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MILITARY AVIATION AIR TRAFFIC SERVICES

In air traffic services provided to military aviation within the Finnish territory, the Finnish Air Traffic Control Handbook (*Lennonjohtajan käsikirja*) and this directive, insofar as it differs from the former, shall be observed.

Enabling Act:
Aviation Act
(864/2014; sections 6 and 7.1)

Valid from:
05 November 2020 until further notice

Repeal:
SIM-To-Lv-012, Military Aviation Air Traffic Services Regulation, HN831, 14.11.2017
AFCOMFIN FIMAA Authorisation, Military helicopter tactical training with inactive secondary surveillance radar (SSR) transponders, CL10695, 5.11.2015

Transitional Provisions:
See Chapter 28

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ABBREVIATIONS AND DEFINITIONS

The abbreviations and definitions contained in this directive mean the following:

Aerodrome area means the area inside the aerodrome perimeter fence closest to the runway.

Air navigation service provider means a public or private entity holding a licence granted by the civil aviation authority to provide air navigation services.

Airspace reserved for military aviation means a temporary segregated area (TSA) reserved for the use of military aviation, a temporary reserved area (TRA) in controlled airspace or a temporary or permanent restricted or danger area reserved for the use of military aviation.

Air traffic control unit (ATC unit) is a generic term meaning area control centre, approach control unit or aerodrome control tower.

Air traffic services unit (ATS unit) is a generic term meaning an air traffic control unit, flight information centre or air traffic services reporting office.

Area navigation (RNAV) means a method of area navigation.

Arresting barrier system means an arresting system in the overrun of a runway that can be used to stop an aircraft. Note: In broadcasting, an arresting barrier system is declared by stating “BARRIER”.

Arresting cable system means a mobile or fixed arresting system on a runway that is used to stop an aircraft equipped with a tail hook. Note: In broadcasting, an arresting cable system is declared by stating “CABLE”.

Below obstacle level means, when flying a military aerial vehicle or Defence Forces’ non-type certified aerial vehicle, an altitude in the vicinity of a fixed obstacle (tree, structure or building) up to the same height with it, not exceeding a 100-metre radius of the said obstacle as well as maintaining a minimum of a 200-metre distance from the runway edge.

Control zone means controlled airspace extending upwards from the ground to a specified upper limit.

Danger Area (D-area) means a volume of airspace where danger exists.

EMCON means a broadcasting restriction of devices emitting electromagnetic radiation. These kinds of signals are emitted, for example, by a radio, secondary surveillance radar transponder and radio altimeter.

Emergency fuel means a situation in which an aircraft has severely depleted its fuel supply. It is an emergency situation involving a risk of air accident. Note: The aircraft shall be given priority over other air traffic. In broadcasting, emergency fuel is declared by stating “MAYDAY, MAYDAY, MAYDAY FUEL”.

Flight operations officer means an officer who plans and gives orders for real-time execution of flight operations. The flight operations officer assigns, among other things, the crew to take part in a flight mission, the fleet to be used in the mission and the flight mission as well as the officer to assign the mission if the flight operations officer does not assign it personally. He is also responsible for cooperation between air navigation service bodies, military control units and other flying units.

Formation means a flying unit of two or more aircraft, the leader of which is responsible for conducting the flight mission. A formation is handled as a single aircraft. The pilots-in-command of the aircraft ensure sufficient safety distances within the formation.

General Air Traffic (GAT) means operations of civil aircraft and such state aircraft as are used to perform the duties of the military, the Customs, the Border Guard and the police in compliance with the directives and procedures issued by the International Civil Aviation Organization (ICAO) or relevant national authorities.

Low visibility procedures for take-off (LVPTO) means take-off procedures in conditions of low visibility.

Manoeuvring area means the part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

Military aviation means aviation for military purposes or aviation conducted by the use of military aircraft and military aerial vehicles.

Military aviation regulatory body means the Finnish Military Aviation Authority (FIMAA).

Military control unit means fighter control and military air traffic control.

Military regulatory body means the Defence Command, Air Force Command, Army Command, Navy Command and Defence Forces Logistics Command.

Minimum fuel means an aircraft fuel level that necessitates the aircraft to land without delay at a designated aerodrome. Note: At the pilot's request, the aircraft shall be given priority over other air traffic.

Night means the time from the end of dusk until the beginning of dawn. The time of dusk ends when the centre of the Sun's disc descends to 6 degrees below the horizon in the evening and the time of dawn begins when the centre of the Sun's disc ascends to 6 degrees below the horizon in the morning.

Non-standard formation means a formation, in which the horizontal separation between two aircraft in controlled airspace does not exceed 3 NM and the vertical separation 1,000 ft, unless otherwise agreed with the appropriate ATS unit. A deviation from the above vertical separation requirement may be necessary for take-off. All aircraft in the formation must use mode 3 A/C in their SSR transponders, unless otherwise agreed with the appropriate ATS unit. In uncontrolled airspace or controlled airspace reserved solely for military air operations, the maximum horizontal and vertical distances between the aircraft in the formation as determined in the flight training syllabi approved by the Air Force Command can be observed.

On the runway edge means a situation in which no part of an aircraft is closer than 15 metres from the runway centreline.

Operational Air Traffic (OAT) means any flight or air traffic which does not comply with the general air traffic directives and for which national aviation authorities have issued appropriate rules and procedures. Operational air traffic is not priority-ranked air traffic unless it fulfils a condition of a prioritised clearance (for example QRA, MEDEVAC, HEAD...).

Prohibited area (P-area) means a prohibited volume of airspace.

QFE means the atmospheric pressure at the aerodrome elevation or at the runway threshold.

QNE means the standard atmospheric pressure setting of 1013,2 hPa (29,92 inHg) which is used to indicate the elevation of an aircraft in the flight level system.

QNH means the altimeter setting used to obtain elevation above mean sea level when on the ground.

Quick Reaction Alert (QRA) means surveillance, identification, interception, transport or reconnaissance flights directly required for monitoring and safeguarding territorial integrity, flights related to enhancing readiness, and air operations or flights required for urgent executive assistance. Search and rescue missions conducted with the Defence Forces' aircraft are also quick reaction alert flights. A quick reaction alert flight is priority-ranked air traffic.

Restricted area (R-area) means a restricted volume of airspace.

Special Visual Flight Rules (VFR) flight means a VFR flight cleared by air traffic control to operate within a control zone in meteorological conditions below visual meteorological conditions.

Standard military formation means a formation, in which each aircraft maintains a distance not exceeding 0.5 NM laterally and 100 ft vertically from the aircraft in the formation using the 3 A/C mode in its SSR transponder (flight leader).

Tactical instrument landing system (TILS) means a tactical instrument landing system.

Temporary Reserved Area (TRA) means a temporarily reserved volume of airspace.

Temporary Segregated Area (TSA) means a temporarily segregated volume of airspace.

Trail formation means a non-standard formation in which aircraft fly in a line, such as a radar trail.

Training area means an area or a part of airspace in controlled airspace designated for manned and unmanned air operations.

Visual flight rules (VFR) means the visual flight rules.

Visual meteorological conditions (VMC) means visual meteorological conditions.

1 SCOPE

In air traffic services provided to military aviation within the Finnish territory, the Finnish Air Traffic Control Handbook (*Lennonjohtajan käsikirja*) and this directive, insofar as it differs from the former, shall be observed. As defined in the Aviation Act, military aviation means aviation for military purposes or flying with military aircraft. Military aviation includes, for example, aviation with an unmanned military aircraft and military aerial vehicle, aviation conducted for military purposes with a civil aircraft, aviation conducted for military purposes with an aerial vehicle, parachute operations conducted for military purposes or operations of foreign military aircraft within the Finnish territory in air shows and international exercises. The above-mentioned are conducted by permission of the military aviation regulatory body or pursuant to the directives issued by the military aviation regulatory body.

This directive shall not apply to ferry flights of a foreign state. For these aircraft, the international and national rules and directives concerning civil aviation shall be observed.

Chapters 5, 6, 7, 8, 9, 16.1 and 18 of this directive can also be applied to aviation conducted for military purposes with a civil aircraft (or equivalent). This requires that the aerial work of civil aircraft or unmanned civil aircraft (or equivalent) commissioned by the Finnish Defence Forces shall have an aerial work certificate granted by the Finnish Military Aviation Authority.

A deviation from this directive is acceptable only in specific cases for operations concerning monitoring and safeguarding territorial integrity and situations where defence readiness must be adjusted.

This English version is a translation of the original document in Finnish. However, in case of a discrepancy, the Finnish translation will prevail.

2 FINNISH DEFENCE FORCES AIRCRAFT

The Finnish Defence Forces' manned aircraft are

- propeller aircraft:
    - VN (L70) Valmet L-70 Vinka

- GO (G115) Grob Aircraft AG G115E & G115EA
- PI (PC12) Pilatus PC-12 Next Generation
- CC (C295) Airbus Military C295M

- jet-engine aircraft:
  - LJ (LJ35) Learjet 35A/S
  - HW (HAWK) BAE Systems Hawk Mk 51 & 51A & 66
  - HN (F18H) Boeing F/A-18 C & D Hornet
- helicopters:
  - HH (H500) MD Helicopters MD 500D & E Hughes

    NH (NH90) NH Industries NH90 TFIA.

3 GENERAL AIR TRAFFIC AND OPERATIONAL AIR TRAFFIC

Military aircraft shall fly in compliance with the rules of either general air traffic (GAT) or operational air traffic (OAT).

4 RUNWAY IN USE

Quick reaction alert (QRA) flights may require the use of a runway other than the runway in use.

5 ALTIMETER SETTING

When flying at or below the transition altitude or below the lowest usable flight level, military aircraft shall use a QNH setting in the altimeter, except on operations conducted for measurement, parachute, display or test purposes for which a QFE or QNE setting can be asked separately.

When operating above the transition altitude or at or above the lowest usable flight level, military aircraft shall generally use a QNE setting. Other altimeter setting procedures (QFE or QNH setting) may also be used as required.

The Defence Forces' manned aircraft, except the VN, fly primarily using an imperial (feet) referenced altimeter.

6 CONTENTS AND VALIDITY PERIOD OF AIR TRAFFIC CONTROL CLEARANCE

Due to the nature of operations, military aircraft may have to be given a clearance not complying with the Finnish Air Traffic Control Handbook's instructions regarding, for instance, separations from other military aircraft. Deviations from the Finnish Air Traffic Control Handbook are stated in this directive.

The pilot of a military aircraft that has received an air traffic control clearance to a training area does not need to notify the relevant air traffic control unit of a temporary exit from the training area to airspace below the controlled airspace or request a new clearance to re-enter the controlled airspace; the air traffic control clearance to the controlled airspace remains valid.

The air traffic control clearance is valid until the military aircraft has entered the reserved airspace allocated to a military control unit or other reservation holder.

Military aircraft may be given a clearance to a specific altitude block. An air traffic controller gives a clearance to altitude blocks available for use. A block altitude between two aircraft shall be no less than 1,000 ft.

When an aircraft operates under radio silence, without an SSR transponder code or in the EMCON mode, the operating procedures between a military regulatory body and air navigation service provider shall be observed. Radio silence shall be broken immediately when this is required for flight safety.

A military control unit may transmit notifications and clearances between the pilot-in-command and ATS unit.

7 CLEARANCE LIMIT

Military aircraft may be issued a reserved airspace allocated to a military control unit or other reservation holder as a clearance limit.

8 FLIGHTS IN ACTIVE TSA, TRA EXTENDING TO INTERNATIONAL WATERS OR D, P, OR R AREA

A military aircraft may fly into an active TSA or TRA extending to international waters, P or R area where activities hazardous to aviation are present when this is required for mission execution. The relevant air traffic control unit shall have been informed by telephone or in writing of the aircraft's permit to fly into the area, for example, with a statement such as RMK/EFR111A OK in item 18 of the flight plan. The information relayed by telephone or the indication in the flight plan shall be based on coordination between the military control unit in charge of the airspace or the reservation holder and the pilot-in-command. The air traffic control clearance is valid until the military aircraft enters to the reserved airspace in question or uncontrolled airspace. The transfer of radio communications or the termination of air traffic control services (for example radar service) shall be declared no later than at the said reserved airspace boundary.

A military aircraft may enter an active R area where activities hazardous to aviation have been suspended when the flight is coordinated with the reservation holder or when the flight is controlled by a military control unit, the military control unit has two-way radio communication with the military aircraft and the military control unit is able to confirm recurrence of the activities via the AMC unit or LARA system.

A military aircraft may fly into an active D area. When entering an active D area, the pilot-in-command shall take into account the effects of the reservation holder's operations on his own operation. If a D area is reserved for operating Defence Forces' Miniature Unmanned Aerial Systems (MUAS), any operations within the area should be coordinated primarily by telephone before entering the area.

As an exception to the above procedures, a military aircraft may fly into an active P or R area when, according to the Government Decree on Special Use Airspace, this is required to carry out any mandatory tasks of public authorities.

A military control unit may transfer the control of a military aircraft to an air traffic control unit while the aircraft is still in an airspace reserved for military aviation. Unless otherwise agreed by the military control and air traffic control unit, an air traffic controller may change the aircraft's altitude freely and its heading by no more than 45 degrees only from the boundary of the area reserved for aviation under the military control unit. In such cases, the distance from the aircraft to the reserved airspace must not be reduced until separation between the aircraft and the reserved airspace exists. Once the transfer of radio communications has been completed, an air traffic controller may, based on prior coordination, change the aircraft's altitude downward and its heading by no more than 45 degrees also in the airspace reserved for the military control unit regardless of the airspace class. The military control unit shall be responsible for maintaining the aircraft at a sufficient safety distance from any other aircraft in the airspace reserved for military aviation as well as any other areas restricted from aerial traffic until the aircraft exits the airspace reserved for military aviation.

The military control unit shall release a military aircraft conducting an IFR flight to air traffic control at a track that ensures at least nominal vertical separation to the aircraft (note: within RVSM airspace, vertical separation of 2000 ft to D, P and R areas applies) or laterally at least a distance complying with separation minima to other active areas restricted from air traffic. Lateral separation minimum is 3 NM in the approach control radar service and 5 NM in the area control service unless otherwise stated by the receiving air traffic control unit.

9 USE OF SSR TRANSPONDER

When operating within the Finland Flight Information Region, a military aircraft that has not been given instructions by an air traffic control unit concerning the use of its SSR transponder shall select mode A/C code 2600 until otherwise instructed by an air traffic control unit.

In an airspace reserved for military aviation and on operational quick reaction alert (QRA) missions, military air operations may terminate the use of an SSR transponder. In a TRA under air traffic control, the use of an SSR transponder may not be terminated without

permission of the appropriate air traffic control services unit. Chapter 24 of this directive lays down provisions on the use of SSR transponder codes in quick reaction alert (QRA) operations.

10 ARRESTING BARRIER SYSTEM

Should the runway in use have an arresting barrier system, this system must be used as follows:

1. The approach-end barrier net in front of the runway threshold shall always be down.
2. The departure-end barrier net shall always be up when the runway is used by a HW or HN. The departure-end barrier may be up when the runway is used by a VN or GO. Exceptions to these requirements can be made at a pilot's request or if deemed necessary by a military regulatory body.
3. With any foreign military aircraft operators, the use of barrier nets shall always be agreed upon separately. The flight operations officer (or equivalent) and the relevant air traffic control unit shall mutually agree in advance on the use of arresting barriers in any exercises, air shows and other pre-arranged events featuring foreign military aircraft.

11 ARRESTING CABLE SYSTEM

An arresting cable is raised only at the request of the pilot-in-command of an aircraft or if required for maintenance activities.

Military aircraft may be cleared for take-off or landing when there is a fixed arresting cable under tension. The pilot-in-command shall always be informed of such situations, as it is he who decides on the position of the arresting cable.

Other military aircraft than the HN are not allowed to be cleared for take-off or landing over a mobile arresting cable due to the obvious risk of engagement. Should the situation so require, military aircraft can taxi over a fixed cable as well as a mobile one.

Military aircraft may be cleared for take-off or landing with a mobile arresting cable moved to the side of the runway (not under tension). The pilot-in-command shall be aware of the location of the cable.

With any foreign military aircraft operators, the use of an arresting cable shall always be agreed upon separately. The flight operations officer (or equivalent) and the relevant air traffic control unit shall mutually agree in advance on the use of arresting cables in any exercises, air shows and other pre-arranged events featuring foreign military aircraft.

12 LINE UP ON RUNWAY

A military aircraft may be cleared to line up on a runway even though one or more military aircraft have already been cleared to line up on the runway using the same holding point. In such cases, the aircraft shall be given a number in the departure sequence. More than one military aircraft may be cleared to line up on a runway, provided that visibility enables the air traffic controller to maintain continuous visual contact with each aircraft on the manoeuvring area.

13 CRITERIA FOR TAKEOFF CLEARANCE

A takeoff clearance may be given when the aerodrome control has ensured that

1. The runway is unoccupied.

- A military aircraft may be cleared for take-off although there are other military aircraft on the runway
    - abreast with the departing aircraft or behind it
    - on a landing roll on the last quarter of the runway in use with the intent to vacate the runway
    - on the runway edge (note: not applicable to situations in which the wingspan of the departing aircraft is greater than 26 metres or in the departures of a standard military formation)

- on the adjacent area off the runway closer than 50 metres to the runway.

This is contingent upon visibility enabling the air traffic controller to maintain continuous visual contact with the aircraft in question. Air traffic control shall transmit information on all essential traffic to the departing aircraft.

- A military aircraft may be cleared for take-off even though the preceding military aircraft has not yet departed or is only on a take-off roll. In such a case, the succeeding military aircraft shall be given a number in the departure sequence.
- A military aircraft may be cleared for take-off although the preceding departing military aircraft has not crossed the opposite end of the runway or initiated a turn. Air traffic control shall give essential traffic information on all aircraft that are not part of the formation.
- A military aircraft may be cleared for take-off when there are no Defence Forces' vehicles, heavy equipment or personnel within the following safety distances in the direction of the aircraft-specific danger areas:
    - Jet exhaust danger area is 300 m (HN).
    - Jet exhaust danger area is 250 m (HW, LJ).
    - Slipstream danger area is 100 m (CC, PI, VN, GO).
    - Radius of rotor downwash danger area is 50 m (HH, NH).
    - Foreign military aircraft exhaust danger areas shall be clarified in advance case by case or such aircraft shall be treated as wide-body aircraft.
- A military aircraft may be cleared for take-off although there is a military aerial vehicle or Defence Forces non-type certified aerial vehicle being operated below obstacle level within the aerodrome area or in a training area separately approved by the Finnish Military Aviation Authority. A military aircraft must be notified of any military aerial vehicles or Defence Forces

non-type certified aerial vehicles or any flight operations in the training area.

- A military aircraft may be cleared for take-off although there are Defence Forces' personnel involved in TILS equipment maintenance and measuring activities in the vicinity of the TILS at a distance closer to the runway than that between the runway and the runway holding point.

2. The arresting barriers and arresting cable are in their appropriate positions.

- Please see chapters 10 and 11.

3. The runway has the required lighting.

- At the request of the pilot of a military aircraft, the taxiway, runway and approach lights as well as the lights indicating glide path angle (PAPI/VASI) can be dimmed or turned off for take-off, provided that this action causes no hazard to any aircraft in the air or in the manoeuvring area or vehicles, heavy equipment or personnel in the manoeuvring area. When turning off runway and taxiway lights, the operators of ground handling equipment and those aircrews that may be affected are to be notified of this.

4. The necessary navigation equipment and other equipment are in operation.

- Operational air traffic may execute take-offs with a runway visibility range (RVR) of less than 550 m, although the low-visibility procedures for take-off (LVPTO) are not in effect at the aerodrome. The air traffic services unit shall notify the pilot of why the LVPTO are not in effect. Based on the information received, the pilot-in-command decides whether to execute take-off.

14 CRITERIA FOR LANDING CLEARANCE

A landing clearance can be given when the aerodrome control has ensured that

1. The runway is unoccupied.

- A military aircraft may be cleared to land although the preceding military aircraft is still airborne. In this case, air traffic control shall provide the military aircraft a number in the landing sequence and the position of the preceding aircraft.
- A military aircraft may be cleared to land although there are other military aircraft or military aircraft not part of the formation
    - On a landing roll
    - On the last quarter of the landing runway
    - Holding on the edge of the runway (note: not applicable to a situation in which the wing span of the landing aircraft is greater than 26 metres, or in the landings of a standard military formation)
    - On the adjacent area off the runway closer than 50 metres to the runway.

  This is contingent upon visibility enabling the air traffic controller to maintain continuous visual contact with the aircraft on the ground. Air traffic control shall transmit information on all essential traffic to the landing aircraft.
- A military aircraft may be cleared to land although the preceding departing military aircraft has not crossed the opposite end of the runway or initiated a turn provided that the preceding military aircraft can with reasonable certainty be assumed airborne or the distance between the two aircraft can be assumed to increase as the succeeding aircraft crosses the threshold.
- A military aircraft may be cleared for a touch-and-go landing although the preceding military aircraft is still airborne, or on a landing or take-off roll. In this case, air traffic control shall provide the military aircraft a number in the landing sequence and the position of the preceding aircraft. Air traffic control must issue traffic information on all essential aircraft that are not part of the formation.

- A military aircraft may be cleared to land although there is a military aerial vehicle or Defence Forces non-type certified aerial vehicle being operated below obstacle level within the aerodrome area or in a training area separately approved by the Finnish Military Aviation Authority. A military aircraft must be notified of essential traffic by military aerial vehicles or Defence Forces non-type certified aerial vehicles or their operations in the training area.
- A military aircraft may be cleared to land although there are Defence Forces' personnel involved in TILS equipment maintenance and measuring activities in the vicinity of the TILS at a distance closer to the runway than that between the runway and the runway holding point.

2. The arresting barriers and arresting cable are in their appropriate positions.

- Please see chapters 10 and 11.

3. The runway, the line of approach and precision/visual approach slope indicator have the required lighting.

- At the request of the pilot of a military aircraft, the taxiway, runway and approach lights as well as the lights indicating glide path angle (PAPI/VASI)can be dimmed or turned off for landing, provided that this action causes no hazard to any aircraft in the air or in the manoeuvring area or vehicles, heavy equipment or personnel in the manoeuvring area. When turning off runway and taxiway lights, the operators of ground handling equipment and those aircrews that may be affected are to be notified of this.

4. The length of the runway in use is sufficient.

- The runway length available for use may temporarily be restricted between the NH, HH, PI, CC, VN and GO aircraft and Defence Forces' vehicles, heavy equipment and personnel. This is contingent upon both parties agreeing to a temporary reduction of the runway length from the opposite end; the runway length available for use is no less than 1,000 metres and

that ground traffic shall not at any point come closer than 250 metres to the opposite end of the reduced runway.

15 LOW APPROACHES TO OCCUPIED RUNWAY

Military aircraft may be cleared for a low approach with a minimum altitude restriction of 200 feet (60 m) measured from the reference level of the runway (AD ELEV) when the runway is occupied by a vehicle and/or another military aircraft. Traffic information shall always be issued to all aircraft and/or vehicles on the runway. A military aircraft making a low approach shall be notified of the reason for the restriction.

A military aircraft may be cleared for a low approach with a minimum altitude restriction when there is a military aerial vehicle or Defence Forces non-type certified aerial vehicle being operated above obstacle level within the aerodrome area or at a distance closer than 200 metres from the runway edge or outside a training area separately approved by the Finnish Military Aviation Authority. The minimum altitude cleared for a military aircraft shall be 200 feet above the clearance altitude of the aerial vehicle. The operator of the aerial vehicle shall be given traffic information. The military aircraft making a low approach shall be notified of the reason for the restriction.

16 SEPARATION AND TERMINATION OF SEPARATION

The parts of airspace reserved for military aviation that are laterally and/or vertically adjacent to each other and controlled by a military control unit are not separated from each other. The airspace management cell (AMC) that allocates the reservation shall notify military control units of adjacent and/or overlapping airspace reservations excluding those parts of airspace that are used by an air traffic control unit.

A military aircraft cleared for a training area needs no provision of separation from an aircraft in an adjacent training area as well as from an adjacent part of airspace reserved for the military control unit. A military control unit shall require no notification of military air traffic that has been subjected to an air traffic control unit and operates next to a part of airspace reserved for the military control unit.

An air traffic control unit may terminate separation services provided for special-VFR flights between military aircraft when ground visibility is 3 km or more:

- between any military aircraft by day
- between military helicopters by both day and night.

An air traffic control unit may terminate the provision of separation services between military aircraft in airspace class C by day under VMC conditions when a VFR military aircraft is performing aerobatics over an aerodrome and an IFR military aircraft is taking off or landing.

An air traffic control unit may terminate separation services provided for a military aircraft to an aviation-restricted part of airspace. In such a case, the air traffic controller shall notify the pilot or military control unit of the aviation-restricted part of airspace. The pilot shall be requested to maintain his own separation from the active P or R area. The pilot-in-command of the aircraft shall bear the responsibility for his own separation from the said area.

16.1 Separation between manned military aircraft and military aerial vehicles or Defence Forces non-type certified aerial vehicles and termination of separation

A military aerial vehicle or Defence Forces non-type certified aerial vehicle shall not be operated within an aerodrome area without authorisation issued by an air traffic services unit. The operator shall be required to establish two-way radio communication with a relevant air traffic services unit when the operation takes place within an aerodrome area unless another agreement has been reached with the air traffic services unit. In aerial vehicle operations both within and outside an aerodrome area, other directives and instructions regarding aerial vehicle operations shall be observed.

A military aircraft shall be handled clearly separate from a military aerial vehicle or Defence Forces non-type certified aerial vehicle, for example by using geographical separation. An air traffic control unit may terminate the separation requirement when the operation takes place below obstacle level or within a training area separately approved by the Finnish Military Aviation Authority. A military aircraft must be notified of an active aerial vehicle or Defence Forces non-type certified aerial vehicle or their operations within a training area.

Unmanned military aerial vehicles and Defence Forces non-type certified aerial vehicles are not separated from each other. Manned air traffic has airspace use priority over unmanned air traffic.

17 WAKE TURBULENCE SEPARATION

Wake turbulence separation is not applicable to military aircraft operating under aerodrome control. However, when necessary departing and approaching military aircraft shall be cautioned of wake turbulence in accordance with the Finnish Air Traffic Controller's Handbook.

18 COMMUNICATIONS INSTRUCTIONS

A military aircraft may be allocated, for example, a channel number or operating frequency band instead of a radio frequency.

On a formation flight, the pilot of an aircraft shall also include the type of formation (standard military formation or non-standard formation) in the first radio communication message between the pilot and the relevant air traffic services unit. When a formation is taking off and the tower controller transfers its radio connection to another ATC frequency by stating "WHEN AIRBORNE", the contact shall be established once the last aircraft of the formation is airborne.

19 STANDARD TERMINAL ARRIVAL ROUTES (STAR)

The flight plan shall state whether the military aircraft in question is certified for flying RNAV-based standard terminal arrival routes.

20 STANDARD INSTRUMENT DEPARTURE ROUTES (SID)

With the exception of the LJ, CC and PI, military aircraft do not ordinarily fly standard instrument departure routes published for civil traffic.

21 OVERHEAD PATTERN

Military aircraft may be cleared separately to execute an overhead pattern as either a single military aircraft or formation. The purpose of the manoeuvre is to split a formation for landing. The manoeuvre can be flown as a right or left break. The air traffic control shall inform the formation of the direction of the break in a timely manner in order to allow the leader to reconfigure the formation. The responsibility for collision avoidance within the formation is with the pilots-in-command of the formation.

22 JOIN-UP

When a formation or single aircraft are joining up as pre-planned under the control of an air traffic controller, the controller shall apply the standard criteria to ensure separation between the single aircraft intending to join up, until the formation leader or pilot-in-command assumes responsibility for maintaining safe separation between the aircraft concerned.

When the formation leader or pilot-in-command is able to ensure safe separation between his aircraft, the other aircraft of the formation, and aircraft that are joining up, he shall confirm this by transmitting "MARSA” (Military Authority Assumes Responsibility for Separation of Aircraft). On receipt of this call, the controller shall transfer the responsibility for separation of the aircraft that are joining up to the formation leader or pilot-in-command. The controller transmits "MARSA APPROVED" to the pilot of the aircraft or the leader of the two-ship or four-ship flight that is in the process of joining up.

23 FORMATION BREAK-UP (SPLIT)

A formation may be broken subject to an air traffic controller clearance in controlled airspace. Prior to a pre-planned formation break-up, the formation leader shall request to split (“REQUEST SPLIT”) from the air traffic control and state as necessary whether to break the formation into several elements or single aircraft. The formation leader shall inform the air traffic control as required the intended break-up sequence as well as the call signs and positions of the new formations or single aircraft relative to the formation leader.

The formation shall be informed during vectoring where and when the break-up is to be executed. The formation is broken in the vertical and/or lateral direction.

Each single aircraft shall receive separate clearances and SSR transponder codes from the air traffic control. A single aircraft or flight ceases to be part of the earlier formation upon receiving a new clearance from the air traffic control. However, the air traffic control will only assume responsibility for separation between the single aircraft or flights splitting from the formation once the prescribed separation criteria are met. Until then, the pilots-in-command or formation leaders are responsible for maintaining sufficient safety distances. The air traffic control shall confirm that the standard separation criteria are met by stating “RADAR CONTACT” or “IDENTIFIED” after which the air traffic control is responsible for separation of the said formation or single aircraft.

24 QUICK REACTION ALERT FLIGHT

Quick reaction alert flights can be conducted either as flights controlled by a fighter controller or flights handled by an air traffic controller at the air traffic control’s radio frequency. If a quick reaction alert flight is controlled by a fighter controller, the fighter controller shall agree with the relevant air traffic control unit on the use of airspace.

Outside the airspace reserved for military aviation, the fighter controller in charge of the quick reaction alert flight shall keep the flight away from other air traffic subject to the following requirements:

- A military aircraft shall maintain at least 10 NM of lateral separation or 2,000 ft vertical separation from any traffic under the responsibility of an air traffic services unit. (This requirement is not applicable to an aircraft that is being identified or any other aircraft under the responsibility of the fighter controller.
- An aircraft conducting a quick reaction alert flight shall not need to have a radio connection with the air traffic services unit in question and is not required to use its SSR transponder.

- The fighter controller and the relevant air traffic services unit shall together coordinate any air traffic that may affect the quick reaction alert flight (its flight path, altitude changes and specific details, if any) and, where necessary, agree on restrictions to other air traffic.

In quick reaction alert flight operations, the military control unit responsible for the military aircraft conducting such flight shall decide specifically for each mission on the use of the SSR transponder code in all parts of airspace, thereby giving consideration to maintaining flight safety.

The military control unit and the pilot-in-command conducting a quick reaction alert flight shall each ensure that a sufficient safety distance is maintained between the aircraft executing the mission and any other aircraft.

25 TRAIL FORMATION

Should a formation so request, it may be cleared to fly in a trail formation in all phases of the flight (take-off, en-route, approach and landing) providing it complies with any requirements set for it by the relevant air traffic control unit.

The pilots-in-command of the aircraft flying in a trail formation shall be responsible for the separations between their aircraft and aim to maintain a distance of approximately 2 NM with other aircraft in the formation. All aircraft in the formation shall have the SSR transponder mode 3A/C and code response activated unless instructed otherwise by the air traffic controller. Apart from take-off and landing, all aircraft flying in the trail formation shall maintain the same flight altitude or use separately defined altitude blocks. For the eventuality of a missed approach, the relevant air traffic control unit shall reserve a minimum of 1,000 ft of the available block in the climb direction per each aircraft in the formation.

At an airport where no ATS surveillance services are provided, the aircraft flying in a trail formation shall be issued clearance altitude in blocks. Such a block altitude shall be at least 1,000 ft per aircraft.

26 MINIMUM VECTORING ALTITUDES

An air traffic controller may provide any military aircraft flying in or above a control zone with a flight altitude applying a reduced obstacle clearance of 150 m. In such cases, the aircraft shall be informed of being vectored applying a reduced obstacle clearance. For such clearance to be issued there needs to be a valid ATC surveillance minimum altitude chart (ATC SMAC) of the aerodrome. The altitude for the reduced obstacle clearance is derived by deducting 500 ft from the surveillance minimum altitude in question.

If a military aircraft is vectored for an instrument approach procedure, the flight altitude provided by the air traffic controller shall enable the aircraft to join the instrument approach procedure at least at the intermediate approach altitude. An aircraft shall remain in controlled airspace during radar vectoring but there is no requirement concerning lateral separation from uncontrolled airspace.

27 CIVIL AIRCRAFT TRANSIT THROUGH TRA RESERVED FOR MILITARY AVIATION

A military control unit may clear a civil aircraft to transit through a TRA placed under military control (incl. a local TRA). In this case, the military control unit shall see to it that a sufficient safety distance is maintained between the civil aircraft and any military aircraft. The minimum allowed safety distance between a military aircraft and a civil aircraft is either 10 NM in the horizontal direction or 2,000 ft in the vertical direction. The civil aircraft shall select the SSR transponder mode 3 A/C or S. The civil aircraft’s radio connection shall not be transferred to the military control unit. An air traffic services unit shall transmit any transit restrictions placed by the military control unit (such as those concerning times or altitudes) to the civil aircraft.

An air traffic services unit may modify a clearance coordinated with the military control unit only for a compelling reason. Any changes in the aircraft's route or altitude shall immediately be reported to the military control unit.

28 TRANSITIONAL PROVISIONS

Chapter 27 of this directive may only be applied below flight level 95 until the military aviation regulatory body, military regulatory body and air navigation service provider have agreed to introduce the procedure in full. When the introduction is extended to concern the entire airspace, a technical update shall be made into this directive to remove the restriction placed in this chapter.

29 EXEMPTIONS

In airspace reserved for military aviation, the visual contact requirement of an air traffic controller stipulated in chapters 12, 13 and 14 may be replaced by a similar visual contact requirement of the runway supervisor unless the air traffic controller has visual contact or reliable technology mediated visual contact of the entire runway in use (or equivalent).

The Finnish Military Aviation Authority may grant exemptions from this directive based on a justifiable application addressing the exceptional features of the activities in question. The application process and instructions are detailed in the military aviation authority directive SIO-Pe-YI-008 “Applying for an exemption to a decision by the military aviation authority or valid military aviation directive”.

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