Familiarization Briefing
Engadin Airport LSZS

ENGADIN AIRPORT AG
Tel +41 81 851 08 51

Plazza Aviatica 2
www.engadin-airport.ch/info@engadin-airport.ch

CH – 7503 Samedan
Fax +41 81 851 08 59

Index

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Foreword

The Airport of Samedan is a VFR airport open to private and commercial operators. It is situated in a particular geographical area. Located in the Engadine Valley, the airport is surrounded by a mountainous region wherein the flight procedures and aircraft performances are very strongly affected by its natural obstacles. This is particularly true for VFR flights. For this reason, the approach to and the departure from LSZS are limited to flight crews fulfilling the requirements of the concept for mandatory familiarization.

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CH – 7503 Samedan
Fax +41 81 851 08 59

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CH – 7503 Samedan
Fax +41 81 851 08 59

Introduction

Welcome to the Engadin Airport pilots' briefing website provided by the LSZS Airport Authority.
Samedan airport is situated in a mountainous terrain, therefore VFR approaches and departures are limited to pilots and operators fulfilling the requirements of the concept for mandatory familiarization.

Qualification
The Engadin Airport pilots' briefing covers the different operational requirements and information which are necessary as well as helpful in the execution of flights to and from Samedan, such as aircraft performances or operational requirements. For details consult concept for mandatory familiarization.

ICAO Aircraft Approach Categories
Category A: Approach Speed less than 90 knots V_{APP}
Category B: Approach Speed between 91 and 120 knots V_{APP}
Category C: Approach Speed between 121 and 140 knots V_{APP}
Category D: Approach Speed between 141 and 165 knots V_{APP}

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CH-7503 Samedan
Tel: +41 (0) 81 851 08 51, Fax: +41 (0) 81 851 08 59: E-mail: info@engadin-airport.ch.

Introduction

The Samedan *Briefing* is meant to support you in your personal flight preparation. In this section you will find some general information concerning the main operational issues of the Engadin Airport such as:

It is advised that personal flight preparation of any pilot intending to operate in or around Samedan shall go beyond the information contained in these pages and should be based on current official documents such as AIP, VFR-Manual, Notam etc..

1. Airport general information

LSZS airport is a Civil, Category B Airport and is open to all private, commercial and business flights as well as to unscheduled VFR flights.

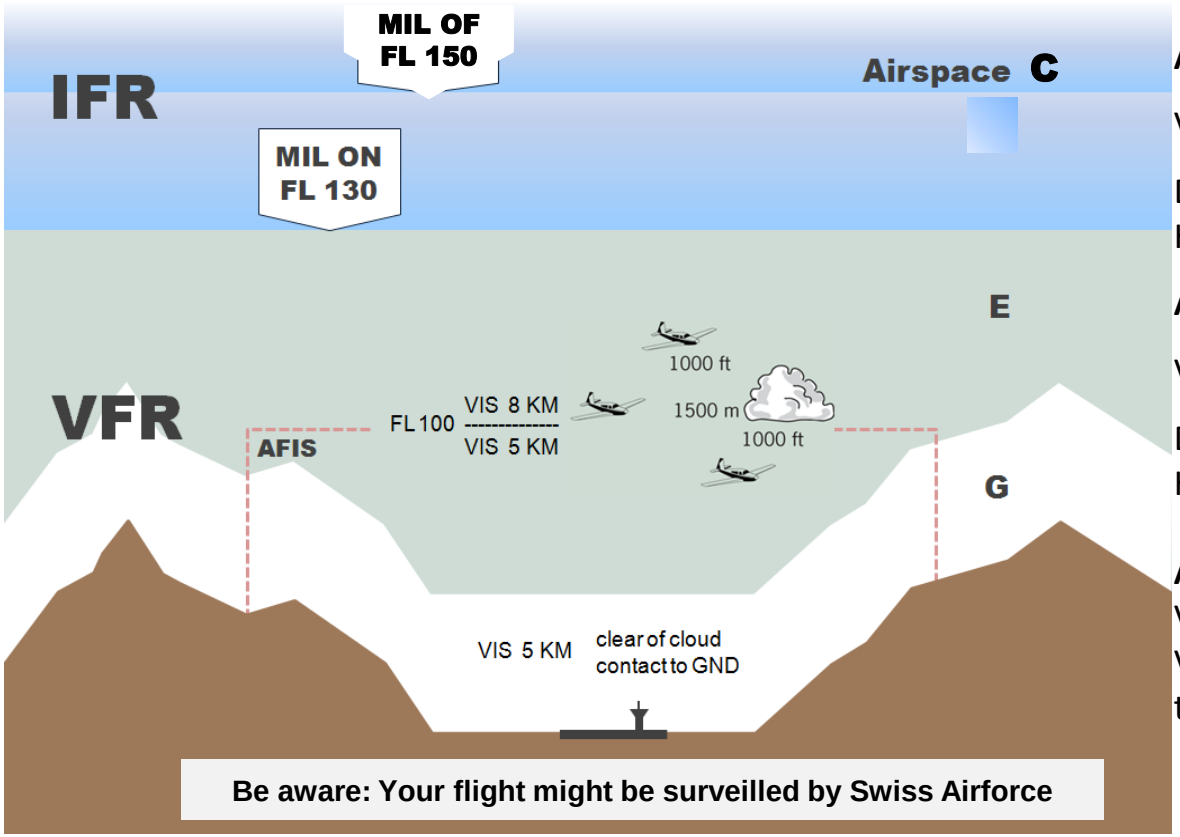
Reminder: The Engadin Airport is the highest elevated airport in Europe:

Elevation

5‘600 FT AMSL

1.1 Airport general information

Airspace & Weather conditions



WX minima for VFR traffic:

Airspace E FL 100 – FL 130/150

VIS: 8 KM

Distance to clouds: Vertical 1‘000 FT
Horizontal 1‘500 M

Airspace E 2000 FT AGL – FL 100

VIS: 5 KM

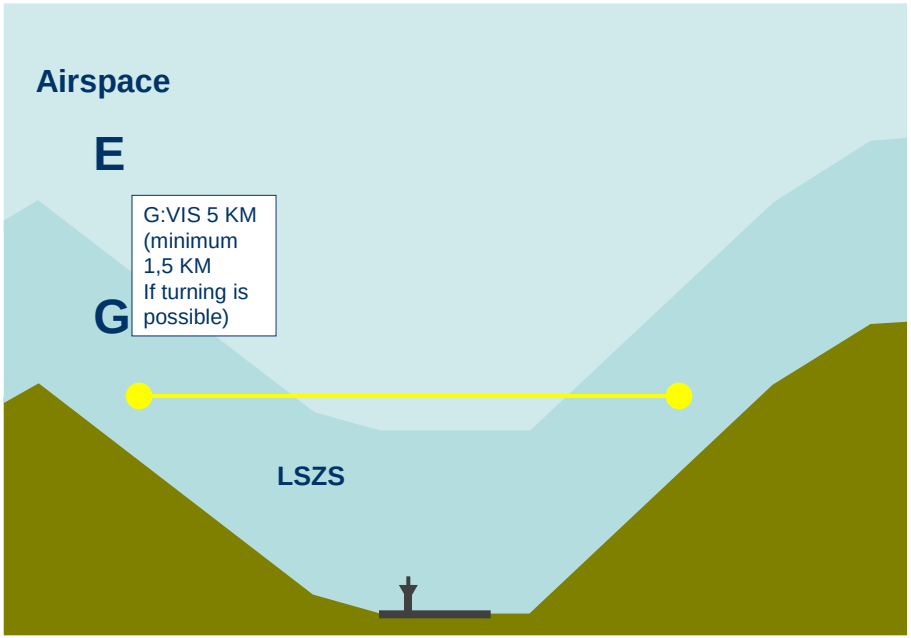
Distance to clouds: Vertical 1‘000 FT
Horizontal 1‘500 M

Airspace G GND – 2‘000 FT GND

VIS: 5 KM clear of clouds, vis contact to GND
VIS below 5 KM (minimum 1.5 KM), only if turning to reverse course is possible

1.1.1 Airport general information

Airspace Golf



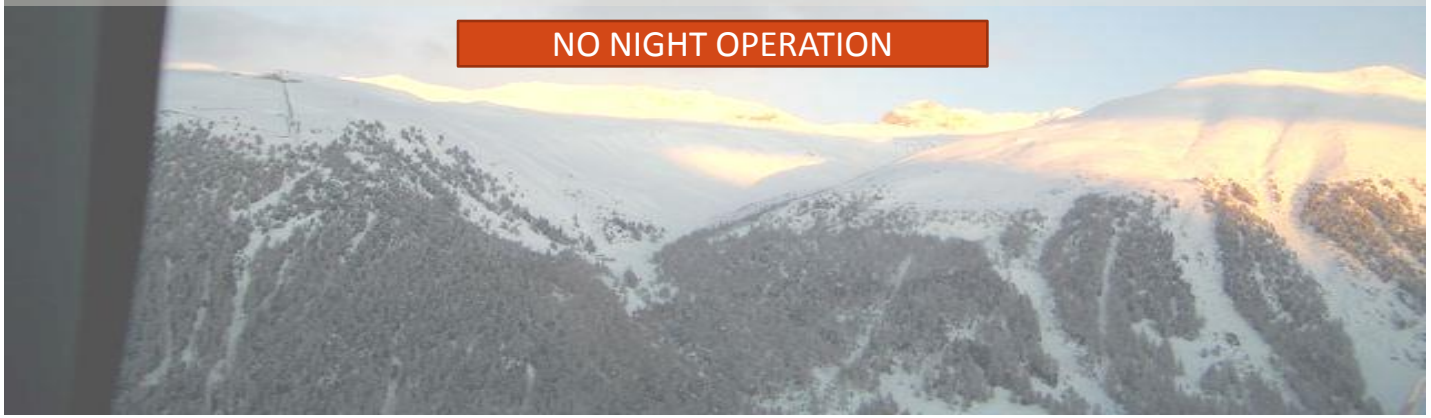
Be aware of turning radius:

Refer to chapter 9. IAS-TAS/Reverse turn: page 53

1.2 Airport general information

- **Samedan has a FIZ (Flight Information Zone)**
- **Airport opening hours summer:** **0600Z to 1700Z.**
- **FIS (Flight Information Service) is available:** **0600Z to 1700Z.**
- **Airport opening hours winter:** **0700Z to SS+30min**
- **FIS (Flight Information Service) is available:** **0700Z to SS+30min**

NO NIGHT OPERATION



1.3 Airport general information

Samedan AFIS

- Samedan Information is not equipped with a radar display.
- FISO (Flight Information Service Officer) is not authorized to give ATC instructions or clearances, except for ground movements.
- To enter the FIZ radio contact with Samedan Information is compulsory.
- Check the appropriate NOTAMs for special regulations, for example during the World Economic Forum in Davos (WEF), usually at end of January.

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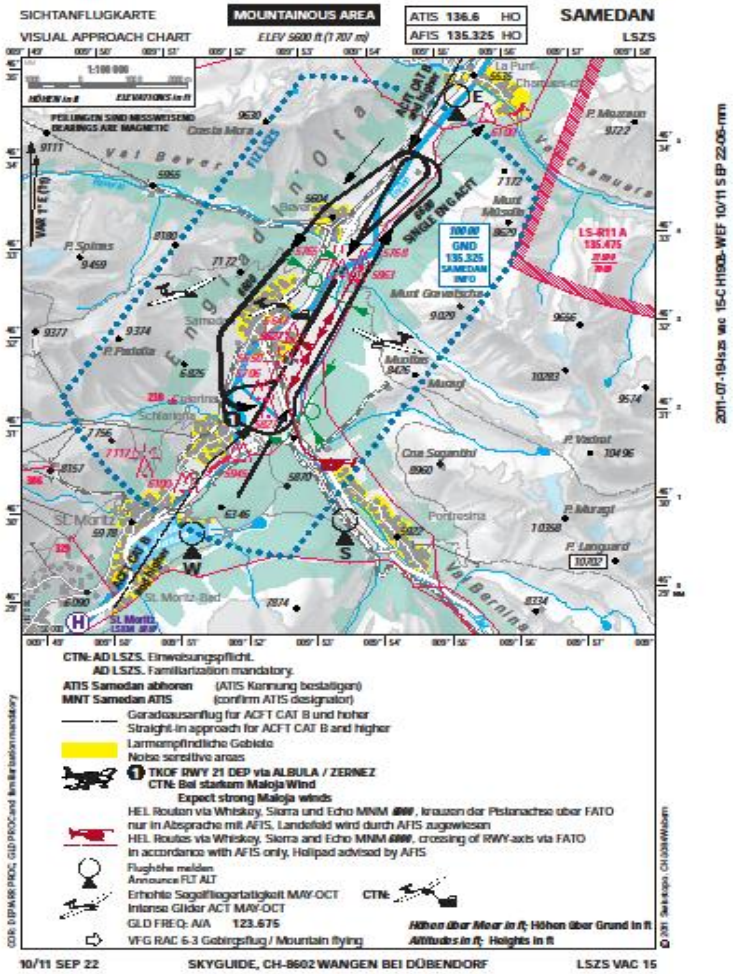
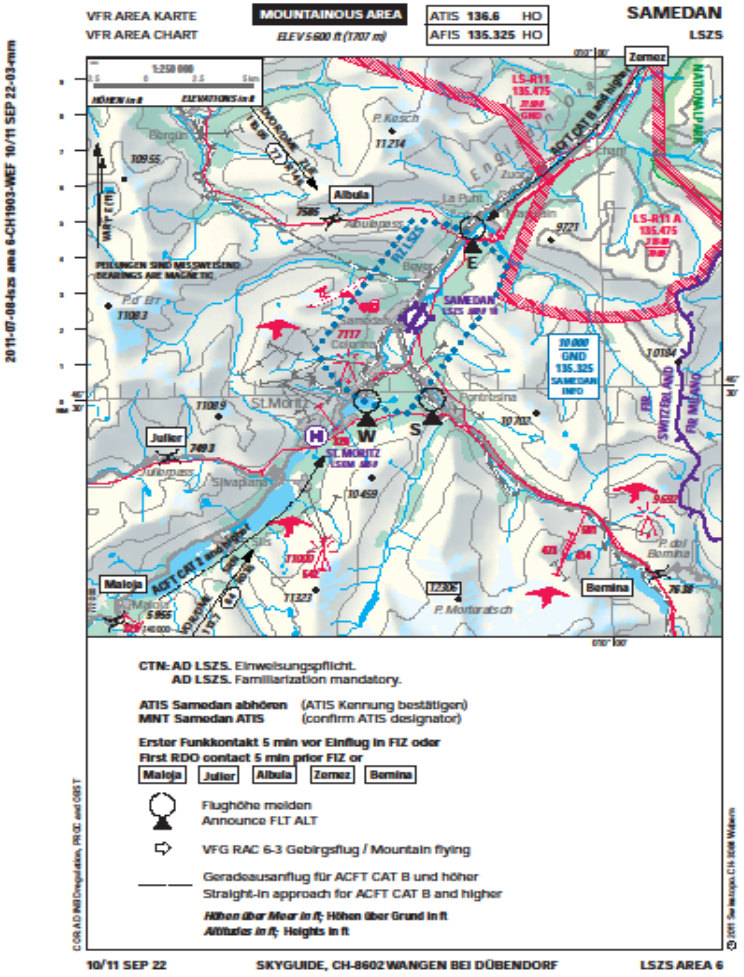

SICHTANFLUGKARTE
VISUAL APPROACH CHART
MOUNTAINOUS AREA
ELEV 5600 ft (1 707 m)
ATIS 136.6 HO
AFIS 135.325 HO
SAMEDAN
LSZS
1:100 000
PEILUNGEN SIND MISSWEISEND
BEARINGS ARE MAGNETIC
LS-R11 A
135.475
100 00
GND
135.325
SAMEDAN
INFO
SINGLE DIR ACFT
ACFT CAT B and higher
CTN: AD LSZS. Einweisungspflicht.
AD LSZS. Familiarization mandatory.
ATIS Samedan abhören (ATIS Kennung bestätigen)
MNT Samedan ATIS (confirm ATIS designator)
Geradeausanflug für ACFT CAT B und höher
Straight-in approach for ACFT CAT B and higher
Lärmempfindliche Gebiete
Noise sensitive areas
TKOF RWY 21 DEP via ALBULA / ZERNEZ
CTN: Bei starkem Maloja Wind
Expect strong Maloja winds
HEL Routen via Whiskey, Sierra und Echo MNM 600', kreuzen der Pistenachse über FATO
nur in Absprache mit AFIS. Landefeld wird durch AFIS zugewiesen
HEL Routes via Whiskey, Sierra and Echo MNM 600', crossing of RWY-axis via FATO
in accordance with AFIS only. Helipad advised by AFIS
Flughöhe melden
Announce FLT ALT
Erhöhte Segelflugaktivität MAY-OCT
Intense Glider ACT MAY-OCT
GLD FREQ: A/A 123.675
VFG RAC 6-3 Gebirgsflug / Mountain flying
CTN:
Höhen über Meer in ft; Höhen über Grund in ft
Altitudes in ft; Heights in ft
10/11 SEP 22
SKYGUIDE, CH-8602 WANGEN BEI DÜBENDORF
LSZS VAC 15
2011-07-19 lszs vac 15-C H1903- WEF 10/11 SEP 22-09-mm


VFR AREA KARTE
VFR AREA CHART
MOUNTAINOUS AREA
ELEV 5600 ft (1707 m)
ATIS 136.6 HO
AFIS 135.325 HO
SAMEDAN
LSZS
1:250 000
LS-R11
135.475
LS-R11 A
135.475
10 000
GND
135.325
SAMEDAN
INFO
ACFT CAT B and higher
CTN: AD LSZS. Einweisungspflicht.
AD LSZS. Familiarization mandatory.
ATIS Samedan abhören (ATIS Kennung bestätigen)
MNT Samedan ATIS (confirm ATIS designator)
Erster Funkkontakt 5 min vor Einflug in FIZ oder
First RDO contact 5 min prior FIZ or
Maloja
Julier
Albula
Zernez
Bernina
Flughöhe melden
Announce FLT ALT
VFG RAC 6-3 Gebirgsflug / Mountain flying
Geradeausanflug für ACFT CAT B und höher
Straight-in approach for ACFT CAT B and higher
Höhen über Meer in ft; Höhen über Grund in ft
Altitudes in ft; Heights in ft
10/11 SEP 22
SKYGUIDE, CH-8602 WANGEN BEI DÜBENDORF
LSZS AREA 6
2011-07-08 lszs area 6-CH1903-WEF 10/11 SEP 22-03-mm

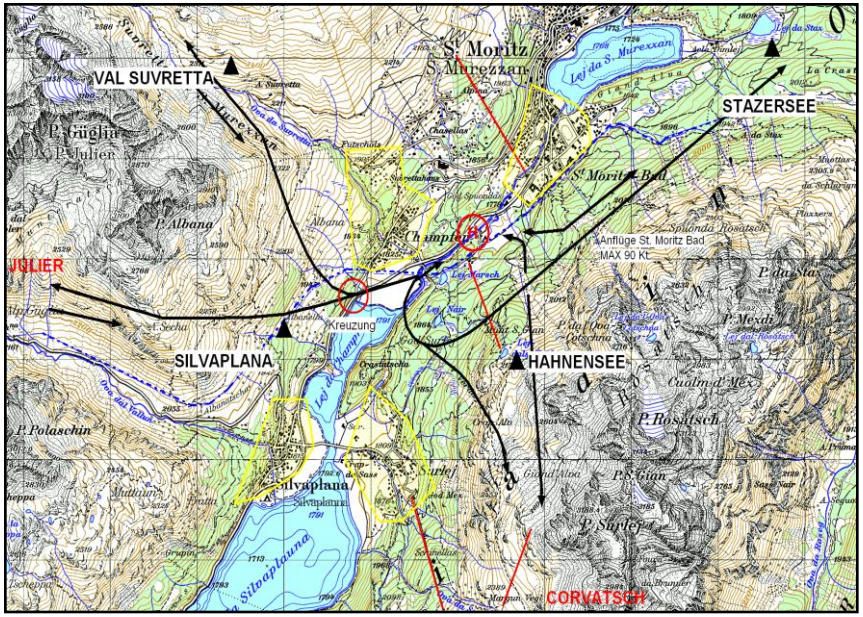
1.4 Airport general information

Seasonal traffic density

Winter is the peak-traffic season. Expect a high traffic density.
This requires special attention at the airport and in the vicinity of the airport (traffic circuit).

Heliport St. Moritz-Bad

Expect unreported helicopter traffic from Heliport LSXM in St. Moritz-Bad during winter season only (15.12-15.4). During helicopter operation TCAS warning may be activated.



1.5 Airport general information

Seasonal traffic density

Summer

***Glider activities*:** The mountains near the airport are attractive to gliders. Expect intense glider activities between May and September within the FIZ and in the traffic circuit.

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1.6 Airport general information

Runway information / Airport overview

Runway 03 / 21	1‘800 M x 40 M asphalt /concrete
Slope Runway 03	0.4% down slope
Slope Runway 21	0.4% up slope

For further information refer to AIP/VFR-Manual

2. Samedan general operation requirements

Qualification

NOTE: Check first if you are qualified.

The Samedan airport is situated in a mountainous region. Due to its special geographical and meteorological situation its use is limited to pilots fulfilling the concept for mandatory familiarization and operation at LSZS is limited to pilots who have completed the LSZS-Briefing and passed the test, provided on the internet LSZS Briefing and the have had a practical introduction.

It is the responsibility of each pilot to be qualified and current. Each pilot must be able to prove at any time, to the respective authorities (FOCA, Airport Authority), he fulfils these requirements.

For details consult concept for mandatory familiarization.

Qualification / Currency / Requalification

mandatory / Qualification	Aeroplanes ICAO Cat. A	Aeroplanes ICAO Cat. B and higher	Helicopters
Briefing	LSZS Familiarization Briefing and Test not older than 12 months		
last LDG at LSZS			
no LDG at LSZS or more than 24 months ago	Introduction flight with LSZS current FI Pilot with MOU-License, NIL	Flight into LSZS with MET COND CAVOK or supervised by LSZS current pilot	NIL
within 24 months	NIL	NIL	NIL

For details consult concept for mandatory familiarization.

3. Weather

General

Because of its special climate, the weather is nice most of the time.
Significant changes of weather conditions within a short time , are frequent in the mountains. Even if the weather condition is reported to be good, clouds over the valley can make it impossible to maintain VFR conditions.
It is the pilot's responsibility to assess the weather situation and to maintain VMC!

Wind

During winter calm winds are predominate throughout the whole day.
In summer the special local wind (Maloja Wind) dominates the wind patterns in the Engadine. This valley wind can be very strong (up to 20 knots or more). It normally starts at noon , coming from the south-west.
North winds: Take care of north-easterly winds aligned with the runway axis and expect moderate and severe turbulences in approach sector. (RWY 03 in use)

Visibility

In winter, visibility may be reduced temporarily due to snow showers. Fog is not a very frequent phenomenon. It is mainly observed during a few days in spring and autumn.

3.1 Weather

Clouds
In winter, cold dry air moves into the valley from the north-east and generates sunny days with high cirrus or no clouds.
In summer, moist air moves in to the Alps from the Mediterranean Sea and generates days with low stratus clouds, reduced visibility and rain.

Current meteorological information
Current meteorological information can be found on the Homebriefing site: www.homebriefing.com. For ATIS, refer to the AIP. Furthermore different webcams are available in the Engadine valley.

NOTE:
The runway will be closed for jet aircraft Class B and higher if weather conditions are below visibility 5 KM and/or ceiling below 2'200 FT AGL.

For LSZS the ICAO MET term CAVOK means rather nice weather conditions. Due to high MSA, there are no clouds below 15'600 FT AMSL when LSZS reports CAVOK.

4. Geographic and topographic situation

General view

Samedan airport is situated north-east of St. Moritz and east of Samedan.
The airport is surrounded by high mountains.

View towards the north-east

View towards the south-west

4.1. Geographic and topographic situation

Airspace

Samedan airport is close to the Swiss-Italian border. Study the surrounding airspace carefully.
For further information please refer to the respective maps and to VFR Manual

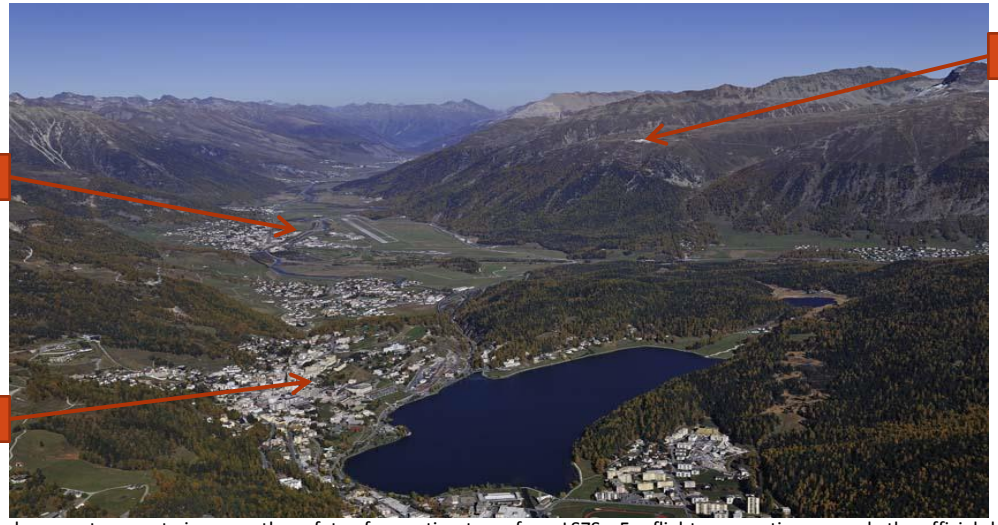
Obstacles

Aerodrome obstacle charts are available to identify critical obstacles in both runway direction.
Refer to AIP.

5. Approach and departure

General

Samedan is a civil VFR airport. As no IFR approach procedure is available, IMC approaches are prohibited.
The airport is located near St.Moritz, on the north-west side of Muottas Muragl.
Refer to AIP or to official route documentation for exact location and for technical information.
Study carefully the requirements and conditions for the execution of the flight procedures and keep attention of GPWS indications due to the topography of the valley.



5.1 Approach and departure

Study carefully the VFR charts:
For VFR Area Chart and Visual Approach Chart refer to AIP Switzerland (VFR-manual).
Note: Expect unknown VFR activity inside and outside of the FIZ (Airspace Class E & G)

5.2 Approach and departure

General

Aircraft Class A/Helicopter

Establish radio contact 5 min. before entering the FIZ (Flight Information Zone) or Maloja, Julier, Albula, Zernez, Bernina.

Aircraft Class B and higher

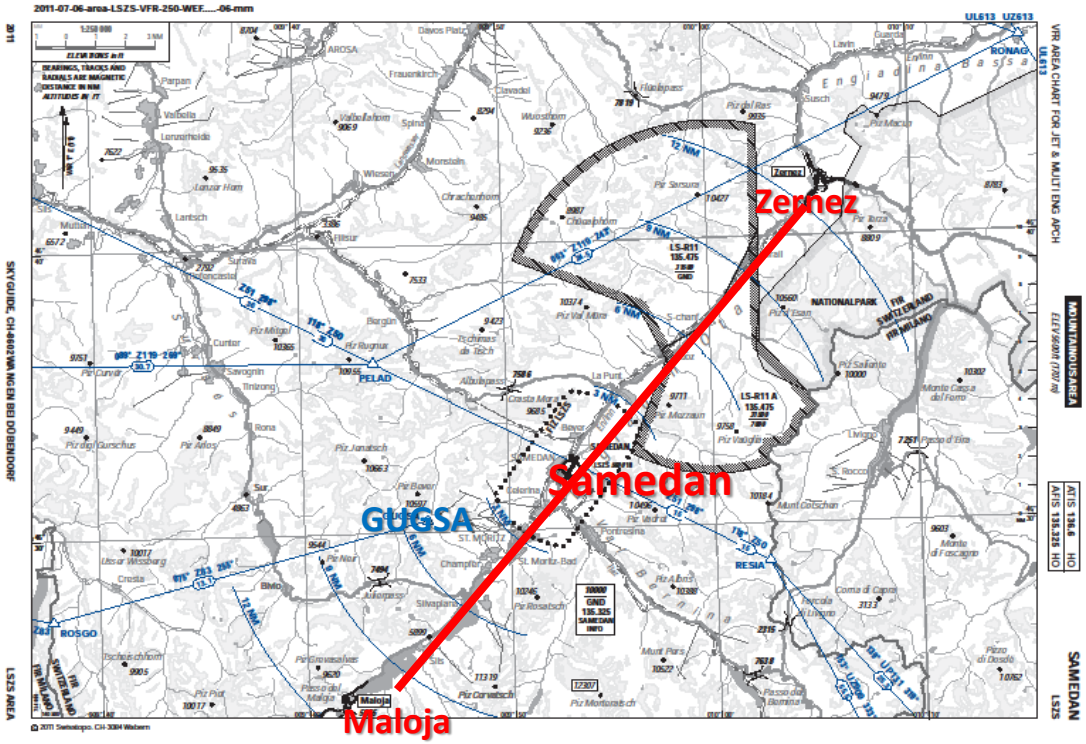
To get familiar with the location of the airport and the valley, do not hesitate to request permission from Swiss Radar – only when in Airspace Class C – to fly over the valley first.
When you have the airport in sight, contact Samedan Information and proceed to Maloja or Zernez.

Additional information

Inromation by FISO and/or ATIS.
Observe the surroundings! Look out for unknown VFR traffic in the vicinity of the airport.
During winter, expect helicopter traffic at the St. Moritz Bad Heliport LSXM close to the approach sector RWY 03 at very low altitude. Their standard procedure avoids the approach and departure sector of Samedan airport.
Expect high glider activity from May to September. Gliders have landing priority.
Be aware of direct approach of jets from Maloja or Zernez.
Approach RWY 21: Restricted area LSR11/R11A can be active. Please check ATIS. For crossing coordination, you may contact Samedan Info as early as possible (min. 15 minutes before ETA).

5.3 Approach and departure (Cat. B and higher)

SAMEDAN ARRIVAL FOR RWY 03 AND 21 VIA MALOJA AND ZERNEZ



VFR arrivals after cancelling IFR with Swiss Radar

Maintain strictly VMC

In case of insufficient weather conditions or traffic congestion over the valley, you may contact Swiss Radar again and request to rejoin IFR and hold over GUGSA. If unable to land in Samedan, proceed to your alternate airport.

To get familiar with the location of the airport and the valley, do not hesitate to request permission from Swiss Radar – only when in Airspace Class C – to fly over the valley first.
When you have the airport in sight, contact Samedan Information and proceed to Maloja or Zernez.

5.4 Approach and departure

Approach to RWY 03 - via Maloja

Maloja

AFIS	135.325 MHz
ATIS	136.600 MHz

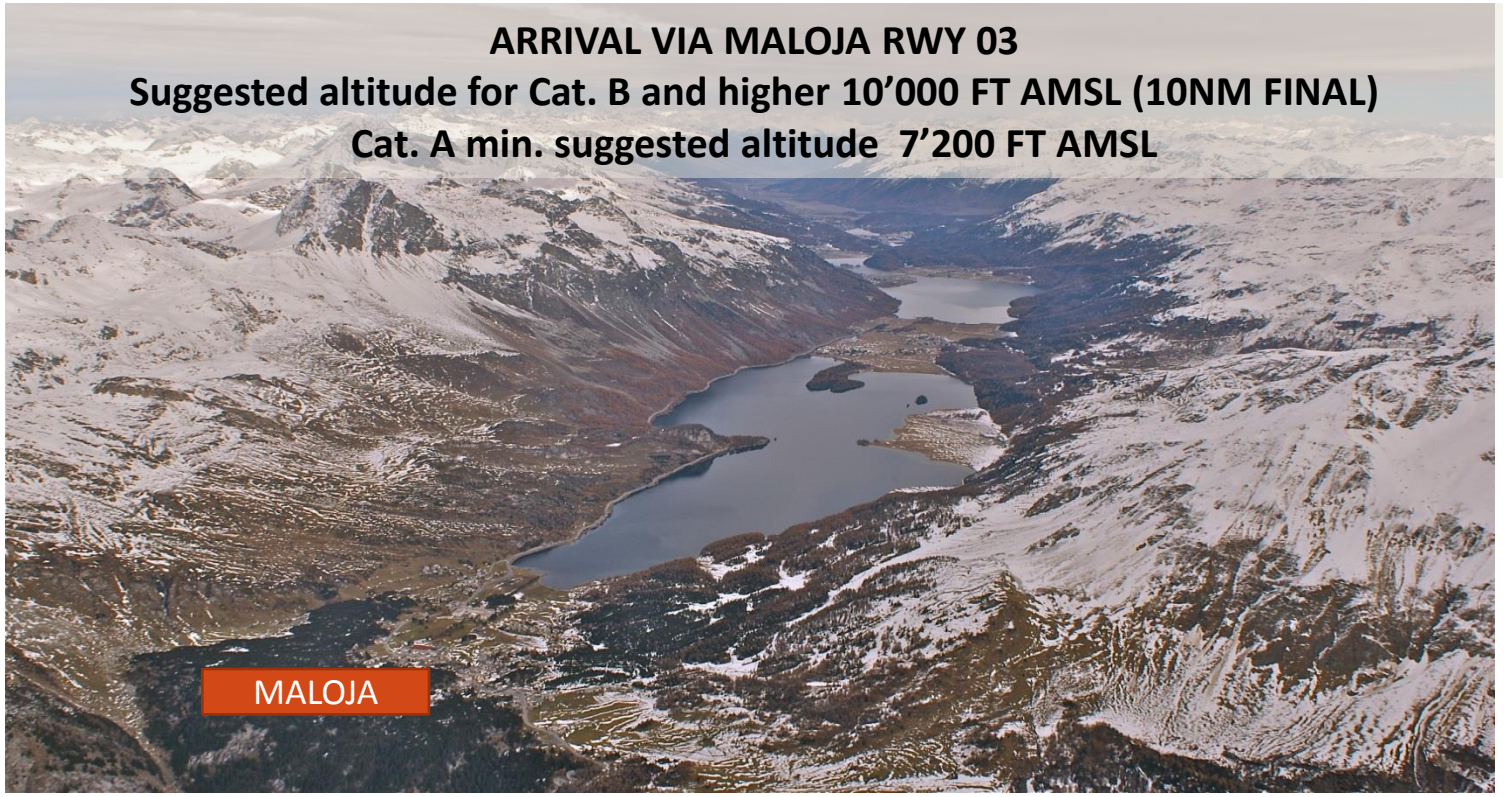
Establish radio contact 5 minutes before entering the FIZ (Flight Information Zone).

For the approach, it is suggested to proceed in the direction of Maloja and then turn inbound to LSZS at 10NM.

NOTE: Samedan is a VFR airport and the PIC has the full responsibility to conduct a safe flight and to maintain VMC. The FISO can only give information of known traffic. No radar available. The valley is narrow.

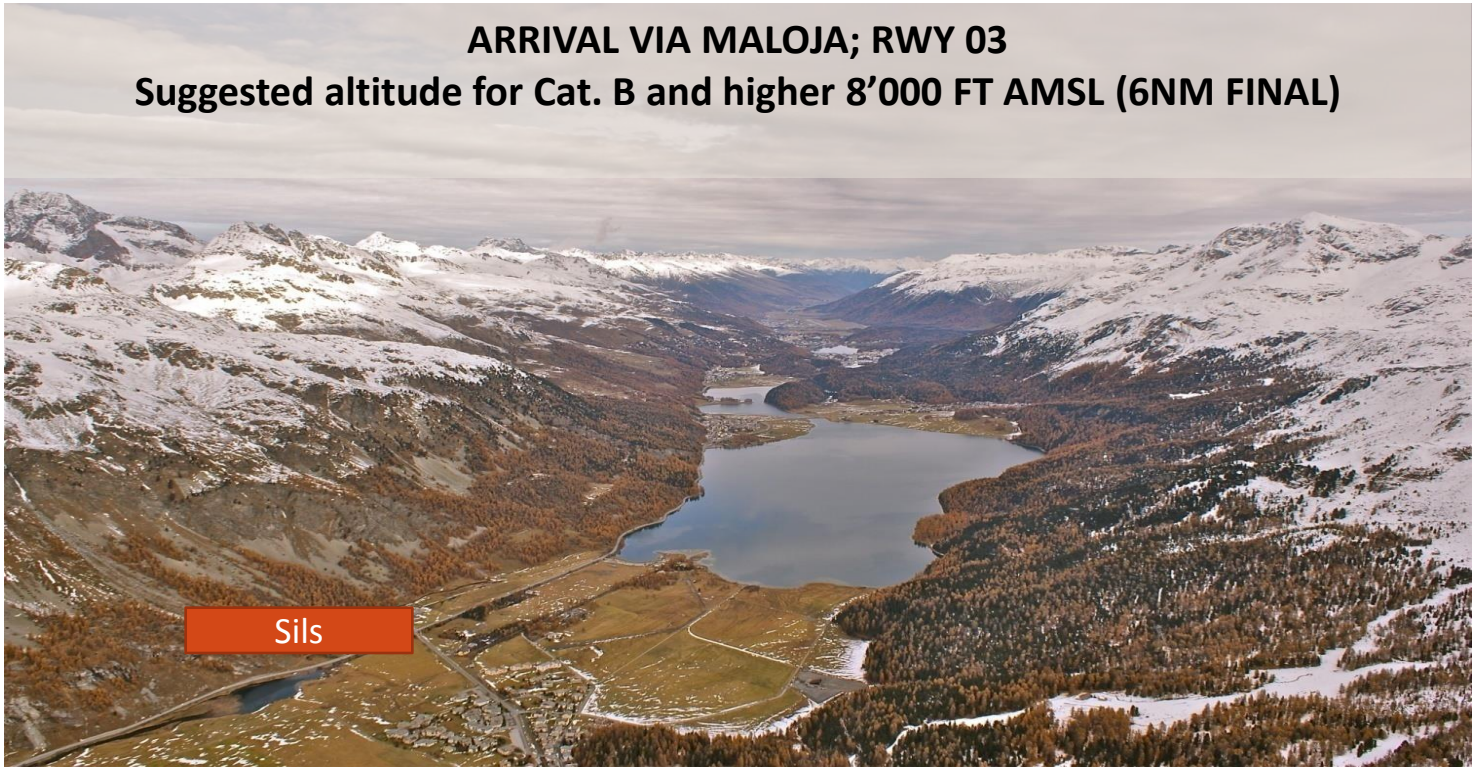
5.5 Approach and departure

Approach RWY 03 - via Maloja



5.6 Approach and departure

Approach RWY 03 - via Maloja



5.7 Approach and departure

Approach RWY 03

ARRIVAL RWY 03

Suggested altitude for Cat. B and higher 7'000 FT AMSL (3NM FINAL)

Min. suggested altitude Cat. A and Helicopter 7'000 FT AMSL (reporting point Whisky)

5.8 Approach and departure

Approach RWY 03 aeroplane

Missed-approach: Cat. B and higher proceed back to Maloja and restart the VFR approach.
Cat. A proceed via circuit and restart the approach.

NOTE: Be aware of the area needed for manoeuvring and climb to suitable altitude before starting reverse turn.

5.9 Approach and departure

Approach RWY 03 for Helicopter

In case of traffic FISO may request you to proceed and report south of FATO (remain south and stay clear of runway axis)
Information on Helipad condition is given by FISO, SNOWTAM, METAR , ATIS. Expect blowing snow (White Out**)**

5.10 Approach and departure

Approach RWY 21 via Zernez

Zernez

AFIS	135.325 MHz
ATIS	136.600 MHz

Establish radio contact 5 minutes before entering the FIZ (Flight Information Zone).

For the approach, it is suggested to proceed in the direction of Zernez and then turn inbound to LSZS at 10NM.

NOTE: Samedan is a VFR airport and the PIC has the full responsibility to conduct a safe flight and to maintain VMC. The FISO can only give information of known traffic. No radar available. The valley is narrow.

5.11 Approach and departure

Approach RWY 21 via Zernez

5.12 Approach and departure

Approach RWY 21 via Zernez

5.13 Approach and departure

Approach RWY 21

ARRIVAL; RWY 21
Suggested altitude for Cat. B and higher 7'000 FT AMSL (3NM FINAL)
Min. suggested altitude Cat. A and Helicopter 7'000 FT AMSL (reporting point Echo)

5.14 Approach and departure

Approach RWY 21 aeroplane

Missed-approach: Cat. B and higher proceed back to Zernez and restart the VFR approach
Cat. A proceed via circuit and restart the approach.

Note: Be aware of the area needed for manoeuvring and climb to suitable altitude before starting reverse turn.

ARRIVAL VIA ZERNEZ SHORT FINAL RWY 21

5.15 Approach and departure

Approach RWY 21 for Helicopter

In case of traffic FISO may request you to proceed and report south of FATO (remain south and stay clear of runway axis)
Information on Helipad condition is given by FISO, SNOWTAM, METAR , ATIS. Expect blowing snow (White Out)

ARRIVAL RWY 21 VIA FATO to designated Helipad (1-5)

5.16 Approach and departure

Approach via Albula: Not available for aircraft of ICAO APCH Cat. B and higher

Albula

AFIS	135.325 MHz
ATIS	136.600 MHz

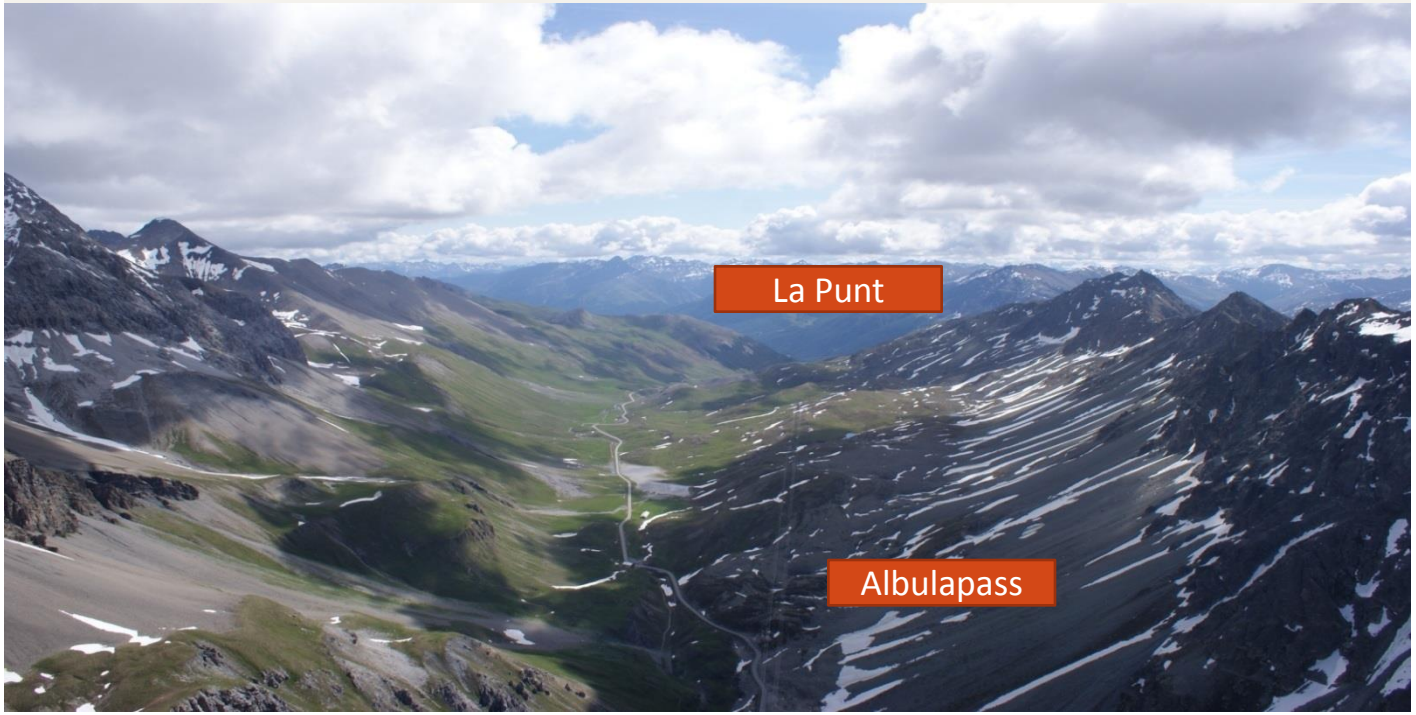
Establish radio contact 5 minutes before entering the FIZ (Flight Information Zone).

NOTE: Samedan is a VFR airport and the PIC has the full responsibility to conduct a safe flight and to maintain VMC. The FISO can only give information of known traffic. No radar available. The valley is narrow.

5.17 Approach and departure

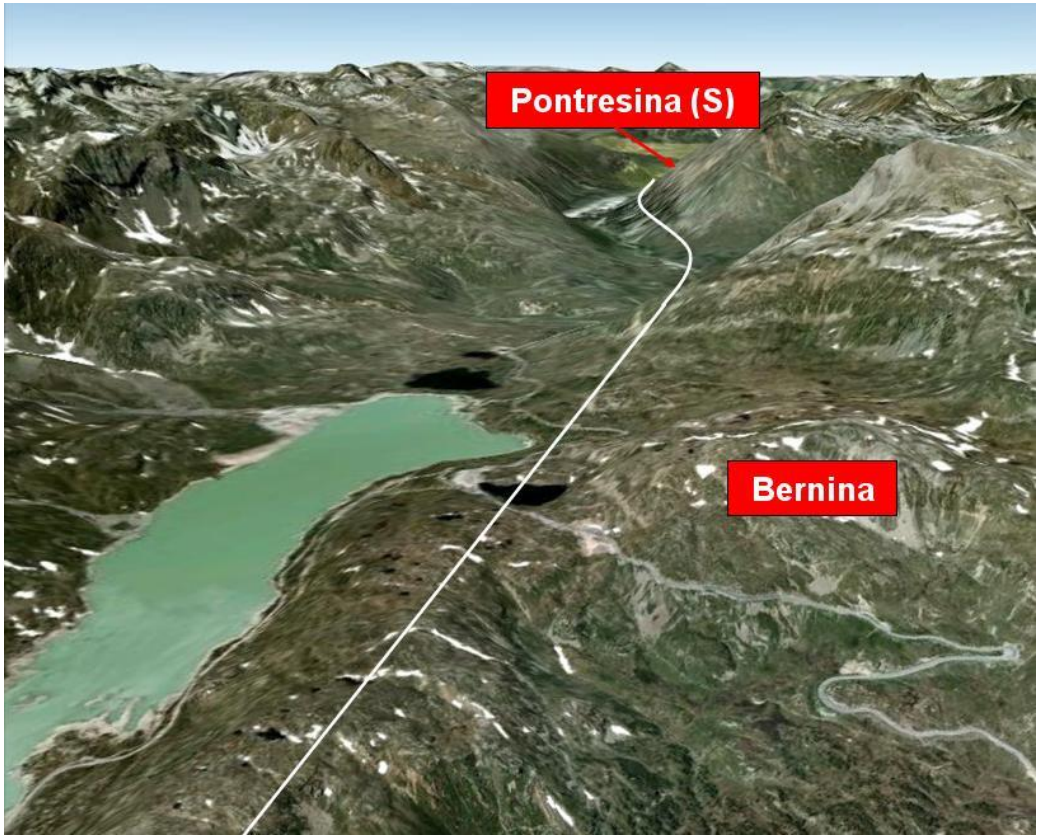
Approach via Albula: Not available for aircraft of ICAO APCH Cat. B and higher

ARRIVAL VIA ALBULA; Albulapass
Min. suggested altitude 8'700 FT AMSL



5.18 Approach and departure

Approach - via Bernina: Not available for aircraft of ICAO APCH Cat. B and higher



Bernina

AFIS	135.325 MHz
ATIS	136.600 MHz

Establish radio contact 5 minutes before entering the FIZ (Flight Information Zone).

NOTE: Samedan is a VFR airport and the PIC has the full responsibility to conduct a safe flight and to maintain VMC. The FISO can only give information of known traffic. No radar available. The valley is narrow.

5.19 Approach and departure

Approach via Bernina: Not available for aircraft of ICAO APCH Cat. B and higher

ARRIVAL via Bernina: Berninapass
Min. suggested altitude 8'600 FT AMSL

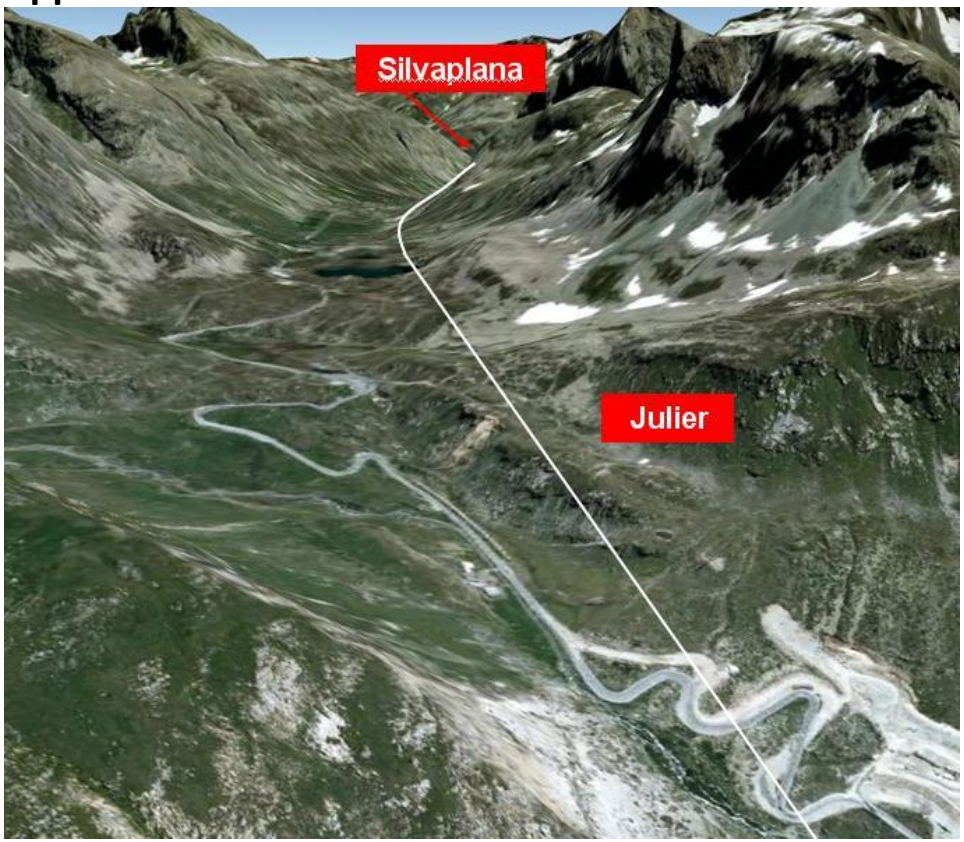
5.20 Approach and departure

Approach via Bernina: Not available for aircraft of ICAO APCH Cat. B and higher

ARRIVAL VIA Bernina: Pontresina (Sierra)
Min. suggested altitude 7'000 FT AMSL (reporting point Sierra)

5.21 Approach and departure

Approach via Julier: Not available for aircraft of ICAO APCH Cat. B and higher



Julier

AFIS	135.325 MHz
ATIS	136.600 MHz

Establish radio contact 5 minutes before entering the FIZ (Flight Information Zone).

NOTE: Samedan is a VFR airport and the PIC has the full responsibility to conduct a safe flight and to maintain VMC. The FISO can only give information of known traffic. No radar available. The valley is narrow.

5.22 Approach and departure

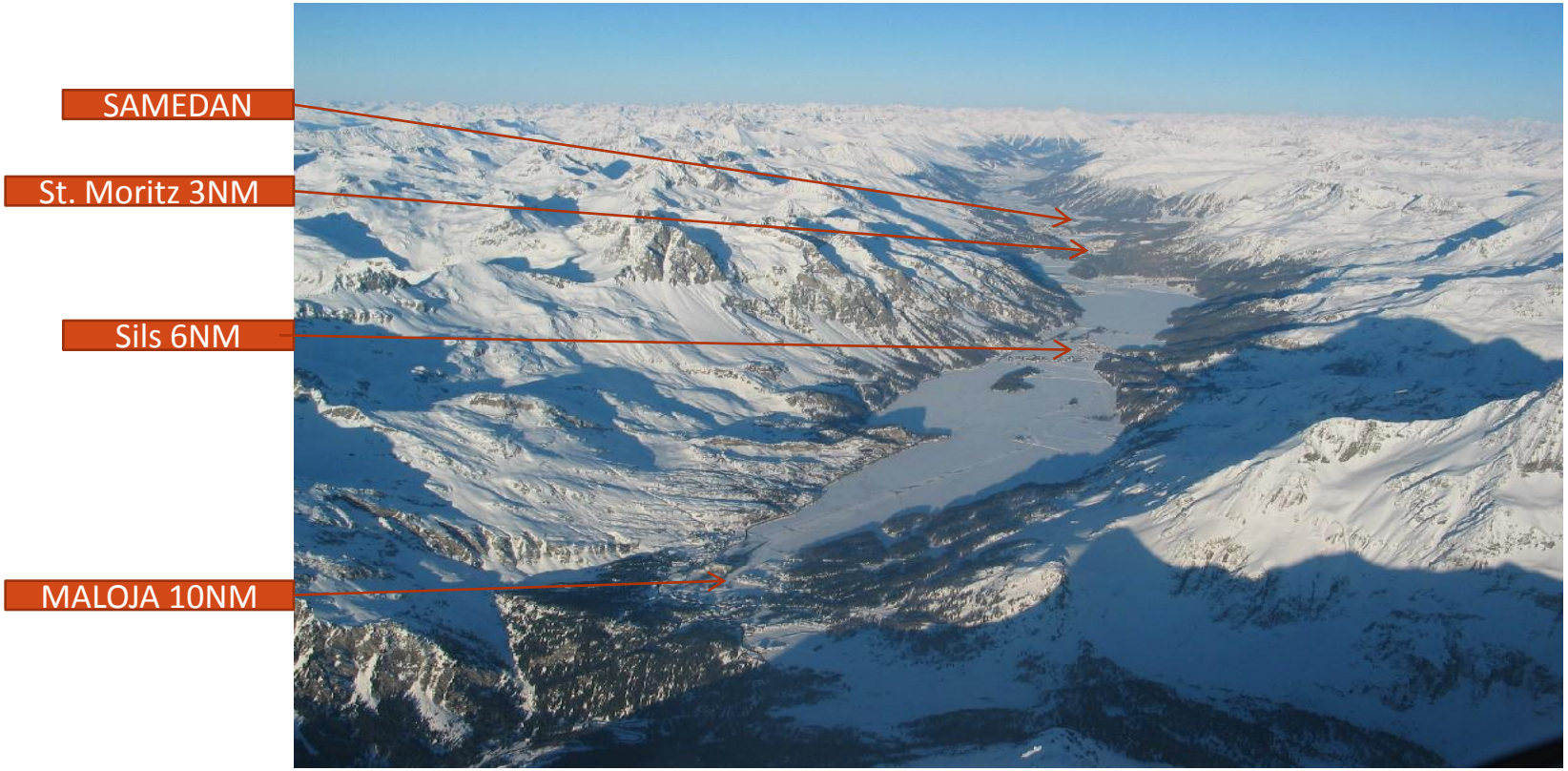
Approach via Julier: Not available for aircraft of ICAO APCH Cat. B and higher

ARRIVAL VIA Julier; Julierpass
Min. suggested altitude 8'600 FT AMSL

The information in this document serves to increase the safety of operation to an from LSZS. For flight preparation use only the official documentation published in the AIP.

5.23 Approach and departure

Caution! Winter scenery looks significantly different (example below: approach RWY 03)



5.24 Approach and departure

Important Information:

RUNWAY CONDITION

- Information on runway condition is given by FISO, SNOWTAM, METAR, ATIS.
- Friction Test Devices are not available.

5.25 Approach and departure

NOTE:

- Check the weather situation over the Alps.
- Check the density altitude.
- Check the aircraft performance, for helicopters HOGE.
- Check runway condition.
- Check NOTAM.
- On departure, observe the speed and maintain a good rate of climb, especially for high performance jet aircraft.
- External lighting has to be used (recognition lights, pulse lighting, etc..).

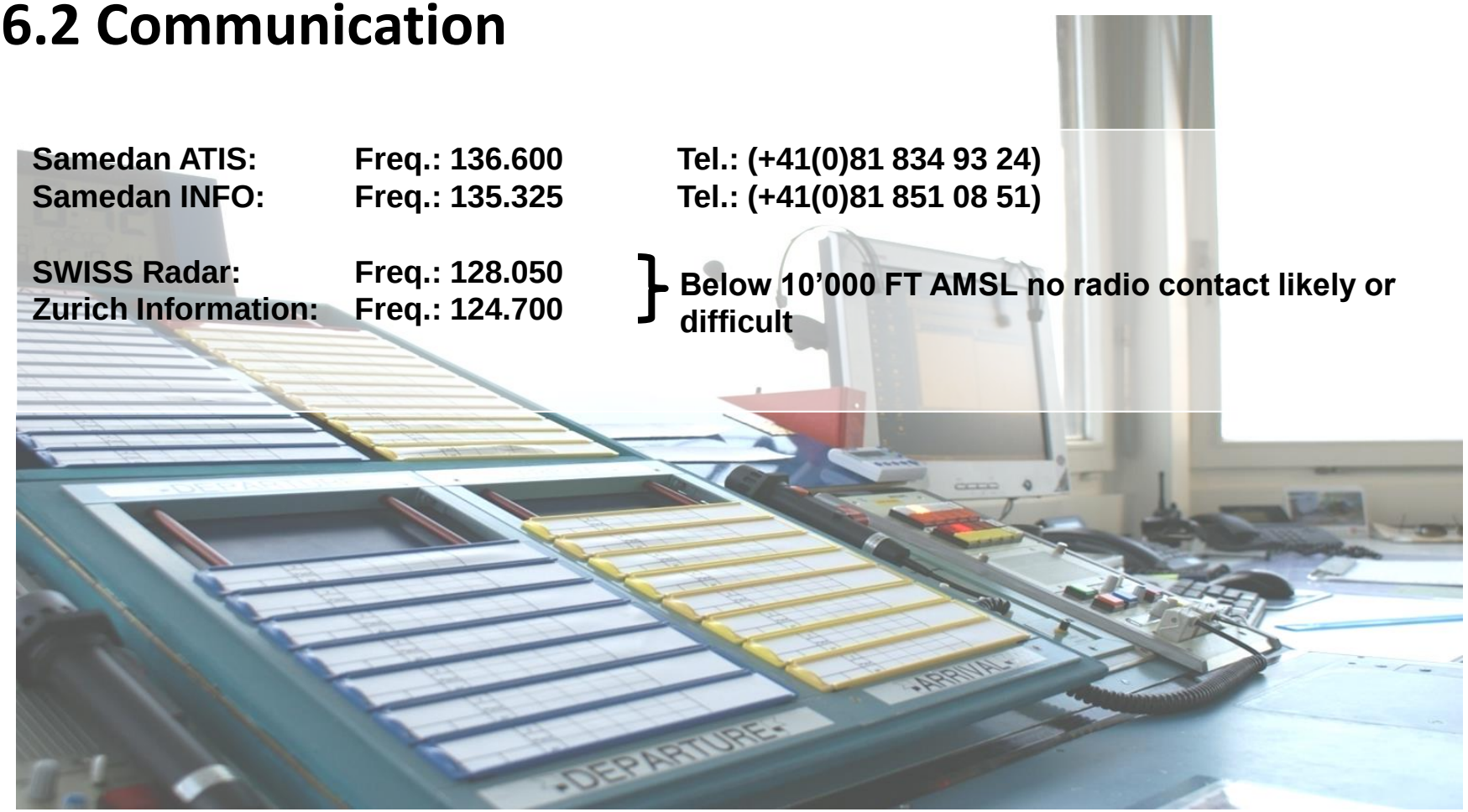
6. Noise abatement and communication

6.1 Noise abatement

- Make sure that the type of aircraft (noise class) is allowed to operate at Samedan airport.
- More than idle reverse shall be used for safety reason only. (Jet)
- APU shall be started at the earliest 30 minutes before EOBT and shall be shut off at latest 15 minutes after reaching the park position. (Jet)
- Avoid flying over towns and villages and noise sensitive areas when operationally possible (see VFR chart).
- Reduce speed when approaching airport. (Heli)
- For further information refer to AIP LSZS.

6.2 Communication

Samedan ATIS:	**Freq.: 136.600**	**Tel.: (+41(0)81 834 93 24)**
Samedan INFO:	**Freq.: 135.325**	**Tel.: (+41(0)81 851 08 51)**
SWISS Radar:	**Freq.: 128.050**	**} Below 10'000 FT AMSL no radio contact likely or difficult**
Zurich Information:	**Freq.: 124.700**	



7. Aircraft performance (AEO and OEI)

The characteristics of the terrain surrounding the Samedan airport are quite demanding in terms of aircraft climb performances.

Note:

Depending on the performance of the aircraft, operators may have to consider the necessity of establishing contingency procedures for certain flight manoeuvres (see also Contingency procedures on page 57).

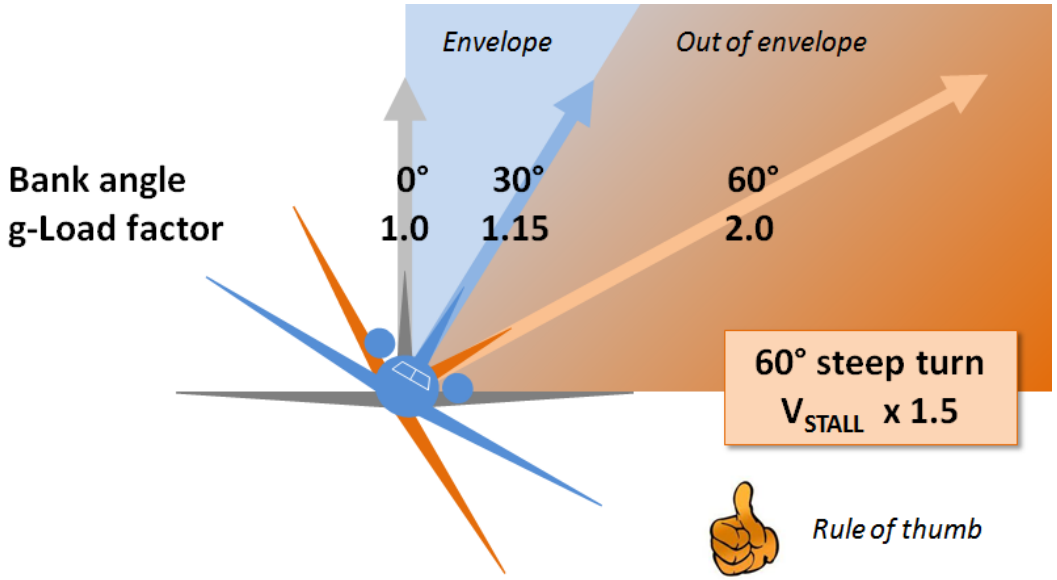
- Operators shall calculate and publish the necessary performance tables, such as mass, airport and temperature (MAT) for the operation in Samedan as well as for the individual runway tables (IRT) including:
- MTOM tables for all applicable departures covering one engine inoperative (OEI) conditions.
- MLM tables for approach covering the speed requirements.
- If required, contingency procedures covering the entire MAT items above.
- High density altitudes are most commonly found at high elevation airports (Samedan elev. 5'600 FT) in combination with high ambient temperatures. Make sure to check all related performance charts for your aircraft.

Obligation of reporting according to concept for mandatory familiarization.

- Mass and balance calculation (Cat. A and helicopter)
- Performance chart (climb out Cat. A)
- Howering out of ground effect (HOGE) calculation (helicopter)

8. Bank angle / g-Force / Stall speed

Aircraft manoeuvring is assumed to be conducted at minimum defined pattern speed according to AFM. This covers adequate safety margin above stall speed. Using higher bank angles to avoid obstacles or for any reason may bring the aircraft close to or into stall conditions.



Stall speed: As weight doubles (60° bank), stall speed increases by √2, or 1.414

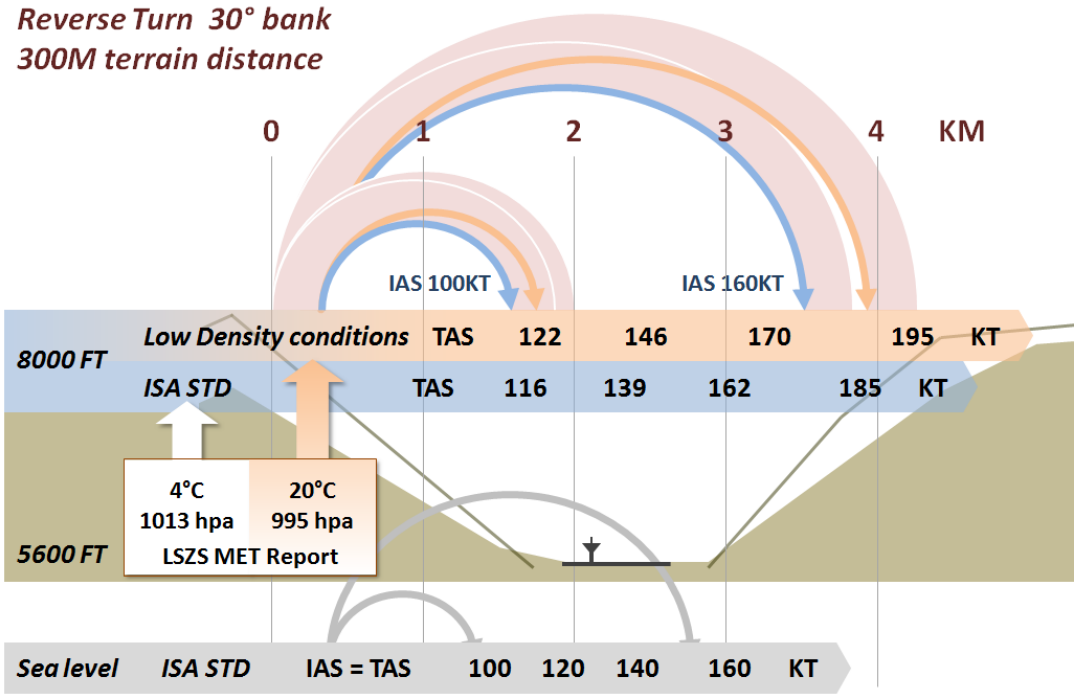
9. IAS – TAS / Reverse turn

Aeroplane operation under VFR and in mountainous terrain requires solid knowledge of the atmosphere theory. Density altitude and therefore true airspeed (TAS) can be considerably higher than aerodrome altitude (AD ELEV) or indicated air speed (IAS). Thus, pilots may be surprised by the area needed to maneuver the aircraft (reverse turn).

True airpseed (TAS): Add 2% to indicated airspeed (IAS) for every 1,000 foot increase in altitude

Standard temperature (ISA): 15°C (59°F) at sea level. ISA decreases 2°C (3.5°F) per 1'000 foot increase in altitude

Density altitude: Increases or decreases 120 FT for each 1 degree Celsius that the temperature varies from standard temperature **and:** Increases or decreases 27 FT for each hp that the QNH varies from STD (1013.25hp)



10. Calculation Density Altitude

Calculation Density Altitude
Example: Density Altitude Samedan at 1030 hPa and 22°C OAT

Solution steps:
1. Calculation Pressure Altitude
2. Calculation Standard temperature on Pressure Altitude
3. Calculation Density Altitude

<u>Calculation Pressure Altitude</u>

QNH	1030 hPa
QNE	1013 hPa (Standard)
Difference	**17 hPa (lower)**

Calculation method: 27 ft per hPa difference of pressure

Calculation altitude differential	17 x 27 ft = 459 ft
Elevation Engadin Airport	5600 ft
Altitude differential	- 459 ft
(Minus if QNE lower then QNH)	
Samedan Pressure Altitude at 1030 hPA	**5141 ft**

10.1 Calculation Density Altitude

Calculation Standard Temperature on Pressure Altitude

Calculation method: 2°C pro 1000 ft

Calculation Pressure Altitude 5141 ft;	2 x 5,141 = 10,28 °C
ISA Temperature Sea level	15 °C
Difference	10,28 °C
Standard temperature on Pressure Alt. 5141 ft	**4,72 °C**

Calculation Density Altitude

Samedan OAT	22 °C
Standard temperature on Pressure Alt. 5141 ft	4,72 °C
Difference	**17,28 °C**

Calculation method altitude differential: 120 ft pro °C

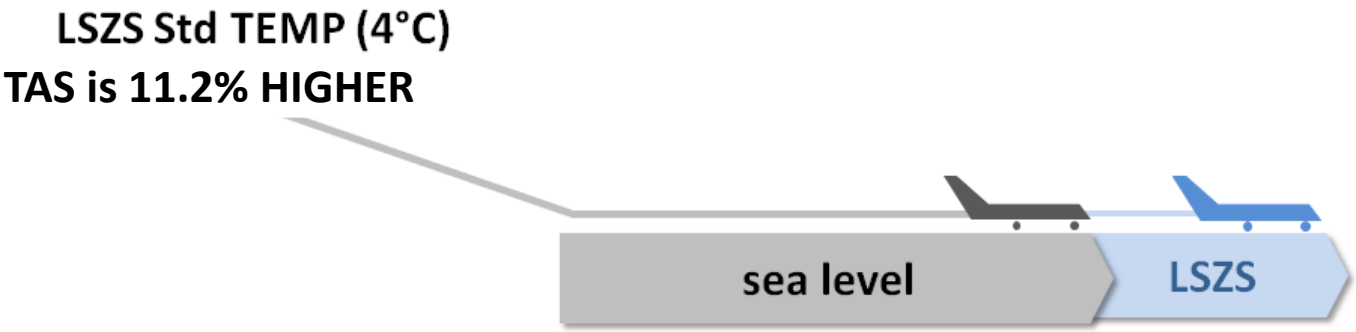
Calculation altitude differential	120 x 17.28 = 2073,6 ft

Calculation method Density Altitude: If OAT is higher than Standard temperature of Pressure Altitude, altitude differential hast to be added to Pressure Altitude.

Pressure Altitude	5141 ft
Altitude differential	2073.6 ft
Density Altitude	**7214.6 ft**

11. IAS – TAS / Landing distance

Density altitude affects the landing performance of an aeroplane as greatly as it affects takeoff performance. High temperature and high elevation will cause an increase in the landing roll because the true airspeed is higher than the indicated airspeed. Remind the higher touchdown speed and check the landing performance data according to the AFM of your aircraft rather than assuming the available runway being sufficient.



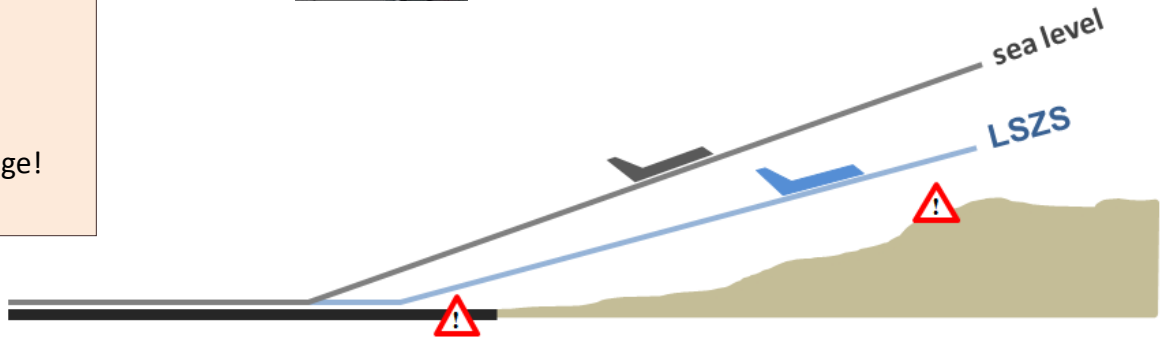
***True airspeed (TAS)**:*
Add 2% to indicated airspeed (IAS) for every 1'000 foot increase in altitude

12.Engine Performance

Your engine may get a shortage of breathing at high altitude!

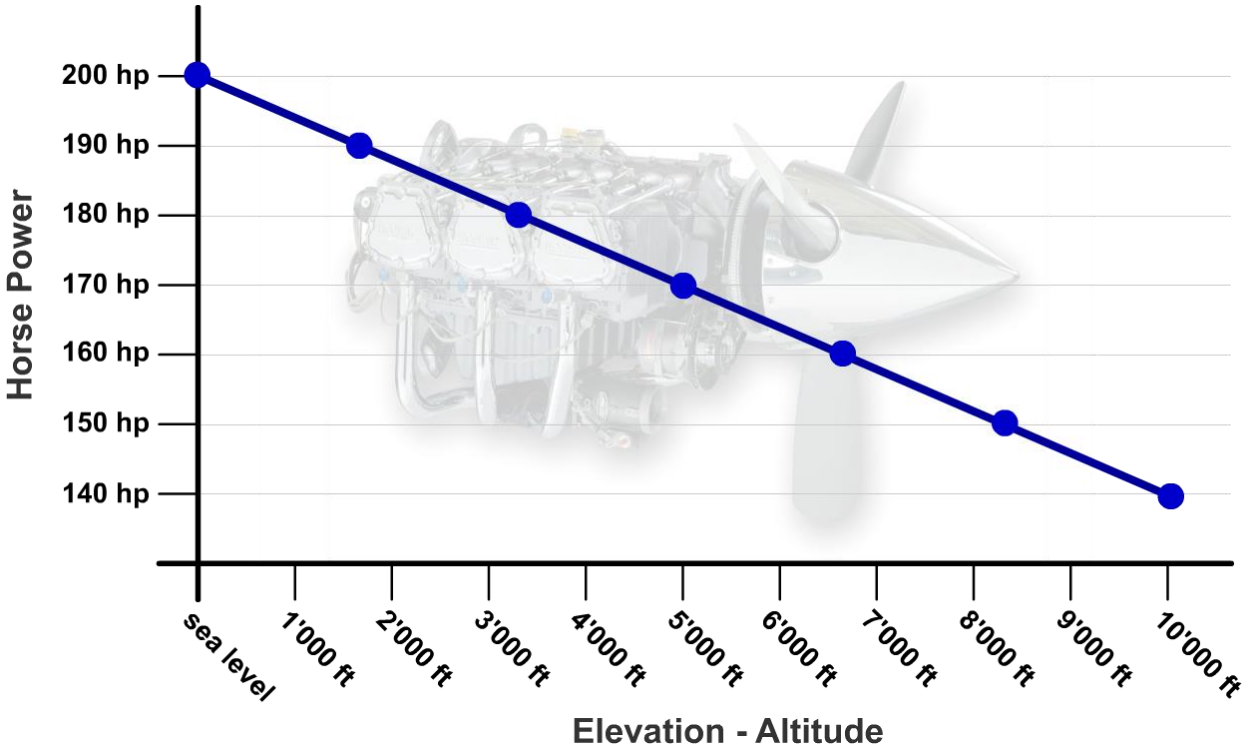
Remember the essentials:

- Proper adjustment of piston engine parameters (leaning) according to AFM
- Proper assessement of runway length and climbout profile
- Keep sufficient margins – don't go to the edge!



12.Engine Performance

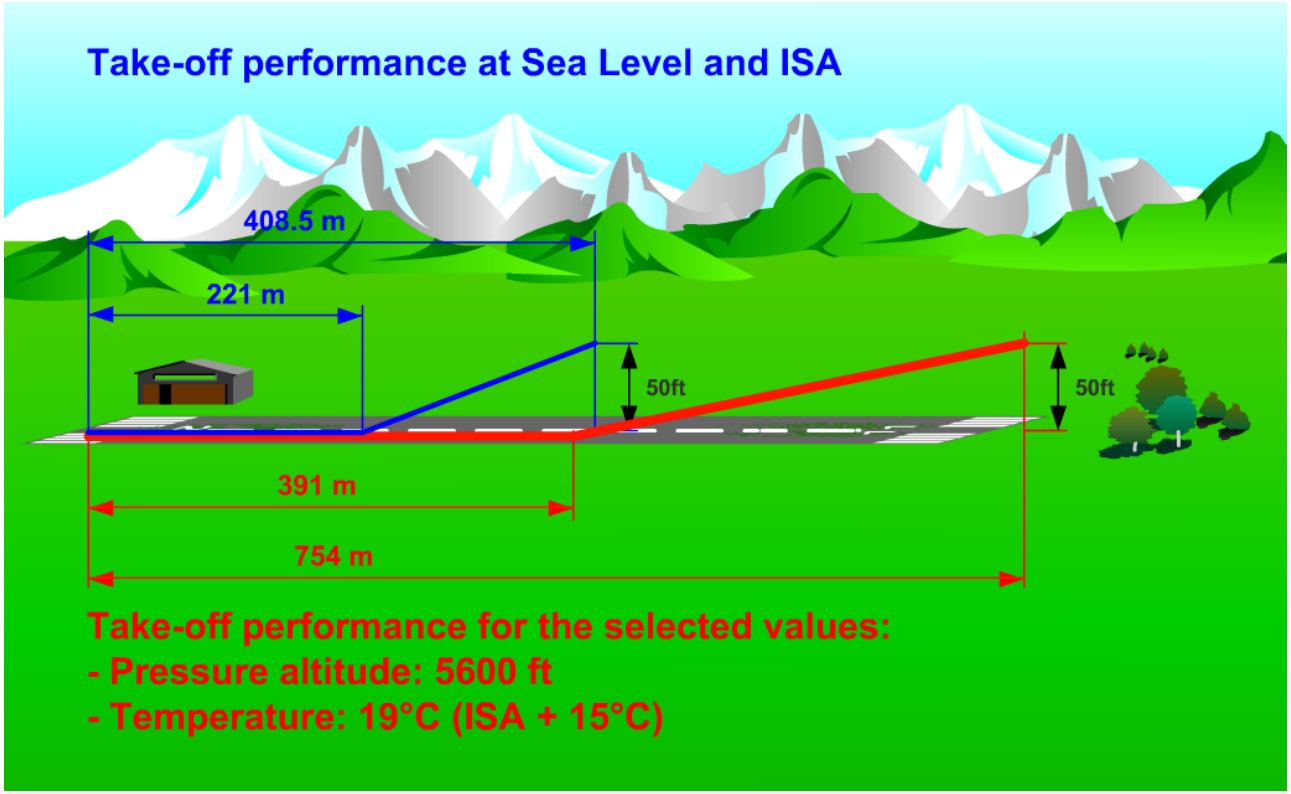
Typical Engine Power Loss with Altitude



A normally aspirated engine (without a turbocharger) routinely loses about 3 % of its power for every 1000ft increase in altitude.
This means that a non turbocharged Piper Arrow rated at 200 hp at sea level will generate only about 165 hp at Samedan.

13. Take-off and Climb Performance

Take-off performance at sea level vs performance at high altitude



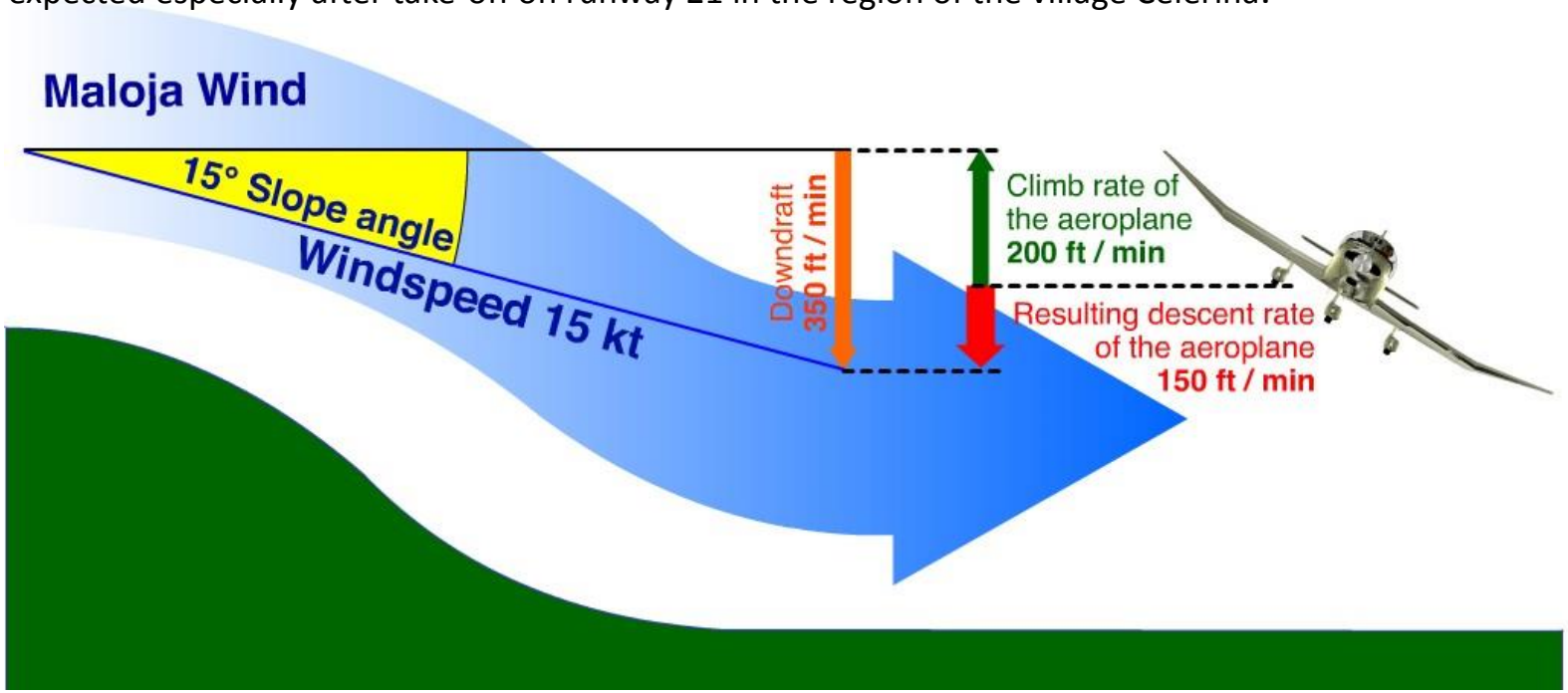
Higher density altitude means thinner air which seriously degrades aircraft performance.

Higher density altitudes also require a longer take-off roll. For safety reasons, add a margin of 30 to 50% to the values you retrieve from the POH.

13. Take-off and Climb Performance

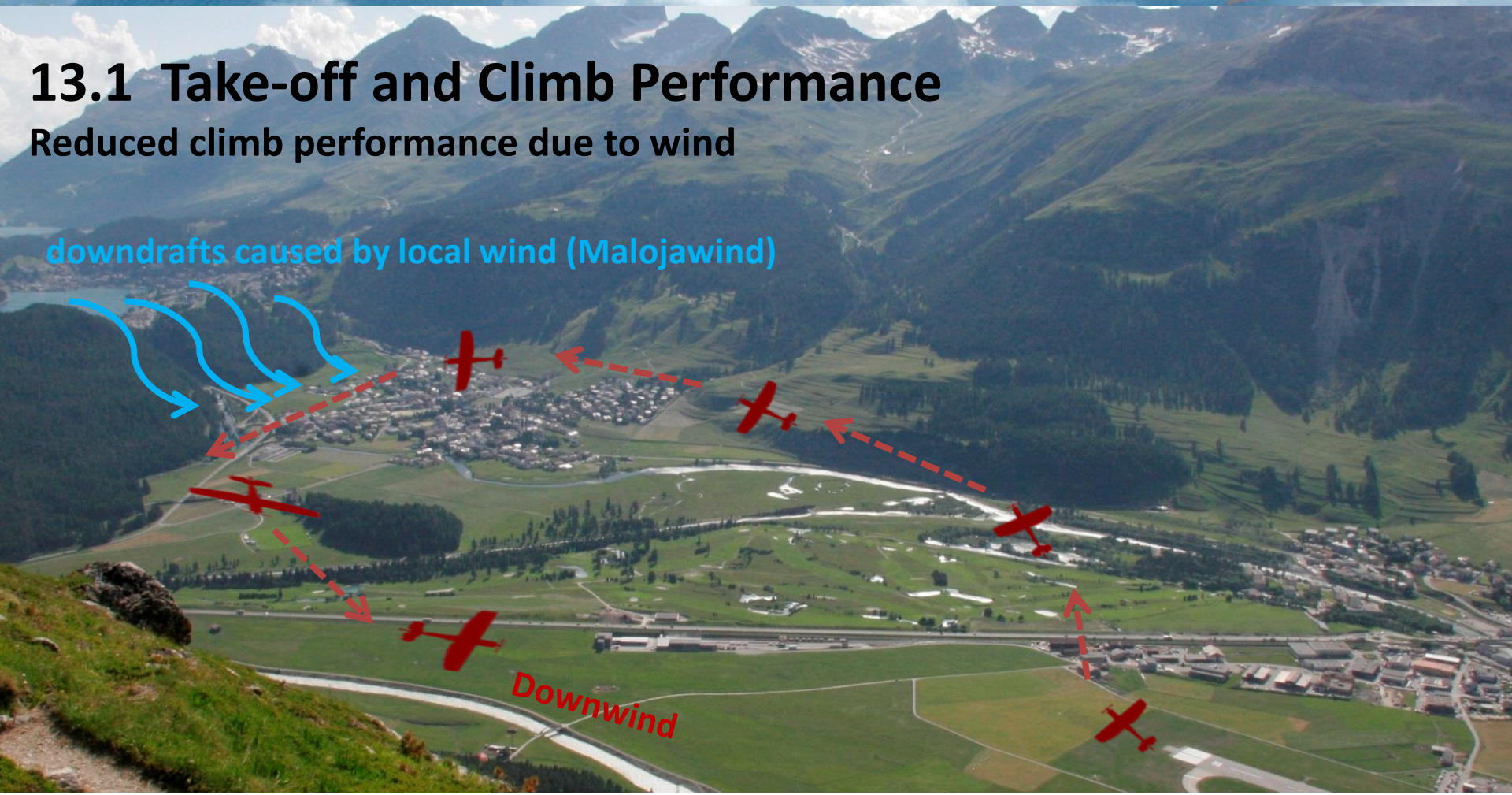
Reduced climb performance due to wind

Always consider downdrafts caused by local winds. These downdrafts may exceed your climb performance and result in a descent, therefore the published departure circuit RWY 21 has to be observed. This situation has to be expected especially after take-off on runway 21 in the region of the village Celerina.



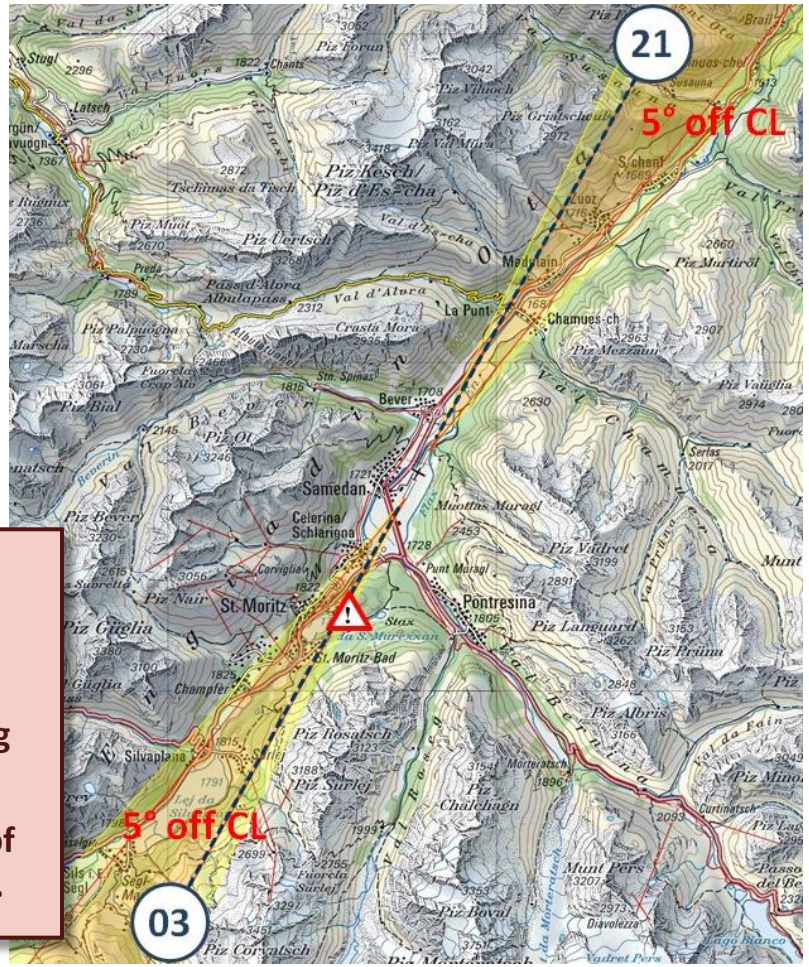
13.1 Take-off and Climb Performance

Reduced climb performance due to wind



14. Non-STD PAPI

The PAPI is not adjusted to the RWY axis, but 5° left of it.



- **You cannot just follow the PAPI beam within the entire light covered sector. Obstacle clearance is not granted according to ICAO standard.**
- **The PAPI is to be used as a vertical guidance only avoiding critical terrain visually.**
- **The commander has the full responsibility to keep clear of terrain and obstacles, while flying under VFR and in VMC.**

15. Emergency and contingency procedures

Contingency procedures

Aeroplanes:

As previously mentioned, depending on the performance of your aircraft, you may have to consider the necessity in establishing contingency procedures for certain flight manoeuvres.

Helicopter:

Commit to land on runway in case of emergency

16. Surveillance / Responsibilities / Sanctions

- The Commander is responsible to conduct the aeroplane safely within the certified envelope (AFM) and in compliance with the current regulations regarding proper weather conditions as well as published procedures for LSZS airport.

- The Airport Authority reports observed deviations from local procedures or regulations to FOCA.

- VFR traffic observation may be conducted by Swiss Air Force reporting to FOCA.

- FOCA is responsible for sanctions.