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Microair SFL Mode A/C Transponder and Mode S Internationally



The **Microair SFL Mode A/C Transponder** functions in the Mode S environment as is experienced in Europe.

However, anomalies have been identified in a number of different manufactured older (Mode A/C) SSR equipment that transverse through Mode S radar zones!

It has been recommendation by Australian CASA that you get your transponder serviced at the earliest opportunity. You can view the Air Worthiness Bulletin on the CASA website: CASA AWB 34-013.

Microair has developed the **T2000SFL Rev 7 Transponder** to combat these issues.



Picture shows the name plate on a T2000SFL Transponder with Rev 7

If you do not have a Rev 7 transponder we would recommend you contact us about available upgrades.
repair@microair.com.au

When contacting our Repair Department please advise of your transponders Serial Number and current revisional status.

Eurocontrol – Requirements for Aircraft to be Equipped with, and operate, Mode S Transponders

The first and main point to be aware of is that, due to the wide national differences that exist with regard to regulations concerning Mode S transponder carriage for VFR flight in various airspace categories etc, standardisation on this particular issue has just not been possible in Europe.

It is recommended that you consult the latest aeronautical information available for the state in which you intend to fly.

Belgium and Luxembourg (as at October, 2008):-

with effect from 1st January 2011, the Mode S equipage requirement for VFR flights, conducted in airspace where currently the carriage and operation of SSR transponders is mandatory, is a Level 2 transponder with Elementary Surveillance (including SI-code) functionality as a minimum, compliant with ICAO Annex 10 SARPS (AIC 05/2008 refers).

France (as at September, 2009):-

A consultation process is underway in France and, consequently, definitive Mode S requirements for VFR flight have yet to be published. It is expected that transitional arrangements are likely to extend until 2010 and perhaps beyond.

Germany (as at October, 2008):-

The carriage and operation of Mode S equipment is mandatory with effect from 31 March 2008 for all VFR-Flights in designated areas as described in the "Regulation on Air Traffic Control Equipment of Aircraft" (FSAV) paragraph 3 (5), which includes:

- Flights in Class C Airspace or Class D Airspace (not control zone);
- Flights in transponder mandatory zones (TMZ) Friedrichshafen, Paderborn, Karlsruhe and Nürnberg. The areas are depicted on the Aeronautical Chart ICAO 1: 500 000;
- Flights at night in controlled airspace,
- Flights with power driven aircraft, except gliders, above 5000 ft/MSL or above a height of 3500 ft/GND, whichever is higher.

There is no requirement to carry a transponder in other areas.

Switzerland (current as at September, 2009):-

The transitional arrangements for the carriage and operation of Mode S airborne equipment for VFR flights in Swiss airspace have been extended from 31st March 2008 to 31st December 2009.

Consequently, for engine-driven VFR flights, conducted in airspace where the carriage and operation of SSR transponders is already required (VFR-Guide, paragraph 4, page 47 of edition 2007), a level 2 Mode S transponder, as a minimum, with Elementary Surveillance functionality is mandatory from 1st January 2010.

However, VFR flights:

- in Control Zones (CTR) and Flight Information Zones (FIZ);
- at and below 7000 ft AMSL in class E airspace; and
- in class G airspace

are exempt.

The Netherlands (current as at April, 2009):-

- In the Amsterdam FIR, a Mode S SSR transponder is mandated:
For gliders, balloons, hanggliders and paragliders: in Transponder Mandatory Zones (TMZ), published in AIP the Netherlands.
- For aeroplanes (including Touring Motor Gliders and Microlight Aircraft) and helicopters (including gyroplanes): in all airspace, except in class G below 1200 ft AMSL.

United Kingdom (as at July, 2009):-

With effect from 31 March 2008, Mode S became the technical means of compliance in all circumstances where equipage and operation of a transponder is mandatory. For VFR flights in the UK, those circumstances are as follows:

- All aircraft within UK airspace above FL 100;
- All aircraft within airspace notified as a 'Transponder Mandatory Zone' (TMZ),
- All aircraft, except balloons, flying for the purpose of public transport.

Aircraft equipped with a Mode A/C transponder prior to 31 March 2008 may register for an exemption and permission to continue to operate with their existing equipment until 31 March 2012.

The following exceptions to the Mode S VFR rules apply:

- Gliders, including self-sustaining gliders and self-propelled hang gliders, except where operating above FL 195 outside of airspace notified as a TRA(G);
- Aircraft operating in accordance with a clearance from an appropriate ATC unit for a particular flight, and in compliance with any instructions that the ATC unit may give in the particular case and the appropriate Rules of the Air that apply in the airspace concerned,
- Aircraft operating in accordance with a general permission given by the appropriate ATC unit, and in compliance with any instructions that the ATC unit may give in relation to the particular flight and the appropriate Rules of the Air that apply in the airspace concerned.