
Type Acceptance Report

TAR 16/21B/22

BELLANCA VIKING 300

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Executive Summary

New Zealand Type Acceptance has been granted to the Bellanca Model 17-30A based on validation of FAA Type Certificate number A18CE. 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).

NOTE: The information in this report is correct as at the date of issue. The report is 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 State-of-Design Type Certificate Data Sheet.

1. Introduction

This report details the basis on which Type Acceptance Certificate No. 16/21B/21 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. State-of-Design Type Certificate Details

Manufacturer:	Bellanca Aircraft Corporation
TC Holder:	Alexandria Aircraft L.L.C. (since May 30, 2002)
Type Certificate:	A18CE
Issued by:	Federal Aviation Administration
Model:	17-30A
MCTOW	3325 lb. [1508 kg] – See Note 4 on the TCDS 3200 lb. [1451 kg]
Max. No. of Seats:	4

Noise Standard: FAR Part 36

Engine: Continental IO-520-K
Type Certificate: E5CE
Issued by: Federal Aviation Administration

Propeller: McCauley D3A32C90 / 82NC-4
Type Certificate: P21EA
Issued by: Federal Aviation Administration

McCauley D3A34C401 / 90DFA-12
Type Certificate: P47GL
Issued by: Federal Aviation Administration

McCauley D2A34C58 / 90AT-10
Type Certificate: P3EA
Issued by: Federal Aviation Administration

Hartzell HC-C3YF-1 / 8468-8R or HC-C3YF-1RF / F8468A-8R
Type Certificate: P25EA
Issued by: Federal Aviation Administration

Hartzell HC-C2YF-1B / 8475-6 or HC-C2YF-1BF / F8475-6
Type Certificate: P-920
Issued by: Federal Aviation Administration

Engine: Continental IO-550-F
Type Certificate: E3SO
Issued by: Federal Aviation Administration

Propeller: McCauley D3A34C401 / 90DFA-10
Type Certificate: P47GL
Issued by: Federal Aviation Administration

3. Type Acceptance Details

The application for New Zealand type acceptance of the Model 17-30A was from the importer, dated 11 February 2016. The first-of-type example was serial number 79-30944, to be registered ZK-VIX. The Bellanca Viking 300 is a four-seat low-wing single-engined retractable light aircraft with tubular steel and fabric-covered fuselage and wooden wings.

Type Acceptance Certificate No. 16/21B/21 was granted on 12 April 2016 to the Bellanca Model 17-30A based on validation of FAA Type Certificate A18CE. Specific applicability is limited to the coverage provided by the operating documentation supplied. There are no special requirements for import into New Zealand.

The "A" series Super Vikings were similar to the previous 17-30/31 Series, but had a gross weight increase and numerous other refinements which resulted in certification to FAR Part 23 under a new type certificate. Additional features added were electro-hydraulic gear extension, electric flaps and a reorganization of the instrument panel, which included traditional gear and flap levers now mounted on the panel. Flight instruments were rearranged in the panel and the throttle, prop and mixture controls were raised a few inches higher in the panel, providing additional "knee-room".

Note: The model designations of most Bellancas tend to follow a series of numbers that indicate the wing area in square feet, and the engine size (in horsepower).

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 A18CE

FAA Type Certificate Data Sheet no. A18CE at Revision 11 dated May 30, 2002
– Model 17-30A approved December 12, 1969

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the Bellanca Models 17-30A/31A/31ATC 300 is FAR Part 23, including Amendments 23-1 through 23-6. This is an acceptable certification basis in accordance with NZCAR Part 21B Para §21.41, 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:*

Nil

(iv) *Airworthiness Limitations:*

Nil

(3) Aircraft Noise and Engine Emission Standards:

(i) *Environmental Standard:*

The Model 17-30A has been certificated for noise under FAR Part 36 Appendix F, including Amendments 36-1 through 36-9.

(ii) *Compliance Listing:*

Bellanca B.E.R. No. 937 – Flyover Noise Certification
Model 17-30A Flyover Noise Level = 77.5 dBA

(4) Certification Compliance Listing:

Bellanca Engineering Report 833 – Means of Compliance with FAR 23 for the Bellanca Models 17-30A, 17-31A and 17-31ATC – dated 6-10-69

(5) Flight Manual: FAA-Approved Airplane Flight Manual for the Viking Model 17-30A (Beginning with Serial No. 79-30906) – CAA Accepted as AIR 3353

FAA-Approved Airplane Flight Manual for the Viking Model 17-30A with IO-550-F Engine (Beginning with Serial No. 96-301023) – CAA Accepted as AIR 3354

(6) Operating Data for Aircraft:

(i) *Maintenance Manual:*

Bellanca Viking Service Manual (Models 17-30A, 17-31A and 17-31ATC)

(ii) *Current service Information:*

Service Letters 39 through B-107

(iii) *Illustrated Parts Catalogue:*

Bellanca Viking 300 IPC (Models 17-30A, 17-31A and 17-31ATC)

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

See email from Alexandria Aircraft LLC Parts Manager dated 24 March 2016

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.

Civil Aviation Rules 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:

Civil Aviation Rules Part 91

Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
91.505	Seating and Restraints – Safety belt/Shoulder Harness	FAR Part 23 paragraph §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) Not Required FAR §23.1303(b) FAR §23.1303(c) FAR §23.1305(a) FAR §23.1305(d)(e) 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 FAR §23.1305(c) FAR §23.1305(h) FAR §23.1305(f) FAR §23.699(a)(2) FAR §23.729(e) FAR §23.1351(d)
91.511	Night VFR Instruments and Equipment	<i>Operational requirement – Compliance as applicable</i>
91.513	VFR Communication Equipment	<i>Operational requirement – Compliance as applicable</i>
91.517	IFR Instruments and Equipment	<i>Operational requirement – Compliance as applicable</i>
91.519	IFR Communication and Navigation Equipment	<i>Operational requirement – Compliance as applicable</i>
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	<i>To be determined on an individual aircraft basis if used on Air Transport operations</i> 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	<i>Operational requirement – Compliance as applicable</i>
91.531	Oxygen Indicators – Volume/Pressure/Delivery	<i>Operational requirement – Compliance as applicable</i>
91.533	Oxygen for non-Pressurised Aircraft:	<i>Operational requirement – Compliance as applicable</i>
91.541	SSR Transponder and Altitude Reporting Equipment	<i>Operational requirement – Compliance as applicable</i>
91.543	Altitude Alerting Device – Turbojet or Turbofan	Not Applicable – Piston-engine powered
91.545	Assigned Altitude Indicator	<i>Operational requirement – Compliance as applicable</i>
A.15	ELT Installation Requirements	<i>To be determined on an individual aircraft basis</i>

NOTES: 1. A Design Rule reference in the Means of Compliance column indicates the Design Rule was exactly 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 that date and 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 Bellanca Model 17-30A Viking 300
- Copy of FAA Type Certificate Data Sheet Number A18CE

Sign off

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David Gill
Team Leader Airworthiness

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Checked – Jason Ashworth
Airworthiness Engineer

Appendix 1

List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
17-30A *	G R Richards	16/21B/22	12 April 2016

* Applicability determined by Flight Manual coverage