



# Notification of a Proposal to issue a Safety Directive

**PSD No.:** 25-001

**Issued:** 04 March 2025

Note: This Proposed Safety Directive (PSD) is issued by EASA, acting in accordance with Art. 76(6)(a) of Regulation (EU) 2018/1139, to address an urgent safety problem. The final Safety Directive will be mandatory for natural and legal persons in respect of which EASA acts as the competent authority. All interested persons may send their comments, referencing the PSD number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation date indicated.

**Subject:** Replacement of certain Rockwell Collins SBAS receivers on aeroplanes conducting LPV200 approaches in EGNOS SoL service area

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

**Supersedure:** None

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## Applicability:

Third Country Operators (TCOs) authorised by EASA pursuant to Commission Regulation (EU) No 452/2014 when performing commercial air transport operations into, within or out of the territory subject to the provisions of the Treaty on European Union.

## Definitions:

**Affected part:** Any Rockwell Collins (Collins) Satellite Based Augmentation Systems (SBAS) receiver GPS-4000S, GLU-2100, GLUS-2100 and GLUS-2100A with hardware and Operational Program Software (OPS) part numbers (P/N) as identified in Appendix 1 of this SD. These receivers may be installed on, but not limited to, aeroplanes listed in Appendix 2 of this SD.

**EGNOS SoL service area:** European Geostationary Navigation Overlay Service (EGNOS) Safety of Life (SoL) service area, as documented in EGNOS [SoL Service Definition Document \(SDD\)](#) (See Note 1 of this SD).

Note 1: The 'Safety of Life' Service is the EGNOS service intended to support civil aviation operations over European airspace. More information on EGNOS services can be found on this [page](#).

**SIL/SB:** The Service Information Letter or Service Bulletin identified in Appendix 1 of this SD.

## Reason:

Rockwell Collins (doing business as Collins Aerospace) identified a non-compliance in the affected parts with respect to Radio Technical Commission for Aeronautics (RTCA) DO-229 standard. DO-229 is the minimum operational performance standard that is used to obtain the relevant Technical Standard Order (TSO) approval. This non-compliance leads to a concern related to incorrect processing of the integrity information message (Message Type 6 (MT6)) sent by the SBAS system



for a particular value of the fast correction issue of data (IODF) parameter, i.e. IODF=3. In such conditions, the Global Navigation Satellite System (GNSS) receivers may be unable to notify the flight crew when the integrity of the SBAS qualified GNSS position may be compromised.

An EGNOS ground system update (v242B - see Note 2 of this SD) that was performed in November 2023 exposed this issue in the affected Collins SBAS receivers. The issue is relevant to the use of EGNOS and potentially of other SBAS systems, where a more extensive use of this parameter value (i.e. IODF = 3) in the MT6 message is applied to improve the integrity of the service.

Note 2: Ref. EGNOS Service Notice Number 30 Version 2.0 ([EGNOS Service Notice 30](#)).

EASA issued Safety Information Bulletin (SIB) 2024-03, later revised, to recommend approval holders of designs having an affected receiver installed to assess the impact on the safety operations of the aeroplane.

In parallel, EASA conducted its own assessment with Collins, the European Union Agency for the Space Programme (EUSPA, which is in charge of EGNOS exploitation and service provision), the European Satellite Services Provider SAS (ESSP SAS, the EGNOS Air Navigation Service Provider) and the European Space Agency (ESA, which supports EGNOS V2 System evolution as Design Authority).

The investigations have shown that the affected SBAS receivers are not meeting the applicable minimum operational performance standards. This invalidates the conditions under which the satellite-based augmentation systems, and particularly EGNOS, have been approved for Safety of Life operations (see Note 1 of this SD).

Simulations based on a limited set of GPS and EGNOS data from November 2023 to December 2024 have been performed, but, due to the limited amount of data, are insufficient to show that the applicable requirements, i.e. ICAO Annex 10 Volume 1 section 3.7 and Attachment D, are met.

This means that the GPS and EGNOS signals in space may, in certain occasion, have characteristics that are not present in the simulation set and that may have adverse impact on the affected SBAS receiver performance, especially for LPV-200 operations. The probability of such an event remains low enough, so that an immediate prohibition of such operations is not deemed necessary. However, the continued operation in the long term of the affected SBAS receivers on many aeroplanes for LPV-200 approaches and in the context of upcoming updates of EGNOS ground system, has been determined to be a potential unsafe condition.

Accordingly, EASA will issue an Airworthiness Directive (AD) [published as Proposed Airworthiness Directive (PAD) 25-041 on 04 March 2025], requiring that all aeroplanes conducting LPV-200 operations are equipped with non affected receivers (which means the replacement of affected receivers already installed within 2 years after the effective date of that AD, and the prohibition to (re)install affected receivers).

Consequently, considering the risk of continued operation of the affected part in EGNOS SoL area, EASA, acting as Competent Authority (CA) for third country operators to whom this SD applies, has determined that the same actions as required by EASA AD TBD [published as PAD 25-041] must be accomplished by those operators, within the same compliance time as identified in that AD.



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

From the effective date of this SD, aircraft operators to whom this SD applies shall comply with the requirements of EASA AD TBD [published as PAD 25-041 on 04 March 2025].

**Remarks:**

1. This PSD will be closed for consultation 01 April 2025.
2. Enquiries regarding this PSD should be referred to the EASA Safety Information Section, E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).



## Appendix 1: P/N of affected parts

| Equipment Type                   | Affected parts    |                                                       |
|----------------------------------|-------------------|-------------------------------------------------------|
|                                  | Hardware (HW) P/N | With OPS Software (SW) P/N<br>(see Note 3 of this SD) |
| GPS-4000S                        | 822-2189-100      | Not applicable                                        |
|                                  | 822-2189-101      |                                                       |
|                                  | 822-2189-190      |                                                       |
| GLU-2100 (HW)<br>GLUS-2100 (SW)  | 822-2532-100      | COL4E-0087-0010                                       |
|                                  |                   | COL4F-0087-0011                                       |
| GLU-2100 (HW)<br>GLUS-2100A (SW) | 822-2532-300      | RCU4F00090000002                                      |
|                                  |                   | RCU4B00090000600                                      |

Note 3: For units with loadable software whose P/N can evolve independently of the HW P/N. In that case, the unit is affected only when the listed SW P/N is loaded in the HW P/N.



## Appendix 2: Potentially affected aircraft

The affected parts listed in Appendix 1 of this SD may be installed on, but not limited to, the following aeroplanes:

| <b>Aircraft type</b>                                 | <b>SBAS receiver model</b> |
|------------------------------------------------------|----------------------------|
| Airbus Canada LP                                     |                            |
| BD-500 (A220 series)                                 | GPS-4000S                  |
| Airbus DS S.A.                                       |                            |
| CN-235/C-295 (C-295)                                 | GPS-4000S                  |
| Airbus S.A.S.                                        |                            |
| A318/A319/A320/A321                                  | GLU-2100                   |
| A330                                                 | GLU-2100                   |
| A350                                                 | GLU-2100                   |
| A380                                                 | GLU-2100                   |
| Bombardier Inc                                       |                            |
| BD-100-1A10                                          | GPS-4000S                  |
| CL-600 (All models)                                  | GPS-4000S                  |
| BD-700 (All models)                                  | GPS-4000S                  |
| DASSAULT AVIATION                                    |                            |
| Fan Jet Falcon/MF 20/MF 200 (All models)             | GPS-4000S                  |
| MF 50/MF 900/Falcon 900EX (Mystère Falcon 50 (MF50)) | GPS-4000S                  |
| Falcon 2000 (All models)                             | GPS-4000S                  |
| EMBRAER S.A.                                         |                            |
| EMB-550 (EMB-545/EMB-550)                            | GPS-4000S                  |
| GULFSTREAM AEROSPACE LP                              |                            |
| Gulfstream G150                                      | GPS-4000S                  |
| Gulfstream G280                                      | GPS-4000S                  |
| GALAXY G200                                          | GPS-4000S                  |
| MHI RJ AVIATION ULC.                                 |                            |
| CL-600 (Regional Jets RJ) (All models)               | GPS-4000S                  |
| Piaggio Aviation S.p.A                               |                            |
| P.180                                                | GPS-4000S                  |
| TEXTRON AVIATION INC.                                |                            |
| Beechcraft 65, 70, 90 (C90)                          | GPS-4000S                  |
| Beechcraft A100, 200, 300,1900 (B200)                | GPS-4000S                  |
| Cessna 500/550/S550/560/560XL                        | GPS-4000S                  |
| Cessna 525 Series (Citation) (525B/525C)             | GPS-4000S                  |

