TYPE-CERTIFICATE DATA SHEET

No. IM.P.129

for

HC-B5M series propellers

Type Certificate Holder

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

For Models:
HC-B5MA-2
HC-B5MA-3
HC-B5MA-5
HC-B5MP-3
HC-B5MP-5

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TABLE OF CONTENTS

I. General

1. Type/ Model

HC-B5M / HC-B5MA-2, HC-B5MA-3, HC-B5MA-5, HC-B5MP-3, HC-B5MP-5

2. Manufacturer

Hartzell Propeller Inc.

3. Date of Application

HC-B5MA-2:	11 March 2015
HC-B5MA-3:	20 December 2001*
HC-B5MA-5:	20 December 2001*
HC-B5MP-3:	20 December 2001*
HC-B5MP-5:	20 December 2001*

*: The date of application has been taken over from individual EASA Member States.

4. EASA Type Certification Date

HC-B5MA-2:	03 March 2016
HC-B5MA-3:	10 May 2002*
HC-B5MA-5:	10 May 2002*
HC-B5MP-3:	10 May 2002*
HC-B5MP-5:	10 May 2002*

*: The EASA Certification Date has been taken over from individual EASA Member States.

II. Certification Basis

1. State of Design Authority Certification Basis

Refer to FAA TCDS no. P44GL.

2. Reference Date for determining the applicable airworthiness requirements

HC-B5MA-2: 18 August 1990

3. EASA Certification Basis

3.1. Airworthiness Standards

HC-B5MA-2:
JAR-P Change 7 effective 22 October 1987 plus CS-P 410(a) of CS-P Amdt. 1 effective 16 November 2006.

HC-B5MA-3*, HC-B5MA-5*, HC-B5MP-3*and HC-B5MP-5*:
14 CFR Part 35 with amendments 35-1 through 35-6 effective 18 August 1990.

*: Application was made to EASA Member States before EASA was established. Refer to Commission Regulation (EU) No 748/2012.
These propeller models are EASA certified based on member states approvals prior to EASA existence. The original and updated FAA certification basis as indicated above had been taken over from the FAA TCDS.

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).

HC-B5MA-2: Drawing E-6880, rev -, dated 20 December 2002
HC-B5MA-3: Drawing E-3740, rev A, dated 09 January 1989
HC-B5MA-5: Drawing E-6930, rev -, dated 10 February 1999
HC-B5MP-3: Drawing E-4010, rev J, dated 07 June 1973
HC-B5MP-5: Drawing E-4050, rev E, dated 05 June 1987

2. Description

The propeller is a 5-blade variable pitch propeller with a hydraulically operated blade pitch change mechanism providing the operation mode “Constant Speed”. The -2, -3 and -5 models incorporate feathering and unfeathering features. The -3 and -5 models are approved for installation as reversing propellers with appropriate reversing controls. The -2 models do not reverse. (See Note 4).
The hub material is alloy steel. The blade material is aluminium alloy. Each blade is held onto the hub with a two piece steel clamp. 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

See table of Section IV.

5. Weight

Depending on Propeller-Design Configuration:
See table of Section IV.

6. Hub/ Blade- Combinations

See 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. Continuous 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)
			HC-B5MP-3				
M10282+6 to M10282-0	835,2	1700	893,3	1700	111.3" to 104.7" (+6 to -0)	99,8	Aluminium Alloy
M10282-0 to M10282-6	835,2	1700	835,2	1700	104.7" to 98.7" (-0 to -6)	97,5	Aluminium Alloy
M10876-0 to M10876-6	989,5	1700	1118,5	1700	111.2" to 105.2" (-0 to -6)	104,3	Aluminium Alloy
M11276-0 to M11276-10	989,5	1700	1118,5	1700	115.2" to 105.2" (-0 to -10)	115,2	Aluminium Alloy
			HC-B5MP-5				
M11276-0 to M11276-10	989,5	1700	1118,5	1700	115.2" to 105.2" (-0 to -10)	115,2	Aluminium Alloy
M11692-0 to M11692-10	932,1	1591	932,1	1591	118.7" to 108.7" (-0 to -10)	123,8	Aluminium Alloy
			HC-B5MA-3				
M11276-0 to M11276-10	1230,4	1700	1230,4	1700	115.2" to 105.2" (-0 to -10)	115,2	Aluminium Alloy
M11296-0 to M11296-10	1230,4	1700	1230,4	1700	115.2" to 105.2" (-0 to -10)	115,7	Aluminium Alloy
M11691-0 to M11691-10	1230,4	1700	1230,4	1700	118.7" to 108.7" (-0 to -10)	118,4	Aluminium Alloy
			HC-B5MA-2				
M9128-0 to M9128-6	1193,1	2000	1193,1	2000	94" to 88" (-0 to -6)	100,2	Aluminium Alloy
			HC-B5MA-5				
M11276-0 to M11276-10	1230,4	1700	1230,4	1700	115.2" to 105.2" (-0 to -10)	115,2	Aluminium Alloy
M11692-0 to M11692-10	1230,4	1552	1230,4	1552	118.7" to 108.7" (-0 to -10)	123,8	Aluminium Alloy
M11693-0 to M11693-10	1230,4	1552	1230,4	1552	118.7" to 108.7" (-0 to -10)	124,7	Aluminium Alloy

1. Maximum Take Off Power and Speed

See Table of Section IV.

2. Maximum Continuous Power and Speed

See Table of Section IV.

3. Propeller Pitch Angle

See Note 3.

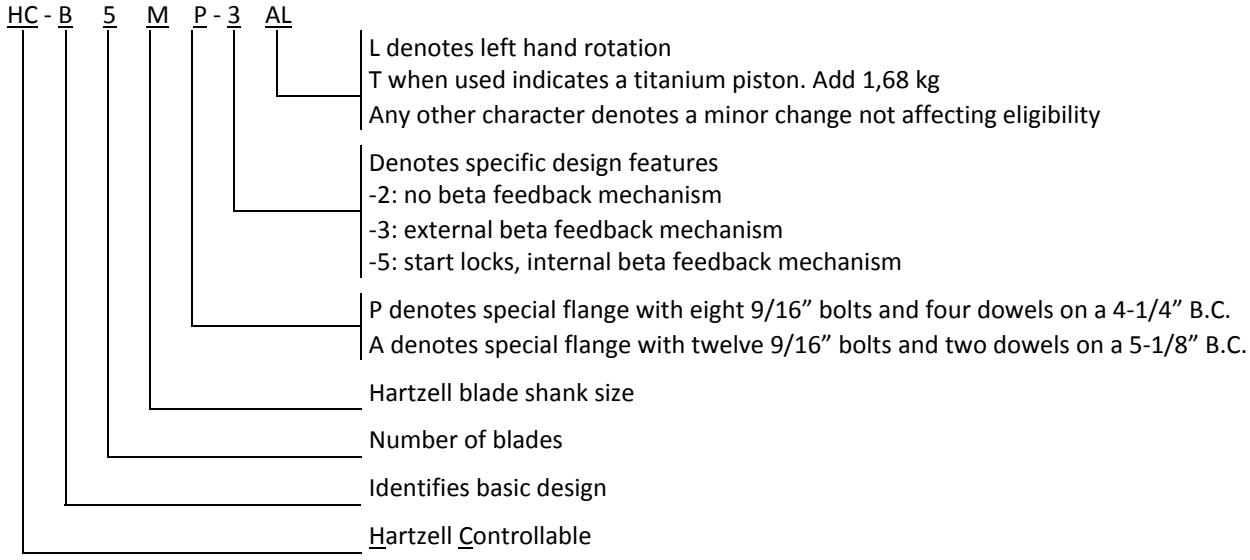
V. Operating and Service Instructions

Integration Manual	Hartzell Manual 190*
Standard Practices Manual	Hartzell Manual 202A*
Propeller Owner's Manual and Logbook	Hartzell Manual 139*
Aluminium Blade Overhaul Manual	Hartzell Manual 133C*
Metal Spinner Maintenance Manual	Hartzell Manual 127*
Five Blade Steel Hub Turbine Engine Propeller Overhaul and Maintenance Manual	Hartzell Manual 132A*
Service Bulletins	

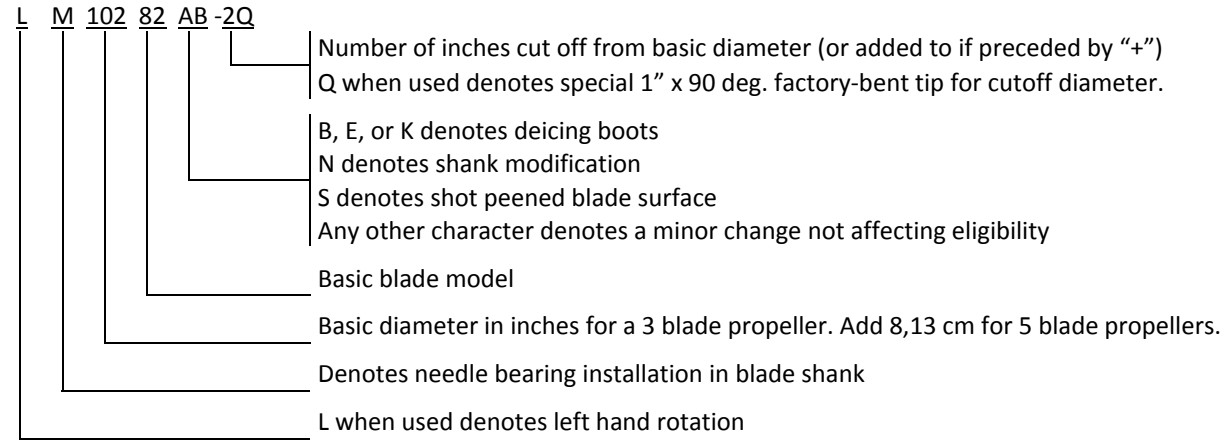
*: or later approved revision

VI. Notes

1. Hub Model Designation: (See Notes 4 and 5)



2. Blade Model Designation: (See Notes 5 and 6)



3. Pitch Control: (Weight of pitch control extra) (See Notes 4 and 10)

(a) All propeller models have counterweighted blades and use oil to decrease pitch.

(b) All governors and propeller control systems must be approved as part of the aircraft installation regardless of manufacturer.

(c) Maximum control pressure: 3447,4 kPa.

(d) The Hartzell propeller model HC-B5MA-2( ) with M9128( )blades is controlled by an integrated control system which is part of the engine type design. The propeller model HC-B5MA-2( ) with M9128( ) blades complies with the propeller airworthiness requirements when used with the Pratt & Whitney PT6A-68/3 and PT6A-68T engines. Any change to the engine, including its control system, which affects or may affect the propeller approval must be substantiated to demonstrate that the propeller as integrated with the changed engine, including its control system, still complies with the propeller certification basis. Also, any change to the engine resulting from a change to the propeller must be substantiated to demonstrate that the changed engine still complies with the engine certification basis.

4. Feathering:

(a) The -2, -3 and -5 models incorporate feathering and unfeathering features.

Reversing:

(a) The -3 and -5 models are approved for installation as reversing propellers with reversing controls.

(b) The -2 models do not reverse.

5. Left-Hand Models: (See Notes 1 and 2)

The left-hand version of an approved propeller model is approved at the same rating and diameter as listed for the right-hand model.

6. Interchangeability: (See Note 2)

(a) Blades with the suffix “N” in the basic model number may replace those without an “N” either individually or as a set. Likewise, blades with the suffix “S” in the basic model number may replace those without an “S” either individually or as a set. When the aircraft Type Certificate or Supplemental Type Certificate specifies blades with the letters “N” or “S” in the basic model number, those characters must be retained in all replacement blade models.

For example: Blades with neither “N” nor “S” may be replaced by “N”, “S” or “NS” blades,
“N” blades may be replaced by “NS” blades,
“S” blades may be replaced by “NS” blades.

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

7. Accessories:

(a) 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)

(b) 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)

8. Shank Fairings : Not applicable.

9. Special Limits: Not applicable.

10. The propeller installation must be approved as part of the aircraft Type Certificate to demonstrate compliance with the applicable aircraft airworthiness standards.

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.

11. Retirement Time:

(a) Life Limits and Mandatory Inspections

(1) Airworthiness limitations, if any, are specified in Hartzell Manuals 132 ( ).

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 Hartzell Manuals 132 ( ), chapter 5 "Airworthiness Limitations".

14. EASA Type Certificate and Type Certificate Data Sheet No. IM.P.129 replace the associated Type Certificates and Type Certificate Data Sheets of the EASA Member States.

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	03 March 2016	Initial Issue	03 March 2016

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