

**ENR 1.5 HOLDING, APPROACH AND DEPARTURE PROCEDURES****1. GENERAL****1.1 Reference documents**

1.1.1 The holding, approach and departure procedures are established using the criteria contained in ICAO Doc 8168 - OPS/611, Volume II.

1.1.2 The holding, approach and departure procedures are published at AD 2.24.

**1.2 Holding criteria**

1.2.1 The holding patterns shall be entered and flown at indicated airspeeds (IAS) not exceeding the limit values given hereafter:

Levels <sup>1</sup>	Normal conditions	Turbulence conditions
Helicopters up to 1 830 m (6 000 ft) inclusive	185 km/h (100 kt)	
Up to 4 250 m (14 000 ft) inclusive	425 km/h (230 kt) <sup>2</sup> 315 km/h (170 kt) <sup>4</sup>	520 km/h (280 kt) <sup>3</sup> 315 km/h (170 kt) <sup>4</sup>
Above 4 250 m (14 000 ft) to 6 100 m (20 000 ft) inclusive	445 km/h (240 kt) <sup>5</sup>	520 km/h (280 kt)
Above 6 100 m (20 000 ft) to 10 350 m (34 000 ft) inclusive	490 km/h (265 kt) <sup>5</sup>	or 0.8 Mach, whichever is less <sup>3</sup>
Above 10 350 m (34 000 ft)	0.83 Mach	0.83 Mach

1. The levels tabulated represent altitudes or corresponding flight levels depending upon the altimeter setting in use.
2. When the holding procedure is followed by the initial segment of an instrument approach procedure promulgated at a speed higher than 425 km/h (230 kt), the holding should also be promulgated at this higher speed wherever possible.
3. See Doc 8168, Volume II, Part II - Section 4, Chapter 1, 1.3.1.4, "Aircraft holding at 520 km/h (280 kt)/ 0.8 Mach".
4. For holdings limited to Cat A and B aircraft only and Cat H above 1 830 m (6 000 ft).
5. Wherever possible, 520 km/h (280 kt) should be used for holding procedures associated with airway route structures.

**2. PROCEDURES FOR ARRIVING AIRCRAFT****2.1 General**

2.1.1 An IFR flight shall not be cleared for an initial approach below the appropriate minimum altitude as specified by the competent authority nor to descend below that altitude unless:

- a. the pilot has reported passing an appropriate point defined by a navigation aid or as a waypoint; or
- b. the pilot reports that the aerodrome is and can be maintained in sight; or
- c. the aircraft is conducting a visual approach; or
- d. the controller has determined the aircraft's position by the use of an ATS surveillance system, and a lower minimum altitude has been specified for use when providing ATS surveillance services.

- 2.1.2 At aerodromes where standard instrument arrivals (STARs) have been established, arriving aircraft should normally be cleared to follow the appropriate STAR. The aircraft shall be informed of the type of approach to expect and runway-in-use as early as possible.
- 2.1.3 After coordination with the approach control unit, the ACC may clear the first arriving aircraft for approach rather than to a holding fix.
- 2.1.4 The flight crew shall comply with published STAR speed restrictions unless the restrictions are explicitly cancelled or amended by the controller.
- 2.1.5 Clearances to aircraft on a STAR with remaining published level and/or speed restrictions shall indicate if such restrictions are to be followed or are cancelled.
- 2.1.6 When an arriving aircraft is cleared to proceed direct to a published waypoint on the STAR, the speed and level restrictions associated with the bypassed waypoints are cancelled. All remaining published speed and level restrictions shall remain applicable.
- 2.1.7 When an arriving aircraft is vectored or cleared to proceed to a point that is not on the STAR, all the published speed and level restrictions of the STAR are cancelled and the controller shall:
- reiterate the cleared level;
  - provide speed and level restrictions as necessary; and
  - notify the pilot if it is expected that the aircraft will be instructed to subsequently rejoin the STAR.

## **2.2 Visual approach**

- 2.2.1 Subject to the conditions in 2.2.3, clearance for an IFR flight to execute a visual approach may be requested by a flight crew or initiated by the controller. In the latter case, the concurrence of the flight crew shall be required.
- 2.2.2 Controllers shall exercise caution in initiating a visual approach when there is reason to believe that the flight crew concerned is not familiar with the aerodrome and its surrounding terrain. Controllers should also take into consideration the prevailing traffic and meteorological conditions when initiating visual approaches.
- 2.2.3 An IFR flight may be cleared to execute a visual approach provided the pilot can maintain visual reference to the terrain and:
- the reported ceiling is at or above the level of the beginning of the initial approach segment for the aircraft so cleared; or
  - the pilot reports at the level of the beginning of the initial approach segment or at any time during the instrument approach procedure that the meteorological conditions are such that with reasonable assurance a visual approach and landing can be completed.
- 2.2.4 The controller may initiate vectoring of an aircraft for visual approach provided the reported ceiling is above the minimum altitude applicable to vectoring and meteorological conditions are such that, with reasonable assurance, a visual approach and landing can be completed.
- 2.2.5 Clearance for visual approach shall be issued only after the pilot has reported the aerodrome or the preceding aircraft in sight, at which time vectoring would normally be terminated.
- 2.2.6 Separation shall be provided between an aircraft cleared to execute a visual approach and other arriving and departing aircraft.
- 2.2.7 For successive visual approaches, separation shall be maintained by the controller until the pilot of a succeeding aircraft reports having the preceding aircraft in sight. The aircraft shall then be instructed to follow and maintain own separation from the preceding aircraft. When both aircraft are of a heavy wake turbulence category, or the preceding aircraft is of a heavier wake turbulence category than the following, and the distance between the aircraft is less than the appropriate wake turbulence minimum, the controller shall issue a caution of possible wake turbulence. The pilot-in-command of the aircraft concerned shall be responsible for ensuring that the spacing from a preceding aircraft of a heavier wake turbulence category is acceptable. If it is determined that additional spacing is required, the flight crew shall inform the ATC unit accordingly, stating their

requirements.

- 2.2.8 Transfer of communications to the aerodrome controller should be effected at such a point or time that information on essential local traffic, if applicable, and clearance to land or alternative instructions can be issued to the aircraft in a timely manner.

*Note: The appropriate ATS units should apply restrictions on such procedure considering RWY occupancy time and TWY availability.*

- 2.2.9 Clearance for visual approach at night shall not be authorized.

### 2.3 Instrument approach

- 2.3.1 The approach control unit shall specify the instrument approach procedure to be used by arriving aircraft. A flight crew may request an alternative procedure and, if circumstances permit, should be cleared accordingly.

- 2.3.2 If a pilot reports or it is clearly apparent to the ATC unit that the pilot is not familiar with an instrument approach procedure, the initial approach level, the point (in minutes from the appropriate reporting point) at which base turn or procedure turn will be started, the level at which the procedure turn shall be carried out and the final approach track shall be specified, except that only the last-mentioned need be specified if the aircraft is to be cleared for a straight-in approach. The frequency(ies) of the navigation aid(s) to be used as well as the missed approach procedure shall also be specified when deemed necessary.

- 2.3.3 If visual reference to terrain is established before completion of the approach procedure, the entire procedure must nevertheless be executed unless the aircraft requests and is cleared for a visual approach.

### 2.4 Holding

- 2.4.1 In the event of extended delays, aircraft should be advised of the anticipated delay as early as possible and, when practicable, be instructed or given the option to reduce speed en route in order to absorb delay.

- 2.4.2 When delay is expected, the APP shall normally be responsible for clearing aircraft to the holding fix, and for including holding instructions, and expected approach time or onward clearance time, as applicable, in such clearances.

- 2.4.3 Holding and holding pattern entry shall be accomplished in accordance with procedures established by the competent authority and published in AD 2.24. If entry and holding procedures have not been published or if the procedures are not known to a flight crew, the appropriate air traffic control unit shall specify the designator of the location or aid to be used, the inbound track, radial or bearing, direction of turn in the holding pattern as well as the time of the outbound leg or the distances between which to hold.

- 2.4.4 Aircraft should normally be held at a designated holding fix. The required minimum vertical, lateral or longitudinal separation from other aircraft shall be provided.

- 2.4.5 Levels at a holding fix shall as far as practicable be assigned in a manner that will facilitate clearing each aircraft to approach in its proper priority. Normally, the first aircraft to arrive over a holding fix should be at the lowest level, with following aircraft at successively higher levels.

- 2.4.6 When extended holding is anticipated, turbojet aircraft should, when practicable, be permitted to hold at higher levels in order to conserve fuel, while retaining their order in the approach sequence.

- 2.4.7 If an aircraft is unable to comply with the published or cleared holding procedure, alternative instructions shall be issued.

- 2.4.8 For the purpose of maintaining a safe and orderly flow of traffic, an aircraft may be instructed to orbit at its present or at any other position, provided the required obstacle clearance is ensured.

### 2.5 Holding for weather improvement

- 2.5.1 If the pilot of an aircraft in an approach sequence has indicated an intention to hold for weather improvement, or for other reasons, such action shall be approved. However, when other holding aircraft indicate intention to continue their approach to land, the pilot desiring to hold will be cleared to an adjacent fix for holding awaiting weather change or re-routing. Alternatively, the aircraft should be given a clearance to place it at the top of the approach sequence so that other holding aircraft may be permitted to land. Coordination shall be effected with

any adjacent ATC unit or control sector, when required, to avoid conflict with the traffic under the jurisdiction of that unit or sector.

## **2.6 Expected approach time**

2.6.1 The appropriate air traffic services unit should determine an expected approach time for an arriving aircraft that will be subjected to a delay of 10 minutes or more. An expected approach time shall be determined and issued for each arriving aircraft. The expected approach time shall be transmitted to the aircraft as soon as practicable and preferably not later than at the commencement of its initial descent from cruising level. A revised expected approach time shall be transmitted to the aircraft without delay whenever it differs from that previously transmitted by 5 minutes or more.

2.6.2 An expected approach time shall be transmitted to the aircraft by the most expeditious means whenever it is anticipated that the aircraft will be required to hold for 30 minutes or more.

2.6.3 The holding fix to which an expected approach time relates shall be identified together with the expected approach time whenever circumstances are such that this would not otherwise be evident to the pilot.

## **2.7 Onward clearance time**

2.7.1 In the event an aircraft is held en route or at a location or aid other than the initial approach fix, the aircraft concerned shall, as soon as practicable, be given an expected onward clearance time from the holding fix. The aircraft shall also be advised if further holding at a subsequent holding fix is expected.

*Note: "Onward clearance time" is the time at which an aircraft can expect to leave the fix at which it is being held.*

## **2.8 Information for arriving aircraft**

2.8.1 Aircraft shall acknowledge receipt of the information via ATIS upon establishing communication with the ATS unit providing approach control service or the aerodrome control tower, as appropriate.

2.8.2 When rapidly changing meteorological conditions make it inadvisable to include a weather report in the ATIS, the ATIS messages shall indicate that the relevant weather information will be given on initial contact with the appropriate ATS unit.

2.8.3 Information contained in a current ATIS, the receipt of which has been acknowledged by the aircraft concerned, need not be included in a directed transmission to the aircraft, with the exception of the altimeter setting.

2.8.4 If an aircraft acknowledges receipt of an ATIS that is no longer current, the ATS unit shall, without delay, take either of the following actions:

1. communicate to the aircraft any element of information which has to be updated;
2. instruct the aircraft to obtain the current ATIS information.

2.8.5 In case of ATIS failure or pilots are unable to receive ATIS transmission, the ATS unit providing approach control service, the aerodrome control tower or AFIS shall provide arriving traffic with information as specified in Regulation (EU) 2017/373, AMC10 and AMC12 (c) of ATS.TR.210(a)(3) Operation of air traffic control service.

## **2.9 Distance-based wake turbulence separation minima**

2.9.1 The following distance-based wake turbulence separation minima shall be applied to aircraft being provided with an ATS surveillance service in the approach and departure phases of flight in the circumstances given in 2.9.2. Time based wake turbulence separation minima shall be applied to aircraft being provided with aerodrome control service.

Aircraft Category		
Preceding Aircraft	Succeeding Aircraft	Distance-based wake turbulence separation minima
SUPER	HEAVY	9.3 km (5.0 NM)
	MEDIUM	13.0 km (7.0 NM)
	LIGHT	14.9 km (8.0 NM)
HEAVY	HEAVY	7.4 km (4.0 NM)
	MEDIUM	9.3 km (5.0 NM)
	LIGHT	11.1 km (6.0 NM)
MEDIUM	LIGHT	9.3 km (5.0 NM)

2.9.2 The minima set out in 2.9.1 shall be applied when:

- an aircraft is operating directly behind another aircraft at the same altitude or less than 300 m (1000 ft) below; or
- both aircraft are using the same runway; or
- an aircraft is crossing behind another aircraft, at the same altitude or less than 300 m (1000 ft) below.

## 2.10 Approach sequence

2.10.1 The approach sequence should be established in a manner which will facilitate the arrival of the maximum number of aircraft with the least average delay.

2.10.2 Priority in the approach sequence should be given to:

- an aircraft which anticipates being compelled to land because of factors affecting the safe operation of the aircraft (engine failure, below minimum fuel state, etc.);
- hospital aircraft or aircraft carrying any sick or seriously injured person requiring urgent medical attention;
- aircraft engaged in search and rescue operations; and
- other aircraft as may be determined by the competent authority.

## 3. PROCEDURES FOR DEPARTING AIRCRAFT

### 3.1 General

3.1.1 Clearances for departing aircraft shall specify, when necessary for the separation of aircraft, direction of take-off and turn after take-off; heading or track to be made good before taking up the cleared departure track; level to maintain before continuing climb to assigned level; time, point and/or rate at which a level change shall be made; and any other necessary manoeuvre consistent with safe operation of the aircraft.

3.1.2 At aerodromes where standard instrument departures (SIDs) have been established, departing aircraft shall always be cleared to follow the appropriate SID.

3.1.3 The flight crew shall comply with published SID speed restrictions unless the restrictions are explicitly cancelled or amended by the controller.

3.1.4 Clearances to aircraft on a SID with remaining published level and/or speed restrictions shall indicate if such restrictions are to be followed or are cancelled.

- 3.1.5 When a departing aircraft is cleared to proceed direct to a published waypoint on the SID, the speed and level restrictions associated with the bypassed waypoints are cancelled. All remaining published speed and level restrictions shall remain applicable.
- 3.1.6 When a departing aircraft is vectored or cleared to proceed to a point that is not on the SID, all the published speed and level restrictions of the SID are cancelled and the controller shall:
- a. reiterate the cleared level;
  - b. provide speed and level restrictions as necessary; and
  - c. notify the pilot if it is expected that the aircraft will be instructed to subsequently rejoin the SID.
- 3.1.7 Departing aircraft may be expedited by suggesting a take-off direction which is not into the wind. It is the responsibility of the pilot-in-command of an aircraft to decide between making such a take-off or waiting for take-off in a preferred direction.
- 3.1.8 If departures are delayed, the delayed flights shall normally be cleared in an order based on their estimated time of departure, except that deviation from this order may be made to:
- a. facilitate the maximum number of departures with the least average delay;
  - b. accommodate requests by an operator in respect of that operator's flights to the extent practicable.
- 3.1.9 Air traffic control units should, when practicable, advise aircraft operators or their designated representatives when anticipated delays are expected to exceed 30 minutes.

## **3.2 Information for departing aircraft**

- 3.2.1 Information regarding significant changes in the meteorological conditions in the take-off or climb-out area, obtained by the unit providing approach control service after a departing aircraft has established communication with such unit, shall be transmitted to the aircraft without delay, except when it is known that the aircraft already has received the information.
- Note: Significant changes in this context include those relating to surface wind direction or speed, visibility, runway visual range or air temperature (for turbine-engined aircraft), and the occurrence of thunderstorm or cumulonimbus, moderate or severe turbulence, wind shear, hail, moderate or severe icing, severe squall line, freezing precipitation, severe mountain waves, sandstorm, duststorm, blowing snow, tornado or waterspout.*
- 3.2.2 Information regarding changes in the operational status of visual or non-visual aids essential for take-off and climb-out shall be transmitted without delay to a departing aircraft, except when it is known that the aircraft already has received the information.
- 3.2.3 The ATS unit providing approach control service, the aerodrome control tower or AFIS shall provide departing traffic with information as specified in Regulation (EU) 2017/373, AMC12 of ATS.TR.210(a)(3) Operation of air traffic control service.