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# **Type Acceptance Report**

**TAR 20/21B/13**

**McCAULEY 4()FR3()C Series**



## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>1</b>
<b>1. INTRODUCTION</b>	<b>1</b>
<b>2. PRODUCT CERTIFICATION DETAILS</b>	<b>2</b>
<b>3. APPLICATION DETAILS AND BACKGROUND INFORMATION</b>	<b>3</b>
<b>4. NZCAR §21.43 DATA REQUIREMENTS</b>	<b>4</b>
<b>ATTACHMENTS</b>	<b>6</b>
<b>APPENDIX 1</b>	<b>6</b>



## Executive Summary

New Zealand Type Acceptance has been granted to the McCauley Model 4HFR34C(6/7--) and 4JFR34/6C(7--) Series propeller based on validation of FAA Type Certificate number P3NE. There are no special requirements for import.

Because the continuing airworthiness documentation for the Series is essentially common this type acceptance covers all Models and/or serial numbers currently covered by FAA type certificate number P3NE, which are now eligible for installation on a NZ-registered aircraft. Additional new propeller variants approved under the FAA 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. 20/21B/13 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.

The report also 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 lists the type acceptance history. This includes Models covered by the type acceptance certificate issued under Part 21B at Amendment 6 or later and Models which were accepted prior to that as part of an aircraft validation, plus Models which were accepted prior to Part 21B under NZCAR Section B.9 and are now type accepted under the transitional arrangements of Part 21 Appendix A(c).

## 2. Product Certification Details

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

Manufacturer: McCauley Propeller Systems  
Type Certificate: P3NE  
Issued by: Federal Aviation Administration  
Production Approval: FAA Production Certificate 3

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

- (i) Models: 4HFR34C(6--)  
4HFR34C(7--)  
4JFR34C(7--)  
4JFR36C(7--)

### 3. Application Details and Background Information

There have been examples of the 4HFR34C propeller in New Zealand prior to Part 21B at Amendment 6, when there was no provision for separate type acceptance of products and engines and propellers were included with the aircraft validation. The first application for separate type acceptance under Part 21B was for the Model 4HFR34C778/102BH[X]-0 propeller from the manufacturer dated 5 March 2020. The Model C650/750 Series is a full feathering, reversible-pitch four-blade propeller which is intended for use on external beta feedback turbo propeller engines, and uses solid forged aluminium blades.

Type Acceptance Certificate Number 20/21B/13 was granted on 30 March 2020 to all current Model 4HFR34C(x--) / 4JFR3xC(7--) Series propellers based on validation of FAA Type Certificate P3NE. There are no special requirements for import into New Zealand.

The C650 Series propeller is intended for use on the Garrett TPE731 Series turbine engine, while the C750 Series is designed for use on the PWC PT6A Series. The first variant was the C752 which was certified but never produced. The C652 was used on the Fairchild Metro and the C653 on the British Aerospace Jetstream 32. The latest C778 variant was developed for use on the Cessna 208B Caravan EX and is rated up to a maximum 867 shp and 2000 shaft RPM.

#### 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 P3NE

FAA Type Certificate Data Sheet No. P3NE at Revision 15 dated Sept. 27, 2017

- 4HFR34C752 approved May 11, 1983
- 4HFR34C652 approved August 16, 1983
- 4HFR34C653 approved September 21, 1989
- 4HFR34C768 approved April 1, 1991
- 4HFR34C778 approved August 31, 2015

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the initial McCauley 4HFR and 4JFR variants is FAR Part 35, effective October 14, 1980, including Amendments 35-1 through 35-5. For later variants the certification basis was updated to include Amendment 35-6, except for the latest C778 variant which included several paragraphs at Amendment 35-8, as detailed on the TCDS.

This is an acceptable certification basis in accordance with Civil Aviation Rules Part 21B paragraph §21.41 and Advisory Circular 21-1A, because 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 Inspection and Replacement Time Limits under Chapter 4 – Airworthiness Limitations section of the Owner/Operator Information Manual MPC26

(3) Environmental Certification:

Not Applicable

(4) Certification Compliance Listing:

McCauley Report No: CP-121034 – C778 Propeller Certification Plan – Model No: 4HFR34C778/102BH[X]-0 to -4 – Cessna Project No.: 13292

McCauley Report No: TR-1091 – C778 Compliance Report

McCauley Report No: TR-1096 – C778 Compliance with 14 CFR 35.39 and 35.40



- (5) Flight Manual:  
Not Applicable
- (6) Operating Data for Propeller:
- (i) *Maintenance Manual:*  
MPC750 – Model C750 Series Propeller Overhaul Manual  
  
McCauley Propeller Systems BOM100 Blade Overhaul Manual  
  
McCauley Propeller Systems SPM100 Standard Practices Manual
  - (ii) *Current Service Information:*  
Service Bulletins  
  
Service Letters
  - (iii) *Illustrated Parts Catalogue:*  
See parts listings in the applicable Overhaul Manual
- (7) Agreement from manufacturer to supply updates of data in (5), and (6):  
All publications are now available directly to the CAA through the Textron website: [www.txtavsupport.com](http://www.txtavsupport.com)
- (8) Other information:  
MPC26 – Owner/Operator Information Manual

## Attachments

The following documents form attachments to this report:

Copy of FAA Type Certificate Data Sheet Number P3NE

## Sign off

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David Gill  
Team Leader Airworthiness

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Checked – Gaetano Settineri  
Airworthiness Engineer

## Appendix 1

### List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
4HFR34C652/L106LA-0	Advisory Circular 21-1.2/NZCAR Part 21 Appendix A(c)		
4HFR34C653/L106FA	Air National Ltd	99/21B/2	22 October 1998
4HFR34C768/94LMA-4	Air Wanganui Commuter Ltd	5/21B/32	21 June 2005
All other models on TCDS	Textron Aviation Inc.	20/21B/13	30 March 2020