LSGS/SIR
SION

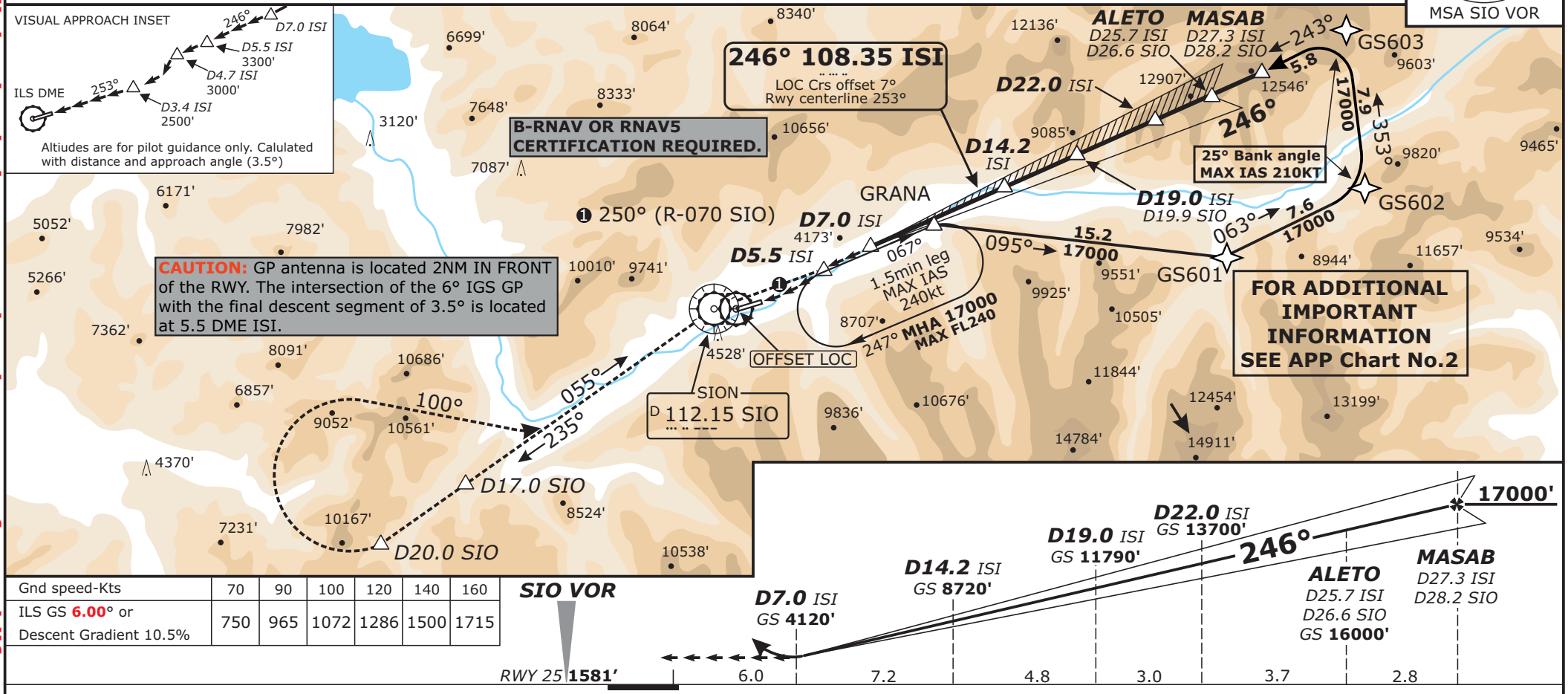
APP CHART NO.1
Revision 05 FEB 12

SION, SWITZERLAND
STEEP APPROACH 6° CAT A, B & C IGS Rwy 25

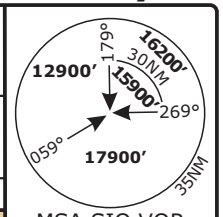
Swiss Radar	SION Radar	SION Tower	SION Ground	*LOC*	*Final*	*GS*	*IGS DA(H)*	*Apt Elev* **1581'**
LSAS_CTR	LSGS_APP	LSGS_TWR	LSGS_GND	ISI	*Apch Crs*	***D22.0 ISI***	Refer to	*RWY* **1581'**
128.05	126.82	118.27	121.70	**108.35**	**246°**	**13700'** *(12119)*	Minimums	

MISSED APCH: Climb initially on LOC course 246°. At D7.0 ISI proceed on track 246°. When passing D5.5 SIO intercept R-070 SIO to SIO VOR. Leave SIO VOR on R-235, at D20.0 SIO turn RIGHT (MAX IAS 210 KT) establish on track 100° to intercept R-235 SIO inbound SIO VOR. Proceed via SIO to GRANA. Climb to 17000'.
Cross D17.0 SIO at 12000'or above and GRANA at 17000'.

Alt Set: hPa | Rwy Elev: 57 hPa | Trans level: By ATC | Trans alt: 17,000'



MSA SIO VOR



Gnd speed-Kts	70	90	100	120	140	160
ILS GS **6.00°** or Descent Gradient 10.5%	750	965	1072	1286	1500	1715

Flight Simulator-OPS

STRAIGHT-IN LANDING RWY 25
Missed apch climb grad mim

	5.5% *DA(H)*: **4120'**(4970')	**5.0%** *DA(H)*: **4350'**(2770')	**4.5%** *DA(H)*: **4790'**(3210')	**4.0%** *DA(H)*: **5230'**(3650')	**3.5%** *DA(H)*: **5670'**(4090')	**3.0%** *DA(H)*: **6110'**(4530')	**2.5%** *DA(H)*: **6550'**(4970')	**LOC (GS out)**
A	VIS *5.0 km*							PROHIBITED
B								
C								
D	NOT APPLICABLE							

CIRCLE-TO-LAND
Not authorized
South of airport
DAY ONLY

Max Kts	MDA(H) / VIS
100	**3700'** (2119') 5.0 Km
125	**5400'** (3819') 5.0 Km
C	PROHIBITED
D	NOT APPLICABLE

Valid for flight simulation use only - do not use for real life navigation

Special FS-procedures for IGS approach to runway 25 in Sion/LSGS

Requirements:

you **must** install the small scenery-file that corrects the wrong IGS of Sion.
http://www.vacc.ch/file/207

Background information:

Sion has a very special approach that brings you from 17'000ft down to a field elevation of 1583ft. The final approach point is located 25,6 NM from the IGS-transmitter and this causes some trouble as Microsoft Flight Simulators seems to have a hardcoded maximum range of 20,7 NM for the glideslope signal and 25,7 NM for the localizer!
As a consequence, pilots will have to use SIO VOR as the initial reference for their horizontal intercept on the final approach. On top of this, they need to start their steep descent at 25,6 DME of the IGS-transmitter with an initially missing glideslope indication on their instruments! This document has been created to prevent possible errors and to take away the element of surprise.

Procedure:

You follow the VADAR 1N or VALOR 1W arrival inbound to *GRANA,* to cross *GRANA* at altitude 17,000ft **on the local QNH,** be sure to use the correct setting or you will see the mountains for the very last time!
After passing *GRANA,* maintain 17,000ft and continue inbound *GS601* and thereafter via *GS602* and *GS603* to *MASAB.* **Bank angle** should be at least **25°** and **speed** less than **210 KIAS** during turns.
It is advisable to further reduce to your intermediate approach speed before reaching *GS602.* Reach this speed lastest at *GS603.*
Maintain 17,000ft until ISI is received and start the descend at *MASAB.* If unable to receive ISI at the begining follow radial 247° inbound *SIO VOR/DME* and descend at *MASAB* using a vertical speed that makes you maintain the vertical profile of the approach.
The vertical profile is a **6° angle** which corresponds a **descent gradient** of **10,5%**. Multiply the gradient with your ground speed to get the required vertical speed. For example: 180GS * 10,5% = 1890ft/min.

Latest when **reaching** the final approach fix *ALETO*, you should be **fully configured** because you will have to perform a very steep approach. Consider going to your final approach configuration already at ***MASAB***, as it will avoid a lot of sweat in your home cockpit.
If you are not fully configured, you will pick up excessive speed and you won't be able to descend in a stable way, preventing you from intercepting the glideslope later on.

Groundspeed (kts)	70	90	100	120	140	160	180
Vertical Speed (ft/min)	751	965	1073	1287	1502	1716	1890

Make altitude checks: at DME 21 of the IGS (*ISI*) you must be at **minimum 13,100ft**. At about this point the **glideslope** should become active and you should aim to **intercept** it **as soon as practical**. Complete the approach.

Proposed NAV-settings:

Situation	NAV 1, course	NAV 2, course
Before established on the IGS, GS active	ISI (IGS), 246°	SIO VOR/DME, 247°
When Established on the IGS, GS active	ISI (IGS), 246°	SIO VOR/DME, 235°

CHANGES: New Approach Procedure