

**FEDERAL AVIATION ADMINISTRATION
AIRWORTHINESS DIRECTIVES**

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

BIWEEKLY 2019-18

8/19/2019 - 9/1/2019



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
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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



2019-16-14 Rolls-Royce Deutschland Ltd & Co KG: Amendment 39-19717; Docket No. FAA-2019-0528; Product Identifier 2018-NE-24-AD.

(a) Effective Date

This AD is effective September 11, 2019.

(b) Affected ADs

This AD replaces AD 2018-25-01, Amendment 39-19511 (83 FR 62694, December 6, 2018).

(c) Applicability

This AD applies to all Rolls-Royce Deutschland Ltd. & Co KG (RRD) 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 model engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 7230, Turbine Engine Compressor Section.

(e) Unsafe Condition

This AD was prompted by reports of intermediate-pressure compressor (IPC) rotor blade cracks, which could lead to rotor blade separations resulting in engine failures. The FAA is issuing this AD to prevent failure of the IPC. The unsafe condition, if not addressed, could result in failure of one or more engines, loss of thrust control, and loss of the airplane.

(f) Compliance

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

(g) Required Actions

(1) Within 15 days of the effective date of this AD, or within the compliance times specified in the Accomplishment Instructions, Table 1, of Rolls-Royce plc (RR) Alert Non-Modification Service Bulletin (NMSB) Trent 1000 72-AK130, Revision 4, dated March 4, 2019 ("RR Alert NMSB Trent 100 72-AK130"), whichever occurs later, perform an on-wing inspection of the IPC stage 1 rotor (R1) blades in accordance with the Accomplishment Instructions, paragraph 3.A.(1), of RR Alert NMSB Trent 1000 72-AK130.

(2) Thereafter, repeat the on-wing inspections of the IPC R1 blades using the Accomplishment Instructions, paragraph 3.A.(1), and within the compliance times specified in the Accomplishment Instructions, Table 1, of RR Alert NMSB Trent 1000 72-AK130.

(3) Within 15 days of the effective date of this AD, or before exceeding the applicable threshold defined in the Accomplishment Instructions, Table 2 or Table 3, of RR Alert NSMB 72-AK130, whichever occurs later, perform an on-wing inspection of the IPC stage 2 rotor (R2) blades and IPC shaft stage 2 dovetail posts in accordance with the Accomplishment Instructions, paragraphs 3.B.(1) and 3.C.(1), of RR Alert NMSB Trent 1000 72-AK130.

(4) After performing the inspection in paragraph (g)(3) of this AD, repeat the on-wing inspections of IPC R2 blades and IPC shaft stage 2 dovetail posts using paragraphs 3.B.(1) and 3.C.(1) of RR Alert NMSB Trent 1000 72-AK130 and within the compliance times specified in the Accomplishment Instructions, Table 2 and Table 3, of RR Alert NMSB Trent 1000 72-AK130.

(5) For any on-wing inspection required by paragraphs (g)(1) through (4) of this AD, provided the stated thresholds and intervals are not exceeded, you may substitute:

(i) An in-shop inspection of an engine or module performed in accordance with the instructions of the Accomplishment Instructions, paragraphs 3.A.(2), 3.B.(2), and 3.C.(2) of the RR Alert NMSB Trent 1000 72-AK130, Revision 4, dated March 4, 2019; or

(ii) An in-shop piece part inspection during refurbishment in accordance with the Accomplishment Instructions, paragraphs 3.B.(2)(f)(vi), 3.B.(2)(g)(v), 3.B.(3)(d)(iii) of RR NMSB Trent 1000 72-K132, Revision 2, dated March 26, 2019.

(6) If any IPC R1 blade, IPC R2 blade, or IPC shaft stage 2 dovetail post is found cracked during any inspection (on-wing or in-shop) required by this AD, remove the cracked part from service and replace with a part eligible for installation before further flight.

(h) Inspection After Operation Under Asymmetric Power

As of the effective date of this AD, before the next flight after each occurrence where engine operation in asymmetric power conditions was sustained for more than 30 minutes at less than 25,000 feet, either resulting from engine power reduction or from engine in-flight shut-down (IFSD), inspect the IPC R1 blades, the IPC R2 blades, and the IPC shaft stage 2 dovetail posts in accordance with the Accomplishment Instructions, paragraphs 3.A.(1), 3.B.(1), and 3.C.(1), of RR Alert NMSB Trent 1000 72-AK130, Revision 4, dated March 4, 2019, on the engine that did not experience the power reduction or IFSD installed on the airplane.

(i) Credit for Previous Actions

You may take credit for the inspections required by paragraphs (g)(1) and (3) of this AD if you performed these inspections before the effective date of this AD using RR Alert NMSB Trent 1000 72-AK130, Revision 3, dated January 10, 2019, or earlier revisions.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO 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 (l) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

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

(k) Related Information

(1) For more information about this AD, contact Dorie Resnik, Aerospace Engineer, Boston ACO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7693; fax: 781-238-7199; email: dorie.resnik@faa.gov.

(2) Refer to European Union Aviation Safety Agency (EASA) AD 2019-0075, dated March 29, 2019, for more information. You may examine the EASA AD in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2019-0528.

(l) Material Incorporated by Reference

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

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

(i) Rolls-Royce plc (RR) Alert Non-Modification Service Bulletin (NMSB) Trent 1000 72-AK130, Revision 4, dated March 4, 2019.

(ii) RR NMSB Trent 1000 72-K132, Revision 2, dated March 26, 2019.

(3) For RR service information identified in this AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, United Kingdom, DE24 8BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936; email: corporate.care@rolls-royce.com; internet: <https://customers.rolls-royce.com/public/rollsroycecare>.

(4) You may view this service information at FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(5) You may view this service information at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on August 21, 2019.

Karen M. Grant,
Acting Manager, Engine & Propeller Standards Branch,
Aircraft Certification Service.



2019-16-15 Pratt & Whitney: Amendment 39-19718; Docket No. FAA-2019-0365; Product Identifier 2019-NE-12-AD.

(a) Effective Date

This AD is effective October 1, 2019.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Pratt & Whitney (PW) PW1519G, PW1521G, PW1521GA, PW1524G, PW1525G, PW1521G-3, PW1524G-3, PW1525G-3, PW1919G, PW1921G, PW1922G, PW1923G, and PW1923G-A model turbofan engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 7230, Turbine Engine Compressor Section.

(e) Unsafe Condition

This AD was prompted by corrosion found on the high-pressure compressor (HPC) front hub, which could result in certain HPC front hubs cracking before reaching their published life limit. The FAA is issuing this AD to prevent failure of the HPC front hub. The unsafe condition, if not addressed, could result in uncontained release of the HPC front hub, damage to the engine, and damage to the airplane.

(f) Compliance

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

(g) Required Action

Within 90 days after the effective date of this AD, revise the Airworthiness Limitations Section of the PW Instructions for Continued Airworthiness, and for air carrier operations, the approved continuous airworthiness maintenance program, with the following maximum cycle limits for HPC front hub, part number 30G3210.

(1) For PW PW1519G, PW1521G, PW1521GA, PW1524G, PW1525G, PW1521G-3, PW1524G-3, and PW1525G-3 model turbofan engines, use the cycle limits established in Table 3, Revision to Table of Limits, of PW Service Bulletin (SB) PW1000G-A-72-00-0109-00A-930A-D, Issue No. 001, dated April 2, 2019.

(2) For PW PW1919G, PW1921G, PW1922G, PW1923G, and PW1923G-A model turbofan engines, use the cycle limits established in Table 3, Revision to Table of Limits, of PW SB PW1000G-A-72-00-0058-00B-930A-D, Issue No. 002, dated May 10, 2019.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO 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 (i) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

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

(i) Related Information

For more information about this AD, contact Kevin M. Clark, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7088; fax: 781-238-7199; email: kevin.m.clark@faa.gov.

(j) Material Incorporated by Reference

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

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

(i) Pratt & Whitney (PW) Service Bulletin (SB) PW1000G-A-72-00-0109-00A-930A-D, Issue No. 001, dated April 2, 2019.

(ii) PW SB PW1000G-A-72-00-0058-00B-930A-D, Issue No. 002, dated May 10, 2019.

(3) For PW service information identified in this AD, contact Pratt & Whitney, 400 Main Street, East Hartford, CT 06118; phone: 800-565-0140; fax: 860-565-5442; email: help24@pw.utc.com; internet: <http://fleetcare.pw.utc.com>.

(4) You may view this service information at FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on August 19, 2019.

Karen M. Grant,

Acting Manager, Engine & Propeller Standards Branch, Aircraft Certification Service.

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