



Notification of a Proposal to issue an Airworthiness Directive

PAD No.: 22-166R2

Issued: 14 April 2023

Note: This Proposed Airworthiness Directive (PAD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below.

All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation date indicated.

Design Approval Holder's Name:

AIRBUS S.A.S.

Type/Model designation(s):

A319, A320 and A321 aeroplanes

Effective Date: [TBD - standard: 14 days after AD issue date]

TCDS Number(s): EASA.A.064

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2022-0032R1 dated 29 July 2022.

ATA 32 – Landing Gear – Braking and Steering Control Unit – Replacement / Master Minimum Equipment List – Amendment

ATA 92 – Electric and Electronic Common Installation – Relays – Replacement

Manufacturer(s):

Airbus S.A.S.

Applicability:

Airbus A319-151N, A319-153N, A319-171N, A320-251N, A320-252N, A320-253N, A320-271N, A320-272N, A320-273N, A321-251N, A321-251NX, A321-252N, A321-252NX, A321-253N, A321-253NX, A321-271N, A321-271NX, A321-272N, A321-272NX aeroplanes, all manufacturer serial numbers (MSN).

Definitions:

For the purpose of this AD, the following definitions apply:

Affected BSCU: Braking and Steering Control Units (BSCU) having Part Number (P/N) E21327307.

Non-affected BSCU: Any BSCU having a P/N other than E21327307.



Serviceable BSCU: Any BSCU, eligible for installation, which is a non-affected BSCU; or an affected BSCU that has never triggered any fault signature on an aeroplane as defined in Appendix 1 of the AOT 1.

Type 1 relay: Relays having P/N E0244-28A0, installed at Functional Item Number (FIN) positions 24GG and 25GG.

Type 2 relay: A relay having P/N E0669D28A0.

The AOT 1: Airbus Alert Operators Transmission (AOT) A32N025-22.

The AOT 2: AOT A32N030-23.

The SB: Airbus Service Bulletin (SB) A320-92-1149.

The MMEL update: Airbus A318/A319/A320/A321 Master Minimum Equipment List (MMEL) items listed in the Appendix 2 of this AD or in the MMEL Revision dated 05 April 2023.

The FOT: Airbus Flight Operations Transmission (FOT) 999.0010/22.

Aeroplane date of manufacture: The date of transfer of title (ownership) which is referenced in Airbus documentation at the time of first delivery to an operator.

Groups:

Group 1a aeroplanes are those that have an affected BSCU and a type 1 relay installed.

Group 1b aeroplanes are those that have a non-affected BSCU and a type 1 relay installed.

Group 2 aeroplanes are those that are not Group 1a or 1b (see Note 1 of this AD).

An aeroplane having an MSN listed in Table 1 of Appendix 1 of this AD is considered to be a Group 1a aeroplane, until the accomplishment of the inspection, as required by paragraph (1) of this AD, has taken place and determined which relay is installed on that aeroplane.

Note 1: An aeroplane on which Airbus modification (mod) 171984 (installation of relay P/N E0669D28A0) has been embodied in production and having an MSN not listed in Table 1 of Appendix 1 of this AD is a Group 2, provided the aeroplane remains in that configuration.

Reason:

A new BSCU standard P/N E21327307 was developed and introduced through Airbus mod 165148 to answer to the obsolescence of some components fitted in the old BSCU standard P/N E21327107 and P/N E21327007. Since this new BSCU standard was introduced on aeroplanes, several BSCU channel failures were detected, inducing, in case of dual channel failures, loss of anti-skid function together with the reversion to the alternate braking mode, and loss of nose wheel steering.

This condition, if not corrected, could lead to loss of braking performance with significant increase in aeroplane stopping distance, possibly resulting in runway excursion.



To address this potential unsafe condition, Airbus issued the AOT 1 and the FOT (together with Quick Reference Handbook and Flight Crew Operating Manual updates) to provide guidance to the flight crew in the event of specific fault signatures (Electronic Centralized Aircraft Monitoring (ECAM) warning + Maintenance Message). Airbus also updated the MMEL accordingly. Consequently, EASA issued AD 2022-0032 (later revised) to require, for aeroplanes with an affected BSCU installed, the accomplishment of the AOT 1, and the amendment of the operator MEL.

Further investigation identified that a type 1 relay was embodied in a position where a type 2 relay should have been installed. The combination of a type 1 relay with an affected BSCU could induce BSCU freezing. Consequently, Airbus developed mod 171984, which was introduced on the production line, and issued the SB to provide instructions for replacement of type 1 relays. It was also determined that the type 1 relay is no longer installed on A320 family CEO aeroplanes since its mandated replacement, required through DGAC France AD F-1993-163-043 (grandfathered by EASA). CEO aeroplanes are therefore removed from the applicability of this AD.

For the reasons described above, this AD supersedes EASA AD 2022-0032R1 and requires replacement of affected BSCU with serviceable BSCU in case of fault signatures, MEL amendment instating dispatch limitation, and replacement of affected type 1 relays with type 2 relays.

Following the consultation of the PAD 22-166R1, end of January 2023, EASA was informed that the troubleshooting of a BSCU fault triggered on a post-production aeroplane revealed that the relays installed on aircraft at 24GG / 25GG FIN locations were not in conformity with the Aeroplane Inspection Report. Further investigation identified that certain MSNs are potentially affected by this issue. For this reason, the AOT 2 was issued for a dedicated inspection.

Furthermore, the compliance time dealing with the relay replacement for the Group 1a aeroplane has been extended following the recomputation of the risk exposure.

Finally, the paragraphs supporting some operational dispatch limitation, identified in PAD 22-166R1 as 'MMEL amendment 1' and 'MMEL amendment 2', have been amended.

Consequently, it has been decided to republish this PAD for additional consultation.

Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

Inspection:

- (1) For aeroplanes having an MSN listed in Table 1 of Appendix 1 of this AD, within 12 months after the effective date of this AD, visually inspect the FIN 24GG and 25GG to determine whether a relay type 1 is installed (see Note 2 of this AD).

Note 2: If during the visual inspection a relay type 1 is found, the aeroplane is a Group 1a aeroplane. If a type 2 relay is found, the aeroplane is a Group 2 aeroplane.

BSCU Replacement:

- (2) For Group 1a aeroplanes having an MSN not listed in Table 1 of Appendix 1 of this AD: If, during any flight after 10 March 2022 [the effective date of EASA AD 2022-0032 at original issue], a



BSCU fault signature is triggered on an aeroplane as defined in the AOT 1 Appendix 1, before next flight, replace the affected BSCU with a serviceable BSCU in accordance with the instructions of the AOT 1.

- (3) For Group 1a aeroplanes having an MSN as listed in Table 1 of Appendix 1 of this AD: If, during any flight after the effective date of this AD, a BSCU fault signature is triggered on an aeroplane as defined in the AOT 1 Appendix 1, before next flight, replace the affected BSCU with a serviceable BSCU in accordance with the instructions of the AOT 1.

MMEL Amendment:

- (4) Before next flight after the effective date of this AD, implement the instructions of the MMEL update, as defined in this AD, on the basis of which the operator's MEL must be amended, inform all flight crews, and, thereafter, operate the aeroplane accordingly.

Modification:

- (5) For Group 1a and 1b aeroplanes: Within the compliance time as specified in Table 1 of this AD, as applicable, replace each type 1 relay with a type 2 relay in accordance with the instructions of the SB (for the MSN not listed in Table 1 of the Appendix 1 of this AD), or in accordance with the instructions of the AOT 2 (for the MSN listed in Table 1 of the Appendix 1 of this AD), as applicable (see Note 3 of this AD).

Table 1 – Relay Replacement

Group	Compliance Time (after the effective date of this AD)
1a	Within 12 months
1b	Within 24 months

Note 3: Following the modification, the aeroplane is considered to be a Group 2 aeroplane.

Part(s) Installation:

- (6) Do not install a relay P/N E0244-28A0 at FIN positions 24GG and 25GG on any aeroplane, as required by paragraph (6.1) or (6.2) of this AD, as applicable:
- (6.1) For Group 1a and 1b aeroplanes: After modification of the aeroplane as required by paragraph (5) of this AD.
- (6.2) For Group 2 aeroplanes: From the effective date of this AD.
- (7) For Group 1a: From the effective date of this AD, it is allowed to install a BSCU on an aeroplane, provided it is a serviceable BSCU, as defined in this AD.
- (8) For Group 1b aeroplanes: From the effective date of this AD, do not install an affected BSCU on an aeroplane.



Ref. Publications:

Airbus AOT A32N025-22 original issue dated 24 February 2022.

Airbus AOT A32N030-23 original issue dated 27 February 2023.

Airbus A318/A319/A320/A321 MMEL Revision dated 05 April 2023.

Airbus FOT 999.0010/22 original issue dated 22 February 2022, or Revision 01 dated 25 February 2022.

Airbus SB A320-92-1149 original issue dated 11 October 2022.

The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.

Remarks:

1. This Proposed AD will be closed for consultation on 28 April 2023.
2. Enquiries regarding this PAD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
3. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this PAD, and which may occur, or have occurred on a product, part or appliance not affected by this PAD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this PAD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
4. For any question concerning the technical content of the requirements in this PAD, please contact: AIRBUS – Airworthiness Office – 1IASA; E-mail: account.airworth-eas@airbus.com.



Appendix 1

Table 1 – Affected MSN

MSN							
9540	10127	10128	10142	10146	10161	10188	10272
10275	10284	10331	10353	10400	10420	10434	10448
10486	10546	10620	10637	10644	10655	10658	10674
10701	10703	10714	10724	10729	10737	10741	10756
10776	10779	10780	10788	10789	10795	10797	10798
10803	10809	10814	10816	10819	10828	10831	10832
10833	10837	10839	10842	10848	10850	10853	10854
10855	10861	10862	10866	10873	10875	10878	10881
10882	10884	10885	10886	10887	10888	10890	10893
10896	10898	10900	10901	10902	10903	10904	10907
10908	10909	10911	10912	10914	10916	10917	10918
10919	10921	10922	10923	10924	10925	10927	10932
10933	10934	10935	10937	10938	10939	10940	10941
10942	10947	10949	10950	10951	10952	10954	10957
10958	10960	10961	10962	10963	10964	10965	10966
10967	10969	10970	10972	10973	10975	10976	10977
10979	10980	10981	10982	10983	10984	10985	10986
10987	10988	10989	10990	10992	10993	10995	10996
10997	10998	11002	11003	11004	11005	11006	11007
11008	11010	11011	11012	11013	11014	11015	11016
11017	11018	11019	11020	11021	11022	11023	11024
11025	11026	11027	11028	11030	11031	11032	11033
11034	11035	11036	11037	11038	11039	11040	11041
11042	11043	11044	11045	11047	11048	11049	11050
11051	11052	11053	11054	11055	11056	11057	11059
11060	11061	11062	11064	11065	11066	11067	11068
11069	11070	11071	11073	11074	11075	11076	11077
11078	11079	11081	11082	11083	11085	11086	11087
11088	11090	11091	11092	11094	11097	11099	11100
11102	11103	11105	11108	11109	11111	11112	11114
11116	11117	11118	11120	11121	11122	11123	11124
11126	11127	11128	11130	11133	11135	11137	11138
11139	11140	11141	11142	11143	11145	11146	11148
11149	11150	11151	11152	11153	11154	11155	11157
11159	11160	11161	11162	11166	11169	11173	11174
11175	11178	11180	11181	11182	11188	11189	11190
11193	11194	11195	11197	11199	11201	11205	11211
11213	11216	11222	11224	11228	11232	11234	11235
11244	11245	11247	11252	11254	11258	11261	11265
11270	11271	11282	11287	11288	11293	11295	



Appendix 2

Table 2 – Affected MMEL items

ITEM	Title	Ident MI	Date	Effectivity
32-31-01	Landing Gear Control and Interface Unit (LGCIU)	MI-32-31-00007688.0006001	22 FEB 22	A320neo with BSCU P/N E21327307, without ACT
		MI-32-31-00007688.0007001	22 FEB 22	A320neo with BSCU P/N E21327307, with ACT
32-32-02	LGCIU 2 RH L/G Shock Absorber Proximity Detector	MI-32-32-00007694.0002001	22 FEB 22	A320neo with BSCU P/N E21327307
32-32-03	LGCIU 2 LH L/G Shock Absorber Proximity Detector	MI-32-32-00007695.0002001	22 FEB 22	A320neo with BSCU P/N E21327307
32-42-03	BSCU System 1	MI-32-42-00007739.0003001	24 FEB 22	A319/A320/A321neo, with BSCU P/N E21327307
32-42-04	BSCU System 2	MI-32-42-00007740.0003001	22 FEB 22	A319/A320/A321neo, with BSCU P/N E21327307
32-44-01	Yellow System Brake	MI-32-44-00007746.0002001	22 FEB 22	A319/A320/A321neo, with BSCU P/N E21327307
32-44-03	Brakes Pressure Indicator	MI-32-44-00007748.0003001	22 FEB 22	A319/A320/A321neo, with BSCU P/N E21327307
78-09-01	ENG 1(2) REVERSER CTL FAULT Alert	MI-78-09-00016199.0002001	22 FEB 22	A319/A320/A321neo, with BSCU P/N E21327307
78-30-01	Thrust Reverser	MI-78-30-00008603.0005001	22 FEB 22	A319/A320/A321neo with PW1100 engines and with BSCU P/N E21327307
		MI-78-30-00008603.0006001	22 FEB 22	A319/A320/A321neo with LEAP engines and with BSCU P/N E21327307

