

**COMANDO DA AERONÁUTICA
DEPARTAMENTO DE PESQUISAS E DESENVOLVIMENTO
CENTRO TÉCNICO AEROESPACIAL**

TYPE CERTIFICATE DATA SHEET N° EH-1999T12

Type Certificate Holder:

HARTZELL PROPELLER INC.
One Propeller Place
Piqua, Ohio 45356
USA

EH-1999T12

Sheet 01

HARTZELL

() HC-G3Y

October 1999

Propellers of models described herein conforming with this data sheet, which is part of Type Certificate No. 1999T12, 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 SHAFT Special flange, See Note 1

HUB MATERIAL Aluminum alloy

BLADE MATERIAL Aluminum alloy

NUMBER OF BLADES Three

HUB ELIGIBLE

PHC-G3YF-1

Blades Eligible (See Note 2)	Max. Continuous Power		Takeoff power		Diameter Limits		Approx. Max. Weight Compl. (See Notes 3 & 7)	
	hp	rpm	hp	rpm	m	in	kg	lb

Non Counterweighted Propeller - Hub Model PHC-G3YF-1

7691-0					1.98	78		
to	350	2 850	350	2 850	to 1.73	68	30.84	51
7691-10					(-0 to -10)			

CERTIFICATION BASIS

RBHA 21.29 and 35 (Brazilian Requirements for Aeronautical Certification), which endorses the Section 21.29 of the FAR and FAR 35, effective May 6, 1977, Amendments 35-1 to 35-4, inclusive.

TYPE CERTIFICATION

	Application	Issued TC
PHC-G3YF-1	08 June 1998	04 October 1999

PRODUCTION BASIS

Production Certificate No. 10 (FAA)

IMPORT REQUIREMENTS

Each propeller imported separately and/or spare parts must be accompanied by an export airworthiness approval issued by FAA, attesting that the particular propeller and/or parts were submitted to the governmental quality control before delivery and are in conformity with the CTA approved type design.

NOTES

NOTE 1 Hub model Designation: P HC - G 3 Y F -1 R L F

P Indicates dowel location with respect to centerline through blade sockets viewing hub from flange mounting face.

Dowel Pin	T/C
Blank 90° and 270°	30 ⁰ clockwise
E 0° and 180°	240 ⁰ clockwise
P 0° and 180°	120 ⁰ clockwise

HC Hartzell controllable

-G Identifies basic design

3 Number of blades

Y Hartzell blade shank size

F F denotes special mounting flange: 4" bolt circle with six bolts and 2 dowels.

-1 Denotes specific design features as:
 -1, non-feathering, no counterweights, oil pressure increases pitch
 -2, feathering with counterweights, oil pressure decreases pitch.

R R when used denotes a larger piston area (See Note 4)
 U when used denotes spring kit (package) in propeller dome
 Any other character denotes a minor change not effecting eligibility

L L when used denotes left hand rotation

F F when used denotes modified pitch change system

NOTE 2 Blade Model Designation: FL C 76 66 D B -3 R

- FL Denotes blade configuration: Right-hand tractor unless otherwise noted
 F when used denotes large pitch change knob
 J when used denotes L.H. tractor
 L when used denotes L.H. pusher
 H when used denotes R.H. tractor
- C Denotes counterweighted blades
- 76 Basic diameter for a two blade propeller. Add two inches for a three blade propeller.
- 66 Basic blade model
- D Denotes minor change not effecting eligibility except as follows:
 B denotes deicing boots
 R when used denotes round tip shape for basic diameter
 S when used denotes square tip for basic diameter
- B B or K denotes deicing boots
- 3 Number of inches cut off from basic diameter
- R R when used denotes specifically rounded tip for cutoff diameter
 Q when used denotes special 1" 90 deg factory-bent tip. No cutoff permitted.
 Any other character in this location denotes tip shape

NOTE 3 Pitch Control. (See Note 9) Approved with Hartzell governors per drawing list C-4770 or C-4772. Weight : 2.04 kg / 4.5 lb

D - 1 -4 Hartzell governor designation

- D Basic body and major parts modification
 -1 Minor adjustment to obtain engine-propeller-governor compatibility
 -4 Minor adjustment not affecting eligibility

Approved with the following governors:

- | | |
|-------------------------------------|----------------------|
| Woodward Model X210XXX or X210X-XXX | Wt. 1.58 kg / 3.5 lb |
| * McCauley Model C290D3-X/TXX | Wt. 1.27 kg / 2.8 lb |

*Not approved with counterweights or feathering propeller

NOTE 4 (a) Feathering. The -1 model does not feather. The -2 model incorporates feathering and unfeathering features.

(b) Reversing. Not applicable for the right-hand model. (See Notes 1 and 2).

NOTE 5 Left-Hand Model:

Not applicable

NOTE 6 Interchangeability:(a) Blades.

(1) Blades with counterweights (having "C" prefix) can replace non-counterweighted blades on feathering propellers (Hub Model Suffix -2 or -2R) only, providing the air charge is reduced to 80 psi and 21.11^oC / 70°F. Attached decal specifying air charge must be changed accordingly.

(2) Hard and soft alloy blades of the same model designation are interchangeable but only on seaplanes and amphibious aircraft.

(b) Propellers.

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

NOTE 7 Accessories:

(a) Propeller Spinner

(1) Approved with Hartzell spinners (weight of spinner extra).

(b) Propeller Deicing

(1) Approved with Goodrich Deicing Kit 77-XXX or 67-XXX when installed in accordance with manufacturer's instructions (Goodrich Report No. 59-728).

(2) 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.

(c) Propeller Anti-Icing

(1) Eligible with fluid feed shoes or Icx boots installed in accordance with Hartzell Special Instruction No. 59A.

(2) Eligible with Hartzell fluid feed equipment on propeller models for which equipment is available.

NOTE 8 Shank Fairing.

Not applicable.

NOTE 9 Special Notes. Aircraft installation must be approved as part of the aircraft type certificate and demonstrate compliance with the applicable aircraft airworthiness requirements.

JOSÉ LUIZ R. BELDERRAIN – Ten.-Cel.-Eng.

Chefe da Divisão de Homologação Aeronáutica
(Chief, Divisão de Homologação Aeronáutica)

SILOMAR CAVALCANTE GODINHO – Cel.-Av.

Diretor do Instituto de Fomento e Coordenação Industrial
(Director, Instituto de Fomento e Coordenação Industrial)
