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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.

Starting from June 5th 2008 large parts of the Amsterdam FIR will in three phases be changed into Transponder Mandatory Zones (TMZ) for non-motorised aircraft.

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.

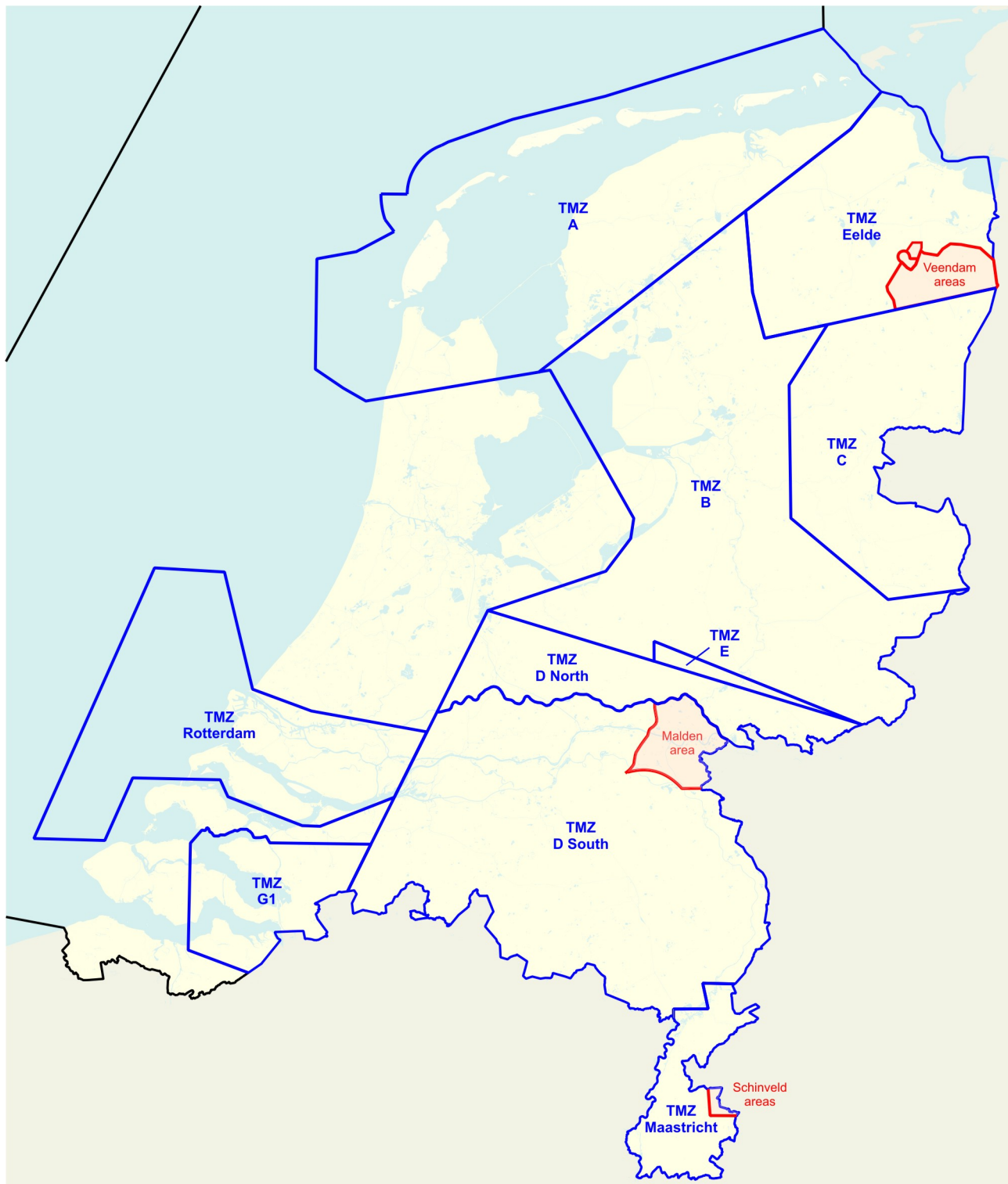
The risk of mixed IFR and VFR traffic occurs inside and outside the TMZ. Good airmanship also means that the pilot must establish a safety area, for example in regard to approaching IFR traffic.

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.
TMZ C	The lateral limits are equal to the Nieuw Milligen TMA C.
TMZ D North	The lateral limits in the north, east and west are equal to the corresponding part of the Nieuw Milligen TMA D. The lateral limit in the south is the southern riverside of the rivers Neder-Rijn and Lek.
TMZ D South	The lateral limits in the east, south and west are equal to the corresponding part of the Nieuw Milligen TMA D. The lateral limit in the north is the southern riverside of the rivers Neder-Rijn and Lek. 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. Note: during set time periods the Veendam areas ¹⁾ are exempted.
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. Note: during set time periods the Schinveld areas ¹⁾ are exempted.
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 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 areas are described in paragraph 5 of this AIC.



4 — IMPLEMENTATION PHASES

The new Transponder Mandatory Zones (TMZ) are implemented in three phases.

- **Phase 1:** implementation date June 5th 2008.

The Transponder Mandatory Zones (TMZ) implemented in phase 1 are always active.

TMZ A	FL 065 and above
TMZ C	FL 065 and above
TMZ D North	FL 065 and above
TMZ D South	2500 ft AMSL and above
TMZ E	FL 065 and above
TMZ Eelde	1500 ft AMSL and above
TMZ Maastricht	1500 ft AMSL and above
TMZ Rotterdam	2500 ft AMSL and above

Note: the TMZ Eindhoven and the Caution Area Rotterdam are cancelled on June 5th 2008.

- **Phase 2:** implementation date April 9th 2009.

In addition to phase 1 the following Transponder Mandatory Zones are active on working days 0800-1600 (0700-1500):

TMZ A	FL 045 and above
TMZ B	FL 045 and above
TMZ C	FL 045 and above
TMZ D North	FL 045 and above
TMZ E	FL 045 and above
TMZ G1	FL 045 and above

Note: outside this timeframe the situation will remain as in phase 1.

- **Phase 3:** implementation date April 8th 2010.

In addition to phase 1 the following Transponder Mandatory Zones are active on working days 0800-1600 (0700-1500):

TMZ A	1200 ft AMSL and above
TMZ B	1200 ft AMSL and above
TMZ C	1200 ft AMSL and above
TMZ D North	1200 ft AMSL and above
TMZ D South	1200 ft AMSL and above
TMZ E	1200 ft AMSL and above
TMZ Eelde	1200 ft AMSL and above
TMZ G1	1200 ft AMSL and above
TMZ Maastricht	1200 ft AMSL and above
TMZ Rotterdam	1200 ft AMSL and above

Note: outside this timeframe the situation will remain as in phase 1.

5 — EXEMPTED AREAS

Malden	During weekends from FRI 1600 (1500) until MON 0800 (0700) and during legal holidays, an area around Malden is exempted from the TMZ D South to facilitate non-motorised aircraft without a Mode-S SSR transponder. The lateral limits of this area are: from the crossing of the A50 highway with the river Neder-Rijn east along the southern riverside to the Amsterdam FIR boundary, following the Amsterdam FIR boundary south to 51°44'35"N (marked as the centre of the forest east of the border), from 51°44'35"N along bearing 270° to the Volkel CTR, following the north side of the Volkel CTR to the A50 highway and then following the A50 highway north up to the crossing with the river Neder-Rijn. Note: this area is exempted up to FL 045 during phase 1 and 2.
Schinveld	The Schinveld areas (ATZ Schinveld and SRZ Schinveld) are subject to a local agreement between Stichting ZAS and Beek ATC. The conditions for the use by local participants will be laid down in the regulation for the use of these special rules zones.
Veendam	The Veendam areas (ATZ Veendam and SRZs Veendam) are subject to a local agreement between NNZC Veendam and Eelde ATC. The conditions for the use by local participants will be laid down in the regulation for the use of these special rules zones.

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 South.

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.

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, even when it is not mandatory to use a transponder in that area.

Note: VFR flights below the Schiphol TMA 1 are temporarily exempted from this legal obligation.

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 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 Classificatie.

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: informatie.centrum@ivw.nl or 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

AIC-A 03/07 and AIC 05/07 are cancelled herewith.

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