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**Federal Aviation
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SAFO

Safety Alert for Operators

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http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo

A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest. Besides the specific action recommended in a SAFO, an alternative action may be as effective in addressing the safety issue named in the SAFO.

Subject: Boeing Airplane Models 757 and 767 Hydraulic Motor Generator (HMG) Test Procedure

Purpose: This SAFO alerts operators of Boeing 757 and 767 airplanes equipped with HMGs to deficiencies in the Boeing Aircraft Maintenance Manual (AMM) test procedures for the HMG system.

Background: The HMG is installed as a backup power generating source on Extended Operations (ETOPS) Boeing model 757 and 767 airplanes. A 757 operator failed to reinstall the HMG Transformer Rectifier Unit (TRU) after maintenance and the airplane was in service for an extended period of time before the TRU was found to be missing.

Discussion: The maintenance tasks related to the HMG system provide for an Operational Test at 500 flight hour intervals and a Functional Test at a 2C interval. During the AMM 24-25-00/501 Operational Test Procedure, HMG AC volts, Frequency and DC volts are displayed on the Engine Indicating and Crew Alerting System (EICAS). However, since HMG DC output is connected in parallel with the main battery the HMG DC volt indication on EICAS is a measurement of battery bus voltage only and does not confirm HMG DC output. For that reason the missing HMG TRU was not detected until the Functional Test, which specifically checks the HMG system DC output.

The 767's HMG system does not include a TRU. DC output is taken directly from the HMG, but the DC output is in parallel with the main battery in the same manner as the 757's and HMG DC output is not confirmed during the Operational Test. Notes were added to the Operational Test procedures for both fleets advising of the interconnection without providing specific instructions to check the HMG DC output. The same situation is true for other HMG System related procedures such as those for post installation test of the 757 HMG itself.

Recommended Action: Directors of Safety, Directors of Operations, Directors of Maintenance and maintenance personnel of Boeing 757 and 767 airplanes equipped with HMG systems should be aware of these deficiencies in the HMG tests. They are advised to ensure that during Operational Testing of the HMG system and when testing after system component replacement that the actual DC output of the HMG system is verified. One method to accomplish the check of HMG System DC output is to perform the applicable steps of the Functional Test procedure contained in AMM 24-25-00/501 for each fleet.

Contact: Questions or comments concerning this SAFO can be directed to George Salmons, Aircraft Maintenance Division, Avionics Branch, (202) 385-4210.