
Type Acceptance Report

TAR 24/21B/1

Continental IO-370 Series

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Executive Summary

New Zealand Type Acceptance has been granted to the Continental Aerospace Technologies IO-370 Series based on validation of FAA Type Certificate number E00056SE. 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. 24/21B/1 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 models included under the State-of-Design type certificate which have been granted type acceptance in New Zealand. The history of the IO-370 Series type acceptance in New Zealand under FAA type certificate number E00056SE is listed in Appendix 1

2. Product Certification Details

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

Manufacturer: Continental Aerospace Technologies Inc.
Continental Motors, Inc. (until 1 January 2020)

Type Certificate: E00056SE
Issued by: Federal Aviation Administration

Production Approval: PC 508

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

(i) **Models:** IO-370-CL, IO-370-CM

Max Take-off Power: 195 shp @ 2700 RPM

Noise Standard: Not Applicable

(ii) **Model:** IO-370-C1F

Max Take-off Power: 190 shp @ 2700 RPM

Noise Standard: Not Applicable

(iii) **Model:** IO-370-D3A

Max Take-off Power: 185 shp @ 2700 RPM

Noise Standard: Not Applicable

(iv) **Model:** IO-370-DA3A

Max Take-off Power: 180 shp @ 2700 RPM

Noise Standard: Not Applicable

3. Application Details and Background Information

The application for type acceptance of the IO-370 Series was from the manufacturer dated 5 October 2023. The IO-370 Series are four-stroke, fuel-injected air-cooled four-cylinder, horizontally-opposed direct-drive aircraft engines with a wet sump.

Type Acceptance Certificate No. 24/21B/1 was granted on 7 November 2023 to the IO-370 Series engine based on validation of FAA Type Certificate number E00056SE. Specific applicability is limited to coverage provided by the operating documentation supplied. There are no special requirements for import into New Zealand.

The Continental IO-370 engine evolved from a series of PMA parts produced as direct replacements for Lycoming engine parts, which was then assembled into the Titan engine initially for the Experimental market. The IO-370 engine was subsequently type certificated and is marketed as the Continental Prime series. The IO-370-CL and IO-370-CM models are identical except the latter has a conical mounting interface. The IO-370-C1F is the same except for a hot oil sump, straight barrel fins, and different cylinder baffle configuration. The IO-370-D3A, intended for the Cessna 172, has a straight oil filter adapter; and a non-counterweighted solid crankshaft, while the IO-370-DA3A is the same except the timing is set to 22° to reduce power.

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 E00056SE

Type Certificate Data Sheet E00056SE at Revision 4 dated 20 February 2020

– Models IO-370-CL and IO-370-CM approved June 18, 2018

– Model IO-370-C1F approved May 29, 2019

– Models IO-370-DA3A and IO-370-D3A approved June 12, 2019

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the IO-370 Series is FAR Part 33, effective February 1, 1965, including Amendments 33-1 through 33-34, except that paragraph §33.8 is replaced by compliance to CAR 13.16(c).

This is an acceptable certification basis in accordance with NZCAR Part 21B paragraph §21.41, as FAR 33 is the basic standard for aircraft engines called up under Part 21 Appendix C and Advisory Circular 21-1. 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 Maintenance Manual M32 Chapter 4 – Airworthiness Limitations.

(Recommended TBO is specified in Maintenance Manual M32 Table 2-2.
IO-370 Engine Characteristics)

(3) Aircraft Noise and Engine Emission Standards:

Not Applicable

(4) Certification Compliance Listing:

Project Specific Certification Plan A-610 – FAA Project Number AT15981AT-E
– IO-370-D3A Engine Type Certification Project
(includes Appendix A – Compliance Checklist)

(5) Flight Manual: Not Applicable

(6) Operating Data for Engine:

(i) *Maintenance Manual:*

Publication OI-32 – IO-370 series Engine Maintenance and Overhaul Manual

Publication M-32 – IO-370 series Engine Installation and Operation Manual

(ii) *Current service Information:*

Service Bulletins and Service Information Letters

(iii) *Illustrated Parts Catalogue:*

IPC for the IO-370 Series is available digitally on the Continental website

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

Manuals and revisions are available on the website www.continental.aero

Attachments

The following documents form attachments to this report:

Copy of FAA Type Certificate Data Sheet Number E00056SE

Sign off



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David Gill
Team Leader Aircraft Inspection



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Checked – Andrew Haworth
Airworthiness Inspector

Appendix 1

List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
IO-370-CL/CM/C1F	Continental Aerospace Technologies	24/21B/1	7 November 2023
IO-370-DA3A/D3A	Continental Aerospace Technologies	24/21B/1	7 November 2023

Appendix 2

Continental Drawing 658807 – Installation IO-370-D Series Engines

