

## Airworthiness Directive Schedule

### Lycoming IO-720 Series Engines

28 February 2019

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- Notes:**
1. This AD schedule is applicable to Lycoming **IO-720** series engines manufactured under FAA Type Certificate Number **1E15**.
  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 [http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgAD.nsf/MainFrame?OpenFrameSet](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAD.nsf/MainFrame?OpenFrameSet)
  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 \*
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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 web site 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. .... 16

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**DCA/LYC/136 Crankcase Bearing Dowel Replacement - Modification**

**Applicability:** As detailed  
**Requirement:** Accomplish Lycoming SI 1225D  
**Compliance:** At next overhaul  
**Effective Date:** 30 June 1972

**DCA/LYC/146A Lubrication System (Filters) - Inspection**

**Applicability:** All IO-720 series  
**Requirement:** Inspect filters for metal contamination. Establish source of any contamination found and rectify before further flight  
**Compliance:** At intervals not exceeding 100 hours TIS  
**Effective Date:** DCA/LYC/146 - 19 May 1976  
DCA/LYC/146A - 20 April 1984

**DCA/LYC/148A Piston Pins - Inspection**

**Applicability:** All IO-720 series with P/N 69650 piston pins  
**Requirement:** Inspect piston pins for cracks using magnetic particle method  
**Compliance:** Prior to installation of replacement pins  
**Effective Date:** DCA/LYC/148 - 31 August 1973  
DCA/LYC/148A - 20 April 1984

**DCA/LYC/150 FAA AD 73-23-01 Piston Pins - Inspection**

**Applicability:** As detailed  
**Requirement:** Accomplish Lycoming SB 367F.  
(FAA AD 73-23-01)  
**Compliance:** Within the next 50 hours TIS  
**Effective Date:** 30 September 1973

**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/156 Rotator Type Inlet Valves - Replacement**

**Applicability:** HIO-360-O1A and any other engines not specifically listed in Lycoming SI 1280C which have been fitted with rotator type inlet valves

**Requirement:** Some engines have been incorrectly fitted with rotator type inlet valves during overhaul or cylinder replacement. Remove rotator type inlet valves and replace with conventional intake valves P/N 73117.

**Compliance:** Within the next 25 hours TIS

**Effective Date:** 15 May 1975

**DCA/LYC/163 FAA AD 78-23-10 Bendix Fuel Injector Bellows Assembly - Modification**

**Applicability:** All IO-360, AEIO-360, HIO-360, IO-540, AEIO-540, TIO-540, LTIO-540, TIO-541, TIGO-541 and IO-720 series engines detailed in Avco Lycoming SB's 428, 429 and 430

**Requirement:** Modify bellows assembly in affected engines per Bendix SB's RS-52, RS-53 or RS-54 as applicable.

(FAA AD 78-23-10 refers)

**Compliance:** Within next 50 hours TIS

**Effective Date:** 9 February 1979

**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/166 FAA AD 79-21-08 & 79-26-03 Bendix Fuel Injection Regulator - Inspection**

**Applicability:** Bendix fuel injection systems models RSA-5AB1, RSA-5AD1, RSA-7AA1, RSA-7DA1, RSA-1OAD1, RSA-1ODB1, RSA-1ODB2, RSA-1OED1, and RSA-1OED2 with parts list numbers detailed in Bendix SB's RS-68, RS-69 and RS-70 installed on, but not limited to, IO-320, AIO-320, AEIO-320, IO-360, HIO-360, AIO-360, AEIO-360, TIO-360, IGO-480, IO-540, HIO-540, AEIO-540, IGO-540, IVO-540, TIO-540, TIO-541, TIGO-541 and IO-720 series engines

**Requirement:** Inspect and modify affected regulators per Bendix fuel systems SB's RS-68, RS-69 or RS-70 as applicable.

(FAA ADs 79-21-08 and 79-26-03 refer)

**Compliance:** Within next 25 hours TIS or by 18 October 1979 whichever is the sooner

**Effective Date:** 18 September 1979

**DCA/LYC/168 Bendix Fuel Injector Assembly - Inspection**

- Applicability:** All IO-540, TIO-540, LTIO-540, TIO-541, TIGO-541 and IO-720 series engines detailed in Avco Lycoming SB 445.
- Requirement:** Inspect fuel diaphragm, and renew as necessary, per Bendix SB RS-63
- Compliance:** Within next 50 hours TIS unless already accomplished
- Effective Date:** 25 January 1980

**DCA/LYC/175A FAA AD 83-22-04 Bendix Fuel Injection Diaphragm - Inspection**

- Applicability:** All IO-540-G1B5, -G1C5, -G1D5, -K1A5, -K1A5D, -K1B5, -K1C5, -K1D5, -K1F5, -K1F5D, -K1G5, -K1G5D, -K1J5, -K1J5D, -M1B5D, -S1A5, -AA1A5;  
AEIO-540-L1B5D; TIO-540-F2BD, -J2B, -J2BD, -N2BD, -S1AD, -US1, -V2AD;  
LTIO-540-F2BD, -J2B, -J2BD, -N2BD, -U2A, -V2AD, -R2AD.  
TIO-541-E1A4, -E1B4, -E1C4; TIGO-541-E1A  
IO-720-B1B, -B1BD
- Requirement:** Inspect and modify as necessary per Avco Lycoming SB 467 and associated Bendix SB RS 88, including supplements.  
(FAA AD 83-22-04 refers)
- Compliance:** Within next 100 hours TIS or prior to engine installation
- Effective Date:** DCA/LYC/175 - 21 October 1983  
DCA/LYC/175A - 6 April 1984

**DCA/LYC/189 FAA AD 95-07-01 Connecting Rod Bolts - Removal**

- Applicability** All O-360, LO-360, HO-360, HIO-360, TIO-360, LIO-360, AEIO-360, O-540, IO-540, TIO-540, LTIO-540, IVO-540 AEIO-540, TIO-541 and IO-720 series engines that had connecting rod bolts replaced on or after 15 February 1994. This AD is not applicable to engines that contain replacement connecting rod bolts that were purchased directly from Textron Lycoming or Aircraft Technologies Inc. This AD does not apply to engines that were manufactured or remanufactured at Textron Lycoming.
- Requirement:** To prevent engine failure due to connecting rod bolt failure, which could result in damage to or loss of the aircraft accomplish the following:-
1. For engines that contain replacement connecting rod bolts installed on or after 15 February 1994 that were not purchased directly from Textron Lycoming or Aircraft Technologies Inc., visually inspect to determine if the connecting rod bolts are clearly identified by;
    - (a) raised letters; SPS, S, C, or FC, identifying them as Textron Lycoming parts, or
    - (b) SL75060 etched on the head, identifying them as PMA parts manufactured by Superior Air Parts Inc., or
    - (c) AL75060 forged into the bolt head, identifying them as PMA parts manufactured by Aircraft Technologies Inc.
 If the connecting rod bolts can be positively identified, as described in this paragraph, then no further action is required.
  2. If the connecting rod bolts cannot be positively identified per paragraph 1 of this AD, prior to further flight remove unapproved connecting rod bolts and replace with serviceable parts.  
(FAA AD 95-07-01 refers)
- Compliance:** Before further flight
- Effective Date:** 24 March 1995

**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/194 FAA AD 98-17-11 Repaired Crankshafts - Inspection**

**Applicability:** Models O-235, O-235-C1, O-235-C2C, O-235-L2C, O-235-N2C, O-290, O-290-D2, O-320, O-320-A, O-320-A1A, O-320-A2B, O-320-B2B, O-320-B2C, O-320-D2J, O-320-D3G, O-320-E2A, O-320-E2D, O-320-E2G, O-320-E3D, O-320-H2AD, O-360, O-360-A1A, O-360-A1D, O-360-A3A, O-360-A4A, O-360-A4K, O-360-B1B, IO-360-F1A6, AEIO-320-E1B, HIO-360-C1A, IO-320, IO-320-B1A, IO-360, IO-360-A1A, IO-360-A1B6, IO-360-B1E, IO-360-C, IO-360-C1C, IO-360-C1C6, IO-360-C1D6, IO-360-D, O-540-A1B5, O-540-A1D5, O-540-R2AD, IO-540, IO-540-C4B5, IO-540-S1A5, TIO-540-A2, LIO-320-C1A, LIO-360-C1E6, and IO-720 reciprocating engines; engines, with installed crankshafts repaired by Nelson Balancing Service, Bedford, Massachusetts, USA, Repair Station Certificate No. NB7R820J, between February 1, 1995, and December 31, 1997, inclusive, as listed (by work order (W/O)) in Table 1 of this AD.

**Table 1**

MODEL	W/O	DATE	ENGINE S/N
AEIO-320-E1B	1134	2/17/96	L-5653-55A
HIO-360-C1A	1155	2/7/96	L-12126-51A
IO-320	1141	1/17/96	
IO-320-B1A	1525	11/14/97	
IO-360	1314	12/17/96	
IO-360	IN6137	8/7/97	
IO-360-A1A	1230	6/10/96	L-474-51
IO-360-A1A	1289	10/23/96	L-4085-5174
IO-360-A1A	1415b	5/23/97	RL-3920-51A
IO-360-A1B6	1463	7/31/97	
IO-360-B1E	1312	12/12/96	L-4453-51A
IO-360-C	1146	1/23/96	R-51448-9-C
IO-360-C1C	1336	2/10/97	
IO-360-C1C	1518	12/9/97	
IO-360-C1C6	1530	11/25/97	
IO-360-C1C6	1537	12/9/97	L-19294-51A
IO-360-C1D6	1286	4/28/97	
IO-360-D	1540	12/2/97	
IO-360-F1A6	1176	3/7/96	L-27423-36A
IO-540	1014	2/8/95	

IO-540	1056	6/13/95	
IO-540	1302	12/5/96	
IO-540-C4B5	1313	12/17/96	L-19547-48
IO-540-S1A5	1513	10/27/97	L-19597-48A
IVO-435-G1A	1271	10/1/96	
LIO-320-C1A	1158	2/8/96	
LIO-360-C1E6	1280	10/7/96	
LIO-360-C1E6	1281	10/9/96	
O-235	1013	2/21/95	
O-235	1051	6/2/95	
O-235	1054	6/9/95	
O-235	1057	6/14/95	L-9041-15
O-235	1058	6/29/95	
O-235	1060	6/30/95	
O-235	1069	8/10/95	
O-235	1110	2/20/96	
O-235	1145	1/23/96	
O-235	1151	1/25/96	
O-235	1160	2/9/96	RL-24636-15
O-235	1305	12/5/96	L-22542-15
O-235	1329	2/11/97	
O-235	1332	2/11/97	
O-235	1481	9/2/97	
O-235-C1	1089	10/8/95	L-6475-15
O-235-C1	1188	4/2/96	L-7143-15
O-235-C1	1335	3/12/97	L-5569-15
O-235-C1	1367	3/24/97	
O-235-C2C	1019	2/24/95	L-12284-15
O-235-C2C	1040	5/8/95	
O-235-C2C	1105	12/1/95	L-12273-15
O-235-L2C	1030	4/6/95	L-14545-15
O-235-L2C	1036	4/24/95	
O-235-L2C	1037	4/24/95	L-23012-15
O-235-L2C	1050	6/2/95	L-15542-15
O-235-L2C	1062	7/5/95	L-18306-15
O-235-L2C	1067	8/8/95	
O-235-L2C	1070	8/10/95	L-16005-15
O-235-L2C	1095	11/14/95	RL-023227-15
O-235-L2C	1101	11/4/95	L-15300-15
O-235-L2C	1102	11/15/95	L-20183-15
O-235-L2C	1162	2/14/96	L-16114-15
O-235-L2C	1251	8/22/96	
O-235-L2C	1219	5/16/96	L-21215-15
O-235-L2C	1365	3/24/97	
O-235-L2C	1285	10/19/96	
O-235-L2C	1414	8/5/97	
O-235-L2C	1400	4/28/97	
O-235-L2C	1433	6/26/97	L-17074-15
O-235-L2C	1417	12/5/97	
O-235-L2C	1504	10/31/97	
O-235-L2C	1435	6/9/97	
O-235-L2C	1524	11/12/97	
O-235-L2C	1508	11/18/97	
O-235-L2C	2010	11/19/97	
O-235-L2C	1536	11/24/97	
O-290	1257	9/4/96	
O-235-N2C	1511	10/29/97	L-23857-15
O-290-D2	1082	9/26/95	L-6019-21
O-290	1326	3/26/97	
O-320	1024	3/17/95	
O-320	1018	2/22/95	
O-320	1038	5/3/95	L-39272-27A
O-320	1045	5/24/95	

O-320	1084	9/28/95	
O-320	1116	1/8/96	
O-320	1125	1/8/96	
O-320	1169	2/28/96	
O-320	1175	3/7/96	
O-320	1184	3/28/96	
O-320	1189	8/27/96	
O-320	1202	4/30/96	
O-320	1212	5/10/96	
O-320	1283	10/17/96	
O-320	1316	12/21/96	
O-320	1340	2/25/97	L-24367
O-320	1347	2/18/97	
O-320	1360	3/10/97	
O-320	1361	3/10/97	
O-320	1436	5/29/97	
O-320	1468	8/14/97	
O-320	1474	8/22/97	L-13130-39A
O-320	1477	9/13/97	
O-320	1519	11/21/97	
O-320	1507	11/18/97	
O-320	1171	3/1/96	
O-320	1546	12/7/97	
O-320-A	1194	4/13/96	
O-320-A	1192	4/13/96	
O-320-A1A	1244	8/13/96	L-5270-27
O-320-A	1196	4/13/96	
O-320-A2B	1461	9/9/97	L-12626-27
O-320-A2B	1081	9/22/95	
O-320-B2C	1315	12/17/96	
O-320-B2B	1452	7/10/97	L-2977-39
O-320-D2J	1173	3/7/96	L-123412-39A
O-320-D2J	1172	3/4/96	L-13039-39A
O-320-D2J	1534	11/25/97	
O-320-D2J	1253	9/4/96	
O-320-D3G	1077	9/17/95	
O-320-D2J	1539	12/3/97	
O-320-D3G	1354	2/25/97	
O-320-D3G	1114	1/8/96	L-10983-39A
O-320-D3G	1544	12/3/97	
O-320-D3G	1370	3/26/97	H45247
O-320-E2A	1191	4/13/96	L-19377-27A
O-320-E2A	1103	11/10/95	L-26363-27A
O-320-E2A	1439	6/9/97	L-38003-55A
O-320-E2A	1317	12/21/96	L-15219-27A
O-320-E2D	1078	9/17/95	
O-320-E2D	1068	8/10/95	L-35528-27A
O-320-E2D	1181	3/14/96	
O-320-E2D	1177	3/9/96	L-44732-27A
O-320-E2D	1245	8/13/96	L-40483-27A
O-320-E2D	1241	8/9/96	L-42691-27A
O-320-E2D	1343	2/17/97	
O-320-E2D	1260	9/9/96	L-15300-15
O-320-E2D	1385	4/16/97	
O-320-E2D	1346	3/2/97	L-44320-27A
O-320-E2D	1533	11/25/97	
O-320-E2D	1458	7/18/97	
O-320-E2G	1338	3/10/97	L-38264-27A
O-320-E2D	1549	12/12/97	
O-320-E3D	1074	8/24/95	L-29495-27A
O-320-E3D	1034	4/18/95	L-29668-27A
O-320-E3D	1444	6/13/97	
O-320-E3D	1431	6/9/97	L-33770-27A



O-320-H2AD	1322	1/22/97	L-1530-78T
O-320-E3D	1500	10/7/97	L-33841-27A
O-360	1157	2/7/96	
O-360	1025	3/17/95	
O-360	1362	3/10/97	
O-360	1199	4/18/96	
O-360	1394	5/6/97	
O-360	1386	4/17/97	
O-360-A1A	1170	2/28/96	L-20677-36A
O-360	1528	11/19/97	
O-360-A1A	1239	8/5/96	
O-360-A1A	1214	5/14/96	L-20190-36A
O-360-A3A	1531	11/25/97	
O-360-A1D	1411	5/5/97	
O-360-A4A	1464	7/30/97	L-24796-36A
O-360-A4A	1270	9/27/96	L-14008-36A
O-360-A4A	1529	11/25/97	
O-360-A4A	1486	9/6/97	
O-360-B1B	1262	9/9/96	L-5261-51A
O-360-A4K	1166	2/22/96	L-26455-36A
O-540-A1B5	1132	1/9/96	L-1165-40
O-540-A1B5	1129	12/29/95	
IO-720	1510	10/26/97	
O-540-A1D5	1462	7/28/97	L-5661-40
TIO-540-A2	1111	1/10/96	
TIO-540-A2	1064	7/13/95	
TIO-540-R2AD	1106	11/27/95	L-5949-61A

*Note: Blank spaces indicate unknown data. Where the engine S/N is blank in this table, it is either unknown or the crankshaft may not be installed in an engine.*

**Requirement:** To prevent crankshaft failure due to cracking, which could result in an inflight engine failure and possible forced landing, accomplish the following:

a) Determine if this AD applies, as follows:

1. Determine if any repair was conducted on the engine that required crankshaft removal during the February 1, 1995, to December 31, 1997, time frame; if the engine was not disassembled for crankshaft removal and repair in this time frame, no further action is required.
2. If the engine and crankshaft was repaired during this time frame, determine from the maintenance records (engine log book), and Table 1 of this AD if the crankshaft was repaired by Nelson Balancing Service, Repair Station Certificate No. NB7R820J, Bedford, Massachusetts, USA. The maintenance records should contain the Return to Service (Yellow) tag for the crankshaft that will identify the company performing the repair. Also the work order number contained in Table 1 of this AD was etched on the crankshaft propeller flange, adjacent to the closest connecting rod journal. Because some etched numbers will be difficult to see, if necessary, use a 10X magnifying glass with an appropriate light source to view the work order number. In addition, the propeller spinner, if installed, will have to be removed in order to see this number.
3. If it cannot be determined who repaired the crankshaft, compliance with this AD is required.
4. If the engine and crankshaft were not repaired during the time frame specified in a) 1, or if it is determined that the crankshaft was not repaired by Nelson Balancing Service, no further action is required.

b) Accomplish the following:

1. Perform a visual inspection as defined in paragraph b) 2 of this AD, magnetic particle inspection, and a dimensional check of the crankshaft journals, or remove from service affected crankshafts and replace with serviceable parts.
2. For the purpose of this AD, a visual inspection of the crankshaft is defined as the inspection of all surfaces of the crankshaft for cracks which include heat check cracking of the nitrided bearing surfaces, cracking in the main or aft fillet of the main bearing journal and crankpin journal, including checking the bearing surfaces for scoring, galling, corrosion, or pitting.

*Note: Further guidance on all inspection and acceptance criteria is contained in applicable Overhaul or Maintenance Manuals.*

3. Replace any crankshaft that fails the visual inspection, magnetic particle inspection, or the dimensional check with a serviceable crankshaft, unless the crankshaft can be reworked to bring it in compliance with:

- i) All the overhaul requirements of the appropriate Overhaul/Maintenance Manuals; or
- ii) All of the approved requirements for any repair station which currently has approval for limits other than those in the appropriate Overhaul/Maintenance Manuals.

4. For the purpose of this AD, a serviceable crankshaft is one which meets the requirements of paragraph b) 3 i) or b) 3) ii) of this AD.  
(FAA AD 98-17-11 refers)

**Compliance:** By 31 October 1998

**Effective Date:** 25 September 1998

### **DCA/LYC/195B FAA AD 2003-14-03 Rotary Fuel Pump Relief Valve – Inspection**

**Applicability:** Model IO-320, LIO-320, IO-360, HIO-360, TIO-360, LTIO-360, GO-435, GO-480, IGO-480-A1B6, IO-540, IGO-540, AEIO-540, HIO-540, TIO-540, LTIO-540, TIGO-541, IO-720 and TIO-720 fuel injected reciprocating engines fitted with Crane/Lear Romec “AN” rotary fuel pump model series RG9080, RG9570 or RG17980.

These engines are installed on but not limited to fuel injected, reciprocating engine powered aircraft manufactured by Cessna, Piper, Mooney, Beech, Bellanca, Champion, Partenavia, Rockwell, Schweizer, Enstrom, Aerospatiale (SOCATA), Maule, Aero Commander, Hiller, and Pacific Aerospace.

**Note 1:** No action required if already in compliance with DCA/LYC/195A. This AD revised with Lycoming SB No. 529 now at revision B and to include note 2 with no change to the AD requirement.

**Requirement:** To prevent rotary fuel pump leaks, which could result in an engine failure, engine fire and damage to or loss of the aircraft, accomplish the following:

Perform initial and repetitive torque check inspections of pump relief valve attaching screws per the instructions in Textron Lycoming SB 529B as follows:

1. Perform the initial torque check inspection. If the torque does not meet the specifications in SB 529B, tighten screws to the required torque per SB 529B.
2. Perform a follow-up torque check inspection. If the torque does not meet the specification in SB 529B, during follow-up inspections, tighten screws to the required torque in accordance with SB 529B.
3. Replacement of a rotary fuel pump series RG9080, RG9570, or RG17980, with a modified pump (with the “/M” after the part number) is a terminating action for the inspection requirements of parts 1 and 2 of this AD.

**Note 2:** Lycoming SB No. 529B or later FAA approved revisions pertains to the subject of this AD.  
(FAA AD 2003-14-03 refers)

**Compliance:**

1. Within the next 10 hours TIS or 30 days, whichever occurs sooner unless previously accomplished.
2. Repetitive Torque Check Inspections after accumulating 50 hours TIS, or 6 months since the initial torque check inspection, whichever occurs first. Continue the repetitive torque check inspections per requirement 2 of this AD until:
  - (i) The accumulation of 100 hours TIS since the initial inspection with the torque remaining within the SB specification for 50 hours TIS, or
  - (ii) The torque meets the SB specification during the initial inspection and a subsequent inspection taking place at least 50 hours TIS later.

**Effective Date:** DCA/LYC/195A - 28 August 2003  
DCA/LYC/195B - 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 remanufactured 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/200 Engine Nose Bearing – Inspection**

**Applicability:** Model O-540, IO-540, TIO-540, LTIO-540, AEIO-540 and IO-720 series engines fitted with P/N LW-13885 series nose bearings with a (6-00) date stamp. Also listed engine models that were assembled new, have been rebuilt or overhauled after July 2000, and the nose bearing P/N or date stamp are unknown.

This AD is only applicable to those engines that have not yet exceeded 500 hours TIS since new/overhaul or since nose bearing replacement.

For any engine that was assembled new, last rebuilt, or overhauled before August 2000 and the nose bearing has not been replaced since, a suspect nose bearing will not be fitted to the engine.

**Requirement:** To detect failure of the engine nose bearing and prevent possible in-flight engine failure, accomplish the following:-

Check oil filter/screen content for premature or excessive engine component wear per Textron Lycoming Mandatory SB 480E, Part II. If abnormal metal content is found, determine the source and rectify as required. If the cause is found to be the failure of the nose bearing, notify the CAA.

From 5 July 2001 do not fit to any engine, P/N LW-13885 series nose bearings with a (6-00) date stamp.

**Note:** Lycoming SB No. 480E or later FAA approved revisions pertains to the subject of this AD.  
(NZ Occurrence refers)

**Compliance:** Engines with less than 200 hours TIS since new/overhaul or since nose bearing replacement:-

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

Engines with more than 200 hours, but less than 500 hours TIS since new/overhaul or since nose bearing replacement:-

At each scheduled engine oil change.

**Effective Date:** 5 July 2001

**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/217 FAA AD 2002-12-07 Oil Filter Converter Plate Gasket – Inspection**

- Applicability:** This AD is applicable to the following reciprocating engines models that were manufactured new, rebuilt or overhauled, or had the oil filter converter plate kit P/N LW-13904 or gasket P/N LW13388 replaced after 1 April 1999.
- Model O-320-H1AD, -H1BD, -H2AD, -H2BD, -H3AD and -H3BD engines
- Model (L)O-360-A1AD, -A1F6D, -A1G6D, -A1LD, -A3AD, -A4AD, -A5AD and -E1A6D engines
- Model IO-360-A1B6D, -A1D6D, -A3B6D, -A3D6D, -C1E6D, -J1AD and -J1A6D engines
- Model (L)TO-360-A1A6D, -C1A6D, -E1A6D and -F1A6D engines
- Model TIO-360-C1A6D engines
- Model (L)HIO-360 -E1AD, -E1BD and -F1AD engines
- Model O-540-H1A5D, -H1B5D, -H2A5D, -H2B5D, -J1A5D, -J1B5D, -J1C5D, -J1D5D, -J2A5D, -J2B5D, -J2C5D, -J2D5D, -J3A5D, -J3C5D and -L3C5D engines
- Model IO-540-C4D5D, -K1A5D, -K1B5D, -K1E5D, -K1F5D, -K1G5D, -K1J5D, -L1A5D, -L1B5D, -M1A5D, -M1B5D, -M2A5D, -T4A5D, -T4B5D, -T4C5D, -U1A5D, -U1B5D, -V4A5D, -W1A5D and -W3A5D engines
- Model (L)TIO-540-K1AD, -S1AD, -AA1AD, -AB1AD, -AB1BD, -F2BD, -J2BD, -N2BD, -R2AD, -T2AD and -V2AD engines
- Model AEIO-540-L1B5D engines
- Model TIO-541-E series engines
- Model TIGO-541-D1A, -D1B and -E1A engines
- Model IO-720-A1BD, -B1BD, -C1BD, -D1BD and -D1CD engines

**Note 1:** This AD supersedes DCA/LYC/199A and introduces requirement 3 as a terminating action to the repetitive replacement requirements of the converter plate gasket P/N LW-13388 and the oil converter plate kit P/N LW-13904.

**Requirement:** To prevent complete loss of engine oil and possible seizure of the engine and fire due to oil leaks between the converter plate and accessory housing, accomplish the following:

1. For engines with more than 50 hours TSN, TSO or time since the last replacement of the oil filter converter plate gasket P/N LW-13388 or the oil filter converter plate P/N LW-13904:

Replace the converter plate gasket or converter plate kit per paragraphs 1 and 2 of Lycoming MSB 543A dated 30 August 2000 before further flight.

2. For engines with less than 50 hours TSN, TSO or time since the last replacement of the oil filter converter plate gasket P/N LW-13388 or the oil filter converter plate P/N LW-13904:

Inspect the oil filter base for signs of oil leaks between the oil filter base and the accessory housing and also inspect for any evidence of the gasket extruding beyond the perimeter of the base. If any oil leaks are found, or if the seal is damaged, extruded, displaced or deteriorated, replace the converter plate gasket or converter plate kit per paragraphs 1 and 2 of MSB 543A before further flight.

3. Replace the oil filter converter plate gasket or oil filter converter plate kit per part II or part III of Lycoming Supplement No. 1 of MSB 543A dated 4 October 2000, or Lycoming MSB 543B dated 1 July 2003.

**Note 2:** Replacement of oil filter converter plate gasket P/N LW-13388 with a new gasket P/N 06B23072 per part II or part III of Supplement No. 1 of MSB 543A, or MSB 543B is a terminating action to requirements 1 and 2 of this AD.

**Note 3:** Lycoming SB No. 543A and Supplement No. 1 of MSB 543A pertains to the subject of this AD. SB No. 543B has superseded SB No. 543A and Supplement No. 1 of MSB 543A.

(AD 2002-12-07 refers)

- Compliance:**
1. Before further flight unless previously accomplished, and thereafter replace the converter plate gasket P/N LW-13388 or the oil converter plate kit P/N LW-13904 at intervals not to exceed 50 hours TIS.
  2. Within the next 10 hours TIS or the next 3 days, whichever occurs sooner unless previously accomplished, and thereafter replace the converter plate gasket P/N LW-13388 or the oil converter plate kit P/N LW-13904 at intervals not to exceed 50 hours TIS.
  3. By 18 December 2009, unless previously accomplished.

**Effective Date:** 18 December 2008

#### **DCA/LYC/220 FAA AD 2011-18-09 Crankshaft Counterweight Washers – Inspection**

**Applicability:** Model IO-720-A1B engine, S/N L-1457-54A and L-1458-54A only.

These engines were last known to be fitted to a Beech U-8F (Queen Air) with USA registration N51779 and the aircraft was operating in the southern U.S. and Mexico.

**Note:** This AD is prompted by a report received by the FAA of a crankshaft failure after 440 hours TIS on a IO-720-A1B engine which had incorrect counterweight washers. The repair station which installed the incorrect washers determined that S/N L-1457-54A and L-1458-54A may also have incorrect crankshaft counterweight washers.

**Requirement:** To prevent crankshaft failure due to the possible installation of incorrect counterweight washers, accomplish the following:

Review the aircraft records or inspect the aircraft and determine the S/N of the aircraft engine/s.

If an affected S/N engine is found fitted to the aircraft, remove the four cylinders from one side of the engine. Guidance on removing the cylinders can be found in the Lycoming Engines Overhaul Manual (OM).

Each counterweight has two rollers held in place by Lycoming washers P/N 71907. The washers have three holes each with a diameter of 0.185 inch. These washers are located at the front and rear of each counterweight. There are a total of four P/N 71907 washers per counterweight. The eight counterweights are located at the top and bottom of each crankshaft cheek which total 32 washers per crankshaft.

Rotate the crankshaft to inspect the holes in the washers at the front and rear of every counterweight as well as the top and bottom of every cheek.

If every hole in the 32 washers measures 0.185 inch then no further action is required. Reinstall the cylinders and test the engine. Guidance on reinstalling and testing can be found in the Lycoming Engines OM.

If any of the 32 washers have one or more holes that do not measure 0.185 inch, then replace the crankshaft with a serviceable part before further flight, and scrap the nonconforming crankshaft.

(FAA AD 2011-18-09 refers)

**Compliance:** Before further flight unless previously accomplished.

**Effective Date:** 29 September 2011

**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

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 web site 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.

#### **2012-19-01 Crankshaft – Identification and Replacement**

**Applicability:** Lycoming IO-720 series engines listed by engine model number and S/N in Table 1, Table 2, Table 3 or Table 4 of Lycoming Mandatory Service Bulletin (MSB) 569A, dated 11 April 2006, and those engines with crankshafts listed by crankshaft S/N in Table 5 of Lycoming MSB 569A, dated 11 April 2006. These applicable 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, dated 27 May 2009.

**Effective Date:** 24 October 2012

#### **2015-19-07 Fuel Injector Lines – Inspections**

**Applicability:** Lycoming fuel injected engine models identified in Table 1 of paragraph (c) of this FAA AD, fitted with externally mounted fuel injector fuel lines (stainless steel tube assembly).

**Effective Date:** 3 November 2015

#### **2017-16-11 Connecting Rod Small End Bushings – Inspection**

**Applicability:** All Lycoming engines listed in Table 1 of Lycoming Engines Mandatory Service Bulletin (MSB) No. 632B, dated 4 August 2017, and All Lycoming engines that were overhauled or repaired using any replacement part listed in Table 2 of Lycoming Engines MSB No. 632B, dated 4 August, 2017, which was shipped from Lycoming Engines during the dates listed in Table 2 of Lycoming Engines MSB No. 632B, dated 4 August 2017.

**Effective Date:** 26 October 2017

#### **\* 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