DEPARTMENT OF TRANSPORTATION Federal Aviation Administration 14 CFR Part 39 [69 FR 29210 No. 99; 05/21/04][R See AD]	Lycoming Engines AD 2004-10-14 Amendment 39-13644 Effective June 25, 2004 Supersedes AD 91-14-22 ATA Code: 85 Recurring: See AD

{See Correction below.}

[Docket No. 89-ANE-10-AD; Amendment 39-13644; AD 2004-10-14] RIN 2120-AA64

Airworthiness Directives; Lycoming Engines (Formerly Textron Lycoming), Direct-Drive Reciprocating Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: **The FAA is adopting a new airworthiness directive (AD) that supersedes an existing AD**, for Lycoming Engines (formerly Textron Lycoming), direct-drive reciprocating engines (except O-145, O-320H, O-360E, LO-360E, LTO-360E, O-435, and TIO-541 series engines). That AD currently requires inspection of the crankshaft gear installation and rework or replacement of the gears where necessary **after a propeller strike, sudden stoppage, at overhaul, or whenever gear train repair is required**. This AD requires the same actions but makes the correction that the existing gear retaining bolt and lockplate be removed from service and new hardware installed, and revises the definitions for sudden stoppage and propeller strike. This AD results from a change to the definition of a propeller strike or sudden stoppage. We are issuing this AD to prevent loosening or failure of the crankshaft gear retaining bolt, which may cause sudden engine failure. {See Correction below.}

DATES: This AD becomes effective June 25, 2004.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of June 25, 2004.

ADDRESSES: You can get the service information identified in this AD from Lycoming Engines, 652 Oliver Street, Williamsport, PA 17701, U.S.A.; telephone (570) 323-6181; fax (570) 327-7101 or from the Lycoming Web site: http://www.lycoming.textron.com.main.jsp.

You may examine the AD docket at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA. You may examine the service information at the FAA, New England Region, Office of the Regional Counsel, 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/code_of_federal_regulations/ibr_locations.html .

FOR FURTHER INFORMATION CONTACT: Norm Perenson, Aerospace Engineer, New York Aircraft Certification Office, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (516) 228-7337; fax (516) 794-5531.

SUPPLEMENTARY INFORMATION: The FAA proposed to amend 14 CFR Part 39, by superseding an AD with a proposed airworthiness directive (AD). The proposed AD applies to Lycoming Engines direct-drive reciprocating engines (except O-145, O-320H, O-360E, LO-360E, LTO-360E, O-435, and TIO-541 series engines). We published the proposed AD in the Federal Register on March 25, 2003 (68 FR 14350). That action proposed to require inspection of the crankshaft gear installation and rework or replacement of the gears where necessary **after a propeller strike, sudden stoppage, at overhaul, or whenever gear train repair is required**. That action also proposed to revise the definitions for sudden stoppage and propeller strike. **{See Correction below.}**

Comments

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

Provide a Trigger Level for Action

One commenter requests that the proposed AD should provide a trigger level to alert maintenance personnel of the need for action. The commenter states that this is required to avoid having maintenance personnel determine the need for action. Also, this would avoid miscommunication between the pilot and the maintenance personnel. The commenter also states that the proposed AD is too general for proper action in the field.

The FAA does not agree. Section 91.7(b) of the Code of Federal Regulations (14 CFR 91.7(b)) states: “The pilot in command of a civil aircraft is responsible for determining whether that aircraft is in condition for safe flight.” The pilot must advise the maintenance technician and inspector of the need to perform maintenance. It is also the responsibility of the maintenance technician and or inspector to advise the pilot when an unsafe condition is found during routine maintenance. The actions required by this AD, like many other situations in aviation, may require some judgment on the part of the pilot, maintenance technician, and or inspector, as well as good communication among all parties. Adding additional conditions will only require more judgment and more decisions by all parties involved.

AD as Written Will Require Unneeded Inspections

One commenter states that the proposed AD would require unneeded inspections by “tying the hands” of knowledgeable mechanics. The commenter also states that the final determination regarding needed inspections should be made by the maintenance personnel in

the field. The commenter further states that the mechanics are in the best position to evaluate the factors surrounding each incident, and to determine which engine components should be inspected.

The FAA does not agree. The wording in this AD is designed to assist the mechanics when deciding on what action to take in a given situation. Based on Lycoming's engine design knowledge and worldwide service experience, certain situations are known to have caused engine problems. This AD is not designed to "tie the hands of the mechanic". The AD is intended to help the pilot in command and maintenance personnel make the best possible maintenance decision.

Correction to the Compliance

As a correction to the compliance, we added paragraphs to require the existing gear retaining bolt and lockplate be removed from service and a new bolt and lockplate be installed, and to prohibit installation of the removed hardware into any engine. This correction places the AD in agreement with the referenced SB. **{See Correction below.}**

Conclusion

We have carefully reviewed the available data, including the comments 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. The assigned paragraph letters in the regulatory section have been changed from what appeared in the proposal, as we are continuing our introduction of plain language into our documents.

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 by sending a request to us at the address listed under ADDRESSES. Include "AD Docket No. 89-ANE-10-AD" in your request.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, 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.

Sec. 39.13 [Amended]

2. The FAA amends Sec. 39.13 by removing Amendment 39-6916 (56 FR 33205, July 19, 1991), and by adding the following new airworthiness directive (AD):

2004-10-14 Lycoming Engines (formerly Textron Lycoming): Amendment 39-13644. Docket No. 89-ANE-10-AD. **Supersedes AD 91-14-22, Amendment 39-6916.**

Effective Date

(a) This AD becomes effective June 25, 2004.

Affected ADs

(b) **This AD supersedes AD 91-14-22.**

Applicability {See Correction below.}

(c) This AD applies to Lycoming Engines (formerly Textron Lycoming), direct-drive reciprocating engines (except O-145, O-320H, O-360E, LO-360E, LTO-360E, O-435, and TIO-541 series engines).

Unsafe Condition

(d) This AD results from a change to the definition of a propeller strike or sudden stoppage. The actions specified in this AD are intended to prevent loosening or failure of the crankshaft gear retaining bolt, which may cause sudden engine failure.

Compliance {See Correction below.}

(e) Compliance with this AD is required as indicated **before further flight if the engine has experienced a propeller strike as defined in paragraphs (i) and (j) of this AD**, unless already done.

(f) Inspect, and if necessary repair, the crankshaft counter bored recess, the alignment dowel, the bolt hole threads, and the crankshaft gear for wear, galling, corrosion, and fretting in accordance with steps 1 through 5 of **Lycoming Mandatory Service**

Bulletin (MSB) No. 475C, dated January 30, 2003.

(g) Remove the existing gear retaining bolt and lockplate from service, and install a new bolt and lockplate, in accordance with steps 6 and 7 of **Lycoming MSB No. 475C**, dated January 30, 2003.

Prohibition of Retaining Bolt and Lockplate

(h) Do not install the gear retaining bolt and lockplate that were removed in paragraph (g) of this AD, into any engine.

Definition of Propeller Strike

(i) For the purposes of this AD, a *propeller strike* is defined as follows:

(1) Any incident, whether or not the engine is operating, that requires repair to the propeller other than minor dressing of the blades.

(2) Any incident during engine operation in which the propeller impacts a solid object that causes a drop in revolutions per minute (RPM) and also requires structural repair of the propeller (incidents requiring only paint touch-up are not included). This is not restricted to propeller strikes against the ground.

(3) A sudden RPM drop while impacting water, tall grass, or similar yielding medium, where propeller damage is not normally incurred.

(j) The preceding definitions include situations where an aircraft is stationary and the landing gear collapses causing one or more blades to be substantially bent, or where a hanger door (or other object) strikes the propeller blade. These cases should be handled as sudden stoppages because of potentially severe side loading on the crankshaft flange, front bearing, and seal.

Alternative Methods of Compliance

(k) The Manager, New York 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.

Material Incorporated by Reference

(l) You must use **Lycoming MSB No. 475C**, dated January 30, 2003, to perform the inspections and repairs 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. You can get a copy from Lycoming Engines, 652 Oliver Street, Williamsport, PA 17701, U.S.A; telephone (570) 323-6181; fax (570) 327-7101. You can review copies at the FAA, New England Region, Office of the Regional Counsel, 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/code_of_federal_regulations/ibr_locations.html .

Related Information

(m) None.

Issued in Burlington, Massachusetts, on May 12, 2004.

Peter A. White, Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

FOR FURTHER INFORMATION CONTACT: Norm Perenson, Aerospace Engineer, New York Aircraft Certification Office, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (516) 228-7337; fax (516) 794-5531.

Manufacturer's Service Information:
Lycoming Mandatory Service Bulletin No. 475C

You can get the service information identified in this AD from:
Lycoming Engines, 652 Oliver Street, Williamsport, PA 17701, U.S.A.;
telephone (570) 323-6181; fax (570) 327-7101.

DEPARTMENT OF TRANSPORTATION **Federal Aviation Administration** **14 CFR Part 39 [69 FR 36007 No. 123; 06/28/04][R See AD]**	**Lycoming Engines** **AD 2004-10-14** **Correction Amendment 39-13644** **Effective June 28, 2004** **Corrects AD 2004-10-14** **ATA Code: 85** **Recurring: See AD**

[Docket No. 89-ANE-10-AD; Amendment 39-13644; AD 2004-10-14] RIN 2120-AA64

Airworthiness Directives; Lycoming Engines (Formerly Textron Lycoming), Direct-Drive Reciprocating Engines; Correction

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; correction.

SUMMARY: This document makes corrections to Airworthiness Directive (AD) 2004-10-14, applicable to Lycoming Engines (formerly Textron Lycoming), direct-drive reciprocating engines that was published in the Federal Register on May 21, 2004 (69 FR 29210). Some corrections to engine models have been made by adding missing dashes, clarification to changes in requirements from the proposed rule are made, and some corrections

are made for clarification in the compliance section. In all other respects, the original document remains the same.

DATES: Effective Date: Effective June 28, 2004.

FOR FURTHER INFORMATION CONTACT: Norm Perenson, Aerospace Engineer, New York Aircraft Certification Office, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (516) 228-7337; fax (516) 794-5531.

SUPPLEMENTARY INFORMATION: A final rule AD, FR Doc. 04-11406, applicable to Lycoming Engines direct-drive reciprocating engines (except O-145, O-320-H, O-360-E, IO-360-E, LTO-360-E, O-435, and TIO 541 series engines), was published in the Federal Register on May 21, 2004 (69 FR 29210). The following corrections are needed:

On page 29210, in the second column, in the SUMMARY section, in the sixth and seventh lines, "O-320H, O-360E, LO-360E, LTO-360E" are corrected to read "**O-320-H, O-360-E,**
LO-360-E, LTO-360-E, TO-360-E".

In the third column, in the SUMMARY section, in the 14th line, after the words "propeller strike.", a sentence is added to read "**This AD removes the requirement to perform inspections at overhaul and during repair of the gear train, because Lycoming has incorporated those procedures from their Service Bulletin into their Overhaul Manual.**"

Also in the third column, in the SUPPLEMENTARY INFORMATION section, in the seventh and eighth lines, "O-320H, O-360E, LO-360E, LTO-360E" is corrected to read "**O-320-H,**
O-360-E, LO-360-E, LTO-360-E, TO-360-E".

On page 29211, in the second column, after the second paragraph, add the following paragraph:

Other Corrections

The TO-360-E engine model was inadvertently omitted from the list of exceptions of engines. That engine model has been added to the list of exceptions of engines not affected by this AD. Also, some of the engine model numbers were missing dashes and are corrected in this AD. Also, the phrase of after the effective date of this AD, was inadvertently omitted from paragraph (e). This phrase is added to paragraph (e) to cover engines that experience a propeller strike after the effective date of the AD.

Sec. 39.13 [Corrected]

Also, on page 29211, in the third column, eighth paragraph, fourth and fifth lines, "O-320H, O-360E, LO-360E, LTO-360E" is corrected to read "**O-320-H, O-360-E, LO-360-E, LTO-360-E, TO-360-E**".

Also, on page 29211, in the third column, paragraph (e), which reads "Compliance with this AD is required as indicated before further flight if the engine has experienced a propeller strike as defined in paragraphs (i) and (j) of this AD, unless already done." is corrected to read "**Compliance with this AD is required as indicated before further flight if the engine experiences a propeller strike after the effective date of this AD, as defined in paragraphs (i) and (j) of this AD**.".

Issued in Burlington, MA, on June 18, 2004.

Francis A. Favara, Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

FOR FURTHER INFORMATION CONTACT: Norm Perenson, Aerospace Engineer, New York Aircraft Certification Office, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (516) 228-7337; fax (516) 794-5531.