
Type Acceptance Report

TAR 4/21B/21 – Revision 2

VULCANAIR P.68 Series

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1. INTRODUCTION	1
2. AIRCRAFT CERTIFICATION DETAILS	2
3. APPLICATION DETAILS AND BACKGROUND INFORMATION	4
4. NZCAR §21.43 DATA REQUIREMENTS	5
5. NEW ZEALAND OPERATIONAL RULE COMPLIANCE	6
ATTACHMENTS	8
APPENDIX 1 – NZ TYPE ACCEPTANCE HISTORY	9
APPENDIX 2 – THREE-VIEW DRAWING	10

Executive Summary

New Zealand Type Acceptance has been granted to the P.68 “Victor” Series based on validation of EASA Type Certificate number A.385. There are no special requirements for import.

Applicability is currently limited to the Models and/or serial numbers detailed in Section 2, 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 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. 4/21B/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.

The report notes the status of all models included under the State-of-Design type certificate which have been granted type acceptance in New Zealand, which are listed in Section 2. Appendix 1 details the type acceptance history under CAR Part 21B and which models 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: Vulcanair S.p.A. [since 25 November 1998]
Partenavia Costruzioni Aeronautiche S.p.A. [prior to s/n 401]

Type Certificate: EASA.A.385
Issued by: European Union Aviation Safety Agency

Production Approval: IT.21G.0015

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

(i) **Model:** P.68 B “Victor”, P.68 C

MCTOW (P.68B): 1960 kg (4321 lb.)
1990 kg (4387 lb.) – with Service Bulletin 190 embodied

MCTOW (P.68C): 1990 kg (4387 lb.)
2084 kg (4594 lb.) – when equipped with Kit Part
Number 68/051 per S.B.79

Max. No. of Seats: 6 (7 if S.B.29 is incorporated)

Noise Standard: ICAO Annex 16 Volume 1 Chapter 10

Engine: Lycoming IO-360-A1B or -A1B6
Type Certificate: 1E10
Issued by: Federal Aviation Administration

Propeller: Hartzell HC-C2YK-2C()F/FC7666A-4
Type Certificate: P-920
Issued by: Federal Aviation Administration

(ii) **Model:** P.68C-TC

MCTOW: 1990 kg (4387 lb.)
2084 kg (4594 lb.) – with Kit P/N 68/051 per S.B.79

Max. No. of Seats: 7

Noise Standard: ICAO Annex 16 Volume 1 Chapter 10

Engine: TO-360-C1A6D
Type Certificate: E26EA
Issued by: Federal Aviation Administration

TIO-360-C1A6D
Type Certificate: E16EA
Issued by: Federal Aviation Administration

Propeller: Hartzell HC-C2YK-2C()F/FC7666A-4
Type Certificate: P-920
Issued by: Federal Aviation Administration

Note: 1. Refer to TCDS EASA.A.385 for specific applicability of engine and propeller combinations to individual aircraft models.
2. Refer to Advisory Circular 21-1 Appendix 2 for the New Zealand type acceptance status of any engines and propellers listed above.

3. Application Details and Background Information

There have been examples of the Partenavia P.68B in New Zealand prior to 1995 when Part 21 was introduced, and those particular model years or serial number ranges were therefore deemed to have a type acceptance certificate under the transitional arrangements of Part 21 Appendix A(c). The first application for New Zealand type acceptance under Part 21B was for the new production P.68C (s/n 412 and up) from the manufacturer dated Feb 03, 2004. The first-of-type example was serial number 414, registered ZK-TZY. The P.68 Series is a high-wing twin piston-engine all-metal up to seven passenger light aircraft. The P.68B was the first series production version. The P.68C derivative is similar except it is six inches longer in the nose to accommodate installation of a radar and has other detail internal changes.

Type Acceptance Certificate Number 4/21B/21 was granted on 31 March 2004 to the Vulcanair Model P.68C Series based on validation of ENAC Type Certificate No. A 365. Specific applicability is limited to the coverage provided by the operating documentation supplied. There are no special requirements for import into New Zealand.

This report was raised to Revision 1 to include the P.68C-TC variant. The application was from the importer, Mr A Gilbert, dated 1 November 2005. Type acceptance was granted on 28 February 2006. The first-of-type example was serial no. 371-44-TC registered ZK-TCP. Revision 2 was issued to update to the EASA State-of-Design.

The P.68B has been flying in New Zealand since 1977, while the P.68C was first imported in January 1995 and certificated in accordance with the old NZCAR Section B.9, based on validation of RAI Type Certificate number A 151. (See TAR 5/94) A new type acceptance application was required because ENAC has issued a new Type Certificate A 365 to cover the P.68 Series following the demise of the original Partenavia company and transfer of the type certificate to Vulcanair. This was done only for administrative reasons to recognise the change of holder and the technical content is identical. The manufacturer advised Type Certificate A 151 has been superseded by A 365, although it has not been formally deleted.

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 (* means previously held or supplied under TAR 5/94) :

(1) State-of-Design Type certificate:

EASA Type Certificate Number A.385

EASA Type Certificate Data Sheet no. A.385 at Issue 10 dated 01 August 2023

- Model P.68B approved 24th May 1974
- Model P.68C approved 23rd July 1979
- Model P.68C-TC approved 29th April 1980

Supersedes:

ENAC Aircraft Type Certificate No. A 365 issued 25 Novembre 1998

ENAC Specifica Omologazione del Tipo di Aeromobile (TCDS) SO / A 365 Rev.1

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the Models P.68 B and C is FAR Part 23 effective 1 February 1965, including Amendments 1 through 6. Subparts E through G were upgraded to Amendment 18 for the Model P.68C-TC. This is an acceptable certification basis in accordance with NZCAR Part 21B Para §21.41, as FAR 23 is the basic airworthiness standard for Normal Category Airplanes called up under Part 21 Appendix C. There are no non-compliances and no 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:*

A

(3) Aircraft Noise and Engine Emission Standards:

(i) *Environmental Standard:*

The P.68 Victor type conforms with the provisions of Art 9 (2) of Regulation 2018/1139 without the need to comply with the Standards of ICAO Annex 16, Volume I, by virtue of the date of type certification. However individual examples of this aircraft type which were first issued with a certificate of airworthiness on or after 1 January 1980 are required to demonstrate compliance with the Standards of ICAO Annex 16, Volume I, Chapter 6.

(ii) *Compliance Listing:*

mt-propeller noise certification report dated 29.05.1995 on P.68B @ 1960 kg (The manufacturer advises this was approved by the LBA, and accepted by ENAC as valid for the P.68C, because the two models are essentially the same.)

FOCA Noise Report on P.68C-TC@ 1990 kg dated 23.04.93. (The manufacturer advised that noise tests had also been carried out by ENAC at 2084 kg. EASA Approval Number: EASA A.C. 01128 dated 18th July 2005 refers.)

EASA TCDS for Noise EASA.A.385 at Issue 09 dated 05 June 2024.

Model:	Engine:	Propeller:	MTOW:	Noise Level:
P.68 Victor	IO-360-A1B	HC-C2YK-2C	1960 kg	76.4 dB(A)
P.68 Victor	IO-360-A1B	HC-C2YK-2C	1990 kg	73.6 dB(A)
P.68 Victor	IO-360-A1B6	HC-C2YK-2C	2084 kg	77.6 dB(A)
P.68C-TC	TIO-360-C1A6D	HC-C2YK-2C	1990 kg	80.4 dB(A)
P.68C-TC	TIO-360-C1A6D	HC-C2YK-2C	2084 kg	83.2 dB(A)

(4) Certification Compliance Listing:

Report of Conformity to the FAR 23 Normes – P68 & P68B Victor – 8-11-74 *
 Report BM/58 Application for Increased Maximum Weight P68 – 7-12-72 *
 Report BM/62 Fatigue Life Evaluation P68B Victor – dated 8-11-74 *

Report BM/68C-07 Report of Compliance with FAR 23 Amdt 6 – dated 19-7-79
 and Appendix A Fuel Tank Modification and Weight Envelope C.G. – 20-11-79 *

Report BM/68C-19 R.A.I. Compliance Report Part 223 (FAR 23) – dated 21-03-80
 Report BM/68C-14 Flight Test Report – Turbocharged TO-360-C1A6D Installation
 Report BM/68C-21 R.A.I. Flight Tests – A/C P88C/TC – updated 12.6.1980

(5) Flight Manual:

Flight Manual P68 B Victor – Publication NOR10.707-21 – RAI-Approved with
 letter No.115.831/T dated 24-5-1974 – CAA Approved as AIR 2865 (applicable
 to s/n up to 152)

Flight Manual P68 B Victor – Publication NOR10.707-9 – RAI-Approved with
 letter No.148.015/T dated 23-5-1978 – CAA Approved as AIR 2028

Flight Manual P68C 2nd Issue – Publication NOR10.707-1 – RAI-Approved with
 letter No.158229/T dated July 23, 1979 – CAA Approved as AIR 2516

Flight Manual P68 C 4th Issue – Publication NOR10.707-1B - ENAC-Approved
 with letter No.02/171243/SPA dated May 7, 2002 – CAA Accepted as AIR 2856
 (Applicable from s/n 412 through 510)

Flight Manual P68C-TC 2nd Issue – Publication NOR10.707-2 - RAI-Approved
 with letter No.195867/T dated 26.11.83 – CAA Accepted as AIR 2939

(6) Operating Data for Aircraft:

(i) *Maintenance Manual:*

NOR10.709-9 Maintenance Manual P68 & P68B Victor *

NOR10.709-1B P68C Maintenance Manual *

(includes MM Supplement NOR10.771-17 for S/N 412 inclusive onwards, plus
Suppl. NOR10.771-4B Heating System s/n 402 on and Suppl. NOR10.771-26)

NOR10.769-1 CMM with IPC of Aircraft Passenger Seat for P68C/-TC/Observer

NOR10.709-2 Appendix – Maintenance Manual P68C-TC

(ii) *Current service Information:*

S.B., S.L., S.I., available on website www.vulcanair.com

(iii) *Illustrated Parts Catalogue:*

NOR 10.711-9 P68B Parts Catalog *

NOR10.711-1 P68C Parts Catalog *

(includes Suppl. NOR10.775-5 issued April 2002)

NOR10.711-2 P68C-TC Parts Catalog

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

CAA2171 (P68C) from Vulcanair Head of Design Organisation Feb.03, 2004

CAA2171 (P68C-TC) from Chief of Office of Airworthiness dated 13.12.05

(8) Other information:

List of Certified Changes to Type Design for P68C Aircrafts

FAA Type Certificate A31EU/TCDS No.A31EU at Rev. 14 dated May 30, 2000

NOR10.779-1 Type Design Change Register

5. New Zealand Operational Rule 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	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) – Fitted as Std.* N/A – No Mach limitations FAR §23.1303(b) – Fitted as Std.* FAR §23.1303(c) – Fitted as Std.* FAR §23.1305(a) – **VM1000 FAR §23.1305(d) – **VM1000 FAR §23.1305(b) – **VM1000
		(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 engines FAR §23.1305(c) – **VM1000 FAR §23.1305(h) – **VM1000 FAR §23.1305(f) – **VM1000 FAR §23.699(a)(2) – FM §7.5 N/A – Fixed undercarriage FAR §23.1351(d) Fitted as Std.*
	* See §2.18 Kinds of Equipment List in Flight Manual Section 2 Limitations (See also NOR10.775-5 Section 31-12-00 for standard VFR and IFR instrument panel configurations) ** For s/n 412 and up engine operating parameters are displayed on the VM1000 Engine Displays panel	
91.511 Night	(1) Turn and Slip (2) Position Lights	Fitted as Std – See FM Fig. 7-7 FAR §23.1385 – Fitted as Std. (See Flight Manual Section 7.9)
		(3) Anti-collision Lights (4) Instrument Lighting
		FAR §23.1401 – May be fitted per Mod. P68/23 FAR §23.1381 – Fitted as Std.
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 Emrgcy Eqpmt.	(a) More Than 10 pax - First Aid Kits per Table 7 - Fire Extinguishers per Table 8 (b) More than 20 pax - Axe readily acceptable to crew (c) More than 61 pax - Portable Megaphones per Table 9	Not Applicable – Less than 10 passenger seats 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 C91a after 1/4/97 (or replacement)	<i>To be determined on an individual aircraft basis</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 – Not turbojet or turbofan 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>

Civil Aviation Rules Part 135

Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
135.355	Seating / Restraints – Shoulder harness flight-crew seats	<i>Operational requirement – Compliance as applicable</i>
135.357	Additional Instruments (Powerplant and Propeller)	FAR 23 is an Appendix C airworthiness standard
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	Not Applicable – Only required for 2-crew large helicopters
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:

Copy of Type Certificate Data Sheet Number EASA.A.385

Sign off



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David Gill
Team Leader Aircraft Inspection



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Checked – Gary Leach
Airworthiness Inspector

Appendix 1

List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
P.68 B	AC 21-1.6/NZCAR Part 21 Appendix A(c)		
P.68 C	AC 21-1.6/NZCAR Part 21 Appendix A(c)		
P.68 C (s/n 412 on)	Vulcanair S.p.A.	4/21B/21	31 March 2004
P.68 C-TC	Mr A C K Gilbert	6/21B/11	28 February 2006

Appendix 2

Three-view drawing P.68B Victor

