TYPE-CERTIFICATE DATA SHEET

No. IM.P.517

For

( )HC-G3Y series propellers

Type Certificate Holder
Hartzell Propeller LLC

One Propeller Place
Piqua, OH 45356-2634
USA

For Models: HC-G3YF-1, -2
EHC-G3YF-1, -2
PHC-G3YF-1, -2
HC-G3YR-4
PHC-G3Y1F-1
HC-G3Y1F-1

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I. General

1. Type/ Model

HC-G3Y / HC-G3YF-1, -2, HC-G3YR-4, HC-G3Y1F-1
EHC-G3Y / EHC-G3YF-1, -2
PHC-G3Y / PHC-G3YF-1, -2, PHC-G3Y1F-1

2. Type Certificate Holder

Hartzell Propeller LLC
One Propeller Place
Piqua, OH 45356-2634
USA

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

3. Manufacturer

Hartzell Propeller LLC

4. Date of Application

HC-G3YF-1:	26 August 2002*	HC-G3YR-4:	14 March 2025
HC-G3YF-2:	26 August 2002*	PHC-G3Y1F-1:	14 March 2025
EHC-G3YF-1:	26 August 2002*	HC-G3Y1F-1:	14 March 2025
EHC-G3YF-2:	26 August 2002*		
PHC-G3YF-1:	26 August 2002*		
PHC-G3YF-2:	26 August 2002*		

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

5. EASA Type Certification Date

HC-G3YF-1:	08 November 2008*	HC-G3YR-4:	10 February 2026
HC-G3YF-2:	08 November 2008*	PHC-G3Y1F-1:	10 February 2026
EHC-G3YF-1:	08 November 2008*	HC-G3Y1F-1:	10 February 2026
EHC-G3YF-2:	08 November 2008*		
PHC-G3YF-1:	08 November 2008*		
PHC-G3YF-2:	08 November 2008*		

*: 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. P55GL.

2. Reference Date for determining the applicable airworthiness requirements

12 January 1978
18 August 1990: HC-G3YF-2, PHC-G3YF-2 and EHC-G3YF-1, -2*
30 August 2017: HC-G3YF-1, PHC-G3YF-1, HC-G3YR-4, PHC-G3Y1F-1 and HC-G3Y1F-1*
*: The Reference Date was not known, the date of the applicable requirement from the CA will be used.

3. EASA Certification Basis

3.1. Airworthiness Standards

HC-G3YF-2, PHC-G3YF-2 and EHC-G3YF-1, -2:
14 CFR Part 35 with amendments 35-1 through 35-6 effective 18 August 1990.

HC-G3YF-1, PHC-G3YF-1, HC-G3YR-4, PHC-G3Y1F-1 and HC-G3Y1F-1:
CS-P Amendment 1 dated 16 November 2006 as issued by EASA Decision No 2006/09/R.

Note 1: Application was made to EASA Member States before EASA was established. Refer to Commission Regulation (EU) No 748/2012.
Note 2: 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.

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-G3YF-1:	Drawing D-3250 dated 03.02.2017 (aluminum blades)
HC-G3YF-1N	Drawing 101807 dated 14.06.2019 (composite blades)
HC-G3YF-2:	Drawing D-3255 dated 16.12.2016
EHC-G3YF-1:	Drawing D-3250 dated 03.02.2017
EHC-G3YF-2:	Drawing D-3255 dated 16.12.2016
PHC-G3YF-1E:	Drawing E-7334 dated 12.11.2024 (7890 blade)
PHC-G3YF-1RF	Drawing 3250 dated 03.02.2017 (aluminum blades)
PHC-G3YF-2:	Drawing D-3255 dated 16.12.2016
HC-G3YR-4:	Drawing 102602 dated 05.04.2020
PHC-G3Y1F-1:	Drawing 108386 dated 25.05.2021
HC-G3Y1F-1:	Drawing 108386 dated 25.05.2021

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 -1 and -4 models do not feather, the -2 model incorporate feathering and unfeathering features. (See Notes 1 and 4).
The hub is a two-piece aluminium alloy. Each blade is supported in the hub with a ball thrust bearing.
The blade materials are:
- Aluminium alloy and
- Composite.

Optional equipment includes spinner and ice protection (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. 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 HC-G3YF-1, EHC-G3YF-1, PHC-G3YF-1				
7392-0 to 7392-10	261,0	2850	261,0	2850	190,5 to 165,1 (-0 to -10)	33,3	Aluminum Alloy
7663-0 to 7663-10	231,2	2850	231,2	2850	198,1 to 172,7 (-0 to -10)	31,7	Aluminum Alloy
7666-0 to 7666-10	231,2	2700	231,2	2700	198,1 to 172,7 (-0 to -10)	34,9	Aluminum Alloy
7691-0 to 7691-10	261,0	2850	261,0	2850	198,1 to 172,7 (-0 to -10)	30,8	Aluminum Alloy
7693-0 to 7693-10	261,0	2700	261,0	2700	198,1 to 172,7 (+2 to -10)	33,6	Aluminum Alloy
8068+2 to 8068-10	261,0	2700	261,0	2700	213,4 to 182,9 (+2 to -10)	35,6	Aluminum Alloy
8068-2 to 8068-10	261,0	2700	231,2	2850	203,2 to 182,9 (-2 to -10)	35,6	Aluminum Alloy
8459-0 to 8459-14	298,3	2700	298,3	2700	218,4 to 182,9 (-0 to -14)	33,1	Aluminum Alloy
8465-0 to 8465-14	298,3	2700	298,3	2700	218,4 to 182,9 (-0 to -14)	34,0	Aluminum Alloy
8467-0 to 8467-14	298,3	2575	298,3	2575	218,4 to 182,9 (-0 to -14)	35,8	Aluminum Alloy
8468-0 to 8468-14	298,3	2700	298,3	2700	218,4 to 182,9 (-0 to -14)	34,5	Aluminum Alloy
8470-0 to 8470-14	298,3	2700	298,3	2700	218,4 to 182,9 (-0 to -14)	34,0	Aluminum Alloy
8475-0 to 8475-14	298,3	2575	298,3	2575	218,4 to 182,9 (-0 to -14)	35,8	Aluminum Alloy
8477-0 to 8477-14	298,3	2575	298,3	2575	218,4 to 182,9 (-0 to -14)	37,2	Aluminum Alloy
			Non-Counterweighted Propeller HC-G3YF-1				
7890	298,3	2700	298,3	2700	203,2	29,9	Aramid Composite
			Non-Counterweighted Propellers HC-G3YF-1, PHC-G3YF-1				
NG8301-0 to NG8301-7	261,0	2850	261,0	2850	215,9 to 198,1 (-0 to -7)	29,0	Carbon Composite
NM8410-0 to NM8410-7	261,0	2850	261,0	2850	218,9 to 200,7 (-0 to -7)	28,6	Carbon Composite
NM8411-0 to NM8411-7	261,0	2850	261,0	2850	218,4 to 200,7 (-0 to -7)	28,67	Carbon Composite

8429-0 to 8429-10	261,0	2850	261,0	2850	218,4 to 193,0 (-0 to -10)	35,8	Aluminum Alloy
			Non-Counterweighted Propellers HC-G3Y1R-1, PHC-G3Y1F-1				
NC8301-0 to NC8301-7	261,0	2850	261,0	2850	215,9 to 198,1 (-0 to -7)	27,4	Carbon Composite
			Counterweighted Propellers HC-G3YF-2, EHC-G3YF-2, PHC-G3YF-2				
C7663-0 to C7663-10	231,2	2850	231,2	2850	198,1 to 172,7 (-0 to -10)	35,8	Aluminum Alloy
C7666-0 to C7666-10	231,2	2700	231,2	2700	198,1 to 172,7 (-0 to -10)	39,0	Aluminum Alloy
C7691-0 to C7691-10	261,0	2850	261,0	2850	198,1 to 172,7 (-0 to -10)	34,9.	Aluminum Alloy
C8459-0 to C8459-14	298,3	2700	298,3	2700	218,4 to 182,9 (-0 to -14)	37,2	Aluminum Alloy
C8465-0 to C8465-14	298,3	2700	298,3	2700	218,4 to 182,9 (-0 to -14)	38,1	Aluminum Alloy
C8467-0 to C8467-14	298,3	2575	298,3	2575	218,4 to 182,9 (-0 to -14)	39,9	Aluminum Alloy
C8468-0 to C8468-14	298,3	2625	298,3	2625	218,4 to 182,9 (-0 to -14)	38,6	Aluminum Alloy
C8470-0 to C8470-14	298,3	2700	298,3	2700	218,4 to 182,9 (-0 to -14)	38,1	Aluminum Alloy
C8475-0 to C8475-14	298,3	2575	298,3	2575	218,4 to 182,9 (-0 to -14)	39,9	Aluminum Alloy
C8477-0 to C8477-14	298,3	2575	298,3	2575	218,4 to 182,9 (-0 to -14)	41,3	Aluminum Alloy
NC7893-0 to NC7893-10	261,0	2700	261,0	2700	203,2 to 177,8 (-0 to -10)	31,5	Carbon Composite
NC8302-0 to NC8302-7	261,0	2700	261,0	2700	215,9 to 198,1 (-0 to -7)	30,2	Carbon Composite

1. Approved Installations

See Hartzell Manual 159 for approved installations.

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

Owner's Manual (Propellers with Aluminum Blades)	Hartzell Manual 115N*
Owner's Manual (for -1, -2, and -4 models with composite blades)	Hartzell Manual 145*
Instruction for continued airworthiness	Hartzell Manuals 113B*, 115N*, 117D*, 145*,127*, 133C*, 135F*, 148*, 202A*
Overhaul Manual (for -2 models)	Hartzell Manual 117D*
Overhaul Manual (for -1 and -4 models)	Hartzell Manual 113B*
Overhaul Manual for Aluminum Blades	Hartzell Manual 133C*
Overhaul Manual for Composite Blades	Hartzell Manual 135F*
Field Maintenance Manual for Composite Blades	Hartzell Manual 170*
Maintenance Manual for Metal Spinners	Hartzell Manual 127*
Maintenance Manual for Composite Spinners	Hartzell Manual 148*
Standard Practices Manual (Multiple Volumes)	Hartzell Manual 202A*
Integration Manual for Propellers on Turbine Engines	Hartzell Manual 190*
Integration Manual for Propellers on Reciprocating Engines	Hartzell Manual 191*
Service Bulletins	

*: or later approved revision

VI. Notes

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

E HC -G 3 Y 1 F - 1 RF

- RF: F when used denotes modified pitch change system; L denotes left hand rotation; N indicates compatibility with N shank blades (See Note 2); R when used denotes large piston area; U when used denotes spring kit (package) in propeller dome; Any other character denotes a minor change not affecting eligibility
- 1: Denotes specific design features; -1: non-feathering, no counterweights, governor oil pressure increases pitch; -2: feathering with counterweights, governor oil pressure decreases pitch; -4: non-feathering, counterweights, governor oil pressure decreases pitch
- F: F denotes special flange with six 1/2” bolts and two 1/2” dowels on a 4” bolt circle; R denotes SAE # 2 flange with six 1/2” bolts and five 3/4” drive bushings on a 4-3/4“ bolt circle
- 1: 1 when used denotes hub design modification compatible only with blade models listed in this Data Sheet
- Y: Hartzell blade shank size
- 3: Number of blades
- G: Identifies basic design. “G” denotes 2,54 cm (1.00 inch) integral shaft extension
- HC: Hartzell Controllable
- E: When used indicates Flange Angular Index with respect to #1 blade, viewed clockwise facing propeller flange

Prefix	Angular Index	Clocking Feature	Flange
Blank	90 and 270 degrees	Dowel Pin	F
Blank	0 and 180 degrees	Non-Counter bored holes	R
E,P:	0 and 180 degrees	Dowel Pin	F

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

L C 76 66 D - 3R

- 3R: Number when used indicates inches cut off from (or added to if +) basic diameter
  Q when used denotes special 1” x 90 deg. Factory-bent tip. No cutoff permitted.
  R when used denotes specifically rounded tip for cutoff diameter.
  Any other character in this location denotes tip shape
- D: D or F denotes a dimensional modification from the original design
  B or K denotes deicing boots
  R when used denotes a rounded tip for the basic diameter
  S when used denotes a square tip for the basic diameter *
  Any other character denotes a minor modification not affecting eligibility
- 66: Basic blade model
- 76: Basic diameter for a two-blade propeller**. Add 5,08 cm (2 inches) for three blade propellers
- C: Denotes counterweighted blades
- L: Denotes blade configuration: right-hand tractor unless otherwise noted
  F denotes a large pitch change knob
  H denotes right-hand pusher
  J denotes left-hand tractor
  L denotes left-hand pusher
  N, NG or NM denotes Carbon composite construction
  No prefix is used for Aramid composite blades

* 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 – 0,32 cm (1/8 inch) manufacturing tolerance the FAA allows for propeller with a basic diameter of less than 426,7 cm (14 feet).

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

(a) Approved with Hartzell governors per drawings C-4770, C-4771 and C-4772. Wt.: 2,0 kg (4.5 lb) (See Note 10)

D - 1 - 4 Z — Governor Model Designation

- Z: L when used indicates left hand rotation
  Z when used indicates drive coupling type
  Any other character denotes a minor change not affecting eligibility
- 4: Minor adjustment not affecting eligibility
- 1: Minor adjustment to obtain engine/propeller/governor compatibility
- D: Basic body and major parts modification

(b) The -2 and -4 models have counterweighted blades and use oil to decrease pitch. The -1 models do not have counterweighted blades and use oil to increase pitch.

(c) Maximum governor output pressure: 2413,16 kPa (350 psi) for all propeller models.

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

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

Reversing Not applicable

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) Propellers

(1) "F" type propellers with large pitch change knobs are interchangeable with corresponding propellers with the standard pitch change system. (See Notes 1 and 2)

(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

(1) Shot-peened blades may replace non shot-peened blades either individually or as a set

(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:

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
EHC-G3YF	7663	TCM IO-520-E	195,6	188,0	none
PHC-G3YF	F7691( )	TCM IO-520-D TCM IO-550-D	198,1	195,6	Do not exceed 67,7 kPa (20 in.) manifold pressure below 2200 RPM
PHC-G3YF	F7691	TCM IO-520-A, -B, -BA, -BB, -C, -CB, -D, -E, -F, J, K -L, -M, -MB TCM IO-550-A, -B, -C, -D, -F -G, -L, -N, -P, -R	198,1	195,6	Do not exceed 67,7 kPa (20 in.) manifold pressure below 2200 RPM
PHC-G3YF	F7691( )	TCM O-470-A, -J, -K, -L -R, -S, -U	198,1	195,6	none
PHC-G3YF	F7693F	TCM IO-550-B	198,1	190,5	none
PHC-G3YF	F8068	TCM IO-470-D, E, F, M, S IO-520-A, J IO-550-D, E, F, L TSIO-520-C, H	208,3	198,1	none
PHC-G3YF	F8068-2	TCM IO-520-D, E, F, L	203,2	198,1	none
PHC-G3YF	F8468A( )	TCM O-470-K, L TCM IO-470-F	203,2	195,6	none
PHC-G3YF	F8468A-( )R	TCM O-470-A (S/N 41000 & up), J, K, L, R, S, U	203,2	195,6	none
PHC-G3YF	F8468A( )	TCM IO-520-D TCM IO-550-DB	203,2	198,1	none

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.

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 Manuals 115N or 145.

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".

14. EASA Type Certificate and Type Certificate Data Sheet No. IM.P.517 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	10 February 2026	Initial Issue. Hub and blade models as listed on the FAA TCDS P55GL Revision 24	10 February 2026

-END-