
Type Acceptance Report

TAR 22/21B/14

MT-Propeller MTV-34 Series

TABLE OF CONTENTS

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

Executive Summary

New Zealand Type Acceptance has been granted to the MTV-34 Series propeller based on validation of EASA Type Certificate number P.049. There are no special requirements for import.

Applicability is limited to the Models and/or serial numbers detailed in Section 2, 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(b).

NOTE: The information in this report is correct as at the date of issue. The report is 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 State-of-Design Type Certificate Data Sheet.

1. Introduction

This report details the basis on which Type Acceptance Certificate No. 22/21B/14 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.

The report also notes the status of all propeller models included under the State-of-Design type certificate which have been granted type acceptance in New Zealand. The history of the MTV-34 Series propeller type acceptance in New Zealand under EASA type certificate P.049 is listed in Appendix 1.

2. Product Certification Details

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

Manufacturer: MT-Propeller Entwicklung GmbH

Type Certificate: EASA P.049

Issued by: European Aviation Safety Agency

Production Approval: EASA DE.21G.0008

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

(i) Models: MTV-34-1

Max. Take Off Power (kW):	Prop RPM:	Max. Continuous Power (KW):	Prop RPM:	Diameter (cm):
86	2560	86	2560	150 to 178 cm
104	2279	99	2161	150 to 175 cm

3. Application Details and Background Information

The application for type acceptance of the MTV-34 propeller was from the propeller type certificate holder, dated 11 January 2022. The application was in support of type acceptance of the Bristell B23 light aircraft. The MTV-34 is a three-blade ground-adjustable or variable pitch propeller with a hydraulically operated blade pitch change mechanism providing constant speed operation.

Type Acceptance Certificate Number 22/21B/14 was granted on 16 March 2022 to the MTV-34 Series propeller based on validation of EASA Type Certificate P.049. Specific applicability is limited to the coverage provided by the operating documentation supplied. (Major modifications in the form of additional flange types or blades do not require further validation if they are covered by the same Instructions for Continued Airworthiness listed in this report.) There are no special requirements for import into New Zealand.

The MTV-34 is of typical MT-propeller design and construction, with the hub milled from aluminium alloy and detachable blades of laminated wood structure with a composite fibre cover. The leading edge of the blade is protected by a stainless steel erosion protection sheath. The propeller was originally certified for a maximum engine power of 86 kW at 2560 RPM to cover the Rotax 912iSc engine, but this was subsequently increased to 104 kW @ 2279 RPM to cover the Rotax 915iSc engine.

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:

EASA Type Certificate Number P.049

Type Certificate Data Sheet no. EASA.P.049 at Issue 2 dated 13 December 2018
– Model MTV-34-1 approved 24 May 2013

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the MTV-34 Series is CS-22 Amendment 2 Subpart J, dated 5 March 2009, except for CS22.1939, CS-P 390(b) and CS-P 390(c), dated 16 November 2006.

This is an acceptable certification basis in accordance with CAR Part 21B paragraph §21.41 and Advisory Circular 21-1A, because CS22 Subpart J is a permitted design standard for powered-sailplanes and Very Light Aircraft (VLA). This is equivalent for this class of aircraft to FAR Part 35, which is the basic design standard for propellers called up under CAR 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 Chapter 10.0 Airworthiness Limitations Section in the Operation, Installation and Maintenance Manual. (In this case there are no life limits.)

Propeller TBO is specified in Service Bulletin No.1

(3) Aircraft Noise and Engine Emission Standards:

(i) *Environmental Standard:*

Nil

(ii) *Compliance Listing:*

Not Applicable

(4) Certification Compliance Listing:

MT-Propeller Certification Record Doc. No. E-2303 Rev. No.: 3 Issue Date: 14 May 2013 – Type Investigation: Compliance Checklist – Project: MTV-34-1-A

Report No.: E-860 R1: Model: MTV-30, MTV-33, MTV-34 – Static Pull Test – To show compliance with CS 22.1935 for the MTV-30, MTV-33, MT-34 hub

E-2238 – Propeller Vibration Test: Propeller: MTV-34-1-A/175-200; Engine: Rotax 912 iSc; Aircraft: Tecnam P92

E-2316 – Stress and Strength Evaluation – MT-Propeller Hub Model MTV-34-()

E-2357 – Blade Retention Test with MTV-30 Hub

E-2358 – Endurance Test with MTV-33 and MTV-34

E-3168 – Endurance Test – Additional Power Rating Endurance Test with MTV-34-() Propeller Showing compliance with CS-P 390 (b)

E-3169 – Blade Retention Test – Additional Power Rating Blade Retention Test Report on MTV-34-() Propeller Showing compliance with CS 22.1935

E-3170 – MTV-34-() Additional Power Rating – Stress and Strength Evaluation on MTV-34-() hub, blades, blade ferrule and lag screws

(5) Flight Manual: Not Applicable

(6) Operating Data for Propeller:

(i) *Maintenance Manual:*

E-2285 – Operation, Installation and Maintenance Manual – Ground Adjustable and Hydraulically Controlled Variable Pitch Propeller (Constant Speed Propeller) MTV-33- (); MTV-34- (); MTV-36- ()

E-1048 – Operation and Installation Manual – Hydraulically Constant Speed Governor P-8()()-()

(ii) *Current service Information:*

Service Bulletins

(iii) *Illustrated Parts Catalogue:*

E-2286 – Overhaul Manual and Parts List – Ground Adjustable or Hydraulically Controlled Variable Pitch Propeller (Constant Speed Propeller) MTV-33- (); MTV-34- (); MTV-36- ()

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

Technical Publications are available on the website at www.mt-propeller.com

(8) Other information:

Drawing P-1270-C MTV-34-1-A: 3-Blade Hydr. Constant Speed Propeller
Parts List No. S-194-C Blade/Hub MTV-34-1-A

Drawing A-1879-B MTV-34-1-A: Hub -120

Attachments

The following documents form attachments to this report:

Copy of EASA Type Certificate Data Sheet Number P.049

Sign off

A blue ink signature of David Gill is written over a circular blue stamp. The stamp contains the text "CIVIL AVIATION AUTHORITY OF NEW ZEALAND" around the perimeter, the CAA logo in the center, and the number "0853" below the logo.

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David Gill
Team Leader Aircraft Inspection

A black ink signature of Gaetano Settineri is written over a circular black stamp. The stamp contains the text "CIVIL AVIATION AUTHORITY OF NEW ZEALAND" around the perimeter, the CAA logo in the center, and the number "5022" below the logo.

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Checked – Gaetano Settineri
Team Leader Product Certification

Appendix 1

List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
MTV-34	MT-Propeller Entwicklung GmbH	22/21B/14	16 March 2022