

Airworthiness Directive Schedule

Engines

Lycoming AEIO-390 and IO-390 Series

28 February 2019

- Notes:**
1. This AD schedule is applicable to Lycoming **AEIO-390** series and **IO-390** series engines manufactured under FAA Type Certificate No **E00006NY**.
 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 can be obtained directly from the FAA website at http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAD.nsf/MainFrame?OpenFrameSet
 3. 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.
 4. The date above indicates the amendment date of this schedule.
 5. New or amended ADs are shown with an asterisk *

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From 1 October 2012 the Civil Aviation Authority of New Zealand (CAA) will no longer rewrite the text of State of Design ADs. Applicable State of Design ADs will be listed below and can be obtained directly from the National Airworthiness Authority (NAA) web site. The link to the FAA web site is available on the CAA website at http://www.caa.govt.nz/airworthiness-directives/states-of-design/ 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.		
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2009-02-03 Fuel Injection Servos – Inspection

Applicability: Lycoming IO, (L)IO, TIO, (L)TIO, AEIO, AIO, IGO, IVO and HIO series reciprocating engines fitted with a Precision Airmotive LLC, RSA-5 or RSA-10 series, or Bendix, RSA-5 or RSA-10 series, fuel injection servo, with a servo plug gasket P/N 365533, that was installed under the fuel injection servo plug, P/N 383493 on or after 22 August 2006.

Teledyne Continental Motors LTSIO-360-RB and TSIO-360-RB reciprocating engines fitted with a Precision Airmotive LLC, RSA-5 or RSA-10 series, or Bendix, RSA-5 or RSA-10 series, fuel injection servo, with a servo plug gasket P/N 365533, that was installed under the fuel injection servo plug, P/N 383493 on or after 22 August 2006.

Superior Air Parts, Inc. IO-360 series reciprocating engines fitted with a Precision Airmotive LLC, RSA-5 or RSA-10 series, or Bendix, RSA-5 or RSA-10 series, fuel injection servo, with a servo plug gasket P/N 365533, that was installed under the fuel injection servo plug, P/N 383493 on or after 22 August 2006.

This AD also applies to any other Precision Airmotive LLC RSA-5 or RSA-10 series, or Bendix, RSA-5 or RSA-10 series, fuel injection servo received for installation on an engine on or after 22 August, 2006 without a P/N 2577258 gasket and it does not have a letter "G" on the fuel injection servo plug, P/N 383493; or any fuel injection servo that the installation history is not known.

Compliance: Before the issue of a New Zealand Certificate of Airworthiness, or at the next ARA, whichever is the sooner, unless previously accomplished. Repetitive inspections, if required, to be accomplished at intervals not to exceed the times specified in the FAA AD.

Effective Date: 26 October 2017

2012-03-06 Fuel Servo Diaphragms – Inspection

Applicability: Superior Air Parts, Lycoming Engines, and Continental Motors, fuel injected reciprocating engine models fitted with an AVStar Fuel Systems, Inc. (AFS) fuel servo diaphragm P/N AV2541801 or P/N AV2541803.

Compliance: Before the issue of a New Zealand Certificate of Airworthiness, or at the next ARA, whichever is the sooner, unless previously accomplished. Repetitive inspections, if required, to be accomplished at intervals not to exceed the times specified in the FAA AD.

Effective Date: 26 October 2017

2012-19-01 Crankshafts – Inspection

Applicability: Lycoming Engines (L)O-360, (L)IO-360, AEIO-360, IO-390, AEIO-390, O-540, IO-540, AEIO-540, (L)TIO-540, IO-580, AEIO-580, and IO-720 series reciprocating engines listed by engine model number and serial number in Table 1, Table 2, Table 3, or Table 4 of Lycoming Mandatory Service Bulletin (MSB) 569A, dated 11 April 2006, or later approved revision, and those engines with crankshafts listed by crankshaft S/N in Table 5 of Lycoming MSB 569A, or later approved revision.

Affected engines are manufactured new, rebuilt, overhauled, or had a crankshaft installed after 1 January 1997, according to Supplement No. 1 to Lycoming MSB No. 569A.

Compliance: Before the issue of a New Zealand Certificate of Airworthiness, or at the next ARA, whichever is the sooner, unless previously accomplished. Repetitive inspections, if required, to be accomplished at intervals not to exceed the times specified in the FAA AD.

Effective Date: 26 October 2017

From 1 October 2012 the Civil Aviation Authority of New Zealand (CAA) will no longer rewrite the text of State of Design ADs. Applicable State of Design ADs will be listed below and can be obtained directly from the National Airworthiness Authority (NAA) web site. The link to the FAA web site is available on the CAA website at <http://www.caa.govt.nz/airworthiness-directives/states-of-design/>
 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.

*** 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