

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

P00013CH Revision - Hartzell 3A1 December 10, 2013
--

TYPE CERTIFICATE DATA SHEET NO. P00013CH

Propellers of models described herein conforming with this data sheet (which is part of Type Certificate No. P00013CH) 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, OH 45356

Type                                Constant speed; hydraulic (See Notes 3 and 4)  
Engine shaft                    Special flange (See Note 1)  
Hub material                    Aluminum Alloy  
Blade material                 See Below  
Number of blades              Three  
Hub models                      3A1-TP (See Notes 1 and 4)

Blades (See Note 2)	Maximum Continuous		Takeoff		Diameter Limits (See Note 2)	Approx. Max. Wt. Complete (For Reference Only) (See Notes 3 and 7)	Blade Construction (See Note 10)
	HP	RPM	HP	RPM			

Non-Counterweighted Propellers 3A1-TP(375 through 724) (See Note 1)

75A01+2 to 75A01-8	155	2309	155	2309	78" to 68" (+2 to -8)	30.7 lb.	Composite
-----------------------	-----	------	-----	------	--------------------------	----------	-----------

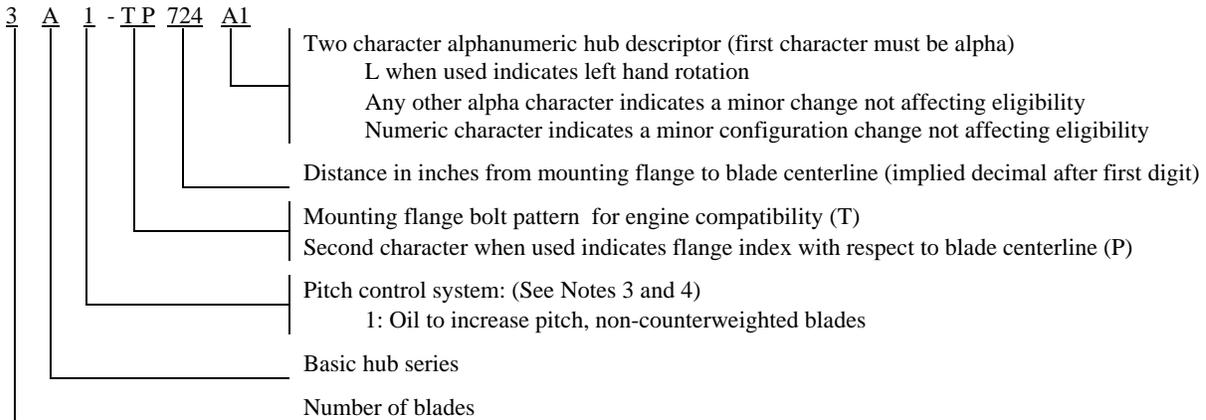
Certification Basis:     14 CFR Part 35 with amendment 35-1 through 35-9 effective March 19, 2013.  
   Type Certificate No. P00013CH issued December 10, 2013.

   Date of application for Type Certificate: March 19, 2012

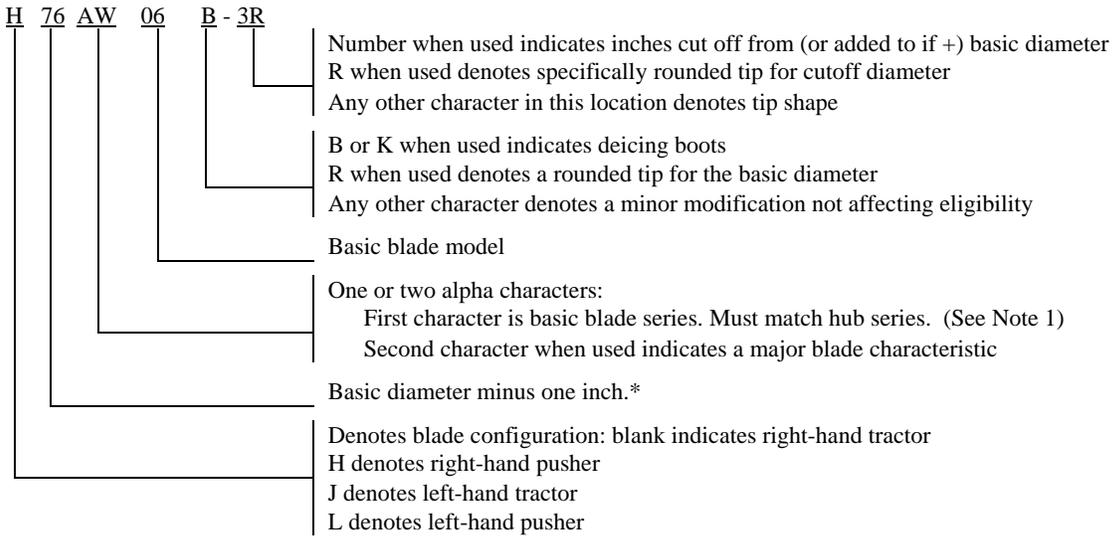
   The following models were included under the original certification basis:  
   3A1-TP

Production Basis:        Production Certificate no. 10

Note 1: Hub Model Designation



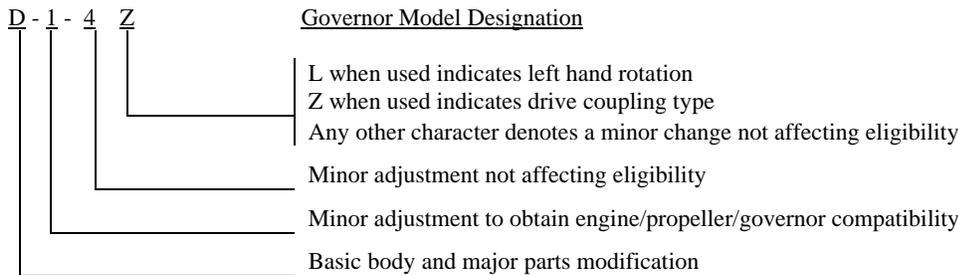
Note 2: Blade Model Designation



\* Diameter limits are nominal diameters of the assembled propeller. They do not include the +/- one eighth inch manufacturing tolerance the FAA allows for propellers with basic diameter less than 14 feet.

Note 3: Pitch Control

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



- (b) The 3A1 models use oil to increase pitch and do not have counterweighted blades. (See Note 4)
- (c) Maximum governor output pressure: 350 psi for all propeller models
- (d) Propeller model 3A1 complies with the propeller airworthiness requirements when used with the Thielert Model TAE-125 series engine (refer to TCDS E00069EN) with an integrated propeller control. If the engine or its control system is changed, it must be shown that the propeller – as integrated with the changed engine and its control system – still complies with the propeller certification basis. Also, if a change to the propeller changes the engine, it must be shown that the engine remains in compliance with its certification basis.
- (e) All governors must be approved as part of the aircraft installation regardless of manufacturer. (See Note 10)

- Note 4: Feathering Not applicable
- Reversing Not applicable

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) Propellers  
Not applicable
- (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  
Not applicable
- (d) Ice Protection Systems  
Refer to Hartzell Service Letter HC-SL-30-260 for ice protection system component interchangeability.

Note 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)

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 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.

<u>Hub Model</u>	<u>Blade Model</u>	<u>Engine Model</u>	<u>Max. Dia. (inches)</u>	<u>Min. Dia. (inches)</u>	<u>Placards</u>
------------------	--------------------	---------------------	---------------------------	---------------------------	-----------------

Not applicable.

Note 10: Propeller installation must be approved as part of the aircraft Type Certificate and demonstrate compliance with the applicable aircraft airworthiness requirements.

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. Refer to the aircraft Type Certificate Data Sheet for the specific propeller model applicable to the installation.

Propellers with composite blades must be evaluated for bird impact resistance prior to approval on any type aircraft. Hartzell Propeller must perform tests and/or analyses based on aircraft configuration and operating conditions to determine the potential hazard as a result of a bird impact.

Note 11: Special Limits

(a) Life Limits and Mandatory Inspections

(1) Airworthiness limitations, if any, are specified in Hartzell Manual 411.

The propeller CMACO must evaluate the propeller installation for each new aircraft installation to assess possible changes in the airworthiness limitations.

Note 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 overhaul periods.

END