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REVISED

MODE-S SSR TRANSPONDER MANDATORY FOR ALL VFR FLIGHTS**1 — INTRODUCTION**

To minimise the risk of a midair collision with commercial air transport and military jet traffic, the Minister of Transport and the Minister of Defence have taken measures to expand the mandatory use of mode-S SSR transponders.

Since June 5th 2008, large parts of the Amsterdam FIR are defined as Transponder Mandatory Zones (TMZ).

As a result of a change in airspace structure in the eastern part of the Amsterdam FIR, the lateral limits of several TMZ will change March 11th 2010. The implementation of the 3rd phase of the mandatory transponder carriage for non-motorised aircraft is moved to the earlier date of March 11th 2010 to coincide with the publication of the new aeronautical chart ICAO 1:500 000.

This AIC describes the final situation of the mandatory transponder carriage for VFR traffic.

2 — TRANSPONDER MANDATORY ZONE (TMZ) CHARACTERISTICS

In a TMZ an operational mode-S SSR transponder is mandatory for **all** aircraft.

The airspace classification is not changed by the introduction of a TMZ.

The pilot's responsibility to ensure separation during a flight remains unchanged.

CTRs situated within the lateral boundaries of a TMZ are not a part of that TMZ.

The TMZ boundaries give an indication of the concentration of IFR traffic only.

The IFR routes have not changed and can be situated completely or partly outside the TMZ.

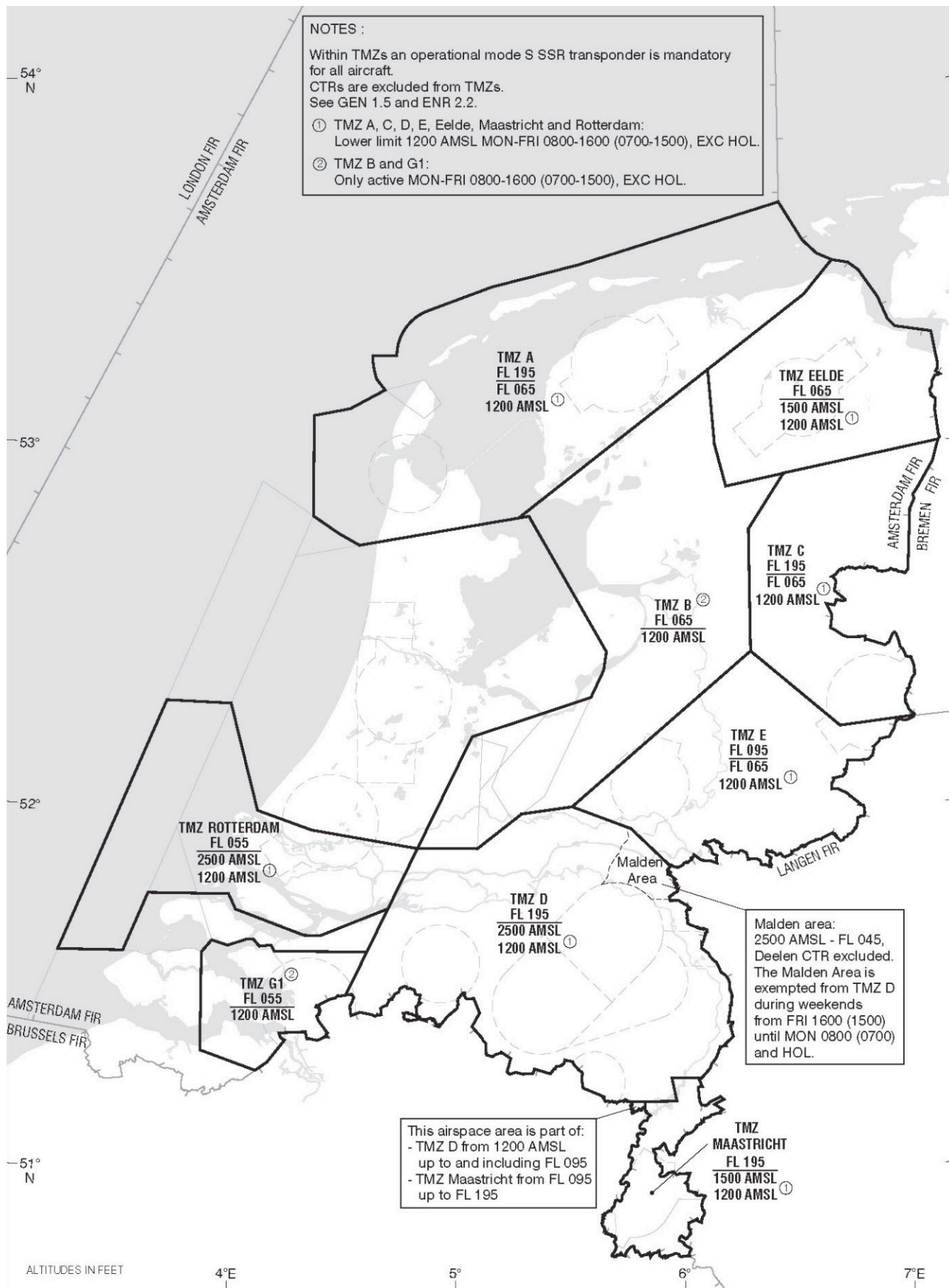
The risk of mixed IFR and VFR traffic occurs inside and outside the TMZ. Good airmanship also means that the pilot maintains a sharp lookout for other traffic and establishes sufficient distance, with the notion that traffic might be flying IFR in VMC.

The Mode-S SSR transponder is essential for the effectiveness of ACAS in commercial air transport and is important for the information of the air traffic service. The air traffic service will use this information to provide flight information to the air traffic in their area.

3 — THE TRANSPONDER MANDATORY ZONES

TMZ A	The lateral limits are equal to the Nieuw Milligen TMA A.
TMZ B	The lateral limits are equal to the Nieuw Milligen TMA B and includes the airspace below Schiphol TMA 3, 4 and 5.
TMZ C	The lateral limits are equal to the Nieuw Milligen TMA C.
TMZ D	The lateral limits are equal to the Nieuw Milligen TMA D, excluding the airspace below the Schiphol TMA 3, 4 and 5. Note: during weekends the Malden area ¹⁾ is exempted.
TMZ E	The lateral limits are equal to the Nieuw Milligen TMA E.
TMZ Eelde	The lateral limits are equal to the Eelde TMA.
TMZ G1	The lateral limits are equal to the Nieuw Milligen TMA G1.
TMZ Maastricht	The lateral limits are equal to the Maastricht TMA 1 and 2.
TMZ Rotterdam	The lateral limits in the north, east and west are equal to the outlines of the Rotterdam TMA 1, 2 and 3. The southern boundaries of Rotterdam TMA 1 and 2 are replaced by connecting the waters Hollandsch Diep and Grevelingen through the following positions: 51°43'11"N 004°41'50"E; 51°38'38"N 004°23'46"E; 51°38'42"N 004°19'24"E; 51°42'55"N 004°01'05"E; 51°45'28"N 003°59'10"E; 51°45'28"N 003°37'37"E.
¹⁾ The exempted area is described in paragraph 5 of this AIC.	

Figure 1. The Transponder Mandatory Zones (TMZ) effective 11 MAR 10.



4 — ACTIVATION

For activation of the transponder mandatory zones (TMZ) two different situations exist:

- all TMZ are active MON-FRI 0800-1600 (0700-1500) EXC HOL with the lower limit 1200 ft AMSL;
- other times some TMZ have different lower limits or (TMZ B and TMZ G1) do not exist.

	MON-FRI 0800-1600 (0700-1500), EXC HOL	Other times
TMZ A	1200 ft AMSL and above	FL 065 and above
TMZ B	1200 ft AMSL and above	NA
TMZ C	1200 ft AMSL and above	FL 065 and above
TMZ D	1200 ft AMSL and above	2500 ft AMSL and above
TMZ E	1200 ft AMSL and above	FL 065 and above
TMZ Eelde	1200 ft AMSL and above	1500 ft AMSL and above
TMZ G1	1200 ft AMSL and above	NA
TMZ Maastricht	1200 ft AMSL and above	1500 ft AMSL and above
TMZ Rotterdam	1200 ft AMSL and above	2500 ft AMSL and above

5 — EXEMPTED AREA

Malden area	<p>During weekends from FRI 1600 (1500) until MON 0800 (0700) and during legal holidays, an area around Malden is exempted from TMZ D up to FL 045 to facilitate non-motorised aircraft without a mode-S SSR transponder.</p> <p>The lateral limits of this area are:</p> <ul style="list-style-type: none"> • from the crossing of highway A50 with TMZ D boundary east along this boundary (north of Nijmegen) to the Amsterdam FIR boundary (51°50'02"N 005°57'32"E); • south along the Amsterdam FIR boundary to 51°44'35"N (marked as the centre of the forest east of the border); • along bearing 270° to the Volkel CTR; • along north side of Volkel CTR to highway A50; • following highway A50 north up to the point of origin.
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6 — CAUTION AREA NIEDERRHEIN

The Caution Area Niederrhein published in AIC-B 05/05 will remain unchanged. Inside the Amsterdam FIR the Caution Area Niederrhein will be part of the TMZ D.

7 — RISK OF VFR FLIGHTS BELOW THE SCHIPHOL TMA

In the Schiphol TMA 1, AIRPROX occur regularly between IFR flights and VFR flights. It appears that pilots of VFR flights flying at 1500 ft AMSL unintentionally climb into the Schiphol TMA 1 due to turbulence or possible tolerance of the altimeter. Furthermore, the risk of wake turbulence and unnecessary "resolution advisory" alerts exists in relation to airline traffic at 2000 ft AMSL. Therefore, pilots executing a VFR flight within the lateral limits of the Schiphol TMA 1 are urgently requested not to operate at, or just below, an altitude of 1500 ft AMSL. If possible with respect to minimum prescribed altitude and obstacle clearance, pilots are advised to fly at altitudes of 1200 or 1300 ft AMSL.

For the airspace below the Schiphol TMA temporarily rules apply due to the introduction of the Hilversum SRZ, Lelystad SRZ and Schiphol SRZ. These temporarily rules are described in AIP Supplement 05/09.

8 — NO TRANSPONDER USE AT THE WINCH

The high climb-rate during a start that is executed with the use of a winch can lead to unwanted "resolution advisory" warnings on ACAS systems. To avoid these warnings, it is advised to activate the transponder only after the winch is disconnected.

9 — POLICY AND REGULATION

For VFR-flights with helicopters¹⁾ and aeroplanes²⁾ an active mode-S SSR transponder is already mandatory in the Amsterdam FIR, except for airspace class G below 1200 ft AMSL. Aircraft equipped with an operational mode-S SSR transponder have to activate the transponder in all types of airspace and at all altitudes, even when it is not mandatory to use a transponder in that area.

The State Secretary of Transport decided a few years ago to delay the mandatory use of a mode-S SSR transponder for non-motorised aircraft. For gliders, sailplanes, hang- and paragliders and balloons the use of a mode-S SSR transponder is mandatory as of June 5th 2008 for flights in transponder mandatory airspace.

The rules and regulations are laid down in the "Regeling telecommunicatie- en navigatie-installaties" and in the "Regeling luchtverkeersdienstverlening". The policy is published in AICs.

This measure is in line with the regulations and advises of the international organization for civil aviation (ICAO, Annex 6, part II)³⁾ and EUROCONTROL⁴⁾. In the development of the rule the so-called German model is used: The German Civil Aviation Authorities developed the Kriterien Katalog to judge and implement measures in the airspace periodically and systematically. The criteria in the German model are transposed to the usage of the airspace in the Amsterdam FIR⁵⁾.

¹⁾ Including gyrocopters.

²⁾ Including MLAs, touring motorgliders and historic aeroplanes.

³⁾ ICAO Annex 6, part II:

6.13.1 From January 1st 2003, unless exempted by the appropriate authorities, all aeroplanes shall be equipped with a pressure-altitude reporting transponder which operates in accordance with the relevant provisions of Annex 10, Volume IV.

6.13.2 Recommendation — *All aeroplanes should be equipped with a pressure-altitude reporting transponder which operates in accordance with the relevant provisions of Annex 10, Volume IV.*

Note: The provisions in 6.13.1 and 6.13.2 are intended to support the effectiveness of ACAS as well as to improve the effectiveness of air traffic services. Effective dates for carriage requirements of ACAS are contained in Annex 6, part I, 6.18.1 and 6.18.2. The intent is also for aircraft not equipped with pressure-altitude reporting transponders to be operated so as not to share airspace used by aircraft equipped with airborne collision avoidance systems. To this end, exemptions from the carriage requirement for pressure-altitude reporting transponders could be given by designating airspace where such carriage is not required.

⁴⁾ ACAS II, mode S surveillance, Harmonisatie Luchtruim Classification.

⁵⁾ The criteria for installation of a TMZ are:

- the number of IFR movements each year: about 10 000 up to 30 000;
- incidents related to flight safety (e.g. AIRPROX);
- the IFR traffic intensity;
- the composition of air traffic (such as the jet aircraft ratio, the quantity and character of VFR movements and IFR training flights);
- the concentration of air traffic (number and position of other airports in the area, the positioning of runways, accuracy of the operation, the main traffic streams and the intensively used areas).

10 — INFORMATION

This AIC is a joint publication of CAA-NL (Inspectie V&W) and the Royal Netherlands Air Force (KLu). The publication is based on structural cooperation with the Royal Netherlands Aeronautical Association (KNVvL) and AOPA-NL.

Actual developments concerning this matter will be available on the following websites:

- <http://www.ivw.nl>
- <http://www.knvvl.nl>
- <http://www.aopa.nl>

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Email: through the form on the website <http://www.ivw.nl>. You will receive a reply within 5 working days.

This is a subject of Airports and Airspace.

11 — DOCUMENT CONTROL

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