
Type Acceptance Report

TAR 9/21B/6

DEAN-WILSON DW200

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Executive Summary

New Zealand Type Acceptance has been granted to the DW200 Series based on validation of CASA Type Certificate number VA516. 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 §21.177, 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.) 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.9/21B/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:	Dean-Wilson Aviation Limited
Type Certificate:	VA516
Issued by:	Civil Aviation Safety Authority
Model(s):	DW200
MCTOW	825 kg [1819 lb]
Max. No. of Seats:	2
Noise Standard:	ICAO Annex 16, Volume 1, Chapter 10
Engine:	Lycoming O-235-N2C
	Type Certificate: E-223
	Issued by: Federal Aviation Administration
Propeller:	McCauley 1A135/JCM7147
	Type Certificate: P-847
	Issued by: Federal Aviation Administration

3. Type Acceptance Details

The application for New Zealand type acceptance of the Model DW200 was from the manufacturer, dated 7 October 2008. The first-of-type example is expected to be serial number B004, VH-DXW. The DW200 is a two-seat low-wing all-metal training aircraft.

Type Acceptance Certificate Number 9/21B/6 was granted on 24 October 2008 to the Dean-Wilson Aviation Model DW200 based on validation of CASA Type Certificate number VA516. Specific applicability is limited to the coverage provided by the operating documentation supplied. There are no special requirements for import into New Zealand.

The DW200, also known as the Whitney Boomerang, is an all-new light training aircraft. A distinctive feature of the fuselage is a 4130 tubular steel frame cockpit cage tested to withstand 12g forward loads, that also provides roll-over and side intrusion protection.

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:

Australian Government – CASA Type Certificate Number VA516

CASA Type Certificate Data Sheet no. VA516 at Original Issue dated 18 Dec 2007
– Model DW200 approved 18 December 2007

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the DW200 is FAR Part 23 Amendment 55. 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:*

Nil

(iv) *Airworthiness Limitations:*

See Maintenance Manual Chapter Four

(3) Aircraft Noise and Engine Emission Standards:

(i) *Environmental Standard:*

ICAO Annex 16, Volume 1, Chapter 10

(ii) *Compliance Listing:*

Aircraft Noise Certificate no. NC2008/01 – Demonstrated Noise Level 75.4 dB(A)

(4) Certification Compliance Listing:

Dean Wilson Model R “Boomerang” Aeroplane Compliance Checklist – FAR 23 Subparts A through G – dated 30 May 2008

Report WR-251 Whitney Boomerang – Dynamic Seat/Restraint Test Report

C.W. Whitney Report WR-247 - Flight Test, Ground Test and Assessment of Dean Wilson Aviation Ltd. R-1 “Boomerang” Aeroplane – 28 May 2008

(5) Flight Manual:

CASA-Approved Pilot's Operating Handbook and Approved Flight Manual – Whitney Boomerang DW200 – Report No. FM-1 – CAA Accepted as AIR 3059

(6) Operating Data for Aircraft:

(i) *Maintenance Manual:*

Maintenance Manual DW200 Boomerang

(ii) *Current service Information:*

Service Bulletins and Service Letters

(iii) *Illustrated Parts Catalogue:*

Still under preparation

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

CAA 2171 from Company Director Dean-Wilson Aviation dated 7 October 2008

(8) Other information:

DW Aviation Report DW-ELA-02 – Electrical Load Analysis DW200 Aircraft

5. Additional New Zealand Requirements

Compliance with the retrospective airworthiness requirements of NZCAR Part 26 is a prerequisite for the grant of a type acceptance 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 §23.785 – Four-point harness fitted as standard
91.507	Pax Information Signs – Smoking, safety belts fastened	Not Applicable – Less than 10 passenger seats
91.509	Minimum Instruments and Equipment	
	(1) ASI	FAR §23.1303(a) *
	(2) Machmeter	N/A – No mach no. limitations
	(3) Altimeter	FAR §23.1303(b) *
	(4) Magnetic Compass	FAR §23.1303(c) *
	(5) Fuel Contents	FAR §23.1305(a) (1)*
	(6) Engine RPM	FAR §23.1305(b)(2) *
	(7) Oil Pressure	FAR §23.1305(a)(2) *
	* See Flight Manual Table 2-1 Operation Equipment List and specific Equipment List in Section 6	
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	Not Applicable – Not yet approved for IFR Operations
91.519	IFR Communication and Navigation Equipment	Not Applicable – Not yet approved for IFR Operations
91.523	(a) More Than 9 pax - First Aid Kits per Table 7	Not Applicable – Less than 10 passenger seats
Emrgcy	- Fire Extinguishers per Table 8	Not Applicable – Less than 10 passenger seats
Eqpmt.	(b) More than 20 pax - Axe readily accessible to crew	Not Applicable – Less than 20 passenger seats
	(c) More than 61 pax - Portable Megaphones per Table 9	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	N/A – Maximum Operating Altitude is 10,000 ft.AMSL
91.533	Oxygen for Non-Pressurised Aircraft	N/A – Maximum Operating Altitude is 10,000 ft.AMSL
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 – Not turbojet or turbofan powered
91.545	Assigned Altitude Indicator	Not Applicable – Not yet approved for IFR Operations
A.15	ELT Installation Requirements	<i>To be determined on an individual aircraft basis</i>

Civil Aviation Rules Part 135

Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
135.355	Seating and Restraints – Shoulder harness flight-crew seats	See Drawing R-ST-07 (Roochutes Model 2005-A harness)
135.357	Additional Instruments (Powerplant and Propeller)	Certificated to FAR Part 23, including §23.1305
135.359	Night Flight	Landing light, Pax compartment
135.361	IFR Operations	Speed, Alt, spare bulbs/fuses
135.363	Emergency Equipment (Part 91.523 (a) and (b))	<i>Operational requirement – Compliance as applicable</i>
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

Attachments

The following documents form attachments to this report:

Photographs first-of-type example DW200 serial no. B004 VH-DXW
DW Aviation Drawing R-GA-01 – Boomerang R-1 General Arrangements
Copy of CASA Type Certificate Data Sheet Number VA516

Sign off

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David Gill
Team Leader Airworthiness

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Checked – Peter Gill
Airworthiness Engineer

Appendix 1

List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
DW200	Dean-Wilson Aviation Limited	9/21B/6	24 October 2008