
Type Acceptance Report

TAR 18/21B/26

TECNAM P2010

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Executive Summary

New Zealand Type Acceptance has been granted to the Tecnam Model P2010 based on validation of EASA Type Certificate number A.576. 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 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/26 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. Aircraft Certification Details

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

Manufacturer: Costruzioni Aeronautiche TECNAM S.r.l.
Type Certificate: EASA.A.576
Issued by: European Aviation Safety Agency
Production Approval: IT.21G.0032

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

(i) **Model:** P2010

MCTOW: 1160 kg (2557 lb.)

Max. No. of Seats: 4

Noise Standard: CS-36

Engine: Lycoming IO-360-M1A
Type Certificate: 1E10
Issued by: Federal Aviation Administration

Lycoming IO-390-C3B6 [MOD2010/078]
Type Certificate: E00006NY
Issued by: Federal Aviation Administration

Propeller: MT 188 R145-4G
Type Certificate: EASA.P.006
Issued by: European Aviation Safety Agency

MTV-15-B/193-52 [MOD2010/002]
Type Certificate: EASA.P.098
Issued by: European Aviation Safety Agency

MTV-12B/183-59 [MOD2010/078]
Type Certificate: EASA.P.013
Issued by: European Aviation Safety Agency

3. Application Details and Background Information

The application for New Zealand type acceptance of the Tecnam Model P2010 was from the manufacturer, dated 3rd January 2018. The P2010 is a single-engine high-wing four seat light aircraft of mixed composite/aluminium/steel construction with a fixed undercarriage.

Type Acceptance Certificate No. 18/21B/26 was granted on 17 May 2018 to the Tecnam P2010 based on validation of EASA Type Certificate number A.576. Specific applicability is limited to the coverage provided by the operating documentation supplied. There are no special requirements for import into New Zealand.

The P2010 is an all-new aircraft model which first flew in 2011 and was type certificated by EASA in 2014. The aircraft has a carbon-fibre fuselage with a metal wing and all-moving horizontal stabiliser. There are two instrumentation options for the P2010, either the Garmin G500/EDM930 combination or the Garmin G1000 system. Another option with the standard 180 hp engine is a variable-pitch propeller. Tecnam has recently had approved a modification which introduces the 215 hp Lycoming IO-390 engine along with updated Garmin G1000Nxi avionics. This new version is marketed as the P2010 Mk II.

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:

Type Certificate Number EASA.A.576 issued 26 September 2014

Type Certificate Data Sheet No. EASA.A.576 at Issue 05 dated 29 March 2017
– Model P2010 approved 26 September 2014

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the P2100 is EASA CS-23 at Amendment 2 dated 28 September 2010. This is an acceptable certification basis in accordance with NZCAR Part 21B Paragraph §21.41 and Advisory Circular 21-1A, because CS-23 is equivalent to FAR Part 23, which 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:*

CRI B-52 (SC-B23.div-01 Human Factors – Integrated Avionic System) – The design of the integrated flightdeck must adequately address the foreseeable performance, capability and limitations of the crew. This included consideration of the ease of operation, including automation; effects of pilot errors, including potential errors, in managing the aircraft systems; pilot workload in normal and abnormal operation; and adequacy of feedback (must be clear and unambiguous).

CRI F-101 (SC-F23-1309-02 Protection from the Effect of HIRF) – Each electrical and electronic system that performs an essential function must be designed and installed so that each function or system is not adversely affected, or automatically recovers normal operation in a timely manner, during and after exposure to the HIRF environment I, defined in Appendix 1 of the CRI.

CRI F-54 (SC-F23-1309-03 Protection from the Effects of Lightning Strike, Indirect Effects) – Each electrical and electronic system that performs an essential function must not be adversely affected after exposure of the aircraft to the lightning environment. Where system failure would seriously reduce the capability of the aircraft to cope with adverse operational conditions, the system may not be damaged and must be recoverable in a timely manner.

CRI F-58 (SC-F23.1353-02 Lithium Battery Installations) – Requirements were specified for the design and installation of lithium batteries and battery installations. These covered aspects such as control of cell temperature and pressures; flammability; gas emissions; prevention of over-charging; battery failure sensing and warning system; and maintenance procedures for storage.

(iii) *Equivalent Level of Safety Findings:*

Nil

(iv) *Airworthiness Limitations:*

See Aircraft Maintenance Manual Chapter 04-00

(3) Aircraft Noise and Engine Emission Standards:

(i) *Environmental Standard:*

The Model 2010 has been certificated for noise under CS-36 amendment 2 dated 31 August 2009, Subpart C with reference to ICAO Annex 16, Volume 1, Chapter 10, amendment 9 dated 30 July 2009.

(ii) *Compliance Listing:*

See Type Certificate Data Sheet for Noise No. EASA.A.576 for Tecnam P-2010

(4) Certification Compliance Listing:

Aircraft P2010 – EASA Compliance Checklist – Report No. 2010/009

(5) Flight Manual: EASA-Approved P2010 Aircraft Flight Manual – Document No. 2010/100 – CAA Accepted as AIR 3656

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

(i) *Maintenance Manual:*

Tecnam P2010 Aircraft Maintenance Manual – Document No. 2010/101

(ii) *Current service Information:*

Tecnam Service Bulletins

(iii) *Illustrated Parts Catalogue:*

Tecnam P2010 Aircraft Parts Catalog – Document No. 2010/102

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

CAA 2171 form signed by Tecnam Airworthiness Specialist dated 03/01/2018

Tecnam also provide access to the My Tecnam customer portal website

(8) Other information:

Report No. 2010/064 Electric Load Analysis – 2nd Edition Rev.0

Report No. 2010/362 Electric Load Analysis Mod. 2010/078 – Ed.1 Rev.0

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 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	CS §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	CS §23.1303(a) * N/A – No Mach No.limitations CS §23.1303(b) * CS §23.1303(c) * CS §23.1305(a)(1) * CS §23.1305(b)(2) * CS §23.1305(a)(2) *
		(8) Coolant Temp (9) Oil Temperature (10) Manifold Pressure (11) Cylinder Head Temp. (12) Flap Position (13) U/C Position (14) Ammeter/Voltmeter
		CS §23.1305(b)(7) * CS §23.1305(a)(3) * CS §23.1305(b)(5) * CS §23.1305(b)(3) * CS §23.699(b) * N/A – Fixed undercarriage CS §23.1351(d)(1) *
	* Displayed by the G1000 (Standard equipment) or G500/EDM930 (MOD2010/003)	
91.511	Night VFR Instruments and Equipment	<i>Operational requirement – Compliance as applicable</i>
	The P2010 has combined LED POS/Strobe lights on the wings and tail, and a combined Landing/Taxi light	
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>
	Standard equipment is Garmin G1000 which includes dual GIA63 NAV/COM/GPS/GS/Loc equipment With MOD2010/003 standard equipment is the Garmin G500, with GTN650 COM/NAV/GPS and GNC255 NAV/COM	
91.523	Emergency Equipment	<i>Operational requirement – Compliance as applicable</i>
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>
	Garmin GTX345R Mode S Transponder fitted as standard with G1000.	
91.543	Altitude Alerting Device – Turbojet or Turbofan	Not Applicable – Not turbo jet 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 and Restraints – Shoulder harness flight-crew seats	CS §23.785 – Shoulder harness fitted as standard
135.357	Additional Instruments (Powerplant and Propeller)	CS §23.1305
135.359	Night Flight	<i>Operational requirement – Compliance as applicable</i>
135.361	IFR Operations	<i>Operational requirement – Compliance as applicable</i>
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

See also the Kinds of Operation Equipment List (KOEL) in the AFM Section 2-18

- 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 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 Tecnam Model 2010
- Copy of EASA Type Certificate Data Sheet Number A.576

Sign off

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David Gill
Team Leader Airworthiness

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Checked – Greg Baum
Airworthiness Engineer

Appendix 1

List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
P2010	Costruzioni Aeronautiche Tecnam S.r.l.	18/21B/26	17 May 2018