

# Parachute jumping exercise (PJE)

This article is intended to convey the basic procedures of parachute dropping and to enable both pilots and controllers to handle them correctly.

## Basics

Skydiving operations (PJE-OPS) can be expected at various airfields in Germany. The season usually begins in April and ends in October. On clear days, however, you can also expect active operations in some jump zone in the winter. In the summer, especially during the weekend, it is quite common for a radar sector to be busy with several droppings at the same time. This requires increased coordination, due to additional safety distances that must be maintained to the dropping procedure.

Aircraft types in the single-engine turbine (SET) category such as C206 Soloy, C208 Caravan, Pilatus Porter PC-6, PAC P 750XL, but also multi-engine turbines (MET) such as DHC-6 Twin-Otter, Dornier DO-28 or Shorts SC7 Skyvan are often used. Exotic aircraft such as the Mil Mi-8, PLZ M28 Skytruck or even the Douglas DC9 are less common. Due to the high engine power, often in combination with STOL (short takeoff and landing) characteristics, high climb rates and even higher descent rates are to be expected. It is not uncommon for the aircraft to overtake the skydiver in freefall.

The usual dropping altitude for skydivers is 4000 m above ground or ~FL130. For training purposes or due to the traffic situation, lower drop altitudes are also possible (up to approx. 1000 m). For special events ("boogies"), drop altitudes of up to 6,500 m (FL210) are not uncommon - with oxygen supply in the aircraft.

Due to the sometimes extreme descent rates of the aircraft, the period from take-off to landing, takes around 15-20 minutes. Although the majority of parachute jumps in Germany take place at uncontrolled airfields, an air traffic control clearance must always be obtained from the responsible air traffic control center for parachute jumps in controlled airspace (see NfL I-59/07). An encounter with aircraft during freefall or gliding shall be avoided for obvious reasons.

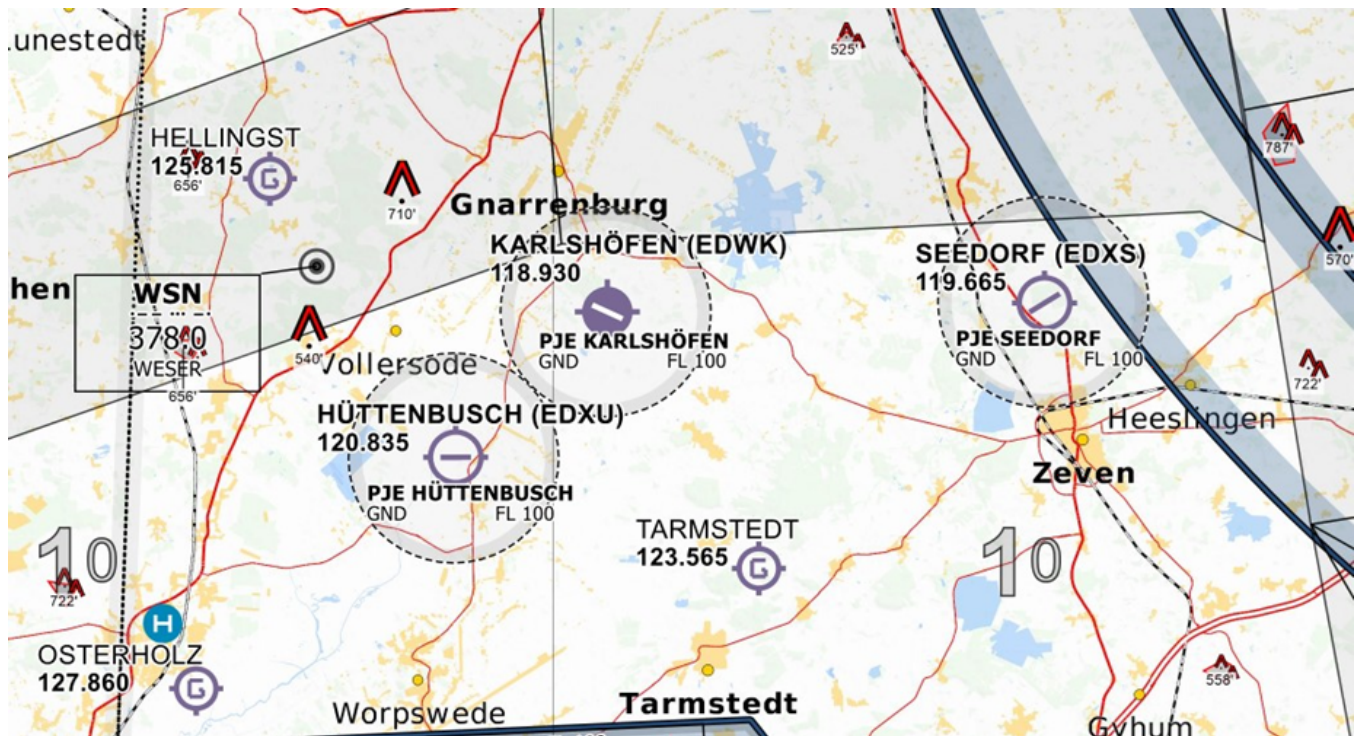
## Weather conditions

Appropriate weather minima must also be observed during skydive operations. The dropping aircraft must always comply with VFR weather minima for the respective airspace at all times, i.e. when climbing, during the so-called "jump run" (horizontal flight into the wind at reduced speed for the drop procedure) and during the subsequent descent.

Skydivers must also maintain a constant view of the ground from the moment they leave the aircraft and shall not touch any clouds during freefall or gliding.

## Jump zones

A basic distinction is made between permanent jump zones (AIP ENR 5.5-1) and individual jumps. Permanent drop zones generally have an upper limit of FL100 and a horizontal radius of 2 nm. On ICAO charts, these are highlighted as a dashed circle and marked with the addition "PJE" as well as the lower (GND) and upper limit (FL100). As a pilot, you should always pay close attention to these areas and avoid direct overflights of the airfield - especially without radio contact.



source: open flightmaps

exemplary the drop zones „Hüttenbusch“, „Karlshöfen“ and „Seedorf“ between Bremen and Hamburg.

## Procedures (for pilots and ATC)

Traffic requiring clearance and separation must always be identified. If the identification is lost (e.g. during landing), it must be re-identified at the next contact. At the beginning of the climb, the aircraft must independently set the squawk code 0025 and "Mode C" as well as obtain clearance to drop from the responsible radar controller, stating the callsign, aircraft type, dropping location and altitude.

Shortly before dropping, i.e. on the "jump run", the pilot informs the local tower controller or air traffic controller: "Jumpers in 2 minutes". After reaching the spot (taking into account the strength and direction of the wind at altitude and on the ground) the aircraft obtains clearance from the radar controller and drops the jumpers into the wind at reduced speed (approx. 80 knots). In the best case scenario, the jumpers will drift with the wind to the landing zone during freefall.

Unless otherwise agreed upon, safety distances to the drop zone are maintained for controlled air traffic for the period from the time the release to drop is given until three minutes after the drop

has been completed (therefore note the time or start the timer, see below).

### Separation to the dropping zone:

Traffic has to be separated to the dropping-zone for 3 minutes after the "Last Jumper Out" report.

In areas with **3NM** radar separation, minimum separation is **1NM lateral, 500ft vertical**.

In areas with **5NM** radar separation, minimum separation is **2NM lateral, 500ft vertical**.

Of course, in addition to separation to the dropping zone, you must also separate to the aircraft at all times as long as it is in Airspace C, just like any other VFR in Airspace C crosser.

You can also issue instructions to the aircraft within Airspace C, for example where it should climb or descend (e.g. "climb west of the dropping zone" or "climb inside the dropping zone").

In the event of a recognizably longer duration of the planned jump in controlled airspace, the pilot must inform the responsible controller. After the last jumper has jumped, the aircraft will descend - after a clearance by the radar controller - and finally leave the frequency below airspace C. Alternatively, the clearance for descent can also be given together with the release for touchdown.

## Examples

“ Pilot: „BREMEN RADAR, DIVER, TWIN-OTTER, AIRBORNE HÖXTER, REQUEST PARADROPPING FL130.“

(Lotse: "DIVER, BREMEN RADAR, SQUAWK IDENT") - rarely needed, often identification is immediately possible due to MODE S.

Lotse: "DIVER, BREMEN RADAR, IDENTIFIED. ENTER AIRSPACE C, CLIMB TO FL130, REPORT READY TO DROP."

Pilot: "DIVER, ENTERING AIRSPACE C, CLIMBING TO FL130, WILCO."

“ Pilot: „DIVER READY TO DROP.“

Lotse: "DIVER, DROPPING APPROVED, REPORT LAST JUMPER OUT." (note the time or start a timer)

Pilot: "DIVER, DROPPING APPROVED, WILCO"

Pilot: „DIVER, LAST JUMPER OUT, REQUEST DESCEND BELOW AIRSPACE C“

Lotse: "DIVER, DESCEND APPROVED [REPORT PASSING FL100]"

[Pilot: "DIVER, PASSING FL100, REQUEST TO LEAVE FREQUENCY"]

Lotse: "DIVER, APPROVED TO LEAVE FREQUENCY"

alternatively a combined clearance:

“ Lotse: "DIVER, DROPPING AND DESCEND APPROVED, REPORT LAST JUMPER OUT.“

Pilot: "DIVER, DROPPING AND DESCEND APPROVED, WILCO"

Pilot: "DIVER, LAST JUMPER OUT"

Lotse: "DIVER, ROGER [REPORT PASSING FL100]"

for more information: <https://www.dfv.aero>

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