NATO STANDARD

AATMP-06

NATO STANDARD AERODROME AND HELIPORT ATS PROCEDURES

Edition A Version 1
FEBRUARY 2019

NORTH ATLANTIC TREATY ORGANIZATION

ALLIED AIR TRAFFIC MANAGEMENT PUBLICATION

Published by the
NATO STANDARDIZATION OFFICE (NSO)

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NORTH ATLANTIC TREATY ORGANIZATION (NATO)

NATO STANDARDIZATION OFFICE (NSO)

NATO LETTER OF PROMULGATION

28 February 2019

1. The enclosed Allied Air Traffic Management Publication AATMP-06, Edition A, Version 1, NATO STANDARD AERODROME AND HELIPORT ATS PROCEDURES, which has been approved by the nations in the AIR TRAFFIC MANAGEMENT – COMMUNICATIONS, NAVIGATION AND SURVEILLENCE ADVISORY GROUP, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 3297.

2. AATMP-06, Edition A, Version 1, is effective upon receipt.

3.

4. This publication shall be handled in accordance with C-M(2002)60.

Zoltán GULYÁS
Brigadier General, HUNAF
Director, NATO Standardization Office

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RESERVED FOR NATIONAL LETTER OF PROMULGATION

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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
ESP	TO THE DOCUMENT : implementation of procedures at Joint Civil-Military Aerodromes (LEZG-Zaragoza, LEST-Santiago, LESJ/LEPA-Son San Juan/Palma de Mallorca, LEVS/LECU-Madrid Cuatro Vientos, LEMG-Málaga, GCLP-Gando/Gran Canaria, GCXO-Tenerife Norte/Los Rodeos y GCRR-Lanzarote), and in GEML-Melilla, Aerodrome depends on civil-military agreement. TO THE DOCUMENT : use of procedures by ATCOs and availability of means in the Aerodromes of the previous reservation depends on modification of local civil-military agreements, except in LEZG-Zaragoza, where services are provided by the military. TO 5.4.2 : runway lights and PAPI aren´t compatible with NVG.
FRA	Chapter 4 will not be implemented in France.
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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CHAPTER 1 INTRODUCTION

1.1. PURPOSE

1.1.1. AATMP-06 establishes common NATO standard Air Traffic Services (ATS) aerodrome, heliport, flameout procedures, and control of MOS operations.

1.2. SCOPE

1.2.1. The scope of this Allied Publication is for use by Air Traffic Control personnel performing ATS in the performance of NATO operations.

1.3. TERMS AND DEFINITIONS

1.3.1. For the purpose of this AATMP, the following definitions apply (other terms are defined in Doc 4444):

ATS. Air Traffic S. A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

IFR. The symbol used to designate instrument flight rules.

IMC. The symbol used to designate instrument meteorological conditions.

VFR. The symbol used to designate visual flight rules.

VMC. The symbol used to designate visual meteorological conditions

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.CHAPTER 2 AERODROME PROCEDURES – FIXED WING AIRCRAFT

2.1. CONTROL OF AERODROME TRAFFIC

2.1.1. The control of aerodrome traffic shall be according ICAO DOC 4444.

2.1.2. Where there is an ATS, pilots shall listen out on the appropriate frequency during taxiing. If radio silence has been stipulated, the pilot should have the frequency selected in order to receive urgent messages from ATS, but there is no requirement for them, to check in on the frequency.

2.1.3. Permission to taxi is to be given by ATS and is to include precise instructions and warning of obstructions on or near taxiing routes.

2.2. CONTROL OF DEPARTING AIRCRAFT

2.2.1. The control of departing aircraft shall be according ICAO DOC 4444 PANS ATM chapter 7.9.

2.3. VISUAL CIRCUIT AND LANDING PROCEDURES

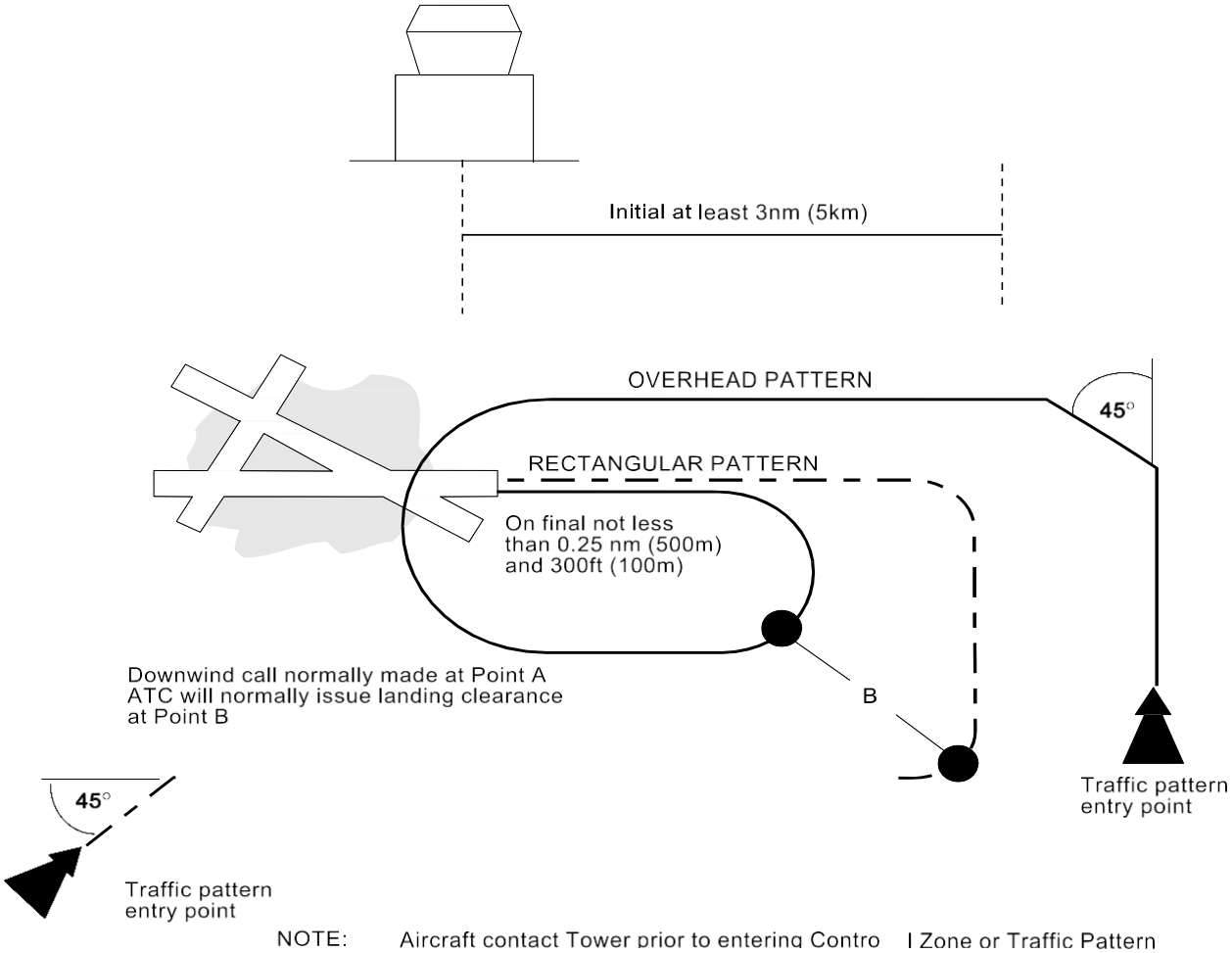
2.3.1. The control of arriving aircraft shall be according ICAO DOC 4444 with the following additions:

2.3.1.1. The NATO standard visual aerodrome circuit and landing patterns are promulgated in this document (see Figure A-1) and military aerodromes must be prepared to implement NATO standard patterns when called upon to operate NATO forces. Pilots must expect to fly NATO patterns when visiting NATO aerodromes.

2.3.1.2. Standard circuit patterns are to be left-hand unless otherwise authorized. Straight-in approaches are permitted to expedite traffic. The overhead pattern is normally used for the recovery of fighter-type aircraft, and the rectangular pattern by other aircraft (see Figure A-2).

2.3.1.3. Deviations in direction and extent of patterns, heights, entry points, etc., are permitted when required by local conditions, terrain, flight safety, ATC circumstances, noise abatement, or when mission dictates, etc. However, when patterns are established which deviate significantly from the illustrated standards, ATC personnel will give pilots adequate instructions upon initial contact.

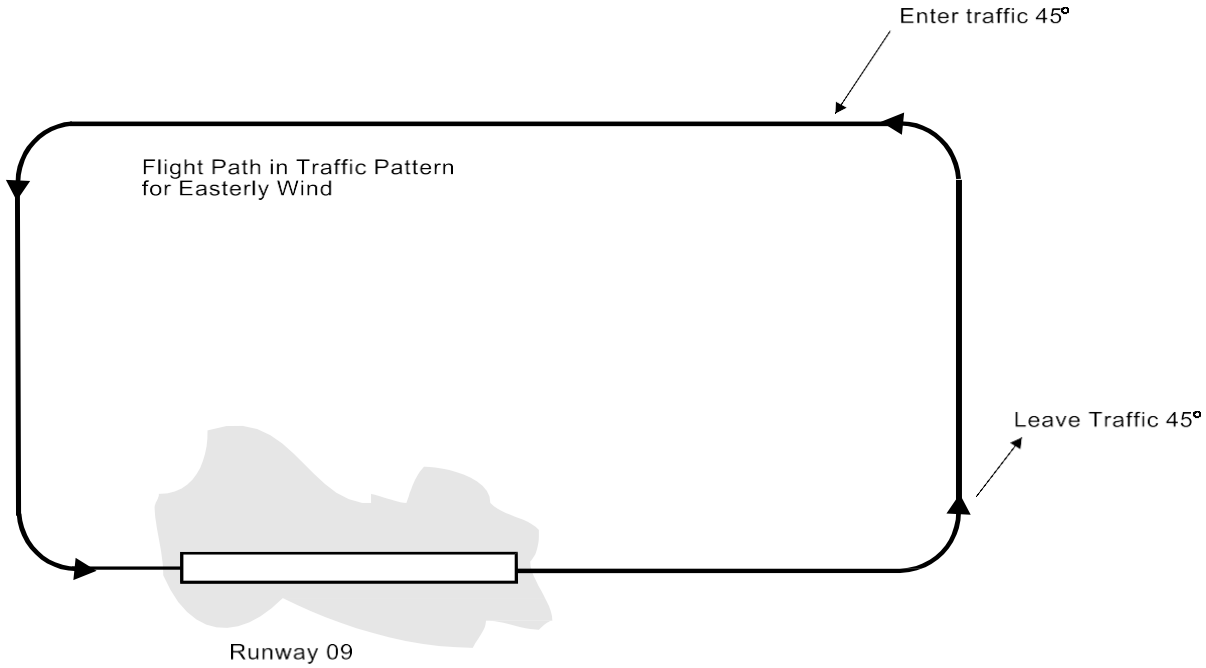
Figure A-1. NATO Standard VFR Traffic Landing Pattern – Fixed-Wing



2.3.1.4 For land bases using QNH, standard pattern heights will be established at the nearest 100 ft (or 30 m) level in relation to the elevation; for example, if aerodrome elevation is 245 ft (or 75 m), the rectangular pattern would be 1,200 ft (or 400 m) with deviations permitted for reasons stated in paragraph 2.3.1.3. above.

2.3.1.5. As a normal standard, pilots approaching for landing will request permission to join the circuit pattern with ATC approximately 3 to 5 minutes flying time from the aerodrome or before entering the CTR, whichever comes first and give applicable position report. On the first call, a formation leader is to state the number of aircraft in his formation. Clearance from ATS for the aircraft to enter the pattern is to include items of essential information regarding the circuit direction, runway in use and number and position of all aircraft which may constitute essential aerodrome traffic to the aircraft concerned.

Figure A-2. NATO Standard Rectangular Traffic Landing Pattern – Fixed-Wing



2.3.1.6. If an aircraft enters a traffic circuit without permission, the existence of an emergency is to be considered and the aircraft should be permitted to land. If necessary, other aircraft are to be instructed to give way.

2.3.1.7. The following overshooting procedures are to be complied with:

2.3.1.7.1. When instructed to ‘go around’, pilots shall comply with local operation procedures or in accordance with ATC instructions;

2.3.1.8.2. When overshooting, pilots are to do so to the dead side of the runway use.

2.3.1.9. Essential information on aerodrome conditions is to be given to all aircraft in sufficient time for pilots to make use of the information.

2.4. INSTRUMENT FLIGHT PROCEDURES

2.4.1. The criteria for developing and flying instrument procedures are covered in respectively STANAG 3759 and STANAG 7199.

CHAPTER 3 AERODROME PROCEDURES - HELICOPTERS

3.1. PROCEDURES

3.1.1. The NATO standard visual aerodrome circuit and landing patterns are promulgated in this document (see Figure B-1) and military aerodromes must be prepared to implement NATO standard patterns when called upon to operate NATO forces. Pilots must expect to fly NATO patterns when visiting NATO aerodromes.

3.1.2. Standard circuit patterns are to be left-hand unless otherwise authorized. Straight-in approaches are permitted to expedite traffic.

3.1.3. Deviations in direction and extent of patterns, heights, entry points, etc., are permitted when required by local conditions, terrain, flight safety, ATC circumstances, noise abatement, or when mission dictates, etc. However, when patterns are established which deviate significantly from the illustrated standards, ATC personnel will give pilots adequate instructions upon initial contact.

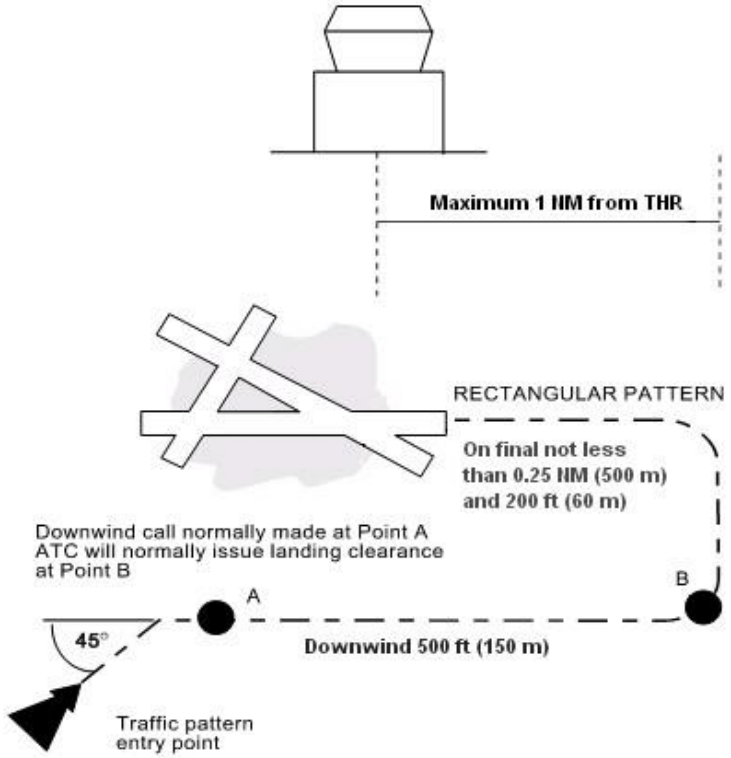
3.1.4. As a normal standard, pilots approaching for landing will request permission to join the circuit pattern approximately 3 to 5 minutes flying time from the aerodrome or before entering the CTR, whichever comes first and give applicable position report. On the first call, a formation leader is to state the number of aircraft in his formation. Clearance from ATS for the aircraft to enter the pattern is to include items of essential information regarding the circuit direction, runway/panel in use and number and position of all aircraft which may constitute essential aerodrome traffic to the aircraft concerned.

3.1.5. For land bases using QNH, standard pattern heights will be established at the nearest 100 ft (or 30 m) level in relation to the elevation; for example, if aerodrome elevation is 245 ft (or 75 m), the rectangular pattern for light aircraft and helicopters would be established at 700 and 500 ft (or 250 and 150 m) respectively with deviations permitted for reasons stated in paragraph 3.1.3. above.

3.2. INSTRUMENT FLIGHT PROCEDURES

3.2.1. The criteria for developing and flying instrument procedures are covered in STANAG 3759 and STANAG 7199.

Figure B-1. NATO Standard VFR Traffic Landing Pattern – Helicopters



NOTE: Aircraft contact Tower prior to entering Control Zone or Traffic Pattern

CHAPTER 4 – FLAME-OUT PROCEDURES

4.1. GENERAL

4.1.1. Although the term "flame-out" is used to describe the complete loss of engine thrust in jet aircraft, these procedures may be used by non-jet aircraft or for partial loss of power in either jet or non-jet aircraft.

4.1.2. This STANAG is not intended to supersede flame-out procedures contained in aircraft operating manuals or those established by operating commands. It is intended as a basis for ATS procedures to be used to assist pilots who experience an actual (not practice) flame-out. The aim of these procedures is to bring an aircraft into visual contact with an airfield at a suitable height for a landing to be attempted.

4.1.3. Whenever an actual flame-out is notified to ATS, it shall be considered and handled as an emergency condition.

4.1.4. It is the responsibility of the pilot in command to determine whether a flame-out recovery should be attempted after consideration of data provided by ATS, the particular situation that exists, and his operating command flame-out procedures for the type of aircraft being flown.

4.2. INITIAL ACTION

4.2.1. When aware of a flame-out condition the pilot should:

4.2.1.1. Make a distress call as soon as possible and squawk emergency. The call should include aircraft type, altitude and position.

4.2.1.2. Advise ATS of his intentions and request any assistance required immediately, such as determining position or heading to nearest suitable aerodrome or to reach nearest land.

4.2.1.3. Advise ATS of the progress of the recovery.

4.2.1.4. Advise ATS of any change of intentions.

4.2.1.5. Action by ATS. When notified that a flame-out recovery is required, ATS personnel should:

4.2.1.6.1. Advise other aircraft of the emergency in progress and keep them off the frequency being used by the aircraft in distress. If possible, avoid changing the frequency of the aircraft in distress once suitable contact is established.

4.2.1.6.2. Inform the pilot in distress of the nearest and most suitable airfield, considering weather conditions (including winds), terrain and obstructions.

4.2.1.6.3. Co-ordinate actions with other ATS facilities as required and alert crash and rescue facilities.

4.2.1.6.4. If the pilot intends to carry out a flame-out procedure at an aerodrome, provide him with information regarding the runway in use, wind, altimeter setting and weather. Be as brief

as possible and do not unnecessarily disturb the pilot, particularly in the final stages of an approach to land.

4.2.1.6.5. If the aircraft is over water, guide the pilot towards land as soon as possible. If over land, position the aircraft over the most favorable area for pilot survival.

4.2.1.6.6. Give the pilot in distress essential information upon which he can base his decisions, without volunteering courses of action.

4.2.1.7. Ejection. If ejection is elected, and time permits, the pilot should pass to ATS (immediately prior to ejection) aircraft heading and altitude. ATS should record this information and pass it immediately to the appropriate rescue facility.

4.3. METHODS OF FLAME-OUT RECOVERY

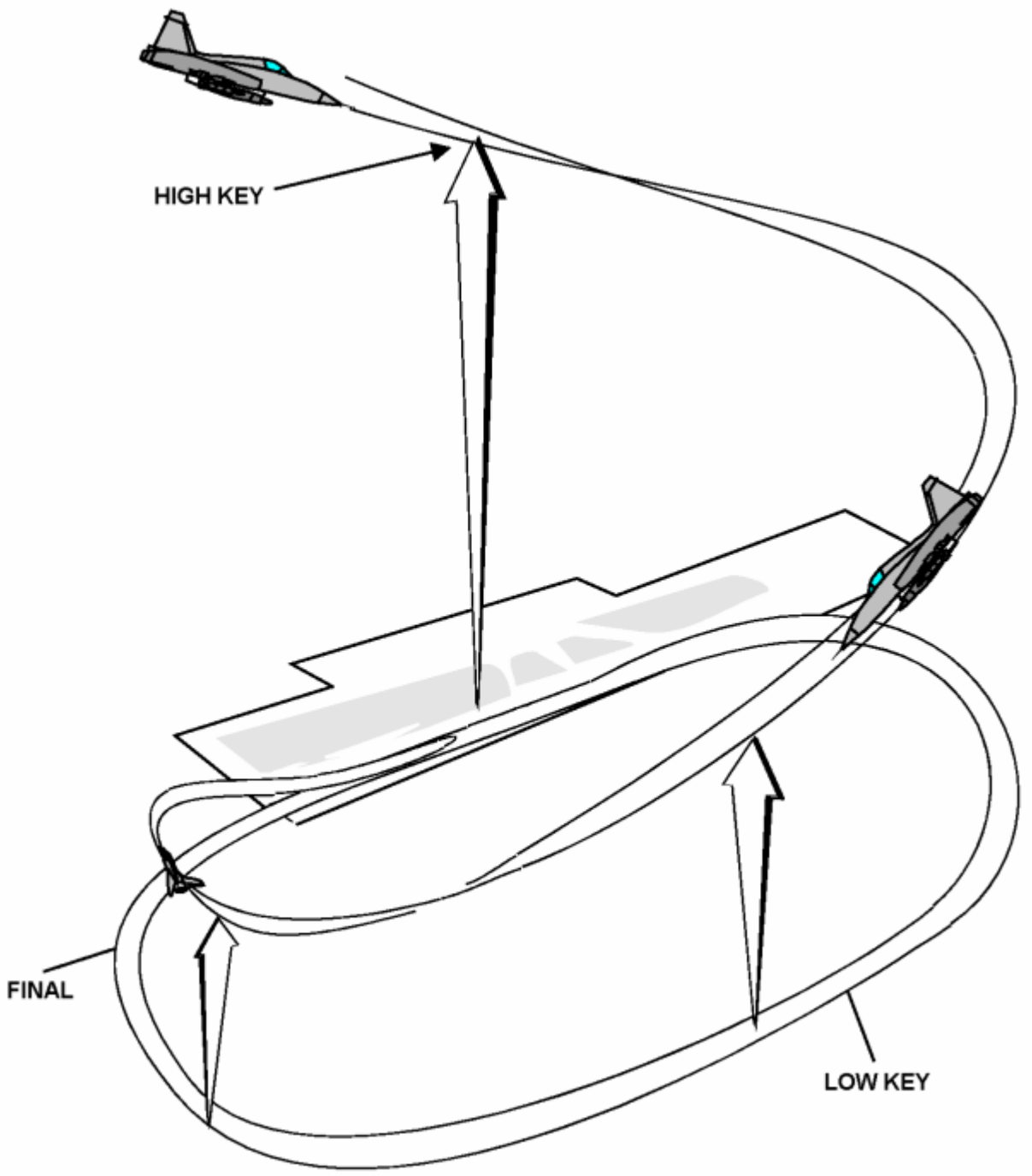
4.3.1. The initial actions of the pilot and ATS should be as described in paragraph 4.2. Subsequently there are two commonly used recovery procedures, which are:

4.3.1.1. Flame-Out Procedure. A flame-out procedure is normally a spiral descent in the airfield overhead in one of the following situations:

4.3.1.1.1. VMC. If the pilot is in VMC the aircraft should be positioned overhead the airfield and descended in a spiral to land. If the pilot has requested a straight-in flame-out approach, the aircraft should be positioned so as to continue on a straight-in approach to land or for the most suitable runway at low key position. Conduct approaches in accordance with the patterns shown in Figure C-1 and Figure C-2.

4.3.1.1.2. IMC. If the pilot is in IMC or above cloud, positive direction from ATS is required to home the aircraft to overhead the airfield, and to initiate and maintain a spiral descent in the overhead until the pilot makes visual contact with the airfield. Thereafter, the pilot continues his spiral descent to land in accordance with Figure C-1.

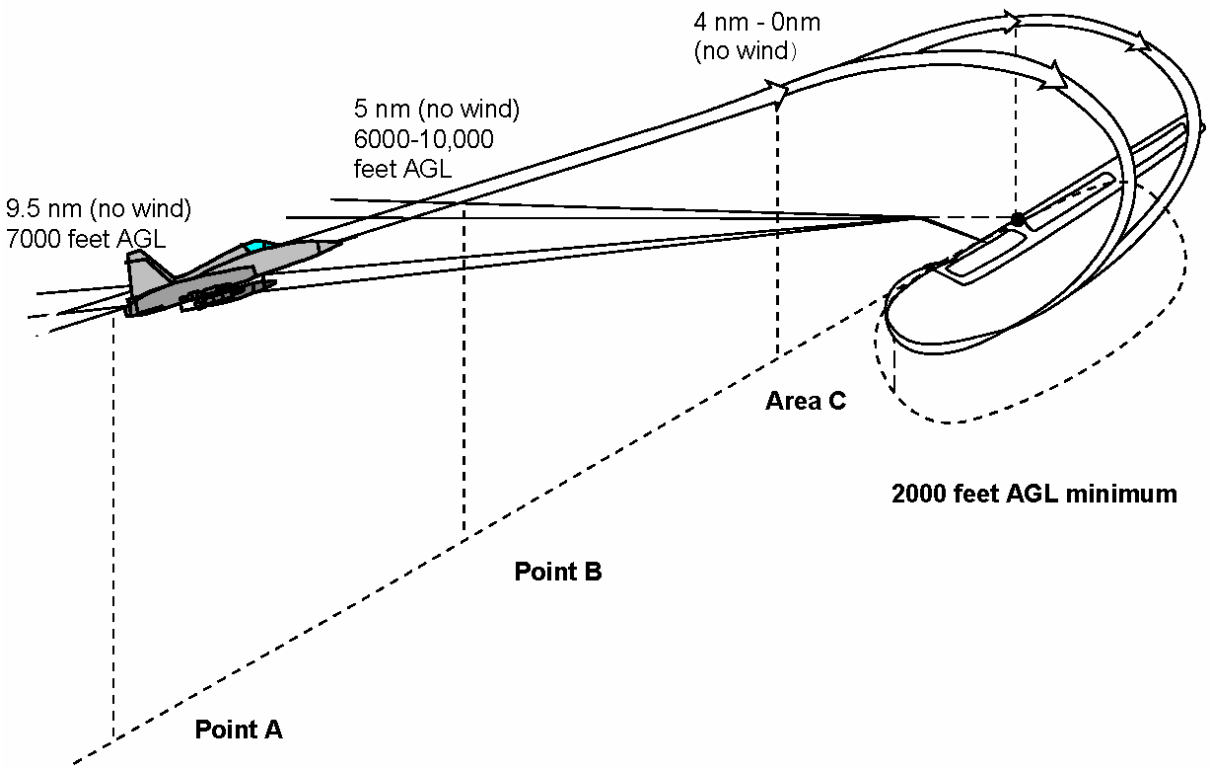
Figure C-1. TYPICAL OVERHEAD FLAME-OUT PATTERN - VMC



Note: Unless restricted by airfield regulation, break may be either left or right.

4.3.1.1.3. Radar Controlled Flame-out Procedure (RCFP) or one-in-one approach is a glide descent to a straight-in landing. Whether the pilot is in IMC or VMC, ATS should provide instructions to steer the aircraft to a position from which a straight-in landing can be made. Once identified, the pilot is given ranges at 1 nm intervals to a position overhead the airfield. Whilst gliding towards the airfield the pilot should compare his range with his height in thousands of feet and adjust his glide such that he is able, ultimately, to achieve a one-in-one glide slope (that is a loss of 1000 ft vertically for each 1 nm travelled horizontally). If the aircraft is particularly high in relation to the distance to run, the pilot may elect to deviate temporarily from his ideal track or carry out an orbit in order to achieve the required range/height relationship. Once the aircraft is established in the glide, that is the height in thousands of feet equates with the horizontal distance from the airfield in nautical miles, the pilot is to be passed range information at 0.5 nm intervals. On becoming visual with the airfield the pilot may elect to continue straight-in to land or position for the most suitable runway at low key position, as for a flame-out procedure.

Figure C-2. TYPICAL STRAIGHT IN FLAME-OUT PATTERN – VMC



Notes:

- *Pilot has option to proceed to straight-in landing or fly a semi-level flight path to a circling approach.*
- *All depicted altitudes are approximate and dependent on aircraft type.*
- *Unless restricted by airfield regulations, break may be either left or right.*

CHAPTER 5 – CONTROL OF MINIMUM OPERATING STRIPS (MOS) OPERATIONS

5.1 GENERAL

4-4

5.1.1 Standardized MOS procedures should ensure the safe and efficient management and control of aircraft and ground vehicles operating on a MOS and associated maneuvering areas, during times of crisis and war and peacetime activities.

5.1.2 During peacetime exercises or times of crisis and war, after an attack on an airfield, it may become necessary to identify a MOS to enable operations to continue. Previously unused or unmarked hard surfaces may have to be used by aircraft and vehicles for ground maneuvering when a MOS is in use. Therefore, the effective management and control of the MOS will depend on:

a. The ability of the MOS controller to see the MOS and associated maneuvering areas.

b. The communications available to the MOS controller.

c. The marking and lighting of the MOS and associated maneuvering areas.

5.2 MOS CONTROL

5.2.1 If fixed Air Traffic Control (ATC) facilities are not suitably positioned to allow effective control of all available MOS and helicopter landing sites, a mobile MOS controller should be positioned close to the MOS threshold. He should have adequate communications to be able to control MOS operations at least by means of visual light signals in accordance with STANAG 7012.

5.3 COMMUNICATIONS

5.3.1 The MOS controller should have immediate access to the following communications:

a. Air-to-ground communications with taxiing, departing and arriving aircraft.

b. Ground-to-ground communications with vehicles operating on the maneuvering areas.

5.4 MOS MARKING AND LIGHTING

5.4.1 The MOS and associated maneuvering area are to be marked in accordance with STANAG 3534. However, markers smaller than those specified in STANAG 3534 may be used to ensure a rapid deployment and recovery capability. Retro-reflective material should be used to provide covert guidance at night.

5.4.2 The MOS should be lit with a Type II Lighting System, as specified in STANAG 3534, and should possess the following additional features:

a. NVG compatible runway lights and PAPIs.

b. Integral battery chargers and generators.

c. A remote-control facility.

d. An instantaneously black-ou 5-1

5.5 CONTROL OF HELICOPTERS

5.5.1 Helicopter arrival and departure routes should be adjusted to ensure de-confliction with MOS operations.

5.6 CONTROL OF VEHICLES

5.6.1 The MOS controller should have the means to control all vehicles operating on the MOS or maneuvering areas. If ground-to ground radio-telecommunications are not available then other methods should be employed. For example, light signals and/or a one way traffic system incorporating, if necessary, the use of portable remote-control traffic lights.

ANNEX A – SAFETY CONSIDERATIONS

Introduction: This Annex is intended for NATO Led Service Providers in implementing this STANAG at existing or planned airfields as well as during deployed operations.

It includes general considerations such as the suitability of the STANAG/AATMP for the required operations, currency with regard to edition number and amendments, applicability of related documents, nations ratifying and reservations.

Specific safety considerations are identified by the custodian of the STANAG/AATMP and national SMEs along with consequences and possible mitigations.

Custodian POC. For users to provide any comments and lessons learned: Mr. Frederick Soechting Jr., frederick.soechting.1@us.af.mil**.**

General:
In the implementation of any STANAG/AATMP, the NATO Led Service Provider should verify the items listed below using the NATO Standardization Office (NSO) pass word protected Website https://NSO.nato.int/NSO/

A. Suitability	Review STANAG 7210 (AEP-68) *Guidance in the Selection of STANAGs for Deployed Operations, to determin*e if the STANAG/AATMP is suitable for the type of operation required.
B. Currency	Ensure that STANAG/AATMP Edition and any Amendments are the most current as shown on the NSO website.
C. Related Documents	Obtain related documents cited in the STANAG/AATMP and, in particular, review those documents where criteria as been adopted. STANAGs are available on the NSO Website whereas civilian documents, such as ICAO, may be available from your Aviation or Engineering Commands.
D. Implementation Status	Review the ratification status along with any reservations to the STANAG/AATMP on the NSO Website and, in particularly, the status for those for nations taking part in the operation.
E. Compliance	For existing airfield facilities and procedures, determine if they are in compliance with the criteria and standards specified in the STANAG/AATMP.

Safety Considerations	Consequences	Possible Mitigations
Instruction to taxi is to be given by ATS and is to include precise instructions and warning of obstructions on or near taxiing routes.	Potential for lack of warning to pilots about obstructions on or near taxiing routes.	Verify status of taxi routes with aerodrome authority, airfield management, senior airport authority, agency responsible for flying operations at aerodrome.
When patterns are established which deviate significantly from the illustrated standards, ATC personnel will give pilots adequate instructions upon initial contact.	Potential for incorrect patter altitudes or instructions to be relayed.	Verify status and ability to obtain current pattern information with aerodrome authority, airfield management, senior airport authority, agency responsible for flying operations at aerodrome.
When instructed to 'go around', pilots shall comply with local operation procedures or in accordance with ATC instructions	Potential for pilots to be unfamiliar with local operating procedures.	Verify senior airport authority, agency responsible for flying operations at aerodrome familiarizes pilots with local operating procedures.
Essential information on aerodrome conditions is to be given to all aircraft in sufficient time for pilots to make use of the information. for charts, maps, NOTAMs and forms.	Potential for essential information not being available to ATS.	Verify status and ability to obtain current essential information with aerodrome authority, airfield management, senior airport authority, agency responsible for flying operations at aerodrome.

AATMP-06(A)(1)