

**DEPARTMENT OF  
TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39 [SN]**

**Textron Lycoming  
AD 87-10-06 R1  
Amendment 39-6293  
Effective Sept. 1, 1989  
Revises AD 87-10-06  
Recurring: No**

[Docket No. ; Amendment 39-6293; AD 87-10-06 R1]

**Airworthiness Directives; Textron Lycoming Models O-320, IO-320, O-360, IO-360, AEIO-360, O-540, IO-540, AEIO-540 and TIO-540 Series Engines.**

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

**ACTION:** Final rule.

**DATES:** Effective September 1, 1989.

**87-10-06 R1 TEXTRON LYCOMING:** Amendment 39-5604 as revised by Amendment 39-6293.

**Applicability:** Textron Lycoming (formerly AVCO Lycoming Textron) reciprocating engine series having model and serial numbers as listed herein.

O-320-A & E series engines with serial numbers L-50154-27A through L-50175-27A, L-50177-27 through L-50188-27A.

O-320-B & D series engines with serial numbers L-13971-39A, L-13972-39A, L-13975-39A, L-13976-39A, L-13980-39A, L-13983-39A through L-14235-39A, L-14242-39A, L-14243-39A, L-14249-39A through L-14415-39A, L-14421-39A, L-14428-39A.

IO-320 series engines with serial numbers L-5890-55A through L-5897-55A.

O-360 series engines with serial numbers L-31144-36A through L-31146-36A, L-31150-36A through L-31357-36A, L-31363-36A through L-31507-36A.

IO-360-B series engines with serial numbers L-24152-51A, L-24163-51A, L-24170-51A, L-24248-51A, L-24337-51A through L-24344-51A, L-24352-51A.

AEIO-360B series engines with serial numbers L-24168-51A, L-24195-51A, L-24337-51A through L-24344-51A, L-24357-51A.

The O-540 serial numbers that follow may or may not have the letter "A" as part of the suffix of the serial number on the engine dataplate.

O-540 series engines with serial numbers L-23946-40A, L-23949-40A through L-24059-40A, L-24061-40A.

IO-540-C4B5 engines with serial numbers L-22974-48A, L-22975-48A,

L-23010-48A through L-23016-48A, L-23038-48A, L-23039-48A, L-23050-48A through L-23052-48A, L-23118-48A, L-23138-48A, L-23193-48A, L-23195-48A, L-23196-48A, L-23328-48A, L-23331-48A, L-23348-48A, L-23349-48A, L-23352-48A, L-23353-48A, L-23372-48A, L-23375-48A, L-23376-48A.

IO-540-C4D5D engines with serial numbers L-22920-48A, L-22923-48A, L-22924-48A, L-22958-48A through L-22963-48A, L-23022-48A through L-23027-48A, L-23079-48A through L-23082-48A, L-23088-48A, L-23095-48A through L-23099-48A, L-23148-48A through L-23153-48A, L-23165-48A through L-23180-48A, L-23237-48A through L-23239-48A, L-23264-48A through L-23273-48A, L-23307-48A through L-23316-48A, L-23358-48A, L-23359-48A.

IO-540-D4A5 engine with serial number L-23089-48.

IO-540-V4A5D engines with serial numbers L-22943-48A through L-22945-48A, L-22953-48A through L-22957-48A, L-23061-48A through L-23063-48A.

IO-540-W1A5D engines with serial numbers L-22964-48A, L-22965-48A, L-22976-48A through L-22979-48A, L-23020-48A, L-23021-48A, L-23033-48A, L-23034-48A, L-23036-48A, L-23040-48A through L-23042-48A, L-23056-48A, L-23057-48A, L-23067-48A, L-23074-48A, L-23090-48A through L-23094-48A, L-23139-48A, L-23154-48A, L-23181-48A, L-23192-48A, L-23197-48A through L-23199-48A, L-23223-48A, L-23326-48A, L-23327-48A, L-23346-48A, L-23347-48A.

IO-540-W3A5D engines with serial numbers L-22918-48A, L-22966-48A, L-22967-48A, L-23350-48A, L-23351-48A.

AEIO-540-D series engines with serial numbers L-22927-48A, L-22994-48A, L-22995-48A, L-23035-48A, L-23037-48A, L-23043-48A, L-23044-48A, L-23065-48A, L-23066-48A, L-23075-48A through L-23077-48A, L-23100-48A, L-23101-48A, L-23108-48A through L-23110-48A, L-23114-48A, L-23127-48A, L-23135-48A, L-23143-48A through L-23147-48A, L-23159-48A through L-23164-48A, L-23189-48A through L-23191-48A, L-23200-48A, L-23201-48A, L-23232-48A, L-23233-48A, L-23245-48A, L-23259-48A, L-23260-48A, L-23274-48A through L-23294-48A, L-23329-48A, L-23330-48A, L-23343-48A, L-23344-48A, L-23368-48A, L-23369-48A, L-23373-48A.

TIO-540-AA1AD engines with serial numbers L-8753-61A, L-8782-61A, L-8783-61A, L-8837-61A, L-8845-61A.

TIO-540-AB1AD engines with serial numbers L-8751-61A, L-8752-61A, L-8758-61A, L-8763-61A through L-8765-61A, L-8777-61A through L-8779-61A, L-8784-61A, L-8785-61A, L-8788-61A through L-8790-61A, L-8798-61A through L-8800-61A, L-8803-61A through L-8806-61A, L-8813-61A through L-8816-61A, L-8821-61A through L-8824-61A, L-8833-61A through L-8836-61A.

Also applies to any of the following parallel valve-type engines, regardless of serial number, that were remanufactured or overhauled between July 1, 1985, and October 8, 1986, inclusive, or that have had a P/N LW-18790 rocker arm assembly installed (if the assembly was shipped from Lycoming Textron, Williamsport Division) during this same time period:

**Engine Models:**

O-320 series except O-320-H;  
IO-320 series; AIO-320 series;  
AEIO-320 series;  
LIO-320 series;  
O-340 series;  
O-360 series except O-360-E;  
IO-360-B, -E, -F series;  
AEIO-360-B, -H series;  
HO-360 series;  
HIO-360-B series;  
VO-360 series;  
IVO-360 series;  
O-540 series;  
IO-540-C, -D, -J, -N, -R, -T, -V, -W series;  
AEIO-540-D series;  
TIO-540-C, -E, -G, -H, -K, -AA, -AB series,  
LTIO-540-K.

**Compliance:** Required

- (1) within the next 25 hours in service after the effective date of this AD for all applicable engines, and
- (2) prior to installation, for all P/N LW-18790 rocker arm assemblies not installed in engines, unless already accomplished.

**Note:** Rocker arm assemblies complying with this AD are identified by a letter “B” per **AVCO Lycoming Textron Service Bulletin (SB) No. 477A**, page 4, paragraph 6. All new and remanufactured engines shipped from the AVCO Lycoming Textron Williamsport Division Factory, and all overhauled engines shipped from the AVCO Lycoming Textron Service Center at Montoursville, Pennsylvania, after October 8, 1986, are in compliance with this AD.

To prevent possible rocker arm failure and loss of engine power, inspect and rework or replace rocker arm assembly P/N LW-18790, as necessary, in accordance with Sections 1 through 9 of **AVCO Lycoming Textron SB No. 477A**, dated February 16, 1987.

Measure and deburr the rocker arm as follows:

- (1) Measure the wall thickness at the specified thinnest point (outer edge) within the indicated circumferential limits using a ball-type micrometer, measuring microscope, or other instrument capable of providing equivalent accuracy.
- (2) Deburr the oil drip hole to obtain .030 inch radius at rocker arm wall surface.
- (3) If it is not possible to determine the wall thickness or the oil drip hole radius within sufficient accuracy to assure compliance with **SB 477A** requirements, replace rocker

arm with a new or serviceable rocker arm.

**Note: Textron Lycoming SB No. 477A, Supplement No. 1**, dated October 12, 1988, changes the affected models in accordance with changes in this amendment, but does not change the inspection or rework procedures.

Aircraft may be ferried in accordance with the provisions of FAR 21.197 and 21.199 to a base where the AD can be accomplished.

Upon request, an equivalent means of compliance with the requirements of this AD may be approved by the Manager, New York Aircraft Certification Office, ANE-170, Federal Aviation Administration, 181 South Franklin Avenue, Room 202, Valley Stream, New York 11581.

Upon submission of substantiating data by an owner or operator through an FAA Maintenance Inspector, the Manager of the New York Aircraft Certification Office, Valley Stream, New York, may adjust the compliance time specified in this AD.

**AVCO Lycoming Textron SB No. 477A**, dated February 16, 1987, identified and described in this document, is incorporated herein and made a part hereof pursuant to 5 U.S.C. 552 (a)(1). All persons affected by this directive who have already received this document from the manufacturer may obtain copies upon request to Customer Support, AVCO Lycoming Textron, 652 Oliver Street, Williamsport, Pennsylvania 17701.

This document also may be examined at the Federal Aviation Administration, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, Massachusetts 01803, Room 311, Rules Docket Number 86-ANE-48, between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday, except federal holidays.

**This AD, 87-10-06 R1, revises Amendment 39-5604 (52 FR 17749; May 12, 1987), AD 87-10-06**, which became effective on May 13, 1987.

This amendment (39-6293, AD 87-10-06 R1) becomes effective on September 1, 1989.

**Manufacturer's Service Information:**

[AVCO Lycoming Textron SB No. 477A](#)

[AVCO Lycoming Textron SB No. 477A, Supplement No. 1](#)

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