



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

June 23, 2006

**Transport Airplane Directorate  
Aircraft Certification Service**

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

In Reply  
Refer to: 130S-06-346

Ms. Colleen M. Portch  
Certification Services Administrator  
Honeywell International, Inc.  
15001 N.E. 36<sup>th</sup> Street  
Redmond, WA 98052

RECEIVED

JUN 26 2006

Dear Ms. Portch:

Subject: Technical Standard Order (TSO) Approval for TSO C92c, TSO C151b, and TSO C117a for the Honeywell MK V and MK VII Enhanced Ground Proximity Warning Computer (EGPWC) and Approval for TSO C129a for the Honeywell MK V and MK VII EGPWC/GNSSU

We received your letters 06FAA038, dated May 17, 2006, and 06FAA058, dated June 1, 2006, in which you certified that a major change to the EGPWC constitutes a change in EGPWC function resulting in nine new part numbers. You also certified that the new MK V and MK VII EGPWC part numbers listed below meet the applicable requirements of TSO-C92c, TSO-C117a, and TSO-C151b Class A and the new MK V and MK VII EGPWC/GNSSU part numbers listed below meet the applicable requirements of TSO-C129a Class C3 and are in conformance with Federal Aviation Regulations (FAR) Part 21, Subpart O.

EGPWC Type	Unique Characteristics	Certification Baseline	New Part Number
MK V	115 VAC, -40°C, no GPS	965-0976-003-222-222 (ref: 960-0329-024)	965-0976-003-224-224 (ref: 960-0329-025)
MK V	115 VAC, -40°C, Internal GPS Receiver	965-0976-020-222-222 (ref: 960-0336-011)	965-0976-020-224-224 (ref: 960-0336-012)
MK V	28 VDC, -55°C, no GPS	965-0976-040-222-222 (ref: 960-0335-019)	965-0976-040-224-224 (ref: 960-0335-020)
MK V	115 VAC, -40°C, w/Mercury GNSSU	965-0976-060-222-222 (ref: 960-0337-007)	965-0976-060-224-224 (ref: 960-0337-008)
MK VII	115 VAC, -40°C, no GPS	965-1076-001-222-222 (ref: 960-2226-014)	965-1076-001-224-224 (ref: 960-2226-015)
MK VII	115 VAC, -40°C, w/Pxpress GPS	965-1076-020-222-222 (ref: 960-2225-012)	965-1076-020-224-224 (ref: 960-2225-013)

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EGPWC Type	Unique Characteristics	Certification Baseline	New Part Number
MK VII	28 VDC, -40°C, w/Pxpress GPS	965-1076-030-222-222 (ref: 960-2230-008)	965-1076-030-224-224 (ref: 960-2230-009)
MK VII	28 VDC, -55°C, no GPS	965-1076-040-222-222 (ref: 960-2224-014)	965-1076-040-224-224 (ref: 960-2224-015)
MK VII	115 VAC, -40°C, w/Mercury GNSSU	965-1076-060-222-222 (ref: 960-2233-007)	965-1076-060-224-224 (ref: 960-2233-008)

We acknowledge receipt of the following revised Honeywell documents submitted with your letter ref: 06FAA058 along with other supporting data submitted with letter ref: 06FAA038 as required by TSO-C151b, TSO-C117a, TSO-C92c and TSO-C129a.

Honeywell Document No.	Title	Revision/Date
060-4314-033	MK V/VII Enhanced Ground Proximity Warning Computers (EGPWC), Honeywell P/Ns 965-0976-XXX and 965-1076-XXX Summary of Compliance with TSO-C151b, TSO-C117a, TSO-C92c and TSO-C129a; Including DO-178B Software Data for Release 224-224	Revision A, dated May 31, 2006
992-0103-847	Software Accomplishment Summary for the Enhanced Ground Proximity Warning Computer (EGPWC)	Revision A, dated May 31, 2006
993-0976-001	Configuration Index Document (CID) for MK V and MK VII EGPWS	Revision R, dated May 30, 2006

The FAA confirms your certification is in conformance with the 14 Code of Federal Regulations (CFR) part 21, subpart O, as described in your letter. Your quality control manual has been previously approved by the Federal Aviation Administration (FAA) and is on file in the Seattle Manufacturing District Office (ANM-108S).

TSO-C151b identifies RTCA DO-161A as the minimum operational performance standard for the equipment. DO-161A specifies in paragraph 2.1.2 and Appendix A, page 4, a dynamic envelope of 1250 feet to 1050 feet AGL in Mode 2A conditions. Honeywell requested a deviation to reduce the Mode 2A maximum altitude from 1250 to 950 feet. The deviation only affects Excessive Closure Rate to Terrain and is activated only under a defined set of conditions that ensure that Terrain Awareness and Warning System (TAWS) functions provide terrain avoidance protection. The Seattle Aircraft Certification Office (SACO) reviewed the deviation request and forwarded it to FAA Headquarters for concurrence via SACO memorandum 130S-06-74, dated February 10, 2006. Concurrence was provided via the enclosed AIR-100 memorandum, dated March 8, 2006.

The MK V and MK VII EGPWC meet the performance standards for TSO-C92c, TSO-C117a, and TSO-151b, Class A equipment. In addition, the MK V and MK VII EGPWC/GNSSU's meet the performance standards for TSO-C129a, Class 3. The data

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received with your letters to support this application has been reviewed and added to our files. We acknowledge receipt of the FAA Form 8110-3, signed by Designated Engineering Representative (DER) Esko Mannisto, which was submitted approving the Software Accomplishment Summary and other related data for this application.

Effective this date, you are authorized to use TSO procedures as prescribed by of 14 CFR part 21, subpart O and to identify the MK V and MK VII Enhanced Ground Proximity Warning Computer for the referenced part numbers above, with the applicable TSO markings as required by TSO-C92c, TSO-C117a, and TSO-C151b. You are also authorized to identify the MK V and MK VII with Mercury GNSSU's, part numbers 965-0976-060-224-224 and 965-1076-060-224-224 respectively, with the applicable markings as required by TSO C129a, Class C3.

As required by the TSO, the following statement must be furnished with each manufactured unit:

"The conditions and tests required for TSO approval of this article are minimum performance standards. It is the responsibility of those installing this article either on or within a specific type or class of aircraft to determine that the aircraft installation conditions are within the TSO standards. TSO articles must have separate approval for installation in an aircraft. The article may be installed only if performed under 14 CFR Part 43 or the applicable airworthiness requirements."

This authorization is not transferable to another person or location and is effective until surrendered, withdrawn, or otherwise terminated by the Administrator.

Please note that technical data retained by the FAA may be subject to the Freedom of Information Act (FOIA) request. As such, this office will notify you of all such requests pertaining to your data and afford you the opportunity to contest the release of the data.

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

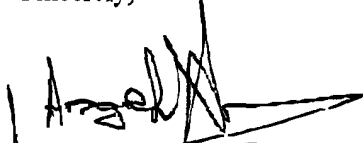
Since I am very much interested in the service we provide to the aviation community and the general public, it would be helpful if you would provide your thoughts and comments regarding how the approval process went. To gather this information, we have enclosed a short survey (with a self-addressed, stamped envelope) that I hope you will fill out and return. You will note that the return envelope is addressed to me. You may rest assured that your comments will receive my full attention and that I will hold your comments in strict confidence, should you request I do so. Please note that this customer service survey is common to all Aircraft Certification Offices within the FAA's Aircraft Certification Service and is aimed at enabling the Aircraft Certification Service to deliver the best services to each of our customers.

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If you have any questions, please contact Mr. Patrice Adjibly of the Systems and Equipment Branch at telephone (425) 917-6459.

Sincerely,



Jeffrey E. Duven  
Manager, Seattle Aircraft  
Certification Office

Enclosures