DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

P-786
Revision 6
Hamilton Standard

33E Propeller

December 4, 1970

TYPE CERTIFICATE DATA SHEET NO. P-786

Propellers of models described herein conforming with this data sheet (which is part of type certificate No. 786) 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<br>United Aircraft Corporation<br>Windsor Locks, Connecticut 06036 |
| Model | 33E Propeller |
| Type | Hydraulically controllable - Feathering (See NOTES 3 and 4.) |
| Engine shaft | SAE No. 60 or X (X indicates special shaft sizes for foreign engines are eligible.) |
| Hub material | Steel |
| Blade material | Aluminum alloy |
| Number of blades | 3 |
| Hubs eligible | 33E60 and 33EX (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 |
|---|---|---|---|---|---|---|---|
| 6243-0 to 6243-36 | 2000 | 1103 | 2200 | 1138 | 15'1-1/16"-12'1-1/16" (-0 to -36) | 507 lbs. | 6 |
| 6244 is the left-hand version of 6243. | | | | | | | 5 |
| 6443-0 to 6443-36 | 2000 | 1103 | 2200 | 1138 | 15'1-1/16"-12'1-1/16" (-0 to -36) | 507 lbs. | 6 |
| 6444 is the left-hand version of 6443. | | | | | | | 5 |
| 6491-0 to 6491-36 | 2100 | 1275 | 2500 | 1350 | 15'1-1/16"-12'1-1/16" (-0 to -36) | 508 lbs. | |
| 6492 is the left-hand version of 6491. | | | | | | | 5 |
| 6501-0 to 6501-26 | 1100 | 1275 | 1350 | 1350 | 13'1-1/16"-11'1-1/16" (-0 to -24) | 483 lbs. | 6 |
| 6502 is the left-hand version of 6501. | | | | | | | 5 |
| 6507-0 to 6507-24 | 1100 | 1275 | 1350 | 1350 | 13'1-1/16"-11'1-1/16" (-0 to -24) | 483 lbs. | 6 |
| 6508 is the left-hand version of 6507. | | | | | | | 5 |

| 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 |
|---|---|---|---|---|---|---|---|
| 6519-0 to 6519-24 | 1050 | 1430 | 1200 | 1520 | 13'1-1/16"-11'1-1/16" (-0 to -24) | 470 lbs. | |
| 6520 is the left-hand version of 6519. | | | | | | | 5 |
| 6801-0 to 6801-36 | 2100 | 1275 | 2500 | 1350 | 15'1-1/16"-12'1-1/16" (-0 to -36) | 508 lbs. | |
| 6802 is the left-hand version of 6801. | | | | | | | 5 |
| 6853-0 to 6853-36 | 2100 | 1275 | 2500 | 1350 | 15'1-1/16"-12'1-1/16" (-0 to -36) | 508 lbs. | |
| 6854 is the left-hand version of 6853. | | | | | | | 5 |
| 6899-12 to 6899-26 | 1900 | 1170 | 2500 | 1260 | 13'1-1/16"-10'11-1/16" (-12 to -26) | 519 lbs. | |
| 6900 is the left-hand version of 6899. | | | | | | | 5 |

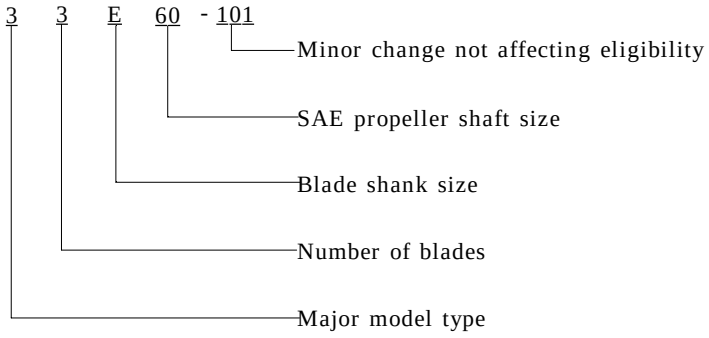
Certification basis

CAR 14 as amended November 15, 1940.
Type Certificate No. P-786 issued March 12, 1942.
Date of application for Type Certificate December 31, 1941.

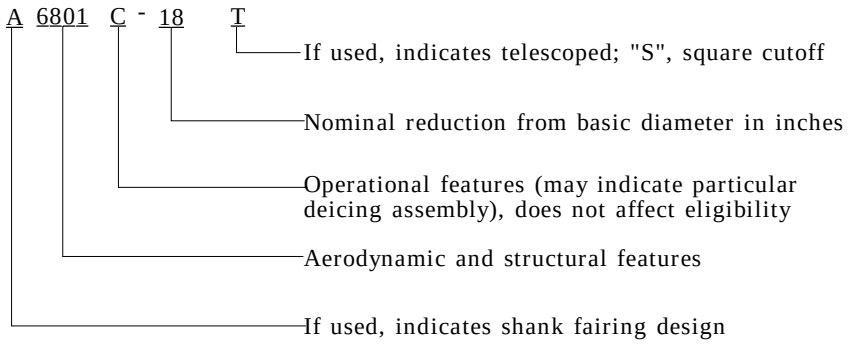
Production basis

Production Certificate No. 14

NOTE 1. Hub Model Designation




NOTE 2. Blade Model Designation




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" except the following blades use square cutoffs not designated by "S": Blade Model 6899.

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 basic diameter less than 14 feet or ± 1/4 inch permissible for propellers with basic diameter 14 feet or larger.

NOTE 3. Pitch Control. Eligible with Hamilton Standard constant speed governor only.

NOTE 4. Feathering. Eligible with full feathering control 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 areodynamically 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 non-surface treated blades; Type 2, hard alloy non-surface 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) | 6243 | 6443 | | |
| (b) | 6507 | 6501 | | |
| (c) | | 6491 | 6853 | 6801 |

NOTE 7. Accessories
(a) Propeller Deicing. Eligible with Hamilton Standard deicing slinger ring assemblies only.
(b) Propeller Spinner. Eligible with spinner supplied by Hamilton Standard.

NOTE 8. Shank Fairings. Not applicable

NOTE 9. Special Limits. Not applicable

NOTE 10. Special Notes. The word "eligible" as used herein does not signify approval. For approval, compliance with the applicable aircraft airworthiness requirements is necessary.

....END....