Airworthiness Directive

Federal Register Information

Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-5454; AD **76-23-03** R1

Airworthiness Directives; Bellanca MN Models 17-30, 17-30A, 17-31, and 17-31A, Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective November 7, 1986.

Regulatory Information

76-23-03 R1 BELLANCA: Amendment 39-2772, as amended by Amendment 39-5454. Applies to BellancaMN Models 17-30, serials 30-139 thru 30-262, 17-30A, serials 30-263 and up, 17-31, serials 32-1 thru 32-14, and 17-31A, serials 32-15 and up, airplanes certificated in all categories.

For airplanes with 200 or more hours time in service on the effective date of this AD, compliance is required within the next 10 hours time in service and thereafter at intervals not to exceed 100 hours time in service or the next annual inspection, whichever occurs first.

For airplanes with less than 200 hours time in service on the effective date of this AD compliance is required before the accumulation of 210 hours time in service and thereafter at intervals not to exceed 100 hours time in service or the next annual inspection, whichever occurs first.

To prevent exhaust system failures which could result in cabin air contamination and heat damage to components in the nacelle accomplish the following:

(A) Visually inspect the muffler and tailpipe assemblies for cracks paying particular attention to the ball joint welds, the outlets of the muffler and resonator, and the support for the tailpipe assembly.

(B) Inspect the exhaust system for freedom of movement at the ball joints by removing the tailpipe support bolts. When the bolts are removed:

(1) The left tailpipe assembly must drop from its supported position unassisted.

(2) The right tailpipe assembly must move from its supported position when a two pound force is applied one inch below the resonator can 90 degrees to the axis of the resonator, i.e., the assembly must move when a two pound pull is applied one inch below the resonator can forward and down.

(3) If a greater forces than the above are required:

(a) Disassemble the ball joint and inspect for surface abnormalities such as galling or wear marks.

(b) Rework the ball joints as required to correct noted discrepancies.

(c) Reassemble the ball joint. Do not overtighten the clamp as this may distort ball surfaces.

(4) Repeat (B)(1) thru (B)(3) as required until compliance with (B)(1) and (B)(2) is demonstrated.

Amendment 39-2772 became effective November 23, 1976.
This amendment, 39-5454, becomes effective November 7, 1986.

Footer Information

Comments

Airworthiness Directive

Federal Register Information

Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [63 FR 44545 NO. 161 08/20/98]

[Docket No. 98-ANE-27-AD; Amendment 39-10713; AD 98-17-11]

RIN 2120-AA64

Airworthiness Directives; Textron Lycoming and Teledyne Continental Motors Reciprocating Engines
PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Textron Lycoming and Teledyne Continental Motors reciprocating engines that had crankshafts repaired by Nelson Balancing Service, Repair Station Certificate No. NB7R820J, Bedford, Massachusetts, that requires removal from service of affected crankshafts, or a visual inspection, magnetic particle inspection, and dimensional check of the crankshaft journals, and, if necessary, rework or removal from service of affected crankshafts and replacement with serviceable parts. This amendment is prompted by reports of crankshafts exhibiting heat check cracking of the nitrided bearing surfaces which led to crankshaft cracking and subsequent failure. The actions specified by this AD are intended to prevent crankshaft failure due to cracking, which could result in an inflight engine failure and possible forced landing.

DATES: Effective 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.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Textron Lycoming and Teledyne Continental Motors (TCM) reciprocating engines that had crankshafts repaired by Nelson Balancing Service, Repair Station Certificate No. NB7R820J, Bedford, Massachusetts, was published in the Federal Register on, May 11, 1998 (63 FR 25781). That action proposed to require removal from service of affected crankshafts, or a visual inspection, magnetic particle inspection, and dimensional check of the crankshaft journals, and, if necessary, rework or removal from service of affected crankshafts and replacement with serviceable parts.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

One commenter states that the proposed AD is insufficiently researched; specific dates and serial numbers are needed for affected crankshafts. The commenter suggests that there were periods during the time frame of interest when the grinding was acceptable. The FAA does not concur. The FAA believes that this AD has been thoroughly researched. The failures/known cases of crankshaft nitride cracking occur throughout the time period. There is no way to isolate one specific time and determine that crankshafts during that time were satisfactorily repaired. Those crankshafts that are identified in the company's records are presented in the AD, but the FAA has determined that these records are incomplete. Therefore, the applicability of the AD must include all crankshafts identified in aircraft owners' and other repair station records as being repaired at Nelson during the suspect time period.

The same commenter questions how many TCM O-470 crankshafts have been determined to be bad and if there is a sufficient percentage to warrant tearing down all O-470 engines that Nelson repaired during this time period. The FAA does not concur. The available data indicates that crankshafts from O-470 engines were subject to the same improper repair procedures as crankshafts from other engines. Of the three related failure events, one occurred on an O-470-R engine. Therefore, the FAA has determined that all crankshafts repaired by Nelson Air Services during the suspect time period have the potential of causing an unsafe condition.

The same commenter believes that the proposed AD is based on failures of aerobatic engines. The commenter suggests that the AD is an overly reactive extrapolation from highly stressed aerobatic crankshafts to comparatively mildly stressed non-aerobatic engines. The FAA does not concur. The FAA is unaware of any information that indicates that the safety analysis presented in the NPRM is biased by aerobatic engine data. There is only one aerobatic engine listed. The other engines are used in normal or utility category applications. The data indicates that nitride cracking of the crankshafts is not limited to specific flight operations but rather a matter of an improper grinding procedure that can result

in heat check cracking of the nitride surface.

The same commenter states that the AD should not be issued as written, but only imposed on those who have a reasonable likelihood of having a bad crankshaft, due to expense required to tear down an engine. The FAA does not concur. The expense of the AD was certainly considered as evidenced by the NPRM economic impact statement. However, it must be emphasized that the FAA has made a determination that an unsafe condition is likely to exist on crankshafts repaired by Nelson during the suspect time period. The FAA determined that an AD was necessary after consideration of both the severity of the potential unsafe condition and the economic impact of the action.

One commenter states that the AD should not apply to crankshafts which were in the Nelson shop for balancing, it should only apply to those which had the journals ground. The FAA does not concur. The data indicates that deficient process controls existed at Nelson Balancing Service during the suspect time period and therefore all crankshafts which were repaired in the Nelson shop during that time are suspect. However, if an individual can substantiate that any given crankshaft should be exempt from the requirements of the AD based on the extent of repairs performed by Nelson, then this data can be presented through an FAA Airworthiness Inspector as an Alternative Method of Compliance with the AD.

This commenter further states that the AD should reaffirm that only those work order numbers noted in the AD are affected. The FAA does not agree. The work orders listed in the AD are intended as guidance only as the FAA can not be absolutely sure that all crankshafts are accounted for in the listing.

One commenter states that the AD should apply only to those crankshafts repaired after September 1995, arguing that date represented the earliest repair date for the crankshaft that demonstrated a problem in service after being serviced by Nelson. The FAA does not concur. The crankshaft with the earliest repair date to have exhibited a problem in service was repaired in February 1995 and failed after only 30 hours in service. The repair station was certificated in September 1994. Thus, the FAA has limited this AD to only those engines with crankshafts on which this unsafe condition either exists or is likely to develop.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

There are approximately 250,000 engines of the designs listed in the applicability section of this AD in the worldwide fleet. The FAA estimates that 200,000 of those engines are installed on aircraft of U. S. registry. Of these it is estimated that 30% or 60,000 engines will have had an overhaul in the time frame of interest; however, only 291 would be required to take compliance action. Of this 60,000 it is estimated that 10,000 will require removal of the propeller spinner to determine applicability of the AD. The cost associated with the spinner removal/replacement is estimated to be $60 per work hour average labor rate times one hour. It will take approximately 90 work hours per engine to accomplish the proposed action and the average labor rate is $60 per work hour. Required parts would cost $115 per engine for gaskets, seals, etc. In addition, it is estimated that half of the 291 affected engines can be reworked at a cost of $1,800 per engine and that the other half of the 291 affected engines will be

rejected, plus purchasing another crankshaft which will cost $4,000 per engine. Based on these figures, the total cost impact of the AD on U. S. operators is estimated to be $3,048,765.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption "**ADDRESSES**."

List of Subjects in 14 CFR Part 39

Air Transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES
1. The authority citation for part 39 continues to read as follows:
Authority: 49 U.S.C. 106(g), 40113, 44701.

§39.13 [Amended]
2. Section 39.13 is amended by adding the following new airworthiness directive:

Regulatory Information

98-17-11 Textron Lycoming and Teledyne Continental Motors: 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-CIC, 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.

Table 1

ENGINE & MODEL	W/O	DATE	ENGINE SER#	ENGINE & 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-A1	B6 1463	7/31/97	
IO-360-B1E	1312	12/12/96	L-4453-51A	IO-360-C	1146	1/23/96	R-51448-9-C
IO-360-C1C	1336	2/10/97		IO-360-C1C	1518	12/9/97	
IO-360-C1C6	1530	11/25/97		IO-360-C1C6	1537	12/9/97	L-19294-51A
IO-360-C1D6	1286	4/28/97		IO-360-D	1540	12/2/97	
IO-360-F1A6	1176	3/7/96	L-27423-36A	IO-540	1014	2/8/95	
IO-540	1056	6/13/95		IO-540	1302	12/5/96	
IO-540-C4B5	1313	12/17/96	L-19547-48	IO-540-S1A5	1513	10/27/97	L-19597-48A
IVO-435-G1A	1271	10/1/96		LIO-320-C1A	1158	2/8/96	
LIO-360-C1E6	1280	10/7/96		LIO-360-C1E6	1281	10/9/96	
O-235	1013	2/21/95		O-235	1051	6/2/95	
O-235	1054	6/9/95		O-235	1057	6/14/95	L-9041-15

O-235	1058	6/29/95		O-235	1060	6/30/95	
O-235	1069	8/10/95		O-235	1110	2/20/96	
O-235	1145	1/23/96		O-235	1151	1/25/96	
O-235	1160	2/9/96	RL-24636-15	O-235	1305	12/5/96	L-22542-15
O-235	1329	2/11/97		O-235	1332	2/11/97	
O-235	1481	9/2/97		O-235-C1	1089	10/8/95	L-6475-15
O-235-C1	1188	4/2/96	L-7143-15	O-235-C1	1335	3/12/97	L-5569-15
O-235-C1	1367	3/24/97		O-235-C2C	1019	2/24/95	L-12284-15
O-235-C2C	1040	5/8/95		O-235-C2C	1105	12/1/95	L-12273-15
O-235-L2C	1030	4/6/95	L-14545-15	O-235-L2C	1036	4/24/95	
O-235-L2C	1037	4/24/95	L-23012-15	O-235-L2C	1050	6/2/95	L-15542-15
O-235-L2C	1062	7/5/95	L-18306-15	O-235-L2C	1067	8/8/95	
O-235-L2C	1070	8/10/95	L-16005-15	O-235-L2C	1095	11/14/95	RL-023227-15
O-235-L2C	1101	11/4/95	L-15300-15	O-235-L2C	1102	11/15/95	L-20183-15
O-235-L2C	1162	2/14/96	L-16114-15	O-235-L2C	1251	8/22/96	
O-235-L2C	1219	5/16/96	L-21215-15	O-235-L2C	1365	3/24/97	
O-235-L2C	1285	10/19/96		O-235-L2C	1414	8/5/97	
O-235-L2C	1400	4/28/97		O-235-L2C	1433	6/26/97	L-17074-15
O-235-L2C	1417	12/5/97		O-235-L2C	1504	10/31/97	
O-235-L2C	1435	6/9/97		O-235-L2C	1524	11/12/97	
O-235-L2C	1508	11/18/97		O-235-L2C	2010	11/19/97	
O-235-L2C	1536	11/24/97		O-290	1257	9/4/96	
O-235-N2C	1511	10/29/97	L-23857-15	O-290-D2	1082	9/26/95	L-6019-21

O-290	1326	3/26/97		O-320	1024	3/17/95	
O-320	1018	2/22/95		O-320	1045	5/24/95	
O-320	1038	5/3/95	L-39272-27A				
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 214668-27A	1076	9/11/95		O-200	1104	11/21/95	213830-71A
O-200	1131	1/5/96		O-200	1142	1/18/96	265349-R
O-200	1147	1/23/96		O-200	1190	4/13/96	
O-200	1193	4/13/96		O-200	1195	4/13/96	
O-200	1197	4/17/96		O-200	1213	5/13/96	
O-200	1261	9/9/96		O-200	1303	12/5/96	
O-200	1321	2/7/97	28115	O-200	1324	2/6/97	
O-200	1344	3/2/97		O-200	1393	5/5/97	
O-200	1413	5/7/97	61001-5-4	O-200	1430	5/23/97	
O-200	1437	6/17/97	255759A-48	O-200	1488	9/7/97	
O-200	1506	11/18/97		O-200	1522	11/11/97	
O-200-A	1052	6/21/95	254150-A-48	O-200-A	1085	9/29/95	
O-200-A	1120	12/29/95	253971	O-200-A	1161	2/9/96	24R-469
O-200-A	1215	5/15/96		O-200-A	1240	8/5/96	69589-8-A
O-200	1254	9/3/96	6105-71-A-R	O-200-A	1264	9/12/96	
O-200-	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		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.

Footer Information

Comments

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [63 FR 11367 NO. 45 03/09/98]

[Docket No. 93-ANE-08; Amendment 39-10260; AD **97-26-17**]

RIN 2120-AA64

Airworthiness Directives; Teledyne Continental Motors IO-360, TSIO-360, LTSIO-360, IO-520, LIO-520, TSIO-520, LTSIO-520 Series, and Rolls-Royce plc IO-360 and TSIO-360 Series Reciprocating Engines

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; correction

SUMMARY: This document makes a correction to airworthiness directive (AD) **97-26-17** applicable to certain Teledyne Continental Motors (TCM) IO-520 and TSIO-520 engines that was published in the Federal Register on December 19, 1997 (62 FR 66502). The address information for the contact engineer in the For Further Information Contact section and the manufacturer's telephone number in the Addresses section and paragraph (f) of the Compliance Section is incorrect. This document corrects that information. In all other respects, the original document remains the same.

DATES: Effective January 23, 1998.

CORRECTION EFFECTIVE DATE: March 9, 1998.

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

SUPPLEMENTARY INFORMATION: A final rule airworthiness directive applicable to Teledyne Continental Motors (TCM) IO-360, TSIO-360, LTSIO-360, IO-520 and TSIO-520 series reciprocating engines, was published in the Federal Register on December 19, 1997 (62 FR 66502). The following correction is needed:

On page 66502, in the second column, in the ADDRESSES section, telephone (334) 438-3411 is corrected to read telephone (888) 826-5874.

On page 66502, in the third column, in the FOR FURTHER INFORMATION CONTACT SECTION, "Jerry Robinette, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, Campus Building, 1701 Columbia Ave., Suite 2-160, College Park, GA 30337-2748; telephone (404) 305-7371, fax (404) 305-7348" is corrected to read "Jerry Robinette, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, 1895 Phoenix Blvd., One Crown Center, Suite 450, Atlanta, GA 30349, (770) 703-6096, fax (770) 703-6097".
§39.13 [Corrected]

On page 66506, in the second column, in the Compliance section of AD **97-26-17**, in paragraph (f), telephone (334) 438-3411 is corrected to read telephone (888) 826-5874.

Regulatory Information

97-26-17 Teledyne Continental Motors and Rolls-Royce, plc: Amendment 39-10260. Docket 93-ANE-08. Supersedes AD 87-23-08, Amendment 39-5735.

Applicability: Teledyne Continental Motors (TCM) IO-360, LTSIO-360, TSIO-360, IO-520, LIO-520, LTSIO-520 and TSIO-520 series reciprocating engines built on or prior to December 31, 1980; rebuilt TCM IO-360, LTSIO-360, TSIO-360, IO-520, LIO-520, LTSIO-520 and TSIO-520 series reciprocating engines with serial numbers lower than those listed in TCM Critical Service Bulletin (SB) No. CSB96-8, dated June 25, 1996; TCM factory overhauled IO-360, LTSIO-360, TSIO-360, IO-520, LIO-520, LTSIO-520 and TSIO-520 series reciprocating engines with serial number of 901203H and lower; and Rolls-Royce, plc IO-360 and TSIO-360 series reciprocating engines with any serial number. These engines are installed on but not limited to the following aircraft: Raytheon (formerly Beech) models 95-C55, 95-C55A, D55, D55A, E55, E55A, 58, 58A, 58P, 58PA, 58TC, 58TCA, S35, V35, V35A, V35B, E33A, E33C, 35-C33A, 36, A36, F33A, F33C and A36TC; Bellanca model 17-30A; Cessna models 172XP, A185, A188, T188C, 206, T206, 207, T207, 210, T210, P210, 310R, T310P, T310Q, T310R, 320D, 320E, 320F, 336, 337, T337, P337, 340, 401, 402, 414 and T41B/C; Colemill conversion of Commander 500A; Goodyear Airship Blimp 22; Maule Model M-4-210, M-4-210C, M-4-210S, M-4-210T, and M-5-210C; Mooney model M20-K; Navion model H; Pierre Robin HR 100; The New Piper Aircraft, Inc. (formerly Piper Aircraft Company) models PA28-201T, PA28R-201T, PA28RT-201T, PA34-200T and PA34-220T; Prinair DeHavilland Heron; Reims models FR172, F337 and FT337; and

Swift Museum Foundation, Inc. models GC-1A and GC-1B equipped with the IO-360 engine.

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 crankshaft failure and subsequent engine failure, accomplish the following:

(a) At the next engine overhaul, or whenever the crankshaft is next removed from the engine, after the effective date of this AD, whichever occurs first, determine if the crankshaft was manufactured using the airmelt or vacuum arc remelt (VAR) process in accordance with the identification procedure described in TCM Critical SB No. CSB96-8, dated June 25, 1996. If the crankshaft was manufactured using the airmelt process or if the manufacturing process is unknown, remove the crankshaft from service and replace with a serviceable crankshaft manufactured using the VAR process.

(b) For all TCM IO-360, LTSIO-360, TSIO-360, IO-520, LIO-520, LTSIO-520 and TSIO-520 and Rolls-Royce, plc IO-360 and TSIO-360 engine models that have VAR crankshafts installed, regardless of serial number; at the next and every subsequent crankshaft removal from the engine case or installation of a replacement crankshaft, prior to crankshaft installation in the engine, conduct an ultrasonic inspection of the crankshaft in accordance with the procedures specified in TCM Mandatory SB No. MSB96-10, dated August 15, 1996, and, if necessary, replace with a serviceable part.

Note 2: Accomplishment of the ultrasonic inspection required by this AD does not fulfill any requirements for
magnetic particle inspection or any other inspections specified in TCM or Rolls-Royce, plc overhaul manuals.

(c) The ultrasonic inspection of the crankshaft must be performed by a non-destructive test (NDT) ultrasonic (UT) Level II inspector who is qualified under the guidelines established by the American Society of Nondestructive Testing or MIL-STD-410 or FAA-approved equivalent, or must be trained by TCM personnel or their designated representative on how to accomplish and conduct this inspection procedure. The person approving the engine for return to service is required to verify that the UT inspection was accomplished in accordance with the requirements of this paragraph.

(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 Maintenance Inspector, who may add

comments and then send it to the Manager, Atlanta Aircraft Certification Office.

Note 3: 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 service documents:

Document No.	Pages	Date
CSB96-8	1-6	June 25, 1996
Total pages: 6.		
MSB96-10	1-3	August 15, 1996
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 51. Copies may be obtained from Teledyne Continental Motors, P.O. Box 90, Mobile, AL 36601; telephone (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 becomes effective on January 23, 1998.

Footer Information

Issued in Burlington, MA, on February 26, 1998.

Comments

Airworthiness Directive

Federal Register Information

Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-1129; AD 70-26-02

Airworthiness Directives; WOODWARD: Applies to Woodward Propeller Governors

PDF Copy (If Available):

Preamble Information

DATES: Effective December 27, 1970.

Regulatory Information

70-26-02 WOODWARD: Amdt. 39-1129. Applies to Woodward propeller governors of the following listed models having serial numbers below 992601 which were manufactured prior to 1970 used on single, reciprocating engine aircraft: Woodward Governor Models 210452, A210452, B210452, C210452, D210452, E210452, F210452, G210452, H210452, J210452, K210452, L210452, M210452,

P210452, 210453, 210458, 210460, B210460, 210462, A210462, 210472, and C210472. Date of manufacture can be determined from a decal attached to the governor body which shows the quarter and the year. Example: "1Q70" indicates first quarter 1970.

Compliance: Required within the next 50 hours' time in service after the effective date of this AD, unless previously accomplished.

To prevent loss of propeller control accomplish the following or an equivalent procedure approved by the Chief, Engineering and Manufacturing Branch, FAA, Central Region.

A. Inspect the propeller governor lever arm for security and engagement on the speed control shaft as follows:

1. Inspect axial security by applying, alternately, in both directions, a manual force of 5 to 10 pounds to the lever arm directly in line with the axis of the shaft. Do not mistake end play of the shaft in the governor cover for a loose lever.

2. Inspect rotational security by observing the arm and shaft while the cockpit propeller control is moved from full increase to full decrease and back to full increase RPM positions.

3. Inspect axial location of lever arm and offset lever arm extension on the shaft. On those installations which use an offset extension which bolts to the outboard face of the lever arm and has an alignment hole for locating on the shaft, the shaft must protrude through the full thickness of the extension. When no extension is used the shaft must protrude beyond the lever arm by at least .050 inch.

B. If the inspections in accordance with Paragraphs A1 and A2 disclose movement of the lever arm relative to the shaft or if the location of the arm or extension do not meet the limits defined in Paragraph A3 proceed as follows:

1. Remove arm from shaft and inspect serrations on both parts for wear and damage. Before removing arm, provisions, such as match-marking, should be made to assure reinstallation in the same circumferential location of the shaft. Later design shafts have a retaining ring and groove at the end of the shaft serrations to provide positive retention of the lever arm. To remove the arm from these shafts move the arm toward the governor cover until the retainer is exposed, then remove retainer.

2. If the serrations are damaged or excessively worn, replace the governor with a serviceable unit.

3. If the serrations are in satisfactory condition replace the lever arm on the shaft in its original circumferential location. If retainer ring was removed pursuant to Paragraph B1 reinstall it. Position axially on shaft to maintain .020 to .045 inch clearance between bottom side of lever arm and the top of governor cover at the maximum RPM setting. Torque the clamping screw in the lever arm to 33 to 38 inch pounds. (This value is specified in Woodward Overhaul Bulletin 33017A.) Recheck security per Paragraph A and if tight, safety the clamping screw with AMS 5685 .024-.026 wire or equivalent, taking care that the wire will not interfere with the aircraft manufacturer's lever arm extension.

4. Assure security of aircraft linkage to governor. If any aircraft linkage settings were changed as a result of work performed above, check rigging in accordance with the aircraft manufacturer's instructions.

Woodward FAA-approved Service Bulletin No. 33534 or later FAA-approved revisions pertain to this subject.

NOTE: The above listed governors may be installed on the following single, reciprocating engine aircraft but this listing is not all inclusive:

BEECH Models E33, F33, E33A, E33C, F33A, F33C, 35-33, 35-A33, 35-B33, 35-C33, 35-C33A, H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 36 and A36 airplanes.

BELLANCA Models 14-19-3A, 17-30, 17-30A, 17-31, 17-31A, 17-31TC, 17-31ATC airplanes.

CESSNA Models 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 185, 185A, 185B, 185C, 185D, 185E, A185E, 188, A188, 188A, A188A, 206, U206, P206, U206A, P206A, P206B, TU206A, TU206B, TP206A, TP206B, U206B, P206C, TP206C, P206D, TP206D, P206E, TP206E, U206C, TU206C, U206D, TU206D, U206E, TU206E, 207, T207, 210B, 210C, 210-5(205), 210-5A(205A), 210D, 210E, T210F, 210F, T210G, T210H, 210G, 210H, T210J, 210J, 210K and T210K airplanes.

MAULE Models M-4-210, M-4-210C, M-4-210S, M-4-210T, M-4-220, M-4-220C, M-4-220S, M-4-220T and M-4-180 airplanes.

MOONEY Models M20C and M20D airplanes.

NAVION H Model airplanes.

This amendment becomes effective December 27, 1970.

Footer Information

Comments

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [63 FR 44545 NO. 161 08/20/98]

[Docket No. 98-ANE-27-AD; Amendment 39-10713; AD 98-17-11]

RIN 2120-AA64

Airworthiness Directives; Textron Lycoming and Teledyne Continental Motors Reciprocating Engines
PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Textron Lycoming and Teledyne Continental Motors reciprocating engines that had crankshafts repaired by Nelson Balancing Service, Repair Station Certificate No. NB7R820J, Bedford, Massachusetts, that requires removal from service of affected crankshafts, or a visual inspection, magnetic particle inspection, and dimensional check of the crankshaft journals, and, if necessary, rework or removal from service of affected crankshafts and replacement with serviceable parts. This amendment is prompted by reports of crankshafts exhibiting heat check cracking of the nitrided bearing surfaces which led to crankshaft cracking and subsequent failure. The actions specified by this AD are intended to prevent crankshaft failure due to cracking, which could result in an inflight engine failure and possible forced landing.

DATES: Effective 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.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Textron Lycoming and Teledyne Continental Motors (TCM) reciprocating engines that had crankshafts repaired by Nelson Balancing Service, Repair Station Certificate No. NB7R820J, Bedford, Massachusetts, was published in the Federal Register on, May 11, 1998 (63 FR 25781). That action proposed to require removal from service of affected crankshafts, or a visual inspection, magnetic particle inspection, and dimensional check of the crankshaft journals, and, if necessary, rework or removal from service of affected crankshafts and replacement with serviceable parts.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

One commenter states that the proposed AD is insufficiently researched; specific dates and serial numbers are needed for affected crankshafts. The commenter suggests that there were periods during the time frame of interest when the grinding was acceptable. The FAA does not concur. The FAA believes that this AD has been thoroughly researched. The failures/known cases of crankshaft nitride cracking occur throughout the time period. There is no way to isolate one specific time and determine that crankshafts during that time were satisfactorily repaired. Those crankshafts that are identified in the company's records are presented in the AD, but the FAA has determined that these records are incomplete. Therefore, the applicability of the AD must include all crankshafts identified in aircraft owners' and other repair station records as being repaired at Nelson during the suspect time period.

The same commenter questions how many TCM O-470 crankshafts have been determined to be bad and if there is a sufficient percentage to warrant tearing down all O-470 engines that Nelson repaired during this time period. The FAA does not concur. The available data indicates that crankshafts from O-470 engines were subject to the same improper repair procedures as crankshafts from other engines. Of the three related failure events, one occurred on an O-470-R engine. Therefore, the FAA has determined that all crankshafts repaired by Nelson Air Services during the suspect time period have the potential of causing an unsafe condition.

The same commenter believes that the proposed AD is based on failures of aerobatic engines. The commenter suggests that the AD is an overly reactive extrapolation from highly stressed aerobatic crankshafts to comparatively mildly stressed non-aerobatic engines. The FAA does not concur. The FAA is unaware of any information that indicates that the safety analysis presented in the NPRM is biased by aerobatic engine data. There is only one aerobatic engine listed. The other engines are used in normal or utility category applications. The data indicates that nitride cracking of the crankshafts is not limited to specific flight operations but rather a matter of an improper grinding procedure that can result

in heat check cracking of the nitride surface.

The same commenter states that the AD should not be issued as written, but only imposed on those who have a reasonable likelihood of having a bad crankshaft, due to expense required to tear down an engine. The FAA does not concur. The expense of the AD was certainly considered as evidenced by the NPRM economic impact statement. However, it must be emphasized that the FAA has made a determination that an unsafe condition is likely to exist on crankshafts repaired by Nelson during the suspect time period. The FAA determined that an AD was necessary after consideration of both the severity of the potential unsafe condition and the economic impact of the action.

One commenter states that the AD should not apply to crankshafts which were in the Nelson shop for balancing, it should only apply to those which had the journals ground. The FAA does not concur. The data indicates that deficient process controls existed at Nelson Balancing Service during the suspect time period and therefore all crankshafts which were repaired in the Nelson shop during that time are suspect. However, if an individual can substantiate that any given crankshaft should be exempt from the requirements of the AD based on the extent of repairs performed by Nelson, then this data can be presented through an FAA Airworthiness Inspector as an Alternative Method of Compliance with the AD.

This commenter further states that the AD should reaffirm that only those work order numbers noted in the AD are affected. The FAA does not agree. The work orders listed in the AD are intended as guidance only as the FAA can not be absolutely sure that all crankshafts are accounted for in the listing.

One commenter states that the AD should apply only to those crankshafts repaired after September 1995, arguing that date represented the earliest repair date for the crankshaft that demonstrated a problem in service after being serviced by Nelson. The FAA does not concur. The crankshaft with the earliest repair date to have exhibited a problem in service was repaired in February 1995 and failed after only 30 hours in service. The repair station was certificated in September 1994. Thus, the FAA has limited this AD to only those engines with crankshafts on which this unsafe condition either exists or is likely to develop.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

There are approximately 250,000 engines of the designs listed in the applicability section of this AD in the worldwide fleet. The FAA estimates that 200,000 of those engines are installed on aircraft of U. S. registry. Of these it is estimated that 30% or 60,000 engines will have had an overhaul in the time frame of interest; however, only 291 would be required to take compliance action. Of this 60,000 it is estimated that 10,000 will require removal of the propeller spinner to determine applicability of the AD. The cost associated with the spinner removal/replacement is estimated to be $60 per work hour average labor rate times one hour. It will take approximately 90 work hours per engine to accomplish the proposed action and the average labor rate is $60 per work hour. Required parts would cost $115 per engine for gaskets, seals, etc. In addition, it is estimated that half of the 291 affected engines can be reworked at a cost of $1,800 per engine and that the other half of the 291 affected engines will be

rejected, plus purchasing another crankshaft which will cost $4,000 per engine. Based on these figures, the total cost impact of the AD on U. S. operators is estimated to be $3,048,765.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption "**ADDRESSES**."

List of Subjects in 14 CFR Part 39

Air Transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES
1. The authority citation for part 39 continues to read as follows:
Authority: 49 U.S.C. 106(g), 40113, 44701.

§39.13 [Amended]
2. Section 39.13 is amended by adding the following new airworthiness directive:

Regulatory Information

98-17-11 Textron Lycoming and Teledyne Continental Motors: 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-CIC, 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.

Table 1

ENGINE & MODEL	W/O	DATE	ENGINE SER#	ENGINE & 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-A1	B6 1463	7/31/97	
IO-360-B1E	1312	12/12/96	L-4453-51A	IO-360-C	1146	1/23/96	R-51448-9-C
IO-360-C1C	1336	2/10/97		IO-360-C1C	1518	12/9/97	
IO-360-C1C6	1530	11/25/97		IO-360-C1C6	1537	12/9/97	L-19294-51A
IO-360-C1D6	1286	4/28/97		IO-360-D	1540	12/2/97	
IO-360-F1A6	1176	3/7/96	L-27423-36A	IO-540	1014	2/8/95	
IO-540	1056	6/13/95		IO-540	1302	12/5/96	
IO-540-C4B5	1313	12/17/96	L-19547-48	IO-540-S1A5	1513	10/27/97	L-19597-48A
IVO-435-G1A	1271	10/1/96		LIO-320-C1A	1158	2/8/96	
LIO-360-C1E6	1280	10/7/96		LIO-360-C1E6	1281	10/9/96	
O-235	1013	2/21/95		O-235	1051	6/2/95	
O-235	1054	6/9/95		O-235	1057	6/14/95	L-9041-15

O-235	1058	6/29/95		O-235	1060	6/30/95	
O-235	1069	8/10/95		O-235	1110	2/20/96	
O-235	1145	1/23/96		O-235	1151	1/25/96	
O-235	1160	2/9/96	RL-24636-15	O-235	1305	12/5/96	L-22542-15
O-235	1329	2/11/97		O-235	1332	2/11/97	
O-235	1481	9/2/97		O-235-C1	1089	10/8/95	L-6475-15
O-235-C1	1188	4/2/96	L-7143-15	O-235-C1	1335	3/12/97	L-5569-15
O-235-C1	1367	3/24/97		O-235-C2C	1019	2/24/95	L-12284-15
O-235-C2C	1040	5/8/95		O-235-C2C	1105	12/1/95	L-12273-15
O-235-L2C	1030	4/6/95	L-14545-15	O-235-L2C	1036	4/24/95	
O-235-L2C	1037	4/24/95	L-23012-15	O-235-L2C	1050	6/2/95	L-15542-15
O-235-L2C	1062	7/5/95	L-18306-15	O-235-L2C	1067	8/8/95	
O-235-L2C	1070	8/10/95	L-16005-15	O-235-L2C	1095	11/14/95	RL-023227-15
O-235-L2C	1101	11/4/95	L-15300-15	O-235-L2C	1102	11/15/95	L-20183-15
O-235-L2C	1162	2/14/96	L-16114-15	O-235-L2C	1251	8/22/96	
O-235-L2C	1219	5/16/96	L-21215-15	O-235-L2C	1365	3/24/97	
O-235-L2C	1285	10/19/96		O-235-L2C	1414	8/5/97	
O-235-L2C	1400	4/28/97		O-235-L2C	1433	6/26/97	L-17074-15
O-235-L2C	1417	12/5/97		O-235-L2C	1504	10/31/97	
O-235-L2C	1435	6/9/97		O-235-L2C	1524	11/12/97	
O-235-L2C	1508	11/18/97		O-235-L2C	2010	11/19/97	
O-235-L2C	1536	11/24/97		O-290	1257	9/4/96	
O-235-N2C	1511	10/29/97	L-23857-15	O-290-D2	1082	9/26/95	L-6019-21

O-290	1326	3/26/97		O-320	1024	3/17/95	
O-320	1018	2/22/95		O-320	1045	5/24/95	
O-320	1038	5/3/95	L-39272-27A				
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 214668-27A	1076	9/11/95		O-200	1104	11/21/95	213830-71A
O-200	1131	1/5/96		O-200	1142	1/18/96	265349-R
O-200	1147	1/23/96		O-200	1190	4/13/96	
O-200	1193	4/13/96		O-200	1195	4/13/96	
O-200	1197	4/17/96		O-200	1213	5/13/96	
O-200	1261	9/9/96		O-200	1303	12/5/96	
O-200	1321	2/7/97	28115	O-200	1324	2/6/97	
O-200	1344	3/2/97		O-200	1393	5/5/97	
O-200	1413	5/7/97	61001-5-4	O-200	1430	5/23/97	
O-200	1437	6/17/97	255759A-48	O-200	1488	9/7/97	
O-200	1506	11/18/97		O-200	1522	11/11/97	
O-200-A	1052	6/21/95	254150-A-48	O-200-A	1085	9/29/95	
O-200-A	1120	12/29/95	253971	O-200-A	1161	2/9/96	24R-469
O-200-A	1215	5/15/96		O-200-A	1240	8/5/96	69589-8-A
O-200	1254	9/3/96	6105-71-A-R	O-200-A	1264	9/12/96	
O-200-	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		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.

Footer Information

Comments

Airworthiness Directive

Federal Register Information

Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [63 FR 11367 NO. 45 03/09/98]

[Docket No. 93-ANE-08; Amendment 39-10260; AD **97-26-17**]

RIN 2120-AA64

Airworthiness Directives; Teledyne Continental Motors IO-360, TSIO-360, LTSIO-360, IO-520, LIO-520, TSIO-520, LTSIO-520 Series, and Rolls-Royce plc IO-360 and TSIO-360 Series Reciprocating Engines

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; correction

SUMMARY: This document makes a correction to airworthiness directive (AD) **97-26-17** applicable to certain Teledyne Continental Motors (TCM) IO-520 and TSIO-520 engines that was published in the Federal Register on December 19, 1997 (62 FR 66502). The address information for the contact engineer in the For Further Information Contact section and the manufacturer's telephone number in the Addresses section and paragraph (f) of the Compliance Section is incorrect. This document corrects that information. In all other respects, the original document remains the same.

DATES: Effective January 23, 1998.

CORRECTION EFFECTIVE DATE: March 9, 1998.

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

SUPPLEMENTARY INFORMATION: A final rule airworthiness directive applicable to Teledyne Continental Motors (TCM) IO-360, TSIO-360, LTSIO-360, IO-520 and TSIO-520 series reciprocating engines, was published in the Federal Register on December 19, 1997 (62 FR 66502). The following correction is needed:

On page 66502, in the second column, in the ADDRESSES section, telephone (334) 438-3411 is corrected to read telephone (888) 826-5874.

On page 66502, in the third column, in the FOR FURTHER INFORMATION CONTACT SECTION, "Jerry Robinette, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, Campus Building, 1701 Columbia Ave., Suite 2-160, College Park, GA 30337-2748; telephone (404) 305-7371, fax (404) 305-7348" is corrected to read "Jerry Robinette, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, 1895 Phoenix Blvd., One Crown Center, Suite 450, Atlanta, GA 30349, (770) 703-6096, fax (770) 703-6097".
§39.13 [Corrected]

On page 66506, in the second column, in the Compliance section of AD **97-26-17**, in paragraph (f), telephone (334) 438-3411 is corrected to read telephone (888) 826-5874.

Regulatory Information

97-26-17 Teledyne Continental Motors and Rolls-Royce, plc: Amendment 39-10260. Docket 93-ANE-08. Supersedes AD 87-23-08, Amendment 39-5735.

Applicability: Teledyne Continental Motors (TCM) IO-360, LTSIO-360, TSIO-360, IO-520, LIO-520, LTSIO-520 and TSIO-520 series reciprocating engines built on or prior to December 31, 1980; rebuilt TCM IO-360, LTSIO-360, TSIO-360, IO-520, LIO-520, LTSIO-520 and TSIO-520 series reciprocating engines with serial numbers lower than those listed in TCM Critical Service Bulletin (SB) No. CSB96-8, dated June 25, 1996; TCM factory overhauled IO-360, LTSIO-360, TSIO-360, IO-520, LIO-520, LTSIO-520 and TSIO-520 series reciprocating engines with serial number of 901203H and lower; and Rolls-Royce, plc IO-360 and TSIO-360 series reciprocating engines with any serial number. These engines are installed on but not limited to the following aircraft: Raytheon (formerly Beech) models 95-C55, 95-C55A, D55, D55A, E55, E55A, 58, 58A, 58P, 58PA, 58TC, 58TCA, S35, V35, V35A, V35B, E33A, E33C, 35-C33A, 36, A36, F33A, F33C and A36TC; Bellanca model 17-30A; Cessna models 172XP, A185, A188, T188C, 206, T206, 207, T207, 210, T210, P210, 310R, T310P, T310Q, T310R, 320D, 320E, 320F, 336, 337, T337, P337, 340, 401, 402, 414 and T41B/C; Colemill conversion of Commander 500A; Goodyear Airship Blimp 22; Maule Model M-4-210, M-4-210C, M-4-210S, M-4-210T, and M-5-210C; Mooney model M20-K; Navion model H; Pierre Robin HR 100; The New Piper Aircraft, Inc. (formerly Piper Aircraft Company) models PA28-201T, PA28R-201T, PA28RT-201T, PA34-200T and PA34-220T; Prinair DeHavilland Heron; Reims models FR172, F337 and FT337; and

Swift Museum Foundation, Inc. models GC-1A and GC-1B equipped with the IO-360 engine.

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 crankshaft failure and subsequent engine failure, accomplish the following:

(a) At the next engine overhaul, or whenever the crankshaft is next removed from the engine, after the effective date of this AD, whichever occurs first, determine if the crankshaft was manufactured using the airmelt or vacuum arc remelt (VAR) process in accordance with the identification procedure described in TCM Critical SB No. CSB96-8, dated June 25, 1996. If the crankshaft was manufactured using the airmelt process or if the manufacturing process is unknown, remove the crankshaft from service and replace with a serviceable crankshaft manufactured using the VAR process.

(b) For all TCM IO-360, LTSIO-360, TSIO-360, IO-520, LIO-520, LTSIO-520 and TSIO-520 and Rolls-Royce, plc IO-360 and TSIO-360 engine models that have VAR crankshafts installed, regardless of serial number; at the next and every subsequent crankshaft removal from the engine case or installation of a replacement crankshaft, prior to crankshaft installation in the engine, conduct an ultrasonic inspection of the crankshaft in accordance with the procedures specified in TCM Mandatory SB No. MSB96-10, dated August 15, 1996, and, if necessary, replace with a serviceable part.

Note 2: Accomplishment of the ultrasonic inspection required by this AD does not fulfill any requirements for
magnetic particle inspection or any other inspections specified in TCM or Rolls-Royce, plc overhaul manuals.

(c) The ultrasonic inspection of the crankshaft must be performed by a non-destructive test (NDT) ultrasonic (UT) Level II inspector who is qualified under the guidelines established by the American Society of Nondestructive Testing or MIL-STD-410 or FAA-approved equivalent, or must be trained by TCM personnel or their designated representative on how to accomplish and conduct this inspection procedure. The person approving the engine for return to service is required to verify that the UT inspection was accomplished in accordance with the requirements of this paragraph.

(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 Maintenance Inspector, who may add

comments and then send it to the Manager, Atlanta Aircraft Certification Office.

Note 3: 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 service documents:

Document No.	Pages	Date
CSB96-8	1-6	June 25, 1996
Total pages: 6.		
MSB96-10	1-3	August 15, 1996
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 51. Copies may be obtained from Teledyne Continental Motors, P.O. Box 90, Mobile, AL 36601; telephone (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 becomes effective on January 23, 1998.

Footer Information

Issued in Burlington, MA, on February 26, 1998.

Comments

Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-1377; AD **68-08-01**

MCCAULEY AIRCRAFT PROPELLERS two- and three-bladed constant speed propeller models

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective January 21, 1972.

Regulatory Information

68-08-01 MCCAULEY AIRCRAFT PROPELLERS: Amdt. 39-581 as amended by Amendment 39-1314 is further amended by Amendment 39-1377. Applies to the following two- and three-bladed constant speed propeller models with hub serial numbers indicated below:

PROPELLER MODELS

2D34C8	C2A36C32	D2A34C58-B	3A32C76-S	D2A34C78-K
2D34C8-A	C2A36C32-A	D2A34C58-J	3A32C76-T	D2A34C78-L
2D34C8-J	C2A36C32-D	D2A34C58-K	3A32C76-AD	D2A34C78-M
2D34C8-K	D2A36C33	D2A34C58-L	3A32C76-AS	D3A32C79
2D34C8-M	D2A36C33-D	D2A34C58-M	3A32C76-AT	D3A32C79-A
2A36C23-C	D2A36C45	2A34C66	3A32C76-FD	D3A32C79-B
2A36C23-CD	D2A36C45-D	2A34C66-A	3A32C76-FS	D3A32C79-F
2A36C23-CH	D2A34C49	2A34C66-B	3A32C76-FT	D3A32C79-J
2A36C23-CJ	D2A34C49-A	2A34C66-C	3A32C76-JD	D3A32C79-K
2A36C23-CP	D2A34C49-B	2A34C66-J	3A32C76-JS	2A36C82-T
2A36C23-CS	D2A34C49-J	2A34C66-K	3A32C76-JT	2A36C82-DT
2A36C23-DD	D2A34C49-K	2A34C66-L	3A32C76-KD	D3A32C88
2A36C23-DH	D2A34C49-L	2A34C66-M	3A32C76-KS	D3A32C88-A
2A36C23-DJ	D2A34C49-M	E2A34C70	3A32C76-KT	D3A32C88-F
2A36C23-DP	2A34C50	E2A34C70-A	D3A32C77	D3A32C88-J
2A36C29	2A34C50-A	E2A34C70-J	D3A32C77-A	D3A32C88-K
2A36C29-A	2A34C50-B	E2A34C70-K	D3A32C77-F	D3A32C90
2A36C29-D	2A34C50-J	E2A34C70-M	D2A32C77-J	D3A32C90-A
B2A36C31	2A34C50-K	E2A34C73	D3A32C77-K	D3A32C90-B
B2A36C31-A	2A34C50-L	E2A34C73-A	D2A34C78	D3A32C90-C
B2A36C31-D	2A34C50-M	E2A34C73-J	D2A34C78-A	D3A32C90-F
D2A36C31-A	D2A34C58	E2A34C73-K	D2A34C78-B	D3A32C90-J
D2A36C31-D	D2A34C58-A	E2A34C73-M	D2A34C78-J	D3A32C90-K
		3A32C76-D		

HUB SERIAL NUMBERS

59000 up to and including 712778 except 700492, 700500 thru 700558; 700561 thru 700568; 700570 thru 700594; 700596 thru 701050 and 701053

Compliance required within the next 100 hours' time in service after the effective date of this AD, unless already accomplished. To prevent failure of the propeller cylinder attach screws, accomplish the following:

Modify propeller cylinder attachment in accordance with McCauley Service Bulletin No. 92, dated April

21, 1971, or later FAA-approved revision. However, for propellers used on Bellanca Aircraft Models 17-30 and 17-30A modify propeller cylinder attachment in accordance with McCauley Service Bulletin No. 94, dated July 28, 1971, or later FAA-approved revision instead of Service Bulletin No. 92. Equivalent methods of compliance with this AD must be approved by the Chief, Engineering and Manufacturing Branch, FAA, Eastern Region.

Amendment 39-581 was effective April 11, 1968.

Amendment 39-1314 was effective October 14, 1971.

This Amendment 39-1377 is effective January 21, 1972.

Footer Information

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Docket No. 91-ANE-22; Amendment 39-7067; AD **91-15-04**

MCCAULEY ACCESSORY DIVISION, CESSNA AIRCRAFT COMPANY Model ( )2( )34C( )-( ) Series Propellers

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective August 7, 1991.

Regulatory Information

91-15-04 MCCAULEY ACCESSORY DIVISION, CESSNA AIRCRAFT COMPANY: Amendment 39-7067. Docket No. 91-ANE-22.

Applicability: McCauley Model ( )2( )34C( )-( ) Series two bladed constant speed propellers with

threaded retention hubs, including those with feathering capabilities listed as follows:

Affected Propeller Hub Models

CONSTANT SPEED	FEATHERING
2D34C8-( )	D2AF34C30-( )
2D34C9-( )	2AF34C55-( )
2D34C53-( )	D2AF34C56-( )
B2D34C53-( )	D2AF34C61-( )
D2A34C58-( )	D2AF34C65-( )
F2A34C58-( )	D2AF34C81-( )
2A34C66-( )	
E2A34C70-( )	
E2A34C73-( )	
D2A34C78-( )	
D2A34C98-( )	

The parentheses used in the above list indicate the presence or absence of an additional letter(s) which vary the basic hub model designation. These letter(s) define minor changes that do not affect interchangeability or eligibility, and therefore, this AD still applies regardless of whether these letters are present or absent on the hub model designation.

The above listed McCauley propeller hubs are found on, but not limited to, the following aircraft certificated in any category:

Beech A23-24, A24, A24R, 58, 58A; 95-55, -A55, -B55,-B55A, -B55B, -C55, -C55A; D55, D55A, E55, E55A.
Bellanca 17-30, 17-30A
Cessna 180, 182H, 185, 185A thru D, A185E, A185F, 188, 188A, 188B, A188, A188A, A188B, 206, P206, P206A thru E, TP206A thru E, TU206A thru G, U206, U206A thru G, 207, T207, 210, 210A thru H, 210J thru L, 210-5, 210-5A, T210F thru H, T210J thru L, 305B, 305E, 310J, E310J, 310K, 310L, 310N, 336, 337, 337A thru F, M337B, T337B thru F.
Fuji FA-200-180
Interceptor (AeroCommander/Meyers) 200A thru C
Mooney M20C, M20D, M20G
Navion A, B, D thru H
Procaer F15/C
Reims F337E, F337F, FT337E, FT337F
Transavia PL-12/T-300
Windecker AC-7

Compliance: Required as indicated, unless previously accomplished.

To prevent possible blade separation, which could result in the loss of the engine and subsequent loss of aircraft control, accomplish the following in accordance with the compliance schedule as indicated:

PRIOR PROPELLER UTILIZATION (Hours/ calendar months given as time-in-service)	**COMPLIANCE SCHEDULE OF PROPELLER INSPECTION AND MODIFICATION**
Greater than 900 hours, or 59 calendar months since last overhaul/penetrant inspection or installed new, or prior time-in-service unknown.	Within the next 100 hours, or at the next annual inspection, or within 12 calendar months after the effective date of this AD, whichever occurs first.
Less than or equal to both 900 hours and 59 calendar months since last overhaul/penetrant inspection or installed new.	Prior to the accumulation of 1000 hours or 60 calendar months since last overhaul/penetrant inspection, or installed new, whichever occurs first.

(a) For propellers which have incorporated a hub containing oil with red dye and have been designated at initial production as a hub model number listed in the Appendix to this AD, or prior manufactured propellers whose hubs have been modified to contain oil with a red dye and reidentified as a hub model number listed in the Appendix to this AD, compliance is required only with paragraphs (f) and (h) of this AD.

(b) Perform propeller disassembly in accordance with the procedures specified for the affected hub model number listed in Paragraph 1 on page 4 of McCauley Service Bulletin (SB) 184, dated March 15, 1991.

(c) Penetrant inspect the propeller assembly for cracks in the propeller blade threaded retention area, the hub blade socket threads, the retention nut threads, and the ferrule threads in accordance with the procedures specified for the affected hub model number listed in Paragraph 2 on page 5 of McCauley SB 184, dated March 15, 1991.

(d) Remove from service, prior to further flight, propeller assemblies which exhibit cracks and replace with a serviceable unit, modified in accordance with paragraph (e) of this AD, or with an equivalent initial production propeller which has incorporated a hub with oil containing red dye.

(e) Modify the affected propeller hub assembly to contain oil with a red dye and reidentify in accordance with the procedures specified for the affected hub model number listed in Paragraph 3 on page 6 of McCauley SB 184, dated March 15, 1991.

NOTE: The modification of the propeller hub assembly to contain oil with a red dye provides an "on-condition" (in-service) means of early crack detection to prevent blade separation and also improves lubrication and corrosion protection. The oil will add approximately 2.8 lbs. to the weight of the

propeller assembly.

(f) If leakage of oil containing red dye is detected in service (whether during flight or while on the ground), determine prior to further flight, the source of leakage in accordance with the procedures specified for the affected hub model number listed in Paragraph 4 on page 7 of McCauley SB 184, dated March 15, 1991. If the inspection reveals a crack, compliance with Paragraph (d) of this AD is required.

(g) The "calendar month" compliance times stated in this AD allow the performance of the required action prior to the last day of the month in which compliance is required.

NOTE: For example, a required inspection and modification 60 months from last overhaul/penetrant inspection that was performed on December 15, 1986, would allow the penetrant inspection and modification to be performed no later than December 31, 1991.

(h) Report in writing any cracks found during inspections accomplished in accordance with paragraphs (c) or (f) of this AD to the Manager, Chicago Aircraft Certification Office, within ten (10) days of the inspection. Information collection requirements contained in this regulation have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (P.L. 96-511) and has been assigned OMB Control Number 2120-0056.

(i) Aircraft may be ferried in accordance with the provisions of Federal Aviation Regulations (FAR) 21.197 and 21.199 to a base where the AD can be accomplished.

(j) Upon submission of substantiating data by an owner or operator through an FAA Inspector (maintenance, avionics, or operations, as appropriate) an alternate method of compliance with the requirements of this AD or adjustments to the compliance times specified in this AD may be approved by the Manager, Chicago Aircraft Certification Office, Small Airplane Certification Directorate, Aircraft Certification Service, FAA, 2300 East Devon Avenue, Des Plaines, Illinois 60018.

The disassembly, inspection, and modification shall be done in accordance with the procedures listed in McCauley SB 184, dated March 15, 1991. 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 McCauley Accessory Division, The Cessna Aircraft Company, 3535 McCauley Drive, Vandalia, Ohio 45377. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Room 311, Burlington, Massachusetts, or at the Office of the Federal Register, 1100 L Street, NW, Room 8401, Washington, DC.

Airworthiness Directive **91-15-04**, Amendment 39-7067, supersedes, AD 77-17-09, Amendment 39-3020, AD 77-20-03, Amendment 39-3044, AD 77-23-01, Amendment 39-3073, AD 77-24-04, Amendment 39-3086, AD 78-20-01, Amendment 39-3304.

This amendment (39-7067, AD **91-15-04**) becomes effective on August 7, 1991.

AD **91-15-04**
APPENDIX

OIL-FILLED PROPELLER HUB COMPLIANCE INDICATOR TABLE

Propeller Hub Model	Compliance Indicator	Propeller Hub Model	Compliance Indicator +
2D34C8	2D34C8-()P and/or oil-fill plug in side of hub	F2A34C58	F2A34C58-()0 and/or oil-fill plug in side of hub
2D34C9	2D34C9-()P and/or oil-fill plug in side of hub	D2AF34C61	D2AF34C61-()0 and/or oil-fill plug in side of hub
D2AF34C30	D2AF34C30-()P and/or oil-fill plug in side of hub	D2AF34C65	D2AF34C65-()0 and/or oil-fill plug in side of hub
B2D34C53	B2D34C53-()0 and/or oil-fill plug in side of hub	2A34C66	2A34C66-()P and/or oil-fill plug in side of hub
2D34C53	2D34C53-()0 and/or oil-fill plug in side of hub	E2A34C70	E2A34C70-()P and/or oil-fill plug in side of hub
2AF34C55	2AF34C55-()0 and/or oil-fill plug in side of hub	E2A34C73	E2A34C73-()P and/or oil-fill plug in side of hub
D2AF34C56	D2AF34C56-()0 and/or oil-fill plug in side of hub	D2A34C78	D2A34C78-()P and/or oil-fill plug in side of hub
D2A34C58	D2A34C58-()0 and/or oil-fill plug in side of hub	D2AF34C81	D2AF34C81-()0 and/or oil-fill plug in side of hub
		D2A34C98	D2A34C98-()0 and/or oil-fill plug in side of hub

+Propeller models are listed in numerical sequence following the letter C in the model designation.

Footer Information

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-5046; AD **85-08-08**

McCAULEY ACCESSORY DIVISION Model D3A32C90 Series Propellers

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective May 13, 1985.

Regulatory Information

85-08-08 McCAULEY ACCESSORY DIVISION: Amendment 39-5046. Applies to the following Model D3A32C90 series propellers installed on, but not limited to, Bellanca 17-30, 17- 30A; Cessna A185E, F, A188B, P206A, TP206A, U206A, B, C, D, E, F, TU206A, B, C, D, E, F, 207, 207A, T207; and Navion A thru H: D3A32C90, D3A32C90-A, -B, -C, -J, -K, -L, -BLM, - CLM, -JLM, -KLM, -LM,

and -M.

Compliance is required as indicated unless already accomplished.

To detect propeller hub cracks and prevent possible failure, accomplish the following:

(a) Propeller models D3A32C90, D3A32C90-A, -B, -C, -J, -K, and -L: Within the next 50 hours time in service after the effective date of this AD or prior to accumulating 1200 hours total time in service, whichever occurs later, replace hubs with shot peened hubs and modify to the oil filled hub configuration in accordance with Supplement 1 to McCauley Service Manual No. 720415 dated January 7, 1977, or FAA approved equivalent.

(b) Propeller models D3A32C90-BLM, -JLM, -KLM, -LM, and -M: Within the next 50 hours time in service after the effective date of this AD or prior to accumulating 1200 hours total time in service, whichever occurs later, inspect the hub in accordance with McCauley Service Letter 1974-3 dated March 29, 1974, or FAA approved equivalent, end modify to the oil filled hub configuration in accordance with Supplement 1 to McCauley Service Manual No. 720415 dated January 7, 1977, or FAA approved equivalent.

(c) Propellers with unknown service histories must comply with paragraphs (a) or (b), as applicable, within the next 50 hours time in service after the effective date of this AD.

(d) Modified propellers showing signs of red dyed oil leakage must be removed from service and replaced with a serviceable propeller.

Aircraft may be ferried in accordance with the provisions of Federal Aviation Regulations 21.197 and 21.199 to a base where the AD can be accomplished.

Upon request, an equivalent means of compliance with the requirements of this AD may be approved by the Manager, Chicago Aircraft Certification Office, ACE-140C, 2300 East Devon Avenue, Des Plaines, Illinois 60018, telephone (312) 694-7130.

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 McCauley Accessory Division, Cessna Aircraft Company, 3535 McCauley Drive, P.O. Box 430, Vandalia, Ohio 45377. These documents also may be examined at the Office of Regional Counsel, FAA, Attn: Rules Docket No. 85-ANE-1, 12 New England Executive Park, Burlington, Massachusetts 01803, weekdays, except Federal holidays, between 8:00 a.m. and 4:30 p.m.

This amendment becomes effective May 13, 1985.

Comments

Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [65 FR 12463 3/9/2000]

Docket No. 98-CE-88-AD; Amendment 39-11621; AD **98-21-21 R1**

RIN 2120-AA64

Airworthiness Directives; Bob Fields Aerocessories Inflatable Door Seals

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

ACTION: Final rule

SUMMARY: This amendment revises Airworthiness Directive (AD) 98-21-21, which currently requires de-activating the electric door seal inflation system for all aircraft equipped with Bob Fields Aerocessories inflatable door seals. Since issuance of that AD, the manufacturer has developed a modification that would allow these electric door seal inflation systems to remain in service, and the Federal Aviation Administration (FAA) has approved this modification. This AD requires incorporating this modification as a method of complying with the current AD, and will exclude those airplanes with manual door seal inflation systems from the AD requirements of de-activating the system. The actions specified by this AD are intended to prevent smoke and a possible fire in the cockpit caused by

overheating of the electric door seal inflation systems, which could result in passenger injury.

DATES: Effective May 1, 2000.

ADDRESSES: Service information that relates to this AD may be obtained from Bob Fields Aerocessories,
340 East Santa Maria St., Santa Paula, California 93060; telephone: (805) 525-6236; facsimile: (805) 525-5286. This
information may also be examined at the Federal Aviation Administration (FAA), Central Region, Office of the Regional
Counsel, Attention: Rules Docket No. 98-CE-88-AD, 901 Locust, Room 506, Kansas City, Missouri 64106.

FOR FURTHER INFORMATION CONTACT: George Y. Mabuni, Aerospace Engineer, FAA, Los Angeles Aircraft
Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712; telephone: (562) 627-5341;
facsimile: (562) 627-5210.

SUPPLEMENTARY INFORMATION:

Events Leading to the Issuance of This AD

A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to all aircraft equipped with Bob Fields Aerocessories inflatable door seals that are installed in accordance with either the applicable Supplemental Type Certificate (STC) or through field approval was published in the Federal Register as a notice of proposed rulemaking (NPRM) on October 29, 1999 (64 FR 58359). The NPRM proposed to revise AD 98-21-21, Amendment 39-10844 (63 FR 55321, October 15, 1998). AD 98-21-21 currently requires de- activating the electric door seal inflation system, fabricating and installing a placard specifying that the system is inoperative, and inserting a copy of the AD into the Limitations Section of the airplane flight manual (AFM).

AD 98-21-21 only applies to those aircraft equipped with the Bob Fields Aerocessories inflatable door seals. With this in mind, the owner/operator also has the option of removing all provisions of the Bob Fields Aerocessories inflatable door seals installation, and installing original equipment manufacturer door seals or an FAA-approved equivalent that is of different design than the referenced Bob Fields Aerocessories inflatable door seals.

The NPRM proposed to retain the requirements of the existing AD, would exclude those airplanes incorporating a manual inflatable door seal system from the system de-activation requirements, and would provide the option of incorporating one of the modifications referenced in Bob Fields Aerocessories Service Bulletin No. BFA-001, Date: November 3, 1998, as a method of accomplishing

the AD.

The NPRM was the result of the manufacturer developing a modification that would allow these electric door seal inflation systems to remain in service, and the Federal Aviation Administration (FAA) approved this modification.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposed rule or the FAA's determination of the cost to the public.

The FAA's Determination
After careful review of all available information related to the subject presented above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed except for minor editorial corrections. The FAA has determined that these minor corrections will not change the meaning of the AD and will not add any additional burden upon the public than was already proposed.

Cost Impact
The FAA does not know the number of aircraft that have the affected electric door seal inflation systems installed. The FAA estimates that it will take approximately 3 workhours per airplane to accomplish the optional modifications that will allow these systems to be put back in service, at an average labor rate of approximately $60 an hour. Based on these figures, the total cost impact of the optional modification in this document on U.S. operators is estimated to be $180 per airplane aircraft equipped with Bob Fields Aerocessories inflatable door seals.

Regulatory Impact
These regulations will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, the FAA has determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the final evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES".

List of Subjects in 14 CFR Part 39
Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment
Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:
Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]
2. Section 39.13 is amended by removing Airworthiness Directive (AD) 98-21-21, Amendment 39-10844 (63 FR 55321, October 15, 1998), and adding a new AD to read as follows:

Regulatory Information

REVISION

98-21-21 R1 BOB FIELDS AEROCESSORIES: Amendment 39-11621; Docket No. 98-CE-88-AD; Revises AD 98-21-21, Amendment 39-10844.

Applicability: Electric inflatable door seals, installed either in accordance with the applicable supplemental type certificate (STC) or through field approval, that are installed on, but not limited to, the following aircraft:

Affected STC	Make and Model Aircraft Affected
SA3735NM	Cessna Models 170, 170A, and 170B Airplanes
SA4136WE	Cessna Models 310, 310A, 310B, 310C, 310D, 310F, 310G, 310H, 310I, 310J, 310K, 310L, 310N, 310P, 310Q, 310R, T310P, T310Q, and T310R Airplanes
SA2226NM	Cessna Models P210N and P210R Airplanes
SA3736NM	Cessna Models 185, 185A, 185B, 185C, 185D, A185E, and A185F Airplanes
SA4177WE	Cessna Models 175, 175A, 175B, and 175C Airplanes
SA4212WE	Cessna Models 210, 210A, 210B, 210C, 210D, 210E, 210F, 210G, 210H, 210J, 210K, 210L, 210M, 210N, T210F, T210G, T210H, T210J, T210K, T210L, T210M, T210N, 210-5 (205), and 210-5A (205A) Airplanes
SA4283WE	Cessna Models 172, 172A, 172B, 172C, 172D, 172E, 172F, 172G, 172H, 172I, 172K, 172L, 172M, and 172N Airplanes
SA4284WE	Cessna Models 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, and 180K Airplanes
SA4285WE	Cessna Models 182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, R182, and TR182 Airplanes
SA4286WE	Cessna Models 206, P206, P206A, P206B, P206C, P206D, P206E, TP206A, TP206B, TP206C, TP206D, TP206E, U206, U206A, U206B, U206C, U206D, U206E, U206F, U206G, TU206A, TU206B, TU206C, TU206D, TU206E, TU206F, and TU206G Airplanes
SA4287WE	Cessna Models 320, 320A, 320B, 320C, 320D, 320E, 320F, and 320-1 Airplanes

SA4180WE	Raytheon (Beech) Models H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 35-33, 35-A33, 35-B33, 35-C33, 35-C33A, E33, E33A, E33C, F33, F33A, F33C, G33, 36, A36, A36TC, and B36TC Airplanes
SA4184WE	Raytheon (Beech) Models 95, B95, B95A, E95, 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, D55, E55, 56TC, 58, and 58A Airplanes
SA4239WE	Raytheon (Beech) Models 58P, 58PA, 58TC, and 58TCA Airplanes
SA4240WE	Raytheon (Beech) Models 50, B50, C50, D50, D50A, D50B, D50C, D50E, D50E-5990, E50, F50, G50, H50, and J50 Airplanes
SA4282WE	Raytheon (Beech) Models 35, A35, B35, C35, D35, E35, F35, G35, and 35R Airplanes
SA4178WE	Mooney Models M20, M20A, M20C, M20D, M20E, M20F, M20G, M20J, and M20K Airplanes
SA4234WE	The New Piper Aircraft, Inc. (Piper) Models PA-34-200, PA-34-200T, and PA-34-220T Airplanes
SA4179WE	Piper Models PA-24, PA-24-250, PA-24-260, and PA-24-400 Airplanes
SA4235WE	Piper Models PA-44-180 and PA-44-180T Airplanes
SA4236WE	Piper Models PA-28-140, PA-28-150, PA-28-160, PA-28-180, PA-28-235, PA-28-151, PA-28-181, PA-28-161, PA-28-236, PA-28-201T, PA-28S-160, PA-28S-180, PA-28R-180, PA-28R-200, PA-28R-201, PA-28R-201T, PA-28RT-201, and PA-28RT-201T Airplanes
SA4237WE	Piper Models PA-23, PA-23-160, PA-23-235, PA-23-250, and PA-E23-250 Airplanes
SA4238WE	Piper Models PA-30, PA-39, and PA-40 Airplanes
SA4385WP	Piper Models PA-31, PA-31-300, PA-31-325, and PA-31-350 Airplanes
SA4288WE	Piper Models PA-32-260, PA-32-300, PA-32S-300, PA-32-301, PA-32-301T, PA-32R-300, PA-32R-301, PA-32R-301T, PA-32RT-300, and PA-32RT-300T Airplanes
SA2511NM	Bellanca Models 17-30, 17-31, and 17-31TC Airplanes
SA2510NM	Bellanca Models 17-30A, 17-31A, and 17-31ATC Airplanes
SA4316WE	Wing Aircraft Company Model D-1 Airplanes

NOTE 1: This AD applies to each airplane identified in the preceding applicability provision that has the affected inflatable door seals installed, 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.

Compliance: Required as indicated in the body of this AD, unless already accomplished.

To prevent smoke and a possible fire in the cockpit caused by overheating of the electric door seal inflation systems, which could result in passenger injury, accomplish the following:

(a) Prior to further flight after October 30, 1998 (the effective date of AD 98-21-21), deactivate the electric door seal inflation system by accomplishing the following:

(1) Disconnect the battery.

(2) Locate the air pump and identify the power wire to the air pump.

(3) Trace the power wire to its connection to the airplane's original electrical power system. Disconnect the power wire at its attachment to the airplane's electrical power system and stow the wire end.

(4) For non-pressurized airplanes, fabricate a placard that incorporates the following words utilizing letters that are at least 0.10-inch in height, and install this placard on the instrument panel within the pilot's clear view:

"ELECTRIC DOOR SEAL INFLATION SYSTEM INOPERATIVE"

(5) For pressurized airplanes or for airplanes that do not have an operating manual door seal inflation system, fabricate a placard that incorporates the following words utilizing letters that are at least 0.10-inch in height, and install this placard on the instrument panel within the pilot's clear view:

"ELECTRIC DOOR SEAL INFLATION SYSTEM INOPERATIVE. THIS AIRPLANE CAN ONLY BE OPERATED IN UNPRESSURIZED FLIGHT"

(6) Reconnect the battery before returning to service.

(b) Prior to further flight after October 30, 1998 (the effective date of AD 98-21-21), insert a copy of this AD into the Limitations Section of the airplane flight manual (AFM).

NOTE 2: The prior to further flight compliance time of paragraphs (a) and (b) of this AD is being retained from AD 98-21-21. **The only substantive difference between this AD and AD 98-21-21 is the addition of the alternative method of compliance referenced in paragraph (c) of this AD.**

NOTE 3: This AD only applies to those aircraft equipped with the Bob Fields Aerocessories inflatable door seals. With this in mind, the owner/operator also has the option of removing all provisions of the Bob Fields Aerocessories inflatable door seals installation, and installing original equipment manufacturer door seals or an FAA-approved equivalent that is of a different design than the referenced Bob Fields Aerocessories inflatable door seals.

(c) One of the following actions may be accomplished as an alternative method of compliance to the requirements of paragraphs (a) and (b) of this AD. No further action is required by this AD as long as one of these configurations remains incorporated on the aircraft.

(1) Modify the electric door seal inflation system in accordance with the procedures in Bob Fields Aerocessories Service Bulletin No. BFA-001, Date: November 3, 1998; or

(2) Install a manual door seal inflation system instead of an electric system. Aircraft with existing manual systems as of the effective date of this AD are excluded from the requirements of paragraphs (a) and (b) of this AD.

(d) As of the effective date of this AD, no person may install, on any aircraft, a Bob Fields Aerocessories electric door seal inflation system unless the actions specified in Bob Fields Aerocessories Service Bulletin No. BFA-001, Date: November 3, 1998, are incorporated.

(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 compliance times that provides an equivalent level of safety may be approved by the Manager, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Blvd., Lakewood, California 90712.

(1) The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Los Angeles ACO.

(2) Alternative methods of compliance approved in accordance with AD 98-21-21 are considered approved as alternative methods of compliance for this AD.

NOTE 4: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles ACO.

(g) All persons affected by this directive may obtain copies of the document referred to herein upon request to Bob Fields Aerocessories, 340 East Santa Maria St., Santa Paula, California 93060; or may examine this document(s) at the FAA, Central Region, Office of the Regional Counsel, Room 506, 901 Locust, Kansas City, Missouri 64106.

(h) This amendment revises AD 98-21-21, Amendment 39-10844.

(i) This amendment becomes effective on May 1, 2000.

Footer Information

Issued in Kansas City, Missouri, on March 2, 2000.
Michael Gallagher,
Manager, Small Airplane Directorate,
Aircraft Certification Service.

Comments

Airworthiness Directive

Federal Register Information

Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [61 FR 46538 NO. 172 09/04/96]

Docket No. 95-CE-54-AD; Amendment 39-9731; AD **96-18-07**

RIN 2120-AA64

Airworthiness Directives; Bellanca, Incorporated Models 17-30, 17-30A, 17-31, 17-31A, 17-31TC, and 17-31ATC Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that applies to Bellanca, Incorporated (Bellanca) Models 17-30, 17-30A, 17-31, 17-31A, 17-31TC, and 17-31ATC airplanes. This action requires repetitively inspecting, testing, and possibly replacing the nose landing gear (NLG) strut and brackets. A collapse of a Bellanca airplane's NLG during a landing prompted this action. The actions specified by this AD are intended to prevent possible failure of the nose landing gear, which, if not detected and corrected, could result in loss of control of the airplane during landing operations.

DATES: Effective October 25, 1996.
The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of October 25, 1996.

ADDRESSES: Service information that applies to this AD may be obtained from Bellanca, Incorporated, P.O. Box 964, Alexandria, Minnesota 56308; telephone (612) 762-1501. This information may also be examined at the Federal Aviation Administration (FAA), Central Region, Office of the

Assistant Chief Counsel, Attention: Rules Docket 95-CE-54-AD, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Steven J. Rosenfeld, Aerospace Engineer, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Rm. 232, Des Plaines, Illinois 60018; (847) 294-7030; facsimile (847) 294-7834.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to Bellanca Models 17-30, 17-30A, 17-31, 17-31A, 17-31TC, and 17-31ATC airplanes was published in the **Federal Register** on January 22, 1996 (61 FR 1532). The action proposed to require repetitively inspecting, testing, and possibly replacing the nose landing gear (NLG) strut and brackets. Accomplishment of the proposed action would be in accordance with Bellanca Service Letter (SL) B-107, dated September 20, 1995.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposed rule or the FAA's determination of the cost to the public.

After careful review of all available information related to the subject presented above, the FAA has determined that air safety and the public interest require the adoption of the rule proposed except for minor editorial corrections. The FAA has determined that these minor corrections will not change the meaning of the AD and will not add any additional burden upon the public than was already proposed.

The FAA estimates that 1,109 airplanes in the U.S. registry will be affected by this AD, that it will take approximately 24 workhours per airplane to accomplish the required action, and that the average labor rate is approximately $60 an hour. Parts cost approximately $160 per airplane. Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be $1,774,400 or approximately $1,600 per airplane. Bellanca has informed the FAA that no parts have been distributed to owners/operators for this replacement; therefore, this figure is based on the assumption that no owners/operators have accomplished the proposed inspection, testing, and replacement. In addition, the FAA has no way of determining the number of repetitive inspections each owner/operator will incur prior to replacing the bracket.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the final evaluation prepared for this action is contained in the Rules Docket.

A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES".

List of Subjects in 14 CFR Part 39
Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment
Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES
1. The authority citation for part 39 continues to read as follows:
Authority: 49 USC 106(g), 40113, 44701.

Section 39.13 - [AMENDED]
2. Section 39.13 is amended by adding a new airworthiness directive (AD) to read as follows:

Regulatory Information

96-18-07 BELLANCA, INCORPORATED: Amendment 39-9731; Docket No. 95-CE-54-AD.

Applicability: The following airplane models and serial numbers, certificated in any category:

Model	Serial Numbers
17-30	(30123 through 30262)
17-30A	(30263 through 78-30905, except 76-30824)
17-31	(32-1 through 32-14)
17-31A	(32-15 through 78-32172)
17-31TC	(31001 through 31003)
17-31ATC	(31004 through 79-31155)

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 (g) 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 initially upon accumulating 500 hours time-in-service (TIS) or within the next 50 hours TIS after the effective date of this AD, whichever occurs later, unless already accomplished, and

thereafter as indicated in the body of this AD.

To prevent failure of the nose landing gear (NLG), which, if not detected and corrected, could result in loss of control of the airplane during landing operations, accomplish the following:

(a) Inspect the NLG drag strut brackets for cracks or bends in accordance with the instructions in section 4, NLG DRAG STRUT BRACKET INSPECTION, of Bellanca Service Letter (SL) B-107, dated September 20, 1995. Prior to further flight, replace any cracked or bent bracket with a part number (P/N) 194650-0 (right side) bracket or a P/N 194383-0 (left side) bracket in accordance with the instructions in section 5, INSTALLATION NEW BRACKETS, of Bellanca SL B-107, dated September 20, 1995.

(b) Inspect the NLG installation, including the upper and lower leg assemblies, upper and lower drag struts, over-center spring assembly, and engine mount for corroded or worn bolts in accordance with the instructions in Section 6, NLG DRAG STRUT INSPECTION, of Bellanca SL B-107, dated September 20, 1995. Prior to further flight, replace any corroded or worn bolts.

(c) Check the NLG drag strut rigging, the overcenter of the drag strut, and the NLG cylinder actuator stroke limit, and adjust any discrepancies in accordance with the applicable instructions contained in the following:

(1) Section 7, PRELIMINARY NLG DRAG STRUT RIGGING CHECK (including section 7.1, Preliminary Nose-Wheel-In-The-Well Test, and section 7.2, Preliminary NLG Cylinder Down Test), of Bellanca SL B-107, dated September 20, 1995.

(2) Section 8, DRAG STRUT OVERCENTER TEST AND ADJUSTMENT, of Bellanca SL B-107, dated September 20, 1995.

(3) Section 9, NLG CYLINDER DOWN TEST AND ADJUSTMENT, of Bellanca SL B-107, dated September 20, 1995.

(d) If any discrepancies are found during any of the checks accomplished as required by paragraph (c) of this AD, and the right side NLG drag strut bracket has not been replaced with P/N 194650-0 (accomplished as possible requirement of paragraph (a) of this AD), accomplish the following:

(1) Reinspect the NLG drag strut brackets for cracks or bends at intervals not to exceed 50 hours TIS in accordance with Section 4, NLG DRAG STRUT BRACKET INSPECTION, of Bellanca SL B-107, dated September 20, 1995.

(2) Prior to further flight, replace any cracked or bent bracket with a P/N 194650-0 (right side) bracket or a P/N 194383-0 (left side) bracket in accordance with the instructions in section 5, INSTALLATION NEW BRACKETS, of Bellanca SL B-107, dated September 20, 1995. Installing the P/N 194650-0 (right side) bracket eliminates the repetitive inspection requirement in paragraph (d)(1) of this AD.

(3) The P/N 194650-0 (right side) bracket may be installed at any time to eliminate the repetitive inspection requirement of this AD.

(e) Check the NLG retraction (NLG-In-The-Well Test) in accordance with the instructions in Section 10, NLG-IN-THE-WELL TEST AND NLG CYLINDER MODIFICATION, of Bellanca SL B-107, dated September 20, 1995. If the nose gear cylinder rod motion is greater than 0.015 inches, prior to further flight, replace the cylinder internal stroke limiting sleeve with a new sleeve, P/N 195577-4, in accordance with the instructions in Section 10, NLG-IN-THE-WELL TEST AND NLG CYLINDER MODIFICATION, of Bellanca SL B-107, dated September 20, 1995.

(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 airplane to a location where the requirements of this AD can be accomplished.

(g) An alternative method of compliance or adjustment of the initial or repetitive compliance times that provides an equivalent level of safety may be approved by the Manager, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Rm. 232, Des Plaines, Illinois 60018. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Chicago Aircraft Certification Office.

NOTE 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Chicago Aircraft Certification Office.

(h) The inspections, modifications, and replacements required by this AD shall be done in accordance of Bellanca Service Letter B-107, dated September 20, 1995. 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 Bellanca, Incorporated, P.O. Box 964, Alexandria, Minnesota 56308; telephone (612) 762-1501. Copies may be inspected at the FAA, Central Region, Office of the Assistant Chief Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri, or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(i) This amendment becomes effective on October 25, 1996.

Footer Information

Comments

Airworthiness Directive

Federal Register Information

Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-6446; AD **90-02-17**

Airworthiness Directives; BELLANCA, INCORPORATED Models 14-19-3, 14-19-3A, 17-30, 17-31 and 17-31TC, 17-30A, 17-31A and 17-31ATC Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective February 5, 1990.

Regulatory Information

90-02-17 BELLANCA, INCORPORATED: Amendment 39-6446.

Applicability: Models 14-19-3, 14-19-3A, 17-30, 17-31 and 17-31TC (all serial numbers (S/N)), 17-30A

(S/N 30263 through 89-301007), 17-31A (S/N 32-15 through 78-32-172) and 17-31ATC (S/N 31004 through 79-31155) airplanes certificated in any category.

Compliance: Required as indicated in the body of the AD, unless already accomplished.

To prevent the collapse of the main landing gear which could result in substantial airframe damage, accomplish the following:

(a) Upon the accumulation of 500 hours total time-in-service (TIS), or within the next 100 hours TIS after the effective date of this AD, whichever occurs later, and each 100 hours TIS thereafter, inspect the left and right drag strut landing gear fitting assemblies, Part Number (P/N) 194153-10, for cracks, deformations, or failures as follows:

NOTE 1: This information is also contained in Bellanca Service Letter B-106, dated September 26, 1989. Penetrant inspection techniques are described in FAA Advisory Circular (AC) 43-3, "Nondestructive Testing in Aircraft." These inspections can be conducted with the fitting assemblies installed on the airplane. Do not apply loads to the landing gear components, particularly the drag strut, as it is possible to move the drag strut to overcenter and cause the landing gear to collapse.

(1) Place jacks or other workstands under the airplane at locations specified in the Bellanca Service Manual to prevent accidental landing gear collapse during this inspection.

(2) Figure 1 to this AD describes the 194153-10 fitting assembly. Clean the aft face of the -1 fitting with Stoddart solvent and a brush.

(3) Inspect for cracks adjacent to the welds which join the -1 fitting to the -2 fitting and -3 brace near the lower aft attachment bolt holes using liquid penetrant inspection techniques and a magnifying glass. If any crack is found, prior to further flight replace the assembly with a new fitting assembly, P/N 194153-30 or P/N 194153-40, as applicable.

(4) Lay a straight-edge along side the lower aft attachment bolts, in accordance with Figure 2 and, using a feeler gage or wire gage of .030 inch thickness, look for any evidence of local deformation (dimpling) in the -1 fitting. If any deformation greater than .030 inches is found, prior to further flight replace the assembly with a new fitting assembly, P/N 194153-30 or P/N 194153-40, as applicable.

NOTE 2: The -30, -40 assemblies can be distinguished from a -10 assembly by measuring the -1, -2, fitting and -3 brace part thickness: -10 part thickness is 0.062 inches, -30, -40 parts thickness is 0.100 inches. A 0.040 Shim (P/N 194167-2 Shim Spar Bracket) is available to provide proper fit between the 194153 fitting assembly and the forward spar.

(5) Check and adjust, as required, the drag strut for correct overcenter using the appropriate procedures in the Bellanca Service Manual.

(6) If the inspections specified above do not indicate any evidence of cracks or local deformation in the -1 fitting, apply zinc chromate or Epibond primer, as necessary, to protect the part and repeat these

inspections as specified above.

(7) The repetitive inspections specified above are not required on the P/N 194153-30 or P/N 194153-40 assemblies.

(b) Airplanes with cracked or deformed fittings may be flown with a special flight permit in accordance with FAR 21.197 to a location where this AD may be accomplished providing that no crack is found during the inspection of paragraph (a)(3) that exceeds 3/8 in. length, or no deformation is found during the inspection of paragraph (a)(4) that is great enough to cause the overcenter of the drag strut to be out of tolerance. In these cases, no special flight permit is allowed.

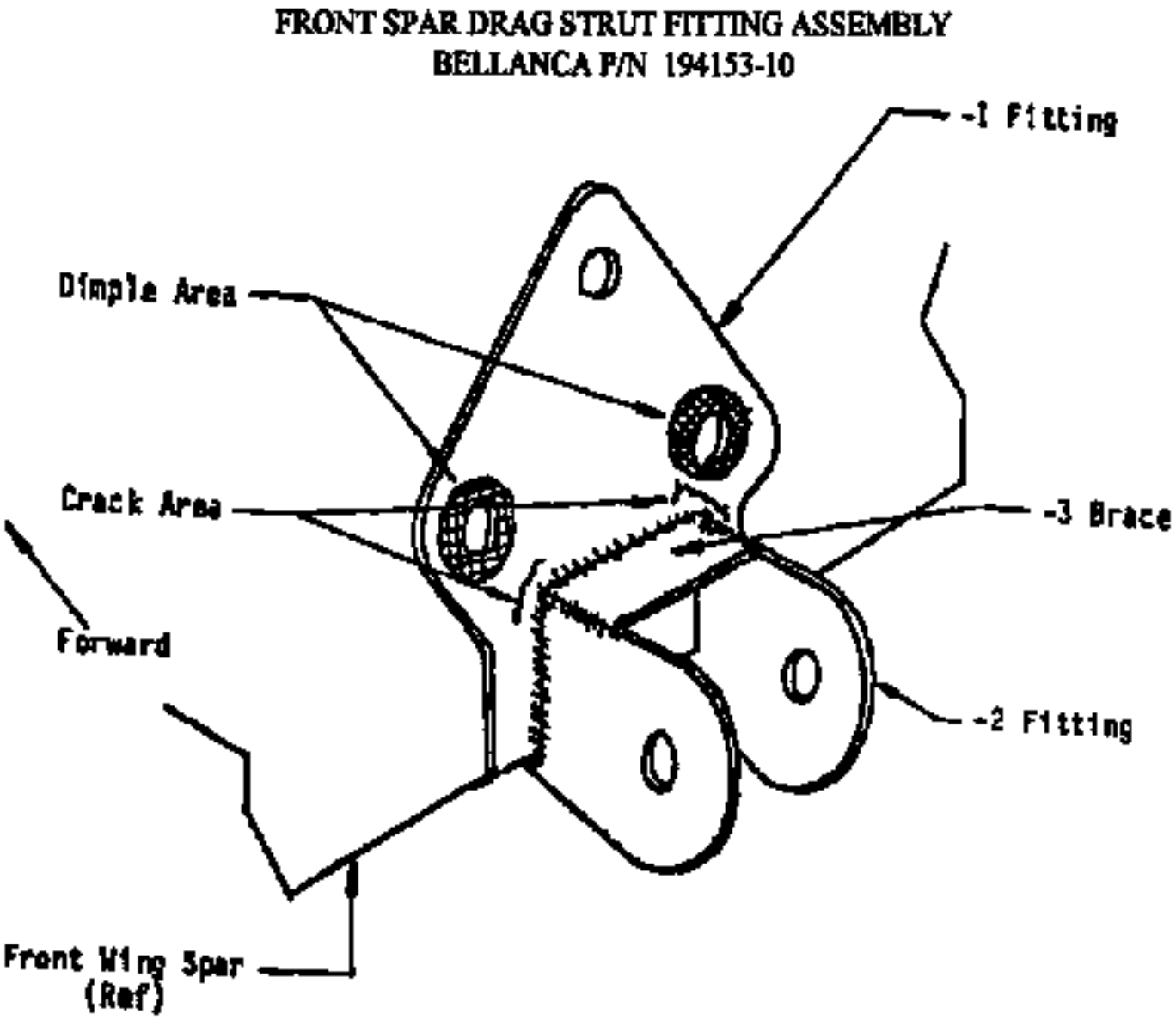
(c) An alternate method of compliance or adjustment of the initial and repetitive compliance times, which provides an equivalent level of safety, may be approved by the Manager, Chicago Aircraft Certification Office, 2300 E. Devon Avenue, Des Plaines, Illinois 60018.

NOTE 3: The request should be forwarded through an FAA Maintenance Inspector, who may add comments and send it to the Manager, Chicago Aircraft Certification Office.

All persons affected by this directive may obtain copies of the documents referred to herein upon request to Bellanca, Inc.; P.O. Box 964, Alexandria, Minnesota 56308; Telephone (612) 762-1501; or may examine these documents at the FAA, Central Region, Office of the Assistant Chief Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

This amendment (39-6446, AD **90-02-17**) becomes effective on February 5, 1990.

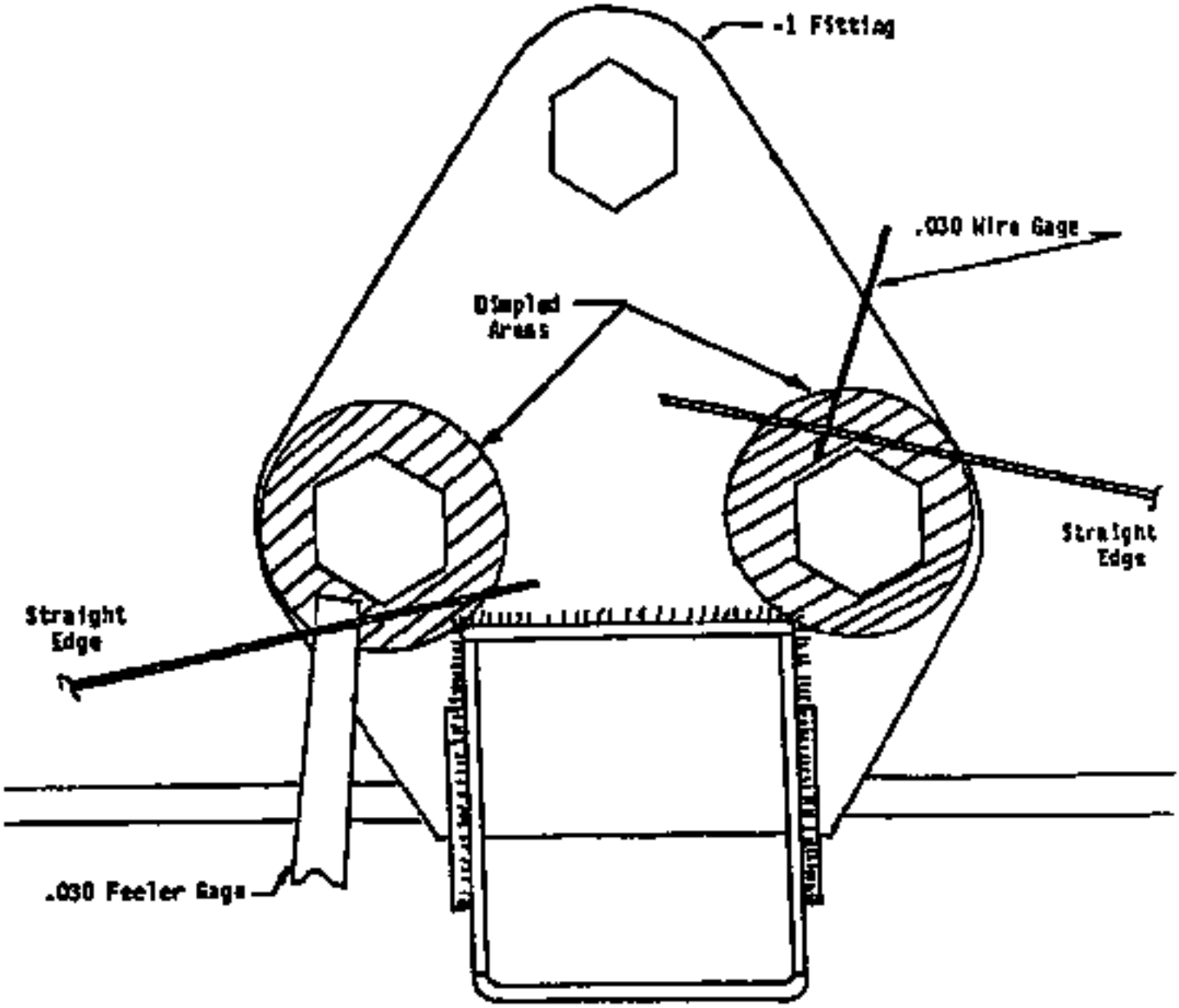
FIGURE 1



AD **90-02-17**

FIGURE 2

EXAMPLES OF MEASURING DEPTH OF DIMPLED AREAS



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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-3065; AD **77-22-02**

Airworthiness Directives; Bellanca Models 14-19-3, 14-19-3A, 17-30 and 17-30A Series Aircraft
PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective November 2, 1977.

Regulatory Information

77-22-02 BELLANCA AIRCRAFT: Amendment 39-3065. Applies to Bellanca Models 14-19-3 Serial Numbers 4106 thru 4228, 14-19-3A Serial Numbers 4229 thru 4342, 17-30 Serial Numbers 30001 thru 30262 and 17-30A Serial Numbers 30263 thru 30853 series aircraft equipped with P/N 191106, 191898 nose landing gear engine mount certificated in all categories. Compliance required as indicated below.

1. Within the next 50 hours time in service after the effective date of the airworthiness directive and thereafter at intervals not to exceed 100 hours time in service from the last inspection until Bellanca Kit SK1267-4019 Note 3 is installed, visually inspect with a 10x magnification glass both forward left and right hand portions of the engine mount bed rail frame nose landing gear support structure Bellanca Part No. 191106 and 191898 in accordance with Bellanca Service Letter #B-96 or later FAA approved revisions.

2. If no cracks or tube buckling are found, repaint in accordance with Bellanca's Service Letter #B- 96 and repeat inspection as set forth in paragraph 1 above within next-following 100 hours in service.

3. If cracks are found in the engine mount bed frame, the bed frame must be either modified in accordance with Bellanca Service Kit SK1267-4019 or repaired in accordance with Advisory Circular 43-13-1A, Chapter 2, Section 2. Only those tubes modified in accordance with SK1267-4019 shall be exempt from the inspection provisions of paragraph 1.

4. If tube buckling is found in the engine mount bed frame, the bed frame must be modified in accordance with Bellanca Service Kit SK1267-4019.

5. Aircraft may be flown in accordance with FAR 21.197 to a base where the modification (SK1267-4019) may be performed.

6. Report immediately to Chief, Engineering and Manufacturing Branch, FAA, Great Lakes Region, if cracks are found; telephone (312)694-4500, ext. 424. (Reporting approved by the Office of Management and Budget under OMB No. 04-R0174.)

The Bellanca Aircraft inspections and procedures identified in this directive are incorporated herein and made a part hereof pursuant to 5 U.S.C. 522(a)(1). The Bellanca Aircraft Service Letters incorporated herein may be obtained upon request to Bellanca Aircraft Corporation, P.O. Box 69, Municipal Airport, Alexandria, Minnesota 56308, telephone (612)762-1501. These documents may also be examined at the FAA Great Lakes Region, 2300 East Devon Avenue, Des Plaines, Illinois 60018 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 the Great Lakes Region.

This amendment becomes effective November 2, 1977.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-2713; AD **76-08-04**

Airworthiness Directives; Bellanca Model: 14-19, 14-19-2, 14-19-3, 14-19-3A, 17-30, 17-30A, 17-31, 17-31A, 17-31TC and 17-31ATC Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective September 9, 1976.

Regulatory Information

76-08-04 BELLANCA: Amendment 39-2583 as amended by Amendment 39-2713. Applies to Bellanca Models: 14-19, 14-19-2, 14-19-3, 14-19-3A, 17-30, 17-30A, 17-31, 17-31A, 17-31TC and 17-31ATC certificated in all categories.

Compliance required as indicated.

To detect deterioration in wood wing, accomplish Part I and Part II of Bellanca Aircraft Corporation Service Letter No. 87A dated April 12, 1976, as follows:

(a) For airplanes which have been produced prior to the preceding eleven months comply with Part I within the next 10 hours time in service, or within the next 30 days, whichever occurs first after the effective date of this Airworthiness Directive, unless already accomplished.

(b) Comply with Part II not later than 13 months after the effective date of this AD.

(c) After the initial inspection specified in (a), comply with Part I at each annual inspection required by Federal Aviation Regulations Part 91.

If wood deterioration is detected, repair must be accomplished in accordance with FAA Approved Standard Practice AC 43-13-1A or FAA approved equivalent and/or manufacturer's recommendations prior to further flight except that the airplane may be flown in accordance with FAR 21.197 to a base where the repair can be performed.

The manufacturer's Service Letter No. 87A identified and described in this directive is incorporated herein pursuant to 5 U.S.C. 552 (a)(1). All persons affected by this directive who have not already received the documents from the manufacturer may obtain copies upon request from Bellanca Aircraft Corporation, Box 624, Municipal Airport, Alexandria, Minnesota 56308.

These documents may also be examined at the office of Regional Counsel, Great Lakes Region, 2300 East Devon Avenue, Des Plaines, Illinois 60018 and at FAA Headquarters, 800 Independence Avenue, S. W., Washington D.C. 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 the Great Lakes Region Engineering and Manufacturing Branch, 2300 East Devon Avenue, Des Plaines, Illinois 60018.

Amendment 39-2583 became effective April 22, 1976.
This amendment 39-2713 becomes effective September 9, 1976.

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Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-5684; AD **87-11-01 R1**

Airworthiness Directives; Bellanca Model 17- 30, 17-30A, 17-31, 17-31A, 17-31TC, and 17-31ATC Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective August 28, 1987.

Regulatory Information

87-11-01 R1 BELLANCA: Amendment 39-5624 as amended by Amendment 39-5684. Applies to Models 17- 30, 17-30A, 17-31, 17-31A, 17-31TC, and 17-31ATC (all serial numbers) airplanes certificated in any category.

Compliance: Required as indicated, unless already accomplished.

To preclude engine power loss due to either the accumulation of water or other contaminants in the fuel system or due to mismanagement of available fuel resources caused by lack of pilot familiarity with the airplane fuel system design and operating procedures, accomplish the following:

(a) For all airplanes, within the next 30 days after the effective date of this AD or at the next annual inspection, whichever occurs later, and thereafter at each annual inspection, inspect the fuel filler caps and fuel filler well (scupper) drains in accordance with the instructions contained in Section II of Bellanca Service Letter No. B-105, dated February 2, 1987.

(b) For Bellanca Models and Serials identified in Table 1., within the next 30 days after the effective date of this AD, accomplish the following:

(1) Install the appropriate AFM revision, as specified in Table 1.

(2) Install permanent placards which state the following at the specified airplane locations:

(i) For Models 17-30 and 17-30A, on the instrument panel adjacent to the auxiliary fuel pump switch: "USE TO RESTORE FUEL PRESSURE AND RELEASE TO PREVENT ENGINE FLOODING."

(ii) On the instrument panel adjacent to the fuel quantity gauges: "FUEL GAUGES READ QUANTITY IN TANK SELECTED, MAIN FUEL TANK GAUGE INOPERATIVE WHEN AUXILIARY TANK SELECTED. FUEL REMAINING IN SELECTED TANK CANNOT BE USED SAFELY IN FLIGHT WHEN GAUGE READS ZERO."

(iii) On the console adjacent to the fuel selector valve (on airplanes with a 58 gallon capacity fuel system):

"LEFT TANK: 15.5 GALLONS
RIGHT TANK: 15.5 GALLONS
AUXILIARY TANK: 20 GALLONS
USE AUX. TANK IN LEVEL FLIGHT ONLY."

(3) Placards specified in (b)(2)(i), (b)(2)(ii), and (b)(2)(iii) may be fabricated and installed using letters with minimum 1/10 inch height.

NOTE: The AFM revisions specified above (and associated placards) are available at a nominal cost from Bellanca, Inc., P.O. Box 964, Alexandria, Minnesota 56308; Telephone (612) 762-1501. The placards are revised versions of existing placards. The existing placards may either be removed and discarded or overlaid by the corresponding revised placard. The placard specified in paragraph (2)(iii) deletes information which was contained in the placard being replaced. This information, however, is presented more clearly in the placard of paragraph (2)(ii) which is a new placard for the airplanes to which paragraph (2)(iii) applies.

(c) The requirements of paragraph (b) of this AD may be accomplished by the holder of a pilot certificate issued under Part 61 of the Federal Aviation Regulations (FAR) on any airplane owned or operated by him, provided the airplanes are not used in air taxi operations. The person accomplishing these actions must make the appropriate aircraft maintenance record entry as prescribed by FAR 91.173.

(d) Airplanes may be flown in accordance with FAR 21.197 to a location where this AD may be accomplished.

(e) An equivalent means of compliance with this AD may be used if approved by the Manager, Chicago Aircraft Certification Office, FAA, 2300 East Devon Ave., Des Plaines, Illinois 60018; Telephone (312) 694-7357.

All persons affected by this directive may obtain copies of the document(s) referred to herein upon request to Bellanca, Inc., P.O. Box 964, Alexandria, Minnesota 56308; or may examine the document(s) referred to herein at FAA, Office of the Regional Counsel, Room 1558, 601 East 12th Street, Kansas City, Missouri 64106.

Amendment 39-5624 became effective June 22, 1987.

This amendment, 39-5684, becomes effective on August 28, 1987.

Table 1.
Serial Numbers (may be AFM Revision Model prefixed with year of manufacture) to be installed.

17-30	30001 - 30262	Rev. 15, dtd. 2/2/87
-30A	30263 - 30514 (except 30498)	Rev. 6, dtd. 2/2/87
-31	32-1 - 32-14	Rev. 2, dtd. 2/2/87
-31A	32-15 - 32-102	Rev. 8, dtd. 2/2/87
-31TC	31001 - 31003	Rev. 2, dtd. 2/2/87
-31ATC	31004 - 31046	Rev. 8, dtd. 2/2/87

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-1599; AD **73-05-02**

Airworthiness Directives; Bellanca Model 17-30A, Model 17-31A, and Model 17-31ATC Airplanes
PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective March 7, 1973.

Regulatory Information

73-05-02 BELLANCA: Amdt. 39-1599. Applies to Model 17-30A, Serial Numbers 30346 through 73-30496; Model 17-31A, Serial Numbers 32-37 through 73-32-97; and Model 17-31ATC, Serial Numbers 31015 through 73-31045, certificated in all categories.

Compliance required as indicated, unless already accomplished.

To prevent possible failure of the rudder control system, accomplish the following:

(A) Within the next 10 hours time in service after the effective date of this airworthiness directive, unless already accomplished, and thereafter at intervals not to exceed 25 hours time in service from the last inspection, inspect the rudder pedal shaft assemblies, Part Numbers 195266, 195268, 195270 and 195272, equipped with brakes where the vertical tube is welded to the horizontal tube for evidence of cracks or other failures in accordance with Bellanca Service Letter No. 77 dated February 10, 1973, or later approved revisions, or an equivalent approved by the Chief, Engineering and Manufacturing Branch, Great Lakes Region. All shaft assemblies found cracked must be replaced prior to further flight with a new part of the same number utilizing a horizontal tube having a .058" wall thickness.

(B) Within the next 100 hours time in service after the effective date of this airworthiness directive unless already accomplished, replace all rudder shaft assemblies, Part Numbers 195266, 195268, 195270, and 195272, on which rudder/brake pedals are installed having .049" thick horizontal tube walls with a new assembly of the same part number utilizing a horizontal tube having a .058" wall thickness in accordance with Bellanca Service Letter No. 77 dated February 10, 1973, or later FAA approved revisions, or an equivalent approved by the Chief, Engineering and Manufacturing Branch, Great Lakes Region. Rudder pedal shaft assemblies not having the brake pedal installed are not affected by this airworthiness directive.

(C) The repetitive inspections of paragraph (A) of this airworthiness directive are no longer required when compliance with paragraph (B) of this airworthiness directive is accomplished.

(D) Aircraft Serial Numbers 73-30497 through 73-30509, 73-32-98 through 73-32- 100 were produced with .049" wall tubes but with a reinforcement gusset added and are exempt from this airworthiness directive unless the rudder pedals have been replaced during the service life of these aircraft.

This amendment becomes effective March 7, 1973.

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Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-1373; AD **72-01-03**

Airworthiness Directives; Bellanca Model 17-30A, 17-31A, and 17-31ATC Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective January 5, 1972.

Regulatory Information

72-01-03 BELLANCA: Amdt. 39-1373. Applies to Models 17-30A (Serial Numbers 30394, 30395, 30396, 30397, 30398, 30399, 30400, 30401, 30402, 30403 and 30405); 17-31A (Serial Number 32-53); and 17-31ATC (Serial Numbers 31022, 31023, 31024 and 31025) Airplanes.

Compliance: Required as indicated, unless already accomplished.

To prevent loss of engine power due to fuel starvation, accomplish the following:

Prior to next flight replace hose Aeroquip P/N 359-8D-0153, located between the firewall and engine driven fuel pump, with hose Bellanca P/N 198003-10, or an equivalent method of compliance approved by the Chief, Engineering and Manufacturing Branch, FAA, Central Region.

Bellanca Service Letter No. 68 dated December 3, 1971, pertains to this subject.

This amendment becomes effective January 5, 1972, to all persons except those to whom it was made effective by telegram dated December 17, 1971.

Footer Information

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-1591; AD **73-03-03**

Airworthiness Directives; Bellanca Model 17-30A Airplanes
PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective February 7, 1973.

Regulatory Information

73-03-03 BELLANCA: Amdt. 39-1591. Applies to Model 17-30A (Serial Numbers 30263 through 73-30489) airplanes.

Compliance: Required as indicated unless already accomplished.

To prevent bolt failures and subsequent washer ingestion into the engine, accomplish the following:

a) Within 10 hours time in service after the effective date of this AD, remove the 4 AN4H-17A bolts attaching the air induction box to the throttle body and replace these bolts with new ones. When reassembling the air induction box, assure that the 4 washers between the spacers and the air induction box are properly installed and the bolts are torqued to 35-40 inch- pounds and safety wired.

b) Within 50 hours time in service after the effective date of this AD, modify the air induction box in accordance with Bellanca Service Letter Number 75 dated January 3, 1973, or later FAA approved revisions.

c) Any alternate equivalent method of compliance with Paragraphs a and b above must be approved by the Chief, Engineering and Manufacturing Branch, FAA, Great Lakes Region.

This amendment becomes effective February 7, 1973.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-2372; AD **75-20-06**

Airworthiness Directives; Bellanca Model 17-30, 17-30A, 17-31, 17-31TC, 17-31ATC, 14-19-3A, and 17-31A Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective September 26, 1975.

Regulatory Information

75-20-06 BELLANCA: Amendment 39-2372. Applies to Model 17-30, 17-30A (S/N 30263 through S/N 76-30811), 17-31, 17-31TC, 17-31ATC (S/N 30004, S/N 31004 through S/N 76-31124), 14-19-3A, and 17-31A (S/N 32-15 through S/N 76-32-163) airplanes certificated in all categories.

Compliance required upon accumulation of 300 hours time in service or within the next 25 hours time in service from the effective date of this Airworthiness Directive (whichever occurs later) unless already accomplished, and thereafter at intervals not to exceed 100 hours time in service from the last inspection until Bellanca Kit SK1234789-0004 is accomplished.

To detect cracks in either vertical side fuselage tube (F. S. 7), which is adjacent to the horizontal stabilizer carry-through, in the area near the upper fuselage longeron, accomplish the following:

A. Inspect the vertical tube for circumferential cracks at the upper weld, and between the upper weld and the horizontal stabilizer carry-through tube, all around the tube.

B. If cracks are found, repair and modify in accordance with Bellanca Kit SK1234789-0004 or an equivalent approved by the Chief, Engineering and Manufacturing Branch, Great Lakes Region, before further flight, except that the airplane may be flown, in accordance with FAR 21.197, to a base where the repair can be performed.

C. If no cracks are found, no further action is required until the next inspection.

Bellanca Service Letter No. 85 or 85A pertains to this same subject.

This amendment becomes effective September 26, 1975.

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Comments

Airworthiness Directive

Federal Register Information

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-5489; AD **86-25-06**

Airworthiness Directives; Bellanca Model 17-30, 17-30A, 17-31, 17-31A, 17-31TC and 17-31ATC Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective December 22, 1986.

Regulatory Information

86-25-06 BELLANCA: Amendment 39-5489. Applies to the following models and serial numbered airplanes, certificated in any category, not equipped with an FAA approved drain valve for each wing main fuel tank and each wing auxiliary fuel tank:

MODEL	SERIAL NUMBERS (S/N)
17-30	All
17-30A	S/Ns 30-263 thru 30-977
17-31	All
17-31A	S/Ns 32-15 thru 32-172
17-31TC	All
17-31ATC	S/Ns 31-004 thru 31-155

Note: The serial numbers listed above may be prefixed by a two-digit number indicating the last two digits of the year of manufacture.

Compliance: Required within the next 50 hours time-in-service after the effective date of this AD, unless already accomplished.

To prevent engine power loss due to the accumulation of water or other contaminants in the fuel system, accomplish the following:

(a) For each wing main fuel tank and each wing auxiliary fuel tank not having an FAA approved drain valve of any style, install a flush quick drain valve as follows:

(1) Drain the fuel tank.

(2) Remove the fuel tank drain plug, AN 932-2, from the drain boss at the bottom aft portion of the fuel tank. For tanks comprised of interconnected cells, each cell having its own drain boss, remove the drain plug from the inboard cell of the tank.

(3) Install a flush quick drain valve, P/N F391-18 or equivalent.

Note: These pipe thread valves produced by Manufacturing Division, Inc. are available from Bellanca, Inc., Post Office Box 964, Alexandria, Minnesota 56308; Telephone (612) 762-1501.

(4) Refuel the tank and check for leaks.

(b) Fabricate and install a permanent placard in full view of the pilot, using letters with minimum 1/10 inch height, which states the following: "DRAIN ALL FUEL SUMPS BEFORE FIRST FLIGHT OF EACH DAY."

(c) The requirements of paragraph (b) of this AD may be accomplished by the holder of a pilot certificate issued under Part 61 of the Federal Aviation Regulations (FAR) on any airplane owned or operated by him. The person accomplishing these actions must make the appropriate aircraft maintenance record entry as prescribed by FAR 91.173.

(d) Airplanes may be flown in accordance with FAR 21.197 to a location where this AD may be accomplished.

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

This amendment becomes effective on December 22, 1986.

Footer Information

Comments

Airworthiness Directive

Federal Register Information

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-5454; AD **76-23-03** R1

Airworthiness Directives; Bellanca MN Models 17-30, 17-30A, 17-31, and 17-31A, Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective November 7, 1986.

Regulatory Information

76-23-03 R1 BELLANCA: Amendment 39-2772, as amended by Amendment 39-5454. Applies to BellancaMN Models 17-30, serials 30-139 thru 30-262, 17-30A, serials 30-263 and up, 17-31, serials 32-1 thru 32-14, and 17-31A, serials 32-15 and up, airplanes certificated in all categories.

For airplanes with 200 or more hours time in service on the effective date of this AD, compliance is required within the next 10 hours time in service and thereafter at intervals not to exceed 100 hours time in service or the next annual inspection, whichever occurs first.

For airplanes with less than 200 hours time in service on the effective date of this AD compliance is required before the accumulation of 210 hours time in service and thereafter at intervals not to exceed 100 hours time in service or the next annual inspection, whichever occurs first.

To prevent exhaust system failures which could result in cabin air contamination and heat damage to components in the nacelle accomplish the following:

(A) Visually inspect the muffler and tailpipe assemblies for cracks paying particular attention to the ball joint welds, the outlets of the muffler and resonator, and the support for the tailpipe assembly.

(B) Inspect the exhaust system for freedom of movement at the ball joints by removing the tailpipe support bolts. When the bolts are removed:

(1) The left tailpipe assembly must drop from its supported position unassisted.

(2) The right tailpipe assembly must move from its supported position when a two pound force is applied one inch below the resonator can 90 degrees to the axis of the resonator, i.e., the assembly must move when a two pound pull is applied one inch below the resonator can forward and down.

(3) If a greater forces than the above are required:

(a) Disassemble the ball joint and inspect for surface abnormalities such as galling or wear marks.

(b) Rework the ball joints as required to correct noted discrepancies.

(c) Reassemble the ball joint. Do not overtighten the clamp as this may distort ball surfaces.

(4) Repeat (B)(1) thru (B)(3) as required until compliance with (B)(1) and (B)(2) is demonstrated.

Amendment 39-2772 became effective November 23, 1976.
This amendment, 39-5454, becomes effective November 7, 1986.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [64 FR 66747 11/30/99]

Docket No. 98-CE-87-AD; Amendment 39-11434; AD **99-24-10**

RIN 2120-AA64

Airworthiness Directives; Precise Flight, Inc. Model SVS III Standby Vacuum Systems
PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that applies to all aircraft equipped with Precise Flight, Inc. Model SVS III standby vacuum systems installed in accordance with the applicable supplemental type certificate (STC) or through field approval. This AD requires incorporating revised operating limitations for the affected standby vacuum systems into the airplane flight manual (AFM), and repetitively inspecting the push-pull cable, vacuum lines, saddle fittings, and shuttle valve for correct installation and damage (wear, chafing, deterioration, etc.). This AD also requires immediately correcting any discrepancy found and conducting a function test of the vacuum system after the inspections. This AD is the result of reports of shuttle valve failure and standby vacuum system malfunction on aircraft. The actions specified by this AD are intended to detect and correct problems with the standby vacuum system before failure or malfunction and to provide operating procedures for the pilot regarding the use and limitations of this system.

DATES: Effective January 14, 2000.
The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of January 14, 2000.

ADDRESSES: Service information that applies to this AD may be obtained from Precise Flight, Inc., 63120 Powell

Butte Road, Bend, Oregon 97701; telephone: (800) 547-2558. This information may also be examined at the Federal Aviation Administration (FAA), Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 98-CE-87-AD, 901 Locust, Room 506, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North
Capitol Street, NW, suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Ms. Dorothy Lundy, Aerospace Engineer, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW, Renton, Washington 98055-4065; telephone: (425) 227-2260; facsimile: (425) 227-1181.

SUPPLEMENTARY INFORMATION:

Events Leading to the Issuance of This AD

A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to all aircraft equipped with Precise Flight, Inc. Model SVC III standby vacuum systems installed in accordance with the applicable supplemental type certificate (STC) or through field approval was published in the **Federal Register** as a notice of proposed rulemaking (NPRM) on July 7, 1999 (64 FR 36618). The NPRM proposed to require incorporating revised operating limitations for the affected standby vacuum systems into the airplane flight manual (AFM), and repetitively inspecting the push-pull cable, vacuum lines, saddle fittings, and shuttle valve for correct installation and damage (wear, chafing, deterioration, etc.). The NPRM also proposed to require immediately correcting any discrepancy found and conducting a function test of the vacuum system after each inspection.

The NPRM was the result of reports of shuttle valve failure and standby vacuum system malfunction on aircraft.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposed rule or the FAA's determination of the cost to the public.

The FAA's Determination

After careful review of all available information related to the subject presented above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed except for minor editorial corrections. The FAA has determined that these minor corrections will not change the meaning of the AD and will not add any additional burden upon the public than was already proposed.

Compliance Time of This AD

The compliance times of this AD are presented in calendar time. Although malfunction or failure of the standby vacuum systems is only unsafe while the aircraft is in flight, the condition is not a direct result of repetitive aircraft operation. The unsafe condition could exist on a standby vacuum system installed on an aircraft with only 50 hours time-in-service (TIS), but may not develop on another standby vacuum system installed on an aircraft until 1,000 hours TIS. The inspection compliance times are utilized to coincide with annual inspections so as to allow the owner/operator of the aircraft to have the required action accomplished at a time when he/she has already scheduled maintenance activities.

Cost Impact

The FAA estimates that 10,000 standby vacuum systems will be affected by this AD, that it will take approximately 3 workhours per vacuum system to accomplish the actions, and that the average labor rate is approximately $60 an hour. Based on these figures, the total cost impact of this AD on U.S. operators is estimated to be $1,800,000, or $180 per airplane.

These figures only take into account the costs of the initial inspection and initial functional test of the standby vacuum systems; subsequent inspections and functional tests and any corrective actions are not included in the cost impact.

The FAA has no way of determining the number of repetitive inspections and functional tests each airplane owner/operator will incur over the life of an airplane incorporating one of the affected standby vacuum systems. The FAA also has no way of determining the number of standby vacuum systems that will require corrective action based on the inspection results.

Regulatory Impact
This rule does not have Federalism implications as defined in Executive Order No. 13132. This means it does not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. The FAA has not consulted with state authorities prior to publication of this rule. For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the final evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES".

List of Subjects in 14 CFR Part 39
Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment
Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES
1. The authority citation for part 39 continues to read as follows:
Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]
2. Section 39.13 is amended by adding a new airworthiness directive (AD) to read as follows:

Regulatory Information

99-24-10 PRECISE FLIGHT, INC.: Amendment 39-11434; Docket No. 98-CE-87-AD. Issued November 15, 1999.
Applicability: Model SVS III standby vacuum systems, installed on, but not limited to, the aircraft listed in the following chart. These systems can be installed either in accordance with the applicable supplemental type certificate (STC) or through field approval:

Affected STC	Make and Model Airplanes
SA2160NM	Raytheon Beech Models 23, A23, A23A, A23-19, 19A, B19, B19A, A23-24, B23, C23, A24, A24R, B24R, C24R, 35, A35, B35, C35, D35, E35, F35, G35, 35R, H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 35-33, 35-A33, 35-B33, 35-C33, 35-C33A, E33, E33A, E33C, F33, F33A, F33C, G33, 36, A36, A36TC, B36TC, 4S(YT-34), A45(T-34A, B-45), D45(T-34B), and 77 Series
SA2161NM	Raytheon Beech Model V35B

SA2162NM	Cessna Models 120, 140, 140A, 150, 150A, 150B, 150C, 150D, 150E, 150F, 150G, 150H, 150J, 150K, 150L, A150L, 150M, 152, A152, A150K, A150M, 170, 170A, 170B, 172, 172A, 172B, 172C, 172D, 172E, 172F (USAFT-41A), 172G, 172H(USAFT-41A), 172I, 172K, 172L, 172M, 172N, 172P, 172Q, 175, 175A, 175B, 175C, P172D, R172E (USAFT-41B, USAFT41-3, and USAFT-41D), R172F (USAFT-41D and USAFT-41C), R172G (USAFT-41D), R172H (USAFT-41D), R172J, R172K, 172RG, 177, 177A, 177B, 177RG, 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K, 182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, 182R, 182RG, T182, T182RG, T182R, 185, 185A, 185B, 185C, 185D, 185E, A185E, A185F, 188, 188A, 188B, A188, A188B, T188C, 206, P206, P206A, P206B, P206C, P206D, P206E, TP206A, TP206B, TP206C, TP206D. TP206E, U206-A, U206-B, U206-C, U206-D, U206-E, U206-F, U206G, TU206-A, TU206-B, TU206-C, TU206-D, TU206-E, TU206-F, TU206-G, 207, 207A, T207, T207A, 210, 210A, 210B, 210C, 210D, 210E, 210F, 210-5 (205), 210-5A (205A), T210F, 210G, T-210G, 210H, T-210H, 210J, 205P, T-210J, 210K, T-210K, T210L, 210L, 210M, T210M, 210N, P210N, T210N, 205T, 210R, P210R, 205U, T210R, 210-5, 210-5A, 305A (USAF 0-1A), 305C (USAF 0-1E), 305D (USAF 0-1F), 305F, 305B (USAF T0-1D), 305E (0-1D or 0-1F), and 321 (Navy 0E-2)
SA2163NM	Cessna Model U206G
SA2164NM	Cessna Model 180Q
SA2166NM	Cessna Model 177
SA2167NM	The New Piper Aircraft, Inc. (Piper) Models L-14, PA-12, PA-12S, PA-14, PA-15, PA-16, PA-16S, PA-17, PA-18, PA-18A, PA-18S, PA-18-105 (Special), PA-18S-105(SP), PA-18-125 (Army L-21A), PA-18AS-125, PA-18S-125, PA-18-135, PA-18A-135, PA-18AS-135, PA-18S-135, PA-18-150, PA-18A-150, PA-18AS-150, PA-18S-150, PA-19 (Army L-18C), PA-19S, PA-20, PA-20S, PA-20-115, PA-20S-115, PA-20-135, PA-22, PA-22-108, PA-22-135, PA-22S-135, PA-22-150, PA-22S-150, PA-22-160, PA-22S-160, PA-24, PA-24-250, PA-24-260, PA-24-400, PA-25, PA-25-235, PA-25-260, PA-32-260, PA-32RT-300, PA-32RT-301T, PA-32-300, PA-32RT-300T, PA-32-301, PA-32S-300, PA-32R-301, PA-32-301T, PA-32R-300, PA-32R-301T, PA-28-140, PA-28-141, PA-28-150, PA-28-151, PA-28-160, PA-28S-160, PA-28-180, PA-28R-180, PA-28S-180, PA-28-235, PA-28S-235, PA-28-181, PA-28-161, PA-28R-200, PA-28R-201, PA-28R-201T, PA-28-236, PA-28RT-201, PA-28RT-201T, PA-28-201T, PA-36-285, PA-36-300, PA-36-375, PA-38-112, and PA-46-310P
SA2168NM	Mooney Models M20, M20A, M20B, M20C, M20D, M20E, M20F, M20G, M20J, M20K, M20M, and M22
SA2683NM	Aerocar, Inc. Model I Aerodifusion, S.L. Model Jodel D-1190S Aeromere, S.A. Model Falco F.8.L. Aeronautica Macchi S.P.A. Models AL60, AL60-B, AL60-F5, and AL60-C5 Aeronautica Macchi & Aerfer Model AM-3 Aeronca Inc. Models 15AC and S15AC Aerospatiale Model TB20 Trinidad Arctic Aircraft Co., Inc. Models S-1A, S-1A-65F, S-1A-85F, S-1A-90F, S-1B1(Army L-67 XL-6), and S-1B2 Avions Mudry et Cie Model CAP 10B American Champion Models (Bellanca, Aeronca) 7AC, 7ACA, S7AC (L-16A), 7BCM (L-16B), 7CCM, 7DC, S7DC, 7EC, S7EC, 7ECA, 7FC, 7GC, 7GCA, 7GCCA, 7GCB, 7GCBA, 7GCBC, 7HC, 7JC, 7KC, 7KCAB, 8KCAB, 8GCBC, 11AC, S11AC, 11BC, S11BC, 11CC, and S11CC Bellanca Aircraft Corporation Models 14-9, 14-9L, 14-12F-3, 14-13, 14-13-2, 14-13-3, 14-13-3W,

	14-19, 14-19-2, 14-19-3A, 17-30, 17-31, 17-31TC, 17-30A, 17-31A, and 17-31ATC Biemond, C. Model Teal CB1 Board, G.R. Models Columbia XJL-1 and Bolkow Jr. Clark Aircraft, Inc. Models 12 and 1000 Falcon Aircraft Corporation Model F-1 Flug und Fahrzeugwerke AG Model AS 202/15 “Brand” Found Brothers Model FBA-2C Fuji Heavy Industries Models FA-200-160, FA-200-180, and FA-200-180AO Funk Aircraft Model Funk C Kearns, Edward Scott (Garcia, Henry S.) Model (Emigh) Trojan A-2 Swift Museum Foundation, Inc. Model (Globe) GC-1A, GC-1B Goodyear Aircraft Model GA-22A Great Lakes Aircraft Model 2T-1A-1 and 2T-1A-2 Grumman American Models G-164, G-164A, G-164B, AA-1, AA-1A, AA-1B, AA-1C, AA-5, AA-5A, and AA-5B Commander Aircraft (Gulfstream) Models 112, (112A, 112B, 112TC, 112TCA, 114, and 114A Helio Enterprises Models H-250, H-295 (USAF U-10D),H-391 (USAF YL-24), H-395 (SAF L-28A), H-395A, HT-295, and H-700 Prop-Jets, Inc. (Interceptor Corp., Aero Commander, Meyers) Models 200, 200A, 200B, 200C, and 200D C. Itoh Aircraft Maintenance & Engineering Co. LTD. Model N-62 Jamieson Corporation Model J-2-L1B Jodel, Avion Models D-140-B, DR-1050, D-1190, and 150 Lake Models C-1, C-2-IV, LA-4, LA-4-200, and LA-4-250 Luscombe Aircraft Corp. Models 8, 8A, 8B, 8C, 8D, 8E, 8F, T-8F, and 11A Maule Aerospace Technology Corp. Models Bee Dee M-4, M-4, M-4C, M-4S, M-4T, M-4-180C, M-4-180S, M-4-210, M-4-201C, M-4-210S, M-4-210T, M-4-220S, M-4-220T, M-5-180C, M-5-200, M-5-210C, M-5-210TC, M-T-220C, M-5-235, M-5-235C, M-6-180, M-6-235, M-7-235, MX-7-180, MX-7-235 Messerschmitt-Bolkow Models BO-209-150 FV&RV, BO209-160 FV&RV, BO-209, and 150OFF Nardi S.A. Model FN-333 Jimmie Thompson Enterprise (Navion Rangemaster Aircraft Corporation) Models Navion (L-17A) Navion A (L-17B, L-17C), Navion B, D, E, F, G, and H White International Ltd. Models (Pitts) S-1S, S-1T, S-2, and S-2A Procaer S.P.A. Models F 15/B, F 15/C, and F 15/E Gulfstream Aerospace Corporation (Rockwell) Models 111, 112, 112B, 112TC, 112TCA, and 114 Aermacchi S.p.A Models S.205, S.205-18F, S.205-18/R, S.205-20/F, S.205-20/R, S.205-22/R, S.208, S.208A, F.260, and F.260B Socata - Groupe Aerospatiale Models Rallye Series MS880B, MS885, MS892-A-150, MS892E-150, MS893A, MS893E, MS894A, MS894E, TB9,TB10, and TB21 Stinson Models 108-2 and108-3 Sud Aviation Models Gardan GY.80-1500, GY.80-160, and GY.80-180
SA2683NM (Cont'd.)	Taylorcraft Aircraft Company Models F19, F21, and F21A Univair Aircraft Corporation (Forney) Models F-1, F-1A, (ERCO)E, 415D, (ALON)A-2, A20a, (Mooney)M10, (Mooney) (ERCO) 415-C, and 415-CD Augustair, Inc. (Varga Aircraft Corporation) Models 2150, 2150A, and 2180

NOTE 1: The above list includes the aircraft where the Precise Flight, Inc. Model SVS III standby vacuum systems

could be installed through STC. This list is not meant to be exhaustive nor does it include all aircraft with the systems installed through field approval.

NOTE 2: This AD applies to any aircraft with a standby vacuum system installed that is 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 aircraft 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 in the body of this AD, unless already accomplished.

To detect and correct problems with the standby vacuum system before failure or malfunction and to provide operating procedures for the pilot regarding the use and limitations of this system, accomplish the following:

(a) Within the next 30 calendar days after the effective date of this AD, accomplish whichever (paragraph (a)(1) or (a)(2) below) of the following that applies:

(1) For airplanes with the affected standby vacuum system installed in accordance with the applicable STC, incorporate the applicable Precise Flight, Inc. Airplane Flight Manual Supplement (AFMS) for Standby Vacuum Systems (each document corresponds with the applicable STC as presented in the chart below) into the Airplane Flight Manual (AFM), including installing all placards specified in these AFMS's; or insert a copy of the Appendix to this AD into the AFM, including installing all placards specified in the Appendix:

Applicable STC	**AFMS Date**
SA2160NM	May 7, 1998
SA2161NM	August 6, 1998
SA2162NM	August 6, 1998
SA2163NM	August 6, 1998
SA2164NM	August 6, 1998
SA2166M	August 6, 1998
SA2167NM	August 6, 1998
SA2168NM	August 6, 1998
SA2683NM	August 6, 1998; or

(2) For airplanes with the affected standby vacuum system installed through field approval, insert the Appendix to this AD into the AFM, including installing all placards specified in the Appendix.

(b) Within the next 12 calendar months after the effective date of this AD, and thereafter at intervals specified in the following paragraphs, inspect the push-pull cable, vacuum lines, saddle fittings, and shuttle valve for correct installation and damage (wear, chafing, deterioration, etc.). Accomplish these inspections in accordance with Precise Flight Instructions for Continued Airworthiness (Section 3.3 of Installation Report No. 50050), Revision 25, dated August 26, 1996.

(1) Reinspect the push-pull cable, vacuum lines, and saddle fittings at intervals not to exceed 12 calendar months; and

(2) Reinspect the shuttle valve at intervals not to exceed 24 calendar months.

(c) Prior to further flight after each inspection required by paragraph (b) of this AD, accomplish the following in accordance with Precise Flight Instructions for Continued Airworthiness (Section 3.3 of Installation Report No. 50050), Revision 25, dated August 26, 1996.

(1) Correct any discrepancy found; and

(2) Conduct a function test of the vacuum system and assure proper function.

(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 airplane to a location where the requirements of this AD can be accomplished.

(e) An alternative method of compliance or adjustment of the initial or repetitive compliance times that provides an equivalent level of safety may be approved by the Manager, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue, SW, Renton, Washington 98055-4065. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

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

(f) The inspections, corrections, and test required by this AD shall be done in accordance with Precise Flight Instructions for Continued Airworthiness (Section 3.3 of Installation Report No. 50050), Revision 25, dated August 26, 1996. 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 Precise Flight, Inc., 63120 Powell Butte Road, Bend, Oregon 97701. Copies may be inspected at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri 64106, or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

(g) This amendment becomes effective on January 14, 2000.

APPENDIX TO AD 99-24-10

SYSTEM DESCRIPTION

A Precise Flight Standby Vacuum System may be installed to provide a temporary vacuum system in the event of a primary vacuum failure. The Standby Vacuum System operates on the differential between the intake manifold and ambient air pressure and is directed through a shuttle valve system to drive your flight instruments.

I. OPERATING LIMITATIONS

A. INSTRUCTIONS

1. The Standby Vacuum System is for emergency or standby use only and not for dispatch purposes.
2. Vacuum powered and/or Vacuum gyro directed autopilot operation may be unreliable when the Standby Vacuum System is the sole source of vacuum. Vacuum powered or vacuum gyro directed autopilot should be **OFF** when operating with a failed primary vacuum system.
3. The Supplemental Vacuum System is not designed to operate pneumatic de-ice systems. DO NOT operate a pneumatic de-ice system when operating with a failed primary vacuum system.
4. Above 10,000 ft. pressure altitude, engine power settings may have to be significantly reduced to provide adequate vacuum power for proper gyro instrument operation.
5. The following placards are required to be in full view of pilot:

APPENDIX TO AD 99-24-10 (Continued)

PRECISE FLIGHT, INC.
AFMS for STANDBY VACUUM SYSTEM

I. OPERATING LIMITATIONS (CONT.)

B. PLACARDS

Placard to be located on the push/pull control cable

Placard to be located around the LED for the pump inop warning light.

Placard to be placed in front and in full view of the pilot.

STANDBY VACUUM SYSTEM EQUIPPED: FOR OPERATING INSTRUCTIONS AND LIMITATIONS SEE SUPPLEMENT IN OWNERS MANUAL OR PILOTS OPERATING HANDBOOK

I. OPERATING LIMITATIONS (CONT.)

B. PLACARDS

One of the following placards must be placed in full view of the pilot near the instrument vacuum indicator after appropriate entries have been made.

Approximate Standby Vacuum Available - Altitude - Power Chart for aircraft with Constant Speed Propeller - Maximum Continuous RPM.

PRESS ALT. (FT.)	RPM	MAN. PRESSURE	SVS VACUUM IN. HG MIN.
2000	Max. Cont.		
4000	Max. Cont.		
6000	Max. Cont.		
8000	Max. Cont.		
10,000	Max. Cont.		

Approximate Standby Vacuum Available - Altitude - Power Chart for aircraft with a Fixed Pitch Propeller

PRESS ALT. (FT.)	RPM	SVS VACUUM IN. HG MIN.
2000		
4000		
6000		
8000		
10,000		

II. OPERATING PROCEDURES

A. NORMAL PROCEDURES

1. GROUND CHECK

a. Cycle the Standby Vacuum Control Knob OUT - **ON** - , and return Control Knob IN - **OFF** - position.

2. BEFORE TAKEOFF

a. Idle Engine at low speed, momentarily pull the standby vacuum knob out - **ON** - and check vacuum gauge. Normally, the vacuum reading will be slightly higher. After checking system push Standby Vacuum System knob IN - **OFF** -. Check that vacuum gauge has returned to the previous reading.

3. ENROUTE

a. Regularly check vacuum gauge and monitor warning light for proper vacuum system operation.

B. EMERGENCY PROCEDURES

1. PRIMARY VACUUM FAILURE WARNING LIGHT ILLUMINATES

a. Pull the Standby Vacuum System knob OUT -ON- and adjust throttle setting as required to maintain adequate vacuum for the primary instruments - Suction Gauge Reading in the Green Arc - If necessary descend to a lower altitude to obtain a larger differential between manifold and ambient pressure. Vacuum power must be closely monitored by checking the vacuum gauge frequently.

b. The SVS is not designed for continued IFR flight. Immediate steps should be taken to return to VFR conditions or to land. If this is not possible, IFR flight should be continued only as long as necessary to return to VFR conditions or land the airplane.

WARNING: FAILURE OF THE VACUUM SYSTEM STILL CONSTITUTES AN EMERGENCY SITUATION REGARDLESS OF THE INSTALLATION OF THE SVS. IT MAY NOT BE POSSIBLE TO MAINTAIN A SAFE ALTITUDE AND MAKE USE OF THE SVS. IN SUCH A SITUATION THE AIRPLANE MUST BE FLOWN USING NON-VACUUM POWERED INSTRUMENTS.

c. If descent is impractical:

- Periodically and temporarily reduce power as required to provide adequate vacuum to the aircraft primary instruments.
- Reapply power as required, while comparing vacuum driven gyros against the Turn and Bank Indicator, Turn Coordinator, VSI and/or other flight instruments.
- When an obvious discrepancy is noted between the vacuum driven instruments and other flight instrumentation, Periodically and temporarily reduce power as required to provide adequate vacuum to the aircraft primary instruments.

III. PERFORMANCE

NO CHANGE

Footer Information

Comments

Airworthiness Directive

Federal Register Information

Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-1377; AD **68-08-01**

MCCAULEY AIRCRAFT PROPELLERS two- and three-bladed constant speed propeller models

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective January 21, 1972.

Regulatory Information

68-08-01 MCCAULEY AIRCRAFT PROPELLERS: Amdt. 39-581 as amended by Amendment 39-1314 is further amended by Amendment 39-1377. Applies to the following two- and three-bladed constant speed propeller models with hub serial numbers indicated below:

PROPELLER MODELS

2D34C8	C2A36C32	D2A34C58-B	3A32C76-S	D2A34C78-K
2D34C8-A	C2A36C32-A	D2A34C58-J	3A32C76-T	D2A34C78-L
2D34C8-J	C2A36C32-D	D2A34C58-K	3A32C76-AD	D2A34C78-M
2D34C8-K	D2A36C33	D2A34C58-L	3A32C76-AS	D3A32C79
2D34C8-M	D2A36C33-D	D2A34C58-M	3A32C76-AT	D3A32C79-A
2A36C23-C	D2A36C45	2A34C66	3A32C76-FD	D3A32C79-B
2A36C23-CD	D2A36C45-D	2A34C66-A	3A32C76-FS	D3A32C79-F
2A36C23-CH	D2A34C49	2A34C66-B	3A32C76-FT	D3A32C79-J
2A36C23-CJ	D2A34C49-A	2A34C66-C	3A32C76-JD	D3A32C79-K
2A36C23-CP	D2A34C49-B	2A34C66-J	3A32C76-JS	2A36C82-T
2A36C23-CS	D2A34C49-J	2A34C66-K	3A32C76-JT	2A36C82-DT
2A36C23-DD	D2A34C49-K	2A34C66-L	3A32C76-KD	D3A32C88
2A36C23-DH	D2A34C49-L	2A34C66-M	3A32C76-KS	D3A32C88-A
2A36C23-DJ	D2A34C49-M	E2A34C70	3A32C76-KT	D3A32C88-F
2A36C23-DP	2A34C50	E2A34C70-A	D3A32C77	D3A32C88-J
2A36C29	2A34C50-A	E2A34C70-J	D3A32C77-A	D3A32C88-K
2A36C29-A	2A34C50-B	E2A34C70-K	D3A32C77-F	D3A32C90
2A36C29-D	2A34C50-J	E2A34C70-M	D2A32C77-J	D3A32C90-A
B2A36C31	2A34C50-K	E2A34C73	D3A32C77-K	D3A32C90-B
B2A36C31-A	2A34C50-L	E2A34C73-A	D2A34C78	D3A32C90-C
B2A36C31-D	2A34C50-M	E2A34C73-J	D2A34C78-A	D3A32C90-F
D2A36C31-A	D2A34C58	E2A34C73-K	D2A34C78-B	D3A32C90-J
D2A36C31-D	D2A34C58-A	E2A34C73-M	D2A34C78-J	D3A32C90-K
		3A32C76-D		

HUB SERIAL NUMBERS

59000 up to and including 712778 except 700492, 700500 thru 700558; 700561 thru 700568; 700570 thru 700594; 700596 thru 701050 and 701053

Compliance required within the next 100 hours' time in service after the effective date of this AD, unless already accomplished. To prevent failure of the propeller cylinder attach screws, accomplish the following:

Modify propeller cylinder attachment in accordance with McCauley Service Bulletin No. 92, dated April

21, 1971, or later FAA-approved revision. However, for propellers used on Bellanca Aircraft Models 17-30 and 17-30A modify propeller cylinder attachment in accordance with McCauley Service Bulletin No. 94, dated July 28, 1971, or later FAA-approved revision instead of Service Bulletin No. 92. Equivalent methods of compliance with this AD must be approved by the Chief, Engineering and Manufacturing Branch, FAA, Eastern Region.

Amendment 39-581 was effective April 11, 1968.

Amendment 39-1314 was effective October 14, 1971.

This Amendment 39-1377 is effective January 21, 1972.

Footer Information

Comments

Airworthiness Directive

Federal Register Information

Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Docket No. 91-ANE-22; Amendment 39-7067; AD **91-15-04**

MCCAULEY ACCESSORY DIVISION, CESSNA AIRCRAFT COMPANY Model ( )2( )34C( )-( ) Series Propellers

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective August 7, 1991.

Regulatory Information

91-15-04 MCCAULEY ACCESSORY DIVISION, CESSNA AIRCRAFT COMPANY: Amendment 39-7067. Docket No. 91-ANE-22.

Applicability: McCauley Model ( )2( )34C( )-( ) Series two bladed constant speed propellers with

threaded retention hubs, including those with feathering capabilities listed as follows:

Affected Propeller Hub Models

CONSTANT SPEED	FEATHERING
2D34C8-( )	D2AF34C30-( )
2D34C9-( )	2AF34C55-( )
2D34C53-( )	D2AF34C56-( )
B2D34C53-( )	D2AF34C61-( )
D2A34C58-( )	D2AF34C65-( )
F2A34C58-( )	D2AF34C81-( )
2A34C66-( )	
E2A34C70-( )	
E2A34C73-( )	
D2A34C78-( )	
D2A34C98-( )	

The parentheses used in the above list indicate the presence or absence of an additional letter(s) which vary the basic hub model designation. These letter(s) define minor changes that do not affect interchangeability or eligibility, and therefore, this AD still applies regardless of whether these letters are present or absent on the hub model designation.

The above listed McCauley propeller hubs are found on, but not limited to, the following aircraft certificated in any category:

Beech A23-24, A24, A24R, 58, 58A; 95-55, -A55, -B55,-B55A, -B55B, -C55, -C55A; D55, D55A, E55, E55A.
Bellanca 17-30, 17-30A
Cessna 180, 182H, 185, 185A thru D, A185E, A185F, 188, 188A, 188B, A188, A188A, A188B, 206, P206, P206A thru E, TP206A thru E, TU206A thru G, U206, U206A thru G, 207, T207, 210, 210A thru H, 210J thru L, 210-5, 210-5A, T210F thru H, T210J thru L, 305B, 305E, 310J, E310J, 310K, 310L, 310N, 336, 337, 337A thru F, M337B, T337B thru F.
Fuji FA-200-180
Interceptor (AeroCommander/Meyers) 200A thru C
Mooney M20C, M20D, M20G
Navion A, B, D thru H
Procaer F15/C
Reims F337E, F337F, FT337E, FT337F
Transavia PL-12/T-300
Windecker AC-7

Compliance: Required as indicated, unless previously accomplished.

To prevent possible blade separation, which could result in the loss of the engine and subsequent loss of aircraft control, accomplish the following in accordance with the compliance schedule as indicated:

PRIOR PROPELLER UTILIZATION (Hours/ calendar months given as time-in-service)	**COMPLIANCE SCHEDULE OF PROPELLER INSPECTION AND MODIFICATION**
Greater than 900 hours, or 59 calendar months since last overhaul/penetrant inspection or installed new, or prior time-in-service unknown.	Within the next 100 hours, or at the next annual inspection, or within 12 calendar months after the effective date of this AD, whichever occurs first.
Less than or equal to both 900 hours and 59 calendar months since last overhaul/penetrant inspection or installed new.	Prior to the accumulation of 1000 hours or 60 calendar months since last overhaul/penetrant inspection, or installed new, whichever occurs first.

(a) For propellers which have incorporated a hub containing oil with red dye and have been designated at initial production as a hub model number listed in the Appendix to this AD, or prior manufactured propellers whose hubs have been modified to contain oil with a red dye and reidentified as a hub model number listed in the Appendix to this AD, compliance is required only with paragraphs (f) and (h) of this AD.

(b) Perform propeller disassembly in accordance with the procedures specified for the affected hub model number listed in Paragraph 1 on page 4 of McCauley Service Bulletin (SB) 184, dated March 15, 1991.

(c) Penetrant inspect the propeller assembly for cracks in the propeller blade threaded retention area, the hub blade socket threads, the retention nut threads, and the ferrule threads in accordance with the procedures specified for the affected hub model number listed in Paragraph 2 on page 5 of McCauley SB 184, dated March 15, 1991.

(d) Remove from service, prior to further flight, propeller assemblies which exhibit cracks and replace with a serviceable unit, modified in accordance with paragraph (e) of this AD, or with an equivalent initial production propeller which has incorporated a hub with oil containing red dye.

(e) Modify the affected propeller hub assembly to contain oil with a red dye and reidentify in accordance with the procedures specified for the affected hub model number listed in Paragraph 3 on page 6 of McCauley SB 184, dated March 15, 1991.

NOTE: The modification of the propeller hub assembly to contain oil with a red dye provides an "on-condition" (in-service) means of early crack detection to prevent blade separation and also improves lubrication and corrosion protection. The oil will add approximately 2.8 lbs. to the weight of the

propeller assembly.

(f) If leakage of oil containing red dye is detected in service (whether during flight or while on the ground), determine prior to further flight, the source of leakage in accordance with the procedures specified for the affected hub model number listed in Paragraph 4 on page 7 of McCauley SB 184, dated March 15, 1991. If the inspection reveals a crack, compliance with Paragraph (d) of this AD is required.

(g) The "calendar month" compliance times stated in this AD allow the performance of the required action prior to the last day of the month in which compliance is required.

NOTE: For example, a required inspection and modification 60 months from last overhaul/penetrant inspection that was performed on December 15, 1986, would allow the penetrant inspection and modification to be performed no later than December 31, 1991.

(h) Report in writing any cracks found during inspections accomplished in accordance with paragraphs (c) or (f) of this AD to the Manager, Chicago Aircraft Certification Office, within ten (10) days of the inspection. Information collection requirements contained in this regulation have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (P.L. 96-511) and has been assigned OMB Control Number 2120-0056.

(i) Aircraft may be ferried in accordance with the provisions of Federal Aviation Regulations (FAR) 21.197 and 21.199 to a base where the AD can be accomplished.

(j) Upon submission of substantiating data by an owner or operator through an FAA Inspector (maintenance, avionics, or operations, as appropriate) an alternate method of compliance with the requirements of this AD or adjustments to the compliance times specified in this AD may be approved by the Manager, Chicago Aircraft Certification Office, Small Airplane Certification Directorate, Aircraft Certification Service, FAA, 2300 East Devon Avenue, Des Plaines, Illinois 60018.

The disassembly, inspection, and modification shall be done in accordance with the procedures listed in McCauley SB 184, dated March 15, 1991. 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 McCauley Accessory Division, The Cessna Aircraft Company, 3535 McCauley Drive, Vandalia, Ohio 45377. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Room 311, Burlington, Massachusetts, or at the Office of the Federal Register, 1100 L Street, NW, Room 8401, Washington, DC.

Airworthiness Directive **91-15-04**, Amendment 39-7067, supersedes, AD 77-17-09, Amendment 39-3020, AD 77-20-03, Amendment 39-3044, AD 77-23-01, Amendment 39-3073, AD 77-24-04, Amendment 39-3086, AD 78-20-01, Amendment 39-3304.

This amendment (39-7067, AD **91-15-04**) becomes effective on August 7, 1991.

AD **91-15-04**
APPENDIX

OIL-FILLED PROPELLER HUB COMPLIANCE INDICATOR TABLE

Propeller Hub Model	Compliance Indicator	Propeller Hub Model	Compliance Indicator +
2D34C8	2D34C8-()P and/or oil-fill plug in side of hub	F2A34C58	F2A34C58-()0 and/or oil-fill plug in side of hub
2D34C9	2D34C9-()P and/or oil-fill plug in side of hub	D2AF34C61	D2AF34C61-()0 and/or oil-fill plug in side of hub
D2AF34C30	D2AF34C30-()P and/or oil-fill plug in side of hub	D2AF34C65	D2AF34C65-()0 and/or oil-fill plug in side of hub
B2D34C53	B2D34C53-()0 and/or oil-fill plug in side of hub	2A34C66	2A34C66-()P and/or oil-fill plug in side of hub
2D34C53	2D34C53-()0 and/or oil-fill plug in side of hub	E2A34C70	E2A34C70-()P and/or oil-fill plug in side of hub
2AF34C55	2AF34C55-()0 and/or oil-fill plug in side of hub	E2A34C73	E2A34C73-()P and/or oil-fill plug in side of hub
D2AF34C56	D2AF34C56-()0 and/or oil-fill plug in side of hub	D2A34C78	D2A34C78-()P and/or oil-fill plug in side of hub
D2A34C58	D2A34C58-()0 and/or oil-fill plug in side of hub	D2AF34C81	D2AF34C81-()0 and/or oil-fill plug in side of hub
		D2A34C98	D2A34C98-()0 and/or oil-fill plug in side of hub

+Propeller models are listed in numerical sequence following the letter C in the model designation.

Footer Information

Comments

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-5046; AD **85-08-08**

McCAULEY ACCESSORY DIVISION Model D3A32C90 Series Propellers

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective May 13, 1985.

Regulatory Information

85-08-08 McCAULEY ACCESSORY DIVISION: Amendment 39-5046. Applies to the following Model D3A32C90 series propellers installed on, but not limited to, Bellanca 17-30, 17- 30A; Cessna A185E, F, A188B, P206A, TP206A, U206A, B, C, D, E, F, TU206A, B, C, D, E, F, 207, 207A, T207; and Navion A thru H: D3A32C90, D3A32C90-A, -B, -C, -J, -K, -L, -BLM, - CLM, -JLM, -KLM, -LM,

and -M.

Compliance is required as indicated unless already accomplished.

To detect propeller hub cracks and prevent possible failure, accomplish the following:

(a) Propeller models D3A32C90, D3A32C90-A, -B, -C, -J, -K, and -L: Within the next 50 hours time in service after the effective date of this AD or prior to accumulating 1200 hours total time in service, whichever occurs later, replace hubs with shot peened hubs and modify to the oil filled hub configuration in accordance with Supplement 1 to McCauley Service Manual No. 720415 dated January 7, 1977, or FAA approved equivalent.

(b) Propeller models D3A32C90-BLM, -JLM, -KLM, -LM, and -M: Within the next 50 hours time in service after the effective date of this AD or prior to accumulating 1200 hours total time in service, whichever occurs later, inspect the hub in accordance with McCauley Service Letter 1974-3 dated March 29, 1974, or FAA approved equivalent, end modify to the oil filled hub configuration in accordance with Supplement 1 to McCauley Service Manual No. 720415 dated January 7, 1977, or FAA approved equivalent.

(c) Propellers with unknown service histories must comply with paragraphs (a) or (b), as applicable, within the next 50 hours time in service after the effective date of this AD.

(d) Modified propellers showing signs of red dyed oil leakage must be removed from service and replaced with a serviceable propeller.

Aircraft may be ferried in accordance with the provisions of Federal Aviation Regulations 21.197 and 21.199 to a base where the AD can be accomplished.

Upon request, an equivalent means of compliance with the requirements of this AD may be approved by the Manager, Chicago Aircraft Certification Office, ACE-140C, 2300 East Devon Avenue, Des Plaines, Illinois 60018, telephone (312) 694-7130.

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 McCauley Accessory Division, Cessna Aircraft Company, 3535 McCauley Drive, P.O. Box 430, Vandalia, Ohio 45377. These documents also may be examined at the Office of Regional Counsel, FAA, Attn: Rules Docket No. 85-ANE-1, 12 New England Executive Park, Burlington, Massachusetts 01803, weekdays, except Federal holidays, between 8:00 a.m. and 4:30 p.m.

This amendment becomes effective May 13, 1985.

Comments

Airworthiness Directive

Federal Register Information

Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [65 FR 12463 3/9/2000]

Docket No. 98-CE-88-AD; Amendment 39-11621; AD **98-21-21 R1**

RIN 2120-AA64

Airworthiness Directives; Bob Fields Aerocessories Inflatable Door Seals

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

ACTION: Final rule

SUMMARY: This amendment revises Airworthiness Directive (AD) 98-21-21, which currently requires de-activating the electric door seal inflation system for all aircraft equipped with Bob Fields Aerocessories inflatable door seals. Since issuance of that AD, the manufacturer has developed a modification that would allow these electric door seal inflation systems to remain in service, and the Federal Aviation Administration (FAA) has approved this modification. This AD requires incorporating this modification as a method of complying with the current AD, and will exclude those airplanes with manual door seal inflation systems from the AD requirements of de-activating the system. The actions specified by this AD are intended to prevent smoke and a possible fire in the cockpit caused by

overheating of the electric door seal inflation systems, which could result in passenger injury.

DATES: Effective May 1, 2000.

ADDRESSES: Service information that relates to this AD may be obtained from Bob Fields Aerocessories,
340 East Santa Maria St., Santa Paula, California 93060; telephone: (805) 525-6236; facsimile: (805) 525-5286. This
information may also be examined at the Federal Aviation Administration (FAA), Central Region, Office of the Regional
Counsel, Attention: Rules Docket No. 98-CE-88-AD, 901 Locust, Room 506, Kansas City, Missouri 64106.

FOR FURTHER INFORMATION CONTACT: George Y. Mabuni, Aerospace Engineer, FAA, Los Angeles Aircraft
Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712; telephone: (562) 627-5341;
facsimile: (562) 627-5210.

SUPPLEMENTARY INFORMATION:

Events Leading to the Issuance of This AD

A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to all aircraft equipped with Bob Fields Aerocessories inflatable door seals that are installed in accordance with either the applicable Supplemental Type Certificate (STC) or through field approval was published in the Federal Register as a notice of proposed rulemaking (NPRM) on October 29, 1999 (64 FR 58359). The NPRM proposed to revise AD 98-21-21, Amendment 39-10844 (63 FR 55321, October 15, 1998). AD 98-21-21 currently requires de- activating the electric door seal inflation system, fabricating and installing a placard specifying that the system is inoperative, and inserting a copy of the AD into the Limitations Section of the airplane flight manual (AFM).

AD 98-21-21 only applies to those aircraft equipped with the Bob Fields Aerocessories inflatable door seals. With this in mind, the owner/operator also has the option of removing all provisions of the Bob Fields Aerocessories inflatable door seals installation, and installing original equipment manufacturer door seals or an FAA-approved equivalent that is of different design than the referenced Bob Fields Aerocessories inflatable door seals.

The NPRM proposed to retain the requirements of the existing AD, would exclude those airplanes incorporating a manual inflatable door seal system from the system de-activation requirements, and would provide the option of incorporating one of the modifications referenced in Bob Fields Aerocessories Service Bulletin No. BFA-001, Date: November 3, 1998, as a method of accomplishing

the AD.

The NPRM was the result of the manufacturer developing a modification that would allow these electric door seal inflation systems to remain in service, and the Federal Aviation Administration (FAA) approved this modification.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposed rule or the FAA's determination of the cost to the public.

The FAA's Determination
After careful review of all available information related to the subject presented above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed except for minor editorial corrections. The FAA has determined that these minor corrections will not change the meaning of the AD and will not add any additional burden upon the public than was already proposed.

Cost Impact
The FAA does not know the number of aircraft that have the affected electric door seal inflation systems installed. The FAA estimates that it will take approximately 3 workhours per airplane to accomplish the optional modifications that will allow these systems to be put back in service, at an average labor rate of approximately $60 an hour. Based on these figures, the total cost impact of the optional modification in this document on U.S. operators is estimated to be $180 per airplane aircraft equipped with Bob Fields Aerocessories inflatable door seals.

Regulatory Impact
These regulations will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, the FAA has determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the final evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES".

List of Subjects in 14 CFR Part 39
Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment
Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:
Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]
2. Section 39.13 is amended by removing Airworthiness Directive (AD) 98-21-21, Amendment 39-10844 (63 FR 55321, October 15, 1998), and adding a new AD to read as follows:

Regulatory Information

REVISION

98-21-21 R1 BOB FIELDS AEROCESSORIES: Amendment 39-11621; Docket No. 98-CE-88-AD; Revises AD 98-21-21, Amendment 39-10844.

Applicability: Electric inflatable door seals, installed either in accordance with the applicable supplemental type certificate (STC) or through field approval, that are installed on, but not limited to, the following aircraft:

Affected STC	Make and Model Aircraft Affected
SA3735NM	Cessna Models 170, 170A, and 170B Airplanes
SA4136WE	Cessna Models 310, 310A, 310B, 310C, 310D, 310F, 310G, 310H, 310I, 310J, 310K, 310L, 310N, 310P, 310Q, 310R, T310P, T310Q, and T310R Airplanes
SA2226NM	Cessna Models P210N and P210R Airplanes
SA3736NM	Cessna Models 185, 185A, 185B, 185C, 185D, A185E, and A185F Airplanes
SA4177WE	Cessna Models 175, 175A, 175B, and 175C Airplanes
SA4212WE	Cessna Models 210, 210A, 210B, 210C, 210D, 210E, 210F, 210G, 210H, 210J, 210K, 210L, 210M, 210N, T210F, T210G, T210H, T210J, T210K, T210L, T210M, T210N, 210-5 (205), and 210-5A (205A) Airplanes
SA4283WE	Cessna Models 172, 172A, 172B, 172C, 172D, 172E, 172F, 172G, 172H, 172I, 172K, 172L, 172M, and 172N Airplanes
SA4284WE	Cessna Models 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, and 180K Airplanes
SA4285WE	Cessna Models 182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, R182, and TR182 Airplanes
SA4286WE	Cessna Models 206, P206, P206A, P206B, P206C, P206D, P206E, TP206A, TP206B, TP206C, TP206D, TP206E, U206, U206A, U206B, U206C, U206D, U206E, U206F, U206G, TU206A, TU206B, TU206C, TU206D, TU206E, TU206F, and TU206G Airplanes
SA4287WE	Cessna Models 320, 320A, 320B, 320C, 320D, 320E, 320F, and 320-1 Airplanes

SA4180WE	Raytheon (Beech) Models H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 35-33, 35-A33, 35-B33, 35-C33, 35-C33A, E33, E33A, E33C, F33, F33A, F33C, G33, 36, A36, A36TC, and B36TC Airplanes
SA4184WE	Raytheon (Beech) Models 95, B95, B95A, E95, 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, D55, E55, 56TC, 58, and 58A Airplanes
SA4239WE	Raytheon (Beech) Models 58P, 58PA, 58TC, and 58TCA Airplanes
SA4240WE	Raytheon (Beech) Models 50, B50, C50, D50, D50A, D50B, D50C, D50E, D50E-5990, E50, F50, G50, H50, and J50 Airplanes
SA4282WE	Raytheon (Beech) Models 35, A35, B35, C35, D35, E35, F35, G35, and 35R Airplanes
SA4178WE	Mooney Models M20, M20A, M20C, M20D, M20E, M20F, M20G, M20J, and M20K Airplanes
SA4234WE	The New Piper Aircraft, Inc. (Piper) Models PA-34-200, PA-34-200T, and PA-34-220T Airplanes
SA4179WE	Piper Models PA-24, PA-24-250, PA-24-260, and PA-24-400 Airplanes
SA4235WE	Piper Models PA-44-180 and PA-44-180T Airplanes
SA4236WE	Piper Models PA-28-140, PA-28-150, PA-28-160, PA-28-180, PA-28-235, PA-28-151, PA-28-181, PA-28-161, PA-28-236, PA-28-201T, PA-28S-160, PA-28S-180, PA-28R-180, PA-28R-200, PA-28R-201, PA-28R-201T, PA-28RT-201, and PA-28RT-201T Airplanes
SA4237WE	Piper Models PA-23, PA-23-160, PA-23-235, PA-23-250, and PA-E23-250 Airplanes
SA4238WE	Piper Models PA-30, PA-39, and PA-40 Airplanes
SA4385WP	Piper Models PA-31, PA-31-300, PA-31-325, and PA-31-350 Airplanes
SA4288WE	Piper Models PA-32-260, PA-32-300, PA-32S-300, PA-32-301, PA-32-301T, PA-32R-300, PA-32R-301, PA-32R-301T, PA-32RT-300, and PA-32RT-300T Airplanes
SA2511NM	Bellanca Models 17-30, 17-31, and 17-31TC Airplanes
SA2510NM	Bellanca Models 17-30A, 17-31A, and 17-31ATC Airplanes
SA4316WE	Wing Aircraft Company Model D-1 Airplanes

NOTE 1: This AD applies to each airplane identified in the preceding applicability provision that has the affected inflatable door seals installed, 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.

Compliance: Required as indicated in the body of this AD, unless already accomplished.

To prevent smoke and a possible fire in the cockpit caused by overheating of the electric door seal inflation systems, which could result in passenger injury, accomplish the following:

(a) Prior to further flight after October 30, 1998 (the effective date of AD 98-21-21), deactivate the electric door seal inflation system by accomplishing the following:

(1) Disconnect the battery.

(2) Locate the air pump and identify the power wire to the air pump.

(3) Trace the power wire to its connection to the airplane's original electrical power system. Disconnect the power wire at its attachment to the airplane's electrical power system and stow the wire end.

(4) For non-pressurized airplanes, fabricate a placard that incorporates the following words utilizing letters that are at least 0.10-inch in height, and install this placard on the instrument panel within the pilot's clear view:

"ELECTRIC DOOR SEAL INFLATION SYSTEM INOPERATIVE"

(5) For pressurized airplanes or for airplanes that do not have an operating manual door seal inflation system, fabricate a placard that incorporates the following words utilizing letters that are at least 0.10-inch in height, and install this placard on the instrument panel within the pilot's clear view:

"ELECTRIC DOOR SEAL INFLATION SYSTEM INOPERATIVE. THIS AIRPLANE CAN ONLY BE OPERATED IN UNPRESSURIZED FLIGHT"

(6) Reconnect the battery before returning to service.

(b) Prior to further flight after October 30, 1998 (the effective date of AD 98-21-21), insert a copy of this AD into the Limitations Section of the airplane flight manual (AFM).

NOTE 2: The prior to further flight compliance time of paragraphs (a) and (b) of this AD is being retained from AD 98-21-21. **The only substantive difference between this AD and AD 98-21-21 is the addition of the alternative method of compliance referenced in paragraph (c) of this AD.**

NOTE 3: This AD only applies to those aircraft equipped with the Bob Fields Aerocessories inflatable door seals. With this in mind, the owner/operator also has the option of removing all provisions of the Bob Fields Aerocessories inflatable door seals installation, and installing original equipment manufacturer door seals or an FAA-approved equivalent that is of a different design than the referenced Bob Fields Aerocessories inflatable door seals.

(c) One of the following actions may be accomplished as an alternative method of compliance to the requirements of paragraphs (a) and (b) of this AD. No further action is required by this AD as long as one of these configurations remains incorporated on the aircraft.

(1) Modify the electric door seal inflation system in accordance with the procedures in Bob Fields Aerocessories Service Bulletin No. BFA-001, Date: November 3, 1998; or

(2) Install a manual door seal inflation system instead of an electric system. Aircraft with existing manual systems as of the effective date of this AD are excluded from the requirements of paragraphs (a) and (b) of this AD.

(d) As of the effective date of this AD, no person may install, on any aircraft, a Bob Fields Aerocessories electric door seal inflation system unless the actions specified in Bob Fields Aerocessories Service Bulletin No. BFA-001, Date: November 3, 1998, are incorporated.

(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 compliance times that provides an equivalent level of safety may be approved by the Manager, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Blvd., Lakewood, California 90712.

(1) The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Los Angeles ACO.

(2) Alternative methods of compliance approved in accordance with AD 98-21-21 are considered approved as alternative methods of compliance for this AD.

NOTE 4: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles ACO.

(g) All persons affected by this directive may obtain copies of the document referred to herein upon request to Bob Fields Aerocessories, 340 East Santa Maria St., Santa Paula, California 93060; or may examine this document(s) at the FAA, Central Region, Office of the Regional Counsel, Room 506, 901 Locust, Kansas City, Missouri 64106.

(h) This amendment revises AD 98-21-21, Amendment 39-10844.

(i) This amendment becomes effective on May 1, 2000.

Footer Information

Issued in Kansas City, Missouri, on March 2, 2000.
Michael Gallagher,
Manager, Small Airplane Directorate,
Aircraft Certification Service.

Comments

Airworthiness Directive

Federal Register Information

Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [61 FR 46538 NO. 172 09/04/96]

Docket No. 95-CE-54-AD; Amendment 39-9731; AD **96-18-07**

RIN 2120-AA64

Airworthiness Directives; Bellanca, Incorporated Models 17-30, 17-30A, 17-31, 17-31A, 17-31TC, and 17-31ATC Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that applies to Bellanca, Incorporated (Bellanca) Models 17-30, 17-30A, 17-31, 17-31A, 17-31TC, and 17-31ATC airplanes. This action requires repetitively inspecting, testing, and possibly replacing the nose landing gear (NLG) strut and brackets. A collapse of a Bellanca airplane's NLG during a landing prompted this action. The actions specified by this AD are intended to prevent possible failure of the nose landing gear, which, if not detected and corrected, could result in loss of control of the airplane during landing operations.

DATES: Effective October 25, 1996.
The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of October 25, 1996.

ADDRESSES: Service information that applies to this AD may be obtained from Bellanca, Incorporated, P.O. Box 964, Alexandria, Minnesota 56308; telephone (612) 762-1501. This information may also be examined at the Federal Aviation Administration (FAA), Central Region, Office of the

Assistant Chief Counsel, Attention: Rules Docket 95-CE-54-AD, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Steven J. Rosenfeld, Aerospace Engineer, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Rm. 232, Des Plaines, Illinois 60018; (847) 294-7030; facsimile (847) 294-7834.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to Bellanca Models 17-30, 17-30A, 17-31, 17-31A, 17-31TC, and 17-31ATC airplanes was published in the **Federal Register** on January 22, 1996 (61 FR 1532). The action proposed to require repetitively inspecting, testing, and possibly replacing the nose landing gear (NLG) strut and brackets. Accomplishment of the proposed action would be in accordance with Bellanca Service Letter (SL) B-107, dated September 20, 1995.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposed rule or the FAA's determination of the cost to the public.

After careful review of all available information related to the subject presented above, the FAA has determined that air safety and the public interest require the adoption of the rule proposed except for minor editorial corrections. The FAA has determined that these minor corrections will not change the meaning of the AD and will not add any additional burden upon the public than was already proposed.

The FAA estimates that 1,109 airplanes in the U.S. registry will be affected by this AD, that it will take approximately 24 workhours per airplane to accomplish the required action, and that the average labor rate is approximately $60 an hour. Parts cost approximately $160 per airplane. Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be $1,774,400 or approximately $1,600 per airplane. Bellanca has informed the FAA that no parts have been distributed to owners/operators for this replacement; therefore, this figure is based on the assumption that no owners/operators have accomplished the proposed inspection, testing, and replacement. In addition, the FAA has no way of determining the number of repetitive inspections each owner/operator will incur prior to replacing the bracket.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the final evaluation prepared for this action is contained in the Rules Docket.

A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES".

List of Subjects in 14 CFR Part 39
Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment
Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES
1. The authority citation for part 39 continues to read as follows:
Authority: 49 USC 106(g), 40113, 44701.

Section 39.13 - [AMENDED]
2. Section 39.13 is amended by adding a new airworthiness directive (AD) to read as follows:

Regulatory Information

96-18-07 BELLANCA, INCORPORATED: Amendment 39-9731; Docket No. 95-CE-54-AD.

Applicability: The following airplane models and serial numbers, certificated in any category:

Model	Serial Numbers
17-30	(30123 through 30262)
17-30A	(30263 through 78-30905, except 76-30824)
17-31	(32-1 through 32-14)
17-31A	(32-15 through 78-32172)
17-31TC	(31001 through 31003)
17-31ATC	(31004 through 79-31155)

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 (g) 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 initially upon accumulating 500 hours time-in-service (TIS) or within the next 50 hours TIS after the effective date of this AD, whichever occurs later, unless already accomplished, and

thereafter as indicated in the body of this AD.

To prevent failure of the nose landing gear (NLG), which, if not detected and corrected, could result in loss of control of the airplane during landing operations, accomplish the following:

(a) Inspect the NLG drag strut brackets for cracks or bends in accordance with the instructions in section 4, NLG DRAG STRUT BRACKET INSPECTION, of Bellanca Service Letter (SL) B-107, dated September 20, 1995. Prior to further flight, replace any cracked or bent bracket with a part number (P/N) 194650-0 (right side) bracket or a P/N 194383-0 (left side) bracket in accordance with the instructions in section 5, INSTALLATION NEW BRACKETS, of Bellanca SL B-107, dated September 20, 1995.

(b) Inspect the NLG installation, including the upper and lower leg assemblies, upper and lower drag struts, over-center spring assembly, and engine mount for corroded or worn bolts in accordance with the instructions in Section 6, NLG DRAG STRUT INSPECTION, of Bellanca SL B-107, dated September 20, 1995. Prior to further flight, replace any corroded or worn bolts.

(c) Check the NLG drag strut rigging, the overcenter of the drag strut, and the NLG cylinder actuator stroke limit, and adjust any discrepancies in accordance with the applicable instructions contained in the following:

(1) Section 7, PRELIMINARY NLG DRAG STRUT RIGGING CHECK (including section 7.1, Preliminary Nose-Wheel-In-The-Well Test, and section 7.2, Preliminary NLG Cylinder Down Test), of Bellanca SL B-107, dated September 20, 1995.

(2) Section 8, DRAG STRUT OVERCENTER TEST AND ADJUSTMENT, of Bellanca SL B-107, dated September 20, 1995.

(3) Section 9, NLG CYLINDER DOWN TEST AND ADJUSTMENT, of Bellanca SL B-107, dated September 20, 1995.

(d) If any discrepancies are found during any of the checks accomplished as required by paragraph (c) of this AD, and the right side NLG drag strut bracket has not been replaced with P/N 194650-0 (accomplished as possible requirement of paragraph (a) of this AD), accomplish the following:

(1) Reinspect the NLG drag strut brackets for cracks or bends at intervals not to exceed 50 hours TIS in accordance with Section 4, NLG DRAG STRUT BRACKET INSPECTION, of Bellanca SL B-107, dated September 20, 1995.

(2) Prior to further flight, replace any cracked or bent bracket with a P/N 194650-0 (right side) bracket or a P/N 194383-0 (left side) bracket in accordance with the instructions in section 5, INSTALLATION NEW BRACKETS, of Bellanca SL B-107, dated September 20, 1995. Installing the P/N 194650-0 (right side) bracket eliminates the repetitive inspection requirement in paragraph (d)(1) of this AD.

(3) The P/N 194650-0 (right side) bracket may be installed at any time to eliminate the repetitive inspection requirement of this AD.

(e) Check the NLG retraction (NLG-In-The-Well Test) in accordance with the instructions in Section 10, NLG-IN-THE-WELL TEST AND NLG CYLINDER MODIFICATION, of Bellanca SL B-107, dated September 20, 1995. If the nose gear cylinder rod motion is greater than 0.015 inches, prior to further flight, replace the cylinder internal stroke limiting sleeve with a new sleeve, P/N 195577-4, in accordance with the instructions in Section 10, NLG-IN-THE-WELL TEST AND NLG CYLINDER MODIFICATION, of Bellanca SL B-107, dated September 20, 1995.

(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 airplane to a location where the requirements of this AD can be accomplished.

(g) An alternative method of compliance or adjustment of the initial or repetitive compliance times that provides an equivalent level of safety may be approved by the Manager, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Rm. 232, Des Plaines, Illinois 60018. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Chicago Aircraft Certification Office.

NOTE 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Chicago Aircraft Certification Office.

(h) The inspections, modifications, and replacements required by this AD shall be done in accordance of Bellanca Service Letter B-107, dated September 20, 1995. 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 Bellanca, Incorporated, P.O. Box 964, Alexandria, Minnesota 56308; telephone (612) 762-1501. Copies may be inspected at the FAA, Central Region, Office of the Assistant Chief Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri, or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(i) This amendment becomes effective on October 25, 1996.

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Comments

Airworthiness Directive

Federal Register Information

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-6446; AD **90-02-17**

Airworthiness Directives; BELLANCA, INCORPORATED Models 14-19-3, 14-19-3A, 17-30, 17-31 and 17-31TC, 17-30A, 17-31A and 17-31ATC Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective February 5, 1990.

Regulatory Information

90-02-17 BELLANCA, INCORPORATED: Amendment 39-6446.

Applicability: Models 14-19-3, 14-19-3A, 17-30, 17-31 and 17-31TC (all serial numbers (S/N)), 17-30A

(S/N 30263 through 89-301007), 17-31A (S/N 32-15 through 78-32-172) and 17-31ATC (S/N 31004 through 79-31155) airplanes certificated in any category.

Compliance: Required as indicated in the body of the AD, unless already accomplished.

To prevent the collapse of the main landing gear which could result in substantial airframe damage, accomplish the following:

(a) Upon the accumulation of 500 hours total time-in-service (TIS), or within the next 100 hours TIS after the effective date of this AD, whichever occurs later, and each 100 hours TIS thereafter, inspect the left and right drag strut landing gear fitting assemblies, Part Number (P/N) 194153-10, for cracks, deformations, or failures as follows:

NOTE 1: This information is also contained in Bellanca Service Letter B-106, dated September 26, 1989. Penetrant inspection techniques are described in FAA Advisory Circular (AC) 43-3, "Nondestructive Testing in Aircraft." These inspections can be conducted with the fitting assemblies installed on the airplane. Do not apply loads to the landing gear components, particularly the drag strut, as it is possible to move the drag strut to overcenter and cause the landing gear to collapse.

(1) Place jacks or other workstands under the airplane at locations specified in the Bellanca Service Manual to prevent accidental landing gear collapse during this inspection.

(2) Figure 1 to this AD describes the 194153-10 fitting assembly. Clean the aft face of the -1 fitting with Stoddart solvent and a brush.

(3) Inspect for cracks adjacent to the welds which join the -1 fitting to the -2 fitting and -3 brace near the lower aft attachment bolt holes using liquid penetrant inspection techniques and a magnifying glass. If any crack is found, prior to further flight replace the assembly with a new fitting assembly, P/N 194153-30 or P/N 194153-40, as applicable.

(4) Lay a straight-edge along side the lower aft attachment bolts, in accordance with Figure 2 and, using a feeler gage or wire gage of .030 inch thickness, look for any evidence of local deformation (dimpling) in the -1 fitting. If any deformation greater than .030 inches is found, prior to further flight replace the assembly with a new fitting assembly, P/N 194153-30 or P/N 194153-40, as applicable.

NOTE 2: The -30, -40 assemblies can be distinguished from a -10 assembly by measuring the -1, -2, fitting and -3 brace part thickness: -10 part thickness is 0.062 inches, -30, -40 parts thickness is 0.100 inches. A 0.040 Shim (P/N 194167-2 Shim Spar Bracket) is available to provide proper fit between the 194153 fitting assembly and the forward spar.

(5) Check and adjust, as required, the drag strut for correct overcenter using the appropriate procedures in the Bellanca Service Manual.

(6) If the inspections specified above do not indicate any evidence of cracks or local deformation in the -1 fitting, apply zinc chromate or Epibond primer, as necessary, to protect the part and repeat these

inspections as specified above.

(7) The repetitive inspections specified above are not required on the P/N 194153-30 or P/N 194153-40 assemblies.

(b) Airplanes with cracked or deformed fittings may be flown with a special flight permit in accordance with FAR 21.197 to a location where this AD may be accomplished providing that no crack is found during the inspection of paragraph (a)(3) that exceeds 3/8 in. length, or no deformation is found during the inspection of paragraph (a)(4) that is great enough to cause the overcenter of the drag strut to be out of tolerance. In these cases, no special flight permit is allowed.

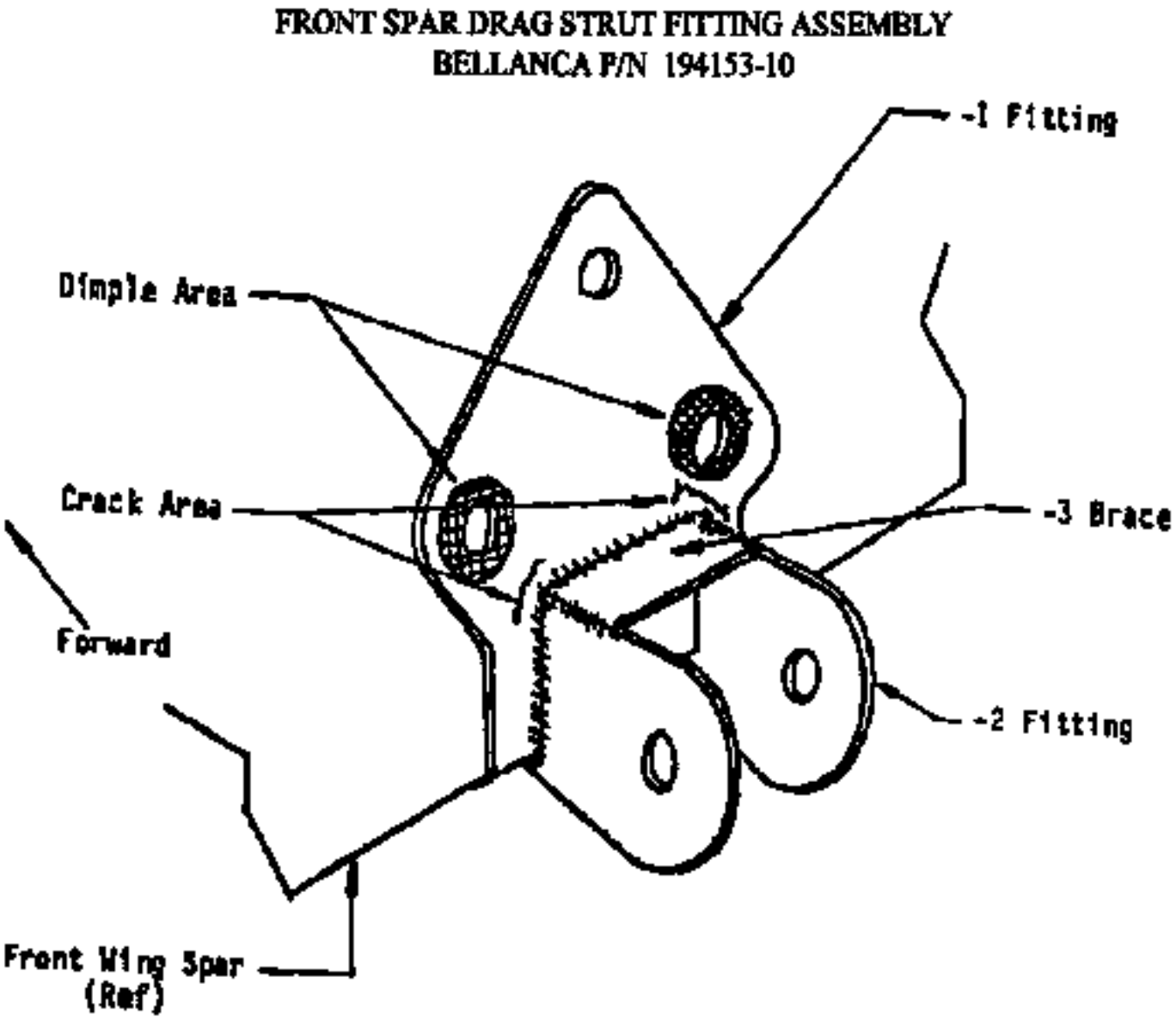
(c) An alternate method of compliance or adjustment of the initial and repetitive compliance times, which provides an equivalent level of safety, may be approved by the Manager, Chicago Aircraft Certification Office, 2300 E. Devon Avenue, Des Plaines, Illinois 60018.

NOTE 3: The request should be forwarded through an FAA Maintenance Inspector, who may add comments and send it to the Manager, Chicago Aircraft Certification Office.

All persons affected by this directive may obtain copies of the documents referred to herein upon request to Bellanca, Inc.; P.O. Box 964, Alexandria, Minnesota 56308; Telephone (612) 762-1501; or may examine these documents at the FAA, Central Region, Office of the Assistant Chief Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

This amendment (39-6446, AD **90-02-17**) becomes effective on February 5, 1990.

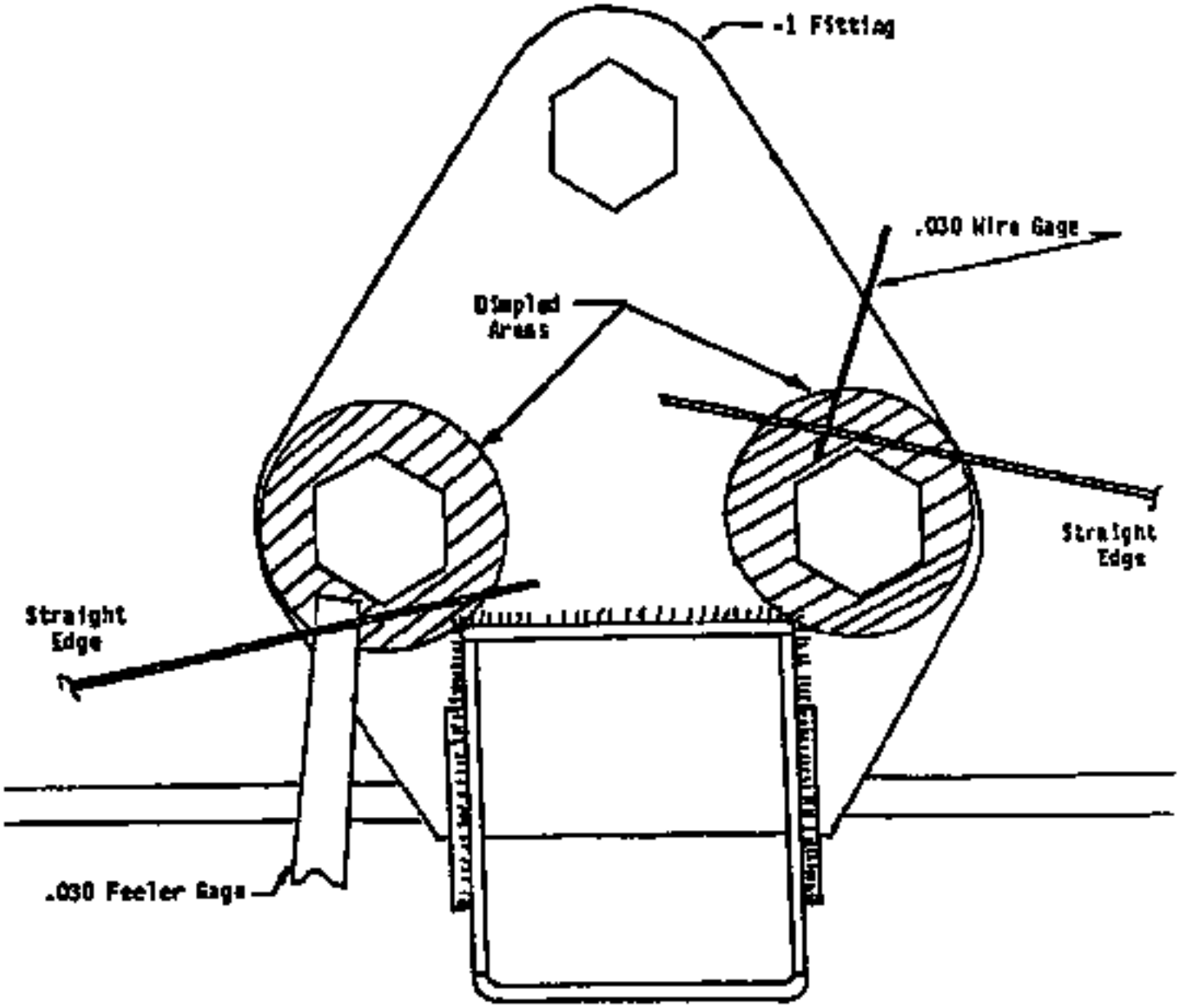
FIGURE 1



AD **90-02-17**

FIGURE 2

EXAMPLES OF MEASURING DEPTH OF DIMPLED AREAS



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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-3065; AD **77-22-02**

Airworthiness Directives; Bellanca Models 14-19-3, 14-19-3A, 17-30 and 17-30A Series Aircraft
PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective November 2, 1977.

Regulatory Information

77-22-02 BELLANCA AIRCRAFT: Amendment 39-3065. Applies to Bellanca Models 14-19-3 Serial Numbers 4106 thru 4228, 14-19-3A Serial Numbers 4229 thru 4342, 17-30 Serial Numbers 30001 thru 30262 and 17-30A Serial Numbers 30263 thru 30853 series aircraft equipped with P/N 191106, 191898 nose landing gear engine mount certificated in all categories. Compliance required as indicated below.

1. Within the next 50 hours time in service after the effective date of the airworthiness directive and thereafter at intervals not to exceed 100 hours time in service from the last inspection until Bellanca Kit SK1267-4019 Note 3 is installed, visually inspect with a 10x magnification glass both forward left and right hand portions of the engine mount bed rail frame nose landing gear support structure Bellanca Part No. 191106 and 191898 in accordance with Bellanca Service Letter #B-96 or later FAA approved revisions.

2. If no cracks or tube buckling are found, repaint in accordance with Bellanca's Service Letter #B- 96 and repeat inspection as set forth in paragraph 1 above within next-following 100 hours in service.

3. If cracks are found in the engine mount bed frame, the bed frame must be either modified in accordance with Bellanca Service Kit SK1267-4019 or repaired in accordance with Advisory Circular 43-13-1A, Chapter 2, Section 2. Only those tubes modified in accordance with SK1267-4019 shall be exempt from the inspection provisions of paragraph 1.

4. If tube buckling is found in the engine mount bed frame, the bed frame must be modified in accordance with Bellanca Service Kit SK1267-4019.

5. Aircraft may be flown in accordance with FAR 21.197 to a base where the modification (SK1267-4019) may be performed.

6. Report immediately to Chief, Engineering and Manufacturing Branch, FAA, Great Lakes Region, if cracks are found; telephone (312)694-4500, ext. 424. (Reporting approved by the Office of Management and Budget under OMB No. 04-R0174.)

The Bellanca Aircraft inspections and procedures identified in this directive are incorporated herein and made a part hereof pursuant to 5 U.S.C. 522(a)(1). The Bellanca Aircraft Service Letters incorporated herein may be obtained upon request to Bellanca Aircraft Corporation, P.O. Box 69, Municipal Airport, Alexandria, Minnesota 56308, telephone (612)762-1501. These documents may also be examined at the FAA Great Lakes Region, 2300 East Devon Avenue, Des Plaines, Illinois 60018 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 the Great Lakes Region.

This amendment becomes effective November 2, 1977.

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Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-2713; AD **76-08-04**

Airworthiness Directives; Bellanca Model: 14-19, 14-19-2, 14-19-3, 14-19-3A, 17-30, 17-30A, 17-31, 17-31A, 17-31TC and 17-31ATC Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective September 9, 1976.

Regulatory Information

76-08-04 BELLANCA: Amendment 39-2583 as amended by Amendment 39-2713. Applies to Bellanca Models: 14-19, 14-19-2, 14-19-3, 14-19-3A, 17-30, 17-30A, 17-31, 17-31A, 17-31TC and 17-31ATC certificated in all categories.

Compliance required as indicated.

To detect deterioration in wood wing, accomplish Part I and Part II of Bellanca Aircraft Corporation Service Letter No. 87A dated April 12, 1976, as follows:

(a) For airplanes which have been produced prior to the preceding eleven months comply with Part I within the next 10 hours time in service, or within the next 30 days, whichever occurs first after the effective date of this Airworthiness Directive, unless already accomplished.

(b) Comply with Part II not later than 13 months after the effective date of this AD.

(c) After the initial inspection specified in (a), comply with Part I at each annual inspection required by Federal Aviation Regulations Part 91.

If wood deterioration is detected, repair must be accomplished in accordance with FAA Approved Standard Practice AC 43-13-1A or FAA approved equivalent and/or manufacturer's recommendations prior to further flight except that the airplane may be flown in accordance with FAR 21.197 to a base where the repair can be performed.

The manufacturer's Service Letter No. 87A identified and described in this directive is incorporated herein pursuant to 5 U.S.C. 552 (a)(1). All persons affected by this directive who have not already received the documents from the manufacturer may obtain copies upon request from Bellanca Aircraft Corporation, Box 624, Municipal Airport, Alexandria, Minnesota 56308.

These documents may also be examined at the office of Regional Counsel, Great Lakes Region, 2300 East Devon Avenue, Des Plaines, Illinois 60018 and at FAA Headquarters, 800 Independence Avenue, S. W., Washington D.C. 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 the Great Lakes Region Engineering and Manufacturing Branch, 2300 East Devon Avenue, Des Plaines, Illinois 60018.

Amendment 39-2583 became effective April 22, 1976.
This amendment 39-2713 becomes effective September 9, 1976.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-5684; AD **87-11-01 R1**

Airworthiness Directives; Bellanca Model 17- 30, 17-30A, 17-31, 17-31A, 17-31TC, and 17-31ATC Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective August 28, 1987.

Regulatory Information

87-11-01 R1 BELLANCA: Amendment 39-5624 as amended by Amendment 39-5684. Applies to Models 17- 30, 17-30A, 17-31, 17-31A, 17-31TC, and 17-31ATC (all serial numbers) airplanes certificated in any category.

Compliance: Required as indicated, unless already accomplished.

To preclude engine power loss due to either the accumulation of water or other contaminants in the fuel system or due to mismanagement of available fuel resources caused by lack of pilot familiarity with the airplane fuel system design and operating procedures, accomplish the following:

(a) For all airplanes, within the next 30 days after the effective date of this AD or at the next annual inspection, whichever occurs later, and thereafter at each annual inspection, inspect the fuel filler caps and fuel filler well (scupper) drains in accordance with the instructions contained in Section II of Bellanca Service Letter No. B-105, dated February 2, 1987.

(b) For Bellanca Models and Serials identified in Table 1., within the next 30 days after the effective date of this AD, accomplish the following:

(1) Install the appropriate AFM revision, as specified in Table 1.

(2) Install permanent placards which state the following at the specified airplane locations:

(i) For Models 17-30 and 17-30A, on the instrument panel adjacent to the auxiliary fuel pump switch: "USE TO RESTORE FUEL PRESSURE AND RELEASE TO PREVENT ENGINE FLOODING."

(ii) On the instrument panel adjacent to the fuel quantity gauges: "FUEL GAUGES READ QUANTITY IN TANK SELECTED, MAIN FUEL TANK GAUGE INOPERATIVE WHEN AUXILIARY TANK SELECTED. FUEL REMAINING IN SELECTED TANK CANNOT BE USED SAFELY IN FLIGHT WHEN GAUGE READS ZERO."

(iii) On the console adjacent to the fuel selector valve (on airplanes with a 58 gallon capacity fuel system):

"LEFT TANK: 15.5 GALLONS
RIGHT TANK: 15.5 GALLONS
AUXILIARY TANK: 20 GALLONS
USE AUX. TANK IN LEVEL FLIGHT ONLY."

(3) Placards specified in (b)(2)(i), (b)(2)(ii), and (b)(2)(iii) may be fabricated and installed using letters with minimum 1/10 inch height.

NOTE: The AFM revisions specified above (and associated placards) are available at a nominal cost from Bellanca, Inc., P.O. Box 964, Alexandria, Minnesota 56308; Telephone (612) 762-1501. The placards are revised versions of existing placards. The existing placards may either be removed and discarded or overlaid by the corresponding revised placard. The placard specified in paragraph (2)(iii) deletes information which was contained in the placard being replaced. This information, however, is presented more clearly in the placard of paragraph (2)(ii) which is a new placard for the airplanes to which paragraph (2)(iii) applies.

(c) The requirements of paragraph (b) of this AD may be accomplished by the holder of a pilot certificate issued under Part 61 of the Federal Aviation Regulations (FAR) on any airplane owned or operated by him, provided the airplanes are not used in air taxi operations. The person accomplishing these actions must make the appropriate aircraft maintenance record entry as prescribed by FAR 91.173.

(d) Airplanes may be flown in accordance with FAR 21.197 to a location where this AD may be accomplished.

(e) An equivalent means of compliance with this AD may be used if approved by the Manager, Chicago Aircraft Certification Office, FAA, 2300 East Devon Ave., Des Plaines, Illinois 60018; Telephone (312) 694-7357.

All persons affected by this directive may obtain copies of the document(s) referred to herein upon request to Bellanca, Inc., P.O. Box 964, Alexandria, Minnesota 56308; or may examine the document(s) referred to herein at FAA, Office of the Regional Counsel, Room 1558, 601 East 12th Street, Kansas City, Missouri 64106.

Amendment 39-5624 became effective June 22, 1987.

This amendment, 39-5684, becomes effective on August 28, 1987.

Table 1.
Serial Numbers (may be AFM Revision Model prefixed with year of manufacture) to be installed.

17-30	30001 - 30262	Rev. 15, dtd. 2/2/87
-30A	30263 - 30514 (except 30498)	Rev. 6, dtd. 2/2/87
-31	32-1 - 32-14	Rev. 2, dtd. 2/2/87
-31A	32-15 - 32-102	Rev. 8, dtd. 2/2/87
-31TC	31001 - 31003	Rev. 2, dtd. 2/2/87
-31ATC	31004 - 31046	Rev. 8, dtd. 2/2/87

Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-1599; AD **73-05-02**

Airworthiness Directives; Bellanca Model 17-30A, Model 17-31A, and Model 17-31ATC Airplanes
PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective March 7, 1973.

Regulatory Information

73-05-02 BELLANCA: Amdt. 39-1599. Applies to Model 17-30A, Serial Numbers 30346 through 73-30496; Model 17-31A, Serial Numbers 32-37 through 73-32-97; and Model 17-31ATC, Serial Numbers 31015 through 73-31045, certificated in all categories.

Compliance required as indicated, unless already accomplished.

To prevent possible failure of the rudder control system, accomplish the following:

(A) Within the next 10 hours time in service after the effective date of this airworthiness directive, unless already accomplished, and thereafter at intervals not to exceed 25 hours time in service from the last inspection, inspect the rudder pedal shaft assemblies, Part Numbers 195266, 195268, 195270 and 195272, equipped with brakes where the vertical tube is welded to the horizontal tube for evidence of cracks or other failures in accordance with Bellanca Service Letter No. 77 dated February 10, 1973, or later approved revisions, or an equivalent approved by the Chief, Engineering and Manufacturing Branch, Great Lakes Region. All shaft assemblies found cracked must be replaced prior to further flight with a new part of the same number utilizing a horizontal tube having a .058" wall thickness.

(B) Within the next 100 hours time in service after the effective date of this airworthiness directive unless already accomplished, replace all rudder shaft assemblies, Part Numbers 195266, 195268, 195270, and 195272, on which rudder/brake pedals are installed having .049" thick horizontal tube walls with a new assembly of the same part number utilizing a horizontal tube having a .058" wall thickness in accordance with Bellanca Service Letter No. 77 dated February 10, 1973, or later FAA approved revisions, or an equivalent approved by the Chief, Engineering and Manufacturing Branch, Great Lakes Region. Rudder pedal shaft assemblies not having the brake pedal installed are not affected by this airworthiness directive.

(C) The repetitive inspections of paragraph (A) of this airworthiness directive are no longer required when compliance with paragraph (B) of this airworthiness directive is accomplished.

(D) Aircraft Serial Numbers 73-30497 through 73-30509, 73-32-98 through 73-32- 100 were produced with .049" wall tubes but with a reinforcement gusset added and are exempt from this airworthiness directive unless the rudder pedals have been replaced during the service life of these aircraft.

This amendment becomes effective March 7, 1973.

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Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-1373; AD **72-01-03**

Airworthiness Directives; Bellanca Model 17-30A, 17-31A, and 17-31ATC Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective January 5, 1972.

Regulatory Information

72-01-03 BELLANCA: Amdt. 39-1373. Applies to Models 17-30A (Serial Numbers 30394, 30395, 30396, 30397, 30398, 30399, 30400, 30401, 30402, 30403 and 30405); 17-31A (Serial Number 32-53); and 17-31ATC (Serial Numbers 31022, 31023, 31024 and 31025) Airplanes.

Compliance: Required as indicated, unless already accomplished.

To prevent loss of engine power due to fuel starvation, accomplish the following:

Prior to next flight replace hose Aeroquip P/N 359-8D-0153, located between the firewall and engine driven fuel pump, with hose Bellanca P/N 198003-10, or an equivalent method of compliance approved by the Chief, Engineering and Manufacturing Branch, FAA, Central Region.

Bellanca Service Letter No. 68 dated December 3, 1971, pertains to this subject.

This amendment becomes effective January 5, 1972, to all persons except those to whom it was made effective by telegram dated December 17, 1971.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-1591; AD **73-03-03**

Airworthiness Directives; Bellanca Model 17-30A Airplanes
PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective February 7, 1973.

Regulatory Information

73-03-03 BELLANCA: Amdt. 39-1591. Applies to Model 17-30A (Serial Numbers 30263 through 73-30489) airplanes.

Compliance: Required as indicated unless already accomplished.

To prevent bolt failures and subsequent washer ingestion into the engine, accomplish the following:

a) Within 10 hours time in service after the effective date of this AD, remove the 4 AN4H-17A bolts attaching the air induction box to the throttle body and replace these bolts with new ones. When reassembling the air induction box, assure that the 4 washers between the spacers and the air induction box are properly installed and the bolts are torqued to 35-40 inch- pounds and safety wired.

b) Within 50 hours time in service after the effective date of this AD, modify the air induction box in accordance with Bellanca Service Letter Number 75 dated January 3, 1973, or later FAA approved revisions.

c) Any alternate equivalent method of compliance with Paragraphs a and b above must be approved by the Chief, Engineering and Manufacturing Branch, FAA, Great Lakes Region.

This amendment becomes effective February 7, 1973.

Airworthiness Directive

Federal Register Information

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-2372; AD **75-20-06**

Airworthiness Directives; Bellanca Model 17-30, 17-30A, 17-31, 17-31TC, 17-31ATC, 14-19-3A, and 17-31A Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective September 26, 1975.

Regulatory Information

75-20-06 BELLANCA: Amendment 39-2372. Applies to Model 17-30, 17-30A (S/N 30263 through S/N 76-30811), 17-31, 17-31TC, 17-31ATC (S/N 30004, S/N 31004 through S/N 76-31124), 14-19-3A, and 17-31A (S/N 32-15 through S/N 76-32-163) airplanes certificated in all categories.

Compliance required upon accumulation of 300 hours time in service or within the next 25 hours time in service from the effective date of this Airworthiness Directive (whichever occurs later) unless already accomplished, and thereafter at intervals not to exceed 100 hours time in service from the last inspection until Bellanca Kit SK1234789-0004 is accomplished.

To detect cracks in either vertical side fuselage tube (F. S. 7), which is adjacent to the horizontal stabilizer carry-through, in the area near the upper fuselage longeron, accomplish the following:

A. Inspect the vertical tube for circumferential cracks at the upper weld, and between the upper weld and the horizontal stabilizer carry-through tube, all around the tube.

B. If cracks are found, repair and modify in accordance with Bellanca Kit SK1234789-0004 or an equivalent approved by the Chief, Engineering and Manufacturing Branch, Great Lakes Region, before further flight, except that the airplane may be flown, in accordance with FAR 21.197, to a base where the repair can be performed.

C. If no cracks are found, no further action is required until the next inspection.

Bellanca Service Letter No. 85 or 85A pertains to this same subject.

This amendment becomes effective September 26, 1975.

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Airworthiness Directive

Federal Register Information

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-5489; AD **86-25-06**

Airworthiness Directives; Bellanca Model 17-30, 17-30A, 17-31, 17-31A, 17-31TC and 17-31ATC Airplanes

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective December 22, 1986.

Regulatory Information

86-25-06 BELLANCA: Amendment 39-5489. Applies to the following models and serial numbered airplanes, certificated in any category, not equipped with an FAA approved drain valve for each wing main fuel tank and each wing auxiliary fuel tank:

MODEL	SERIAL NUMBERS (S/N)
17-30	All
17-30A	S/Ns 30-263 thru 30-977
17-31	All
17-31A	S/Ns 32-15 thru 32-172
17-31TC	All
17-31ATC	S/Ns 31-004 thru 31-155

Note: The serial numbers listed above may be prefixed by a two-digit number indicating the last two digits of the year of manufacture.

Compliance: Required within the next 50 hours time-in-service after the effective date of this AD, unless already accomplished.

To prevent engine power loss due to the accumulation of water or other contaminants in the fuel system, accomplish the following:

(a) For each wing main fuel tank and each wing auxiliary fuel tank not having an FAA approved drain valve of any style, install a flush quick drain valve as follows:

(1) Drain the fuel tank.

(2) Remove the fuel tank drain plug, AN 932-2, from the drain boss at the bottom aft portion of the fuel tank. For tanks comprised of interconnected cells, each cell having its own drain boss, remove the drain plug from the inboard cell of the tank.

(3) Install a flush quick drain valve, P/N F391-18 or equivalent.

Note: These pipe thread valves produced by Manufacturing Division, Inc. are available from Bellanca, Inc., Post Office Box 964, Alexandria, Minnesota 56308; Telephone (612) 762-1501.

(4) Refuel the tank and check for leaks.

(b) Fabricate and install a permanent placard in full view of the pilot, using letters with minimum 1/10 inch height, which states the following: "DRAIN ALL FUEL SUMPS BEFORE FIRST FLIGHT OF EACH DAY."

(c) The requirements of paragraph (b) of this AD may be accomplished by the holder of a pilot certificate issued under Part 61 of the Federal Aviation Regulations (FAR) on any airplane owned or operated by him. The person accomplishing these actions must make the appropriate aircraft maintenance record entry as prescribed by FAR 91.173.

(d) Airplanes may be flown in accordance with FAR 21.197 to a location where this AD may be accomplished.

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

This amendment becomes effective on December 22, 1986.

Footer Information

Comments

Airworthiness Directive

Federal Register Information

Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-1129; AD **70-26-02**

Airworthiness Directives; WOODWARD: Applies to Woodward Propeller Governors

PDF Copy (If Available):

Preamble Information

DATES: Effective December 27, 1970.

Regulatory Information

70-26-02 WOODWARD: Amdt. 39-1129. Applies to Woodward propeller governors of the following listed models having serial numbers below 992601 which were manufactured prior to 1970 used on single, reciprocating engine aircraft: Woodward Governor Models 210452, A210452, B210452, C210452, D210452, E210452, F210452, G210452, H210452, J210452, K210452, L210452, M210452,

P210452, 210453, 210458, 210460, B210460, 210462, A210462, 210472, and C210472. Date of manufacture can be determined from a decal attached to the governor body which shows the quarter and the year. Example: "1Q70" indicates first quarter 1970.

Compliance: Required within the next 50 hours' time in service after the effective date of this AD, unless previously accomplished.

To prevent loss of propeller control accomplish the following or an equivalent procedure approved by the Chief, Engineering and Manufacturing Branch, FAA, Central Region.

A. Inspect the propeller governor lever arm for security and engagement on the speed control shaft as follows:

1. Inspect axial security by applying, alternately, in both directions, a manual force of 5 to 10 pounds to the lever arm directly in line with the axis of the shaft. Do not mistake end play of the shaft in the governor cover for a loose lever.

2. Inspect rotational security by observing the arm and shaft while the cockpit propeller control is moved from full increase to full decrease and back to full increase RPM positions.

3. Inspect axial location of lever arm and offset lever arm extension on the shaft. On those installations which use an offset extension which bolts to the outboard face of the lever arm and has an alignment hole for locating on the shaft, the shaft must protrude through the full thickness of the extension. When no extension is used the shaft must protrude beyond the lever arm by at least .050 inch.

B. If the inspections in accordance with Paragraphs A1 and A2 disclose movement of the lever arm relative to the shaft or if the location of the arm or extension do not meet the limits defined in Paragraph A3 proceed as follows:

1. Remove arm from shaft and inspect serrations on both parts for wear and damage. Before removing arm, provisions, such as match-marking, should be made to assure reinstallation in the same circumferential location of the shaft. Later design shafts have a retaining ring and groove at the end of the shaft serrations to provide positive retention of the lever arm. To remove the arm from these shafts move the arm toward the governor cover until the retainer is exposed, then remove retainer.

2. If the serrations are damaged or excessively worn, replace the governor with a serviceable unit.

3. If the serrations are in satisfactory condition replace the lever arm on the shaft in its original circumferential location. If retainer ring was removed pursuant to Paragraph B1 reinstall it. Position axially on shaft to maintain .020 to .045 inch clearance between bottom side of lever arm and the top of governor cover at the maximum RPM setting. Torque the clamping screw in the lever arm to 33 to 38 inch pounds. (This value is specified in Woodward Overhaul Bulletin 33017A.) Recheck security per Paragraph A and if tight, safety the clamping screw with AMS 5685 .024-.026 wire or equivalent, taking care that the wire will not interfere with the aircraft manufacturer's lever arm extension.

4. Assure security of aircraft linkage to governor. If any aircraft linkage settings were changed as a result of work performed above, check rigging in accordance with the aircraft manufacturer's instructions.

Woodward FAA-approved Service Bulletin No. 33534 or later FAA-approved revisions pertain to this subject.

NOTE: The above listed governors may be installed on the following single, reciprocating engine aircraft but this listing is not all inclusive:

BEECH Models E33, F33, E33A, E33C, F33A, F33C, 35-33, 35-A33, 35-B33, 35-C33, 35-C33A, H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 36 and A36 airplanes.

BELLANCA Models 14-19-3A, 17-30, 17-30A, 17-31, 17-31A, 17-31TC, 17-31ATC airplanes.

CESSNA Models 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 185, 185A, 185B, 185C, 185D, 185E, A185E, 188, A188, 188A, A188A, 206, U206, P206, U206A, P206A, P206B, TU206A, TU206B, TP206A, TP206B, U206B, P206C, TP206C, P206D, TP206D, P206E, TP206E, U206C, TU206C, U206D, TU206D, U206E, TU206E, 207, T207, 210B, 210C, 210-5(205), 210-5A(205A), 210D, 210E, T210F, 210F, T210G, T210H, 210G, 210H, T210J, 210J, 210K and T210K airplanes.

MAULE Models M-4-210, M-4-210C, M-4-210S, M-4-210T, M-4-220, M-4-220C, M-4-220S, M-4-220T and M-4-180 airplanes.

MOONEY Models M20C and M20D airplanes.

NAVION H Model airplanes.

This amendment becomes effective December 27, 1970.

Footer Information

Comments