

型号认可证数据单
THE VALIDATION DATA SHEET

编号/No: VTC0287P
版次/Revision: 1
型号/Type: HC-H3Y, PHC-H3Y
型别/Model:
HC-H3Y
PHC-H3Y

批准人/Approved By:



职务/Title: Director General

日期/date: 2024年06月04日

本数据单是型号认可证（编号：VTC0287P）的组成部分，它规定了符合中国民用航空局的适航要求所颁发此型号认可证的产品状态和限制。

This data sheet, which is part of Validation of Type Certificate (No: VTC0287P), prescribes condition and limitation under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulation.

型号认可证持有人/Validation of Type Certificate Holder:

Hartzell Propeller Inc
One Propeller Place, Piqua, OH 45356, USA

第1部分 概述（所有型别）
SECTION 1 General（ALL MODELS）

1. 型号认可证数据单版次信息以及修订记录/ Revision and Change Record of the Validation of Type Certificate Data Sheet

数据单版次信息/Revision of the Type Certificate Data Sheet

	中国民用航空局认可数据单号、版次和颁发日期 CAAC Validation Data Sheet Number, Revision and Issuance date	型号合格证数据单号，版次和颁发日期 Type Certificate Data Sheet Number, Revision and Issuance date
当前/ Current	VTC0287P, 版次1, 2024年6月4日 VTC0287P, Revision 1, June 4, 2024	P35EA, 第17版, 2022年12月2日 P35EA, Issue 17, December 2, 2022
历史 History	VTC0287P, 版次0, 2014年03月03日 VTC0287P, Revision 0, March 03 2014	P35EA, 第15版, 2009年08月17日 P35EA, Issue 15, August 17, 2009

注：上表中出口国局方型号合格证数据单信息仅供参考
Note: Above TCDS information of Certification Authority is only for reference

认可数据单修订记录/ Change Record of the VTCDS

版次/ Revision	相对上一版的修订记录 Change Record	备注 Remark
Rev 1	1.增加了HC-H3YF-1RF/F7392-1型别 Add propeller model HC-H3YF-1RF/F7392-1. 2. HC-H3YF-1的审定基础由美国14CFR35部35-1至35-6修正案变更为美国14CFR35部35-1至35-10修正案 Certification Basis for HC-H3YF-1 was changed from 14 CFR Part 35 with amendments 35-1 through 35-6 to 14 CFR Part 35 with amendments 35-1 through 35-10. 3.修改注释7，更新防冰系统审定要求及参考手册号，更新螺旋桨整流罩审定要求。 Revise Note 7 to update the certification requirements and reference manual number for anti-icing systems, and update the certification requirements for propeller fairing. 4.修改注释11，补充适航限制改变的评估要求。 Revise Note 11 to add assessment requirement for possible changes in the airworthiness limitations. 5.更新桨毂型号标识和桨叶型号标识部分说明。 Update some explanation for Hub Model Designation and Blade Model Designation	

2. 类别/Category:螺旋桨/Propeller
3. 认可当局/Validation Authority:中国民用航空局/CAAC
 审定当局/Certifying Authority:美国联邦航空局/FAA
4. 型号合格证持有人/Type Certificate Holder:Hartzell Propeller Inc, Piqua, OH 45356 U.S.A
5. 制造厂/ Manufacturer:Hartzell Propeller Inc

6. 双发延程飞行/ETOPS: 不适用/NA

7. CAAC专用要求/CAAC Special Requirements: 无/NONE

第2部分 数据单

SECTION 2 DATA SHEET

A. 审定基础/Certification Basis

1. 适航标准/ Airworthiness Standards:

1965年2月1日生效的美国民用航空规章14CFR35部及其35-1至5修正案。

14 CFR Part 35 effective February 1, 1965 with amendments 35-1 and 35-2 thereto.

按照14CFR21部J分部DOA程序, 1970年12月31美国颁发型号合格证P35EA号。

Type Certificate No. P35EA issued December 31, 1970 under Delegated Option Authorization procedures of 14 CFR Part 21 Subpart J.

型号合格证申请日期:1970年12月15日

Date of application for Type Certificate: December 15, 1970.

下列型号根据原审定基础批准:

The following models were approved to the original certification basis:

HC-H3YF-(2,3); HC-H3YN-2

下列型号按照1990年8月18日生效的美国14CFR35部35-1至35-6修正案增加、更新或修订:

Models added, updated or revised in accordance with 14 CFR Part 35 effective August 18, 1990 with amendments 35-1 through 35-6 include the following:

HC-H3YF-(1,2,3); PHC-H3YF-(1,2); HC-H3YN-2

下列型号按照2017年8月30日生效的美国14CFR35部35-1至35-10修正案增加、更新或修订:

The following models were added, updated or revised in accordance with 14 CFR Part 35 with amendments 35-1 through 35-10 effective August 30, 2017:

HC-H3YF-1

2. 专用条件/ Special Conditions (SC): 无/none

3. 等效安全项目/ Equivalent Safety Findings (ESF): 无/none

4. 偏离/Deviations: 无/none

5. 环境标准/Environmental Standards: 无/none

6. 生产基础/Production Basis: 生产许可证第 10 号。/Production Certificate no.10

B. 技术特性/Technical Characteristics

型号:恒速型: 液压 (见注3和4)

Type: Constant speed; hydraulic (See Notes 3 and 4).

发动机轴:特殊法兰 (见注1)

Engine shaft: Special flange (See Note 1).

毂材料:铝合金

Hub material: Aluminum Alloy.

桨叶材料:见以下

Blade material: See Below.

桨叶数:三个

Number of blades: Three

桨毂型号:

HC-H3YF-1, -2, -3; PHC-H3YF-1, -2; HC-H3YN-2

Hub models:

HC-H3YF-1, -2, -3; PHC-H3YF-1, -2; HC-H3YN-2

桨叶 (见注2)	最大连续		起飞		直径限制 (见注2)	大约最大全重 (供参考) (见注 3和7)	桨叶结构 (见注 10)
	马力	转数	马力	转数			
<u>无配重螺旋桨HC-H3YF-1, PHC-H3YF-1</u>							
7392-0 至 7392-7	350	2850	350	2850	75英寸 至 68英寸 (-0 至 -7)	70.1磅	铝合金
7490-0 至 7490-10	350	2850	350	2850	76英寸 至 66英寸 (-0 至 -10)	72.0磅	铝合金
7691-0 至 7691-10	350	2850	350	2850	78英寸 至 68英寸 (-0 至 -10)	77.0磅	铝合金
7693-0 至 7693-10	350	2700	350	2700	78英寸 至 68英寸 (-0 至 -10)	82.0磅	铝合金
8608+2 至 8608-10	350	2700	350	2700	84英寸 至 72英寸 (+2 至 -10)	81.0磅	铝合金
8468-0 至 8468-14	400	2700	400	2700	86英寸 至 72英寸 (-0 至 -14)	79.0磅	铝合金
<u>配重螺旋桨: PHC-H3YF-2</u>							
C7453-0 至 C7453-8	310	2800	310	2800	76英寸 至 68英寸 (-0 至 -8)	85.0磅	铝合金
<u>配重螺旋桨: HC-H3YF-2; PHC-H3YF-2</u>							
C7693-0 至 C7693-10	400	2700	400	2700	78英寸 至 68英寸 (-0 至 -10)	84.0磅	铝合金
<u>配重螺旋桨: HC-H3YF-2, -3; HC-H3YN-2</u>							
C7479-2 至 C7479-8	380	2900	380	2900	74英寸 至 68英寸 (-2 至 -8)	88.0磅*	铝合金
C7663-0 至 C7663-10	310	2800	310	2800	78英寸 至 68英寸 (-0 至 -10)	81.0磅*	铝合金
C7666-0 至 C7666-10	310	2700	310	2700	78英寸 至 68英寸 (-0 至 -10)	85.0磅*	铝合金
C8459-0 至 C8459-14	310	2700	310	2700	86英寸 至 72英寸 (-0 至 -14)	83.0磅*	铝合金
C8465-0 至 C8465-14	310	2700	310	2700	86英寸 至 72英寸 (-0 至 -14)	86.0磅*	铝合金

桨叶	最大连续		起飞		直径限制	近似最大全重（供参考）	桨叶结构
（见注2）	马力	转数	马力	转数	（见注2）	（见注 3和7）	（见注 10）
C8467-0 至 C8467-14	310	2575	310	2575	86英寸 至 72英寸 （-0 至 -14）	90.0磅*	铝合金
C8568-0 至 C8568-14	310	2625	310	2625	86英寸 至 72英寸 （-0 至 -14）	87.0磅*	铝合金
C8470-0 至 C8470-14	310	2700	310	2700	86英寸 至 72英寸 （-0 至 -14）	86.0磅*	铝合金
C8475+2 至 C8475-0	435	2266	435	2266	88英寸 至 86英寸 （+2 至 -0）	90.0磅*	铝合金
C8475-0 至 C8475-14	310	2575	310	2575	86英寸 至 72英寸 （-0 至 -14）	90.0磅*	铝合金
	或		或				
	435	2266	435	2266			
C8477-0 至 C8477-14	310	2575	310	2575	86英寸 至 72英寸 （-0 至 -14）	93.0磅*	铝合金
C9684-12 至 C9684-18	320	2200	320	2200	84英寸 至 78英寸 （-12 至 -18）	93.0磅*	铝合金

*重量仅适用于-2 型号螺旋桨。-3 型号重量增加 7 磅。

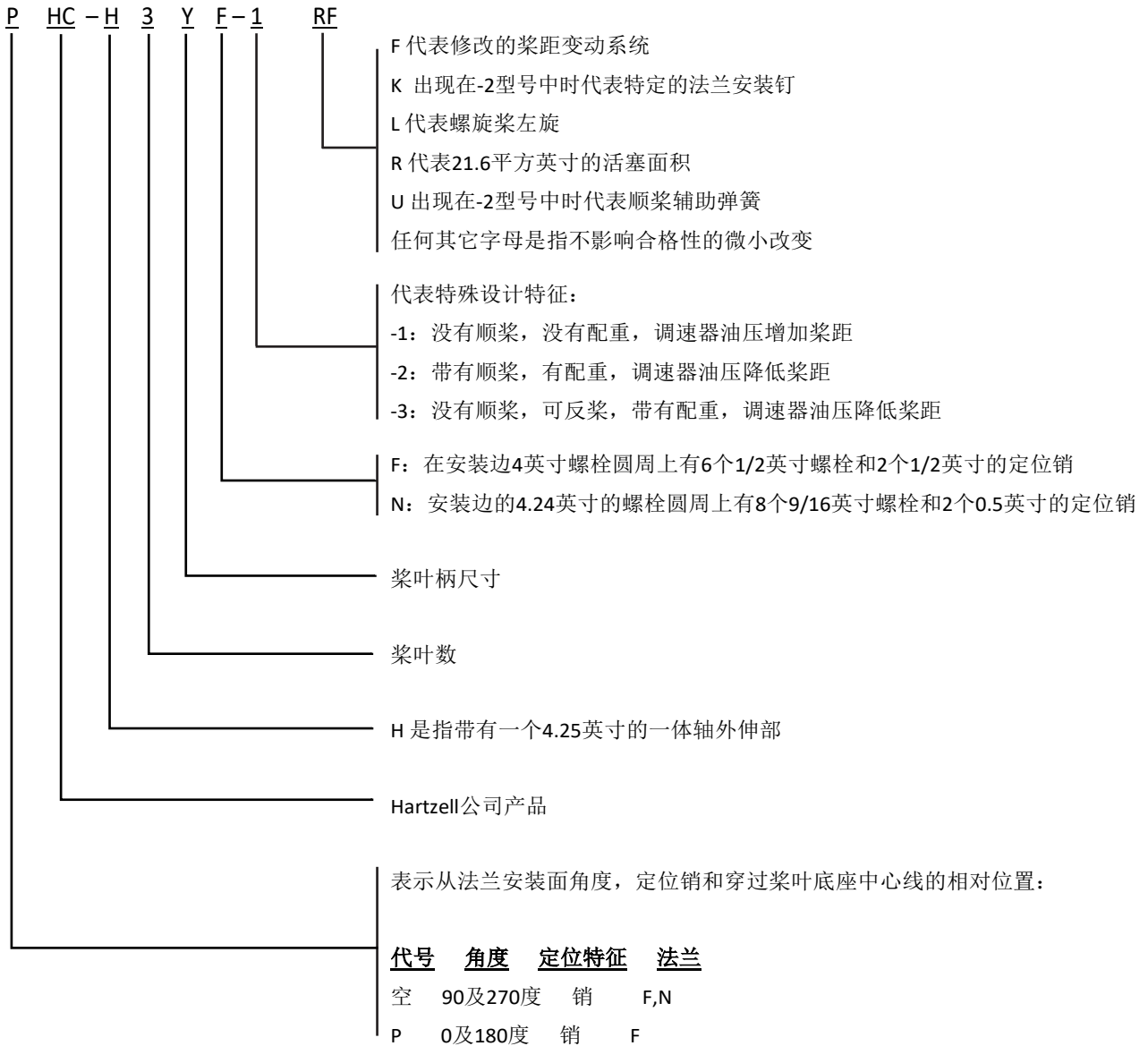
Blade	Maximum Continuous		Takeoff		Diameter Limits	Approx. Max. Wt. Complete (For Reference Only)	Blade Construction
（See Note 2）	HP	RPM	HP	RPM	（See Note 2）	（See Note 3 and 7）	
<u>Non-Counterweighted Propellers HC-H3YF-1, PHC-H3YF-1</u>							
7392-0 7392-7	350	2850	350	2850	75” to 68” （-0 to -7）	70.1lb.	Aluminum Alloy
7490-0 to 7490-10	350	2850	350	2850	76” to 66” （-0 to -10）	72.0lb.	Aluminum Alloy
7691-0 to 7691-10	350	2850	350	2850	78” to 68” （-0 to -10）	77.0lb.	Aluminum Alloy
7693-0 to 7693-10	350	2700	350	2700	78” to 68” （-0 to -10）	82.0lb.	Aluminum Alloy
8608+2 to 8608-10	350	2700	350	2700	84” to 72” （+2 to -10）	81.0lb.	Aluminum Alloy
8468-0 to 8468-14	400	2700	400	2700	86” to 72” （-0 to -14）	79.0lb.	Aluminum Alloy

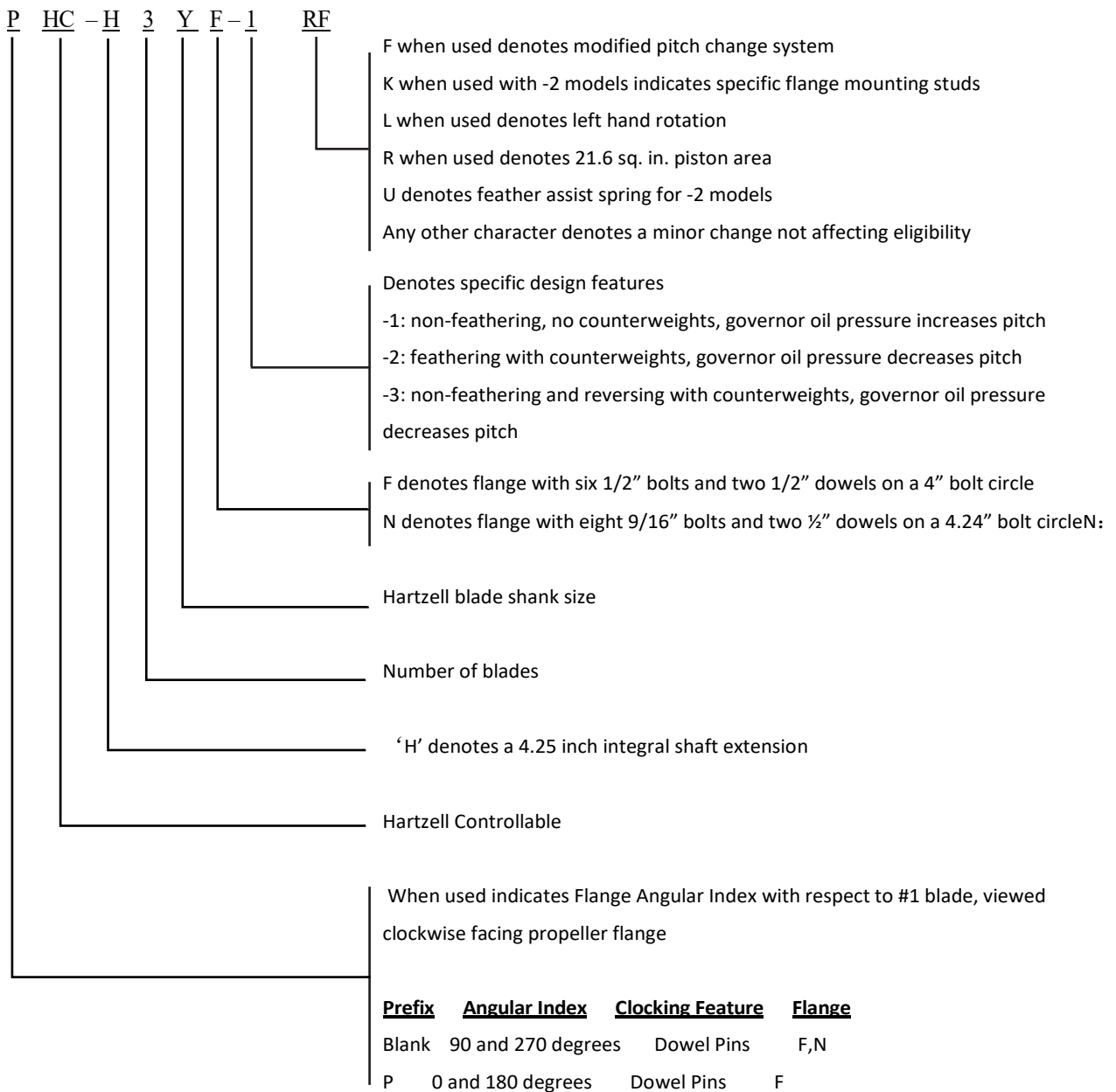
Blade	Maximum Continuous		Takeoff		Diameter Limits	Approx. Max. Wt. Complete (For Reference Only)	
(See Note 2)	HP	RPM	HP	RPM	(See Note 2)	(See Note 3 and 7)	
<u>Counterweighted Propellers: PHC-H3YF-2</u>							
C7453-0 to C7453-8	310	2800	310	2800	76” to 68” (-0 to -8)	85.0lb.	Aluminum Alloy
<u>Counterweighted Propellers: HC-H3YF-2; PHC-H3YF-2</u>							
C7693-0 to C7693-10	400	2700	400	2700	78” to 68” (-0 to -10)	84.0lb.	Aluminum Alloy
<u>Counterweighted Propellers: HC-H3YF-2, -3; HC-H3YN-2</u>							
C7479-2 to C7479-8	380	2900	380	2900	74” to 68” (-2 to -8)	88.0lb.*	Aluminum Alloy
C7663-0 to C7663-10	310	2800	310	2800	78” to 68” (-0 to -10)	81.0lb.*	Aluminum Alloy
C7666-0 to C7666-10	310	2700	310	2700	78” to 68” (-0 to -10)	85.0lb.*	Aluminum Alloy
C8459-0 to C8459-14	310	2700	310	2700	86” to 72” (-0 to -14)	83.0lb.*	Aluminum Alloy
C8465-0 to C8465-14	310	2700	310	2700	86” to 72” (-0 to -14)	86.0lb.*	Aluminum Alloy
C8467-0 to C8467-14	310	2575	310	2575	86” to 72” (-0 to -14)	90.0lb.*	Aluminum Alloy
C8568-0 to C8568-14	310	2625	310	2625	86” to 72” (-0 to -14)	87.0lb.*	Aluminum Alloy
C8470-0 to C8470-14	310	2700	310	2700	86” to 72” (-0 to -14)	86.0lb.*	Aluminum Alloy
C8475+2 to C8475-0	435	2266	435	2266	88” to 86” (+2 to -0)	90.0lb.*	Aluminum Alloy
C8475-0 to C8475-14	310	2575	310	2575	86” to 72” (-0 to -14)	90.0lb.*	Aluminum Alloy
	or		or				
	435	2266	435	2266			
C8477-0 to C8477-14	310	2575	310	2575	86” to 72” (-0 to -14)	93.0lb.*	Aluminum Alloy
C9684-12 to C9684-18	320	2200	320	2200	84” to 78” (-12 to -18)	93.0lb.*	Aluminum Alloy

*Weights apply to -2 propellers only. Add 7 lbs. for -3 models.

C. 注释/Notes

1. 桨毂型号标识 （见注 4 和 5） / Hub Model Designation (See Notes 4 and 5)



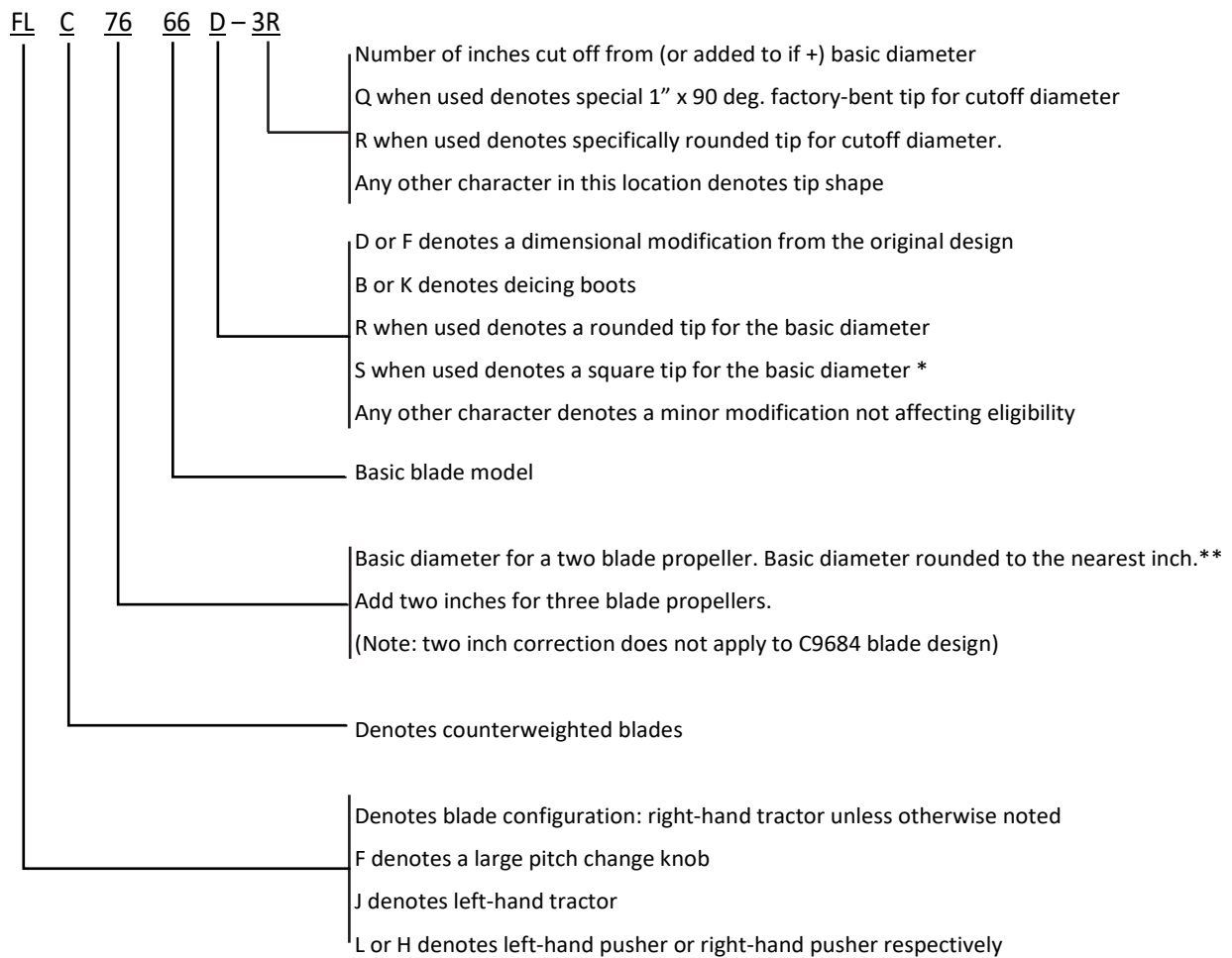


2. 桨叶的型号标识（见注 5 和 6） / Blade Model Designation (See Notes 4 and 5)



*桨叶梢可能是方型或圆形，但在型号表示中可能不会用“R”或“S”标注。字母“S”是用来区分在同一直径下两种或更多桨叶梢形状。某些桨叶采用“S”代表桨叶外表面经过喷丸处理。

**直径限制是装配螺旋桨的公称直径。其不包括+或- 1/8 英寸的制造公差（FAA 对于基础尺寸小于 14 英尺螺旋桨的允许值）。

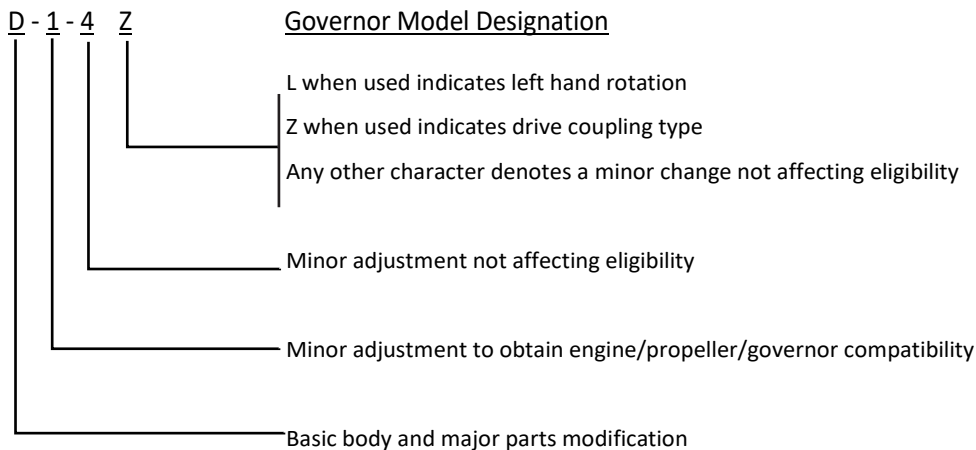
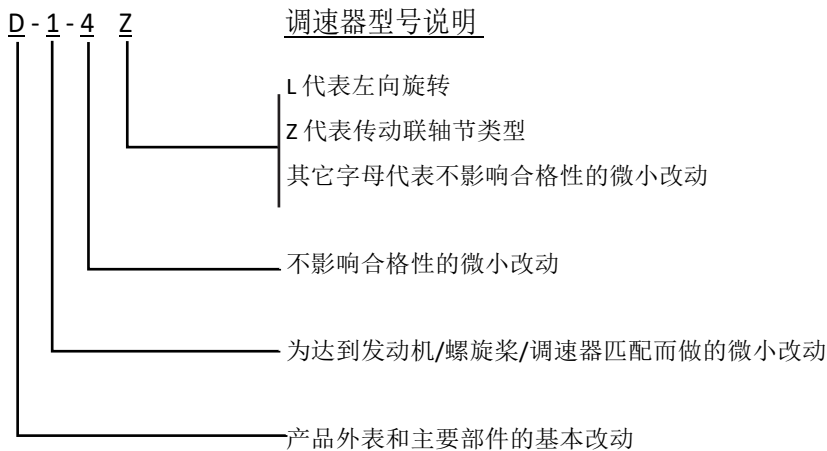


* Blades may incorporate either round or square tips, yet may not be marked with an “R” or “S” in their model designation. This character is used to distinguish between two or more tip shapes available at the same diameter. Certain blades use “S” to denote shot peening of the exterior surface.

** Diameter limits are nominal diameters of the assembled propeller. They do not include the + or – 1/8 inch manufacturing tolerance the FAA allows for propellers with a basic diameter of less than 14 feet.

3. 桨距控制 (见注 4, 6 和 10) / Pitch Control (See Notes 4, 6 and 10)

- (a) 根据图纸 C-4770 和 C-4772 与 Hartzell 调速器一同批准。重量: 4.5 磅。
Approved with Hartzell governors per drawings C-4770 and C-4772. Wt.: 4.5 lb.



- (b) -1 型号不带配重桨叶, 且用调速器滑油增加桨距。-2 及-3 型号带有配重桨叶, 并使用调速器滑油减小桨距。

The -1 propeller models use oil to increase pitch and do not have counterweighted blades. The -2 and -3 models have counterweighted blades and use oil to decrease pitch.

- (c) 最大调速器输出压力: 350 psi (针对所有螺旋桨型号)

Maximum governor output pressure: 350 psi for all propeller models.

- (d) 无论何制造商, 所有调速器必须作为航空器的一部分获得批准。

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

4. 顺桨/Feathering

-1 和-3 型号没有顺桨特性/ The -1 and -3 models do not feather.

-2型号带有顺桨和非顺桨特性/ The -2 models incorporate feathering and unfeathering features.

反桨/Reversing -3型号带有由相应反桨控制器控制的反桨特性。

The -3 models are eligible for installation as reversing propellers with appropriate reversing controls.

5. 左转向型号 (见注 1 和 2) /Left-Hand Models (See Notes 1 and 2)

左转向和右转向螺旋桨型号在同一级别和直径条件下批准。

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.互换性（见注 2 和 3）/Interchangeability (See Notes 2 and 3)

(a) 调速器/Governors

型号后缀带有“Z”的Hartzell调速器与相对应型号后缀不带有“Z”的调速器可以互换。例如，F-6-24Z可以以替换F-6-24，反之亦然。

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) 桨叶/Blades

经过喷丸处理的桨叶可单个或整套替换非喷丸处理的桨叶。

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

(c) 防冰系统/Ice protection systems

防冰系统部件的互换性，参考Hartzell服务信函HC-SL-30-260。

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

7.附件/Accessories

(a) 螺旋桨防冰系统（防冰装置重量另计）/Propeller ice protection system (weight of ice protection equipment extra)

(1) 本数据单中列出的螺旋桨型号均获批与 Hartzell 维护手册 159 () 或其他 Hartzell 设计文件中列出的螺旋桨防冰设备一起使用。

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) 无论何制造商，所有螺旋桨防冰设备必须作为航空器的一部分获得批准。（见注 10）

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

(b) 螺旋桨整流罩（整流罩重量另计）/Propeller spinner (weight of spinner extra)

(1) 列入 Hartzell 型号设计数据时，与 Hartzell 或其他制造商的毂帽一起批准。

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

(2) 无论何制造商，所有螺旋桨毂帽必须作为航空器的一部分进行批准。（见注 10）。

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

8.叶柄整流罩/Shank Fairings 不适用/Not applicable.

9.特别限制/Special Limits

被批准用于通常类单引擎牵引式飞机上的螺旋桨-发动机匹配表

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

从振动的角度确定的最大与最小螺旋桨直径尺寸见下表。不允许比最小直径小的情况发生，因为最小直径数值已经考虑了由于修理而造成的可接受尺寸减少的情况。

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.

下列发动机型号来自发动机型号许可证（除非另有说明）。任何发动机或飞机结构的更改，如果致使在飞机运行的任何阶段下列发动机的动力发生改变，则这种更改可能会增加对螺旋桨的压力，且不在此清单批准范围内。此类改变包括（但不限于）增加涡轮增压器或涡轮稳压器，增加升压压力，增加压缩比，增加转速，改变点火器正时、电子点火器、FADEC 数字发动机控制器，或者调节进气或排气。同时，对于机轴、配重安装的材料质量或硬度的更改也在本表的批准范围内。

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.

桨毂型号	桨叶型号	发动机型号	最大直径 (英寸)	最小直径 (英寸)	备注
Hub Model	Blade Model	Engine Model	Max. Dia. (inches)	Min. Dia. (inches)	Placard
PHC-H3YF	F7490	TCM TSIO-550-B	76	75.5	低于 2500RPM 时，不要超过 30 英寸主管压力 Do not exceed 30 in. manifold pressure below 2500 RPM
PHC-H3YF	F7490	TCM IO-550-G	76	75.5	无/None
PHC-H3YF	F7691 ()	TCM IO-520-A,-B,-BA,-BB, -C,-CB,-D,-E,-F,-J,-K, -L-M,-MB	78	77	低于 2200RPM 时，不要超过 20 英寸主管压力 Do not exceed 20 in. manifold pressure below 2200 RPM
PHC-H3YF	F7691 ()	TCM IO-550-A,-B,-C,-D,-F, -G,-L	78	77	低于 2200RPM 时，不要超过 20 英寸主管压力 Do not exceed 20 in. 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,	78	75	无/None

10.螺旋桨必须作为飞机型号合格证的一部分获得批准，进而符合相关的飞机适航要求。

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

此数据单列出的螺旋桨型号包括桨毂和桨叶的基本型号。大多数螺旋桨型号包括附加的字母以表明注1和注2中所解释的小改动和特定性能。参照航空器型号合格证数据单以确定适用的螺旋桨的具体型号。

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. 报废时间/Retirement Time

(a) 寿命限制及强制检查/Life Limits and Mandatory Inspections

(1) 如果有适航限制，则参考 Hartzell 手册 113 ()，115N 或 117 ()。
Airworthiness limitations, if any, are specified in Hartzell Manuals 113(), 115N or 117()

(2) 螺旋桨 CMACO 必须评估每个新航空器上的螺旋桨安装，以评估适航限制可能的改变。

The propeller CMACO must evaluate the propeller installation for each new aircraft installation to assess possible changes in the airworthiness limitations.

12. 特别提示/Special Notes

(a) 有关超速和超扭限制，参见 Hartzell 手册第 202 ()。

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

(b) 有关大修周期，参考 Hartzell 服务信函 HC-SL-61-61 ()。

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

结束
.... END....