TYPE-CERTIFICATE DATA SHEET

No. IM.P.124

for
3A1 series propeller

Type Certificate Holder

Hartzell Propeller Inc.
One Propeller Place
Piqua, OH 45356-2634
USA

For Models:
3A1-TP

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I. General

1. Type/ Model

3A1 / 3A1-TP

2. Type Certificate Holder

Hartzell Propeller Inc.
One Propeller Place
Piqua, OH 45356-2634
USA

3. Manufacturer

Hartzell Propeller Inc.

4. Date of Application

3A1-TP: 09 January 2014

5. EASA Type Certification Date

3A1-TP: 11 November 2016

II. Certification Basis

1. State of Design Authority Certification Basis

Refer to FAA TCDS no. P00013CH.

2. Reference Date for determining the applicable airworthiness requirements

3A1-TP: 19 March 2013.

3. EASA Certification Basis

3.1. Airworthiness Standards

3A1-TP:
CS-P Amendment 1 dated 16 November 2006 as issued by EASA Decision No 2006/09/R, except the requirements of Subpart D as allowed by CS-P 10(b) (see Note 10a).

3.2. Special Conditions

None.

3.3. Equivalent Safety Findings

None.

3.4. Deviations

None.

III. Technical Characteristics

1. Type Design Definition

The propeller type is defined by a propeller assembly drawing including a parts list (or later approved revisions).

3A1-TP: Drawing 104728, rev -, 07 December 2013

2. Description

The propeller is a 3-blade variable pitch propeller with a hydraulically operated blade pitch change mechanism providing the operation mode “Constant Speed”. The constant speed propeller has neither feathering nor reverse capability. (See Note 4).
The hub is a two piece aluminium hub. Each blade is supported in the hub with a ball thrust bearing. Optional equipment includes spinner and ice protection system. (See Note 7).

3. Equipment

Spinner: See Note 7.
Governor: See Note 3.
Ice Protection: See Note 7.

4. Dimensions

Diameters from 172,7 cm to 198,1 cm. (See Table of Section IV)

5. Weight

Depending on Propeller-Design Configuration. (See Table of Section IV)

6. Hub/ Blade- Combinations

Details are mentioned within Table of Section IV.

7. Control System

Propeller governors. (See Note 3)

8. Adaptation to Engine

Special flange. (See Note 1)

9. Direction of Rotation

Direction of rotation (viewed in flight direction) as identified by a letter-code in the propeller designation. (see Note 5)

IV. Operating Limitations

Blades (See Note 2)	Max. Continous kW - rpm (min^{-1})		Take Off kW - rpm (min^{-1})		Diameter Limits (cm) (See Note 2)	Approx. Max. Wt. Complete (kg) (See Notes 3,7)	Blade Construction (See Note 10)
Non-Counterweighted Propellers 3A1-TP(375 through 724) (See Note 1)							
75A01+2 to 75A01-8	115,6	2309	115,6	2309	198,1 to 172,7 (+5,1 to -20,3)	13,9	Composite

1. Approved Installations

The propeller is initially intended for use on a Cessna 172 aircraft with a Technify TAE 125 series engine. (See Note 10)

1. Maximum Take Off Power and Speed

115,6 kW at 2309 rpm. (See Table of Section IV)

2. Maximum Continuous Power and Speed

115,6 kW at 2309 rpm. (See Table of Section IV)

3. Propeller Pitch Angle

The propeller has variable pitch capability. Pitch control is provided by a governor. (See Note 3)

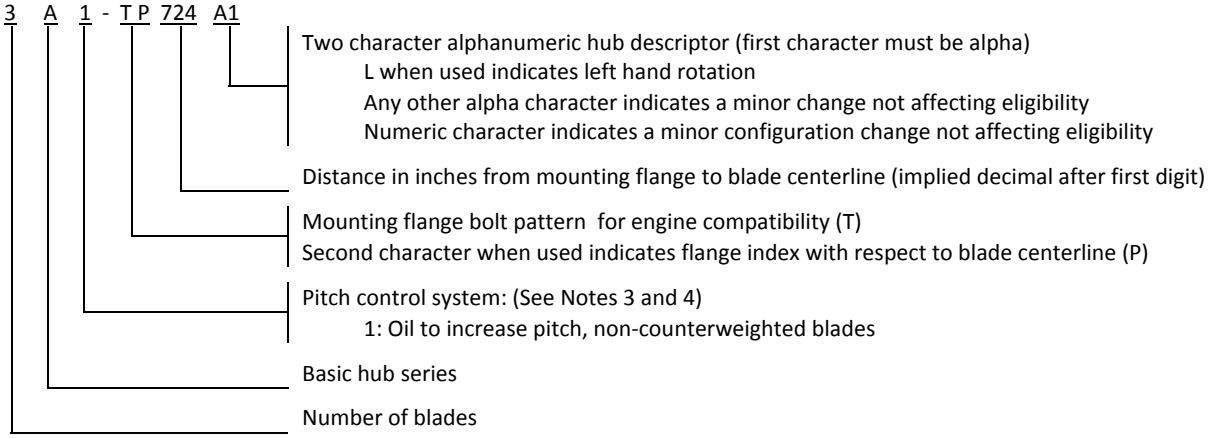
V. Operating and Service Instructions

Integration Manual	Hartzell Manual 191*
Composite Blade Overhaul Manual	Hartzell Manual 135F*
Propeller Overhaul Manual	Hartzell Manual 401*
Propeller Owner's Manual and Logbook	Hartzell Manual 411*
Metal Spinner Maintenance Manual	Hartzell Manual 127*
Standard Practice Manual	Hartzell Manual 202A*
Service Bulletins	

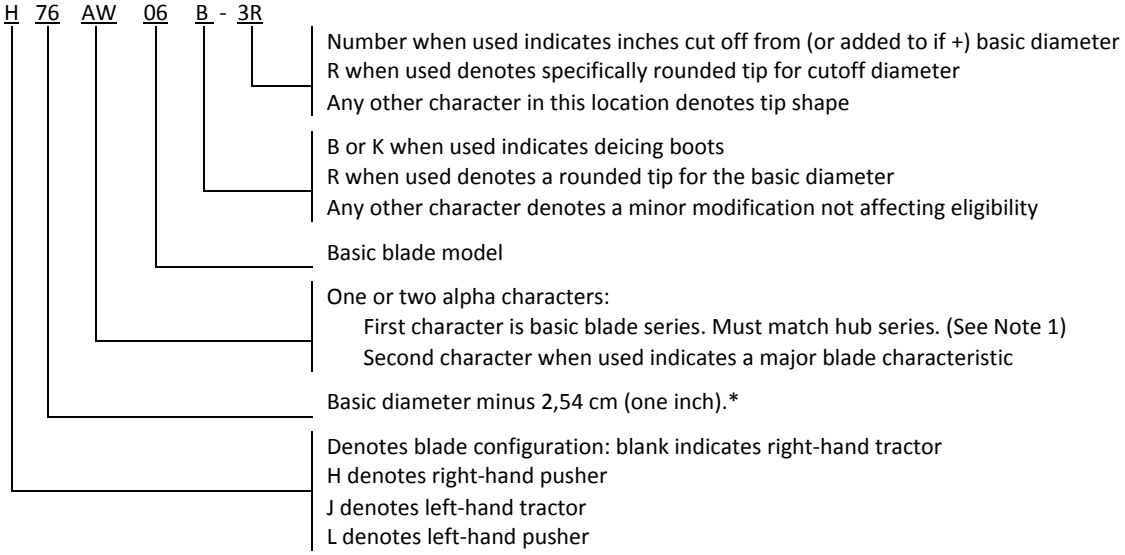
*: or later approved revision

VI. Notes

1. Hub Model Designation:



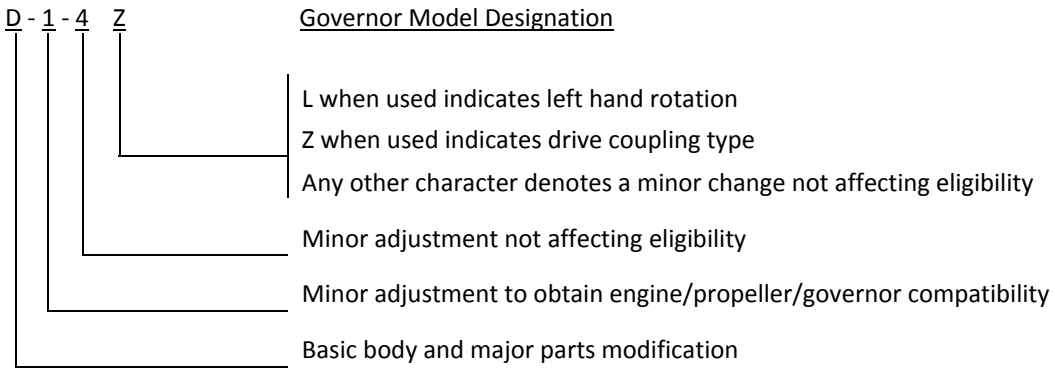
2. Blade Model Designation:



*: Diameter limits are nominal diameters of the assembled propeller. They do not include the manufacturing tolerance allows for propellers with basic diameter less than 4,27 m (14 feet).

3. Pitch Control:

(a) Approved with Hartzell governors per drawings C-4770. Wt.: 2,04 kg. (See Note 10)



(b) The 3A1 models use oil to increase pitch and do not have counterweighted blades. (See Note 4)

(c) Maximum governor output pressure: 2413,16 kPa for all propeller models

(d) Propeller model 3A1 complies with the propeller airworthiness requirements when used with the Technify (formerly Thielert) Model TAE-125 series engine with an integrated propeller control. If the engine or its control system is changed, it must be shown that the propeller – as integrated with the changed engine and its control system – still complies with the propeller certification basis. Also, if a change to the propeller changes the engine, it must be shown that the engine remains in compliance with its certification basis.

(e) All governors must be approved as part of the aircraft installation regardless of manufacturer. (See Note 10)

4. Feathering: Not applicable.
Reversing: Not applicable.

5. Left-Hand Models:

The left-hand version of an approved propeller model is approved at the same rating and diameter as listed for the right-hand model. (See Notes 1 and 2)

6. Interchangeability:

(a) Propellers

Not applicable

(b) Governors

Hartzell governors with a “Z” suffix in their model designation may be used interchangeably with corresponding governors without the “Z”. For example, the F-6-24Z is a replacement for the F-6-24 and the F-6-24 is a replacement for the F-6-24Z.

(c) Blades

Not applicable

(d) Ice Protection Systems

Refer to Hartzell Service Letter HC-SL-30-260 for ice protection system component interchangeability.

7. Accessories: (See Note 10)

(a) Propeller ice protection system (weight of ice protection equipment extra)

(1) Propeller models listed in this data sheet are approved for use with propeller ice protection equipment listed in Hartzell Manual 159( ) or in other Hartzell type design data.

(2) All propeller ice protection equipment must be approved as part of the aircraft installation regardless of manufacturer. (See Note 10)

(b) Propeller spinner (weight of spinner extra)

(1) Approved with Hartzell and other manufacturers' spinners when listed on Hartzell type design data.

(2) All propeller spinners must be approved as part of the aircraft installation regardless of manufacturer. (See Note 10)

8. Shank Fairings : Not applicable.

9. Special Limits: Not applicable

10. Propeller installation must be approved as part of the aircraft Type Certificate and demonstrate compliance with the applicable aircraft airworthiness requirements.

Propeller models listed herein consist of basic hub and blade models. Most propeller models include additional characters to denote minor changes and specific features as explained in Notes 1 and 2.

10a. This propeller has been certificated in accordance with CS-P subparts A, B and C. Compliance with the requirements of Subpart D, which is specific to each aircraft installation, has not yet been demonstrated.

11. Retirement Time:

(a) Life Limits and Mandatory Inspections

(1) Airworthiness limitations, if any, are specified in Hartzell Manual 411.

12. Special Notes:

(a) Refer to Hartzell Manual no. 202( ) for overspeed and overtorque limits.

(b) Refer to Hartzell Service Letter HC-SL-61-61( ) for recommended overhaul periods.

13. The EASA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in the applicable Propeller Owner's Manual, chapter 5 "Airworthiness Limitations".

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

N/A

II. Type Certificate Holder Record

N/A

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	11 November 2016	Initial Issue	11 November 2016

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