

**2009-22-03 Hartzell Propeller Inc.:** Amendment 39-16054. Docket No. FAA-2006-25244; Directorate Identifier 2006-NE-25-AD.

**Effective Date**

(a) This airworthiness directive (AD) becomes effective November 12, 2009.

**Affected ADs**

(b) This AD supersedes AD 2006-18-15, Amendment 39-14754.

**Applicability**

(c) This AD applies to Hartzell Propeller Inc. ()HC-()2Y(K,R)-() series propellers with non-suffix serial number (SN) propeller hubs and propeller hubs suffix SN letter "E", installed on Lycoming O-, IO-, LO-, LIO-, TO-, LTO-, AIO-, AEIO-, and TIO-360 series reciprocating engines. These propellers and engines could be installed on, but not limited to:

O-360-A1A	Piper Aircraft	Comanche (PA-24)
	Lake Aircraft	Colonial (C-2, LA -4, 4A, or 4P)
	Mooney Aircraft	Mark "20B" (M-20B)
	Earl Horton	Pawnee (Piper PA-25)
	Partenavia	Oscar (P-66)
	Siai-Marchetti	(S-205)
	Procaer	Picchio (F-15-A)
	S.A.A.B.	Safir (91-D)
	Malmo	Vipan (MF-10B)
	Aero Boero	AB-180
	Beagle	Airedale (A-109)
	DeHavilland	Drover (DHA-3MK3)
	Kingsford-Smith	Bushmaster (J5-6)
O-360-A1AD	S.O.C.A.T.A.	Tabago TB-10
O-360-A1D	Piper Aircraft	Comanche (PA-24)
	Lake Aircraft	Colonial (LA -4, 4A, or 4P)
	Doyn Aircraft	Doyn-Beech (Beech 95)
	Mooney Aircraft	Master "21" (M-20E), Mark "20B", "20D", (M20B, M20C), Mooney Statesman (M-20G)
O-360-A1F6	Cessna Aircraft	Cardinal
O-360-A1F6D	Cessna Aircraft	Cardinal 177
	Teal III	TSC (1A3)

O-360-A1G6	Aero Commander	
O-360-A1G6D	Beech Aircraft	Duchess 76
O-360-A1H6	Piper Aircraft	Seminole (PA-44)
O-360-A1P	Aviat	Husky
O-360-A2A	Avion Jodel	D-140-B
	S.O.C.A.T.A.	Rallye Commodore (MS-893)
	Partenavia	Oscar (P-66)
	Beagle	Husky (D5-180) (J1-U)
O-360-A2D	Piper Aircraft	Comanche (PA-24), Cherokee "C" (PA-28 "180")
	Mooney Aircraft	Master "21" (M-20D), Mark "21" (M-20E)
O-360-A2F	Dynac Aerospace Corp.	Aero Commander Model 100
O-360-A2G	Beech Aircraft	Sport
O-360-A3A	C.A.A.R.P.S.A.N.	(M-23III)
	Robin	Regent (DR400/180), Remorqueur (DR400/180R), R-3170
	S.O.C.A.T.A.	Rallye 180GT, Sportavia Sportsman (RS-180)
	Norman Aeroplane Co.	NAC-1 Freelance
	Nash Aircraft Ltd.	Petrel
O-360-A3AD	S.O.C.A.T.A.	TB-10
	Robin	Aiglon (R-1180T)
O-360-A4A	Piper Aircraft	Cherokee "D" (PA-28 "180")
O-360-A4D	Varga	Kachina
O-360-A4G	Beech Aircraft	Musketeer Custom III
O-360-A4K	Grumman American	Tiger
	Beech Aircraft	Sundowner 180
O-360-A4M	Piper Aircraft	Archer II (PA-28 "18")
	Valmet	PIK-23
O-360-A4N	Cessna Aircraft	172 (Optional)
O-360-A4P	Penn Yan	Super Cub Conversion
O-360-A5AD	C. Itoh and Co.	Fuji FA -200
O-360-B2C	Seabird Aviation	SB7L
O-360-C1A	Intermountain Mfg. Co.	Call Air (A-6)
O-360-C1E	Bellanca Aircraft	Scout (8GCBC-CS)
O-360-C1F	Maule	Star Rocket MX-7-180
O-360-C1G	Christen	Husky (A-1)
O-360-C2E	Bellanca Aircraft	Scout (8GCBC FP)

O-360-C4F	Maule	MX-7-180A
O-360-C4P	Penn Yan	Super Cub Conversion
O-360-F1A6	Cessna Aircraft	Cutlass RG
O-360-J2A	Robinson	R22
IO-360-B1A	Beech Aircraft	Travel-Air (B-95A)
	Doyn Aircraft	Doyn-Piper (PA -23 “200”)
IO-360-B1B	Beech Aircraft	Travel-Air (B-95B)
	Doyn Aircraft	Doyn-Piper (PA -23 “200”)
	Fuji	(FA-200)
IO-360-B1D	United Consultants	See-Bee
IO-360-B1E	Piper Aircraft	Arrow (PA-28 “180R”)
IO-360-B1F	Utva	75
IO-360-B2E	C.A.A.R.P.	C.A.P. (10)
IO-360-B1F6	Great Lakes	Trainer
IO-360-B1G6	American Blimp	Spector 42
IO-360-B2F6	Great Lakes	Trainer
IO-360-C1E6	Piper Aircraft	Seneca I (PA-34-200)
LO-360-A1G6D	Beech Aircraft	Duchess
LO-360-A1H6	Piper Aircraft	Seminole (PA-44)
IO-360-E1A	T.R. Smith Aircraft	Aerostar
IO-360-M1A	Diamond Aircraft	DA-40
IO-360-M1B	Vans Aircraft	RV6, RV7, RV8
	Lancair	360
AEIO-360-B1F	F.F.A.	Bravo (200)
	Grob	G115/Sport-Acro
AEIO-360-B1G6	Great Lakes	
AEIO-360-B2F	Mundry	CAP-10
AEIO-360-B4A	Pitts	S-1S
AEIO-360-H1A	Bellanca Aircraft	Super Decathalon (8KCAB-180)
AEIO-360-H1B	American Champion	Super Decathalon

(d) Any hub, part number (P/N) D-6522-1, retired from service under AD 2003-01-03 must not be returned to service under this AD unless an additional airworthiness determination is made and recorded in the appropriate propeller and or airplane maintenance logbook. Also, any hub, (P/N) D-6522-1, that is returned to service is still subject to the inspection requirements of this AD.

(e) The parentheses appearing in the propeller model number indicates the presence or absence of an additional letter(s) that varies the basic propeller model. This AD still applies regardless of whether these letters are present or absent in the propeller model designation.

### **Propellers Not Affected by This AD**

(f) Hartzell Propeller Inc. ()HC-()2Y(K, R)-() series propellers installed on the following aircraft are not affected by this AD, but are affected by AD 2001-23-08, which addresses the same unsafe condition:

(1) Aerobatic aircraft (including certificated aerobatic aircraft, military trainers, or any aircraft routinely exposed to aerobatic usage).

(2) Agricultural aircraft.

(3) Piper PA-32() series aircraft with Lycoming 540 series reciprocating engines rated at 300 horsepower or higher.

(4) Britten Norman BN-2() series aircraft with Lycoming 540 series reciprocating engines.

### **Unsafe Condition**

(g) This AD results from the need to make changes to the affected series designation of propellers, to expand the engine applicability, and to respond to comments received on AD 2006-18-15. We are issuing this AD to prevent failure of the propeller hub causing blade separation and subsequent loss of airplane control.

### **Compliance**

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

### **Initial Propeller Hub Eddy Current Inspection (ECI)**

(i) Within 50 operating hours time-in-service (TIS) after the effective date of this AD, perform an initial ECI of the front cylinder half of the propeller hub for cracks.

(j) Use paragraphs 3.A. through 3.A.(4)(g) of the Accomplishment Instructions of Hartzell Propeller Inc. Service Bulletin (SB) No. HC-SB-61-269, Revision 3, dated September 17, 2007, to perform the ECI.

(k) If any cracks are found, remove the propeller hub from service before further flight.

(l) If no cracks are found, mark the propeller using paragraph 3.A.(6)(a) of the Accomplishment Instructions of Hartzell Propeller Inc. SB No. HC-SB-61-269, Revision 3, dated September 17, 2007, to indicate compliance with Hartzell Propeller Inc. SB No. HC-SB-61-269, dated April 18, 2005.

### **Repetitive Propeller Hub ECIs**

- (m) Within every 100 operating hours TIS after the last propeller hub ECI, perform repetitive ECIs of the front cylinder half of the propeller hub for cracks.
- (n) Do not repetitively mark the propeller once it is initially marked as specified in paragraph (l) of this AD.
- (o) If any cracks are found, remove the propeller hub from service before further flight.

### **Optional Terminating Action**

- (p) As optional terminating action to the repetitive ECIs required by this AD:
  - (1) Replace the non-suffix SN propeller hub with a propeller hub identified by an "A" or "B" suffix letter in the propeller hub SN; except:
  - (2) Do not install a suffix "A" propeller hub that was previously installed on an aircraft affected by the original issue or later revision of Hartzell Propeller Inc. SB No. HC-SB-61-227.
  - (3) Replacement propeller hub part numbers can be found in paragraph 2.A., Material Information, of Hartzell Propeller Inc. SB No. HC-SB-61-269, Revision 3, dated September 17, 2007.

### **Alternative Methods of Compliance**

- (q) 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**

- (r) Hartzell Propeller Inc. SB No. HC-SB-61-227, Revision 2, dated April 18, 2005, and AD 2001-23-08 pertain to the subject of this AD.
- (s) Contact Tim Smyth, Senior Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Avenue, Des Plaines, IL 60018-4696; e-mail: timothy.smyth@faa.gov; telephone (847) 294-7132; fax (847) 294-7834, for more information about this AD.

### **Material Incorporated by Reference**

- (t) You must use Hartzell Propeller Inc. Service Bulletin No. HC-SB-61-269, Revision 3, dated September 17, 2007, to perform the eddy current inspections required by this AD. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Hartzell Propeller Inc. Technical Publications Department, One Propeller Place, Piqua, OH 45356; telephone (937) 778-4200; fax (937) 778-4391, for a copy of this service information. You may review copies at the FAA, New England Region, 12 New England Executive Park, Burlington, MA; or at the National Archives and Records Administration (NARA).

For information on the availability of this material at NARA, call 202-741-6030, or go to:  
<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.