



## EASA Safety Information Bulletin

**SIB No.:** 2008-84R1  
**Issued:** 12 November 2008

**Subject:** **Funkwerk Avionics (formerly Filser Electronic) TRT 600 and TRT800 Series Transponders – Intermittent Loss of Detection, Insufficient Mode S Reply.**

**Ref. Publications:** EASA Airworthiness Directives (AD) 2008-0158R2 and AD 2008-0183

**Description:** EASA received reports of intermittent loss of detection on Mode-S Secondary Surveillance Radar (SSR) of aircraft equipped with Funkwerk Avionics TRT800A Transponders. To address this unsafe condition, EASA issued AD 2008-0158 which prohibits aircraft equipped with transponder TRT800A or similar design (TRT600, TRT800, TRT800H) from operating in airspace in which a transponder is required and Mode S interrogation is used by the ground system. The only exception is when prior acceptance from the Air Navigation Service Regulator has been granted.

Further investigation has shown that this issue can be separated into several cases which allow a stepped approach in the development of solutions and making these available to aircraft owners and operators.

1) In the current European mixed mode environment Mode S and Mode A/C interrogations are sent separately. Under certain conditions the TRT600, TRT800A and TRT800H transponders do not respond to the interrogations as expected in this mixed mode environment resulting in loss of track in the ground system.

There are no indications that the TRT800 low power version is affected by this problem. This allowed the revision of the applicability for EASA AD 2008-0158.

For the TRT600 the investigation is ongoing.

For the high power versions TRT800A and TRT800H Funkwerk has developed a fix indicated as Mod-Index 10 whose accomplishment is mandated by EASA AD 2008-0183.

2) Under certain conditions, the reply rate of the TRT600, TRT800, TRT800A and TRT800H transponders to Mode S interrogations is less than expected. This will only result in a safety issue when Air Navigation Service Providers switch to pure mode S interrogations.

This is planned for the core area of Europe and transition will start earliest in April 2009.

As Funkwerk has demonstrated (again) that the affected units fully comply with ED-73B (ETSO-2C112b) test requirements, the reason for this second issue is still under further investigation. Based on the outcome of the investigations EASA will update their documents accordingly.

In the interest of safety, we request that aircraft owners and operators report any unexpected loss of radar tracking to EASA using the occurrence reporting EASA form 44:

[http://www.easa.europa.eu/ws\\_prod/g/doc/Contact/Form%2044%20Technical%20Occurrence%20Report%20Form.doc](http://www.easa.europa.eu/ws_prod/g/doc/Contact/Form%2044%20Technical%20Occurrence%20Report%20Form.doc)

The following data are important for further analysis:

- aircraft call sign (+24Bit address)
- position of the aircraft at the time of reported loss of detection, as precise as possible, including:
  - altitude,
  - exact time UTC,
  - duration of loss of detection, and
  - transponder type, including mod status.

**Applicability:** Funkwerk Avionics GmbH TRT600 and TRT800 Series Mode-S Transponders, including units previously manufactured by Filser Electronic.

These transponders are known to be installed on, but not limited to, the following aircraft types:

- AMS-Flight (Rolladen-Schneider) LS 4 series Sailplanes
- APEX (Robin) DR1050, DR250, DR350 and DR400 series aircraft
- Cessna 150, 172, 182, 210, T303 and 337 series aircraft, including those originally manufactured by Reims Aviation in France
- DG Flugzeugbau DG-800 and DG-1000 series (Powered) Sailplanes
- Diamond Aircraft Industries DA 20 and DV 20 aircraft
- Extra EA-200 and EA-300 series aircraft
- Grob G 109 B Powered Sailplanes
- Grob G 115 series aircraft
- HB-Flugtechnik GmbH HB 21 and HB 23 series Powered Sailplanes
- Mooney M20J aircraft
- Piper PA-28 series aircraft
- Scheibe SF 25 C Powered Sailplanes
- Schempp-Hirth Discus, Ventus and Nimbus series (Powered) Sailplanes
- Schleicher Gliders and Powered Sailplanes
- Stemme S 10 series Powered Sailplanes
- True Flight Holdings (Grumman, American) AA-5B aircraft.

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