

Airworthiness Directive Schedule

Engines

Continental O-300 Series

28 May 2020

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

Engine Series:	FAA Type Certificate:
O-300 Series	E-253

2. 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)
3. The date above indicates the amendment date of this schedule.
4. New or amended ADs are shown with an asterisk *

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<p>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 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.</p>		
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DCA/CON/126 Cylinder Assemblies P/N A50222 - Inspection

Applicability: O-200, C-90, and O-300 series engines.

Background: Several cases have been reported where cylinder assemblies P/N A50222 have cracked in the vicinity of the junction of the barrel and cylinder head.

Requirement: All cylinder assemblies are to be inspected at the junction of the aluminium head and steel barrel for oil leaks and/or combustion product stains. For this inspection it may be necessary to remove engine cowling or access doors to permit visual examination with mirrors or other visual aids of the prescribed area of the cylinder. If the engine is clean and free of oil in the area to be inspected, the inspection may be performed without further cleaning of the engine. If oil leakage from an unknown source has caused a generally oily condition, the engine should be washed down and run up to normal operating conditions prior to the inspection. During the inspection it may also be helpful to rotate the propeller to detect significant differences in compression between cylinders, or audible compression leakage through a crack in the cylinder barrel.

The inspection detailed above is to be made every periodic and maintenance release inspection of the engine, and defective cylinders replaced by serviceable cylinders before further operation.

Compliance: Every periodic inspection.

Effective Date: 30 November 1968

DCA/CON/144 Oil Pump Drive Gears - Inspection and Replacement

Applicability: All C-90, O-200 and O-300 series engines fitted with a Rolls Royce manufactured oil pump drive gears with P/N 22354/RR or P/N 23403/RR.

Note: Affected engines may include model RR C90, except S/N 11R021 and subsequent; model RR O-200 engines, except S/N 23R590 through to 23R600 and 23R638 and subsequent and model RR O-300 engines, except S/N 31R162 and subsequent.

Requirement: Rolls Royce SB T-200 dated 26 November 1971, or a FAA approved equivalent.

Compliance:

1. Inspect within the next 50 hours TIS, unless already accomplished and thereafter as detailed in SB T-200.
2. Replace with improved gears at next overhaul.
(FAA AD 72-25-02 refers)

Effective Date: 31 October 1975

DCA/CON/154 Fuel Pump - Inspection

Applicability: All A-65, A-75, C-75, C-85, C-90, A-100, C-125, O-200, O-240 and O-300 engines with AC fuel pumps P/N 40585, 50695 and 631391.

Requirement: Inspect and renew parts as necessary per TCM SB M81-8.
(FAA AD 81-07-06 refers)

Compliance: Within the next 50 hours TIS or 30 days whichever is the sooner and thereafter at intervals not exceeding 12 months.

Effective Date: 7 August 1981

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/164 Incorrect Connecting Rods - Removal from Service

Applicability: New or factory overhauled O-200A, O-300A, O-300C, and O-300D engines with S/Ns listed in FAA AD 93-11-03, that have completed less than 100 hours since new or overhaul.

Requirement: To prevent engine failure due to incorrect connecting rod installation, inspect and rectify as necessary per FAA AD 93-11-03.

Compliance: Within next 5 hours TIS.

Effective Date: 9 July 1993

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/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/197 Slick Magnetos – Inspection and Replacement

Applicability: Continental and Rolls-Royce C-125, C-145, O-300, 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 <http://www.caa.govt.nz/airworthiness-directives/states-of-design/>
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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

93-19-04 **Carburettor – Inspection**

Applicability: Precision Airmotive (formerly Facet Aerospace Products (formerly Marvel-Schebler)) model MA3, MA3A, MA3PA, MA3SPA, and MA4SPA carburetors, installed on Teledyne Continental A-65, A-75, C-75, C-85, C-90, C-115, C-125, C-145, O-200, and O-300 series 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

94-05-05R1 **Cylinder Rocker Shaft Bosses – Inspection**

Applicability: Continental C-75, C-85, C-90, C-125, C-145, O-200, O-300 and GO-300 series engines.

Rolls-Royce C-90, O-200 and O-300 series engines.

Note: This AD is applicable to all engine models listed in the applicability section regardless of the type of cylinder installed (e.g. factory new cylinders, PMA cylinders, new or used, etc.).

These engines are installed on, but not limited to, American Champion 7BCM, 7CCM, 7DC, S7DC, S7CCM, 7EC, S7EC, 7FC, 7JC, and 7ECA; Cessna 120, 140, 150, 170, 172, 172A-H, and 175; Luscombe 8E, 8F, and T-8F; Maule 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; Piper PA-18 and PA-19; Reims Aviation F172D, E, F, G, H, K; F150G, H, J, K, L, M; FA150K, L; FRA150L; Swift GC-1A and GC-1B; Univair (Erco) 415-D, E, and G; Univair (Forney) F-1 and F-1A; Univair (Alon) A-2 and Univair (Mooney) M-10 aircraft.

Effective Date: 27 September 2018