No. FS 10-01     June 23, 2010     Page 1 of 4

Subject: FM Transmission Interference with Glideslope Reception

Area of Concern: All Aviation Users

Distribution: All Aviation Users

Discussion: SAFECOM 10-0114 dated January 30, 2010 identified a problem with the TDFM-136 Technisonic radio causing interference with the glideslope signal, causing the G/S indicators to deviate and flag. After reporting this to Technisonics, they replied with a Technical Bulletin (attached) requiring a placard against using the TDFM-136 FM radio during instrument approach. Since the interagency fire community presently uses FM bandwidth radios for their primary tactical communications systems both on the ground and in the air, this information is being shared with all units affected.

It has been known for some time that FM transmission signals may interfere with glideslope indicators during approach. This interference is usually manifest by causing the glideslope indicator to lose signal, deviate and display a failure flag. Interference has particularly been induced by the FM transmitters operating in a range between 164.575 through 167.500.

The Technisonic Technical Information Bulletin TIBFM 03-06 dated February 19, 2010 identified interference of the TDFM-136 transceiver where the G/S receiver was impacted by an interaction of the 2nd harmonic of the transceiver during transmit while on approach. Their recommendation was to placard the aircraft cockpit with the following: “Operation of TDFM-136/136A not approved during instrument approach”.

Since there is evidence that this interference is not solely limited to Technisonic FM transceivers, it should be understood that all aircraft equipped with Glideslope systems, certified and approved for instrument flight may be susceptible to such interference. This issue is still under examination for corrective action. Until this is remedied, crew awareness of potential risks associated with such interference is important.

Region 6 addressed this issue in the Sherpas by placing placards, above or below all FM radios front and aft in plain view. This has been incorporated in the 5-25-00 inspection program 2B checks as part of the Sherpa programs mandatory placarding. The Sherpa program will incorporate any further direction/recommendation in a C-23A Service information letter for distribution to all pilots, spotters and lofts on FM radio operation and landing procedures for the C23A aircraft. The aircraft without g/s are not placarded. See the following page for images.
Regions operating instrument aircraft with operating glideslope systems should understand the contents of the Technisonic Technical Information Bulletin TIBFM 03-06 (attached). Additional options for enhancing aircrew awareness may include.

1. A caution in the approach checklist that reads, “Caution, Transmitting on FM during instrument approach may interfere with glideslope”.
2. Including this information during the annual pilot refresher training or Bi-annual flight review for pilots flying affected aircraft.
3. Including this information in aircrew training for spotters and technicians who may use FM systems in flight.

/s/ William C. Waterbury  
William C. Waterbury  
AD Risk Management  
and Human Performance

/s/ Ron Hanks  
Ron Hanks  
Chief, Aviation Risk Management  
and Training Systems
TiL Model: TDFM-136/TDFM-136A
TiL P/N: 981087-X, 091258-X-XX
Affected S/No: ALL

**Purpose:** Aircraft cockpit must be clearly placarded “Operation of TDFM-136/136A not approved during instrument approach”. Typically the transceiver exceeds the harmonic attenuation specifications outlined in the manual however failures have been reported during the Post Installation EMI Test due to the interaction of the 2nd harmonic of the transceiver during transmit and the input frequency and sensitivity of the G/S receiver during approach. Only solution is an external low pass filter currently in design/testing.

**Parts Required:**

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**Procedure:**
Aircraft cockpit must be clearly placarded “Operation of TDFM-136/136A not approved during instrument approach”.

Technisonic Industries Ltd.

240 Tradex Blvd. E Mississauga, ON L4Z1W7 CANADA
Tel.: 905-890-2113 Fax: 905-890-3338 www.til.ca

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