
Type Acceptance Report

TAR 17/21B/24

HARTZELL 3C1

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Executive Summary

New Zealand Type Acceptance has been granted to the Hartzell Model 3C1 propeller based on validation of FAA Type Certificate number P00016CH. There are no special requirements for import.

Applicability is limited to the Models and/or serial numbers detailed in Appendix 1, which are now eligible for installation on a NZ-registered aircraft. 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.17/21B/24 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 product in New Zealand; and
- (b) Identify any special conditions for import applicable to any model(s) covered by the Type Acceptance Certificate.

2. Aircraft Certification Details

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

Manufacturer: Hartzell Propeller Inc.
Type Certificate: P00016CH
Issued by: Federal Aviation Administration
Production Approval: FAA PC10

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

- (i) Model: 3C1

3. Application Details and Background Information

The application for New Zealand type acceptance of the Hartzell Model 3C1 was from the manufacturer, dated 18 May 2017. The Model 3C1 is a hydraulically-actuated constant speed non-counterweighted propeller with Advanced Structural Composite (ASC) blades.

Type Acceptance Certificate Number 17/21B/24 was granted on 3 October 2017 to the Hartzell Model 3C1 propeller based on validation of FAA Type Certificate P00016CH. There are no special requirements for import into New Zealand.

The 3C1 aluminium hub was developed as a lightweight propeller for Cirrus Design. It is very similar to a standard compact propeller, except the 3C1 “Raptor” series propellers use a shim to provide preload to the blade. The blade airfoil construction uses carbon that surrounds a foam core, with a nickel leading edge for erosion protection. The blade shank is aluminium, compared to previous ASC blades that used stainless steel.

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:

FAA Type Certificate Number P00016CH

FAA Type Certificate Data Sheet P00016CH at original issue dated July 20, 2016
– Model 3C1 approved July 20, 2016

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the 3C1 is FAR Part 35, including Amendments 35-1 through 35-9A effective March 19, 2013. This is an acceptable certification basis in accordance with NZCAR Part 21B Para §21.41 and Advisory Circular 21-1A, as FAR 35 is the basic standard for Aircraft Propellers 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 Propeller Owner's Manual 480 Airworthiness Limitations section

HC-SL-61-61Y – Overhaul Periods and Service Life Limits for Hartzell Propeller Inc. Aviation Components – Propellers, Governors, Accumulators, and Propeller Damper Assemblies

(3) Environmental Certification:

Not Applicable

(4) Certification Compliance Listing:

Hartzell Propeller TC ODA 100082-CE Certification Compliance Checklist –
Model 3C1-()/76C03

(5) Flight Manual:

Not Applicable

(6) Operating Data for Propeller:

(i) *Maintenance Manual:*

Propeller Owner's Manual and Logbook – Raptor Reciprocating Propeller Series with Composite Blades – Constant Speed, Non-counterweighted 3C1-() () – Manual No.480

(ii) *Current Service Information:*

Service Bulletins

Service Letters

Service Instructions

(iii) *Illustrated Parts Catalogue:*

Three Blade Raptor Series Reciprocating Propeller Overhaul Manual – 3C1-()()()
Manual No.490

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

CD Subscription service confirmed by email dated 19 May 2017

Attachments

The following documents form attachments to this report:

Copy of FAA Type Certificate Data Sheet Number P00016CH

Sign off

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David Gill
Team Leader Airworthiness

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Checked – Craig Bamber
Airworthiness Engineer

Appendix 1

List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
3C1	Hartzell Propeller Inc.	17/21B/24	3 October 2017