



TYPE CERTIFICATE DATA SHEET Nº EH-2023T07

Type Certificate Holder:

**Hartzell Propeller Inc.
Piqua, OH 45356
USA**

EH-2023T07-00

Sheet 01

Hartzell

HC-C4Y

07 December 2023

Propellers of models described herein conforming with this data sheet, which is part of Type Certificate No. 2023T07, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Brazilian Aeronautical Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other instructions.

TYPE Constant speed; hydraulic (see Notes 3 and 4)
ENGINE FLANGE Special flange (see Note 1)
HUB MATERIAL Aluminum Alloy
BLADE MATERIAL Aluminum Alloy
NUMBER OF BLADES 4 (Four)
HUB ELIGIBLE HC-C4YF-1, HC-C4YF-2, HC-C4YR-2, HC-C4YN-2 (see Notes 1 and 4)

Blades Eligible (See Notes 2 & 6)	Maximum Continuous Power hp (rpm)	Takeoff Power hp (rpm)	Diameter Limits (see Note 2) m (in)	Approx. Max. Wt. Complete (For Reference Only) (See Notes 3 and 7)	
				Kg	(lb)
<u>Non-counterweighted propellers HC-C4YF-1</u>					
6660-0 to 6660-6	400 (2650)	400 (2650)	1.79 to 1.63 (70.00 to 64.00) (-0 to -6)	44.0	(97.0)
7063+2 to 7063-4	400 (2700)	400 (2700)	1.92 to 1.77 (75.75 to 69.75) (+2 to -4)	42.2	(93.0)
7663-4 to 7363-8	400 (2650)	400 (2650)	1.92 to 1.82 (75.75 to 71.75) (-4 to -8)	44.0	(97.0)
8459-12 to 8459-16	400 (2650)	400 (2650)	1.92 to 1.82 (75.75 to 71.75) (-12 to -16)	45.4	(100.0)
<u>Counterweighted propellers HC-C4YF-2, HC-C4YN-2, HC-C4YR-2</u>					
6660-0 to 6660-6	400 (2650)	400 (2650)	1.79 to 1.63 (70.00 to 64.00) (-0 to -6)	53.1	(117.0)
7063+2 to 7063-4	400 (2700)	400 (2700)	1.92 to 1.77 (75.75 to 69.75) (+2 to -4)	51.6	(113.0)
7663-4 to 7363-8	400 (2650)	400 (2650)	1.92 to 1.82 (75.75 to 71.75) (-4 to -8)	53.1	(117.0)
8459-12 to 8459-16	400 (2650)	400 (2650)	1.92 to 1.82 (75.75 to 71.75) (-12 to -16)	54.4	(120.0)

CERTIFICATION BASIS

Brazilian Type Certificate No.2023T07 is based on RBAC §21.29; ANAC established to following *Airworthiness Requirements*:

- FAR Part 35 with amendments 35-1 through 35-4, effective May 2, 1977.

TYPE CERTIFICATION

<u>Model</u>	<u>Application</u>	<u>Issued TC</u>
HC-C4Y	30 Oct. 2023	07 Dec. 2023

IMPORT REQUIREMENTS

Each propeller imported separately and/or spare parts must be accompanied by a FAA Export Airworthiness Approval through the FAA Authorized Release Certificate, certifying that the propeller is conforms to a type design approved by the ANAC, as specified in the ANAC's type certificate data sheet No. 2023T07-latest Revision, is in condition for safe operation and has undergone a final operational check. The original Authorized Released Certificate should be sent with the propeller and a copy remains with the issuing organization.

For each propeller it is required a list of exceptions (if any) in respect to the ANAC approved Type Design, listed in the FAA Authorized Release Certificate above mentioned.

PRODUCTION BASIS

Production Certificate no. 10

**STATE OF DESIGN
REFERENCE DOCUMENT**

FAA TCDS no. P52GL, Rev. 6, dated 01 Apr. 2003

NOTES:

NOTE 1 Hub model Designation HC - C 4 Y R - 2 AF where:

[1] [2] [3] [4] [5] [6] [7]

[1] HC Hartzell Controllable;

[2] C Identifies basic design;

[3] 4 Number of blades;

[4] Y Hartzell blade shank size;

[5] R Mounting flange:

F: flange with six 1/2" bolts and two 1/2" dowels on a 4" bolt circle;

N: denotes flange with eight 9/16" bolts and two 1/2" dowels on a 4.25" bolt circle;

R: SAE #2 flange with six 1/2" bolts and five 3/4" drive bushings on a 4.75" bolt circle.

[6] 2 Denotes specific design features (see NOTE 4);

[7] AF F when used denotes modified pitch change system;

L when used denotes left-hand rotation;

Any other character denotes a minor change not affecting eligibility.

NOTE 2 Blade Model Designation FC 76 63 D - 3R
 [1] [2] [3] [4] [5]

- [1] FC Denotes blade configuration:
 Blank – Right-hand tractor;
 F – denotes a large pitch change snob;
 H – denotes Right-Hand pusher;
 J – denotes Left hand tractor;
 L – denotes Left-hand pusher;
- [2] 76 Basic diameter for a two blade propeller. Add 3.75 inches for a four blade propeller;
- [3] 63 Basic blade model;
- [4] D B or K denotes deicing boots;
 Q when used denotes special 1" x 90 deg. factory-bent tip for no cutoff;
 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 change not affecting eligibility.
- [5] 3R Number when used denotes inches cut off from (or added to if +) basic diameter;
 Q when used denotes special 1" x 90 deg. factory-bent tip for cutoff diameter;
 R when used denotes specifically rounded tip for cutoff diameter;
 Any other character in this location denotes tip shape.

* 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.

NOTE 3 Pitch Control

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

D – 1 – 4
 [1] [2] [3]

Governor Model Designation

- [1]D Basic body and major parts modification;
- [2]1 Minor adjustment to obtain engine/propeller/governor compatibility;
- [3]4 Minor adjustment not affecting eligibility.

(b) Woodward model X210XXX or X210X-XXX. Wt.: 3.5 lb

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

- NOTE 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.
- NOTE 6** Interchangeability:
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.
- NOTE 7** Accessories:
- (a) Propeller anti-icing (weight of anti-icing equipment extra)
 - (1) Approved with fluid feed boots listed on Hartzell approved type design data when installed in accordance with Hartzell specification H-S-2 or Hartzell Manual no. 133().
 - (2) Approved with Hartzell fluid feed equipment 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 October 23, 1961.
 - (2) Approved with Goodrich electrical deicing kit 5EXXXX-X, 7EXXXX-X, 77-XXX, 67-XXX, or 65-XXX when installed in accordance with Goodrich Report no. ATA 30-60-07.
 - (3) Approved with Safeway 6870 deicer boots when installed in accordance with manufacturer's instructions.

 - (c) Propeller spinner (weight of spinner extra)
 - (1) Approved with Hartzell and other manufacturers' spinners when listed on Hartzell approved type design data.
- NOTE 8** Shank Fairings: Not applicable.

NOTE 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 turbnormalizer, 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. m (inches)	Min. Dia m (inches)	Placards
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No entries

NOTE 10 Special Notes

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

NOTE 11 Retirement Time

a) Life Limits and Mandatory Inspections

- 1) Airworthiness limitations, if any, are specified in Hartzell Manuals 117().

Change Record

Revision	Application Date	Changes	TC issue/reissue
Rev. 00	30 Oct. 2023	Original Issue	07 Dec. 2023

This TCDS is available at ANAC website:

<https://sistemas.anac.gov.br/certificacao/Produtos/EspecificacaoOrgE.asp>