EASA

TYPE-CERTIFICATE
DATA SHEET

Number: IM.P.190
Issue: 01
Date: 09 March 2010
Type: McCauley Propeller Systems
3A32C(4--), D3A32C(4--), D3A34C(4--),
D3A36C(4--) series propellers

Models
3A32C406
3A32C418
D3A32C408
D3A32C409
D3A32C411
D3A34C401
D3A34C402
D3A34C403
D3A34C404
D3A34C444
D3A34C447
D3A36C410
D3A36C435

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I. General

1. Type / Models:

   3A32C(4--) / 3A32C406, 3A32C418
   D3A32C(4--) / D3A32C408, D3A32C409, D3A32C411
   D3A34C(4--) / D3A34C401, D3A34C402, D3A34C403, D3A34C404, D3A34C444, D3A34C447
   D3A36C(4--) / D3A36C410, D3A36C435

2. Type Certificate Holder:

   McCauley Propeller Systems (*)
   7751 East Pawnee
   Wichita, KS 67207
   USA

   (*): McCauley Accessory Division, The Cessna Aircraft Company

3. Manufacturer:

   McCauley Propeller Systems (*)
   7751 East Pawnee
   Wichita, KS 67207
   USA

   (*): McCauley Accessory Division, The Cessna Aircraft Company

4. Date of Application:

   3A32C406: Before 1986 *
   3A32C418: Before 1995 *
   D3A32C408: Before 1986 *
   D3A32C409: Before 1986 *
   D3A32C411: Before 1986 *
   D3A34C401: Before 1981 *
   D3A34C402: Before 1977 *
   D3A34C403: Before 1981 *
   D3A34C404: Before 1981 *
   D3A34C444: 01 Mai 2008
   D3A34C447: 24 June 2008
   D3A36C410: Before 1986 *
   D3A36C435: Before 2001 *

   (*): Application was made to the Luftfahrt-Bundesamt, Germany before EASA was established. The date of application was not recorded.

5. EASA Certification Reference Date:

   02 June 1976
II. Certification Basis

1. FAA Certification Basis: Refer to FAA TCDS no. P47GL

2. EASA Certification Basis:

2.1 Airworthiness Standards:

D3A34C403*, D3A34C404* and D3A32C408*:


3A32C406*, D3A32C409*, D3A36C410* and D3A32C411*:


3A32C418*, D3A34C401*, D3A34C402*, D3A36C435*, D3A34C444 and D3A34C447:


*: Application was made to EASA Member States before EASA was established. The applicable airworthiness standards were established in accordance with the rule in the Member Stats at the time of application. Refer to Commission Regulation (EC) No 375/2007 of 30 March 2007 amending Regulation (EC) No 1702/2003.

2.2 Special Condition:

None

2.3 Equivalent Safety Findings:

None

2.4 Deviations:

None
III. Technical Characteristics

1. Type Design Definition:

The 3A32C(4--), D3A32C(4--), D3A34C(4--), and D3A36C(4--) propeller types design is covered by a propeller assembly drawing and the associated Parts List, Hub Assembly Drawing and Blade Drawing or later approved revision.


D3A36C435: Propeller Assembly Drawing E-7483 dated 20 June 1997, 
Hub Assembly Drawing D-7075 dated 16 March 1993
Blade Drawing 80VE(X) dated 14 May 1997

2. **Description:**

The McCauley propeller is a three blade model using an aluminum alloy hub. The constant speed propeller has no feathering or reversing capability. A hydraulic cylinder attached to the front of the hub provides the force necessary to maintain and change blade pitch. The pitch change mechanism is contained entirely within the hub. The propeller design is covered by a Propeller Assembly Drawing and associated Parts List, Hub Assembly Drawing and Blade Drawing. Optional equipment includes spinner and ice protection (see Note 4).

3. **Equipment:**

- Spinner: See Note 4
- Governor: See Note 3
- Ice Protection: See Note 4

4. **Dimensions:**

See Table of Section IV.

5. **Weight:**

See Table of Section IV.

6. **Hub/Blade-Combinations:**

See Table of Section IV.

7. **Control System:**

Propeller governors: See Note 3

8. **Adaptation to Engine:**

Special flange: See Note 1
### IV. Operational Limits

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<th>Blades Eligible (See Note 2)</th>
<th>Max. Continuous kW - rpm (min⁻¹)</th>
<th>Take Off kW - rpm (min⁻¹)</th>
<th>Diameter Limits (cm) (See Note 2)</th>
<th>Approx. Max. Wt. Complete (kg) (For Ref. Only)</th>
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<tr>
<td>Hub Models D3A34C401 and D3A34C402</td>
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<tr>
<td>90DF[X]-0 to 90DF[X]-16</td>
<td>242.4 2700</td>
<td>242.4 2850</td>
<td>228.6 to 188.0 (-0 to -16)</td>
<td>30.62 32.57*</td>
</tr>
<tr>
<td>Hub Models D3A34C403 and D3A34C404</td>
<td></td>
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</tr>
<tr>
<td>80V[X]-0 to 80V[X]-6</td>
<td>212.5 2700</td>
<td>223.7 2850</td>
<td>203.2 to 188.0 (-0 to -6)</td>
<td>29.26 31.30**</td>
</tr>
<tr>
<td>Hub Models 3A32C406, D3A32C409 and D3A32C411</td>
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<tr>
<td>82ND[X]-2 to 82ND[X]-8</td>
<td>223.7 2700</td>
<td>223.7 2700</td>
<td>203.2 to 188.0 (-2 to -8)</td>
<td>28.58</td>
</tr>
<tr>
<td>Hub Model D3A36C410</td>
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<tr>
<td>80VM[X]-0 to 80VM[X]-6</td>
<td>242.4 2700</td>
<td>242.4 2700</td>
<td>203.2 to 188.0 (-2 to -12)</td>
<td>32.66</td>
</tr>
<tr>
<td>Hub Model 3A32C418</td>
<td></td>
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</tr>
<tr>
<td>82NR[X]-2 to 82NR[X]-12</td>
<td>208.8 2500</td>
<td>208.8 2500</td>
<td>203.2 to 177.8 (-2 to -12)</td>
<td>30.34</td>
</tr>
<tr>
<td>Hub Model D3A32C408</td>
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<td></td>
</tr>
<tr>
<td>82ND[X]-2 to 82ND[X]-8</td>
<td>212.5 2700</td>
<td>223.7 2850</td>
<td>203.2 to 188.0 (-2 to -8)</td>
<td>29.94</td>
</tr>
<tr>
<td>Hub Model D3A36C435</td>
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<tr>
<td>80VE[X]-0 to 80VE[X]-8</td>
<td>242.4 2700</td>
<td>242.4 2850</td>
<td>203.2 to 182.9 (-0 to -8)</td>
<td>32.66</td>
</tr>
<tr>
<td>Hub Model D3A34C444</td>
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<tr>
<td>78ML[X]-0 to 78ML[X]-4</td>
<td>242.4 2700</td>
<td>242.4 2850</td>
<td>198.1 to 188.0 (-0 to -4)</td>
<td>32.66</td>
</tr>
<tr>
<td>Hub Model D3A34C447</td>
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</tr>
<tr>
<td>78ML[X]-0 to 78ML[X]-4</td>
<td>242.4 2700</td>
<td>242.4 2850</td>
<td>198.1 to 188.0 (-0 to -4)</td>
<td>33.38</td>
</tr>
</tbody>
</table>

*  Higher weight applies to D3A34C-402
** Higher weight applies to D3A34C-404
1. **Maximum Take Off Power and Speed:**
   See Table of Section IV.

2. **Maximum Continuous Power and Speed:**
   See Table of Section IV.

3. **Propeller Pitch Angle:**
   See Note 3.

### V. Operating and Service Instructions

<table>
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<tr>
<th>Manual</th>
<th>Code</th>
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<tbody>
<tr>
<td>Propeller Overhaul Manual</td>
<td>MPC400*</td>
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<tr>
<td>Propeller Blade Overhaul Manual</td>
<td>BOM100*</td>
</tr>
<tr>
<td>McCauley Standard Practices Manual</td>
<td>SPM100*</td>
</tr>
<tr>
<td>Service Bulletins</td>
<td></td>
</tr>
</tbody>
</table>

*: or later approved revision.

### VI. Notes

1. **Hub Model Designation**

   X 3 A 34 C 401 - A

   - Minor Change not affecting interchangeability or eligibility.
   - Any change affecting eligibility.
   - C denoted constant speed model.
   - McCauley blade shank size.
   - A denotes special flange 10.2 cm (4") B. C.
   - Number of blades.

   Indicates dowel location with respect to centreline through blade sockets, when viewing hub from flange mounting face.
   - Blank 60° and 240° clockwise with No. 1 blade vertical and up.
   - D 90° and 270° clockwise with No. 1 blade vertical and up.
2. Blade Model Designation

- **X** - 90 DF[X] - 0

  Reduction in inches from basic design diameter (as -4, diameter reduced 4 inches to 86 inches).

  Characteristics of blade design (platform, etc). Suffix [X] indicates blade butt staking dimensions for actuating pin attachment.

  Basic diameter in inches.

  Minor change not affecting interchangeability or eligibility.

3. Pitch Control

With McCauley governor Model C290D[X]/T[X], Wt.: 1.27 kg.

4. Accessories

(a) Propeller deicing:


3) Model 82NR[X] blades installed per McCauley Installation Drawing E-40623.


5) Model 90DF[X] blades with Safeway 6199 Deicer installed per Cessna Installation Drawing 1201072 or 1201188.

(b) Spinners:

1) Model D3A34C401/90DF[X] with McCauley spinner installation D-3669, D-3867, D-3867-1, D-5027 or D-6594

2) Model 3A32C406/82ND[X] with McCauley spinner installation D-5259, D-5541, D-7168 or D-7168-2

3) Model D3A32C409/82ND[X] with McCauley spinner installation D-5259, D-5541, D-7168 or D-7168-2

4) Model D3A32C411/82ND[X] with McCauley spinner installation D-6594

5) Model 3A32C418/82NR[X] with McCauley spinner installation D-7192 or D-7192-1


7) Model D3A34C444/78ML[X] with McCauley spinner installation E-7819.

8) Model D3A34C447/78ML[X] with McCauley spinner installation E-7839.

9) Model D3A34C402/90DF[X] with plain or electric deicer spinner: Reference 1250419-10 / -15 Dome, 1250414-6/-8 Bulkhead, and 1250419-9/-14 installation.
5. 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.

<table>
<thead>
<tr>
<th>Hub Model</th>
<th>Blade Model</th>
<th>Engine Model</th>
<th>Crankshaft Damper Configuration</th>
<th>Max. Dia (cm)</th>
<th>Min. Dia. (cm)</th>
<th>Placards</th>
</tr>
</thead>
<tbody>
<tr>
<td>D3A34C401 D3A34C402</td>
<td>90DFA</td>
<td>Continental TS10-520 series (up to 231.2 kW &amp; 2700 propeller rpm rating at takeoff and 212.5 kW &amp; 2600 propeller rpm max. continuous)</td>
<td>Two 6th order, One 5th order and One 4th order</td>
<td>203.2</td>
<td>198.1</td>
<td>Avoid continuous operation between 1850 and 2150 propeller rpm for power settings above 24&quot; manifold pressure.</td>
</tr>
<tr>
<td>D3A34C401 D3A34C402</td>
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<td>Continental TS10-520 series (up to 231.2 kW &amp; 2700 propeller rpm rating at takeoff and 212.5 kW &amp; 2600 propeller rpm max. continuous)</td>
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<td>193.0</td>
<td>Avoid continuous operation between 1850 and 2150 propeller rpm for power settings above 24&quot; manifold pressure.</td>
</tr>
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6. Special Note
Aircraft installation must be approved as part of the aircraft type certificate upon compliance with the applicable aircraft airworthiness requirements.

7. EASA Type Certificate and Type Certificate Data Sheet no.: IM.P.190 replaces the associated Type Certificates and Type Certificate Data Sheets of the Member States.