# LSZS - Samedan visual approach

Version 3

Custom made visual approach chart and pilot's briefing for Engadin (St. Moritz) Samedan LSZS airport in Switzerland, Europe's highest elevation airport (5,600 ft.) situated in the Swiss Alps. This airport is a day VFR operations only and has no instrument approach due to extreme terrain around it. A demanding visual descent in to a canyon, in between steep rising terrain, is required to make the visual approaches for both runways with a steep 4.4\* degrees final approach portion guided by the PAPI's. Still, executive jets up to Boeing 737(BBJ) size approach the airport often in the winter peak season VFR with these procedures. It is designed as per real operators' pilot briefing for Samedan. Real airport's full pilot briefing document also included. The real airport's excellent briefing (included) intentionally does not contain the maneuvers needed for the approach of jets through the mountains but only reporting points for all and maneuvers for light aircraft only. This gap is what this chart covers. Version 2 includes better graphics and refined visual procedure for jets per real operator's briefing guide.

LSZS Airport website:

www.engadin-airport.ch

There you can find the official PILOT BRIEFING, live webcam's of the airport and much more. For ease of access I include this briefing here as well, it's the SMV\_PILOT\_BRIEFING\_LSZS\_FINAL\_01.pdf

A good video tutorial on the jet approach procedure: Hawker 900XP both runways with 03 approach extending further west from MALOJ: http://youtu.be/H65pvgoyOKc

LSZS Samedan airport Runway: 1,800 m. Elevation: 5,600ft MSL

For freeware add on scenery search <u>www.avsim.com</u> file library for "LSZS".

#### **Procedure BRIEFING for Jets in brief:** FOR FLIGHT SIMULATOR USE ONLY

Consult provided visual approach chart.

En route HOLDs available at fixes GUGSA PELAD and RONAG at FL160 MHA. Leave FL160 cancelling IFR at fixes GUGSA PELAD RONAG RESIA or ABREG when visual with area and descend further on the prescribed tracks and flight levels/altitudes on LSZS QNH for a 180\* turn to reach ZERNEZ (for runway 21) or MALOJA (for runway 03) at 9.000ft on QNH which position you on a 10nm final.

#### **Procedure BRIEFING for jets in more detail:**

Version 3 briefing update from an executive jets pilot qualified in flying these approaches:

### ARRIVAL PROCEDURE

WX minima: DAY only, visibility 8 km, ceiling 2,200ft

### SPECIAL CONSIDERATIONS

Remember that you will be flying your downwind, base and final approach legs at altitudes between 6,000ft and 12,000ft. Your TAS (true airspeed) will be significantly higher than what you are used to! The rule of thumb says that your TAS increases by 2% per 1,000ft of altitude gain. 180 KIAS (indicated airspeed) at 12,000ft will result in your TAS being 24% (12 \* 2%) higher than your KIAS: 180 KIAS \* 1.24 = 223 KTAS.

Also be aware that with a fast jet you will only be allowed to fly the VFR approach along the valleys. The airport circuits in close proximity of the field, as shown in Samedan's VFR approach charts, are for light aircraft only, due to turn-radius.

### WAYPOINTS REQUIRED FOR THIS APPROACH

ZERNEZ | ZERNZ | N46 42.0 E010 05.6 MALOJA | MALOJ | N46 24.0 E009 41.8

# ARRIVAL

Expect an IFR routing with Zurich ATC to LSZS that will take you overhead the field, descending to **FL160, the lowest usable IFR-level in this area**. Note that there are three published IFR holds in the vicinity of LSZS, these being at PELAD, GUGSA and RONAG.

From the last waypoint on your ATC-flightplan proceed NOT directly overhead of LSZS at FL160, but <u>slightly offset</u> (1 or 2 NM), so you can identify Samedan airport and the valley. If necessary do circle overhead. Confirm that you can proceed visually. VMC needs to be maintained <u>at all times</u> during approach and possible missed approach. Check the whole length of the valley between MALOJ and ZERNZ. **If unable to proceed visually** then remain IFR and hold or divert as necessary.

### **INITIAL APPROACH**

**If conditions permit** the VFR approach and possible missed approach then cancel IFR and descend to altitude **12,000ft QNH** to maintain on downwind. Be prepared to lose visual contact with the airport due to terrain. Extend downwind leg at 12,000ft until abeam MALOJ for rwy 03 or ZERNZ for rwy 21. On downwind leg make sure that you are <u>not too close to the valley</u> in order to guarantee enough room for your 180 turn on base and final.

### RUNWAY 03

When abeam MALOJ, start a left <u>descending</u> turn to final (minimum 1000 ft/min is recommended), do not leave 12,000ft before starting your left turn. There is a hill on

final on the centreline of RWY 03. Pass it **to the left** (north) of the hill for an offset final to prevent undue steep approach or terrain proximity warnings. PAPI lights rwy 03 are set to 4.4\* glidepath

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# MISSED APPROACH / BALKED LANDING

Follow the valley visually on its right (south) side towards Zernez (ZERNZ) and outclimb the valley until reaching **12,000ft QNH to maintain**, then <u>turn left</u> and return to overhead LSZS for another VFR approach or coordinate an IFR-pickup for a diversion as required.

# RUNWAY 21

When reaching abeam of ZERNZ, start a left <u>descending</u> turn to final, do not leave 12,000ft before starting your left turn. Recommended rate 1000 to 1500 ft/min. PAPI lights Runway 21 are set to 4.4\* glidepath

# MISSED APPROACH / BALKED LANDING

Follow the valley visually towards Maloja (MALOJ). There is a hill in the extension of runway 21, avoid it by turning slightly to the right, if required. Out-climb the valley until reaching **12,000ft to maintain**, then <u>turn right</u> and return to overhead LSZS for a another VFR approach or coordinate an IFR-pickup for a diversion as required.

# **DEPARTURE PROCEDURE**

**WX minima:** DAY only, visibility 8 km, ceiling 2,200ft **Contingency:** same as missed approach procedures

Expect **VFR departure** with coordinated IFR-clearance with Swiss Radar. Check the valley in the direction of departure to ensure VFR conditions can be maintained for the departure and OEI procedure. Climb visually with max gradient climb to clear the valley at **12,000ft**. Maintain VMC until clear of terrain and IFR clearance is obtained.

END OF JET PILOT'S INPUT

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