



U.S. Department of Transportation

Federal Aviation Administration

JUN 16 2000

In Reply

Refer To: 130S-00-0365

Transport Airplane Directorate
Aircraft Certification Service

1601 Lind Avenue S.W.
Renton, Washington 98055-4056

Ms. Colleen Portch
Certification Services Administrator
Honeywell International Inc.
15001 NE. 36th Street
P.O. Box 97001
Redmond, WA 98073-9701

Dear Ms. Portch:

Technical Standard Order (TSO) Approvals
TSO C92c Authorization of Ground Proximity Warning Functions;
TSO C151a, Class A, Authorization of Terrain Awareness and Warning System Functions
Enhanced Ground Proximity Warning Computer (EGPWC) MK VI
and MK VIII Part Numbers: 965-1176-001, 965-1186-001, 965-1206-001, 965-1216-001

This letter is to correct an omission in our TSO approval letter, 99-130S-0960, dated December 28, 1999, as requested in your Letter, Reference Number EGPWS-2000/FAA-057, dated June 8, 2000.

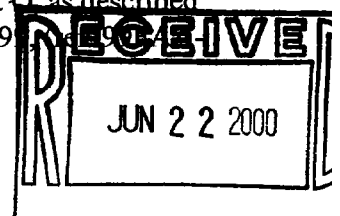
Your certification that the following new Honeywell (AlliedSignal) EGPWC Part Numbers (P/N):

EGPWS Type	Unique Characteristics	New EGPWC Part Number
MK VI EGPWC	None	965-1176-001
MK VI EGPWC	Internal GPS Receiver	965-1186-001
MK VIII EGPWC	Larger Memory Card	965-1206-001
MK VIII EGPWC	Internal GPS Receiver and Larger Memory Card	965-1216-001

and Configuration Module:

Name	Part Number
EGPWS Configuration Module -MK VI/ MK VIII EGPWS	700-1710-001

are in conformance with Federal Aviation Regulations (FAR) Part 21, Subpart O, as described in your letters of June 8, 2000 (ref. EGPWS-2000/FAA-057), December 3, 1999 (ref. 99FAA-815) and December 7, 1999, (ref. 99FAA-823) are acceptable.



Your Quality Control Manual, Revision H, dated May, 1999, is considered adequate and is on file in the Manufacturing Inspection District Office, Renton, Washington.

The approval for TSO C92c applies to the performance, qualification testing, and software testing of the basic Ground Proximity Warning Computer (GPWC) functions in the EGPWC. The added features meet the same qualification testing and software testing of the GPWC.

The approval for TSO C151a, applies to the Terrain Awareness and Warning System (TAWS) Functions. The TAWS meets the performance standards for a TSO C151a Class A equipment. The added features meet the same qualification testing and software testing of the TAWS; however, the actual performance standards for additional features are not under this TSO. They should be evaluated under the Supplemental Type Certification process and should be listed in the aircraft installation manual. A detailed functional description of the MK VI and MK VIII EGPWC is in the Product Specification, Document Number 965-1176-601. Details of interface and customer options are in the Interface Control Document (ICD), Document Number 993-1176-401.

The following documents, as referenced in the above letters, have been reviewed and added to our files to support this application:

Item	Document Title	Document Number & Revision
1.	DO-161A System Validation Test Requirements for the Enhanced Ground Proximity Warning Computer (EGPWC)	060-4204-000, Rev A (1)
2.	DO-161A System Validation Test Procedure for the Enhanced Ground Proximity Warning Computer (EGPWC)	060-4205-000, Rev A (1)
3.	DO161A System Validation Test Results For The MKVI and MKVIII Enhanced Ground Proximity Warning Computer 965-1xx6-001.	070-4612-000, Rev New (1)
4.	TSO-C151 Test Procedure for the MKVI and MKVIII Enhanced Ground Proximity Warning Computer (EGPWC)	060-4324-000, Rev New (1)
5.	TSO-C151 Test Results for the MKVI and MKVIII Enhanced Ground Proximity Warning Computer (EGPWC) Part Number 965-1xxx-001	070-4613-000, Rev New (1)
6.	System Requirements Document (SRD) for the Enhanced Ground Proximity Warning Computer (EGPWC)	993-0976-302, Rev J-5 * (1)
7.	Product Specification for the MKVI and MKVIII Enhanced Ground Proximity Warning System (EGPWS)	965-1176-601, Rev New (1)
8.	Interface Control Document (ICD) for the Mark VI/VIII Enhanced Ground Proximity Warning System (MK VI/VIII EGPWS)	993-1176-401, Rev New (1)
9.	Configuration Index Document (CID) for the MK VI and MKVIII EGPWC	993-1176-000, Rev New (1)

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Item	Document Title	Document Number & Revision
10.	Plan for Software Aspects of Certification for the Enhanced Ground Proximity Warning Computer (EGPWC)	992-1176-000, Rev New (1)
11.	Software Accomplishment Summary for the MKVI/MKVIII Enhanced Ground Proximity Warning Computer (EGPWC)	992-1176-800, Rev New (1)
12.	Acceptance Test Procedure for Enhanced Ground Proximity Warning System (MKVI / MKVIII EGPWS)	076-0910-001, Rev A (1)
13.	LABEL, S/W VERSION	402-6070, Rev B (1)
14.	MKVI ENHANCED GPWC (WITHOUT GPS) <i>Separate Parts List</i>	965-1176, Rev D (2) PL965-1176-001 Rev E
15.	OUTLINE - MKVI EGPWC (WITHOUT GPS)	965-1176-201, Rev B (2)
16.	MKVI ENHANCED GPWC (WITH GPS) <i>Separate Parts List</i>	965-1186, Rev D (2) PL965-1186-001, Rev F
17.	OUTLINE - MKVI EGPWC (WITH GPS)	960-1186-201, Rev B (2)
18.	MKVIII ENHANCED GPWC (WITHOUT GPS) <i>Separate Parts List</i>	965-1206, Rev C (3) PL965-1206-001, Rev C
19.	OUTLINE - MKVIII EGPWC (WITHOUT GPS)	965-1206-201, Rev B (3)
20.	MKVIII ENHANCED GPWC (WITH GPS) <i>Separate Parts List</i>	965-1216, Rev C (3) PL965-1216-001, Rev C
21.	ASSY - CONFIGURATION MODULE, MKVI & MKVIII EGPWS <i>Separate Parts List</i>	700-1710-001, Rev D (1) PL700-1710-001, Rev D
22.	OUTLINE - MKVIII EGPWC (WITH GPS)	960-1216-201, Rev B (3)
23.	LABEL - EGPWS COMPUTER TOP ASSEMBLY	402-6075, Rev G (2)
24.	LABEL - MKVIII EGPWS	402-6082, Rev A (3)
25.	Flammability Report for the MK VI EGPWC Part No. 965-1176-0xx and 965-1186-0xx MK VIII EGPWS Part No. 965-1206-0xx and 965-1216-0xx	060-4298-000, Rev New (1)
26.	Failure Modes Effects and Criticality Analysis For the Enhanced Mark VI/VIII EGPWC w/wo GPS	070-4610, Rev New (1)
27.	Qualification Test Procedure for the MK VI Enhanced Ground Proximity Warning Computer (EGPWC), with GPS, ASI Part Numbers 965-1186-001	965-1186-101, Rev A (2)

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Item	Document Title	Document Number & Revision
28.	Qualification Test Report for the MK VI Enhanced Ground Proximity Warning Computer (EGPWC), with GPS, ASI Part Numbers 965-1186-001	965-1186-401, Rev New (2)
29.	Qualification By Similarity Report for MK VI EGPWC 965-1176-001 (without GPS)	904-0088-401, Rev New (2)
30.	Qualification By Similarity Report for the MK VIII EGPWC 965-1206-001 (without GPS) and 965-1216-001 (with GPS)	904-0089-401, Rev New (3)
31.	Software Qualification By Similarity for MK VI EGPWC, 965-1186-001	904-0090-401, Rev A (2)
32.	Database Development Process for Enhanced Ground Proximity Warning System (EGPWS)	992-0109-100, Rev C (1)

Note:

- (1) Applicable to MK VI and MKVIII EGPWC
- (2) Applicable to MKVI EGPWC only
- (3) Applicable to MKVIII EGPWC only

* The SRD is not on file, but it is available at the AlliedSignal facility in Redmond for FAA review. A FAA Statement of Compliance for this document has been provided related to DO-178B.

We also acknowledge the FAA Forms 8110-3 that were submitted with your letters, Reference Number 99/FAA-814, dated December 3, 1999, which approved the software accomplishment summary, Reference Number 99/FAA-781, dated October 26, 1999, approving the software verification plan and development plan for the MK VI and MK VIII and Reference Number CSA-99/FAA-688, dated June 29, 1999, approving the plan for software aspects of certification, software development plan, and software quality assurance plan.

Effective this date, you are authorized to use TSO procedures as prescribed by Subpart O of FAR Part 21 and to identify the EGPWC MK VI and MK VIII Part Numbers 965-1176-001, 965-1186-001, 965-1206-001, 965-1216-001 and Configuration Module P/N 700-1710-001, with the applicable TSO markings as required by TSO-C92c and TSO C151a.

Any design changes made to these TSO'ed EGPWC's must be forwarded to this office as outlined in FAR 21.611(a), with minor change submittal intervals not to exceed six months. As a TSO manufacturer, you are required to report to the FAA any failure, malfunction, or defect related to your TSO authorization within 24 hours in accordance with the provisions of FAR 21.3. You must also notify the FAA when you no longer manufacture a TSO approved article as required by FAR 21.613(b).

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This authorization pertains only to the manufacturing operations at the above address, and this office must be notified in advance of any proposed relocation.

If you have any questions, please contact Ms. Sheila Mariano at (425) 227-2675.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ali Bahrami', with a long horizontal flourish extending to the right.

Ali Bahrami
Manager, Seattle Aircraft
Certification Office