

N 110BW
AIRCRAFT REGISTRATION NO.

1538
AIRCRAFT SERIAL NO.

SR20
TYPE AIRCRAFT



2009-5-5 N/M
AD NUMBER

Avidyne PFD

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
4/28/09	750.8	750.8	N/A Due to P/N	Jim Pearson 4/28/09

© 2009 AeroTech Publications, Inc., All rights reserved

Amendment 39-15829; Docket No. FAA- 2008-1210; Directorate Identifier 2008-CE-047-AD.

Effective Date

(a) This AD becomes effective on April 3, 2009.

Affected ADs

(b) This AD supersedes AD 2008-06-28 R1, Amendment 39-15440.

Applicability

(c) This AD applies to Avidyne Corporation (Avidyne) Primary Flight Displays (PFDs), part numbers (P/Ns) 700-00006-000, 700- 00006-001, 700-00006-002, 700-00006-003, and 700-00006-100 with any serial number listed in Avidyne Service Bulletin No. 601-00006-096, Revision 1, dated July 14, 2008. Paragraph (d) of this AD gives procedures to determine if an affected serial number is installed on your airplane. This AD applies to affected serial number PFDs that are installed on, but not limited to the airplanes below that are certificated in any category.

(1) Adam Aircraft Model A500;

(2) Cessna Aircraft Company Model 441 (STEC Alliant Supplemental Type Certificate (STC) No. SA09547AC-D incorporated);

(3) Cessna Aircraft Company Models LC42-550FG and LC41-550FG (Columbia Aircraft Manufacturing and The Lancair Company previously held the type certificate for these airplanes);

(4) Cirrus Design Corporation Models SR20 and SR22;

(5) Diamond Aircraft Industries GmbH Model DA 40;

(6) Hawker Beechcraft Corporation Model E90 (STEC Alliant STC No. SA09545AC-D incorporated);

(7) Hawker Beechcraft Corporation Model 200 series (STEC Alliant STC No. SA09543AC-D incorporated); and

(8) Piper Aircraft, Inc. Models PA-28-161, PA-28-181, PA-28R- 201, PA-32R-301 (HP), PA-32R-301T, PA-32-301FT, PA-32-301XTC, PA-34- 220T, PA-44-180, PA-46-350P, PA-46R-350T, and PA-46-500TP.

(d) If you have one of the affected part number PFDs installed on your airplane, you must positively show that it is not one of the affected serial numbers or comply with paragraph (f), all subparagraphs, as applicable in this AD. Under 14 CFR 43.7, the owner/operator holding at least a private pilot certificate is allowed to do the check in paragraph (d)(1) of this AD. All other actions must be done by a certificated mechanic, unless noted differently.

(1) Do a logbook check of aircraft records (previously referred to in AD 2008-06-28 R1 as "maintenance records") to determine if any PFD (P/Ns 700-00006-000, 700-00006-001, 700-00006-002, 700- 00006-003, or 700-00006-100) with any affected serial number listed in Avidyne Service Bulletin No. 601-00006-096, Revision 1, dated July 14, 2008, is installed.

(i) If, as a result of the logbook check, you positively identify that the PFD installed does not have a serial number affected by this AD, then only paragraph (f)(5) of this AD applies to you.

(ii) If, as a result of the logbook check, you cannot positively identify the serial number of the PFD, do the visual inspection required in paragraph (d)(2) of this AD.

(iii) If, as a result of the logbook check, you find any PFD installed with an affected serial number, do the actions required by paragraph (f) of this AD, including all subparagraphs as applicable.

(2) If, as a result of the above logbook check, you cannot positively identify the serial number of the PFD, visually inspect any PFD (P/Ns 700-00006-000, 700-00006-001, 700-00006-002, 700- 00006-003, or 700-00006-100) for any affected serial number listed in Avidyne Service Bulletin No. 601-00006-096, Revision 1, dated July 14, 2008.

(i) If, as a result of this visual inspection, you positively identify that the PFD installed does not have a serial number affected by this AD, then only paragraph (f)(5) of this AD applies to you.

(ii) If, as a result of this visual inspection, you identify that the PDF installed does have a serial number affected by this AD, do the actions required in paragraph (f) of this AD, including all subparagraphs as applicable.

Unsafe Condition

(e) This AD results from several field reports of Avidyne PFDs displaying incorrect altitude and airspeed information and Avidyne preparing a factory modification that will correct the possible incorrect altitude and airspeed information displayed. We are issuing this AD to prevent certain conditions from existing when PFDs display incorrect altitude, altitude, and airspeed information. This could result in airspeed/altitude mismanagement or spatial disorientation of the pilot with consequent loss of airplane control, inadequate traffic separation, or controlled flight into terrain.

Compliance

(f) To address this problem, you must do the following, unless already done:

(Over)→

Alternative Methods of Compliance (AMOCs)

(g) The Manager, Boston Aircraft Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Solomon Hecht, Aerospace Engineer, ANE-150, Boston Aircraft Certification Office, 12 New England Executive Park, Burlington, Massachusetts 01803, telephone: (781) 238-7159, fax: (781) 238-7170. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(h) AMOCs approved for AD 2008-06-28 R1 are approved for this AD.

Material Incorporated by Reference

(i) You must use Avidyne Service Bulletin No. 601-00006-096, Revision 1, dated July 14, 2008, to do the actions required by this AD, unless the AD specifies otherwise.

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

(2) For service information identified in this AD, contact Avidyne Corporation, 55 Old Bedford Road, Lincoln, MA 01773; telephone: (781) 402-7400; fax: (781) 402-7599; E-mail:

techsupport@avidyne.com; Internet: <http://www.avidyne.com/>.

(3) You may review copies of the service information incorporated by reference for this AD at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the Central Region, call (816) 329-3768.

(4) You may also review copies of the service information incorporated by reference for this AD 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/code_of_federal_regulations/ibr_locations.html.

Appendix to Airworthiness Directive 2009-05-05 Limitations Regarding Avidyne Primary Flight Displays (PFDs)

Before conducting flight operations, pilots must review and be familiar with the Crosscheck Monitor section of the Avidyne Primary Flight Display Pilot's Guide and all limitations contained in the aircraft operating handbook.

As a normal practice, all pilots should be vigilant in conducting proper preflight and in-flight checks of instrument accuracy, including:

Preflight check of the accuracy of both the primary and backup altimeter against known airfield elevation and against each other.

Verification of airspeed indications consistent with prevailing conditions at startup, during taxi, and prior to takeoff.

"Airspeed alive" check and reasonable indications during takeoff roll.

Maintenance of current altimeter setting in both primary and backup altimeters.

Cross-check of primary and backup altimeters at each change of altimeter setting and prior to entering instrument meteorological conditions (IMC).

Cross-check of primary and backup altimeters and validation against other available data, such as glideslope intercept altitude, prior to conducting any instrument approach.

Periodic cross-checks of primary and backup airspeed indicators, preferably in combination with altimeter cross-checks.

For flight operations under instrument flight rules (IFR) or in conditions in which visual reference to the horizon cannot be reliably maintained (that is IMC, night operations, flight operations over water, in haze or smoke) and the pilot has reasons to suspect that any source (PFD or back-up instruments) of attitude, airspeed, or altitude is not functioning properly, flight under IFR or in these conditions must not be initiated (when condition is determined on the ground) and further flight under IFR or in these conditions is prohibited until equipment is serviced and functioning properly.

Operation of aircraft not equipped with operating backup (or standby) attitude, altimeter, and airspeed indicators that are located where they are readily visible to the pilot is prohibited.

Pilots must frequently scan and crosscheck flight instruments to make sure the information depicted on the PFD correlates and agrees with the information depicted on the backup instruments.

Issued in Kansas City, Missouri, on February 19, 2009.

John Colomy, Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

Actions	Compliance	Procedures
<p>(1) Incorporate the operational limitations below by doing whichever of the following applies:</p> <p>(i) For airplanes with an airplane flight manual (AFM), pilot's operating handbook (POH), or airplane flight manual supplement (AFMS), incorporate the language in the Appendix of this AD into the Limitations section of the AFM, POH, or AFMS.</p> <p>(ii) For airplanes without an AFM, POH, or AFMS, do the following:</p> <p>(A) Incorporate the language in the Appendix of this AD into your aircraft maintenance records; and</p> <p>(B) Fabricate a placard (using at least 1/8-inch letters) with the following words and install the placard on the instrument panel within the pilot's clear view: "THIS AD AND SUPERSEDED AD 2008-06-28 R1 CONTAIN LIMITATIONS REGARDING AVIDYNE PRIMARY FLIGHT DISPLAYS (PFD) AND REQUIRED INCORPORATION OF THESE LIMITATIONS INTO THE AIRCRAFT RECORDS. YOU MUST FOLLOW THESE LIMITATIONS."</p>	<p>Prior to further flight after April 3, 2009 (the effective date of this AD).</p>	<p>Under 14 CFR 43.7, the owner/operator holding at least a private pilot certificate is allowed to insert the information into the AFM, POH, AFMS, or maintenance records as required in paragraph (f)(1)(i) or (f)(1)(ii)(A) of this AD and fabricate the placard required in paragraph (f)(1)(ii)(B) of this AD. Make an entry into the aircraft records showing compliance with these portions of the AD in accordance with 14 CFR 43.9.</p>
<p>(2) Inspect for a label marked "Deviation 08-19A" on the exterior of the PFD near the TSO label or a "MOD 52" marking.</p> <p>(i) If the label marked "Deviation 08-19A" or "MOD 52" marking is present, then the PFD has received the factory modification. Remove the limitations required by paragraph (f)(1) of this AD and AD 2008-06-28 R1. Except for the actions of paragraph (f)(5) of this AD, no further action is required by this AD.</p> <p>(ii) If the label or marking is not present, do the PFD air data system performance verification test in Section 3.3 of the referenced service bulletin.</p>	<p>Within the next 15 days after April 3, 2009 (the effective date of this AD).</p>	<p>Follow Avidyne Service Bulletin No. 601-00006-096, Revision 1, dated July 14, 2008.</p>
<p>(3) If the PFD passes the test required in paragraph (f)(2)(ii) of this AD, remove the limitations required by paragraph (f)(1) of this AD and AD 2008-06-28 R1. Except for the actions of paragraph (f)(5) of this AD, no further action is required by this AD.</p>	<p>Within the next 15 days after April 3, 2009 (the effective date of this AD).</p>	<p>Follow Avidyne Service Bulletin No. 601-00006-096, Revision 1, dated July 14, 2008.</p>
<p>(4) If the PFD does not pass the test required in paragraph (f)(2)(ii) of this AD, do the following:</p> <p>(i) Remove the PFD, install a PFD that has passed the air data system performance verification test, has been factory modified (PFD bears a label marked "Deviation 08-19A" on the exterior of the PFD near the TSO label or a "MOD 52" marking), or is not one of the affected serial number PFDs;</p> <p>(ii) Remove the limitations required by paragraph (f)(1) of this AD and AD 2008-06-28 R1; and</p> <p>(iii) Except for the actions of paragraph (f)(5) of this AD, no further action is required by this AD.</p>	<p>Within the next 15 days after April 3, 2009 (the effective date of this AD).</p>	<p>Follow Avidyne Service Bulletin No. 601-00006-096, Revision 1, dated July 14, 2008.</p>
<p>(5) Do not install any PFD (P/Ns 700-00006-000, 700-00006-001, 700-00006-002, 700-00006-003, or 700-00006-100) with any affected serial number listed in Avidyne Service Bulletin No. 601-00006-096, Revision 1, dated July 14, 2008, unless it has passed the air data system performance verification test or has been factory modified (PFD bears a label marked "Deviation 08-19A" on the exterior of the PFD near the TSO label or a "MOD 52" marking).</p>	<p>As of April 3, 2009 (the effective date of this AD).</p>	<p>Not applicable.</p>

N110BW
AIRCRAFT REGISTRATION NO.

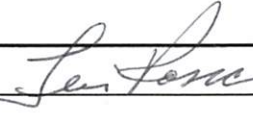
1538
AIRCRAFT SERIAL NO.

SR20
TYPE AIRCRAFT



2008-14-13 N
AD NUMBER

Cabin Door Separation

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
4/4/08	608.5	608.5	RW Per SB 2X-52-07 R4 installed CDE Kit 70186-004	 AP/613572

© 2008 AeroTech Publications, Inc., All rights reserved

Amendment 39-15608; Docket No. FAA-2007-28245; Directorate Identifier 2007-CE-047-AD.

Effective Date

(a) This AD becomes effective on August 14, 2008.

Affected ADs

(b) None.

Applicability

(c) This AD applies to the following airplane models and serial numbers that are certificated in any category:

Models	Serial Numbers
SR20	1423 through 1906
SR22	0795 and 0820 through 2912

Unsafe Condition

(d) This AD results from two known occurrences of in-flight cabin door separation (one total separation and one retained by the door strut). We are issuing this AD to prevent in-flight failure of the cabin door, which could result in door separation from the airplane.

Compliance

(e) Unless already done, within the next 50 hours time-in-service (TIS) after August 14, 2008 (the effective date of this AD) or within 180 days after August 14, 2008 (the effective date of this AD), whichever occurs first, following Cirrus Design Corporation Service Bulletin SB 2X-52-07 R4, dated January 24, 2008, do one of the following:

(1) If threaded sleeve is installed at the cabin door rod end, install cabin door rod end Kit 70186-004.

(2) If threaded sleeve is not installed at the cabin door rod end, install cabin door rod end Kit 70186-005.

Alternative Methods of Compliance (AMOCs)

(f) The Manager, Chicago 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. Send information to ATTN: Wess Rouse, Aerospace Engineer, Chicago ACO, 2300 East Devon Avenue, Room 107, Des Plaines, Illinois 60018;

telephone: (847) 294- 8113; fax: (847) 294-7834. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

Related Information

(g) To get copies of the service information referenced in this AD, contact Cirrus Design Corporation, 4515 Taylor Circle, Duluth, Minnesota 55811, telephone: (218) 788-3000. To view the AD docket, go to the U.S. Department of Transportation, Docket Operations, M- 30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, or on the Internet at [http:// dms.dot.gov](http://dms.dot.gov). The docket number is Docket No. FAA-2007-28245; Directorate Identifier 2007-CE-047-AD.

Material Incorporated by Reference

(h) You must use Cirrus Design Corporation Service Bulletin SB 2X-52-07 R4, dated January 24, 2008, to do the actions required by this AD, unless the AD specifies otherwise.

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

(2) For service information identified in this AD, contact Cirrus Design Corporation, 4515 Taylor Circle, Duluth, Minnesota 55811; telephone: (218) 727-2737; Internet address: www.cirrusdesign.com.

(3) You may review copies at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Kansas City, Missouri 64106; 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/code_of_federal_regulations/fbr_locations.html.

Issued in Kansas City, Missouri, on July 1, 2008.

John Colomy, Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

N 110BW
AIRCRAFT REGISTRATION NO.

1538
AIRCRAFT SERIAL NO.

SR20
TYPE AIRCRAFT



2008-6-28 Rev. 1 N/M
AD NUMBER

Avidyne PFD

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
4/6/09			Superseded By AD 2009-5-5	J. Lauer AP/613572

© 2008 AeroTech Publications, Inc., All rights reserved

Amendment 39-15468; Docket No. FAA-2008-0340; Directorate Identifier 2008-CE-020-AD.

Effective Date

(a) This AD becomes effective on April 10, 2008 (The effective date of AD 2008-06-28).

Affected ADs

(b) This AD revises AD 2008-06-28; Amendment 39-15440.

Applicability

(b) None.

Applicability

(c) This AD applies to Avidyne Corporation (Avidyne) Primary Flight Displays (PFDs) (Part Numbers (P/Ns) 700-00006-000, 700-00006-001, 700-00006-002, 700-00006-003, and 700-00006-100) that are installed on, but not limited to the following airplanes that are certificated in any category:

(1) Adam Aircraft Model A500;

(2) Cessna Aircraft Company Model 441 (STEC Alliant Supplemental Type Certificate (STC) No. SA09547AC-D incorporated);

(3) Cessna Aircraft Company Models LC42-550FG and LC41-550FG (Columbia Aircraft Manufacturing and The Lancair Company previously held the type certificate for these airplanes);

(4) Cirrus Design Corporation Models SR20 and SR22;

(5) Diamond Aircraft Industries GmbH Model DA 40;

(6) Hawker Beechcraft Corporation Model E90 (STEC Alliant STC No. SA09545AC-D incorporated);

(7) Hawker Beechcraft Corporation Model 200 series (STEC Alliant STC No. SA09543AC-D incorporated); and

(8) Piper Aircraft, Inc. Models PA-28-161, PA-28-181, PA-28R-201, PA-32R-301 (HP), PA-32R-301T, PA-32-301FT, PA-32-301XTC, PA-34-220T, PA-44-180, PA-46-350P, PA-46R-350T, and PA-46-500TP.

Unsafe Condition

(d) This AD is the result of our learning that there is an incorrect serial number (SN) listed in AD 2008-06-28, which is corrected in this AD. We are issuing this AD to prevent certain conditions from existing when PFDs display incorrect attitude, altitude, and airspeed information. This could result in airspeed/altitude mismanagement or spatial disorientation of the pilot with consequent loss of airplane control, inadequate traffic separation, or controlled flight into terrain.

Compliance

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

Table 1.—Actions, Compliance, and Procedures

Actions	Compliance	Procedures
<p>(1) Do a logbook check of maintenance records to determine if any PFD (P/Ns 700-00006-000, 700-00006-001, 700-00006-002, 700-00006-003, or 700-00006-100) with any affected serial number listed in TABLE 2—Serial Numbers of Affected PFDs is installed.</p> <p>(i) If, as a result of this check, you find any PFD installed with an affected serial number, do the action required by paragraph (e)(3)(i) or (e)(3)(ii) of this AD.</p> <p>(ii) If, as a result of this check, you cannot positively identify the serial number of the PFD, do the inspection required in paragraph (e)(2) of this AD.</p> <p>(iii) If, as a result of this check, you positively identify that the PFD installed does not have a serial number affected by this AD, then no further action is required.</p>	<p>Within 15 days after April 10, 2008 (the effective date of AD 2008-06-28).</p>	<p>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 logbook check. Make an entry into the aircraft logbook showing compliance with this portion of the AD in accordance with section 43.9 of the Federal Aviation Regulations (14 CFR 43.9).</p>
<p>(2) If you find, as a result of the check required by paragraph (e)(1) of this AD you cannot positively identify the serial number of the PFD, inspect any PFD (P/Ns 700-00006-000, 700-00006-001, 700-00006-002, 700-00006-003, or 700-00006-100) for any affected serial number listed in TABLE 2—Serial Numbers of Affected PFDs. You may do the requirement of paragraph (e)(3) of this AD instead of this inspection.</p>	<p>Within 15 days after April 10, 2008 (the effective date of AD 2008-06-28).</p>	<p>Not Applicable.</p>
<p>(3) If you find, as a result of the check required by paragraph (e)(1) of this AD or the inspection required by paragraph (e)(2) of this AD, any PFD installed with an affected serial number, do whichever of the following applies:</p> <p>(i) For airplanes with an airplane flight manual (AFM), pilot's operating handbook (POH), or airplane flight manual supplement (AFMS), incorporate the language in the Appendix of this AD into the Limitations section.</p> <p>(ii) For airplanes without an AFM, POH, or AFMS, do the following:</p> <p>(A) Incorporate the language in the Appendix of this AD into your aircraft records; and</p> <p>(B) Fabricate a placard (using at least 1/8-inch letters) with the following words and install the placard on the instrument panel within the pilot's clear view: "AD 2008-06-28 R1 CONTAINS LIMITATIONS REGARDING AVIDYNE PRIMARY FLIGHT DISPLAYS (PFD) AND REQUIRED INCORPORATION OF THESE LIMITATIONS INTO THE AIRCRAFT RECORDS. YOU MUST FOLLOW THESE LIMITATIONS."</p>	<p>Within 15 days after April 10, 2008 (the effective date of AD 2008-06-28).</p>	<p>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 insert the information into the AFM, POH, AFMS, or maintenance records as required in paragraph (e)(3)(i) or (e)(3)(ii)(A) of this AD and/or fabricate the placard required in paragraph (e)(3)(ii)(B) of this AD. 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).</p>
<p>(4) Do not install any PFD (P/Ns 700-00006-000, 700-00006-001, 700-00006-002, 700-00006-003, or 700-00006-100) with any affected serial number listed in TABLE 2—Serial Numbers of Affected PFDs.</p>	<p>As of April 10, 2008 (the effective date of AD 2008-06-28).</p>	<p>Not Applicable.</p>

(Over)→

Note 1: If you have an AFM, POH, or AFMS, you may fabricate and install a placard as described in paragraph (e)(3)(ii) of this AD in addition to, but not instead of, the Limitations section requirement of paragraph (e)(3)(i) of this AD.

Note 2: Avidyne Service Alert No. SA-08-001, dated February 12, 2008, pertains to the subject matter of this AD. The service information cautions that all pilots should be vigilant in conducting proper preflight and in-flight checks of instrument accuracy.

Table 2.—Serial Numbers of Affected PFDs AD 2008-06-28 R1

D1023, D1031, D1037, D1069, D1075, D1080, D1084, D1090, D1101, D1102, D1106, D1112,
D1115, D1136, D1138, D1141, D1144, D1158, D1170, D1172, D1174, D1178, D1188, D1197,
D1199, D1212, D1234, D1240, D1249, D1253, D1254, D1256, D1259, D1260, D1262, D1270,
D1272, D1277, D1283, D1288, D1313, D1319, D1327, D1351, D1364, D1380, D1387, D1391,
D1396, D1405, D1412, D1428, D1433, D1434, D1435, F0006, F0011, F0021, F0030, F0031,
F0032, F0035, 20002067, 20003147, 20003296, 20003316, 20004297, 20005316, 20005487,
20008167, 20008227, 20008255, 20009297, 20009476, 20010177, 20010255, 20011396, 20011456,
20012337, 20012506, 20013406, 20014027, 20014227, 20015357, 20017286, 20018317, 20018425,
20018486, 20019067, 20019297, 20020297, 20021067, 20021197, 20022177, 20022207, 20022217,
20022286, 20022287, 20022296, 20023197, 20023377, 20024196, 20024217, 20024297, 20024397,
20024407, 20024425, 20025067, 20025177, 20025217, 20025317, 20026067, 20026197, 20026207,
20026265, 20026377, 20026407, 20026506, 20027177, 20027226, 20027317, 20027377, 20028177,
20028337, 20029177, 20029197, 20029246, 20029265, 20029506, 20030197, 20030237, 20031207,
20031217, 20031406, 20031407, 20031516, 20032067, 20032265, 20032337, 20032516, 20033337,
20034207, 20034327, 20035177, 20036197, 20036237, 20036397, 20037265, 20037285, 20038127,
20038197, 20038337, 20039177, 20040127, 20040177, 20040197, 20040265, 20040317, 20041177,
20042197, 20042265, 20042317, 20042337, 20043197, 20043215, 20043237, 20043247, 20044226,
20044237, 20044285, 200445215, 20045265, 20045437, 20046215, 20047127, 20047147, 20047197,
20048197, 20048215, 20048247, 20049147, 20049357, 20050147, 20050287, 20050346, 20050434,
20051215, 20052215, 20053247, 20053257, 20053357, 20054247, 20054257, 20054357, 20055087,
20056247, 20056257, 20057237, 20057346, 20058346, 20061087, 20061247, 20062087, 20062247,
20063087, 20064087, 20064147, 20064226, 20064337, 20066147, 20067087, 20068147, 20068337,
20069087, 20071237, 20072087, 20073087, 20073346, 20073506, 20074207, 20075087, 20075147,
20075207, 20076217, 20076257, 20077087, 20077506, 20078087, 20078217, 20078257, 20078346,
20078496, 20084257, 20085396, 20087257, 20089257, 20089346, 20090346, 20092297, 20093247,
20094107, 20094416, 20097137, 20098037, 20099107, 20099346, 20099416, 20101416, 20102417,
20103396, 20104246, 20106224, 20111224, 20112224, 20114416, 20115346, 20116346, 20118416,
20123416, 20124456, 20126416, 20129346, 20135337, 20139336, 20140336, 20142037, 20142296,
20146037, 20147336, 20153037, 20158097, 20161097, 20164097, 20165097, 20166097, 20170097,
20170175, 20172175, 20177175, 20202257, 20204175, 20209246, 20214175, 20216265, 20217175,
20224175, 20224265, 20229265, 20232175, 20233175, 20236175, 20236265, 20241175, 20243265,
20265355, 20272355, 20273355, 20278355, 20281355, 20302384, 20308384, 20314384, 20317384,
20320305, 20321376, 20330376, 20330384, 20343384, 20347305, 20348305, 20350305, 20356305,
20359305, 20378475, 20380225, 20381225, 20382475, 20388225, 20402174, 20403174, 20438345,
20440345, 20447425, 20452315, 20458315, 20462315, 20467315, 20540094, 20550094, 20576445,
20580445, 20581445, 20582525, 20584525, 20591525, 20595065, 20599065, 20605065, 20615116,
20618065, 20638116, 20656284, 20732074, 20735176, 20739176, 20755493, 20814015, 20815015,
20974365, 20978365, 20978434, 20986365, 20990434, 20998365, 21002365, 21056395, 21060395,
21063184, 21063395, 21067184, 21070184, 21075395, 21191045, 21200045, 21219045, 21294414,
21311414, 21315414, 21324414, 21325414, 21330414, 21334414, 21340414, 21491056, 21493056,
21596354, 21603435, 21604435, 21606435, 21608435, 21610435, 21614435, 21646086, 21668086,
21812514, 21823514, 21826514, 21836304, 21839304, 21852304, 22310186, 22378026, 22380026,
22398294, 22401294, 22405085, 22412385, 22418026, 22418385, 22419026, 22470524, 22471524,
22472524, 22479524, 22483524, 22486524, 22523204, 22525264, 22531204, 22559135, 22568135,
22572135, 22578135, 22579135, 22586135, 22602135, 22603135, 22608135, 22642493, 22647493,
22682076, 22908334, 22921334, 22961354, 23166495, 23169495, 23173495, 23175495, 23182495,
23371455, 23378455, 23443264, 23445264, 23448264, 23581244, 23602244, 23737136, 23738136,
24021335, 24029335, 24231144, 24238144, 24248144, 24381324, 24478515, 24735144, 24746144,
24750144, 24772085, 24773085, 24865155, 24867155, 24870155, 24990084, 24991084, 24993084,
24996084, 25023034, 25027034, 25522465, 25525465, 25530465, 25532465, 25538465, 25600465,
25618106, 26287114, 26528095, 26547095, 26553095, 26569464, 26571095, 26572095, 26584095,
26588464, 26592464, 27865034, 28478495, 28519495, 29019044, 29023044, 29029044, 29031044,
29032044, 29512216, 29514216, and 29522216

Alternative Methods of Compliance (AMOCs)

(f) The Manager, Boston 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. Send information to ATTN: Solomon Hecht, Aerospace Engineer, Boston ACO, 12 New England Executive Park, Burlington, MA 01803; telephone: (781) 238-7159; fax: (781) 238-7170. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate

principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

Additional Information

(g) For the service alert referenced in this AD, contact Avidyne Corporation, 55 Old Bedford Road, Lincoln, MA 01773; telephone: (781) 402-7400; fax: (781) 402-7599.

Appendix to AD 2008-06-28 R1 Limitations Regarding Avidyne Primary Flight Displays (PFDs)

Before conducting flight operations, pilots must review and be familiar with the Crosscheck Monitor section of the Avidyne Primary Flight Display Pilot's Guide and all limitations contained in the airplane flight manual, pilot's operating handbook, or aircraft operating handbook.

As a normal practice, all pilots should be vigilant in conducting proper preflight and in-flight checks of instrument accuracy, including:

- Preflight check of the accuracy of both the primary and backup altimeter against known airfield elevation and against each other.
- Verification of airspeed indications consistent with prevailing conditions at startup, during taxi, and prior to takeoff.
- "Airspeed alive" check and reasonable indications during takeoff roll.
- Maintenance of current altimeter setting in both primary and backup altimeters.
- Cross-check of primary and backup altimeters at each change of altimeter setting and prior to entering instrument meteorological conditions (IMC).
- Cross-check of primary and backup altimeters and validation against other available data, such as glideslope intercept altitude, prior to conducting any instrument approach.

• Periodic cross-checks of primary and backup airspeed indicators, preferably in combination with altimeter cross-checks.

For flight operations under instrument flight rules (IFR) or in conditions in which visual reference to the horizon cannot be reliably maintained (that is IMC, night operations, flight operations over water, in haze or smoke) and the pilot has reasons to suspect that any source (PFD or back-up instruments) of altitude, airspeed, or altitude is not functioning properly, flight under IFR or in these conditions must not be initiated (when condition is determined on the ground) and further flight under IFR or in these conditions is prohibited until equipment is serviced and functioning properly.

Operation of aircraft not equipped with operating backup (or standby) altitude, altimeter, and airspeed indicators that are located where they are readily visible to the pilot is prohibited.

Pilots must frequently scan and cross-check flight instruments to make sure the information depicted on the PFD correlates and agrees with the information depicted on the backup instruments.

Issued in Kansas City, Missouri, on April 4, 2008.

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

N110BW
AIRCRAFT REGISTRATION NO.
1538
AIRCRAFT SERIAL NO.
SR20
TYPE AIRCRAFT



2007-26-9 N/M
AD NUMBER

Hartzell Propeller

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

Propeller Model: PHC-J3YF-12F Serial No.: FP 3814B

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
4/28/09	750.8	750.8	N/A Due Prop S/N	John Smith 11/6/3512

© 2007 AeroTech Publications, Inc., All rights reserved

Amendment 39-15311. Docket No. FAA-2007-28876;
Directorate Identifier 2000-NE-08-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective
January 30, 2008.

Affected ADs

(b) This AD supersedes AD 2002-09-08, Amendment 39-
12741.

Applicability

(c) This AD applies to all Hartzell Propeller Inc. models ()HC- ()Y()-()Y() compact series constant speed or feathering propellers with Hartzell manufactured "Y" shank aluminum blades. These propellers are used on, but not limited to, the following airplanes:

Manufacturer	Airplane Model
Aermacchi S.p.A. (formerly Siai-Marchetti)	S-208
Aero Commander	200B and 200D
Aerostar	600
Beech	24, 35, 36, 45, 55, 56TC, 58, 60, and 95
Bellanca	14 and 17 series
Cessna	182 and 188
Embraer	EMB-200A
Maule	M5
Mooney	M20 and M22
Pilatus Britten Norman, or Britten Norman	BN-2, BN-2A, and BN-2A-6
Piper	PA-23, PA-24, PA-28, PA-30, PA-31, PA-32, PA-34, PA-36, and PA-39
Pitts	S-1T and S-2A
Rockwell	112, 114, 200, 500, and 685 series

(d) The parentheses appearing in the propeller model number indicates the presence or absence of an additional letter(s) that varies the basic propeller model. This AD applies regardless of whether these letters are present or absent in the propeller model designation.

Unsafe Condition

(e) This AD results from operators requesting clarification of certain portions of AD 2002-09-08. We are issuing this AD to prevent failure of the propeller blade from fatigue cracks in the aluminum blade shank radius, which can result in damage to the airplane and loss of airplane control.

Compliance

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

(g) If the propeller maintenance records show compliance with AD 77-12-06R2, then compliance was previously done and no further action is required.

(h) Propellers are considered in compliance with the one-time inspection and rework requirements only, of this AD if:

(1) All blades are serial number D47534 and above, or

(2) All blades are identified with the letters "PR" or "R" which are ink-stamped on the camber side, or the letters "RD" which are metal-stamped on the blade butt.

Models ()HC-()Y() Compact Series "Y" Shank Propellers

(i) If propeller models ()HC-()Y() have not been inspected and reworked in accordance with AD 77-12-06R2, then before further flight, do a one-time action to remove, inspect, rework, or replace blades if necessary using Hartzell Service Bulletin (SB) No. 118A, dated February 15, 1977.

Propeller Blade Shank Cold Rolling

(j) One requirement in Hartzell SB No. 118A is the cold rolling of the propeller blade shank.

(1) Cold rolling is a critical requirement in the prevention of cracks in the blade. Propeller repair shops must obtain and maintain proper certification to perform the cold rolling procedure.

(Over)➔

(2) For a current list of propeller overhaul facilities approved to perform the blade shank cold rolling procedure, contact Hartzell Product Support, telephone (937) 778-4200.

(3) Not all propeller repair facilities have the equipment to properly perform a cold roll of the blade shanks.

(4) In addition, any rework in the blade shank area will also necessitate the cold rolling of the blade shank area, apart from the one-time cold rolling requirement of this AD.

Instrument Panel Modifications

(k) If airplanes with propeller models ()HC-C2YK-() () () () 7666A-(), installed on (undamped) 200 or more horsepower Lycoming IO-360 series engines, have not been modified using AD 77- 12-06R2, then modify the airplane instrument panel according to the following subparagraphs before further flight. Airplanes include, but are not limited to, Mooney M20E and M20F (normal category), Piper PA-28R-200 (normal category), and Pitts S-1T and S-2A (acrobatic category).

(1) For normal category airplanes, before further flight, remove the present vibration placard and affix a new placard near the engine tachometer that states:

**"Avoid continuous operation:
Between 2,000 and 2,350 rpm."**

(2) For utility and acrobatic category airplanes, before further flight, remove the present vibration placard and affix a new placard near the engine tachometer that states:

**"Avoid continuous operation:
Between 2,000 and 2,350 rpm.
Above 2,600 rpm in acrobatic flight."**

(3) For normal category airplanes, re-mark the engine tachometer face or bezel with a red arc for the restricted engine speed range, between 2,000 and 2,350 rpm.

(4) For acrobatic and utility airplanes, re-mark the engine tachometer face or bezel with a red arc for each restricted engine speed range, i.e., between 2,000 and 2,350 rpm and between 2,600 and 2,700 rpm (red line).

Models ()HC-C2YK-() () () () 8475()-() or () () 8477()-() Propellers

(l) If propeller models ()HC-C2YK-() () () () 8475()-() or () () 8477()-() have not been inspected and reworked in accordance with AD 74-15-02, then do the following maintenance before further flight.

- (1) Remove propeller from airplane.
- (2) Modify pitch change mechanism, and replace blades with equivalent model blades prefixed with letter "F" using Hartzell Service Letter No. 69, dated November 30, 1971 and Hartzell SB No. 101D, dated December 19, 1974.
- (3) Inspect and repair or replace, if necessary, using Hartzell SB No. 118A, dated February 15, 1977.

Alternative Methods of Compliance

(m) The Manager, Chicago 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.

(n) Alternative methods of compliance for Hartzell SB No. 118A, dated February 15, 1977, are: Hartzell SB No. 118B, November 28, 1977; SB No. 118C, May 13, 1983; SB No. 118D, March 25, 1991; SB No. HC-SB-61-118E, December 14, 2001; SB No. HC-SB-61-118 revision F, dated August 15, 2002, and Hartzell Manual 133C.

(o) An alternative method of compliance to Hartzell SB No. 101D, dated December 19, 1974, is Hartzell Manual 133C.

(p) No adjustment in the compliance time is allowed.

Related Information

(q) Contact Tim Smyth, Senior Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Avenue, Des Plaines, IL 60018-4696; e-mail: timothy.smyth@faa.gov; telephone (847) 294-7132; fax (847) 294-7834, for more information about this AD.

Material Incorporated by Reference

(r) You must use the service information specified in Table 1 of this AD to perform the actions required by this AD. The Director of the Federal Register previously approved the incorporation by reference of the documents listed in Table 1 of this AD in accordance with 5 U.S.C. 552(a) and 1 CFR part 51 on June 13, 2002. Contact Hartzell Propeller Inc. Technical Publications Department, One Propeller Place, Piqua, OH 45356; telephone (937) 778-4200; fax (937) 778-4391, for a copy of this service information. You may review service information 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>.

Table 1.—Incorporation by Reference

Hartzell Service Information	Page	Revision	Date
SB No. 101D	All	D	December 19, 1974
SB No. 118A	All	A	February 15, 1977
SL No. 69	All	I	November 30, 1971

Issued in Burlington, Massachusetts, on December 17, 2007.

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

N110BW
AIRCRAFT REGISTRATION NO.

1538
AIRCRAFT SERIAL NO.

SR20
TYPE AIRCRAFT



2007-14-3 N
AD NUMBER

CAPS Failure

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
4/16/2007	431.0	431.0	C/w by SB A2X-95-10-R1 PCW	<i>[Signature]</i> AP161351

© 2007 AeroTech Publications, Inc., All rights reserved

Amendment 39-15125; Docket No. FAA-2007-27976; Directorate Identifier 2007-CE-042-AD.

Effective Date

(a) This AD becomes effective on August 16, 2007.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Model SR20 airplanes, serial numbers (SN) 1005 through 1798, and Model SR22 airplanes, SN 0002 through 2437, that:

(1) Are certificated in any category; and

(2) have not incorporated the actions in their entirety of Cirrus Alert Service Bulletin No. SB A2X-95-10 R1, Issued April 2, 2007, Revised: April 10, 2007.

Unsafe Condition

(d) This AD results from a Cirrus Design Corporation (CDC) report of an in-flight Cirrus Airplane Parachute System (CAPS) activation where the parachute failed to successfully deploy. We are issuing this AD to correct pick-up collar support fasteners of the CAPS, which could result in the premature separation of the collar. This condition, if not corrected, could result in the parachute failing to successfully deploy (CAPS failure).

Compliance

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

Actions	Compliance	Procedures
<p>Replace the pick-up collar support of the CAPS with the new design pick-up collar support and the two nylon collar support screws with new custom aluminum tension screws. One of the following must do the replacement:</p> <p>(1) A CDC trained and authorized parachute system technician who also holds an Airframe and Powerplant (A&P) mechanic certificate; or</p> <p>(2) A CDC trained and authorized parachute system technician who is supervised by an A&P mechanic.</p>	<p>Within the next 25 hours time-in-service (TIS) after August 16, 2007 (the effective date of this AD) or within 60 days after August 16, 2007 (the effective date of this AD), whichever occurs first.</p>	<p>Follow Cirrus Alert Service Bulletin No. SB A2X-95-10 R2, Issued April 2, 2007, Revised: April 24, 2007.</p>

Alternative Methods of Compliance (AMOCs)

(f) The Manager, Chicago 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. Send information to ATTN: Wess Rouse, Aerospace Engineer, FAA, 2300 East Devon Avenue, Room 107, Des Plaines, Illinois 60018; telephone: (847) 294-8113; fax: (847) 297-7834. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

Material Incorporated by Reference

(g) You must use Cirrus Alert Service Bulletin No. SB A2X-95-10 R2, Issued April 2, 2007, Revised: April 24, 2007, or Cirrus Alert Service Bulletin No. SB A2X-95-10 R1, Issued April 2, 2007, Revised: April 10, 2007, to do the actions required by this AD, unless the AD specifies otherwise.

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

(2) For service information identified in this AD, contact Cirrus Design Corporation, 4515 Taylor Circle, Duluth, Minnesota 55811; telephone: (218) 727-2737; Internet address: <http://www.cirrusdesign.com>.

(3) You may review copies at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Kansas City, Missouri 64106; 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/code-of-federal-regulations/locations.html>.

Issued in Kansas City, Missouri, on June 29, 2007.

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

N110BW
AIRCRAFT REGISTRATION NO.
1538
AIRCRAFT SERIAL NO.
SR20
TYPE AIRCRAFT



2006-21-3 N/M
AD NUMBER

Brake Overheat

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
1/19/07	380.2	380.2	RW By FB 2X-32-14 R1	<i>[Signature]</i> 11/13512

© 2006 AeroTech Publications, Inc., All rights reserved

Amendment 39-14787; Docket No. Docket No. FAA-2006-24010;
Directorate Identifier 2006-CE-14-AD.

Effective Date

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

Affected Ads

(b) None.

Applicability

(c) This AD applies to the following airplane models and serial numbers (S/N) that are certificated in any category:

- (1) Group 1: Model SR20 Airplanes, S/N 1005 through 1600.
- (2) Group 2: Model SR22 Airplanes, S/N 0002 through 1739.
- (3) Group 3: Model SR20 Airplanes, S/N 1005 through 1592.

(4) Group 4: Model SR22 Airplanes, S/N 0002 through 1727.

Unsafe Condition

(d) This AD results from several reports of airplanes that experienced brake fires and two airplanes that lost directional control. The actions specified in this AD are intended to detect, correct, and prevent overheating damage to the brake caliper piston O-ring seals, which could result in leakage of brake hydraulic fluid. Consequently, this could lead to the loss of braking with loss of airplane directional control or brake fire.

Compliance

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

Table 1.--Actions/Compliance/Procedures

Actions	Compliance	Procedures
(1) For Group 1 and Group 2 airplanes: Check the maintenance records to determine whether the brake caliper piston O-ring seals were replaced at the last annual or 100-hour inspection.	Within 50 hours time-in-service (TIS) after November 17, 2006 (the effective date of this AD), unless already done.	No special procedures necessary to check the maintenance records. 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 make this check. You must make an entry into the airplane records that shows compliance with this portion of the AD in accordance with section 43.9 of the Federal Aviation Regulations (14 CFR 43.9).
(2) For Group 1 and Group 2 airplanes: If you find as a result of the check required by paragraph (e)(1) of this AD that there is no record of the replacement of brake caliper piston O-ring seals at the last annual or 100-hour inspection, then do the following: (i) Replace the O-ring seals with new O-ring seals or (ii) Replace old brake calipers with new brake calipers.	Before further flight after the check required by paragraph (e)(1) of this AD.	For the replacement, follow the brake maintenance procedures in Section 32-42 of the SR20 or SR22 Aircraft Maintenance Manual. For the replacement of the new brake calipers, follow Cirrus Design Corporation Service Bulletin SB 2X-32-13 R1, Issued: December 15, 2005, Revised May 16, 2006.
(3) For Group 3 and Group 4 airplanes: (i) Modify the main landing gear (MLG) wheel fairings to add temperature indicator sticker inspection holes and trim the wheel fairings to prevent them from holding fluids; and (ii) Install a temperature indicator sticker on the brake calipers.	Do the modification within 50 hours TIS after November 17, 2006 (the effective date of this AD), unless already done. Do the temperature indicator sticker installation within 50 hours TIS after November 17, 2006 (the effective date of this AD), unless already done, and thereafter before further flight anytime you have the O-ring seals replaced due to overheating of the brake assembly (temperature indicator sticker turned black).	Follow Cirrus Design Corporation Service Bulletin SB 2X-32-14 R1, Issued: January 18, 2006, Revised: February 17, 2006.
(4) For all airplanes: Insert the appropriate Revision A6 part number (P/N) into the Pilot's Operating Handbook (POH), as presented in TABLE 2.—REVISION A6 TO THE PILOT'S OPERATING HANDBOOK, in paragraph (f) of this AD.	Within 50 hours TIS after November 17, 2006 (the effective date of this AD), unless already done.	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 insert the information into the POH as specified in paragraph (e)(4) of this AD. Make an entry into the airplane maintenance records showing compliance with this portion of the AD in accordance with section 43.9 of the Federal Aviation Regulations (14 CFR 43.9).
(5) For Group 3 and Group 4 airplanes: (i) Do not install any MLG fairings without also doing the modifications required by paragraph (e)(3)(i) of this AD; and (ii) Do not replace any brake calipers without also installing the temperature indicator sticker required by paragraph (e)(3)(ii) of this AD.	As of November 17, 2006 (the effective date of this AD).	Follow Cirrus Design Corporation Service Bulletin SB 2X-32-14 R1, Issued: January 18, 2006, Revised: February 17, 2006.

(Over)

(f) The following table specifies the POH Revision A6 part number as required in paragraph (e)(4) of this AD:

Table 2.—Revision A6 to the Pilot's Operating Handbook

Affected airplanes	Model SR20 or SR22 airplane POH P/N	Date FAA-approved
(1) Model SR20, S/N 1148 through 1267	11934-002	January 18, 2006.
(2) Model SR20, S/N 1005 through 1147 that have the 3,000-pound gross weight modification following Cirrus Design Corporation Service Bulletin SB 20-01-00, Issued: February 25, 2003.	11934-002	January 18, 2006.
(3) SR20, S/N 1268 through 1739	11934-003	January 18, 2006.
(4) SR22, S/N 002 through 1739	13772-001	January 18, 2006.

Alternative Methods of Compliance (AMOCs)

(g) The Manager, Chicago Aircraft Certification Office (ACO), ATTN: Wess Rouse, Aerospace Engineer, FAA, ACE-117C, Chicago ACO, 2300 East Devon Avenue, Room 107, Des Plaines, Illinois 60018; telephone: (847) 294-8113; facsimile: (847) 294-7834, has the authority to approve alternative methods of compliance for this AD, if requested using the procedures found in 14 CFR 39.19.

Material Incorporated by Reference

(h) You must do the actions required by this AD following the instructions in Cirrus Design Corporation Service Bulletin SB 2X-32-13 R1, Issued: December 15, 2005, Revised May 16, 2006; and Cirrus Design Corporation Service Bulletin SB 2X-32-14 R1, Issued: January 18, 2006, Revised: February 17, 2006. 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 Cirrus Design Corporation,

4515 Taylor Circle, Duluth, Minnesota 55811; telephone: (218) 727-2737 or on the Internet at <http://www.cirrusdesign.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-regulation/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 Docket No. FAA-2006-24010; Directorate Identifier 2006-CE-14-AD.

Issued in Kansas City, Missouri, on October 3, 2006.

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

N 110 BW
AIRCRAFT REGISTRATION NO.
1538
AIRCRAFT SERIAL NO.
\$R20
TYPE AIRCRAFT



2006-19-10 N/M

AD NUMBER

Crew Seats

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
1/19/06	274.2	274.2	Rev by SB 2X-25-17 Log Entry 1/19/06	Leif Jensen AP16/3512

© 2006 AeroTech Publications, Inc., All rights reserved

Amendment 39-14767; Docket No. FAA-2006-24254; Directorate Identifier 2006-CE-24-AD.

Effective Date

(a) This AD becomes effective on October 24, 2006.

Affected Ads

(b) This AD supersedes AD 2005-17-19, Amendment 39-14240.

Applicability

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

Model	Serial Numbers
(1) SR20	1005 through 1600
(2) SR22	0002 through 1727

Unsafe Condition

(d) This AD results from discovering that the crew seats, under emergency landing dynamic loads, may fold forward at less than the 26 g required by the regulations, 14 Code of Federal Regulations (CFR) Section 23.562 (b)(2). We are issuing this AD to prevent the crew seats from folding forward during emergency landing with dynamic loads with consequent occupant injury.

Compliance

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

Actions	Compliance	Procedures
(1) For Model SR20, serial numbers (S/Ns) 1005 through 1600, and Model SR22, S/Ns 0002 through 1727, do the following actions: (i) At the lower back of the crew seat, release the reclosable fasteners to expose the lower seat frame. (ii) Replace the crew seat break-over bolt with the new crew seat break-over pin, part number 17063-002. (iii) Recover the seat frame, refastening the reclosable fasteners. (iv) Inspect the crew seat. (v) Repeat the above actions for the opposite crew seat.	Within 50 hours time-in-service (TIS) or within 180 days, whichever occurs first, after October 24, 2006 (the effective date of this AD), unless already done.	Follow Cirrus Design Corporation Service Bulletin SB 2X-25-17 R1, Issued: December 15, 2005, Revised: January 20, 2006.
(2) For Models SR20, S/Ns 1005 through 1455, and SR22, S/Ns 0002 through 1044, do the following actions: (i) Identify whether the recline lock is secured with two bolts or three bolts. (ii) If the recline locks are secured with two bolts, remove the existing recline locks and replace with the new recline locks kit, Kit Number 70084-001. (iii) If the recline locks are secured with three bolts, remove existing recline locks and replace with the new recline locks kit, Kit Number 70084-002. (iv) Check break-over pin alignment and adjust as necessary. (v) Check that the locks engage with the break-over bolts with the seat in the full recline position. If full seat recline is not possible or difficult to engage, grinding of the lower aft seat frame is necessary. (vi) Repeat the above actions for the opposite crew seat.	Within 50 hours TIS or within 180 days, whichever occurs first after October 13, 2005 (the effective date of AD 2005-17-19), unless already done.	Follow Cirrus Design Corporation Service Bulletin SB 2X-25-06 R4, Issued: August 13, 2004, Revised: May 5, 2005.

Alternative Methods of Compliance (AMOCs)

(f) The Manager, Chicago Aircraft Certification Office, FAA, ATTN: 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; or Angie Kostopoulos, Composite Technical Specialist, ACE-116C, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Room 107, Des Plaines, Illinois 60018; telephone: (847) 294-7426; facsimile: (847) 294-7834; e-mail: evangelia.kostopoulos@faa.gov, have the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

Related Information

(g) None.

Material Incorporated by Reference

(h) You must do the actions required by this AD following the instructions in Cirrus Design Corporation Service Bulletins SB 2X-25-17 R1, Issued: December 15, 2005, Revised: January 20, 2006; and SB 2X-25-06 R4, Issued: August 13, 2004; Revised: May 5, 2005.

(1) As of October 24, 2006, the Director of the Federal Register approved the incorporation by reference of Cirrus Design Corporation Service Bulletin SB

2X-25-17 R1, Issued: December 15, 2005, Revised: January 20, 2006 under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) On October 13, 2005 (70 FR 51999, September 1, 2005), the Director of the Federal Register previously approved the incorporation by reference of Cirrus Design Corporation Service Bulletin SB 2X-25-06 R4, Issued: August 13, 2004, Revised: May 5, 2005.

(3) To get a copy of this service information, contact Cirrus Design Corporation, 4515 Taylor Circle, Duluth, Minnesota 55811; telephone: (218) 727-2737; Internet address: <http://www.cirrusdesign.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_location.shtml 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 20590-0001 or on the Internet at <http://dms.dot.gov>. The docket number is FAA-2006-24254; Directorate Identifier 2006-CE-24-AD.

Issued in Kansas City, Missouri, on September 8, 2006

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

N110BW
AIRCRAFT REGISTRATION NO.

1538
AIRCRAFT SERIAL NO.

SR20
TYPE AIRCRAFT



2006-7-6 N/M
AD NUMBER

Fuel Line/Wiring Chafing

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
12/22/05	247.5	247.5	new by SB2X-28-04 R1	Leifham HP1613512

© 2006 AeroTech Publications, Inc., All rights reserved

Amendment 39-14533; Docket No. FAA-2005-23023; Directorate Identifier 2005-CE-49-AD.

Effective Date

(a) This AD becomes effective on May 11, 2006.

Affected Ads

(b) None.

Applicability

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

Model	Serial Nos.
SR20	1005 through 1581.
SR22	0002 through 1643 and 1645 through 1662.

Unsafe Condition

(d) This AD is the result of reports of fuel line leaks resulting from wire chafing on the fuel lines. The actions specified in this AD are intended to detect, correct, and prevent damage to the fuel line and wire bundles, which could result in fuel leaks. This failure could lead to unsafe fuel vapor within the cockpit and possible fire.

Compliance

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

Actions	Compliance	Procedures
(1) Inspect the fuel line and wire harness for any chafing damage.	Within the next 50 hours time-in-service (TIS) after May 11, 2006 (the effective date of this AD).	Follow Cirrus Design Corporation Service Bulletin SB 2X-28-04 R1, Issued: November 1, 2005, Revised: November 14, 2005.
(2) If any chafing damage is found as a result of the inspection required by paragraph (e)(1) of this AD: (i) Replace any damaged fuel line; and (ii) Repair any damaged wires or sheathing of the wire harness	Before further flight after the inspection required by paragraph (e)(1) of this AD.	Follow Cirrus Design Corporation Service Bulletin SB 2X-28-04 R1, Issued: November 1, 2005, Revised: November 14, 2005.
(3) Install the following: (i) Forward loop clamp; (ii) Fuel line shield; (iii) Aft loop clamp; and (iv) Anti-chafe tubing	Within the next 50 hours time-in-service (TIS) after May 11, 2006 (the effective date of this AD).	Follow Cirrus Design Corporation Service Bulletin SB 2X-28-04 R1, Issued: November 1, 2005, Revised: November 14, 2005.

Alternative Methods of Compliance (AMOCs)

(f) The Manager, Chicago Aircraft Certification Office (ACO), FAA, ATTN: Wess Rouse, Aerospace Engineer, ACE-117C, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Room 107, Des Plaines, Illinois 60018; telephone: (847) 294-8113; fax: (847) 294-7834, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

Material Incorporated by Reference

(g) You must do the actions required by this AD following the instructions in Cirrus Design Corporation Service Bulletin SB 2X-28-04 R1, Issued: November 1, 2005, Revised: November 14, 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 Cirrus Design Corporation, 4515 Taylor Circle, Duluth, Minnesota

55811; telephone: (218) 727-2737 or on the Internet at <http://www.cirrusdesign.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-regulation/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-2005-23023; Directorate Identifier 2005-CE-49-AD.

Issued in Kansas City, Missouri, on March 20, 2006.

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

N110BW
AIRCRAFT REGISTRATION NO.
1538
AIRCRAFT SERIAL NO.
\$R20
TYPE AIRCRAFT



2005-14-11 N/M
AD NUMBER

Southern California Propeller Service

If multi-engine: ☐ Left ☐ Right ☐ Front ☐ Rear Propeller Model: PHC-BYF-1RF Serial No.: FP38/4B

COMPLIANCE DATE	TOTAL TIME AT COMPLIANCE	TACH OR RECORDING METER TIME AT COMPLIANCE	METHOD OF COMPLIANCE	AUTHORIZED SIGNATURE & NUMBER
4/28/09	1750.8	750.8	NA Prop S/N	See Logbook AD#3512

© 2005 AeroTech Publications, Inc., All rights reserved

Hartzell Propeller, Inc., McCauley Propeller Systems, and Sensenich Propeller Manufacturing Company, Inc. Propellers: Amendment 39-14188. Docket No. 2003-NE-53-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective August 17, 2005.

Affected ADs

(b) None.

Applicability

(c) This AD applies to the Hartzell Propeller, Inc., McCauley Propeller Systems, and Sensenich Propeller Manufacturing Company, Inc. propeller models last returned to service by Southern California Propeller Service of Inglewood, CA., listed in the following Table 1:

Table 1.--Applicable Propeller Models

Hartzell Propeller, Inc.
HC-(2,3,4)Y(-)-().
HC-(2,3,4)(X,V,MV,W,Z,P,R)(F,G,L,K,R,20,30,31)-().
HA-(-)-().
HC-B(3,4)M,P,R,T(A,N,P)-().
HC-(D,E)(4,5)(A,B,N,P)-().
McCauley Propeller Systems
020030C000-(): All constant speed two-bladed propeller models.
030030C000-(): All constant speed three-bladed propeller models.
100000(): All metal propeller models.
Sensenich Propeller Manufacturing Company, Inc.
All metal propeller models.

(d) These actions are against propeller models returned to service by Southern California Propeller Service. Southern California Propeller Service is not to be confused with propeller repair stations known as California Propeller or as Propeller Service of California. Southern California Propeller Service was issued Air Agency Certificate number of VXS617L in 1992, which was revoked in June of 1998.

(e) For Hartzell and McCauley propeller models listed in Table 1 of this AD, any letter or number (or lack of a letter or number) could appear where open parentheses are shown in the model number. Model numbers could show any combination of letters or numbers where the model number shows parentheses with a series of numbers or letters.

(f) For propeller models listed in Table 1 of this AD, that have been overhauled since being returned to service by Southern California Propeller Service by an authorized repair station other than Southern California Propeller Service, no further action is required.

Unsafe Condition

(g) This AD results from the investigation of a failed propeller blade and subsequent inspections of various propeller models returned to service by Southern California Propeller Service, of Inglewood, CA. We

are issuing this AD to prevent blade failure that could result in separation of a propeller blade and loss of control of the airplane.

Compliance

(h) You are responsible for having the actions required by this AD performed within 10 hours time-in-service after the effective date of this AD.

Required Actions

(i) Perform the actions specified in paragraph (j) of this AD on propeller models listed in Table 1 of this AD. You can find information on performing the actions in the applicable propeller manufacturer's service documentation.

(j) Perform the following actions:

- (1) Disassemble,
- (2) Clean,
- (3) Inspect for the following:
 - (i) Cracks,
 - (ii) Corrosion or pits,
 - (iii) Nicks,
 - (iv) Scratches
 - (v) Blade minimum dimensions,
 - (vi) Unapproved localized heating of blade,
 - (vii) Unapproved use of helicoil inserts in actuating pin holes,
 - (viii) Improperly drilled actuating pin holes,
 - (ix) Chemical conversion coat or paint or both applied over corrosion,
 - (x) Lack of chemical conversion coating,
 - (xi) Lack of paint on internal surfaces,
 - (xii) Bolts incorrectly torqued,
 - (xiii) Incorrect parts,
 - (xiv) Incorrect installation of parts,
 - (xv) Reinstallation of parts intended for one-time use, and
 - (xvi) Lack of proper shot peening.
- (4) Repair and replace with serviceable parts, as necessary,
- (5) Reassemble and test.

Alternative Methods of Compliance

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

Special Flight Permits

(l) Under 14 CFR 39.23, we are limiting the special flight permits for this AD by not allowing any flights with apparent cracks in propellers.

Related Information

(m) Special Airworthiness Information Bulletin No. NE-01-19, dated March 20, 2001, pertains to the subject of this AD.

Issued in Burlington, Massachusetts, on July 5, 2005.

Francis A. Favara, Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

N110BW
AIRCRAFT REGISTRATION NO
1538
AIRCRAFT SERIAL NO
\$R20
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
4/22/09	1750.8	1750.8	N/A trans not installed	Leif Lauer AP/1613572

© 2005 AeroTech Publications, Inc., All rights reserved

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/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-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, S.208, 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-CS, 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	(Other) DHC-3, DHC-6-1, DHC-6-100, DHC-6-200, DHC-8-300.
(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, 182U, 182V, 182W, 182X, 182Y, 182Z, 185, 185A, 185B, 185C, 185D, 185E, A185E, A185F, 190, (L-128A, B, C) 195, 195A, 195B, 210, 210A, 210B, 210C, 210D, 210E, 210F, 210G, 210H, 210I, 210J, 210K, 210L, 210M, 210N, 210O, 210P, 210Q, 210R, 210S, 210T, 210U, 210V, 210W, 210X, 210Y, 210Z, 210AA, 210AB, 210AC, 210AD, 210AE, 210AF, 210AG, 210AH, 210AI, 210AJ, 210AK, 210AL, 210AM, 210AN, 210AO, 210AP, 210AQ, 210AR, 210AS, 210AT, 210AU, 210AV, 210AW, 210AX, 210AY, 210AZ, 210BA, 210BB, 210BC, 210BD, 210BE, 210BF, 210BG, 210BH, 210BI, 210BJ, 210BK, 210BL, 210BM, 210BN, 210BO, 210BP, 210BQ, 210BR, 210BS, 210BT, 210BU, 210BV, 210BW, 210BX, 210BY, 210BZ, 210CA, 210CB, 210CC, 210CD, 210CE, 210CF, 210CG, 210CH, 210CI, 210CJ, 210CK, 210CL, 210CM, 210CN, 210CO, 210CP, 210CQ, 210CR, 210CS, 210CT, 210CU, 210CV, 210CW, 210CX, 210CY, 210CZ, 210DA, 210DB, 210DC, 210DD, 210DE, 210DF, 210DG, 210DH, 210DI, 210DJ, 210DK, 210DL, 210DM, 210DN, 210DO, 210DP, 210DQ, 210DR, 210DS, 210DT, 210DU, 210DV, 210DW, 210DX, 210DY, 210DZ, 210EA, 210EB, 210EC, 210ED, 210EE, 210EF, 210EG, 210EH, 210EI, 210EJ, 210EK, 210EL, 210EM, 210EN, 210EO, 210EP, 210EQ, 210ER, 210ES, 210ET, 210EU, 210EV, 210EW, 210EX, 210EY, 210EZ, 210FA, 210FB, 210FC, 210FD, 210FE, 210FF, 210FG, 210FH, 210FI, 210FJ, 210FK, 210FL, 210FM, 210FN, 210FO, 210FP, 210FQ, 210FR, 210FS, 210FT, 210FU, 210FV, 210FW, 210FX, 210FY, 210FZ, 210GA, 210GB, 210GC, 210GD, 210GE, 210GF, 210GG, 210GH, 210GI, 210GJ, 210GK, 210GL, 210GM, 210GN, 210GO, 210GP, 210GQ, 210GR, 210GS, 210GT, 210GU, 210GV, 210GW, 210GX, 210GY, 210GZ, 210HA, 210HB, 210HC, 210HD, 210HE, 210HF, 210HG, 210HH, 210HI, 210HJ, 210HK, 210HL, 210HM, 210HN, 210HO, 210HP, 210HQ, 210HR, 210HS, 210HT, 210HU, 210HV, 210HW, 210HX, 210HY, 210HZ, 210IA, 210IB, 210IC, 210ID, 210IE, 210IF, 210IG, 210IH, 210II, 210IJ, 210IK, 210IL, 210IM, 210IN, 210IO, 210IP, 210IQ, 210IR, 210IS, 210IT, 210IU, 210IV, 210IW, 210IX, 210IY, 210IZ, 210JA, 210JB, 210JC, 210JD, 210JE, 210JF, 210JG, 210JH, 210JI, 210JJ, 210JK, 210JL, 210JM, 210JN, 210JO, 210JP, 210JQ, 210JR, 210JS, 210JT, 210JU, 210JV, 210JW, 210JX, 210JY, 210JZ, 210KA, 210KB, 210KC, 210KD, 210KE, 210KF, 210KG, 210KH, 210KI, 210KJ, 210KK, 210KL, 210KM, 210KN, 210KO, 210KP, 210KQ, 210KR, 210KS, 210KT, 210KU, 210KV, 210KW, 210KX, 210KY, 210KZ, 210LA, 210LB, 210LC, 210LD, 210LE, 210LF, 210LG, 210LH, 210LI, 210LJ, 210LK, 210LL, 210LM, 210LN, 210LO, 210LP, 210LQ, 210LR, 210LS, 210LT, 210LU, 210LV, 210LW, 210LX, 210LY, 210LZ, 210MA, 210MB, 210MC, 210MD, 210ME, 210MF, 210MG, 210MH, 210MI, 210MJ, 210MK, 210ML, 210MN, 210MO, 210MP, 210MQ, 210MR, 210MS, 210MT, 210MU, 210MV, 210MW, 210MX, 210MY, 210MZ, 210NA, 210NB, 210NC, 210ND, 210NE, 210NF, 210NG, 210NH, 210NI, 210NJ, 210NK, 210NL, 210NM, 210NO, 210NP, 210NQ, 210NR, 210NS, 210NT, 210NU, 210NV, 210NW, 210NX, 210NY, 210NZ, 210OA, 210OB, 210OC, 210OD, 210OE, 210OF, 210OG, 210OH, 210OI, 210OJ, 210OK, 210OL, 210OM, 210ON, 210OO, 210OP, 210OQ, 210OR, 210OS, 210OT, 210OU, 210OV, 210OW, 210OX, 210OY, 210OZ, 210PA, 210PB, 210PC, 210PD, 210PE, 210PF, 210PG, 210PH, 210PI, 210PJ, 210PK, 210PL, 210PM, 210PN, 210PO, 210PP, 210PQ, 210PR, 210PS, 210PT, 210PU, 210PV, 210PW, 210PX, 210PY, 210PZ, 210QA, 210QB, 210QC, 210QD, 210QE, 210QF, 210QG, 210QH, 210QI, 210QJ, 210QK, 210QL, 210QM, 210QN, 210QO, 210QP, 210QQ, 210QR, 210QS, 210QT, 210QU, 210QV, 210QW, 210QX, 210QY, 210QZ, 210RA, 210RB, 210RC, 210RD, 210RE, 210RF, 210RG, 210RH, 210RI, 210RJ, 210RK, 210RL, 210RM, 210RN, 210RO, 210RP, 210RQ, 210RR, 210RS, 210RT, 210RU, 210RV, 210RW, 210RX, 210RY, 210RZ, 210SA, 210SB, 210SC, 210SD, 210SE, 210SF, 210SG, 210SH, 210SI, 210SJ, 210SK, 210SL, 210SM, 210SN, 210SO, 210SP, 210SQ, 210SR, 210SS, 210ST, 210SU, 210SV, 210SW, 210SX, 210SY, 210SZ, 210TA, 210TB, 210TC, 210TD, 210TE, 210TF, 210TG, 210TH, 210TI, 210TJ, 210TK, 210TL, 210TM, 210TN, 210TO, 210TP, 210TQ, 210TR, 210TS, 210TT, 210TU, 210TV, 210TW, 210TX, 210TY, 210TZ, 210UA, 210UB, 210UC, 210UD, 210UE, 210UF, 210UG, 210UH, 210UI, 210UJ, 210UK, 210UL, 210UM, 210UN, 210UO, 210UP, 210UQ, 210UR, 210US, 210UT, 210UU, 210UV, 210UW, 210UX, 210UY, 210UZ, 210VA, 210VB, 210VC, 210VD, 210VE, 210VF, 210VG, 210VH, 210VI, 210VJ, 210VK, 210VL, 210VM, 210VN, 210VO, 210VP, 210VQ, 210VR, 210VS, 210VT, 210VU, 210VV, 210VW, 210VX, 210VY, 210VZ, 210WA, 210WB, 210WC, 210WD, 210WE, 210WF, 210WG, 210WH, 210WI, 210WJ, 210WK, 210WL, 210WM, 210WN, 210WO, 210WP, 210WQ, 210WR, 210WS, 210WT, 210WU, 210WV, 210WW, 210WX, 210WY, 210WZ, 210XA, 210XB, 210XC, 210XD, 210XE, 210XF, 210XG, 210XH, 210XI, 210XJ, 210XK, 210XL, 210XM, 210XN, 210XO, 210XP, 210XQ, 210XR, 210XS, 210XT, 210XU, 210XV, 210XW, 210XX, 210XY, 210XZ, 210YA, 210YB, 210YC, 210YD, 210YE, 210YF, 210YG, 210YH, 210YI, 210YJ, 210YK, 210YL, 210YM, 210YN, 210YO, 210YP, 210YQ, 210YR, 210YS, 210YT, 210YU, 210YV, 210YW, 210YX, 210YY, 210YZ, 210ZA, 210ZB, 210ZC, 210ZD, 210ZE, 210ZF, 210ZG, 210ZH, 210ZI, 210ZJ, 210ZK, 210ZL, 210ZM, 210ZN, 210ZO, 210ZP, 210ZQ, 210ZR, 210ZS, 210ZT, 210ZU, 210ZV, 210ZW, 210ZX, 210ZY, 210ZZ.
(12) Cirrus Design Corporation	SR20, SR22.
(13) Commander Aircraft Company	112, 112TC, 112B, 112TCA, 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-28A), SA227-CC, SA227-DC (C-28B).
(20) Global Amphibians, LLC	Colonial C-1, Colonial C-2, Lake LA-4, Lake LA-4A, Lake LA-4F, 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-7-180B, 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-38, 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 (L-17B), 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-180, PA-23, PA-23-160, PA-23-235, PA-23-250, PA-23-250, 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-28-238, 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-42, PA-42-720, PA-42-1000, PA-42-720R, PA-44-180, PA-44-180T, PA-48-310P, PA-48-350P, PA-48-500TP.
(33) Ostmecklenburgische 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-8, PC-6-H1, PC-6-H2, PC-6/350, PC-6/350-H1, PC-6/350-H2, PC-8/A, PC-8/A-H1, PC-8/A-H2, PC-8/B-H2, PC-8/B1-H2, PC-8/B2-H2, PC-8/B2-H4, PC-8/C-H2, PC-8/C1-H2, PC-7.
(36) Prop-Jets, Inc	200, 200A, 200B, 200C, 200D, 400.
(37) Panstwowe Zaklady Lotnicze (PZL)	PZL 104 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, H33, J35, J35-C35, 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, 65-880, 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, 60, A60, B60, 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), 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) SOCAT-Group Aerospaiale	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, 580, 580-A, 580-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.