Concept of Operations

Separation of gliders and GA motor aircraft at Twente Airport

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Contents

1. Introduction

The current system for separating glider and motorized aircraft is based on the provision of certain time blocks in which the relevant flight operation can take place. As a result, a separation has been achieved between motorized and glider traffic because no simultaneous flight movements will take place. This system is experienced as very restrictive in daily practice. By excluding flight operations for gliding or motor flying over a longer period of time, the number of flight movements is considerably limited.
Both local associations, the Twentsche Zweefvlieg Club (TZC) and the Vliegclub Twente (VCT), emphasize that this has a strong negative effect on both associations. This CONOPS represents an alternative system in which glider traffic and GA motor traffic can take place in a safe integrated manner.

2. Objective

To design procedures for the safe separation of glider traffic from motorized traffic for integrated landing and take-off operations during Twente Airport's opening hours. In practice, two successive phases are distinguished:

a) Obtaining permission for joint flying with only the local users/associations (gliding and motor flying).
b) After evaluation of what is stated under a, extending this situation to joint flying with nonlocal GA motor traffic (using the northern circuit).

3. Statutory priority rules

The priority rules for aviation are laid down in the “Regulation on the implementation and enforcement of aviation safety” and are in accordance with EU 923/2012 and SERA 3210. The CONOPS is particularly related to the following priority rule (literal legal text):

- *Landing: An aircraft in the air, on the ground or on the water gives way to landing aircraft or aircraft in the final stages of approach before landing.*
    i) When two or more heavier-than-air aircraft are approaching an aerodrome or operating site for landing, a higher-level aircraft shall give way to a lower-level aircraft, but the latter shall not take advantage of this rule in order to insert or overtake another aircraft in the final approach phase before landing. Nevertheless, heavier-than-air motorized aircraft must give way to gliders.

This priority rule is particularly important for separating motor aircraft and gliders at final as described in this CONOPS.

4. Principles

The following principles are described in this document in order to achieve safe separation between glider and motorized aircraft:

1. During traffic block time in the southern VFR circuit (so-called “large traffic”) no other flying activities take place at Twente Airport.
2. The statutory priority rules apply.

3. The procedure is based on the separation of traffic on a single runway: At Twente Airport, the glider strip and paved runway 05/23 are regarded as one runway. The glider strip and paved runway are next to each other.
4. No take-off with a glider, when a powered aircraft takes off or when a powered aircraft or glider lands.
5. Not landing a glider and a powered aircraft at the same time.
6. There are separate circuits: GA traffic in the northern circuit, glider traffic in the southern circuit. Due to the following two aspects, the separation by base is substantial. This applies to both the 05 and the 23:
    a. Because the northern circuit is considerably wider than the southern glider circuit, the base leg of the northern circuit has clearly shifted from the base leg of the southern glider circuit.
    b. Moreover, because the thresholds of the paved runway and the glider strip are apart, an additional shift occurs.
7. All traffic is on the same RT frequency (Twente radio 119.95 MHz).

5. RT Communication

In order to realize the aforementioned principles for separation, the following RT reports are essential, among other things. A motor aircraft reports on Twente radio (standard RT procedures):

1. Entering runway
2. Departing call
3. Downwind / base / final call + intention (Touch & go / fullstop)
4. Backtracking
5. Runway vacated

An approaching glider reports its position

1. On downwind
2. On base

6. Separation during takeoff

6.1 Glider winch start

Glider will not take off if:

1. a GA motor aircraft is in the circuit (from downwind to final);
2. a glider is on final;
3. an aircraft is on the paved runway.

During the preparation (*) of the winch launch, the glider captain and the take-off leader listen to the RT frequency to check whether:

1. a powered aircraft reports downwind, base or final;
2. a glider is on base;
3. powered aircraft enters or is on the runway.

A visual check is also performed to confirm the above conditions and whether a glider is on final (sequential order: captain, take-off leader, tip runner). If there is an indication that one of the above situations is occurring, the glider will wait before starting. The glider take-off leader

determines whether a start can be made again if it is established that none of the above situations occur. The starting procedure then starts again with the preparation see *.

6.2 Self-launching glider

The self-launching glider uses the paved runway to take off from. The captain of the self-launching glider reports by radio that the paved runway is being taxied with the intention of taking off (entering runway then departing call). The same procedure applies here as for motor aircraft that want to take to the runway and whether this can be done responsibly without hindering other aircraft. After starting, the self-starting glider flies south and then continues as a glider.

6.3 Motor glider (TMG)

The motor glider uses the paved runway and follows the procedures of motor aircraft. For the separation requirements, the motor glider is equal to a motor aircraft.

6.4 Towing aircraft with glider

The towing aircraft with a glider as tow takes off from the paved runway and uses the southern circuit. The following agreements apply:

1. Gliders waiting for tow are parked on the south side of runway 23/05 opposite the runway intersection N2 or N3
2. When preparing for a tow take-off, the paved runway is kept occupied as little as possible
3. When the towing aircraft enters the runway, it reports this in accordance with regular radio procedure
4. The towing aircraft reports "departing" upon departure of the towing combination
5. The towing aircraft takes off, with the glider, from the paved runway and also lands on the paved runway
6. The tug aircraft tows the glider in a southerly direction, avoiding built-up areas
7. The tug follows the glider circuit. This prevents the tow aircraft from having to fly from the south side of the airport to the north side each time to connect to the motor flight circuit
8. After landing, the tow aircraft can leave the runway at N2 (north side) or N3 (north side)

Marshaller, and tip runner wear fluorescent clothing. Besides the marshaller and the tip runner, there are no other persons on the paved track.

As soon as a motor aircraft reports downwind, base or final via radio frequency 119.955, or if a motor aircraft is visually detected to be in the circuit, no glider will be put on the paved runway. The towing aircraft will then also not enter the runway. People will then also remain well clear of the paved road. To guarantee this, the following order of responsibility applies:

1. The captain of the glider to be towed (visually)
2. The captain of the tug aircraft (by listening to the radio and visually)
3. The marshaller (by listening to the radio and visually)
4. Start leader (by listening to the radio and visually).

As soon as the glider has entered the paved runway, the towing procedure is continued. The runway is then occupied and a possible landing motor aircraft must make a go-around. In this specific case, the tow aircraft will not start until the motor aircraft has flown well past the tow

aircraft in the go-around. If a glider is on final, the tow plane will not start. This can start when the relevant glider has landed.

7. Separation during landing

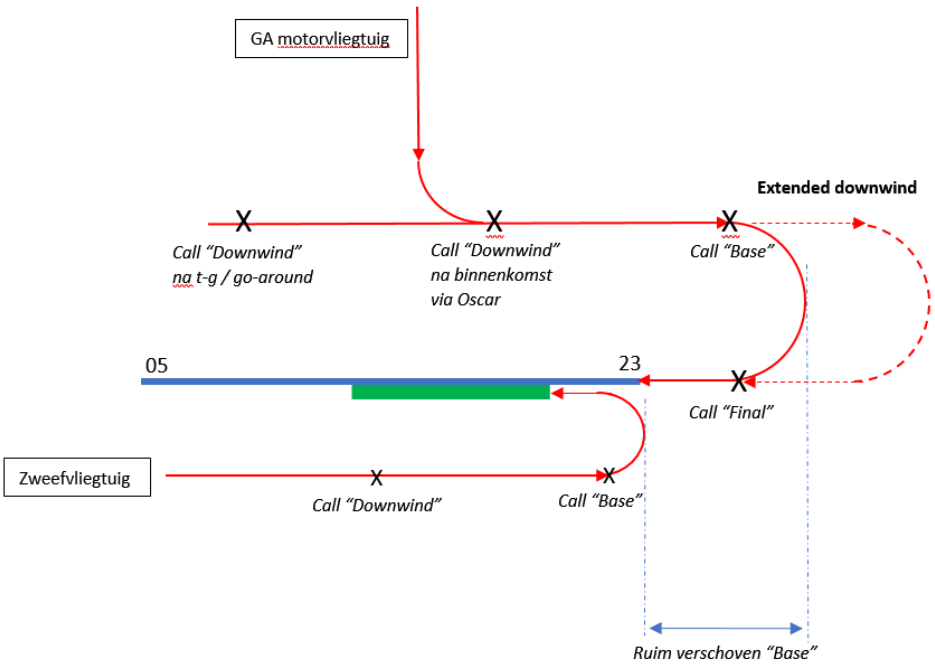
7.1 Principles for separation

1. The motor aircraft is responsible for the separation, adjusted to the position of the glider in the circuit.
2. Both glider and motorized aircraft follow the designated circuits.

7.2 Implementation

Northern circuit for GA traffic: 1000 ft AMSL.
Southern Gliding Circuit: starting point 200 m AGL.

Separation is difficult to describe in all details. There will always be parts of interpretation. In addition to the procedures described in this chapter, good airmanship is an important precondition for guaranteeing safe separation.



In case of flying from runway 05. The identical drawing as above applies, in that case only mirrored. In that case, the shift on base is even greater than in the case of using runway 23. Both the pilot of the GA motor aircraft and the glider give a position report on downwind and on base. The GA powered aircraft also provides a position report on final. The separation between the GA motor aircraft and the glider is determined by adjusting the turning point of the GA motor aircraft on downwind to base to the position of the glider, so that sufficient separation is guaranteed. The separation is primarily achieved by variation in the approach

trajectory of the GA motor aircraft by extending the turning point to base (extended downwind) and/or adjusting the speed.

7.3 Go-around motor aircraft

If, for various reasons, a conflict threatens due to less than sufficient separation on final, the motor aircraft will, in accordance with the applicable right-of-way rules, evade in time by making a go-around and rejoining the circuit. The go-around is initiated in such a way that sufficient vertical separation is maintained with respect to the glider and the glider is passed on the north side, whereby the motor aircraft also does not come south of the paved runway.

7.4 Separation of tug aircraft from other air traffic and gliders

The tow aircraft (in the glider circuit) gives priority to motor aircraft in the northern circuit, by leaving the circuit on the south side or by extending downwind. The tug also gives way to gliders in the glider circuit in the same way.

7.5 Block time large traffic

During the block time for traffic in the southern VFR circuit (so-called “large traffic”), no other flying activities take place at Twente Airport.