

MT Propeller

If multi-engine: ☐ Left ☐ Right ☐ Front ☐ Rear

Propeller Model:

Serial No.:

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

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Amendment 39-22153; Docket No. FAA-2022-1056; Project Identifier MCAI-2022-00895-P.

(a) Effective Date

This airworthiness directive (AD) is effective September 16, 2022.

(b) Affected ADs

None.

(c) Applicability

This AD applies to MT-Propeller Entwicklung GmbH:

(1) MTV-5-1(-), MTV-9(-), MTV-12(-), MTV-14-B, MTV-14-D, MTV-15(-), MTV-16(-), MTV-18(-), and MTV-27(-) variable pitch propellers with a propeller serial number (S/N) identified in MT-Propeller Entwicklung GmbH Alert Service Bulletin (ASB) No. 30, Revision 7, dated June 23, 2022 (MT-Propeller ASB No. 30, Rev. 7); and

(2) MTV-5-1(-), MTV-9(-), MTV-11(-), MTV-12(-), MTV-14-B, MTV-14-D, MTV-15(-), MTV-16(-), MTV-17(-), MTV-18(-), MTV-20(-), and MTV-27(-) variable pitch propellers with a propeller blade S/N identified in MT-Propeller ASB No. 30, Rev. 7, installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 6100, Propeller System.

(e) Unsafe Condition

This AD was prompted by reports of certain propeller blade lag screws that were manufactured with a: improper surface finish, which results in reduced fatigue strength of these lag screws. The FAA is issuing this AD to prevent in-flight blade detachment. The unsafe condition, if not addressed, could lead to release of the propeller, damage to the airplane, and reduced control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) If the affected propeller or propeller blade is installed on a turboprop engine, before exceeding 120 days from the effective date of this AD, or within 50 flight hours (FHs) from the effective date of this AD, whichever occurs first, remove from service any propeller blade lag screw with part number (P/N) A-983-C-85 and replace with a part eligible for installation.

(2) If the affected propeller or propeller blade is installed on a piston engine, before exceeding 60 days from the effective date of this AD, or within 25 FHs from the effective date of this AD, whichever occurs first, remove from service any propeller blade lag screw with P/N A-983-C-85 and replace with a part eligible for installation.

(h) Definition

For the purpose of this AD, a "part eligible for installation" is any propeller blade lag screw with P/N A-983-D-85 or P/N A-983-E-85.

(i) Installation Prohibition

After the effective date of this AD, do not install a propeller blade lag screw with P/N A-983-C-85 onto any propeller or propeller blade.

(j) Credit for Previous Actions

You may take credit for the actions required by paragraph (g) of

this AD if the actions were performed before the effective date of this AD using MT-Propeller Entwicklung GmbH Alert Service Bulletin No. 30, Revision 6, dated January 18, 2022, or earlier versions of this service information.

(k) Alternative Methods of Compliance (AMOCs)

The following provisions also apply to this AD.

(1) The Manager, Boston ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in §39.19. In accordance with §39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (l)(2) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(l) Additional Related Information

(1) Refer to European Union Aviation Safety Agency (EASA) AD 2022-0134, dated July 6, 2022, for related information. This EASA AD may be found in the AD docket at www.regulations.gov under Docket No. FAA-2022-1056.

(2) For more information about this AD, contact Michael Schwetz, Aviation Safety Engineer, Boston ACO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7761; email: 9-AVS-AIR-BACO-COS@faa.gov.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) MT-Propeller Entwicklung GmbH Alert Service Bulletin No. 30, Revision 7, dated June 23, 2022.

(ii) [Reserved]

(3) For MT-Propeller Entwicklung GmbH service information identified in this AD, contact MT-Propeller Entwicklung GmbH, MT-Propeller USA, Inc., 1180 Airport Terminal Drive, DeLand, FL 32724; phone: (386) 736-7762; email: service@mt-propellerusa.com.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on August 17, 2022.

Christina Underwood, Acting Director, Compliance & Airworthiness Division, Aircraft Certification Service.

AIRCRAFT REGISTRATION NO.

AIRCRAFT SERIAL NO.

TYPE AIRCRAFT

adNote™

2005-1-19 N/M

AD NUMBER

Garmin Transponder

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

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Amendment 39-13944; Docket No. FAA-2004-18743; Directorate Identifier 2004-CE-23-AD.

When Does This AD Become Effective?

(a) This AD becomes effective on February 23, 2005.

What Other ADs Are Affected by This Action?

(b) This AD supersedes AD 2004-10-15, Amendment 39-13645.

What Airplanes Are Affected by This AD?

(c) This AD affects GARMIN International Inc. GTX 33, GTX 33D, GTX 330, and GTX 330D Mode S transponders that include software versions 3.00, 3.01, 3.02, 3.04, or 3.05 that are installed on, but not limited to, the following airplanes, certificated in any category:

Aerotech Note: The table of aircraft affected by this airworthiness directive that was in this position of the original FAA version has been moved to the reverse side of this adNote™ to facilitate compilation.

(d) This AD is the result of observations that the GTX 33/33D/330/330D may detect, from other airplanes, the S1 (suppression) interrogating pulse below the minimum trigger level (MTL) and, in some circumstances, not reply. The GTX 33/33D/330/330D should still reply even if it detects S1 interrogating pulses below the MTL. The actions specified in this AD are intended to prevent interrogating aircraft from possibly receiving inaccurate replies, due to suppression, from aircraft equipped with the GTX 33/33D/330/330D Mode S transponders when the pulses are below the minimum trigger level (MTL). Software Upgrade Versions 3.03 and 3.06 correct a TAS, TCAD, and TCAS I system "whisper-shout" problem that could potentially lead to the aircraft not being visible at certain ranges. TCAS II systems are not affected. The inaccurate replies could result in reduced vertical separation.

What Must I Do To Address This Problem?

(e) To address this problem, you must do the following:

What Is the Unsafe Condition Presented in This AD?

Actions	Compliance	Procedures
Install GTX 33/33D/330/330D Software Upgrade for transponders with software version 3.00, 3.01, 3.02, 3.04, 3.05 to at least version 3.06. If version 3.03 is already installed, no further action is required. This version is no longer available from Garmin. This AD does not apply to software versions past 3.05.	Install the software upgrade within 180 days after February 23, 2005 (the effective date of this AD), unless already accomplished.	Follow GARMIN Mandatory Software Service Bulletin No.: 0304, Rev B, dated June 12, 2003 accomplished. (Software Upgrade 3.03) or GARMIN Mandatory Software Service Bulletin No.: 0409, dated July 19, 2004 (Software Upgrade 3.06).

May I Request an Alternative Method of Compliance?

(f) You may request a different method of compliance or a different compliance time for this AD by following the procedures in 14 CFR 39.19. Unless FAA authorizes otherwise, send your request to your principal inspector. The principal inspector may add comments and will send your request to the Manager, Wichita Aircraft Certification Office (ACO), FAA. For information on any already approved alternative methods of compliance, contact Roger A. Souter, FAA, Wichita Aircraft Certification Office (ACO), 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: 316-946-4134; facsimile: 316-946-4107; email address: roger.souter@faa.gov.

Does This AD Incorporate Any Material by Reference?

(g) You must do the actions required by this AD following the instructions in GARMIN Mandatory Software Service Bulletin No.: 0304, Rev B, dated June 12, 2003 (Software Upgrade 3.03) or GARMIN Mandatory Software Service Bulletin No.: 0409, dated July 19, 2004 (Software Upgrade 3.06). The Director of the Federal

Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. To get a copy of this service information, contact GARMIN International Inc. 1200 East 151st Street, Olathe, KS 66062; telephone: 913-397-8200. To review copies of this service information, go to the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, go to: <http://www.archives.gov/federal/register/code-of-federal-regulations/locations.html> or call (202) 741-6030.

To view the AD docket, go to the Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-001 or on the Internet at <http://dms.dot.gov>. The docket number is FAA-2004-18743.

Issued in Kansas City, Missouri, on January 7, 2005.

James E. Jackson, Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

(Tables of aircraft from paragraph "C" of Airworthiness Directive 2005-01-19)

Manufacturer	Model
(1) Aeromacchi S.p.A	S.205-18/F, S.205-18/R, S.205-20/R, S.205-22/R, S208, S.208A, F.260, F.260B, F.260C, F.260D, F.260E, F.260F, S.211A.
(2) Aeronautica Macchi S.p.A	AL 60, AL 60-B, AL 60-F5, AL 60-C5, AM-3.
(3) Aerostar Aircraft Corporation	PA-60-600 (Aerostar 600), PA-60-601 (Aerostar 601), PA-60-601P (Aerostar 601P), PA-60-602P (Aerostar 602P), PA-60-700P (Aerostar 700P), 360, 400.
(4) Alexandria Aircraft, LLC	14-19, 14-19-2, 14-19-3, 14-19-3A, 17-30, 17-31, 17-31TC, 17-30A, 17-31A, 17-31ATC.
(5) Alliance Aircraft Group LLC	15A, 20, H-250, H-295 (USAFU-10D), HT-295, H391 (USAFYL-24), H391B, H-395 (USAFU-28A or U-10B), H-395A, H-700, H-800, HST-550, HST-550A (USAF AU-24A), 500.
(6) American Champion Aircraft Corp	402, 7GCA, 7GCB, 7KC, 7GCB, 7GCA, 7GCB, 7KCAB, 8KCAB, 8GCB.
(7) Sky International Inc	A-1, A-1A, A-1B, S-1S, S-1T, S-2, S-2A, S-2S, S-2C.
(8) B-N Group Ltd	BN-2, BN-2A, BN-2A-2, BN-2A-3, BN-2A-6, BN-2A-8, BN-2A-8, BN-2A-20, BN-2A-21, BN-2A-26, BN-2A-27, BN-2B-20, BN-2B-21, BN-2A-26, BN-2A-27, BN-2B-20, BN-2B-21, BN-2B-26, BN-2B-27, BN-2T, BN-2T-4R, BN-2A MK.III, BN2A MK. III-2, BN2A MK. 111-3.
(9) Bellanca	14-13, 14-13-2, 14-13-3, 14-13-3W.
(10) Bombardier Inc	(Ottar) DHC-3, DHC-6-1, DHC-6-100, DHC-6-200, DHC-6-300.
(11) Cessna Aircraft Company	170, 170A, 170B, 172, 172A, 172B, 172C, 172D, 172E, 172F (USAF T-41A), 172G, 172H (USAF T041A), 172I, 172K, 172L, 172M, 172N, 172P, 172Q, 172R, 172S, 172RG, P172D, R172E (USAF T-41 B) (USAF T-41 C AND D), R172F (USAF T-41 D), R175G, R172H (USAF T-41 D), R172J, R172K, 175, 175A, 175B, 175C, 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, 182S, 182T, R182, T182, TR182, T182T, 185, 185A, 185B, 185C, 185D, 185E, A185E, A185F, 190, (LC-126A, B, C) 195, 195A, 195B, 210, 210A, 210B, 210C, 210D, 210E, 210F, T210F, 210G, T210G, 210H, T210H, 210J, T210J, 210K, T210K, 210L, T210L, 210M, T210M, 210N, P210N, T210N, 210R, P210R, T210R, 210-5 (205), 210-5A (205A), 206, P206, P206A, P206B, P206C, P206D, P206E, TP206A, TP206B, TP206C, TU206D, TU206E, TU206F, TU206G, 206H, T206H, 207, 207A, T207, T207A, 208, 208A, 208B, 310, 310A (USAF U-3A), 310B, 310C, 310D, 310E (USAF U-3B), 310F, 310G, 310H, E310H, 310I, 310J, 310J-1, E310J, 310K, 310L, 310N, 310P, T310P, 310Q, T310Q, 310R, T310R, 320, 320A, 320B, 320C, 320D, 320E, 320F, 320I, 335, 340, 340A, 336, 337, 337A (USAF 02B), 337B, T337B, 337C, 337E, T337E, T337C, 337D, T337D, M337B (USAF 02A), 337F, T337F, T337G, 337G, 337H, P337H, T337H, T337H-SP, 401, 401A, 401B, 402, 402A, 402B, 402C, 411, 411A, 414, 414A, 421, 421A, 421B, 421C, 425, 404, 406, 441.
(12) Cirrus Design Corporation	SR20, SR22.
(13) Commander Aircraft Company	112, 112TC, 112B, 112CTA, 114, 114A, 114B, 114TC.
(14) de Havilland Inc	DHC-2 Mk. I, DHC-2 Mk. II, DHC-2 Mk. III.
(15) Dynac Aerospace Corporation	(Volare) 10, (Volare) 10A, (Aero Commander) 100, (Aero Commander) 100A, (Aero Commander) 100-180.
(16) Diamond Aircraft Industries	DA 20-A1, DA20-C1, DA 40.
(17) Empresa Brasileira de Aeronautica S.A. EMBRAER.	EMB-110P1, EMB-110P2.
(18) Extra Flugzeugbau GmbH	EA300, EA300L, EA300S, EA300/200, EA-400.
(19) Fairchild Aircraft Corporation	SA26-T, SA26-AT, SA226-T, SA226-AT, SA226-T(B), SA227-AT, SA227-TT, SA226-TC, SA227-AC (C-26A), SA227-CC, SA227-DC (C-26B).
(20) Global Amphibians, LLC	Colonial C-1, Colonial C-2, Lake LA-4, Lake LA-4A, Lake LA-4P, Lake LA-4-200, Lake Model 250.
(21) Grob-Werke	G115, G115A, G115B, G115C, G115C2, G115D, G115D2, G115EG, G120A.
(22) Lancair Company	LC40-550FG.
(23) LanShe Aerospace, LLC	MAC-125C, MAC-145, MAC-145A, MAC-145B.
(24) Learjet Inc.	23.
(25) Lockheed Aircraft Corporation	18.
(26) Luscombe Aircraft Corporation	11A, 11E.
(27) Maule Aerospace Technology, Inc	Bee Dee M-4, M-4, M-4C, M-4S, M-4T, M-4180C, M-4-180S, M-4-180T, M-4-210, M-4-210C, M-4-210S, M-4-210T, M-4-220, M-4-220S, M-4-220T, M-5-180C, M-5-200, M-5-210C, M-5-210TC, M-5-220C, M-5-235C, M-6-180, M-6-235, M-7-235, MX-7-235, MX-7-180, MX-7-420, MXT-7-180, MT-7-235, M-8-235, MX-7-180, MXT-7-180, MX-7-180A, MXT-7-180A, MX-7-180B, M-7-235B, M-7-235A, M-7-235C, MX-7-180C, M-7-260, MT-7-260, M-7-260C, M-7-420AC, MX-7-180C, MX-7-180AC, M-7-420A, MT-7-420.
(28) Mitsubishi Heavy Industries, Ltd	MU-2B-25, MU-2B-35, MU-2B-26, MU-2B-36, MU-2B-26A, MU-2B-36A, MU-2B-40, MU-2B-60, MU-2B, MU-2B-20, MU-2B-15.
(29) Mooney Airplane Company, Inc	M20, M20A, M20B, M20C, M20D, M20E, M20F, M20G, M20J, M20K, M20L, M20M, M20R, M20S, M22.

(30) Moravan a.s	Z-242L, Z-143L.
(31) Navion Aircraft Company, Ltd	NAVION, Navion (L-17A), Navion (L17B), Navion (L-17C), Navion B, Navion D, Navion E, Navion F, Navion G, Navion H.
(32) New Piper Aircraft, Inc	PA-12, PA-12S, PA-18, PA-18S, PA-18 "105"(Special), PA-18S "105"(Special), PA-18A, PA-18 "125"(Army L-21A), PA-18S "125", PA-18AS "125", PA-18 "135"(Army L-21B), PA-18A "135", PA-18S "135", PA-18 "150", PA-18A "150", PA-18S "150", PA-18AS "150", PA-19 (Army L-18B), PA-19S, PA-20, PA-20S, PA-20 "115", PA-20S "115", PA-20 "135", PA-20S "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-23, PA-23-160, PA-23-235, PA-23-250, PA-E23-250, PA-24, PA-24-250, PA-24-260, PA-24-400, PA-28-140, PA-28-150, PA-28-151, PA-28-160, PA-28-161, PA-28-180, PA-28-235, PA-28S-160, PA-28R-180, PA-28S-180, PA-28-181, PA-28R-200, PA-28R-201, PA-28R-201T, PA-28RT-201, PA-28RT-201T, PA-28-201T, PA-28-236, PA-30, PA-39, PA-40, PA-31P, PA-31T, PA-31T1, PA-31T2, PA-31T3, PA-31P-350, PA-32-260, PA-32-300, PA-32S-300, PA-32R-300, PA-32RT-300, PA-32RT-300T, PA-32R-301 (SP), PA-32R-301 (HP), PA-32R-301T, PA-32-301, PA-32-301T, PA-34-200, PA-34-200T, PA-34-220T, PA-34, PA-42-720, PA-42-1000, PA-42-720R, PA-44-180, PA-44-180T, PA-46-310P, PA-46-350P, PA-46-500TP.
(33) Ostrecklenburgische Flugzeugbau GmbH	OMF-100-160.
(34) Piaggio Aero Industries S.p.A	P-180.
(35) Pilatus Aircraft Ltd	PILATUS PC-12, PILATUS PC-12/45, PC-6, PC-6-H1, PC-6-H2, PC-6/350, PC-6/350-H1, PC-6/350-H2, PC-6/A, PC-6/A-H1, PC-6/A-H2, PC-6/B-H2, PC-6/B1-H2, PC-6/B2-H2, PC-6/B2-H4, PC-6/C-H2, PC-6/C1-H2, PC-7.
(36) Prop-Jets, Inc	200, 200A, 200B, 200C, 200D, 400.
(37) Panstwowe Zaklady Lotnicze (PZL)	PZL104 WILGA 80, PZL-104M WILGA 2000, PZL-WARSZAWA, PZL-KOLIBER 150A, PZL-KOLIBER 160A.
(38) PZL WSK/Mielec Olsk	PZL M20 03, PZL M26 01.
(39) Raytheon	35-33, 35-A33, 35-B33, 35-C33, 35-C33A, E33, E33A, E33C, F33, F33A, F33C, G33, H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 36, A36, A36TC, B36TC, 35, A35, B35, C35, D35, E35, F35, G35, 35R, F90, 76, 200, 200C, 200CT, 200T, A200, B200, B200C, B200CT, B200T, 300, 300LW, B300, B300C, 1900, 1900C, 1900D, A100-1 (U-21J), A200 (C-12A), A200 (C-12C), A200C (UC-12B), A200CT (C-12D), A200CT (FWC-12D), A200CT (RC-12D), A200CT (C-12F), A200CT (RC-12G), A200CT (RC-12H), A200CT (RC-12K), A200CT (RC-12P), A200CT (RC-12Q), B200C (C-12F), B200C (UC-12F), B200C (UC-12M), B200C (C-12R), 1900C (C-12J), 65, A65, A65-8200, 65-80, 65-A80, 65-A80-8800, 65-B80, 65-88, 65-A90, 70, B90, C90, C90A, E90, H90, 65-A90-1, 65-A90-2, 65-A90-3, 65-A90-4, 95, B95, B95A, D95A, E95, 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B (T-42A), 95-C55, 95-C55A, D55, D55A, E55, E55A, 58TC, A58TC, 58, 58A, 58P, 58PA, 58TC, 58TCA, 99, 99A, 99A (FACH), A99, A99A, B99, C99, 100, A100 (U-21F), A100A, A100C, B100, 2000, 3000, 380, 19A, B19, M19A, 23, A23, A23A, A23-19, A23-24, B23, C23, A24, A24R, B24R, C24R, 80, A80, B80, 180, A18A, A18D, S18D, SA18A, SA18D, 3N, 3NM, 3TM, JRB-6, D18C, D18S, E18S, RC-45J (SNB-5P), E18S-9700, G18S, H18, C-45G, TC-45G, C-45H, TC-45H, TC-45J, UC-45J (SNB-5), 50 (L-23A), B50 (L-23B), C50, D50 (L-23E), D50A, D50B, D50C, D50E-5990, E50 (L-23D, RL-23D), F50, G50, H50, J50, 45 (YT-34), A45 (T-34A or B-45), D45 (T-34B).
(40) Rockwell International Corporation	BC-1A, AT-6 (SNJ-2), AT-6A (SNJ-3), AT-6B, AT-6C (SNJ-4), AT-6D (SNJ-5), AT-6F (SNF-6), SNJ-7, T-6G, NOMAD NA-260.
(41) Short Brothers & Harland Ltd	SC-7 Series 2, SC-7 Series 3.
(42) Slingsby Aviation Ltd	T67M260, T67M260-T3A.
(43) SOCATA-Group Aerospatiale	TB9, TB10, TB20, TB21, TB200, TBM 700, M.S. 760, M.S. 760 A, M.S. 760 B, Rallye 100S, Rallye 150ST, Rallye 150T, Rallye 235E, Rallye 235C, MS 880B, MS 885, MS 894A, MS 893A, MS 892A-150, MS 892E-150, MS 893E, MS 894E, GA-7.
(44) Tiger Aircraft LLC	AA-1, AA-1A, AA-1B, AA-1C, AA-5, AA-5A, AA-5B, AG-5B.
(45) Twin Commander Aircraft Corporation	500, 500-A, 500-B, 500-U, 500-S, 520, 560, 580-A, 560-E, 560F, 680, 680E, 680F, 680FL, 680FL(P), 680T, 680V, 680W, 681, 685, 690, 690A, 690B, 690C, 690D, 695, 695A, 695B, 720, 700.
(46) Univair Aircraft Corporation	108, 108-1, 108-2, 108-3, 108-5.
(47) Vulcanair S.p.A	P68, P68B, P68C, P68C-TC, P68 "Observer", P68 "Observer 2", P68TC "Observer", AP68TP300 "Spartacus", AP68TP 600 "Viator".
(48) Zenair Ltd.	CH2000.

AIRCRAFT REGISTRATION NO.

AIRCRAFT SERIAL NO.

TYPE AIRCRAFT

adNote™

2005-24-10 N/M

AD NUMBER

Swaged Cable Sleeves

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

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Amendment 39-14390; Docket No. FAA-2005-23025; Directorate Identifier 2005-CE-50-AD.

When Does This AD Become Effective?

(a) This AD becomes effective on January 17, 2006.

Are Any Other ADs Affected by This Action?

(b) None.

What Airplanes Are Affected by This AD?

(c) This AD affects the following airplane models, all serial numbers that are certificated in any category:

Models

(1) 7ECA, 7GCAA, 7GCBC, 8KCAB, and 8GCBC that:

(i) were manufactured before August 12, 2005; and

(ii) have less than 250 hours time-in-service (TIS).

(2) 7AC, 7ACA, 7AC, 7BCM, 7CCM, 7CCM, 7DC, 7S7C, 7EC, 7S7C, 7ECA, 7FC, 7GC, 7GCA, 7GCAA, 7GCB, 7GCB, 7GCB, 7HC, 7JC, 7KC, 7KCAB, 8KCAB, and 8GCBC that:

(i) have installed a flight control cable (or flight control cable included in a wing retrofit kit) that was purchased from American Champion Aircraft Corp. (ACAC) before August 12, 2005; and

(ii) have less than 250 hours TIS since the above installation.

What Is the Unsafe Condition Presented in This AD?

(d) This AD is the result of partial loss of aileron control because an incorrectly swaged cable sleeve allowed the cable to slip. We are issuing this AD to detect and correct incorrect swaging width of the flight control cable Nicopress sleeves, which

could result in failure of the elevator, rudder, aileron, and flap controls. This failure could lead to loss of control of the airplane.

What Must I Do To Address This Problem?

(e) To address this problem, you must do the following:

Actions	Compliance	Procedures
(1) If you operate the airplane before the inspection required in paragraph (e)(2) of this AD, do one of the following: (i) Fabricate (using letters at least 1/8-inch in height) a warning placard with the following language and install this placard in the cockpit in full view of the pilot: "Acrobatic flight prohibited!"; or (ii) Add the following statement to the Limitations Section of the Pilot's Operating Handbook (POH): "Acrobatic flight prohibited until the inspection and replacement requirements of AD 2005-24-10 are done." To do this, you may insert a copy of this AD into the Limitations Section of the POH.	Before further flight after January 17, 2006 (the effective date of this AD).	No specific procedures are necessary for this action. The owner/operator holding at least a private pilot certificate as authorized by section 43.7 of the Federal Aviation Regulations (14 CFR 43.7) may do the placard or POH requirements. Make an entry into the aircraft records showing compliance with these portions of the AD in accordance with section 43.9 of the Federal Aviation Regulations (14 CFR 43.9).
(2) Inspect the Nicopress sleeves on the following flight control cables for the correct width. Each sleeve has three swages or crimps and must not exceed a maximum width of 0.354 inches: (i) Elevator cables in 6 locations; (ii) Rudder cables in 4 locations; (iii) Aileron cables in 12 locations; and (iv) Flap cables in 6 locations.	Within 25 hours TIS after January 17, 2006 (the effective date of this AD).	Follow ACAC Service Letter #427, Revision B, dated November 29, 2005.
(3) If you find any flight control cable Nicopress swages of incorrect width during the inspection required in paragraph (e)(2) of this AD, replace the affected cables.	Within 25 hours TIS after January 17, 2006 (the effective date of this AD).	Follow ACAC Service Letter #427, Revision B, dated November 29, 2005.
(4) If you performed the actions in paragraph (e)(1) of this AD, remove the temporary placard or POH limitation after completing the actions required in paragraphs (e)(2) and (e)(3) of this AD.	After completing the actions required in paragraphs (e)(2) and (e)(3) of this AD.	No specific procedures are necessary for this action. The owner/operator holding at least a private pilot certificate as authorized by section 43.7 of the Federal Aviation Regulations (14 CFR 43.7) may do the placard or POH requirements. Make an entry into the aircraft records showing compliance with these portions of the AD in accordance with section 43.9 of the Federal Aviation Regulations (14 CFR 43.9).
(5) If you find any flight control cable Nicopress swages of incorrect width during the inspection required in paragraph (e)(2) of this AD, report the findings to FAA. The Office of Management and Budget (OMB) approved the information collection requirements contained in this regulation under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 and those following sections) and assigned OMB Control Number 2120-0056.	Within 10 days after the incorrect swage widths are found or within 10 days after January 17, 2006 (the effective date of this AD), whichever occurs later.	Include in your report the aircraft model, TIS of the flight control cable Nicopress swage, which cable swage was affected and its location, corrective action taken, and a point of contact name and phone number. Send your report to Wess Rouse, Small Airplane Project Manager, ACE-117C, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Room 107, Des Plaines, Illinois 60018; facsimile: (847) 294-7834; e-mail: Wess.Rouse@faa.gov .

(Over)*

May I Request an Alternative Method of Compliance?

(f) You may request a different method of compliance or a different compliance time for this AD by following the procedures in 14 CFR 39.19. Unless FAA authorizes otherwise, send your request to your principal inspector. The principal inspector may add comments and will send your request to the Manager, Chicago Aircraft Certification Office, FAA. For information on any already approved alternative methods of compliance, contact Wess Rouse, Small Airplane Project Manager, ACE-117C, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Room 107, Des Plaines, Illinois 60018; telephone: 847-294-8113; facsimile: (847) 294-7834; e-mail:

Wess.Rouse@faa.gov.

Does This AD Incorporate Any Material by Reference?

(g) You must do the actions required by this AD following the instructions in ACAC Service Letter 427, Revision B, dated November 29, 2005. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. To get a copy of this service

information, contact American Champion Aircraft Corporation, P.O. Box 37, 32032 Washington Avenue, Rochester, WI 53167; telephone: (262) 534-6315; Internet address:

<http://www.amerchampionaircraft.com>. To review copies of this service information, go to the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, go to:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html or call (202) 741-6030. To view the AD docket, go to the Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-001 or on the Internet at <http://dms.dot.gov>. The docket number is FAA-2005-23025; Directorate Identifier 2005-CE-50-AD.

Issued in Kansas City, Missouri, on December 23, 2005.

Kim Smith, Manager, Small Airplane Directorate, Aircraft Certification Service.

AIRCRAFT REGISTRATION NO.

AIRCRAFT SERIAL NO.

TYPE AIRCRAFT

adNote™

2006-3-8 N/M

AD NUMBER

Aero Advantage Vac. Pump

If multi-engine: ☐ Left ☐ Right ☐ Front ☐ Rear

Mfg./ Part No.:

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

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Amendment 39-14472; Docket No. FAA-2005- 20440; Directorate Identifier 2005-CE-05-AD.

When Does This AD Become Effective?

(a) This AD becomes effective on March 10, 2006.

What Other ADs Are Affected by This Action?

(b) None.

What Airplanes Are Affected by This AD?

(c) This AD affects ADV200 series (part numbers (P/Ns) ADV211CC and ADV212CW) vacuum pumps installed on, but not limited to, the following aircraft that are certificated in any category. These vacuum pumps can be installed under supplemental type certificate number SA10126SC, through field approval, or other methods:

Make	Model
Alexandria Aircraft, LLC	14-19, 14-19-2, 14-19-3, 17-30, 17-31, 17-31TC, 17-30A, 17-31A, and 17-31ATC.
Alliance Aircraft Group, LLC	H-295 (USAF U10D).
American Champion Aircraft Corp	7AC, 7ECA, 7GC, 7GCA, 7GCAA, 7GCB, 7GCBC, 7HC, 7KC, 7KCAB, 8GCBC, and 8KCAB.
Cessna Aircraft Company, The	172, 172A, 172B, 172C, 172D, 172E, 172F, 172G, 172H, 172I, 172K, 172L, 172M, 172N, 172P, 172Q, 182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, 182R, 182S, 182T, 182U, 182V, 182W, 182X, 182Y, 182Z, 182AA, 182AB, 182AC, 182AD, 182AE, 182AF, 182AG, 182AH, 182AI, 182AJ, 182AK, 182AL, 182AM, 182AN, 182AO, 182AP, 182AQ, 182AR, 182AS, 182AT, 182AU, 182AV, 182AW, 182AX, 182AY, 182AZ, 182BA, 182BB, 182BC, 182BD, 182BE, 182BF, 182BG, 182BH, 182BI, 182BJ, 182BK, 182BL, 182BM, 182BN, 182BO, 182BP, 182BQ, 182BR, 182BS, 182BT, 182BU, 182BV, 182BW, 182BX, 182BY, 182BZ, 182CA, 182CB, 182CC, 182CD, 182CE, 182CF, 182CG, 182CH, 182CI, 182CJ, 182CK, 182CL, 182CM, 182CN, 182CO, 182CP, 182CQ, 182CR, 182CS, 182CT, 182CU, 182CV, 182CW, 182CX, 182CY, 182CZ, 182DA, 182DB, 182DC, 182DD, 182DE, 182DF, 182DG, 182DH, 182DI, 182DJ, 182DK, 182DL, 182DM, 182DN, 182DO, 182DP, 182DQ, 182DR, 182DS, 182DT, 182DU, 182DV, 182DW, 182DX, 182DY, 182DZ, 182EA, 182EB, 182EC, 182ED, 182EE, 182EF, 182EG, 182EH, 182EI, 182EJ, 182EK, 182EL, 182EM, 182EN, 182EO, 182EP, 182EQ, 182ER, 182ES, 182ET, 182EU, 182EV, 182EW, 182EX, 182EY, 182EZ, 182FA, 182FB, 182FC, 182FD, 182FE, 182FF, 182FG, 182FH, 182FI, 182FJ, 182FK, 182FL, 182FM, 182FN, 182FO, 182FP, 182FQ, 182FR, 182FS, 182FT, 182FU, 182FV, 182FW, 182FX, 182FY, 182FZ, 182GA, 182GB, 182GC, 182GD, 182GE, 182GF, 182GG, 182GH, 182GI, 182GJ, 182GK, 182GL, 182GM, 182GN, 182GO, 182GP, 182GQ, 182GR, 182GS, 182GT, 182GU, 182GV, 182GW, 182GX, 182GY, 182GZ, 182HA, 182HB, 182HC, 182HD, 182HE, 182HF, 182HG, 182HH, 182HI, 182HJ, 182HK, 182HL, 182HM, 182HN, 182HO, 182HP, 182HQ, 182HR, 182HS, 182HT, 182HU, 182HV, 182HW, 182HX, 182HY, 182HZ, 182IA, 182IB, 182IC, 182ID, 182IE, 182IF, 182IG, 182IH, 182II, 182IJ, 182IK, 182IL, 182IM, 182IN, 182IO, 182IP, 182IQ, 182IR, 182IS, 182IT, 182IU, 182IV, 182IW, 182IX, 182IY, 182IZ, 182JA, 182JB, 182JC, 182JD, 182JE, 182JF, 182JG, 182JH, 182JI, 182JJ, 182JK, 182JL, 182JM, 182JN, 182JO, 182JP, 182JQ, 182JR, 182JS, 182JT, 182JU, 182JV, 182JW, 182JX, 182JY, 182JZ, 182KA, 182KB, 182KC, 182KD, 182KE, 182KF, 182KG, 182KH, 182KI, 182KJ, 182KK, 182KL, 182KM, 182KN, 182KO, 182KP, 182KQ, 182KR, 182KS, 182KT, 182KU, 182KV, 182KW, 182KX, 182KY, 182KZ, 182LA, 182LB, 182LC, 182LD, 182LE, 182LF, 182LG, 182LH, 182LI, 182LJ, 182LK, 182LL, 182LM, 182LN, 182LO, 182LP, 182LQ, 182LR, 182LS, 182LT, 182LU, 182LV, 182LW, 182LX, 182LY, 182LZ, 182MA, 182MB, 182MC, 182MD, 182ME, 182MF, 182MG, 182MH, 182MI, 182MJ, 182MK, 182ML, 182MN, 182MO, 182MP, 182MQ, 182MR, 182MS, 182MT, 182MU, 182MV, 182MW, 182MX, 182MY, 182MZ, 182NA, 182NB, 182NC, 182ND, 182NE, 182NF, 182NG, 182NH, 182NI, 182NJ, 182NK, 182NL, 182NM, 182NO, 182NP, 182NQ, 182NR, 182NS, 182NT, 182NU, 182NV, 182NW, 182NX, 182NY, 182NZ, 182OA, 182OB, 182OC, 182OD, 182OE, 182OF, 182OG, 182OH, 182OI, 182OJ, 182OK, 182OL, 182OM, 182ON, 182OO, 182OP, 182OQ, 182OR, 182OS, 182OT, 182OU, 182OV, 182OW, 182OX, 182OY, 182OZ, 182PA, 182PB, 182PC, 182PD, 182PE, 182PF, 182PG, 182PH, 182PI, 182PJ, 182PK, 182PL, 182PM, 182PN, 182PO, 182PP, 182PQ, 182PR, 182PS, 182PT, 182PU, 182PV, 182PW, 182PX, 182PY, 182PZ, 182QA, 182QB, 182QC, 182QD, 182QE, 182QF, 182QG, 182QH, 182QI, 182QJ, 182QK, 182QL, 182QM, 182QN, 182QO, 182QP, 182QQ, 182QR, 182QS, 182QT, 182QU, 182QV, 182QW, 182QX, 182QY, 182QZ, 182RA, 182RB, 182RC, 182RD, 182RE, 182RF, 182RG, 182RH, 182RI, 182RJ, 182RK, 182RL, 182RM, 182RN, 182RO, 182RP, 182RQ, 182RR, 182RS, 182RT, 182RU, 182RV, 182RW, 182RX, 182RY, 182RZ, 182SA, 182SB, 182SC, 182SD, 182SE, 182SF, 182SG, 182SH, 182SI, 182SJ, 182SK, 182SL, 182SM, 182SN, 182SO, 182SP, 182SQ, 182SR, 182SS, 182ST, 182SU, 182SV, 182SW, 182SX, 182SY, 182SZ, 182TA, 182TB, 182TC, 182TD, 182TE, 182TF, 182TG, 182TH, 182TI, 182TJ, 182TK, 182TL, 182TM, 182TN, 182TO, 182TP, 182TQ, 182TR, 182TS, 182TT, 182TU, 182TV, 182TW, 182TX, 182TY, 182TZ, 182UA, 182UB, 182UC, 182UD, 182UE, 182UF, 182UG, 182UH, 182UI, 182UJ, 182UK, 182UL, 182UM, 182UN, 182UO, 182UP, 182UQ, 182UR, 182US, 182UT, 182UU, 182UV, 182UW, 182UX, 182UY, 182UZ, 182VA, 182VB, 182VC, 182VD, 182VE, 182VF, 182VG, 182VH, 182VI, 182VJ, 182VK, 182VL, 182VM, 182VN, 182VO, 182VP, 182VQ, 182VR, 182VS, 182VT, 182VU, 182VV, 182VW, 182VX, 182VY, 182VZ, 182WA, 182WB, 182WC, 182WD, 182WE, 182WF, 182WG, 182WH, 182WI, 182WJ, 182WK, 182WL, 182WM, 182WN, 182WO, 182WP, 182WQ, 182WR, 182WS, 182WT, 182WU, 182WV, 182WW, 182WX, 182WY, 182WZ, 182XA, 182XB, 182XC, 182XD, 182XE, 182XF, 182XG, 182XH, 182XI, 182XJ, 182XK, 182XL, 182XM, 182XN, 182XO, 182XP, 182XQ, 182XR, 182XS, 182XT, 182XU, 182XV, 182XW, 182XX, 182XY, 182XZ, 182YA, 182YB, 182YC, 182YD, 182YE, 182YF, 182YG, 182YH, 182YI, 182YJ, 182YK, 182YL, 182YM, 182YN, 182YO, 182YP, 182YQ, 182YR, 182YS, 182YT, 182YU, 182YV, 182YW, 182YX, 182YY, 182YZ, 182ZA, 182ZB, 182ZC, 182ZD, 182ZE, 182ZF, 182ZG, 182ZH, 182ZI, 182ZJ, 182ZK, 182ZL, 182ZM, 182ZN, 182ZO, 182ZP, 182ZQ, 182ZR, 182ZS, 182ZT, 182ZU, 182ZV, 182ZW, 182ZX, 182ZY, 182ZZ.
Commander Aircraft Company	112, 112B, 112TC, 114, and 114A.
Dynac Aerospace Corporation	Aero Commander 100.
Global Amphibians, LLC	Lake LA-4-200, Lake Model 250.
Maule Aerospace Technology, Inc.	M-4-210, M-4-220, M-5-180C, M-5-200, M-5-235C, M-6-180, and M-6-235.
Mooney Aircraft Corporation	M20, M20A, M20B, M20C, M20D, M20E, M20F, M20G, M20H, M20I, M20J, M20K, M20M, and M22.
Navion Aircraft Company, Ltd.	Navion G and Navion H.
Piper Aircraft, Inc., The New	PA-23, PA-23-160, PA-23-235, PA-23-250 (Navy UO-1), PA-E23-250, PA-24, PA-24-250, PA-24-260, PA-18, PA-18-105 (Special), PA-18-135, PA-18-150, PA-20-115, PA-20-135, PA-22-108, PA-22-135, PA-22-150, PA-22-160, PA-25, PA-25-235, PA-25-260, PA-28-140, PA-28-150, PA-28-151, PA-28-160, PA-28-161, PA-28-180, PA-28-181, PA-28-201T, PA-28-235, PA-28-236, PA-28R-180, PA-28R-200, PA-28R-201, PA-28R-201T, PA-28RT-201, PA-28RT-201T, PA-25, PA-25-235, PA-25-260, J5A-80, J5A (Army L-4F), J5B (Army L-4G), J5C, PA-12, PA-36-285, PA-36-300, PA-36-375, PA-38-112, PA-30, PA-39, PA-40, PA-31, PA-31-300, PA-31-325, PA-31-350, PA-32-260, PA-32-300, PA-32-301, PA-32-301T, PA-32R-300, PA-32R-301 (HP), PA-32R-301T, PA-32RT-300T, PA-31P, and PA-36-300.
Raytheon Aircraft Company	35-33, 35-A33, 35-B33, 35-C33, 35-C33A, 36, A36, A36TC, B36TC, E33, E33A, E33C, F33, F33A, F33C, G33, H33, J35, V35, V35A, V35B, D45 (Military T-34B), 35, 35R, A35, B35, C35, D35, E35, F35, G35, 19A, 23, A23, A23A, A24, A24R, B19, B23, B24R, C23, and C24R.
Rogers, Burl A.	15AC and S15AC.
SOCATA—Groupe Aerospatiale	MS 885, MS 892A-150, MS 892E-150, MS 893A, MS 893E, Rallye 150 ST, Rallye 150 T, TB 10, TB 20, and TB 9.
Tiger Aircraft LLC	AA-1, AA-1A, AA-1B, AA-1C, AA-5, AA-5A, and AA-5B.

What Is the Unsafe Condition Presented in This AD?

(d) This AD is the result of several reports of pump chamber failure. The actions specified in this AD are intended to prevent the vacuum pump failure or malfunction during instrument flight rules (IFR) flight that could lead to loss of flight instruments critical for

flight. The loss of flight instruments could cause pilot disorientation and loss of control of the aircraft.

(Over)*

(Continuation of Airworthiness Directive 2006-03-08)

What Must I Do To Address This Problem?

(e) To address this problem, you must do the following:

Actions	Compliance	Procedures
(1) Remove from service any Aero Advantage ADV200 series (P/Ns ADV211CC and ADV212CW) vacuum pump.	Within 100 hours time-in-service (TIS) or the next 12 calendar months after March 10, 2006 (the effective date of this AD), whichever occurs first, unless already done.	Not Applicable.
(2) Install an FAA-approved vacuum pump that is not an Aero Advantage ADV200 series	Prior to further flight after removing any Aero Advantage ADV200 series vacuum pump.	Not Applicable.
(3) If you choose not to utilize the Aero Advantage vacuum pump monitoring system per STC SA10126SC, then do the following: (i) Remove the Airplane Flight Manual Supplement (AFMS) for STC SA10126SC and the placard for the vacuum pump monitoring system. (ii) Complete the appropriate logbook entry and Form 337 to show that the airplane is no longer equipped with STC SA10126SC.	Prior to further flight after removing any Aero Advantage ADV200 series vacuum pump.	Not Applicable.
(4) If you choose to utilize the Aero Advantage vacuum pump monitoring system per STC SA10126SC, then do the following: (i) Connect the replacement vacuum pump to the vacuum pump monitoring system. (ii) Make the following notation to the front of the AFMS for STC SA10126SC: "The Aero Advantage vacuum pump was removed to comply with AD 2005-**-**, and this AFMS now gives instructions for the operation of the vacuum pump monitoring system with a replacement vacuum pump." (iii) Attach a copy of the Phoenix Group Service Bulletin No. 05-01, dated November 22, 2005, to the AFMS for STC SA10126SC.	Prior to further flight after removing any Aero Advantage ADV200 series vacuum pump.	Connect the vacuum pump monitoring system with the procedures in Phoenix Group, Service Bulletin No. 05-01, dated November 22, 2005.
(5) Do not install any Aero Advantage ADV200 series (P/Ns ADV211CC and ADV212CW) vacuum pump.	As of March 10, 2006 (the effective date of this AD).	Not Applicable.

May I Request an Alternative Method of Compliance?

(f) The Manager, Special Certification Office, Rotorcraft Directorate, FAA, has the authority to approve alternative methods of compliance for this AD, if requested using the procedures found in 14 CFR 39.19. For information on any already approved alternative methods of compliance, contact Peter Hakala, Aerospace Engineer, Special Certification Office, Rotorcraft Directorate, FAA, 2601 Meacham Boulevard, Fort Worth, Texas 76193-0190; telephone: (817) 222-5145; facsimile: (817) 222-5785.

May I Get Copies of the Document Referenced in This AD?

(g) If you choose to utilize the vacuum pump monitoring system, you must connect the replacement vacuum pump with the instructions in Phoenix Group, Service Bulletin No. 05-01, dated November 22, 2005. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1

CFR part 51. To get a copy of this service information, contact Phoenix Group, 9608 Taxiway Dr., Granbury, TX 76049; e-mail: phoenixgroup2@yahoo.com. To review copies of this service information, go to the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, go to:

http://www.archives.gov/federal/register/code_of_federal_regulations/ibr_locations.html or call (202) 741-6030. To view the AD docket, go to the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-001 or on the Internet at <http://dms.dot.gov>. The docket number is FAA-200520440; Directorate Identifier 2005-CE-05-AD.

Issued in Kansas City, Missouri, on January 26, 2006.

David R. Showers, Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

AIRCRAFT REGISTRATION NO.

AIRCRAFT SERIAL NO.

TYPE AIRCRAFT

adNote™

2006-6-16 N

AD NUMBER

Lycoming Engine

If multi-engine: ☐ Left ☐ Right ☐ Front ☐ Rear

Engine Model/Serial No. _____

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

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Lycoming Engines (Formerly Textron Lycoming): Amendment 39-14525. Docket No. FAA-2005-23269; Directorate Identifier 2005-NE-50-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective April 27, 2006.

Affected Ads

(b) None.

Applicability

(c) This AD applies to Lycoming Engines **AEIO-360, IO-360, O-360, LIO-360, and LO-360** series reciprocating engines, manufactured new or rebuilt, overhauled, or that had a crankshaft installed after March 1, 1999. These engines are installed on, but not limited to, the following aircraft:

Aerotech Note: The table that was in this position has been moved to the reverse side to facilitate compilation of this adNote™.

Unsafe Condition

(d) This AD results from a crankshaft failure in a Lycoming LO-360-A1H6 reciprocating engine. We are issuing this AD to prevent failure of the crankshaft, which could result in total engine power loss, in-flight engine failure, and possible loss of the aircraft.

Compliance

(e) You are responsible for having the actions required by this AD performed within 50 hours time-in-service or 6 months after the effective date of this AD, whichever is earlier, unless the actions have already been done.

(f) If Lycoming Engines manufactured new, rebuilt, overhauled, or replaced the crankshaft in your engine before March 1, 1999, and you haven't had the crankshaft replaced, no further action is required.

(g) If Table 1 of Supplement No. 1 to Lycoming Mandatory Service Bulletin (MSB) No. 566, dated November 30, 2005, lists your engine serial number (SN), use Table 2 of Supplement No. 1 to verify if your crankshaft SN is listed.

(h) If Table 1 of Supplement No. 1 to Lycoming MSB No. 566, dated November 30, 2005, does not list your engine SN, use Table 2 of Supplement No. 1 to verify if your crankshaft SN is listed, if an affected crankshaft was installed as a replacement.

(i) If Table 2 of Supplement No. 1 to Lycoming Engines MSB No. 566, dated November 30, 2005, lists your crankshaft SN, replace the crankshaft with a crankshaft that is not listed in Table 2 of Supplement No. 1 to Lycoming MSB No. 566, dated July 11, 2005.

(j) The engine and crankshaft SNs listed in Table 1 and Table 2 of Supplement No. 1 to Lycoming Engines MSB No. 566 are different from the engine and crankshaft SNs affected by Lycoming MSBs No. 552, No. 553 and No. 566; and ADs 2002-19-03 and 2005-19-11.

Prohibition Against Installing Certain Crankshafts

(k) After the effective date of this AD, do not install any crankshaft that has a SN listed in Table 2 of Supplement No. 1 to Lycoming MSB No. 566, dated November 30, 2005, into any engine.

Alternative Methods of Compliance

(l) The Manager, New York Aircraft Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

Related Information

(m) None.

Material Incorporated by Reference

(n) You must use Lycoming Engines Supplement No. 1 to Mandatory Service Bulletin No. 566, dated November 30, 2005, to perform the crankshaft replacements required by this AD. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Lycoming, 652 Oliver Street, Williamsport, PA 17701; telephone (570) 323-6181; fax (570) 327-7101, or go on the Internet at <http://www.Lycoming.Textron.com> for a copy of this service information. You may review copies at the Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-0001, on the Internet at <http://dms.dot.gov>, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on March 15, 2006.

Peter A. White, Assistant Manager, Engine and Propeller Directorate, Aircraft Certification Service.

(Over)

Table from paragraph "C" of previous page

Engine model	Manufacturer	Aircraft model
AEIO-360-A1B6	Moravan Scottish Avia Valmet	Z242L Zlin Bulldog L-70 Vinka
AEIO-360-A1E6	Integrated Systems	Omega
IO-360-A1B6	Aircraft Manufacturing Factory Beech Cessna Korean Air Lake Mooney Partenavia Saab Scottish Avia Socata	Mushshak C-24R Sierra or 200 Sierra R-G Cardinal Chang Gong-91 LA-4-200 Buccaneer M-20-J P-68 Series Observer MFI-15 Safari or MFI-17 Supporter Bulldog TB-200
IO-360-A1B6D	Cessna Mooney Siai Marchetti	R-G Cardinal M-201 S-205
IO-360-A3B6	Mooney Mod Works	M-201 Trophy 212 Conversion
IO-360-A3B6D	Mooney	M20J-201
IO-360-C1C6	Piper Ruschmeyer	PA-28R-201 Arrow MF-85
IO-360-B1G6	American	Blimp
IO-360-C1G6	Zeppelin	Blimp
IO-360-C1E6	Piper	PA-34-200 Seneca I
LO-360-A1G6D	Beech	76 Duchess
LO-360-A1H6	Piper	PA-44-180 Seminole
O-360-A1F6	Cessna	177 Cardinal
O-360-A1F6D	Cessna	177 Cardinal
O-360-A1G6D	Beech	76 Duchess
O-360-A1H6	Piper	PA-44-180
O-360-E1A6D	Piper	PA-44-180
O-360-F1A6	Cessna	C-172RG Cutlass RG
IO-360-C1D6	Sold as a spare engine.	
LIO-360-C1E6	Sold as a spare engine.	
LO-360-E1A6d	Sold as a spare engine.	
LIO-360-C1D6	Sold as a spare engine.	

AIRCRAFT REGISTRATION NO.

AIRCRAFT SERIAL NO.

TYPE AIRCRAFT

adNote™

2006-10-21 N/M
AD NUMBER

ECi Connecting Rods

If multi-engine: ☐ Left ☐ Right ☐ Front ☐ Rear

Engine Model/Serial No: _____

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

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Engine Components Incorporated (ECi): Amendment 39-14604. Docket No. FAA-2005-21331; Directorate Identifier 2005-NE-07-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective June 22, 2006.

Affected Ads

(b) None.

Applicability**Table 1.—Engine Models**

Engine models
O-360-A1A, A1AD, A1C, A1D, A1F, A1F6, A1F6D, A1G, A1G6, A1G6D, A1H, A1H6, A1LD, A1P, A2A, A2D, A2E, A2F, A2G, A2H, A3A, A3AD, A3D, A4A, A4AD, A4D, A4G, A4J, A4K, A4M, A4N, A4P, A5AD, B1A, B1B, B2A, B2B, C1A, C1C, C1E, C1F, C1G, C2A, C2B, C2C, C2D, C2E, C4F, C4P, D1A, D2A, D2B, F1A6, G1A6, J2A;
HO-360-A1A, B1A, B1B, C1A;
IO-360-B1A, B1B, B1C, B1D, B1E, B1F, B1F6, B1G6, B2E, B2F, B2F6, B4A, E1A, F1A, L2A;
LO-360-A1G6D, A1H6;
HIO-360-A1A, A1B, B1A, B1B;
AEIO-360-B1B, B1D, B1F, B1F6, B1G6, B2F, B2F6, B4A, H1A, H1B;
O-540-A1A, A1A5, A1B5, A1C5, A1D, A1D5, A2B, A3D5, A4A5, A4B5, A4C5, A4D5, B1A5, B1B5, B1D5, B2A5, B2B5, B2C5, B4A5, B4B5, D1A5, E4A5, E4B5, E4C5, F1A5, F1B5, G1A5, G2A5, H1A5, H1A5D, H1B5D, H2A5, H2A5D, H2B5D;
AEIO-540-D4A5, D4B5, D4C5, D4D5;
IO-540-A1A5, B1A5, B1B5, B1C5, C1B5, C1C5, C2C, C4B5, C4C5, C4D5, C4D5D, D4A5, D4B5, D4C5, E1A5, E1B5, E1C5, G1A5, G1B5, G1C5, G1D5, G1E5, G1F5, J4A5, N1A5, P1A5, R1A5, T4A5D, T4B5, T4B5D, T4C5D, V4A5, V4A5D;
LTIO-540-K1AD;
TIO-540-C1A, E1A, G1A, H1A, K1AD, AA1AD, AB1AD, AB1BD, AF1A, AF1B, AG1A.

These engines are installed on, but not limited to, the aircraft listed in Table 2 of this AD.

Aerotech Note: Table 2 that was in this position in the FAA's version of this AD has been moved to the reverse side of this adNote™ to facilitate compilation.

Unsafe Condition

(d) This AD results from reports of connecting rods with excessive variation in circularity of the journal bores. We are issuing this AD to prevent fatigue failure of the connecting rod and possible uncommanded shutdown of the engine.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

Engines Not Repaired or Overhauled Since New

(f) If your engine has not been overhauled or had any repair since new, no further action is required.

Engines Overhauled or Repaired Since New

(g) If your engine was overhauled or repaired since new, do the following:

(1) Before further flight inspect the maintenance records and engine logbook to determine if the overhaul or repair facility used ECi connecting rods, P/N AEL11750.

(2) If the connecting rods are not ECi, P/N AEL11750, no further action is required.

(3) If the connecting rods are ECi, P/N AEL11750, and if the serial number is 54/7 or higher, no further action is required. (Note: 54 is the lot number and 7 is the serial number of the ECi connecting rod.)

(4) If the connecting rods are ECi, P/N AEL11750, having forging P/N AEL11488 in raised letters on the web of the beam, and if the serial number is 54/6 or lower, do the following:

(c) This AD applies to Lycoming Engines (formerly Textron Lycoming) 360 and 540 series reciprocating engines specified in Table 1 of this AD with Engine Components Incorporated (ECi) connecting rods, part number (P/N) AEL11750 installed, limited to Serial Numbers 54/6 and below and produced between January 2002 and January 2004. They are also identified with forging P/N AEL11488 in raised letters on the web of the beam between the big and small ends of the connecting rod.

(i) If the connecting rod has 2,000 or more hours time-in-service (TIS), replace the connecting rod with a connecting rod that has a lot number 55 or higher, or that has a P/N not specified in this AD, within 50 hours TIS after the effective date of this AD.

(ii) If the connecting rod has fewer than 2,000 hours TIS, replace the connecting rod with a connecting rod that has a lot number 55 or higher, or that has a P/N not specified in this AD, at the next engine overhaul, or next accessibility of the connecting rod, but no later than 2,000 hours TIS on the connecting rod.

(iii) For the purpose of this AD, connecting rod accessibility is defined as any maintenance action in which a cylinder assembly is removed for maintenance.

(h) After the effective date of this AD, do not install any ECi connecting rod, P/N AEL11750, that has SN 54/6 or lower into any engine.

Alternative Methods of Compliance

(i) The Manager, Special Certification Office, has the authority to approve alternative methods of compliance for this AD, if requested, using the procedures found in 14 CFR 39.19.

Related Information

(j) None.

Material Incorporated by Reference

(k) None.

Issued in Burlington, Massachusetts, on May 12, 2006.

Thomas A. Boudreau, Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

CORRECTION: There is a typo in the Amendment number of AD 2006-10-21, published in the Federal Register (FR), May 18, 2006, page 28769, column one, and page 28771, column three. The amendment number should be "39-14604". We will issue a correction to the FR. We have corrected this copy.

Table 2.--Aircraft Models

Aircraft manufacturer	Aircraft model
Aero Boero	AB-180, AB-260.
Aero Commander	Lark (100), Aero Commander (500, 500-B, 500-E, 500-U).
Aero Engine Service Ltd	Victa (R-2).
Aerofab Inc	Renegade 250, Turbo Renegade (270).
Aviamilano	Flamingo (F-250).
Aviat	Husky.
Avions Pierre Robin	(HR100/250).
Beagle	Airedale (A-109), Husky (DS-180 01-U).
Bellanca Aircraft	Scout (8GCBC-CS, 8GCBC FP), Super Decathlon (8KCAB-180), Aries T-250.
Bolkow	207, Klemm (KI-107C).
Britten-Norman	BN-2.
Brooklands	Scoutmaster.
C.A.A.R.P.	S.A.N. (M-23III), C.A.P. (10).
C. Itoh and Co	Fuji PA-200.
Center Est Aeronautique	Regente (DR-253).
Cerva	(CE-43 Guepard).
Cessna Aircraft	Cardinal C-177A and C-177B, Teal III, TSC (1A3), Skyhawk RG, and C-172RG, Cutlass C-172Q.
Christen	Husky (A-1), Christen Pitts (S-2S), (S-2B).
DeHavilland	Drover (DHA-3MK3), Heron Conversion.
Dinfia	Ranquel (IA-51), Querandi (IA-45).
Dornier	(DO-28, DO-28-B1, DO-8-B1).
Doyn Aircraft	Doyn-Cessna (170B, 172, 172A, 172B).
Doyn Aircraft	Doyn-Beech (Beech 95).
Doyn Aircraft	Doyn-Piper (PA-23 "160", PA-23 "200", PA-24 "250", PA-23 "250").
Earl Horton	Pawnee (Piper PA-25).
Embraer	Corioca (EMB-710), Impanema "AG."
F.F.A.	Bravo (200).
Found Bros	(FBA-2C), Centennial (100).
Fuji	(FA-200).
General Aviation	Model 114.
Gippsland	GA-200.
Great Lakes	Trainer.
Grob	G115/Sport-Acro.
H.A.L.	HPT-32.
Hughes Tool Co	(269A, 269-A-1, YHO-2HU, 300).
Intermountain Mfg Co	Call Air (A-6, A-9, IAR821, IAR-822, IAR-826, IAR-823).
Kingsford-Smith	Bushmaster (O-6).
Lake Aircraft	Colonial (C-2, LA-4, 4A or 4P), Seawolf.
Malmo	Vipan (MF-10B, MF1-10).
Maule	Star Rocket MX-7-180, MX-7-180A, Star Rocket (MX-7-235), Super Rocket (M-6-235), Super Std. Rocket (M-7-235).
Mid-States Mfg. Co	Twin Courier (H-500), (U-5).
Mooney Aircraft	Master "21" (M-20D, M-20E), Mark "20B", "20D", (M20B, M20C), Statesman (M-20G), Mark "21" (M-20E), "TLS" M20M.
Moravan	Zlin-50L.
Mundry	CAP-10.
Nash Aircraft Ltd	Petrel.
Neiva	1PD-590V.
Norman Aeroplance Co	NAC-1 Freelance.
Omega Aircraft	BS-12D1.
Partenavia	Oscar (P-66).
Penn Yan	Super Cub Conversion.
Pilatus Britten-Norman	Islander (BN-2A-26), Islander (BN-2A-27), Islander II (BN-2B-26), Islander (BN-2A-21), Trislander (BN-2A-Mark III-2).
Piper Aircraft	Comanche (PA-24), Seminole (PA-44), Cherokee "C" (PA-28 "180"), Cherokee "D" (PA-28 "180"), Archer II (PA-28 "180"), Arrow (PA-28 "180R"), Seminole (PA-44), Comanche (PA-24 "150"), Aztec (PA-23 "250"), Cherokee (PA-24 "250"), Pawnee (PA-24 "235"), Cherokee (PA-28 "235"), Aztec (PA-23 "235"), Cherokee (PA-28 "235"), Comanche (PA-24 "260"), Cherokee Six (PA-32 "260"), Pawnee (PA-23 "260"), Aztec B (PA-23 "250"), Comanche (PA-24 "250"), Aztec C (PA-23 "250"), Aztec F, Comanche (PA-24), Turbo Aztec (PA-23-250).
Pitts	S-1S.
Poeschel	P-300.
Procaer	Picchio (F-15-A).
Rawdon Brow	Radon (T-1).
Raytheon Aircraft Co (Beech)	Travel-Air (95, B-95, B-95A, B-95B), Duchess 76, Sport, Musketeer Custom III, Sundowner 180.
Regente	N-591.
Rhein-Flugzeugbau	RF-V.
Riley Aircraft	Rocket-Cessna (310), Turbo-Rocket, Turbo-Aztec.
Robin	Regent (DR400/180), Remorqueur (DR400/180R), R-3170, Aiglon (R-1180T).
Robinson	R-44.
Rockwell	Commander (114, 114B, 114TC).
S.A.A.B.	Safir (91-D).
Schweizer Aircraft Corporation	269A.
S.O.C.A.T.A.	Tobago (TB-10), Rallye Commodore (MS-893), Rallye 180GI, Sportana Sportsman (RS-180), Rallye 235CA, Rallye 235GT, Rallye 235C, TB-20, Trinidad TB-20, Trinidad TC TB-21.
Shrike	(500-S).
Societe Aeronautique Normande Mousquetaire	D-140, Jodel (D-140C).
Siai-Marchetti	(S-205, SF-260, SF-208).
Silvercraft	
Std. Helicopter	
Sud	Gardan (GY-180).
Tiger Aircraft LLC (American General)	Tiger.
T. R. Smith Aircraft	Aerostar, (600).
United Consultants	See-Bee.
Urva	75.
Valmet	PIK-23.
Varga	Kachina.
Wassmer	Super 4 (WA-50A), Sancy (WA-40), Baladou (WA-40), Pariou (WA-40), (WA-50), Europa WA-52, WA-421, WA-2V.
Yoeman Aviation	YA-1.

AIRCRAFT REGISTRATION NO.

AIRCRAFT SERIAL NO.

TYPE AIRCRAFT

adNote™

2006-12-7 N

AD NUMBER

ECi Cylinders

If multi-engine: ☐ Left ☐ Right ☐ Front ☐ Rear

Engine Model/Serial No.:

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

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Engine Components Incorporated (ECi): Amendment 39-14632. Docket No. FAA-2005-22358; Directorate Identifier 2005-NE-20-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective July 11, 2006.

Affected Ads

(b) This AD supersedes 2005-26-10, Amendment 39-14431.

Applicability

(c) This AD applies to Lycoming Engines (formerly Textron Lycoming) models 320, 360, and 540 series, parallel valve, reciprocating engines:

(1) Specified in Table 1 of this AD; and

(2) With ECi cylinder assemblies, part number (P/N) AEL65102 series "Classic Cast", having casting head markings EC 65099-REV- 1; and

(3) With serial numbers (SNs) 1 through 9879 (SN may have an "L" prefix for a long reach spark plug), (sold from January 1997 to September 2001) installed.

(4) The set of numbers appearing on the cylinder, below and to the left of the SN, in the form of "12345-67" is not used for determining applicability.

Table 1.--Engine Models

Cylinder head part No.	Installed on engine models
AEL65102-NST04	O-320-A1B, A2B, A2C, A2D, A3A, A3B, B2B, B2C, B2D, B2E, B3B, B3C, C2B, C2C, C3B, C3C, D1A, D1AD, D1B, D1C, D1D, D1F, D2A, D2B, D2C, D2F, D2G, D2H, D2J, D3G, E1A, E1B, E1C, E1F, E1J, E2A, E2B, E2C, E2D, E2E, E2F, E2G, E2H, E3D, E3H. IO-320-A1A, A2A, B1A, B1B, B1C, B1D, B1E, B2A, D1A, D1AD, D1B, D1C, E1A, E1B, E2A, E2B. AEIO-320-D1B, D2B, E1A, E1B, E2A, E2B. AIO-320-A1A, A1B, A2A, A2B, B1B, C1B. LIO-320-B1A.
AEL65102-NST05	IO-320-C1A, C1B, C1F, F1A. LIO-320-C1A.
AEL65102-NST06	O-320-A1A, A2A, A2B, A2C, A3A, A3B, A3C, E1A, E1B, E2A, E2C, (also, an O-320 model with no suffix). IO-320-A1A, A2A.
AEL65102-NST07	IO-320-B1A, B1B. LIO-320-B1A.
AEL65102-NST08	O-320-B1A, B1B, B2A, B2B, B3A, B3B, B3C, C1A, C1B, C2A, C2B, C3A, C3B, C3C, D1A, D1B, D2A, D2B, D2C.
AEL65102-NST10	O-360-A1A, A1C, A1D, A2A, A2E, A3A, A3D, A4A, B1A, B1B, B2A, B2B, C1A, C1C, C1G, C2A, C2B, C2C, C2D, D1A, D2A, D2B. IO-360-B1A, B1B, B1C. HO-360-A1A, B1A, B1B. HIO-360-B1A, B1B. AEIO-360-B1B. O-540-A1A, A1A5, A1B5, A1C5, A1D, A1D5, A2B, A3D5, A4A5, A4B5, A4C5, A4D5, B1A5, B1B5, B1D5, B2A5, B2B5, B2C5, B2C5D, B4A5, B4B5, B4B5D, D1A5, E1A, E4A5, E4B5, E4C5, F1A5, F1B5, G1A5, G2A5. IO-540-C1B5, C1C5, C2C, C4B5, C4B5D, C4C5, D4A5, D4B5, N1A5, N1A5D.
AEL65102-NST12	O-360-A1A, A1AD, A1D, A1F, A1F6, A1F6D, A1G, A1G6, A1G6D, A1H, A1H6, A1J, A1LD, A1P, A2A, A2D, A2F, A2G, A2H, A3A, A3AD, A3D, A4A, A4AD, A4D, A4G, A4J, A4JD, A4K, A4M, A4N, A4P, A5AD, B1A, B2C, C1A, C1C, C1E, C1F, C1G, C2A, C2B, C2C, C2D, C2E, C4F, C4P, D2A, F1A6, G1A6. HO-360-C1A. LO-360-A1G6D, A1H6. HIO-360-B1A, B1B, G1A. LTO-360-A1A6D. TO-360-A1A6D.
AEL65102-NST26	IO-360-B1B, B1BD, B1D, B1E, B1F, B1F6, B1G6, B2E, B2F, B2F6, B4A, E1A, L2A, M1A, M1B. AEIO-360-B1B, B1D, B1E, B1F, B1F6, B1G6, B1H, B2F, B2F6, B4A, H1A, H1B. O-540-A4D5, B2B5, B2C5, B2C5D, B4B5, B4B5D, E4A5, E4B5, E4B5D, E4C5, G1A5, G1A5D, G2A5, H1A5, H1A5D, H1B5, H1B5D, H2A5, H2A5D, H2B5D. IO-540-C4B5, C4B5D, C4D5, C4D5D, D4A5, D4B5, D4C5, N1A5, N1A5D, T4A5D, T4B5, T4B5D, T4C5D, V4A5, V4A5D. AEIO-540-D4A5, D4B5, D4C5, D4D5.
AEL65102-NST38	IO-540-J4A5, R1A5. TIO-540-C1A, E1A, G1A, H1A. IO-360-F1A. TIO-540-AA1AD, AB1AD, AB1BD, AF1A, AG1A, AK1A, C1A, C1AD, K1AD. LTIO-540-K1AD.
AEL65102-NST43	O-360-J2A. O-540-F1B5, J1A5D, J1B5D, J1C5D, J1D5D, J2A5D, J2B5D, J2C5D, J2D5D, J3A5, J3A5D, J3C5D. IO-540-AB1A5, W1A5, W1A5D, W3A5D.
AEL65102-NST44	O-540-L3C5D.

For information, the subject engines are installed on, but not limited to, the aircraft listed in the following Table 2:

Aerotech Note: Table 2 that was in this position in the Original FAA version of this AD has been moved to the end of this adNote™ for ease of compilation.

Unsafe Condition

(d) This AD results from reports of applicability errors found in AD 2005-26-10. We are issuing this AD to prevent loss of engine power due to cracks in the cylinder assemblies and possible engine failure caused by separation of a cylinder head.

(Over)

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

Engines Not Overhauled or Repaired Since New

(f) If your engine has not been overhauled or had any major repair since new, no further action is required.

Engines Overhauled or Repaired Since New

(g) If your engine was overhauled or repaired since new, do the following:

(1) Determine if ECi cylinder assemblies, P/N AEL65102 series "Classic Cast", having casting head markings EC 65099-REV-1 and SNs 1 through 9879 (SN may have an "L" prefix for a long reach spark plug) are installed on your engine, as follows:

(i) Inspect the engine log books and maintenance records for reference to the subject ECi cylinder assemblies.

(ii) If the engine log books and maintenance records did not record the P/N and SN of the cylinder assemblies, visually inspect the cylinder assemblies and verify the P/N and SN of the cylinder assemblies.

(2) If the cylinder assemblies are not ECi, P/N AEL65102 series "Classic Cast", having casting head markings EC 65099-REV-1, no further action is required.

(3) If any cylinder assembly is an ECi P/N AEL65102 series "Classic Cast", having casting head markings EC 65099-REV-1 and a SN 1 through 9879 (SN may have an "L" prefix for a long reach spark plug), do the following:

(i) If the cylinder assembly has fewer than 800 operating hours- in-service (HIS) on the effective date of this AD, replace the cylinder assembly at no later than 800 operating HIS. No action is required until the operating HIS reaches 800 hours.

(ii) If the cylinder assembly has 800 operating HIS or more on the effective date of this AD, replace the cylinder assembly within 60 operating HIS after the effective date of this AD.

Definition of a Replacement Cylinder Assembly

(h) For the purpose of this AD, a replacement cylinder assembly is defined as follows:

(1) A serviceable cylinder assembly made by Lycoming Engines.

(2) A serviceable FAA-approved, Parts Manufacturer Approval cylinder assembly from another manufacturer.

(3) A serviceable ECi cylinder assembly, P/N AEL65102 series, "Titan", having casting P/N AEL85099.

(4) A serviceable ECi cylinder assembly, P/N AEL65102 series "Classic Cast", having casting head markings EC 65099-REV-1, that has a SN 9880 or higher (SN may have an "L" prefix for a long reach spark plug).

Prohibition of Cylinder Assemblies, P/N AEL65102 Series "Classic Cast", Having Casting Head Markings EC 65099-REV-1 and SNs 1 Through 9879

(i) After the effective date of this AD, do not install any ECi cylinder assembly, P/N AEL65102, having casting head markings EC 65099-REV-1 that has a SN 1 through 9879 (SN may have an "L" prefix for a long reach spark plug), onto any engine.

Alternative Methods of Compliance

(j) The Manager, Special Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

Related Information

(k) ECi Service Bulletin No. 05-08, Revision 2, dated February 28, 2006, pertains to the subject of this AD.

Issued in Burlington, Massachusetts, on May 31, 2006.

Thomas A. Boudreau, Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

Table 2.--Engines Installed On, But Not Limited to

O-320-A1A	Piper Aircraft: Tri-Pacer (PA-22 "150", PA-22S "150"), Apache (PA-23), Pawnee (PA-25). Doyn Aircraft: Doyn-Cessna (170, 170A, 170B). Mooney Aircraft: Mark (20A). Dinlia: Ranquel (1A-46). Simmering-Graz Pauer: Flamingo (SGP-M-222). Aviamilano: Scricciolo (P-19). Vos Helicopter Co: Spring Bok.
O-320-A1B	Piper Aircraft: Tri-Pacer (PA-22 "150", PA-22S "150"), Apache (PA-23). Doyn Aircraft: Doyn-Cessna (170, 170A, 170B). S.O.C.A.T.A.: Horizon (Gardan).
O-320-A2A	Piper Aircraft: Tri-Pacer (PA-22 "150", PA-22S "150"), Agriculture (PA-18A "150") Super Cub (PA-18 "150"). Caribbean (PA-22 "150"), Pawnee (PA-25). Intermountain Mfg. Co.: Call Air Texas (A-5, A-5T). Lake Aircraft: Colonial (C-1). Rawdon Bros.: Rawdon (T-1, T-15, T-15D). Shinn Engineering: Shinn (2150-A). Dinlia: Ranquel (1A-46). Neiva: (1PD-5802). Sud: Gardan-Horizon (GY-80). LaVerda: Falco (P8L Series II, America). Malmo: Vipan (MF1-10). Kingsford Smith: Autocrat (SCRM-153). Aero Commander: 100.
O-320-A2B	Piper Aircraft: Tri-Pacer (PA-22 "150", PA-22S "150"), Cherokee (PA-28 "150"), Super Cub (PA-18 "150"). Champion Aircraft: Challenger (7GCA, 7GCB, 7KC), Citabria (7GCAA, 7GCR), Agriculture (7GCBA). Beagle: Pup (150). Artic: Interstate S1B2. Robinson: R-22. Varga: Kachina 2150A.
O-320-A2C	Robinson: R-22. Cicare: Cicare AG.
O-320-A2D	Bellanca Aircraft: Citabria 150 (7GCAA), Citabria 150S (7GCBC).
O-320-A3A	Piper Aircraft: Apache (PA-23). Doyn Aircraft: Doyn-Cessna (170, 170A, 170B). Corben-Fetter: Globe Special (Globe GC-1B).
O-320-A3B	Piper Aircraft: Apache (PA-23). Doyn Aircraft: Doyn-Cessna (170, 170A, 170B). Teal II: TSC (1A2).
O-320-B1A	Piper Aircraft: Apache (PA-23 "160"). Doyn Aircraft: Doyn-Cessna (170, 170A, 170B). Malmo: Vipan (MF1-10).
O-320-B1B	Piper Aircraft: Apache (PA-23 "160"), Doyn Aircraft: Doyn-Cessna (170, 170A, 170B).
O-320-B2A	Piper Aircraft: Tri-Pacer (PA-22 "160", PA-22S "160"). Piper Aircraft: Tri-Pacer (PA-22 "160", PA-22S "160"). Beagle: Airedale (D5-160). Fuji-Heavy Industries: Fuji (F-200). Ultrapuru: Aerotec 122.
O-320-B2C	Robinson: R-22.
O-320-B2D	Maula: MX-7-160.
O-320-B2E	Lycon.
O-320-B3A	Piper Aircraft: Apache (PA-23 "160"). Doyn Aircraft: Doyn-Cessna (170, 170A, 170B).
O-320-B3B	Piper Aircraft: Apache (PA-23 "160"). Doyn Aircraft: Doyn-Cessna (170, 170A, 170B). Sud: Gardan (GY80-160).

O-320-C1A	Piper Aircraft: Apache (PA-23 "160"). Riley Aircraft: Rayjay (Apache).
O-320-C1B	Piper Aircraft: Apache (PA-23 "160").
O-320-C3A	Piper Aircraft: Apache (PA-23 "160").
O-320-C1B	Piper Aircraft: Apache (PA-23 "160"). Sud: Gardan (GY-80). Gyroflug: Speed Cancard. Grob: G115.
O-320-D1A	Slingsby: T67 Firefly.
O-320-D1F	Piper Aircraft: Cherokee (PA-28S "160"). Robin: Major (DR400-140B), Chevalier (DR-360), (R-3140). S.O.C.A.T.A.: Tampico T89.
O-320-D2A	Slingsby: T67C Firefly, Daetwyler: MD-3-160. Nash Aircraft Ltd.: Petrel. Aviolight: P66D Delta. General Avia: Pinguino.
O-320-D2B	Beech Aircraft: Musketeer (M-23).
O-320-D2J	Piper Aircraft: Cherokee (PA-28 "160").
O-320-D3G	Cessna Aircraft: Skyhawk 172.
O-320-E1A	Piper Aircraft: Warrior II, Cadet (PA-28-161). Grob: G115.
O-320-E1C	M.B.B. (Messerschmitt-Boelkow-Blohm): Monsun (BO-209-B).
O-320-E1F	M.B.B.: Monsun (BO-209-B).
O-320-E2A	Piper Aircraft: Cherokee (PA-28 "140", PA-28 "150"). Robin: Major (DR-340), Sitar, Bagheera (GY-100-135). S.O.C.A.T.A.: Super Rallye (MS-886), Rallye Commodore (MS-892). Siai-Marchetti: (S-202). F.F.A.: Bravo (AS-202/15), Partenavia: Oscar (P66B), Buckler (131 APM). Aeromot: Paulistina P-56. Pezetel: Koliber 150.
O-320-E2C	Beech Aircraft: Musketeer III (M-23III).
O-320-E2D	M.B.B.: Monsun (BO-209-B).
O-320-E2F	Cessna Aircraft: Cardinal (172-1, 177).
O-320-E2G	M.B.B.: Monsun (BO-209-B), Wassner Pacific (WA-51).
O-320-E3D	American Aviation Corp.: Traveler. Piper Aircraft: Cherokee (140). Beech Aircraft: Sport.
IO-320-B2A	Piper Aircraft: Twin Comanche (PA-30).
IO-320-B1C	Hi. Shear: Wing.
IO-320-B1D	Ted Smith Aircraft: Aerostar.
IO-320-C1A	Piper Aircraft: Twin Comanche (PA-30 Turbo).
IO-320-D1A	M.B.B.: Monsun (BO-209-C).
IO-320-D1B	M.B.B.: Monsun (BO-209-C).
IO-320-E1A	M.B.B.: Monsun (BO-209-C).
IO-320-E1B	Bellanca Aircraft.
IO-320-E2A	Champion Aircraft: Citabria.
IO-320-E2B	Bellanca Aircraft.
IO-320-F1A	CAAR Engineering: Carr Midget.
LIO-320-B1A	Piper Aircraft: Twin Comanche (PA-39).
LIO-320-C1A	Piper Aircraft: Twin Comanche (PA-39).
AIO-320-B1B	M.B.B.: Monsun (BO-209-C).
AEIO-320-D1B	Slingsby: T67M Firefly.
AEIO-320-D2B	Handutan Aeronautics Ltd.: HT-2.
AEIO-320-E1A	Bellanca Aircraft. Champion Aircraft.
AEIO-320-E1B	Bellanca Aircraft. Champion Aircraft: Decathlon (8KCAB-CS).
AEIO-320-E2B	Bellanca Aircraft. Champion Aircraft: Decathlon (8KCAB).
O-320-A1A	Riley Aircraft: Riley Twin.

	Beech Aircraft: Travel Air (95, B-95).		VO-360-A1A	Brantly Hynes Helicopter: (B-2).
	Piper Aircraft: Comanche (PA-24).		VO-360-A1B	Brantly Hynes Helicopter: (B-2, B2-A). Military (YHO-3BR).
	Intermountain Mfg. Co.: Call Air (A-6).		VO-360-B1A	Brantly Hynes Helicopter: (B-2, B2-A).
	Lake Aircraft: Colonial (C-2, LA-4, 4A or 4P).		VO-360-A1A	Brantly Hynes Helicopter: (B2-B).
	Doyn Aircraft: Doyn-Cessna (170B, 172, 172A, 172B).		HO-360-B1A	Hughes Tool Co.: (269A).
	Mooney Aircraft: Mark "20B" (M-20B).		HO-360-B1B	Hughes Tool Co.: (269A).
	Earl Horton: Pawnee (Piper PA-25).		HO-360-C1A	Schweizer: (300C).
	Dinfil: Ranquel (1A-51).		HIO-360-B1A	Hughes Tool Co.: Military (269-A-1) (TH-55A).
	Neiva: (1PD-5901).		HIO-360-B1B	Hughes Tool Co.: (269A).
	Regente: (N-591).		HIO-360-G1A	Schweizer: (CB).
	Wassmer: Super 4 (WA-50A), Saney (WA-40), Baladou (WA-40), Pariou (WA-40).		O-540-A1A	Rhein-Flugzeugbau: (RF-1).
O-360-A1A	Sud: Gardan (GY-180).		O-540-A1A5	Piper Aircraft: Comanche (PA-24 "180").
	Bolkow: (207).			Helio: Military (H-250).
	Partenavia: Oscar (P-66).			Yoeman Aviation: (YA-1).
	Sial-Marchetti: (S-205).		O-540-A1B5	Piper Aircraft: Aztec (PA-23 "250"), Comanche (PA-24 "250").
	Procar: Picchio (P-15-A).		O-540-A1C5	Piper Aircraft: Comanche (PA-24 "250").
	S.A.A.B.: Safir (91-D).		O-540-A1D	Found Bros.: (FBA-2C).
	Malmö: Vipan (MF-10B).			Dornier: (DO-28-B1).
	Aero Boero: AB-180.		O-540-A1D5	Piper Aircraft: Aztec (PA-23 "250"), Comanche (PA-24 "250"), Military Aztec (U-11A).
	Beagle: Airedale (A-109).			Dornier: (DO-28).
	DeHavilland: Drover (DHA-3MK3).		O-540-A2B	Aero Commander: (500).
	Kingsford-Smith: Bushmaster (JS-6).		O-540-A3D5	Mid-States Mfg. Co.: Twin Courier (H-500), (U-5).
	Aero Engine Service Ltd.: Victoria (R-2).		O-540-B1A5	Piper Aircraft: Navy Aztec (PA-23 "250").
O-360-A1AD	S.O.C.A.T.A.: Tabago TB-10.		O-540-B1B5	Piper Aircraft: Apache (PA-23 "235").
	Piper Aircraft: Comanche (PA-24).		O-540-B1D5	Piper Aircraft: Comanche (PA-24 "250").
	Lake Aircraft: Colonial (LA-4, 4A or 4P).			Doyn Aircraft: Doyn-Piper (PA-24 "250").
	Doyn Aircraft: Doyn-Beech (Beech 95).			Wassmer: (WA-421).
O-360-A1D	Mooney Aircraft: Master "21" (M-20E), Mark "20B", "20D", (M20B, M20C), Mooney Statesman (M-20C).			Piper Aircraft: Pawnee (PA-25 "235"), Cherokee (PA-28 "235"), Aztec (PA-23 "235").
	Dinfil: Querandi (1A-45).		O-540-B2B5	Intermountain Mfg. Co.: Call Air (A-9).
	Wassmer: (WA-50).			Rawdon Bros.: Rawdon (T-1).
	Malmö: Vipan (MF-10).		O-540-B2C5	S.O.C.A.T.A.: Rallye 235CA.
	Cessna Aircraft: Skyhawk.			Piper Aircraft: Pawnee (PA-25 "235").
	Doyn Aircraft: Doyn-Piper (PA-23 "160").		O-540-B4B5	Piper Aircraft: Cherokee (PA-28 "235").
O-360-A1F6	Cessna Aircraft: Cardinal.			Embraer: Coriocha (EMB-710).
O-360-A1F6D	Cessna Aircraft: Cardinal 177.			S.O.C.A.T.A.: Rallye 235GT, Rallye 235C.
O-360-A1G6	Teal III: TSC (1A3).			Maule: Star Rocket (MX-7-235), Super Rocket (M-6-235), Super Std. Rocket (M-7-235).
O-360-A1G6D	Aero Commander.		O-540-B4A5	Piper Aircraft: Comanche (PA-24 "260").
O-360-A1H6	Beech Aircraft: Duchess 76.			Aviamilano: Flamingo (F-250).
O-360-A1LD	Piper Aircraft: Seminole (PA-44).		O-540-E4B5	Sial-Marchetti: (SF-260), (SF-208).
O-360-A1F	Wassmer: Europa WA-52.			Britten-Norman: (BN-2).
	Aviat: Husky.			Piper Aircraft: Cherokee Six (PA-32 "260").
O-360-A2A	Center Est Aeronautique: Regente (DR-253). S.O.C.A.T.A.: Rallye Commodore (MS-893). Societe Aeronautique Normande: Mousquetaire (D-140). Bolkow: Klemm (K1-107C). Partenavia: Oscar (P-66). Beagle: Husky (D5-180) (J1-U).		O-540-E4C5	Pilatus Britten-Norman: Islander (BN-2A-26), Islander (BN-2A-27), Islander II (BN-2B-26), Islander (BN-2A-1), Trilander (BN-2A-Mark III-2).
O-360-A2D	Piper Aircraft: Comanche (PA-24), Cherokee "C" (PA-28 "180"). Mooney Aircraft: Master "21" (M-20D), Mark "21" (M-20E).		O-540-F1B5	Omega Aircraft: (BS-12D1).
O-360-A2E	Std. Helicopter.			Robinson: (R-44).
O-360-A2F	Aero Commander: Lark (100). Cessna Aircraft: Cardinal.		O-540-G1A5	Piper Aircraft: Pawnee (PA-25 "260").
O-360-A2G	Beech Aircraft: Sport.		O-540-H1B5D	Aero Boero: 260.
	C.A.A.R.P.S.A.N.: (M-2311). Societe Aeronautique Normande: Jodel (D-140C).		O-540-H2A5	Embraer: Impanema "AG".
O-360-A3A	Robin: Regent (DR400/180), Remorqueur (DR400/180R), R-3170. S.O.C.A.T.A.: Rallye 180GT, Sportavia Sportsman (RS-180). Norman Aeroplance Co.: NAC-1 Freeland. Nash Aircraft Ltd.: Petrel.		O-540-H2B5D	Gippisland: GA-200.
	S.O.C.A.T.A.: TB-10.			Aero Boero: 260.
O-360-A3AD	Robin: Aiglon (R-1180T).		O-540-J1A5D	Maule: Star Rocket (MX-7-235), Super Rocket (M-6-235), Super Std. Rocket (M-7-235).
O-360-A4A	Piper Aircraft: Cherokee "D" (PA-28 "180").		O-540-J3A5	Robin: R-3000/235.
O-360-A4D	Varga: Kachina.		O-540-J3A5D	Piper Aircraft: Dakota (PA-28-236).
O-360-A4G	Beech Aircraft: Musketeer Custom III.		O-540-J3C5D	Cessna Aircraft: Skylane RG.
O-360-A4K	Grumman American: Tiger. Beech Aircraft: Sundowner 180.		O-540-L1C5D	Cessna Aircraft: TR-182, Turbo Skylane RG.
O-360-A4M	Piper Aircraft: Archer II (PA-28 "18"). Valmet: PIK-23.		O-540-C1B5	Piper Aircraft: Aztec B (PA-23 "250"), Comanche (PA-24 "250").
O-360-A4N	Cessna Aircraft: 172 (Optional).		IO-540-C1C5	Riley Aircraft: Turbo-Rocket.
O-360-A4P	Penn Yan: Super Cub Conversion.			Piper Aircraft: Aztec C (PA-23 "250"), Aztec F.
O-360-A5AD	C. Itoh and Co.: Fuji FA-200.		IO-540-C4B5	Wassmer: (WA-421).
O-360-B2C	Seabird Aviation: SB7L.			Avions Pierre Robin: (HR100/250).
O-360-C1A	Intermountain Mfg. Co.: Call Air (A-6).		IO-540-C4D5	Bellanca Aircraft: Aries T-250.
O-360-C1E	Bellanca Aircraft: Scout (8GCBC-CS).		IO-540-C4D5D	Aerofab: Renegade 250.
O-360-C1F	Maule: Star Rocket MX-7-180.			S.O.C.A.T.A.: TB-20.
O-360-C1G	Christen: Husky (A-1).		IO-540-D4A5	S.O.C.A.T.A.: Trinidad TB-20.
O-360-C2B	Hughes Tool Co.: (269A).			Piper Aircraft: Comanche (PA-24 "260").
O-360-C2D	Hughes Tool Co.: (269A).		IO-540-D4B5	Sial-Marchetti: (SF-260).
O-360-C2E	Hughes Tool Co.: (YHO-2HU) Military. Bellanca Aircraft: Scout (8GCBC FP).			Cerva: (CB-43 Guepard).
O-360-C4F	Maule: MX-7-180A.		IO-540-J4A5	Piper Aircraft: Aztec (PA-23 "250").
O-360-C4P	Penn Yan: Super Cub Conversion.		IO-540-R1A5	Piper Aircraft: Comanche (PA-24).
O-360-F1A6	Cessna Aircraft: Cutlass RG.		IO-540-T4A5D	General Aviation: Model 114.
O-360-J2A	Robinson: R22.		IO-540-T4B5	Commander: 114B.
IO-360-B1A	Beech Aircraft: Travel-Air (B-95A). Doyn Aircraft: Doyn-Piper (PA-21 "200").		IO-540-T4B5D	Rockwell: 114.
IO-360-B1B	Beech Aircraft: Travel-Air (B-95B). Doyn Aircraft: Doyn-Piper (PA-23 "200").		IO-540-T4C5D	Lake Aircraft: Seawolf.
	Fuji: (FA-200).		IO-540-Y4A5	Maule: MT-7-250, M-7-260.
IO-360-B1D	United Consultants: See-Bee.		IO-540-Y4A5D	Aircraft Manufacturing Factory.
IO-360-B1E	Piper Aircraft: Arrow (PA-28 "180R").		IO-540-W1A5	Brooklands: Scoutmaster.
IO-360-B1F	Utva: 75.		IO-540-W1A5D	Maule: MX-7-235, MT-7-235, M7-235.
IO-360-B2E	C.A.A.R.P. C.A.P. (10).			Maule: Star Rocket (MX-7-235), Super Rocket (M-6-235), Super Std. Rocket (M-7-235).
IO-360-B1F6	Great Lakes: Trainer.		IO-540-W3A5D	Schweizer: Power Glider.
IO-360-B1G6	American Blimp: Spector 42.		AEIO-540-D4A5	Christen: Pitts (S-25), (S-2B). Sial-Marchetti: SF-260.
IO-360-B2F6	Great Lakes: Trainer.			H.A.L.: HPT-32.
IO-360-A1G6D	Beech Aircraft: Duchess.			Slingsby: Firefly T3A.
IO-360-A1H6	Piper Aircraft: Seminole (PA-44).		AEIO-540-D4B5	Moravan: Zlin-50L.
IO-360-E1A	T.R. Smith Aircraft: AeroStar.			H.A.L.: HPT-32.
IO-360-L2A	Cessna Aircraft: Skyhawk C-172.		AEIO-540-D4D5	Burkhart Grob: Grob G, 115T Aero.
IO-360-M1A	Diamond Aircraft: DA-40.		ITIO-540-C1A	Piper Aircraft: Turbo Aztec (PA-23-250).
IO-360-M1B	Vans Aircraft: RV6, RV7, RV8.		ITIO-540-K1AD	Piper Aircraft.
	Lancair: 360.		ITIO-540-AA1AD	Aerofab Inc.: Turbo Renegade (270).
AEIO-360-B1F	F.F.A.: Bravo (200). Grob: G115/Sport-Acro.		ITIO-540-AB1AD	S.O.C.A.T.A.: Trinidad TC TB-21.
AEIO-360-B1G6	Great Lakes.		ITIO-540-AB1BD	Schweizer.
AEIO-360-B2F	Mundry: CAP-10.		ITIO-540-AF1A	Mooney Aircraft: "TLS" M20M.
AEIO-360-B4A	Pitts: S-1S.		ITIO-540-AO1A	Commander Aircraft: 114TC.
AEIO-360-H1A	Bellanca Aircraft: Super Decathlon (8XCAB-180).		ITIO-540-AK1A	Cessna Aircraft: Turbo Skylane T182T.
AEIO-360-H1B	American Champion: Super Decathlon.		LTIO-540-K1AD	Piper Aircraft.

Superior Cylinders

If multi-engine: ☐ Left ☐ Right ☐ Front ☐ Rear

Engine Model/Serial No.:

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

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Amendment 39-15005. Docket No. FAA-2006-25948; Directorate Identifier 2006-NE-32-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective May 7, 2007.

Affected ADs

(b) This AD revises AD 2007-04-19.

Applicability

(c) This AD applies to Superior Air Parts, Inc. (SAP), cylinder assemblies, manufactured between April 2005 and November 2005, part numbers (P/Ns): SA47000L-A1, SA47000L-A20P, SA47000S-A1, SA47000S-A20P, SA47000S-A21P, SA52000-A1, SA52000-A20P, SA52000-A21P, SA52000-A22P, SA52000-A23P, SA55000-A1, and SA55000-A20P, installed in Teledyne Continental Motors (TCM) 470, 520, and 550 series reciprocating engines. These P/N cylinder assemblies may be installed in the TCM engine models listed in the following Table 1.

Table 1.—Affected Teledyne Continental Engine Models

Engine Model	
O-470	-G, -K, -L, -M, -P, -R, -S, -U
IO-470	-C, -D, -E, -F, -G, -H, -L, -M, -N, -P, -R, -S, -U, -V
IO-520	-A, B, BA, C, CB, D, E, F, J, K, L, M, BB, MB
TSIO-520	-AF, B, BB, C, CE, D, DB, E, EB, G, H, I, JB, K, KB, L, LB, M, N, NB, P, R, T, UB, VB, WB
IO-550	-A, B, C, D, E, F, L

These engine models are installed in, but not limited to, the aircraft models listed in the following Table 2:

Aerotech Note: Table 2 has been moved to page 2 to facilitate compilation of this adNote™.

This AD also applies to SAP, cast cylinder assemblies, P/Ns SL32000W-A1, SL32000W-A20P, SL32000W-A21P, SL32000WH-A1, SL32000WH-A20P, SL32006W-A1, SL32006W-A20P, SL32006W-A21P, SL36000TW-A1, SL36000TW-A20P, SL36000TW-A21P, SL36000TW-A22P, SL36000W-A1, SL36000W-A20P, SL36006W-A1, SL36006W-A20P, and SL36006W-A21P, installed in Lycoming Engines (LE) 320, 360, and 540

Unsafe Condition

(d) This AD results from comments from the Public on the existing AD. We are issuing this AD to prevent cylinder separation that can lead to engine failure, a possible engine compartment fire, and damage to the airplane.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

Determining Which Cylinder Assemblies Are Installed

(f) If aircraft engine records do not list the P/N of the cylinder installed during engine overhaul or repair, visually inspect the cylinders. The affected SAP cylinder head barrel flanges are marked: SA47000L-A1, SA47000L-A20P, SA47000S-A1, SA47000S-A20P, SA47000S-A21P, SA52000-A1, SA52000-A20P, SA52000-A21P, SA52000-A22P, SA52000-A23P, SA55000-A1, or SA55000-A20P or SL32000W-A1, SL32000W-A20P, SL32000W-A21P, SL32000WH-A1, SL32000WH-A20P, SL32006W-A1, SL32006W-A20P, SL32006W-A21P, SL36000TW-A1, SL36000TW-A20P, SL36000TW-A21P, SL36000TW-A22P, SL36000W-A1, SL36000W-A20P, SL36000W-A21P, SL36006W-A1, SL36006W-A20P, or SL36006W-A21P.

Cylinder Assembly Removal

(g) Remove all cylinder assemblies with a serial number of 47LE053559 through 47LF053643, or 47SE054212 through 47SF054251, or 52D0531708 through 52H0532197, or 55E05223 through 55G05289, or 32WE059006 through 32WF059067, or 32WHE05379 through 32WHE05392, or 32WFO55517 through 32WFO55532, or 36TWFO5430 through 36TWFO5453, or 36WFO58058 through 36WFO58124, or 36WFO56944 through 36WFO57061, or 36WFO57150 through 36WFO57232, or 36WFO57259 through 36WFO57534, or 36WFO57556, 36WFO57569, 36WFO57598, 36WFO57616, 36WFO57621, 36WFO57624, or 36WFO57770 through 36WFO57776, or 36WFO58131 no later than 150 hours total time-in-service (TIS) to preclude cylinder head fatigue failure and separation at the head-to-barrel threaded interface.

(h) For cylinder assemblies with more than 150 hours total TIS on the effective date of this AD, a 10 hour TIS extension is permitted for the purpose of flying the aircraft to a location where maintenance action can be done to meet the requirements of this AD.

(i) After the effective date of this AD, do not install any cylinder assemblies with P/Ns SA47000L-A1, SA47000L-A20P, SA47000S-A1, SA47000S-A20P, SA47000S-A21P, SA52000-A1, SA52000-A20P, SA52000-A21P, SA52000-A22P, SA52000-A23P, SA55000-A1, or SA55000-A20P, or SL32000W-A1, SL32000W-A20P, SL32000W-A21P, SL32000WH-

series reciprocating engines and Avco Lycoming 540 series reciprocating engines. These P/N cylinder assemblies may be installed in the LE and AL engine models listed in the following Table 3.

Table 3.—Affected Lycoming Engines and Avco Lycoming Engine Models

Engine Model	
O-320	-A, -B, -C, -D, -E, H
IO-320	-B, -D, -E
LIO-320	-B
AIO-320	-A, -B, -C
AEIO-320	-D, -E
O-360	-A, -B, -C, -D, -F, -G, -J
IO-360	-B, -L, -M
LO-360	-A
AEIO-360	-B, -H
HO-360	-C
HIO-360	-B
O-540	-A, -B, -E, -F, -G, -H, -J
IO-540	-A, -C, -D, -N, -T, -V, -W
AEIO-540	-D

These engine models are installed in, but not limited to, the aircraft models listed in the following Table 4:

Aerotech Note: Table 4 has been moved to pages 2, 3 & 4 to facilitate compilation of this adNote™.

These engine models are known to be installed in the aircraft models listed in the following Table 5:

Table 5.—Superior Air Parts, Inc.—Related Aircraft Models

Engine Model	Aircraft Manufacturer	Aircraft Model Designation
O-360-A3A2	American Champion	7GCBC & 7GCAA

A1, SL32000WH-A20P, SL32006W-A1, SL32006W-A20P, SL32006W-A21P, SL36000TW-A1, SL36000TW-A20P, SL36000TW-A21P, SL36000TW-A22P, SL36000W-A1, SL36000W-A20P, SL36000W-A21P, SL36006W-A1, SL36006W-A20P, or SL36006W-A21P with a serial number of 47LE053559 through 47LF053643, or 47SE054212 through 47SF054251, or 52D0531708 through 52H0532197, or 55E05223 through 55G05289, or 32WE059006 through 32WFO59067, or 32WHE05379 through 32WHE05392, or 32WFO55517 through 32WFO55532, or 36TWFO5430 through 36TWFO5453, or 36WFO58058 through 36WFO58124, or 36WFO56944 through 36WFO57061, or 36WFO57150 through 36WFO57232, or 36WFO57259 through 36WFO57534, or 36WFO57556, 36WFO57569, 36WFO57598, 36WFO57616, 36WFO57621, 36WFO57624, or 36WFO57770 through 36WFO57776, or 36WFO58131 into any engine.

Alternative Methods of Compliance

(j) The Manager, Special Certification Office, FAA, Rotorcraft Directorate, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

Special Flight Permits

(k) For aircraft with engines that have between 140 hours and 150 hours TIS only, special flight permits may be issued in accordance with Sec. Sec. 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 done. Special flight permits may not be issued for aircraft that have utilized the provisions of paragraph (h) of this AD.

Related Information

(l) Superior Air Parts, Inc. Mandatory Service Bulletin B06-01, Rev. E, dated January 24, 2007, contains information related to the subject of this AD.

(m) Contact Jurgen Priester, Aerospace Engineer, Special Certification Office, FAA, Rotorcraft Directorate, Southwest Regional Headquarters, 2601 Meacham Blvd., Fort Worth, Texas 76137; e-mail: Jurgen.E.Priester@faa.gov; telephone (817) 222-5159; fax (817) 222-5785 for more information about this AD.

Material Incorporated by Reference

(n) None.

Issued in Burlington, Massachusetts, on March 23, 2007.

Peter A. White, Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

(Over)→

Table 2.--Teledyne Continental Motors-Related Aircraft Models

Engine Model	Aircraft Manufacturer	Aircraft Model Designation	Engine Model	Aircraft Manufacturer	Aircraft Model Designation	Engine Model	Aircraft Manufacturer	Aircraft Model Designation
IO-470-C	Beechcraft	J, K, M35	IO-520-D	Cessna	185	TSIO-520-C	Cessna	TU206
IO-470-D	Cessna	310 G & H	IO-520-E	(Cessna 310)	Exec 600	TSIO-520-C	Cessna	TP206
IO-470-D	Rockwell	200 A, B, & C	IO-520-F	Cessna	Pres 600	TSIO-520-C&CB	Beechcraft	58 Baron
IO-470-E	Cessna	210 A	IO-520-F	Cessna	207	TSIO-520-CB	Cessna	T210R
IO-470-F	Bellanca	14-19-3	IO-520-G	Bellanca	17-30A	TSIO-520-CF	Cessna	P210R
IO-470-F	Cessna	185	IO-520-L	Cessna	210 K, L, M, N & R	TSIO-520-D	Beechcraft	V35, V35A, V35B-TC
IO-470-H	Sierra Hotel Aero, Inc. (Navion)	Navion F & G (Rangemaster)	IO-520-L	Cessna	210N II	TSIO-520-E	Cessna	402, A & B
IO-470-L	Beechcraft	B55 Baron	IO-520-L	Cessna	210R	TSIO-520-E	Cessna	401, A & B
IO-470-M	Gulfstream	500 A	IO-520-M	Cessna	310R	TSIO-520-EB	Cessna	335
IO-470-N	Beechcraft	N & P	IO-520-MB	Cessna	310R	TSIO-520-G	Cessna	T207
IO-470-N	Beechcraft	G33	IO-550-A	Cessna	310 Conversion	TSIO-520-H	Cessna	T210 J, K & L
IO-470-S	Cessna	210 B & C	IO-550-B	Beechcraft	A36	TSIO-520-I	Cessna	210 J
IO-470-S	Cessna	205	IO-550-B	(Beech Bonanza)	Foxstar	TSIO-520-J	Cessna	414
IO-470-U	Cessna	310 I & J	IO-550-C	Beechcraft	58 Baron	TSIO-520-J	Riley Conversions	340 Super Riley
IO-470-V/VO	Cessna	310K, L, N, P & Q	IO-550-D	Cessna	185/188 Conversion	TSIO-520-L&LB	Beechcraft	58P Baron
IO-520-A	Cessna	210 D, E, F, G, & H	IO-550-E	Cessna	310 Conversion	TSIO-520-L&LB	Beechcraft	58TC Baron
IO-520-A	Cessna	206	IO550-F	Cessna	206/207 Conversion	TSIO-520-M	Cessna	T207
IO-520-A	Cessna	P206	IO-550-L	Cessna	210 Conversion	TSIO-520-M	Cessna	TU206
IO-520-A	Rockwell	200 D	O-470-M	Cessna	310	TSIO-520-N	Cessna	414-II Chancellor
IO-520-B	Beechcraft	36 Bonanza	O-470-G	Beechcraft	H35	TSIO-520-N	Cessna	340
IO-520-B	Beechcraft	A36	O-470-K	Bellanca	14-19-2	TSIO-520-NB	Cessna	414-II
IO-520-B	Sierra Hotel Aero, Inc. (Navion)	Navion H	O-470-K	Cessna	180 (230 HP)	TSIO-520-NB	Cessna	340
IO-520-BA	Beechcraft	A36	O-470-L	Cessna	182	TSIO-520-P	Cessna	P210N
IO-520-BA	Beechcraft	S & V35, V35A, V35B	O-470-L	Cessna	180D	TSIO-520-R	Cessna	T210 M
IO-520-BA	Beechcraft	C33 A	O-470-M	Cessna	310 B	TSIO-520-R	Cessna	T210N II
IO-520-BA	Beechcraft	B33 A & C	O-470-P	Sierra Hotel Aero, Inc. (Navion)	Navion	TSIO-520-T	Cessna	T188C AG Husky
IO-520-BA	Beechcraft	F33 A & C	O-470-R	Cessna	188-230	TSIO-520-UB	Beechcraft	A36TC Bonanza
IO-520-BA	Sierra Hotel Aero, Inc.	Navion G (Rangemaster)	O-470-R	Cessna	182	TSIO-520-UB	Beechcraft	B36TC
IO-520-BA	Sierra Hotel Aero, Inc.	Navion H	O-470-S	Cessna	182	TSIO-520-VB	Cessna	402 C
IO-520-BB	Beechcraft	A36	O-470-U	Cessna	182	TSIO-520-WB	Beechcraft	58P Baron
IO-520-BB	Beechcraft	V35B	TSIO-520-AF	Cessna	P210N II	TSIO-520-WB	Beechcraft	58TC Baron
IO-520-BB	Beechcraft	F33 A	TSIO-520-B	Cessna	320D, E & F			
IO-520-C & CB	Beechcraft	C55 - B55 Baron	TSIO-520-B	Cessna	T310-Q & R			
IO-520-D	Bellanca	17-30 Viking	TSIO-520-BB	Cessna	T310R			
IO-520-D	Cessna	A188-300 AG Truck	TSIO-520-BE	Piper	PA-46-310 Malibu			
			TSIO-520-C	Cessna	T210 F, G, & H			

Table 4.--Lycoming Engines and Avco Lycoming-Related Aircraft Models

Engine Model	Aircraft Manufacturer	Aircraft Model Designation	Engine Model	Aircraft Manufacturer	Aircraft Model Designation
O-320-A	Mooney Aircraft	Mark 20A	O-320-B2B	Piper Aircraft	PA-22-160
O-320-A1A	Piper Aircraft	PA-22-150 Apache	O-320-B2B	Piper Aircraft	PA-22S-160
O-320-A1A	Piper Aircraft	PA-22-150 Tri-Pacer	O-320-B2B	Beagle	Airedale DS-160
O-320-A1A	Piper Aircraft	PA-22S-150 Tri-Pacer	O-320-B2B	Fuji-Heavy Industries	Fuji F-200
O-320-A1A	Piper Aircraft	PA-25 Pawnee	O-320-B2B	Urapuru	Aerotec 122
O-320-A1A	Doyle Aircraft	Doyle-Cessna 170, 170A, 170B	O-320-B2C	Robinson Helicopters	R22-HP, Alpha, Beta
O-320-A1A	Dinfil	Ranquel 1A-46	O-320-B2D	Maule	MX-7-160
O-320-A1A	Simmering-Graz Pauer	Flamingo SGP-M-222	O-320-B2E	Lycon	
O-320-A1A	Aviamilano	Scricciolo P-19	O-320-B3A	Piper Aircraft	Apache PA-23-160
O-320-A1A	Vos Helicopter Co.	Spring Bok	O-320-B3A	Doyle Aircraft	Doyle-Cessna 170, 170A, 170B
O-320-A1A	Mooney Aircraft	Mark 20A	O-320-B3B	Piper Aircraft	PA-23-160 Apache
O-320-A1B	Piper Aircraft	PA-22-150 Tri-Pacer	O-320-B3B	Doyle Aircraft	Doyle-Cessna 170, 170A, 170B
O-320-A1B	Piper Aircraft	PA-22S-150 Tri-Pacer	O-320-B3B	Sud	Gardan (GY80-160)
O-320-A1B	Piper Aircraft	PA-23 Apache	O-320-C1A	Piper Aircraft	Apache PA-23-160
O-320-A1B	Doyle Aircraft	Doyle-Cessna 170, 170A, 170B	O-320-C1A	Riley Aircraft	Rayjay (Apache)
O-320-A1B	S.O.C.A.T.A.	Horizon (Gardan)	O-320-C1B	Piper Aircraft	Apache PA-23-160
O-320-A2A	Piper Aircraft	PA-22-150	O-320-C3A	Piper Aircraft	Apache PA-23-160
O-320-A2A	Piper Aircraft	PA-22S-150	O-320-C3B	Piper Aircraft	Apache PA-23-160
O-320-A2A	Piper Aircraft	Agriculture PA-18A-150	O-320-D1A	Sud	Gardan (GY80)
O-320-A2A	Piper Aircraft	Super Cub PA-18-150	O-320-D1A	Gyroflug	Speed Cancard
O-320-A2A	Piper Aircraft	Caribbean PA-22-150	O-320-D1A	Grob	G115
O-320-A2A	Piper Aircraft	PA-25 Pawnee	O-320-D1D	Gulfstream	GA-7
O-320-A2A	Lake Aircraft	Colonial C1	O-320-D1F	Slingaby	T67 Firefly
O-320-A2A	Intermountain Mfg. Co.	Call Air Texas A-5, A-5T	O-320-D2A	Piper Aircraft	Cherokee PA-28S-160
O-320-A2A	Rawdon Bros.	Rawdon T-1, T-15, T-15D	O-320-D2A	Robin	Major DR400-140B
O-320-A2A	Shinn Engineering	Shinn 2150-A	O-320-D2A	Robin	Challenger DR-360, R-3140
O-320-A2A	Dinfil	Ranquel 1A-46	O-320-D2A	S.O.C.A.T.A.	Tampico TB9
O-320-A2A	Neiva	1PD-5802	O-320-D2A	Slingaby	T67C Firefly
O-320-A2A	Sud	Gardan-Horizon (GY-80)	O-320-D2A	Dactwyler	MD-3-160
O-320-A2A	La Verda	Falco P8L Series II, America	O-320-D2A	Nash Aircraft Ltd.	Petrel
O-320-A2A	Malmö	Vipar MF1-10	O-320-D2A	Avioliight	P66D Delta
O-320-A2A	Kingsford Smith	Autocrat SCRM-153	O-320-D2A	General Avia	Pinguino
O-320-A2B	Aero Commander	100	O-320-D2B	Beechcraft	Musketee A23
O-320-A2B	Piper Aircraft	PA-22-150	O-320-D2B	Piper Aircraft	Cherokee PA-28-160
O-320-A2B	Piper Aircraft	PA-22S-150	O-320-D2J	Cessna	Skyhawk 172 P
O-320-A2B	Piper Aircraft	Cherokee PA-28-150	O-320-D3G	Piper Aircraft	Cadet PA-28-161
O-320-A2B	Piper Aircraft	Super Cub PA-18-150	O-320-D3G	Piper Aircraft	Warrior II
O-320-A2B	Champion Aircraft	Challenger 7GCA, 7GCB, 7KC	O-320-E1A	Grob	G115
O-320-A2B	Champion Aircraft	Citabria 7GCAA, 7GCRC	O-320-E1C	M.B.B. (Messerschmitt-Boelkow-Blohm)	Monsum (BO-209-B)
O-320-A2B	Champion Aircraft	Agriculture 7GCB	O-320-E1F	M.B.B.	Monsum (BO-209-B)
O-320-A2B	Beagle	Pup 150	O-320-E2A	Piper Aircraft	Cherokee PA-28-140
O-320-A2B	Arctic	Interstate SIB2	O-320-E2A	Piper Aircraft	Cherokee PA-28-150
O-320-A2B	Robinson Helicopters	R-22	O-320-E2A	Robin	Major (DR-340)
O-320-A2C	Robinson Helicopters	R-22	O-320-E2A	Robin	Sitar
O-320-A2C	Varga	Kachina 2150a	O-320-E2A	Robin	Bagheera (GY-100-135)
O-320-A2C	Cicare	Cicare AG	O-320-E2A	S.O.C.A.T.A.	Super Rallye (MS-886)
O-320-A2D	Bellanca Aircraft	Citabria 150 (7GCAA)	O-320-E2A	S.O.C.A.T.A.	Rallye Commodore (MS-892)
O-320-A2D	Bellanca Aircraft	Citabria 150S (7GCBC)	O-320-E2A	Sial-Marchetti	S-202
O-320-A2D	Bellanca	Citabria 150S (7G, HU)	O-320-E2A	F.F.A.	Bravo (AS-202/15)
O-320-A2F	Cessna Aircraft	177A	O-320-E2A	Partenavia	Oscar (P66B)
O-320-A3A	Piper Aircraft	Apache PA-23	O-320-E2A	Partenavia	Bucker (131 APM)
O-320-A3A	Doyle Aircraft	Doyle-Cessna 170, 170A, 170B	O-320-E2A	Aeromot	Paulistina P-56
O-320-A3A	Corben-Fettes	Globe Special (Globe GC-1B)	O-320-E2A	Pezetel	Kolibri 150
O-320-A3B	Piper Aircraft	Apache PA-23	O-320-E2C	Beechcraft	Musketee (B19)
O-320-A3B	Doyle Aircraft	Doyle-Cessna 170, 170A, 170B	O-320-E2C	Beechcraft	Musketee III (M-23111)
O-320-A3B	Teal II	TSC 1A2	O-320-E2C	M.B.B.	Monsum (BO-209-B)
O-320-B1A	Piper Aircraft	Apache PA-23-160	O-320-E2D	Beechcraft	177 Sport
O-320-B1A	Doyle Aircraft	Doyle-Cessna 170, 170A, 170B	O-320-E2D	Cessna	172 I - M
O-320-B1A	Malmö	Vipar MF1-10	O-320-E2D	Cessna	PA-28-151
O-320-B1B	Piper Aircraft	Apache PA-23-160	O-320-E2D	Piper Aircraft	PA-28-140
O-320-B1B	Doyle Aircraft	Doyle-Cessna 170, 170A, 170B	O-320-E2D	Cessna	Cardinal (172 I, 177)
O-320-B2A	Piper Aircraft	PA-22-160	O-320-E2F	M.B.B.	Monsum (BO-209-B)
O-320-B2A	Piper Aircraft	PA-22S-160			

O-320-E2F	M.B.B.	Wassmer Pacific (WA-5 1)
O-320-E2G	Gulfstream	AAS Traveler
O-320-E2H	Gulfstream	AAS Cheetah
O-320-E3D	Beechcraft	B19 Sport
O-320-E3D	Piper Aircraft	Cherokee (140)
O-320-H2AD	Cessna	Skyhawk 172 N
O-320-H2AD	Partenavia	P-66C
O-320-A2C	Varga	Kachina 2150
IO-320-B2A	Piper Aircraft	Twin Comanche (PA-30)
IO-320-B1C	Hi	
IO-320-B1C	Shear	
IO-320-B1C	Wing	
IO-320-B1D	Ted Smith Aircraft	Aerostar
IO-320-D1A	M.B.B.	Monsoon (BO-209-C)
IO-320-D1B	M.B.B.	Monsoon (BO-209-C)
IO-320-E1A	Champion	KCAB
IO-320-E1A	M.B.B.	Monsoon (BO-209-C)
IO-320-E1B	Bellanca Aircraft	
IO-320-E2A	Champion	7 KCAB
IO-320-E2A	Champion Aircraft	Citabria
IO-320-E2B	Bellanca Aircraft	
IO/IO-320-B1A	Piper Aircraft	PA-30 Comanche (2)
IO/IO-320-B1A	Piper Aircraft	Twin Comanche (PA-39)
AO-320-B1 B	M.B.B.	Monsoon (BO-209-C)
AEIO-320-D1B	Slingsby	T67M Firefly
AEIO-320-D2B	Hindustan Aeronautics Ltd.	HT-2
AEIO-320-E1A	Bellanca Aircraft	
AEIO-320-E1A	Champion Aircraft	
AEIO-320-E1B	Bellanca Aircraft	
AEIO-320-E1B	Champion Aircraft	Decathlon (8KCAB-CS)
AEIO-320-E2B	Bellanca Aircraft	
AEIO-320-E2B	Champion Aircraft	Decathlon (8KCAB)
O-320-A1A	Riley Aircraft	Riley Twin
O-360-A1A	Beechcraft	Travel Air (95, B-95)
O-360-A1A	Piper Aircraft	Comanche (PA-24)
O-360-A1A	Intermountain Mfg. Co.	Call Air (A-6)
O-360-A1A	Lake Aircraft	Colonial (C-2, LA-4, 4A or 4P)
O-360-A1A	Doyn Aircraft	Doyn-Cessna (170B, 172, 172A, 172B)
O-360-A1A	Mooney Aircraft	Mark "20B" (M-20B)
O-360-A1A	Earl Horton	Pawnee (Piper PA-25)
O-360-A1A	Dinfilia	Ranquel (IA-51)
O-360-A1A	Neiva	(IPD-5901)
O-360-A1A	Regente	(N-591)
O-360-A1A	Wassmer	Super 4 (WA-50A)
O-360-A1A	Wassmer	Sancy (WA-40)
O-360-A1A	Wassmer	Baladon (WA-40)
O-360-A1A	Wassmer	Parion (WA-40)
O-360-A1A	Sud	Gardan (GY-180)
O-360-A1A	Bolkow	(207)
O-360-A1A	Partenavia	Oscar (P-66)
O-360-A1A	Siai-Marchetti	(S-205)
O-360-A1A	Procar	Picchio (F-15-A)
O-360-A1A	S.A.A.B.	Safir (91-D)
O-360-A1A	Malmo	Vipan (MF-10B)
O-360-A1A	Aero Boero	AB-180
O-360-A1A	Beagle	Airedale (A-109)
O-360-A1A	DeHavilland	Drover (DHA-3MK3)
O-360-A1A	Kingsford-Smith	Bushmaster (J5-6)
O-360-A1A	Aero Engine Service Ltd.	Vista (R-2)
O-360-A1AD	S.O.C.A.T.A.	Tabago TB-10
O-360-A1D	Piper Aircraft	Comanche (PA-24)
O-360-A1D	Lake Aircraft	Colonial (LA-4, 4A or 4P)
O-360-A1D	Doyn Aircraft	Doyn-Beech (Beech 95)
O-360-A1D	Mooney Aircraft	Master 21 (M-20E)
O-360-A1D	Mooney Aircraft	Mark 20B, 20D, (M20B, M20C)
O-360-A1D	Mooney Aircraft	Mooney Statesman (M-20G)
O-360-A1D	Dinfilia	Querandi (IA-45)
O-360-A1D	Wassmer	(WA-50)
O-360-A1D	Malmo	Vipan (MF1-10)
O-360-A1D	Cessna Aircraft	Skyhawk
O-360-A1D	Doyn Aircraft	Doyn-Piper PA-23-160
O-360-A1F6	Cessna Aircraft	Cardinal
O-360-A1F6D	Cessna Aircraft	Cardinal 177
O-360-A1F6D	Teal III	TSC (IA3)
O-360-A1G6	Aero Commander	
O-360-A1G6D	Beech Aircraft	Duchess 76
O-360-A1H6	Piper Aircraft	Seminole (PA-44)
O-360-A1 LD	Wassmer	Europa WA-52
O-360-A1P	Aviat	
O-360-A1P	Husky	
O-360-A2A	Center Est Aeronautique	Regente (DR-253)
O-360-A2A	S.O.C.A.T.A.	Rallye Commodore (MS-893)
O-360-A2A	Societe Aeronautique Normande	Mousquetaire (D-140)
O-360-A2A	Bolkow	Klemm (K1-1 07C)
O-360-A2A	Partenavia	Oscar (P-66)
O-360-A2A	Beagle	Husky (D5-180) (J1-U)
O-360-A2D	Piper Aircraft	Comanche PA-24
O-360-A2D	Piper Aircraft	Cherokee C PA-28-180
O-360-A2D	Mooney Aircraft	Master 21 (M-20D)
O-360-A2D	Mooney Aircraft	Mark 21 (M-20E)
O-360-A2E	Std. Helicopter	
O-360-A2F	Aero Commander	Lark (100)
O-360-A2F	Cessna Aircraft	Cardinal
O-360-A2G	Beech Aircraft	Sport
O-360-A3A	C.A.A.R.P.S.A.N.	(M-23111)
O-360-A3A	Societe Aeronautique Normande	Jodel (D-140C)
O-360-A3A	Robin	Regent (DR400/180)
O-360-A3A	Robin	Remorqueur (DR400/180R)
O-360-A3A	Robin	R-3170
O-360-A3A	S.O.C.A.T.A.	Rallye 180GT
O-360-A3A	S.O.C.A.T.A.	Sportavia Sportsman (RS-180)
O-360-A3A	Norman Aerospace Co.	NAC-1 Freelance
O-360-A3A	Nash Aircraft Ltd.	Petre
O-360-A3AD	S.O.C.A.T.A.	TB-40
O-360-A3AD	Robin	Aiglon (R-1 180T)
O-360-A4A	Piper Aircraft	Cherokee "D" PA-28-180
O-360-A4D	Varga	Kachina
O-360-A4G	Beech Aircraft	Muskeeter Custom III
O-360-A4K	Grumman American	Tiger
O-360-A4K	Beech Aircraft	Sundowner 180

O-360-A4M	Piper Aircraft	Archer II PA-28-18
O-360-A4M	Valmet	PIK-23
O-360-A4N	Cessna Aircraft	172 (Optional)
O-360-A4P	Penn Yan	Super Cub Conversion
O-360-A5AD	C. Itoh and Co.	Fuji FA-200
O-360-B2C	Seabird Aviation	SB7L
O-360-C1A	Intermountain Mfg. Co.	Call Air (A-6)
O-360-C1E	Bellanca Aircraft	Scout (8GCBC-CS)
O-360-C1F	Maule	Star Rocket MX-7-180
O-360-C1G	Christen	Husky (A-1)
O-360-C2B	Hughes Tool Co.	(269A)
O-360-C2D	Hughes Tool Co.	(269A)
O-360-C2E	Hughes Tool Co.	YHO-2HU Military
O-360-C2E	Bellanca Aircraft	Scout 8GCBC FP
O-360-C4F	Maule	MX-7-180A
O-360-C4F	Penn Van	Super Cub Conversion
O-360-F1A6	Cessna Aircraft	Cullass RG
O-360-J2A	Robinson	R22
IO-360-B1A	Beech Aircraft	Travel-Air (B-95A)
IO-360-B1A	Doyn Aircraft	Doyn-Piper PA-23-200
IO-360-B1B	Beech Aircraft	Travel-Air (B-95B)
IO-360-B1B	Doyn Aircraft	Doyn-Piper PA-23-200
IO-360-B1B	Fuji	FA-200
IO-360-B1D	United Consultants	See-Bee
IO-360-B1E	Piper Aircraft	Arrow PA-28-180R
IO-360-B1F	Utva	75
IO-360-B2E	C.A.A.R.P.	C.A.P. (10)
IO-360-B1F6	Great Lakes	Trainer
IO-360-B1G6	American Blimp	Specter 42
IO-360-B2F6	Great Lakes	Trainer
IO-360-A1 G6D	Beech Aircraft	Duchess
IO-360-A1H6	Piper Aircraft	Seminole (PA-44)
IO-360-E1A	T.R. Smith Aircraft	Aerostar
IO-360-L2A	Cessna Aircraft	Skyhawk C-172
IO-360-M1A	Diamond Aircraft	DA-40
IO-360-M1B	Vans Aircraft	RV6, RV7, RV8
IO-360-M1B	Lancir	360
AO-360-B1B	Moravan	Zim (Z-526-L)
AEIO-360-B1G6	Great Lakes	
AEIO-360-B2F	Mundry	CAP-10
AEIO-360-B4A	Pitts	S-15
AEIO-360-H1A	Bellanca Aircraft	Super Decathlon (8KCAB-180)
AEIO-360-H1B	American Champion	Super Decathlon
HO-360-B1A	Hughes Tool Co.	269A
HO-360-B1B	Hughes Tool Co.	269A
HO-360-C1A	Schweizer	300C
HIO-360-A1A	Hughes Tool Co.	300
HIO-360-A1B	Silvercraft	
HIO-360-B1A	Hughes Tool Co.	Military 269-A-1
HIO-360-B1B	Hughes Tool Co.	269A
HIO-360-D1A	Hughes Tool Co.	269C, 300C
HIO-360-D1A	Schweizer	300C
HIO-360-E1AD	Enstrom Helicopter	F28C
HIO-360-E1BD	Enstrom Helicopter	F28C
HIO-360-F1AD	Enstrom Helicopter	Falcon F28F
HIO-360-F1AD	Enstrom Helicopter	Shark 280FX
HIO-360-F1AD	Enstrom Helicopter	Sentinel F28F-P
HIO-360-G1A	Schweizer	CB
LHIO-360-C1A	Silvercraft	SH-4 Helicopter
LHIO-360-C1B	Silvercraft	SH-3 Helicopter
O-540-A1A	Rhein-Flugzeugbau	RF-1
O-540-A1A5	Piper Aircraft	Comanche PA-24-150
O-540-A1A5	Helio	Military H-250
O-540-A1A5	Yoeman Aviation	YA-1
O-540-A1B5	Piper Aircraft	Aztec PA-23-250
O-540-A1B5	Piper Aircraft	Comanche PA-24-250
O-540-A1C5	Piper Aircraft	Comanche PA-24-250
O-540-A1D	Found Bros.	FBA-2C
O-540-A1D	Dornier	DO-28-B1
O-540-A1D5	Piper Aircraft	Aztec PA-23 -250
O-540-A1D5	Piper Aircraft	Comanche PA-24-250
O-540-A1D5	Piper Aircraft	Military Aztec U-1 1A
O-540-A1D5	Dornier	DO-28
O-540-A2B	Aero Commander	500
O-540-A2B	Mid-States Mfg. Co.	Twin Courier 11-500, U-5
O-540-A3D5	Piper Aircraft	Navy Aztec PA-23-250
O-540-B1A5	Piper Aircraft	Apache PA-23-235
O-540-B1B5	Piper Aircraft	Cherokee PA-24-250
O-540-B1B5	Doyn Aircraft	Doyn-Piper PA-24-250
O-540-B1D5	Wassmer	WA-421
O-540-B2B5	Piper Aircraft	Pawnee PA-24-235
O-540-B2B5	Piper Aircraft	Cherokee PA-28-235
O-540-B2B5	Piper Aircraft	Aztec PA-23-235
O-540-B2B5	Intermountain Mfg. Co.	Call Air A-9
O-540-B2B5	Rawdon Bros.	Rawdon T-1
O-540-B2B5	S.O.C.A.T.A.	Rallye 235CA
O-540-B2C5	Piper Aircraft	Pawnee PA-24-235
O-540-B4B5	Piper Aircraft	Cherokee PA-28-235
O-540-B4B5	Embraer	Corioa EMB-710
O-540-B4B5	S.O.C.A.T.A.	Rallye 235GT
O-540-B4B5	S.O.C.A.T.A.	Rallye 235C
O-540-B4B5	Maule	Star Rocket MX-7-235
O-540-B4B5	Maule	Super Rocket M-6-235
O-540-B4B5	Maule	Super Std. Rocket M-7-235
O-540-E4A5	Piper Aircraft	Comanche PA-24-260
O-540-E4A5	Aviamilano	Flamingo F-250
O-540-E4A5	Siai-Marcobetti	SF-260, SF-208
O-540-E4B5	Britten-Norman	BN-2
O-540-E4C5	Piper Aircraft	Cherokee Six PA-32-260
O-540-E4C5	Pilatus Britten-Norman	Islander BN-2A-26
O-540-E4C5	Pilatus Britten-Norman	Islander BN-2A-27
O-540-E4C5	Pilatus Britten-Norman	Islander II BN-2B-26
O-540-E4C5	Pilatus Britten-Norman	Islander BN-2A-2 1
O-540-E4C5	Pilatus Britten-Norman	Trislander BN-2A-Mark 111-2
O-540-F1B5	Omega Aircraft	BS-12D1
O-540-F1B5	Robinson	R-44
O-540-G1A5	Piper Aircraft	Pawnee PA-25-260
O-540-H1B5D	Aero Boero	260
O-540-H2A5	Embraer	Impanema "AG"
O-540-H2A5	Gippsland	GA-200
O-540-H2B5D	Aero Boero	260
O-540-J1A5D	Maule	Star Rocket MX-7-235
O-540-J1A5D	Maule	Super Rocket M-6-235
O-540-J1A5D	Maule	Super Std. Rocket M-7-235
O-540-J1A5	Robin	R-3000/235

O-540-E4B5	Britten-Norman	BN-2
	Piper Aircraft	Cherokee Six PA-32-260
O-540-E4C5	Pilatus Britten-Norman	Islander BN-2A-26
O-540-E4C5	Pilatus Britten-Norman	Islander BN-2A-27
O-540-E4C5	Pilatus Britten-Norman	Islander II BN-2B-26
O-540-E4C5	Pilatus Britten-Norman	Islander BN-2A-2 1
O-540-E4C5	Pilatus Britten-Norman	Trislander BN-2A-Mark 111-2
O-540-F1B5	Omega Aircraft	BS-12D1
O-540-F1B5	Robinson	R-44
O-540-G1A5	Piper Aircraft	Pawnee PA-25-260
O-540-H1B5D	Aero Boero	260
O-540-H2A5	Embraer	Impanema "AG"
O-540-H2A5	Gippsland	GA-200
O-540-H2B5D	Aero Boero	260
O-540-J1A5D	Maule	Star Rocket MX-7-235
O-540-J1A5D	Maule	Super Rocket M-6-235
O-540-J1A5D	Maule	Super Std. Rocket M-7-235
O-540-J3A5	Robin	R-3000/235
O-540-J3A5D	Piper Aircraft	Dakota PA-28-236
O-540-J3C5D	Cessna Aircraft	Skylane RG
IO-540-A1A5	Doyn Aircraft	Doyn-Piper PA-23-250
IO-540-A1A5	Riley Aircraft	Rocket-Cessna 310
IO-540-A1A5	Dornier	DO-8-B 1
IO-540-A1A5	Siai-Marchetti	
IO-540-C1B5	Piper Aircraft	Aztec B PA-23-250
IO-540-C1B5	Piper Aircraft	Comanche PA-24-250
IO-540-C1C5	Riley Aircraft	Turbo-Rocket
IO-540-C4B5	Piper Aircraft	Aztec C PA-23-250
IO-540-C4B5	Piper Aircraft	Aztec F
IO-540-C4B5	Wassmer	WA-4-2 1
IO-540-C4B5	Avions Pierre Robin	HR 100/250
IO-540-C4B5	Bellanca Aircraft	Aries T-250
IO-540-C4B5	Aerofab	Renegade 250
IO-540-C4D5	S.O.C.A.T.A.	TB-20
IO-540-C4D5D	S.O.C.A.T.A.	Trinidad TB-20
IO-540-D4A5	Piper Aircraft	Comanche PA-24-260
IO-540-D4A5	Siai-Marchetti	SF-260
IO-540-D4B5	Cerva	CE-43 Guepard
IO-540-E1A5	Aero Commander	500-B
IO-540-E1B5	Aero Commander	500-U
IO-540-E1B5	Shrike	500-S
IO-540-E1B5	Poeschel	P-300

IO-540-G1A5	Doyn Aircraft	Doyn-Piper PA-23-250
IO-540-G1A5	Riley Aircraft	Turbo-Aztec
IO-540-G1A5	DeHavilland	Heron Conversion
IO-540-G1B5	T.R. Smith Aircraft	Aerostar 600
IO-540-G1B5	Found Bros.	Centennial 100
IO-540-G1C5	Intermountain Mfg. Co.	Call Air IAR821
IO-540-G1D5	Intermountain Mfg. Co.	IAR-822, IAR-826, IAR-823
IO-540-G1F5	Bellanca Aircraft	
IO-540-N 1A5	Piper Aircraft	Comanche 260
IO-540-T4A5D	General Aviation	Model 114
IO-540-T4B5	Commander	1 14B
IO-540-T4B5D	Rockwell	114
IO-540-T4C5D	Lake Aircraft	Seawolf
IO-540-W1A5	Maule	MX-7-235, MT-7-235, M7235
IO-540-W1A5D	Maule	Star Rocket MX-7-235
IO-540-W1A5D	Maule	Super Rocket M-6-235
IO-540-W1A5D	Maule	Super Std. Rocket M-7-235
IO-540-W3A5D	Schweizer	Power Glider
IO-540-AB1A5	Cessna Aircraft	Skylane C-182
AEIO-540-D4A5	Christen	Pitts S-2S, S-2B
AEIO-540-D4A5	Siai-Marchetti	SF-260
AEIO-540-D4A5	H.A.L.	HPT-32
AEIO-540-D4A5	Slingsby	Firefly T3A
AEIO-540-D4B5	Moravan	Zlin-50L
AEIO-540-D4B5	H.A.L.	HPT-32
AEIO-540-D4D5	Burkhart Grob	Grob G, 1 15T Aero

O-320-E2F	M.B.B.	Wassmer Pacific (WA-5 1)
O-320-E2G	Gulfstream	AA3 Traveler
O-320-E2H	Gulfstream	AA5A Cheatah
O-320-E2D	Beechcraft	B19 Sport
O-320-E2E	Piper Aircraft	Cherokee (140)
O-320-H2AD	Cessna	Skyhawk 172 N
O-320-H2AD	Partenavia	P-66C
O-320-A2C	Varga	Kachina 2150
IO-320-B2A	Piper Aircraft	Twin Comanche (PA-30)
IO-320-B1C	Hi	
IO-320-B1C	Shear	
IO-320-B1C	Wing	
IO-320-B1D	Ted Smith Aircraft	Aerostar
IO-320-D1A	M.B.B.	Monsun (BO-209-C)
IO-320-D1B	M.B.B.	Monsun (BO-209-C)
IO-320-E1A	Champion	KCAB
IO-320-E1A	M.B.B.	Monsun (BO-209-C)
IO-320-E1B	Bellanca Aircraft	
IO-320-E2A	Champion	7 KCAB
IO-320-E2A	Champion Aircraft	Citabria
IO-320-E2B	Bellanca Aircraft	
IO-320-E2B	Piper Aircraft	PA-30 Comanche (2)
IO-320-E2B	Piper Aircraft	Twin Comanche (PA-39)
AEIO-320-B1 B	M.B.B.	Monsun (BO-209-C)
AEIO-320-D1B	Slingsby	T67M Firefly
AEIO-320-D2B	Hindustan Aeronautics Ltd.	HT-2
AEIO-320-E1A	Bellanca Aircraft	
AEIO-320-E1A	Champion Aircraft	
AEIO-320-E1B	Bellanca Aircraft	
AEIO-320-E1B	Champion Aircraft	Decathalon (8KCAB-CS)
AEIO-320-E2B	Bellanca Aircraft	
AEIO-320-E2B	Champion Aircraft	Decathalon (8KCAB)
O-320-A1A	Riley Aircraft	Riley Twin
O-360-A1A	Beechcraft	Travel Air (95, B-95)
O-360-A1A	Piper Aircraft	Comanche (PA-24)
O-360-A1A	Intermountain Mfg. Co.	Call Air (A-6)
O-360-A1A	Lake Aircraft	Colonial (C-2, LA-4, 4A or 4P)
O-360-A1A	Doyn Aircraft	Doyn-Cessna (170B, 172, 172A, 172B)
O-360-A1A	Mooney Aircraft	Mark "20B" (M-20B)
O-360-A1A	Earl Horton	Pawnee (Piper PA-25)
O-360-A1A	Dinfilia	Ranquel (IA-51)
O-360-A1A	Neiva	(IPD-5901)
O-360-A1A	Regente	(N-591)
O-360-A1A	Wassmer	Super 4 (WA-50A)
O-360-A1A	Wassmer	Sancy (WA-40)
O-360-A1A	Wassmer	Baladon (WA-40)
O-360-A1A	Wassmer	Parion (WA-40)
O-360-A1A	Sud	Gardan (GY-180)
O-360-A1A	Bolkow	(207)
O-360-A1A	Partenavia	Oscar (P-66)
O-360-A1A	Sial-Marchetti	(S-205)
O-360-A1A	Procaer	Picchio (F-15-A)
O-360-A1A	S.A.A.B.	Safir (91-D)
O-360-A1A	Malmo	Vipan (MF-10B)
O-360-A1A	Aero Boero	AB-180
O-360-A1A	Beagle	Airedale (A-109)
O-360-A1A	DeHavilland	Drover (DHA-3MK3)
O-360-A1A	Kingsford-Smith	Bushmaster (J5-6)
O-360-A1A	Aero Engine Service Ltd.	Victa (R-2)
O-360-A1AD	S.O.C.A.T.A.	Tabago TB-10
O-360-A1D	Piper Aircraft	Comanche (PA-24)
O-360-A1D	Lake Aircraft	Colonial (LA-4, 4A or 4P)
O-360-A1D	Doyn Aircraft	Doyn-Beech (Beech 95)
O-360-A1D	Mooney Aircraft	Master 21 (M-20E)
O-360-A1D	Mooney Aircraft	Mark 20B, 20D, (M20B, M20C)
O-360-A1D	Mooney Aircraft	Mooney Statesman (M-20G)
O-360-A1D	Dinfilia	Querandi (IA-45)
O-360-A1D	Wassmer	(WA-50)
O-360-A1D	Malmo	Vipan (MF-10)
O-360-A1D	Cessna Aircraft	Skyhawk
O-360-A1D	Doyn Aircraft	Doyn-Piper PA-23-160
O-360-A1F6	Cessna Aircraft	Cardinal
O-360-A1F6D	Cessna Aircraft	Cardinal 177
O-360-A1F6D	Teal III	TSC (IA3)
O-360-A1G6	Aero Commander	
O-360-A1G6D	Beech Aircraft	Duchess 76
O-360-A1H6	Piper Aircraft	Seminole (PA-44)
O-360-A1LD	Wassmer	Europa WA-52
O-360-A1P	Aviat	
O-360-A1P	Husky	
O-360-A2A	Center Est Aeronautique	Regente (DR-253)
O-360-A2A	S.O.C.A.T.A.	Rallye Commodore (MS-893)
O-360-A2A	Societe Aeronautique Normande	Mousquetaire (D-140)
O-360-A2A	Bolkow	Klemm (KI -1 07C)
O-360-A2A	Partenavia	Oscar (P-66)
O-360-A2A	Beagle	Husky (D5-180) (J1-U)
O-360-A2D	Piper Aircraft	Comanche PA-24
O-360-A2D	Piper Aircraft	Cherokee C PA-28-180
O-360-A2D	Mooney Aircraft	Master 21 (M-20D)
O-360-A2D	Mooney Aircraft	Mark 21 (M-20E)
O-360-A2E	Std. Helicopter	
O-360-A2F	Aero Commander	Lark (109)
O-360-A2F	Cessna Aircraft	Cardinal
O-360-A2G	Beech Aircraft	Sport
O-360-A3A	C.A.A.R.P.S.A.N.	(M-23111)
O-360-A3A	Societe Aeronautique Normande	Jodel (D-140C)
O-360-A3A	Robin	Regent (DR400/180)
O-360-A3A	Robin	Remorqueur (DR400/180R)
O-360-A3A	Robin	R-3170
O-360-A3A	S.O.C.A.T.A.	Rallye 180GT
O-360-A3A	S.O.C.A.T.A.	Sportavia Sportman (RS-180)
O-360-A3A	Norman Aerospace Co.	NAC-1 Freelance
O-360-A3A	Nash Aircraft Ltd.	Petre
O-360-A3AD	S.O.C.A.T.A.	TB-10
O-360-A3AD	Robin	Aiglon (R-1 180T)
O-360-A4A	Piper Aircraft	Cherokee "D" PA-28-180
O-360-A4D	Varga	Kachina
O-360-A4G	Beech Aircraft	Musketeer Custom III
O-360-A4K	Grunman American	Tiger
O-360-A4K	Beech Aircraft	Sundowner 180

O-360-A4M	Piper Aircraft	Archer II PA-28-18
O-360-A4M	Valmet	PIK-23
O-360-A4N	Cessna Aircraft	172 (Optional)
O-360-A4P	Penn Yan	Super Cub Conversion
O-360-A5AD	C. Itoh and Co.	Fuji FA-200
O-360-B2C	Seabird Aviation	SB7L
O-360-C1A	Intermountain Mfg. Co.	Call Air (A-6)
O-360-C1E	Bellanca Aircraft	Scout (8GCBC-CS)
O-360-C1F	Maule	Star Rocket MX-7-180
O-360-C1G	Christen	Husky (A-1)
O-360-C2B	Hughes Tool Co.	(269A)
O-360-C2D	Hughes Tool Co.	(269A)
O-360-C2E	Hughes Tool Co.	YHO-2HU Military
O-360-C2E	Bellanca Aircraft	Scout 8GCBC FP
O-360-C4F	Maule	MX-7-180A
O-360-C4P	Penn Van	Super Cub Conversion
O-360-F1A6	Cessna Aircraft	Cutlass RG
O-360-J2A	Robinson	R22
IO-360-B1A	Beech Aircraft	Travel-Air (B-95A)
IO-360-B1A	Doyn Aircraft	Doyn-Piper PA-23-200
IO-360-B1B	Beech Aircraft	Travel-Air (B-95B)
IO-360-B1B	Doyn Aircraft	Doyn-Piper PA-23-200
IO-360-B1B	Fuji	FA-200
IO-360-B1D	United Consultants	See-Bee
IO-360-B1E	Piper Aircraft	Arrow PA-28-180R
IO-360-B1F	Uva	75
IO-360-B2E	C.A.A.R.P.	C.A.P. (10)
IO-360-B1F6	Great Lakes	Trainer
IO-360-B1G6	American Blimp	Specter 42
IO-360-B2F6	Great Lakes	Trainer
LO-360-A1 G6D	Beech Aircraft	Duchess
LO-360-A1H6	Piper Aircraft	Seminole (PA-44)
IO-360-E1A	T.R. Smith Aircraft	Aerostar
IO-360-L2A	Cessna Aircraft	Skyhawk C-172
IO-360-M1A	Diamond Aircraft	DA-40
IO-360-M1B	Vans Aircraft	RV6, RV7, RV8
IO-360-M1B	Lancair	360
AEIO-360-B1B	Moravan	Zim (Z-526-L)
AEIO-360-B1G6	Great Lakes	
AEIO-360-B2F	Mundry	CAP-10
AEIO-360-B4A	Pitts	S-1S
AEIO-360-H1A	Bellanca Aircraft	Super Decathalon (8KCAB-180)
AEIO-360-H1B	American Champion	Super Decathalon
HO-360-B1A	Hughes Tool Co.	269A
HO-360-B1B	Hughes Tool Co.	269A
HO-360-C1A	Schweizer	300C
HIO-360-A1A	Hughes Tool Co.	300
HIO-360-A1B	Silvercraft	
HIO-360-B1A	Hughes Tool Co.	Military 269-A-1
HIO-360-B1B	Hughes Tool Co.	269A
HIO-360-D1A	Hughes Tool Co.	269C, 300C
HIO-360-D1A	Schweizer	300C
HIO-360-E1AD	Enstrom Helicopter	F28C
HIO-360-E1BD	Enstrom Helicopter	F28C
HIO-360-F1AD	Enstrom Helicopter	Falcon F28F
HIO-360-F1AD	Enstrom Helicopter	Shark 280FX
HIO-360-F1AD	Enstrom Helicopter	Sentinel F28F-P
HIO-360-G1A	Schweizer	CB
LHIO-360-C1A	Silvercraft	SH-4 Helicopter
LHIO-360-C1B	Silvercraft	SH-3 Helicopter
O-540-A1A	Rhein-Flugzeugbau	RF-1
O-540-A1A5	Piper Aircraft	Comanche PA-24-150
O-540-A1A5	Helio	Military H-250
O-540-A1A5	Yoeman Aviation	YA-1
O-540-A1B5	Piper Aircraft	Aztec PA-23-250
O-540-A1B5	Piper Aircraft	Comanche PA-24-250
O-540-A1C5	Piper Aircraft	Comanche PA-24-250
O-540-A1D	Found Bros.	FBA-2C
O-540-A1D	Dornier	DO-28-B1
O-540-A1D5	Piper Aircraft	Aztec PA-23 -250
O-540-A1D5	Piper Aircraft	Comanche PA-24-250
O-540-A1D5	Piper Aircraft	Military Aztec U-1 1A
O-540-A1D5	Dornier	DO-28
O-540-A2B	Aero Commander	300
O-540-A2B	Mid-States Mfg. Co.	Twin Courier 11-500, U-5
O-540-A3D5	Piper Aircraft	Navy Aztec PA-23-250
O-540-B1A5	Piper Aircraft	Apache PA-23-235
O-540-B1B5	Piper Aircraft	Cherokee PA-24-250
O-540-B1B5	Doyn Aircraft	Doyn-Piper PA-24-250
O-540-B1D5	Wassmer	WA-421
O-540-B2B5	Piper Aircraft	Pawnee PA-24-235
O-540-B2B5	Piper Aircraft	Cherokee PA-28-235
O-540-B2B5	Piper Aircraft	Aztec PA-23-235
O-540-B2B5	Intermountain Mfg. Co.	Call Air A-9
O-540-B2B5	Rawdon Bros.	Rawdon T-1
O-540-B2B5	S.O.C.A.T.A.	Rallye 235CA
O-540-B2C5	Piper Aircraft	Pawnee PA-24-235
O-540-B4B5	Piper Aircraft	Cherokee PA-28-235
O-540-B4B5	Embraer	Corioa EMB-710
O-540-B4B5	S.O.C.A.T.A.	Rallye 235GT
O-540-B4B5	S.O.C.A.T.A.	Rallye 235C
O-540-B4B5	Maule	Star Rocket MX-7-235
O-540-B4B5	Maule	Super Rocket M-6-235
O-540-B4B5	Maule	Super Std. Rocket M-7-235
O-540-E4A5	Piper Aircraft	Comanche PA-24-260
O-540-E4A5	Aviamilano	Flamingo F-250
O-540-E4A5	Sial-Marchetti	SF-260, SF-208
O-540-E4B5	Britten-Norman	BN-2
O-540-E4C5	Pilatus Britten-Norman	Cherokee Six PA-32-260
O-540-E4C5	Pilatus Britten-Norman	Islander BN-2A-26
O-540-E4C5	Pilatus Britten-Norman	Islander BN-2A-27
O-540-E4C5	Pilatus Britten-Norman	Islander II BN-2B-26
O-540-E4C5	Pilatus Britten-Norman	Islander BN-2A-2 1
O-540-E4C5	Pilatus Britten-Norman	Trislander BN-2A-Mark 111-2
O-540-F1B5	Omega Aircraft	BS-12D1
O-540-F1B5	Robinson	R-44
O-540-G1A5	Piper Aircraft	Pawnee PA-25-260
O-540-H1B5D	Aero Boero	260
O-540-H2A5	Embraer	Impanema "AG"
O-540-H2A5	Gjysland	GA-200
O-540-H2B5D	Aero Boero	260
O-540-J1A5D	Maule	Star Rocket MX-7-235
O-540-J1A5D	Maule	Super Rocket M-6-235
O-540-J1A5D	Maule	Super Std. Rocket M-7-235
O-540-J1A5	Robin	R-3000/235

O-540-E4B5	Britten-Norman	BN-2
	Piper Aircraft	Cherokee Six PA-32-260
O-540-E4C5	Pilatus Britten-Norman	Islander BN-2A-26
O-540-E4C5	Pilatus Britten-Norman	Islander BN-2A-27
O-540-E4C5	Pilatus Britten-Norman	Islander II BN-2B-26
O-540-E4C5	Pilatus Britten-Norman	Islander BN-2A-2 I
O-540-E4C5	Pilatus Britten-Norman	Trislander BN-2A-Mark 111-2
O-540-F1B5	Omega Aircraft	BS-12D1
O-540-F1B5	Robinson	R-44
O-540-G1A5	Piper Aircraft	Pawnee PA-25-260
O-540-H1B5D	Aero Boero	260
O-540-H2A5	Embraer	Impanema "AG"
O-540-H2A5	Gippsland	GA-200
O-540-H2B5D	Aero Boero	260
O-540-J1A5D	Maule	Star Rocket MX-7-235
O-540-J1A5D	Maule	Super Rocket M-6-235
O-540-J1A5D	Maule	Super Std. Rocket M-7-235
O-540-J3A5	Robin	R-3000/235
O-540-J3A5D	Piper Aircraft	Dakota PA-28-236
O-540-J3C5D	Cessna Aircraft	Skylane RG
IO-540-A1A5	Doyn Aircraft	Doyn-Piper PA-23-250
IO-540-A1A5	Riley Aircraft	Rocket-Cessna 310
IO-540-A1A5	Dornier	DO-8-B 1
IO-540-A1A5	Siai-Marchetti	
IO-540-C1B5	Piper Aircraft	Aztec B PA-23-250
IO-540-C1B5	Piper Aircraft	Comanche PA-24-250
IO-540-C1C5	Riley Aircraft	Turbo-Rocket
IO-540-C4B5	Piper Aircraft	Aztec C PA-23-250
IO-540-C4B5	Piper Aircraft	Aztec F
IO-540-C4B5	Wassmer	WA4-2 I
IO-540-C4B5	Avions Pierre Robin	HR 100/250
IO-540-C4B5	Bellanca Aircraft	Aries T-250
IO-540-C4B5	Acrofab	Renegade 250
IO-540-C4D5	S.O.C.A.T.A.	TB-20
IO-540-C4D5D	S.O.C.A.T.A.	Trinidad TB-20
IO-540-D4A5	Piper Aircraft	Comanche PA-24-260
IO-540-D4A5	Siai-Marchetti	SF-260
IO-540-D4B5	Cerva	CE-43 Guepard
IO-540-E1A5	Aero Commander	500-E
IO-540-E1B5	Aero Commander	500-U
IO-540-E1B5	Shrike	500-S
IO-540-E1B5	Poeschel	P-300

IO-540-G1A5	Doyn Aircraft	Doyn-Piper PA-23-250
IO-540-G1A5	Riley Aircraft	Turbo-Aztec
IO-540-G1A5	DeHavilland	Heron Conversion
IO-540-G1B5	T.R. Smith Aircraft	Aerostar 600
IO-540-G1B5	Found Bros.	Centennial 100
IO-540-G1C5	Intermountain Mfg. Co.	Call Air IAR821
IO-540-G1D5	Intermountain Mfg. Co.	IAR-822, IAR-826, IAR-823
IO-540-G1F5	Bellanca Aircraft	
IO-540-N 1A5	Piper Aircraft	Comanche 260
IO-540-T4A5D	General Aviation	Model 114
IO-540-T4B5	Commander	1 14B
IO-540-T4B5D	Rockwell	114
IO-540-T4C5D	Lake Aircraft	Seawolf
IO-540-W1A5	Maule	MX-7-235, MT-7-235, M7235
IO-540-W1A5D	Maule	Star Rocket MX-7-235
IO-540-W1A5D	Maule	Super Rocket M-6-235
IO-540-W1A5D	Maule	Super Std. Rocket M-7-235
IO-540-W3A5D	Schweizer	Power Glider
IO-540-AB1A5	Cessna Aircraft	Skylane C-182
AEIO-540-D4A5	Christen	Pitts S-2S, S-2B
AEIO-540-D4A5	Siai-Marchetti	SF-260
AEIO-540-D4A5	H.A.L.	HPT-32
AEIO-540-D4A5	Slingsby	Firefly T3A
AEIO-540-D4B5	Moravan	Zlin-50L
AEIO-540-D4B5	H.A.L.	HPT-32
AEIO-540-D4D5	Burkhart Grob	Grob G, 1 15T Aero

AIRCRAFT REGISTRATION NO.

AIRCRAFT SERIAL NO.

TYPE AIRCRAFT

adNote™

2010-13-10 N/M

AD NUMBER

Ontic Governor

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

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Amendment 39- 16341. Docket No. FAA-2010-0102; Directorate Identifier 2010-NE-09- AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective August 5, 2010.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Ontic Engineering and Manufacturing, Inc. propeller governors, part numbers (P/Ns) **C210776**, **T210761**, **D210760**, and **J210761**, as listed by serial number on pages 3 and 4 of Ontic Engineering and Manufacturing, Inc. Mandatory Service Bulletin (MSB) No. SB-DES-353, Revision A, dated December 16, 2009.

(d) These propeller governors are installed on, but not limited to, American Champion Aircraft Corporation Model 7GCAA (governor P/N T210761), Diamond Aircraft Industries, Inc. Model DA-40 (governor P/ N C210776), Hawker Beechcraft Model A36 (governor P/N D210760), and Industria Aeronautica Neiva S/A (subsidiary of Embraer) model EMB- 202A (governor P/N J210761) airplanes.

Unsafe Condition

(e) This AD results from three reports received of failed propeller governors. We are issuing this AD to prevent loss of propeller pitch control, damage to the propeller governor, and internal damage to the engine, which could prevent continued safe flight or safe landing.

Compliance

(f) You are responsible for having the actions required by this AD performed within 100 flight hours after the effective date of this AD, unless the actions have already been done.

(g) Remove affected propeller governors from service.

(h) After the effective date of this AD, do not install an affected propeller governor unless it has been inspected, repaired, and permanently marked with "**SB-DES-353**

Rev. A Date * * * ." near the data plate, by Ontic Engineering and Manufacturing, Inc.

Alternative Methods of Compliance

(i) The Manager, Los Angeles Aircraft Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

Related Information

(j) Contact Roger Pesuit, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood, CA 90712; e-mail: roger.pesuit@faa.gov; telephone (562) 627-5251, fax (562) 627-5210, for more information about this AD.

Material Incorporated by Reference

(k) You must use Ontic Engineering and Manufacturing, Inc. Mandatory Service Bulletin No. SB-DES-353, Revision A, dated December 16, 2009, to identify the serial numbers of propeller governors affected by this AD. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Ontic Engineering and Manufacturing, Inc., 20400 Plummer Street, Chatsworth, CA 91311, e-mail: Bill.nolan@ontic.com; telephone (818) 725-2323; fax (818) 725-2535; or e-mail: Susan.hunt@ontic.com; telephone (818) 725-2121; fax (818) 725-2535, or on the Web at http://www.ontic.com/pdf/SB-DES-353_Rev_A.pdf, for a copy of this service information. You may review copies at the FAA, New England Region, 12 New England Executive Park, Burlington, MA; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts on June 16, 2010.

Diane S. Romanosky, Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

United Altimeter

Component Model/Serial No: _____ / _____

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

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Amendment 39-18801; Docket No. FAA-2016-9345; Directorate Identifier 2016-CE-028-AD.

(a) Effective Date

This AD is effective April 7, 2017.

(b) Affected ADs

None.

(c) Applicability

This AD applies to United Instruments, Inc. 5934 series altimeters that were manufactured between January 2015 and February 2016 and installed in airplanes and helicopters.

(1) The specific affected serial number altimeters can be found in United Instruments, Inc. Service Bulletin No. 13, dated March 25, 2016. Paragraph (j)(3) of this AD contains addresses for obtaining the service bulletin.

(2) Altimeters that have been corrected by United Instruments, Inc. following Service Bulletin No. 13, dated March 25, 2016, are not affected by this AD and no further action is necessary.

(3) Altimeters that have been corrected by United Instruments, Inc. can be identified by a yellow dot, approximately 1/4 inch (6 mm) in diameter, located approximately 1 inch (25 mm) to the left side of the nameplate. The corrected altimeters will also have a letter "M," approximately 1/8 inch (3mm) high, metal stamped on the nameplate after the name "ALTIMETER."

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 44, Cabin Systems.

(e) Unsafe Condition

This AD was prompted by reports of certain altimeters displaying higher than actual altitude due to a slow diaphragm leak. We are issuing this AD to prevent display of misleading altitude data, which could result in inadvertent flight into terrain.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Replacement

Within the next 12 months after April 7, 2017 (the effective date of this AD), replace any affected altimeter with a serviceable part following United Instruments, Inc. Service Bulletin No. 13, dated March 25, 2016.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Wichita Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In

accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (i) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(i) Related Information

For more information about this AD, contact Les Lyne, Aerospace Engineer, FAA, Wichita ACO, 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946-4190; fax: (316) 946-4107; email: leslie.lyne@faa.gov.

(j) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) United Instruments, Inc. Service Bulletin No. 13, dated March 25, 2016.

(ii) Reserved.

(3) For United Instruments, Inc. service information identified in this AD, contact United Instruments, Inc., 3625 Comotara Avenue, Wichita, KS 67226; telephone (316) 636-9203; fax: (316) 636-9243; email:

customerservice@unitedinst.com; Internet: www.unitedinst.com or <http://www.unitedinst.com/Products/SpecificationsSheets/d132811.aspx>.

(4) You may view this service information at FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9345.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Kansas City, Missouri, on February 6, 2017.

Kelly A. Broadway, Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

Lycoming Engine

If multi-engine: ☐ Left ☐ Right ☐ Front ☐ Rear

Engine Model/Serial No: _____

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

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Amendment 39-18988; Docket No. FAA-2017-0788; Product Identifier 2017-NE-27-AD.

(a) Effective Date

This AD is effective August 15, 2017.

(b) Affected ADs

None.

(c) Applicability

This AD applies to:

(1) All Lycoming Engines reciprocating engines listed in Table 1 of Lycoming Engines Mandatory Service Bulletin (MSB) No. 632B, dated August 4, 2017, and

(2) all Lycoming Engines reciprocating engines that were overhauled or repaired using any replacement part listed in Table 2 of Lycoming Engines MSB No. 632B, dated August 4, 2017, which was shipped from Lycoming Engines during the dates listed in Table 2 of Lycoming Engines MSB No. 632B, dated August 4, 2017.

(d) Subject

Joint Aircraft System Component (JASC) Code 8520, Reciprocating Engine Power Section.

(e) Unsafe Condition

This AD was prompted by several reports of connecting rod failures resulting in uncontained engine failure and in-flight shutdowns (IFSDs). We are issuing this AD to prevent connecting rod failure. The unsafe condition, if not corrected, could result in uncontained engine failure, total engine power loss, IFSD, and possible loss of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) For all affected engines, within 10 operating hours after the effective date of this AD, inspect all affected connecting rods as specified in Lycoming Engines MSB No. 632B, dated August 4, 2017, except for the instruction to complete the online survey and the instruction to review your inventory.

(2) Replace all connecting rods that fail the inspection required by paragraph (g)(1) of this AD with parts eligible for installation.

(h) Installation Prohibition

After the effective date of this AD:

(1) Do not install any Lycoming Engines reciprocating engine that was overhauled or repaired using any replacement part listed in Table 2 of Lycoming Engines MSB No. 632B, dated August 4, 2017, which was shipped from Lycoming Engines during the dates listed in Table 2 of Lycoming Engines MSB No. 632B, dated August 4, 2017, and

(2) do not install any part listed in Table 2 of Lycoming Engines MSB No. 632B, dated August 4, 2017 into any Lycoming Engines reciprocating engine.

(i) Credit for Previous Actions

You may take credit for the actions required by paragraph (g) of this AD if you performed those actions before the effective date of this AD using Lycoming Engines MSB No. 632A, dated July 23, 2017 or earlier versions.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

For more information about this AD, contact Norman Perenson, Aerospace Engineer, New York ACO Branch, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: 516-228-7337; fax: 516-794-5531; email: norman.perenson@faa.gov.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Lycoming Engines Mandatory Service Bulletin No. 632B, dated August 4, 2017.

(ii) Reserved.

(3) For Lycoming Engines service information identified in this AD, contact Lycoming Engines, 652 Oliver Street, Williamsport, PA 17701; phone: 800-258-3279; fax: 570-327-7101; Internet: www.lycoming.com/Lycoming/SUPPORT/TechnicalPublications/ServiceBulletins.aspx.

(4) You may view this service information at FAA, Engine and Propeller Standards Branch. For information on the availability of this material at the FAA, call 781-238-7125.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on August 7, 2017.

Robert J. Ganley, Manager, Engine and Propeller Standards Branch, Aircraft Certification Service.

AIRCRAFT REGISTRATION NO.

AIRCRAFT SERIAL NO.

TYPE AIRCRAFT

adNote™

2020-25-12 N/M

AD NUMBER

SAP Crankshaft

If multi-engine: ☐ Left ☐ Right ☐ Front ☐ Rear

Engine Model/Serial No.:

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

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Amendment 39-21354; Docket No. FAA-2018-1077; Project Identifier 2018-NE-40-AD.

(a) Effective Date

This airworthiness directive (AD) is effective January 15, 2021.

(b) Affected ADs

None.

(c) Applicability

This AD applies to the reciprocating engine models identified in paragraphs (c)(1) and (2) of this AD with a Superior Air Parts, Inc. (SAP) crankshaft assembly, part number (P/N) SL36500-A20 or P/N SL36500-A31, with serial numbers 82976-01; 82976-02; SP12-0003 through SP12-0089, inclusive; SP13-0034 through SP13-0150, inclusive; or SP14-0151 through SP14-0202, inclusive; installed.

(1) With SAP crankshaft assembly, P/N SL36500-A20, installed:

(i) SAP Model IO-360-series and O-360-series reciprocating engines.

(ii) Lycoming Engines (Lycoming) Model IO-360-B2F, IO-360-L2A, O-360, O-360-A2A, O-360-A2D, O-360-A2E, O-360-A2F, O-360-A2G, O-360-B2A, O-360-C2A, O-360-C2C, O-360-C2D, O-360-C2E, O-360-D2A, and O-360-D2B reciprocating engines.

(2) With SAP crankshaft assembly, P/N SL36500-A31, installed:

(i) SAP Model IO-360-series and O-360-series reciprocating engines.

(ii) Lycoming Model AEIO-360-H1A, IO-360-B1A, IO-360-B1B, IO-360-B1D, IO-360-B1E, IO-360-B1F, IO-360-M1A, O-360, O-360-A1A, O-360-A1C, O-360-A1D, O-360-A2A, O-360-C1A, O-360-C1G, O-360-C1C, O-360-C1E, and O-360-C1F reciprocating engines.

Note 1 to paragraph (c): This SAP crankshaft assembly may be installed as a replacement part under parts manufacturer approval on the affected Lycoming engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 8520, Reciprocating Engine Power Section.

(e) Unsafe Condition

This AD was prompted by three crankshaft assembly failures that resulted in the loss of engine power and immediate or emergency landings. The FAA is issuing this AD to prevent failure of the crankshaft assembly. The unsafe condition, if not addressed, could result in failure of the engine, in-flight shutdown, and loss of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Action

Within 25 engine operating hours after the effective date of this AD, remove the crankshaft assembly from service.

(h) Special Flight Permit

A one-time special flight permit may be issued to fly the aircraft to a maintenance facility to perform the actions of this AD with the following limitations: No passengers, visual flight rules (VFR) day conditions only, and avoid areas of known turbulence.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Fort Worth ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in Related Information.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

For more information about this AD, contact Justin Carter, Aviation Safety Engineer, Fort Worth ACO Branch, FAA, 10101 Hillwood Parkway, Fort Worth, TX 76177; phone: (817) 222-5146; fax: (817) 222-5245; email: justin.carter@faa.gov.

(k) Material Incorporated by Reference

None.

Issued on December 3, 2020.

Lance T. Gant, Director, Compliance & Airworthiness Division, Aircraft Certification Service.

