

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

TYPE CERTIFICATE DATA SHEET Nº EH-8811

Type Certificate Holder:

HARTZELL PROPELLER INC.
One Propeller Place
Piqua, Ohio 45356-2634
USA

EH-8811-01

Sheet 01

HARTZELL

BHC-J2Y

March 2005

Propellers of models described herein conforming with this data sheet, which is part of Type Certificate No. 8811, 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 10.16 cm (4") B.C.
HUB MATERIAL	Aluminum alloy
BLADE MATERIAL	See below
NUMBER OF BLADES	Two (2)
HUB ELIGIBLE	BHC-J2Y-1

Blade Eligible (See Notes 2 and 6)	Max. Continuous Power	Takeoff power	Diameter Limits	Approx. Max. Weight Compl.	Blade Construction
	hp (rpm)	hp (rpm)	m (in)	kg (lb)	Material

Hub Model BHC-J2Y-1

7694-0 to 7694-10	210 (2800)	210 (2800)	1.93 (76) to 1.68 (66) (0 to -10)	24.27 (53.5)	Aluminum Alloy
8459-0 to 8459-18	260 (2800)	260 (2800)	2.13 (84) to 1.68 (66) (0 to -10)	23.59 (52)	Aluminum Alloy

CERTIFICATION BASIS Brazilian Type Certificate Nr.8811 based on the RBHA 35 (Brazilian Requirements for Aeronautical Certification), which endorses the Federal Aviation Regulations Part 35 effective 01 February 1965, with Amendments 35-1 and 35-2 thereto.

TYPE CERTIFICATION	<u>Model</u>	<u>Application</u>	<u>Issued TC</u>
	BHC-J2YF	26 August 1987	30 August 1988

PRODUCTION BASIS Not Applicable

IMPORT REQUIREMENTS Each propeller imported separately and/or spare parts must be accompanied by an Airworthiness Certificate for Export and/or an Airworthiness Approval Tag, respectively, 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 B HC- J 2 Y F- 1 BF, where:

B Indicates dowel location with respect to centerline through blade sockets **when** viewing hub from flange mounting face

Blank: 90° & 270° clockwise

B: 30° & 210° clockwise

C: 150° & 330° clockwise

D: 60° & 240° clockwise

HC- Hartzell Controllable

J Identifies basic design - J denotes a 82.5 mm (3 1/4 inch) integral shaft extension

2 Number of blades

Y Hartzell blade shank size

F- **F denotes special flange with six 1/2" bolts and two 1/2" dowels on a 101.6 mm (4") bolt circle**

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

BF **L -when used denotes left hand rotation
F -denotes modified pitch change system
R - when used denotes a large piston area (see NOTE 4)
Any other character denotes a minor change not affecting eligibility**

- NOTE 2** Blade Model Designation FL C 76 66 D -3r, where:
- FL Denotes blade configuration: right-hand tractor unless otherwise noted
B - prefix only denotes a right-hand tractor composite blade
F - denotes a large pitch change knob
J - denotes left-hand tractor
L - denotes left-hand pusher
- C Denotes counterweighted blades
- 76 Basic diameter in inches
- 66 Basic blade model
- D D - 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
- 3R Number of inches cut off from 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.
- * 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** (a) Approved with Hartzell governors per drawings C-4770 and C-4772. Wt.: 4.5 lb.
Governor model designation D -1 -4, where:
- D Minor adjustment not affecting eligibility
- 1 Minor adjustment to obtain engine/propeller/governor compatibility
- 4 Basic body and major parts modification
- (b) Approved with Woodward model X210XXX or X210X-XXX. Wt.: 3.5 lb.
- (c) Approved with Garwin model 34-828-XXX. Wt.: 3.0 lb.
- NOTE 4** (a) Feathering
The -1 model does not feather.
- (b) Reversing
Not applicable
- (c) Piston size
The -2R model differs from the -2 model in that the -2R model has a piston area of 20.2 sq. in. and the -2 has a piston area of 16.25 sq. in.
- NOTE 5** Left-Hand Models:
The left-hand version of an approved propeller model is **approved** at the same rating and diameter as listed for the right-hand model. See NOTES 1 and 2.

NOTE 6

Interchangeability:

(a) Blades

Blades with counterweights (having “C” prefix) can replace non-counterweighted blades on feathering propellers (hub model suffix -2 or -2R) only, provided the air charge is reduced to 551.8 kPa (80 psi) at 21.1°C (70°F).

Attached decal specifying air charge must be changed accordingly.

(b) Propellers

“F” type propellers with large pitch change knobs are interchangeable with corresponding propellers with the standard pitch change system. See NOTES 1 and 2.

NOTE 7

Accessories:

(a) Propeller anti-icing

(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 fluid feed equipment listed in Hartzell approved type design data on propeller models for which equipment is available.

(b) Propeller deicing

(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 5EXXXX.X, 7EXXXX-X, 77-XXX, 67-XXX, or 65-XXX when installed in accordance with Goodrich Report no. ATA 30-60-07.

(3) Propeller spinner (weight of spinner extra) Approved with Hartzell and other manufacturer’s 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 Vibration wise 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.

Hub Model	Blade Model	Engine Model	Max. Diam. m (in.)	Max. Diam. m (in.)	Placards
BHC-J2YF	F7694-()JT	TCM IO-550-N,-P, -R	1.83 (72)	1.78 (70)	AVOID CONTINUOUS GROUND OPERATION BETWEEN 1850 AND 2100 RPM
BHC-J2YF	F8954(A)-11Q	TCM TSIO-360-GB, -LB	1.85 (73)	1.85 (85)	NONE
BHC-J2YF	F8954A-11Q	TCM TSIO-360-MB	1.85 (73)	1.85 (85)	NONE

NOTE 10Special Notes:

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

NOTE 11Retirement Time:

(a) Life Limits and Mandatory Inspections

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

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