DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

P46GL
Revision 2
HARTZELL
HC-12V
Apr. 30, 1987

TYPE CERTIFICATE DATA SHEET NO. P46GL

Propellers of models described herein conforming with this data sheet (which is a part of Type Certificate No. P46GL) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

Type Certificate Holder	Hartzell Propeller Inc. Piqua, Ohio 45356
Type	Constant speed; hydraulic (See NOTES 3 and 4)
Engine shaft	SAE No. 20 Spline
Hub material	Alloy steel
Blade material	Aluminum alloy
No. of blades	Two
Hubs eligible	HC-12V20-3, -7, -8 (See NOTE 1)

Blades Eligible (See NOTES 2 & 6)	Maximum Continuous HP	Maximum Continuous RPM	Takeoff HP	Takeoff RPM	Diameter Limits	Approx. Max. Wt. Complete (For Reference Only) (See NOTES 3 and 7)
V8433N-0 to V8433N-9	225	2600	225	2600	84" - 75" (-0 to -9)	67, 69 lb.*
V8833N-0 to V8833N-4	225 or 260	2600 or 2180	225 or 260	2600 or 2180	87 7/8" - 83 7/8" (-0 to -4)	70, 75 lb.**
V9333N-0 to V9333N-7	260	2180	260	2180	93" - 86" (-0 to -7)	73 lb.
V10133N-0 to V10133N-6	260	2180	260	2180	101" - 95" (-0 to -6)	76 lb.

Certification basis	FAR 35 effective February 1, 1965, with Amendments 35-1 and 35-2 thereto Type Certificate No. P46GL issued November 3, 1975 Date of Application for Type Certificate October 30, 1975
Production basis	Production Certificate No. 10

*Higher weight apply to hub models -7B, -7C, and -8C
**70 lb. for -8C model.

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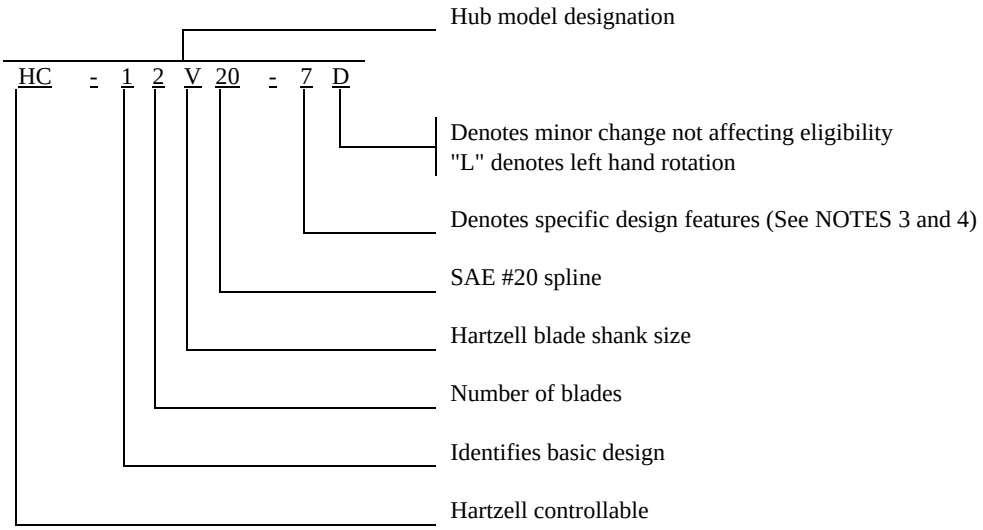
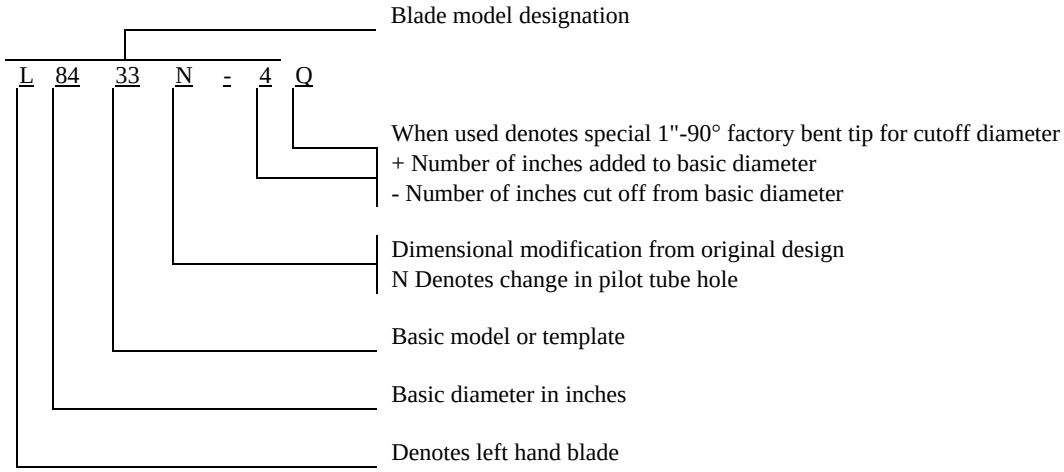
NOTE 1. Hub Model Designation.



A-10 following the hub serial number identifies that oversize tubes are pressed into the spider in order to accommodate worn blade bushings.

NOTE 2. Blade Model Designation.



Diameter limits shown are nominal diameters of the assembled propeller and do not include the +1/4 inch to -1/8 inch manufacturing tolerance permissible.

NOTE 3. Pitch control. Eligible with Hartzell manual or constant speed control. The -7 and -8 models are only eligible with the Hartzell (Hydro-Selective) manual control (Reference Hartzell Manual 100D). Constant speed control includes the Hartzell governor Model A-1. Additional weight of governor is 3.75 lb. (Note: Some installations require a T-drive adapter for the governor. Additional weight of the Hartzell Model C-137 adapter is 2.5 lb., and of the Hartzell Model C-253 adapter is 2.7 lb.)

NOTE 4. (1) Feathering. Not applicable.
(2) Reversing. The -3 model incorporates hydraulically controlled revising.

NOTE 5. Left Hand Models. The left hand version of an approved model propeller is eligible at the same rating and diameter as listed for the right hand model. (See NOTES 1 and 2).

NOTE 6. Interchangeability.

(1) Only propellers listed in this data sheet are eligible as replacements for corresponding propellers listed in Type Certificate Data Sheet No. P-845. Propellers listed in T.C.D.S. No. P-845 are not eligible to replace propellers listed in this data sheet.

(2) Blades model V8433, V8833, V9333, and V10133, are interchangeable (in sets only) without the "N" modification. Blades with different model designations should not be incorporated in the same propeller.

NOTE 7. Accessories.

(a) Propeller deicing

(1) Aluminum alloy blades eligible with Goodrich "Icex" shoes, when applied in accordance with Goodrich instructions. Hartzell recommends that the maximum length be limited to .7 x blade radius, measured from center of hub.

(b) Propeller spinners

(1) Eligible with Hartzell Model D-164 Spinner. Addition weight 3 lb.

NOTE 8. Not applicable.

NOTE 9.

Table of Propeller-Engine Combinations
Approved Vibrationwise for Use on Normal Category Single-Reciprocating 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. Dia. (Inches)	Min. Dia. (Inches)	Placards
HC-12V20	V8433N	Continental E-185	84	76	Dampened engine only, not to exceed 2600 r.p.m. at takeoff.
		Continental E-225 (With 2-5th order dampers, or with 1-5th and 1-6th order dampers)	84	82	Not to exceed 2600 r.p.m. at takeoff.
		Franklin 6A8-215-B8F and B9F	84	84	None
		Lycoming O-435-A and -C	78	75	None
		Lycoming O-435-A2	78	76	None
		Lycoming O-435-C1	78	76	None
HC-12V20	V8833N	Ranger 6-440-C5	88	88	Avoid continuous operation between 1250 and 1600 and between 1950 and 2200 r.p.m.

Hub Model	Blade Model	Engine Model	Max. Dia. (Inches)	Min. Dia. (Inches)	Placards
		Continental E-225	88	86	Avoid continuous operation on ground between 1400 and 1700 and also between 1900 and 2100 r.p.m. Avoid continuous operation on ground and flight between 2450 and 2550 r.p.m. Never exceed 2600 r.p.m.
HC-12V20	V9333N	Lycoming GO-435-C2	93	91	Avoid continuous ground operation between 1675 and 2150 r.p.m.
		Lycoming GO-435-C2	90	86	None
HC-12V20	V9333N	Lycoming GO-435-2-M1	93	93	Avoid continuous ground operation between 1675 and 2150 engine r.p.m.
HC-12V20	V10133N	Lycoming GO-435-C2	101	101	Avoid continuous operation between 2600 and 2940 r.p.m.
		Lycoming GO-435-C2	98	95	None

NOTE 10. The word "eligible" as used herein does not signify approval as part of this type certificate. "Eligible" accessories must be approved as part of the aircraft type certificate upon compliance with the applicable aircraft airworthiness requirements.

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