

EUROCONTROL Publication for harmonised Rules for OAT under IFR inside controlled Airspace of the ECAC Area

EUROAT

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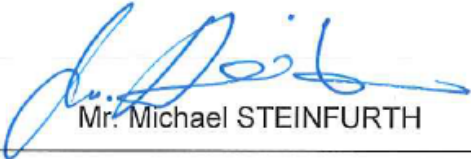
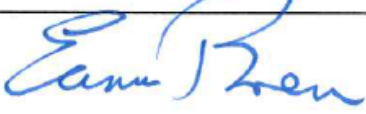
**EUROCONTROL Publication
for harmonised Rules
for Operational Air Traffic (OAT)
under Instrument Flight Rules (IFR)
inside controlled Airspace
of the ECAC Area (EUROAT)**

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The following table identifies all management authorities who have successively approved the present issue of this document.

AUTHORITY	NAME AND SIGNATURE	DATE
Head of DECMA/CMC	 Mr. Michael STEINFURTH	10/09/2018
Director DECMA	 Mr. Philippe MERLO	14.9.2018
Director General	 Mr. Eamonn BRENNAN	24.9.18

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1 INTRODUCTION

1.1. OAT¹ Rationale

- 1.1.1 Military and other State aircraft aviation require skills and capabilities for aircrews, ATM and Air Defence personnel and organisations beyond the scope for civil aviation.
- 1.1.2 To gain and maintain the levels of readiness and proficiency mandated for these skills and capabilities, aerial activities have to be conducted, which are not covered by rules and procedures as specified by ICAO for GAT flights and/or COMMISSION IMPLEMENTING REGULATION (EU) No 923/2012². Examples for such aerial activities include Airborne Air Refuelling, Formation Flying, Air Combat Maneuvering, etc.
- 1.1.3 OAT is the status that facilitates military and other state aircraft³ flights, for which the GAT framework is not suited to provide the rules, regulations and ATM support needed to fully ensure successful mission accomplishment.
- 1.1.4 With OAT, the full range of operational and training mission requirements, as well as aircraft capabilities can be exploited and expected levels of readiness and proficiency can be achieved.

1.2. OAT Regulatory Scope

- 1.2.1 The implementation of the Single European Sky (SES) and future ATM arrangements and technology developed by the SES ATM Research programme (SESAR) are aimed at safe, efficient and effective airspace utilisation to satisfy the needs of civil and military airspace user.
- 1.2.2 Furthermore, SES intends to create pan-European airspace independent of national borders, to better facilitate predicted future demands regarding safety, capacity, efficiency and environmental improvements.
- 1.2.3 Existing worldwide security threats and lessons learned from multi-national military operations demonstrated the need for dependable and robust pan-European OAT provisions and structures to effectively support military and other State aircraft aviation.
- 1.2.4 To appropriately facilitate OAT and its interface with GAT within the SES environment, it is the intent of EUROCONTROL Member States to harmonise and standardise relevant national OAT rules at ECAC level and therefore, Member States required the Agency to develop respective specifications.
- 1.2.5 The EUROCONTROL Publication for harmonised Rules for OAT-IFR inside controlled Airspace of the ECAC Area as detailed in this document are satisfying this requirement and enable the EUROCONTROL Member States to achieve the intended harmonisation, pending their individual national implementation.
- 1.2.6 Additionally, this publication is in line with the declaration of the EU Member States in the SES Framework Regulation (EC 549/2004) and will support them to enhance

¹ See Annex 2 for PC 9 agreed OAT definition

² COMMISSION IMPLEMENTING REGULATION (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (SERA)

³ See Annex 2 for State Aircraft Definition

civil-military coordination and the facilitation of cooperation between their armed forces in ATM matters.

1.2.7 National Implementation of the rules and procedures specified in this document will ensure OAT-IFR harmonisation/standardisation within the controlled airspace of all States that have chosen to implement the EUROAT.

1.2.8 However, military and other state aircraft will continue to require a valid diplomatic clearance to cross national borders.

1.3. EUROAT Methodology

1.3.1 ICAO (SERA) provisions regulating GAT do not provide a regulatory framework that is sufficiently suitable for OAT flying operations. The resulting gaps have to be covered by additional and/or, if operationally required, deviating provisions for OAT.

1.3.2 To adapt OAT for standardised pan-European use and the future SES environment, relevant national OAT arrangements need to be harmonised, including a proper OAT-GAT interface.

1.3.3 The aim of the EUROAT is to provide the regulatory framework for OAT-IFR in controlled airspace at the European scale and to appropriately facilitate the interface between OAT and GAT, while minimising the impact upon military operational procedures or aerial tactics as much as possible.

1.3.4 This is accomplished by adhering to 3 principles:

- i Whenever possible the same definitions, rules and procedures as specified by ICAO (SERA) for GAT flights shall be applied⁴.
- ii Required rules for OAT, in addition to and/or rules deviating from ICAO (SERA) provisions are detailed within this document.
- iii Where the operational requirements of a flight are incompatible with either of the above, these requirements should be met by use of an Airspace Reservation (ARES)⁵ of appropriate type and dimension, or other methods that are considered sufficiently safe and are approved by the appropriate national authority.

1.3.5 Implementation Guidance for the EUROAT Publication is provided in Annex 1.

1.3.6 To additionally enhance the OAT-GAT interface, definitions and *explanations* about OAT flight operations covered by the regulatory framework of this document are provided in Annex 2.

1.4. Drafting Conventions

1.4.1 When nationally implementing the EUROAT, Member States are strongly requested to adhere to the same drafting conventions as used in the EUROAT.

1.4.2 Only the minimum subset of 'mandatory' requirements necessary for the correct and harmonised implementation of the publication shall be specified.

1.4.3 Mandatory items within the publication shall be clearly separated from non-mandatory items.

1.4.4 Drafting conventions shall be described in the publication such as the significance of "shall", "will", "may," etc.

1.4.5 The following minimum conventions shall be used:

- i **'Shall'** - indicates a statement of specification, the compliance with which is mandatory to achieve the implementation of the EUROCONTROL Publication.

⁴ This includes due regard to differences which States might have registered with ICAO

⁵ See definition and detailed explanation in Annex 2

1. In the case of specifications providing Means of Compliances, it indicates a requirement which must be satisfied by all systems claiming conformity to the specification.
 2. Such requirements shall be testable and their implementation auditable.
- ii **'Should'** - indicates a recommendation or best practice, which, in the case of MoC specifications, may or may not be satisfied by all systems claiming conformity to the publication.
 - iii **'May'** - indicates an optional element.
- 1.4.6 Each requirement clause shall contain only one "shall" or "should" statement.
- 1.4.7 The use of negative requirements (e.g. "shall not" statements) should be avoided, as such clauses are notoriously difficult to test and validate.
- 1.4.8 In addition to the above, specific conventions may be applied in some cases.

IMPORTANT INFORMATION FOR AIRCREWS:

The EUROAT has been implemented in the airspace of the States as detailed in Annex 3; however, States have introduced national differences.

Therefore, aircrews shall consult the country chapters of the States they intend to over-fly to ensure appropriate regulatory compliance.

2 EUROCONTROL PUBLICATION FOR ECAC AREA RULES FOR OAT-IFR FLIGHTS

2.1. Applicability of ICAO Rules of the Air

- 2.1.1 Unless the OAT Rules within this document detail additions to and/or deviation from ICAO and/or SERA provisions, OAT-IFR Flights shall be conducted in accordance with all parts of Annex 2 to the Convention on International Civil Aviation - Rules of the Air, ICAO Doc 4444 and the ICAO SUPPS - Doc 7030/4 and/or COMMISSION

IMPLEMENTING REGULATION (EU) No 923/2012 (SERA)⁶ and subsequent amendments.

2.1.2 ICAO and/or SERA standards are generally not repeated within this document.

2.1.3 **Recommendation:** This Chapter should be read in conjunction with Chapter 3, where many of the rules for the provision of ATS to OAT also apply to the conduct of OAT-IFR Flights.

2.2. Flight Prerequisites

2.2.1 Aircraft and Aircrew

2.2.1.1 All aircraft to be utilised for flying operations shall be in the technical condition and fitted with the onboard equipment as specified by relevant national authorities for the intended use and subject to its oversight.

2.2.1.2 Aircrews shall be appropriately qualified and equipped for their flight duties as specified by appropriate national regulations defined by the State of origin and subject to its oversight.

2.2.1.3 Aircrews shall be proficient in the use of the English language for communication purposes as defined by their State of origin and subject to its oversight.

2.2.1.4 Aircrews shall be medically fit for the intended flight as defined by their State of origin and subject to its oversight.

2.2.2 Flight Plan

2.2.2.1 When conducting an OAT-IFR Flight outside own national airspace, an OAT-IFR Flight Plan, using the ICAO Flight Plan format, shall be filed in accordance with ICAO Flight Plan filing requirements and, if necessary, additional requirements established by the State and/or FAB to be entered or transited.

2.2.2.2 Specific national requirements and filing conditions (rules for the input of data required filing times, addressing scheme, etc.) that are to be followed, shall be published in the National or National Military AIP and/or the country chapters of the EUROAT.

2.3. Flight Conduct

2.3.1 Airborne and Traffic Collision Avoidance System (ACAS/TCAS)

2.3.1.1 If equipped with **ACAS/TCAS**, single aircraft shall operate in the Traffic Alert / Resolution Advisory (TA/RA) mode outside Airspace Reservations (ARES).

2.3.1.2 In a standard military formation, if equipped with ACAS/TCAS, only the lead aircraft shall operate in the TA/RA mode. Nevertheless, the aircraft operating in the TA/RA mode shall also be the one operating the transponder.

2.3.1.3 In the event that mission requirements would necessitate to not using ACAS/TCAS, the rules of the State in which the flight is taking place shall apply. In the absence of

⁶ COMMISSION IMPLEMENTING REGULATION (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (SERA)

such rules, a deviation from 2.3.1.1 or 2.3.1.2 is not permissible, unless prior permission has been obtained from the appropriate national authority.

- 2.3.1.4 States are required to insert their respective rules into the country chapters of the EUROAT.

2.3.2 Communication

- 2.3.2.1 In addition to the 2-way radio communication as prescribed by the relevant airspace classification or as directed by the appropriate ATC unit, a continuous listening watch on the appropriate UHF and/or VHF Emergency Frequencies shall be maintained.

2.3.3 Altimeter Settings

- 2.3.3.1 QNH or QFE altimeter setting as provided by the appropriate ATC unit i.a.w. ICAO Doc 4444 shall be used by aircraft operating at or below the transition altitude (TA) and by aircraft descending below the transition level (TL).
- 2.3.3.2 The standard atmospheric pressure (e.g. 1013.2 hPa or 29.92 in Hg) shall be used by aircraft operating at or above the transition level and by aircraft climbing above the transition altitude.
- 2.3.3.3 Until a harmonised transition altitude/transition level is established for Europe, see Annex 4 for different national figures as provided by the respective States.

2.3.4 Speed Limitations

- 2.3.4.1 Below FL 100 the pilot-in-command shall ensure that the aircraft is not operated at speeds in excess of 250 KIAS unless one or more of the below applies:
- i Technical specifications of the aircraft require a higher airspeed for its safe operation;
 - ii Military operational or training requirements necessitate a higher airspeed;
 - iii A higher airspeed is allowed by the respective airspace class;
 - iv A respective ATC unit mandates a higher airspeed.
 - v Specific permission has been granted by an appropriate national authority for a specific flight.
- 2.3.4.2 Supersonic Flights can only be conducted if permitted by the appropriate national authority upon prior individual request and in accordance with respective national regulations.

2.4. **Formation Flights**

2.4.1 General Rule for Formation Flights

- 2.4.1.1 In general, a formation flight shall operate as a single aircraft in regard to navigation and position reporting and clearances issued by ATC.
- 2.4.1.2 Sufficient safety distance⁷ between the aircraft comprising a formation flight shall be the responsibility of the formation leader and the individual pilots-in-command at all phases of the flight, which includes take-off and landing, join-up, break-up and all parts of the Enroute flight.
- 2.4.1.3 Upon each initial report on a new radio frequency, the formation leader shall indicate to ATC that his flight is a formation and the number of aircraft the formation flight consists of. (*E.g. Callsign/Formation Flight of 4*)

2.4.2 Safety Distance between two or more Formation Flights

⁷ See Annex 2 for definition

2.4.2.1 In the event that an aerial operation requires two or more formation flights to operate below prescribed IFR separation minima between individual formation flights, the formation leaders shall be responsible for sufficient safety distance between their individual formation flights.

2.4.2.2 This responsibility shall be accepted from the respective formation leaders by stating “MARSA”⁸, relieving the ATCO from his responsibility to maintain prescribed IFR separation minima in regard to the formation flights concerned.

2.4.3 Standard Military Formation

2.4.3.1 In a standard military formation each aircraft/element of this formation shall remain within 1 NM horizontally and 100 ft vertically from the formation leader.

2.4.3.2 Only the lead aircraft (formation leader) shall squawk as directed by ATC⁹.

2.4.4 Non-standard Formation

2.4.4.1 Aircraft/elements of a formation flight that are outside the horizontal and/or vertical limits of 2.4.3.1 are considered a non-standard formation.

2.4.4.2 In this case each formation-element-lead aircraft or, if also within the formation-elements standard formation limits are exceeded, each individual aircraft of the formation shall squawk as directed by ATC.

2.4.4.3 Non-standard Formation flights represent an unusual aerial activity that shall be pre-coordinated between the flight leader and the ATC unit concerned in due time prior departure.

2.4.4.4 It is an ATC decision to approve or disapprove a non-standard formation and to determine special conditions for the conduct of a non-standard formation flight.

2.4.4.5 In the event that specific national rules/procedures or approving authorities regarding non-standard formation flights exist, they shall be detailed by the respective States in their country chapter.

2.4.5 Non-Standard Formation Departure

2.4.5.1 Whenever a condition exists that requires specific ATC support and coordination for the departure of a formation flight (e.g. radar trail departure), which is not covered in respective local operating procedures of the aerodrome, this is considered a non-standard formation departure.

2.4.5.2 In this case, the formation-leader shall request and co-ordinate his/her formation departure requirements with the appropriate ATC-unit prior departure.

2.4.5.3 It is an ATC decision to approve or disapprove a non-standard formation departure and to determine special conditions for its conduct.

2.4.6 Formation Join-Up

2.4.6.1 When a formation join-up is controlled by an ATCO, he/she shall apply standard separation criteria between individual aircraft wishing to join a formation, until the formation leader accepts responsibility for maintaining sufficient safety distance between the aircraft concerned.

2.4.6.2 The formation leader, once he is safely able to do so, shall confirm his assumption of responsibility for maintaining sufficient safety distance between his aircraft, the aircraft comprising the formation and the joining aircraft by stating “MARSA”; whereupon ATC shall transfer responsibility for the joining aircraft to the formation leader.

2.4.7 Formation Break-Up (Split)

⁸ See MARSA Definition in Annex 2

⁹ Or follow equivalent procedures detailed for Mode S utilization

- 2.4.7.1 Except in an emergency, a formation break-up shall only occur after pre-planning, advanced coordination and approval by ATC.
- 2.4.7.2 Prior to the planned formation break-up, the formation leader shall inform ATC whether to break-up the formation flight into single aircraft or elements.
- 2.4.7.3 The formation leader shall inform ATC about his intended aircraft/element break-up sequence, call-signs and position of these aircraft/elements relative to the formation leader's aircraft.
- 2.4.7.4 Aircraft/elements shall receive separate clearances and transponder codes from ATC.
- 2.4.7.5 As soon as the formation break-up has been directed by ATC for the respective aircraft/element, this aircraft/element is no longer part of the previous formation flight and shall follow subsequent ATC directions issued to them.
- 2.4.7.6 However, ATC will only assume responsibility for separation between the aircraft/elements that are conducting the formation break-up after prescribed separation minima have been established. Until then, the individual pilot-in-command/element-leader is responsible for maintaining sufficient safety distance.

2.4.8 Formation Radio Failure

- 2.4.8.1 A formation flight in which a flight member experiences total radio failure shall comply with the procedures outlined for this case within the Standard Operating Procedures (SOP) of their appropriate national authority.
- 2.4.8.2 If the SOP requires deviations from a given clearance, the flight leader or the pilot of the aircraft with the serviceable radio shall inform the ATC unit and request a different clearance.
- 2.4.8.3 In the event that the total radio failure affects all aircraft of the formation flight, the formation leader shall ensure compliance with basic ICAO radio failure procedures¹⁰.
- 2.4.8.4 In case a formation break-up is required for safe approach and landing all aircraft or element-leader of the formation flight shall squawk Mode 3, Code 7600¹¹, as soon as the break-up was initiated by the formation leader and continue to ensure compliance with basic ICAO radio failure procedures.

2.4.9 Lost-Wingman (Lost-Lead) Procedures

- 2.4.9.1 In any lost wingman situation, an immediate initial safety distance between aircraft is essential for flight safety to avoid a potential mid-air collision. Therefore, each wingman losing sight/contact of the aircraft preceding him or being unable to maintain formation for other reasons shall immediately execute the procedures relevant to his flight position, while transitioning to instrument flying and resuming own navigation.
- 2.4.9.2 **NOTE:** Irrespective of the nationally prescribed Lost-Wingman Procedures, their execution may result in a loss of minimum IFR separation in respect to other air traffic and is an Emergency situation for ATC.
- 2.4.9.3 **Recommendation:** In order to immediately alert ATC and allow to safely resolve resulting conflict potentials without undue delay, the following should be executed in addition to the appropriate lost-wingman procedure:
 - i Formation leader squawks EMERGENCY and informs the appropriate ATC unit as soon as possible.
 - ii Each pilot-in-command executing a Lost-Wingman Procedure squawks as directed by the appropriate ATC unit as soon as practicable.

2.5. **Flights in an Airspace Reservation (ARES)¹²**

¹⁰ For the ICAO EUR region the respective ICAO doc 7030 procedures shall be applied

¹¹ Or follow equivalent procedures detailed for Mode S utilization

¹² See Annex 2 for definition of ARES

2.5.1 Flights in an ARES

- 2.5.1.1 Flights within an activated ARES which forms part of the published airspace structure, like CBA, TSA, TRA or other Restricted Areas shall be conducted i.a.w. the national regulations and operating procedures relevant for the respective area, except aircraft transiting the ARES with ATC clearance.

2.5.2 ARES Internal Flight Separation

- 2.5.2.1 Within any activated ARES, sufficient safety distance between all participating aircraft shall be the responsibility of either a Controlling Military Unit¹³, or the mission/formation leader and the individual pilot-in-command. In the second case, the acceptance of this responsibility has to be acknowledged to the appropriate ATC unit by stating "MARSA".¹⁴

2.5.3 ARES External Flight Separation

- 2.5.3.1 When flying inside an ARES the mission/formation leader and the individual pilot-in-command shall ensure compliance with the relevant national rules concerning mandatory distances/safety-buffers towards the ARES boundaries.

2.6. Air Defence Flights

2.6.1 Executive Authority

- 2.6.1.1 National air defence and airspace security are exclusively under the sovereign authority of the respective State.
- 2.6.1.2 **Recommendation:** Resulting air defence flights should be executed based on ICAO recommendations and national rules and arrangements.

2.6.2 Intercepted Aircraft

- 2.6.2.1 The pilot-in-command of an intercepted aircraft shall comply with the respective ICAO standards.

2.7. Unusual Occurrences

2.7.1 Air Proximity (AIRPROX)

- 2.7.1.1 The pilot-in-command shall report an AIRPROX immediately after its occurrence to the respective ATC unit via available means of communication.
- 2.7.1.2 The pilot-in-command shall additionally report any AIRPROX with all available facts to the appropriate authority as soon as possible after landing, using relevant national reporting schemes.

2.7.2 Take-Off/Landing Emergency

- 2.7.2.1 When requesting the use of an arresting gear with ATC, the pilot-in-command shall use clear phraseology regarding the type of arresting gear (cable or barrier) and the type of arrestment (approach or departure end) required.

2.7.3 Airborne Emergency

- 2.7.3.1 **Recommendation:** For any abnormal situation, the aircrew mantra should be followed - Fly the aircraft, analyse the situation, take appropriate actions and inform ATC when feasible.
- 2.7.3.2 If the nature of the situation dictates, squawk emergency (Mode 3/A Code 7700)¹⁵ and pass a plan of action to ATC when determined.

2.7.4 Unplanned Diversion with Armament

- 2.7.4.1 Before landing with armament or practice munitions at any military or civilian airfield¹⁶, where respective local procedures are not known, the pilot-in-command shall appropriately advise ATC about the circumstances.
- 2.7.4.2 After landing the pilot-in-command shall request taxi instructions to the designated safe-for-parking area and avoid taxiing into an area or position that could threaten personnel or equipment.
- 2.7.4.3 Before leaving the aircraft the pilot-in-command shall ensure ground crew awareness about the armament on-board and their qualification to handle armament.
- 2.7.4.4 If necessary, the pilot-in-command shall request assistance from the nearest suitable military installation and ensure appropriate measures be taken to safeguard the aircraft until qualified personnel take over.

2.7.5 Radio Communication Failure (NORDO) Procedure

- 2.7.5.1 In case of a radio communication failure a pilot-in-command shall ensure compliance with relevant ICAO radio failure procedures¹⁷ and shall be familiar with additional national procedures outlined in Annex 4.

¹³ See Definition for "Controlling Military Unit in Annex 2

¹⁴ See MARSAs Definition in Annex 2

¹⁵ Or follow equivalent procedures detailed for Mode S utilization

¹⁶ Unplanned landing with armament at a civil airfield should only be considered in the event of an emergency requiring the aircraft to land as soon as possible.

¹⁷ For the ICAO EUR region the respective ICAO doc 7030 procedures shall be applied

3 EUROCONTROL PUBLICATION FOR ECAC AREA RULES REGARDING AIR TRAFFIC SERVICE PROVISION TO OAT-IFR FLIGHTS

3.1. Applicability of ICAO Standards for Air Traffic Service Provision to OAT

- 3.1.1 Unless the OAT Rules detailed within this document require additions to and/or deviation from ICAO and/or SERA provisions, Air Traffic Services (ATS) shall be provided to OAT-IFR Flights in accordance with all parts of Annex 11 to the Convention on International Civil Aviation - Air Traffic Services, ICAO Doc 4444 and the ICAO SUPPS - Doc 7030 and/or COMMISSION IMPLEMENTING REGULATION (EU) No 923/2012 (SERA)¹⁸ and subsequent amendments.
- 3.1.2 ICAO and/or SERA standards are generally not repeated within this document.
- 3.1.3 **Recommendation:** This Chapter should be read in conjunction with Chapter 2, where many of the OAT-IFR rules also apply to the provision of ATS to OAT.

3.2. Prerequisites for ATS Provision to OAT

3.2.1 ATS Personnel

- 3.2.1.1 ATS personnel shall be trained and qualified to provide ATS to OAT-IFR flights in accordance with national regulations and should demonstrate equivalence to ESARR 5.

3.3. ATS Provision

3.3.1 Air Traffic Control

- 3.3.1.1 Air Traffic Control and other relevant Air Traffic Services (ATS) shall be provided by an Air Traffic Control Officer (ATCO) to OAT-IFR in accordance with national regulations and the provisions laid down in the EUROAT.
- 3.3.1.2 However, in accordance with relevant national regulations, States may consider personnel from other organisations than dedicated Air Traffic Services (e.g. national air defence) being appropriately qualified to provide services to OAT-IFR flights.

3.3.2 Communication

- 3.3.2.1 In addition to UHF and/or VHF 2-way radio communication systems, a continuous listening watch on the appropriate UHF and/or VHF Emergency Frequencies shall be ensured by the respective ANS organisation in such a way that an ATCO can be

¹⁸ COMMISSION IMPLEMENTING REGULATION (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (SERA)

informed without any undue delay about distress transmissions relevant to his area of responsibility.

- 3.3.2.2 UHF coverage and VHF channel spacing shall be compliant with arrangements agreed at European and/or national level.

3.4. Formation Flights

3.4.1 Separation from Other Traffic

- 3.4.1.1 An ATCO shall separate a formation under his control from other traffic to ensure that prescribed minimum separation is not infringed.

3.4.2 Standard Military Formation

- 3.4.2.1 In a standard military formation each aircraft/element of this formation shall remain within 1 NM horizontally and 100 ft vertically from the formation leader.
- 3.4.2.2 Only the lead aircraft (formation leader) shall squawk as directed by ATC¹⁹.
- 3.4.2.3 To ensure that minimum horizontal separation is not infringed between all aircraft of the formation and other traffic, an ATCO should add 1 NM to the distance of the prescribed minimum separation between the squawking aircraft of the formation and other traffic.²⁰
- 3.4.2.4 The minimum vertical separation that should be applied depends on respective national and/or operational regulations in regard to the airspace concerned (e.g. RVSM).

3.4.3 Non-standard Formation

- 3.4.3.1 Whenever the aircraft and/or elements of a formation are outside the horizontal and/or vertical limits of 3.4.2.1 they are considered a non-standard formation. In this case an ATCO may issue transponder codes/settings and direct each aircraft and/or element outside the standard military formation limits to squawk accordingly.

3.4.4 Formation Take-Off and Landing²¹

- 3.4.4.1 Take-off and landing of aircraft comprising a military formation flight shall be treated by ATC the same way as the take-off and landing of a single aircraft.
- 3.4.4.2 Required time/distance intervals between elements or individual aircraft comprising the formation flight are determined by the formation leader and he/she shall inform ATC about the magnitude of the intervals.
- 3.4.4.3 The formation leader shall be responsible for maintaining safety distance between the elements/aircraft conducting the formation take-off or landing.

3.4.5 Formation Join-Up

- 3.4.5.1 When an ATCO controls a formation join-up, he/she shall provide the appropriate separation until the formation leader has confirmed his readiness to assume

¹⁹ Or follow equivalent procedures detailed for Mode S utilization

²⁰ See Annex 2 for further Explanation

²¹ See Annex 2 for further Explanation

responsibility for maintaining safety distance between his aircraft, the aircraft comprising the formation and the joining aircraft by stating “MARSA”.

3.4.6 Formation Break-Up (Split)²²

- 3.4.6.1 **Recommendation:** When able, an ATCO should determine from the formation leader when the break-up (split) should commence, the procedure to be followed and the order that aircraft will depart.
- 3.4.6.2 After the formation leader reported ready for break-up (split), the ATCO should instruct the formation leader when the break-up procedure shall commence and the method to be used.
- 3.4.6.3 The formation leader shall be responsible for maintaining safety distance between the aircraft comprising the formation until standard ATC separation has been assured between individual aircraft/elements.
- 3.4.6.4 An ATCO shall provide separate Enroute clearances, including transponder codes to the individual aircraft/elements upon his discretion after the initiation of the break-up procedure.

3.4.7 Lost-Wingman (Lost Lead) Procedures

- 3.4.7.1 In the event of a formation implementing a lost-wingman procedure, an ATCO shall assist only on request. Individual ATC clearances shall be issued by the ATCO after individual aircraft/element identification.
- 3.4.7.2 However, the ATCO providing ATS to a formation executing a lost-wingman-procedure shall take appropriate actions to counter potential risks that the execution of a lost-wingman procedure might impose upon adjacent aircraft. This includes alerting any ATCO providing ATS to adjacent aircraft.

3.5. **Flights in an Airspace Reservation (ARES)**²³

3.5.1 ARES Internal Flight Separation

- 3.5.1.1 An ATCO shall apply prescribed separation minima between aircraft/formations entering an ARES until the ARES mission-/flight leader has confirmed his readiness

²² See Annex 2 for further Explanation

²³ See Annex 2 for definition of ARES

to assume responsibility for maintaining sufficient safety distance between the aircraft within an ARES by stating “MARSA”.

3.5.2 ARES External Flight Separation

- 3.5.2.1 In order to maintain prescribed separation minima, an ATCO shall ensure that aircraft operating under his/her control outside an activated ARES maintain the distance from its boundaries as detailed by relevant national regulations.
- 3.5.2.2 To ensure compliance of aircraft operating inside an ARES with nationally required distances/safety buffers towards ARES boundaries, an ATCO shall act in accordance with relevant national regulations.

3.6. Unusual Occurrences

3.6.1 Air Proximity (AIRPROX)

- 3.6.1.1 An ATCO shall report an AIRPROX immediately after either its occurrence or following a report from a pilot-in-command to the appropriate authority using relevant national reporting schemes.

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EUROAT ANNEXES

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Annex 1: EUROAT Implementation Guidance

1 AREA OF APPLICATION

- 1.1 The EUROAT shall apply to all aircraft flying under OAT-IFR and Air Traffic Services (ATS) providing ATC to OAT-IFR within controlled airspace of all ECAC Member States that have implemented the EUROAT and within non-EUROCONTROL/ECAC Member States that have respective agreements with EUROCONTROL in place.
- 1.2 National constraints may necessitate deviations from the EUROAT within the sovereign airspace of States. These deviations shall be listed in the country chapters of Annex 4 in addition to the mandatory information publication.

2 IMPLEMENTATION OPTIONS

2.1. States without regulatory Provisions for OAT outside segregated Airspace

- 2.1.1 States should analyse whether their highest level air traffic legislation allows in addition to GAT for OAT provisions outside segregated airspace to accommodate specific requirements for military or other State-aircraft air traffic.
- 2.1.2 If yes, continue with 2.1.5.
- 2.1.3 If not, States should examine whether a respective change of their highest level air traffic legislation would be possible for the benefit of pan-European harmonisation as e.g. agreed by the EU Member States in the SES Framework Regulation (EC 549/2004) with their statement regarding the enhancement of civil-military cooperation and the facilitation of cooperation between their armed forces in all ATM matters. If yes, continue with 2.1.5.
- 2.1.4 If a respective change of the relevant national legislation is not feasible, States should indicate to EUROCONTROL that the EUROAT cannot be implemented inside their sovereign airspace and that it will only be possible to fly and receive air traffic services i.a.w. relevant ICAO and/or national provisions for GAT when operating with military or other State aircraft within their sovereign airspace.
- 2.1.5 If a respective change of the relevant national legislation is possible or not necessary, States should consider implementing all EUROAT provisions and advising EUROCONTROL accordingly.
- 2.1.6 If, for the reason of specific national constraints, not all of the EUROAT provisions can be implemented, States should detail all deviations in their Country Chapter of the EUROAT and forward this Country Chapter to EUROCONTROL for publication in the EUROAT prior implementation.

2.2. States with regulatory Provisions for OAT outside segregated Airspace

- 2.2.1 If national OAT provisions already exist, States should compare the provisions of the EUROAT with their existing rules, regulations and procedures.
- 2.2.2 In case the result after comparing national OAT and EUROAT provisions reveals that all provisions are identical and no national deviations exist, the EUROAT can be considered as implemented by the State and accordingly reported to EUROCONTROL together with the delivery of the mandatory Country Chapter content as detailed in the EUROAT (e.g. transition level).

- 2.2.3 In the event that deviations between national and EUROAT provisions exist, States should examine whether a respective change of their current national OAT provisions would be feasible for the benefit of pan-European harmonisation as e.g. agreed by the EU Member States in the SES Framework Regulation (EC 549/2004) with their statement regarding the enhancement of civil-military cooperation and the facilitation of cooperation between their armed forces in all ATM matters.
- 2.2.4 If for the reason of specific national constraints this would not be possible, States should detail all deviations in their Country Chapter of the EUROAT and forward this Country Chapter to EUROCONTROL for publication in the EUROAT prior implementation.
- 2.2.5 The national implementation status as listed in Annex 3 indicates the areas of current EUROAT applicability within the Europe.

3 IMPLEMENTATION REQUIREMENTS

- 3.1 To be ready for national EUROAT implementation, a State has to forward its Country Chapter (Annex 4, Appendix “State”), its national Point of Contacts (Annex 5, Appendix “State”), its desired national distribution list (part of Annex 6) and has to officially declare its national EUROAT implementation date to EUROCONTROL.
- 3.2 Furthermore, Letters of Agreement (LoA) between adjacent ATC units in neighbouring States should be exchanged to appropriately ensure a commonly agreed understanding about EUROAT content and cross border ATC procedures.

4 IMPLEMENTATION DATES

- 4.1 The individual national EUROAT implementation dates will depend exclusively upon the respective reports of States to EUROCONTROL.
- 4.2 The aim is to achieve a widespread implementation in Europe within 9 months to one year after publication of the EUROAT Pre-Implementation Edition. The proposed date for initial EUROAT implementation will be transmitted in due time to all national authorities listed in Annex 5.
- 4.3 In return, States should officially declare to EUROCONTROL their acceptance or non-acceptance of this initial implementation date.
- 4.4 Regarding States that are not able to meet the initial implementation date, EUROCONTROL is expecting their individual official declaration of their national EUROAT implementation date in due time.
- 4.5 Upon reception of subsequent individual national EUROAT implementation dates, EUROCONTROL will make the appropriate amendments in Annex 3 (National Implementation Status) of the EUROAT and inform all States i.a.w. the Distribution List (Annex 6).
- 4.6 However, it should be clear to all OAT airspace users that following the EUROAT implementation date within a State, all EUROAT provisions including the respective Country Chapters are binding within the sovereign airspace of these States, regardless of the EUROAT implementation status of the state of origin of the individual airspace user.

5 IMPLEMENTATION RESPONSIBILITY

- 5.1 The national EUROAT implementation responsibility rests with the States.
- 5.2 States should indicate the national military and civil authorities that are responsible to ensure national implementation of the EUROAT to EUROCONTROL within their contribution for Annex 5.

6 IMPLEMENTATION COMPLIANCE AND OVERSIGHT

- 6.1 The national authority that provides overall national oversight and supervision regarding EUROAT compliance should be clearly indicated by States to EUROCONTROL and should be acting as the major national point of contact regarding all EUROAT matters.
- 6.2 This national authority will be as such displayed in Annex 5.

7 MEANS OF COMPLIANCE

- 7.1 States that officially declared that they have implemented the EUROAT are assumed to be fully compliant with all EUROAT provisions, except those deviations they have detailed in their Country Chapter.
- 7.2 For States to ensure regulatory compliance with the EUROAT one of the 3 options below should be chosen by States.
 - 7.2.1 Declare the EUROAT as the national regulatory framework for OAT-IFR and, if required, detail national differences in the respective Country Chapter and delete previously existing national regulations.
 - 7.2.2 Change and/or amend existing national regulation to accurately reflect the EUROAT provisions to the maximum extent possible and detail remaining differences in the respective Country Chapter.
 - 7.2.3 Compare existing national regulation with the EUROAT provisions, identify all identical individual provisions and detail remaining differences in the respective Country Chapter.
- 7.3 For States to ensure that their relevant personnel will be compliant with the EUROAT provisions in all States where the EUROAT is implemented, the following actions should be taken by States.
 - 7.3.1 Ensure through appropriate information, education and training that aircrews are sufficiently proficient with all EUROAT provisions and all relevant Country Chapters regarding the conduct of OAT-IFR flights in the airspace of all States where the EUROAT is implemented.
 - 7.3.2 Ensure through appropriate information, education and training that ATCOs and other relevant ATM personnel who are handling OAT-IFR traffic are sufficiently proficient with all EUROAT provisions, including the Country Chapter that apply for their State.
 - 7.3.3 Ensure through appropriate information, education and training that ATCOs and other relevant ATM personnel who are handling GAT traffic in an airspace where mixed GAT-OAT traffic is occurring, are sufficiently proficient with all EUROAT provisions, including the Country Chapter that apply for their State, to benefit from the predictability that the EUROAT is providing in regard to OAT-IFR flights.
- 7.4 In case a Functional Airspace Block (FAB) is established across the borders of States, the States concerned should harmonise their Country Chapters and agree on a common FAB-Chapter that will replace the previous individual national Country Chapters in the EUROAT.

8 SAFETY MANAGEMENT

- 8.1 The EUROAT shall be subject to two tiers of safety management. EUROCONTROL will have assessed their common application before approval and publication, and it will then be for the individual State to apply its own safety management process prior to national EUROAT implementation.

9 DOCUMENT MANAGEMENT RESPONSIBILITIES

- 9.1 The EUROAT is a living document that can be amended¹ as it becomes necessary to provide additional rules, regulations and procedures to enhance safety and/or accommodate new military and/or civil aviation and/or ATM requirements.
- 9.2 It will be the responsibility of EUROCONTROL to draft and publish changes to the EUROAT and distribute them i.a.w. the distribution list (Annex 6).
- 9.3 Any change in regard to the main body of the EUROAT will follow current EUROCONTROL procedures regarding the status of the document at the time of change.
- 9.4 It will be the responsibility of the States to appropriately inform EUROCONTROL about any national change in regard to Annex 4, 5 and 6 in due time and provide the appropriate drafts to EUROCONTROL for publication.

10 LANGUAGE

- 10.1 The EUROAT can be translated by a respective State in its official language if deemed necessary; however, in case of any controversy the English version of the document should be consulted.

¹ Upon proposal of a Member State, EUROCONTROL and other international Organisations such as the EU and EASA

Annex 2: Definitions and Explanations

The purpose of Annex 2 (Definitions and *Explanations*) is to provide information about mainly military terminology, OAT procedures and specifics that are not necessarily known from a pure GAT perspective. These Definitions and *Explanations* intend to enhance the safe OAT-GAT interface through common understanding. Definitions are generally the SES accepted version, or in its absence a EUROCONTROL agreed version.

Explanations are provided for the benefit of ATC personnel that are not familiar with OAT and are printed in italic.

A

Airborne Air Refuelling (AAR) is a military aerial operation to refuel aircraft during flight.

AAR operations are usually taking place in designated military training areas (e.g. TRA/TSA), or use other airspace arrangements that have been pre-coordinated with ATC as an unusual aerial activity.

Airborne Early Warning (AEW) is a military aerial operation during which an aircraft is utilising active and/or passive electronic emitters.

AEW operations are usually taking place inside designated areas (e.g. TSA/TRA), or use other airspace arrangements that have been pre-coordinated with ATC as an unusual aerial activity.

Airspace Reservation (ARES) means a defined volume of airspace temporarily reserved for exclusive or specific use by categories of users.

Airspace Reservation (ARES) as defined above is generally used to facilitate the segregation of non-compatible air traffic, leaving the respective ATCO with the responsibility to ensure that prescribed minimum separation requirements towards the ARES boundary are maintained at all times by non-participating air traffic.

Within an ARES aircraft can perform aerial manoeuvres at their own discretion and separation responsibility, after MARSAs have been declared. Aircraft cleared to operate inside an ARES shall stay within its confines (maintaining a prescribed safety distance from the ARES boundary as nationally required) until cleared otherwise by the appropriate ATC unit.

ARES is generally of temporary nature and should be scheduled, activated and de-activated through the appropriate national or regional channels, using the respective Flexible Use of Airspace (FUA) arrangements.²

Depending on the individual State, an ARES can be a Temporary Reserved or Temporary Segregated Airspace, which could be classified as an Airspace Restriction i.a.w. the respective ICAO classification.

Airspace Restriction means a defined volume of airspace within which, variously, activities dangerous to the flight of aircraft may be conducted at specified times (a 'danger area'); or such airspace situated above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions (a 'restricted area'); or airspace situated above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited (a 'prohibited area').

Airspace Structure means a specific volume of airspace designed to ensure the safe and optimal operation of aircraft.

Air Traffic Control (ATC) Unit means variously, area control centre, approach control unit or aerodrome control tower.

Air Proximity (AIRPROX) means a situation in which, in the opinion of a pilot-in-command or air traffic services personnel, the distance between aircraft as well as their relative positions

² For details consult the EUROCONTROL Handbook for Airspace Management

and speed have been such that the safety of the aircraft involved may have been compromised.

B

Break-Away means an Airborne Air Refuelling (AAR) Emergency Procedure mitigating a potential collision hazard by establishing initial separation between participating aircraft. Provided the ARES is appropriately sized for the AAR operation, this procedure can be executed within the ARES confines, requiring no ATC assistance.

Break-Away as defined above will be executed for safety reasons and is initiated by either, the tanker or a receiving aircraft. This procedure requires immediate actions, resulting in most of the cases in an almost instantaneous altitude separation of 2.000 ft between the tanker and the receiving aircraft concerned, without any option for prior co-ordination with ATC. The safety requirement to execute a break-away at any time during an AAR flight constitutes the necessity for an appropriately sized ARES, or other measures that are considered sufficiently safe to ensure that minimum required separation between the AAR flight and other air traffic can be maintained at all times.

Buddy-Buddy Refuelling is a particular AAR operation in which same or similar type of aircraft acting as tanker and receiver.

C

Civil-Military Co-ordination means the coordination between civil and military parties authorised to make decisions and agree a course of action.

Controlling Military Unit means any fixed or mobile military unit handling military air traffic and/or pursuing other activities which, owing to their specific nature, may require an airspace reservation or restriction.

Cross Border Airspace means an airspace structure extending across national borders and/or the boundaries of flight information regions.

Cross Border Area (CBA) means an airspace restriction or reservation established over international boundaries for specific operational requirements. This may take the form of a Temporary Segregated Area (TSA) or Temporary Reserved Area (TRA).

D

Danger (D) Area means an airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.

E

Flexible Use of Airspace (FUA) means an airspace management concept applied in the European Civil Aviation Conference area, as specified in the first edition of 5 February 1996 of the "Airspace Management Handbook for the application of the Concept of the Flexible Use of Airspace" issued by EUROCONTROL.

Fighter Escort is a formation of fighter aircraft with the task to protect high value assets (e.g. AEW aircraft).

Fighter Escort as defined above may be used to protect high level state representatives and could operate in close proximity of the protected asset, or moving at a relative distance along the same route of the protected asset.

Formation Flight means a flight consisting of more than one aircraft which, by prior arrangement between the pilots, operates as a single aircraft with regard to navigation and position reporting, as well as clearances issued by ATC.

Within formation flights as defined above, safe spacing between aircraft within the formation is the responsibility of the formation leader and the pilots of the other aircraft in the flight. This includes transition periods when aircraft within the formation are manoeuvring in closer

proximity than prescribed minimum IFR separation during formation break-up or formation join-up.

Formation Break-Up (Formation Split) means an aerial manoeuvre, co-ordinated between the formation leader and the ATCO, used to divide a formation flight into smaller formation elements or single aircraft. Once positively identified and safely separated, the smaller formation elements or single aircraft will then be controlled individually and will receive separate IFR clearances.

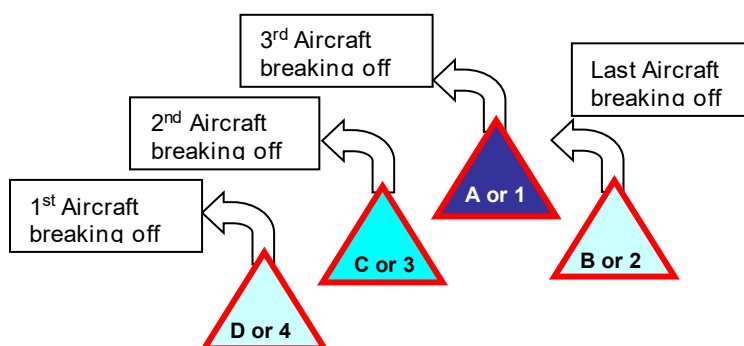
Formation Break-Up (Formation Split) as defined above is used when a formation flight under IFR intends to separate into either smaller formation elements or individual aircraft. This procedure is usually executed prior to the Initial Approach Fix (IAF) for their aerodrome of destination, in particular if e.g. Air Force operating procedures require this course of action due to actual weather conditions or runway constraints at the aerodrome of destination.

An important safety aspect of a formation split is the allocation of distinct call-signs to the subsequent formation elements or individual aircraft, to ensure that ATC instructions are carried out as intended. Generally this can be sufficiently accomplished by adding a numerical or alphabetical sequence to the original formation call-sign.

Usually a formation break-up is pre-coordinated between the formation leader and the ATCO via radio transmission during which the flight leader will identify the position of the individual aircraft relative to his lead-aircraft and the sequence in which he intends to break up the formation.

As a typically example for the break-up of a 4-ship formation in individual aircraft, the formation leader, referring to himself as "call-sign No.1 (or A)" could state: No. 2 (or B) is on my right side, No. 3 and 4 (or C and D) are on my left side; I want to break-up in the sequence 4, 3, 1, 2 (or D, C, A, B). This sequence chosen will avoid that an aircraft is turned into another one.

When the ATCO is initiating the break-up, he/she shall take due account of the provided aircraft positions relative to the lead-aircraft and the requested sequence to ensure issuing initial headings that will turn the individual aircraft away from the remaining formation as shown in the figure below.



However, the example above is only one option; every formation break-off will require an ATCO to determine his own course of action within the frame of the rules and procedures prescribed by his organisation.

Formation Join-Up means an aerial manoeuvre used to form a formation flight out of single aircraft or smaller formation elements.

Formation Join-Up is required when e.g. the meteorological conditions at the aerodrome of departure would preclude a formation take-off or sequenced take-offs of aircraft/elements comprising a formation and their subsequent join-up in VMC. This situation might require individual take-offs with a prescribed minimum time separation, since sufficient safety distance between the aircraft/elements comprising a formation cannot be maintained with

visual contact or other technical means. In that event ATC support is required until during departure or Enroute conditions are met that allow the formation flight members to safely conduct the join-up.

Other examples could be the Enroute join-up of a formation-flight with a tanker aircraft or the join-up of different formations to form a larger formation-flight.

Formation Take-off and landing could be performed in close formation or in sequence, using a time/distance interval between individual elements or individual aircraft comprising the formation flight. The magnitude of this interval will be determined by the formation leader with due regard to procedures laid down by his respective military regulator. The magnitude of the interval used must be communicated by the formation leader to ATC.

Whenever the formation is able to conduct a formation take-off or landing without ATC assistance and able to maintain the responsibility for safety distance, it should be treated by ATC as one single aircraft.

Whether a formation take-off or landing is conducted in close formation or in sequence by elements or individual aircraft usually depends on the Local Operating Procedures of the aerodrome, the aerodrome runway dimensions and resulting formation take-off/landing restrictions prescribed by national military regulators, the existing meteorological conditions in regard to cross-wind, ceiling/visibility or a combination of all the factors mentioned before.

Formation Lost Wingman (Lost Lead) means an Emergency Procedure to mitigate a potential collision hazard by establishing initial separation between formation-elements or individual formation-aircraft. ATC support is required upon request.

Formation Lost Wingman (Lost Lead) as defined above requires immediate action by the pilot-in-command who lost visual contact with the aircraft representing the visual reference to appropriately position his aircraft within the formation. The major objective of this Emergency Procedure is to establish without any delay an initial lateral safety distance (and in some national rules an additional vertical safety distance) between aircraft to avoid a potential midair collision.

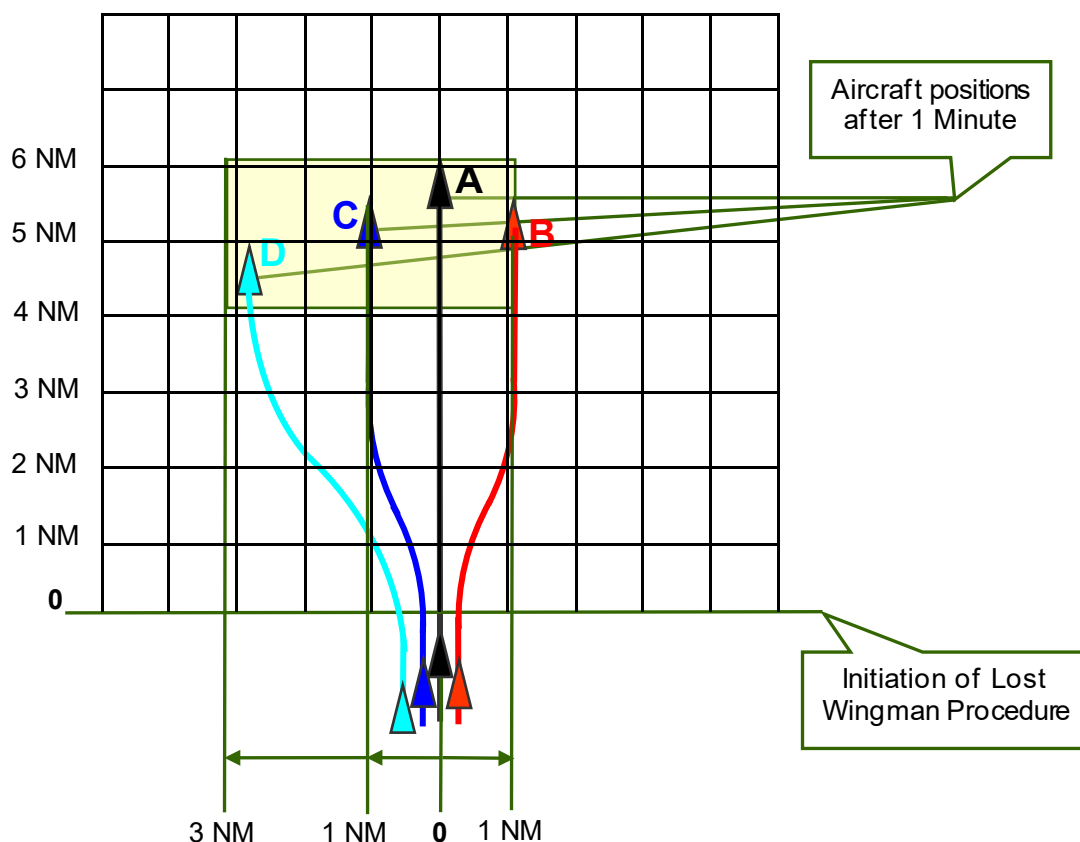
Since a lost wingman situation usually occurs in IMC, the resulting Emergency Procedure demands from the respective pilot-in-command to immediately transition to instrument flying and to follow a prescribed manoeuvring sequence. The required order of steering manoeuvres strictly depends on the formation position at the time visual contact was lost.

The respective pilot-in-command has to inform his flight lead and the appropriate ATCO as soon as practicable and he must subsequently request his individual IFR clearance.

The general design of lost wingman procedures is similar in every Air Force, however, differences in the detailed layout exist (e.g. how many degrees for how many seconds to turn away from the aircraft visual contact was lost with). Since these specifications are the result of the individual Air Force's safety assessment and an integral part of their pilots' emergency action training, they should remain at national discretion.

The figure on the next page shows a generic example of a 4-ship fingertip formation executing a lost wingman procedure from wings-level flight at an airspeed around 300 to 350 KIAS. The intended lateral separation is achieved by turning away with a prescribed bank angle and reversing the turn with the same bank angle back to the original heading after a prescribed time is elapsed. Bank angle and time to be used depend on the formation position and the respective national Air Forces' operating procedures. Some Air Forces require an additional altitude split of up to 1.000 ft to be established amongst aircraft.

Therefore, the example depicts the largest numbers used for a lost wingman procedure (B and C turn away with 20 deg of bank for 20 sec, D turns away with 30 deg of bank for 30 sec), in order to indicate the approximate biggest amount of airspace used after completion of the procedure, when the individual radio contacts will be initiated with the ATCO about one minute after initiation. At that time the individual aircraft/elements might be horizontally spread up to 4 NM.



After completion of the lost wingman procedure, all aircraft will continue to comply with the previous clearance issued for the formation until instructed otherwise, however, as shown above, spread out in an area of approximately 2 by 4 NM and up to 1.000 ft in height.

In the event that a lost wingman situation should occur in a turn, the procedures are more complex, but the end result will be similar.

The execution of a lost wingman procedure always bears the potential to create a hazard, while mitigating one, since a larger volume of airspace than planned is required instantaneously, which might lead to a situation where minimum required separation to other air traffic could be eroded.

Therefore, it is, particularly in a dense air traffic environment, of utmost importance that the pilot-in-command executing a lost wingman procedure squawks "Emergency" as soon as possible to alert the respective ATCO, providing this way an immediate option to analyse this unexpected situation and to take appropriate resulting actions.

A lost wingman situation is a rather rare occurrence and is usually taking place during departure or approach inside weather conditions with very poor visibility.

G

General Air Traffic (GAT) means all movements of civil aircraft, as well as all movements of State aircraft (including military, customs and police aircraft) when these movements are carried out in conformity with the procedures of the ICAO.

I

ICAO means the International Civil Aviation Organisation, as established by the 1944 Chicago Convention on International Civil Aviation.

M

MARSA means Military Authority Assumes Responsibility for Separation of Aircraft.

MARSA acknowledges from the respective formation (mission) leader to the ATCO that the military participants involved in an OAT flight assume responsibility for separation (safety distance) between participating military aircraft, thus relieving the ATCO from his responsibility to ensure prescribed separation minima.

The remaining responsibility of the ATCO is to provide prescribed separation between military aircraft engaged in MARSA operations and other nonparticipating IFR aircraft.

N

Non-standard Formation means a formation that is operating outside the limits of a standard military formation. A non-standard formation requires ATC approval.

Non-standard Formation is a formation in which aircraft/elements belonging to that formation will exceed the limits of a standard military formation. Therefore, aircraft/elements will squawk a separate transponder code if and as demanded by the appropriate ATC unit.

However, aircraft/elements of a non-standard formation may operate in closer proximity to each other than the prescribed minimum separation.

A typical example for the requirement to fly as non-standard formation could be an Enroute part of a formation in IMC, which would require them to continuously fly in close proximity of 3 to 6 feet wingtip-clearance between aircraft.

This is rather demanding on the pilots and can lead over time to extreme fatigue. To avoid a situation in which this fatigue could negatively impact the safety of the formation flight, the formation flight leader could select the option to fly a radar trail formation in which the formation forms a string with a distance between the individual aircraft that is prescribed by the national military regulator (usually around 2 NM). The pilots are able to maintain any prescribed distance to the preceding aircraft with their onboard radar and will this way retain the responsibility for safety distance amongst them.

An ATCO could acquire positive identification of a formation flight in radar trail by mandating the first and last or all aircraft to squawk.

A non-standard Formation Departure means a formation departure under IFR that requires specific ATC support and coordination, since it is not covered in respective local operating procedures of the aerodrome of departure.

A non-standard Formation Departure is usually conducted in a trail formation, forming a string in which the individual aircraft/elements of the formation depart with e.g. a 2 NM separation. This separation is either maintained with the on-board radar or with timing until such time at which a formation join-up can be safely conducted. Unless requested otherwise, the formation leader accepts responsibility for the separation (safety distance) of aircraft/elements belonging to the formation.

At the majority of military aerodromes where fighter-type aircraft are based, local operating procedures exist that regulate the above explained departures. However, at aerodromes where appropriate procedures for these kinds of departures are not established, they can only be conducted after previous coordination between the formation leader and ATC, pending ATC approval.

O

Operational Air Traffic (OAT)³ means all flights, which do not comply with the provisions stated for GAT and for which rules and procedures have been specified by appropriate national authorities.

P

Prohibited (P) Area means airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited.

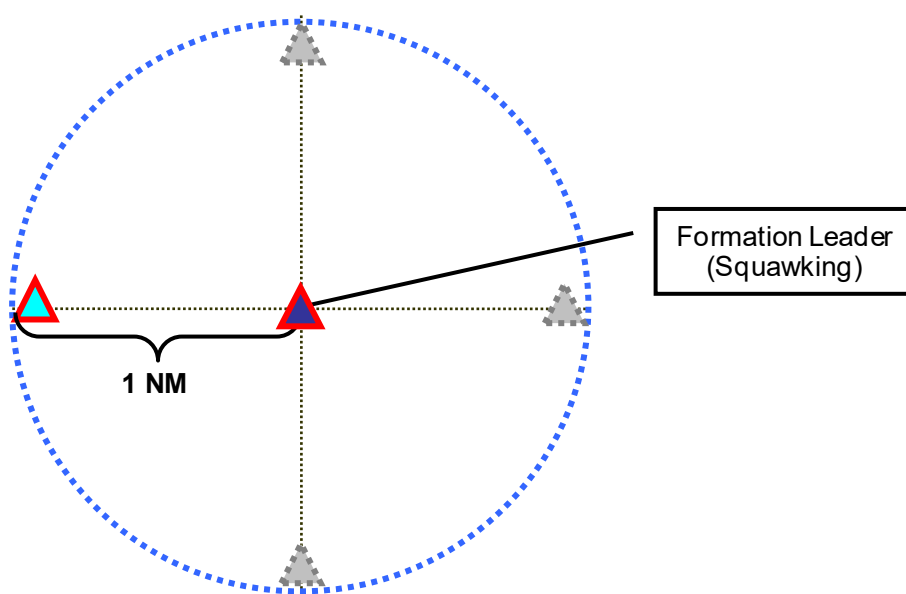
R

Restricted (R) Area means airspace of defined dimensions, above the land area and territorial waters of a State, within which the flight of aircraft is restricted in accordance with specific conditions.

S

Safety Distance in regard to formation flying means the distance that provides a safe minimum horizontal and/or vertical spacing for the respective aerial manoeuvres between the individual aircraft comprising a formation flight and is as such prescribed by the appropriate national regulations.

Standard Military Formation means a formation of aircraft flying under IFR in which each wingman aircraft will stay within 1 NM horizontally and 100 ft vertically of the lead aircraft.



A Standard Military Formation, usually consisting of 2 to 4 aircraft will remain within a cylinder-shaped airspace of 1 NM radius and 200 ft height, defined by the squawking aircraft (formation leader), representing the center of the cylinder.

In regard to separation between a standard military formation and other traffic the following best practises could provide safe options:

Where radar systems do not permit the controller to recognise separate elements of the formation then separation is to be provided on the standard military formation by adding 1 NM to the usually provided separation in regard to the SSR return (blue dotted circle in the above figure).

Where radar systems permits the controller to recognise separate elements of the formation then:

³ PC 16 took account of the conclusion reached by all CMIC members, other than those representing Türkiye, that there was no requirement to amend the current definitions of OAT and GAT as agreed by the EUROCONTROL Commission at PC 9.

- Where aircraft of the formation are close enough that they are displayed on the radar display as single radar return - separation is to be based on that return.
- Where the aircraft of a formation are displayed as separate returns then separation may be based on the radar return closest to the other traffic.

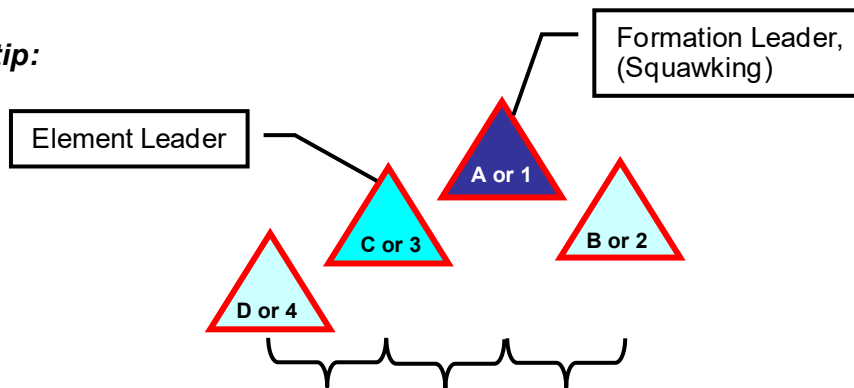
The required altitude separation between a standard military formation and other traffic will depend on the prescribed minimum separation for the respective airspace class. To ensure that prescribed minimum separation is not infringed, due account must be taken to the fact that wingman aircraft can be 100 ft above or below the lead aircraft.

The examples of (standard) 4-ship formation types depicted below are some of the most common ones and can be generally divided into close formations and tactical formations. However, the majority of formation flights will use the complete spectrum of formation types during one mission, primarily for training reasons.

Be aware that the position of the aircraft shown below could as well be mirrored in respect to the lead or squawking aircraft.

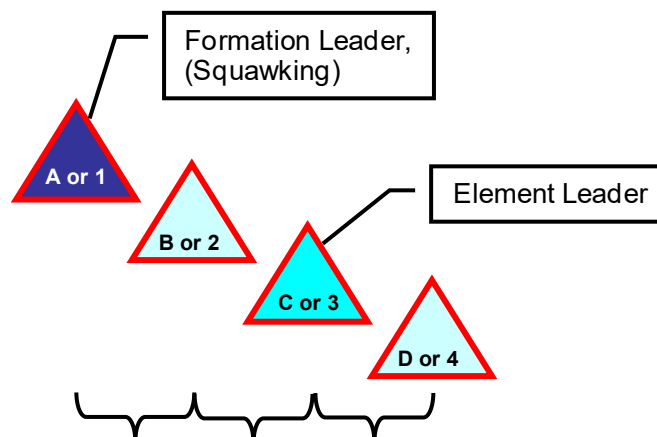
Common Close Formation Type Examples:

Fingertip:



Usually from 3 feet wingtip-clearance to 2-4 aircraft-widths spacing between individual aircraft

Echelon:

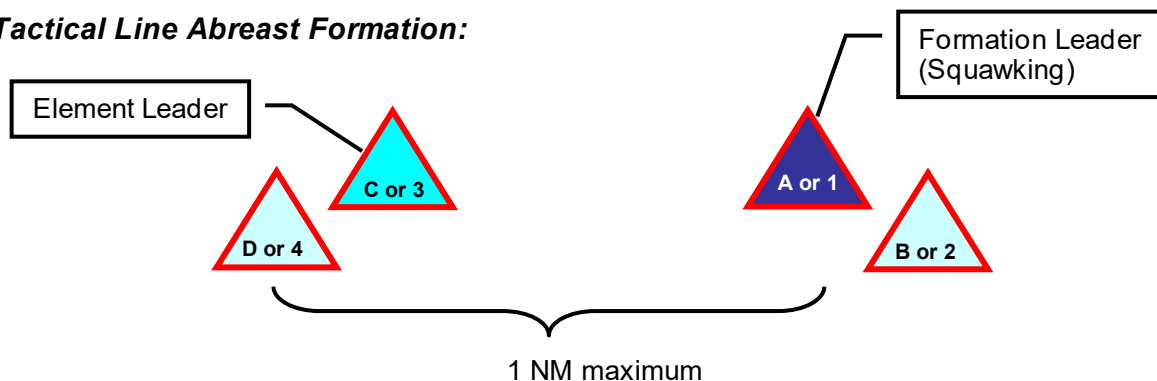


Usually from 3 feet wingtip-clearance to 2-4 aircraft-widths spacing between individual aircraft

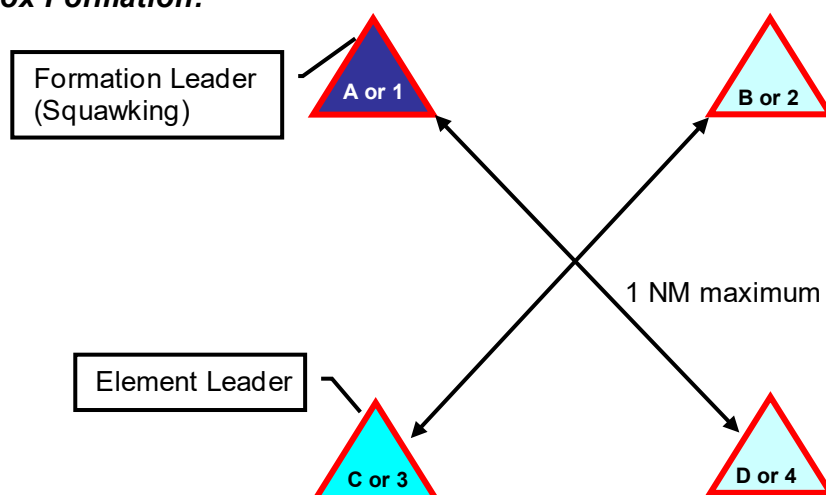
Common Tactical Formation Type Examples:

Tactical formations under IFR will only be conducted in Visual Meteorological Conditions (VMC) unless the participating aircraft are equipped with technical systems safely enabling them to maintain their formation positions in Instrument Meteorological Conditions (IMC).

Tactical Line Abreast Formation:



Box Formation:



State Aircraft⁴ means for ATM purposes and with reference to article 3(b) of the Chicago Convention, aircraft used in military, custom and police services.

Accordingly:

Aircraft on a military register, or identified as such within a civil register, shall be considered to be used in military service and hence qualify as State Aircraft; Civil registered aircraft used in military, customs and police service shall qualify as State Aircraft; Civil registered aircraft used by a State for other than military, customs and police service shall not qualify as State Aircraft.

Surveillance Flight is a flight that uses passive and/or active electronic and/or optical sensors to collect information data. The explanations for AEW flights apply equally for surveillance flights.

I

Tactical Air Command and Control Service (TACCS) see Controlling Military Unit.

⁴ Decision of the Provisional Council Session 11 on 12/07/01

Temporary Reserved Airspace (TRA)⁵ means a defined volume of airspace, normally under the jurisdiction of one aviation authority and temporarily reserved by common agreement for the specific use by another aviation authority and through which other traffic may be allowed to transit under ATC clearance.

Temporary Reserved Airspace (TRA) as defined above is an area for Airspace Reservations, with its lateral and vertical boundaries published in the national AIP and Mil AIP and usually designated in many States as Restricted (R) Area. A TRA is generally temporarily reserved for special aerial purposes through relevant national or regional Airspace Management (ASM) arrangements. Other traffic may receive clearance from ATC to transit through an active TRA.

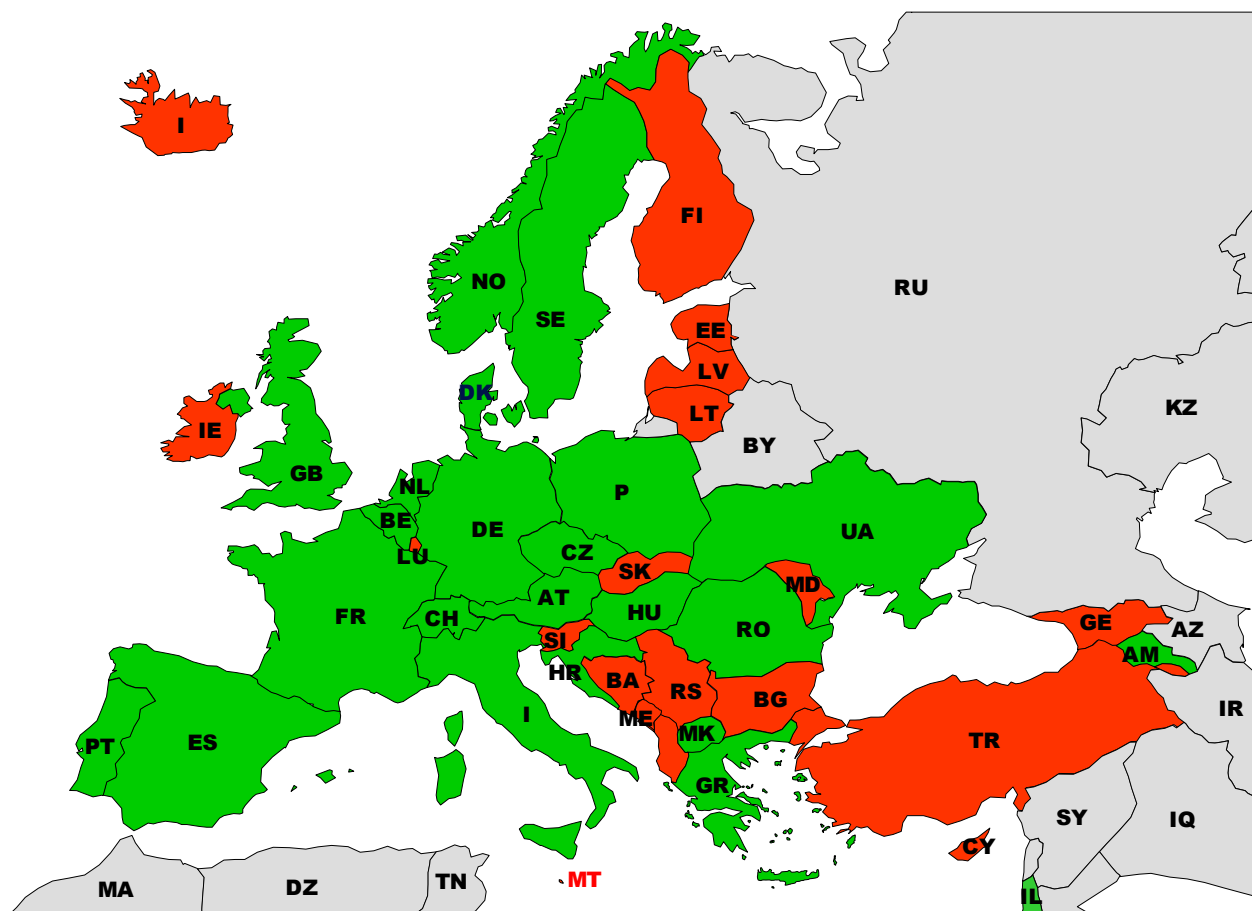
Temporary Segregated Airspace (TSA)⁶ means a defined volume of airspace, normally under the jurisdiction of one aviation authority and temporarily segregated by common agreement for the exclusive use by another aviation authority and through which other traffic will not be allowed to transit.

Temporary Segregated Airspace (TSA) as defined above is an area for Airspace Reservations, with its lateral and vertical boundaries published in the national AIP and Mil AIP and usually designated as Restricted (R) Area. A TSA is usually temporarily segregated for special aerial purposes through relevant national or regional Airspace Management (ASM) arrangements. Other traffic will usually not be allowed to transit through an active TSA.

⁵ For further details consult the EUROCONTROL Handbook for Airspace Management

⁶ For further details consult the EUROCONTROL Handbook for Airspace Management

Annex 3: National Implementation Status



Not implemented

Implemented

The following States have formally implemented the EUROAT and provided their country chapters:

Armenia, Austria, Belgium, Croatia, Czech Republic, Denmark, France, Germany, Greece, Hungary, Israel, Italy, North Macedonia, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, The Netherlands, Ukraine, United Kingdom.

The following States officially notified about their plan to formally implement the EUROAT⁷:

Albania, Bosnia and Herzegovina, Bulgaria, Finland⁸, Ireland, Slovak Republic.

⁷ Formal national implementation updates will be provided through respective EUROAT changes

⁸ Find initial contact information for Finland in Annex 6

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Annex 4: Appendix AM - Country Chapter for ARMENIA

AM Amendments to the EUROAT

2.3.3.4. Information about transition altitude/transition level applicable within Yerevan FIR is published in AIP-Armenia.

2.3.4.2. Supersonic flights are allowed above FL390.

2.4.3.1. Formation flights between FL280 and FL410 consisting of RVSM approved ACFT shall be considered as a NON RVSM equipped flight.

2.5.2., 2.5.3. and 3.5.2.

Civilian ATC provides 5NM horizontal separation and 2000 feet vertical separation.

MARSA - not applicable.

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Annex 4: Appendix AT - Country Chapter for AUSTRIA

AT Amendments to the EUROAT

2.2.2 Flight Plan

All OAT-IFR flights shall file GAT for that part of flight within area of responsibility of AUSTRO CONTROL overhead AUSTRIAN territory and state RMK/OAT (field 18)

2.3.2 Communication

Within FIR WIEN all aircraft shall be VHF equipped, UHF is not available within the Area of Responsibility (AoR) of AUSTRO CONTROL GmbH (for details refer to AIP AUSTRIA (AUT) ENR 2.2 and ENR 6.6).

2.3.2.1 Crews should continuously monitor the emergency frequency 121,50 MHz.

2.3.3 Altimeter Settings:

- Within FIR WIEN a common transition altitude is established at 10.000 FT AMSL.
- Altimeter Setting Areas (ASAs) for all flights – regardless of controlled or uncontrolled airspace – operating at 10.000 FT AMSL or below are established (for details see AIP AUT ENR 1.7).

2.3.4.1 Additionally following speed limitations apply:

Between 10.000 FT AMSL and FL200 aircraft shall not be operated with speeds exceeding 300 KIAS / M0.75.

Above FL200 Eurofighter shall be operated with a maximum speed of M0.90. Other aircraft shall be operated with a maximum speed of M0.95.

2.4.1 Formation departures are limited to:

- Max. 2 aircraft under IMC
- Max. 4 aircraft under VMC

Formation approaches are limited to max. 2 aircraft. Therefore, expect formation split by the relevant ATC-unit.

Non-standard formation departures and approaches are applied from the military airport ZELTWEG (LOXZ) only.

2.4.3 + 2.4.4 Within FIR WIEN formation flights consisting of a maximum of **4 aircraft** are permitted (regardless standard or non-standard formation).

The distance between the individual aircraft within a **non-standard formation** shall not exceed 3NM.

Within Area of Responsibility of AUSTRO CONTROL (overhead AUSTRIAN territory) only Sensor Trail Formation will be granted as non-standard formation by ACC WIEN. An approval to enter this airspace shall be obtained by ACC WIEN (see Annex 5) at least 3 hours prior entering.

2.4.6 Formation Join-Up

Formation join-ups shall be executed in compliance with the following principles:

- Formation join-ups are not allowed (authorised) without visual contact (no IFR join-up procedure permitted based solely (exclusively) on means of airborne radar).
- Separation between IFR flights concerned shall be maintained until the pilot reports "VISUAL" (stating having the aircraft the PIC intends to join up in sight) and ATC confirms "JOIN-UP APPROVED". From this point on ATC is no longer responsible for maintaining the separation between the aircraft concerned of this join-up. Position information to the succeeding aircraft shall be given according to the criteria for issuing radar traffic information. The responsibility for the final phase of the join-up rests with the pilot joining up.
- The individual aircraft shall not be handled like a formation before the formation leader has reported "FORMATION TIGHT".

MARSA call: Not applicable – no COM standard according AUSTRIA AIC in the current version (Formation join up).

2.4.7 Formation Break-Up (Split)

Formation Break-Ups shall be planned only in 2 elements.

2.4.7.2 The formation leader shall state a request to ATC at least 5 minutes prior the planned formation split.

2.4.7.3 In AUSTRIA reporting of position of aircraft/elements relative to the formation leader is not applicable.
ATC in Austria will not consider the positions of each individual aircraft within a formation when executing an intended formation split. The responsibility of separation and possible re-positioning therefore solely rests with the formation leader when complying with the given ATC formation break-up instructions.

2.4.9.3 In the event of an un-intended formation split, the aircraft off a formation without assigned squawk shall set the EMERGENCY squawk and informs ATC as soon as possible with already executed actions. The formation leader shall keep the assigned squawk.

General:

Within delegated Airspace within FIR VIENNA, where ATC-Service is provided by foreign ANSPs, EUROAT is provided according their standards.

Despite that, national speed limitations according 2.3.4.1 are applicable.

Annex 4: Appendix BE - Country Chapter for BELGIUM

BE Amendments to the EUROAT

2.1 Applicability of ICAO Rules of the Air

“Foreign military flight can be conducted within Brussels FIR/UIR according GAT or OAT rules, depending upon operational requirements of the mission. However OAT is only possible during the ATCC operating hours as laid down in the AERONAUTICAL INFORMATION PUBLICATION BELGIUM & LUXEMBOURG

2.2.2 Flight Plan

Specific regulations for FPL are laid down in the AERONAUTICAL INFORMATION PUBLICATION BELGIUM & LUXEMBOURG.

2.3.2 Communication

In Belgium, Belgian Military Aircraft may not maintain a continuous listening watch on guard frequency if impossible for an operational reason.

The carriage of a serviceable mode S (ELS or EHS) SSR transponder is highly recommended but not yet compulsory for State ACFT flying OAT within the BRUSSELS FIR/UIR including Low Level VFR flights.

2.3.2.1: For UAV flights, the Belgian Military Aviation Authority may approve another method of communication that reaches an equivalent safety level.

2.3.3 Altimeter Settings

TRANSITION ALTITUDE

A common transition altitude of 4500 ft is established inside and outside controlled airspaces. Vertical position of ACFT at or below the transition altitude shall be expressed in terms of altitude, at or above transition level in terms of flight levels.

- A pressure altimeter calibrated according to standard atmosphere:
- Shall indicate the ALTITUDE when set to the QNH.
- Shall indicate the HEIGHT above the QFE reference level when set to the QFE.
- May be used to indicate FLIGHT LEVELS when set to 1013.2 hPa (29.92 Inches)

TRANSITION LAYER

To ensure minimum radar separation between uncontrolled flights at or below 4500ft and controlled flights above the transition altitude, a transition layer of minimum 1000 ft and maximum 1499 ft shall be taken into account to determine the transition level. Within the transition layer no minimum vertical radar separation with uncontrolled flights is provided.

TRANSITION LEVEL

The transition level is the first useable flight level above the transition altitude.

Details for Transition Level calculation is laid down in the AERONAUTICAL INFORMATION PUBLICATION BELGIUM & LUXEMBOURG.

2.3.4 Speed Limitation

2.3.4.1 Due to military operational and training requirement in Brussels FIR the speed limitation below FL 100 of Max 250 KIAS is not applicable to OAT flights. Nevertheless for noise abatement reason military ACFT are not to be flown below 4500 ft at speeds exceeding 450 kts groundspeed (420 kts planned). Exceptions are laid down in the AERONAUTICAL INFORMATION PUBLICATION BELGIUM & LUXEMBOURG.

2.3.4.2 Additionally

The number of supersonic FLTs will be limited to those necessary for maintenance in FLT tests of Belgian ACFT and those scheduled in the Belgian training syllabi for pilots. Details are laid down in the AERONAUTICAL INFORMATION PUBLICATION BELGIUM & LUXEMBOURG.

2.4.3 & 3.4.3: Standard Military Formation

Additionally: During Radar Trail departures and recovery a controller may allow the separation between the leader and all other elements of the formation to be higher than 3 Nm horizontally and/or 1000ft vertically. For this type of departure / recovery, all element of the formation shall squawk Mode 3/A and Mode C.

Radar Trail departures and recovery shall only be granted by the controller if minimum radar separation with other traffic can be guaranteed for each element of the formation.

Unless otherwise coordinated, all elements of the formation shall be contained within 1NM horizontally and 100 ft vertically from the leader whilst crossing civil controlled airspace (e.g airways) or before being transferred to a non BAC unit.

2.5 Flight in an Airspace Reservation (ARES)

Even when declaring MARSAs aircrafts will receive TRA Service. TRA Service is an air traffic radar service in which pilots are given mandatory instructions in order to:

- Keep participating traffic (VFR & IFR) inside the published limits of its assigned reserved area;
- Enable the prescribed separation minima from other traffic to be maintained. IFR traffic will be separated from VFR and vice versa using the RADAR separation minima. VFR traffic will be given Traffic Info towards other VFR traffic and Traffic avoidance on request. Responsibility for separation between participating ACFT inside the TRA (Temporary Reserved Area) lies with the pilots. 'Participating ACFT' are those flights for which a specific area has been booked for simultaneous use.

When flying an Air Defence mission the pilot will receive Close Positive or Loose Positive Control, as defined in the AERONAUTICAL INFORMATION PUBLICATION BELGIUM & LUXEMBOURG, therefore MARSAs can not be declared.

2.7.5 Radio Communication Failure Procedure

1 RECEIVER FAILURE

The pilot shall transmit reports at the scheduled times or positions, preceded by 'Transmitting in the blind due to receiver failure'. These reports should include his intentions and the time of his next intended transmission.

2 COMPLETE COM FAILURE

a. In VFR

- Squawk A7600, and
- Maintain VMC, and
- Land at the nearest suitable AD, and
- Report its arrival by the most expeditious means to the appropriate ATC unit.

b. In IFR

- Squawk A7600.
- Proceed according to FPL and hold over last NAVAID in the FPL.
- Commence a descent from this NAVAID as close as possible to the last acknowledged EAT on the FPL EAT.

- Complete the normal instrument approach procedure and land, if possible within 30 MIN of EAT (last acknowledged or FPL).
- When established on a published ATS route, maintain last assigned speed and level for a period of 7 MIN. After this period, adjust to the level in accordance with the FPL.
- When established on a published ATS route but receiving radar vectors or proceeding offset, proceed in the most direct manner possible to rejoin the current FPL route.

c. The pilot may or, when SSR is INOP, he has to fly triangles of one MIN legs (TAS higher than 300 kts) or two MIN legs (TAS equal or less than 300 kts) clockwise if his receiver still works, anti-clockwise if the radio receiver and transmitter are both out of service. He can expect to be intercepted by a shepherd ACFT.

Note 1: If an ACFT has been given level clearances for only part of the route, it will fly this level to the point specified in the clearance and then the cruising level of the FPL.

Note 2: Departing ACFT are to fly the level they are cleared to for 3 MIN and then fly the cruising level of their FPL.

Formation Lost Wingman (Lost Lead)

National procedures differ from the definition of page 24.

Definitions:

UAV (Unmanned Aerial Vehicle), RPA (Remotely Piloted Aircraft), UA (Unmanned Aircraft), UAS (Unmanned Aircraft Systems):

A powered, aerial vehicle that does not carry a human operator uses aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely, can be expendable or recoverable, and can carry a lethal or non-lethal payload. Ballistic or semi-ballistic vehicles, cruise missiles, and artillery projectiles are not considered unmanned aerial vehicles.

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Annex 4: Appendix CH - Country Chapter for SWITZERLAND

CH Amendments to the EUROAT

2.3.3. Altimeter Settings

- 2.3.3.3. The transition altitudes are published in the AIP (civil procedures) or the Operations Manual Air Force (OM-C; MIL FLIP) (mil procedures). Reference is made to those publications.

2.3.4. Speed Limitations

- 2.3.4.1. Inside CTR/TMA maximum speed is 350KIAS. Whenever, for tactical reasons, a higher speed is required, the pilot shall inform ATC.

Outside CTR/TMA

At and above FL 330	All flights	> M 0.95
Below FL 330 but above FL 100	All flights	≤ M 0.95
At and below FL 100	For operational reason Liaison flight	≤ M 0.9 ≤ M 0.7

- 2.3.4.2. Supersonic Flights
Operational supersonic flights require prior approval from Air Defence and Direction Center.
Minimum altitude for supersonic flights is FL 330, for descending supersonic turns FL 410.

2.4.3 Standard Military Formation

- 2.4.3.1 Formation flights between FL 280 and FL 430 consisting of RVSM approved ACFT shall be considered as a NON RVSM equipped flight.

2.4.4.3. Non-standard formation flights

Pre-coordination does not take place and ATC is not allowed to disapprove such flights or to determine special conditions.

2.4.9. Lost-Wingman (Lost-Lead) Procedures

- 2.4.9.3. Formation leader is not required to squawk EMERGENCY

2.5.2 ARES Internal Flight Separation

- 2.5.2.1 Sufficient safety distance applied by mission/formation leader and the individual pilot-in-command only. The term MARSA is therefore not used.

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Annex 4: Appendix HR - Country Chapter for CROATIA

HR Amendments to the EUROAT

No Amendments with the exception that 2.4.6 and 2.7.2 are not applied in Croatia.

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Annex 4: Appendix CZ - Country Chapter for CZECH REPUBLIC

CZ Amendments to the EUROAT

2.1 Applicability of ICAO Rules of the Air

- Additionally:
In the Czech Republic are OAT flights (or OAT parts of the flights) divided into two groups:
 - (A) **OAT-C** (OAT – compatible) – A military OAT flight or its part **not requiring** a segregation (separation from other non-participating air traffic). In case when ICAO rules are not enough or due to flight characteristics cannot be used, additional procedures are applied (e.g. EUROAT specs). ATS services to OAT-C flights are provided by civilian ANSP (ANS CZ) or military ATS units (MAPP / MTWR) or a military controlling unit (CRC) depending on their area of responsibility.
 - (B) **OAT-S** (OAT – special) – A military OAT flight or its part **requiring** a segregation (separation from other non-participating air traffic) or special handling. ATS services to OAT-S flights are provided in accordance with the other than ICAO standards, rules, and procedures (Allied Standards are applicable usually) by military ATS units (MAPP / MTWR) or a military controlling unit (CRC) only.

OAT-C flights	OAT-S flights
<ul style="list-style-type: none"> • OAT transit flight (en-route AAR and other formation flights including) • CZAF honorary escorts 	<ul style="list-style-type: none"> • Air policing (Air Defence Flight) • Air Combat Maneuvering (only within ARES) • AAR (special procedures within MARSAS formation) • Supersonic flights

2.2 Flight Prerequisites

2.2.1 Aircraft and Aircrew

- *NIL*

2.2.2 Flight Plan

- FPL for OAT flight or flights including OAT parts shall be distributed by message originator/operator via AFTN to address **LKAAZQZF** at least a day prior day of flight (DOF).
- Route (field 15 of FPL) of flight has to include explicitly listed entry and exit waypoint to/from Praha FIR. For list of waypoints see AIP CR ENR 4.1 and ENR 4.4. (Note: coordinates are not allowed for expression of entry/exit waypoints to/from Praha FIR).
- Route description (field 15 of FPL) should be as follows in general for OAT-C / OAT-S flights:
 - waypoint ATS_route waypoint ATS_route ... *OR*
 - published DCTs = waypoint DCT waypoint DCT ... (for transit flights according to AIP CR/RAD) *OR*
 - ad-hoc DCTs (only for flights to/from airport within FIR Praha or ARES entry/exit points) (see MIL AIP CR ENR 4.3-5)
- Use STAY indicator to indicate the time spent on the route of the flight in ARES where special activities are planned (using of coordinates is not allowed). Indicator STAYINFO (with brief information about activity in ARES) is mandatory in FPL field 18.
- Do not use DLE indicator for IFR flights within Praha FIR.

2.3 Flight Conduct

2.3.1 ACAS/TCAS

- *NIL*

2.3.2 Communication

- *NIL*

2.3.3 Altimeter Settings

- For CZE altimeter setting procedures see AIP CR ENR 1.7.

2.3.4 Speed limitations

- For speed limitations within Praha FIR see AIP CR ENR 1.4 (ATS Airspace Classification).
- OAT-C Supersonic flights are not allowed.
- OAT-S Supersonic flights can only be conducted under these conditions:
 - The minimum level for a climbing aircraft shall be at least FL 370,
 - The minimum level for a horizontal flight shall be at least FL 410,
 - The minimum level for a descending aircraft shall be at least FL 450.

2.4 Formation Flights**2.4.1 General Rules for Formation Flights**

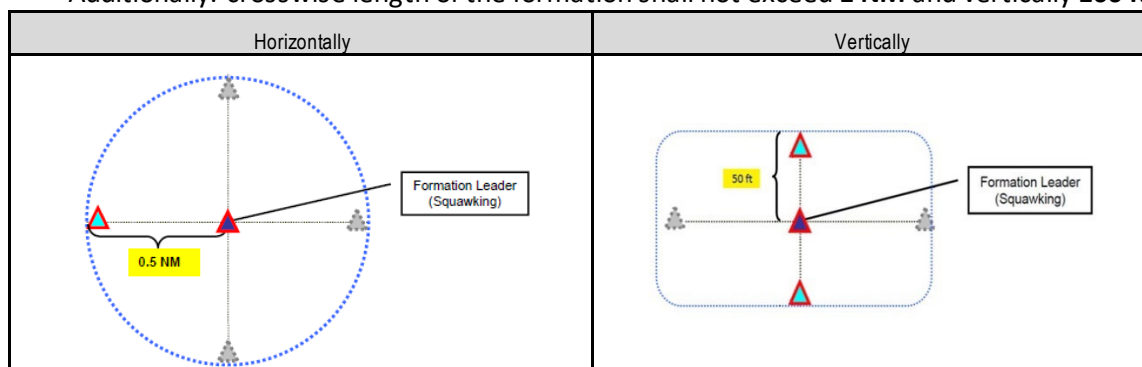
- For general Formation Flights information and conditions see AIP CR ENR 1.1 paragraph 1.1.6 Formation Flights.

2.4.2 Safety Distance between two or more Formation Flights

- *NIL*

2.4.3 Standard Military Formation (also 3.4.2)

Additionally: crosswise length of the formation shall not exceed **1 NM** and vertically **100 ft**.

**2.4.4 Non-Standard Formation (also 3.4.3)**

- Non-standard formation flights can be allowed only when accomplished with AIP CR ENR 1.1 paragraph 1.1.6.2 (Non-standard formation flights).

2.4.5 Non-Standard Formation Departures (also 3.4.4)

- Non-standard formation departures are applied from military airports only.

2.4.6 Formation Join-Up (also 3.4.5)

- *NIL*

2.4.7 Formation Break-Up (Split), (also 3.4.6)

- *NIL*

2.4.8 Formation Radio Failure

- *NIL*

2.4.9 Lost-Wingman (Lost-Lead) Procedures (also 3.4.7)

- *NIL*

2.5 Flights in an Airspace Reservation (ARES)

- *NIL*

2.5.1 Flights in ARES

- *NIL*

2.5.2 ARES Internal Flight Separation

- *NIL*

2.5.3 ARES External Flight Separation (also 3.5.2)

- Additionally:
Civilian ATC unit provides 5 NM minima of horizontal separation for other IFR traffic to ARES boundary during its activation for OAT-S flights activity thus no additionally buffers towards ARES horizontal boundaries are applied.

Following vertical buffers **within** ARES are applied:

- No buffer at and below 5000 ft
- 500 ft above 5000 ft up to FL 410
- 1000 ft at FL 410 and above
- 1500 ft at FL 290 up to 410 for non-RVSM equipped aircraft

Following vertical buffers **outside** ARES are applied:

- 1000 ft at and below 5000 ft
- 500 ft above 5000 ft up to FL 410
- 1000 ft at FL 410 and above
- 1500 ft at FL 290 up to 410 for non-RVSM equipped aircraft

2.6 Air Defense Flights**2.6.1 Executive Authority**

- *NIL*

2.6.2 Intercepted Aircraft

- *NIL*

2.7 Unusual occurrences**2.7.1 AIRPROX**

- *NIL*

2.7.2 Take-Off / Landing Emergency

- Arresting gear procedure is not applied at civilian airports.

2.7.3 Airborne Emergency

- *NIL*

2.7.4 Unplanned Diversion with Armament

- *NIL*

Radio Communication Failure (NORDO) Procedure

- *NIL*

Reference documents:

AIP CR available on: http://is.rlp.cz/ais_data/www_main_control/fm_cz_aip.htm MIL AIP CR available on request addressed to military points of contact (see Annex 5: Appendix CZ - National Points of Contact for CZECH REPUBLIC)

Annex 4: Appendix DK - Country Chapter for DENMARK – Copenhagen FIR (EKDK)

DK Amendments to the EUROAT

2.2.2 Flight plan

2.2.2.1 All OAT-IFR flights shall file an ICAO Flight Plan following the specific requirements specified in MILAIP Denmark.

2.3.2 Communications

2.3.2.2 The air-ground radiotelephony communications shall be conducted in English language.

2.3.3 Altimeter settings

2.3.3.4 Information about transition altitude/transition level applicable within Copenhagen FIR is published in AIP-Denmark and in MILAIP-Denmark.

2.3.4 Speed Limitations

Military aircraft may deviate from the established max. speeds below FL 100 if so dictated by aircraft performance, handling characteristic or mission requirements. Military aircraft deviating from established max. speeds, will have "due regard" for the safety of navigation of civil aircraft (ICAO CONV. article 3.d).

2.3.4.2 Supersonic flight

Supersonic flights with foreign military aircraft, will not be allowed over Danish territory except when participating in NATO exercises in which case, specific regulations will be stipulated for each individual exercise or when foreign military aircraft under operational control of Commander Tactical Air Command, Denmark, operates from a Danish Air Station where national regulations apply.

2.4.2 Safety Distance between two or more Formation Flights

Denmark does not apply MARSA

2.4.3 Standard Military Formation

For foreign military formations the EUROAT definition apply.

2.4.4 Non-standard Formation

For foreign military formations the EUROAT definition apply.

2.5.2 ARES Internal Flight Separation

Within any activated Airspace Reservation (ARES), sufficient safety distance between all participating aircraft shall be the responsibility of either a Controlling Military Unit (ACU), or the mission/formation leader and the individual pilot-in-command. In the second case, Danish ATC units shall not apply MARSA, but shall be in accordance with MARSA principles with the ICAO/NATO phraseology.

2.7.2 Take-Off/landing Emergency

2.7.2.1 When requesting the use of an arresting gear with ATC, the pilot-in-command shall use the standard phraseology associated to the type of arresting gear (cable), and the position of the arresting system (approach or departure) as published in MILAIP Denmark.

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Annex 4: Appendix FR - Country Chapter for FRANCE

FR Amendments to the EUROAT

2.3.1 Airborne and Traffic Collision Avoidance System ACAS/TCAS

2.3.1.4 Nothing in these rules shall relieve the pilot-in-command of an aircraft from the responsibility of taking such action, including collision avoidance manoeuvres based on resolution advisories provided by ACAS equipment, as will best avert collision.

2.4.2 Safety Distance between two or more Formation Flights

France does not apply MARSA.

2.4.3 Standard Military Formation

2.4.3.1 Formation flights

Aircraft shall only fly in formation subject to the conditions set out by the general staffs and directorates on the basis of the following principles:

- a) The formation shall behave as a single aircraft as far as navigation and position reporting is concerned;
- b) Safety within the formation shall be ensured by the formation leader;
- c) A maximum distance shall be maintained by each aircraft/element in the formation. The position of each aircraft/element shall be defined by the competent authority in line with the instructions issued by the general staffs and directorates.

2.4.6 Formation Join-up

2.4.6.2 France does not apply MARSA.

2.5.2 ARES Internal Flight Separation

2.5.2.1 Within any activated ARES, sufficient safety distance between all participating aircraft shall be the responsibility of either a Controlling Military Unit, or the mission/formation leader and the individual pilot-in-command. In the second case, France shall not apply MARSA, but shall be in accordance with MARSA principles with the NATO phraseology.

2.7.5 Radio Communication Failure (NORDO) Procedure

2.7.5.1 Communication failure

In the case of a radio communication failure, the pilot flying OAT IFR (CAM I) shall attempt to re-establish the radio link on the distress frequency. If unsuccessful, he/she shall apply one of the following procedures:

- a) If he/she is in a position to ensure his/her flight to the destination aerodrome using autonomous navigation and approach aids, he/she shall:
 1. Activate transponder code 3/A 7600;
 2. Continue the flight to the limits of the clearances received, then in accordance with the current flight plan;
 3. Perform the arrival, approach and landing procedures which are possible using the aids at his/her disposal.
- b) If the pilot feels that he/she is not able to conduct the flight to the destination airport, he/she shall:
 1. Activate transponder code 3/A 7700 (emergency);
 2. Take a French OAT level, in visual flight conditions if possible, and activate maximum endurance settings;

3. Head towards the most appropriate nearby aerodrome, with all navigation and anti-collision lights switched on;
4. execute two distress triangles to the left, with sides and corners corresponding to the diagram below, and then a number of race-track patterns to the left, with straight sides corresponding to five minutes' flying time, with a view to facilitating interception by an escort aircraft; as far as possible, he/she shall avoid flying in the same vertical plane as the aerodrome and air routes;
5. perform, when the endurance limit (fuel safety) is reached, arrival, approach and landing procedures which are possible using the aids at his/her disposal.

SEE ORIGINAL FOR DIAGRAM

c) if, while following one of these procedures, the pilot encounters visual flight conditions with a view of the ground and deems himself/herself to be in a position to take responsibility for his/her own navigation and collision avoidance, he/she may decide to switch to visual OAT rules. If this is the case, he/she shall:

1. Quickly leave upper airspace if he/she is located in such airspace;
2. Activate the transponder code for switching to visual OAT rules or for the airspace class he/she is flying in;
3. Maintain a view of the ground for landing at the destination aerodrome or a more appropriate aerodrome;
4. Activate transponder code 3/A 7600 at a distance of ten nautical miles from the aerodrome chosen.

As soon as the air traffic control body detects code 3/A 7600 or 3/A 7700 (emergency), it shall check through appropriate instructions, transmitted on the appropriate (common or individual) frequency and where this is unsuccessful on the distress frequency, whether the pilot still has radio reception.

If verification is successful, the flight shall be guided to the destination aerodrome or a more appropriate aerodrome.

3.2. Prerequisites for ATS Provision to OAT

3.2.1 ATS Personnel

3.2.1.1 France shall not apply ESARR 5 for OAT.

3.4.2 Standard Military Formation

Aircraft shall fly in formation only in accordance with the conditions set out by the general staffs and directorates and on the basis of the following principles:

- a) the formation shall behave as a single aircraft as far as navigation and position reporting is concerned;
- b) safety within the formation shall be ensured by the formation leader;
- c) a maximum distance shall be maintained by each aircraft in the formation. The position of each aircraft shall be defined by the competent authority in line with the instructions issued by the general staffs and directorates.

3.4.5 Formation join-up

3.4.5.1 France does not apply MARSA. A similar procedure is being studied.

3.5. Flights in an Airspace Reservation (ARES)

3.5.1 ARES Internal Flight Separation

3.5.1.1 France does not apply MARSA but shall be in accordance with MARSA principles with the NATO phraseology.

Annex 4: Appendix DE - Country Chapter for GERMANY

DE Amendments to the EUROAT

ACAS/TCAS¹

The procedures to be applied for the provision of air traffic control to aircraft equipped with ACAS/TCAS shall be identical to those applicable to aircraft not equipped with ACAS/TCAS. In particular, the prevention of collisions, the establishment of appropriate separation and the information which might be provided in relation to conflicting traffic and to possible avoiding action shall conform with the normal air traffic services procedures and shall exclude consideration of aircraft capabilities dependent on ACAS/TCAS equipment.

Transition Altitude

The altitude at or below which the pilot shall set the altimeter to the QNH value that is transmitted by the competent ATC unit and above which he shall use the standard altimeter setting is established at 5000 ft MSL (transition altitude).

Supersonic Flights

All supersonic flights by foreign military aircraft not permanently stationed in Germany are prohibited within German airspace.

Flights during which sonic speed is reached or exceeded are permitted from MON to FRI between 0700++ and 1900++ only. These flights are prohibited between 1130++ and 1300++, unless imperative for operational reasons.

Supersonic flights shall be scheduled in the flight order. Over the territory of the Federal Republic of Germany, they shall only be performed with radar monitoring and must be coordinated in advance with the radar-monitoring unit.

The minimum flight levels for supersonic flights are

- FL 360 over land,
- FL 200 over sea, which are flights off the mainland coastline. Islands off German coast of the North Sea and Baltic Sea with permanent connections to the main land are regarded as land

Supersonic flights over land below FL 360 are prohibited. They shall be performed between FL 360 and FL 500 as level flights or climbs only. The flight path shall be planned such that sonic booms will avoid densely populated areas whenever possible.

Supersonic flights over sea below FL 200 are permitted only if the distance from the coastline is at least 10 NM and the heading is towards the sea or, or in case of heading parallel to the coastline or the offshore islands, a minimum of 35 NM is maintained.

Maximum Airspeeds

Flights over land

- below FL 360 to FL 100: Mach 0.95;
- below FL 100: Mach 0.9, but not more than 575 KIAS

Within the Federal Republic of Germany, an indicated airspeed of 250 KIAS shall not be exceeded below FL 100, unless the mission requires a higher speed.

This restriction does not apply to aircraft which must be flown at a higher speed due to their flying characteristics. These aircraft shall fly at the lowest possible airspeed for their respective flight configuration under the given flight conditions, unless the mission requires a higher speed.

Flights over sea: Mach 0.98 below FL 200

¹ German MilATS special directive 2-100 No. 428

IFR Flights

IFR flights require an ATC clearance. Unless the responsible ATC unit has given different instructions / permitted a deviation these flights shall be conducted

- on ATS routes along the centreline
- on other routes along the direct heading between the en-route fixes or reporting points indicated in the flight plan.

Formation Join-Up²

ATC clearance

Formation join-ups are to be effected in compliance with the following principles:

Separation between IFR flights must be maintained until the pilot reports having the aircraft he is joining up with in sight. Position information to the succeeding aircraft shall be given according to the criteria for issuing radar traffic information.

As the pilots' sight from the cockpit is limited, vertical join-ups should be performed from below.

Once visual contact has been established, the responsibility for the final phase of the join-up rests with the pilot joining up.

The individual aircraft shall not be handled like a formation before the formation leader has reported "FORMATION TIGHT".

Aircraft must not be joined up to standard formations exclusively by means of airborne radar and without visual contact.

Trail/radar trail procedures are not affected by the above provisions. 2

Formation Split³

ATC clearance

Formations shall be split at the request of the formation leader.

When turning or descending, formations must not be split without the prior consent of the formation leader.

Before initiating a formation split, the formation leader shall be asked to report ready for the split.

Following the split of a formation, separation between the individual aircraft shall be established as soon as possible.

Before splitting a formation, the position of the individual aircraft shall be ascertained.

The Lost Wingman procedure⁴ will be applied when the pilot has lost visual contact to his formation. The pilot will set Code 7700 and request an individual ATC clearance.

If this procedure is applied during a go-around, the leaving aircraft will climb to 500 feet above the published missed approach altitude.

Operation in ARES

ATC clearance is required commencing operation

ATC clearance is required before leaving ARES

MARSA call

Not applicable – no ATC standard

² German MilATS special directive 2-100 No. 446.3

³ German MilATS special directive 2-100 No. 446.2

⁴ German MilATS special directive 2-100 No. 677

Annex 4: Appendix GR - Country Chapter for GREECE

GR Amendments to the EUROAT

2.2 Flight Prerequisites

2.2.2 Flight Plan

2.2.2.2 Specific requirements and filing instructions for the completion of Flight Plans are laid down in the AIP and MAIP Greece

2.3 Flight Conduct

2.3.3 Altimeter Setting

2.3.4 There is no common transition altitude, therefore additional regulations for altimeter settings are laid down in AIP and MAIP Greece

2.3.4 Speed Limitations

2.3.4.3 In addition, supersonic flights outside designated supersonic flight areas can only be conducted by aircraft in level flight or in climb at FL 200 and above, after special permission by the appropriate ATC unit.

2.4 Formation Flights

2.4.4 Non-Standard Formation

2.4.4.5 A formation shall be declared as "Non Standard" in the RMKS column of the filed flight plan. Moreover, the call sign, and the length of the formation must also be declared, i.e.: Tiger Black – Non Standard Formation – Trail 8 NM

Only the lead and the trail-end aircraft shall squawk MODE 3A, C (the intermediate elements shall not), whilst the code must be different. Specific codes shall be assigned by the appropriate ATC unit.

2.7.5 Radio Communication Failure (NORDO) Procedure

2.7.5.1 ICAO Radio Communication Failure procedures are applied.

3.2 Prerequisites for ATS Provisions to OAT

3.2.1 ATS Personnel

3.2.1.1 Air Traffic Service is provided by civilian and military Air Traffic Control Officers (ATCO). Civilian ATCOs are qualified in compliance with ESARR 5. Military ATS personnel shall be trained and qualified to provide ATS to OAT-IFR flights in accordance with national regulations, however, compliance with ESARR 5 will not be demonstrated.

3.3 ATS Provision

3.3.1 Air Traffic Control

3.3.1.3 Air Traffic Control is provided:

- Above FL 195 in the whole of Athinai FIR/Hellas UIR
- Within ATS Routes
- In Terminal Control Areas and Control Zones
- In aerodrome traffic zones at controlled aerodromes

With the exemption of Military Control Areas and Military Aerodromes, Air Traffic Services in Greece are provided by the Hellenic Civil Aviation Authority.

3.4.3 Non-Standard Formation

A formation should be declared as “non-standard” in the RMKS column of the filed flight plan. Moreover, the call sign, and the length of the formation must also be declared, i.e.: Tiger Black – Non Standard Formation – Trail 8 NM

Only the lead and the trail-end aircraft shall squawk MODE 3A, C (the intermediate elements shall not), whilst the code must be different. Specific codes shall be assigned by the appropriate ATC unit.

Annex 4: Appendix HU - Country Chapter for HUNGARY

HU Amendments to the EUROAT

2.3.3 Altimeter Settings

See eAIP ENR 1.7 ALTIMETER SETTING PROCEDURES

The altimeter setting procedures in use generally conform to those contained in ICAO Doc 8168 OPS/611 Aircraft Operation Vol. I. Part 6 and are given in full below. Differences are shown *in italics*.

These procedures are applied to all IFR and VFR flights operating within Budapest FIR.

The atmospheric pressure is measured in accordance with ICAO Annex 3 Chapter 4, paragraph 4.11.

QNH and QFE values are computed in tenth of hecto-pascal. On pilots' request it may be given in millimetres and tenths.

In routine reports disseminated at the aerodrome QNH is included regularly while QFE is available on request from air traffic service units.

The values are rounded to the nearest lower whole hecto-Pascal. For example QNH 995,6 hPa is given as: "QNH 995".

In plain language reports (ATIS and VOLMET) broadcast) the unit of measurement (hPa) is omitted.

BASIC ALTIMETER SETTING PROCEDURES

General

System of flight levels

- a. Flight level zero is located at the atmospheric pressure level of 1013.2 hPa. Consecutive flight levels are separated by a pressure interval corresponding to at least 1000 feet (305 m) in the Standard Atmosphere.
- b. Flight levels are numbered according to the following table, which indicates the corresponding height in the Standard Atmosphere in feet and the approximate equivalent height in meters.

Flight Level Number	Height in the Standard Atmosphere	
	Feet	Meters
100	10000	3050
150	15000	4550
200	20000	6100
660	66000	20100

Transition altitude

The transition altitude specified for Budapest FIR is 9000 feet.

Transition level

The transition level will be determined by the appropriate ATC unit so as to give a transition layer of at least 1000 feet (305 m) vertical separation above the transition altitude.

For determination of current transition level the following table is used.

Transition altitude		QNH hPa	Transition level
Feet	Meters		
9000	2750	1013,3 and above	FL100
		1013,2 - 977,2	FL110
		977,1 and below	FL120

The transition level at Budapest Liszt Ferenc International Airport is transmitted normally in ATIS broadcast, or is involved in the clearances as appropriate.

Transition from flights to altitudes and vice versa

The vertical position of aircraft at or below the transition altitude shall be expressed in terms of altitude, whereas such position at or above the transition level shall be expressed in terms of flight levels. While passing through the transition layer, vertical position shall be expressed in terms of flight levels in climb and in terms of altitude when descending.

2.3.4 Speed Limitations

See MILAIP ENR 1.4-2 and 1.4-3

Supersonic flights allowed above FL360 (11000m). For QRA(I) Alpha Scramble supersonic flight is granted without any restriction.

Annex 4: Appendix IL - Country Chapter for ISRAEL

IL Amendments to the EUROAT

2.3.3 Altimeter Settings

AIP Israel, ENR 1.7, para. 2.1:

2.1.1 Transition altitude within Tel-Aviv FIR is 18,000 ft. Transition level is at FL200.

2.1.2 When flying over land below FL 350 Aircraft shall remain under regional QNH.

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IT Amendments to the EUROAT

IMPORTANT NOTICE: The following is a list of differences applicable to OAT-IFR flights in Italian FIRs. The implementation of EUROAT rules in Italy DOES NOT imply the automatic acceptance of OAT-IFR flights from other nations. OAT-IFR flights that intend to operate within the airspace under Italian sovereignty will take place only if specific agreements with the States involved are in force and under the conditions established, including the diplomatic clearance. At tactical level also an OAT mission authorization by Italian Military Operational Authority is required.

2.2.2 Flight plan

2.2.2.1 All OAT-IFR flights shall fill in an ICAO Flight Plan following the specific requirements specified in MilAIP Italy.

2.3.2 Communications

2.3.2.2 The air-ground radiotelephony communications shall be conducted in English language.

2.3.2.3 Communications shall be concise and unambiguous, using standard ICAO phraseology published in ICAO Annex 10 Volume II, ICAO Doc 4444 PANS-ATM with the specific differences for military operations published in MilAIP Italy.

2.3.3 Altimeter settings

2.3.3.4 Information about transition altitude/transition level applicable within Italian FIRs is published in AIP-Italia and in MilAIP Italy.

2.3.4 Speed Limitations

2.3.4.1 Speed limitations below FL 100 apply to military flights unless otherwise specified by national rules (due to operational or technical reasons) or in case of different instructions issued by ATC.

2.4.3 Standard Military Formation

2.4.3.1 In standard military formation the longitudinal or lateral distance between the ACFT in the formation and the ACFT of the formation leader shall not exceed ½ NM; the vertical distance shall not exceed 100 ft.

2.4.3.3 Formation flights between FL 280 and FL 410 consisting of RVSM approved ACFT shall be considered as a NON-RVSM equipped flight.

2.4.4 Non-standard Formation

2.4.4.1 Aircraft/elements of a formation flight that are outside the horizontal and/or vertical limits of 2.4.3.1 (as modified in IT amendments to EUROAT) are considered a nonstandard formation.

2.6.2 Intercepted Aircraft

2.6.2.2 In addition to signals published by ICAO (Appendix 1 to ICAO Annex 2), intercepting ACFT may direct the following signals to the intercepted aircraft.

Series	Intercepting aircraft signals	Meaning	Intercepted aircraft responds	Meaning
3 bis	DAY or NIGHT: release of one or more volleys of flares from such a position and distance as to constitute no hazard for the intercepted aircraft.	Last warning. Follow me. If you don't comply, your safety will not be assured.	DAY or NIGHT: use Series 1, 5 or 6 signals prescribed for intercepted aircraft.	(see Appendix 1 to ICAO Annex 2, Series 1, 5, 6 signals)

2.7.2 Take-Off/landing Emergency

2.7.2.1 When requesting the use of an arresting gear with ATC, the pilot-in-command shall use the standard phraseology associated to the type of arresting gear (cable or barrier), and the position of the arresting system (approach or departure) as published in MilAIP Italy.

3.4.2 Standard Military Formation

3.4.2.1 In standard military formation the longitudinal or lateral distance between the formation leader and the other ACFT shall not exceed $\frac{1}{2}$ NM; the vertical distance shall not exceed 100 ft.

3.4.3 Non-standard Formation

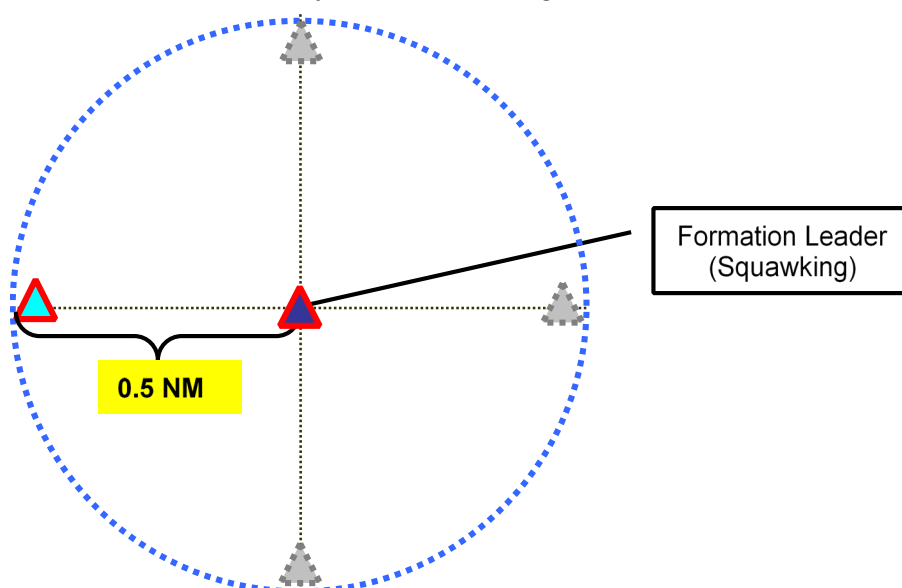
3.4.3.1 If either horizontal or vertical (or both) limits exceed 3.4.2.1, military formation is to be considered a “non-standard formation”. In this case, ATCO may issue single transponder codes/settings to each ACFT and all ACFT have to squawk accordingly.

3.4.7 Lost-Wingman (Lost Lead) Procedures

3.4.7.1 The Lost Wingman procedure will be applied when the pilot has lost visual contact to his formation. The pilot will set specific code assigned by the appropriate ATS unit.

Annex 2 Definitions and explanations

Standard Military Formation is an ACFT formation where each wingman flies within 0.5 NM horizontally and within 100 ft vertically from the leading ACFT.



A Standard Military Formation, usually consisting of 2 to 4 aircraft, shall remain within a cylinder-shaped airspace of max 0.5 NM radius and max 200 ft height, defined by the squawking aircraft (formation leader), representing the center of the cylinder.

In regard to ATC separation, a standard military formation shall be considered as a single aircraft and the applicable separation minima need not to be increased except when flying in RVSM airspace where vertical separation minimum from the formation flight and other aircraft shall be 2000 ft.

In the context of **MARSA** “OAT flight” has to be considered not only in case of “Formation Flight” but also in a joint OAT flight activity.

Radar Trail Formation means a formation flight in which two or more aircraft are spaced longitudinally at a variable distance in time between 30 seconds and 1 minute equal to a distance of 3-7 NM and where the following ACFT maintain own radar separation from the front ACFT.

This type of formation shall be indicated in item 18 of flight plan [e.g. **RMK/RADAR TRAIL FORMATION FROM ...(place)... TO ...(place)..**].

When establishing radio contact with an ATS unit, the flight leader is responsible to notify type of formation, number of aircraft involved and distance in time or NM, among the ACFT.

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Annex 4: Appendix MK - Country Chapter for NORTH MACEDONIA

MK Amendments to the EUROAT

- 2.3.3.3. Information about transition altitude/transition level applicable within Skopje FIR is published in AIP-North Macedonia.
- 2.3.4.2. Supersonic Flights can only be conducted above FL330, if permitted by the appropriate national authority upon prior individual request and in accordance with respective national regulations.
- 2.4.2. Safety Distance between two or more Formation Flights
Not Applicable
- 2.7.2. Take-Off/Landing Emergency
Not Applicable
- 2.7.5. Radio Communication Failure (NORDO) Procedure
- 2.7.5.1 ICAO Radio Communication Failure procedures are applied.

Annex 4: Appendix NL - Country Chapter for THE NETHERLANDS

NL Amendments to the EUROAT

2.3.3. Altimeter Settings

- 2.3.3.3 The transition altitude is 3000 ft for IFR flights and 3500 ft for VFR flights in the entire Amsterdam FIR*)

The transition level for the entire Amsterdam FIR is positioned at or above 4000 ft AMSL and is determined hourly.

NOTE: *) Including the North Sea area V up to and including FL 055.

2.3.4. Speed Limitations

- 2.3.4.1. Below 3000 ft AGL or in controlled airspace flights shall be carried out with an IAS less than 350 KT unless the flight characteristics of the ACFT type concerned or the type of mission to be executed, require higher speeds in which case a maximum IAS of 450 KT shall not be exceeded.

- 2.3.4.2 Flights exceeding the speed of sound may only take place under radar control of a C&R station or MilATCC Schiphol under the following conditions:

Above sea: More than 35 NM from the coast (= main land and Wadden-Islands);
When less than 35 NM from the coast: altitude above 35000 ft, on a sea-bound course. Above land: North of the CTA East and CTA West under the following conditions:

- a. MON/FRI 0700/1900 (0600/1800);
- b. altitude more than 35000 ft;
- c. in horizontal or climbing flight;
- d. on a northbound course.

2.3.7. Use of afterburner

- 2.3.7.1. Except for take-off and climb afterburner is not to be used below 10.000ft AGL

2.4.2. Safety Distance between two or more Formation Flights

- 2.4.2.2 NL does not apply "MARSA". Formation leader shall report when formation is joined up.

2.4.3. Standard Military Formation

Formation flights between FL 280 and FL 410 consisting of RVSM approved ACFT shall be considered as a NON RVSM equipped flight.

2.4.6. Formation Join-Up

- 2.4.6.2 NL does not apply "MARSA". Formation leader shall report when formation is joined up.

2.5.2. ARES Internal Flight Separation

2.5.2.1 NL does not apply “MARSA”.

2.7.5. Radio Communication Failure (NORDO) Procedure

2.7.5.1. If as a result of malfunctioning of the radio communication it is not possible to meet the requirement listed in Mil AIP ENR 1.3.2.4, the following action must be taken:

a. in case of a flight under VMC:

- i the flight must be continued in accordance with the flightplan filed;
- ii the flight must be continued, concluded with a landing on an AD that the pilot-in-command deems the most suitable.

b. in the case of a flight under IMC, or if the weather conditions are such that it is impracticable to conclude the flight in accordance with the instructions listed in sub

- i SSR-code 3/A, Code 7600 must be selected;
- ii the last assigned and confirmed cruise level(s) must be maintained for those legs of the flight that have been given clearance for and thereafter the cruise levels as filed in the flightplan;
- iii the flight must be continued to ensure that landing will take place as close as possible to the estimated time of arrival;
- iv the descent at the expected time of approach, as last received and confirmed, is initiated with the smallest possible deviation from the indicated time of approach. If no expected time of approach has been received and confirmed, the descent must be initiated at the estimated time of arrival or with the smallest deviation possible, filed in the flightplan;
- v if diversion is necessary, or the navigation route is to be discontinued prematurely, the flight must be continued as directly as possible to the (new) port of destination, a VFR altitude must be selected according the ICAO cruising level system. At the destination an instrument approach procedure must be carried out;
- vi if an diversion is necessary following the approach towards the original destination, and the pilot chooses an altitude above FL 195, the Standard Instrument Departure procedure must be followed for climbing to the nearest VFR flight level above FL 200, according the ICAO cruising level system to the alternate AD.1

3.4.5.1. Formation Join-Up

3.4.5.1. NL does not apply “MARSA”. Formation leader shall report when the formation is joined up.

3.5.1. ARES Internal Flight Separation

3.5.1.1. NL does not apply “MARSA”.

Annex 4: Appendix NO - Country Chapter for NORWAY

NO Amendments to the EUROAT

2.2.2 Flight Plan

2.2.2.3 Specific regulations for FPL are laid down in the Norwegian AIP, ENR 1.10 Flight Planning.

2.2.2.4 Restrictions for foreign military aircraft

Except for flights that are diplomatically cleared to cross the border with neighboring countries, the following restrictions apply:

- a. It is created a security zone near the border with Russia. The border of this security zone is at 28 degrees E. Foreign military registered fighter aircraft are not allowed to operate east of the security zone border.
- b. Flights east of 24 degrees east will be coordinated by the National Air Operations Centre (NAOC), in accordance with the "Guidelines for military activity in Norway", published by the Ministry of Defense, dated March 23, 2009.
- c. East of 24 degrees E, foreign fighter aircraft will be operated under "flight following".
- d. Foreign military aircraft can fly up to 10 NM from the border of Sweden and Finland, unless the aircraft originates from the respective countries. Swedish and Finnish aircraft can operate freely in relation to its own border, as long as the normal rules for training-areas are followed. For flights along an approved low flying structure/ route, foreign military aircraft can fly up to 5 NM from the border. The restriction 10 NM from the border does not apply for arrival and departure in accordance with a published procedure, under radar guidance or exercises within approved shooting ranges.
- e. Foreign military registered transport and passenger aircraft is allowed to fly to destinations throughout Finnmark. Such flights will be approved by the NAOC, which thereafter shall inform the Staff of Defense that the flights take place.

2.3.1 Use of Airborne Collision Avoidance Systems (ACAS) within ENOR FIR/ UIR

2.3.1.4 In accordance with COMMISSION REGULATION (EU) No 1332/2011, article 3 (2), ACAS is not mandatory for military services, but should have due regard to the objectives of the civilian regulation (referred to in Article 1(2) of Regulation (EC) No 216/2008). The Aircraft commander will decide, based upon mission requirements, whether or not ACAS/ TCAS should be used outside segregated training areas, if so equipped.

2.3.3 Altimeter Settings

2.3.3.3 Present Transition Altitude (TA) in Norway varies from 5,000ft to 7,000ft, and 3,000ft over the high seas. The Transition Level (TL) is determined including a buffer of minimum 1000 ft (depending on QNH) to the TA. Therefore, aircraft may be flying at both transition level and transition altitude, and still be vertically separated by at least 1000 ft. In those areas, the transition layer will be a given vertical distance between 1000 ft and 1500 ft, depending on QNH. TA will be depicted on the approach plate and enroute charts.

2.3.4 Speed Limitations

2.3.4.3 Minimum height for supersonic flight over land is flight level (FL) 300. With aircraft speed of Mach 1 or higher, actions should be taken to minimize the supersonic effect over areas of dense settlements. Minimum height for supersonic flight over open seas is FL 150 provided that:

- a) The airplane is more than 10 nm from land and has course away from land, or

b) The airplane is more than 30 nautical miles from land.
If not in compliance with the above conditions, the minimum height for supersonic flight over land applies.

2.4.4 Non-standard Formation

2.4.4.3 Non-standard formation can be coordinated in flight, and does not have to be pre-coordinated prior to departure.

2.4.4.5.1 Radar Assisted Trail PROCEDURES (RAT)

- a) RAT departure in IMC shall consist of no more than four elements.
- b) RAT approach in IMC shall consist of no more than two elements.
- c) An element consists of one aircraft or two aircraft flying in close formation.
- d) For departures in VMC, aircraft will start take-off roll with 15 seconds spacing.
- e) For departures in IMC, the aircraft will start take-off roll with 20 seconds spacing.

Radar assisted trail procedures are covered in national regulations for military flights, which does not necessitate local procedures. Departure is commenced using a time/distance interval between individual elements or individual aircraft comprising the formation flight.

Aircrew shall attempt radar lock-on only after the aircraft is safely away from ground and with positive rate of climb. Aircrew will verify correct radar lock-on visually or through L-16, IDM or AIFF.

The trail element(s) is/are responsible for maintaining the required minimum distances. Distance between elements will be 2-6 nm if the elements consist of one aircraft, both during departures and recoveries. The trail element(s) will strive to be in 2-3 nm trail. Distance between elements will be 5-6 nm during approach if the lead or trail element consists of two aircraft.

All heading changes will be accomplished through lag turns. Lead element will give the trail element an informative radio call on the intra-flight frequency when speed is reduced. However, it is the trail element's responsibility to monitor the speed and anticipate speed changes. No aircraft/elements will ascend or descend to the next altitude/level until reaching the same point of which the front aircraft/element got the clearance to do so, or in accordance with the Standard Instrument Departure (SID), or Standard Instrument Arrival (STAR). Separation between aircraft is determined by using the on-board radar/sensors and the formation should be treated by ATC as one single entity.

If unable to acquire initial radar lock-on, or if radar lock-on is subsequently lost, the minimum vertical separation between elements is 1000'. A directive radio call will be made to the preceding element and de-confliction procedures will be in effect. The front element will as a minimum report every 5000' during climb/descent, the heading the aircraft is passing and any airspeed changes. The trail element will stay minimum 1000' away from the last received altitude and adhere to headings or applicable SID procedure.
(Note: *Communication is inter-pilot between aircraft, not ATC*).

If radar lock-on is lost during straight and level flight, lead element will initially stack 300' high and trail element stack 300' low. If radar lock-on is not immediately reacquired, lead element will coordinate for 1000' altitude block clearance and separate vectors. For RAT, the formation will operate Mode 3/A and Mode C as directed by ATC until rejoined into standard formation, at which point the joining aircraft/element is to squawk standby when join-up is complete. If the intention is to rejoin into other than standard formation, the

formation leader will so request. In the event of a non-standard formation departure/recovery other than here described, refer to 2.4.5 in Chapter 2.

During IMC, horizontal separation may be reduced to less than 2 nm when intending to join up. The joining element will stack low (minimum 500') and the horizontal distance will be no less than 1000'. If not visual at 1000', the IMC join up will be aborted. Elements will only join up in IMC one element at a time. If several elements intend to join up (i.e. AAR), the remaining elements will maintain a minimum of 1 nm distance until the preceding element has joined up.

2.4.6 Formation Join-Up

2.4.6.2 Stating MARSA does not imply the intention for or a completion of a formation join-up. Military aircraft may request MARSA via flight plans for air refueling, formation flying, and training, or may request it by voice from the controller for those situations and for intercept/escort activities when applicable. Military aircraft must declare (self-initiated) or accept (controller-prompted) MARSA with other aircraft before engaging in formation, refueling, escort, or Special Use Airspace operations. ATC must ensure standard separation until pilots declare/accept MARSA. Once military aircraft has established required separation, ATC shall advise that MARSA is terminated and provide a diverging vector/altitude. Radar trail procedures are not affected by the above provisions.

2.5 Flight in an Airspace Reservation (ARES)

For ARES in Norway refer to the "Procedure on Use of AMC Manageable Areas", available on internet at: www.luftfartilsynet.no/aktorer/flysikring/avtale-om-fleksibel-bruk-av-luftrommet

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Annex 4: Appendix PL – Country Chapter for POLAND

PL Amendments to EUROAT

I. Explanation of abbreviations

Whenever in this attachment there is reference to:

- 1) Commission Regulation (EU) No 1332/2011 – this shall mean Commission Regulation (EU) No 1332/2011 of 16 December 2011 laying down common airspace usage requirements and operating procedures for airborne collision avoidance (OJ L 336, 20.12.2011, p. 20, as amended¹);
- 2) Commission Implementing Regulation (EU) No 923/2012 – this shall mean Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.10.2012, p. 1, as amended²).

II. Country chapter³

2.1. Applicability of ICAO Rules of the Air

- 2.1.4. At FIR EPWW, a foreign military aircraft may perform a flight as GAT, OAT or mixed GAT/OAT. A flight in a standard formation should be performed as OAT if it is assumed that there may be circumstances violating ICAO rules (e.g. separation of formation, including emergency separation and in the clouds). A flight in a non-standard formation shall be performed as OAT.

2.2.2. Flight plan

- 2.2.2.2.1. At FIR EPWW, while filing a flight plan for OAT flights, the "OAT" designator should be used. The "OAT" designator should be placed at the beginning of the recorded route/flight leg planned as OAT, and field 18 of flight plan should be marked with "RMK/OAT OVER POLAND".

Note: It is required that aircraft planning their flight as a mixed GAT/OAT plan those flight legs where they intend to perform OAT maneuvers (e.g. creation of formation, separation of formation, air refueling) as an OAT flight. The submission of a flight plan for OAT flights shall be in accordance with the requirements set out in Commission Implementing Regulation (EU) No 923/2012. Detailed information in this regard shall be published in MIL AIP Polska ENR 1.10.

- 2.2.2.2.2. At FIR EPWW, tactical call signs may be used by aircrews based in Poland. The use of tactical call signs by aircrews of foreign aircraft shall require the approval of the Head of the Air Traffic Service of the Armed Forces of the Republic of Poland.

¹ The amendment to the said regulation was promulgated in EU OJ L 101, 16.04.2016, p. 7.

² Amendments to the said regulation were promulgated in UE OJ L 63, 06.03.2015, p. 1, OJ L 196, 21.07.2016, p. 3 and OJ L 124, 17.05.2017, p. 35.

³ The numbering used in the country chapter refers to the numbering adopted in the EUROCONTROL Specifications for harmonised Rules for Operational Air Traffic (OAT) under Instrument Flight Rules (IFR) inside controlled Airspace of the ECAC Area (EUROAT).

2.2.2.2.3. During military aviation training, tactical call signs may be used by foreign military aircraft flying into FIR EPWW, if coordinated by the organiser of the training. If an international call sign is used, the tactical call sign assigned to the training should be placed in field 18 of the flight plan.

2.2.2.2.4. The list of OAT coordination points (PKO), specific geographical coordinates used by the appropriate ATC unit, to which the coordination procedures refer, shall be published in MIL AIP Polska ENR 2.3 and ENR 2.3.0-1.

2.3. Flight Conduct

2.3.1. Airborne and Traffic Collision Avoidance System (ACAS/TCAS)

2.3.1.4.1. ACAS system, with which the aircraft is equipped, shall meet the requirements set out in Commission Regulation (EU) No 1332/2011. These requirements shall be published in AIP Polska GEN 1.5.

2.3.3. Altimeter Settings

2.3.3.4. At FIR EPWW, the transition altitude shall be 6500 ft QNH, and the transition level, depending on the atmospheric pressure distribution, shall be FL 80 or FL 90. The altimeter setting procedures shall be published in AIP Polska ENR 1.7.

2.3.4. Speed Limitations

2.3.4.3. Below FL 100 flying at speeds in excess of 250 KIAS shall be permitted:

- i. in unclassified elements of airspace structure assigned for military aviation purposes;
- ii. in controlled airspace with regard to aircraft types that cannot maintain this speed for technical or safety reasons after receiving clearance from the appropriate ATC unit;
- iii. in ALFA SCRAMBLE flights;
- iv. on the basis of an exemption granted by the President of the Civil Aviation Authority in accordance with the provisions of Commission Implementing Regulation (EU) No 923/2012.

2.3.4.4. In the Polish airspace, it is forbidden to exceed the speed of sound and conduct flights at supersonic speed:

- i. at and below FL 340;
- ii. between 22.00 and 06.00 LMT.

The ban shall not apply to flights conducted under ALFA SCRAMBLE rules.

2.3.5. OAT special flights at FIR EPWW

2.3.5.1. AWACS missions

AWACS missions shall be carried out under the control of ACC Warsaw (OAT) in the AWACS flight areas. AWACS missions should be planned as OAT on the flight route or in field 18 of flight plan with RMK/OAT OVER POLAND.

2.3.5.2. Procedure for dynamic altitude change

An air traffic control clearance shall be required for each climb with dynamic altitude gain (ZOOM CLIMB) performed in a controlled airspace.

An air traffic control clearance shall be required for each descent with dynamic altitude change (COMBAT DESCENT) performed in a controlled airspace.

2.3.5.3. Air refueling procedure

At FIR EPWW, air refueling shall take place in designated refueling areas. The airspace in the refueling areas shall remain unclassified.

Active refueling areas may not be used by other non-refueling users and for other purposes.

The use of refueling areas shall have priority over the use of other flexible airspace structures colliding with the refueling area, unless otherwise specified by the Head of the Air Traffic Service of the Armed Forces of the Republic of Poland.

The arrival at the refueling area shall be performed on the basis of filed flight plan as OAT and with communication established with ACC Warsaw (OAT).

2.4.1. General Rule for Formation Flights

2.4.1.4. Formation flights in RVSM airspace shall be treated as non RVSM.

2.4.4. Non-standard Formation

2.4.4.5.1. A non-standard formation shall be allowed, with aircraft flying in one line at the same altitude in level flight, maintaining distance between the formation leader and the last aircraft of not more than 10 NM.

The last aircraft in formation shall have transponder code 2000 activated, unless ATC specifies otherwise.

The formation leader shall provide the ATC with distances between individual aircraft.

NOTE: While descending or climbing aeroplanes may be at different altitudes in one line.

Formation flights shall be carried out in accordance with the requirements set out in SERA.3135 letter a to d of Commission Implementing Regulation (EU) No 923/2012. Detailed procedures on the conduct of standard and non-standard formation flights shall be published in MIL AIP Polska ENR 1.15 point 3.

2.4.6. Formation Join-Up

2.4.6.3. A formation join-up shall be carried out under radar control of the appropriate ATC unit.

A formation join-up shall be initiated by a pilot or, for training purposes, by a radar controller from the appropriate ATC unit upon consent of the pilot and formation leader.

The appropriate ATC unit may prohibit a formation join-up for air traffic safety reasons.

2.4.7. Formation Break-Up (Split)

2.4.7.7. A formation break-up shall be carried out under radar control of the appropriate ATC unit.

A formation break-up shall be initiated by the formation leader or, for training purposes, by a radar controller from the appropriate ATC unit upon consent of the formation leader.

After formation break-up, each aircraft must:

- i. be identified;
- ii. have its own flight plan (e.g. AFIL);
- iii. receive individual clearance from the appropriate ATC unit for further flight.

2.4.8. Formation Radio Failure

2.4.8.1.1. In the event of formation radio failure within assigned airspace element (TSA, TRA), the pilot shall:

- i. set transponder code 7600;
- ii. perform a flight to PKO;
- ii. perform circuit holding over PKO;
- iv. depart from PKO after a minimum of 7 minutes, counting from the time the 7600 transponder code is activated, if the remaining fuel allows;
- v. leave the area performing a flight in accordance with the filed flight plan.

Additional procedure in the case of operation only by means of a radio carrier wave.

Pressing the radio broadcast button means:

- i. 1 press = yes;
- ii. 2 presses = no;
- iii. 3 presses = say again;
- iv. (...) Morse code letter H = for homing /RTB/;
- v. a long press shall indicate the end or interruption of an earlier procedure or instruction;
- vi. (_ . _) Morse code letter X – shall indicate additional failure/danger.

2.4.9. Lost-Wingman (Lost-Lead) Procedure

2.4.9.1.1. In any lost-wingman situation, aircrews shall maneuver in accordance with the following procedure.

Lost-wingman procedure for 4 aircraft (A, B, C, D):

- i. A – shall continue straight and level flight;
- ii. B – shall turn right with a 20° bank for 20 seconds and shall resume heading;
- iii. C – shall turn left with a 20° bank for 20 seconds and shall resume heading;
- iv. D – shall turn left with a 30° bank for 30 seconds and shall resume heading.

In such a situation, the formation leader shall immediately set the transponder code 7700 and shall inform the appropriate ATC unit about the intentions of the formation.

After occurring the lost-wingman situation, the appropriate ATC unit shall assign individual transponder codes to individual aircraft and issue clearances to continue the flight individually maintaining ATC separations.

At the request of the formation leader, the appropriate ATC unit may issue a clearance to continue flight in a non-standard formation.

2.5.1. Flights in ARES

- 2.5.1.2. Before departure from an active ARES airspace, being part of the published airspace structure, into the controlled airspace an ATC clearance shall be required.

2.5.4. Minimum distances from the boundaries of airspace structure elements

- 2.5.4.1. The table of minimum distances from the boundaries of airspace structure elements shall be published in AIP Poland ENR 2.2.2.

2.7.4. Unplanned Diversion with Armament

- 2.7.4.5. During diversion with jammed (blocked) armament, the phrase "RED SPOT RECOVERY" should be used when contacting the ATC unit. If necessary, transponder code 7700 should be activated.

2.7.5. Radio Communication Failure (NORDO) Procedure

- 2.7.5.1.1. In the event of radio communication failure within assigned airspace element (TSA, TRA), the pilot shall:
 - i. set transponder code 7600;
 - ii. perform a flight to PKO;
 - iv. perform circuit holding over PKO;
 - iv. depart from PKO after a minimum of 7 minutes, counting from the time the 7600 transponder code is activated, if the remaining fuel allows;
 - v. leave the area performing a flight in accordance with the filed flight plan.

Additional procedure in the case of operation only by means of a radio carrier wave.

Pressing the radio broadcast button means:

- i. 1 press = yes;
- ii. 2 presses = no;
- iii. 3 presses = say again;
- iv. (...) Morse code letter H = for homing /RTB/;
- v. a long press shall indicate the end or interruption of an earlier procedure or instruction;
- vi. (_ . _) Morse code letter X – shall indicate additional failure/danger.

3.3. ATS Provision

- 3.3.1.3. Air traffic services for OAT traffic within FIR EPWW controlled area shall be provided by the appropriate ATC units in specific airspaces, which shall be published in AIP Polska.

3.4.2. Standard Formation

- 3.4.2.4.1. Formation flights in RVSM airspace shall be treated as non RVSM.

Annex 4: Appendix PT - Country Chapter for PORTUGAL

PT Amendments to the EUROAT

2.4.9 Lost-Wingman (Lost-Lead) Procedures

2.4.9.3 In order to immediately alert ATC and minimise the potential for incidents, the following shall be executed in addition to the appropriate lost-wingman procedure:

- i. Formation leader shall endeavour to set the transponder to Mode 3/A code 7700 and notify the appropriate ATC unit as soon as possible;
- ii. Each pilot-in-command executing a Lost-Wingman Procedure squawks as directed by the appropriate ATC unit as soon as practicable.

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Annex 4: Appendix RO - Country Chapter for ROMANIA

RO Amendments to the EUROAT

2.3.4 Speed limitations

2.3.4.1 In TMA, below FL 100, and in CTR, the maximum speed for OAT flights is 350 KIAS (650 km/h), except for Air Policing mission flights, OAT flights in reserved airspace and the designated flights coordinated at pre-tactical and tactical level.

2.3.4.2 In Bucharest FIR, supersonic flights are prohibited below 10 000 m STD, except Romanian or Allied Member States military flights conducted for fulfilling combat missions.

2.4.1 General Rule for Formation Flights

2.4.3 Formation flights between FL 280 and FL 410 consisting of RVSM approved aircraft shall be considered as a NON RVSM equipped flight.

2.4.4 **Non-standard Formation**

2.4.4.5 Airspace volume which includes non/standard formation is considered by ATCO as a mobile Segregated Temporary Area (TSA).

2.4.5 **Non-standard Formation Departure**

2.4.5.1 Each aircraft from non-standard formation is controlled by ATCO as an individual flight during take off and landing.

2.4.6 **Formation Join Up**

Additional:

Before departure and on route, by 5 minute before joining up, the formation leader will report to the ATC unit the following information:

- each joining up aircraft call sign;
- joining up position or time;
- joining up procedure.

2.4.8 **Formation Radio Failure**

2.4.8.1

a) When two way air-to-air radio communication failure experiences between an aircraft the rest of formation, the next steps are followed:

- the pilot of the aircraft experiencing two way air-to-air radio communication failure transmits to the other pilots, the specific visual signals for this situation;
- the pilot of the aircraft experiencing two way air-to-air communication failure, checks the two way air-to-ground radio communication;
- if the two way air-to-ground radio communication works, the pilot of the aircraft experiencing air-to-air radio communication failure report the experienced situation to the air traffic control unit;
- if the formation leader experiences air-to-air communication failure, another pilot from the formation flight takes over the formation command;
- the formation leader reports to the air traffic control unit the experienced situation and the decision regarding continuing the mission or landing on the suitable airfield;
- the pilot of the aircraft experiencing air-to-air radio communication failure, maintains the formation position in the visual limit.

- b) When an air-to-air radio communication failure experiences between all aircraft of the formation flight, the next steps are followed:
- the formation leader attempts to contact air traffic control unit to check two-way air-ground radio communication;
 - if the two way air-ground communication is established, the formation leader reports to the air traffic control unit the experienced situation and the the decision regarding continuing the mission;
 - if two way air ground radio communication is not established, the formation flight will follow the basic ICAO radio failure procedures;
 - if the break-up of formation flight is necessary, the formation leader squawks Mode C, code A 7600, immediately after the formation break-up initiation and follows the basic two way radio communication failure.

Annex 4: Appendix SE - Country Chapter for SWEDEN

SE Amendments to the EUROAT

2.3.3 Altimeter Settings

2.3.3.1 The transition altitude in Sweden FIR in uncontrolled airspace is decided to the highest of 5000 ft above MSL or 3000 ft above GND. Within TMA the transition altitude is generally 5000 ft but three airports have higher transition altitude due to obstacles/ high terrain (6000 ft/ 9000 ft).

2.3.3.2 The transition level is the lowest available flight level above transition altitude.

2.3.4 Speed Limitations

2.3.4.1 Inside TMA appointed IAS, for VFR and IFR, is decided to 300 KIAS, however on ATS initiative or on PIC request and if the traffic situation allows other IAS can be cleared by ATC.

The minimum flight levels for supersonic flights are FL 300 over land and FL 150 over sea.

2.4.2 Safety Distance between two or more Formation Flights

Sweden does not apply MARSA.

2.4.3 Standard Military Formation

Sweden does not apply Standard Military Formation

2.4.4 Non-standard Formation

2.4.4.2 Each aircraft in formation receives squawk from ATC. When flying within 300 meters horizontally from lead aircraft pilot sets his squawk in standby position and only lead aircraft has squawk on. When outside 300 meters from lead aircraft, pilot shall set his/her squawk in "ON" position with code earlier received by ATC.

2.4.6 Formation Join-Up

2.4.6.2 Sweden does not apply MARSA.

Each aircraft shall accept join-up and joining aircraft is allowed to join after having stated visual contact and thereby confirmed his assumption of responsibility for maintaining sufficient safety distance.

2.5.2 ARES Internal Flight Separation

Within any activated Airspace Reservation (ARES), sufficient safety distance between all participating aircraft shall be the responsibility of either a Controlling Military Unit (ACU), or the mission/formation leader and the individual pilot-in-command. In the second case, Swedish ATC units shall not apply MARSA, but shall be in accordance with MARSA principles.

2.7.5 Radio communication failure procedure in OAT

If interruption of the radio connection occurs with a military aircraft performed according to FPL / OAT, the continued provision of air traffic services is based on the assumption that the pilot continues the flight in accordance with the current flight plan.

If the pilot-in-command for some reason do not find this procedure applicable, he/she shall:

When the two-way radio communication in operational air traffic (OAT) is broken the pilot shall set transponder code 7600 and, if possible, continue the flight in visual meteorological conditions and land at the nearest suitable aerodrome

ATS will ascertain the degree of radio failure by advising the pilot to operate IDENT (SPI) feature or to change code. When it is determined that the ACFT receiver is functioning, the acknowledgement of receipt of ATC instructions will be continued using IDENT (SPI) feature or code change. In the case of a complete radio-communications failure the pilot shall follow established procedures as below:

If an aircraft needs assistance, attention shall be established in one of following ways:

When visual contact is established with another aircraft shall:

- The pilot flies on a parallel heading besides the other aircraft
- During daytime with wing tipping and during night repeated regular flashes with the navigation lights be made.
- A pilot observing the distress signals shall acknowledge with the same signals and guide the aircraft to landing at a suitable aerodrome.

When failing to establish visual contact with another aircraft shall:

- The pilot searches for appropriate area and altitude where the aircraft most possible can be detectable by radar. Appropriate area considering radar coverage and other traffic is in airspace class G just outside a TMA or CTR.
- The pilot flies at fuel economy speed in a holding for approx. 3 minutes considering fuel situation and other conditions.
- The holding shall be performed in left turns if both transmitter and receiver is out of order or in right turn if only the transmitter is out of order.
- The pilot then continues the flight according to the flight plan or clearance to the applicable navigation aid at the destination airport and performs an instrument approach procedure for that navigation aid.

2.4.9 Lost-Wingman (Lost-Lead) Procedures

2.4.9.3 Recommendation:

The formation leader shall inform ATC and the formation wingman shall switch on the transponder. In Sweden a lost wingman situation is not by default considered to be an emergency, but if a member of the formation considers it to be so he/she should squawk EMERGENCY.

3.4.2 Standard Military Formation

Sweden does not apply Standard Military Formation

3.4.3 Non-standard Formation

Each aircraft in formation receives squawk from ATC. When flying within 300 meters vertically from lead aircraft pilot sets his squawk in standby position and only lead aircraft has squawk on. When outside 300 meters from lead aircraft pilot shall set his squawk in "ON" position with code earlier received by ATC.

3.4.5 Formation Join-Up

Sweden does not apply MARSA

When an ATCO controls a formation join-up, he/she shall provide the appropriate separation until the joining aircraft has confirmed his readiness to assume responsibility for maintaining safety distance between his aircraft, the aircraft comprising the formation and the joining aircraft by stating "Visual contact". Each aircraft shall accept join-up on radio.

Annex 4: Appendix ES - Country Chapter for SPAIN

ES Amendments to the EUROAT

1. General information

Spanish operational flights, conducted under VFR (OVFR), IFR (OIFR) or Air Defence Rules (ADFR), are regulated by the *Reglamento de la Circulación Aérea Operativa (RCAO)*, published under a Royal Decree. EUROAT has been included in this regulation, except amendments showed in this National Annex. Spanish AIP also includes OAT information and ARES activation, activity and limits.

Military Air Traffic Control Centres (ECAOs) are collocated with civilian ACCs (see Annex 5).

Most ARES are managed by Air Defence System for daily training of fighter Units. Refer to Spanish AIP for ARES activation and use. Air Defence Centres call signs are “PEGASO”, “POLAR” and “PAPAYO”.

2. General deviations from EUROAT

The general deviations from EUROAT are:

- When ATC is written in EUROAT, Spanish Regulation refers to “ATS or Tactical Control”.
- ARES is non classified airspace, only advisory services are provided. Within this airspace, it is always a pilot responsibility to maintain aircraft separation (same formation, OAT or GAT).
- In line with the above bullet, MARSA always applies inside ARES.
- For abbreviations and definitions, Spain refers to NATO AAP- 15 (NATO GLOSSARY OF ABBREVIATIONS USED IN NATO DOCUMENTS AND PUBLICATIONS) and AAP- 6 (NATO GLOSSARY OF TERMS AND DEFINITIONS). EUROAT Annex 2 “Definitions and Explanations” is only applicable for those not included in NATO Publications.

3. Deviation and national procedure

2.3.1.1. Does not apply.

2.3.2.1. In addition to the 2-way radio communication, a continuous listening watch on the appropriate emergency frequencies (UHF and/or VHF) shall be maintained.

2.3.3.3. Transition altitude in Spanish aerodromes is established at 6000 ft, except (reference: AIP ENR 1.7.1):

- Granada, that is 7000ft.
- Madrid/Barajas, Madrid/Getafe, Madrid/Cuatro Vientos and Madrid/Torrejón that is 13.000ft.

2.3.4.1. Add to 2.3.4.1.:

- vi. Previous coordination with ATS (civil or military).

2.4.4.5. Additional information regarding Formations:

	Information to provide to ATS/Tactical Control:
IMPLIES TO HAVE IN SIGHT THE REST OF THE AIRCRAFT	CLOSE - STANDARD FORMATION (1) SPREAD - STANDARD/NON STANDARD FORMATION (2) OPEN - STANDARD/NON STANDARD FORMATION (3)
IMPLIES TO HAVE RADAR CONTACT WITH PRECEDING AIRCRAFT	RADAR TRAIL - NON-STANDARD FORMATION (4)

(1) **CLOSE STANDARD FORMATION:** Always a standard formation. Aircraft are very close together. The separation between them depends on the type of aircraft, usually a fuselage / a span / half a rotor, flying in different horizontal planes and vertically spaced with wingtip clearance

(2) **SPREAD STANDARD FORMATION OR SPREAD NON STANDARD FORMATION:** Depending on the mission could be standard or non standard. Normally occupies a single level flight, but could occupy several levels depending on the type of training and the number of aircraft.

(3) **OPEN STANDARD OR OPEN NON STANDARD:** Depending on the mission could be standard or non standard formation. Mainly used during long flights to reduce workload. The normal separation of each element with respect to the leading pilot is 1 NM lateral or longitudinal and 100 ft vertically.

(4) **RADAR TRAIL NON STANDARD FORMATION:** It is always a non standard formation. Separation between aircraft is determined by using the on-board radar. All aircraft are at the same flight level except during climb or descent. Separation varies according to the type of aircraft radar. It can reach a maximum range of 7 NM (12 km) to the leading aircraft.

2.4.5.3. Does not apply.

2.4.9.3. Recommendation is mandatory and states:

In order to immediately alert ATC and allow to safely resolving resulting potential conflict without undue delay, the following should be executed in addition to the appropriate lost-wingman procedure:

- i. Formation leader will inform ATS as soon as possible.
- ii. The aircraft executing a lost-wingman procedure shall squawk EMERGENCY, and follow directions from ATC.

2.5.1.1. Priority will be given to the CAO aircraft over CAG aircraft. Flights in ARES will be conducted according to the procedures established to carry out the mission, except for aircraft crossing the ARES, previous ATS authorization.

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- 2.5.2.1. Separation between aircraft within ARES. When flying in ARES, enough separation will be maintained between all aircraft, being the responsibility of the formation leader / aircraft commander. MARSAs always apply, due to ARES being unclassified airspace; therefore control or separation is not provided.
- 2.5.3.1. and 3.5.2.1. In order to maintain a minimum separation, ATS units shall ensure that aircraft operating under its control outside the ARES are maintained at a proper distance, which is generally 3 NM.
- 2.7.2.1. Takeoff or landing emergency. When an aircraft requests a braking system to the ATS, the aircraft commander will use a clear wording requesting the type of braking system ("cable, cable, cable" or "barrier, barrier, barrier") and, if time permits, location (beginning or end of track). (STANAG 3817 shall apply)
- 2.7.5.1. ICAO procedures shall apply. Each Air Force Base has its NORDDO traffic circuit, which are described in the Spanish AIP.
- 3.2.1.1. ESSAR 5. Currently there is not a requirement for OAT Military controllers to speak English. However, most of them speak and understand English language. If necessary, it is recommended to request in advance an English speaker controller when planning an OAT flight.
- 3.4.2.4. OAT vertical separation between aircraft
- i. When aircraft are below FL290 apply the minimum separation of 1000ft.
 - ii. When aircraft are above FL290 in airspace RVSM then apply the minimum separation of 2000ft.
 - iii. When aircraft are in RVSM airspace shall apply the following separation minimum:
 - 1000ft between RVSM approved aircraft
 - 2000ft between aircraft when at least one of them has not RVSM
 - 2000ft between formations or between training and other aircraft and non-RVSM
- 3.5.1.1. ARES separation is always pilot responsibility.
- 3.5.2.1. In order to maintain a minimum separation, ATS units shall ensure that aircraft operating under its control outside the ARES are maintained at a proper distance, which is generally 3 NM.
- 3.5.2.2. There are not buffers regarding ARES boundaries, being pilot responsibility to keep inside it.

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Annex 4: Appendix UA - Country Chapter for UKRAINE

UA Amendments to the EUROAT

2. EUROCONTROL SPECIFICATIONS for ECAC AREA RULES FOR OAT-IFR FLIGHTS

2.1. Applicability of ICAO Rules of the Air

2.1.1. Military flight can be conducted within Ukrainian airspace as GAT, OAT or mixed GAT/OAT, depending upon operational requirements of the mission.

2.2. Flight Prerequisites

2.2.1. Aircraft and Aircrew

2.2.1.3. The requirements for using radiotelephony communication in English are not mandatory for State Aircraft.

Additionally, see ENR 1.8.6. AIP of Ukraine.

2.2.2. Flight Plan

2.2.2.2. Additional procedure

FPL for OAT flights or flights including OAT parts shall be distributed before 12:00 a day prior the day of the flight.

Additionally, see ENR 1.10 and ENR 1.11 AIP of Ukraine.

2.3. Flight Conduct

2.3.3. Altimeter Settings

2.3.3.3. The common transition altitude of 3050m (10000ft) is established in the airspace of Ukraine.

Additionally, see ENR 1.7 AIP of Ukraine.

2.3.4. Speed limitations

2.3.4.2. Additional procedure

Supersonic flights cannot be conducted below 11 000 m (FL370).

2.7. Unusual Occurrences

2.7.2. Take-Off/Landing Emergency

2.7.2.1. A limited number of military aerodromes is equipped with arresting gear. There is no regulatory requirement on phraseology between PIC and ATS unit regarding usage of arresting gear.

2.7.5. Radio Communication Failure (NORDO) Procedure

2.7.5.1. Additional procedure

The two-way radio communication is considered failure in case Aircraft or ATS unit does not respond within a period of 5min from the start of attempts to establish communication.

If there is no possibility to land at the destination aerodrome due to meteorological conditions Aircraft should reach a minimum safe level and proceed to the alternate aerodrome at a minimum safe level or at specially designated flight levels (FL140 or FL150), according to track.

The term “NORDO” is not commonly used.

3. EUROCONTROL SPECIFICATIONS FOR ECAC AREA RULES REGARDING AIR TRAFFIC SERVICE PROVISION TO OAT-IFR FLIGHTS

3.1. Applicability of ICAO Standards for Air Traffic Service Provision to OAT

3.1.1. Military flights can be served by civil or military ATS units. Flights performed as GAT are served by civil ATS units. Flights performed as OAT are usually served by military ATS units. ACCs have the possibility to provide ATS to OAT-IFR flights.

3.2. Prerequisites for ATS Provision to OAT

3.2.1 ATS Personnel

3.2.1.1. The ESSAR 5 requirements for military ATS units personnel are not fully implemented yet. The requirements for using radiotelephony communication in English are not mandatory for Military ATCO. Radiotelephony communication in English is provided by ACCs and can be provided by military ATS units upon prior request.

3.5. Flights in an Airspace Reservation (ARES)

3.5.1. ARES Internal Flight Separation

3.5.1.1. ARES separation is always a pilot or military ATS unit responsibility.

Annex 4: Appendix UK - Country Chapter for the UNITED KINGDOM

UK Amendments to the EUROAT

UK National regulations are compliant with the EUROAT without exception and are contained within the UK Military Aeronautical Information Publication which can be found at: <https://www.aidu.mod.uk/aip/>

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Annex 5: Appendix AM - National Points of Contact for ARMENIA

1. MILITARY AIR TRAFFIC CONTROL CENTER

Airport Zvartnots Yerevan-42

Tel: +37410200144

AFTN: UDYWZRZX

E-mail:

2. ENTRY AND TRANSIT REGULATIONS FOR MILITARY ACFT

Ministry of Foreign Affairs

Government House, 2

Republic Square Yerevan-10

Republic of Armenia

Tel: +37410566962, +37410521796

Fax: +37410620062

3. NATIONAL SUPERVISORY AUTHORITY

Civil Aviation Committee

Airport Zvartnots Yerevan-42

Tel: +37410521099

Fax: +37410285345

AFS: UDDUYAYX

E-mail: GDCA@gdca.am

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Annex 5: Appendix AT - National Points of Contact for AUSTRIA

1. Military Aviation Authority:

Military Aviation Division

Rossauer Lände 1

1090 VIENNA

AUSTRIA

Telephone number: +43 (0)50201-10-24308

Fax number: +43 (0)50201-10-17041

E-mail: overflight.permit@bmlv.gv.at

2. Military ATCC:

Schnirchgasse 11b

1030 VIENNA

AUSTRIA

Telephone number: +43 (0)50201-10-62200 or 62205 for AIS-purposes

Fax number: +43 (0)50201-10-17662

E-mail: mcc@bmlv.gv.at

3. Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology

Department for Safety Management and Air Navigation Services Radetzkystraße 2

1030 VIENNA

AUSTRIA

Telephone number: +43 (0)1 71162-659702

E-mail: l4@bmk.gv.at

4. ACC WIEN (AUSTRO CONTROL GmbH)

Schnirchgasse 11b

1030 VIENNA

AUSTRIA

Telephone number: +43 (0) 5 1703 2111 (Supervisor ACC Wien)

Fax number: +43 (0) 5 1703 2176

E-mail: supacc@austrocontrol.at

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Annex 5: Appendix BE - National Points of Contact for BELGIUM

1. Military Aeronautical Authority:

*Defence
Air Component - COMOPSAIR
Airspace Operations Support (A 3.2)
Kwartier Koningin Elisabeth / Quartier Reine Elisabeth
Bldg 1
Eversestraat / Rue d'Evere 1
B - 1140 BRUSSELS
Telephone number: ++32 (0)2 44 16642
E-mail: comopsair-a3-air-ctrl-ops@mil.be*

2. Entry/Transit of MIL NON-NATO Acft:

*Service Public Fédéral
Affaires Etrangères
Commerce Extérieur et
Coopération au Développement
Direction Générale B
B 3.4
Politique De Transport International
Autorisations Diplomatiques
Rue Des Petits Carmes, 15
B -1000 Bruxelles*

3. Military AIM:

*Defence
Air Component - COMOPSAIR
AIM Manager (A 3.24)
Air Traffic Control Centre
Tervuursesteenweg 303
B – 1820 Steenokkerzeel
Telephone number: ++32 (0)2 44 22372
E-mail: ATCC-ATC-FLAIM-BELAIM@mil.be*

4. Military ATCC:

*Defence
Air Component – ATCC STEENOKKERZEEL
Belgian Air Component
Air Traffic Control Centre
Tervuursesteenweg 303
B – 1820 Steenokkerzeel
Telephone number: + 32 (0)2 443 82 04
E-mail: atcc-atc-flops-secatm-datco@mil.be*

5. Incident investigation:

Defence

Air Component

Aviation Safety Directorate (ASD / ATM)

Base Charles Roman

B - 1320 BEAUVECHAIN

Telephone number: +32 (0)2 44 25449

E-mail: asd-avn-safety@mil.be

6. Supervisory authority:

If safety of GAT is involved:

Belgian Supervising Authority for Air Navigation Services

Atrium - 6th Floor

Rue du Progrès/ Vooruitgangstraat 56

B - 1210 BRUSSELS

If only safety of OAT is involved:

COMOPSAIR ATM Safety Advisory Board

Defence

Air Component - COMOPSAIR

Airspace Operations Support (A 3.2)

Kwartier Koningin Elisabeth

Bldg 1

Eversestraat / Rue d'Evere 1

B - 1140 BRUSSELS

Annex 5: Appendix CH - National Points of Contact for SWITZERLAND

1. MILITARY AERONAUTICAL AUTHORITY

Postal Address: Federal Department of Defence, Civil Protection and Sport DDPS
Swiss Armed Forces
Joint Operations Command, Swiss Air Force
Military Aviation Authority (MAA)
Airbase
CH-1530 Payerne
Telephone: +41 58 466 20 25
E-mail: MAA.LW@vtg.admin.ch

2. ENTRY AND TRANSIT REGULATIONS FOR MILITARY ACFT OF NON-NATO COUNTRIES

For diplomatic clearance

The diplomatic representation in Switzerland of the State making the application is responsible for submitting the request to the FOCA.

FOCA contact: Federal Office of Civil Aviation FOCA

Headquarters: Mühlestrasse 2, CH-3063 Ittigen

Postal address: 3003 Bern

Phone: +41 58 465 91 77

Fax : +41 58 465 80 60

Email : diplomatic.clearances@bazl.admin.ch

Web: <http://www.bazl.admin.ch/diplomaticclearances>

The FOCA liaison office for Diplomatic Clearances is staffed during normal office hours from 08.00 to 17.00 local time.

Outside these hours, phone calls will automatically be forwarded to the Swiss Air Force duty officer.

3. AERONAUTICAL INFORMATION SERVICES

Postal address: skyguide

Swiss air navigation services ltd

Skyguide AIM services

Flugsicherungsstrasse 1-5

p.o.box 23

CH - 8602 Wangen b. Dübendorf

AFTN address: LSSAYOYX

Telephone: +41 43 931 61 68 (AIP)

+41 43 931 61 61 (AIM Services Switzerland, German/English)

+41 43 931 62 03 (AIM Services Switzerland, French/English)

E-mail: aim.helpdesk@skyguide.ch

aip@skyguide.ch

4. MILITARY AIR TRAFFIC CONTROL CENTRE

Postal address: Air Defense and Direction Center
skyguide

Flugsicherungsstrasse 1-5

CH - 8602 Wangen b. Dübendorf

AFTN address: LSASSUIX

Telephone: +41 58 460 37 37

Telefax: +41 58 460 38 73

E-mail: domaddc@skyguide.ch

5. DEPARTMENT OF INCIDENT INVESTIGATION

Authority: Federal Department of Defence, Civil Protection and Sport DDPS

Swiss Armed Forces

Joint Operation Command. Swiss Air Force

Military Aviation Authority (MAA), Safety Management

Papiermühlestrasse 20

CH-1530 Payerne

Telephone: +41 58 466 2538

E-mail: SAFETYMAA.LW@vtg.admin.ch

Annex 5: Appendix HR - National Points of Contact for CROATIA

MILITARY AVIATION AUTHORITY

Ministarstvo obrane Samostalna služba za vojni zračni promet
Stančićeva 6
10000 Zagreb
Hrvatska (Croatia)

Telephone: +385(1)4567 667
Telefax: +385(1)4568 154
E-mail: zracni.promet@morh.hr

CROATIAN AIR FORCE

Hrvatsko ratno zrakoplovstvo i protuzračna obrana
VP 3044
Hrvatska (Croatia)

Telephone: +385(1)4861 010
Telefax: +385(1)4861 183
E-mail: infohrz@morh.hr

ENTRY AND TRANSIT REGULATIONS FOR MILITARY ACFT OF NON-NATO COUNTRIES

Ministarsvo vanjskih i europskih poslova Služba za strance
Petretićev trg 2

10000 Zagreb
Hrvatska (Croatia)

Telephone: +385(1)4599 314
Telefax: +385(1)4599 447
E-mail: stranci@mvep.hr

DEPARTMENT OF INCIDENT INVESTIGATION

Ministarstvo obrane Samostalna služba za vojni zračni promet
Odjel za istraživanje zrakoplovnih nesreća i ozbiljnih nezgoda
Stančićeva 6

10000 Zagreb
Hrvatska (Croatia)

Telephone: +385(1)4568 739
Telefax: +385(1)4568 154
E-mail: zracni.promet@morh.hr

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Annex 5: Appendix CZ - National Points of Contact for CZECH REPUBLIC

1. MILITARY AVIATION AUTHORITY SUPERVISION AND INSPECTION DEPARTMENT OF MoD

Postal address: Ministerstvo obrany
ODVL SDK MO
Generala Píky 1
Praha 6 – Dejvice
161 05
Czech Republic

Telephone: +420 973 211 107
Fax: +420 973 210 832
E-mail: bidlod@army.cz
maa@army.cz

2. CZECH AIR FORCE HQ

Postal address: Velitelství vzdušných sil
Vítězné náměstí
Praha 6 – Dejvice
161 05
Czech Republic

Telephone: +420 973 210 676
Fax: +420 973 210 656
E-mail: vajdikv@army.cz

3. THE AIR FORCE DEVELOPMENT DEPARTMENT OF THE CAPABILITY DEVELOPMENT AND PLANNING DIVISION OF MoD

Postal address: Ministerstvo obrany
ORVzS SRS MO
Vítězné náměstí
Praha 6 – Dejvice
161 05
Czech Republic

Telephone: +420 973 217 905
Fax: +420 973 218 216
E-mail: vyklickyv@army.cz

4. MINISTRY OF TRANSPORT – CIVIL AVIATION DEPARTMENT

Postal address: Ministerstvo dopravy
Ředitel Odboru civilního letectví
nábř. L. Svobody 1222/12
110 15 Praha 1
Czech Republic

Tel: +420 225 131 390
E-mail: sekretariat.220@mdcr.cz

5. CIVIL AVIATION AUTHORITY

Postal address: Úřad pro civilní letectví
Ředitel sekce letových standardů
Letiště Ruzyně
160 08 Praha 6
Czech Republic

Tel: +420 225 422 733
E-mail: podatelna@caa.cz

6. AIR NAVIGATION SERVICES OF THE CZECH REPUBLIC

Postal address: Řízení letového provozu ČR, s.p.
Ředitel divize plánování a rozvoje
Navigační 787
252 61 Jeneč
Czech Republic

Tel: +420 220 372 619
E-mail: fajtl@ans.cz

Annex 5: Appendix DK - National Points of Contact for DENMARK

NATIONAL SUPERVISORY AUTHORITY

Trafik-, Bygge- og Boligstyrelsen
Edvard Thomsens vej 14
DK 2300 København S
Denmark
Tel.: +4572218800
Fax.: +4572626790
e-mail: info@tbst.dk

MINISTRY OF DEFENCE

Forsvarsministeriet
Holmens Kanal 42
DK 1060 København K
Denmark
Tel.: +4533923320
e-mail: fmn@fmn.dk

MILITARY ATM AUTHORITY

Defence Command Denmark
Herningvej 30
DK 7470 Karup J
Denmark.
Tel. +4572820000
e-mail: fkø@mil.dk

ENTRY AND TRANSIT REGULATIONS FOR MILITARY ACFT OF NON-NATO COUNTRIES

Entry of Danish territory by non-NATO military aircraft is subject to prior diplomatic clearance. Entry requests shall be addressed via diplomatic channels to Defence Command Denmark.

Postal address:

Defence Command Denmark
Attn.: TACC (VFK-O-J3 OPS AIR TACC)
Herningvej 30, Koelvraa
DK-7470 Karup J
DENMARK
Email: Diplo-air@mil.dk

Subject requests are to be forwarded not later than 8 days in advance of the flight. Applicants must use the form provided at: <http://www.flv.dk/milais/diploform.doc>

Diplomatic clearance number must be inserted in Item 18 of the ICAO flightplan

NOTE: Special Attention is drawn to the Danish island Bornholm, situated in the Baltic Sea in Malmö FIR. MIL aircraft of non-NATO countries overflying Bornholm is subject to prior diplomatic clearance according to Item 1 and 2 above.

MILITARY AERONAUTICAL INFORMATION SERVICES

Flight Information
Herningvej 30
Building 452
DK 7470 Karup J
Denmark.
Tel.: +45 72841221
e-mail: fts-ktp-fli@mil.dk
www.flv.dk/milais

MILITARY AIR TRAFFIC CONTROL CENTRES

Integrated civil military Air Traffic Control Centre Copenhagen
Postal Address:
ACC Copenhagen
Naviair Allé 1
DK 2770 Kastrup
Denmark
Tel.: +4532478000

Annex 5: Appendix FR - National Points of Contact for FRANCE

1. MILITARY AERONAUTICAL AUTHORITY

Postal address:

DIRECTION DE LA SECURITE AERONAUTIQUE D'ÉTAT
Base aérienne 107 - CS 40704
78941 VELIZY CEDEX - FRANCE
Telephone: +33(1) 45073750
Telefax: +33(1) 45073356
E-mail: secdsae@gmail.com

2. ENTRY AND TRANSIT REGULATIONS FOR MILITARY ACFT OF NON-NATO COUNTRIES

Postal address: Ministry of Foreign Affairs
Bureau des survols / DSD
20 AVENUE DE SEGUR
75007 PARIS

3. AERONAUTICAL INFORMATION SERVICES

Postal address: Aeronautical Information Services
DIVISION INFORMATION AERONAUTIQUE
BASE AERIENNE 106
AVENUE DE L'ARGONNE - CS 70 037
33693 MERIGNAC CEDEX
Telephone: +33(5) 57925570
Telefax: +33(5) 5792556974
E-mail: sec.dia.dircam@inet.air.defense.gouv.fr

4. MILITARY AIR TRAFFIC CONTROL PROVIDERS

Commandant de l'Aviation Légère de l'Armée de Terre
Base aérienne 107 78129
VILLACOUBLAY ARMEES
Tel: +33(1) 41289350
Telefax : +33(1) 41289360

Commandant la Force d'aéronautique Navale
ALAVIA BP 10 83800 TOULON ARMEES
Tel : +33(4) 94020020
Telefax : +33(4) 94023197

Commandant les forces aériennes
Base aérienne 128 BP 105 57998 METZ ARMEES
Tel : +33(3) 87695641

Telefax : +33(3) 87695637
Directeur de DGA essais en vol
Base d'essais d'ISTRES 13804 ISTRES CEDEX
Tel : +33(4) 42483810
Telefax:+33(4) 42483812

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Annex 5: Appendix DE - National Points of Contact for GERMANY

1. MILITARY AVIATION AUTHORITY

Postal address: Luftfahrtamt der Bundeswehr

Postfach 906010/529 51127 Koeln-Wahn

Germany

Telephone: +49 (0)2203 908 1718 Telefax: +49 (0)2203 908 1774

E-mail: LufABwZentraleingang@bundeswehr.org

2. FEDERAL MINISTRY OF TRANSPORT and DIGITAL INFRASTRUCTURE

Postal address: Bundesministerium für Verkehr,

Bau und Stadtentwicklung

LF 17

Postfach 20 01 00

53170 Bonn

Germany

Telephone: +49 (0)228 99 300 4580

Telefax: +49 (0)228 99 300 1451

E-mail: ref-lf17@bmvi.bund.de

3. MILITARY AERONAUTICAL INFORMATION SERVICE

Postal address: Zentrum Luftoperationen

Leitung Gruppe A 3 III Einsatzunterstützung

von Seydlitz Kaserne

Römerstrasse 122

47546 Kalkar

Germany

Telephone: +49 (0) 2824 90 3310)

Telefax: +49 (0)2824 90 3099

E-mail: zentrluftopa3iiiieinsustg@bundeswehr.org

4. MILITARY AIR TRAFFIC SERVICES

Postal address: Zentrum Luftoperationen

Leitung Gruppe A 3 I Grundlagen

von Seydlitz Kaserne Römerstrasse 122

Germany

47546 Kalkar Telephone: +49 (0) 2824 90 3004

Telefax: +49 (0) 2824 90 3099

E-mail: ZentrLuftOpA3IGdlgFIFueDst@bundeswehr.org

5. MILITARY ENROUTE AIR TRAFFIC SERVICES

Postal address: Deutsche Flugsicherung GmbH

Militärische Unternehmensangelegenheiten (DFS ZM)

Am DFS-Campus 10

63225 Langen

Germany

Telephone: +49 (0) 6103 707 4401

Telefax: +49 (0) 6103 707 4495

E-Mail: cdc-zm@dfs.de

Annex 5: Appendix GR - National Points of Contact for GREECE

1. Military Aeronautical Information Services

Joint Civil and Military ATS Group

Hellenic Civil Aviation Authority

D20 AIS Division – D20/D National Aeronautical Publication Section

P.O. Box 70360

GR 16610 Glyfada

GREECE

AFTN LGGGYNYP

Telefax: +30 210 975 0757

Telephone: +30 210 997 2760

2. Military Air Traffic Services

Hellenic Air Force General Staff

Air defence Directorate

Air Traffic Control Section

227-231, Mesogion Ave.

GR 16561, Cholargos

GREECE

Telefax: +30 210 659 1450

Telephone: +30 210 659 1451

e-mail: a45.hafgs@haf.gr

3. Military Department of Incident Investigation

Hellenic Air Force General Staff

Flight Safety Center

227-231, Mesogion Ave.

GR 15561, Cholargos

GREECE

Telephone: +30 210 659 1236

e-mail: fsd.hafgs@haf.gr

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Annex 5: Appendix HU - National Points of Contact for HUNGARY

Ministry for Innovation and Technology Department for Civil Aviation and Inland Navigation

Postal address: H-1011 Budapest, Fő utca 44-50.

Phone: +06-1-795-1700

Fax: 06-1-795-0697

E-mail: legugy@nfm.gov.hu

Ministry for Innovation and Technology Civil Aviation Authority

Postal address: H-2220 Vecsés, Lincoln út 1.

Phone: +06-1-795-1700

Fax: 06-1-795-0697

E-mail: taa@nfm.gov.hu

Ministry of Defence State Aviation Department Military Aviation Authority

Postal address: H-1885 Budapest, POB. 25.

Phone: +36-1-474-1469

Fax: +36-1-474-1404

E-mail: hm.alf@hm.gov.hu

Entry regulations for military aircraft of non-NATO countries

Ministry of Foreign Affairs and Trade

Main office: 1027 Budapest, Bem rakpart 47.

Postal address: 1027 Budapest, Bem rakpart 47.

Phone: +36-1-458-1000

Fax: +36-1-212-5918

Aeronautical Information Services

HungaroControl

Hungarian Air Navigation Services Pte. Ltd. Co.

Postal address: 1185 Budapest, Igló utca 33-35.

Phone: + 36 1 293 4444

e-mail: info@hungarocontrol.hu

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Annex 5: Appendix IL - National Points of Contact for ISRAEL

1. Military Aeronautical Authority: Postal Address: Head of ATM Branch
("TA'AVURA")

Air Force ANSP Command 517 ("MICHA ")

"HaKirya - Rabin"

Tel-Aviv, 6473424

Israel

Telephone: +972 3 6063020

E-mail: air0071k@mail.idf.il

2. Entry and transit of military NON-NATO aircraft:

Postal Address: Head of AIS Dep. ("SINHRUN")

Air Force Command

"HaKirya - Rabin"

Tel-Aviv, 6473424

Israel

Telephone: +972 3 6922272

E-mail: sinhrun1@mail.idf.il

3. Military Aeronautical Information Services: Postal Address: Head of AIS Dep.
("SINHRUN")

Air Force Command

"HaKirya - Rabin"

Tel-Aviv, 6473424

Israel

Telephone: +972 3 6922272

E-mail: sinhrun1@mail.idf.il

4. Military Air Traffic Control Centre:

Postal Address: Head of ATM Dep. ("TA'AVURA")

Air Force ANSP Command 517 ("MICHA")

"HaKirya - Rabin"

Tel-Aviv, 6473424

Israel

Telephone: +972 3 6063018

E-mail: air0071k@mail.idf.il

5. Department of Incident Investigation:

Postal Address: Head of Incident Investigation Branch ("MAVKA")

Air Force Command

"HaKirya - Rabin"

Tel-Aviv, 6473424

Israel

Telephone: +972 3 6063046

E-mail: Air0071nh@idf.gov.il

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Annex 5: Appendix IT - National Points of Contact for ITALY

1. MILITARY AERONAUTICAL AUTHORITY

Postal address: Stato Maggiore Aeronautica - Italian Air
Staff Ufficio Generale per la Circolazione Aerea Militare.
Viale dell'Università, 4
00185 Roma - Italia
Telephone: +39 06 4986 7094
Telefax: +39 06 4986 7093
e.mail: stataereo.ucam@aeronautica.difesa.it

2. MILITARY OPERATIONAL AUTHORITY

Aeronautica Militare - Comando Operazioni Aeree (COA)

Postal address: Via Ponte Rosso, 1
44028 – Poggio Renatico (Ferrara) - ITALY
Telephone: +39 0532 828373
Telefax: +39 0532 828584
E-mail: aerosquadra.aoc.psa@am.difesa.it

3. ENTRY AND TRANSIT REGULATIONS FOR MILITARY ACFT

3.1. Non-NATO Countries:

Postal address: Ministry of Foreign Affairs - Ministero degli Affari Esteri
Piazzale della Farnesina, 1
00135 Roma – ITALY
Telephone: 0039 - 06.36911

3.2. NATO Countries:

Postal address: Stato Maggiore Aeronautica - Italian Air Staff
Viale dell'Università, 4
00185 Roma - Italia
Telephone: +39 06 4986 5066
Telefax: +39 06 4986 4503
E-mail: stataereo.pia@am.difesa.it

4. AERONAUTICAL INFORMATION SERVICES

Aeronautica Militare - Centro Informazioni Geotopografiche Aeronautiche

Postal address: Servizio Informazioni Aeronautiche
Via di Pratica di Mare, 45

00040 - Pomezia (RM) - ITALY

AFTN address: LIICYOYX

Telephone: +39 06 9129

3745 Telefax: +39 06 9129

4347

E-mail: ita.milais@am.difesa.it

5. MILITARY AIR TRAFFIC CONTROL CENTRE

Postal address: Servizio Coordinamento e Controllo A.M. Roma

SCCAM Roma

Via Appia Nuova, 1491

00178 - Roma - ITALY

AFTN address: LIRRYWYX

Telephone: +39 06 7970 4022

Telefax: +39 06 7970 4021

E-mail: sccamciampino@am.difesa.it

6. DEPARTMENT OF INCIDENT INVESTIGATION

Authority: Stato Maggiore Aeronautica - Italian Air Staff

Ispettorato per la Sicurezza del Volo

Viale dell'Università, 4

00185 - Roma - ITALY

Telephone: +39 06 4986 5887

Telefax: +39 06 4986 6057

E-mail: isv@am.difesa.it

Annex 5: Appendix MK - National Points of Contact for NORTH MACEDONIA

1. MILITARY AVIATION AUTHORITY

Postal Address:

Military Aviation Authority

Ministry of Defence of Republic of North Macedonia

116 Orce Nikolov Str.

1000 Skopje,

Republic of North Macedonia

Telephone: +389 2 328 20 44

e-mail: svva@mod.gov.mk; valentin.ivanoski@mod.gov.mk

2. AIR WING

Postal Address:

Flight Safety Section, Air WING Command

Voena posta 1969

1043 Petrovec

Republic of North Macedonia

Telephone: +389 2 256 52 15 / +389 2 256 52 14

e-mail: ljupco.arnautovski@mil.mk

3. CAA

Postal Address:

CAA, Aerodromes and Air Navigation Division

Dame Gruev 1

1000 Skopje

Republic of North Macedonia

Tel. +389 2 318 16 01 Fax. +389 2 311 57 08

e-mail: info@caa.gov.mk

4. AIRSPACE MANAGEMENT CELL – AMC

Postal Address:

M – NAV, Air Navigation Service Provider

Ulica Bosfor 7, Mralino,

1041 Ilinden

Republic of North Macedonia

e-mail: amc@mnavigation.mk

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Annex 5: Appendix NL - National Points of Contact for The Netherlands

1. MILITARY AVIATION AUTHORITY

Postal address: Department of Defence
Military Aviation Authority
PO Box 20701
2500 ES The Hague
The Netherlands

E-mail: MLA@mindef.nl

2. ROYAL NETHERLANDS AIR FORCE

Postal address: Royal Netherlands Air Force
C4ISR
P.O. Box 8762
4820 BB BREDA
The Netherlands

E-mail: ATC@mindef.nl

3. ENTRY AND TRANSIT REGULATIONS FOR MILITARY ACFT OF NON-NATO COUNTRIES

Postal address: Ministry of Foreign
Affairs
ATTN: Transport
Advisor
P.O. Box
20061
2500 EB

The
Hague
The
Netherlan
ds

4. AERONAUTICAL INFORMATION SERVICES

Postal address: MILATCC
SCHIPHOL
Aeronautical
Information
Services
P.O. Box
8762
4820 BB
Breda
The
Netherlands

AFTN address: EHMCYNYX
Telephone: +31(0)20 4062843
E-mail: AIS @mindef.nl

5. MILITARY AIR TRAFFIC CONTROL CENTRE

Postal address: MILATCC SCHIPHOL
P.O. Box 8762
4820 BB Breda
The Netherlands

AFTN address: EHMCYNYX
Telephone: +31(0)20 4062051
E-mail: AOCS_SSB_711@mindef.nl

6. DEPARTMENT OF INCIDENT INVESTIGATION

Authority: Air Operations Control Station Nieuw Milligen
Safety Management/Aviation Safety
P.O. Box 52
3886 ZH Garderen
The Netherlands

Telephone: +31(0)577 458310
E-mail: AOCS.Safetymanager@mindef.nl

Annex 5: Appendix NO - National Points of Contact for NORWAY

CIVIL AVIATION AUTHORITY

Postbox 243

8001 BODØ

NORWAY

Telephone: +47 75 58 50 00

E-mail: postmottak@caa.no

INSPECTORATE OF AIR OPERATIONS

Postbox 800 Postmottak

2617 LILLEHAMMER

OSLO

NORWAY

Telephone: +47 69 23 82 09

E-mail: forsvaret@mil.no

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Annex 5: Appendix PL - National Points of Contact for POLAND

1. CIVIL AVIATION AUTHORITY

National authority responsible for general national oversight and EUROAT compliance control

Postal Address: ul. M. Flisa 2, 02-247 Warszawa, Polska

Telephone: +48 22 520 75 01

Fax: +48 22 520 72 26

E-mail: loz@ulc.gov.pl

2. MILITARY AIR TRAFFIC SERVICE OFFICE OF THE POLISH ARMED FORCES

Headquarters: ul. Żwirki i Wigury 1c, 00-909 Warszawa 60, Polska

Postal address: ul. Żwirki i Wigury 103, 00-909 Warszawa 69, Polska

Telephone: 48 261 821 777

Fax: 48 261 821 782

3. ARMED FORCES OPERATIONAL COMMAND

Diplomatic clearance for the entry of foreign military aircraft into the Polish airspace

Postal address: ul. Radiowa 2, 00-908 Warszawa, Polska

Telephone: +48 261 855 893

4. POLISH AIR NAVIGATION SERVICES AGENCY

Postal address: ul. Wieżowa 8, 02-147 Warszawa, Polska

Aeronautical Information Service – AIS

Telephone: +48 22 574 5610, 5611 or 5624

Fax: +48 22 574 5619 or 5618

AFTN address – EPWWYOYX

E-mail: ais.poland@pansa.pl

Office of Air Traffic Services

Telephone: +48 22 574 55 01

Fax: +48 22 574 55 09

E-mail: sekretariat.ar@pansa.pl

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Annex 5: Appendix PT - National Points of Contact for PORTUGAL

1. NATIONAL AERONAUTICAL AUTHORITY

Postal address:

Autoridade Aeronáutica Nacional
Chefe do Gabinete
Av. da Força Aérea Portuguesa, 1 - Alfragide
2614 – 506 Amadora
PORTUGAL

Telephone: (+351) 214 717 428

Telefax: (+351) 214 715 330

E-mail: gaan@aan.pt

2. ENTRY AND TRANSIT REGULATIONS FOR MILITARY AIRCRAFT

Postal address:

Ministério dos Negócios Estrangeiros
Unidade de Sobrevoos e Escalas Navais
Largo do Rilvas
1399 – 030 Lisboa
PORTUGAL

Telephone: (+351) 213 946 170/80

Telefax: (+351) 213 946 075

E-mail: usdgpe.geral@mne.pt

3. MILITARY AERONAUTICAL INFORMATION SERVICES

Postal address:

Força Aérea – Comando Aéreo
Centro de Gestão de Tráfego Aéreo
Av. Tenente Martins
Monsanto
1500 – 589 Lisboa
PORTUGAL

AFTN adress: LPAMYNXX

Telephone: (+351) 217 716 300

Telefax: (+351) 217 716 047

E-mail: ca_cgta_ops_chf@emfa.pt

4. MILITARY AIR TRAFFIC CONTROL CENTRE

Postal address:

Força Aérea – Comando Aéreo
Esquadra Independente de Tráfego Aéreo
Rua C, Edifício 118
Aeroporto de Lisboa
1700 – 007 Lisboa
PORTUGAL

AFTN adress: LPPTYWXX

Telephone: (+351) 217 716 092

Telefax: (+351) 217 716 079

E-mail: ca_eita_chf@emfa.pt

5. DEPARTMENT OF INCIDENT INVESTIGATION

5.1 Military Authority and Reporting of Occurrences

Postal address:

Autoridade Aeronáutica Nacional

Chefe do Gabinete

Av. da Força Aérea Portuguesa, 1 - Alfragide

2614 – 506 Amadora

PORTUGAL

Telephone: (+351) 214 717 428

Telefax: (+351) 214 715 330

E-mail: gaan@aan.pt

Annex 5: Appendix RO - National Points of Contact for ROMANIA

1 ROMANIAN AIR FORCE HEADQUARTERS

Postal address:	Romanian Air Force Headquarters Navigation and ATM Section Șoseaua București-Ploiești, km 10,5 Bucharest Romania
Telephone:	+ 40 (0)21 319 60 86
Fax:	+ 40 (0)21 319 40 11
E-mail:	relmilin@roaf.ro

1 ROMANIAN MINISTRY OF DEFENCE

AERONAUTICAL REGLEMENTATIONS, RELATIONS AND OVERFLIGHT SECTION

Postal address:	Ministry of Defence Aeronautical Reglementations, Relations And Overflight Section Izvor Street, nr. 110 Bucharest Romania
Telephone:	+ 40 (0)21 410 63 90
Fax:	+ 40 (0)21 410 26 95
E-mail:	survol@mapn.ro

1 AIR OPERATIONS CENTRE

Postal address:	Balotești, jud. Ilfov
Telephone:	+ 40 (0)21 315 86 47
Fax:	+ 40 (0)21 315 01 05
E-mail:	fdex@roaf.ro

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Annex 5: Appendix SE - National Points of Contact for SWEDEN

MILITARY SAFETY INSPECTORATE

Postal address: Swedish Armed Forces
Military Headquarters
FLYG I
107 85 STOCKHOLM
Sweden

Telephone: +46 8 788 75 00

e-mail: exp-hkv@mil.se

SWEDISH TRANSPORT AGENCY

Postal address: Swedish Transport Agency
Aviation and Maritime Department
610 73 NORRKÖPING
Sweden

Telephone: + 46 771-503 503

e-mail luftfart@transportstyrelsen.se

ENTRY AND TRANSIT REGULATIONS FOR MILITARY ACFT

Entry of Swedish territory by military aircraft is subject to prior diplomatic clearance. Applications in respect of fighter planes, trainer aircraft, signals intelligence aircraft, warships, military combat vehicles and training activity should be made to the Swedish Ministry of Defense at fo.registrator@regeringskansliet.se.

Applications in respect of other state aircraft should be made to the Swedish Maritime Administration/Joint Rescue Coordination Centre (JRCC) at jrcc@sjofartsverket.se.

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Annex 5: Appendix ES - National Points of Contact for SPAIN

1. MILITARY AERONAUTICAL AUTHORITY

The responsible authority for military aviation in Spain is the “Jefe de Estado Mayor del Ejército del Aire (JEMA)” (Chief of the Air Force Staff).

The “Estado Mayor del Ejército del Aire (EMA)” (Air Force Staff) is responsible of the development and implementation of OAT.

Postal address:

CUARTEL GENERAL DEL AIRE ESTADO MAYOR DEL AIRE

División de Operaciones Sección de Espacio Aéreo (EMA/DOP/SESPA)

c/ Romero Robledo, 8

28008 Madrid (ESPAÑA)

TEL: +34-915 032 097 (Mon-Fri 0730-1800; mid June-mid September 0730-1500)

FAX: +34-915 034 496

AFTN: LEMA

E-mail: sespa.dop@ea.mde.es

2. ENTRY AND TRANSIT REGULATIONS FOR MILITARY ACTF OF NON-NATO COUNTRIES

For regulation as above

Request for State aircraft of any nationality: diplomatic channels

3. AERONAUTICAL INFORMATION SERVICES

As above (EMA/DOP/SEPA)

4. MILITARY AIR TRAFFIC CONTROL CENTRE

The “Estado Mayor del Ejército del Aire” has been commended the regulation of the air traffic control of the operative air traffic (Circulación Aérea Operativa, CAO); the coordination between this traffic and the general air traffic (Circulación Aérea General, CAG) and the regulation of the CAO flow management traffic, according to “Real Decreto 1489/94”, of February 1st, where the operative air traffic regulation was approved.

The following organizations take part on CAO control service and air traffic coordination:

- EMA/DOP/SESPA: for planning and strategic coordination.
- GRUCAO: for pre-tactical coordination.
- ECAO: for En-Route execution and tactical coordination (co-located in ACC Madrid, ACC Barcelona, ACC Las Palmas and ACC Seville).
- APP/TWR: for execution.

Postal address:

- EMA/DOP/SESPA: *as above*
- GRUCAO
Base Aérea de Torrejón
Ctra. de la Base s/n Torrejón de Ardoz
28850 Madrid
TEL: 34-917 035 071
FAX: 34-916 566 625
- AIS: *as above*

- ECAO:
 - ECAO MADRID (co-located in ACC Madrid): 91 703 5300,
ECAO MADRID CHIEF 91 703 5329.
 - ECAO BARCELONA (co-located in Barcelona ACC): 93 638 2956,
ECAO BARCELONA CHIEF 93 638 02 13
 - ECAO SEVILLA (co-located in Seville ACC): 95 428 84 00,
ECAO SEVILLE CHIEF 95 428 88 89
 - ECAO LAS PALMAS (co-located in Las Palmas ACC): 928 21 85 37

Annex 5: Appendix UA – National Points of Contact for Ukraine

1. MILITARY AUTHORITIES

Ministry of Defense, International Liaison Department

Postal address: Lesya Ukrainka avenue, 25/1, Kyiv, 01014, Ukraine

Tel: +38 044 2862240

Fax: +38 044 2855429

Web-site <https://www.mil.gov.ua/en/contacts.html>

Authority for Regulation of Activities of State Aviation of Ukraine

Postal address: Andryushchenko str., 6B, 01135, Kyiv, Ukraine

Tel: +38 044 2713944

Fax: +38 044 2713942

E-mail: urddau_mou@mil.gov.ua

Web-site: <https://www.mil.gov.ua>

Air Force Command

Air Force of the Armed Forces of Ukraine

Postal address: Strilets`ka str., 105, Vinnitsa, 21001, Ukraine

Tel: +38 043 2596274

E-mail: a0257@ps.mil.gov.ua

Military AIS Center

Aeronautical Information Support Center of the Air Force of the Armed Forces of Ukraine

Postal address: Strilets`ka str., 105, Vinnitsa, 21001, Ukraine

Tel: +38 04 32596250

+38 043 2596125

Fax: +38 043 2596250

E-mail: ais.military@ps.mil.gov.ua

ATFN: UKWWYXYD

Note: Military AIP is not available for public usage. Information concerned may be requested at Military AIS Center.

Air Accident Investigation

Ministry of Defense, General Inspection

Postal address: Povitroflotskiy avenue, 6, Kyiv, 03168, Ukraine

Tel: +38 044 4544105, +38 044 4544060

E-mail: insp_mou@mil.gov.ua

Note: Incident investigation is responsibility of the Air Force Command.

2. ENTRY AND TRANSIT REGULATIONS FOR MILITARY AIRCRAFT

Entry of Ukrainian territory by foreign military aircraft is subject to prior diplomatic clearance.

Entry requests shall be addressed via diplomatic channels to Ministry of Foreign Affairs of Ukraine at least 5 working days before the planned flight.

For diplomatic clearance:

Ministry of Foreign Affairs of Ukraine

Directorate General for Consular Service

Crisis Management Division

Postal address: Mykhailivska Square, Kyiv, 01018, Ukraine

Tel: +38 044 2381834, +038 044 2381588

Fax: +38 044 2381824

E-mail: permission@mfa.gov.ua

For operational clearance:

General Headquarters of the Armed Forces of Ukraine

Flight Coordination Division

Postal address: Povitroflotskiy avenue, 6, Kyiv, 03168, Ukraine

Fax: +38 044 245-44-03, +38 044 520-13-49

Tel: +38 044 245-44-03, +38 044 520-13-49

E-mail: vkpp@mil.gov.ua

State Aviation Administration of Ukraine (SAAU)

Flight Coordination Division - Central Dispatch Service of SAAU

Postal address: Peremogy avenue, 14, Kyiv, 01135, Ukraine

Fax: +38 044 3515551

E-mail: cds@avia.gov.ua

ATFN: UKKACGXX

3. Ukrainian Airspace Management and Planning Center (UKRAEROCENTER)

Postal address: P.o.box 115, Airport, Boryspil, Kyiv region, 08301, Ukraine

Supervisor, Service Hours: H24

Tel: +38 044 3515991

Fax: +38 044 2340399

E-mail: zns_dispatcher@uksatse.aero

AFS: UKKKZDZX

Note: All ACCs have the working position for Military ATM officer, see ENR 1.9.7 AIP of Ukraine.

4. CIVIL AUTHORITIES

State Aviation Administration of Ukraine

Postal address: Peremogy avenue, 14, Kyiv, 01135, Ukraine

Tel: +38 044 3515399

Fax: +38 044 3515692

E-mail: vdz@avia.gov.ua

Web-site: <http://www.avia.gov.ua>

ATFN: UKKAYAYD

Aeronautical Information Services (AIS) of UkSATSE

Postal address: P.o.box 186, Airport, Boryspil, Kyiv region, 08301, Ukraine

Tel: +38 044 3516946, +38 044 3516952

Fax: +38 044 3516990

E-mail: Vlasov_SA@uksatse.aero, Hyryk_OD@uksatse.aero

Web-site: http://aisukraine.net/titul_en.php (authorized access)

ATFN: UKKRYOYD

National Bureau of Civil Aircraft Air Accidents Investigation of Ukraine

Postal address: Peremogy avenue, 14, Kyiv, 01135, Ukraine

Tel: +38 044 3514338

Fax: +38 044 3514313

E-mail: info@nbaai.gov.ua

Web-site: <http://www.nbaai.gov.ua>

ATFN: UKKKYLYX

Note: NBAAIU is also responsible for airspace infringement investigation.

Annex 5: Appendix UK - National Points of Contact for the UNITED KINGDOM

NATIONAL SUPERVISORY AUTHORITY

Civil Aviation Authority
Aviation House
Beehive Ringroad
Crawley
West Sussex
RH6 0YR

Telephone: +44 (0)330 022 1500

Website: <https://www.caa.co.uk>

MINISTRY OF DEFENCE

Defence Airspace and Air Traffic Management
1st Floor Aviation House
Gatwick Airport South,
West Sussex
RH6 0YR

E-mail: DAATM-All@mod.gov.uk

MILITARY AVIATION AUTHORITY

SO1 ATM Regulation
Juniper L1 Wg 4 #5104
MOD Abbey Wood North
Bristol
BS34 8QW

Telephone: +44 (0) 30679 82544

Website: <https://www.gov.uk/government/organisations/military-aviation-authority>

E-mail: DSA-MAA-Reg-ATM@mod.gov.uk

ENTRY AND TRANSIT REGULATIONS FOR MILITARY ACFT OF NON-NATO COUNTRIES

Diplomatic Clearance. Foreign military aircraft overflying the United Kingdom or landing at any UK military or civil airfield require prior diplomatic flight clearance. This is obtained through the relevant Embassy or High Commission (Defence Department).

Block Clearances. Some countries have block diplomatic clearances. (For more information contact the Security Policy and Operations, MOD London).

Security Policy and Operations
Ministry of Defence
Main Building
Whitehall
London
SW1A 2HB

Telephone: +44(0)207 218 2723

E-mail: CTandUKOps-FlightClearance@mod.gov.uk

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Annex 6: Appendix AM, Distribution List for ARMENIA

1. MILITARY AIR TRAFFIC CONTROL CENTER

Airport Zvartnots Yerevan-42

Tel: +37410200144

AFTN: UDYWZRZX

E-mail:

2. AIR NAVIGATION SERVICES OF REPUBLIC OF ARMENIA

Air Traffic Control Center

I. Gasparyan, 33 Yerevan-42

Republic of Armenia

Tel: +37410292929 (int 379)

AFTN: UDDDZRZX UDDDZQZX

E-mail: staff@armats.am

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Annex 6: Appendix AT, Distribution List for AUSTRIA

Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology
Department for Safety Management and Air Navigation Services

Radetzkystraße 2

1030 VIENNA

AUSTRIA

Telephone number: +43 (0)1 71162-659702

E-mail: I4@bmk.gv.at

Military Aviation Authority:

Military Aviation Division

Rossauer Lände 1

1090 VIENNA

AUSTRIA

Telephone number: +43 (0)50201-10-24308

Fax number: +43 (0)50201-10-17041

E-mail: overflight.permit@bmlv.gv.at

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Annex 6: Appendix BE, Distribution List for BELGIUM

Defence

Air Component - COMOPSAIR

Airspace Operations Support (A 3.2)

Kwartier Koningin Elisabeth

Bldg 1

Eversestraat / Rue d'Evere 1

B - 1140 BRUSSELS

Telephone number: ++32 (0)2 44 16642

E-mail: comopsair-a3-air-ctrl-ops@mil.be

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Annex 6: Appendix CH- Distribution List for SWITZERLAND

MILITARY AERONAUTICAL AUTHORITY

Postal Address:

Federal Department of Defence, Civil Protection and Sport DDPS

Swiss Armed Forces

Joint Operation Command, Swiss Air Force

Military Aviation Authority (MAA)

Airbase

CH-1530 Payerne

Telephone: +41 58 466 20 25

E-mail: MAA.LW@vtg.admin.ch

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Annex 6: Appendix HR - Distribution List for CROATIA

1. MILITARY AVIATION AUTHORITY

Postal address: Ministarstvo obrane
 Samostalna služba za vojni zračni promet
 Stančićeva 6
 10000 Zagreb
 Hrvatska (Croatia)

Telephone: +385(1)4567 667
Telefax: +385(1)4568 154
E-mail: zracni.promet@morh.hr

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Annex 6: Appendix CZ, Distribution List for CZECH REPUBLIC

1. MILITARY AVIATION AUTHORITY OF MoD

Postal address: Ministerstvo obrany
ODVL SDK MO
Generála Píky 1
161 05 Praha 6 – Dejvice
Czech Republic

maa@army.cz; bidlod@army.cz

2. CZECH AIR FORCE HQ

Postal address: Velitelství vzdušných sil
Vítězné náměstí
161 05 Praha 6 – Dejvice
Czech Republic

vajdikv@army.cz

3. THE AIR FORCE DEVELOPMENT DEPARTMENT OF THE CAPABILITY DEVELOPMENT AND PLANNING DIVISION OF MoD

Postal address: Ministerstvo obrany
ORVzS SRS MO
Vítězné náměstí
161 05 Praha 6 – Dejvice
Czech Republic

vyklickyv@army.cz

4. MINISTRY OF TRANSPORT – CIVIL AVIATION DEPARTMENT

Postal address: Ministerstvo dopravy
Odbor civilního letectví
Nábř. L. Svobody 1222/12
110 15 Praha 1
Czech Republic

Tel: +420 225 131 390
E-mail: sekretariat.220@mdcr.cz

5. CIVIL AVIATION AUTHORITY

Postal address: Úřad pro civilní letectví
Letiště Ruzyně
160 08 Praha 6
Czech Republic

Tel: +420 225 422 733
E-mail: podatelna@caa.cz

6. AIR NAVIGATION SERVICES OF THE CZECH REPUBLIC

Postal address: Řízení letového provozu ČR, s.p.
Navigační 787
252 61 Jeneč
Czech Republic

Tel: +420 220 372 619

E-mail: fajtl@ans.cz

Annex 6: Appendix DK- Distribution List for DENMARK

NATIONAL SUPERVISORY AUTHORITY

Trafik-, Bygge- og Boligstyrelsen
Edvard Thomsens vej 14
DK 2300 København S
Denmark
Tel.: +4572218800
Fax.: +4572626790
e-mail: info@tbst.dk

MINISTRY OF DEFENCE

Forsvarsministeriet
Holmens Kanal 42
DK 1060 København K
Denmark
Tel.: +4533923320
e-mail: fmn@fmn.dk

MILITARY ATM AUTHORITY

Defence Command Denmark, Airstaff
Herningvej 30
Building 478
DK 7470 Karup J
Denmark.
Tel. +4572820000
e-mail: vfk@mil.dk

AIR TRAFFIC CONTROL CENTRES

Integrated civil military Air Traffic Control Centre Copenhagen
Postal Address:
ACC Copenhagen
Naviair Allé 1
DK 2770 Kastrup
Denmark
Tel.: +4532478000

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Annex 6: Appendix FI, Distribution List for FINLAND

Air Force Command Finland

Postal address: Air Force Command
P.O.Box 30
FI-41161
Tikkakoski, Finland

Tel: +358 299 800 (operator)
Fax: +358 299 291 219
E-mail: kirjaamo.ilmave@mil.fi

Finnish Military Aviation Authority

Postal address: Finnish Military Aviation Authority
P.O.Box 30
FI-41161
Tikkakoski, Finland

Tel: +358 299 800 (operator)
Fax: +358 299 291 929
E-mail: fimaa@mil.fi

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Annex 6: Appendix FR, Distribution List for FRANCE

Postal address:

DIRECTION DE LA SECURITE AERONAUTIQUE D'ÉTAT

Direction de la circulation aérienne militaire

Base aérienne 107 - CS 40704

78941 VELIZY CEDEX - FRANCE

Telephone: +33(1) 45073519

Telefax: +33(1) 45073935

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Annex 6: Appendix DE, Distribution List for GERMANY

Bundesministerium der Verteidigung

FüSK I 5

Fontainengraben 150

53123 Bonn

Germany

Telephone: +49 (0)228 99 24 14737

Telefax: +49 (0)228 99 24 44745

E-mail: BMVgFueSKI5@bmvg.bund.de

FEDERAL MINISTRY OF TRANSPORT and DIGITAL INFRASTRUCTURE

LF 17

Postfach 20 01 00

53170 Bonn

Germany

Telephone: +49 (0)228 99 300 4580

Telefax: +49 (0)228 99 300 1451

E-mail: ref-lf17@bmvi.bund.de

MILITARY AVIATION AUTHORITY

Postal address: Luftfahrtamt der Bundeswehr

Postfach 906010/529 51127 Koeln-Wahn

Germany

Telephone: +49 (0)2203 908 1718

Telefax: +49 (0)2203 908 1774

E-mail: LufABwZentraleingang@bundeswehr.org

Zentrum Luftoperationen

Leitung Gruppe A 3 I Grundlagen

von Seydlitz Kaserne

Römerstrasse 122

47546 Kalkar

Germany

Telephone: +49 (0) 2824 90 3004

Telefax: +49 (0) 2824 90 3099

E-mail: ZentrLuftOpA3IGdlg@bundeswehr.org

Deutsche Flugsicherung GmbH

Militärische Unternehmensangelegenheiten (DFS ZM)

Am DFS-Campus 10

63225 Langen

Telephone: +49 (0) 6103 707 4401

Telefax: +49 (0) 6103 707 4495

E-Mail: cdc-zm@dfs.de

Annex 6: Appendix GR, Distribution List for GREECE

HELLENIC CIVIL AVIATION AUTHORITY - HCAA

D4- ANS Regulatory Authority Division
Vas. Georgiou 1, Elliniko, GR 16604
GREECE

Telephone: +30 210 8916135
Fax number: +30 210 8949098
e-mail: d4@hcaa.gr

HELLENIC CIVIL AVIATION AUTHORITY - HCAA

D17- AIR TRAFFIC FLOW MANAGEMENT & AIRSPACE MANAGEMENT DIVISION
Vas. Georgiou 1, Elliniko, GR 16604
GREECE

Telephone: +30 210 9972404
Fax number: +30 210 9647329
e-mail: d17@hcaa.gr

Military Aeronautical Information Services

Joint Civil and Military ATS Group
Hellenic Civil Aviation Authority
D20 AIS Division – D20/D National Aeronautical Publication Section
P.O. Box 70360
GR 16610 Glyfada
GREECE

AFTN LGGGYNYP

Telefax: +30 210 975 0757
Telephone: + 30 210 997 2760

Military Air Traffic Services

Hellenic Air Force General Staff
Air defence Directorate
Air Traffic Control Section
227-231, Mesogion Ave.
GR 16561, Cholargos
GREECE

Telefax: +30 210 659 1450
Telephone: +30 210 659 1451
e-mail: a45.hafgs@haf.gr

Entry and Transit Regulations for Military Aircraft

Hellenic Air Force General Staff
International Relations Section
227-231, Mesogion Ave.
GR 16561, Cholargos
GREECE

Telefax: +30 210 646 9733
Telephone: +30 210 659 1731
e-mail: a73.hafgs@haf.gr

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Annex 6: Appendix HU, Distribution List for HUNGARY

**Ministry for Innovation and Technology
Department for Civil Aviation and Inland Navigation**

Postal address: H-1011 Budapest, Fő utca 44-50.

Phone: +06-1-795-1700

Fax: 06-1-795-0697

E-mail: legugy@nfm.gov.hu

**Ministry for Innovation and Technology
Civil Aviation Authority**

Postal address: H-2220 Vecsés, Lincoln út 1.

Phone: +06-1-795-1700

Fax: 06-1-795-0697

E-mail: taa@nfm.gov.hu

**Ministry of Defence
State Aviation Department
Military Aviation Authority**

Postal address: H-1885 Budapest, POB. 25.

Phone: +36-1-474-1469

Fax: +36-1-474-1404

E-mail: hm.alf@hm.gov.hu

**Entry regulations for military aircraft of non-NATO countries
Ministry of Foreign Affairs and Trade**

Main office: 1027 Budapest, Bem rakpart 47.

Postal address: 1027 Budapest, Bem rakpart 47.

Phone: +36-1-458-1000

Fax: +36-1-212-5918

**Aeronautical Information Services
HungaroControl
Hungarian Air Navigation Services Pte. Ltd. Co.**

Postal address: 1185 Budapest, Igló utca 33-35.

Phone: + 36 1 293 4444

e-mail: info@hungarocontrol.hu

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Annex 6: Appendix IL, Distribution List for ISRAEL

1. Ministry Of Transport – Civil Aviation Authority
Postal Address: Head of ATM Department
Golan House, Golan st. 3
P.O.Box 1101
Airport City, 7019900
Israel
Telephone: +972-3-9774630
Fax: +972-3-9774546
E-mail: wolfi@mot.gov.il

2. Military Aeronautical Authority
Postal Address: Head of ATM Branch ("TA'AVURA")
Air Force ANSP Command 517 ("MICHA")
"HaKirya - Rabin"
Tel-Aviv, 6473424
Israel
Telephone: +972 3 6063020
E-mail: air0071k@mail.idf.il

3. Civil Air Navigation Service Provider
Postal Address: Director ATS,
Israel Airports Authority (IAA)
P.O.Box 137,
Ben-Gurion Airport, 7015001
Israel
Telephone: +972-3-9750145
E-mail: asafbe@iaa.gov.il

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Annex 6: Appendix IT, Distribution List for ITALY

ENTE NAZIONALE AVIAZIONE CIVILE (ENAC) (Civil Aviation Authority)

Postal address: Viale Castro Pretorio, 118

00185 Roma - ITALY

Telephone: +39 06 4459 6815

E-mail: spazioaereo@enac.gov.it

ENAV SpA (Air Navigation Service Provider)

Postal address: Via Salaria, 716

00138 Roma - ITALY

Telephone: +39 06 8166 1

E-mail: comunicazione@enav.it

AERONAUTICA MILITARE (Italian Air Force)

Stato Maggiore Aeronautica – Ufficio Generale Aviazione Militare e Meteorologia

Postal address: Viale dell'Università, 4

00185 - Roma - ITALY

Telephone: +39 06 4986 7094

E-mail: stataereo.aviam@aeronautica.difesa.it

AERONAUTICA MILITARE (Italian Air Force)

Stato Maggiore Aeronautica – 3° Reparto

Postal address: Viale dell'Università, 4

00185 Roma - ITALY

Telephone: +39 06 4986 5627

E-mail: stataereo.pia@aeronautica.difesa.it

AERONAUTICA MILITARE (Italian Air Force)

Ispettorato per la Sicurezza del Volo

Postal address: Viale dell'Università, 4

00185 Roma - ITALY

Telephone: +39 06 4986 4138

E-mail: isv@aeronautica.difesa.it

AERONAUTICA MILITARE (Italian Air Force)

Comando Squadra Aerea

Postal address: Viale dell'Università, 4

00185 Roma - ITALY

Telephone: +39 06 4986 8698

E-mail: aerosquadra.sm.sa@aeronautica.difesa.it

AERONAUTICA MILITARE (Italian Air Force)

Comando Scuole

Postal address: Lungomare Nazario Sauro, 39

70121 Bari - ITALY

Telephone: +39 080 5418814

E-mail: aeroscuoleaeroregione3@aeronautica.difesa.it

AERONAUTICA MILITARE (Italian Air Force)

Comando Logistico

Postal address: Viale dell'Università, 4

00185 Roma - ITALY

Telephone: +39 06 4986 4366

E-mail: aerolog@aeronautica.difesa.it

AERONAUTICA MILITARE (Italian Air Force)

Comando Operazioni Aerospaziali

Postal address: Via Ponte Rosso, 1

44028 Poggio Renatico (Ferrara) - ITALY

Telephone: +39 0532 828373

E-mail: aerosquadra.coa@aaeronautica.difesa.it

AERONAUTICA MILITARE (Italian Air Force)

Centro Informazioni Geotopografiche Aeronautiche

Servizio Informazioni Aeronautiche (AIS)

Postal address: Via di Pratica di Mare, 45

00040 Pomezia (RM) - ITALY

Telephone: +39 06 9129 3745

E-mail: ita.milais@aeronautica.difesa.it

Annex 6: Appendix MK, Distribution List for NORTH MACEDONIA

MILITARY AVIATION AUTHORITY

Postal Address:

Military Aviation Authority

Ministry of Defence of Republic of North Macedonia

116 Orce Nikolov Str.

1000 Skopje,

Republic of North Macedonia

Telephone: +389 2 328 20 44

e-mail: svva@mod.gov.mk; valentin.ivanoski@mod.gov.mk

AIR WING

Postal Address:

Flight Safety Section, Air WING Command

Voena posta 1969

1043 Petrovec

Republic of North Macedonia

Telephone: +389 2 256 52 15 / +389 2 256 52 14

e-mail: ljupco.arnautovski@mil.mk

CAA

Postal Address:

CAA, Aerodromes and Air Navigation Division

Dame Gruev 1

1000 Skopje

Republic of North Macedonia

Tel. +389 2 318 16 01 Fax. +389 2 311 57 08

e-mail: info@caa.gov.mk

AIRSPACE MANAGEMENT CELL – AMC

Postal Address:

M – NAV, Air Navigation Service Provider

Ulica Bosfor 7, Mralino,

1041 Ilinden

Republic of North Macedonia

e-mail: amc@mnavigation.mk

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Annex 6: Appendix NL, Distribution List for THE NETHERLANDS

MILITARY AVIATION AUTHORITY

Postal address:

Department of Defence
Military Aviation Authority
PO Box 20701
2500 ES The Hague
The Netherlands

Email: mla@mindef.nl

ROYAL NETHERLANDS AIR FORCE

Postal address:

Royal Netherlands Air Force
C4ISR
P.O. Box 8762
4820 BB Breda
The Netherlands

Email: atc@mindef.nl

MILITARY AIR TRAFFIC CONTROL CENTRE

Postal address:

MILATCC SCHIPHOL
P.O. Box 8762
4820 BB Breda
The Netherlands

Email: AOCSSB.711LVL@mindef.nl

MAASTRICHT UPPER AREA CONTROL CENTRE

Postal address:

Maastricht Upper Area Control Centre
ATM Training
Horsterweg 11
6199 AC Maastricht-Airport
THE NETHERLANDS

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Annex 6: Appendix NO – Distribution List for NORWAY

CIVIL AVIATION AUTHORITY

Postbox 243

8001 BODØ

NORWAY

Telephone: +47 75 58 50 00

E-mail: postmottak@caa.no

INSPECTORATE OF AIR OPERATIONS

Postbox 800 Postmottak

2617 LILLEHAMMER

OSLO

NORWAY

Telephone: +47 69 23 82 09

E-mail: forsvaret@mil.no

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Annex 6: Appendix PL, Distribution List for POLAND

CIVIL AVIATION AUTHORITY

Postal address:

ul. Flisa 2, 02-247 Warszawa, Polska

Telephone: +48 22 520 75 01

Fax: +48 22 520 72 26

E-mail: loz@ulc.gov.pl

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Annex 6: Appendix PT, Distribution List for PORTUGAL

1. CIVIL AVIATION AUTHORITY

Postal address:

Autoridade Nacional da Aviação Civil
Rua B – Edifício 4, Aeroporto Humberto Delgado
1749 – 034 Lisboa
PORTUGAL

Telephone: (+351) 212 842 226

Telefax: (+351) 218 402 398

E-mail: geral@anac.pt

2. NATIONAL AERONAUTICAL AUTHORITY

Postal address:

Autoridade Aeronáutica Nacional
Chefe do Gabinete
Av. da Força Aérea Portuguesa, 1 - Alfragide
2614 – 506 Amadora
PORTUGAL

Telephone: (+351) 214 717 428

Telefax: (+351) 214 715 330

E-mail: gaan@aan.pt

3. CIVIL AIR NAVIGATION SERVICES PROVIDER

Postal address:

NAV Portugal, E.P.E.
Rua C – Edifício 118, Aeroporto Humberto Delgado
1700 – 007 Lisboa
PORTUGAL

Telephone: (+351) 218 553 100

Telefax: (+351) 218 553 600

E-mail: gabcim@nav.pt

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Annex 6: Appendix RO, Distribution List for ROMANIA

1 ROMANIAN AIR FORCE HEADQUARTERS

Postal address:	Romanian Air Force Headquarters Navigation and ATM Section Șoseaua București-Ploiești, km 10,5 Bucharest Romania
Telephone:	+ 40 (0)21 319 60 86
Fax:	+ 40 (0)21 319 40 11
E-mail:	relmilin@roaf.ro

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Annex 6: Appendix SE, Distribution List for SWEDEN

1. MILITARY AVIATION SAFETY INSPECTORATE

Postal address: Swedish Armed Forces
Military Headquarters
FLYG I
107 85 STOCKHOLM
Sweden

Telephone: +46 8 788 75 00

e-mail: exp-hkv@mil.se

2. SWEDISH TRANSPORT AGENCY

Postal address: Swedish Transport Agency
Aviation and Maritime Department
601 73 Norrköping

Telephone: +46 771-503 503

e-mail: luftfart@transportstyrelsen.se

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Annex 6: Appendix ES, Distribution List for SPAIN

Military Aeronautical Authority

CUARTEL GENERAL DEL AIRE
ESTADO MAYOR DEL AIRE
División de Operaciones
Sección de Espacio Aéreo (EMA/DOP/SESPA)
c/ Romero Robledo, 8
28008 Madrid (ESPAÑA)
TEL: +34-915 032 097
FAX: +34-915 034 496
E-mail: sespa.dop@ea.mde.es.

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Annex 6: Appendix UA, Distribution List for UKRAINE

Military Aeronautical Information Support Center of Armed Forces of Ukraine

Postal address: Strilets`ka str., 105, Vinnitsa, 21001, Ukraine

E-mail: ais.military@ps.mil.gov.ua

State Aviation Administration of Ukraine

Postal address: Peremogy avenue, 14, Kyiv, 01135, Ukraine

E-mail: vdz@avia.gov.ua

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Annex 6: Appendix UK, Distribution List for the UNITED KINGDOM

NATIONAL SUPERVISORY AUTHORITY

Civil Aviation Authority
Aviation House
Beehive Ringroad
Crawley
West Sussex
RH6 0YR

Telephone: +44 (0)330 022 1500

MINISTRY OF DEFENCE

Defence Airspace and Air Traffic Management
1st Floor Aviation House
Beehive Ringroad
Crawley,
West Sussex
RH6 0YR

E-mail: DAATM-All@mod.gov.uk

MILITARY AVIATION AUTHORITY

Military Aviation Authority
SO1 ATM Regulation
Juniper L1 Wg 4 #5104
MOD Abbey Wood North
Bristol
BS34 8QW

Telephone: +44 (0) 30679 82544

E-mail: DSA-MAA-Reg-ATM@mod.gov.uk

MILITARY ATM AUTHORITY

BM Force HQ
HQ 2 Gp
Headquarters Air Command
High Wycombe
Buckinghamshire
HP14 4UE

Telephone: +44(0)1494 494050

E-mail: Air-2GpBMFHQ-COS@mod.gov.uk

ROYAL NAVY ATM AUTHORITY

NAVY COMMAND
SO1 CSAV Ops Spt
Navy Command
MP 2-2
LEACH
Whale Island
Portsmouth
PO2 8BY
UK

Telephone: +44 (0) 2392 62 5373
Telefax: +44(0) 2392 625478
E-mail: NavyCSAV-OPSSPTSO1@mod.gov.uk

AERONAUTICAL INFORMATION SERVICES

No 1 AIDU
Royal Air Force Northolt
West End Road
Ruislip, Middlesex
HA4 6NG
UK

AFTN address: EGVCOYX
Telephone: +44(0) 20 8833 8209/8906
E-mail: customerservicesmail@aidu.mod.gov.uk

MILITARY AIR TRAFFIC CONTROL CENTRE

78 Sqn, Swanwick (Mil)
NATS
Sopwith Way
Swanwick
Southampton
SO31 7AY

AFTN address: EGZYOATT
Telephone: +44(0)1489 612500
E-mail: LATCC-OC@mod.gov.uk



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