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Department of Transportation
Federal Aviation Administration
Northwest Mountain Region, ANM-100S
1601 Lind Ave SW
Renton, Washington 98055-4056

To: Mr. Ali Bahrami, Manager
Seattle Aircraft Certification Office ANM-100S

Attention: Mr. John Hill
Seattle Aircraft Certification Office ANM-130S

CC: Mr. Varun Khanna
Seattle Aircraft Certification Office ANM-130S

Subject: Notification of minor change to Honeywell Enhanced Ground Proximity Warning Computer, part numbers 965-1176-008, 965-1186-008, 965-1206-008, 965-1216-008, 965-1590-008 and 965-1686-008.

- References:
- (1) TSO-C92c
 - (2) TSO-C151a
 - (3) 130S-01-424, August 14, 2001, Technical Standard Orders (TSO)-C92c and 151a Class A Approvals for the Enhanced Ground Proximity Warning Computer (EGPWC) P/N's 965-1176-008, 965-1186-008, 965-1206-008 and 965-1216-008
 - (4) 130S-01-491, September 5, 2001, Technical Standard Orders (TSO)-151a Class A Approval for the Enhanced Ground Proximity Warning Computer (EGPWC) P/N's 965-1590-008 (Mod 1)
 - (5) 130S-01-423, August 14, 2001, Technical Standard Orders (TSO)-151a Class B Approval for the Enhanced Ground Proximity Warning Computer (EGPWC) P/N's 965-1686-008
 - (6) October 4, 2002, Plan for Release -008 (Mod 2) of the Enhanced MK IV/VI/VIII/XXII Ground Proximity Warning Computer (EGPWC) Revision A

Dear Mr. Hill:

In accordance with Subpart O of Federal Aviation Regulations (FAR) 21, in compliance with FAR 21.611(a), Honeywell is providing notification of a minor design change to the Enhanced Ground Proximity Warning Computer (EGPWC), part numbers 965-1176-008, 965-1186-008, 965-1206-008, 965-1216-008, 965-1590-008 and 965-1686-008. Honeywell has received Technical Standard Order (TSO)-C92c and -C151a Class A authorization per reference (3) for the following part numbers 965-1176-008, 965-1186-008, 965-1206-008 and 965-1216-008, TSO C151a Class A authorization per reference (4) for part number 965-1590-008 (Mod 1), and TSO C151a Class B Authorization per reference (5) for part number 965-1686-008.

Minor changes were made to Software version -008 (Mod 1) resulting in -008 (Mod 2) (Service Bulletin to be issued week of 4-NOV-02). These changes are described in the Plan submitted per reference (6).

The following problems were fixed for the MK IV/VI/VIII and MK XXII EGPWC:

- a. Terrain may be inaccurately displayed for helicopter installations and may be depicted as much as 600 feet from its actual location. The occurrence of this anomaly is intermittent and based solely on aircraft position and direction of travel. The anomaly occurs between +128 & +180 degrees longitude and between -128 & -180 degrees longitude. The application software is being modified to prevent rounding errors associated with using 6 arc-second data in helicopter applications.
- b. Terrain may be inaccurately displayed for helicopter installations and be depicted as much as 300 feet from its actual location. The occurrence of this anomaly is intermittent and based solely on aircraft position and direction of travel. The anomaly occurs above +50 degrees latitude and below -50 degrees latitude. The application software is being modified for helicopter applications to accurately use 6 arc-second data near the poles.
- c. Flash Write Failure messages have been observed during self-test. The failure can occur intermittently after a power-up and results in the storage of a message flight history. The message remains latched until an operator manually clears the fault message using Fault History Erase (FHE). These failures are being set prematurely due to insufficient time to complete the flash write operation. The application code is being modified to increase the time out limit and thus prevent nuisance fault messages.
- d. The EGPWS can become inoperable during power up when configuring dual KCPB¹ display inputs. Lengthy configuration files from the display on the ARINC 429 bus upon power up can cause the EGPWS input task time limit to be exceeded. This can prevent the EGPWS display output from becoming correctly configured for the display. The application code is being modified to increase the amount of time allowed to process the maximum allowable query/response.

Note 1: KC Picture Bus (KCPB) is a proprietary data format intended for the transmission of digital image pixel data and/or text data to display hardware. KCPB is also known as ASPB (AlliedSignal Picture Bus). The KCPB compatible display system will respond to the EGPWS with a stream of configuration information. This configuration information will be used by the EGPWS to configure the output image.

- e. Artifacts can remain on the display after running a self-test or flying with 5NM range selected. This can occur intermittently after running the EGPWC self-test or while flying with 5nm range selected. The problem manifests itself as small dots resembling a starry night. This problem is most prevalent with GNS-XLS installations due to the use of KCPB, but it is not limited to this display type. Rebooting the EGPWS or switching display modes can clear the problem. The application code is being modified to correctly initialize a variable in the Digital Signal Processor (DSP) software. This change will prevent this anomaly from occurring regardless of the selected display type.

A Honeywell DER has reviewed the software data for compliance with DO-178B. The Plan, two copies of the Software Accomplishment Summary, and the 8110-3 approving all resulting software data items are included with this notification of minor change.

This configuration change and all allowable previously certified configurations are listed in the enclosed Configuration Index Document, Rev N. These new changes do not affect TSO-C92c or TSO-C151a performance, and the previously certified configurations remain in compliance with requirements.

The following documents have changed as a result of incorporation of this minor change. All are being submitted as part of this minor change notification, and represent an up-to-date data package for all versions of MK IV/VI/VIII and MK XXII EGPWC.

Item	Document Title	Document Number & Revision
1.	Configuration Index (CID) for MK V and MK VII EGPWS	993-1176-000, Rev N
2.	MKVI ENHANCED GPWC (WITHOUT GPS)	965-1176, Rev AF
3.	MKVI ENHANCED GPWC (WITH GPS)	965-1186, Rev AE
4.	MKVIII ENHANCED GPWC (WITHOUT GPS)	965-1206, Rev AD
5.	MKVIII ENHANCED GPWC (WITH GPS)	965-1216, Rev AD
6.	MK XXII ENHANCED GPWC (WITH GPS)	965-1590, Rev M
7.	MK IV ENHANCED GPWC (WITH GPS)	965-1686, Rev G

Honeywell certifies that all configurations of the Enhanced Ground Proximity Warning Computer continue to meet the applicable requirements of TSO-C92c and TSO-C151a Class A and Class B as applicable to the configuration defined above.

It is further certified that Honeywell meets all requirements of Subpart O of Part 21 of the Federal Aviation Regulations and that our Quality Assurance Manual Policy/Procedure Index has been submitted to the Engineering and Manufacturing District Office No. 41.

If you have any questions or concerns regarding this information please contact James Kistler at 425-885-8937 or Esko Mannisto at 425-885-8479.

Sincerely,

Greg Francois
 Director GPWS/EGPWS Products

Attachments