European Aviation Safety Agency

EASA

TYPE-CERTIFICATE DATA SHEET

Number : IM.P.127
Issue: 03
Date : 18 December 2014
Type : Hartzell Propeller Inc.
HC-B4T series propellers

Models
HC-B4TN-3
HC-B4TN-5
HC-B4TW-3

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I. General

1. Type / Models:

HC-B4T / HC-B4TN-3, HC-B4TN-5, HC-B4TW-3

2. Type Certificate Holder:

Hartzell Propeller Inc.
Piqua, OH 45356
USA

3. Manufacturer:

Hartzell Propeller Inc.

4. Date of Application:

HC-B4TN-3:	Before 1979*
HC-B4TN-5:	Before 1979*
HC-B4TW-3:	21 July 2014

*: The exact Date of Application was not recorded in individual EASA Member States.

5. EASA Certification Reference Date:

HC-B4TN-3, -5:	06 April 1971
HC-B4TW-3:	19 March 2013

6. EASA Certification Date:

HC-B4TN-3:	16 February 1979*
HC-B4TN-5:	16 February 1979*
HC-B4TW-3:	18 December 2014

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

II. Certification Basis

1. FAA Certification Basis: Refer to FAA TCDS no. P40EA.

2. EASA Certification Basis:

2.1 Airworthiness Standards:

HC-B4TN-5 (*):
14 CFR Part 35 with amendments 35-1 through 35-8 effective 24 October 2008.

HC-B4TN-3 (*):
14 CFR Part 35 with amendments 35-1 through 35-9 effective 19 March 2013.

HC-B4TW-3:
CS-P Amendment 1 effective 16 November 2006.

(*):
Application was made to EASA Member States before EASA was established. Refer to Commission Regulation (EU) No 748/2012.
The above mentioned 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.

2.2 Special Condition: None

2.3 Equivalent Safety Findings: None

2.4 Deviations: None

III. Technical Characteristics

1. Type Design Definition:

The propeller type is defined by a propeller assembly drawing that includes a parts list. The earliest applicable drawing revision is shown below:

HC-B4TN-3	Drawing D-3400 dated 16 September 1964
HC-B4TN-5	Drawing D-3420 dated 22 July 1964
HC-B4TW-3	Drawing 104117 dated 25 July 2011

2. Description:

The propeller is a 4-blade variable pitch propeller with a hydraulically operated blade pitch change mechanism providing the operation mode “Constant Speed”. The -3 and -5 models incorporate feathering and reversing features. (See Notes 1 and 4).
The hub is machined of steel alloy. The blade material is aluminium alloy. Optional equipment includes spinner and ice protection.

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. Operational Limits

Blade material: Aluminium Alloy

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)
HC-B4TN-3, HC-B4TN-5						
T9212-0 to T9212-10	634	2000	634	2000	236,2 to 210,8 (-0 to -10)*	71,6
T9216-0 to T9216-10	634	2000	634	2000	236,2 to 210,8 (-0 to -10)*	71,6
T10574-0 to T10574-16	708,4	1620	708,4	1620	269,2 to 228,6 (-0 to -16)*	74,8
T10574A-0 to T10574A-16	708,4	1620	708,4	1620	269,2 to 228,6 (-0 to -16)*	76,2
T10576-0 to T10576-16	708,4	1591	708,4	1591	269,2 to 228,6 (-0 to -16)*	77,1

T10173+1 to T10173-21	671,1	2200	671,1	2200	262,9 to 207,0 (+1 to -21)**	70,3
T10173AN-12,5 to T10173AN-21	559,3	2200	671,1	2200	228,6 to 207,0 (-12,5 to -21)**	71,2
T10173F-12,5 to T10173F-21	559,3	2200	708,4	2200	228,6 to 207,0 (-12,5 to -21)**	69,4
T10176+1 to T10176-21	671,1	2200	671,1	2200	262,9 to 207,0 (+1 to -21)**	70,3
T10178-0 to T10178-21	708,4	2200	708,4	2200	260,4 to 207,0 (-0 to -21)**	74,8
T10282-0 to T10282-22	708,4	2200	708,4	2200	261,6 to 205,7 (-0 to -22)*	74,8
T10282+6 to T10282-0	708,4 or 596,6	1591 or 2000	708,4 or 596,6	1591 or 2000	277,5 to 261,6 (+6 to -0)***	75,3
T10890N-0 to T10890N-6	708,4	1591	708,4	1591	278,1 to 262,9 (-0 to -6)**	84,4
HC-B4TN-5						
T10891N-0 to T10891N-6	708,4	1591	708,4	1591	278,1 to 262,9 (-0 to -6)**	84,4
HC-B4TW-3						
T10282N-0 to T10282N-22	708,4	2200	708,4	2200	261,6 to 205,7 (-0 to -22)*	75,3
HC-B4TN-3, HC-B4TW-3						
T10702N-0 to T10702N-10	708,4	2080	708,4	2080	274,3 to 248,9 (-0 to -10)*	78,0

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.

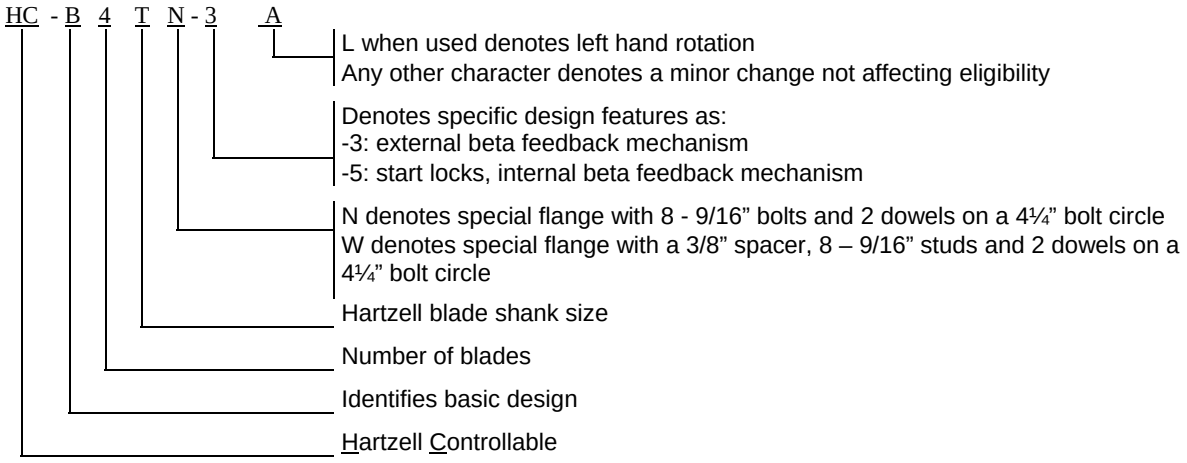
V. Operating and Service Instructions

Steel Hub Turbine Propeller Maintenance Manual	Hartzell Manuals 118F*
Standard Practices Manual	Hartzell Manual 202A*
Propeller Owner's Manual	Hartzell Manual 139*
Aluminum Blade Overhaul Manual	Hartzell Manual 133C*
Metal Spinner Maintenance Manual	Hartzell Manual 127*
Service Bulletins	

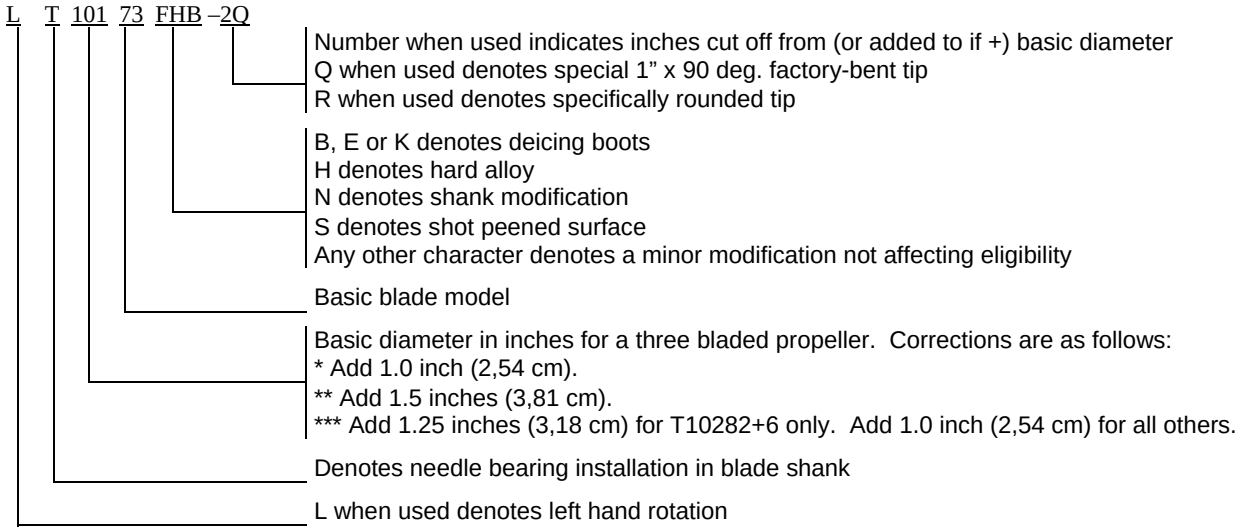
*: or later approved revision

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 models have counterweighted blades and use governor 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 for all models: 3447,38 kPa

4. Feathering: .

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

Reversing:

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

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) Hard and soft alloy blades of the same model designation are interchangeable.

(b) 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.

(c) 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 spinner must be approved as part of the aircraft installation regardless of Manufacturer. (See Note 10)

(b) Propeller deice (weight of deice system extra)

(1) Propeller models listed in this data sheet are approved for use with propeller protection equipment listed in Hartzell Manual 159 or in 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. Refer to the aircraft Type Certificate Data Sheet for the specific propeller model applicable to the installation.

11. Retirement Time:

(a) Life limits and mandatory inspections. Airworthiness limitations, if any, are specified in Hartzell Owner Manuals 139.

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 overhaul periods.

13. EASA Type Certificate and Type Certificate Data Sheet No. IM.P.127 replace the associated Type Certificates and Type Certificate Data Sheets of the EASA Member States.
