

95-01-02

Amendment 39-9113.

Docket 94-ANE-59.

Supersedes AD 93-01-09, Amendment 39-8463; AD 93-09-04, Amendment 39-8583; and AD 93-12-01, Amendment 39-8642.

Applicability: Hartzell Propeller Inc. Models HC-B4TN-5(D,G,J)L/LT10282(B,K)-5.3R, HC-B4TN-5(D,G,J)L/LT10282N(B,K)-5.3R, and HC-B4TN-5(D,G,J)L/LT10282NS(B,K)-5.3R propellers installed on Mitsubishi MU-2B-26A, -36A, -40, -60; MU-2B-30 Modified by Supplemental Type Certificate (STC) SA336GL-D & SA339GL-D; MU-2B-36 Modified by SA2413SW; and any other MU-2 Series aircraft which have the affected propellers installed.

NOTE: The parentheses indicate the presence or absence of an additional letter(s) which vary the basic propeller hub and blade model designation. This Airworthiness Directive (AD) still applies regardless of whether these letters are present or absent on the propeller hub and blade model designation.

Compliance: Required as indicated, unless accomplished previously.

To prevent initiation of fatigue cracks in propeller assemblies and subsequent progression to propeller failure, with departure of the blade, or hub arm and blade, that may result in loss of aircraft control, accomplish the following:

- (a) Before further flight replace Hartzell Model HC-B4TN-5(D,G,J)L/LT10282(B,K)-5.3R propeller blades with serviceable Hartzell HC-B4TN-5(D,G,J)L/LT10282N(B,K)-5.3R or HC-B4TN-5(D,G,J)L/LT10282NS(B,K)-5.3R "N" configuration propeller blades. Airworthiness Directive 93-01-09, which is superseded by this AD, required this action to be completed by July 31, 1994.
- (b) For propeller hub assemblies that experience a blade strike, as defined in paragraph (g) of this AD, after the effective date of this AD, before further flight, accomplish the following as applicable:
 - (1) Replace propeller hub unit, Part Number (P/N) 840-139 or P/N 840-91, with a hub that has compressive rolled internal bearing bores, which is identified with the addition of a third letter "A" in the hub serial number prefix (e.g. "CDA1234"). Propeller hub assemblies removed from service in accordance with this AD paragraph are to be permanently retired and may not be returned to service on any aircraft; and
 - (2) Thereafter, at intervals of 3,000 hours time in service (TIS) or 60 calendar months, whichever occurs first, remove the compressive rolled internal bore hub assembly, identified with the addition of a third letter "A" in the hub serial number prefix (e.g. "CDA1234"), for inspection and specified rework in accordance with Hartzell Alert Service Bulletins (ASB's) No. A182A or A183A, both dated March 11, 1994.
 - (3) For compressive rolled internal bearing bore hub assemblies, identified with the addition of a third letter "A" in the hub serial number prefix (e.g. "CDA1234"), that experience a blade strike, remove the hub assembly for inspection and specified rework procedures, in accordance with Hartzell ASB Nos. A182A or A183A, both dated March 11, 1994. Thereafter, at intervals of 3,000 TIS or 60 calendar months, whichever occurs first, repeat this inspection and required rework.

- (c) Before further flight for propeller hub assemblies that have never been inspected; or within 750 hours TIS since the last inspection for those propeller hub assemblies inspected in accordance with Hartzell ASB's Nos. A182A, or A183A, both dated March 11, 1994; or ASB No. A182, dated April 28, 1993, or ASB No. A183, dated June 1, 1993; but in no case later than 12 calendar months from the effective date of this AD; accomplish the following:
- (1) Replace propeller hub unit P/N 840-139 or P/N 840-91, unless already accomplished, with a hub that has compressive rolled internal bearing bores, which is identified with the addition of a third letter "A" in the hub serial number prefix (e.g. "CDA1234"). Propeller hub assemblies removed from service in accordance with this AD paragraph are to be permanently retired and may not be returned to service on any aircraft; and
 - (2) Thereafter at intervals of 3,000 hours TIS or 60 calendar months, whichever occurs first, remove the compressive rolled internal bearing bore hub assembly, identified with the addition of a third letter "A" in the hub serial number prefix (e.g. "CDA1234"), for inspection and specified rework in accordance with Hartzell ASB's No. A182A or A183A both dated March 11, 1994.
- (d) Perform a propeller blade thickness inspection, rework if necessary, shot peen, and mark the blades, in accordance with Hartzell ASB No. A188, dated February 25, 1994, in accordance with the following schedule and requirements:

- (1) If blade thickness requires rework of blades comprising thickness reduction of inboard stations then shot peening is also required prior to returning to service.
- (2) If the blade thickness inspection is satisfactory and no rework is required, shot peening may be deferred until the next overhaul, but not to exceed 3,000 hours TSN of the propeller blades, or within 60 calendar months since the last overhaul, whichever occurs first.

- (3) Propeller Model LT10282N(B,K)-5.3R “N” configuration blades that have been satisfactorily shot peened and inspected and must be metal impression stamped in the blade butt as well as ink stamped externally on the blade shank with the suffix letter “S” in the blade model designation, per Hartzell ASB No. A188, dated February 25, 1994.
- (b) Any blade repairs made after the effective date of this AD shall be accomplished in accordance with the procedures specified in Hartzell ASB No. A188, dated February 25, 1994.

NOTE: Airworthiness Directive (AD) 94-11-04 restricts Mitsubishi Model MU-2B-26A, -36A, -40, -60, and MU-2B-36 Aircraft Modified by (STC) SA2413SW to an engine ground idle speed range of 76.5 to 78.5 percent to prevent the possibility of operating the propeller too close to the ground idle resonant speed (“reactionless mode”). The purpose of Paragraphs (d) and (e) of this AD are to insure that the resonant speed does not shift into the permitted engine ground idle range during operation.

- (c) Propeller blade Model LT10282N(B,K)-5.3R and LT10282NS(B,K)- 5.3R configuration blades now have a retirement life limit of 10,000 hours TIS and are to be permanently retired from service, and replaced with serviceable blades, upon reaching this limit.
- (d) A blade strike is defined as a propeller having any blade that has been bent beyond the repair limits specified in Hartzell Standards Practices Manual 202A, Revision 1, Pages 1104-1105, dated June 1994.
- (e) The “calendar month” compliance times stated in this AD allow the performance of the required action up to the last day of the month in which compliance is required.
- (f) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, FAA, Chicago Aircraft Certification Office. The request should be forwarded through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, FAA, Chicago Aircraft Certification Office.

NOTE: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the FAA, Chicago Aircraft Certification Office.

- (g) Except when propeller hub arm assemblies have experienced a blade strike, special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be accomplished.

(h) The actions required by this AD shall be done in accordance with the following Hartzell Propeller Inc. service documents:

Document No.	Pages	Date
ASB No. A182A Total pages: 3.	1-3	March 11, 1994
ASB No. A183A Total pages: 3.	1-3	March 11, 1994
ASB No. A188 Total pages: 4.	1-4	February 25, 1994
Hartzell Propeller Standard Practices Manual Revision 1 Total pages: 2.	1104-5	June 1994

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Hartzell Propeller Inc., One Propeller Place, Piqua, OH 45356-2634; telephone (513) 778-4200, fax (513) 778-4391. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(i) This amendment becomes effective on January 27, 1995.