



FAA
Aviation Safety

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

SUBJ: Navigation: Enhanced Ground Proximity Warning System

SAIB: NM-15-11

Date: March 13, 2015

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) advises registered owners and operators of **certain transport category airplanes** of potential safety improvements to Honeywell Enhanced Ground Proximity Warning System (EGPWS) software having part number (P/N) 965-0976-0xx-218-218 and subsequent.

At this time, the airworthiness concern is not an unsafe condition that would warrant airworthiness directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

Background

The National Transportation Safety Board (NTSB) reported its final conclusions and recommendations for the fatal controlled flight into terrain (CFIT) accident of United Parcel Service (UPS) flight 1354 (an Airbus Model A300 aircraft). Among the findings reported by the NTSB was a finding that the Honeywell EGPWS software version installed on UPS flight 1354 was not the latest version available; and although it was fully approved, it did not provide the most advanced thresholds for the "TOO LOW TERRAIN" alert. As a result, the alert generated by the EGPWS software occurred seconds later and at a lower altitude than a later version of the software would have provided. The crash and loss of UPS flight 1354 resulted in the fatalities of both crew members.

Post-accident evaluation of the accident indicated that the EGPWS software operated per its design during the flight. However, the NTSB noted that if the airplane had been equipped with the later version of EGPWS software available at the time of the accident, the airplane would have entered the terrain clearance floor alert envelope about 200 feet above ground level and 1.3 nautical miles from the runway threshold, and a "TOO LOW TERRAIN" caution alert would have sounded about 6.5 seconds earlier at 150 feet higher than the EGPWS alert the flight crew received.

Consequently, although it is not clear if the later version of the software would have prevented the accident, it would have provided a significantly improved margin of safety. Therefore, it is recommended that airplanes equipped with this Honeywell EGPWS software be upgraded to a version of the software having P/N 965-0976-0xx-218-218 or later.

To achieve the maximum benefit of the later version of the EGPWS software having P/N 965-0976-0xx-218-218 and subsequent, operators should use GPS updated FMS; preferably wire GPS directly to the EGPWS to provide accurate World Geodetic System 1984 (WGS-84) position data independent of potential FMS position errors.

Recommendations

The FAA recommends that all owners and operators of airplanes having the subject EGPWS software upgrade to the later version of the software having P/N 965-0976-0xx-218-218 or higher. The following Honeywell EGPWS P/Ns contain this software change:

MK V – P/N 965-0976-0xx-218-218 or greater
Airbus MK V – P/N 965-1676-002 or greater
Boeing MK V – P/N 965-1690-051 or greater
MK VII – P/N 965-1076-0xx-218-218 or greater
MK VI – P/N 965-1180/1190-022 or greater
MK VIII – P/N 965-1210/1220-022 or greater
Gulfstream and Dassault (with Primus Epic cockpit) – PN 996-0139-004 or greater
Cessna and Embraer (with Primus Epic cockpit) – PN 996-0168-005 or greater

*Note: For MK VI P/N 965-1176/1186-0xx and MK VIII P/N 965-1206/1216-0xx there is no software containing the “-218-218” changes. The “x” denotes any number.

For Further Information Contact

Dale Dunford, Aerospace Engineer, FAA, Transport Airplane Directorate, Airplane & Flight Crew Interface Branch, ANM-111, 1601 Lind Ave. SW, Renton, Washington, 98057-3356; phone: (425) 227-2239; fax: (425) 227-1149; email: dale.dunford@faa.gov.