
AIRWORTHINESS DIRECTIVE

On the effective date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/PHZL/68 Amdt 3 and issues the following AD under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Propellers - Variable Pitch - Hartzell

**AD/PHZL/68
Amdt 4**

Turbine Engine; Steel Hub Propellers

**7/2006
DM**

Applicability: All Hartzell model HC-A3VF-7(), HC-B3TF-7(), HC-B3MN-3(), HC-B3TN-2(), HC-B3TN-3(), HC-B3TN-5(), HC-B4MN-5(), HC-B4MP-3(), HC-B4TN-3(), HC-B4TN-5(), HC-B5MA-3(), HC-B5MP-3(), HC-B5MP-5(), HC-B3MN-5(), HC-B3TN-4(), HC-B4MP-4() and HC-B5MN-3() propellers with hub serial numbers (S/N) as listed in Table 1 of this Directive.

Requirement: 1. Replace affected propeller hubs as listed by serial number (S/N) in Table 1 with hubs not listed by S/N in Table 1.

The two-letter prefix of some existing propeller hub serial numbers may be followed by a third letter 'A.' The presence or absence of this letter has no significance in determining compliance.

Since a hub may be used in various propeller models, the S/N and the model number shown in Table 1 of this AD may not coincide. Precedence is given to the hub S/N in determining compliance requirements. The hub model is only given as a reference.

2. Perform a fluorescent penetrant inspection of blades for cracks as per Hartzell Aluminium Blade Manual 133C.
3. Carry out Magnetic Particle Inspection of the Blade clamps as per Hartzell Service Manual 202A.

Note 1: FAA AD 96-18-14 Amdt 39-9738 refers.

Compliance: 1. As listed for the applicable S/N hubs as listed in Table 1 of this Directive.

Hub replacement must be accomplished by the end of the calendar month indicated at the top of the appropriate column in Table 1 of this AD. The S/N ranges in this table identify the propeller hubs that require replacement by the end of that month.

2. At Propeller disassembly for hub replacement.
3. At Propeller disassembly for hub replacement.

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This Amendment becomes effective on 3 May 2006.

Background: This Directive was originally issued to address several hub, blade, and shank failures reported overseas on Mitsubishi MU-2 aircraft. In one incident, an aircraft was involved in a fatal accident. Due to the similarity of construction and load transfer paths between the 3, 4 and 5 bladed propeller models and propellers installed on the MU-2 aircraft, the FAA has mandated replacement of certain Hartzell turbine propeller hubs over a 10 year time period.

Amendment 1 altered Table 1 and removed reference to AD/PHZL/43 Amdt 6. Table 1 was updated to reflect removal of certain serial number hubs from the Table of applicability. References previously made to AD/PHZL/43 Amdt 6 are now directed to the Hartzell Blade Manual 133C.

Amendment 2 clarified Requirement 2 of the Directive and reflected the requirements of the referenced FAA Directive.

Amendment 3 clarified the requirements relating to identification of the hub serial number and the existence in some cases of a suffix to the 2 letter prefix.

This amendment is issued to correct the omission of a section of Table 1.

The original issue of this Airworthiness Directive became effective on 2 January 1997.

Amendment 1 of this AD became effective on 11 July 2002.

Amendment 2 of this AD became effective on 20 January 2005.

Amendment 3 of this AD became effective on 13 April 2006.

TABLE 1.

	Replacement due by end:	MAR 97	SEP 97	MAR 98	SEP 98	MAR 99	SEP 99
Hub Model No.	Serial No. Series						
HC-B3TN-3	BU	1-377	378-754	755-1881	1882-3008	3009-3840	3841-4673
HC-B3MN-3	GB						
HC-B3MN-5	FZ						
HC-B3TN-5	BV	1-86	87-172	173-529	530-885	886-1622	1623-2359
HC-B3TN-4	FK						
HC-B3TN-2	AG	1-59	60-118	119-174	175-231	232-238	

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HC-B3TF-7	EX					1-3	4-7
HC-A3VF-7	DS				1	2-20	21-39
HC-B4TN-5	CD	1-94	95-187	188-663	664-1139	1140-1399	1400-1660
HC-B4TN-3	EA	1-169	170-338	339-437	438-537	538-758	759-979
HC-B4MN-5	FL			1-35	36-70	71-238	239-406
HC-B4MP-3	FW					1-15	16-31
HC-B4MP-4	FU					1-3	4-7

	Replacement due by end:	MAR 97	SEP 97	MAR 98	SEP 98	MAR 99	SEP 99
Hub Model No.	Serial No. Series						
HC-B5MP-5	EZ		1				
HC-B5MA-3	HB						
HC-B5MN-3	ES		1				
HC-B5MP-3	EV	1-51	52-101	102-223	224-345	346-478	479-612
HC-B5MP-3	FT			1-3	4-6		

	Replacement due by end:	MAR 2000	SEP 2000	MAR 2001	SEP 2001	MAR 2002	SEP 2002
Hub Model No.	Serial No. Series						
HC-B3TN-3	BU	4674-5707	5708-6742	6743-7864	7865-8987	8988-10409	10410-11832
HC-B3MN-3	GB						
HC-B3MN-5	FZ						
HC-B3TN-5	BV	2360-2689	2690-3020	3021-3410	3411-3600	3601-4035	4036-4270
HC-B3TN-4	FK			1	2-3		
HC-B3TN-2	AG				239-244	245-295	296-351
HC-B3TF-7	EX	8-47	48-87	88-112	113-136	137-138	139-140
HC-A3VF-7	DS	40-109	110-179	180-230	231-280	281-313	314-345

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HC-B4TN-5	CD	1661-1848	1849-2036	2037-2133	2134-2230	2231-3134	3135-3342
HC-B4TN-3	EA	980-1003	1004-1028	1029-1036	1037-1043	1044-1092	1093-1142
HC-B4MN-5	FL	407-411	412-416	417-423	424-429	430-436	437-1002
HC-B4MP-3	FW	32-371	372-711	712-1024	1025-1338	1339-1393	<u>1394-2034</u>
HC-B4MP-4	FU		8				

	Replacement due by end:	MAR 2000	SEP 2000	MAR 2001	SEP 2001	MAR 2002	SEP 2002
Hub Model No.	Serial No. Series						
HC-B5MP-5	EZ	2	3-4				
HC-B5MA-3	HB	1	2-3	4-28	29-52	53-78	79-1018
HC-B5MN-3	ES	2-7	8-13				
HC-B5MP-3	EV	613-720	721-826	827-894	895-961	962-1002	1003-2030
HC-B5MP-3	FT	7			8		

	Replacement due by end:	MAR 2003	SEP 2003	MAR 2004	SEP 2004	MAR 2005	SEP 2005
Hub Model No.	Serial No. Series						
HC-B3TN-3	BU	11833-13487	13488-15141	15142-16299	16300-17457	17458-18308	18309-19160
HC-B3MN-3	GB			1-162	163-324	325-361	362-438
HC-B3MN-5	FZ			1-23	24-45	46	
HC-B3TN-5	BV	4271-4523	4524-4776	4777-4809	4810-4843	4844-4945	4946-6022
HC-B3TN-4	FK						4
HC-B3TN-2	AG	352-447	448-543	544-682	683-821	822-886	887-950
HC-B3TF-7	EX	141-208	209-275	276-330	331-386	387-472	473-558
HC-A3VF-7	DS	346-396	397-446	447-454	455-482	483-496	497-511
HC-B4TN-5	CD						

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HC-B4TN-3	EA						
HC-B4MN-5	FL						
HC-B4MP-3	FW						
HC-B4MP-4	FU						

	Replacement due by end:	MAR 2003	SEP 2003	MAR 2004	SEP 2004	MAR 2005	SEP 2005
Hub Model No.	Serial No. Series						
HC-B5MP-5	EZ						
HC-B5MA-3	HB						
HC-B5MN-3	ES						
HC-B5MP-3	EV						
HC-B5MP-3	FT						



James Coyne
 Delegate of the Civil Aviation Safety Authority

1 May 2006