviation Technical Publications website at https://ww2.txtav.com

(8) Other Information:

M-303-106: T303 Electrical Load Analysis

5. New Zealand Operational Rule Compliance

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.

Civil Aviation Rule Part 26

Subpart B – Additional Airworthiness Requirements

Appendix B – All Aircraft

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
B.1	Marking of Doors and Emergency Exits	***To be determined on an individual aircraft basis***
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:

Civil Aviation Rule Part 91

Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:		MEANS OF COMPLIANCE:	
91.505	Seating and Restraints – Safety belt/Shoulder Harness		FAR §23.785	
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 – No Mach limitations FAR §23.1303(b) FAR §23.1303(c) FAR §23.1305(a) FAR §23.1305(d) FAR §23.1305(b)	(8) Coolant Temp (9) Oil Temperature (10) Manifold Pressure (11) Cylinder Head Temp. (12) Flap Position (13) U/c Position (14) Ammeter/Voltmeter	N/A – Air cooled engine fitted FAR §23.1305(c) FAR §23.1305(h) FAR §23.1305(f) N/A – Fixed Undercarriage FAR §23.1351
91.511	Night VFR Instruments and Equipment		***Operational requirement – Compliance as applicable***	
91.513	VFR Communication Equipment		***Operational requirement – Compliance as applicable***	
91.517	IFR Instruments and Equipment		***Operational requirement – Compliance as applicable***	
91.519	IFR Communication and Navigation Equipment		***Operational requirement – Compliance as applicable***	
91.523	Emergency Equipment: (a) More Than 9 pax – First Aid Kits per Table 7 – Fire Extinguishers per Table 8 (b) More than 20 pax – Axe readily accessible to crew (c) More than 61 pax – Portable Megaphones per Table 9		 ***Operational Requirement – Compliance as applicable*** ***Operational Requirement – Compliance as applicable*** 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		***Operational requirement – Compliance as applicable***	
91.531	Oxygen Indicators – Volume/Pressure/Delivery		***Operational requirement – Compliance as applicable***	
91.533	Oxygen for non-Pressurised Aircraft		Not fitted as standard	
91.541	SSR Transponder and Altitude Reporting Equipment		***Operational requirement – Compliance as applicable***	
91.543	Altitude Alerting Device – Turbojet or Turbofan		Not Applicable – Not turbo jet or turbofan powered	
91.545	Assigned Altitude Indicator		***Operational requirement – Compliance as applicable***	
A.15	ELT Installation Requirements		***To be determined on an individual aircraft basis***	

Civil Aviation Rule Part 135

Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:		MEANS OF COMPLIANCE:
135.355	Seating / Restraints – Shoulder harness flight-crew seats		FAR §23.785
135.357	Additional Instruments (Powerplant and Propeller)		FAR §23.1305
135.359	Night Flight	Landing light, Pax compartment	***Operational requirement – Compliance as applicable***
135.361	IFR Operations	Speed, Alt, spare bulbs/fuses	***Operational requirement – Compliance as applicable***
135.363	Emergency Equipment (Part 91.523 (a) and (b))		***Operational requirement – Compliance as applicable***
135.367	Cockpit Voice Recorder		N/A – Only for 2-crew helicopters with more than 10 pax
135.369	Flight Data Recorder		Not Applicable – Less than 10 passenger seats
135.371	Additional Attitude Indicator		Not Applicable – Not turbo jet or turbofan powered

NOTES: 1. A Design Rule reference in the Means of Compliance column indicates the Design Rule was directly equivalent to the CAR requirement, and compliance is achieved for the basic aircraft type design by certification against the original Design Rule.

2. The CAR Compliance Tables above were correct at the time of issue of the Type Acceptance Report. The Rules may have changed since then and compliance should be checked individually.

3. Some means of compliance above are specific to a particular model/configuration. Compliance with Part 91/119 operating requirements should be checked in each case, particularly oxygen system capacity and emergency equipment.

Attachments

The following documents form attachments to this report:

Three-view drawing Cessna Model T303 Crusader
Copy of FAA Type Certificate Data Sheet Number A34CE

Sign off

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David Gill	Checked – Gaetano Settineri
Team Leader Airworthiness	Airworthiness Engineer

Appendix 1

List of Type Accepted Variants:

Model:	*Applicant:*	*CAA Work Request:*	*Date Granted:*
T303 (1982)	AC 21-1.2/NZCAR Part 21 Appendix A(c)		
T303 (1983-1984)	Textron Aviation Inc.	18/21B/18	22 May 2018