

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

| |
|------------------|
| P-842 |
| Revision 16 |
| McCAULEY |
| 1A90 |
| 1B90 |
| 1C90 |
| 1A135 |
| October 26, 2006 |

TYPE CERTIFICATE DATA SHEET NO. P-842

Propellers of models described herein conforming with this data sheet (which is part of Type Certificate No. 842) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with the 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 | McCauley Propeller Systems 7751 E. Pawnee Wichita, KS 67207 |
| Type | Fixed pitch metal |
| Material | Aluminum Alloy |
| No. of Blades | Two |

| Model (See Note 2) | Maximum Continuous | | Takeoff | | Diameter | Standard Pitch | Hub Drilling | | | Hub Dimensions | | Weight (lb.) Maximum Diameter |
|-----------------------|-----------------------|------|---------|------|----------|-------------------|--------------|---------------|---------------------|----------------|--------|-------------------------------------|
| | HP | RPM | HP | RPM | | | No. Holes | Dia. Holes | Dia. Bolt Circle | Dia. | Thick. | |
| 1A90/CF | 85 | 2600 | 85 | 2600 | 78"-70" | 68"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 21 |
| 1A90/CF | 85 | 2800 | 85 | 2800 | 70"-66" | 68"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 21 |
| 1A90/CF | 90 | 2475 | 90 | 2475 | 78"-66" | 68"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 21 |
| 1A90/CF | 100 | 2750 | 100 | 2750 | 75"-71" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 21 |
| 1A90/CH | 85 | 2600 | 85 | 2600 | 78"-70" | 68"-38" | 6 | 25/64" | 4-3/8" | 5" | 2-3/4" | 21 |
| 1A90/CH | 85 | 2800 | 85 | 2800 | 70"-66" | 68"-38" | 6 | 25/64" | 4-3/8" | 5" | 2-3/4" | 21 |
| 1B90/CM | 85 | 2800 | 85 | 2800 | 70"-66" | 68"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 21 |
| 1B90/CM | 85 | 2600 | 85 | 2600 | 78"-70" | 68"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 21 |
| 1B90/CM | 90 | 2475 | 90 | 2475 | 78"-66" | 68"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 21 |
| 1B90/CM | 100 | 2750 | 100 | 2750 | 75"-71" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 21 |
| 1B90/CM | 108 | 2600 | 108 | 2600 | 76"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 21 |
| 1B90/CM | 115 | 2800 | 115 | 2800 | 72"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 21 |

| | | | | | | |
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| Model (See Note 2) | Maximum Continuous | | Takeoff | | Diameter | Standard Pitch | Hub Drilling | | | Hub Dimensions | | Weight (lb.) |
|-----------------------|-----------------------|------|---------|------|----------|-------------------|--------------|---------------|---------------------|----------------|--------|---------------------|
| | HP | RPM | HP | RPM | | | No. Holes | Dia. Holes | Dia. Bolt Circle | Dia. | Thick. | Maximum Diameter |
| 1B90/ECM | 85 | 2600 | 85 | 2600 | 76"-68" | 68"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 3-7/8" | 23** |
| 1B90/ECM | 100 | 2750 | 100 | 2750 | 75"-71" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 3-7/8" | 23** |
| 1B90/ECM | 108 | 2600 | 108 | 2600 | 76"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 3-7/8" | 23** |
| 1B90/ECM | 115 | 2800 | 115 | 2800 | 72"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 3-7/8" | 23** |
| 1B90/FCM | 108 | 2600 | 108 | 2600 | 76"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 4-1/4" | 23.8** |
| 1B90/FCM | 115 | 2800 | 115 | 2800 | 72"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 4-1/4" | 23.8** |
| 1B90/LCM | 100 | 2750 | 100 | 2750 | 72"-71" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 4-3/4" | 24.0** |
| 1C90/LF | 108 | 2600 | 108 | 2600 | 76"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 23.5* |
| 1C90/LM | 108 | 2600 | 108 | 2600 | 76"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 23.5* |
| 1C90/LM | 115 | 2800 | 115 | 2800 | 72"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 23.5* |
| 1C90/ALM | 108 | 2600 | 108 | 2600 | 76"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 25.5* |
| 1C90/ALM | 115 | 2800 | 115 | 2800 | 72"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 2-3/4" | 25.5* |
| 1C90/CLM | 108 | 2600 | 108 | 2600 | 76"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 4-3/4" | 25** |
| 1C90/CLM | 115 | 2800 | 115 | 2800 | 72"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 4-3/4" | 25** |
| 1C90/DLM | 108 | 2600 | 108 | 2600 | 76"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 4-3/4" | 25** |
| 1C90/DLM | 115 | 2800 | 115 | 2800 | 72"-70" | 72"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 4-3/4" | 25** |
| 1A135/RM | 130 | 2800 | 130 | 2800 | 73"-68" | 68"-38" | 6 | 33/64" | 4" | 5-1/4" | 2-7/8" | 22 |
| 1A135/JCM | 130 | 2800 | 130 | 2800 | 73"-68" | 68"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 4" | 23.8** |
| 1A135/KCM | 130 | 2800 | 130 | 2800 | 73"-68" | 68"-38" | 6 | 25/64" | 4-3/8" | 5-1/4" | 4-3/4" | 24.1** |
| 1A135/BRM | 130 | 2800 | 130 | 2800 | 73"-68" | 68"-38" | 6 | 33/64" | 4" | 5-1/4" | 4" | 23.8** |
| 1A135/CRM | 130 | 2800 | 130 | 2800 | 73"-68" | 68"-38" | 6 | 33/64" | 4" | 5-1/4" | 4" | 23.8** |
| 1A135/DRM | 130 | 2800 | 130 | 2800 | 73"-68" | 68"-38" | 6 | 33/64" | 4" | 5-1/4" | 4" | 23.8 |

* Weight includes a separate and loose adapter

** Weight includes integral doweled spacer

Certification Basis:

Models 1A90/CF, 1A90/CH, 1B90/CM, 1C90/LF, and 1C90/LM:
 Civil Air Regulations Part 14 effective October 19, 1945, with Amendment 14-1 thereto.
 Model 1C90/ALM:
 14 CFR Part 35 with Amendment 35-1 thereto.
 Model 1A135/CRM:
 14 CFR Part 35 with Amendments 35-1, 35-2, 35-3, 35-4, 35-5 and 35-6 thereto.
 All other Models:
 14 CFR Part 35 with Amendments 35-1 and 35-2 thereto.
 Type Certificate No. 842 issued April 18, 1946. The following models were approved under Delegation Option Authorization Procedures of 14 CFR Part 21 Subpart J:

| | |
|-----------|----------------------------|
| 1C90/ALM | approved November 1, 1965 |
| 1B90/CLM | approved March 8, 1969 |
| 1B90/DLM | approved July 10, 1969 |
| 1B90/ECM | approved March 8, 1969 |
| 1B90/FCM | approved December 11, 1969 |
| 1A135/RM | approved March 26, 1971 |
| 1A135/JCM | approved March 26, 1971 |
| 1A135/BRM | approved September 9, 1971 |
| 1A135/KCM | approved April 14, 1972 |
| 1B90/LCM | approved May 1, 1972 |
| 1A135/CRM | approved July 23, 1998 |
| 1A135/DRM | approved March 26, 1999 |

Date of Application for Type Certificate December 10, 1945.

Production Basis:

Production Certificate No. 3

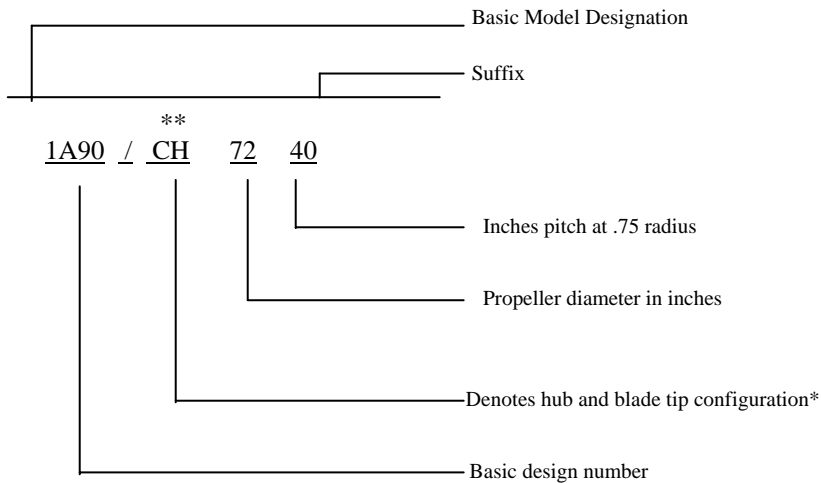
NOTE 1.

Installation. The model 1A90/CH propeller is to be assembled only with the Continental Motors tapered crankshaft hub detail No. 3745. The propeller nut and snap ring, Continental Part Numbers 21202 and 21203 are also used. The model 1A90/CF and 1B90/CM propellers are equally adaptable to the Continental tapered crankshaft (CMC 3745 hub) or the flanged crankshaft (SAE No. 1) using bushings A-1170 as required. The model 1C90/LF and 1C90/LM propellers are eligible only with McCauley adapter C-1210 which permits installation on an SAE No. 2 flange.

Bolts, nuts and front plates furnished by the engine manufacturer are not to be used. The propeller manufacturer will furnish the necessary bolts, bushings and adapters or spacers as needed for the desired installation. See NOTE 2 for installation drawing requirements.

NOTE 2.

Propeller Model Designation. The propeller model designation consists of a series of numbers suffixed to the basic design number to indicate propeller diameter and geometric pitch at the .75 radius. For example:



NOTE 2. (Cont'd)

| | |
|-----|---|
| *CH | designates assembly with Continental hub; elliptical tip blades. |
| CF | designates installation on SAE No. 1 flanged shaft, elliptical tip blades. |
| CM | designates installation on SAE No. 1 flanged shaft, square tip blades. |
| LF | designates installation on SAE No. 2 flanged shaft with McCauley P/N C-1210 adapter in accordance with McCauley Drawing C-1211, elliptical tip blades. |
| LM | designates installation on SAE No. 2 flanged shaft with McCauley P/N C-1210 adapter in accordance with McCauley Drawing C-1211, square tip blades. |
| RM | designates installation on special 4.0 in. bolt circle flange with six on-half in. diameter mounting bolts in accordance with McCauley Drawing C-4390, square tip blades. |
| ALM | designates installation on SAE No. 2 flanged shaft with McCauley P/N C-3635 adapter in accordance with McCauley Drawing C-3636, square tip blades. |
| CLM | designates installation on SAE No. 2 flanged shaft with McCauley P/N C-3515 spacer in accordance with McCauley Drawing C-3518, square tip blades. |
| DLM | designates installation on SAE No. 2 flanged shaft with McCauley P/N B-4160 spacer in accordance with McCauley Drawing C-3518, square tip blades. |
| ECM | designates installation on SAE No. 2 flanged shaft with McCauley P/N B-3927 spacer in accordance with McCauley Drawing B-3929, square tip blades. |
| FCM | designates installation on SAE No. 2 modified flanged shaft with McCauley P/N C-4301 spacer in accordance with McCauley Drawing B-4302, square tip blades. |
| JCM | designates propeller with McCauley P/N B-3927 integral doweled spacer, installation on SAE No. 1 flanged shaft in accordance with McCauley Drawing B-4387, square tip blades. |
| KCM | designates propeller with McCauley P/N B-4446 integral doweled spacer, installation on SAE No. 1 flanged shaft in accordance with McCauley Drawing B-4445, square tip blades. |
| LCM | designates installation on SAE No. 1 flanged shaft with McCauley P/N B-3400 spacer in accordance with McCauley Drawing B-3401, square tip blades. |
| BRM | designates propeller with McCauley P/N B-3718 integral doweled spacer, installation on special 4.0 inch bolt circle with six one-half inch diameter mounting bolts in accordance with McCauley Drawing C-4411, square tip blades. |
| CRM | designates propeller with McCauley integral doweled spacer P/N B-3718, installation on special 4.0" bolt circle with six one-half inch diameter mounting bolts in accordance with McCauley Drawing C-7577, square tip blades. |
| DRM | designates propeller with McCauley P/N B-7639 integral doweled spacer , installation on special 4.0" bolt circle with six one-half inch diameter mounting bolts in accordance with McCauley Drawing C-7640, square tip blades |

** Some propellers of these models may have been produced with a hyphen following the basic design number in lieu of a diagonal line, i.e., "1A90-CH7240".

NOTE 3. Pitch Control. Not applicable.

NOTE 4. Feathering. Not applicable.

NOTE 5. Left Hand Models. Not applicable.

NOTE 6. Interchangeable blades. Models 1A90 series and 1B90-CM, or 1C90-ALM and 1C90-CLM are sufficiently similar aerodynamically and vibrationwise to permit interchangeability in the same diameter and static r.p.m. without a flight test.

NOTE 7. Accessories. Not applicable.

NOTE 8. Shank Fairings. Not applicable.

NOTE 9. Special Limits.

Table of Propeller-Engine Combinations
Approved Vibrationwise for Use on Normal Category Single-Engine 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.

| | <u>Propeller Model</u> | <u>Engine Model</u> | <u>Max. Dia. (Inches)</u> | <u>Min. Dia. (Inches)</u> | <u>Placards</u> |
|----|--|---|---------------------------|---------------------------|-----------------|
| or | 1A90/CF 1A90/CH 1B90/CM | Continental A-65 | 76 | 69 ½ | None |
| or | 1A90/CF 1A90/CH 1B90/CM | Continental A-75 | 71 | 68 ½ | None |
| or | 1A90/CF 1A90/CH 1B90/CM | Continental C-75 | 74 | 69 ½ | None |
| or | 1A90/CF 1A90/CH 1B90/CM | Continental A-80 | 70 | 68 ½ | None |
| or | 1A90/CF 1A90/CH 1B90/CM 1B90/ECM | Continental C-85 series, 85 hp and 2575 r.p.m. or less | 71 | 68 ½ | None |
| or | 1A90/CF 1A90/CH 1B90/CM | Continental C-90 | 73 | 69 ½ | None |
| | 1C90/LM 1C90/ALM 1C90/CLM 1C90/DLM 1B90/CM 1B90/ECM 1B90/FCM | Lycoming O-235 series 6.75 to 1 compression ratio or less, 108 hp. @ 2600 r.p.m. or less | 73 | 70 | None |
| or | 1A90/CF 1B90/CM 1B90/ECM 1B90/LCM | Continental O-200 series up to 100 hp. @ 2750 r.p.m. | 75 | 71 | None |
| | 1B90/CM 1B90/ECM 1B90/FCM 1C90/LM 1C90/ALM 1C90/CLM 1C90/DLM | Lycoming O-235 series 6.75 to 1 compression ratio or less, 115 hp. @ 2800 r.p.m. or less | 72 | 70 | None |

| | <u>Propeller Model</u> | <u>Engine Model</u> | <u>Max. Dia. (Inches)</u> | <u>Min. Dia. (Inches)</u> | <u>Placards</u> |
|----|------------------------|---|---------------------------|---------------------------|---|
| or | 1A135/RM 1A135/BRM | Rolls Royce O-240 Series up to 130 hp. @ 2800 r.p.m. | 72 | 71 | “Avoid continuous operation in full throttle climb above 2700 r.p.m. and in cruising above 75% power setting.” |
| | | | 71 | 70 | None |
| | | | 70 | 69 | “Avoid continuous operation while descending between 2150 and 2350 r.p.m. with power retarded below ¼ throttle setting” |
| or | 1A135/JCM 1A135/KCM | Lycoming O-235 series up to 125 hp. @ 2800 r.p.m. | 71 | 70 | “Avoid continuous operation while descending between 2025 and 2325 r.p.m. with power retarded below ¼ throttle setting” |
| | | | 70 | 69 | “Avoid continuous operation while descending between 2075 and 2400 r.p.m. with power retarded below ¼ throttle setting” |
| | 1A135/JCM | Lycoming O-235 series 6.75:1 compression ratio up to 115 hp @ 2800 r.p.m. | 72 | 69 | None |

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...