Airworthiness Directive Schedule

Engines

Lycoming IVO-360-A1A Engine and VO-360 Series

28 November 2024

Notes:

1. This AD schedule is applicable to the Lycoming **IVO-360-A1A** engine and **VO-360** series engines manufactured under FAA Type Certificate Number **1E1**.
2. The Federal Aviation Administration (FAA) is the National Airworthiness Authority (NAA) responsible for the issue of State of Design Airworthiness Directives (ADs) for Lycoming reciprocating engines.

   State of Design ADs applicable to these engines can be obtained directly from the FAA website at: Dynamic Regulatory System (faa.gov)
3. Where a NZ AD is based on a foreign AD, compliance may be shown with either the NZ AD or the equivalent State of Design AD, because they will have essentially the same requirements i.e. the logbook will need to list all the NZ ADs, but the CAA will accept compliance with the equivalent State of Design AD as a means of compliance with the NZ AD. (The same as happens now for an imported aircraft.)
4. Manufacturer service information referenced in Airworthiness Directives listed in this schedule may be at a later approved revision. Service information at later approved revisions can be used to accomplish the requirements of these Airworthiness Directives.
5. The date above indicates the amendment date of this schedule.
6. New or amended ADs are shown with an asterisk *

Contents

DCA/LYC/123B FAA AD 68-08-08 Limited Travel Valve Lifters – Replacement

Applicability: Model VO-360 and IVO-360 series engines, and

Model VO-435 and TVO-435 series engines, and

Model IGSO-480 series engines excluding model IGSO-480-A1D6, IGSO-480-A1E6, and IGSO-480-A1G6 engines, and

Model VO-540, IVO-540 and TIVO-540 series engines, and

Fitted with hydraulic valve lifters P/N 76289.

Note 1: No action required if already in compliance with DCA/LYC/123A. This AD revised to include notes 2 and 3 with no change to the AD requirement or compliance.

Note 2: This AD is not applicable to engines manufactured before 1 January 1966 fitted with hydraulic valve lifters P/N 72876 including those engines fitted with hydraulic lifters P/N 72876, 76290 or 78289.

Note 3: Lycoming SB No. 314C or later FAA approved revisions lists the S/Ns of new and factory remanufactured engines which were fitted with affected hydraulic valve lifters P/N 76289.

Requirement: To prevent failure of the valves accomplish the following:

1. For model TVO-435, VO-540, IVO-540, and TIVO-540 series engines replace affected hydraulic lifters with P/N 78290 or with alternate approved parts.

2. For model VO-360, IVO-360, VO-435 and IGSO-480 series engines replace affected hydraulic lifters with P/N 78290 or with alternate approved parts.
(FAA AD 68-08-08 refers)

Compliance: 1. Within the next 50 hours TIS unless previously accomplished.

2. At 650 hours TIS on affected valves with less than 600 hours TIS, and within the next 50 hours TIS on affected valves with 600 hours or more TIS, unless previously accomplished.

Effective Date: DCA/LYC/123A - 30 September 1968
DCA/LYC/123B - 27 November 2008

DCA/LYC/154 FAA AD 75-09-15 Bendix Fuel Injector Flow Divider Cover Gasket - Modification

Applicability: All Lycoming model IO-320, AIO-320, IO-360, LIO-360, HIO-360-C, IVO-360, TIO-360, AIO-360, IGO-380, IO-540, TIO-540, IVO-540, IGO-540, and IO-720 series engines equipped with Bendix fuel injector flow divider part numbers listed in Lycoming SB 382.

Requirement: Accomplish Lycoming SB 382.
(FAA AD 75-09-15 and Bendix Bulletin RS43 also refer)

Compliance: Within the next 50 hours TIS or by 4 August 1975 whichever occurs the sooner

Effective Date: 6 May 1975

DCA/LYC/164 FAA AD 79-04-05 Bendix Fuel Injector Assembly - Inspection

Applicability: All AEIO-320, IVO-360, HIO-360, IO-540, AEIO-540, TIO-540, LTIO-540, TIGO-541 and IO-720 series engines detailed in Avco Lycoming SB 433A

Requirement: Inspect fuel diaphragm, and renew as necessary, per Bendix SB RS-57.
(FAA AD 79-04-05 refers)

Compliance: Within next 50 hours TIS

Effective Date: 9 February 1979

DCA/LYC/174F FAA AD 96-09-10 Oil Pump Impellers – Replacement

Applicability Engines fitted with sintered iron or aluminium oil pump impellers.

Textron Lycoming SB 524 lists specific models and S/N that may be affected. All new, overhauled and remanufactured engines shipped from Textron Lycoming after 31 March 1985 are in compliance with this AD.

Any engines that have complied with DCA/LYC/174B, C, D or E will have the latest (steel) oil pump impellers fitted and are in compliance with this airworthiness directive. Any engines that have complied with Textron Lycoming SB No. 456B, C, D, E or SB 524 will have the latest (steel) oil pump impellers fitted, and are in compliance with this AD.

For engines overhauled by other facilities, the type of oil pump impeller fitted must be determined. Examination of overhaul records or physical inspection to determine type of oil pump impeller fitted is required.

Note 1: No action required if already in compliance with DCA/LYC/174E. This AD revised with Lycoming SI No. 1009AJ now at revision AT and to include note 2 with no change to the AD requirement.

Requirement: To prevent failure of engine oil pumps, replace sintered iron or aluminium oil pump impellers per Textron Lycoming SB 524.

Note 2: Lycoming SI No. 1009AT and SB No. 524 or later FAA approved revisions pertains to the subject of this AD.

(FAA AD 96-09-10 refers)

Compliance: Sintered iron oil pump impellers:

Within the next 25 hours TIS unless previously accomplished.

Aluminium oil pump impellers (whichever occurs sooner):

a) At the next oil pump removal, or

b) Next engine overhaul (Not to exceed the hours specified for the particular engine model in SI 1009AS). Except for engines that have already exceeded the hours specified, or are within 200 hours TIS of reaching it, within the next 200 hours TIS, or

c) By 18 January 2010.

Effective Date: DCA/LYC/174D - 2 August 1996
DCA/LYC/174E - 30 August 1996
DCA/LYC/174F - 18 December 2008

DCA/LYC/182 FAA AD 90-04-06 Propeller Governor Line Support - Inspection and Modification

Applicability: All four cylinder engines with rear mounted propeller governor and external oil line

Requirement: To prevent oil line fracture and loss of engine oil, inspect and modify oil line installation per Textron Lycoming SB 488A. If any leaks, damage or interference condition found, or if support clamps are not properly installed, before further flight, replace oil line and attachment end fittings with new parts even though installed parts may show no signs of visible damage.

(FAA AD 90-04-06 refers)

Compliance: Inspection - within next 50 hours TIS or when oil line is removed for any reason, whichever is the sooner

Modification - at next engine overhaul

Effective Date: 30 March 1990

DCA/LYC/190A FAA AD 97-01-03 Piston Pin - Removal

Applicability: Piston Pins P/N LW-14077 that were originally shipped from Textron Lycoming during the time period 15 December 1995 through 17 September 1996.

These piston pins may have been obtained individually, or be installed in:-
Models and S/Ns of engines listed in Textron Lycoming Service Bulletin 527C.
Overhauled engines and cylinder kits (including Superior Air Parts supplied kits that use P/N LW-14077 piston pins).

Note 1: Piston pins P/N LW-14077, are not fitted to O-235 series engines.

Requirement: To prevent piston pin failure and engine stoppage, accomplish SB 527C. Piston Pins marked with code 17328 (per SB527B Figure 1) must be removed before further flight.

(FAA AD 97-01-03 refers)

Compliance: Before 50 hours TTIS (piston pins). For piston pins that have already exceeded 50 hours TTIS, before further flight.

Note 2: The aircraft may be operated to a location where the requirements of this AD can be accomplished.

Effective Date: DCA/LYC/190 16 October 1996
DCA/LYC/190A 6 June 1997

DCA/LYC/193A Crankshaft – Inspection and Replacement

Applicability: Model 320 series engines limited to 160 horsepower, and

Model 360 series engines fitted with fixed pitch propellers,

Except the following engines fitted to helicopters or with solid crankshafts: model HO-360 series, model HIO-360 series, model LHIO-360 series, model VO-360 series and model IVO-360 series, and model O-320-B2C, O-360-J2A, AEIO-360-B4A, O-360-A4A, -A4G, -A4J, -A4K, -A4M and -C4F engines.

This AD is not applicable to engines with crankshafts with “PID” stamped on the outside diameter of the propeller flange.

Note 1: No action required if already in compliance with DCA/LYC/193. This AD revised with Lycoming SB No. 530 now at revision B and to include note 4 with no change to the AD requirement.

Requirement: To prevent crankshaft failure, which can result in engine failure, propeller separation, and forced landing, accomplish the following:

Visually inspect the inside diameter (ID) of the crankshaft for corrosion pits, per Textron Lycoming MSB 505B.

If corrosion pits are found during this inspection, accomplish the following before further flight:

(i) If the crankshaft is installed in the engine such as during an on-wing inspection, perform a fluorescent penetrant inspection (FPI) per MSB 505B.

(ii) If the crankshaft is removed from the engine at overhaul, perform a magnetic particle inspection (MPI) per MSB 505B.

<u>If any crankshaft is found cracked</u> during FPI or MPI, replace the crankshaft with a serviceable part before further flight.

<u>If corrosion pits but no cracks are found</u> on the ID of the crankshaft during the initial visual inspection and the ID does not exceed the maximum ID specified in MSB 505B, repeat the FPI at intervals not to exceed 100 hours TIS since last FPI or until a serviceable crankshaft is installed in the engine.

If no corrosion pits or cracks are found on the ID of the crankshaft during the initial visual inspection, perform a visual inspection at intervals not to exceed 5 years since last inspection, or at the next engine overhaul or disassembly, whichever occurs sooner.

Note 2: After accomplishing the initial inspection (visual and, if necessary, the FPI or MPI), report findings of any pits or cracks to the CAA. Please ensure that the report references this AD.

Note 3: The application of Urethabond 104 to the inner bore of the crankshaft and confirmed by stamping of the letters "PID" on the outside diameter of the propeller flange per Textron Lycoming MSB 530B, constitutes terminating action to this AD.

Note 4: Lycoming SB No. 530B and MSB No. 505B or later FAA approved revisions pertains to the subject of this AD.

(FAA AD 98-02-08 refers)

Compliance: Initial Inspection:

For engines shipped new from Textron Lycoming prior to and including December 31, 1984, and that have never been overhauled, or any engine remanufactured or overhauled and that has accumulated 1,000 hours or more TIS since remanufacture or overhaul, inspect within the next 100 hours TIS, or 6 months, whichever occurs sooner, unless previously accomplished.

For engines shipped new from Textron Lycoming after 31 December 1984, and that have never been overhauled, or any engine remanufactured or overhauled and that has accumulated less than 1,000 hours TIS since remanufacture or overhaul, inspect at the earliest occurrence of the following:

(i) The next engine overhaul or disassembly.

(ii) Within 10 years of the original shipping date or within the next 6 months, whichever occurs later.

(iii) Within 1,000 hours TIS since remanufacture or overhaul, or within the next 6 months, whichever occurs later.

Repetitive inspections:

Repetitive inspection intervals are dependent on the findings of the initial inspection and are required as specified within the requirements of this AD.

Effective Date: DCA/LYC/193 - 13 March 1998
DCA/LYC/193A - 18 December 2008

DCA/LYC/196A Piston Pin Plug Wear – Inspection

Applicability: All Lycoming engines fitted with piston pin end plugs P/N 60828 or LW-11775.

Note 1: This AD revised to clarify the applicability and the compliance.

Note 2: This AD is not applicable to engines fitted with piston pin end plugs P/N 72198. Engines manufactured, overhauled or rebuilt by Lycoming after February 1999 are fitted with piston pin end plugs P/N 72198.

Requirement: To prevent abnormal wear of piston pin plugs which could result in engine failure, inspect the oil screen, the oil filter element, the oil suction screen and the oil from the filters as applicable per Lycoming SI 1492C of later FAA approved revisions.

If abnormal aluminium or iron content is found accomplish corrective actions per manufacturer instructions before further flight.

(Lycoming Service Instructions 1267C and 1492C refer)

Compliance: For all remanufacturered and overhauled engines fitted with affected piston pin end plugs:

Within the first 10 hours TIS and the next 25 hours TIS, and thereafter at intervals not to exceed 50 hours TIS.

For all other engines in service fitted with affected piston pin end plugs:

At the next oil/oil filter change or before 50 hours TIS whichever is the sooner, and thereafter at intervals not to exceed 50 hours TIS.

Effective Date: DCA/LYC/196 - 28 January 1999
DCA/LYC/196A - 25 June 2009

DCA/LYC/204B FAA AD 2004-10-14 Propeller Strike – Crankshaft Gear Inspection

Applicability: All direct drive piston engines except O-145, O-320-H, O-360-E, LO-360-E, TO-360-E, LTO-360-E,and TIO-541 series.

Note 1: DCA/LYC/204B revised to include note 3 and clarify note 2 with regard to requirements for certifying release-to-service after maintenance.

Requirement: To prevent loosening or failure of the crankshaft gear retaining bolt as result of a propeller strike, which may cause sudden engine failure, accomplish the following:

Inspect the crankshaft counter-bored recess, the alignment dowel, the bolt hole threads and the crankshaft gear for wear galling corrosion and fretting per steps 1 through 5 of Lycoming MSB No.475C. Repair, if necessary, per MSB 475C.

Remove the existing gear retaining bolt and lockplate from service and install a new bolt and lockplate per steps 6 and 7 of MSB No.475C.

Do not reinstall any gear retaining bolt and lockplate that were removed in accordance with this AD.

Note 2: This AD mandates a particular inspection of one of the components of Lycoming engines that was found to be necessary by the United States FAA. Inspection by AD was required because the component was not adequately covered by the existing inspection requirements. As such this AD is additional to and not in lieu of the inspections required in the event of a prop strike.

The manufacturer's instructions for continued airworthiness include SB 533A which relates to maintenance which may be required in the event of a prop strike. The CAA strongly recommends compliance with Lycoming Mandatory SB 533A.

(FAA AD 2004-10-14 refers)

Compliance: Compliance with this AD is required before further flight if the engine has experienced a propeller strike.

Note 3: Compliance with this AD may be accomplished by adding the AD requirement to the aircraft AD logbook as a repetitive inspection, interval "as required".

Note 4: 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 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.

4. 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 in the absence of oil pressure.

Effective Date: DCA/LYC/204 - 24 June 2004
DCA/LYC/204A - 25 September 2008
DCA/LYC/204B - 30 October 2008

DCA/LYC/221 Cancelled – FAA AD 2015-19-07 refers

Effective Date: 3 November 2015

DCA/LYC/222 FAA AD 2012-03-06 AVStar Fuel Servos – Inspection and Replacement

Applicability: All Lycoming fuel injected engines fitted with a AVStar Fuel Systems, Inc. (AFS) fuel servo diaphragm P/N AV2541801 or P/N AV2541803.

Note: This AD supersedes DCA/LYC/219 to expand the applicability to include additional affected engines. Affected fuel servos and fuel servo diaphragms are listed in AFS MSB No. AFS-SB6 revision 2, dated 6 April 2011. This SB remains unchanged since the issue of superseded DCA/LYC/219.

Requirement: To prevent fuel servo failure which could result in loss of engine power and aircraft control, accomplish the following:

1. Review the aircraft records and determine if an AFS fuel servo diaphragm P/N AV2541801 or P/N AV2541803 from an affected production lot listed in AFS MSB No. AFS-SB6 revision 2, dated 6 April 2011 was installed in the fuel servo any time after 20 May 2010. If the fuel servo is found fitted with an affected diaphragm, replace the fuel servo before further flight

2. Fuel servos with an affected AFS fuel servo diaphragm P/N AV2541801 or P/N AV2541803 from the production lots listed in AFS MSB No. AFS-SB6 revision 2 shall not be fitted to any aircraft.
(FAA AD 2012-03-06 refers)

Compliance: 1. Within the next 5 hours TIS unless previously accomplished.
2. From 24 February 2012.

Effective Date: 24 February 2012

DCA/LYC/223A Carburettors – Inspection and Replacement

Applicability: All Lycoming reciprocating engines fitted with model HA-6 carburettors P/N 10-5219-XX, 10-5224-XX, 10-5230-XX, 10-5235-XX, 10-5253-XX, 10-5255-XX, 10-5283-XX, 10-6001-XX, 10-6019-XX and 10-6030-XX including all dash numbers.

Note: DCA/LYC/223A revised to clarify the applicability with no change to the AD requirement. Affected carburettors have a ‘machined-from-billet' body.

Requirement: To prevent the mixture control sleeve from rotating in the carburetor body which could result in fuel restriction and a loss of engine power, accomplish the inspections and corrective actions specified in FAA AD 2012-03-07.

(FAA AD 2012-03-07 refers)

Compliance: Within the next 50 hours TIS from 29 March 2012 (the effecitve date of DCA/LYC/223), unless previously accomplished.

Effective Date: DCA/LYC/223 - 29 March 2012
DCA/LYC/223A - 31 May 2012

The State of Design ADs listed below are available directly from the National Airworthiness Authority (NAA) websites. Links to NAA websites are available on the CAA website at Links to state of design airworthiness directives | aviation.govt.nz
If additional NZ ADs need to be issued when an unsafe condition is found to exist in an aircraft or aeronautical product in NZ, they will be added to the list below.

2015-19-07 Fuel Injector Lines – Inspections

Effective Date: 3 November 2015

DCA/LYC/224A Lycoming Parallel Valve Cylinder and Head Assemblies – Inspection

Applicability: All Lycoming engines fitted with parallel valve cylinder and head assemblies listed in Table 1 of Lycoming Mandatory Service Bulletin (MSB) 634, dated 11 October 2018, or later FAA approved revision.

Note: DCA/LYC/224A revised to introduce a repetitive inspection requirement for affected parallel valve cylinder and head assemblies, until replacement per requirement 2 of this AD. Affected cylinder and head assemblies were supplied in cylinder kits and installed on all parallel valve engines (except O-235 model engines), that were supplied by Lycoming Engines between 1 September 2013 and 30 April 2015. To identify affected cylinder and head assemblies refer to Lycoming MSB 634.

Requirement: To prevent loss of engine power due to a cracked cylinder assembly, accomplish the following:

1. Inspection:
   Inspect affected parallel valve cylinder and head assemblies for visible discolouration/residue on the cylinder fins. If residue is found on the cylinder fins, then the cylinder may be cracked and further investigation is required.
   Accomplish a compression test on affected cylinders (refer to Lycoming Service Instruction 1191A). If the compression value does not meet OEM requirements, then the cylinder may be cracked and further investigation is required. Any loss of compression may be due to a cracked cylinder assembly.
   If a whistling sound is evident while accomplishing the compression test, then the cylinder may be cracked and further investigation is required.
   If a cracked cylinder assembly is found, then replace all affected parallel valve cylinder and head assemblies fitted on the engine, before further flight.
2. Replacement:
   Remove and replace all parallel valve cylinder and head assemblies listed in Table 1 of MSB 634, dated 11 October 2018, or later FAA approved revision.

   Affected parallel valve cylinder and head assembly listed in Table 1 of MSB 634 shall not be overhauled, refurbished, or repaired and returned to service.

   From the effective date of this AD, an affected parallel valve cylinder and head assembly listed in Table 1 of MSB 634, shall not be installed on any engine.

Compliance:

1. Inspection:

   Within the next 50 hours TIS and thereafter at intervals not to exceed 50 hours TIS until requirement 2 of this AD is accomplished.

2. Replacement:

   Replace all affected cylinder and head assemblies at the next engine overhaul.

Effective Date: DCA/LYC/224 - 25 October 2018
DCA/LYC/224A - 28 February 2019

*** 2024-21-02 Connecting Rod Assemblies - Inspection**

Applicability: Lycoming engines that are fitted with an affected part and P/N, and were assembled within the ship date range specified in Table 1 to paragraph (c) of FAA AD 2024-21-02.

Note: Affected P/N parts are known to be installed on Lycoming AEIO-320 series, AEIO-360 series, AEIO-390 series, AEIO-540 series, AEIO-580-B1A, AIO-320 series, AIO-360 series, HIO-360 series, HIO-390-A1A, HIO-540-A1A, HO-360 series, IO-320 series, IO-360 series, IO-390 series, IO-540 series, IVO-360-A1A, IVO-540-A1A, LHIO-360 series, LIO-320 series, LIO-360 series, LO-360 series, LTIO-540 series, LTO-360 series, O-233-A1, O-235 series, O-320 series, O-340 series, O-360 series, O-435 series, O-540 series, SO-580 series, TEO-540 series, TIGO-541 series, TIO-360 series, TIO-540 series, TIO-541 series, TIVO-540-A2A, TO-360 series, TVO-435 series, TVO-540-A1A, VO-360 series, VO-435 series, VO-540 series, and VSO-580-A1A engines.

Effective Date: 5 December 2024