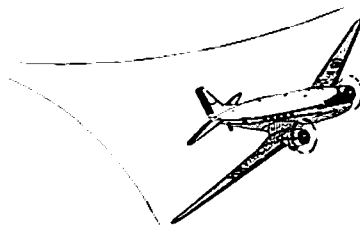


SPECIAL AIRWORTHINESS INFORMATION BULLETIN

Aircraft Certification Service
Washington, DC



U.S. Department
of Transportation

Federal Aviation
Administration

NE-04-73
August 3, 2004

www.faa.gov/certification/aircraft

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin recommends that you, owners and operators of Teledyne Continental Motors (TCM), Textron Lycoming Corp., and Franklin Engine Co. series reciprocating engines equipped with TCM (formerly Bendix) S20, S200 and S1200 series magnetos, be aware that TCM has issued service documents for inspection of the capacitor P/N 10-400615 used in these magnetos.

- The FAA has received reports of some confusion with the numbering system for S20, S200 or S1200 series magnetos. Each magneto's model number has a code describing the unit as follows:

Magnetos	
Code	Signifies
S	Ignition type (Single)
4, 6 or 8	Number of cylinders
L or R	Direction of rotation (Left-hand or Right-hand)
N or SC	Manufacturer Designation or Short Cover
-25, -204	Magneto series

Magneto Examples	
S6RSC-21	Single ignition, 6 cylinder engine, Right-hand rotation, Short cover, S20 series
S4LN-1209	Single ignition, 4 cylinder engine, Left-hand rotation, Bendix (now TCM), S1200 series

Background

Between October 1, 2003 and June 18, 2004, TCM installed P/N 10-400615 capacitors in new and rebuilt S20, S200 and S1200 series magnetos. These capacitors have date codes of 03-44 through 04-17 stamped on the capacitor. The capacitors were sold as service spares during the same period and may have been installed during field repair or overhaul. We have received reports of magneto capacitors that may have ground stud (also referred to as the P-lead stud) threads that do not meet specification. This could allow the ground wire (P-lead) to come loose resulting in a hot magneto. A hot magneto means that the magneto cannot be turned off regardless of ignition switch position. This could cause an engine start should you move the propeller. If an aircraft with one of these capacitors installed is on the ground, it could certainly be a serious hazard to any person.

TCM has issued Critical Service Bulletins CSB 04-5 and CSB 665, both dated June 18, 2004. CSB 04-5 announces the issuance of CSB 665 and requires compliance with CSB 665 on receipt. CSB 665 specifies the inspection criteria to determine if the capacitor, P/N 10-400615, was manufactured correctly or must be replaced.

CSB 665 also specifies:

- the serial numbers (SNs) of new and rebuilt magnetos that have the suspect capacitors installed
- SNs of magnetos on which compliance with CSB 665 has already been verified
- inspection procedures for capacitor P/N 10-400615 that are still in stock
- capacitor replacement instructions

Recommendation

We highly recommend that you comply with TCM CSB 04-5 and CSB 665. We also recommend that you inspect the magnetos listed by SN, which were repaired or overhauled between October 1, 2003 and June 18, 2004.

For Further Information Contact

The complete text of TCM CSB 04-5 and CSB 665 are available on the TCM website: www.TCMLINK.com.

Teledyne Continental Motors, P.O. Box 90, Mobile, AL 36601; Customer Service Department (888) 826-5465 for a free copy of these documents.

Jerry Robinette, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, 1895 Phoenix Boulevard, One Crown Center, Suite 450, Atlanta, GA, 30349; phone: (770) 703-6096; fax: (770) 703-6097; email: jerry.robinette@faa.gov

TELEDYNE CONTINENTAL ® AIRCRAFT ENGINE
CRITICAL SERVICE BULLETIN
 Compliance Necessary To Maintain Safety

CATEGORY 2

CSB 04-5
 TECHNICAL PORTIONS
 FAA APPROVED

SUBJECT: TELEDYNE CONTINENTAL MOTORS IGNITION SYSTEM
 CRITICAL SERVICE BULLETIN CSB 665.

PURPOSE: To Advise Owners, Operators and FBO's of the release of TCM Ignition System Critical Service Bulletin CSB 665 "Magneto Capacitor P/N 10-400615 Inspection and Replacement"

COMPLIANCE: On receipt of this Critical Service Bulletin. Make certain that no one is allowed to move the propeller on an engine suspected of containing an affected capacitor. This could result in an engine start.

PARTS


AFFECTED: All New (10-) and Rebuilt (BL-) S20, S200 and S1200 Series magnetos of all part numbers in the affected serial number ranges as listed in Table 1, with the exception of the serial numbers listed in Table 2 of this Bulletin.

All spare part number 10-400615 capacitors in the affected date code range.

Any magneto which may have an affected capacitor installed as a spare part between 10/1/2003 and the effective date of this bulletin

WARNING: DO NOT MOVE THE PROPELLER OF ANY ENGINE CONTAINING AN AFFECTED MAGNETO CAPACITOR. THE ENGINE COULD START, REGARDLESS OF IGNITION SWITCH POSITION, CAUSING PERSONAL INJURY OR DEATH.

Teledyne Continental Motors requires compliance with the attached TCM Ignition System Critical Service Bulletin CSB 665 on receipt.

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TELEDYNE CONTINENTAL ® IGNITION SYSTEM
CRITICAL SERVICE BULLETIN
 Compliance Necessary To Maintain Safety

CATEGORY 2

CSB 665
 TECHNICAL PORTIONS
 FAA APPROVED

SUBJECT: MAGNETO CAPACITOR P/N 10-400615 INSPECTION AND REPLACEMENT.

PURPOSE: TCM has identified a quantity of magneto capacitors part number 10-400615 which may have ground stud (also referred to as the P-Lead stud) threads that do not meet specification. This may allow the ground wire (P-Lead) to come loose, resulting in a hot magneto.

COMPLIANCE: On receipt of this Critical Service Bulletin. Make certain that no one is allowed to move the propeller on an engine suspected of containing an affected capacitor. This could result in an engine start.

PARTS

AFFECTED: All New (10-) and Rebuilt (BL-) S20, S200 and S1200 Series magnetos of all part numbers in the affected serial number ranges as listed in Table 1, with the exception of the serial numbers listed in Table 2 of this Bulletin.

All spare part number 10-400615 capacitors in the affected date code range. Any magneto which may have an affected capacitor installed as a spare part between 10/1/2003 and the effective date of this bulletin.

WARNING: DO NOT MOVE THE PROPELLER OF ANY ENGINE WHICH MAY CONTAIN AN AFFECTED MAGNETO CAPACITOR. THE ENGINE COULD START, REGARDLESS OF IGNITION SWITCH POSITION, CAUSING PERSONAL INJURY OR DEATH.

A. INSPECTION – AFFECTED CAPACITORS INSTALLED IN MAGNETOS

1. Remove engine cowlings as necessary to gain access to the magneto ground stud (P-Lead) connection. All airframe component removal and reinstallation should be accomplished in accordance with the latest revision of the applicable airframe maintenance manual.
2. Remove the P-Lead from the capacitor ground stud. (Reference Figure 1)
3. Reinstall the P-Lead retaining nut and washer. Using a properly calibrated and certified torque wrench, torque the retaining nut to 27 inch-pounds.
4. If the P-Lead retaining nut can be torqued to 27 inch-pounds without slippage, no further action is required. Remove the retaining nut and reinstall the P-Lead. Torque the retaining nut to 15-17 inch-pounds. Make a log entry in the engine and airframe logbooks stating compliance with this bulletin.
5. If the retaining nut cannot be torqued to 27 inch-pounds, the capacitor must be replaced. Refer to section C or D of this bulletin, as applicable, for capacitor replacement procedures.

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TABLE 1
Affected New (10-) and Rebuilt (BL-) Magneto Serial Number Ranges

-S20 Series Magnetos
D03JA001 through D04DA157


-S200 Series Magnetos
E03JA001 through E04DA148

-S1200 Series Magnetos
F03JA001 through F04DA237

Any -S20, -S200 and -S1200 series magneto which through maintenance records can be verified to have had a 10-400416 capacitor installed between October 1, 2003 and the effective date of this Critical Service Bulletin

TABLE 2
Magneto Serial Numbers On Which Compliance With This Bulletin Has Already Been Verified

E04AA089	E04CA041	E04CA218	E04CA279	E04CA342	F04AA154
E04BA001	E04CA042	E04CA219	E04CA280	E04CA343	F04AA158
E04BA004	E04CA043	E04CA221	E04CA281	E04CA344	F04AA180
E04BA031	E04CA044	E04CA222	E04CA282	E04CA345	F04AA183
E04BA108	E04CA045	E04CA225	E04CA283	E04CA346	F04AA184
E04BA110	E04CA047	E04CA226	E04CA284	E04CA347	F04AA187
E04CA002	E04CA048	E04CA228	E04CA285	E04CA356	F04AA240
E04CA004	E04CA053	E04CA229	E04CA286	E04CA357	F04AA242
E04CA005	E04CA054	E04CA230	E04CA287	E04CA360	F04AA243
E04CA013	E04CA055	E04CA231	E04CA288	E04CA361	F04AA244
E04CA016	E04CA057	E04CA232	E04CA289	E04CA363	F04AA246
E04CA017	E04CA058	E04CA233	E04CA290	E04CA365	F04AA247
E04CA019	E04CA059	E04CA234	E04CA291	E04CA369	F04AA248
E04CA020	E04CA079	E04CA235	E04CA292	E04CA371	F04AA249
E04CA021	E04CA081	E04CA236	E04CA314	E04CA372	F04AA250
E04CA022	E04CA083	E04CA252	E04CA315	E04CA374	F04AA252
E04CA023	E04CA084	E04CA256	E04CA328	E04CA375	F04AA316
E04CA025	E04CA086	E04CA257	E04CA329	E04CA376	F04AA320
E04CA026	E04CA089	E04CA258	E04CA330	E04DA122	F04AA321
E04CA027	E04CA092	E04CA261	E04CA332	E04DA123	F04AA323
E04CA028	E04CA094	E04CA263	E04CA333	E04DA124	F04AA324
E04CA029	E04CA098	E04CA271	E04CA334	E04DA125	F04AA325
E04CA030	E04CA107	E04CA273	E04CA335	E04DA126	F04BA113
E04CA031	E04CA120	E04CA274	E04CA336	E04DA127	F04CA368
E04CA032	E04CA159	E04CA275	E04CA337	E04DA129	
E04CA034	E04CA198	E04CA276	E04CA338	E04DA130	
E04CA035	E04CA215	E04CA277	E04CA340	E04DA131	
E04CA037	E04CA217	E04CA278	E04CA341	F04AA150	

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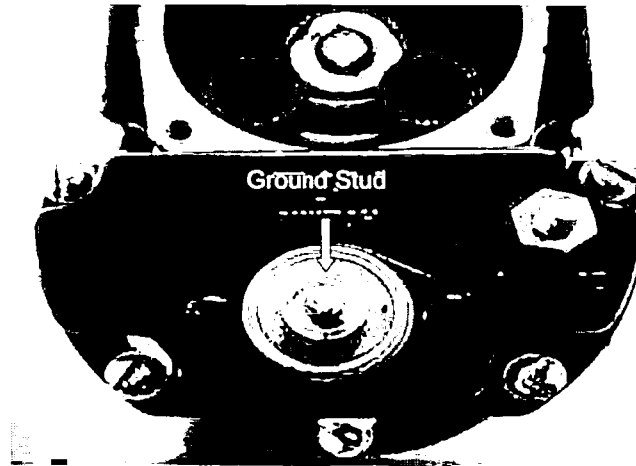
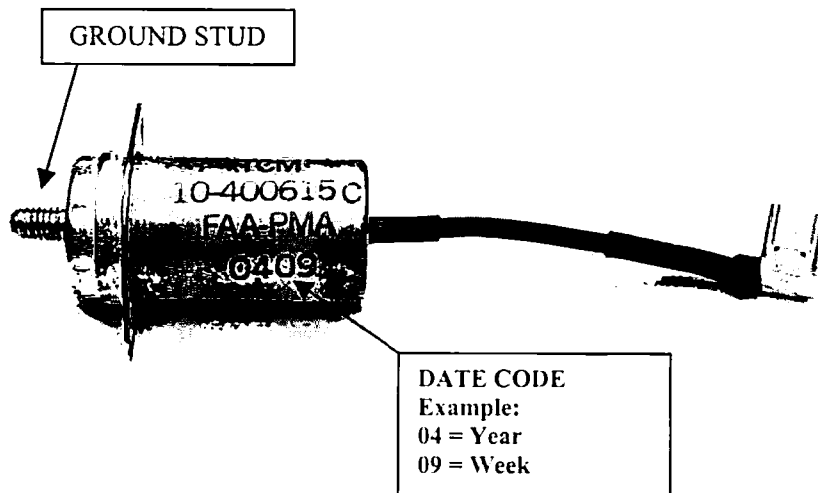



Figure 1

B. INSPECTION OF CAPACITORS IN SPARES STOCK.

1. Examine each 10-400416 capacitor in spares stock for the stamped date code. (Reference Figure 2)
2. Dates codes of 03-44 through 04-17 must be removed from stock and returned to Teledyne Continental Motors under warranty through the TCM authorized distributor from which the affected capacitors were purchased.
3. Capacitors with date codes not listed above are not affected by this bulletin and cannot be returned for warranty consideration under this bulletin.




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**C. CAPACITOR REPLACEMENT INSTRUCTIONS – S20 AND S200 SERIES
MAGNETOS**

1. Remove airframe and engine components necessary to gain access to the magneto capacitor/contact point cover. Airframe component removals and installations must be accomplished in accordance with the applicable airframe maintenance manual.
2. Remove 4 magneto cover screws. While removing the cover, carefully remove capacitor lead from contact points terminal, noting terminal placement and lead orientation for reassembly.
3. Remove 2 screws securing the capacitor to the cover and remove capacitor. Remove o-ring packing from affected capacitor.
4. Place o-ring on new P/N 10-400416 capacitor. Secure capacitor to magneto cover with 2 screws. Torque screws to 8 - 12 in lbs.
5. Attach serviceable replacement capacitor terminal to contact points terminal in accordance with instructions in the applicable Service Support Manual.
6. Attach magneto cover using 4 screws. Torque screws to 20- 25 in.-lbs.
7. Reinstall the airframe wiring harness. Torque the P-Lead retaining nut to 15-17 in.-lbs.
8. As applicable, record the magneto serial number to be supplied to TCM distribution for the warranty claim application.
9. As applicable, make a engine log book entry as to inspection and/or replacement of the part number 10-400615 capacitor in accordance with TCM Critical Service Bulletin CSB665.

D. CAPACITOR REPLACEMENT INSTRUCTIONS – S1200 SERIES MAGNETOS

1. Remove airframe and engine components necessary to gain access to the magneto capacitor/contact point cover. Airframe component removal and installations must be accomplished in accordance the applicable airframe maintenance manual.
2. Remove 4 sets of hardware securing the ignition harness and remove the harness from the magneto.
3. Remove 1 magneto cover screw from the magneto cover. While removing the cover, carefully remove capacitor lead from contact points terminal, noting terminal placement and lead orientation for reassembly.
4. Remove 2 screws securing the capacitor to the cover and remove capacitor. Remove o-ring packing from affected capacitor.
5. Place o-ring on new P/N 10-400416 capacitor. Secure capacitor to magneto cover with 2 screws. Torque screws to 8 - 12 in lbs.
6. Attach capacitor terminal to contact points terminal in accordance with instructions in the applicable Service Support Manual.
7. Attach magneto cover using 1 screw. Torque screw to 30- 35 in lbs. Install ignition harness with attaching hardware and torque to 18 - 22 in lbs.
8. Attach the P-Lead to the ground stud using the retained hardware. Torque the retaining nut to 15-17 in.-lbs.

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9. As applicable, record the magneto serial number to be supplied to TCM distribution for the warranty claim application.
10. As applicable, make a engine log book entry as to inspection and/or replacement of the part number 10-400416 capacitor in accordance with TCM Critical Service Bulletin CSB665.

D. WARRANTY AND PART DISPOSITION

1. Warranty coverage for inspection and replacement of capacitors is as follows:
 - (a) Due to the simplicity of the capacitor inspection, there will be no labor allowance for inspection of service spare capacitors.
 - (b) Labor allowance for capacitor inspection of one or two affected magnetos installed on an engine – 1 hour total. Magnetos not included in the serial number range in Table 1 but which can be verified through maintenance records to have had a capacitor replacement performed between October of 2003 and the effective date of this bulletin may qualify for warranty coverage for capacitor inspection / replacement.
 - (c) Labor allowance for capacitor replacement on a magneto installed on an engine – 1 hour per magneto. This includes capacitor inspection – 1.(b).
2. Affected capacitors must be returned to TCM as follows:
 - (a) Affected service spare capacitors in inventory – These will be returned to TCM by TCM distribution on a warranty claim. Contact the authorized TCM distributor from which the affected capacitors were purchased for return instructions and to order replacements.
 - (b) Affected capacitors removed from magnetos - Contact an authorized TCM distributor for warranty claim application and capacitor return instructions. Make certain that you provide the applicable magneto serial number to ensure proper warranty application.

Contact TCM Technical Services at 888-826-5465 or 251-436-8299 or your regional TCM Service Representative if you have any questions concerning this Critical Service Bulletin.

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