

Continued Airworthiness Notification to the International Community

To: Civil Aviation Authorities

Date: February 12, 2020

From: Federal Aviation Administration
Aircraft Certification Service
Compliance & Airworthiness Division, AIR-701

Subject: This message provides updated information regarding the FAA's ongoing activities related to the loss of global positioning system (GPS) data or degraded GPS positional accuracy while using a Collins GLU-2100 multi-mode receiver (MMR) with certain software installed on multiple Boeing airplane models.

Situation Description: Boeing and Collins have identified a potential condition where the GPS data could be lost or have a positional error, while using the Collins GLU-2100 MMR and flying routes near 180 degrees longitude. A Model 777 operator reported several instances of a loss of GPS data, which is an annunciated condition. In the reported events, the MMR recovered and the flight continued without incident. The investigation determined there was the possibility of an unannunciated positional error. If this unannunciated positional error were to occur during a high precision approach (RNP < 0.3 nm), it could result in the inability to maintain continued safe flight and landing. The area potentially affected by these positional errors extends on either side of 180 degrees W Longitude. There are only two airports (Anchorage and Fairbanks) that have approved RNP approaches less than .3 in the affected region.

Aircraft/engine make, model, and series: Boeing Model MD-11F airplanes, Model 717-200 airplanes, Model 737-8 and 737-9 airplanes, Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes, Model 747-400F series airplanes, Model 757 airplanes, Model 767 airplanes, and all Model 777 airplanes. All above airplanes equipped with Collins GLU-2100 MMR with Operational Program Software (OPS) P/N COL4E-0087-0001, COL4D-0087-0002, COL48-0087-0700, or COL49-0087-0701 are affected.

U.S.-registered fleet: 409 airplanes; **Worldwide fleet:** 1,279 airplanes

Operators: Most major U.S. airlines operate these airplanes.

Ongoing activities: The FAA is working with Boeing and Collins to develop interim action to address this issue. This interim action would change how the airplane is operated around 180 degrees longitude, and is likely to consist of an airplane flight manual (AFM) limitation prohibiting precision approaches, RNP < 0.3 nm, in the affected region. The FAA is considering rulemaking to mandate this interim action. The FAA is also working with Boeing and Collins to develop terminating action to address this issue.

FAA contact: Ross Landes, Deputy Director, Regulatory Operations,
Compliance & Airworthiness Division
Telephone: (206) 231-3500