

Runway Status Lights (RWSL) - Training Scenario 1

Multi-Crossing-Take-Off Scenario (Under Nominal Conditions)



The **Scenario 1** show the basic behavior of the **RWSL** system on the **RWY 27L** and its vicinity. This scenario illustrates how the **THL** and the **REL** systems work under runway crossing and take-off cases. It illustrates a typical situation that you will most likely see on **CDG RWYs**:

- First, the **THL** when you are lined-up on the **RWY**, and an aircraft or a vehicle crosses, the **THL** are turned **ON**.
- Second, the **REL** when you are holding at an intersection (either before crossing or before departure) and an aircraft is rolling on the **RWY** for take-off, the **REL** are turned **ON**.

The scenario has been planned with one crossing case, once one aircraft has been already lined up on the **RWY** (demonstrating the **THL** system) and then, with one take-off case (demonstrating the **REL** system). Afterwards, the same sequence of events is repeated in order to state clear the concepts, and finally, a crossing case with no lined airplane event.

Five aircraft and one vehicle are involved in the sequence of events (two aircraft taking-off and three other airplanes and one vehicle crossing the **RWY 27L**). The illustrated cases are the following:

- **RWY 27L** crossing with lined up aircraft
- **RWY 27L** crossing with not lined up aircraft
- Take-off under normal conditions

You should pay attention to the **REL** behavior demonstrated here. When the departing aircraft begins its take-off roll:

- First, only the **RELS** located at intersections immediately ahead of this traffic are **ON**.
- Then, when it reaches a predetermined speed, all the **RELS** located at intersections in front of it are **ON**.
- **RELS** at intersections individually turn **OFF** just before (to allow for anticipated separation clearances by ATC) the departing aircraft passes them abeam, or all at once when the aircraft is airborne.

In this scenario, while **Airplane 1** (that had just landed on **RWY 27R**) is taxiing to the **K3** holding point, **Airplane 2** lines up on the **RWY 27L** via the **Q4 TWY**. **Airplane 1** is cleared to cross the **RWY 27L** at **K3/D6** intersection. When **Airplane 1** starts with the **RWY** crossing procedure, the **THL** in front of the **Airplane 2** turns **ON** (within 450 meters in front of it).

During **Airplane 1**'s crossing time, **Airplane 3** lands and holds short at **K2** Holding point.

Once **Airplane 1** has vacated the **RWY 27L**, the **THL** turns **OFF**, **Airplane 2** is cleared for take-off and it begins the take-off roll. Once **Airplane 2** is above a certain speed, the **RELS**, in front of **Airplane 2**, turn **ON**. The **RELS** turn **OFF** anticipating the pass of **Airplane 2** for each intersection.

During **Airplane 2**'s take-off time, **Airplane 4** taxis to the **Q4** holding point and one vehicle comes and holds short of **RWY 27L** at **K6** holding point.

Once **Airplane 2** is airborne, the rest of the **RELS** turn **OFF**. **Airplane 4** lines up on the **RWY 27L** via **Q4 TWY** and waits for clearance to take-off. Then, **Airplane 3** is cleared to cross the **RWY 27L** at **K2/D5** intersection. Once **Airplane 3** starts with the **RWY** crossing procedure, the **THL** in front of **Airplane 4** turns **ON** (within 450 meters in front of it).

While **Airplane 3** is crossing the **RWY 27L**, **Airplane 5** lands and taxis to hold short of **RWY 27L** at **K3** holding point.

Once the **Airplane 3** has vacated the **RWY 27L**, the **THL** turns **OFF**. **Airplane 4** is cleared for take-off and it begins the take-off roll. Once **Airplane 4** is above a certain speed the **RELS** in front of **Airplane 4** turn **ON**. The **RELS** turn **OFF** anticipating the pass of **Airplane 4** for each intersection. After **Airplane 4** pass abeam **K6/Q2** intersection, Vehicle is cleared to cross the **RWY 27L**. Once **Airplane 4** is airborne the rest of the **RELS** turn **OFF**. **Airplane 5** is cleared to cross the **RWY 27L**.



RELS that are **ON** (illuminated red) indicate that the runway ahead is not safe to enter or cross. **THLs** that are **ON** (illuminated red) indicate that the runway is not safe for take-off. **RED MEANS STOP!** Pilots should remain clear of a runway when an **REL** along their taxi route is illuminated. Pilots should not takeoff when a **THL** on the runway ahead is illuminated.