European Aviation Safety Agency

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

6. EASA Certification Date:

3A32C406:	14 July 1986 *
3A32C418:	06 September 1995 *
D3A32C408:	14 July 1986 *
D3A32C409:	14 July 1986 *
D3A32C411:	14 July 1986 *
D3A34C401:	11 March 1981 *
D3A34C402:	06 May 1977 *
D3A34C403:	11 March 1981 *
D3A34C404:	11 March 1981 *
D3A34C444:	09 March 2010
D3A34C447:	09 March 2010
D3A36C410:	14 July 1986 *
D3A36C435:	30 January 2001 *

*: by Luftfahrt-Bundesamt, Germany (TCDS No.: 32.130/29 issue 5)

II. Certification Basis

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

2. EASA Certification Basis:

2.1 Airworthiness Standards:

D3A34C403*, D3A34C404* and D3A32C408*:

14 CFR Part 35 with amendments 35-1 through 35-4 effective 02 May 1977.

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

14 CFR Part 35 with amendments 35-1 through 35-5 effective 14 October 1980.

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

14 CFR Part 35 with amendments 35-1 through 35-6 effective 18 August 1990.

*: 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 accociated Parts List, Hub Assembly Drawing and Blade Drawing or later approved revision.

3A32C406: Propeller Assembly Drawing E-5195 dated 01 April 1981,
Hub Assembly Drawing D-5249 dated 31 March 1981
Blade Drawing 82ND(X) dated 1 April 1981

3A32C418: Propeller Assembly Drawing E-4809 dated 25 April 1994,
Hub Assembly Drawing D-7196 dated 24 April 1994
Blade Drawing 82NR(X) dated 27 April 1994

D3A32C408: Propeller Assembly Drawing E-4809 dated 15 July 1980,
Hub Assembly Drawing D-4803 dated 29 May 1976
Blade Drawing 82ND(X) dated 2 July 1980

D3A32C409: Propeller Assembly Drawing E-5195 dated 25 March 1983,
Hub Assembly Drawing D-5514 dated 07 April 1983
Blade Drawing 82ND(X) dated 1 April 1981

D3A32C411: Propeller Assembly Drawing E-4808 dated 03 April 1985,
Hub Assembly Drawing D-4804 dated 29 May 1976
Blade Drawing 82ND(X) dated 2 July 1980

D3A34C401: Propeller Assembly Drawing E-4808 dated 29 May 1976,
Hub Assembly Drawing D-4804 dated 29 May 1976
Blade Drawing 90DF(X) dated 29 May 1976

D3A34C402: Propeller Assembly Drawing E-4809 dated 29 May 1976,
Hub Assembly Drawing D-4803 dated 29 May 1976
Blade Drawing 90DF(X) dated 29 May 1976

D3A34C403: Propeller Assembly Drawing E-4808 dated 29 May 1976,
Hub Assembly Drawing D-4804 dated 29 May 1976
Blade Drawing 80V(X) dated 21 April 1977

D3A34C404: Propeller Assembly Drawing E-4809 dated 29 May 1976,
Hub Assembly Drawing D-4803 dated 29 May 1976
Blade Drawing 80V(X) dated 21 April 1977

D3A34C444: Propeller Assembly Drawing E-7800 dated 24 January 2006,
Hub Assembly Drawing D-7076 dated 21 February 2006,
Blade Drawing 78ML(X) dated 10 March 2006.

D3A34C447: Propeller Assembly Drawing E-7837 dated 12 March 2007,
Hub Assembly Drawing E-7838 dated 13 March 2007,
Blade Drawing 78ML(X) dated 15 July 2008.

D3A36C410: Propeller Assembly Drawing E-5572 dated 18 June 1984,
Hub Assembly Drawing D-4803 dated 29 May 1976
Blade Drawing 80VM(X) dated 18 June 1984

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

Blades Eligible (See Note 2)	Max. Continous kW - rpm (min^{-1})		Take Off kW - rpm (min^{-1})		Diameter Limits (cm) (See Note 2)	Approx. Max. Wt. Complete (kg) (For Ref. Ony)
			Hub Models D3A34C401 and D3A34C402			
90DF[X]-0 to 90DF[X]-16	242,4	2700	242,4	2850	228,6 to 188,0 (-0 to -16)	30,62 32,57*
			Hub Models D3A34C403 and D3A34C404			
80V[X]-0 to 80V[X]-6	212,5	2700	223,7	2850	203,2 to 188,0 (-0 to -6)	29,26 31,30**
			Hub Models 3A32C406, D3A32C409 and D3A32C411			
82ND[X]-2 to 82ND[X]-8	223,7	2700	223,7	2700	203,2 to 188,0 (-2 to -8)	28,58
			Hub Model D3A36C410			
80VM[X]-0 to 80VM[X]-6	242,4	2700	242,4	2700	203,2 to 188,0 (-2 to -12)	32,66
			Hub Model 3A32C418			
82NR[X]-2 to 82NR[X]-12	208,8	2500	208,8	2500	203,2 to 177,8 (-2 to -12)	30,34
			Hub Model D3A32C408			
82ND]-2 to 82ND[X]-8	212,5	2700	223,7	2850	203,2 to 188,0 (-2 to -8)	29,94
			Hub Model D3A36C435			
80VE[X]-0 to 80VE[X]-8	242,4	2700	242,4	2850	203,2 to 182,9 (-0 to -8)	32,66
			Hub Model D3A34C444			
78ML[X]-0 to 78ML[X]-4	242,4	2700	242,4	2850	198,1 to 188,0 (-0 to -4)	32,66
			Hub Model D3A34C447			
78ML[X]-0 to 78ML[X]-4	242,4	2700	242,4	2850	198,1 to 188,0 (-0 to -4)	33,38

* 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

Propeller Overhaul Manual	MPC400*
Propeller Blade Overhaul Manual	BOM100*
McCauley Standard Practices Manual	SPM100*
Service Bulletins	

*: or later approved revision.

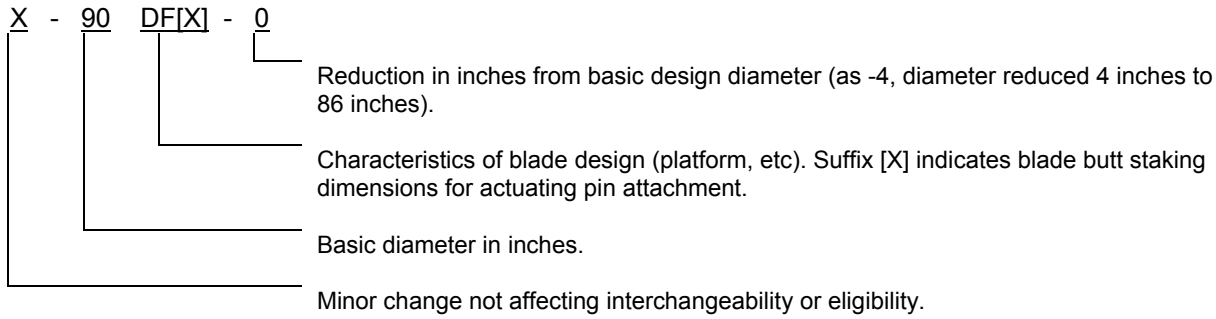
VI. Notes

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 60º and 240º clockwise with No. 1 blade vertical and up.
  - D 90º and 270º clockwise with No. 1blade vertical and up.

2. Blade Model Designation



3. Pitch Control
With McCauley governor Model C290D[X]/T[X], Wt.: 1,27 kg.

4. Accessories

(a) Propeller deicing:
1) Model 78ML[X] blades with McCauley B-40245-[X] deicer installed per McCauley Assembly Drawings E-7800 and E-7837.
2) Model 82ND[X} blades with McCauley B-40245-[X] deicer installed per McCauley Installation Drawing D-40242 and D-40726.
3) Model 82NR[X] blades installed per McCauley Installation Drawing E-40623.
4) Model 78CY[X] blades with McCauley C-40323-[X] deicer installed per McCauley Assembly Drawing E-7800.
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
6) Model D3A36C435/80VE[X] with McCauley spinner installation D-7510-[X] or D-7515.
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.

Hub Model	Blade Model	Engine Model	Crankshaft Damper Configuration	Max. Dia (cm)	Min. Dia. (cm)	Placards
D3A34C401 D3A34C402	90DFA	Continental TSI0-520 series (up to 231;2 kW & 2700 propeller rpm rating at takeoff and 212,5 kW & 2600 propeller rpm max. continuous)	Two 6th order, One 5th order and One 4th order	203,2	198,1	Avoid continuous operation between 1850 and 2150 propeller rpm for power settings above 24" manifold pressue.
D3A34C401 D3A34C402	90DFA	Continental TSI0-520 series (up to 231,2 kW & 2700 propeller rpm rating at takeoff and 212,5 kW & 2600 propeller rpm max. continuous)	Two 6th order, One 5th order and One 4th order	198,1	193,0	Avoid continuous operation between 1850 and 2150 propeller rpm for power settings above 24" manifold pressue.

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.
