TYPE-CERTIFICATE DATA SHEET

No. IM.P.135

for Propeller
HC-H3Y()-(), PHC-H3Y()-()

Type Certificate Holder
Hartzell Propeller Inc.

One Propeller Place
Piqua, OH 45356-2634
USA

For Models:
HC-H3YF-(1,2)
PHC-H3YF-(1,2)
HC-H3YN-2

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I. General

1. Type / Models

HC-H3Y / HC-H3YF-(1,2), HC-H3YN-2
PHC-H3Y / PHC-H3YF-(1,2)

2. Type Certificate Holder

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

3. Manufacturer

Hartzell Propeller Inc.

4. Date of Application

HC-H3YF-(1,2):	09 August 2013
PHC-H3YF-(1,2):	09 August 2013
HC-H3YN-2:	09 August 2013

5. EASA Type Certification Date

HC-H3YF-(1,2):	08 April 2015
PHC-H3YF-(1,2):	08 April 2015
HC-H3YN-2:	08 April 2015

II. Certification Basis

1. State of Design Authority Certification Basis

Refer to FAA TCDS no. P35EA.

2. Reference Date for determining the applicable airworthiness requirements

18 August 1990.

3. EASA Certification Basis

3.1. Airworthiness Standards

HC-H3YF-(1,2); PHC-H3YF-(1,2); HC-H3YN-2:
JAR-P Change 7 effective 22 October 1987 plus Elect to Comply with CS-P 410(a) of CS-P Amdt. 1 effective 16 November 2006.

3.2. Special Conditions (SC)

None.

3.3. Equivalent Safety Findings (ESF)

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).

(P)HC-H3YF-1:	Drawing D-4245, rev AA, dated 06 October 1998
(P)HC-H3YF-2:	Drawing D-3280, rev H, dated 15 December 1970
HC-H3YN-2:	Drawing D-3280, rev H, dated 15 December 1970

2. Description

The HC-H3Y and PHC-H3Y propellers have 3 blades and a hydraulically operated variable pitch control with constant speed.
The -1 models do not feather. The -2 models incorporate feathering and unfeathering features (see Notes 3 and 4).
The hub is milled out of Aluminium alloy. The blade materials are 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

See Table of Section IV.

6. Hub / Blade Combinations

See Table of Section IV.

7. Control System

See Note 3.

8. Adaptation to Engine

See Note 1.

9. Direction of Rotation

See Note 5.

IV. Operating Limitations

Blades (see Note 2)	Maximum Continuous kW	Maximum Continuous RPM (min^{-1})	Take Off kW	Take Off RPM (min^{-1})	Diameter Limits (cm) (see Note 2)	Approx. Max Wt. Complete (kg) (see Notes 3 and 7)	Blade Construction
Non-Counterweighted Propellers HC-H3YF-1, PHC-H3YF-1							
7490-0 to 7490-10	261,0	2850	261,0	2850	193,0 to 167,6 (-0 to -10)	32,6	Aluminum Alloy
7691-0 to 7691-10	261,0	2850	261,0	2850	198,1 to 172,7 (-0 to -10)	34,9	Aluminum Alloy
7693-0 to 7693-10	261,0	2700	261,0	2700	198,1 to 172,7 (-0 to -10)	37,2	Aluminum Alloy
8068+2 to 8068-10	261,0	2700	261,0	2700	213,4 to 182,9 (+2 to -10)	36,7	Aluminum Alloy
8468-0 to 8468-14	298,3	2700	298,3	2700	218,4 to 182,9 (-0 to -14)	35,8	Aluminum Alloy
Counterweighted Propellers: PHC-H3YF-2							
C7453-0 to C7453-8	231,2	2800	231,2	2800	193,0 to 172,7 (-0 to -8)	38,6	Aluminum Alloy
Counterweighted Propellers: HC-H3YF-2; PHC-H3YF-2							
C7693-0 to C7693-10	298,3	2700	298,3	2700	198,1 to 172,7 (-0 to -10)	38,1	Aluminum Alloy
Counterweighted Propellers: HC-H3YF-2; HC-H3YN-2							
C7479-2 to C7479-8	283,4	2900	283,4	2900	187,9 to 172,7 (-2 to -8)	39,9	Aluminum Alloy
C7663-0 to C7663-10	231,2	2800	231,2	2800	198,1 to 172,7 (-0 to -10)	36,7	Aluminum Alloy
C7666-0 to C7666-10	231,2	2700	231,2	2700	198,1 to 172,7 (-0 to -10)	38,6	Aluminum Alloy
C8459-0 to C8459-14	231,2	2700	231,2	2700	218,4 to 182,9 (-0 to -14)	37,6	Aluminum Alloy
C8465-0 to C8465-14	231,2	2700	231,2	2700	218,4 to 182,9 (-0 to -14)	39,0	Aluminum Alloy

C8467-0 to C8467-14	231,2	2575	231,2	2575	218,4 to 182,9 (-0 to -14)	40,8	Aluminum Alloy
C8468-0 to C8468-14	231,2	2625	231,2	2625	218,4 to 182,9 (-0 to -14)	39,5	Aluminum Alloy
C8470-0 to C8470-14	231,2	2700	231,2	2700	218,4 to 182,9 (-0 to -14)	39,0	Aluminum Alloy
C8475+2 to C8475-0	324,4	2266	324,4	2266	223,5 to 218,4 (+2 to -0)	40,8	Aluminum Alloy
C8475-0 to C8475-14	231,2 or 324,4	2575 2266	231,2 or 324,4	2575 2266	218,4 to 182,9 (-0 to -14)	40,8	Aluminum Alloy
C8477-0 to C8477-14	231,2	2575	231,2	2575	218,4 to 182,9 (-0 to -14)	42,2	Aluminum Alloy
C9684-12 to C9684-18	238,6	2200	238,6	2200	213,4 to 198,1 (-12 to -18)	42,2	Aluminum Alloy

1. Approved Installations

See Note 9.

2. Maximum Take Off Power and Speed

See Table of Section IV.

3. Maximum Continuous Power and Speed

See Table of Section IV.

4. Propeller Pitch Angle

See Note 3.

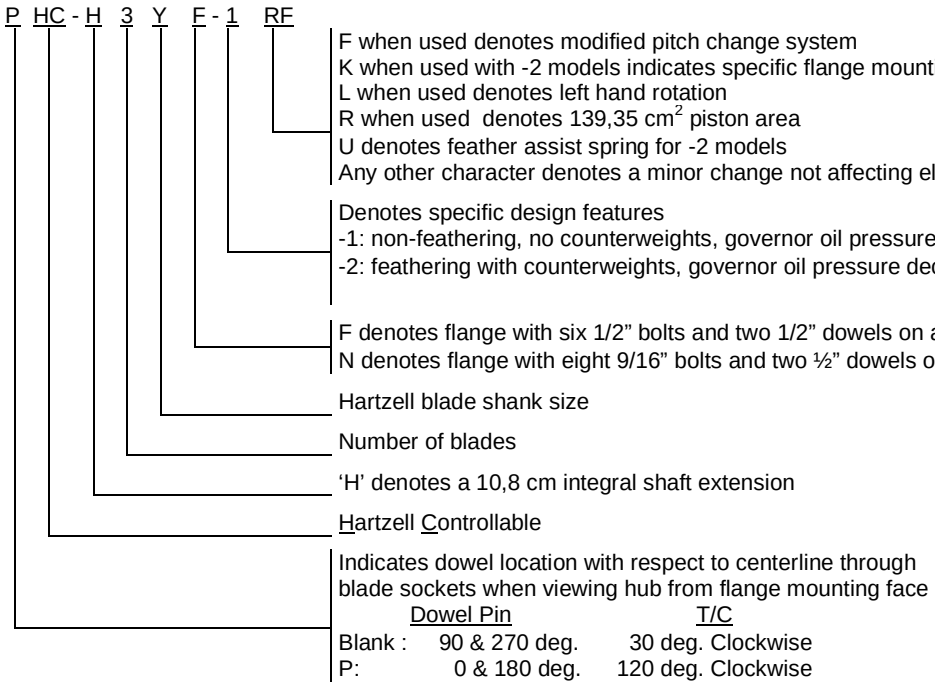
V. Operating and Service Instructions

Airworthiness Limitations	Hartzell Manual 115N (*) for propellers with aluminium blades
Overspeed Limits	Hartzell Manual 115N (*) for propellers with aluminium blades or Hartzell Manual 202A (*)
Propeller Owner's Manual	Hartzell Manual 115N (*) for propellers with aluminium blades
Blade Overhaul Manual	Hartzell Manual 133C (*)
Propeller Overhaul Manual	Hartzell Manual 117D (*)
Standard Practices Manual	Hartzell Manaul 202A (*)
Service Bulletins	

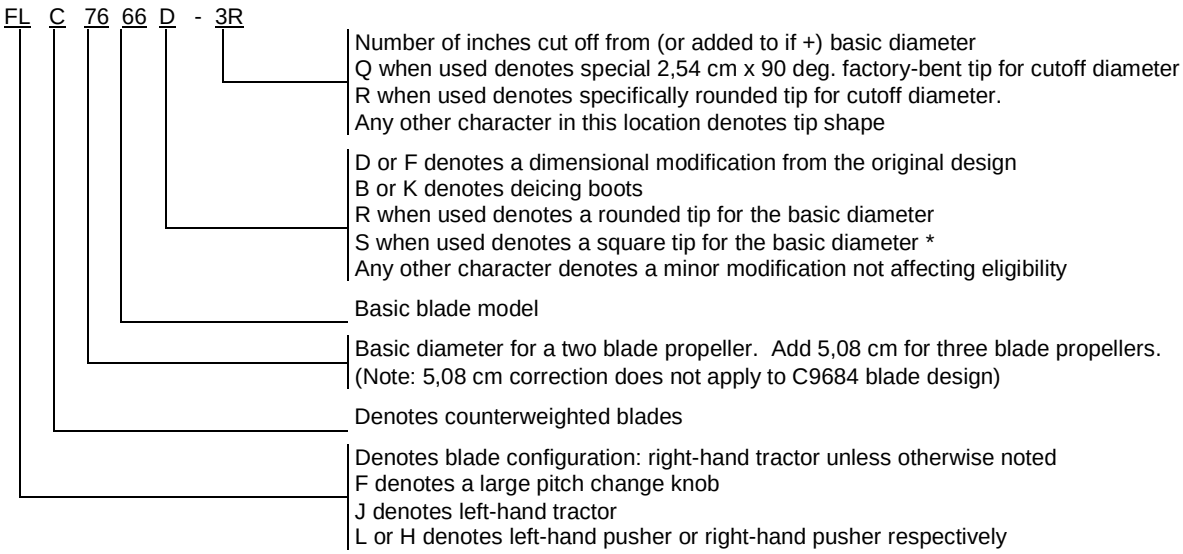
(*): or later approved revision

VI. Notes

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



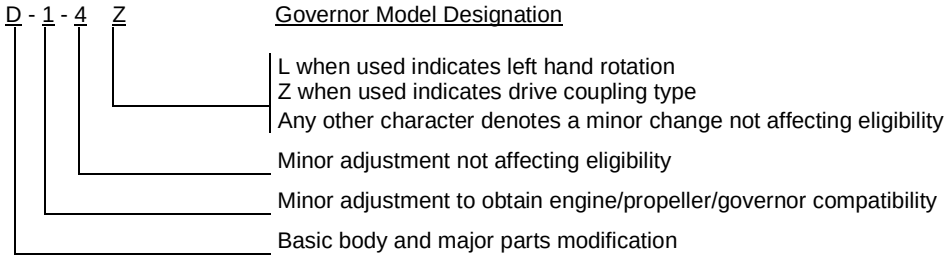
2. Blade Model Designation: (See Notes 5 and 6)



* : Blades may incorporate either round or square tips, yet may not be marked with an "R" or "S" in their model designation. This character is used to distinguish between two or more tip shapes available at the same diameter. Certain blades use "S" to denote shot peening of the exterior surface.

3. Pitch Control: (See Notes 4, 6 and 10)

(a) Approved with Hartzell governors per drawings C-4770 and C-4772. Wt.: 2,04 kg.



(b) The -1 propeller models use oil to increase pitch and do not have counterweighted blades. The -2 models have counterweighted blades and use oil to decrease pitch.

(c) Maximum governor output pressure: 2413,2 kPa for all propeller models

(d) All governors must be approved as part of the aircraft installation regardless of manufacturer.

4. Feathering: The -1 models do not feather.
The -2 models incorporate feathering and unfeathering features.

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 Notes 2 and 3)

(a) 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.

(b) Blades

Shot-peened blades may replace non shot-peened blades either individually or as a set.

(c) Ice protection systems

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

7. Accessories:

(a) Propeller anti-icing (weight of anti-icing system extra)

(1) Approved with fluid feed boots listed in Hartzell type design data when installed in accordance with Hartzell specification H-S-2 or Manual 133( ).

(2) Approved with fluid feed equipment listed in Hartzell type design data on propeller models for which equipment is available.

(b) Propeller deicing (weight of deicing equipment extra)

(1) Approved with Goodyear Ice Guards (electrical propeller deicer) when installed in accordance with instructions outlined in Goodyear Report no. AP-147 dated 23 October 1961.

(2) Approved with Goodrich electrical deicing kit 5E-XXXX-X, 7E-XXXX-X, 77-XXX, 67-XXX or 65-XXX when the specific kit number is listed on Hartzell type design data and installed in accordance with Goodrich Report no. ATA 30-60-07.

(3) Approved with ice protection equipment when listed on Hartzell type design data.

(c) Propeller spinner (weight of spinner extra)

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

8. Shank Fairings: Not applicable.

9. Special Limits:

Table of Propeller - Engine Combinations
Approved Vibrationwise for Use on Normal Category Single Engine Tractor Aircraft

The maximum and minimum propeller diameters that can be used from a vibration standpoint are shown below. No reduction below the minimum diameter listed is permissible, since this figure includes the diameter reduction allowable for repair purposes.

The engine models listed below are the configurations on the engine type certificate unless specifically stated otherwise. Modifications to the engine or airframe that alter the power of the engine models listed below during any phase of operation have the potential to increase propeller stresses and are not approved by this list. Such modifications include, but are not limited to, the addition of a turbocharger or turbonormalizer, increased boost pressure, increased compression ratio, increased RPM, altered ignition timing, electronic ignition, full authority digital engine controls (FADEC), or tuned induction or exhaust. Also, any change to the mass or stiffness of the crankshaft/counterweight assembly is not approved by this list.

Hub Model	Blade Model	Engine Model	Max. Dia. (cm)	Min. Dia. (cm)	Placards
PHC-H3YF	F7490	TCM TSIO-550-B	193,0	191,8	Do not exceed 76,2 cm manifold pressure below 2500 RPM
PHC-H3YF	F7490	TCM IO-550-G	193,0	191,8	none
PHC-H3YF	F7691( )	TCM IO-520-A, -B, -BA, BB, -C, -CB, -D, -E, -F, -J, -K, -L, -M, -MB	198,1	195,6	Do not exceed 50,8 cm manifold pressure below 2200 RPM
PHC-H3YF	F7691( )	TCM IO-550-A, -B, -C, -D, -F, -G, -L	198,1	195,6	Do not exceed 50,8 cm manifold pressure below 2200 RPM
HC-H3YF PHC-H3YF	F7693( )	TCM IO-550-A, -B, -C, -D, -E, - F, -G, -L, -N, -P, -R, TCM TSIO-550-B, -C, -E	198,1	190,5	none

10. Propeller installation must be approved as part of the aircraft Type Certificate to 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. 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

(1) Airworthiness limitations, if any, are specified in Hartzell Manuals 113( ), 115N or 117( ).

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.135 replace the associated Type Certificates and Type Certificate Data Sheets of the EASA Member States.

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

None.

II. Type Certificate Holder Record

N/A.

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	08 April 2015	Initial Issue	08 April 2015

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