



THE TOWER CONTROL POSITION (TWR)

1. Introduction

The Aerodrome Local Control, or Tower (called TWR) controller has the responsibility of ensuring Air Traffic Control (ATC) Services within a restricted area around the aerodrome. His main task is the management of the active runways and the aerodrome circuit.

The **TWR** controller is responsible for:

- Take-offs and landings on all runways
- Active runway management (line-up, crossing, back-track...)
- Management of the aerodrome circuit
- Traffic separation during take-offs and landings

Whenever the **GND** and **DEL** positions do not exist in the platform or the position is not open, the **TWR** controller must take responsibility of their functions as an additional task (please check the corresponding guidelines).

The **TWR** controller deals with:

- Departing aircraft or runway crossing clearances at holding point
- Inbound IFR aircraft established on the final approach track
- VFR traffic entering the control zone (CTR) and/or the aerodrome circuit

The **TWR** controller is never responsible for:

- Inbound IFR traffic before being established on the final approach track
- Any en-route IFR traffic
- Departing IFR traffic after take-off above 1000ft AGL.
- VFR traffic outside the control zone (CTR) limits or farther than 2 minutes from the CTR entry

The zone of responsibility of the TWR controller is the control zone CTR. The CTR extends from the surface to a specified upper limit which is published on the aerodrome charts.

In some countries, the airspace of this area exists but it is not named control zone (CTR).

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2. TWR controller tasks

2.1. Choice of the active runways

The TWR controller is responsible for the choice of the active runways.

In the case of a change in the active runway, he shall warn all the adjacent controllers about the runway change and he shall modify his ATIS.

The runway configuration is mainly chosen according to the wind direction, providing landings are executed with head wind.

Consult the available documentation about runway selection.

2.2. Handling aircraft at the end of taxi

Aircraft (during taxi operation) arriving at the holding point should be lined up on the runway for take-off by TWR controller if the situation permits it.

A lining-up clearance cannot be issued if:

- Any IFR aircraft is established on final approach track at less than 5 NM to 6NM.
- Any landing clearance has been issued to any aircraft, regardless of its distance from the threshold
- Any take-off clearance has been issued to any aircraft, if the departing aircraft will cross a holding point

If a time gain is needed, several aircraft can be lined up simultaneously at different holding points on the same runway.

Consult the available documentation about TWR management.

2.3. Taxi between closed parallel runways

The taxiways connecting two near parallel runways are normally handled by the **TWR** controller.

The controller has to issue a runway crossing clearance to each aircraft or issue a hold short clearance if the aircraft cannot clear the runway crossing.

If not cleared, the aircraft must hold short (maintain holding point) and wait for a runway crossing clearance.

To avoid runway incursions the **TWR** controller shall issue a hold short clearance to the aircraft, if the runway crossing is not possible.

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2.4. Runway taking-off operation

The TWR controller is responsible of all operations that involve the runway:

- Lining-up
- Backtracking
- Taxiing on runway
- Crossing
- Taking-off

The take-off clearance can be issued once the runway track and the initial climb trajectory are clear.

The take-off clearance cannot be issued if:

- An aircraft is on the runway in the section usable for take-off until end of runway.
- An aircraft is crossing the runway in the section usable for take-off
- An aircraft is taking off and has not yet overflown the runway endpoint or cleared the runway axis.
- An aircraft is already cleared to land
- An aircraft at a holding point is already cleared for take-off

The runway can be used as taxiway if this operation would reduce the taxi time with no impact on landing operation.

The aircraft should be instructed to backtrack the runway, when the pilot-in-command requires to use maximum runway length for take-off operation.

TWR controller has the responsibility of all non-closed runway crossing operation.

Nevertheless, the **TWR** controller can instruct a runway crossing with keeping the traffic on the **GND** frequency. In this case, each runway crossing clearance has to be given by the **TWR** controller to the **GND** controller who transmits it to the aircraft on the **GND** controller frequency.

2.5. Transfer after take-off

Departing traffic and aircraft going around should be transferred soon after taking off to the **DEP** controller, or when **DEP** controller is non-present, to the **APP** controller or to the **CTR** controller (following this order).

In practice, traffic is transferred around 1000ft AGL and after passing the runway threshold.

The **TWR** controller should wait until the aircraft has started its initial climb and the pilot is in a more comfortable phase of the procedure.

In all cases, the controller should never wait until the limit of his controlled zone to transfer the traffic to the approach.

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2.6. Handling IFR Inbound traffic

Except in particular circumstances, the **TWR** controller gets transferred all IFR aircraft established on the final approach track from the **APP** controller.

The TWR controller is not supposed to handle on his frequency more than 3 IFR arrivals on the final approach axis.

2.7. Maintaining separation between IFR aircraft

The **TWR** controller is responsible for maintaining the separation of IFR arrivals under his control above separation minima.

The controller should not hesitate to issue speed restriction clearances to ensure that separation minima are fulfilled.

2.8. Landing operation

The TWR controller is responsible of all landing operations that involve the runway

The landing clearance cannot be issued if:

- The runway is occupied
- An aircraft is crossing the runway
- An aircraft is taking off but it has not yet passed the runway endpoint or the runway axis is not clear
- A previous aircraft is already cleared to land
- An aircraft at the holding point is already cleared for take-off

The landing clearance should be issued as soon as the runway has been vacated (as in real life!) Consult the available documentation for runway management.

2.9. Transfer on ground

Once all runways are vacated, the **TWR** controller transfers the traffic to the **GND** controller.

2.10. aerodrome controller zone entry and exit conditions for VFR

VFR traffic is normally transferred from the adjacent controller 2 minutes before entering the controlled zone. The adjacent controller may be the **TWR** controller of a near airport (in case of connected controlled zones) or an **APP** controller.

VFR traffic inbound from a non-controlled zone should contact the TWR controller between 1 and 2 minutes before entering the TWR controlled zone.

If the aircraft pursues its route over a class C or D airspace the **TWR** controller transfers it to the adjacent controller 2 minutes before exiting the TWR controlled zone.

If the aircraft pursues its route over an uncontrolled airspace or below a controlled zone the controller assigns the VFR a non-controlled transponder code and invites the pilot to switch to UNICOM 122.800MHz

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The **TWR** controller should indicate the presence of ATCs providing information and alert services above his airspace.

2.11. Traffic information

Traffic information has to be mutual and must be provided by ensuring that the pilot has, or is going to have, the concerned traffic in sight in order to anticipate an eventual avoidance procedure.

An explicit pilot confirmation is the only guarantee that the given traffic information is able to provide the needed separation and that longitudinal and vertical separation limits are correctly met.

2.12. Integration of VFR traffic into the aerodrome traffic circuit

Any arriving VFR flight must be integrated into the traffic circuit.

Several legs can be proposed or imposed by the controller to integrate a flight into the VFR traffic circuit:

- Integration from upwind side by crossing over the airport (at least 500ft above the circuit altitude) and joining the downwind leg
- Integration at the downwind leg (early or mid-downwind)
- Semi-direct integration at the base leg
- Direct integration on final (long final if the approach heading is lower than 30° with respect to the runway track orientation)

The position where the VFR aircraft is asked to join the traffic circuit should be chosen according to:

- The trajectory optimization or the easiest integration for the pilot
- The management of all aircraft flying in the traffic circuit (order in the circuit)
- The VFR traffic management with respect to IFR arrivals and departures

There is no predefined solution in order to handle all VFR traffic in all situations. Only the controller's experience on the particular platform and his common sense might ensure the best decision.

Consult the available documentation for the VFR integration

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2.13. Other task

2.13.1. VFR transit operation

The **TWR** controller shall ensure ATC service to all VFR flights in transit over class C and D airfields; in E class airspace, control is provided only when it is asked by the VFR pilot.

The **TWR** controller has to issue a transit clearance and ask to report over the controlled zone exit point. The clearance may contain indications on published or unpublished VFR transit routes, required transit altitude, indications on training zones depending on the activity within the area.

During the whole transit phase, the **TWR** controller shall provide traffic information and alert services to all concerned aircraft.

2.13.2. Go around handling

A go-around can be announced at any moment by the pilot.
(Example: non-stabilized approach, runway occupied, wind shear on final, loss of visual reference).

The **TWR** controller has nothing to say with respect to this decision whose responsibility lies with the captain only. Following the go-around notification, it is recommended to issue an initial climb clearance, previously coordinated with the **APP/DEP** controller in charge of departures and in any case before transferring the aircraft.

If an aircraft is about to reach the runway threshold (2NM final) and the runway is not vacated, the **TWR** controller **must issue a go-around clearance** to this aircraft, unless already notified by the pilot. When the aircraft is going around it should be transferred to the **DEP/APP** controller in charge of departures.

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3. Special IVAO procedures

All special IVAO procedures are mandatory since they fit to situations or special IVAO features which cannot happen in real life while they may occur on the network because of its proper limitations.

3.1. Flight strips clearance

The **TWR** controller shall verify that flight strips are correctly filled, in particular **SID** (in the “Cleared WP” field) **and flight level** (in the “Cleared FL” field), for all departing traffic. In the case of a sudden pilot disconnection, the **TWR** controller must **refill the flight strip before transferring the traffic** to the next controller.

3.2. Release to UNICOM

In the absence of **DEP** or **APP** controllers, the **TWR** transfers traffic to the **CTR** controller if present or releases the pilot to **UNICOM 122.800** when passing 1000ft.

3.3. Non-controlled zone

In the case of aircraft coming from an uncontrolled zone, the **TWR** controller may send a **FORCE ACT** to the pilot 2 or 3 minutes before entry inside his controlled zone if the aircraft has not contacted him before. The controller should first assign him a transponder code.

3.4. Not responding pilots

The pilot of an outbound aircraft **lining up, taking off without clearance or simply connecting on an active runway without communication with the controller must be warned by a FORCE ACT** to invite him to contact the ATC. In the case of no answer, or if the pilot does not pick up the ATIS within 1 minute, or if he pursues taxiing, lining up or taking off, a new **FORCE ACT** must be sent, together with a private chat message (be careful to use proper language). Please check the pilot's active frequency and communicate with other controllers of the aerodrome about his activity. If no answer from the aircraft is received, a supervisor can be called using the text command in COMMBbox: **.WALLOP** <reason of the call in English>

3.5. IFR approach

The **TWR** controller shall not use a **FORCE ACT** for contacting IFR approaching aircraft outside the final approach track. The pilot arriving at less than 12 NM from the airport may be contacted by a **FORCE ACT** if he is connected to UNICOM 122.800.

3.6. Transponder

The **TWR** controller ensures that the transponder is **set to**:

- **TX mode** when penetrating an active runway.
- **STAND BY mode** when vacating the active runway

Setting the transponder to TX mode at the holding point and to STANDBY on the runway just after landing is tolerated.

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