

# Airworthiness Directive Schedule

## Engines

### Continental IO-360 Series and TSIO-360 Series

24 February 2022

**Notes:** 1. This AD schedule is applicable to the following Continental engine series:

Engine Series:	FAA Type Certificate:
IO-360 Series	E1CE
TSIO-360 Series	E9CE

- The Federal Aviation Administration (FAA) is the National Airworthiness Authority (NAA) responsible for the issue of State of Design Airworthiness Directives (ADs) for these 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](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAD.nsf/MainFrame?OpenFrameSet)
- The date above indicates the amendment date of this schedule.
- New or amended ADs are shown with an asterisk \*

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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 <a href="https://www.aviation.govt.nz/aircraft/airworthiness/airworthiness-directives/links-to-state-of-design-airworthiness-directives/">https://www.aviation.govt.nz/aircraft/airworthiness/airworthiness-directives/links-to-state-of-design-airworthiness-directives/</a> 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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**DCA/CON/155B Oil Pump Drive - Inspection**

- Applicability:** Following models with S/N as detailed in TCM SB M81-23: IO-360-C, -D, -G, -H, -J, -K unless DCA/CESS172/137 accomplished, -AB, -CB, -DB, -GB, -HB, -JB, and -KB; TSIO-360-A, -C, -D, -E, -F, -CB, -DB, -EB, -FB, -GB, -HB, -JB, and -KB; LTSIO-360-E, -EB and -KB. Rebuilt IO-360, TSIO-360 and LTSIO-360 series. All Rolls Royce manufactured IO-360-C, -D, -G, -H, -J, -K and TSIO-360-C and -D.
- Requirement:** Measure breakaway torque on oil pump gear nut or tach drive connector per FAA AD 81-13-10 and renew parts as necessary before further flight.
- Compliance:** Within the next 25 hours TIS unless already accomplished.
- Effective Date:** DCA/CON/155A - 30 October 1981  
DCA/CON/155B - 29 January 1982

**DCA/CON/158 Oil Filter - Removal**

- Applicability:** All model IO-360, TSIO-360, O-470, IO-470, TSIO-470, IO-520, TSIO-520, GTSIO-520 and IO-550 series engines with TCM P/N 649309 or 649310 (Pro-Tech) oil filters.
- Requirement:** To prevent possible loss of oil and subsequent engine failure, remove affected oil filters from service per TCM SB M88-4.  
(FAA AD 88-03-06 refers)
- Compliance:** Within the next 25 hours TIS, unless already accomplished.
- Effective Date:** 8 April 1988

**DCA/CON/161 Oil Filter - Removal**

- Applicability:** Models IO-360, L/TSIO-360, IO-346, L/I/O-470, TSIO-470, IO-520, L/TSIO-520, 6-285, IO-550, and GTSIO-520 series engines, which are installed on, but not limited to the following aircraft: Beech models C33, E33, F33, S35, V35, A36, 36, A36TC, A23, C55, D55, E55, 58, and 58TC; Cessna models R172K, 180 (S/N 53087 and up), 182 (S/N 67042 and up), F182 (S/N 00130 and up), 185 (S/N 03852 and up), 188 (S/N 03474 and up), T188 (S/N 03474 and up), 206 (S/N 05030 and up), 207 (S/N 05227 and up), T207 (S/N 05227 and up), 210 (S/N 63363-63375 and up), T210 (S/N 63373-63375 and up), P210 (S/N 278 and up), T303, 310, 320, P337, T337, 340, 401, 402, 414 series; Mooney Aircraft Corp models M20K and M20K-252TSE series; and Piper models PA-36, PA-28R-201T, PA-28-201T, PA-46-310P, PA-34-200T and PA-34-220T aircraft fitted with Champion P/N CH48108 or CH48109.
- Requirement:** To prevent operation with collapsed oil filter elements which may result in loss of oil pressure and engine failure accomplish the following:  
  
Inspect the engine oil filter, Champion P/N CH48108 or CH48109, and determine the date code of the filter printed on the side of the exterior. Remove from service any filter bearing any of the following date codes prior to further flight: All three digit date codes with "9" as the third digit, or date codes 3J8, 4J8, 1K8, 2K8, 3K8, 4K8, 2L8, 1M8, 1AO, or 2AO.  
(FAA AD 91-19-03 refers)
- Compliance:** By 29 December 1991
- Effective Date:** 29 November 1991

**DCA/CON/162A          Rocker Shaft Stud - Inspection**

**Applicability:** IO-360 and LTSIO-360 engines with the S/Ns listed in TCM SB M92-4 Rev. 1, and IO and LTSIO-360 engines with cylinder assembly dates of 6-91 through 12-91. Cylinder P/Ns affected are; 646924, 649484, 652955, 653098 including A suffix numbers of these base P/Ns. Engines may be installed on, but not limited to Cessna 337, T337, and P337, Cessna 172XP, Mooney M20K, Piper PA-34-200T, PA-34-220T, PA-28R-201T and PA-28RT-201T.

**Requirement:** To prevent engine failure caused by the rocker shaft hold down stud failure, inspect per TCM SB M92-4 Rev. 1 and rework if necessary before further flight. (FAA AD 92-04-09 refers)

**Compliance:** Prior to further flight

**Effective Date:** 27 February 1992

**DCA/CON/163 Valve Retainer Key Installation - Inspection**

**Applicability:** Continental O-200, O-300, IO/TSIO/LTSIO-360, O/IO/TSIO-470, IO/TSIO/LTSIO/GTSIO-520, and IO/TSIO/TSIOL-550 series engines listed by S/N in TCM Mandatory Service Bulletin (MSB) 93-12 that have less than 25 hours TIS.

Also engines that contain cylinder assemblies purchased from TCM between 29 July 1992 and 30 March 1993 and have less than 25 hours TIS since cylinder installation.

Affected cylinders are installed on but not limited to: Aeronca Models 15AC and S15AC; American Champion (Bellanca) Models 7ACA and 402; Beagle Model 206S; Beech Models Debonaire, Bonanza, and Baron; Bellanca Models 14-19, 14-19-2, 14-19-3, 14-19-3A, 17-30, 17-31, and 17-31TC; Cessna Models 150, 170, 172, 180, 182, 185, 188, 205, 206, 207, 210, 303, 310, 320, 335, 336, 337, 340, 401, 402, 404, 414, 421, and T41; Aero Commander Models 200, 500, and 685; Champion Models Citabria and Lancer; Maule Models Bee Dee M-4, M-4, M-4C, M-4S, M-4T, M-4-210, M-4-210C, M-4-210S, M-4-210T, and M-5-210C; Mooney Models 231 and 252; Navion series; Piper Models Arrow, Seneca, and PA46-310P; and Taylorcraft Model F-19 aircraft.

**Requirement:** To prevent engine failure due to a missing cylinder valve retainer key accomplish the following:-

Visually inspect each cylinder per TCM MSB 93-12. If a valve retainer is missing, or if a rotocoil, if applicable, is improperly installed, repair or replace the cylinder per the applicable TCM overhaul manual before further flight. (FAA AD 93-10-02 refers)

**Compliance:** Before further flight.

**Effective Date:** 28 May 1993

**DCA/CON/170 Turbocharger Oil Outlet Check Valve - Removal**

**Applicability** Models TSIO-360-E, EB, F, FB, G, GB, KB, LB, MB, LTSIO-360-E, EB, and KB with turbocharger oil outlet check valve, Teledyne Continental Motors (TCM) P/N 641068 delivered directly or indirectly from TCM on or after 1 August 1994. These check valves are installed on but not limited to new and rebuilt engines listed by S/N in TCM CSB95-1A.

**Requirement:** To prevent engine failure due to installation of an incorrectly assembled turbocharger oil outlet check valve, which could result in complete engine failure, accomplish the following:-

Determine if the turbocharger oil outlet check valve has been installed or repaired on or after 1 August 1994. This AD is not applicable to engines that did not have the turbocharger oil outlet check valve installed or repaired on or after 1 August 1994. Inspect affected turbocharger oil outlet check valves, TCM P/N 641068 per section B of CSB95-1A. Replace any check valve with an ink stamped date code of A3Q94, A4Q94, or A1Q95, or with no readable date code, with a serviceable check valve per CSB95-1A, before further flight.  
(FAA AD 95-08-10 refers)

**Compliance:** Before further flight.

**Effective Date:** 13 April 1995

**DCA/CON/176A Cancelled - Refer to Continental Motors Publication M-O**

**Note:** DCA/CON/176A mandated the part replacement requirements in Teledyne Continental SB97-6B. The AD and the SB identified certain parts to be replaced at the next and each subsequent engine overhaul. Continental Motors advised that SB97-6B is no longer active. The requirements in SB97-6B have now been incorporated into the Continental Aircraft Engine Maintenance Manual - Standard Practice for Spark Ignited Engines, Publication M-O.

**Effective Date:** 27 June 2019

**DCA/CON/177B Crankshaft – Inspection**

**Applicability:** Model IO-360, LTSIO-360, TSIO-360, IO-520, LIO-520, LTSIO-520 and TSIO-520 series engines built on, or prior to 31 December 1980.

Rebuilt model TCM IO-360, LTSIO-360, TSIO-360, IO-520, LIO-520, LTSIO-520 and TSIO-520 series engines with S/Ns lower than those listed in Teledyne Continental CSB96-8, dated 25 June 1996, or later approved revision. TCM factory overhauled model IO-360, LTSIO-360, TSIO-360, IO-520, LIO-520, LTSIO-520 and TSIO-520 series engines with S/N of 901203H and lower. Rolls-Royce model IO-360 and TSIO-360 series engines with any S/N.

**Note 1:** DCA/CON/177B revised to introduce Continental Motors Mandatory Service Bulletin MSB96-10B dated 8 October 2015, align requirement 2 with FAA AD 97-26-17, and introduce Note 2.

**Requirement:** To prevent crankshaft failure and subsequent engine failure, accomplish the following:

1. Determine if the crankshaft was manufactured using the airmelt or Vacuum Arc Remelt (VAR) process per the identification procedure described in CSB 96-8. If the crankshaft was manufactured using the airmelt process or if the manufacturing process is unknown, remove the crankshaft from service and replace with a serviceable crankshaft manufactured using the VAR process.
2. For all TCM IO-360, LTSIO-360, TSIO-360, IO-520, LIO-520, LTSIO-520 and TSIO-520 and Rolls-Royce, IO-360 and TSIO-360 engine models that have VAR

crankshafts installed, regardless of S/N, conduct an ultrasonic inspection of the crankshaft per the instructions in Continental Motors Mandatory Service Bulletin MSB96-10B dated 8 October 2015 or later approved revision, and if necessary, replace with a serviceable part.

**Note 2:** The ultrasonic inspection mandated by requirement 2 must be accomplished by a Level 2 NDT Inspector who is qualified under the standard adopted by CAA AC43-8 revision 2, dated 27 February 2015, or later approved revision.  
(FAA AD 97-26-17 refers)

**Compliance:**

1. At the next engine overhaul, or next crankshaft removal from the engine, whichever occurs first.
2. At the next and every subsequent crankshaft removal from the engine, or before the installation of a replacement crankshaft in the engine.

**Effective Date:** DCA/CON/177 - 13 February 1998  
DCA/CON/177A - 12 February 1999  
DCA/CON/177B - 25 February 2016

### DCA/CON/179 Repaired Crankshafts - Inspection

**Applicability:** Models A-65, A65-3, A65-8, A75, A75-8, C75-12, C85, C85-8, C85-12, C90-8FJ, C90-12, O-200, O-200-A, O-300, O-300-D, IO-360-C, E-185-4, E-225-8, O-470, O-470-K, O-470-L, O-470-R, O-470-11, IO-470, IO-470-N, IO-470-S, IO-520, IO-520-D, GTSIO-520, and TSIO-520-VB reciprocating 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
A-65	1152	1/25/96	
A-65	1154	2/7/96	7187
A-65	1183	2/22/96	
A-65	1185	3/28/96	
A-65	1233	6/23/96	
A-65	1290	10/29/96	
A-65	1296	11/14/96	4933868
A-65	1299	11/19/96	
A-65	1325	3/26/97	
A-65	1326	3/26/97	
A-65	1376	4/29/97	
A-65	1438	6/17/97	5890178
A-65-3	1243	8/13/96	324993
A-65-8	1541	12/2/97	
A-65-8	1276	10/5/96	5762568
A75	1156	2/7/96	5321868
A75	1255	9/3/96	
A75	1256	9/4/96	
A75-8	1275	10/5/96	5162868
C75-12F	1293	11/4/96	3316-6-12
C85	1088	10/4/95	
C85	1092	10/18/95	
C-85	1198	4/17/96	29652-7-8
C-85	1297	11/14/96	
C-85	1352	3/10/97	
C-85	1381	4/28/97	
C-85	1391	4/19/97	
C-85	1392	4/19/97	
C-85	1484	9/4/97	28487-6-12
C-85-8FJ	1139	1/17/96	29845-7-8
C-85-8FJ	1420	5/12/97	29465-7-8

C-85-12	1031	4/6/95	
C85-12	1182	3/18/96	21596-6-12
C-85-12	1217	5/15/96	
C85-12	1265	9/12/96	14657
C-85-12	1298	11/14/96	23610-6-12
C-90-8F	1471	9/6/97	42838-1-8
C-90-12	1279	10/7/96	44747-6-12
E-185-4	1124	1/16/96	25700D-1-9
E-225-8	1505	10/28/97	35477-D-9-8-P
GTSIO-520	1208	5/7/96	210114-70H
IO-360-C	1126	12/28/95	F-51439-9-C
IO-470	1028	3/23/95	87329-R
IO-470-N	1421	5/13/97	95271-1-N
IO-470-S	1331	3/11/97	102412-2-S-I
IO-520	1174	3/4/96	
IO-520-D	1167	2/22/96	
O-200	1033	4/18/95	
O-200	1043	5/12/95	
O-200	1049	6/2/95	
O-200	1076	9/11/95	214668-27A
O-200	1104	11/21/95	213830-71A
O-200	1131	1/5/96	
O-200	1142	1/18/96	265349-R
O-200	1147	1/23/96	
O-200	1190	4/13/96	
O-200	1193	4/13/96	
O-200	1195	4/13/96	
O-200	1197	4/17/96	
O-200	1213	5/13/96	
O-200	1261	9/9/96	
O-200	1303	12/5/96	
O-200	1321	2/7/97	28115
O-200	1324	2/6/97	
O-200	1344	3/2/97	
O-200	1393	5/5/97	
O-200	1413	5/7/97	61001-5-4
O-200	1430	5/23/97	
O-200	1437	6/17/97	255759A-48
O-200	1488	9/7/97	
O-200	1506	11/18/97	
O-200	1522	11/11/97	
O-200-A	1052	6/21/95	254150-A-48
O-200-A	1085	9/29/95	
O-200-A	1120	12/29/95	253971
O-200-A	1161	2/9/96	24R-469
O-200-A	1215	5/15/96	
O-200-A	1240	8/5/96	69589-8-A
O-200-A	1254	9/3/96	6105-71-A-R
O-200-A	1264	9/12/96	
O-200-A	1356	3/10/97	
O-300	1027	3/20/95	
O-300	1042	5/12/95	34012-D-6-D
O-300	1083	9/26/95	
O-300	1096	10/23/95	464481
O-300	1137	1/17/96	
O-300	1259	9/4/96	
O-300	1387	4/22/97	
O-300	1397	4/26/97	5928-9A
O-300	1403	4/28/97	
O-300	1423	6/9/97	3834D8Z
O-300	1555	1/13/98	

O-300-A	1446	6/27/97	
O-300-D	1022	3/17/95	35110-D-6-D
O-300-D	1079	9/17/95	24276-D-0-D
O-300-D	1487	9/6/97	
O-300-D	1543	12/3/97	
O-470	1046	6/1/95	
O-470	1383	4/4/97	
O-470-11	1017	2/22/95	
O-470-11	1491	10/19/97	
O-470-11	1492	10/19/97	
O-470-11	1493	10/19/97	
O-470-11	1494	10/19/97	
O-470-F	1236	7/25/96	76956-4-F
O-470-K	1087	10/3/95	47172-6-K
O-470-L	1128	1/10/96	68681-8-L
O-470-L	1359	5/19/97	68245-8-L
O-470-L	1399	4/28/97	
O-470-R	1016	2/10/95	133087-6-R
O-470-R	1086	10/3/95	
O-470-R	1165	2/22/96	
O-470-R	1178	3/10/96	
O-470-R	1201	6/2/96	83164-1-R
O-470-R	1319	1/6/97	459408
TSIO-520-VB	1055	6/9/95	

**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.

*Note: Crankshafts removed from engine models IO-360, IO-520, and TSIO-520 series engines are also subject to compliance with DCA/CON/177. (FAA AD 98-17-11 refers)*

**Compliance:** By 25 October 1998

**Effective Date:** 25 September 1998

#### **DCA/CON/180 Superior Air Parts Piston Pins – Removal from Service**

**Applicability:** Superior Air Parts, Inc., PMA piston pins, P/N SA629690, shipped from Superior Air Parts, Inc., from August 1, 1994, through June 20, 1996, installed in Teledyne Continental Motors IO-360-A, -AB, -C, -CB, -D, -DB, -G, -GB, -H, -HB, -J, -JB, -K, -KB; LTSIO-360-E, -EB, -KB; TSIO-360-A, -AB, -B, -C, -CB, -D, -DB, -E, -F, -FB, -GB, -H, -HB, -JB, -KB, -LB, -MB series reciprocating engines which were overhauled or had cylinder head maintenance performed by a repair facility other than Teledyne Continental Motors after August 1, 1994.

These engines may be installed on but not limited to the following aircraft: Cessna 172XP, 336, 337, T337, P337; Maule M-4-210, M-4-210C, M-4-210S, M-4-210T, and M-5-210C; New Piper Inc. PA-28-201T, PA-28R-201T, PA-28RT-201T, PA-34-200T, and PA-34-220T.

*Note: Shipping records, engine logbooks, work orders, and parts invoices checks may allow an owner or operator to determine if this AD applies.*

**Requirement:** To prevent a piston pin failure from causing secondary engine damage that results in loss of oil or total power failure, and from causing jamming of the engine crankshaft resulting in a catastrophic engine failure, accomplish the following:-

- a) If an engine has not had a piston pin installed after August 1, 1994, or if an engine has had a piston pin installed after August 1, 1994, but it was installed by Teledyne Continental Motors, then no action is required.
- b) For engines that had a piston pin installed after August 1, 1994, by an entity other than Teledyne Continental Motors, determine per Superior Air Parts, Inc. Mandatory SB 96-001, if a suspect Superior Air Parts, Inc. PMA piston pin, P/N SA629690, could have been installed. If unable to verify that a suspect piston pin was not installed using a records check, disassemble the engine per the applicable Maintenance Manual or Overhaul Manual, visually inspect or verify for suspect piston pins, and accomplish the following:
  - 1) If it is determined that suspect Superior Air Parts, Inc. PMA piston pins, P/N SA629690, could have been installed, remove from service defective piston pins and replace with serviceable piston pins.
  - 2) If it is determined that suspect Superior Air Parts, Inc. PMA piston pins, P/N SA629690, could not have been installed, no further action is required.
  - c) For the purpose of this AD, a serviceable piston pin is any piston pin approved for the application that has been verified not to be a Superior Air Parts, Inc. PMA piston



pin, P/N SA629690, shipped from Superior Air Parts, Inc., from August 1, 1994, through June 20, 1996.

Installation of a Superior Air Parts Inc. PMA piston pin, P/N SA629690, that can not be verified to be outside of the suspect shipping period range, is prohibited after the effective date of this AD.  
(FAA AD 98-19-02 refers)

**Compliance:** By 30 November 1998

**Effective Date:** 25 September 1998

#### **DCA/CON/182B Crankshaft Material - Inspection**

**Applicability:** TCM IO-360, TSIO-360, LTSIO-360, O-470, IO-470, TSIO-470, IO-520, TSIO-520, LTSIO-520, IO-550, TSIO-550 and TSIOL-550 series engines incorporating a crankshaft listed by S/N in TCM MSB 00-5D.

**Note:** Applicable crankshafts are some of the crankshafts that were manufactured in the period 1 April 1998 through 31 March 2000. These may have been installed in new or rebuilt engines by TCM or installed by an organisation other than TCM during a bulk strip or field overhaul.

**Requirement:** To prevent failure of the crankshaft, accomplish the following:-

Remove a core sample of the crankshaft material for the purpose of metallurgical evaluation per TCM MSB 00-5D. Core removal must be accomplished using the specialised tools and equipment provided by TCM as listed in TCM MSB 00-5D. Engines may only be returned to service following receipt of TCM documented evidence that confirms the material sample was found not to exhibit any metallurgical anomalies. The TCM notification of result, is to be retained in the engine log book as an engine record.  
(FAA AD 2000-23-21 refers)

**Compliance:** Within next 10 hours TIS, unless already accomplished.

**Note:** Crankshaft propeller flange core samples that were done per TCM MSB 00-5, MSB 00-5A, MSB 00-5B, or MSB 00-5C comply with this AD and must not be repeated.

**Effective Date:** DCA/CON/182A - 7 December 2000  
DCA/CON/182B - 20 December 2001

#### **DCA/CON/184 Connecting Rods – Handling and Inspection**

**Applicability:** Model IO-360, TSIO-360 and LTSIO-360 series

**Requirement:** 1. To prevent connecting rod failure, take care to prevent surface damage when handling connecting rods during engine overhaul processes. Immediately before final engine reassembly, perform a visual inspection of the surface of each connecting rod using a 10X magnifying glass. Reject any connecting rod with any stress raisers, such as nicks or dents.

2. Ensure the connecting rod and piston are correctly supported whenever a cylinder is removed. Immediately before cylinder reassembly, perform a visual inspection using a 10X magnifying glass of as much of the surface of the connecting rod as possible. Reject any connecting rod with any stress raisers, such as nicks or dents.

**Note:** Take particular care not to damage the shot peened flange surfaces of the connecting rods. Pay particular attention with P/N 626119 connecting rods that have a lower cross sectional area than later design rods.

**Compliance:** 1. Inspection to be accomplished immediately before final engine reassembly at each engine overhaul performed in New Zealand.

2. Whenever a cylinder is removed, inspection is to be accomplished immediately before cylinder reassembly.

**Effective Date:** 26 October 2000

**DCA/CON/195 Hydraulic Valve Lifters – Inspection and Replacement**

**Applicability:** Model TCM 240, 346, 360, 470, 520 and 550 series engines, and Rolls-Royce Motors, Ltd. (R-RM) IO-240-A engines, and Fitted with hydraulic lifters P/N 657913, 657915 or 657916.

**Note 1:** These engines are installed on, but not limited to general aviation aircraft.

**Note 2:** This AD supersedes DCA/CON/194A. The applicability of this AD revised to include TCM 346 series engines and R-RM IO-240-A engines. No action required if already in compliance with DCA/CON/194A.

**Requirement:** To prevent excess hydraulic valve lifter wear possibly resulting in loss of engine power and aircraft control, accomplish the following:

1. Review the aircraft logbooks and determine the manufacture date or the rebuild date of the engine, and determine if the hydraulic valve lifters have been replaced after 19 June 2009.

If the engine was manufactured or rebuilt before 19 June 2009 and if none of the hydraulic lifters have been replaced after 19 June 2009 no further AD action is required.

If the engine was manufactured or rebuilt after 19 June 2009, or if any of the hydraulic lifters have been replaced after 19 June 2009 accomplish requirement 2 of this AD.

2. If the engine was manufactured or rebuilt after 19 June 2009, or if any of the hydraulic lifters have been replaced after 19 June 2009 and the P/N of the hydraulic lifters cannot be determined from the engine records refer to the list of affected engine S/N in section A of TCM MSB No. MSB09-8A dated 4 December 2009.

For engines listed in section A of MSB No. MSB09-8A inspect the hydraulic lifters fitted to each cylinder and determine the P/N of the hydraulic lifters per paragraphs 1 through to 3 in Section I. Action Required of MSB No. MSB09-8A, dated 4 December 2009.

If an affected hydraulic valve lifter is found fitted, replace all affected hydraulic lifters per paragraphs 2.a.1) through to 2.b.4) in Step 2 of MSB No. MSB09-8A before further flight.

3. Affected hydraulic lifters P/N 657913, 657915 or 657916 shall not be fitted to any TCM 240, 346, 360, 470, 520 or 550 series engines or any R-RM IO-240-A engines.

**Note 3:** Accomplish the requirements of this AD per the instructions in Teledyne Continental Motors MSB No. MSB09-8A dated 4 December 2009. (FAA AD 2010-11-04 refers)

**Compliance:**

1. Before further flight unless previously accomplished.
2. Before further flight unless previously accomplished.
3. From 24 June 2010.

**Effective Date:** 24 June 2010

**DCA/CON/197 Slick Magnetos – Inspection and Replacement**

**Applicability:** Continental and Rolls-Royce C-125, C-145, O300, IO-360, TSIO-360 and LTSIO-520-AE series engines fitted with Champion Aerospace (formerly Unison Industries) Slick magnetos 6314, 6324 and 6364, S/N 99110001 through to 99129999.

**Note 1:** This AD retains the requirements in superseded DCA/CON/183A. No AD action required for affected TCM engines which are in compliance with DCA/CON/183A. The applicability revised to include certain engines manufactured under license by Rolls-Royce.

**Requirement:** To prevent engine failure due to possible migration of the magneto impulse coupling stop pin, accomplish the following:

1. Inspect the aircraft records or inspect the aircraft and determine the P/N and the S/N of the magnetos. If an affected magneto is not fitted, then no further AD action is required.

If an affected magneto is found fitted, replace the magneto with a S/N not affected by this AD. Inspect removed magnetos and determine if the impulse coupling stop pin is present. If the pin is missing, accomplish the inspections and corrective actions specified in paragraph (g) of FAA AD 2011-26-07 before further flight. (FAA AD 2011-26-07 refers).

2. A Champion Aerospace (formerly Unison Industries) Slick magneto model 6314, 6324 or 6364 with a S/N affected by this AD shall not be fitted to any engine.

**Note 2:** A P/N cross-reference for Slick magneto model 6314 (TCM P/N 653271), model 6324 (TCM P/N 653292) and model 6364 (TCM P/N 649696) can be found in TCM MSB No. MSB00-6D dated 19 November 2010.

**Compliance:**

1. Within the next 10 hours TIS unless previously accomplished.
2. From 26 January 2012.

**Effective Date:** 26 January 2012

**DCA/CON/198 AVStar Fuel Servos – Inspection and Replacement**

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

**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

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 <https://www.aviation.govt.nz/aircraft/airworthiness/airworthiness-directives/links-to-state-of-design-airworthiness-directives/>

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.

#### 2013-21-02 HET Turbocharger Turbine Wheel – Inspection and Replacement

**Applicability:** Models LTSIO-360-RB, TSIO-360-MB, TSIO-360-SB, and TSIO-360-RB reciprocating engines fitted with a Hartzell Engine Technologies (HET) turbocharger that has a model number, P/N, and S/N identified in Tables 1 and 2 of HET Alert Service Bulletin (ASB) No. 048, dated 16 November 2012.

**Effective Date:** 13 November 2013

#### 70-14-07 Fuel Injection Pump – Inspection

**Applicability:** Models IO-360-A, -C and -D engines.  
Models IO-520-A, -B, -C, -D, -E, -F, -J and -K engines.  
Models IO-470-C, -D, -E, -F, -H, -K, -L, -M, -N, -S, -J, -U, -V and -VO engines.  
Models TSIO-470-B, -C and -D engines.

**Note:** This AD supersedes DCA/CON/128 due to that AD not being applicable to all affected engines.

**Compliance:** Before the issue of a New Zealand Certificate of Airworthiness, or at the next Review of Airworthiness (RA), 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:** 25 August 2016

#### 80-06-05 Magnetos – Inspection

**Applicability:** Model A-65-8, A-75-8, C-85-8, C-90-8, O-200-A, O-300-A, -B, -C, -D; O-470-U, IO-360-KB, IO-470, IO-520-A, -B, -F; TSIO-470 and TSIO-520-T engines.

**Compliance:** Before the issue of a New Zealand Certificate of Airworthiness, or at the next Review of Airworthiness (RA), 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:** 25 August 2016

**\* FAA AD 2022-04-04 Oil Filter Adapter – Inspection**

**Applicability:** Continental Aerospace Technologies, Inc. (Type Certificate previously held by Continental Motors, Inc., and Teledyne Continental Motors) engine models C-125-1, C-125-2, C145-2, C145-2H, IO-360-C, IO-360-D, IO-360-DB, IO-360-H, IO-360-HB, IO-360-K, IO-360-KB, IO-470-E, IO-470-S, IO-550-B, IO-550-G, O-300-B, O-300-C, O-300-D, O-300-E, O-470-A, O-470-B, O-470-G, O-470-J, O-470-K, O-470-L, O-470-M, O-470-N, O-470-R, O-470-S, O-470-U, O-470-11, O-470-15, TSIO-360-E, TSIO-360-EB, TSIO-360-F, TSIO-360-FB, TSIO-360-GB, TSIO-360-LB, TSIO-360-MB, TSIO-360-SB, TSIO-520-C, TSIO-520-CE, TSIO-520-E, and TSIO-520-UB, embodied with F&M Enterprises, Inc. (F&M) or Stratus Tool Technologies, LLC (Stratus) oil filter adapter installed per Supplemental Type Certificate SE8409SW, SE09356SC, or SE10348SC.

Continental Motors (Type Certificate previously held by Teledyne Continental Motors) engine models IO-520-A, IO-520-B, IO-520-BA, IO-520-BB, IO-520-C, IO-520-D, IO-520-J, and IO-520-L, embodied with F&M Enterprises, Inc. (F&M) or Stratus Tool Technologies, LLC (Stratus) oil filter adapter installed per Supplemental Type Certificate SE8409SW, SE09356SC, or SE10348SC.

**Effective Date:** 29 March 2022