

**FEDERAL AVIATION ADMINISTRATION  
AIRWORTHINESS DIRECTIVES**

**SMALL AIRPLANES, ROTORCRAFT, GLIDERS,  
BALLOONS, & AIRSHIPS**

**BIWEEKLY 2019-21**

*9/30/2019 - 10/13/2019*



Federal Aviation Administration  
Continued Operational Safety Policy Section, AIR-141  
P.O. Box 25082  
Oklahoma City, OK 73125-0460

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**SMALL AIRCRAFT, ROTORCRAFT, GLIDERS, BALLOONS, & AIRSHIPS**

AD No.	Information	Manufacturer	Applicability
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Information Key: E - Emergency; COR - Correction; S – Supersedes; R - Replaces

**Biweekly 2019-01**

2018-26-02	R 2016-25-19	Airbus Helicopters	AS350B3; EC130B4; EC130T2 helicopters
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**Biweekly 2019-02**

We published no ADs for the Small AD Biweekly during this period.

**Biweekly 2019-03**

2019-01-02		Aspen Avionics, Inc.	Evolution Flight Display (EFD) EFD1000 Primary Flight Display, EFD1000 Multi-Function Display (MFD), EFD1000 Emergency Backup Display, or EFD500 MFD units
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**Biweekly 2019-04**

2019-02-02		Pacific Aerospace Ltd.	FBA-2C1, FBA-2C2, FBA-2C3, and FBA-2C4 airplanes
2019-02-05	R 2013-11-03	Viking Air Limited	CL-215-1A10, CL-215-6B11 airplanes

**Biweekly 2019-05**

2014-05-06 R2	R 2014-05-06 R1	Airbus Helicopters Deutschland GmbH	EC135 P1, P2, P2+, T1, T2, and T2+; MBB-BK 117 C-2 helicopters
2018-21-14		Zodiac Aerotechnics	MC10 series crew oxygen mask regulators
2018-22-11		Safran Helicopter Engines	ASTAZOU XIV B and H model engines
2019-03-02		Pacific Aerospace Limited	750XL airplanes
2019-03-05		Bell Helicopter Textron Canada Limited	429 helicopters

**Biweekly 2019-06**

2019-03-12		Airbus Helicopters	EC225 LP helicopters
2019-05-03		Leonardo S.p.A.	AB139 and AW139; AW169 and AW189 helicopters
2019-05-04		MD Helicopters, Inc.	369A, 369D, 369E, 369FF, 369H, 369HE, 369HM, 369HS, 500N, and 600N helicopters
2019-05-05	R 97-26-03	Airbus Helicopters Deutschland GmbH	MBB-BK 117 A-1, MBB-BK 117 A-3, MBB-BK 117 A-4, MBB-BK 117 B-1, MBB-BK 117 B-2, and MBB-BK 117 C-1 helicopters
2019-05-06		Airbus Helicopters Deutschland GmbH	EC135P1, EC135P2, EC135P2+, EC135P3, EC135T1, EC135T2, EC135T2+, and EC135T3 helicopters

**Biweekly 2019-07**

We published no ADs for the Small AD Biweekly during this period.

**Biweekly 2019-08**

2019-04-01		HPH s. r.o.	Glasfögel 304C, Glasfögel 304CZ, and Glasfögel 304CZ-17 gliders
2019-05-15		Pilatus Aircraft Ltd	PC-7 airplanes
2019-06-04		Bell Helicopter Textron Canada Limited	429 helicopters
2019-06-05		Airbus Helicopters Deutschland GmbH	MBB-BK 117 A-1, MBB-BK 117 A-3, MBB-BK 117 A-4, MBB-BK 117 B-1, MBB-BK 117 B-2, MBB-BK 117 C-1, and MBB-BK 117 C-2 helicopters
2019-06-10		Vulcanair S.p.A.	AP68TP-300 “SPARTACUS”; AP68TP-600 “VIATOR” airplanes
2019-06-11		Pacific Aerospace Limited	750XL airplanes
2019-07-02		Robinson Helicopter Company	R66 helicopters

**Biweekly 2019-09**

2019-07-07		Airbus Helicopters Deutschland GmbH	BO-105A, BO-105C, BO-105S, BO105LS A-3, MBB-BK 117A-1, MBB-BK 117A-3, MBB-BK 117A-4, MBB-BK 117B-1, MBB-BK 117B-2, MBB-BK 117C-1, MBB-BK 117C-2, and MBB-BK 117D-2 helicopters
2019-07-08		GA 8 Airvan (Pty) Ltd	GA8 and Model GA8-TC320 airplanes
2019-07-10	A 2010-26-09	Northrop Grumman LITEF GmbH	LCR-100 Attitude and Heading Reference System

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2019-08-51	E	Cirrus Design Corporation (Cirrus)	SF50 airplanes
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**Biweekly 2019-10**

We published no ADs for the Small AD Biweekly during this period.

**Biweekly 2019-11**

2019-08-10		Bell Helicopter Textron Canada Limited (Bell)	Model 206A, 206B, 206L, 206L-1, 206L-3, 206L-4, and 407 helicopters
2019-08-13		Textron Aviation, Inc.	Models 525, 525A, and 525B airplanes
2019-09-02	R 2018-17-01	Bell Helicopter Textron, Inc. (Bell)	Bell Model 212, 412, 412CF, and 412EP helicopters
2019-09-03		Airbus Helicopters	Model AS332C, AS332C1, AS332L, and AS332L1 helicopters
2019-10-51	E	Airbus Helicopters Deutschland GmbH (Airbus)	Model MBB-BK 117 C-2 helicopters

**Biweekly 2019-12**

2019-09-04		Leonardo S.p.A.	Model AW109SP helicopters
2019-10-04		BRP-Rotax GmbH & Co KG	BRP-Rotax GmbH & Co KG (Rotax) 912 F2, 912 F3, and 912 F4, 912 S2, 912 S3, and 912 S4, Rotax 914 F2, 914 F3, and 914 F4, and Rotax 912 F2, 912 F3, 912 F4, 912 S2, 912 S3, 912 S4, 914 F2, 914 F3, and 914 F4 engines
2019-10-07		Pilatus Aircraft Ltd	Models PC-6, 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-6-H1, PC-6-H2 airplanes
2019-11-04		Airbus Helicopters Deutschland GmbH	Model MBB-BK 117 D-2 helicopters
2019-11-05		Bell Helicopter Textron Canada Limited	429 helicopters

**Biweekly 2019-13**

2019-08-51		Cirrus Design Corporation	Model SF50 airplanes
2019-10-06		Aviat Aircraft Inc	Models A-1C-180 and A-1C-200 airplanes
2019-11-07		Rolls-Royce plc	(RR) RB211-524G2-19, RB211-524G2-T-19, RB211-524G3-19, RB211-524G3-T-19, RB211-524H2-19, RB211-524H2-T-19, RB211-524H-36 and RB211-524H-T-36 engines
2019-11-08		International Aero Engines	PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1129G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM model turbofan engines
2019-12-01		CFM International S.A	LEAP-1B21, -1B23, -1B25, -1B27, -1B28, -1B28B1, -1B28B2, -1B28B3, -1B28B2C, -1B28BBJ1, and -1B28BBJ2 model turbofan
2019-12-05		CFM International S.A	CFM56-5B1, -5B2, -5B4, -5B5, -5B6, -5B7, -5B1/P, -5B2/P, -5B3/P, -5B4/P, -5B5/P, -5B6/P, -5B7/P, -5B8/P, -5B9/P, -5B3/P1, -5B4/P1, -5B1/2P, -5B2/2P, -5B3/2P, -5B4/2P, -5B6/2P, -5B9/2P, -5B3/2P1, -5B4/2P1, -7B20, -7B22, -7B24, -7B26, -7B27, -7B22/B1, -7B24/B1, -7B26/B1, -7B26/B2, -7B27/B1, -7B27/B3, -7B20/2, -7B22/2, -7B24/2, -7B26/2, -7B27/2, -7B27A model turbofan engines

**Biweekly 2019-14**

2019-12-06		Leonardo S.p.A.	Model AW139 helicopters
2019-12-12		Piper Aircraft, Inc.	Model PA-46-600TP (M600) airplanes
2019-12-14		Airbus Helicopters Deutschland GmbH	Model MBB-BK 117 C-2 helicopters
2019-12-15		Leonardo S.p.A	Model AB139 and AW139 helicopters
2019-12-18		Robinson Helicopter Company	Model R44 II helicopters

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**Biweekly 2019-15**

2019-12-09 Rockwell Collins, Inc. Flight Display System

**Biweekly 2019-16**

2019-13-03 Trig Avionics Limited TT31 Mode S transponders, AXP340 Mode S transponders and KT74 Mode S transponders

2019-13-05 Sikorsky Aircraft Corporation Model S-92A helicopters

2019-14-01 Rolls-Royce Deutschland Ltd & Co KG TAY 650-15 and TAY 651-54 turbofan engines

2019-14-05 B/E Aerospace Fischer GmbH Common Seats 170/260 H160

2019-15-05 Rolls-Royce Deutschland Ltd & Co KG Trent 1000-AE3, Trent 1000-CE3, Trent 1000-D3, Trent 1000-G3, Trent 1000-H3, Trent 1000-J3, Trent 1000-K3, Trent 1000-L3, Trent 1000-M3, Trent 1000-N3, Trent 1000-P3, Trent 1000-Q3 and Trent 1000-R3 engines

**Biweekly 2019-17**

2019-14-11 Diamond Aircraft Industries GmbH Model DA 42 NG and Model DA 42 M-NG airplanes

2019-15-06 R 2018-22-07 Engine Alliance GP7270, GP7272, and GP7277 model turbofan engines

2019-16-01 International Aero Engines AG AG (IAE) V2525-D5 and V2528-D5 model turbofan engines

2019-16-02 GE Honda Aero Engines HF120 model turbofan engines

2019-16-04 R 2019-03-04 Engine Alliance GP7270 and GP7277 model turbofan engines

**Biweekly 2019-18**

2019-16-14 R 2018-25-01 Rolls-Royce Deutschland Ltd & Co KG Trent 1000-A, Trent 1000-AE, Trent 1000-C, Trent 1000-CE, Trent 1000-D, Trent 1000-E, Trent 1000-G, and Trent 1000-H turbofan

2019-16-15 Pratt & Whitney PW1519G, PW1521G, PW1521GA, PW1524G, PW1525G, PW1521G-3, PW1524G-3, PW1525G-3, PW1919G, PW1921G, PW1922G, PW1923G, and PW1923G-A model turbofan

**Biweekly 2019-19**

2019-10-51 Airbus Helicopters Deutschland GmbH MBB-BK 117 C-2 helicopters

2019-16-16 R 2018-18-02 Airbus Helicopters AS350B, AS350B1, AS350B2, AS350B3, and AS350BA helicopters

2019-17-02 Airbus Helicopters Deutschland GmbH EC135P1, EC135P2, EC135P2+, EC135P3, EC135T1, EC135T2, EC135T2+, and EC135T3 helicopters

2019-18-01 International Aero Engines AG AG V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, and V2533-A5 model turbofan

2019-18-02 Leonardo S.p.A AW169 helicopters

**Biweekly 2019-20**

2019-18-08 R 2019-16-04 Engine Alliance GP7270 and GP7277 model turbofan

2019-19-11 Pratt & Whitney PW1519G, PW1521G, PW1521GA, PW1524G, PW1525G, PW1521G-3, PW1524G-3, PW1525G-3, PW1919G, PW1921G, PW1922G, PW1923G, and PW1923G-A turbofan engines

**Biweekly 2019-21**

2019-19-12 R 2018-10-07 Sikorsky Aircraft Corporation Model S-76C helicopters



**2019-19-12 Sikorsky Aircraft Corporation:** Amendment 39-19748; Docket No. FAA-2019-0389; Product Identifier 2018-SW-035-AD.

**(a) Effective Date**

This AD is effective November 8, 2019.

**(b) Affected ADs**

This AD replaces AD 2018-10-07, Amendment 39-19282 (83 FR 23355, May 21, 2018).

**(c) Applicability**

This AD applies to Sikorsky Aircraft Corporation Model S-76C helicopters, certificated in any category, with a Turbomeca, S.A., Arriel 2S1 or Arriel 2S2 engine with an engine collective position transducer (CPT) part number (P/N) 76900-01821-104 or 76900-01821-105 installed.

**(d) Subject**

Joint Aircraft System Component (JASC): 7300, Engine Fuel and Control.

**(e) Unsafe Condition**

This AD was prompted by reports of wear of the CPT that has resulted in several One Engine Inoperative (OEI) incidents. The FAA is issuing this AD to prevent failure of a CPT. The unsafe condition, if not addressed, could result in a reduction in power to one engine resulting in an annunciated momentary OEI condition and subsequent emergency landing.

**(f) Compliance**

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

**(g) Required Actions**

(1) Within 130 hours time-in-service (TIS):

(i) Measure resistance of each engine CPT and replace the CPT if the measured resistance is not within tolerance by following the Accomplishment Instructions, paragraphs 3.C.(1) through 3.C.(8)(b), of Sikorsky S-76 Helicopter Alert Service Bulletin ASB 76-73-8, Revision A, dated December 4, 2015 (ASB 76-73-8A), if using Test Box P/N 76700-40009-042 or by following paragraph 3.B.(11) of Sikorsky Maintenance Manual, SA 4047-76C-2, Temporary Revision No. 73-08, dated September 20, 2017 (TR 73-08) or paragraph 3.B.(11) of Sikorsky Maintenance Manual, SA 4047-76C-2, Temporary Revision No. 73-10, dated June 25, 2019 (TR 73-10), if using Test Box P/N 76700-40009-043. You are not required to use Sikorsky's CPT data sheet or submit a data sheet to Sikorsky.

(ii) Measure the linearity resistance movement of each engine CPT and replace the CPT if there is a linear abnormality or change in resistance that is not within tolerance by following the Accomplishment Instructions, paragraphs 3.D.(1) through 3.D.(14)(b), of ASB 76-73-8A, if using Test Box P/N 76700-40009-042 or by following paragraph 3.B.(12) of TR 73-08 or paragraph 3.B.(12) of TR 73-10, if using Test Box P/N 76700-40009-043. You are not required to use Sikorsky's CPT data sheet or submit a data sheet to Sikorsky.

(iii) Measure the differential voltage of each engine CPT and replace the CPT if the measured voltage is not within tolerance by following the Accomplishment Instructions, paragraphs 3.E. through 3.G.(1) of ASB 76-73-8A, if using Test Box P/N 76700-40009-042 or by following paragraph 3.B.(13) of TR 73-08 or paragraph 3.B.(13) of TR 73-10, if using Test Box P/N 76700-40009-043. You are not required to use Sikorsky's CPT data sheet or submit a data sheet to Sikorsky.

(2) Thereafter, at intervals not to exceed 300 hours TIS:

(i) If using Test Box P/N 76700-40009-042:

(A) Measure resistance of each engine CPT and replace the CPT if the resistance is not within tolerance by following paragraph 4.B.(11) of Sikorsky Maintenance Manual, SA 4047-76C-2, Temporary Revision No. 73-07, dated August 17, 2016 (TR 73-07), except you are not required to use Sikorsky's CPT data sheet or return a failed CPT to Sikorsky.

(B) Measure the linearity resistance movement of each engine CPT and replace the CPT if the movement exceeds tolerance by following paragraphs 4.B.(12)(a) through 4.B.(13)(f) of TR 73-07, except you are not required to use Sikorsky's CPT data sheet or return a failed CPT to Sikorsky.

(C) Measure the differential voltage of each CPT by following paragraphs 4.B.(14) through 4.B.(15)(h) of TR 73-07, except you are not required to use Sikorsky's CPT data sheet. If the maximum voltage is greater than 100 millivolts or the minimum voltage is less than -100 millivolts, replace the CPT.

(ii) For helicopters using Test Box P/N 76700-40009-043:

(A) Measure resistance of each engine CPT and replace the CPT if the resistance is not within tolerance by following paragraph 5.B.(11) of TR 73-07, paragraph 3.B.(11) of TR 73-08, or paragraph 3.B.(11) of TR 73-10, except you are not required to use Sikorsky's CPT data sheet or return a failed CPT to Sikorsky.

(B) Measure the resistance linearity of each engine CPT and replace the CPT if the resistance is not within tolerance by following paragraph 5.B.(12) of TR 73-07, paragraph 3.B.(12) of TR 73-08, or paragraph 3.B.(12) of TR 73-10, except you are not required to use Sikorsky's CPT data sheet or return a failed CPT to Sikorsky.

(C) Measure the differential voltage of each engine CPT and replace the CPT if the resistance is not within tolerance by following paragraphs 5.B.(13)(a) through 5.B.(13)(k) of TR 73-07, paragraph 3.B.(13) of TR 73-08, or paragraph 3.B.(13) of TR 73-10, except you are not required to use Sikorsky's CPT data sheet or return a failed CPT to Sikorsky.

## **(h) Credit for Previous Actions**

Actions accomplished before the effective date of this AD in accordance with the procedures specified in Sikorsky S-76 Helicopter Alert Service Bulletin ASB 76-73-8, Basic Issue, dated August 21, 2015; Sikorsky Special Service Instruction SSI No. 76-87, dated July 24, 2015; or Sikorsky Special Service Instruction SSI No. 76-87, Revision A, dated August 21, 2015, are considered acceptable for compliance with the corresponding actions specified in paragraph (g)(1) of this AD.

## **(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Boston 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.

#### **(j) Related Information**

(1) For more information about this AD, contact Nick Rediess, Aviation Safety Engineer, Boston ACO Branch, Compliance & Airworthiness Division, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7159; email: nicholas.rediess@faa.gov.

(2) For service information identified in this AD, contact your local Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft Corporation, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email wcs\_cust\_service\_eng.gr-sik@lmco.com. Operators may also log on to the Sikorsky 360 website at <https://www.sikorsky360.com>. You may view this referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

#### **(k) 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.

(3) The following service information was approved for IBR on November 8, 2019.

(i) Sikorsky Maintenance Manual, SA 4047-76C-2, Temporary Revision No. 73-10, dated June 25, 2019.

(ii) [Reserved]

(4) The following service information was approved for IBR on June 25, 2018 (83 FR 23355, May 21, 2018).

(i) Sikorsky S-76 Helicopter Alert Service Bulletin ASB 76-73-8, Revision A, dated December 4, 2015.

(ii) Sikorsky Maintenance Manual, SA 4047-76C-2, Temporary Revision No. 73-07, dated August 17, 2016.

(iii) Sikorsky Maintenance Manual, SA 4047-76C-2, Temporary Revision No. 73-08, dated September 20, 2017.

(5) For Sikorsky service information identified in this AD, contact your local Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft Corporation, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email wcs\_cust\_service\_eng.gr-sik@lmco.com. Operators may also log on to the Sikorsky 360 website at <https://www.sikorsky360.com>. Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email wcs\_cust\_service\_eng.gr-sik@lmco.com.

(6) You may view this service information at FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(7) 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 [fedreg.legal@nara.gov](mailto:fedreg.legal@nara.gov), or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Fort Worth, Texas, on September 20, 2019.

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