



Applicable Airworthiness Directives

REVIEWED @ 2010 ANNUAL

ID No: 17242

Page No: 1

Model: 35-33, S/N: CD-174, Tail No: N5481

Date: 10/15/07

FAX NO: (631) 765-9359
 TEL: (631) 765-9375
 TEL: (800) 235-6444

AD NUMBER	TYPE*	SUBJECT	Supersedes AD Number	N/A**
		ENGINE(s): IO-470-K SER# 86103-1-K		
		PROPELLER(s): F12A-4 IF 169 IF 170		
		MAGNETO(s): Slick R= 0113212 L= 0113210		
62-08-03R1	R	WHITE PLASTIC RAMS HORN CONTROL WHEELS		N/A
65-14-01	R	ALTERNATOR SUPPORT BRACKET		N/A
67-01-04	N	SUPERIOR FLOW OIL FILTER		N/A
70-03-05R2	N	TURNING TYPE TAKEOFFS PLACARD IN PLACE		✓OK
70-14-07R2	N	CONTINENTAL ENGINE N/A BY FUEL PUMP MODEL		N/A
72-11-02	N	ENGINE FUEL INTERRUPTION YELLOW BANDS IN PLACE		✓OK
74-18-05	R	SLICK MAGNETO N/A BY MAG MODEL #'S	74-08-05	N/A
75-05-02	R	AIR OIL FILTRATOR		N/A
75-15-08R1	R	BERYL AIR-OIL FILTRATOR		N/A
76-02-07	R	PRESTOLITE ALTERNATOR		N/A
76-07-12R1	NR	BENDIX IGNITION SWITCH OP'S CK'D. 8-15-07		✓OK
79-05-09	N	CONTINENTAL ENGINE N/A BY ENG. MODEL + SER #		N/A
79-18-05R1	N	LITHIUM BATTERY	79-05-02	N/A
80-06-05	N	SLICK MAGNETO N/A BY MAG. MODEL #'S		N/A
80-16-05	NM	SKY-OX OXYGEN REGULATOR		N/A
81-15-03	NM	BRACKETT ENGINE INLET AIR FILTER STEEL WITH GASKET HP	78-25-05	✓OK
81-16-05	N	SLICK MAGNETO N/A BY MAGS MODEL 6310'S INSTALLED		N/A
84-26-02	R	INDUCTION AIR FILTERS MODIFIED TO BRACKET SYSTEM		✓OK
86-01-06	N	AIRBORNE DRY AIR PUMP WET PUMP INSTALLED		N/A
88-03-06	N	CONTINENTAL OIL FILTERS N/A BY FILTER ASSEM.		N/A
89-05-02	R	ELEVATOR CONTROL FITTINGS ALUMINUM INSTALLED 7/98		N/A
91-17-01	N	ELEVATOR TRIM TAB ACTUATORS R= BLK L= BLUE		✓OK
93-08-17	N	CONTINENTAL ENGINE N/A BY SER. #		N/A
93-10-02	N	CONTINENTAL ENGINE 6 NEW CYL'S INSTALLED - 10-11-95		N/A
93-24-03	NR	RUDDER SPAR CRACKS B-2 KIT INSTALLED 7/98	92-15-06	✓OK
95-04-03	R	CRACKS/WING SPAR CARRY-THRU STRUCTURE	92-08-07 DUBO 2785 HRS.	✓OK
96-12-22	R	OIL FILTER ADAPTERS TORQUE CK'D - TORQUE SEM APPLIED		✓OK
97-21-02	N	CONTINENTAL ENGINE	97-15-01	N/A
98-17-11	N	NELSON REWORKED CRANKSHAFTS		N/A
98-21-21R1	NM	INFLATABLE DOOR SEALS		N/A

*Type of AD (adlog subscribers—this designation appears in the upper right corner of each adNote page):
 N—Non-Repetitive. R—Repetitive. NM—Non-Repetitive, but has more than one compliance requirement.
 NR—Can be either Repetitive or Non-Repetitive, depending on the method of compliance.

**Not applicable.



Applicable Airworthiness Directives

ID No: 17242

Page No: 1 **08-2006**

Model: 35-33, S/N: CD-174, Tail No: N5481

Date: **MJG**

FAX NO: (631) 765-9359

TEL: (631) 765-9375

TEL: (800) 235-6444

AD NUMBER	TYPE*	SUBJECT	Supersedes AD Number	N/A**
AD REVIEW 2006 ANNUAL		ENGINE(s): ID-470-K SER# 86103-1-K		
		PROPELLER(s): F12A-4 IF 169 IF 170		
		MAGNETO(s): Slick R=01113212 L=01113210 (6310's)		
62-08-03R1	R	WHITE PLASTIC RAMS HORN CONTROL WHEELS		N/A
65-14-01	R	ALTERNATOR SUPPORT BRACKET		N/A
67-01-04	N	SUPERIOR FLOW OIL FILTER		N/A
70-03-05R2	N	TURNING TYPE TAKEOFFS PLACARD IN PLACE MJG		✓OK
70-14-07R2	N	CONTINENTAL ENGINE N/A BY FUEL PUMP MODEL		N/A
72-11-02	N	ENGINE FUEL INTERRUPTION YELLOW BAND IN PLACE MJG		✓OK
72-22-01	R	LANDING GEAR UNLOCK ROLLERS LUBE TYPE INSTALLED	72-17-02	✓OK
74-18-05	R	SLICK MAGNETO N/A BY MAG. MODEL # 6310's	74-08-05	N/A
75-05-02	R	AIR OIL FILTRATOR		N/A
75-15-08R1	R	BERYL AIR OIL FILTRATOR		N/A
76-02-07	R	FRESTOLITE ALTERNATOR		N/A
76-07-12R1	NR	BENDIX IGNITION SWITCH OP'S CK NORMAL 8-7-06		✓OK
79-05-09	N	CONTINENTAL ENGINE N/A BY ENG. MODEL + SER#		N/A
79-18-05R1	N	LITHIUM BATTERY	79-05-02	N/A
80-06-05	N	SLICK MAGNETO N/A BY MAG. MODEL #3 INSTALLED ON N5481		N/A
80-16-05	NM	SKY BX OXYGEN REGULATOR		N/A
81-15-03	NM	BRACKETT ENGINE INLET AIR FILTER STEEL WITH GASKET LIP	78-25-05	✓OK
81-16-05	N	SLICK MAGNETO N/A BY MAG. MODEL INSTALLED 6310's		N/A
84-26-02	R	INDUCTION AIR FILTERS MODIFIED TO BRACKETT SYSTEM		✓OK
86-01-06	N	AIRBORNE DRY AIR PUMP WET PUMP ON N5481		N/A
88-03-06	N	CONTINENTAL OIL FILTERS N/A BY FILTER ASSEM.		N/A
89-05-02	R	ELEVATOR CONTROL FITTINGS ALUMINUM 1998 INSTALLED		N/A
91-17-01	N	ELEVATOR TRIM TAB ACTUATORS R = BLK L = BLUE		✓OK
93-08-17	N	CONTINENTAL ENGINE N/A BY SER. #		N/A
93-10-02	N	CONTINENTAL ENGINE N/A NEW CYL. INSTALLED		N/A
93-24-03	NR	RUDDER SPAR CRACKS B-2 KIT PART # 33-6001-1 S	92-15-06	✓OK
95-04-03	R	CRACKS/WING SPAR CARRY-THRU STRUCTURE INSP. DUB @ 2785 HRS.	92-08-07	✓OK
96-12-22	R	OIL FILTER ADAPTERS TORQUE V + TORQUE SEAL APPLIED MJG		✓OK
97-21-02	N	CONTINENTAL ENGINE	97-15-01	N/A
98-17-11	N	NELSON REWORKED CRANKSHAFTS		N/A

*Type of AD (adlog subscribers—this designation appears in the upper right corner of each adNote page):
 N—Non-Repetitive. R—Repetitive. NM—Non-Repetitive, but has more than one compliance requirement.
 NR—Can be either Repetitive or Non-Repetitive, depending on the method of compliance.

**Not applicable.

N5481
AIRCRAFT REGISTRATION NO.



81-16-5 N
AD NUMBER

CD-174
AIRCRAFT SERIAL NO.

Slick Magneto

35-33
TYPE AIRCRAFT

If multi-engine: Left Right Front Rear Engine Model/Serial No: _____

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
			N/A	
			NEW MODEL	
			6310's INSTALLED	M.J. Sprange A+E 127827

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Amendment 39-4173. Applies to the following Slick Magneto models and serial numbers:

Magneto Model Numbers*

4250, 4250R	4251, 4251R	4216, 4216R
4230, 4230R	4252, 4252R	6210, 6210R
4201, 4201R	4281, 4281R	6214, 6214R

*All 4200 series magnetos use Slick Coil part number M-3114
All 6200 series magnetos use Slick Coil part number M-3009

Serial Numbers**

8100000-8109999	9050000-9059999	9110000-9119999
8110000-8119999	9060000-9069999	9120000-9129999
8120000-8129999	9070000-9079999	0010000-0019999
9010000-9019999	9080000-9089999	0020000-0029999
9020000-9029999	9090000-9099999	0030000-0039999
9030000-9039999	9100000-9109999	0040000-0049999
9040000-9049999		

**Year and month of manufacture is given by first three numbers of serial number; for example 9032576 was manufactured March 1979.

The above magneto models are installed on, but not limited to, the following engines:

Teledyne-Continental

A-65	C-90	O-470
A-75	O-200	IO-470
C-75	IO-360	IO-520
C-85	TSIO-360	TSIO-520

Lycoming

O-235-C2C	O-320-D3G	O-360-A4M
O-235-H2C	O-320-E1J	O-360-C1E
O-235-K2C	O-320-E2D	O-360-C1F
O-235-L2C	O-320-E2G	O-360-C2E
O-320-A2D	O-320-E3D	O-360-F1A6

O-320-D1D	AEIO-320-E1B	AEIO-360-B1G6
O-320-D2G	AEIO-320-E2B	AEIO-360-H1A
O-320-D2J	O-360-A4K	

To prevent magneto failure due to cracked coil, accomplish the following within the next 25 hours time in service after the effective date of this AD unless already accomplished:

A. Remove magneto and visually inspect coil for cracks in accordance with Slick Electro, Inc. Service Bulletin No. 1-81 revised June 29, 1981.

B. Replace cracked coils and coils with less than 250 hours time in service with serviceable coils manufactured prior to October 1, 1978, or subsequent to April 30, 1980. The date of manufacture is stamped on each coil.

C. Accomplishment of this AD should be indicated by stamping the letter "C" into the metal name plate following the last digit of the magneto serial number, as well as the appropriate logbook entry.

Alternate methods of compliance with this AD must be approved by the Chief, Engineering and Manufacturing Branch, FAA Great Lakes Region.

This amendment becomes effective August 6, 1981.

N5481
AIRCRAFT REGISTRATION NO.



81-16-5 N
AD NUMBER

CD-174
AIRCRAFT SERIAL NO.

BECH 35-33
TYPE AIRCRAFT

Slick Magneto

If multi-engine: Left Right Front Rear Engine Model/Serial No: _____

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
		2523.	N/A BY MODEL # 6362	R/MAG
				L/MAG

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Amendment 39-4173. Applies to the following Slick Magneto models and serial numbers:

Magneto Model Numbers*

- 4250, 4250R 4251, 4251R 4216, 4216R
- 4230, 4230R 4252, 4252R 6210, 6210R
- 4201, 4201R 4281, 4281R 6214, 6214R

*All 4200 series magnetos use Slick Coil part number M-3114
All 6200 series magnetos use Slick Coil part number M-3009

Serial Numbers**

- 8100000-8109999 9050000-9059999 9110000-9119999
- 8110000-8119999 9060000-9069999 9120000-9129999
- 8120000-8129999 9070000-9079999 0010000-0019999
- 9010000-9019999 9080000-9089999 0020000-0029999
- 9020000-9029999 9090000-9099999 0030000-0039999
- 9030000-9039999 9100000-9109999 0040000-0049999
- 9040000-9049999

**Year and month of manufacture is given by first three numbers of serial number; for example 9032576 was manufactured March 1979.
The above magneto models are installed on, but not limited to, the following engines:

Teledyne-Continental

- A-65 C-90 O-470
- A-75 O-200 IO-470
- C-75 IO-360 IO-520
- C-85 TSIO-360 TSIO-520

Lycoming

- O-235-C2C O-320-D3G O-360-A4M
- O-235-H2C O-320-E1J O-360-C1E
- O-235-K2C O-320-E2D O-360-C1F
- O-235-L2C O-320-E2G O-360-C2E
- O-320-A2D O-320-E3D O-360-F1A6

- O-320-D1D AEIO-320-E1B AEIO-360-B1G6
- O-320-D2G AEIO-320-E2B AEIO-360-H1A
- O-320-D2J O-360-A4K

To prevent magneto failure due to cracked coil, accomplish the following within the next 25 hours time in service after the effective date of this AD unless already accomplished:

A. Remove magneto and visually inspect coil for cracks in accordance with Slick Electro, Inc. Service Bulletin No. 1-81 revised June 29, 1981.

B. Replace cracked coils and coils with less than 250 hours time in service with serviceable coils manufactured prior to October 1, 1978, or subsequent to April 30, 1980. The date of manufacture is stamped on each coil.

C. Accomplishment of this AD should be indicated by stamping the letter "C" into the metal name plate following the last digit of the magneto serial number, as well as the appropriate logbook entry.

Alternate methods of compliance with this AD must be approved by the Chief, Engineering and Manufacturing Branch, FAA Great Lakes Region.

This amendment becomes effective August 6, 1981.

N5481
AIRCRAFT REGISTRATION NO.

CD-174
AIRCRAFT SERIAL NO

35-33
TYPE AIRCRAFT



80-6-5
AD NUMBER

Slick Magneto

If multi-engine: Left Right Front Rear

Part No./Serial No. _____

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
			G310 MODEL'S INSTALLED ON N5481 M1G	

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Amendment 39-3718. Applies to the following Slick magneto models and associated serial and impulse coupling numbers:

Magneto Model No. ¹	Serial No. ²	Impulse Coupling Number ¹
447 and 447R	9040001 to 9040049	M2374
662 and 662R	9020462 to 9070000	M2362
664 and 664R	9040001 to 9040086	M2370
680 and 680R	9020462 thru 9070000	M2369
4151 and 4151R	9020017 to 9070000	M1709
4152 and 4152R	9020017 to 9070000	M1709
4181 and 4181R	9020017 to 9020000	
4201 and 4201R	9020210 to 9070000	M3007
4230 and 4230R	9040001 to 9040197	M3068
4251 and 4251R	9030001 to 9070000	M3163
4281 and 4281R	9030001 to 9070000	M3007
6210	8090073 thru 9070000	M3050
6214	8050001 thru 9070000	M3089
		M2371 ³
		M3100 ³
		M3165 ³

¹Any of the units listed were manufactured subsequent to January 1979.

²Any magneto serial number between and including the lower and upper numbers shown are affected by this AD.

³These coupling numbers are for parts used as spares and also must be tested.

These magnetos are installed on, but not limited to, the following engines:

Lycoming

AEIO-360, AEIO-320, IO-320, O-235, O-320, O-360.

Continental

A-65-8, A-75-8, C-85-8, C-90-8, O-200, O-200-A, O-300-A, -B, -C, -D, O-470-U, IO-360-KB, IO-470, IO-520-A, -B, -F, TSIO-470, TSIO-520-T.

Compliance is required as indicated unless already accomplished. To prevent a possible magneto failure and subsequent engine or accessory malfunction, accomplish the following:

Prior to the next ten (10) hours of aircraft time in service, or within the next (30) calendar days from the date of this AD, whichever occurs first, complete the following comparative metal hardness test procedures:

1. Remove the impulse coupling magneto(s) from the engine, per engine manufacturers instructions.

2. Remove the impulse coupling assembly from the magneto frame per Slick's maintenance and overhaul instructions.

3. Establish a reference level for metal hardness by sliding the flat surface of a fine cut mill file over the flat surface of either pawl. The file will slide freely and will only burnish the hard surface of the pawl.

4. By a similar filing action, test for hardness of each of the two rivet heads.

5. If there is resistance to sliding and material is removed from the rivet head, the rivet has not been heat treated, and the coupling assembly must be replaced. Return the defective coupling assembly to a Slick Electro, Inc. distributor.

6. If hardness of the rivet heads and pawls are equivalent, reassemble and identify AD compliance by metal stamping a letter "C" on the Slick insignia located on the left side of the magneto identification plate.

7. If the results of the comparative hardness test on the rivet(s) are questionable, the coupling assembly must be replaced.

This amendment becomes effective March 28, 1980, as to all persons except those to whom it was made immediately effective by airmail letter dated February 4, 1980, which contained this amendment.

N5481
AIRCRAFT REGISTRATION NO.



80-6-5 N
AD NUMBER

CD-174
AIRCRAFT SERIAL NO

Slick Magneto

Beech 35-33
TYPE AIRCRAFT

If multi-engine: Left Right Front Rear

Part No./Serial No. _____

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER

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Amendment 39-3718. Applies to the following Slick magneto models and associated serial and impulse coupling numbers:

Magneto Model No. ¹	Serial No. ²	Impulse Coupling Number ¹
447 and 447R	9040001 to 9040049	M2374
662 and 662R	9020462 to 9070000	M2362
664 and 664R	9040001 to 9040086	M2370
680 and 680R	9020462 thru 9070000	M2369
4151 and 4151R	9020017 to 9070000	M1709
4152 and 4152R	9020017 to 9070000	M1709
4181 and 4181R	9020017 to 9020000	
4201 and 4201R	9020210 to 9070000	M3007
4230 and 4230R	9040001 to 9040197	M3068
4251 and 4251R	9030001 to 9070000	M3163
4281 and 4281R	9030001 to 9070000	M3007
6210	8090073 thru 9070000	M3050
6214	8050001 thru 9070000	M3089
		M2371 ³
		M3100 ³
		M3165 ³

¹Any of the units listed were manufactured subsequent to January 1979.
²Any magneto serial number between and including the lower and upper numbers shown are affected by this AD.
³These coupling numbers are for parts used as spares and also must be tested.

These magnetos are installed on, but not limited to, the following engines:

- Lycoming**
AEIO-360, AEIO-320, IO-320, O-235, O-320, O-360.
- Continental**
A-65-8, A-75-8, C-85-8, C-90-8, O-200, O-200-A, O-300-A, -B, -C, -D, O-470-U, IO-360-KB, IO-470, IO-520-A, -B, -F, TSIO-470, TSIO-520-T.

Compliance is required as indicated unless already accomplished. To prevent a possible magneto failure and subsequent engine or accessory malfunction, accomplish the following:

Prior to the next ten (10) hours of aircraft time in service, or within the next (30) calendar days from the date of this AD, whichever occurs first, complete the following comparative metal hardness test procedures:

1. Remove the impulse coupling magneto(s) from the engine, per engine manufacturers instructions.
2. Remove the impulse coupling assembly from the magneto frame per Slick's maintenance and overhaul instructions.
3. Establish a reference level for metal hardness by sliding the flat surface of a fine cut mill file over the flat surface of either pawl. The file will slide freely and will only burnish the hard surface of the pawl.
4. By a similar filing action, test for hardness of each of the two rivet heads.
5. If there is resistance to sliding and material is removed from the rivet head, the rivet has not been heat treated, and the coupling assembly must be replaced. Return the defective coupling assembly to a Slick Electro, Inc. distributor.
6. If hardness of the rivet heads and pawls are equivalent, reassemble and identify AD compliance by metal stamping a letter "C" on the Slick insignia located on the left side of the magneto identification plate.
7. If the results of the comparative hardness test on the rivet(s) are questionable, the coupling assembly must be replaced.

This amendment becomes effective March 28, 1980, as to all persons except those to whom it was made immediately effective by airmail letter dated February 4, 1980, which contained this amendment.

AIRCRAFT REGISTRATION NO.

AIRCRAFT SERIAL NO

TYPE AIRCRAFT



74-18-5 N/R
AD NUMBER

Slick Magneto

If multi-engine: Left Right Front Rear Part No/Serial No: 92120024

DATE	TOTAL TIME AT COMPL.	TACH OR RECORDING METER TIME AT COMPL.	METHOD OF COMPLIANCE	NEXT COMP. DUE AT		AUTHORIZED SIGNATURE & NUMBER
				TOTAL TIME	DATE, TACH, OR RECORDING METER TIME	
			N/A BY MODEL #			
			02 N5481			
			PER "OLD LOG"			
			MAG MODEL# 6362			
			SER# 92120024			
	(APPROX 2450±		INSTALLED 7/9/94)			M. J. Granger A+E 127827

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Amendment 39-1930. Applies to Slick magneto Models 447, 662, 664, 667, 668, 676, and 680 manufactured prior to August 1973 with Serial Numbers 3080608 and <below>.

Compliance required as indicated, unless already accomplished. To prevent failure of the magneto impulse coupling due to loose pawls, accomplish the following:

A. Prior to the accumulation of time in service which corresponds to the engine manufacturers recommended overhaul period or within the next 100 hours, whichever is later, after the effective date of this AD, all magnetos with S/N's 3080608 and below must have the old impulse couplings replaced with new couplings listed below:

Slick Magneto Models 662 and 680--Impulse Coupling Complete M-2369; Model 664--Impulse Coupling Complete M-2370; Model 667--Impulse Coupling Complete M-2371; Model 668--Impulse Coupling Complete M-2372; Model 676--Impulse Coupling Complete M-2373; Model 447--Impulse Coupling Complete M-2374.

NOTE: Reference Slick Service Letter 1-73.

B. Magnetos manufactured prior to November 1970 with Serial Numbers 0110000 and below which have not accumulated sufficient time in service to require replacement in accordance with Paragraph A above, must be inspected within the next 100 hours' time in service or at the next annual inspection, whichever occurs first, after the effective date of this AD and thereafter at intervals not to exceed 500 hours' time in service from the last inspection until impulse couplings are replaced

in accordance with Paragraph A above.

C. Magnetos manufactured between November 1970 and August 1973 with Serial Numbers 0110001 through 3080608, which have not accumulated sufficient time in service to require replacement in accordance with Paragraph A above, require a one time inspection. This inspection must be accomplished within the next 100 hours time in service after the effective date of this AD or at 500 hours total time in service whichever is later.

D. The following method is to be used when accomplishing inspection required by Paragraphs B and C above.

1. Remove the impulse coupling hub from the shaft and inspect the pawl rivets for looseness. Use a pair of pliers on the head of the rivet; use caution with the pliers so as not to damage the head of the rivet. If the rivet turns in the plate, the hub assembly should be replaced. (See Paragraph A for correct replacement assemblies.)
2. For proper spring tension in reassembly, refer to instructions on page 25 of Slick Green Service Manual (Form No. 1012), or page 27 in their Yellow Service Manual (Form No. 1020).

NOTE: Reference Slick Service Bulletin No. 1-71.

NOTE: Use Slick Service Letter 1-74, when removing couplings in accordance with Paragraph D above.

This supersedes Amendment 39-1809, AD 74-08-05. This Amendment becomes effective August 28, 1974.

N5481
AIRCRAFT REGISTRATION NO.

CD-174
AIRCRAFT SERIAL NO

BEECH 35-33
TYPE AIRCRAFT



67-1-4 N
AD NUMBER

Superior Flow Oil Filter

If multi-engine: Left Right Front Rear Engine Model/Serial No: _____

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
			CESSNA TYPE INSTALLED - DATE UNKNOWN	
		N/A →	SEE AD 96-12-22 R	

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Amendment 39-328 Part 39 Federal Register December 23, 1966. Applies to all aircraft with Continental E185, E225, O-470, IO-470 and Lycoming O-320, O-360, and IO-360 Engines Incorporating Superior Flow Oil Filters installed in accordance with Supplemental Type Certificates SE325SW, SE419SW, and SA401SW.

Unless already accomplished, compliance required before further flight except that the airplane may be flown in accordance with FAR 21.197 to a base where the replacement can be made.

Several failures of Superior Flow oil filter elements, P/N US5003-27 and US5003-33, have

occurred during cold weather starts and run-up, resulting in loss of oil and severe engine damage. To prevent additional failures of this nature, Superior Flow filter elements P/N US5003-27 and US5003-33 must be replaced with redesignated filter elements P/N US5003-27A and US5003-33A, respectively. If these new assemblies cannot be obtained, the entire oil filter system must be removed, and replaced with one approved for the engine.

(Superior Flow Service Bulletin No. 1A, dated December 7, 1964, covers this subject.)

This directive effective January 2, 1967.

N5481
AIRCRAFT REGISTRATION NO.



75-15-8 Rev.1 N/R
AD NUMBER

CD-174
AIRCRAFT SERIAL NO.

Air-Oil Filtrator

TYPE AIRCRAFT

DATE	TOTAL TIME AT COMPL	TACH OR RECORDING METER TIME AT COMPL	METHOD OF COMPLIANCE	NEXT COMP. DUE AT		AUTHORIZED SIGNATURE & NUMBER
				TOTAL TIME	DATE, TACH, OR RECORDING METER TIME	
9-1-98	—	2523.3	B-1114-M IS INSTALLED			<i>M. J. [Signature]</i> A+E 1278275
↓		↓	B-1-(ii) NO ACTION			
			REQ'D -			
			UNIT REMOVED 2002			

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Amendment 39-2266 as amended by Amendment 39-2361. Applies to Beech Models 35, A35, B35, C35, D35, E35, F35, 35R, 35-33, 35-A33, 35-B33, 35-C33, H35, J35, K35, M35, N35, P35 series airplanes; Cessna Models 150, 150A, 150B, 150C, 150D, 150E, 150F, 150G, 150H, 150J, 150K, A150K, 150L, A150L series airplanes certificated in all categories which have been modified in accordance with STC SA2219WE.

Compliance required as indicated unless already accomplished.

To prevent loss of engine oil, improper engine lubrication or engine oil contamination, accomplish the following:

A. Within the next 25 hours time in service after the effective date of this AD and thereafter at intervals not to exceed 25 hours time in service, unless B. has been accomplished, remove the Beryl Aviation air oil separator Filtrator Assembly and inspect in accordance with the following procedure.

1. Add one quart of clear gasoline to the assembly can and plug or cap the ends of all tubes.
2. Hold the assembly can upright and shake vigorously for about two minutes.
3. Completely drain the gasoline from the 1/8 inch oil return tube through a paint strainer or similar fine mesh strainer and check for the presence of polyester urethane particles that have broken off of the internal screen material.
4. If screen particles are present, accomplish B.
5. If screen particles are not present, install a 1/8 inch rivet in the top center of the assembly can to fasten the inside center cone to the outside can. Seal the rivet with an oil and fuel resistant type sealant if required. After assuring that cleaning agent has

evaporated, reinstall the filtrator assembly.

B. Within the next 100 hours time in service after the effective date of this AD, unless already accomplished, accomplish 1, 2, or 3.

1. (i) For Beech Models 35, A35, B35, C35, D35, E35, F35, and 35R Series Airplanes, remove the Beryl Aviation filtrator assembly P/N 1000-1 and install P/N B-1119-M, P/N B-1119-RM, or P/N 1000-1-RM.

(ii) For Beech Models H35, J35, K35, M35, N35, P35, 35-33, 35-A33, 35-B33 and 35-C33 Series Airplanes, remove the Beryl Aviation filtrator assembly P/N 1000-1 and install P/N B-1114-M, P/N B-1114-RM, or P/N 1000-1-RM.

(iii) For Cessna Models 150, 150A, 150B, 150C, 150D, 150E, 150F, 150G, 150H, 150J, 150K, A150K, 150L, and A150L Series Airplanes, remove the Beryl Aviation filtrator assembly P/N 1000-1 and install P/N B-1119-M, P/N B-1119-RM, or P/N 1000-1-RM.

2. Remove the modification incorporated by STC SA2219WE and return the airplane to the standard unmodified configuration.

3. Provide compliance with an equivalent method approved by Chief, Engineering and Manufacturing Branch, Southern Region.

Beryl Aviation Specialties, Route 1, Box 127D, Leesburg, Florida 32748, Service Bulletin B-1-1-75-1 also pertains to this subject.

Amendment 39-2266 became effective Friday, July 25, 1975. This amendment 39-2361 becomes effective September 10, 1975

N5481
AIRCRAFT REGISTRATION NO.
CD-174
AIRCRAFT SERIAL NO.
TYPE AIRCRAFT



72-11-2 N
AD NUMBER

Engine Fuel Interruption

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
12-4-75	5143.8	+	FROM A/C LOG BOOK Brought fwd. P/CW (SEE SUMMARY DATED 10-11-95)	M. J. Granger ^{K&E} 727427

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Amendment 39-1449. Applies to the following airplanes:

1970 and after Bonanza Models: F33 and G33—Serial Numbers CD-1235 through CD-1276; F33A—Serial Numbers CE-290 through CE-366; V35B and V35B-TC—Serial Numbers D-906 through D-9319; A36—Serial Numbers E-185 through E-310

1970 and after Baron Models: 95-B55 and 95-B55A—Serial Numbers TC-1383 through TC-1425 w/25-Gal. Cells, TC-1299 through TC-1425 w/40-Gal. Cells; 95-B55B—Serial Numbers TF-66 through TF-70; E55 and E55A—Serial Numbers TE-768 through TE-851; 58 and 58A—Serial Numbers TH-1 through TH-200

1959 to 1969 Bonanza & Debonair Models: 35-33, 35-A33, 35-B33, 35-C33 and E33—Serial Numbers CD-1 through CD-1234; 35-C33A and E33A—Serial Numbers CE-1 through CE-289; E33C and F33C—Serial Numbers CJ-1 through CJ-30; K35, M35, N35, P35, S35, V35, V35-TC, V35A and V35A-TC—Serial Numbers D-5726 through D-9068; 36—Serial Numbers E-1 through E-184

1958 and before Bonanza Models: 35, 35R, A35, B35, C35, D35, E35, F35, G35, H35, J35—Serial Numbers D-1 through D-5725, D-15001 and D-15002

1969 and before Baron & Travel Air Models: 95-55, 95-A55, 95-B55 and 95-B55A—Serial Numbers TC-1 through TC-1382 w/25 Gal. Cells, TC-1 through TC-1298 w/40 Gal. Cells; 95-B55B—Serial Numbers TF-1 through TF-65; 95-C55, 95-C55A, D55 and D55A—Serial Numbers TE-1 through TE-767; 95, B95, B95A, D95A and E95—Serial Numbers TD-1 through TD-721

Compliance required within 50 hours time in service after the effective date of this AD, unless already accomplished.

To prevent engine fuel interruption during critical aircraft maneuvers:

A. For those Beech Bonanza and Baron 1970 models and after airplanes listed herein, accomplish the following in accordance with Beech Service Instructions 0491-281 or later revision, or with Beech Service Instructions 0484-281 or later revision, as applicable:

1. Inspect all Goodyear baffled main fuel cells equipped with metal check valves to determine that the flapper element moves through its full travel without binding and seats properly. Adjust or replace the flapper element of the valve as required.
2. Inspect Uniroyal baffled main fuel cells for leaks in the area of the relief cutouts in the fuel cell baffles and repair if required.
3. a. Install a yellow band on the outside of the glass on each main fuel quantity gage. The yellow band should extend from the empty to the 1/2 full gage markings on airplanes with 25 gallon main fuel cells and to the 3/8 gage marking on single engine airplanes with 40 gallon main fuel cells. On single engine models equipped with vertical type engine gage, install a yellow band on the fuel gage from 0-80 pounds and install a new full mark at the top of the gage. Add yellow band from empty to 1/4 gage marking on Baron model airplanes with 39 or 40 gallon fuel cells, except that on Baron Models 58 and 58A airplanes add yellow band from empty to 1/8 gage markings.
b. Install a placard on the fuel selector cover or floating instrument panel in full view of the pilot with the following wording: "Do not take off if fuel gages indicate in the yellow band or

with less than 13 gallons in each main tank," and operate the airplane in accordance with this limitation.

c. Change the left hand and right hand tank capacities on the fuel selector panel as follows:

1. to 22 gallons on airplanes equipped with 25 gallon main fuel cells,
2. to 37 gallons on airplanes equipped with 39 or 40 gallon main fuel cells,
3. to 70 gallons on Models 58 and 58A airplanes equipped with standard fuel system, and
4. to 83 gallons on Models 58 and 58A airplanes equipped with 84 gallon optional fuel system.

Also, change the main cell filler capacity marking on each wing to indicate the above capacities.

d. Adjust the existing weight and balance information for each airplane to compensate for the increase in the amount of unusable fuel.

e. As applicable, attach the appropriate Airplane Flight Manual Supplement to the AFM or install the revised Pilot's Check Lists in those airplanes equipped with check lists, or make placard changes in those airplanes equipped with placards in accordance with the Service Instructions.

B. For those Bonanza, Debonair, Baron and Travel Air 1969 models and before airplanes listed herein, except for those Bonanza Model airplanes listed in Paragraph C, accomplish the following in accordance with Beech Service Instructions 0493-281 or later revision or with Beech Service Instructions 0492-281 or later revision as applicable:

1. Comply with Paragraphs A(1) and (2) if these airplanes have been modified in accordance with Beech Service Instructions 0459-281 or Beech Service Instructions 0365-281 or Beech Service Instructions 0365-281, Rev. 1, or later revision, which cover installation of baffled main fuel cells.
2. Comply with Paragraph A(3).

C. For those Bonanza 1958 models and before airplanes listed herein, in accordance with Beech Service Instruction 0495-281 or later revision:

1. Install a new decal on the outside of the glass or on the face of the main fuel gage. The decal must be positioned so that the yellow band denoting minimum fuel for takeoff (7 gallons) extends up to the center of the 1/2 mark. The red band denoting unusable fuel (3 gallons) must cover the old empty mark. A new empty mark must be located between the yellow and red bands. Operate the airplane in accordance with these limitations.
 2. Change the left hand and right hand tank capacities on the fuel selector panel to 17 gallons. Also change the main fuel cell filler capacity marking on each wing to indicate the above capacities.
 3. Comply with Paragraphs A(3) (d) and A(3) (e).
- D. Any alternate method of compliance with with AD must be referred to and approved by the Chief, Engineering and Manufacturing Branch, FAA, Central Region.

This amendment becomes effective May 20, 1972.

N5481
 AIRCRAFT REGISTRATION NO.
 CD-174
 AIRCRAFT SERIAL NO.
 TYPE AIRCRAFT



70-14-7 Rev. 2 NM
 AD NUMBER

Continental Engine

If multi-engine: Left Right Front Rear Engine Model/Serial No: 10-470-K # (86103-1-K)

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
7-18-70	6424.73	2493.87	PER '95 INSP. AD SUMMARY	(ONE TIME ITEM) <i>[Signature]</i> #127277

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Amendment 39-1028 as amended by Amendment 39-1092 is further amended by Amendment 39-2014. Applies to Teledyne Continental Models IO-360-A, -C, -D; IO-520-A, -B, -C, -D, -E, -F, -J, -K; IO-470-C, -D, -E, -F, -H, -K, -L, -M, -N, -S, -J, -U, -V, -VO; TSIO-470-B, -C and -D engines.

Note: Compliance with AD 70-14-7 on the Model IO-470-J, -U, -V, and -VO engines added to the applicability statement commences on the effective date of amendment 39-1092.

Compliance required as indicated unless already accomplished.

To prevent loss of the fuel injection pump adjustable bypass needle with subsequent power failure accomplish the following or any equivalent procedure approved by Chief, Engineering and Manufacturing Branch, FAA, Central Region, Kansas City, Missouri:

A. Within 25 hours time in service after the effective date of this AD, visually inspect the fuel injection pump below the fuel inlet elbow for the presence of a hexagonal head brass plug containing a stainless steel adjusting needle with a screwdriver slot. If the pump does not have this feature, or if the adjusting needle is retained in the brass plug by an internal spring circular clip, no further action is required. If it does, and the slotted head of the needle is flush or below the face of the plug, secure the needle in its present position by cleaning the plug and needle with gasoline or carbon tetrachloride and applying LePages Epoxy or Loctite #2508 epoxy cement or equivalent over the slotted head of the needle and face of the plug. If the slotted head of the needle extends outward beyond the face of the plug, accomplish Paragraph B before further flight.

B. At next engine or fuel injection pump overhaul, fuel injection pump adjustment or as indicated in Paragraph

A, replace the existing fuel injection bypass needle with P/N 637766 or 637767 needle as appropriate in accordance with the following:

1. Before removing the needle start the engine and adjust engine to obtain full throttle and maximum RPM, then record fuel flow or pressures and RPM for future reference. Stop the engine and record the number of turns required to bottom the needle.

2. Replace the present needle with P/N 637766 needle having 8-32 threads or P/N 637767 needle having 10-32 threads as applicable. Use a new "O" ring, P/N AN123957, with the new needle.

3. Bottom the new needle and back out to the previous setting, start the engine, and stabilize power at full throttle and maximum RPM, then adjust the needle to obtain the previously recorded full throttle, maximum RPM, fuel pressure or flow.

4. Safety wire the needle through the drilled hole in the needle shank and the unused hole in the brass plug, or around the pressure relief valve adjusting screw in the cover at the back of the pump. Exercise care to avoid disturbing the needle setting.

Teledyne Continental Motors Service Bulletin M70-10, Revision 1, dated June 25, 1970, or later FAA-approved revision, refers to this subject.

Note: The presently FAA-approved manufacturer's fuel pump adjustment procedures contained in his Overhaul and Parts Catalog for Fuel Injection Systems, Form X-30091 may be substituted for the adjustment instructions contained in Paragraphs B.1., 2. and 3.

Amendment 39-1028 became effective July 16, 1970.

Amendment 39-1092 became effective October 13, 1970.

This Amendment 39-2014 becomes effective November 22, 1974.

N5481
AIRCRAFT REGISTRATION NO.

CD-174
AIRCRAFT SERIAL NO

Beech 35-35
TYPE AIRCRAFT



86-13-4 Rev.3 N/R
AD NUMBER

Continental Engine

IO520

If multi-engine: Left Right Front Rear Engine Model/Serial No:

DATE	TOTAL TIME AT COMPL.	TACH OR RECORDING METER TIME AT COMPL.	METHOD OF COMPLIANCE	NEXT COMP. DUE AT		AUTHORIZED SIGNATURE & NUMBER
				TOTAL TIME	DATE, TACH, OR RECORDING METER TIME	
9-1-98		N/A	N/A TO CYL'S ON N5481-SER# 86103-K			<i>[Signature]</i> A+E 127825

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Amendment 39-5345, as amended by Amendment 39-5555, is further amended by Amendment 39-5850. Applies to cylinder assemblies (part number (P/N) stamped on flange of cylinder) with P/N's 643985, 646100, 646101, 646652, 646652CP, 646657, 646657CP, 649162, 649162CP, 649169, 649169CP including all these numbers with all "A" dash numbers as a suffix, and also any cylinder reworked from the above part numbers, either of which were manufactured on or after January 1, 1985, and with 485 total hours or less installed on, but not limited to, the following Teledyne Continental Motors (TCM) Engines:

NEW ENGINES SERIAL NUMBERS

- GTSIO-520-H 607068 thru 607070
- K 605184
- L 608669 thru 608673
- M 606979 thru 606997
- N 610450 thru 610462
- TSIO-520-BE 528133 thru 528242, 528244 thru 528246, 528252 thru 528256, 528259, 528260, 528263, 528270
- CE 530045 thru 530127, 530131, 530132
- C 501603 thru 501610
- EB 510802 thru 510809
- G 507066
- H 506883 thru 506885
- M 520742 thru 520824, 520829 thru 520835, 520837, 520838
- NB 521585 thru 521615
- P 513908 thru 513910
- R 522588 thru 522602, 522604, 522605
- UB 527063 thru 527080
- VB 529014 thru 529066
- WB 518895 thru 518906
- IO-520-BB 578073, 578084 thru 578151, 578155, 578156, 578166
- CB 576237 thru 576272
- D 575717, 575747 thru 575806
- E 556594 thru 556603
- F 574844 thru 574988
- K 557516 thru 557518
- L 577121 thru 577147, 577149 thru 577153
- MB 575043 thru 575046
- IO-550-B 675125 thru 675237, 675239 thru 675244, 675246 thru 675256, 675258 thru 675266, 675273, 675274, 675277, 675278, 675156 thru 678231, 678233 thru 678248, 678250 thru 678271

REBUILT ENGINES SERIAL NUMBERS

- GTSIO-520-C 155548 thru 155550
- D 219429 thru 219435
- H 235236 thru 235290, 235293 thru 235298, 267000 thru 267003
- K 226106 thru 226110
- L 245882 thru 245990, 245992 thru 246008, 246011 thru 246014, 246018 thru 246021, 246023, 246024
- GTSIO-520-M 243217 thru 243364, 243366, 243367, 243369 thru 243381
- 241300, 265000 thru 265039, 265041
- TSIO-520-A 245205
- BB 236937 thru 236951
- B 176485 thru 176522
- C 178279 thru 178297
- EB 242984 thru 242999
- E 183816 thru 183939, 183941 thru 183943, 183947
- G 216022 thru 216025
- H 217173 thru 217187
- J 218907 thru 218924
- K 224583, 224584
- LB 237237 thru 237241, 237245, 237246
- L 241883 thru 241900
- M 230223, 230225, 248601 thru 248628, 248632, 248638, 248642
- NB 244933 thru 244999, 266500, 266501, 266503, 266511, 266513 thru 266517, 266521, 266525
- N 228481 thru 228505, 228509 thru 228516
- P 236453 thru 236467
- R 245645 thru 245696
- T 239316 thru 239321
- UB 240981 thru 241000, 248851 thru 248854, 248858
- VB 248288 thru 248499, 266600 thru 266681, 266683, 266685, 266688, 266689, 266691, 266699 thru 266702
- WB 248160 thru 248203, 248205 thru 248217
- IO-520-A 112547 thru 112569
- BA 241763 thru 241800, 249251 thru 249425, 249427 thru 249429, 249433 thru 249443, 249445, 249448 thru 249453, 249457, 236000, 236789, 248500 thru 248568, 248572, 248573, 248575, 234758
- CB 244047, 244067 thru 244110, 244112 thru 244123, 244126, 244127, 244130, 244131
- C 243728, 243766 thru 243999, 267500, 267505
- D 267510, 267513 thru 267516, 267527
- D 175381 thru 175531, 175534 thru 175536, 175540 thru 175556, 175559, 175660, 175563, 175565 thru 175567
- E 215674 thru 215690
- F 247574, 247577, 247607 thru 247727, 247731 thru 247742, 247744, 247746 thru 247750, 247752 thru 247756, 247762, 247766, 247767
- J 216515

- K 224045, 224046
- L 242834 thru 242896, 242899
- MB 236383 thru 236400, 266000 thru 266017, 266019
- M 235728 thru 235787, 235789 thru 235793
- IO-550-B 249104 thru 249122

These engines are installed in, but are not limited to, the following airplanes:
 Aero Commander 200, 500, 685; AISI F, 20 Pegaso; Ambrosini MF-15; Beagles B206S; Beech 33, 35, 36, A36, A36TC, 55, 58, 58P, 58TC; Bellanca Viking 300; Cessna 185, 188, 206, 207, 210, 310, T310, 320, 335, 340, 401, 402, 404, 411, 414, 421; Fletcher FU-24A; Janox Javilon; Navion Model H; Omnipal Cmelak; Piper PA-46; Prinair DeHavilland Heron; Procaer F-150 Picchio; Transavia Airtruck; Windecker Eagle; Yeoman Cropmaster 285.

Compliance is required within the next 5 flight hours after the effective date of this AD, except as to those compliance requirements made effective previously as set forth in AD 86-13-04 dated June 20, 1986, priority letter AD 86-13-04 R1, dated September 5, 1986, AD 86-13-04 R2 dated February 19, 1987, and priority letter AD 86-13-04 R3 dated November 10, 1987 unless already accomplished.

To prevent possible cylinder head to barrel separation, engine failure and/or engine compartment fire, accomplish the following:

(a) For the above cylinder assembly part numbers installed on engines including those serial numbered engines listed above:

(1) Determine the part number for each cylinder assembly (part number is stamped on flange of cylinder barrel) and the date of manufacture (month and year of manufacture are stamped underneath rocker cover in the face of the rocker shaft boss).

(i) If the cylinder assembly part number and date of manufacture are as listed above, proceed with paragraphs (2), (3), (4), (5), and (6).

(ii) If the cylinder assembly part number and date of manufacture are not as listed above, proceed to paragraph (6). No further inspections are required by this AD.

(2) Visually inspect all cylinders for oil stains or leakage between the first and second barrel fins from the bottom of the head casting. The area of concern on direct drive engines is at the 12 o'clock position on the 1-3-5 cylinder side and the 6 o'clock position on the 2-4-6 side. On the GTSIO series engine, the area of concern is at the 6 o'clock position on the 1-3-5 cylinder side and the 12 o'clock position on the 2-4-6 cylinder side.

(3) Pressure check all cylinders using a differential compression tester. The piston should be as close to BDC (Bottom Dead Center) as possible to insure the piston and rings are below the inspection area specified in Paragraph (2) but still keeping both valves closed and maintaining pressure in the cylinder. With 80 PSIG (pounds per square inch gauge) air pressure in the cylinder, check the area specified in Paragraph (2) with a soap/water solution and inspect for any leakage.

(4) If any leakage is noted from the above inspection and/or pressure check, the cylinder must be changed before further flight.

NOTE: TCM Service Bulletin MB86-7, Revision 5, dated November 15, 1986, advises that extreme caution be used in the area of the propeller while performing this inspection.

(5) This visual inspection and pressure check must be repeated at intervals not to exceed 50 flight hours until the last inspection and pressure check required by this AD has been accomplished. The last inspection and pressure check required by this AD must occur between 440 hours and 490 hours of cylinder operation.

(6) The repetitive inspections and pressure checks described above may be discontinued when one of the following has been accomplished:

(i) Suspect cylinder assemblies have been replaced with assemblies having a date of manufacture prior to January 1985.

(ii) Approved replacement cylinder assemblies having different part numbers are installed provided these replacement cylinder assemblies are not reworked from the assembly part numbers listed above.

(iii) New design pistons (as shown below) are installed, and the affected cylinder assembly has the letter "P" stamped or vibro-etched on the face of the rocker shaft boss adjacent to the manufacturers date, i.e. 5-58P.

Engine Series	New Piston Part Number
IO-550	648046
IO-520	648045
TSIO-520 and GTSIO-520	648044

(7) Make appropriate Engine Logbook entry.
 (b) For cylinder assemblies not installed on engines, confirm a manufacture date stamp of 1-85 (January 1985) or subsequent (month and year of manufacture are stamped underneath rocker cover in the face of the rocker shaft boss), then notify TCM for disposition and replacement.

(c) Comply with the provisions of this AD for the above cylinder assembly part numbers which are reworked and/or reidentified with a different part number.

NOTE: TCM Service Bulletin Nos. M86-7, Rev. 5, dated 15 November 1986, and M87-19, dated September 17, 1987, address this subject.

(d) Aircraft may be ferried in accordance with the provisions of FAR 21.197 and FAR 21.19 to a base where the AD can be accomplished.

(e) Upon request, an equivalent means of compliance with the requirements of this AD may be approved by the Manager, Atlanta Aircraft Certification Office, 1669 Phoenix Parkway, Suite 210, Atlanta, Georgia 30349.

AD 86-13-04, Amendment 39-5345, became effective July 11, 1986.
 Priority Letter AD 86-13-04 R1, issued September 5, 1986, became effective immediately upon receipt.

Amendment 39-5555 (AD 86-13-04 R2) became effective February 19, 1987, as to all persons except those persons to whom it was made immediately effective by Priority Letter AD No. 86-13-04 R2, issued December 24, 1986.

This amendment, 39-5850, (AD 86-13-04 R3) becomes effective February 24, 1988, as to all persons except those persons to whom it was made immediately effective by Priority Letter AD No. 86-13-04 R3, issued November 10, 1987, which contained this amendment.

N5481
AIRCRAFT REGISTRATION NO.

CD-174
AIRCRAFT SERIAL NO.

TYPE AIRCRAFT



86-1-6 N/M
AD NUMBER

Airborne Dry Air Pumps

If multi-engine: Left Right Front Rear Part No/Serial No: _____

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
			N/A WET PUMP SYSTEM	

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Amendment 39-5206. Applies to the following Airborne Dry Air Pumps and Auxiliary Dry Air Pumps installed on piston engine aircraft certificated in any category.

Part Number	Serial Numbers
Dry Air Pumps	
241CC-13	10AA30 thru 10AA36 and 10AA38
242CW	10AA281 thru 10AA293
441CC	9AA260 thru 9AA288
	9AA291, 9AA294, 9AA295
441CC-7	9AA929 thru 9AA949, 9AA953, 9AA954, 9AA956, 9AA957, 9AA959
442CW	9AA850 thru 9AA875, 9AA880 thru 9AA886, 9AA888 thru 9AA903, 9AA905 thru 9AA921, 9AA928, 9AA934, 9AA936, 9AA939, 9AA940, 9AA945 thru 9AA952, 9AA955 thru 9AA958, 9AA962 thru 9AA967
442CW-4	10AA173 thru 10AA179, 10AA182 thru 10AA199, 10AA201, 10AA202
442CW-12	10AA356, 10AA357, 10AA386, 10AA389
Auxiliary Dry Air Pumps	
4A2-1	9AA44 thru 9AA46
4A3-1	9AA56, 9AA59 thru 9AA66, 9AA73, 9AA79 thru 9AA82, 10AA83 thru 10AA88, 10AA90 thru 10AA94, 10AA96, 10AA114, 10AA126, 10AA130, 10AA131, 10AA132, 10AA138, 10AA150, 10AA154, 10AA155, 10AA159, 10AA161

Note: These pumps were not available for installation before September 1, 1985. Therefore, new Airborne Dry Air Pumps or Auxiliary Dry Air Pumps installed previous to that date are exempt from this AD. Pumps that have been reworked by Airborne will have a white date code stamped on the pump housing near the discharge port. This will indicate that the pump complies with this AD.

Compliance is required as indicated unless previously accomplished. To prevent premature failure of the Airborne Dry Air and Auxiliary Dry Air Pumps, accomplish the following:

A. For Dry Air Pumps P/N's 241-CC, 242CW, 441CC,

441CC-7, 442CW, 442CW-4, and 442CW-12, prior to further flight in IFR conditions, inspect installed dry air pump(s) to determine if one of the subject pumps is installed.

1. If one of these pumps is installed, and if the aircraft is equipped for IFR flight, fabricate using minimum 0.10 inch letters, and install a placard in full view of the pilot which states; 'FLIGHT IN IFR CONDITIONS PROHIBITED', and operate in accordance with this limitation.

2. And within 15 days after the effective date of this AD, replace the subject pump and replace the placard. Return pump to Airborne as described in Airborne Service Letter 30, dated November 11, 1985.

B. For Airborne Auxiliary Dry Air Pump P/N 4A2-1 or 4A3-1, prior to further flight in IFR conditions, inspect auxiliary dry air pump if installed, to determine if one of the subject pumps is installed.

1. If one of these pumps is installed, and if the aircraft is equipped for IFR flight, fabricate using minimum 0.10 inch letters, and install a placard in full view of the pilot which states; 'STANDBY VACUUM SYSTEM MAY BE INOPERATIVE DUE TO VACUUM PUMP MALFUNCTION'.

2. And within 15 days after the effective date of this AD, replace the subject pump and replace the placard. Return pump to Airborne as described in Airborne Service Letter 30, dated November 11, 1985.

C. Aircraft may be flown in accordance with FAR 21.197 to a location where this AD can be accomplished.

D. An equivalent method of compliance with this AD, if used, must be approved by the Manager, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Room 232, Des Plaines, Illinois 60018, Telephone (312) 694-7357.

All persons affected by this directive may obtain copies of the documents referred to herein upon request to Betty Annable, Parker Hannifin Corp., Airborne Division, 711 Taylor Street, Elyria, Ohio 44036 or the FAA, Rules Docket, Office of the Regional Counsel, Room 1558, 601 East 12th Street, Kansas City, Missouri 64106.

This amendment becomes effective on January 31, 1986.

AIRCRAFT REGISTRATION NO.

AIRCRAFT SERIAL NO

TYPE AIRCRAFT



81-15-3 N/M
AD NUMBER

Brackett Engine Inlet Air Filter

If multi-engine: Left Right Front Rear

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
9-1-98		2523.2	VISUAL, STEEL WITH GASKET RETAINER LIP BUILT IN.	<i>[Signature]</i> S+E (27827)

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Amendment 39-4160. Applies to Brackett Aircraft Company, Inc., engine inlet air filters installed in accordance with Supplemental Type Certificate (STC) SA693CE and STC SA71GL on the following aircraft:

Beech A65, 70, 65-B80, 65-88, C-23, A-24R, and B-24R; Bonanza 33, 35, and 36, all models; Cessna Model 120, 140, 140A, 150, 150A, 150C, 150D, 150E, 150F, 150G, 150H, 150J, 150K, 150L, 150M, A150L, and A150M, 170, 170A, 170B, 172, 172A, 172B, 172C, 172D, 172E, 172F, 172G, 172H, 172I, 172K, 172L, and 172M, 177, 177A, 177B, 177RG, and F177RG, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, 185, 185A, 185B, 185C, 185D, 185E, and A185F, 210A, B, C, D, E, and 310A, B, C, D, F, G, H, I, J, K, L; Consolidated Aeronautics (Lake) LA4-200; Grumman American Model AA-1, AA-1A, AA-1B, and AA-5; Mooney M18C, M20, M20A, M20B, M20C, M20D, and M20G; Piper Model PA-20, PA-20-115, and PA-20-135, PA-23-150, 160, PA-24-180 to S/N 1477, PA31, 31-300, 31-350; and Varga (Shinn) Model 2150, certified in all categories.

Compliance required as indicated, unless already accomplished.

To prevent possible failure of the aluminum air filter retainer screen or gaskets with potential ingestion of the screen, filter element and/or gasket particles into the carburetor throat, which could result in partial or complete loss of engine power, accomplish the following:

A. Within 25 hours of time in service after the effective date of this AD, inspect aircraft as identified in Brackett Service Bulletin No. 3, Revision 1, dated March 1, 1981, as applicable, equipped with the Brackett Aircraft Company, Inc. engine inlet air filters, to determine

1. whether the air filter retainer screen is aluminum or steel, and

2. whether or not certain air filter frames incorporate a gasket retainer. Brackett filter assemblies Part Number BA 100, BA 2310, BA5710, BA 7110, BA 7210, BA 7310, BA 7410 and BA 7510 are required to have a gasket retainer incorporated. The gasket retainer may be a gasket retainer strip kit installed in accordance with Brackett Service Bulletin No. 5, dated July 28, 1980, or an extruded lip which is 1/32 inch high and an integral part of the filter frame furnished by Brackett Aircraft Company, Inc.

Note: The aluminum air filter retainer screen can be identified by any one of the following: The screen has diamond shaped mesh with openings 1 3/4 inch x 3/4 inch; aluminum screen is not magnetic; the date of manufacture was ink stamped on each retainer and may still be legible. Only retainers dated August 1978 and earlier have aluminum mesh screen.

Note: The steel retainer screen can be identified by any one of the following:

The screen is 1/8 inch diamond mesh; the screen is magnetic; date of manufacture is ink stamped on each retainer and still may be legible. Retainers dated September 1978 and later have steel mesh screen.

B. A determination that the air filter retainer screen is steel and that a gasket retainer is incorporated in the filter frame constitutes terminating action for this AD.

C. Upon determination that the retainer screen is aluminum, visually inspect the aluminum retainer assembly for cracks or failed areas.

1. If cracks or failed areas are found, prior to further flight, replace the aluminum retainer screen assembly with a steel screen assembly kit in accordance with Brackett Service Bulletin No. 3, Revision 1 dated March 1, 1979 or No. 6, Revision 1 dated June 29, 1981, as applicable. Each model air filter required that a different Brackett kit be installed to comply with this AD.

2. If cracks or failed areas are found, the air filter assembly may be temporarily returned to service. Remove retainers with aluminum screen from service prior to the accumulation of 100 hours additional time in service.

D. After the inspection required in Paragraph (A) and upon determination that a gasket retainer is not incorporated in the filter retainer, prior to the accumulation of 25 additional hours of service, install gasket retainer strips in accordance with Brackett Service Bulletin No. 5, dated July 28, 1980.

Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate aircraft to a base for the accomplishment of inspections or modifications required by this AD.

Alternative inspections, modifications or other actions which provide an equivalent level of safety may be used when approved by the Chief, Engineering and Manufacturing Branch, FAA Western Region.

The manufacturer's specifications and procedures identified and described in this directive are incorporated herein and made a part hereof pursuant to 5 U.S.C. 552(a)(1). All persons affected by this directive, who have not already received these documents from the manufacturer, may obtain copies upon request to: Brackett Aircraft Company, Inc., 5015 Roadrunner Drive, Falcon Field, Mesa, Arizona 85205. These documents may also be examined at: FAA Western Region Office, 15000 Aviation Boulevard, Hawthorne, California 90261 and at FAA Headquarters, 800 Independence Avenue, S.W., Washington, D.C. 20591. A historical file on this AD, which includes the incorporated material in full, is maintained by the FAA at its Headquarters in Washington, D.C. and at FAA Western Region Office.

This supersedes AD 78-25-05, Amendment 39-3365. ^@|M| This amendment becomes effective July 20, 1981.

N5481
AIRCRAFT REGISTRATION NO.



88-3-6 N
AD NUMBER

CD-174
AIRCRAFT SERIAL NO.

Continental Oil Filters

TYPE AIRCRAFT

If multi-engine: Left Right Front Rear Engine Model/Serial No: _____

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
			N/A - THIS A/C USES CH 48110	M. J. Young MS 1228221

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Amendment 39-5888. Applies to IO-360, TSIO-360, O-470, IO-470, TSIO-470, IO-520, TSIO-520, GTSIO-520 and IO-550 series engines equipped with oil filters.

Compliance is required at the next oil change or within 10 flight hours, whichever occurs first, unless already accomplished.

To prevent possible loss of engine oil and subsequent engine failure, accomplish the following:

(a) Determine if oil filter TCM P/N 649309 or 649310 is installed.

(1) If neither filter is installed, proceed to paragraph (b).

(2) If P/N 649309 is installed, replace with P/N 649923 or equivalent Parts Manufacturer Approval (PMA) product.

(3) If P/N 649310 is installed, replace with P/N 649922 or equivalent PMA product.

(b) Make appropriate logbook entry showing compliance with this AD.

(c) Aircraft may be ferried in accordance with the provisions of Federal Aviation Regulations 21.197 and 21.199 to a base where this priority letter AD

can be accomplished.

(d) Upon request, an equivalent means of compliance with the requirements of this priority letter AD may be approved by the Manager, Atlanta Aircraft Certification Office, FAA, 1669 Phoenix Parkway, Suite 210C, Atlanta, GA 30349.

(e) Upon submission of substantiating data by an owner or operator, through an FAA maintenance inspector, the Manager, Atlanta Aircraft Certification Office, may adjust the compliance time specified in this AD.

Notes: (1) TCM Service Bulletin No. M88-4, dated January 15, 1988, refers to this subject.

(2) TCM oil filter P/N's 649309 and 649310 in inventory should be returned to TCM in accordance with the TCM service bulletin referenced in Note 1.

This amendment 39-5888, becomes effective April 15, 1988, as to all persons except those persons to whom it was made immediately effective by individual priority letter AD 88-03-06, issued February 5, 1988, which contained this amendment.

NSYH
AIRCRAFT REGISTRATION NO.

CD-174
AIRCRAFT SERIAL NO

Beech 35-33
TYPE AIRCRAFT



93-10-2 N
AD NUMBER

Continental Engine

If multi-engine: Left Right Front Rear Engine Model/Serial No: _____

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
			N/A NEW CYLS INSTALLED 10-11-93	 A+B(12)2275
			AFTER 3-30-93	

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Amendment 39-8603. Docket 93-ANE-28.

Applicability: Teledyne Continental Motors (TCM) O-200, O-300, IO/TSIO/LTSIO-360, O/IO/TSIO-470, IO/TSIO/LTSIO/GTSIO-520, and IO/TSIO/TSIOL-550 series reciprocating engines listed by serial number in TCM Mandatory Service Bulletin (MSB) No. 93-12, dated May 12, 1993, or that contain cylinder assemblies purchased from TCM between July 29, 1992, and March 30, 1993; installed on but not limited to: Aerona Models 15AC and S15AC; American Champion (Bellanca) Models 7ACA and 402; Beagle Model 206S; Beech Models Debonairs, 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.

Compliance: Required prior to further flight, unless previously accomplished.

To prevent an engine failure due to a missing cylinder valve retainer key, accomplish the following:

(a) For engines that have less than 25 hours time in service (TIS), or unknown TIS, on the effective date of the AD since new, rebuild, or factory overhaul, visually inspect each cylinder to determine if both valve retainer keys are in place on each valve, and if the roto coil, if applicable, is properly positioned, in accordance with TCM MSB No. 93-12, dated May 12, 1993.

NOTE: Certain TCM engine models do not incorporate roto coils in the valve assembly.

(1) If a valve retainer key is missing, or if a roto coil, if applicable, is mispositioned, repair or replace the cylinder, as necessary, in accordance with the applicable TCM Overhaul Manual.

(2) If the valve retainer keys are in place, and the roto coil, if applicable, is correctly positioned, return engine to service in accordance with TCM MSB No. 93-12, dated May 12, 1993.

(b) For engines with individually installed new service or chrome plated cylinder assemblies purchased from TCM between July 29, 1992, and March 30, 1993, that have less than 25

hours TIS on the effective date of this AD since installation of any cylinder(s), visually inspect each new service or chrome plated cylinder, and repair or replace the cylinder, as necessary, in accordance with paragraph (a) of this AD.

(c) Uninstalled cylinder assemblies purchased from TCM between July 29, 1992, and March 30, 1993, must be inspected and repaired, as necessary, in accordance with paragraph (a) of this AD prior to installation on an engine.

(d) For engines that have 25 hours or more TIS on the effective date of this AD, since new, rebuild, or factory overhaul, no inspection is required.

(e) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Atlanta Aircraft Certification Office. The request should be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta Aircraft Certification Office.

NOTE: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Atlanta Aircraft Certification Office.

(f) The inspections shall be done in accordance with the following service bulletin:

Document No.	Pages	Revision	Date
TCM MSB No. 93-12	1-7	Original	May 12, 1993

Total pages: 7.

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Teledyne Continental Motors, P.O. Box 90, Mobile, AL 36601; telephone (205) 438-3411 ext. 305, fax (205) 438-3411 ext. 179. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(g) This amendment becomes effective August 12, 1993, to all persons except those persons to whom it was made immediately effective by priority letter AD 93-10-02, issued May 17, 1993, which contained the requirements of this amendment.

N5481
AIRCRAFT REGISTRATION NO.



93-8-17 N
AD NUMBER

CD-174
AIRCRAFT SERIAL NO

Continental Engine

BEECH 35-33
TYPE AIRCRAFT

If multi-engine: Left Right Front Rear Engine Model/Serial No: _____

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
			N/A BY ENG. SER# 86103-K	PER REVIEW OF S/B <i>M. J. Young</i> ATE 12/2/91

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Amendment 39-8565. Docket 92-ANE-05.

Applicability: Teledyne Continental Motors (TCM) rebuilt and overhauled Model O-470, IO-470, IO-520, TSIO-520, and IO-550 series engines listed by serial number in TCM Service Bulletin (SB) No. M91-10, Revision 1, dated November 27, 1991, installed on but not limited to Cessna, Piper, and Beechcraft aircraft.

Compliance: Required as indicated, unless accomplished previously.

To prevent an engine failure, accomplish the following:

(a) Within the next 50 hours time in service after the effective date of this AD, inspect engines for an incorrect oil pick-up tube in accordance with the instructions of TCM SB No. M91-10, Revision 1, dated November 27, 1991.

(b) If an Incorrect oil pick-up tube is installed, prior to further flight remove the oil pick-up tube and oil sump, and replace with serviceable parts.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Atlanta Certification Office. The request should be forwarded through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta Certification Office.

NOTE: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Certification Office.

(d) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate the airplane to a location where the requirements of this AD can be accomplished.

(e) The inspection of the installation of the oil pick-up tube shall be done in accordance with the following service bulletin:

Document No.	Pages	Revision	Date
TCM M91-10	1-3	1	November 27, 1991
Total Pages: 3			

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 5 1. Copies may be obtained from Teledyne Continental Motors, P.O. Box 90, Mobile, Alabama 36601. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, Massachusetts; or at the Office of the Federal Register, 800 North Capitol Street NW., suite 700, Washington, DC.

(f) This amendment becomes effective on August 23, 1993.

NEED SB TCM M91-10

NS481
AIRCRAFT REGISTRATION NO.
CD-174
AIRCRAFT SERIAL NO.
Beech 35-33
TYPE AIRCRAFT



97-21-2 N
AD NUMBER

Continental Engine

If multi-engine: Left Right Front Rear Engine Model/Serial

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
			N/A BY CYL.#'S	<i>[Signature]</i> A+E (27822)

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Amendment 39-10155. Docket No. 97-ANE-39-AD. Supersedes Priority Letter AD 97-15-01, issued July 17, 1997.

Applicability: Teledyne Continental Motors (TCM) new and rebuilt Model O-470 and IO-470 series reciprocating engines with serial numbers (S/Ns) listed in Table 1 of TCM Critical Service Bulletin (CSB) No. CSB97-10A, dated July 15, 1997; and TCM Model E-165, E-185, E-225, O-470 and IO-470 series reciprocating engines, regardless of S/N, which have cylinder(s) with part number and purchase date as shown in Table 2 of TCM CSB No. CSB97-10A, dated July 15, 1997. These engines are installed on but not limited to the following aircraft: Bellanca Models 14-19-2 and 14-19-3; Cessna Models 180, 180A through K, 182, 182A through R, 185, 185A through E, 188, 188A, 188B, 210, 210A through C, 210-5 (205), 210-5A (205A), 305A, 305C, 305D, 305F, 310, 310A through Q, E310H, E310J, 310J-1; Frontier-Aerospace, Inc. (Fletcher) Models FU-24 and FU-24A; Luscombe Aircraft Corporation Model 11A; Navion models Navion, Navion A, and Navion D through G; Prop-Jets, Inc. Models 200, 200A through C; Raytheon (formerly Beech) Models 35, A35 through P35, 35R, 35-33, 35-A355, 35-B33, 35-C33, E33, F33, 45 (YT-34), A45 (T-34A, B-45), D45 (T-34B), 95-55, 95-55A, 95-B55, 95-B55A and 95-B55B; Reims models F182P and F182Q; and Twin Commander Aircraft, Inc. Model 500-A.

Note 1: This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent extreme side loading of the piston, and consequent failure of the piston and engine, accomplish the following:

(a) Operators that have removed affected cylinders in accordance with priority letter AD 97-15-01 and TCM CSB No. CSB97-10, dated June 19, 1997, are in compliance with this AD and no further action is required.

(b) For the TCM O-470 and IO-470 series engines listed by S/N in Table 1 of TCM CSB No. CSB97-10A, dated July 15, 1997, within 10 hours time in service (TIS) after the effective date of this AD, accomplish the following:

(1) Remove from service the cylinders, six each, and the piston pins, six each, in accordance with the Inspection Instructions, Part 2-1(a), of TCM CSB No. CSB97-10A, dated July 15, 1997.

(2) Obtain serviceable replacement parts and reassemble the engine in accordance with the Inspection Instructions, Part 2-2, of TCM CSB No. CSB97-10A, dated July 15, 1997.

(c) For the E-165, E-185, E-225, series engines and those O-470 and IO-470 series engines not listed by S/N in Table 1 of TCM CSB No. CSB97-10A dated July 15, 1997, within 10 hours TIS after the effective date of this AD, accomplish the following:

(1) Determine from engine log books or maintenance records if a cylinder has been replaced with a cylinder purchased in the time frames shown in Table 2 of TCM CSB No. CSB97-10A, dated July 15, 1997.

(2) If a cylinder was not replaced with a cylinder purchased during those time frames listed in the CSB, or if a cylinder is identified with the letter "M" or "P" steel stamped after the cylinder position number, as cylinders marked with "M" or "P" have a surface finish that has been found to be within specification, no further action is required. The cylinder position number is located at the 12 o'clock position on the cylinder mounting flange.

(3) If a cylinder has been replaced with a cylinder purchased during those time frames listed in the CSB, remove from service the affected cylinders and piston pins in accordance with the Inspection Instructions, Part 2-1(a) of TCM CSB No. CSB97-10A, dated July 15, 1997.

(4) Obtain serviceable replacement parts and reassemble the engine in accordance with the Inspection Instructions, Part 2-2, of TCM CSB No. CSB97-10A, dated July 15, 1997.

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Atlanta Aircraft Certification Office. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta Aircraft Certification Office.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Atlanta Aircraft Certification Office.

(e) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be accomplished.

(f) The actions required by this AD shall be done in accordance with the following TCM CSB:

Document No.	Pages	Date
CSB97-10A	1-11	July 15, 1997
Total pages: 11.		

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Teledyne Continental Motors, PO Box 90, Mobile, AL 36601; telephone toll free (888) 826-5874. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

(g) This amendment supersedes priority letter AD 97-15-01, issued July 17, 1997.

(h) This amendment becomes effective on October 27, 1997.

FOR FURTHER INFORMATION CONTACT: Jerry Robinette, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, 1895 Phoenix Boulevard, One Crown Center, Suite 450, Atlanta, GA 30349; telephone (770) 703-6096, fax (770) 703-6097.

AIRCRAFT REGISTRATION NO.

AIRCRAFT SERIAL NO

TYPE AIRCRAFT

adNote™

2000-23-21 N/M
AD NUMBER

Teledyne Continental Engine

If multi-engine: Left Right Front Rear

Engine Model/Serial

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
1-20-01	+	+	N/A BY CRANKSHAFT DATE	<i>M.J. GARDNER</i> M.J. GARDNER

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Amendment 39-11994. Docket 2000-NE-16-AD. Supersedes Emergency AD 2000-08-51. Docket 2000-NE-16-AD.

Applicability

This Airworthiness Directive (AD) is applicable to Teledyne Continental Motors (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 reciprocating engines that were assembled, rebuilt, or overhauled using a crankshaft that was manufactured between April 1, 1998, and March 31, 2000, listed by engine and crankshaft serial number (SN) in TCM Mandatory Service Bulletin (MSB) 00-5C, dated October 10, 2000.

Note 1: The engines and crankshafts that are the subject of this AD were manufactured by TCM from April 1, 1998 through March 31, 2000. However the dates that the engines and crankshafts were delivered may not coincide with their dates of manufacture. For crankshafts identified in paragraph (a) of this AD, TCM has already determined which engines have a new suspect crankshaft installed and have identified those engines by engine SN. The crankshaft SN is only used to determine the need for taking a core sample for those crankshafts identified in paragraph (a) and (b) of this AD. The engine SN can be found in logbooks or other maintenance records. For those engines that were overhauled in the field with factory new crankshafts, the crankshaft SN should be shown in work orders, log books or other maintenance records. If the engine was assembled new, rebuilt, or overhauled on or before March 31, 1998, or on or after April 1, 2000, no action is required.

Note 2: This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance

Compliance with the requirements of this AD is required within the next 10 hours time-in-service from the effective date of this AD, unless already done.

To prevent crankshaft connecting rod journal fracture, which could result in total engine power loss, in-flight engine failure and possible forced landing, do the following:

Note 3: TCM supplies an instructional video in the tool kit for MSB 00-5C. It is recommended that the technician views and understands "Instructional Video for Compliance with Teledyne Continental Motors Mandatory Service Bulletin MSB 00-5C" before performing these procedures.

Crankshaft Material Inspection

(a) For those engines and crankshafts listed by SN in TCM MSB 00-5C, dated October 10, 2000, do the crankshaft material inspection (crankshaft propeller flange core sample) as follows:

Note 4: The engine SN's listed in TCM MSB 00-5C contain only the numerical portion of the SN. Engines that have been rebuilt by TCM will have a letter "R" at the end of the six digit numerical portion. Disregard the letter "R."

(1) Do the crankshaft material inspection (crankshaft propeller flange core sample) in accordance with sections A through J of TCM MSB 00-5C, dated October 10, 2000, as follows:

(i) Use the specialized tools and equipment provided by TCM as listed in section A of TCM MSB 00-5C, dated October 10, 2000.

(ii) You may use each rotobroach bit to obtain up to six core samples. Replace the rotobroach after the sixth core sample, or before if the rotobroach does not cut with the maximum torque applied.

(iii) Maintain a record of each core sample obtained with each rotobroach bit used. Contact TCM to obtain additional rotobroach bits.

(iv) Do not exceed the torque limits specified in TCM MSB 00-5C, dated October 10, 2000, when obtaining the core sample.

(2) After obtaining the results of the core sample evaluation, disposition the crankshaft as follows:

(i) If TCM notifies you that the crankshaft is not serviceable, replace the crankshaft with a serviceable crankshaft of the same part number before further flight.

(ii) If TCM notifies you that the crankshaft is serviceable, the propeller assembly may be reinstalled.

Installation of Crankshafts

(b) After the effective date of this AD, do not install a crankshaft with a SN that is listed in MSB 00-5C, dated October 10, 2000, unless core samples have been taken and TCM has approved it for return to service.

(c) Crankshaft material inspections (crankshaft propeller flange core samples) that were done using TCM MSB 00-5, dated April 14, 2000; MSB 00-5A, dated April 28, 2000; or MSB 00-5B, dated May 25, 2000, comply with this AD and must not be repeated.

Alternative Methods of Compliance

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Atlanta Aircraft Certification Office (ACO). Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta ACO.

Note 5: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Atlanta ACO.

Incorporation by Reference Material

(e) The actions required by this AD shall be performed in accordance with Teledyne Continental Motors MSB 00-5C, dated October 10, 2000. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Teledyne Continental Motors, PO Box 90, Mobile, AL 36601; telephone toll free 1-888-200-7565, or on the TCM internet site "www.tcmlink.com". Copies may be inspected at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

Effective Date of This AD

(f) This amendment becomes effective on December 12, 2000.

FOR FURTHER INFORMATION CONTACT: Jerry Robinette, Senior Engineer, Propulsion, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, One Crown Center, 1895 Phoenix Blvd., Suite 450, Atlanta, GA 30349; telephone: (770) 703-6096, fax: (770) 703-6097.

Issued in Burlington, Massachusetts, on November 13, 2000.

David A. Downey, Assistant Manager, Engine and Propeller Directorate, Aircraft Certification Service.

AIRCRAFT REGISTRATION NO.

AIRCRAFT SERIAL NO

TYPE AIRCRAFT



2000-8-51 N/M
AD NUMBER

Teledyne Continental Engine

If multi-engine: Left Right Front Rear

Engine Model/Serial

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
5/4/2000	T	T	N/A BY CRANKSHAFT DATE	<i>M. J. Granger</i> A+E (2) 2275

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Docket No. 2000-NE-16-AD.

Applicability: This Airworthiness Directive (AD) is applicable to Teledyne Continental Motors (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 that were assembled, rebuilt, or overhauled using a crankshaft that was manufactured between April 1, 1998, and March 31, 2000, listed by engine and crankshaft serial number (SN) in TCM Mandatory Service Bulletin (MSB) 00-5A, dated April 28, 2000.

NOTE 1: The engines and crankshafts that are the subject of this AD were manufactured by TCM from April 1, 1998 through March 31, 2000. However the dates that the engines and crankshafts were delivered may not coincide with their dates of manufacture. For crankshafts identified in paragraph (a) of this AD, TCM has already determined which engines have a new suspect crankshaft installed and have identified those engines by engine SN. The crankshaft SN is only used to determine the need for taking a core sample for those crankshafts identified in paragraph (a) and (b) of this AD.

NOTE 2: The engine SN can be found in logbooks or other maintenance records. For those engines that were overhauled in the field with factory new crankshafts, the crankshaft SN should be shown in work orders, log books or other maintenance records. If the engine was assembled new, rebuilt, or overhauled on or before March 31, 1998, or on or after April 1, 2000, no action is required.

NOTE 3: This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Compliance with the following instructions is required within the next 10 hours time-in-service from the receipt of this Emergency AD, unless already accomplished.

To prevent crankshaft failure due to crankshaft connecting rod journal fracture, which could result in total engine power loss, in-flight engine failure and possible forced landing, do the following:

NOTE 4: TCM supplies an instructional video in the tool kit for MSB 00-5A. It is recommended that the technician views and understands "Instructional Video for Compliance with Teledyne Continental Motors Mandatory Service Bulletin MSB 00-5A" before performing these procedures.

Crankshaft Material Inspection

(a) For those engines and crankshafts listed by SN in TCM MSB 00-5A, dated April 28, 2000, perform the crankshaft material inspection (crankshaft propeller flange core sample) as follows:

NOTE 5: The engine SN's listed in TCM MSB 00-5A contain only the numerical portion of the SN. Engines that have been rebuilt by TCM will have a letter "R" at the end of the six digit numerical portion. Disregard the letter "R."

(1) Perform the crankshaft material inspection (crankshaft propeller flange core sample) in accordance with sections A through J of TCM MSB 00-5A, dated April 28, 2000, as follows:

(i) Use the specialized tools and equipment provided by TCM as listed in

section A of TCM MSB 00-5A, dated April 28, 2000.

(ii) You may use each rotobroach bit to obtain up to six core samples. Replace the rotobroach after the sixth core sample, or before if the rotobroach does not cut with the maximum torque applied.

(iii) Maintain a record of each core sample obtained with each rotobroach bit used. Contact TCM to obtain additional rotobroach bits.

(iv) Do not exceed the torque limits specified in TCM MSB 00-5A, dated April 28, 2000, when obtaining the core sample.

(2) After obtaining the core sample, disposition the crankshaft as follows:

(i) If TCM notifies you that the crankshaft is not serviceable, replace the crankshaft with a serviceable crankshaft of the same part number prior to further flight.

(ii) If TCM notifies you that the crankshaft is serviceable, the propeller assembly may be reinstalled.

Installation of Crankshafts

(b) After the effective date of this AD, installation of a crankshaft with a SN that is listed in MSB 00-5A, dated April 28, 2000, is prohibited, unless core samples have been taken and TCM approval for return to service has been received.

(c) Crankshaft material inspections (crankshaft propeller flange core samples) performed in accordance with TCM MSB 00-5, dated April 14, 2000, comply with this AD and must not be repeated.

Alternative Methods of Compliance

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Atlanta Aircraft Certification Office (ACO). Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta ACO.

NOTE 6: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Atlanta ACO.

(e) Copies of the applicable service information may be obtained from Teledyne Continental Motors, PO Box 90, Mobile, AL 36601; telephone toll free 1-888-200-7565, or on the TCM internet site "www.tcmlink.com." This information may also be examined at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA 01803.

(f) **Emergency AD 2000-08-51, issued April 28, 2000, becomes effective upon receipt.**

FOR FURTHER INFORMATION CONTACT: Jerry Robinette, Senior Engineer, Propulsion, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, One Crown Center, 1895 Phoenix Blvd., Suite 450, Atlanta, GA 30349; telephone (770) 703-6096, fax (770) 703-6097. Issued in Burlington, Massachusetts on April 28, 2000. David A. Downey, Assistant Manager, Engine and Propeller Directorate, Aircraft Certification Service.

N5481
AIRCRAFT REGISTRATION NO.

adNote™

96-12-22 R
AD NUMBER

CD-174
AIRCRAFT SERIAL NO.

Oil Filter Adapters

BEECH 33/35
TYPE AIRCRAFT

If Multi-engine: Left Right Front Rear Engine Model/Serial No: 10-470 K

DATE	TOTAL TIME AT COMPL.	TACH OR RECORDING METER TIME AT COMPL.	METHOD OF COMPLIANCE	NEXT COMPL	DUE AT	AUTHORIZED SIGNATURE & NUMBER
				TOTAL TIME	DATE, TACH, OR RECORDING METER TIME	
9-1-98	1008.0	2523.26	INSTALLED NGJ O-RING			M. J. Gray A+E1278225
	-	-	#2 (1) (2) (3)			
1-20-01	1029.0	2544.0	DURING OIL + FILTER CHG. TORQUE TO 55'±			M. J. Gray A+E1278225
1-03-04	1043.0	2558.0	TORQUE TO 60'± & APPLIED TORQUE SEAL.			

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Amendment 39-9665; Docket No. 93-CE-54-AD.

Applicability: Cessna Engine Oil Filter Adapters Assemblies, part numbers 0450404-(all dash numbers), 0556004-(all dash numbers), 0556010-(all dash numbers), 0756023-(all dash numbers), 0756024-(all dash numbers), 1250403-(all dash numbers), 1250417-(all dash numbers), 1250418-(all dash numbers), 1250921-(all dash numbers), and 1250922-(all dash numbers), installed on, but not limited to, the following:

- (1) Cessna Models 100, 200, 300, and 400 Series airplanes (all serial numbers), certificated in any category, that are equipped with at least one Teledyne Continental Motors (TCM) engine.
- (2) Airplanes that have an affected full flow engine oil adapter installed by field approval, including, but not limited to, the following model or series airplanes, certificated in any category:

Manufacturer
Rockwell/Aero Commander/Meyers
Twin Commander
Beech
Piper
Navion
Wren
Beilanca

Series/Models
200 Series
Models 500A and 685
33, 35, 36, and 55 Series
PA-46 Series
Rangemaster 17 Series
Model 460
260 and 300 Series


- (3) Airplanes equipped with any of the following Teledyne Continental Motors model or model series engines:

O-200 O-470 IO-470
TSIO-470 O-520 IO-520
TSIO-520 GTSIO-520 IO-550
TSIO-550

NOTE 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (f) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

NOTE 2: This AD does not apply to engine oil filter adapter assemblies manufactured by Teledyne Continental Motors (See Figure 1 of this AD).

Compliance: Required initially as specified in both of the following, and thereafter as indicated in the body of this AD:

1. Within the next 100 hours time-in-service (TIS) after the effective date of this AD or when the engine oil filter is removed, whichever occurs first; and
 2. Every time the engine oil filter is removed. 
- To prevent loss of engine oil caused by loose or separated oil filter adapters, which could result in engine stoppage while in flight and loss of control of the airplane, accomplish the following:
- (a) For airplanes with engine oil filter adapter assemblies that do not have torque putty between the engine filter adapter assembly, nut, and oil pump housing, accomplish the following:

- (1) Inspect the adapter locking nut installation for evidence of oil leakage.

- (2) Check the torque of the adapter nut installation and ensure that the torque value is within the limits of 50 through 60 foot pounds.

- (3) If evidence of oil leakage is found or the torque is not within the 50 through 60-foot pound limit, prior to further flight, remove the adapter and filter assembly, and:

- (i) Inspect the threads of the adapter assembly and engine for signs of damaged or cracked threads; and

- (ii) Replace any adapter assembly and engine oil pump housing (if necessary) that have evidence of thread damage or cracks.

- (4) Apply torque putty between the engine filter adapter assembly, nut, and oil pump housing as specified in Figure 1 of this AD.

- (5) Reassemble the engine oil filter assembly.

- (b) For airplanes with torque putty between the engine filter adapter assembly, nut, and oil pump housing, inspect the torque putty for misalignment, evidence of oil leakage, or cracks.

- (1) If any misalignment, evidence of oil leakage, or torque putty cracks are found, prior to further flight, accomplish the requirements specified in paragraph (a) of this AD, including all subparagraphs.

- (2) If no misalignment, evidence of oil leakage, or torque putty cracks are found, reinspect at intervals not to exceed 100 hours TIS until the engine oil filter is removed.

- (c) Replacing the engine oil filter adapter assembly does not eliminate the repetitive inspection requirement of this AD.

- (d) The repetitive inspections of the torque putty as required by this AD may be performed by the owner/operator holding at least a private pilot certificate as authorized by section 43.7 of the Federal Aviation Regulations (14 CFR 43.7), and must be entered into the aircraft records showing compliance with this AD in accordance with section 43.11 of the Federal Aviation Regulations (14 CFR 43.11).

- (e) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

- (f) An alternative method of compliance or adjustment of the initial or repetitive compliance time that provides an equivalent level of safety may be approved by the Manager, Wichita Aircraft Certification Office (ACO), 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Wichita ACO.

NOTE 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Wichita ACO.

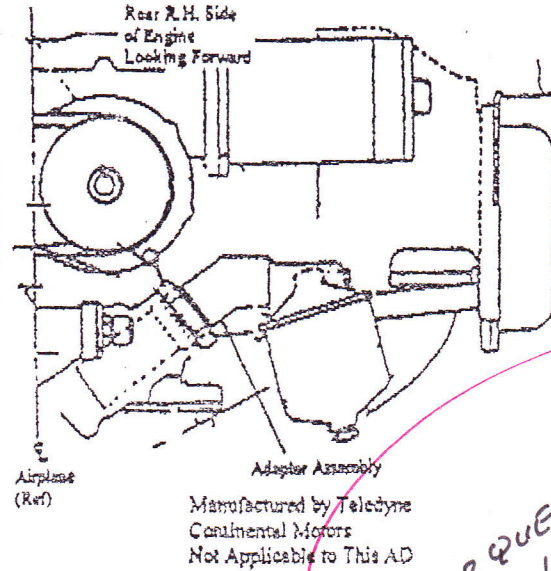
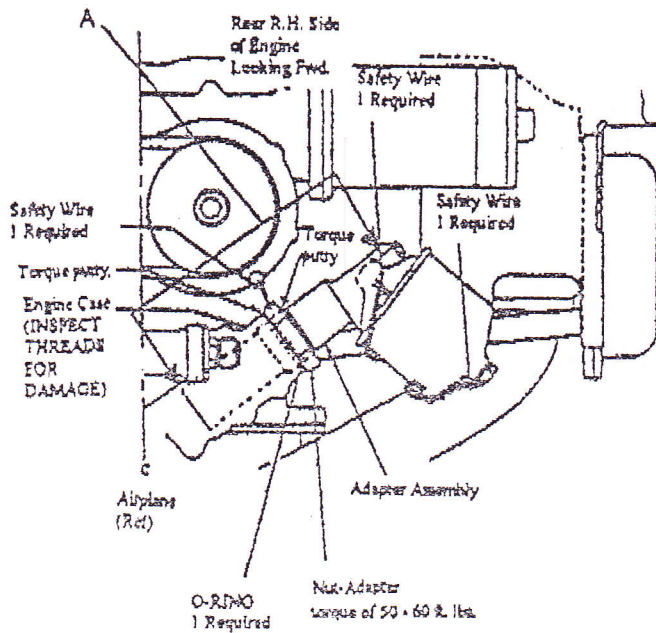
- (g) Information related to this AD may be examined at the FAA, Central Region, Office of the Assistant Chief Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

- (h) This amendment becomes effective on July 31, 1996.

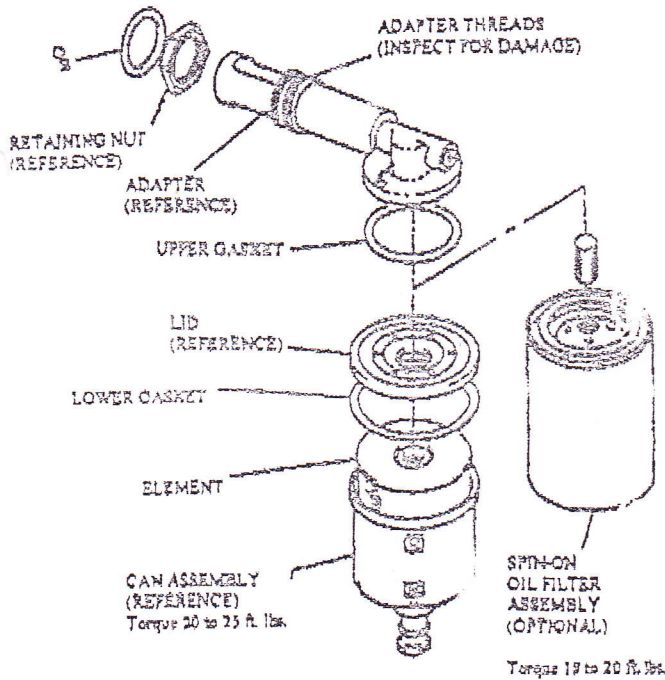
FOR FURTHER INFORMATION CONTACT:
Mr. Paul O. Pendleton, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone (316) 946-4143; facsimile (316) 946-4407.

FOR A COPY OF FIGURE 1, CALL AFS-610 AT (405) 954-4103.

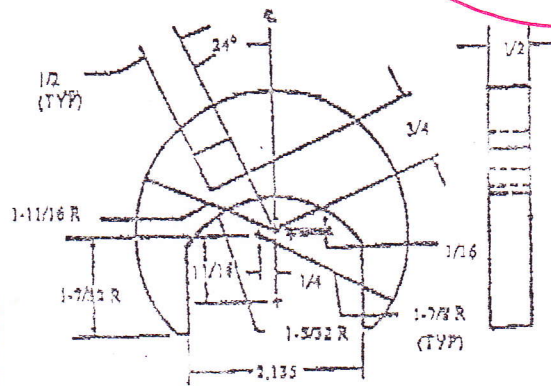
AD 96-12-22
1N-FO



TORQUE VALUE.
50-60 LBS.



DETAIL A



ALL DIMENSIONS ARE INCHES

MATERIAL: 4130 (Re. 35-38)

TOOL NUMBER SE709 IS AVAILABLE FROM THE CBSSNA SERVICE PARTS CENTER

Snap-On crows foot P/N AN8506-34A.

have ground down the ends for clearance.

Figure 1. Oil Filter Adapter Installation

AD 96-12-22

N5481
AIRCRAFT REGISTRATION NO.

CD-174
AIRCRAFT SERIAL NO.

TYPE AIRCRAFT



79-5-9 N
AD NUMBER

Continental Engine

If multi-engine: Left Right Front Rear Engine Model/Serial No: _____

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
			N/A BY ENG. SER. # 86103-1-K	
			(NO IO-470K's LISTED BELOW)	
			(REVERSE SIDE ONLY 92767R THRU 92779R)	

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Amendment 39-3426. Applies to:
NEW ENGINES - Model and Serial Numbers

O-470R--466555, 466556, 466561, 466562, 466566 thru 466574

O-470S--464570

O-470U--467230 thru 467237, 467250 thru 467261, 467263 thru 467271, 467273 thru 467313, 467315 thru 467373, 467375, 467377 thru 467397, 467399 thru 467406, 467408 thru 467417, 467419 thru 467448, 467450, 467451, 467453 thru 467464, 467466 thru 467487, 467489 thru 467520, 467523, 567524, 467526 thru 467531, 467533 thru 467539, 467541, 467544 thru 467547, 467550 thru 467558

IO-470F--453049, 453050

IO-470L--465350 thru 465352, 465354, 465355, 465357 thru 465359, 465361 thru 465363, 465370 thru 465378, 465380, 465382, 465385, 465388, 465392, 465393, 465395 thru 465399, 465402, 465406, 465408, 465412, 465414, 465415, 465418 thru 465420, 465431 thru 465433, 465437, 465438, 465440, 465441, 465446, 465449 thru 465459

IO-470N--458085, 458087 thru 458125, 458127

IO-520BA & BB--569432, 569447, 569448, 569451 thru 569456, 569458, 569461, 569463 thru 569468, 569485, 569507, 569512, 569527, 569566 thru 569593, 569609, 569612, 569619, 569622, 569629, 569637 thru 569659, 569675, 569691, 569713, 569720, 569721, 569723, 569724, 569725 thru 569731, 569734

IO-520C & CB--561981, 561990, 561991, 561993, 561998, 571001, 571011, 571015, 571016, 571018, 571025, 571027, 571031, 571033, 571034, 571037, 571041, 571043 thru 571047, 571052, 571065, 571067, 571070, 571071, 571074 thru 571077, 571082, 571089 thru 571093, 571112, 571114, 571123, 571125, 571127 thru 571129, 571133, 571137, 571139 thru 571143, 571149, 571166 thru 571172, 571178, 571180, 571181, 571184, 571185, 571187, 571223 thru 571228

IO-520D--566792 thru 566794, 566812 thru 566819, 566821, 566840, 566852, 566856, 566869, 566873 thru 566877, 566880 thru 566884, 566886 thru 566893, 566895 thru 566899, 566900 thru 566929, 566931, 566933, 566934, 566937, 566939, 566941, 566943 thru 566948, 566952 thru 566958, 566962 thru 566965, 566982 thru 566989, 566991 thru 566999, 572001 thru 572003, 572005 thru 572019, 572022 thru 572024, 572026 thru 572032, 572035 thru 572041, 572043 thru 572055, 572057 thru 572062, 572070, 572077

IO-520E--556389, 556391, 556395, 556396, 556397, 556407 thru 556441

IO-520F--570043 thru 570046, 570066 thru 570266, 570268 thru 570275, 570277 thru 570281, 570284, 570285, 570290 thru 570292, 570300 thru 570312

IO-520K--557360 thru 557367, 557369, 557371, 557373 thru 557405

IO-520L--567255, 567256, 567264, 567266, 567270 thru 567280, 567282 thru 567293, 567295, 567296, 567299 thru 567312, 567314 thru 567316, 567318, 567320 thru 567325, 567327 thru 567336, 567338, 567339, 567342 thru 567350, 567352 thru 567355, 567359 thru 567363

IO-520M & MB--565506 thru 565509, 565511, 565512, 565514 thru 565529, 565532 thru 565546, 565548 thru 565552, 565554, 565557, 565560 thru 565563, 565565 thru 565587, 565589, 565592, 565593, 565596, 565598 thru 565600, 565602, 565603, 565607 thru 565627, 565629, 565631, 565632, 565634, 565635, 565636 thru 565641, 565649, 565651 thru 565653, 565657, 565658, 565662, 565667, 565668, 565671, 565672, 565678, 565692, 565698

TSIO-520B & BB--500639, 500644, 500650, 500651 thru 500654, 500660 thru 500665, 500667 thru 500672, 500674, 500675, 500679, 500680, 500682 thru 500700, 500703, 500704, 500707 thru 500721, 500723 thru 500726, 500728, 500729, 500733 thru 500738, 500740, 500742, 500744, 500747, 500749, 500751, 500752, 500755, 500758 thru 500760, 500771, 500772, 500775, 500776, 500790, 500792, 500794

TSIO-520C--501540, 501541, 501543 thru 501545

TSIO-520D & DB--505009

TSIO-520E & EB--501408 thru 501413, 501421 thru 501427, 501430 thru 501470

TSIO-520H--506865 thru 506868

TSIO-520J & JB--503605, 503607 thru 503611

TSIO-520K & KB--504314

TSIO-520L & LB--508546, 508549, 508551 thru 508553, 508557, 508559 thru 508573, 508576, 508579, 508580, 508583 thru 508601, 508603 thru 508607, 508609, 508611 thru 508614, 508618 thru 508626, 508628 thru 508630, 508633, 508681 thru 508693, 508695 thru 508697, 508706

TSIO-520M--511379 thru 511408, 511410 thru 511420, 511423 thru 511425, 511426 thru 511438, 511440 thru 511448, 511451 thru 511459, 511461 thru 511463, 511465 thru 511474, 511476 thru 511480, 511482 thru 511484, 511486 thru 511491, 511493, 511495 thru 511497, 511499, 511503 thru 511505, 511507 thru 511521, 511523 thru 511532, 511535, 511537 thru 511554, 511559

TSIO-520N & NB--514303, 514313, 514315 thru 514318, 514327, 514330 thru 514332, 514334 thru 514407, 514409 thru 514412, 514414 thru 514418, 514420 thru 514434, 514436 thru 514440, 514442 thru 514464, 514467 thru 514491, 514495 thru 514497, 514499, 514501, 514503 thru 514525, 514529 thru 514531, 514534 thru 514537, 514541 thru 514543, 514547 thru 514550, 514552, 514553, 514555 thru 514558, 514560 thru 514571, 514575 thru 514582, 514584 thru 514591, 514593, 514595, 514597, 514598, 514601 thru 514604, 514606 thru 514609, 514618 thru 514623, 514630 thru 514634, 514640, 514642, 514645, 514650, 514651, 514657, 514658, 514662, 514664, 514665, 514671, 514679, 514681, 514691, 514698, 514701, 514728, 514763, 514766 thru 514768, 514771, 514792 thru 514794, 514797, 514815

TSIO-520P--513028, 513031, 513048 thru 513081, 513083 thru 513125, 513127 thru 513129, 513133 thru 513140, 513142, 513143, 513146, 513150 thru 513161, 513164, 513166, 513168 thru 513177, 513181, 513185, 513190, 513191, 513193 thru 513195

TSIO-520R--512759, 512779, 512790 thru 512811, 512813 thru 512833, 512835 thru 512842, 512844 thru 512909, 512911 thru 512976, 512978 thru 512986, 512988 thru 512991, 512993 thru 512995, 512997, 512998, 517000 thru 517030, 517032 thru 517035, 517037 thru 517043, 517045 thru 517054, 517056 thru 517065, 517067 thru 517074, 517077, 517078, 517080 thru 517082, 517084 thru 517086, 517088 thru 517102, 517104, 517107, 517108, 517109, 517111

TSIO-520T--515008, 515009, 515014, 515016, 515017, 515022, 515023, 515026, 515027, 515030 thru 51 5032, 515039 thru 515044, 515046, 515047, 515051, 515053, 515055, 515056

TSIO-520U--515501 thru 515506

TSIO-520VB--516001 thru 516024, 516026 thru 516030, 516033, 516035, 516037, 516039, 516041, 516043 thru 516045, 516050, 516053, 516057, 516060 thru 516064, 516080 thru 516083, 516091, 516114 thru 516117

(Over)

GTSIO-520C--602228
 GTSIO-520H--600993, 600995, 607000, 607002, 607003
 GTSIO-520K--605149, 605150, 605152 thru 605154
 GTSIO-520L--604797, 604932, 604937, 604938, 604942 thru 604953, 604955
 thru 604966, 604968 thru 604975, 604978, 604981 thru 604983, 604985,
 604986, 604988, 604989, 604991 thru 604994, 604996 thru 604999, 608000
 thru 608002, 608004 thru 608011, 608014, 608018, 608020, 608023 thru
 608029, 608034, 608040, 608043 thru 608048, 608050 thru 608053, 608064,
 608066
 GTSIO-520M--606363, 606366, 606400 thru 606439, 606441, 606443, 606444,
 606452 thru 606454, 606456, 606459, 606460, 606475

REBUILT ENGINES - Model and Serial Numbers

IO-346A--230102R, 230103R
 6-285CA--227150R thru 227152R, 227154R thru 227162R, 227173R, 227175R,
 227176R
 O-470G--70671R thru 70673R
 O-470J--202093R, 202094R, 202096R thru 202102R
 O-470K--49345R thru 49350R
 O-470L--69571R, 69572R, 69575R thru 69584R, 69586R thru 69588R
 O-470M--54081R thru 54085R, 54088R thru 54100R
 O-470R--226839R, 226858R, 226863R, 226865R, 226868R thru 226907R,
 226909R thru 226914R, 226916R thru 226944R, 226946R, 226949R thru
 226954R, 226956R, 226958R, 226962R
 O-470S--226259R, 226261R thru 226270R, 226272R thru 226281R
 O-470U--230351R, 230352R, 230354R
 IO-470C--227245R thru 227264R
 IO-470D--105517R thru 105523R, 105525R thru 105527R, 105529R
 IO-470E--88716R thru 88719R
 IO-470F--89762R thru 89766R
 IO-470H--87327R
 IO-470J--89100R thru 89102R
 IO-470K--92767R thru 92779R
 IO-470L--230033R, 230035R, 230038R thru 230069R, 230071R thru 230077R,
 230079R thru 230082R, 230084R, 230085R, 230088R, 230089R, 230094R,
 230095R
 IO-470N--96343R thru 96350R, 96352R, 96358R
 IO-470S--109282R thru 109287R
 IO-470U--118389R thru 118390R
 IO-470V--170628R thru 170652R, 170654R thru 170665R, 170670R, 170671R
 IO-520A--112401R thru 112427R, 112429R thru 112431R
 IO-520BA--122813R, 122819R, 122836R thru 122841R, 122843R thru 122858R,
 122860R thru 122872R, 122926R, 122931R thru 122934R, 122937R thru
 122942R, 122944R thru 122953R, 122956R thru 122958R, 122960R, 122962R,
 122964R thru 122966R, 122969R, 122973R thru 122975R, 122978R
 IO-520C--173250R, 173259R, 173277R, 173282R, 173284R thru 173289R,
 173294R, 173297R thru 173354R, 173356R thru 173376R, 173379R thru
 173396R, 173398R, 173399R, 231553R thru 231601R, 231604R, 231606R,
 231609R, 231610R, 231612R, 231615R, 231620R
 IO-520D--179564R, 179571R, 179577R thru 179583R, 179585R thru 179613R,
 179615R thru 179628R, 179630R thru 179644R, 179646R, 179647R, 179651R,
 179654R thru 179658R, 179660R, 179664R
 IO-520E--215537R
 IO-520F--195764R, 195767R, 195768R, 195771R, 195774R, 195779R thru
 195797R, 195799R, 195801R, 195802R, 195804R thru 195810R, 195812R thru
 195814R, 195818R thru 195829R
 IO-520K--224010R, 224011R, 224013R
 IO-520L--220560R thru 220580R
 IO-520M--227369R thru 227396R, 227398R thru 227404R
 TSIO-520B--176277R, 176281R thru 176283R, 176285R thru 176301R, 176303R
 TSIO-520C--178168R thru 178175R, 178178R
 TSIO-520E--182930R, 182932R, 182934R thru 182942R, 182944R thru 182998R,
 183000R thru 183017R, 183020R thru 183024R, 183026R thru 183051R,
 183054R, 183056R, 183057R
 TSIO-520G--216008R
 TSIO-520H--217055R thru 217067R
 TSIO-520J--218738R thru 218759R, 218761R, 218762R, 218768R thru 218770R
 TSIO-520K--224545R
 TSIO-520L--227621R, 227622R, 227624R thru 227626R, 227629R
 TSIO-520M--230128R, 230129R
 TSIO-520N--228091R thru 228114R, 228117R thru 228120R, 228122R

TSIO-520R--230228R, 230230R thru 230233R
 GTSIO-520C--155451R thru 155473R, 155479R
 GTSIO-520D--219302R thru 219312R, 219314R, 219315R, 219318R
 GTSIO-520H--218429R, 218431R thru 218448R, 182450R thru 218465R,
 218467R thru 218493R, 218500R, 231351R thru 231386R, 231388R, 231389R
 231397R
 GTSIO-520K--226041R thru 226052R
 GTSIO-520L--227825R thru 227829R, 227831R thru 227833R, 227858R,
 227860R thru 227862R
 GTSIO-520M--227914R, 227915R, 227917R thru 227922R, 227924R thru
 227929R, 227931R thru 227937R, 227939R, 227940R

In addition, all Teledyne Continental Motors engines of the above listed models, regardless of serial number, which have had the oil pump assembly or oil pressure relief valve screw and/or plunger changed in service during the period April 1, 1978 through January 5, 1979, must comply with this AD.

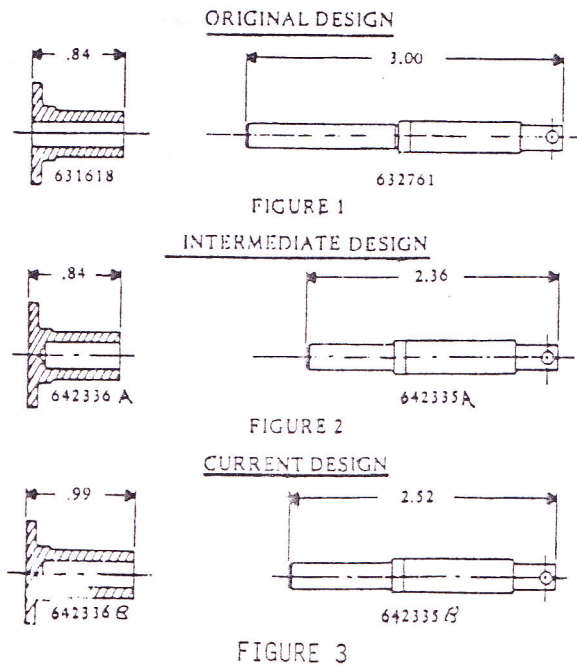
Compliance is required within the next 50 hours' time in service after the effective date of this AD, unless already accomplished.

To prevent the possible loss of oil pressure indication, accomplish the following:

(1) Inspect the oil pressure relief valve housing. If a yellow paint dot is evident, no further action is required. If the paint dot is not evident, remove the relief valve assembly, inspect the screw and plunger and compare their dimensions to the illustrations in paragraph (3).

(2) Those screws and plungers which conform dimensionally to Figure 2, "Intermediate Design," must be replaced with components conforming to Figure 3, "Current Design." The "Current Design" is contained in TCM Kit 642335KA1. Screws and plungers conforming to Figure 1, "Original Design," may be continued in service.

(3)



(4) Identify the oil pressure relief valve housing with a yellow dot on those valves with plungers installed in accordance with Figures 1 and 3.

(5) An alternate method of compliance may be approved by the Chief, Engineering and Manufacturing Branch, Federal Aviation Administration, Southern Region.

NOTE: Teledyne Continental Motors (TCM) Service Bulletin M79-2, Rev. 1, dated February 12, 1979, also pertains to this subject.

This amendment becomes effective March 12, 1979.

N5481
AIRCRAFT REGISTRATION NO.



99-19-1 N
AD NUMBER

CD-174
AIRCRAFT SERIAL NO.

Continental Engine

BECH 35-33
TYPE AIRCRAFT

If multi-engine: Left Right Front Rear

Engine Model/Serial

IO-470K # 86103-K

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
	N/A	—	N/A N5481 BY	<i>M. J. Young</i> A/E 1278270
		IO470K	SER# 86103-1-K	

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Amendment 39-11290. Docket No. 99-NE-28-AD. Supersedes AD 99-09-17. Issued August 30, 1999.

Applicability: Teledyne Continental Motors (TCM) O-470, IO-470, TSIO-470, IO-520, TSIO-520, LTSIO-520, IO-550, TSIO-550, TSIOL-550, series new and rebuilt engines manufactured between January 1, 1998, and December 31, 1998, listed by serial number (S/N) in TCM Mandatory Service Bulletin (MSB) 99-3C, dated July 27, 1999. Also, GTSIO-520 series engines, listed by S/N in TCM Critical Service Bulletin (CSB) 99-6A dated July 21, 1999. This airworthiness directive (AD) is also applicable to any other TCM O-470, IO-470, TSIO-470, IO-520, TSIO-520, LTSIO-520, IO-550, TSIO-550, TSIOL-550, and GTSIO-520 series engines that were overhauled by facilities other than TCM, and that have had replacement crankshafts installed that were sold individually by TCM and were manufactured or rebuilt between January 1, 1998, and December 31, 1998.

Note 1: Engine S/Ns can be found in logbooks or other maintenance records. For those engines that were overhauled in the field with factory new crankshafts, crankshaft S/Ns should be shown in work orders, log books or other maintenance records.

Note 2: This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (f) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent crankshaft failure due to crankshaft cheek cracks, which could result in total engine power loss, in-flight engine failure, and possible forced landing, accomplish the following:

(a) For those engines listed by S/N on pages 3 through 12 of TCM MSB 99-3C, dated July 27, 1999, or on pages 2 and 3 of TCM CSB 99-6A, dated July 21, 1999, with 500 hours or less time-in-service (TIS) on the effective date of this AD, perform visual and ultrasonic (UT) inspections of the crankshaft for cracks within 10 hours TIS after the effective date of this AD, in accordance with sections A and B of TCM 99-3C, dated July 27, 1999, or for the GTSIO-520 series engines, in accordance with sections A and B of TCM CSB 99-6A dated July 21, 1999. These inspections must be performed by TCM representatives. Disposition the crankshaft as follows:

Note 3: The engines and crankshafts that are the subject of this AD were manufactured or rebuilt by TCM during 1998. The dates that engines and crankshafts were delivered, however, may not coincide with their dates of manufacture. For the engines identified in paragraphs (a) and (b) of this AD, TCM has already determined which engines have either a new or rebuilt suspect crankshaft installed, and identified those engines by engine S/N. Only for those engines identified in paragraphs (c) and (d) of this AD does crankshaft serial number play a role in determining the need for visual and UT inspections.

Note 4: The engine S/Ns listed in TCM MSB 99-3C and TCM CSB 99-6A contain only the numerical portion of the S/N. Rebuilt engines will have the letter "R" at the end of the six digit numerical portion. This letter "R" should be disregarded and only the six digit numerical sequence should be used for determination of applicability. Only TCM is authorized to rebuild TCM engines and they have not approved any other agency to perform that function.

(1) If a crack is found, replace the crankshaft with a serviceable crankshaft of the same part number (P/N) prior to further flight.

(2) If no crack is found, reassemble the engine and return it to service.

(3) If inspections have been previously accomplished in accordance with earlier revision levels of TCM MSB 99-3 (previously CSB 99-3) or CSB 99-6, no further action is required.

(b) For those engines listed by S/N on pages 3 through 12 of MSB 99-3C, dated July 27, 1999, or on pages 2 and 3 of TCM CSB 99-6A dated July 21, 1999, with more than 500 hours TIS on the effective date of this AD, perform visual and UT inspections of the crankshaft for cracks at the next maintenance event, or within 50 hours TIS after the effective date of this AD, whichever comes first, in accordance with sections A and B of TCM MSB 99-3C, dated July 27, 1999, or for the GTSIO-520 series engines, in accordance with sections A and B of TCM CSB 99-6A, dated July 21, 1999. These inspections must be performed by TCM representatives. Disposition the crankshaft as follows:

(1) If a crack is found, replace the crankshaft with a serviceable crankshaft of the same P/N prior to further flight.

(2) If no crack is found, reassemble the engine and return it to service.

(Over)⇒

(Continuation of AD 99-19-01)

(3) If inspections have been previously accomplished in accordance with earlier revision levels of TCM MSB 99-3 (previously CSB 99-3) or CSB 99-6, no further action is required.

(c) For any other engine that was overhauled at a facility other than TCM, and that has a crankshaft installed that was manufactured or rebuilt between January 1, 1998, and December 31, 1998, with 500 hours or less TIS on the effective date of this AD, perform visual and UT inspections of the crankshaft for cracks within 10 hours TIS after the effective date of this AD, in accordance with sections A and B of TCM MSB 99-3C, dated July 27, 1999, or for the GTSIO-520 series engines, in accordance with sections A and B of TCM CSB 99-6A, dated July 21, 1999. These inspections must be performed by TCM representatives. Disposition the crankshaft as follows:

Position:	1	2,3	4,5	6,7	8
Content:	Letter A – L, representing month of manufacture	Day of month manufactured	Year of manufacture	Sequence number of crankshaft manufactured on that day	Always "N"
Example:	C	22	98	05	N

The example crankshaft, with a serial number of "C229805N", indicates a date of manufacture of March 22, 1998.

(d) For any other engine that was overhauled at a facility other than TCM, and that has a crankshaft installed that was manufactured or rebuilt between January 1, 1998, and December 31, 1998, with more than 500 hours TIS on the effective date of this AD, perform visual and UT inspections of the crankshaft for cracks at the next maintenance event, or within 50 hours TIS after the effective date of this AD, whichever comes first, in accordance with sections A and B of TCM MSB 99-3C, dated July 27, 1999, or for the GTSIO-520 series engines, in accordance with sections A and B of TCM CSB 99-6A dated July 21, 1999. These inspections must be performed by TCM representatives. Disposition the crankshaft as follows:

(1) If a crack is found, replace the crankshaft with a serviceable crankshaft of the same P/N prior to further flight.

(2) If no crack is found, reassemble the engine and return it to service.

(3) If inspections have been previously accomplished in accordance with earlier revision levels of TCM MSB 99-3 (previously CSB 99-3) or CSB 99-6, no further action is required.

(e) After the effective date of this AD, installation of a crankshaft that was manufactured or rebuilt between January 1, 1998, and December 31, 1998, is prohibited, unless it has been inspected and reidentified in accordance with section C of TCM MSB 99-3C, dated July 27, 1999, or, for the GTSIO-520 series engines, in accordance with section C of TCM CSB 99-6A, dated July 21, 1999. These inspections must be performed by TCM.

(f) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Atlanta Aircraft Certification Office (ACO). Operators shall submit their requests through an

(1) If a crack is found, replace the crankshaft with a serviceable crankshaft of the same P/N prior to further flight.

(2) If no crack is found, reassemble the engine and return it to service.

(3) If inspections have been previously accomplished in accordance with earlier revision levels of TCM MSB 99-3 (previously CSB 99-3) or CSB 99-6, no further action is required.

Note 5: The crankshaft manufacture date may be determined from the crankshaft serial number, which consists of eight characters, arranged as follows:

appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta ACO.

Note 6: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Atlanta ACO.

(g) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the inspection requirements of this AD can be accomplished.

(h) The actions required by this AD shall be accomplished in accordance with the following TCM SB's:

Document No	Page	Date
MSB 99-3C	1-26	July 27, 1999
Total pages: 26.		
CSB 99-6A	1-13	July 21, 1999
Total pages: 13.		

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Teledyne Continental Motors, PO Box 90, Mobile, AL 36601; telephone toll free (888) 200-7565. Copies may be inspected at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

(i) This amendment supersedes priority letter AD 99-09-17, issued April 22, 1999.

(j) This amendment becomes effective on September 30, 1999.

FOR FURTHER INFORMATION CONTACT: Jerry Robinette, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, One Crown Center, 1895 Phoenix Blvd., Suite 450, Atlanta, GA 30349; telephone (770) 703-6096, fax (770) 703-6097.

N5481
AIRCRAFT REGISTRATION NO.

CD-174
AIRCRAFT SERIAL NO

BEECH 35-33
TYPE AIRCRAFT



99-9-17 N
AD NUMBER

Continental Engine

If Multi-Engine: Left Right Front Rear

Model No./Serial No. IO-470K SER.# 86103K

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
			(SEE 99-19-1)	

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Priority Letter issued on April 22, 1999. Docket No. 99-NE-28-AD.

Applicability: Teledyne Continental Motors (TCM) O-470, IO-470, TSIO-470, IO-520, TSIO-520, LTSIO-520, IO-550, TSIO-550 and TSIOL-550 series new and rebuilt reciprocating engines, manufactured between January 1, 1998, and December 31, 1998, inclusive, listed by serial number (S/N) in TCM Critical Service Bulletin (CSB) 99-3, dated April 19, 1999, and any other engine from the above series that has had a new crankshaft installed that was manufactured between January 1, 1998, and December 31, 1998, inclusive.

Note 1: Engine S/Ns can be found in log books or other maintenance records. For those engines that were overhauled in the field with factory new crankshafts, crankshaft S/Ns should be shown in work orders, log books, or other maintenance records.

Note 2: This Priority Letter Airworthiness Directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent crankshaft failure due to No. 2 and No. 5 cheek cracks, which could result in total engine power loss, in-flight engine failure, and possible forced landing, accomplish the following:

(a) For those engines listed by S/N on pages 3 through 12 of TCM CSB 99-3 dated April 19, 1999, with 300 hours or less time-in-service (TIS) upon receipt of this priority letter AD, perform the crankshaft visual and ultrasonic (UT) inspections within 10 hours TIS after receipt of this priority letter AD, in accordance with

sections A and B of TCM CSB 99-3, dated April 19, 1999. These inspections must be performed by TCM representatives.

(1) If a crack is found, replace the crankshaft with a serviceable crankshaft of the same part number (P/N) prior to further flight.

(2) If no crack is found, reassemble the engine and return it to service.

(b) For those engines listed by S/N on pages 3 through 12 of TCM CSB 99-3, dated April 19, 1999, with more than 300 hours TIS upon receipt of this priority letter AD, perform the crankshaft visual and UT inspections at the next maintenance event, or within 50 hours TIS after receipt of this priority letter AD, whichever occurs first, in accordance with sections A and B of TCM CSB 99-3, dated April 19, 1999. These inspections must be performed by TCM representatives.

(1) If a crack is found, replace the crankshaft with a serviceable crankshaft of the same P/N prior to further flight.

(2) If no crack is found, reassemble the engine and return it to service.

(c) For any other engine with a crankshaft installed that was manufactured between January 1, 1998, and December 31, 1998, with 300 hours or less TIS upon receipt of this priority letter AD, perform the crankshaft visual and UT inspections within 10 hours TIS after receipt of this priority letter AD, in accordance with sections A and B of TCM CSB 99-3, dated April 19, 1999. These inspections must be performed by TCM representatives.

(1) If a crack is found, replace the crankshaft with a serviceable crankshaft of the same P/N prior to further flight.

(2) If no crack is found, reassemble the engine and return it to service.

(Over)⇒

Continuation of AD 99-09-17

(d) For any other engine with a crankshaft installed that was manufactured between January 1, 1998, and December 31, 1998, with more than 300 hours TIS upon receipt of this priority letter AD, perform the crankshaft visual and UT inspections at the next maintenance event, or within 50 hours TIS after receipt of this priority letter AD, whichever occurs first, in accordance with sections A and B of TCM CSB 99-3, dated April 19, 1999. These inspections must be performed by TCM representatives.

(1) If a crack is found, replace the crankshaft with a serviceable crankshaft of the same P/N prior to further flight.

(2) If no crack is found, reassemble the engine and return it to service.

Note 3: Engines and crankshafts that are the subject of this priority letter AD were manufactured between January 1, 1998, and December 31, 1998, inclusive. Purchase and delivery dates of engines/crankshafts produced in December 1998 could have been in the January/February 1999 time frame and are therefore affected by this AD. Likewise, engines/crankshafts purchased/delivered in January/February 1998 could have been December 1997 production and are not affected by this AD. Use the S/N of the engine or crankshaft to determine applicability: engine S/Ns are listed in TCM CSB 99-3, dated April 19, 1999, while the crankshafts, not listed by S/N, were manufactured during 1998. See Note 4 for information on identifying crankshafts.

Note 4: The following information is provided to avoid confusion in crankshaft S/N interpretation. A typical crankshaft S/N could be C229805N. The first letter is the month of manufacture beginning with A – January and ending with L – December; therefore, C is March. The next two digits are the day of the month; in this example, the 22nd. The next two digits are the year; in this example 1998. The final two digits are the sequential number of the crankshaft for a given day; in the example, this was the 5th crankshaft produced that day. The final letter, "N", identifies this as a crankshaft S/N. Therefore, for this example: we have the 5th

crankshaft produced on March 22, 1998. For all practical purposes, you only need look for the year, i.e. 98 (fourth and fifth positions in the S/N sequence) because that will determine AD effectivity. The crankshaft S/N is stamped on the edge of the propeller flange.

Note 5: The engine S/Ns listed in TCM CSB 99-3 contain only the numerical portion of the S/N. Rebuilt engines will have the letter "R" at the end of the six digit numerical portion while new engines use only the six digit numerical sequence.

(e) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Atlanta Aircraft Certification Office. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta Aircraft Certification Office.

Note 6: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Atlanta Aircraft Certification Office.

(f) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be accomplished.

(g) Copies of the applicable service information may be obtained from Teledyne Continental Motors, PO Box 90, Mobile, AL 36601; telephone toll free (888) 826-5874. This information may be examined at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

(h) Priority Letter AD 99-09-17, issued April 22, 1999, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Jerry Robinette, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, One Crown Center, 1895 Phoenix Blvd., Suite 450, Atlanta, GA 30349; telephone (770) 703-6096, fax (770) 703-6097.

N5481
AIRCRAFT REGISTRATION NO.

CO-174
AIRCRAFT SERIAL NO

35-33
TYPE AIRCRAFT



98-17-11 N
AD NUMBER

Nelson Reworked Crankshafts

If multi-engine: Left Right Front Rear

Engine Model/Serial

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER

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Amendment 39-10713. Docket 98-ANE-27-AD. Textron Lycoming (LYC) 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; and Teledyne Continental Motors (TCM) 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, 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.**

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	

Table 1

ENGINE AND MODEL W/O DATE ENGINE SER#

LYC:

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
I VO-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	

ENGINE AND MODEL	W/O	DATE	ENGINE SER#
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
TCM:			
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

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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	

Note 1: Blank spaces indicate unknown data. Where the engine serial number is blank in this table, it is either unknown or the crankshaft may not be installed in an engine.

Note 2: This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

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

(a) Within 10 hours time in service after the effective date of this AD, 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. 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) A person with a private pilot or higher rated certificate may make the determination of applicability of this AD provided the propeller spinner does not have to be removed.

(4) If it cannot be determined who repaired the crankshaft, compliance with this AD is required.

(5) 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) Within 10 hours time in service after the effective date of this AD, 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 3: Further guidance on all inspection and acceptance criteria is contained in applicable TCM or LYC Overhaul or Maintenance Manuals, or other FAA-approved data.

(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 TCM or LYC Overhaul/Maintenance Manuals; or

(ii) All of the FAA-approved requirements for any repair station which currently has approval for limits other than those in the appropriate TCM or LYC 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 4: Crankshafts removed from TCM engine models **IO-360**, **IO-520**, and **TSIO-520** series engines are also subject to compliance with **AD 97-26-17**.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, New York (LYC) or Atlanta (TCM) Aircraft Certification Offices. Operators shall submit their requests through an appropriate FAA Airworthiness Inspector, who may add comments and then send it to the Manager, New York or Atlanta Aircraft Certification Offices.

Note 5: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Atlanta Aircraft Certification or New York Aircraft Certification Office, as applicable.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be accomplished.

(e) This amendment becomes effective on October 19, 1998.

FOR FURTHER INFORMATION CONTACT: Rocco Viselli, Aerospace Engineer (assigned to Textron Lycoming), New York Aircraft Certification Office, FAA, Engine and Propeller Directorate, 10 Fifth St., 3rd Floor, Valley Stream, NY 11581-1200; telephone (516) 256-7531, fax (516) 568-2716; or Jerry Robinette, Aerospace Engineer (assigned to Teledyne Continental Motors), Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, 1895 Phoenix Boulevard, One Crown Center, Suite 450, Atlanta, GA 30349; telephone (770) 703-6096, fax (770) 703-6097.