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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2005-20141; Directorate Identifier 2005-NE-01-AD; Amendment 39-14836; AD 2006-24-07]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Hartzell Propeller Inc. Propellers and McCauley Propeller Systems Controllable Propellers**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Hartzell Propeller Inc. HC, BHC, and PHC series propellers; and McCauley Propeller Systems controllable propellers serviced by Oxford Aviation Services Limited, doing business as CSE Aviation, in the United Kingdom between September 1998 and October 2003. This AD requires inspecting the propeller blades and other critical propeller parts for wear and mechanical damage. This AD results from findings that CSE Aviation failed to perform some specific inspections and repairs. We are issuing this AD to detect unsafe conditions that could result in a propeller blade separating from the hub and loss of control of the airplane.

**DATES:** This AD becomes effective January 3, 2007.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://dms.dot.gov> or in Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Timothy Smyth, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Avenue, Des Plaines, IL 60018-4696; telephone (847) 294-7132; fax (847) 294-7834.

**SUPPLEMENTARY INFORMATION:** The FAA proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to certain Hartzell Propeller Inc. HC, BHC, and PHC series propellers; and McCauley Propeller Systems controllable propellers serviced by Oxford Aviation Services Limited, doing business as CSE Aviation, in the United Kingdom between September 1998

and October 2003. We published the proposed AD in the Federal Register on June 15, 2005 (70 FR 34714). That action proposed to require inspecting the propeller blades and other critical propeller parts for wear and mechanical damage.

### **Examining the AD Docket**

You may examine the docket that contains the AD, any comments received, and any final disposition in person at the Docket Management Facility Docket Offices between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address stated in ADDRESSES. Comments will be available in the AD docket shortly after the DMS receives them.

### **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

### **Request To Clarify Reason for the AD**

CSE Aviation requests that we clarify the statement "This (proposed) AD results from findings that CSE Aviation failed to perform specific inspections and repairs", to read "This (proposed) AD results from findings that CSE Aviation failed to perform some specific inspections and repairs". The commenter states that adding this word more clearly defines the conditions existing in the field. We agree and added the word "some" in this sentence of the AD.

### **Request To Clarify the Discussion**

CSE Aviation requests that we clarify the Discussion paragraph in the proposed AD to state the following: "The investigators believe the discrepancies date from about 1998 until November 2003 when CSE Aviation stopped updating their internal procedures to reflect the latest version of the manufacturers' maintenance manuals. The audit also showed that CSE Aviation did not perform some specific inspections required by the maintenance manual. CSE Aviation conducted an internal investigation and confirmed that they did not perform some inspections and rework procedures such as:" We disagree the discussion paragraph needs change. We find it adequate as drafted. We did not change the AD.

### **Requests To Clarify Costs of Compliance**

CSE Aviation requests that we clarify the Costs of Compliance paragraph by specifying that about 49 affected Hartzell propellers and about 24 affected McCauley propellers are installed on U.S.-registered airplanes. We agree. We changed the Costs of Compliance paragraph in the AD to reflect that about 49 affected Hartzell propellers and 24 affected McCauley propellers are installed on U.S.-registered airplanes.

CSE Aviation also suggests that our estimate for part cost replacement of \$2,350 per propeller, is too high. They suggest a part cost per propeller of \$200 per propeller, and suggest that our estimate might lead to other repair facilities replacing parts that are airworthy. They also suggest that the actual total cost for U.S.-registered installations is about \$62,050, with a total worldwide cost of about \$437,750. We do not agree. The cost numbers provided by CSE Aviation do not include a proper range for defective parts, or include improper repairs that might be found during the inspections. We did not change the AD.

## **Request To Clarify the Unsafe Condition Statement**

CSE Aviation requests that we clarify the unsafe condition statement to state that we are issuing this AD to detect potentially unsafe conditions that could result in a propeller blade separating from the hub and loss of control of the airplane. We agree and added the word "potentially" in this sentence of the AD.

## **Request To Change Compliance Paragraph (f)**

CSE Aviation requests that we change the words " FAA-approved" with "appropriately approved" in compliance paragraph (f), since the affected propeller population is worldwide. We do not agree. Our authority to mandate airworthiness actions is limited to FAA-approved repair facilities and operators, and not foreign country-approved facilities and operators.

## **Conclusion**

We have carefully reviewed the available data, including the comment[s] received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Costs of Compliance**

We estimate that about 49 Hartzell Propeller Inc. HC series propellers and about 24 McCauley Propeller Systems controllable propellers of the affected design installed on airplanes of U.S. registry will be affected by this AD. We also estimate that it will take about 10 work hours per propeller to perform the proposed actions, and that the average labor rate is \$65 per work hour. Required parts will cost about \$2,350 per propeller. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$1,545,000.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary at the address listed under ADDRESSES.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends 14 CFR part 39 as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:



**2006-24-07 Hartzell Propeller Inc. (formerly TRW Hartzell Propeller) and McCauley Propeller Systems (formerly Cessna Aircraft Co.):** Amendment 39-14836. Docket No. FAA-2005-20141; Directorate Identifier 2005-NE-01-AD.

**Effective Date**

(a) This airworthiness directive (AD) becomes effective January 3, 2007.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to Hartzell Propeller Inc. (formerly TRW Hartzell Propeller) and McCauley Propeller Systems (formerly Cessna Aircraft Co.) propellers that have a part number (P/N) and serial number (SN) listed in Table 1 or Table 2 of this AD, serviced by Oxford Aviation Limited, doing business as CSE Aviation. These propellers are installed on, but not limited to airplanes used in general aviation, agricultural, flight training, and charter businesses.

**Table 1 - Hartzell Propellers by P/N and SN**

<b>CSE Work Order Number</b>	<b>Hartzell Propeller P/N</b>	<b>Hartzell Propeller SN</b>
Y03516	HC-E2YL-2BSF	BG2848
Y03517	HC-E2YL-2BSF	BG4112
Y04052	HC-82VL-2C1	942R
Y02965	BHC-C2YF-1BF	AM2854
Y02778	BHC-C2YF-2CKUF	AN1881
Y03382	BHC-C2YF-2CKUF	AN1968
Y04132	BHC-C2YF-2CKUF	AN2528
Y05097	BHC-C2YF-2CKUF	AN3274
Y05048	HC-C2YK-2CUF	AN3906
Y05047	HC-C2YK-2CUF	AN4033
Y03016	BHC-C2YF-2CKUF	AN4271
Y03983	BHC-C2YF-2CLKUF	AN4289
Y03166	BHC-C2YF-2CKUF	AN5248

Y02607	BHC-C2YF-2CKLUF	AN5832
Y04855	BHC-C2YF-2CKLUF	AN6857
Y04391	BHC-C2YF-2CKUF	AN6981A
Y05102	BHC-C2YF-2CLKUF	AN6998A
Y04709	BHC-C2YF-2CKUF	AN7006A
Y05070	BHC-C2YF-2CLKUF	AN7018A
Y03863	BHC-C2YF-CLKUF	AN7019A
Y04108	BHC-C2YF-2CKUF	AN7025A
Y03206	BHC-C2YK-2CLKUF	AN7168B
Y04592	BHC-C2YF-2CKUF	AN7071B
Y04865	BHC-C2YF-2CLKUF	AN7168B
Y04846	BHC-C2YF-2CKUF	AN7184B
Y04808	BHC-C2YF-2CLKUF	AN7199B
Y03185	BHC-C2YF-2CLKUF	AN7209B
Y03186	BHC-C2YF-2CKUF	AN7215B
Y04975	BHC-C2YF-2CKUF	AN7249B
Y04974	BHC-C2YF-2CLKUF	AN7279B
Y04818	BHC-C2YF-2CKUF	AN7280B
Y04532	BHC-C2YF-2CKUF	AN7540B
Y04561	BHC-C2YF-2CKUF	AN7552B
Y04638	BHC-C2YF-2CLKUF	AN7567B
Y04639	BHC-C2YF-2CKUF	AN7568B
Y04658	BHC-C2YF-2CLKUF	AN7581B
Y02866	HC-A3VF-2D	AT376
Y02867	HC-A3VF-2D	AT431
Y04053	HC-C2YK-2CUF	AU10008B
Y04096	HC-C2YK-2CUF	AU10023B
Y04143	HC-C2YK-2CUF	AU10126B
Y04171	HC-C2YK-2CUF	AU10139B
Y04283	HC-C2YK-2CUF	AU10165B
Y04274	HC-C2YK-2CUF	AU10178B
Y04416	HC-C2YK-2CUF	AU10401B
Y04415	HC-C2YK-2CUF	AU10402B
Y04478	HC-C2YK-2CUF	AU10462B

Y04518	HC-C2YK-2CUF	AU10541B
Y04479	HC-C2YK-2CUF	AU10542B
Y04563	HC-C2YK-4BF	AU10614B
Y04564	HC-C2YK-4BF	AU10615B
Y04560	HC-C2YK-2CUF	AU10616B
Y04610	HC-C2YK-2CUF	AU10696B
Y04565	HC-C2YF-2CUF	AU10729B
Y04566	HC-C2YK-2CUF	AU10730B
Y04632	HC-C2YK-4BF	AU10733B
Y04636	HC-C2YK-2CUF	AU10771B
Y04651	HC-C2YK-4BF	AU10790B
Y04659	HC-C2YK-2CUF	AU10817B
Y04681	HC-C2YK-4BF	AU10827B
Y04701	HC-C2YK-2CUF	AU10923B
Y04785	HC-C2YK-2CUF	AU10952B
Y04786	HC-C2YK-2CUF	AU11050B
Y04736	HC-C2YK-2CUF	AU11117B
Y04826	HC-C2YK-4BF	AU11145B
Y04871	HC-C2YK-1BF	AU11279B
Y04890	HC-C2YK-4BF	AU11343B
Y05000	HC-C2YK-4CF	AU11591B
Y05050	HC-C2YK-2CUF	AU11731B
Y04410	HC-C2YK-2CGUF	AU1533
Y04409	HC-C2YK-2CGUF	AU1603
Y04344	HC-C2YK-2CLGUF	AU2892E
Y03377	HC-C2YK-2CGUF	AU2955
Y03688	HC-C2YK-2CU	AU354
Y02769	HC-C2YK-2CUF	AU9013B
Y04343	HC-C2YR-2CGUF	AU508E
Y03110	HC-C2YK-2CUF	AU5236
Y04400	HC-C2YK-2CLEUF	AU5974E
Y04652	HC-C2YK-1B	AU6120
Y04321	HC-C2YR-2CLEUF	AU6163
Y03200	HC-C2YK-2CUF	AU7153E

Y03838	HC-C2YK-2CUF	AU7357
Y04362	BHC-C2YF-2CLKUF	AU7491B
Y04219	HC-C2YK-2CLGUF	AU7662
Y02598	HC-C2YK-CUF	AU8212A
Y02770	HC-C2YK-2CUF	AU822
Y03482	HC-C2YK-2CUF	AU8233A
Y03564	HC-C2YK-2CUF	AU8299A
Y03773	HC-C2YK-2CUF	AU8318A
Y03674	HC-C2YK-2CUF	AU8338A
Y02991	HC-C2YK-2CUF	AU8339A
Y03137	HC-C2YK-2CUF	AU8347A
Y03018	HC-C2YK-2CUF	AU8349A
Y02805	HC-C2YK-2CUF	AU8354A
Y02703	HC-C2YK-2CUF	AU8417A
Y02664	HC-C2YK-2CUF	AU8859A
Y04095	HC-C2YK-2CUF	AU8923B
Y03761	HC-C2YK-CUF	AU8968B
Y02792	HC-C2YK-2CUF	AU9012B
Y02848	HC-C2YK-2CUF	AU9014B
Y03597	HC-C2YK-2CUF	AU9015B
Y04735	HC-C2YK-2CUF	AU9041B
Y03229	HC-C2YK-2CGUF	AU9135B
Y02943	HC-C2YK-2CUF	AU9136B
Y03197	HC-C2YK-2CUF	AU9150B
Y04675	HC-C2YK-2CUF	AU9182B
Y03352	HC-C2YK-2CUF	AU9241B
Y03354	HC-C2YK-2CUF	AU9243B
Y03097	HC-C2YK-2CUF	AU9246B
Y03201	HC-C2YK-2CUF	AU9247B
Y03686	HC-C2YK-2CUF	AU9312B
Y03607	HC-C2YK-2CUF	AU9332B
Y03614	HC-C2YK-2CGUF	AU9393B
Y03606	HC-C2YK-2CUF	AU9394B
Y03791	HC-C2YK-2CUF	AU9395B



Y03866	HC-C2YK-CUF	AU9396B
Y03888	HC-C2YK-CUF	AU9509B
Y04948	HC-C2YK-2CUF	AU9511B
Y03891	HC-C2YK-2CUF	AU9518B
Y03797	HC-C2YK-2CUF	AU9520B
Y04001	HC-C2YK-2CGUF	AU9593B
Y05083	HC-C2YK-2CUF	AU9599B
Y03694	HC-C2YK-4BF	AU9616B
Y03696	HC-C2YK-4BF	AU9618B
Y03695	HC-C2YK-4BF	AU9630B
Y03620	HC-C2YK-4BF	AU9631B
Y03627	HC-C2YK-4BF	AU9638B
Y03625	HC-C2YK-4BF	AU9649B
Y04047	HC-C2YK-2CUF	AU9985B
Y04376	HC-C2YL-1BF	AX522
Y05051	HC-C2YR-1BF	AX527
Y02908	HC-C2YL-1BF	AX841B
Y04763	HC-C2YL-1BF	AX720A
Y04731	HC-E2YR-2RBSF	BB6694
Y04900	HC-E2YL-2BSF	BG2122
Y04738	HC-E2YL-2BSF	BG2923
Y04547	HC-E2YL-2BSF	BG3219
Y03153	HC-E2YL-2BSF	BG3287
Y04061	HC-E2YL-2BSF	BG3363
Y04917	HC-E2YL-2BSF	BG372
Y04062	HC-E2YL-2BSF	BG434
Y04190	HC-E2YL-2BSF	BG4344
Y04901	HC-E2YL-2BSF	BG4557
Y04737	HC-E2YL-2BSF	BG648
Y04898	HC-E2YR 2RBSF	BP3287
Y03327	HC-E2YR-2RBS	BP5179
Y03680	HC-E2YR-2RBSF	BP6199
Y04167	HC-E2YR-2RBSF	BP6206
Y03138	HC-E2YR-2RBSF	BP6606

Y02709	HC-E2YR-2RBSF	BP6838
Y04899	HC-E2YR-2RBSF	BP9158
Y03913	HC-E2YR-2RBSF	BP9159
Y03139	HC-E2YR-2RBSF	BP9168
Y04780	PHC-A3VF-2B	BR834
Y02939	HC-B3TN-3DY	BUA22056
YO2971	HC-B3TN-3DY	BU12462
Y04089	HC-B3TN-3C	BU14589
Y03948	HC-BCTN-3B	BU16789
Y02767	HC-B3TN-5FL	BV3382
Y02768	HC-B3TN-5FL	BV3540
Y02946	HC-B3TN-3DY	BUA22136
Y03726	HC-B3TN-3G	BUA21467
Y03727	HC-B3TN-3G	BUA23284
Y03928	HC-B3TN-3D	BUA24401
Y04429	HC-B3TN-3N	BUA24852
Y04430	HC-B3TN-3N	BUA24992
Y05019	HC-B3TN-3G	BUA27325
Y03719	HC-B3TN-5E	BVA7456
Y03718	HC-B3TN-5E	BVA7457
Y04443	HC-B3TN-5FL	BVA7770
Y04444	HC-B3TN-5FL	BVA7771
Y03304	HC-B4TN-5ML	CD1746
Y03165	HC-B4TN-5ML	CD1752
Y03164	HC-B4TN-5ML	CD1973
Y04535	HC-B4TN-S	CDA3529M1
Y04787	HC-B4N-ML	CDA3703
Y04788	HC-B4TN-5ML	CDA3704
Y03351	HC-B4TN-5ML	CDA4424
Y04644	HC-B4TN-5ML	CDA4819
Y04534	HC-B4TN-S	CDA5047M1
Y04399	HC-C2YK-1BF	CH11322
Y03764	HC-C2YK-1BF	CH1614B
Y02124	HC-C2YK-1BF	CH23470

Y02897	HC-C2YK-1BF	CH32119A
Y04516	HC-C2YK-1BF	CH20231
Y04371	HC-C2YK-1BF	CH21618
Y04260	HC-C2YK-1BF	CH23621
Y02641	HC-C2YK-1BF	CH23890(E)
Y03969	HC-C2YK-1BF	CH25517
Y02648	HC-C2YK-1BF	CH26145
Y02896	HC-C2YK-1BF	CH32118A
Y04244	HC-C2YR-1BF	CH27227
Y03763	HC-C2YK-1BF	CH27235
Y03704	HC-C2YK-1BF	CH28190
Y03141	HC-C2YK-1BF	CH29976
Y05015	HC-C2YK-1BF	CH30451
Y04153	HC-C2YK-1BF	CH32838B
Y03949	HC-C2YK-1BF	CH32683B
Y05124	HC-C2YKR-1BF	CH33316B
Y03205	HC-C2YK-1BF	CH33520B
Y03850	HC-C2YK-1BF	CH33777B
Y03843	HC-C2YK-1BF	CH34179B
Y04230	HC-C2YK-1BF	CH34607B
Y04014	HC-C2YR-1BF	CH34638B
Y05078	HC-C2YK-1BF	CH35009B
Y04361	HC-C2YK-1BF	CH35037B
Y04587	HC-C2YK-1BF	CH35445B
Y04588	HC-C2YK-1BF	CH35466B
Y05076	HC-C2YK-1BF	CH37285B
Y05079	HC-C2YK-1BF	CH37286B
Y05056	HC-C2YK-1BF	CH3730B
Y04891	HC-C3YR-2LUF	CH4488A
Y03425	HC-C2YK-1BF	CH5073
Y03428	HC-C2YK-1B	CH617
Y04126	HC-E2YL-2BTF	CJ514
Y03027	HC-C3YR-2UF	CK3633A
Y02594	HC-C3YR-2UF	CK3634A

Y03429	HC-C3YR-2UF	CK3651A
Y03168	HC-C3YR-2UF	CK3662A
Y03995	HC-C3YR-2UF	CK3663A
Y03573	HC-C3YR-2UF	CK3678A
Y03611	HC-C3YR-2UF	CK3705A
Y03707	HC-C3YR-2UF	CK3706A
Y03513	HC-E3YR-2UF	CK3719A
Y03937	HC-C3YR-2UF	CK3872A
Y03794	HC-C3YR-2UF	CK3873A
Y03921	HC-C3YR-2UF	CK3874A
Y04892	HC-C3YR-2UF	CK4263A
Y03317	HC-C3YR-2UF	CK4459A
Y02871	HC-C3YR-2UF	CK4460A
Y02704	HC-C3YR-2UF	CK4645A
Y03522	HC-C3YR-2UF	CK4682A
Y04770	HC-F2YR-1F	CM535
Y05039	HC-C2YK-4BF	DH687E
Y04872	HC-E3YR-2ATF	DJ10539A
Y04873	HC-E3YR-2ALTF	DJ10542A
Y03975	HC-E3YR-2ALTF	DJ10585A
Y03974	HC-E3YR-2ATF	DJ10832A
Y03023	HC-E3YR-2ATF	DJ8092A
Y03998	HC-E3YR-2ATF	DJ8105A
Y03997	HC-E3YR-2ATF	DJ8106A
Y02865	HC-E3YR-2ALTF	DJ8128A
Y04149	HC-E3YR-2ATF	DJ8137A
Y04150	HC-E3YR-2ALTF	DJ8139A
Y04911	HC-E3YR-2ALTF	DJ8151A
Y02580	HC-E3YR-2ALTF	DJ8154A
Y04912	HC-E3YR-2ATF	DJ8157A
Y02864	HC-E3YR-2ATF	DJ8161A
Y02581	HC-E3YR-2AFT	DJ8180A
Y04775	HC-E3YR-2ATF	DJ8326A
Y04774	HC-E3YR-2ALTF	DJ8329A

Y03760	HC-E3YR-2ATF	DJ8872A
Y03022	HC-E3YR-2ALTF	DJ9503A
Y02120	HC-E2YR-1BF	DK1068
Y04375	HC-E2YR-1BF	DK155
Y03331	HC-E2YR-1BF	DK1902B
Y04373	HC-E2YR-1BF	DK611
Y04168	HC-E2YR-1BF	DK620
Y04471	HC-C2YK-1BF	DK669
Y03040	HC-C2YK-4BF	DN4101A
Y03590	HC-C2YK-4BF	AU8619A
Y03129	HC-C2YK-4BF	DN4111A
Y03442	HC-C2YK-4BF	DN4112A
Y03003	HC-C2YK-2CEUF	DN4126A
Y03630	HC-C2YK-4BF	DN4127A
Y02620	HC-C2YK-4FC7666A	DN4168A
Y02680	HC-C2YK-4FC7666A	DN4171A
Y02786	HC-C2YK-4FC7666A	DN4172A
Y02619	HC-C2YK-4FC7666A	DN4175A
Y03588	HC-C2YK-4BF	DN4187A
Y03116	HC-C2YK-4CF	DN4216A
Y02679	HC-C2YK-4FC7666A	DN4231A
Y03209	HC-C2YK-4BF	AU9643B
Y02677	HC-C2YK-4FC7666A	DN4249A
Y02667	HC-C2YK-4FC7666A	DN4263A
Y03253	HC-C2YK-4BF	DN4265A
Y03592	HC-C2YK-4BF	DN4268
Y02796	HC-C2YK-4FC7666A	DN4279A
Y02788	HC-C2YK-4FC7666A	DN4280A
Y03210	HC-C2YK-4BF	DN4284A
Y03212	HC-C2YK-4BF	DN4299A
Y03574	HC-C2YK-4BF	DN9650B
Y03260	HC-C2YK-4BF	DN4340A
Y03254	HC-C2YK-4BF	DN4341A
Y02665	HC-C2YK-4FC7666A	DN4351A

Y02681	HC-C2YK-4FC7666A	DN4364A
Y03208	HC-C2YK-4BF	DN4371A
Y02787	HC-C2YK-4FC7666A	DN4380A
Y03621	HC-C2YK-4BF	DN4510A
Y02666	HC-C2YK-4FC7666A	DN4521A
Y03589	HC-C2YK-4BF	DN4514A
Y03619	HC-C2YK-4BF	DN4515A
Y02678	HC-C2YK-4FC7666A	DN4516A
Y02618	HC-C2YK-4FC7666A	DN4522A
Y02615	HC-C2YK-4FC7666A	DN4524A
Y02614	HC-C2YK-4FC7666A	DN4712A
Y02616	HC-C2YK-4FC7666A	DN4716A
Y03439	HC-C2YK-4BF	DN4719A
Y02662	HC-C2YK-4FC7666A	DN4955A
Y03626	HC-C2YK-4BF	DN4957A
Y03252	HC-C2YK-4BF	DN4963A
Y02668	HC-C2YK-4FC7666A	DN4965A
Y04191	HC-E2YL-2BLSF	DP94
Y02832	HC-C3YR-1RF	DY2464A
Y04175	PHC-C3YF-2UF	EB171
Y04174	PHC-C3YF-2UF	EB173
Y03788	PHC-C3YF-2UF	EB1977
Y03787	PHC-C3YF-2UF	EB1978
Y02779	HC-M2YR-2CEUF	FB379
Y04943	PHC-C3YF-1RF	EE1354
Y03959	PHC-C3YF-1RF	EE1369
Y03754	HC-C2YR-1RF	EE227
Y04730	PHC-C3YF-1RF	EE2322A
Y03767	HC-C3YF-1RF	EE351
Y04246	HC-BM5P-3C	EVA2226
Y04246	HC-BM5P-3C	EVA2246
Y04169	HC-B5MP-3C	EVA2281
Y02634	HC-M2YR-2CLEUF	FB102
Y02732	HC-M2YR-2CEUF	FB1061A

Y04252	HC-M2YR-2CEUF	FB1064A
Y02733	HC-M2YR-2CLEUF	FB1066A
Y04253	HC-M2YR-2CLEUF	FB1067A
Y03332	HC-M2YR-2CLEUF	FB1177B
Y04170	HC-M2YR-2CLEUF	FB1196B
Y02719	HC-M2YR-2CLEUF	FB1167B
Y02708	HC-M2YR-2CEUF	FB409
Y04492	HC-M2YR-2CEUF	FB454
Y03043	HC-M2YR-2CEUF	FB99
Y02905	HC-F2YL-2UF	FE11
Y02917	HC-F2YL-2UF	FE229
Y03753	HC-F2YL-2UF	FE282B
Y03827	HC-F2YL-2UF	FE285B
Y03453	HC-F2YL-2UF	FE58
Y04876	HC-C3YF-5F	FR101
Y04725	HC-C3YF-5F	FR185A
Y04726	HC-C3YF-5F	FR186A
Y04829	HC-C3YF-5F	FR187A
Y04830	HC-C3YF-5F	FR188A
Y05110	HC-C3YF-5F	FR192A
Y05111	HC-C3YF-5F	FR193A
Y04971	HC-C3YF-5F	FR206A
Y03814	HC-C3YF-5F	FR207A
Y04878	HC-C3YF-5F	FR39
Y03125	HC-C3YF-5F	FR206A
Y02715	HC-C3YF-5F	FR58
Y04448	HC-C3YF-5F	FR68
Y02716	HC-C3YF-5F	FR72
Y04450	HC-C3YF-5F	FR73
Y04569	HC-C3YF-5F	FR74
Y04449	HC-C3YF-5F	FR78
Y04085	HC-C3YF-5F	FR79
Y04970	HC-C3YF-5F	FR80
Y02600	HC-C3YF-5F	FR82

Y03527	HC-C3YF-5F	FR83
Y04877	HC-C3YF-5F	FR86
Y04570	HC-C3YF-5F	FR87
Y04752	HC-C3YF-5F	FR92
Y05008	HC-C3YF-5F	FR94
Y03605	HC-B4MP-3B	FWA3209
Y03604	HC-B4MP-3B	FWA3201
Y03987	HC-B4MP-3A	FWA3043
Y03902	HC-B4MP-3A	FWA3216
Y03903	HC-B4MP-3A	FWA3217
Y04351	HC-B4MP-3A	FWA3270
Y03911	HC-B4MP-3A	FWA3444
Y03910	HC-B4MP-3A	FWA3445
Y03986	HC-B4MP-3A	FWA3538
Y04352	HC-B4MP-3A	FWA3732
Y04465	HC-B4MP-3A	FWA3760
Y04466	HC-B4MP-3A	FWA3761
Y03647	HC-A6A-3A	GP135
Y03647	HC-A6A-3A	GP135
Y02882	HC-A2VK-2	H238
Y02883	HC-A2VK-2	H2472
Y04864	HC-A2YK-2	H392
Y04863	HC-A2YK-2	H396
Y04979	HC-E4N-3G	HH1739
Y04980	HC-E4N-3G	HH360
Y04977	HC-E4N-3G	HH378
Y04978	HC-E4N-3G	HH379
Y03667	HC-E4N-3	HH43
Y04125	HC-E4A-3J	HJ1050
Y04124	HC-E4A-3J	HJ1079
Y04123	HC-E4A-3J	HJ1213
Y04874	HC-I3YR-1RF	HK127A
Y04597	HC-A2VK-1	J1153
Y04783	BHC-C2YF-2CLKUF	JS11B



Y04687	BHC-C2YF-CLKUF	JS70B
Y04051	HC-82VL-2C	K2624N

**Table 2.–McCauley Propellers by P/N and SN**

<b>CSE Work Order Number</b>	<b>McCauley Propeller P/N</b>	<b>McCauley Propeller SN</b>
Y04664	D2A34C67-NP	714384
Y04665	D2A34C67-NP	714390
Y03274	D2A34C67-NP	723093
Y04543	D2A34C67-NP	723094
Y02754	D2A34C67-NP	723112
Y04360	D3A32C90-MN	739415
Y02989	2A34C50-NP	743482
Y04285	2A34C203-C	744591
Y04467	D2A34C58-NO	745446
Y04279	3FF32L501-A	757134
Y04278	3FF32C501-A	757204
Y02802	3AF32C87-N	757861
Y04250	3FF32C501-A	761008
Y03294	2A36C23-P-E-G	761063
Y03724	D2A34C67-NP	766297
Y04251	3FF32C501-A	768699
Y03855	D2AF34C81-0	772113
Y04261	B2D34C214	775347
Y03963	B2D34C213	776696
Y04996	B2D34C213-B	783689
Y03060	D3A34C402	785093
Y04396	3FF32C501	787591
Y03058	C2A34C204	788168
Y04100	3AF34C503	793041
Y04183	3AF34C503-B	794440
Y04084	2D34C215	795642
Y02771	B2D34C220	795939
Y03924	3AF34C502	798390

Y03202	2A34C216	798602
Y04255	3AF34C503	798788
Y04663	3AF34C503	798978
Y01682	B2D34C214-A	800359
Y04067	3AF34C502	801561
Y04256	3AF34C502	801583
Y02605	3AF34C502	801584
Y04459	2D34C215	801873
Y04959	3AF32C93-NR	803586
Y04112	3FF32C501A	803966
Y03725	2A34C203-C	805071
Y05013	C2A34C204	805223
Y05053	3AF34C503	805387
Y05052	3AF34C502	805405
Y03297	2AF34C55-0	805970
Y04113	3FF32C501A	806424
Y02575	3FF32C501A	961655
Y03923	2D34C215-B	808006
Y03824	3AF32C509	811678
Y04008	3AF32C508	811912
Y04782	3AF32C509	812482
Y04322	D2AF34C302-A	812874
Y05073	3AF32C509-B	814111
Y05087	3AF32C506	820138
Y02810	3AF32C506	820811
Y02809	3AF32C507	820812
Y03692	C2A34C204-BC	821916
Y04402	3AF32C508	823133
Y02248	3AF32C507	970209
Y05032	3AF32C508-B	840763
Y04033	3AF32C509-B	841002
Y04495	B2D34C213B	851122
Y04397	3FF32C501	860047
Y04680	3AF34C502-B	860142

Y03847	D3A34C403-C	861694
Y04087	3A32C406-C	870695
Y03848	D3A32C90-R	881455
Y01748	D3A32C409	881583
Y05072	3AF32C508-C	890018
Y03723	D2A34C67-0	890108
Y05104	C3D36C415-C	890669
Y05032	D3A32C90-R	890683
Y05034	B3D34C405-C	891388
Y03410	3AF32C508-C	891956
Y04540	3AF34C502	891996
Y04063	2A34C203-B	900028
Y03196	3GFR34C701-DF	900684
Y04653	3A32C406-C	901189
Y03524	B2D3AC207-B	902858
Y04499	3AF32C509-C	911526
Y04498	3AF32C508-C	912012
Y04924	3AF32C509	912323
Y04305	3AF34C502	912386
Y04473	3AF32C508-C	921236
Y04474	3AF32C509-C	921239
Y04099	2D34C215-B	921659
Y04425	3AF32C509-C	930215
Y04991	D3A32C411-C	930228
Y02387	5JFR36C1003	930291
Y02386	5JFR36C1003	930294
Y03011	B2D37C229-B	930318
Y02632	B3D32C419	930644
Y03523	C2A34C204-BC	930703
Y03404	B2D34C213-B	931938
Y03474	4HFR34C762-H	940651
Y04116	3AF32C512-C	941278
Y04117	3AF32C512-C	941284
Y03475	4HFR34C762-H	941528

Y04941	3AF32C515	942101
Y03756	3AF32C515	942106
Y04825	B3D32C419-C	950588
Y04813	3FF34C501A	961655
Y02608	D3A34C403-C	962466
Y04454	3AF32C508-C	962536
Y04757	3AF34C502-C	962541
Y04550	3AF32C509-C	970276
Y02583	3AF32C522	971311
Y02582	3AF32C523	971324
Y05082	B3D36C424-C	980136
Y02914	B2D34C214	980409
Y03894	3AF32C87-R	981955
Y03893	3AF32C87-R	982877
Y02752	B2D34C213	983395
Y03538	B2D34C213-B	983396
Y04137	B3D36C432-C	992420
Y04595	B2D34C214-B	7710604
Y02895	B2D34C213	7710613
Y03403	3AF34C503	7810116
Y04621	D2A34C98-0	7810684
Y05054	3AF34C503	7910085
Y04821	3AF34C503	7910363
Y02889	3AF32C87NR	7910688
Y02890	3AF32C87NR	7910690
Y04721	C2A34C204-C	000679
Y04452	D3A32C88	010463
Y04216	2A34C209	010522
Y04942	3AF32C523	020312
Y05007	2A34C201-C	022421

### Unsafe Condition

(d) This AD results from findings that CSE Aviation failed to perform some specific inspections and repairs. We are issuing this AD to detect potentially unsafe conditions that could result in a propeller blade separating from the hub and loss of control of the airplane.

## Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

(f) For propellers listed by SN in Table 1 or Table 2 overhauled or repaired by CSE after November 2003, or overhauled by an FAA-approved propeller repair facility after October 2003, no further action is required.

### All Propellers Listed by SN in Table 1 or Table 2

(g) Before further flight, perform a document search of airplane and propeller records to determine if the propeller was involved in a ground strike.

(h) If the propeller was involved in a ground strike, perform the requirements specified in paragraph (j) or paragraph (k) of this AD within 10 flight hours (FH) time-in-service (TIS) after the effective date of this AD, or 2 years after the effective date of this AD, whichever is earlier.

(i) For all propellers listed by SN in Table 1 or Table 2 of this AD, not involved in a ground strike, use the compliance schedule in the following Table 3 to perform the requirements specified in paragraph (j) or paragraph (k) of this AD as applicable.

**Table 3 – Compliance Schedule**

<b>If the time-since-overhaul (TSO) for the propeller on the effective date of this AD is ...</b>	<b>Then perform the requirements of paragraph (j) or paragraph (k) of this AD within ...</b>
(1) 1,500 FH TSO or more.	200 FH TIS after the effective date of this AD, but do not exceed 2 years after the effective date of this AD.
(2) More than 1,000 FH TSO, but fewer than 1,500 FH TIS.	350 FH TIS after the effective date of this AD, but do not exceed 2 years after the effective date of this AD.
(3) 1,000 FH TSO or fewer.	500 FH TIS after the effective date of this AD, but do not exceed 2 years after the effective date of this AD.

### Hartzell Propellers

(j) For Hartzell propellers listed by SN in Table 1 of this AD, do the following:

(1) Disassemble the propeller.

(2) Clean all disassembled propeller parts.

(3) Perform a visual inspection for the following conditions:

(i) Wear or damage such as cracks, corrosion, scratches, or nicks.

(ii) Except for blades installed new at the last CSE maintenance action, examine for:

(A) Bent or damaged pitch change knobs.

(B) Damage in the bore area of the blade shank.

(C) Damage in the blade balance hole.

(iii) Damage that indicates a previous ground strike (if applicable).

(iv) Unacceptable wear or damage in areas where shot peening is required. It is not necessary to strip the paint and corrosion protective coatings from the external surface of the blade. It is also not necessary to perform dimensional measurements on the external surface of the blade unless there is evidence of damage that has occurred since CSE returned the propeller to service.

(v) Confirm that CSE Aviation correctly performed the repairs listed in the manufacturers maintenance manuals. An example of a maintenance manual repair is chamfering of the hub grease fitting hole on Hartzell "Y" shank series propellers.

(4) Perform all Eddy Current inspections applicable.

(5) Repair and replace with serviceable parts, as necessary.

(6) Assemble and test.

(7) Confirm that hubs affected by AD 2001-23-08 are returned to service only on aircraft affected by that AD.

### **McCauley Propellers**

(k) For McCauley propellers listed by SN in Table 2 of this AD, do the following:

(1) Disassemble the propeller.

(2) Clean all disassembled propeller parts.

(3) Perform a visual inspection for the following conditions:

(i) Wear or damage such as cracks, corrosion, scratches or nicks.

(ii) Damage that indicates a previous ground strike (if applicable).

(iii) Unacceptable wear or damage in areas where shot peening is required, paying particular attention to hub internal shot peened surfaces and blade shank peening. It is not necessary to strip the paint and corrosion protective coatings from the external surface of the blade. It is also not necessary to perform dimensional measurements on the external surface of the blade unless there is evidence of damage that has occurred since CSE returned the propeller to service.

(4) Inspect threaded surfaces of threaded blade shanks with a 10X magnifying glass for scratches parallel to retention threads in the thread root of the first four outboard blade threads. If the retention threads are scratched, repair is not allowed.

(5) Confirm that CSE Aviation correctly performed repairs or modifications listed in the manufacturer's maintenance instructions.

(6) Repair and replace with serviceable parts, as necessary.

(7) Assemble and test.

### **Definitions**

(l) For the purposes of this AD:

(1) Overhauling a propeller is not necessary to comply with the requirements specified in paragraph (j) or paragraph (k) of this AD. If you do not overhaul the propeller, the TSO does not change.

(2) Unacceptable wear is wear or damage that can penetrate the shotpeen compressive layer.

### **Alternative Methods of Compliance**

(m) The Manager, Chicago Aircraft Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

### **Related Information**

(n) The applicable Hartzell Propeller Inc. or McCauley Overhaul Manuals and Service Documents contain information on performing the inspections specified in this AD.

Issued in Burlington, Massachusetts, on November 21, 2006.

Peter A. White,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

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