DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

P-851
Revision 16
HAMILTON STANDARD
43D

January 12, 1981

TYPE CERTIFICATE DATA SHEET NO. P-851

Propellers of models described herein conforming with this data sheet (which is part of Type Certificate NO. 851) 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 Civil Air Regulations/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	Hamilton Standard Division of United Technologies Corporation Windsor Locks, Connecticut 06096
Type	Constant speed; hydraulic (see Notes 3 and 4)
Engine shaft	SAE No. 50, 51, 60 or X (X indicates special shaft sizes for foreign engines are applicable.)
Hub material	Steel
Blade material	Aluminum alloy
Number of blades	3
Hubs eligible	43D50, 43D51, 43D60 and 43DX (see Note 1)

Blades Eligible (See Note 2)	Maximum Continuous HP	Maximum Continuous RPM	Takeoff HP	Takeoff RPM	Diameter Limits (See Note 2)	Hub and Blade Weight (Max. Diameter)	NOTES
6539-12 to 6539-24	1150	1533	1350	1657	12' 7/8" - 11' 7/8" (-12 to -34)	356 lbs.	
6540 is the left-hand version of 6539.							5
6571-0 to 6571-24	1150	1533	1350	1668	11'6-7/8" - 9' 6-7/8" (-0 to -24)	357 lb.	
6572 is the left-hand version of 6571.							5
6601-6 to 6601-24	1275	1670	1425	1800	11'7/8" - 9'6-7/8" (-6 to -24)	352 lbs.	6
6602 is the left-hand version of 6601.							5
6813-0 to 6813-6	1400	1341	1770	1412	13'7/8" - 12' 6-7/8" (-0 to -6)	364 lbs.	
6814 is the left-hand version of 6813.							5
6841-0 to 6841-6	1900	1170	2400	1260	13' 7/8" - 12' 6-7/8" (-0 to -6)	386 lb.	2, 6
6842 is the left-hand version of 6841.							5
6845-0 to 6845-6	1480	1200	1810	1260	13' 7/8" - 12' 6-7/8" (-0 to -6)	392 lbs.	
6846 is the left-hand version of 6845.							5
6851-0 to 6851-6	1900	1170	2400	1260	13' 7/8" - 12' 6-7/8" (-0 to -6)	379 lbs.	2, 6
6852 is the left-hand version of 6851.							5

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Blades Eligible (See Note 2)	Maximum Continuous HP	Maximum Continuous RPM	Takeoff HP	Takeoff RPM	Diameter Limits (See Note 2)	Hub and Blade Weight (Max. Diameter)	NOTES
6863-0 to 6863-25	1200	1435	1450	1520	11' 6-7/8" - 9' 5-7/8" (-0 to -25)	357 lbs.	6
6864 is the left-hand version of 6863.							5
6873-0 to 6873-6	1900	1170	2400	1260	13' 7/8" - 12' 6-7/8" (-0 to -6)	392 lbs.	2
6874 is the left-hand version of 6873.							5
6915-7	1275	1405	1475	1575	10' 11-7/8" (-7)	395 lbs.	6
6916 is the left-hand version of 6915.							5
6931-12 to 6931-24	1200	1665	1350	1800	10' 6-7/8" - 9' 6-7/8" (-12 to -24)	341 lbs.	6
6932 is the left-hand version of 6931.							5
6951-12 to 6951-24	1200	1665	1350	1800	10' 6-7/8" - 9' 6-7/8" (-12 to -24)	341 lbs.	6
6952 is the left-hand version of 6951.							5
6985-7	1275	1405	1475	1575	10' 11-7/8" (-7)	395 lbs.	6
6986 is the left-hand version of 6985.							5
6999-6 to 6999-24	1275	1670	1425	1800	11' 7/8" - 9' 6-7/8" (-6 to -24)	352 lbs.	6
7000 is the left-hand version of 6999.							5
7005-0 to 7005-24	1275	1670	1425	1800	11' 7/8" - 9' 6-7/8" (-6 to -24)	352 lbs.	6
7006 is the left-hand version of 7005.							5
7033-0 to 7033-25	1200	1435	1450	1520	11' 6-7/8" - 9' 5-7/8" (-0 to -25)	357 lbs.	6
7034 is the left-hand version of 7033.							5
7059-0 to 7059-24	1200	1275	1450	1350	13' 7/8" - 11' 7/8" (-0 to -24)	400 lbs.	
7060 is the left-hand version of 7059.							5
7107-0 to 7107-24	1200	1275	1450	1350	13'7/8" - 11'7/8" (-0 to -24)	400 lbs.	6
7108 is the left-hand version of 7107.							5
7113-5	1275	1405	1475	1575	11' 1-7/8" (-5)	395 lbs.	6
7114 is the left-hand version of 7113.							5

Certification basis Type Certificate No. 851 issued September 23, 1946.

Production basis Production Certificate No. 14

NOTE 1. Hub Model Designation

4 3 D 60 - 300

- 300 — See * below.
- 60 — SAE propeller shaft size
- D — Blade shank size
- 3 — Number of blades
- 4 — Major model type

*A dash number of 300 or lower added to the propeller model designation indicates the suitable type of pitch control (see Note 3) and minor changes which do not affect eligibility. Dash numbers of 301 or above include the complete blade assembly and all of the rotating deicing system components, as well as indicating the suitable type of pitch control.

NOTE 2. Blade Model Designation

A 6851 C - 6 T

- T — (If used) indicates telescoped; "S", square cutoff
- 6 — Nominal reduction from basic diameter in inches.
- C — Operational features (may indicate particular deicing assembly), does not affect eligibility.
- 6851 — Aerodynamic and structural features
- A — (If used) indicates shank fairing design.

The blade model designation suffixed with "T" indicates a diameter reduction by telescoping. Blade models with square cutoffs in accordance with Hamilton Standard blade drawings are suffixed with "S." Telescoped blades and blades with a square cutoff are eligible at the same ratings and diameter limits as blades with standard cutoff. Diameter limits shown are nominal diameters of the assembled propeller and do not include the ±1/8 inch manufacturing tolerance permissible for propellers with a basic diameter less than 14 feet or ±1/4 inch permissible for propellers with basic diameter 14 feet or larger. The following blades can be used in the 43D60 hub but not in the 43D50 or 43D51 hubs: Blades 6841, 6851 and 6873.

NOTE 3. Pitch Control. Eligible with either Hamilton Standard engine oil control assembly or integral oil control assembly as follows:

(a) Hubs having dash numbers of 200 or lower, or 301 through 600 must be used only with engine oil control assemblies.

(b) Hubs having dash numbers of 201 through 300, or 601 or higher must be used only with integral oil control assemblies (approximately 65 pounds additional weight).

NOTE 4. (a) Feathering. Eligible with full feathering control installed in accordance with the propeller manufacturer's instructions.

(b) Reversing. Eligible with reversing controls installed in accordance with the propeller manufacturer's instructions.

NOTE 5. Left Hand Models. The left-hand version of an approved model propeller is eligible at the same rating and diameter limitations as listed for the right-hand model.

NOTE 6. Interchangeable Blades. Blades with an "S" or "T" suffix (see Note 2) are not interchangeable aerodynamically or vibrationwise with each other or with blades having normal round cutoffs. Only blades listed in the same group of the following groups are aerodynamically similar. Only blades listed under the same type in any one group are structurally similar. A higher type number implies a higher strength. This is due to differences in alloys and in cold working of the blade surface.

Type 1 includes standard alloy nonsurface treated blades; Type 2, hard alloy nonsurface treated blades; Type 3, hard alloy blades with cold worked shanks; Type 4, hard alloy blades with cold worked shanks and shot peened surfaces.

The following defines the degree to which these blades may be used interchangeably in the same diameter without a flight performance test and without a vibration survey:

Type 2 blades may replace Type 1 blades in the same group, but not vice versa.
Type 3 blades may replace either Type 1 or Type 2 blades in the same group, but not vice versa.
Type 4 blades may replace either Type 1, Type 2, or Type 3 blades in the same group, but not vice versa.

Reference should always be made to the ratings of the blades, and blades with different model numbers cannot be incorporated in the same propeller unless the aircraft specification specifically permits this.

Group	Type 1	Type 2	Type 3	Type 4
(a)				6841, 6851*
(b)		6601	6999, 7005**	
(c)				6863, 7033***
(d)			6931	6951
(e)			7059	7107

*6841 is identical to 6851 except 6841 incorporates a torsional vibration absorber in the shank.
**6999 and 7005 are identical except that 6999 incorporates a steel thrust washer spacer.
***6863 and 7033 are identical except that 6863 incorporates a chafing ring.

NOTE 7. Accessories.
(a) Propeller Deicing.
(1) Electric. Eligible only with Hamilton Standard Electric deicing equipment installed in accordance with the propeller manufacturer's instructions.
(2) Fluid. Eligible with Hamilton Standard fluid deicing slinger ring assemblies only.
(b) Propeller Spinner. Eligible with spinner supplied by Hamilton Standard.

NOTE 8. Shank Fairings. Not applicable.

NOTE 8. Special Limits. Not applicable.

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

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