AD 1 AERODROMES/HELIPORTS - INTRODUCTION

AD 1.1 AERODROME/HELIPORT AVAILABILITY AND CONDITIONS OF USE

1. General conditions

The Federal Office of Civil Aviation (FOCA) is responsible for monitoring civil aviation in Switzerland and aviation development. It is responsible for ensuring that civil aviation in Switzerland has a high safety standard and one that it is in keeping with sustainable development. As an independent regulator, the FOCA is responsible for ensuring the highest safety and security standards in Swiss civil aviation. The FOCA aims to ensure the safe and best possible and environmentally friendly use of the infrastructure, which includes airspace with air traffic control and aerodromes.

The FOCA neither manages nor operates any aerodrome. FOCA is the agency of supervision, which ensures that ICAO and/ or EU/EASA standards are complied with.

Swiss aerodromes available for public use are designated as airports, REF: AD 2. All others are private airfields. REF: VFR Manual, AD INFO.

Civil aircraft are not permitted to land at any aerodromes not listed in the AIP except in cases of genuine emergency. Restrictions of use can be ordered temporarily for aerodromes where certain conditions are not fulfilled, e.g. reduced rescue and fire fighting services, restricted radio communications. Consult NOTAM. Every visiting aircraft from abroad or aircraft flying abroad shall use an aerodrome available for international air traffic. REF: INTL attribute on AD 1.3.
Landings outside of destination airport or intended alternate aerodrome: If the pilot lands at an aerodrome other than the one specified in the submitted flight plan, the competent services at the departure aerodrome and at the aerodrome of first destination shall be notified without delay.

Customs Aerodromes:
Swiss aerodromes available for public use are designated as custom aerodromes and benefit from customs competences CAT A, B or C according to Swiss law. REF: AD 1.3 and AD 2

Aerodromes with restricted customs competences:
These are national AD providing customs category D according to Swiss law. Although using private airfields and national AD for trans-frontier flights is generally not allowed, at those mentioned ADs the competent customs office can authorize trans-frontier flights to and from another Schengen area State under special conditions.
REF: AD list AD 1.3 VFR Manuel Switzerland, VFR AGA 0, §2 URL: Crossborder flights (admin.ch)

Aerodromes without any customs competence:
Using non-customs private airfields (AD not mentioned under 1.3 and 1.4 above) in trans-frontier traffic is not allowed.
In exceptional cases the AD can request an authorization from the competent Customs District Directorate (individual authorization) or from the Directorate General of Customs (general authorization).
REF: VFR Manuel Switzerland, VFR AGA 0, §2 URL: Crossborder flights (admin.ch)
The differences from ICAO are listed in GEN 1.7

2. Use of military air bases

Civil flights onto military airbases are subject to prior approval of the air base Commander.

3. Low visibility procedures (LVP)

3.1 Introduction

The procedures and items listed below are basic information for operators and pilots concerning specific rules and regulations for All Weather Operations (AWO) in Switzerland.

ATC applies special safeguards and procedures for low visibility operations that will become effective for specified weather conditions. These procedures are intended to provide protection for aircraft operating in low visibility and to avoid disturbances to the ILS signals.

3.2 Classifications of instrument approach operations

Category I (CAT I) ILS operation: A precision instrument approach with a decision height (DH) not lower than 60 m (200 ft) and either a visibility not less than 800 m or an RVR not less than 550 m (according to ICAO Annexes 10 and 14).

Category II (CAT II) ILS operation: A precision instrument approach with a DH lower than 60 m (200 ft) but not lower than 30 m (100 ft) and an RVR not less than 300 m (according to ICAO Annexes 10 and 14).
Category III (CAT III) ILS operation: A precision instrument approach with a DH lower than 30 m (100 ft), or with no DH and an RVR less than 300 m or no runway visual range limitations.

3.3 Requirements for aircraft and flight crew

Basic requirements for an aircraft and its equipment for CAT II and III operations are described in the "ICAO Manual of All Weather Operations", chapter 4.2. The airworthiness approval for AWO has to be stated in the aircraft document.

Training and experience requirements for flight crews to operate in low visibility are described in the "ICAO Manual of All Weather Operations", chapter 4.3.
For CAT II/III operations, relevant procedures must be documented and the crew must have relevant and current training. Flights simulating low visibility approaches have to be announced on initial call with approach control using the phrase "REQUEST PRACTICE CAT II/III APPROACH". Permission will be granted depending on the traffic situation. Departing or preceding landing traffic may disturb the ILS signals. For practice approaches, LVP will not be applied.

Foreign operators may execute CAT II/III operations if they are authorized by their State of registration/operator to do so.

3.4 Operational procedures

Definitions:
Low Visibility Operations (LVO) means approach (CATII/III) or take-off operations on a RWY with any RVR less than 550 m or taxiing at an aerodrome at which any RVR is less than 550 m.
Low Visibility Procedures (LVP) are specific procedures applied at an aerodrome for the purpose of ensuring safe operations during CAT II/III approaches and low visibility departures.
Low Visibility Departures (LVD) are take-offs on a RWY where the RVR is less than 550 m at any position on the departure RWY. RVR shall be the only triggering value for LVD.

Preparation phase:
The preparation phase for the applicability of ATC procedures for LVP starts when the RVR for the TDZ deteriorates to less than 800 m and/or the vertical visibility or ceiling drops to less than 300 ft. Pilots will not be informed about this phase.

Operations phase:
The application of ATC procedures for LVP becomes effective when the RVR for the TDZ is lower than 550 m and/or the vertical visibility or ceiling is less than 200 ft. Pilots will be informed either via ATIS or RTF of the instruction:
"LOW VISIBILITY PROCEDURES IN OPERATION".

Termination phase:
ATC procedures for LVO are terminated when weather conditions indicate sustained improvement to an RVR of 550 m or greater, and vertical visibility and ceiling to 200 ft or greater. Flight crews are informed accordingly via RTF: "LOW VISIBILITY PROCEDURES CANCELLED AT TIME…". The ATIS is updated, removing any reference to LVPs. The preparation phase remains in force until the RVR improves to 800 m or more, and vertical visibility and ceiling are 300 ft or greater.

Application of LVP:

ACTIVATION	Via RTF or ATIS: **"Low Visibility Procedures in operation"**
OPERATIONS PHASE	CAT II: RVR for TDZ less than 550 m. CAT III: RVR for TDZ less than 300 m. Low Visibility Departures (LVD).
PROTECTION OF OFZ and LOC-SENSITIVE AREA	During CAT II or CAT III operations, the OFZ is kept clear of all obstacles, such as vehicles, persons and aircraft for the duration that an aircraft making an approach is below 200 ft AGL.
RADAR VECTORING	Arriving aircraft are vectored so as to ensure an intercept of the LOC at least 8 NM (in Genève) / 9 NM (in Zurich) from THR.
CLEARANCE FOR APPROACH	ATC issues a clearance for an ILS approach regardless of the ILS category applied and the weather conditions.
METEOROLOGICAL INFORMATION	Prior to commencing final approach the RVR values will be transmitted. Additionally, latest RVR values will be transmitted by TWR.
CLEARANCE TO LAND	Normally prior to an arriving aircraft reaches 2 NM from THR the clearance to land will be transmitted. In exceptional cases, transmission may be delayed. In such cases, pilots will be informed accordingly.
DEACTIVATION OF LVP (TERMINATION PHASE)	ATC procedures for LVO are terminated when weather conditions indicate sustained improvement to an RVR of 550 m or greater, and vertical visibility and ceiling to 200 ft or greater.

Downgrading of approach facilities:
Downgradings of approach facilities due to malfunctioning / deficiency are communicated to landing aircraft immediately after the occurrence of the malfunction. The following information is relayed, if necessary, together with the downgrading of the approach category:

	Downgrading to
Failure of **RVR assessment system** or failure of display / transmissometer of both TOUCHDOWN and MIDPOINT	CAT I
Failure of **secondary power supply** for the aerodrome lighting system	CAT I
LOC out of CAT II / III **tolerance**	CAT I
LOC sensitive area not vacated	CAT I
Failure of **ATC-ILS monitoring device**	CAT I
Wind informationindicator not available	CAT I
Failure of **farfield monitor**	CAT I
Failure of **GP/LOC standby transmitter**	CAT II
More than 30% of the **approach lighting system** malfunctioning	CAT I
Failure of **stopbar lights**	CAT I
Failure of **ILS DME standby transmitter**	CAT II

Shorter-term deficiencies will be announced to pilots by ATC (ATIS and/or RTF), longer-term by NOTAM.

4. Aerodrome operating minima

All operators shall establish aerodrome operating minima for each aerodrome planned to be used. These minima shall not be lower than those established for such aerodromes by the State in which the aerodrome is located, except when specifically approved by that State. Any increment specified by the competent authority of the operator shall be added to the minima.

5. Other information

5.1 Noise abatement operating procedures

Night flights 2100 - 0500 (2000 - 0400), see ordinance on aeronautical infrastructure SR748.131.1, art. 39, 39a, 39b, 39c. Authorisation of night flights for scheduled air traffic and non-scheduled commercial air traffic: Applications for authorization shall be addressed to the airport authority concerned which will, if necessary, pass them to FOCA.

LSZB	LSZB AD 2.21 NOISE ABATEMENT PROCEDURES
LSZC	LSZC AD 2.21 NOISE ABATEMENT PROCEDURES
LSGC	LSGC AD 2.21 NOISE ABATEMENT PROCEDURES
LSGG	LSGG AD 2.21 NOISE ABATEMENT PROCEDURES
LSZA	LSZA AD 2.21 NOISE ABATEMENT PROCEDURES
LSMP	LSMP AD 2.21 NOISE ABATEMENT PROCEDURES
LSZR	LSZR AD 2.21 NOISE ABATEMENT PROCEDURES
LSZS	LSZS AD 2.21 NOISE ABATEMENT PROCEDURES
LSGS	LSGS AD 2.21 NOISE ABATEMENT PROCEDURES
LSZH	LSZH AD 2.21 NOISE ABATEMENT PROCEDURES

5.2 Minimum friction level for runway maintenance purpose

Runway surface friction coefficients are measured periodically for maintenance purpose. The Minimum Friction Levels (MFL) are:

Measuring speed	65 km/h	*95 km/h*
Skiddometer	0.50	*0.34*
Surface Friction Tester	0.50	*0.34*
Mu-Meter	0.42	*0.26*

The declaration of a runway as "slippery wet" is based on an overall assessment, including, but not limited to the measurement of the friction coefficient (FCT).

5.3 Pavement Strength

Aerodromes with movements of aircrafts with a maximum take-off mass (MTOM) of more than 5,700 kg apply the method ACN-PCN (Aircraft Classification Number - Pavement Classification Number), as described in ICAO Annex 14, § 2.6, Pavement Strength.

	Example:	PCN	24	F /	B /	Y /	T /	
			1	*2*	*3*	*4*	*5*	
1 =	Pavement classification number							
2 =	Pavement type:							
	Rigid pavement							= R
	Flexible pavement							= F
3 =	Subgrade strength category:							
	High strength							= A
	Medium strength							= B
	Low strength							= C
	Ultra low strength							= D
4 =	Maximum tire pressure allowable:							
	Unlimited: no pressure limit							= W
	High: pressure limited to 1.75 MPa							= X
	Medium: pressure limited to 1.25 MPa							= Y
	Low: pressure limited to 0.50 MPa							= Z
5 =	Evaluation method:							
	Technical evaluation							= T
	Using aircraft experience							= U

For all other aerodromes, the Maximum Permissible Weight (MPW) of aircraft in kg or the tire pressure in MPa (1 MPa = 10.19 kg/cm2) in case of grass runways.
Taking into account the actual ground conditions, the airport authorities may permit higher tire pressures.

5.4 Wildlife hazard management

An exchange on wildlife hazard management takes place periodically with various stakeholders including aerodromes, air navigation service providers, airlines, etc. under the leadership of FOCA. In addition, occurrences in relation to wildlife hazard management are reported via the EU reporting platform. Information on bird migration is published in ENR 5.6.

5.5 Start-up procedure for turbo-jet and turbo-prop aircraft

Flight crews of departing turbo-jet and turbo-prop aircraft shall request start-up clearance when the doors of the aircraft are closed and as soon as they are ready to immediately start the engines.
If the expected delay for take-off is less than 15 minutes, ATC will immediately clear pilots to start the engines. If the expected delay for departure is 15 minutes or more, ATC will inform about the duration of the delay.
The start-up clearance will be given in time to adhere to the earliest possible departure slot.

5.6 Reduced separation between aircraft on the same runway

Aircraft classification

For the purpose of reduced runway separation, aircraft shall be classified as follows:

a. **Category 1 aircraft:** Single-engine propeller aircraft with a maximum certificated take-off mass of 2000 kg or less;
b. **Category 2 aircraft:** single-engine propeller aircraft with a maximum certificated take-off mass of more than 2000 kg but less than 7000 kg; and twin-engine propeller aircraft with a maximum certificated take-off mass of less than 7000 kg;
c. **Category 3 aircraft:** all other aircraft.

Applicability

With respect to the aircraft categories in § 1.1.6.8 above, reduced runway separation may be applied under the following conditions:

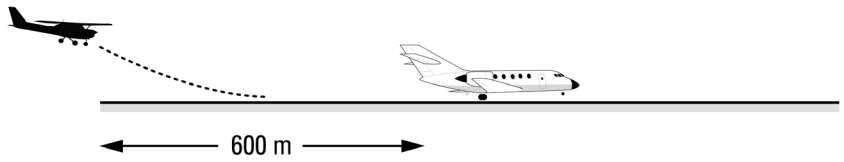
a. Reduced RWY separation minima shall only be applied during hours of daylight from 1 hour after the beginning of the morning local civil twilight to 1 hour before the end of the evening local civil twilight;
b. appropriate wake turbulence minima is applied;
c. visibility is at least 5 km and the ceiling not less than 1000 ft;
d. the tailwind component does not exceed 5 kt;
e. suitable landmarks exist to assist controllers in assessing the distances between aircraft;
f. minimum separation continues to exist between two departing aircraft immediately after take-off of the second aircraft;
g. traffic information is issued to the flight crew of the succeeding aircraft; and
h. the braking action is not adversely affected by runway contaminants such as ice, slush, snow, water, etc.

Reduced runway separation minima shall not apply between a departing aircraft and a preceding landing aircraft.

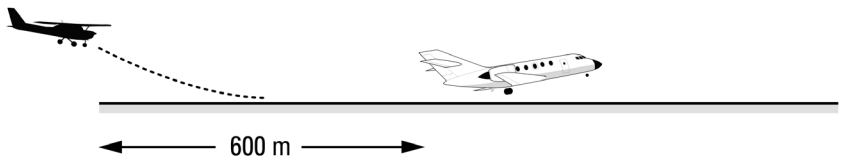
Landing aircraft

To separate a succeeding landing:

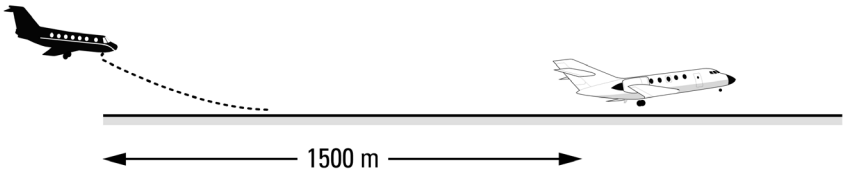
a. Category 1 aircraft from a preceding Category 1 or 2 aircraft by ensuring that the succeeding aircraft does not cross the landing threshold until one of the following conditions exists:
    1. the preceding aircraft has landed and passed a point at least 600 m from the threshold of the runway, is in motion and will vacate the runway without backtracking; or



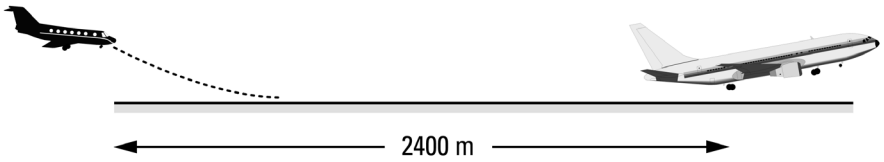
    2. the preceding aircraft is airborne and has passed a point at least 600 m from the threshold of the runway;



b. Category 2 aircraft from a preceding Category 1 or 2 aircraft by ensuring that the succeeding aircraft does not cross the landing threshold until one of the following conditions exists:
    1. the preceding aircraft has landed and passed a point at least 1500 m from the threshold of the runway, is in motion and will vacate the runway without backtracking; or
    2. the preceding aircraft is airborne and has passed a point at least 1500 m from the threshold of the runway;



c. aircraft from a preceding Category 3 aircraft by ensuring that the succeeding aircraft does not cross the landing threshold until one of the following conditions exists:
   1. the preceding aircraft has landed and has passed a point 2400 m from the threshold of the runway, is in motion and will vacate the runway without backtracking; or
   2. the preceding aircraft is airborne and has passed a point at least 2400 m from the threshold of the runway.



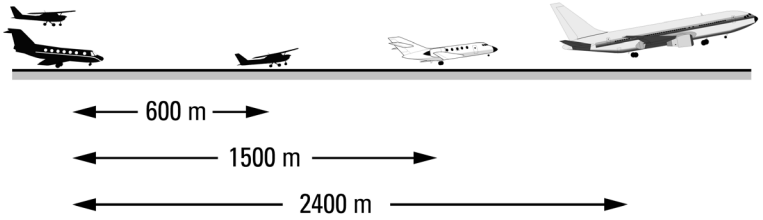
Phraseology:
- (traffic information) RUNWAY (number) CLEARED TO LAND

LAND Example:
- TRAFFIC, BOEING 767 DEPARTING, RUNWAY 23 CLEARED TO LAND
- TRAFFIC, LEARJET LANDING ROLL, RUNWAY 23 CLEARED TO LAND

Departing aircraft

You may clear:

a. a Category 1 aircraft for take-off when the preceding departing aircraft is a Category 1 or 2 aircraft which is airborne and has passed a point at least 600 m from the position of the succeeding aircraft;
b. a Category 2 aircraft for take-off when the preceding departing aircraft is a Category 1 or 2 aircraft which is airborne and has passed a point at least 1500 m from the position of the succeeding aircraft; and
c. an aircraft for take-off when a preceding departing Category 3 aircraft is airborne and has passed a point at least 2400 m from the position of the succeeding aircraft.



Phraseology example:
- (traffic information) RUNWAY (number) CLEARED FOR TAKE-OFF

Example:
- TRAFFIC, DEPARTING AIRBUS 320, RUNWAY 23 CLEARED FOR TAKE-OFF