Jeppesen interpretation (2022)

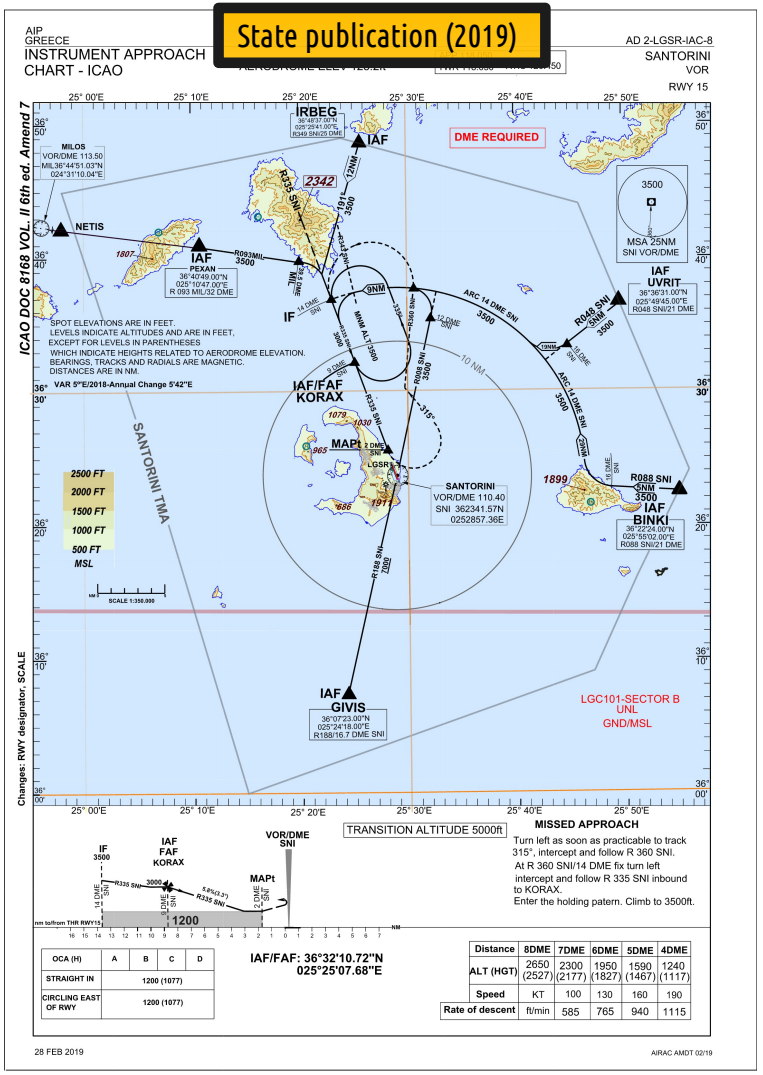
LGSR VOR 15

State publication (2019)

Lufthansa Systems interpretation (2022)

In this short memo, I'll conduct a review of some key differences between LIDO and Jeppesen charts. NavBlue charts won't be covered here.

The Jeppesen chart will be on the left hand side !



The LIDO chart will be on the right hand side.

Here at the center of this page, we show the official State publication for the same approach that we shall use as an instance.

July, 2024

The author of this review is based in France. In this paper, we are making **fair use** of portions of aeronautical charts provided by Aerosoft (from Lufthansa Systems) and Navigraph (from Jeppesen) in order to do a **critical and educational work**. That is the rsole purpose those portions are used in the following pages. As such, we are fully compliant with the Intellectual Property dispositions, to our knowledge. Please address any concern on the X-Plane.org forums to me, XPJavelin.

Article L122-5 of the French Intellectual Property Code (CPI)

Article L122-5

Version in effect since January 1, 2023

Modified by LAW n°2021-1104 of August 22, 2021 - art. 32 (V)

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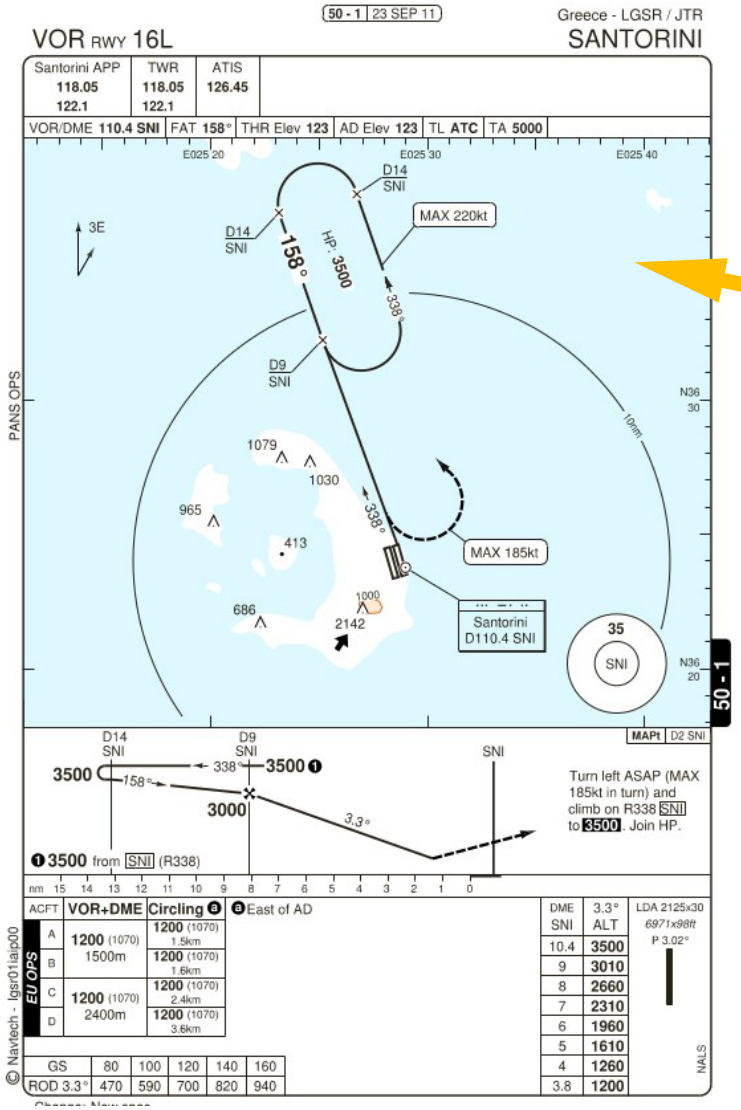
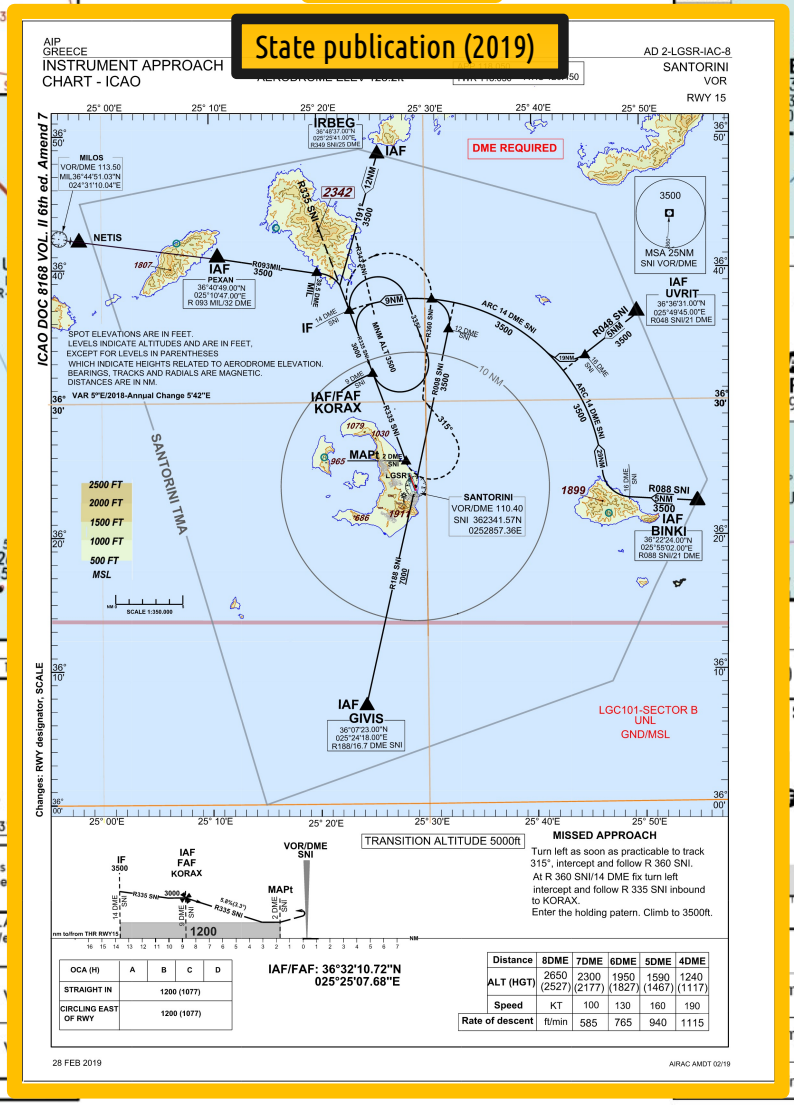
(...)

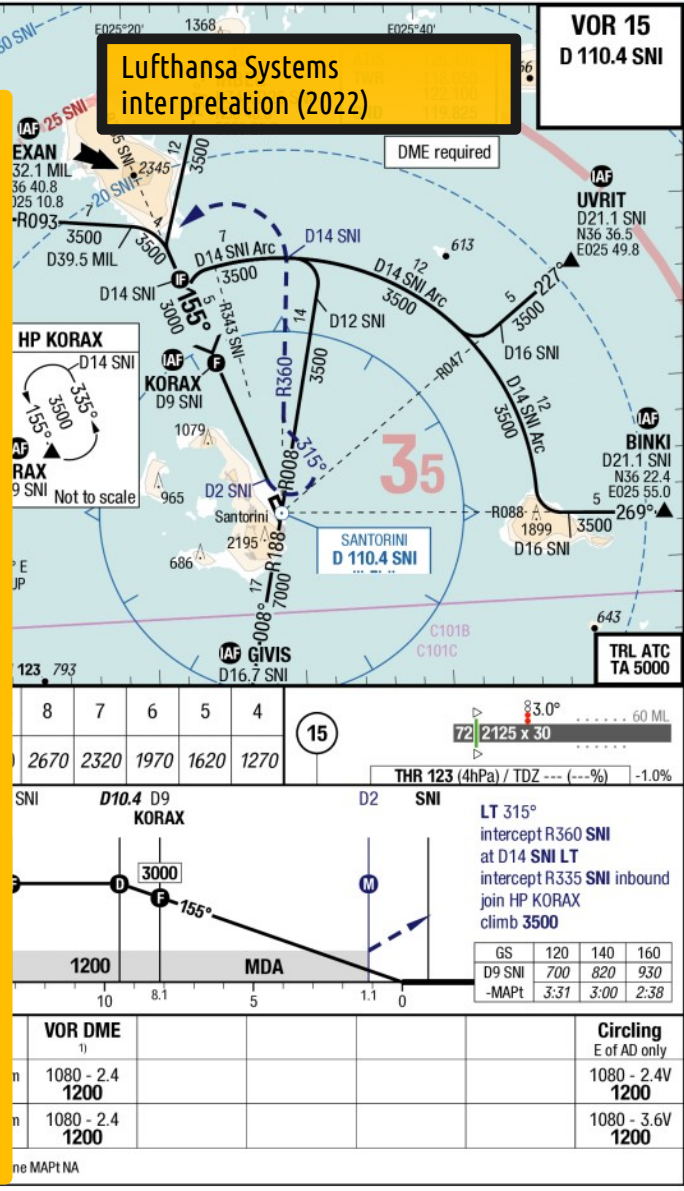


NavBlue charts won't be covered here, they are not available for flight simulation at this point.

LGSR VOR 15

Jeppesen interpretation (2022)
*ATIS 126.455
*SANTORINI Approach 118.050 122.1
*SANTORINI Tower 118.050 122.1
*Ground 119.825
VOR SNI 110.4
MISSED APCH: Turn LEFT as soon as practicable to track 315°, intercept and follow R-360 SNI. At D14.0/R-360 SNI turn LEFT intercept and follow R-335 SNI inbound to KORAX. Enter the holding pattern. Climb to 3500'.
Alt Set: hPa
Rwy Elev: 4 hPa
Trans level: By ATC
Trans alt: 5000'
Freq will be enabled on a case-by-case basis through ATIS.
DME required.
NETIS
PEXAN D32.0/ R-093 MIL
IRBEG D25.0/ R-349 SNI
D39.5 MIL [MIL40]
D14.0 SNI [CF15] 3500
MILOS 113.5 MIL
D12.0 SNI
D16.0 SNI [D048P]
KORAX D9.0 SNI
MHA 3500
14 DME Arc SNI
D2.0 SNI [MA15]
SANTORINI 110.4 SNI
GIVIS D16.7/ R-188 SNI
D16.0 SNI [D088P]
SNI DME 8.0 7.0 6.0 5.0
ALTITUDE 2650' 2300' 1950' 1590'
D14.0 SNI [CF15]
KORAX D9.0 SNI
D2.0 SNI [MA15]
SNI VOR
3500'
3000'
155°
3.30°
MDA
5.0
7.0
1.1
TCH 50'
Rwy 123
Gnd speed-Kts 120 140 160 180
Descent Angle 3.30° 701 817 934 1051
MAP at D2.0 SNI
REIL PAPI-L
As soon as practicable
Std/State
STRAIGHT-IN LANDING
CDFA
DA/MDA(H) 1200' (1077')
CIRCLE-TO-LA
Not authorized We
Max Kts
MDA(H)
C
D
R2400m
180 1200'(1077')
205 1200'(1077')
VNAV DA(H) in lieu of MDA(H) depends on operator policy.
BRIEFING STRIP
PANS OPS


State publication (2019)
AIP GREECE
INSTRUMENT APPROACH CHART - ICAO
AD 2-LGSR-IAC-8
SANTORINI
VOR
RWY 15
ICAO DOC 8168 VOL. II 6th ed. Amend 7
DME REQUIRED
IRBEG
IAF
NETIS
IAF PEXAN 36°40'49.00"N 025°10'47.00"E R 093 MIL/32 DME
IAF UVRIT 36°36'31.00"N 025°49'45.00"E R048 SNI/21 DME
IF
IAF/FAF KORAX
MAPt
LGSR
SANTORINI VOR/DME 110.40 SNI 362341.57N 0252857.36E
IAF BINKI 36°22'24.00"N 025°55'02.00"E R088 SNI/21 DME
IAF GIVIS 36°07'23.00"N 025°24'18.80"E R188/16.7 DME SNI
MSA 25NM SNI VOR/DME
SPOT ELEVATIONS ARE IN FEET.
LEVELS INDICATE ALTITUDES AND ARE IN FEET, EXCEPT FOR LEVELS IN PARENTHESES WHICH INDICATE HEIGHTS RELATED TO AERODROME ELEVATION.
BEARINGS, TRACKS AND RADIALS ARE MAGNETIC.
DISTANCES ARE IN NM.
VAR 5°E/2018-Annual Change 5'42"E
SANTORINI TMA
2500 FT
2000 FT
1500 FT
1000 FT
500 FT
MSL
LGC101-SECTOR B
UNL
GND/MSL
TRANSITION ALTITUDE 5000ft
MISSED APPROACH
Turn left as soon as practicable to track 315°, intercept and follow R 360 SNI.
At R 360 SNI/14 DME fix turn left intercept and follow R 335 SNI inbound to KORAX.
Enter the holding patern. Climb to 3500ft.
IAF/FAF: 36°32'10.72"N 025°25'07.68"E
OCA (H) A B C D
STRAIGHT IN 1200 (1077)
CIRCLING EAST OF RWY 1200 (1077)
Distance 8DME 7DME 6DME 5DME 4DME
ALT (HGT) 2650 (2527) 2300 (2177) 1950 (1827) 1590 (1467) 1240 (1117)
Speed KT 100 130 160 190
Rate of descent ft/min 585 765 940 1115
28 FEB 2019
AIRAC AMDT 02/19
Changes: RWY designator, SCALE


Lufthansa Systems interpretation (2022)
VOR 15
D 110.4 SNI
DME required
PEXAN
IRBEG
UVRIT D21.1 SNI N36 36.5 E025 49.8
D39.5 MIL
D14 SNI
D14 SNI Arc
D12 SNI
D16 SNI
HP KORAX
KORAX D9 SNI
BINKI D21.1 SNI N36 22.4 E025 55.0
GIVIS D16.7 SNI
Not to scale
Santorini
SANTORINI D 110.4 SNI
TRL ATC TA 5000
8 7 6 5 4
2670 2320 1970 1620 1270
THR 123 (4hPa) / TDZ --- (---%) -1.0%
2125 x 30
D10.4 D9 KORAX
D2 SNI
LT 315° intercept R360 SNI at D14 SNI LT intercept R335 SNI inbound join HP KORAX climb 3500
GS 120 140 160
D9 SNI 700 820 930
-MAPt 3:31 3:00 2:38
MDA
VOR DME
Circling E of AD only
1080 - 2.4 1200
1080 - 2.4 1200
1080 - 2.4 1200
1080 - 3.6V 1200
ne MAPt NA

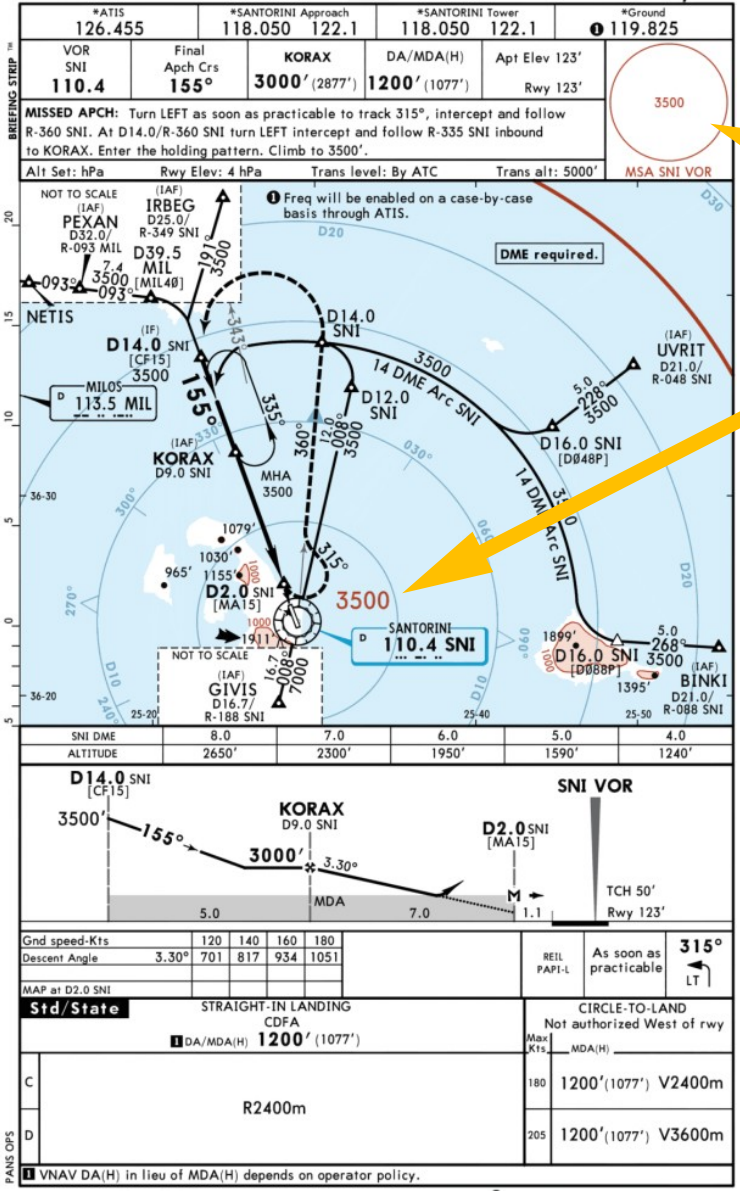
LGSR VOR 15

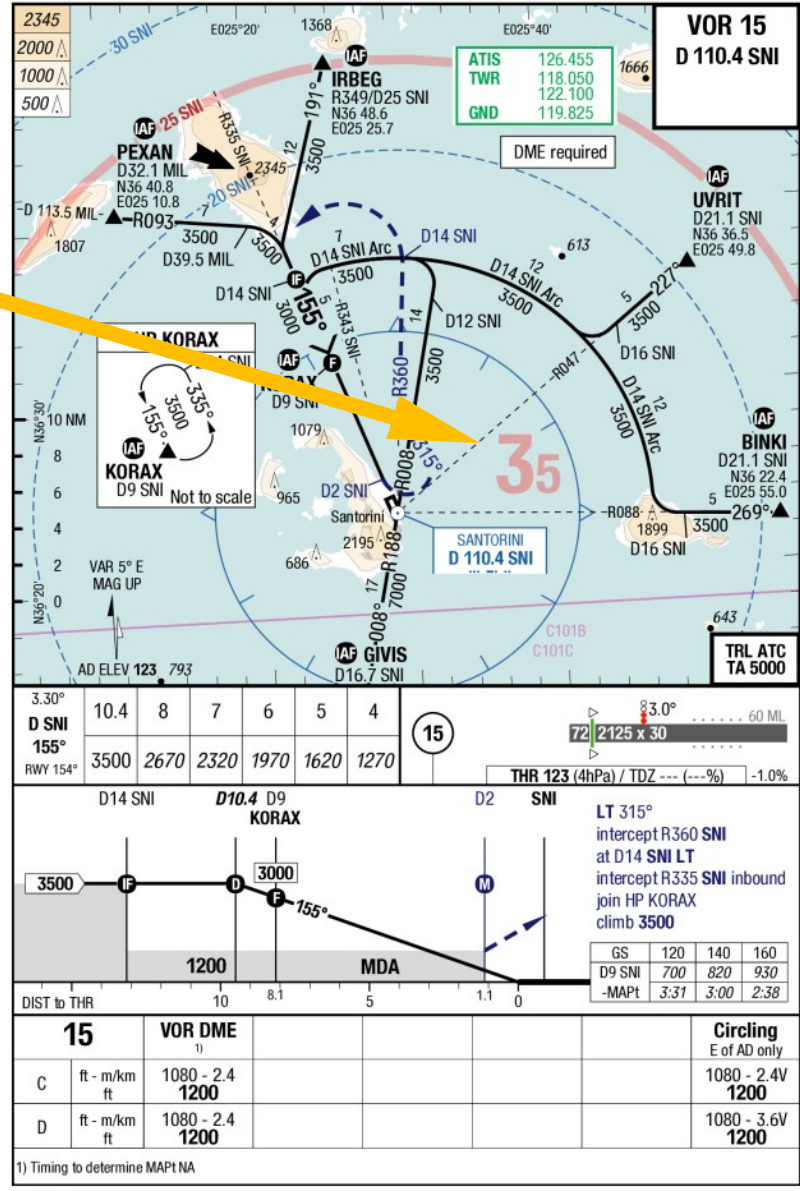
in a frame on the side

the recent [airline variant] charts have it also integrated to scale

The MSA

integrated to scale on the chart



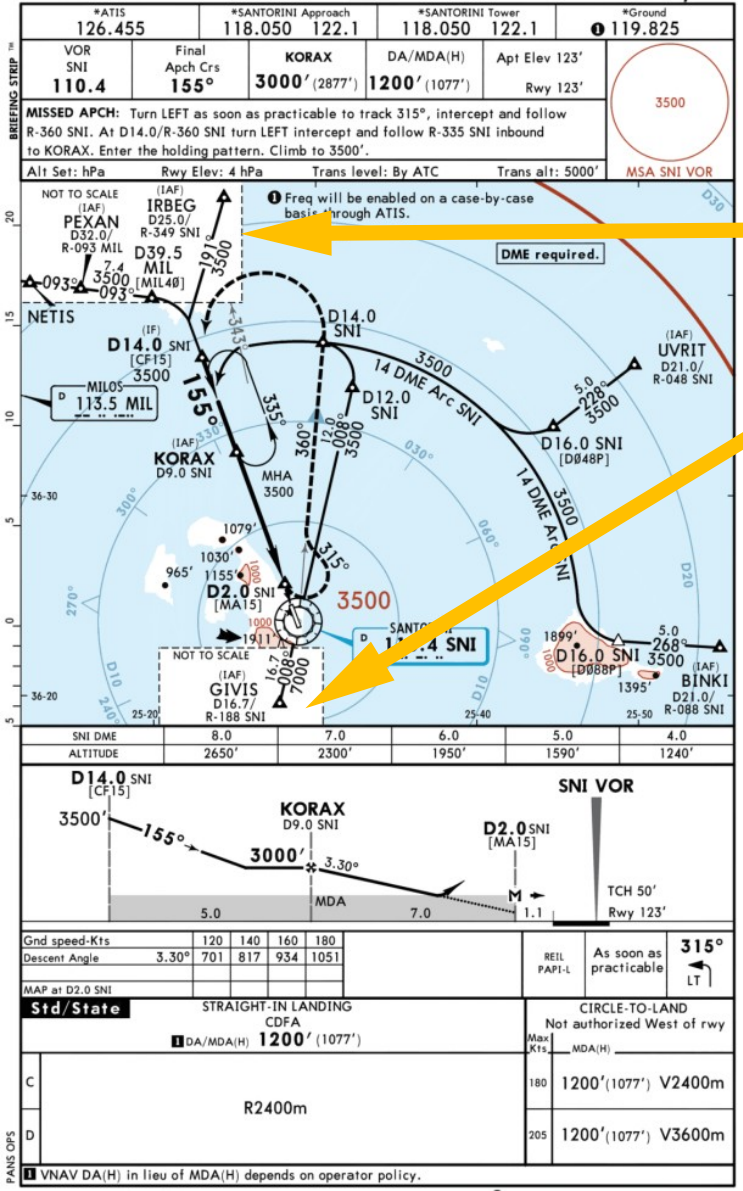


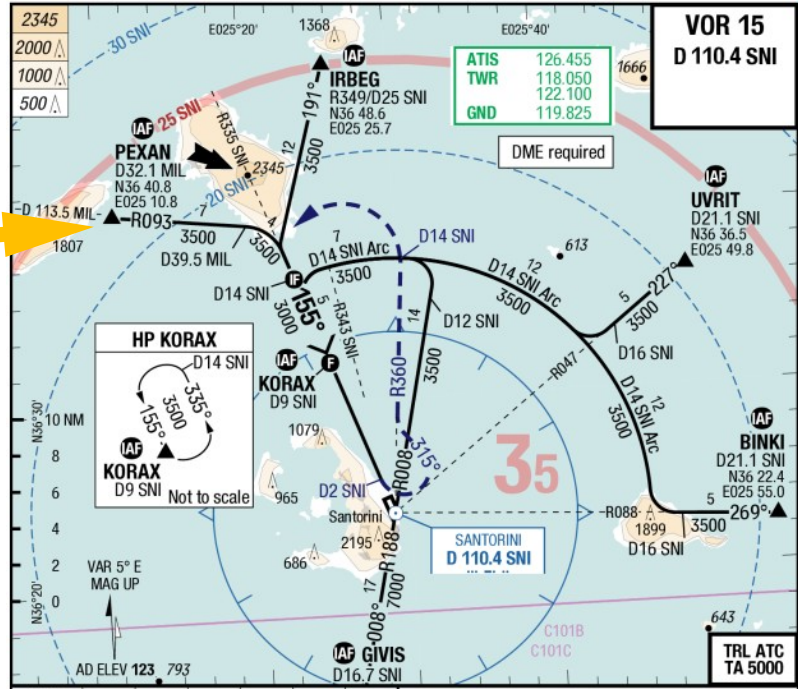
LGSR VOR 15

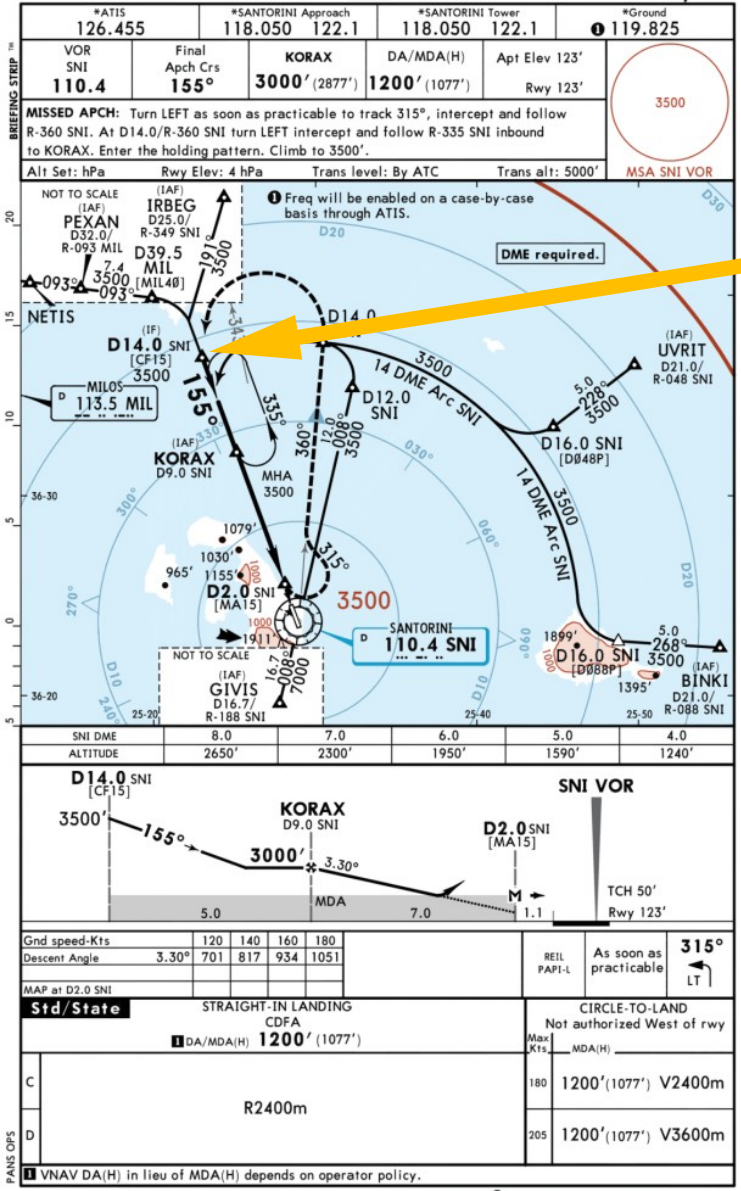
Not to scale segments

The scales

All distances always to scale





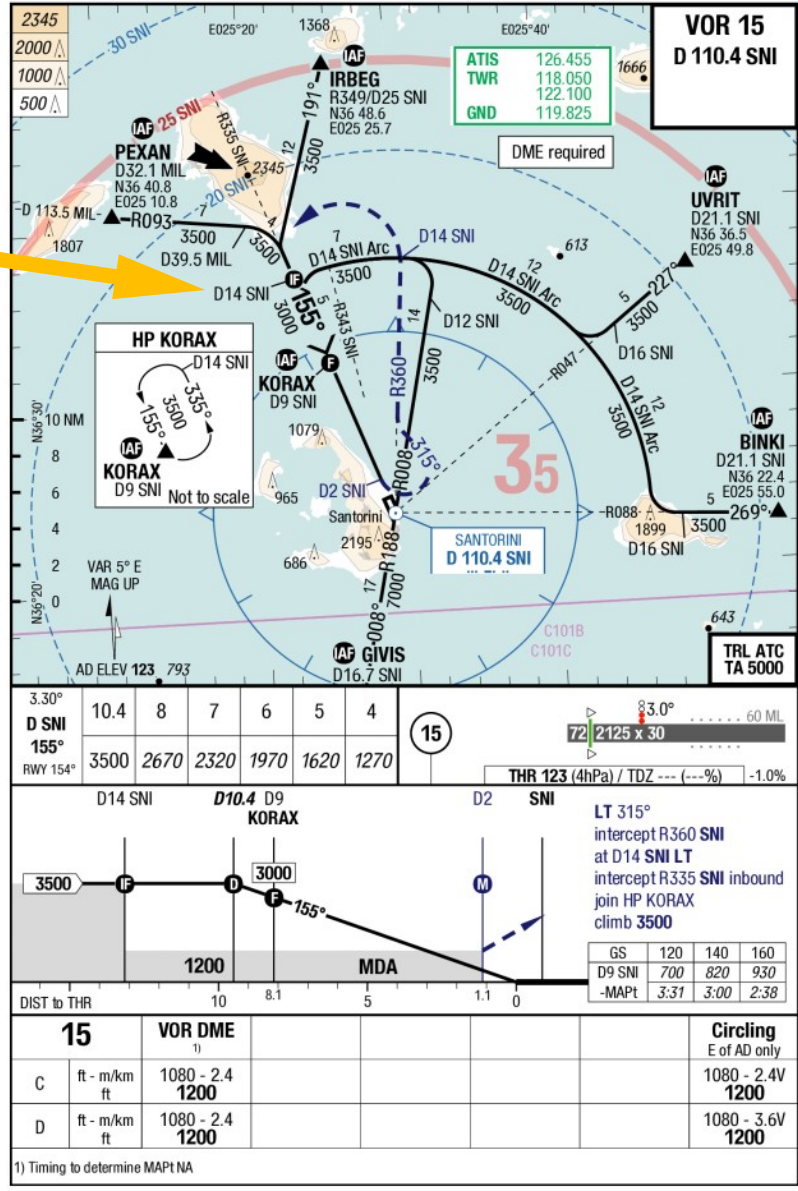


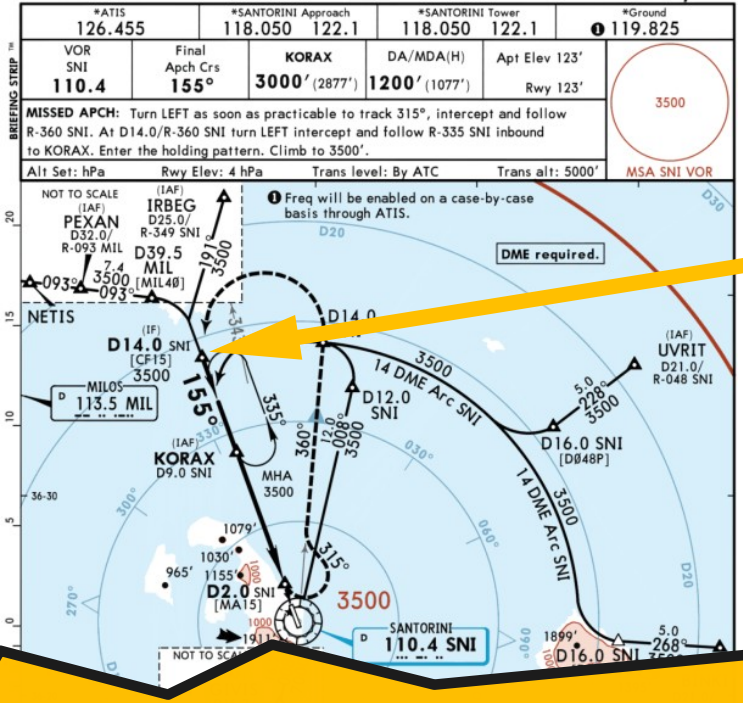
The reference beacon is explicit only on the recent charts.

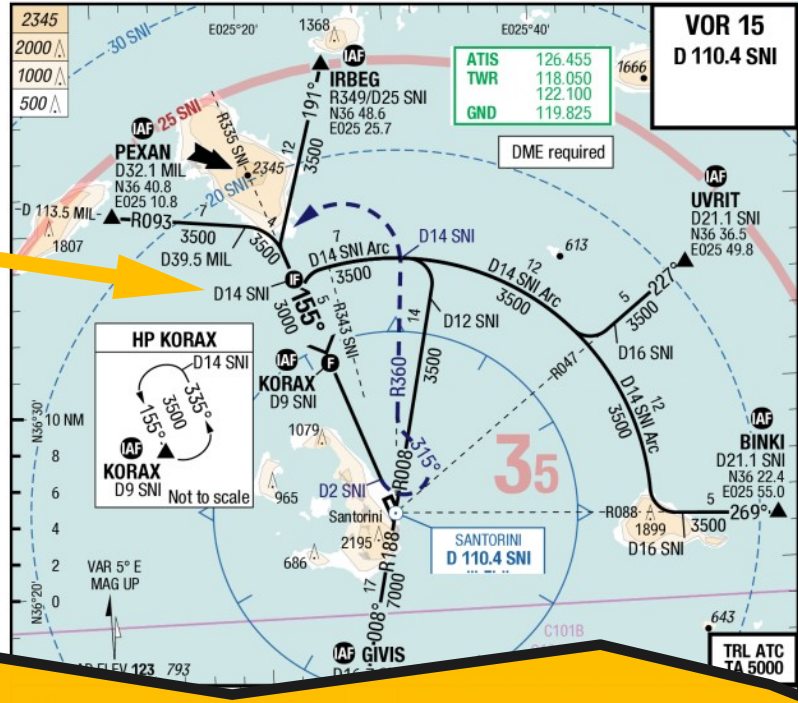
The corresponding fix in the Jeppesen navigation database is written : "[CF15]"

Waypoint naming convention

Distance to the beacon "D14 SNI"







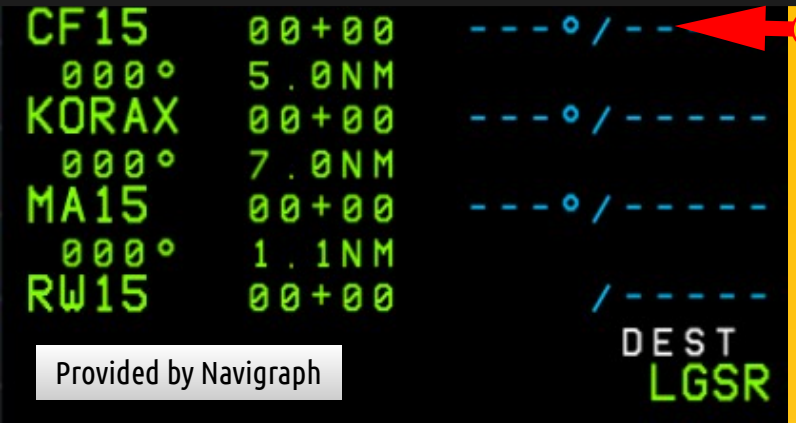
Waypoint naming convention

The reference beacon is explicit only on the recent charts.

The corresponding fix in the Jeppesen navigation database is written : “[CF15]”

Distance to the beacon ”D14 SNI”

Jeppesen navigation data (X-Plane 12, Embraer E-Jet)



Provided by Navigraph

”CF15” in the navdata

”D14 SNI” in the navdata as well

More explicit, don’t you think ?

Some airlines mix their providers, if you have a Jeppesen navdata and LIDO charts, how do you do the correspondance of CF15 quickly ?

LSY (Lufthansa Systems) navigation data (X-Plane 12, Embraer E-Jet)

Provided by Aerosoft

10th of June, 2022

24th of March, 2006

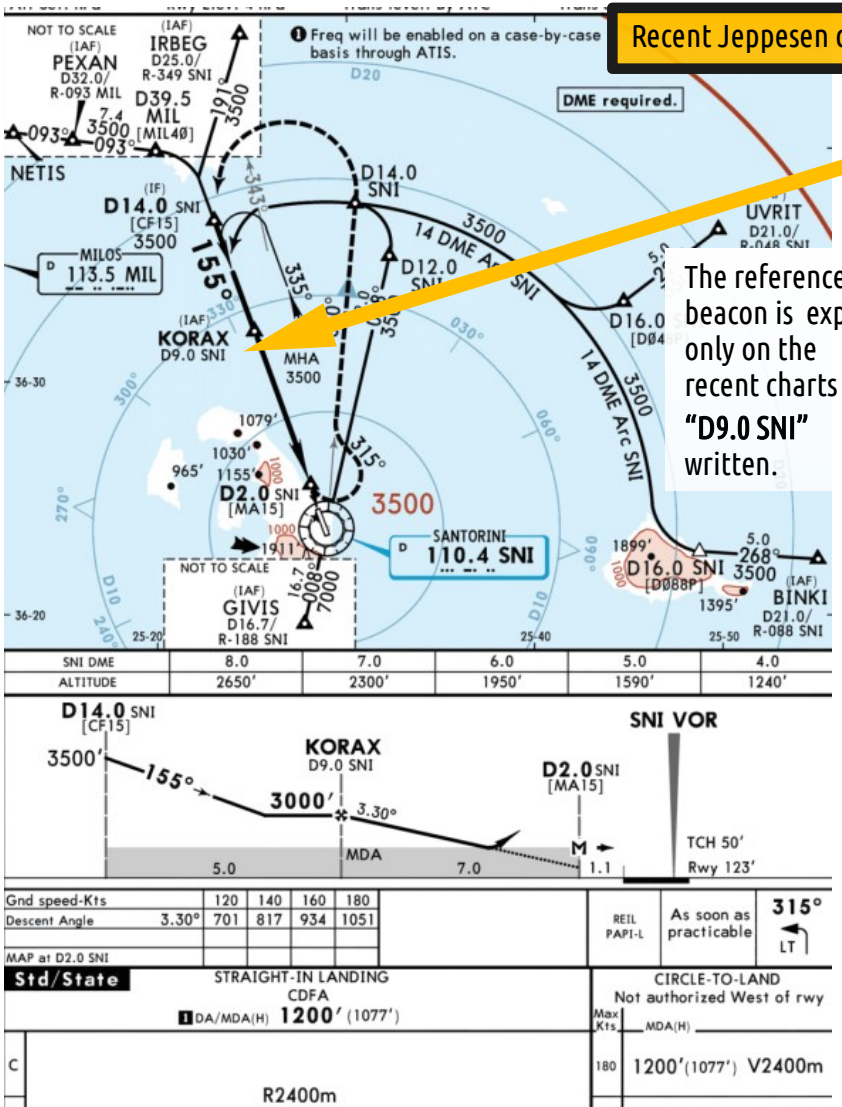
Recent Jeppesen chart

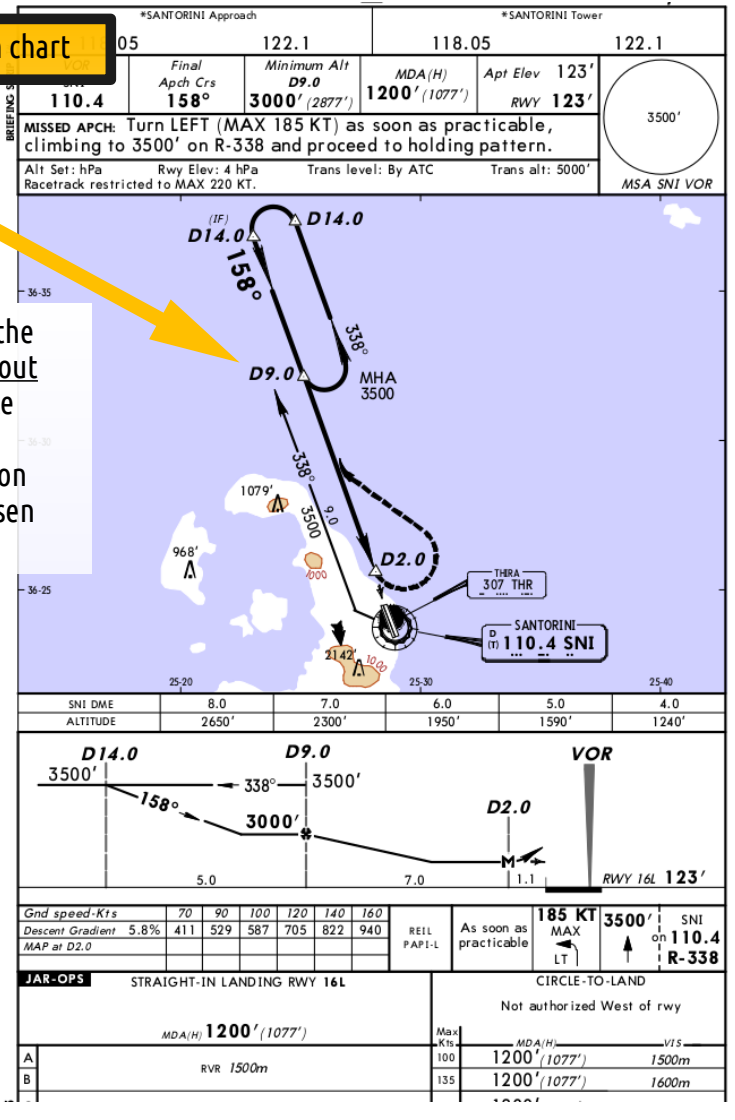
Legacy Jeppesen chart

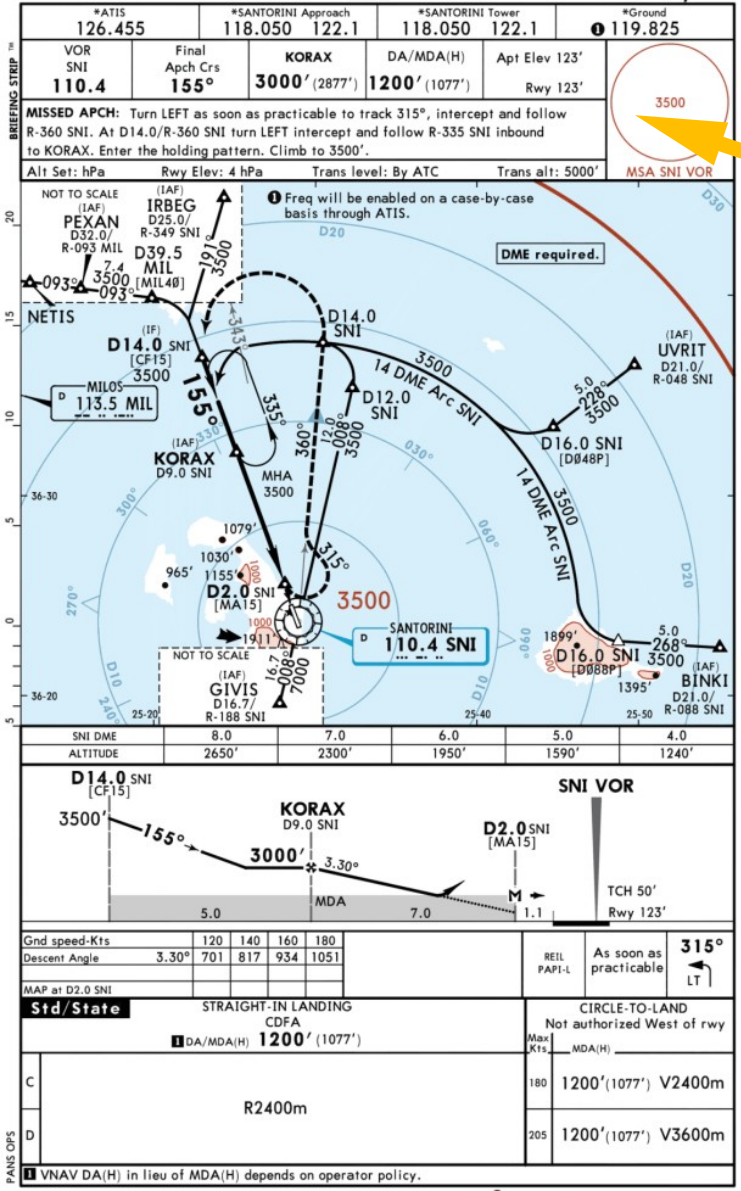
Waypoint naming convention

The reference beacon is explicit only on the recent charts **"D9.0 SNI"** written.

Distance to the beacon <u>without</u> the reference beacon. **"D9.0"** only on older Jeppesen charts



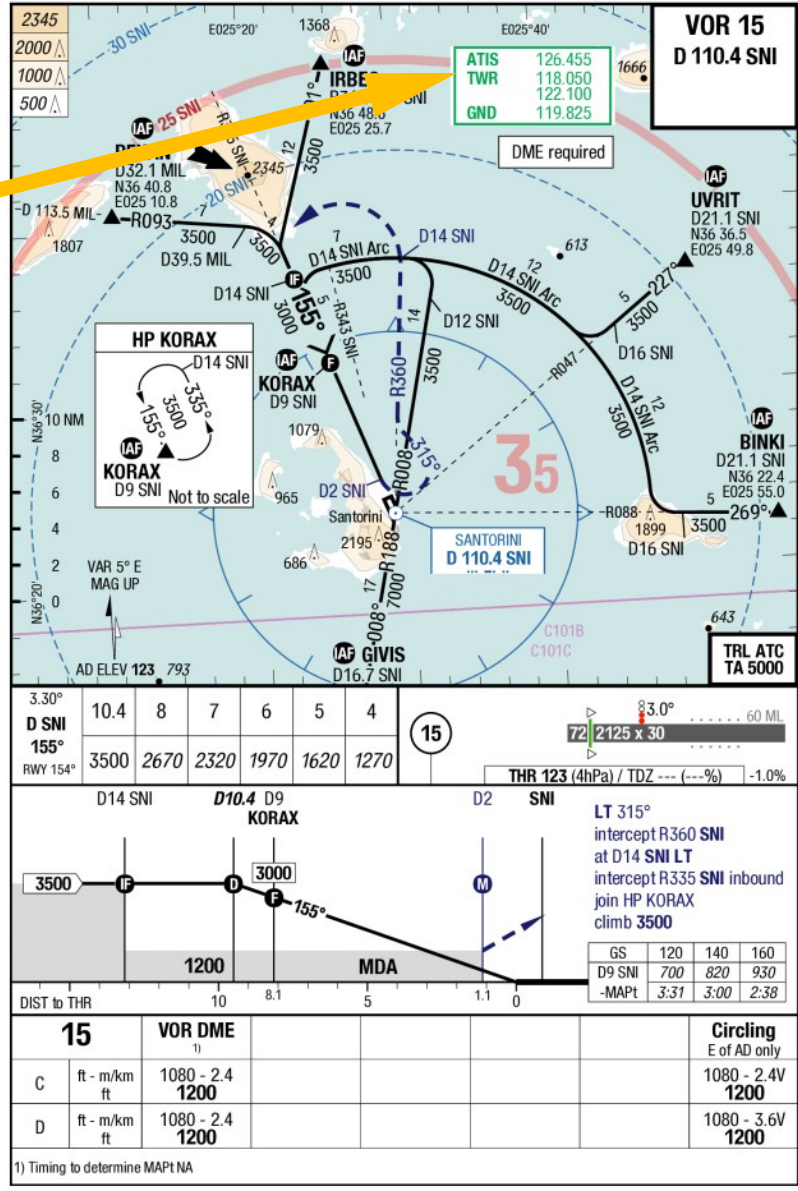


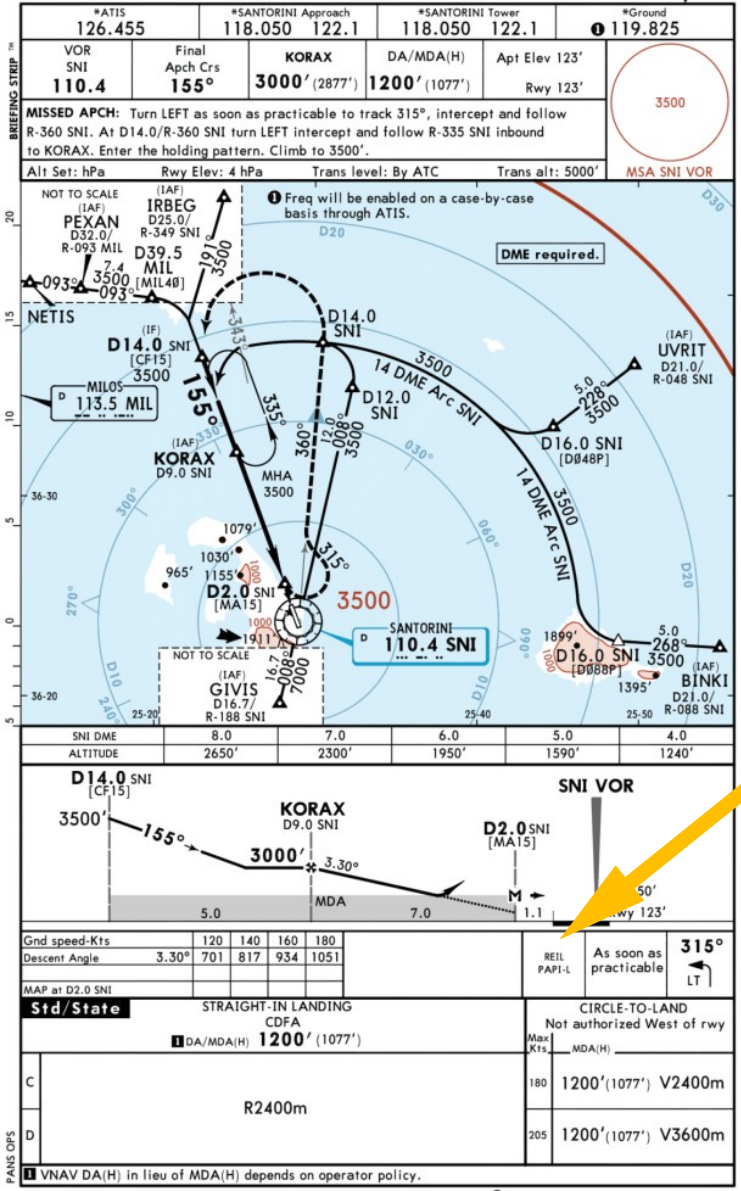


In the *Briefing strip*™

Contextual information

Integrated in the chart, leaves more room for the geographical depiction

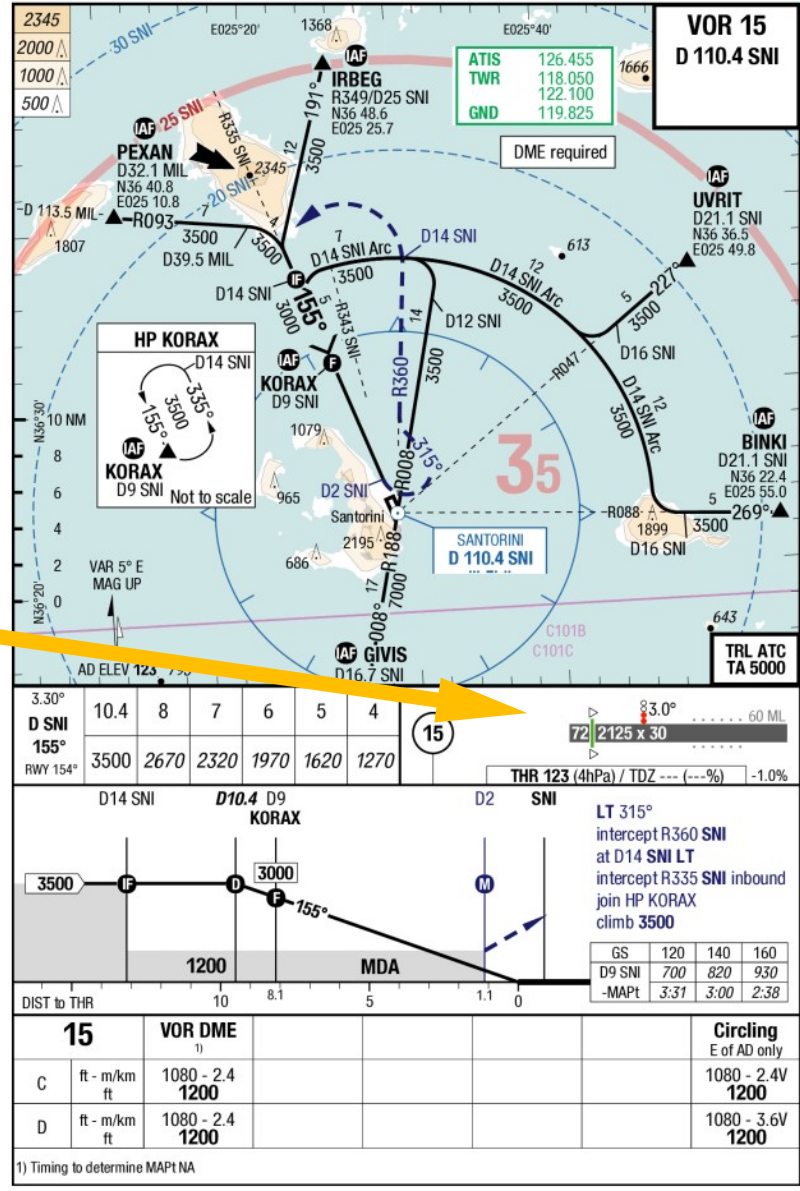


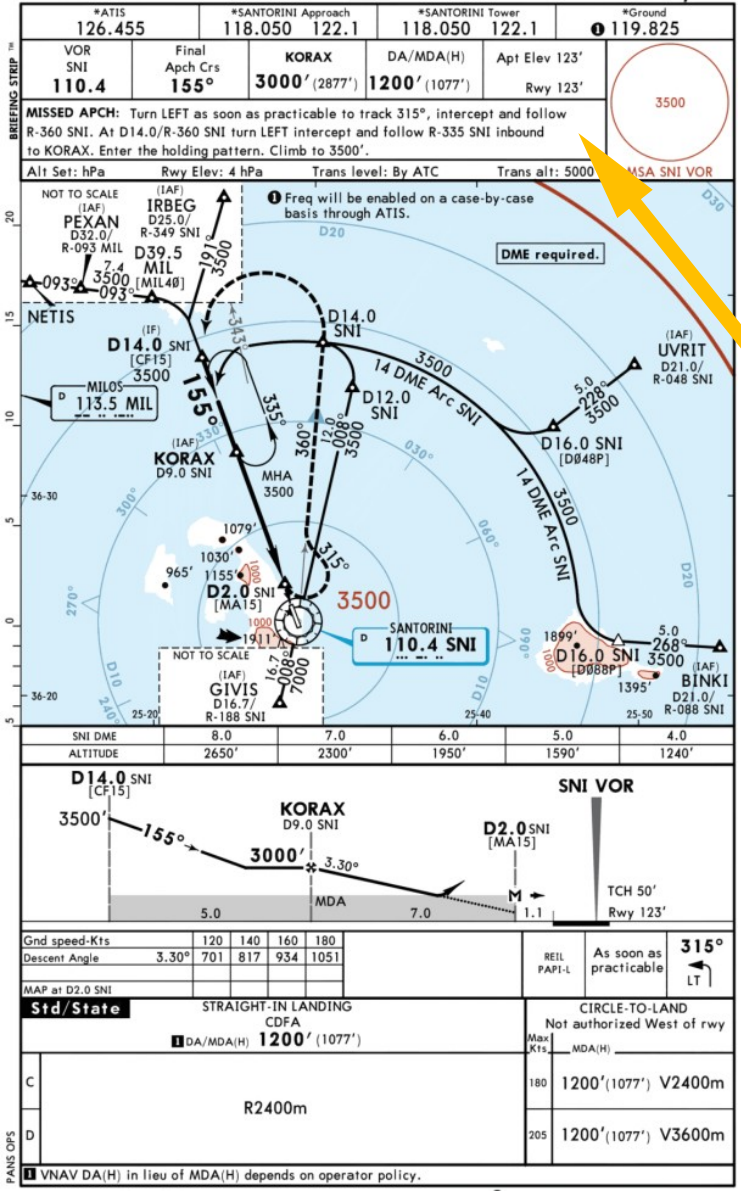


Runway length and lighting system

only a textual mention of the lighting system, no rwy length

fully depicted

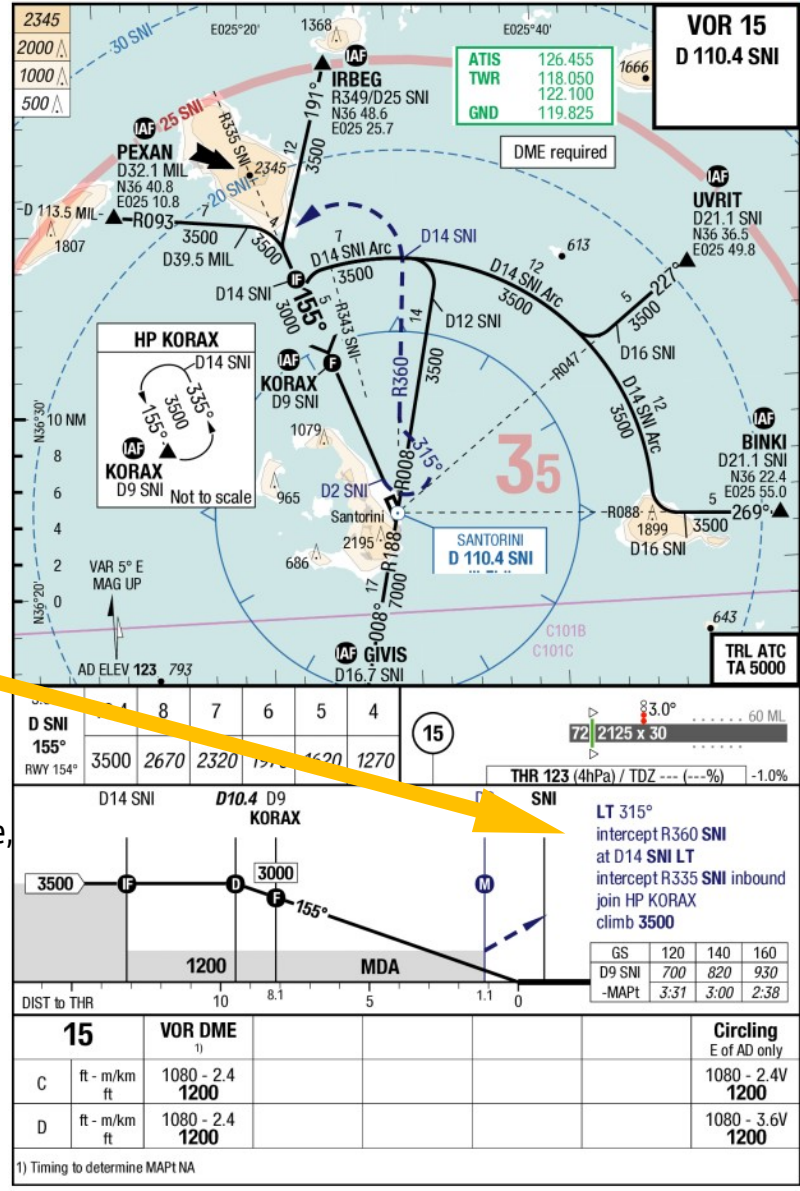


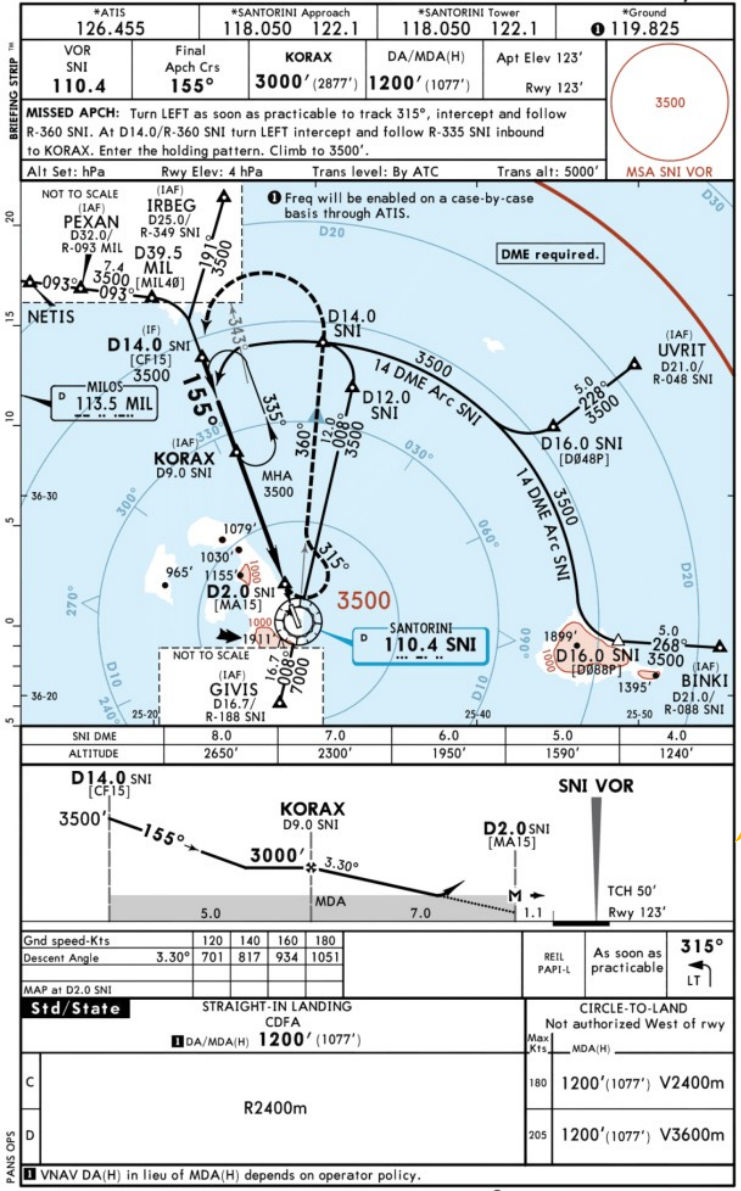


In the *Briefing strip*™

Missed approach description

always in the vertical profile, and synthetic

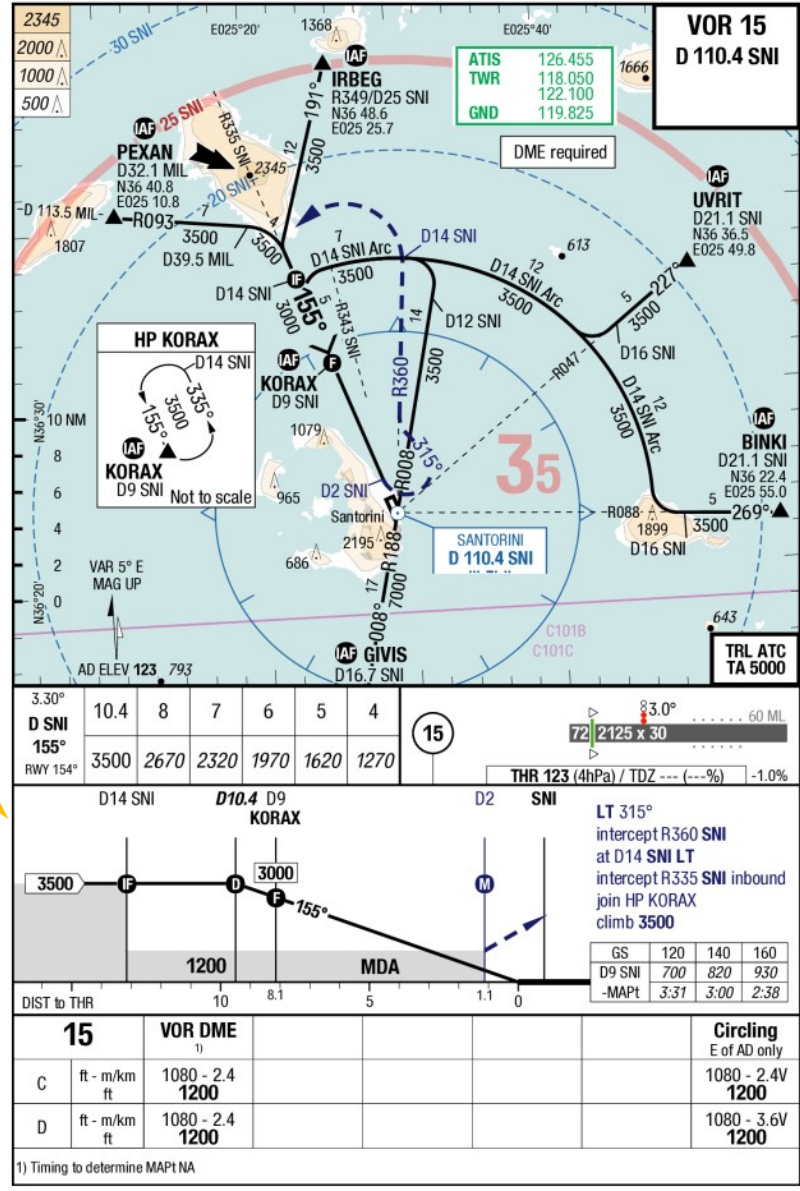


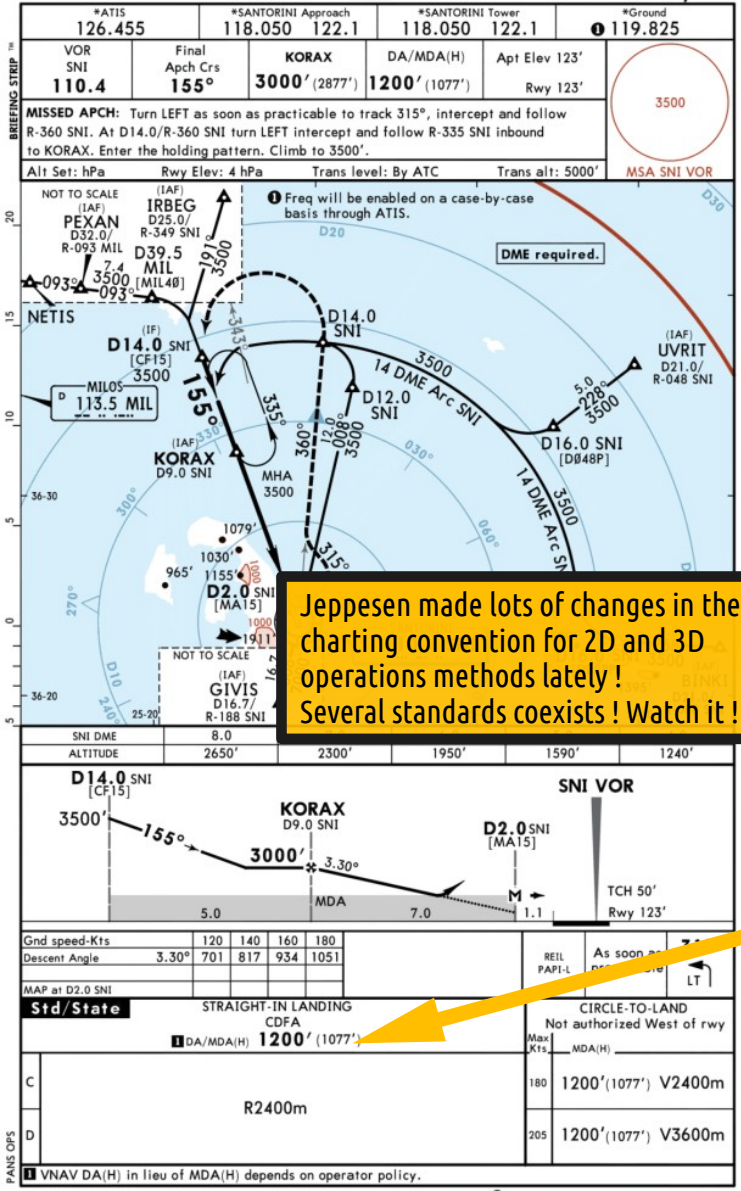


Vertical profile

Very different !

Caution !

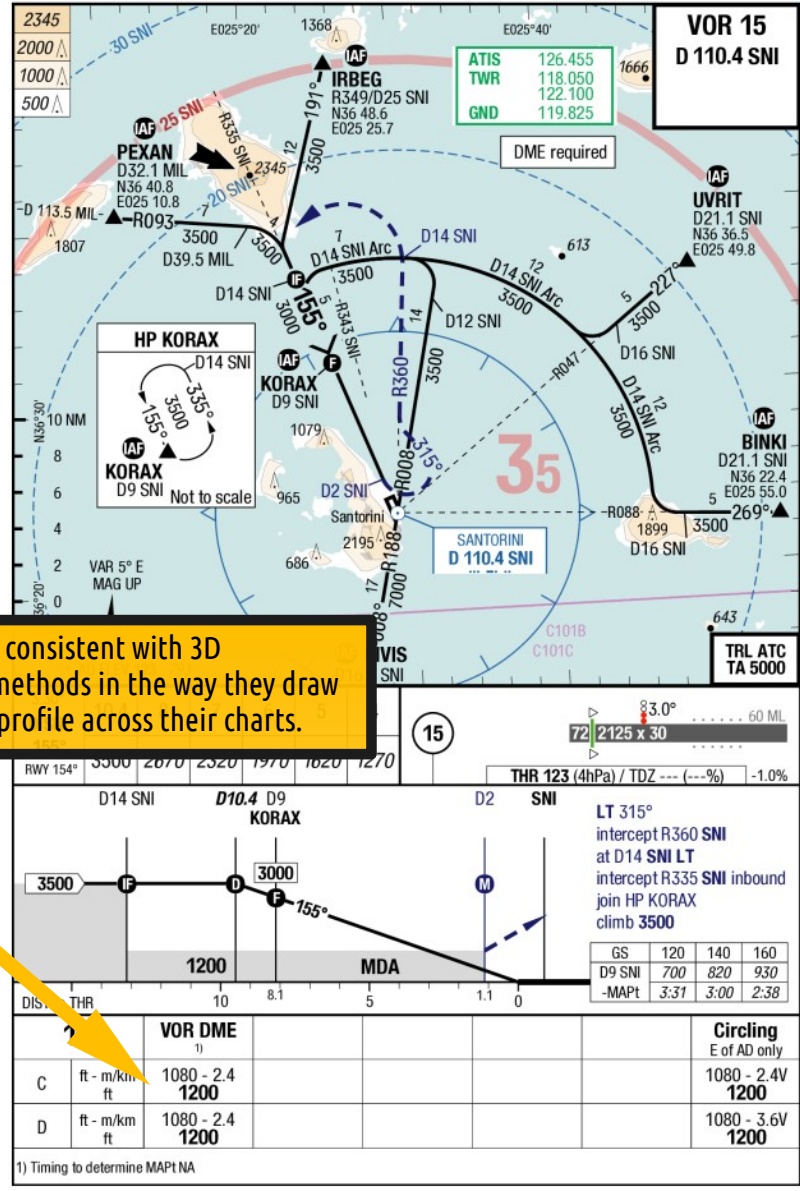




Jeppesen made lots of changes in their charting convention for 2D and 3D operations methods lately !
Several standards coexists ! Watch it !

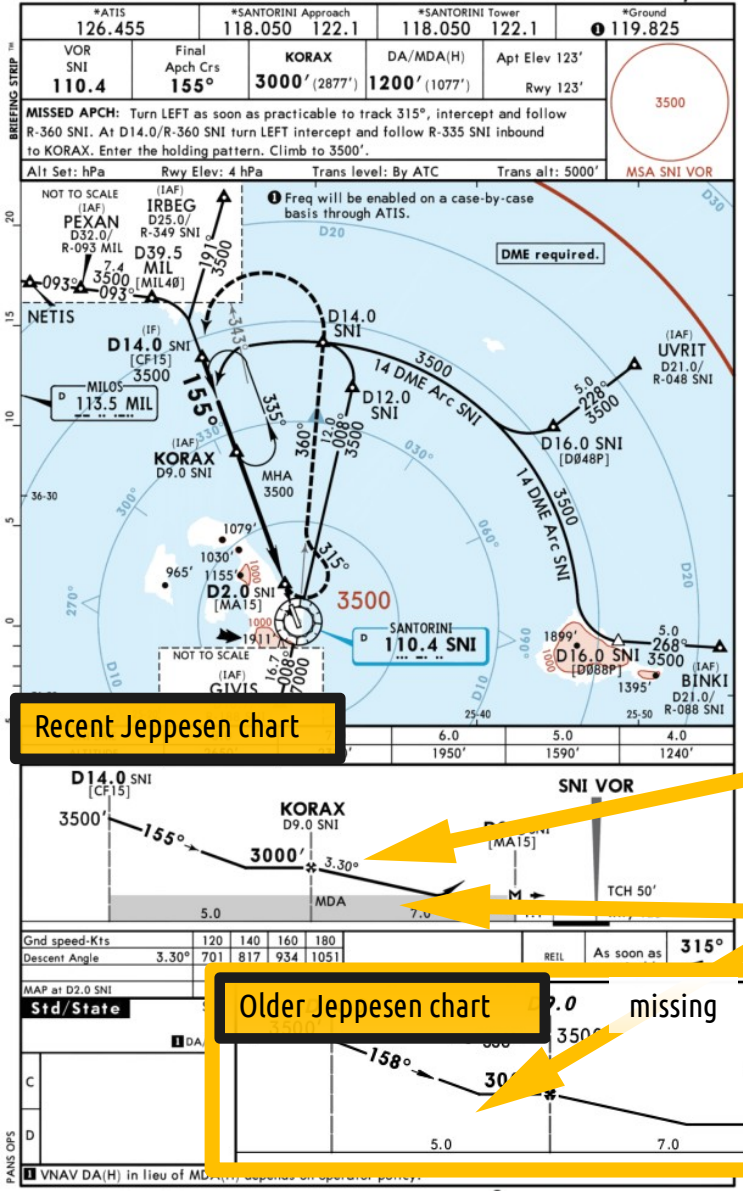
Many texts are surrounding the minimum indications.

Vertical profile



LIDO always consistent with 3D operations methods in the way they draw the vertical profile across their charts.

The MDA is written in a box quickly individually identifiable



Recent Jeppesen chart

Older Jeppesen chart

missing

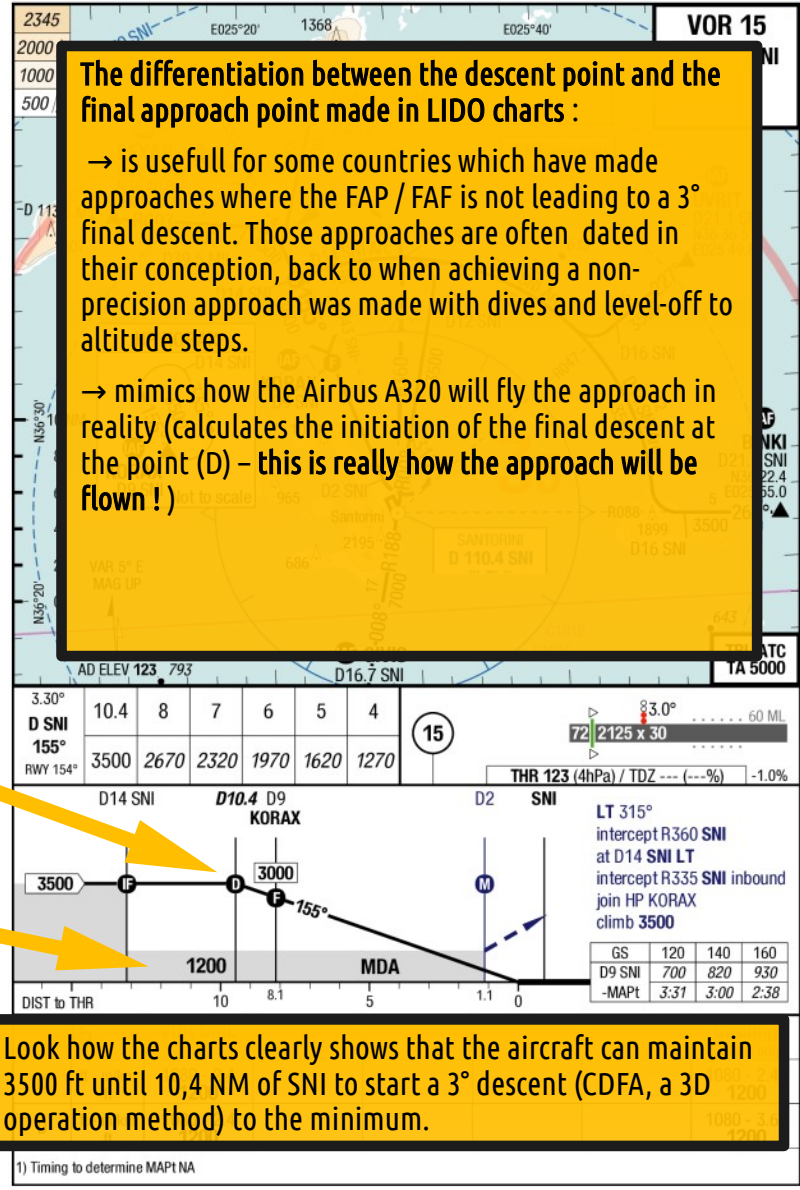
Vertical profile

Not a 3° descent

Only depicted in gray on recent Jeppesen charts

Adaptation of the charting to distinguish the descent point **(D)** from the FAF **(F)** to achieve a 3° descent

Limitations below the profile visually available in gray blocks

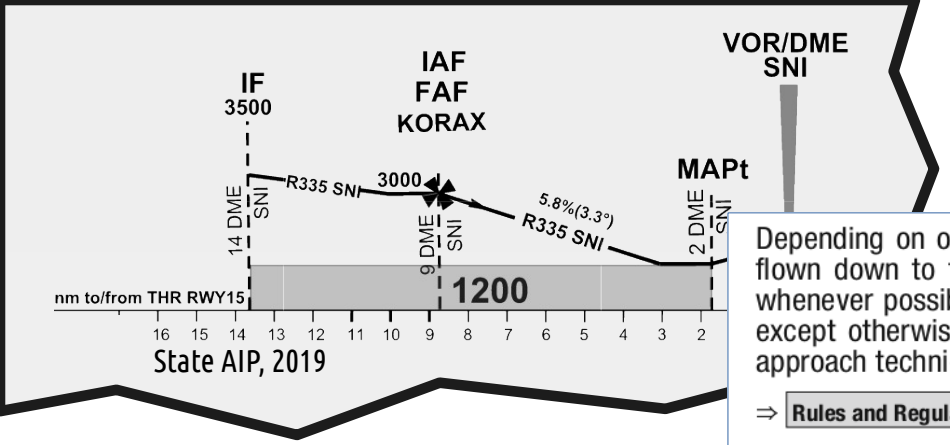


The differentiation between the descent point and the final approach point made in LIDO charts :

→ is usefull for some countries which have made approaches where the FAP / FAF is not leading to a 3° final descent. Those approaches are often dated in their conception, back to when achieving a non-precision approach was made with dives and level-off to altitude steps.

→ mimics how the Airbus A320 will fly the approach in reality (calculates the initiation of the final descent at the point (D) – **this is really how the approach will be flown !**)

Look how the charts clearly shows that the aircraft can maintain 3500 ft until 10,4 NM of SNI to start a 3° descent (CDFA, a 3D operation method) to the minimum.



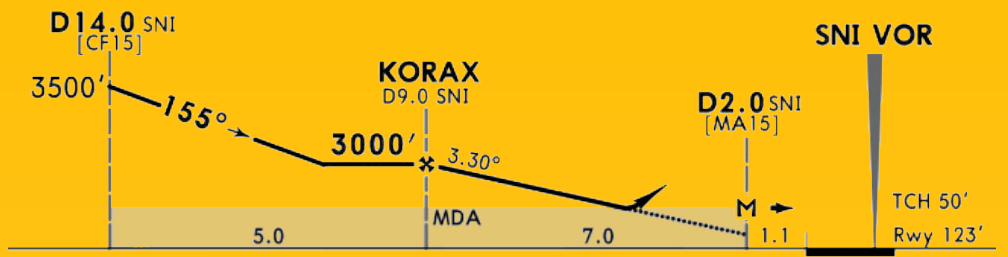
State AIP, 2019

Depending on operators' flight standards and approvals any procedure flown with CDFA technique may be flown down to the published Non-Precision approach MDA/H using these values as DA/H. Lido publishes whenever possible a CDFA procedure. The minima shown in the Lido/RouteManual are calculated for CDFA except otherwise indicated within the minima section. For operations using conventional step down final approach technique refer to:

⇒ **Rules and Regulations** **General Information** 8.10.6.2 RVR/CMV vs. DH/MDH .

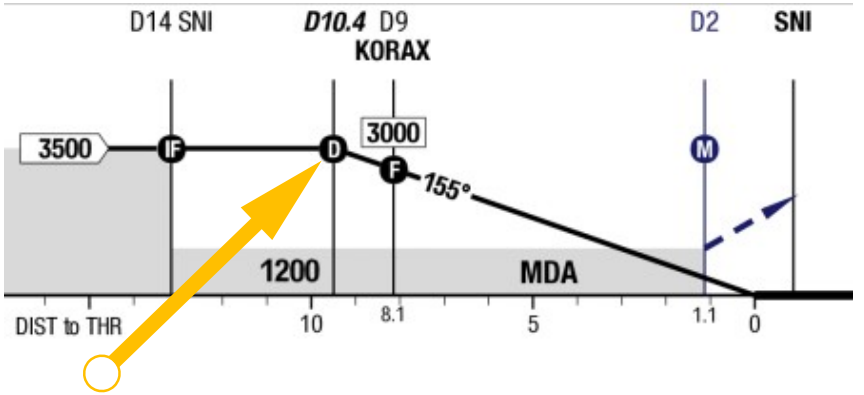
Landing Minima

DA/MDA: Will be derived by Lido from the state published OCA or DA/MDA rounded up to the next 10ft but never below lowest permissible.



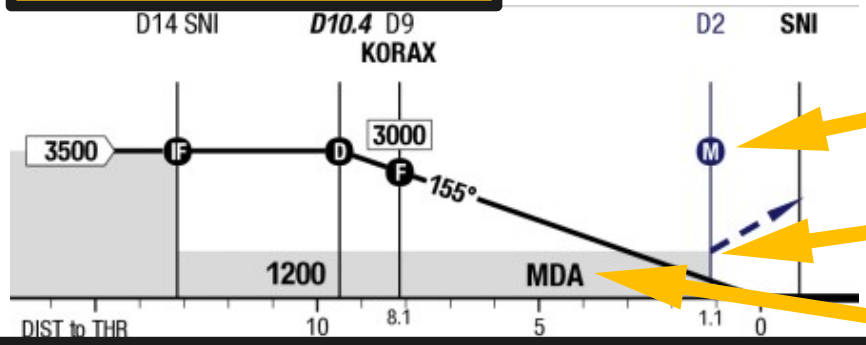
A vertical profile for a VOR approach by Jeppesen, 2022

A vertical profile for a VOR approach by LIDO, 2022



Look how the LIDO charts clearly shows that the aircraft can maintain 3500 ft until 10,4 NM of SNI to start a continuous descent to the minimum.

A non precision approach plate (LIDO)

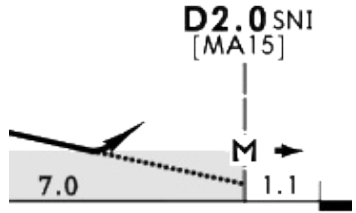


Missed approach point

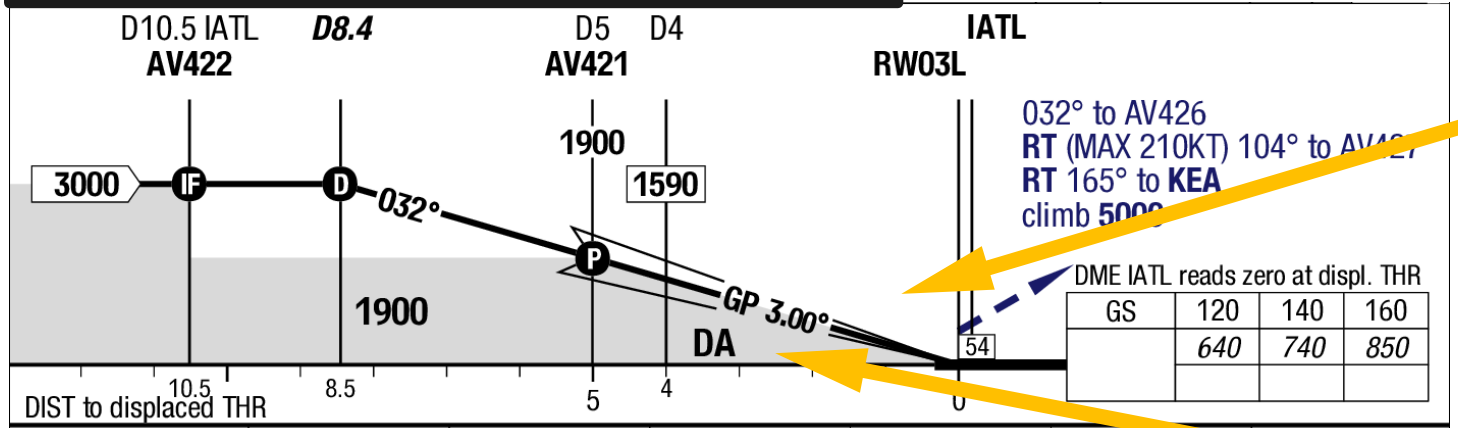
Missed approach dashed arrow, is located at the end of the Minimum descent altitude and at the MaP. An evocation of the fact an NPA is depicted here.

"MDA"

Jeppesen draws it differently :



A precision approach only plate (not mixed with a NPA) (LIDO)



03L		Cat 2 DME ACFT MAX 65/7	Cat 2 DME	Cat 1 DME ACFT MAX 65/7	Cat 1 DME		Circling
C	ft - m/km ft	100 - 300R **97** RA	186 - 450R **183** RA	260 - 600 **510**	270 - 600 **520**		Not authorized

Different drawing of the DA (the grey block doesn't go above the ILS glide slope), and the angle is precised.

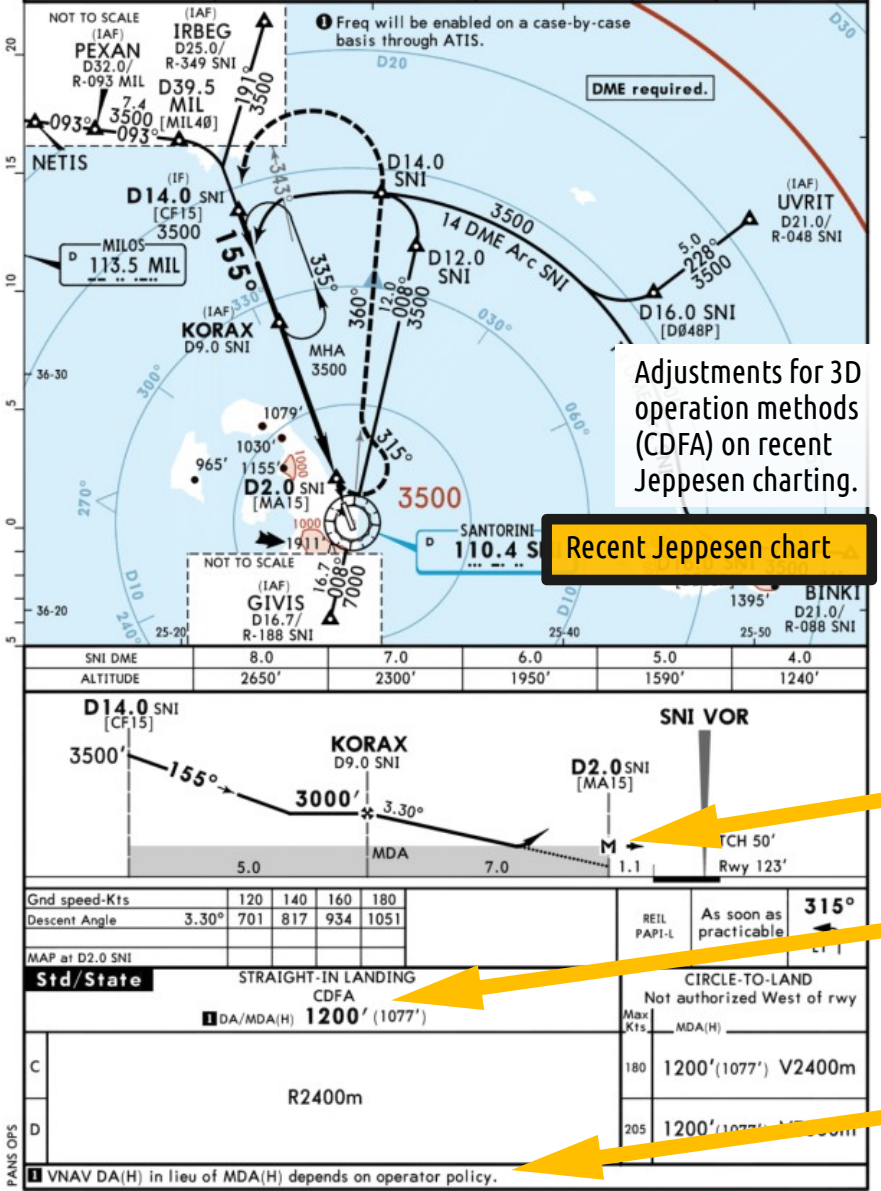
"DA"

Presentation of the minima, an evolution between pre-2019 charts and current charts when updated

Jeppesen followed the recommendation to fly non precision approaches with a CDFA technique, which can be found for instance in the FAA advisory circular 120-108 dated January 2011 (or ICAO DOC 9365). The move in the recent years was to extend 3D operations to non-precision approaches (*via* CDFA to a decision altitude).

Adjustments for 3D operation methods (CDFA) on recent Jeppesen charting.

Recent Jeppesen chart



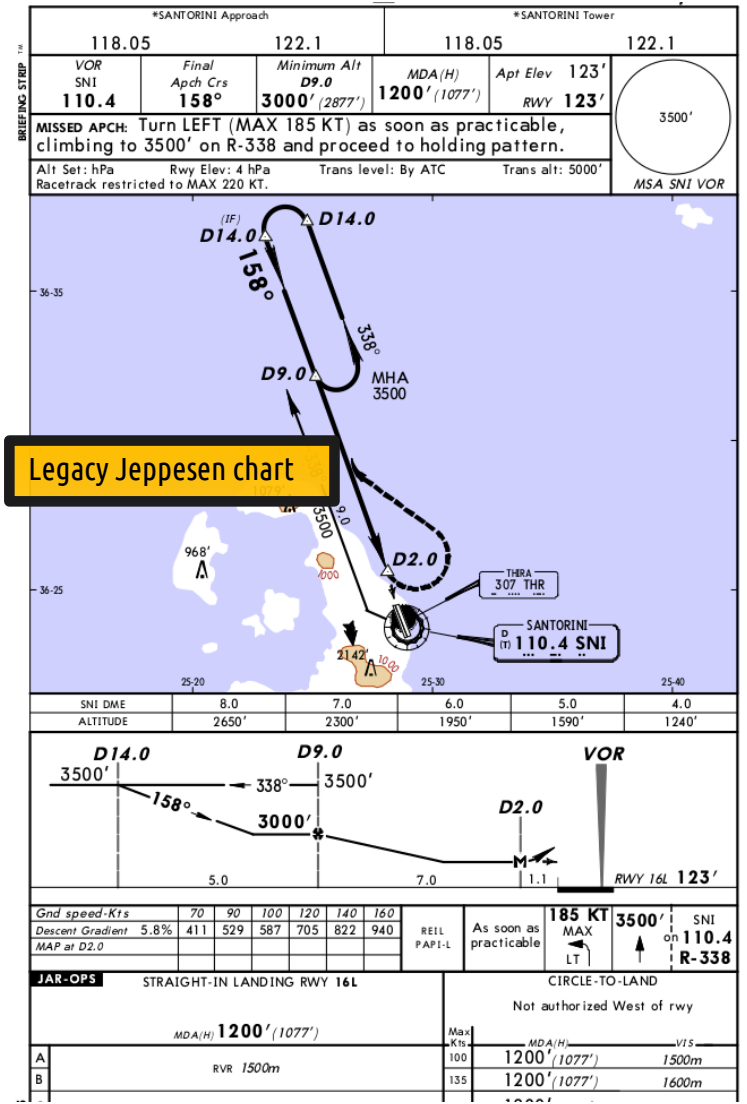
Last segment of the vertical profile now drawn without level-off

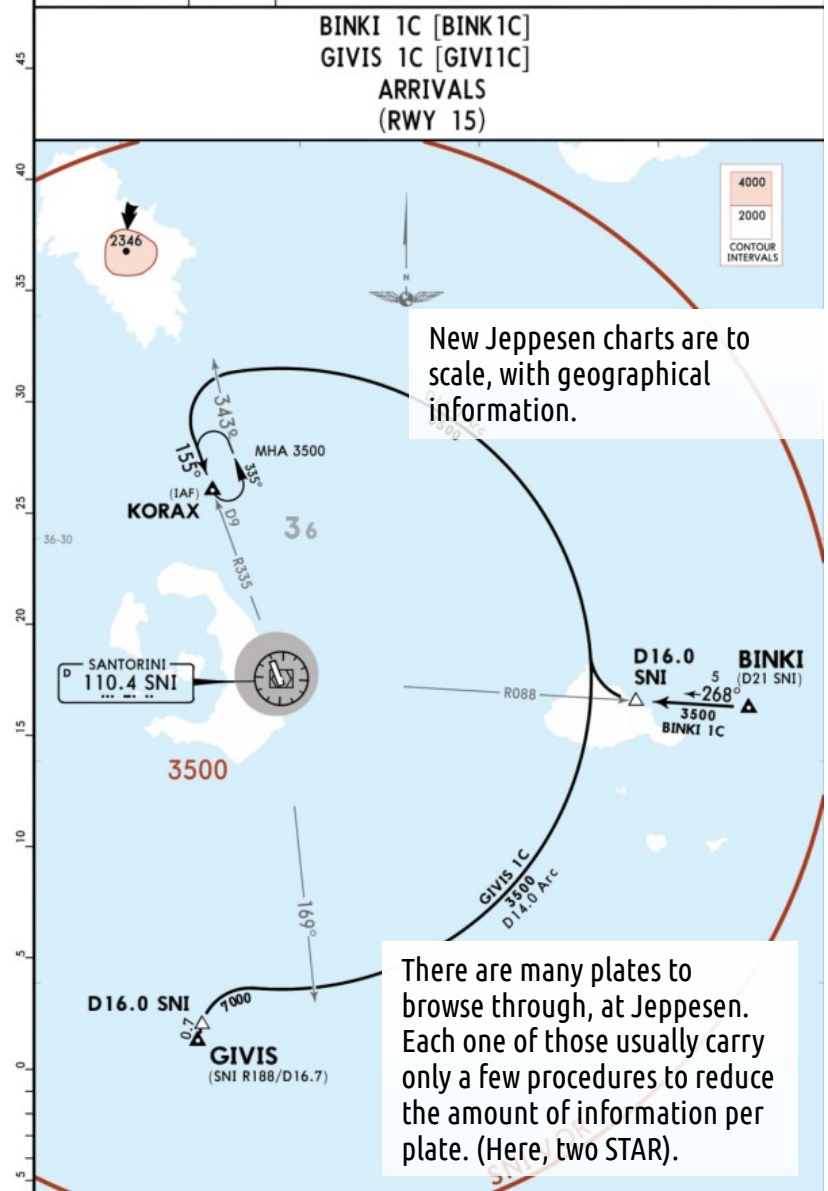
Minima now displayed with “DA” (for CDFA)

Reminder as a foot note : the label “DA/H” is from a State minimum OCA/H without loss height adjustment

24th of March, 2006

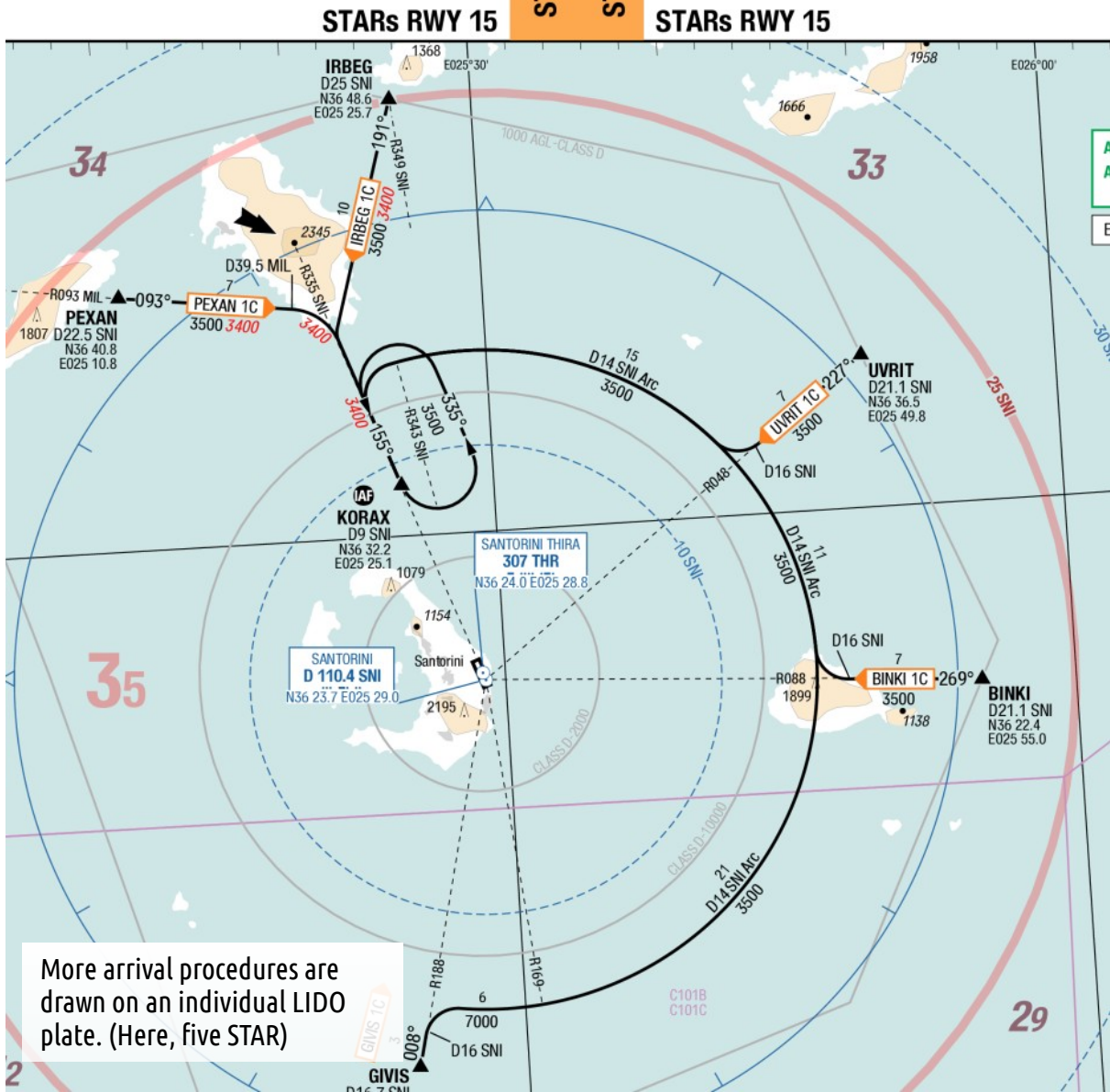
Legacy Jeppesen chart





New Jeppesen charts are to scale, with geographical information.

There are many plates to browse through, at Jeppesen. Each one of those usually carry only a few procedures to reduce the amount of information per plate. (Here, two STAR).

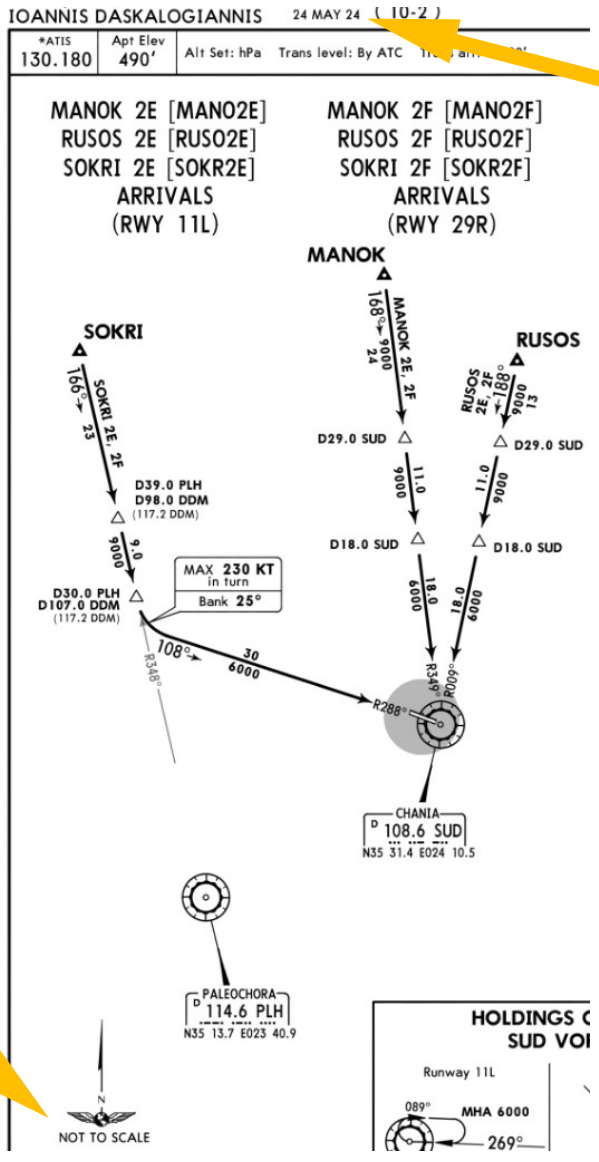


More arrival procedures are drawn on an individual LIDO plate. (Here, five STAR)

Jeppesen SID and STAR charts, as of July 2024, have not all be renovated to the new concept. This arrival chart on the right was updated on 24 MAY 24, only a small update was made, not the renovation to the new charting concept. The procedures are NOT TO SCALE and no geographical context is shown.

Those charts were able to depict all the information required for flying, an heritage from a time when the charts were printed black and white in paper, then sent to the customers.

Nowadays, it becomes possible to put more information (like the geographical elements) without disturbing the essential information.



A legacy Jeppesen chart still in service in 2024.

Not to scale.

21 for LGSR, Jeppesen

With 6 SID plates and 5 STAR plates

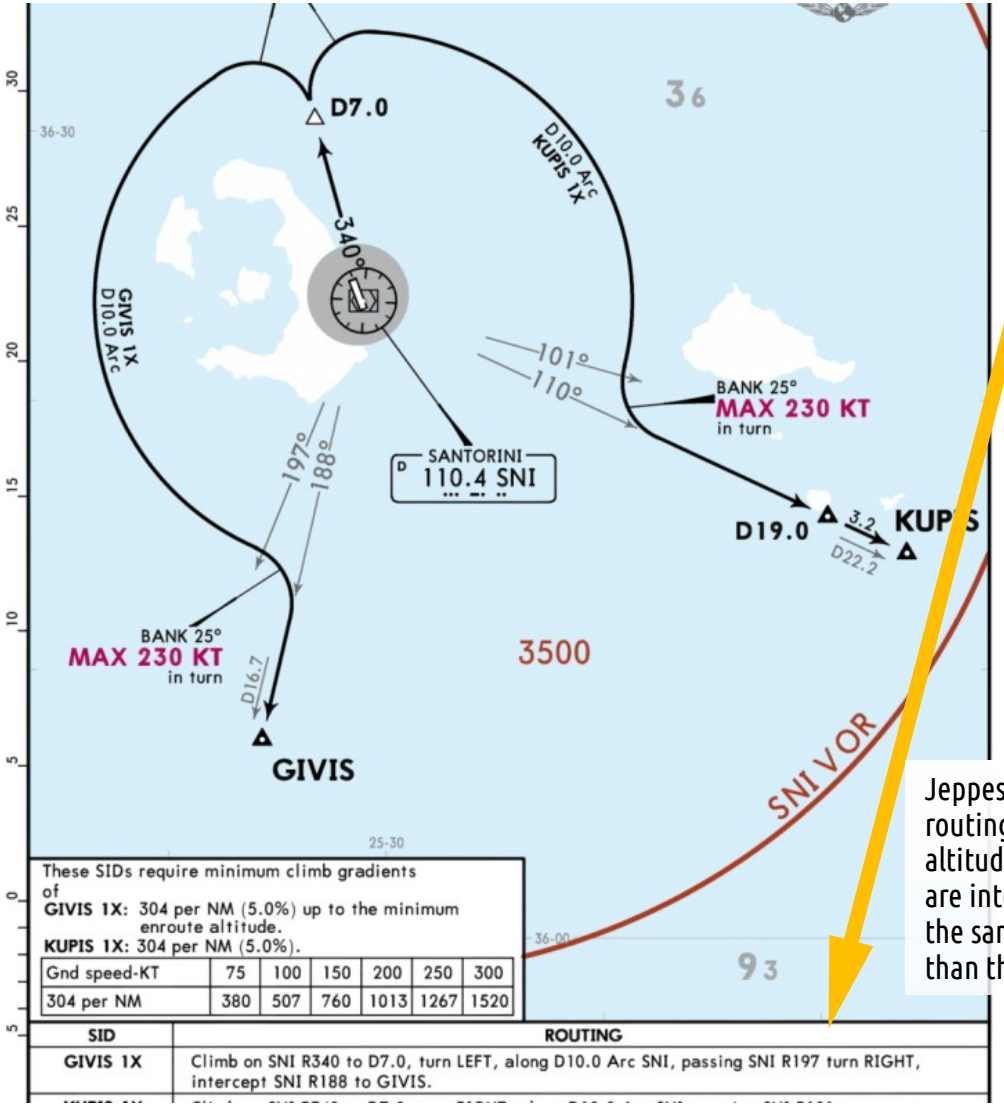
Number of plates

18 for LGSR, LIDO

With 2 SID plates and 3 STAR plates

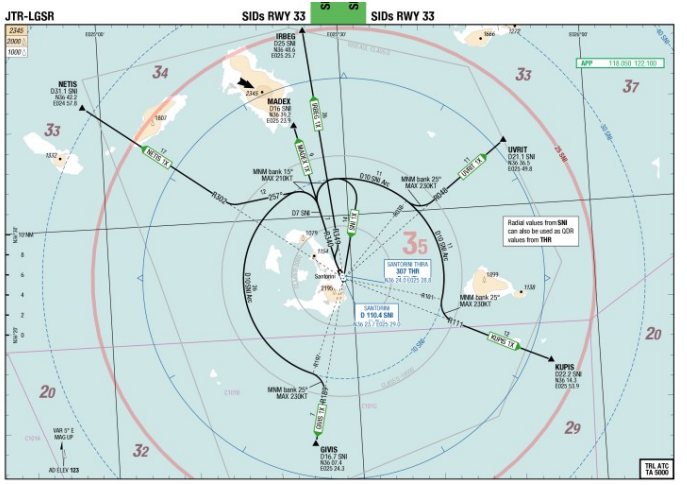
More arrival procedures are drawn on an individual LIDO plate.

AFC	AFC
AGC	AGC
AOI	1
AOI	2
AOI	3
IAC	NDB
IAC	RNP 15
IAC	VOR 15
IAC	VOR A
IAC	VOR B
SID	SIDs RWY 15
SID	SIDs RWY 33
SIDPT	SIDs RWY 15 p01
SIDPT	SIDs RWY 15 p02
SIDPT	SIDs RWY 33 p01
STAR	RNAV ARRIVALS RWY 15
STAR	STARs RWY 15
STAR	STARs RWY 33



SID routing

LIDO : the SID routing and initial flight level are found on a separate page, “SIDPT”



Jeppesen : the routing and altitudes (as req.) are integrated n the same plate than the SID chart.

Effecti 28-FEB-2019

Greece **Santorini**

SIDPT

JTR-L SR **SIDs RWY 33**

GIVIS 1X / IRBEG 1X / KUPIS 1X / MADEX 1X / NETIS 1X / SANTORINI 1X / UVRIT 1X

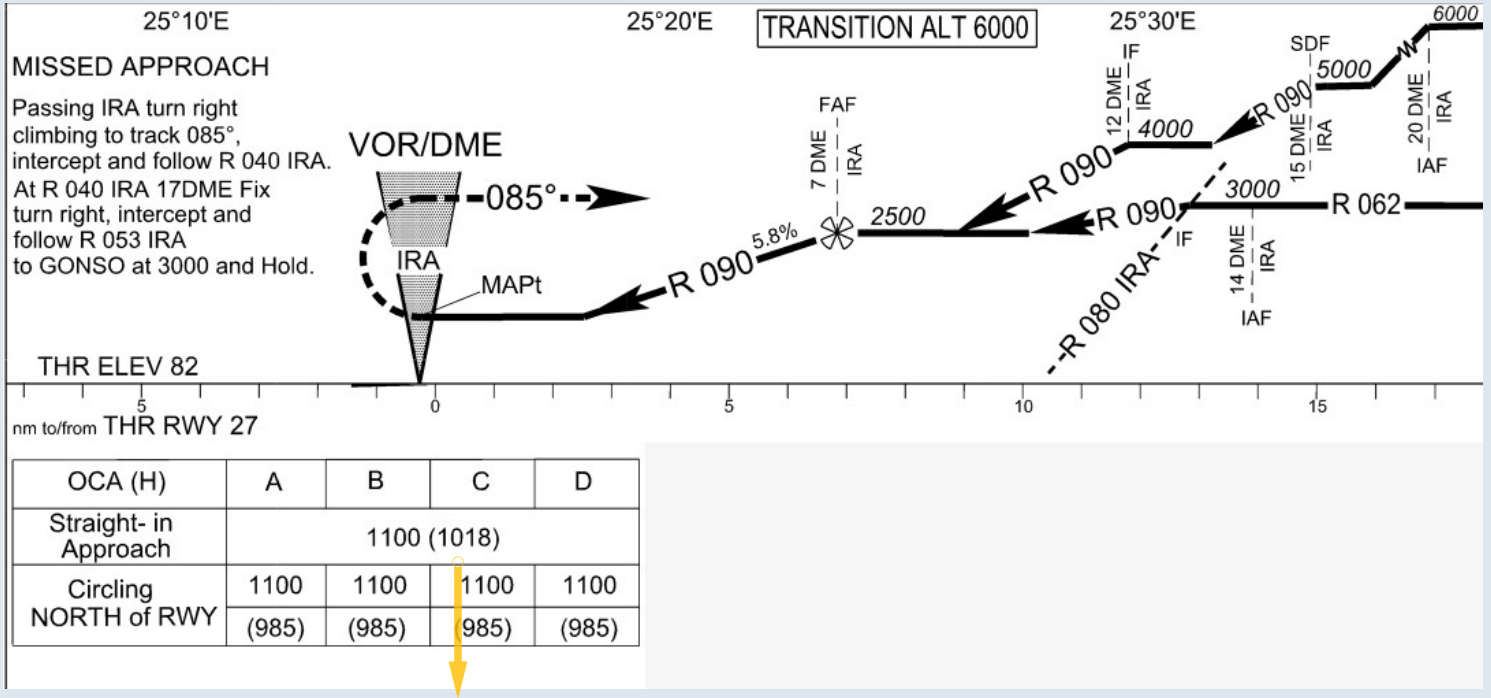
RWY 33 (34°)

	GS	120	150	180	210	240	270
5.0%	ft/MIN	700	800	1000	1100	1300	1400
5.5%	ft/MIN	700	900	1100	1200	1400	1600
7.8%	ft/MIN	1000	1200	1500	1700	1900	2200

DESIGNATO	ROUTING	ALTITUDES
	Runway 33	
GIVIS 1X 5.0% to MEA **118.050**	intercept R340 **SNI** (QDR 340 **THR**) - at D7 **SNI LT** (MAX 210KT, MNM bank 15°) follow D10 **SNI** Arc - crossing R197 **SNI** (QDR 197 **THR**) **RT** (MAX 230KT, MNM bank 25°) intercept R189 **SNI** (QDR 189 **THR**) to GIVIS	
IRBEG 1X 5.0% to MEA **118.050**	intercept R349 **SNI** (QDR 349 **THR**) to IRBEG	
KUPIS 1X 5.0% to MEA	intercept R340 **SNI** (QDR 340 **THR**) - at D7 **SNI RT** (MAX 210KT, MNM bank 15°) follow D10 **SNI** Arc - crossing R101 **SNI** (QDR	

Let's study the hesitations Jeppesen's customer had to face in the recent years by using an example

The chart below is the State chart was published by a State ministry of transportation around 2014 for a VOR approach.



OCA (H)	A	B	C	D
Straight- in Approach	1100 (1018)			
Circling NORTH of RWY	1100	1100	1100	1100
	(985)	(985)	(985)	(985)

An OCH 1018 feet will make **a MDH of 1018 feet** if no other suspensive condition apply.

Here the State does not publish an MDH officialy, only an OCA(H).

Obstacle clearance height (OCH) is the height on an instrument approach with the minimum permitted clearance above obstacles on the final approach.

It does not take into account :

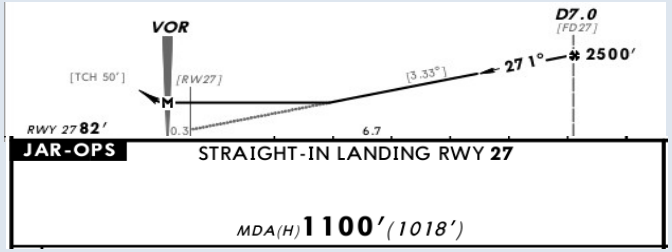
- the limitations associated with the navaid (system minimums)

- nor airplane minimums.

Thus the **minimum descent height (MDH)** – or the decision height for precision approaches) is the highest of the OCH, the system minimums or the airplane-associated minimums.

What Jeppesen did

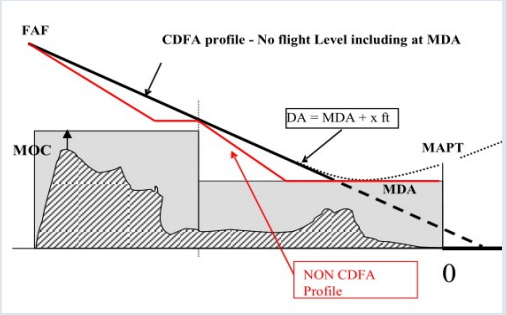
17th of november, 2006



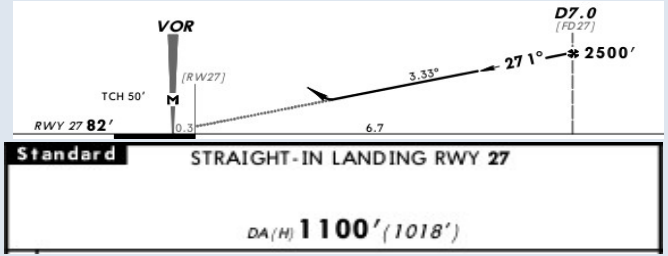
The legacy presentation. The final path is displayed as flow until the level off at the minimum descent altitude (MDA), maintained if the runway cannot be detected until the missed approach point (M), where the missed approach is initiated.

The non precision approach was depicted for what it is : a non precision approach, with the specific concept of the MDA.

And yet this does not prevented to fly this as a continuous descent final if desired (each airline may at its discretion derive a decision altitude from the MDA by adding a small marging).



16th of April, 2010

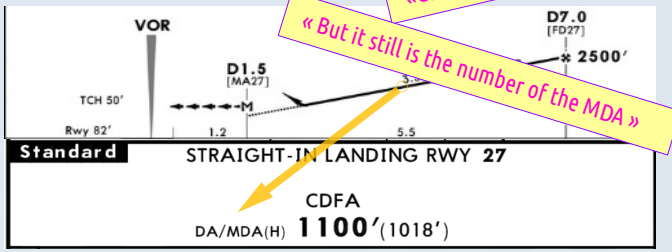


After 2010, Jeppesen remakes the charts. **« DA » was then labelled on those non precision approach charts.**

The intention of Jeppesen was to make **a transition fo CDFA profiles to depict the non precision approaches** but CDFA was not explicitly mentioned on them. That was not expected at first to read a DA on a non-precision procedure, which were flown for years with a dive and level-off method down to MDA/H.

Therefore at the same time in a Jeppesen set for a NPA chart, older charts not yet updated could use the classical depiction with a MDA label (suited to 2D operation method), while more recent charts carried a decision altitude label (suited to 3D ops).

13th of July, 2018



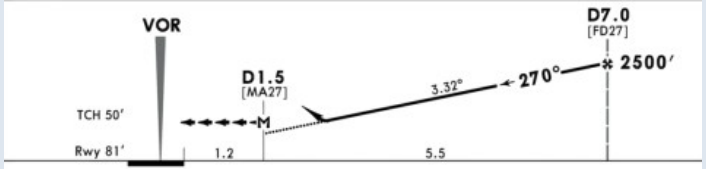
Since, Jeppesen revised their charting convention again.

On revised CDFA charts, **the improved minima box makes explicitly the mention of the continuous descent technique** and suggests this MDA should be treated as a DA, to execute a missed approach when reaching this altitude according to the CDFA flight technique (3D ops).

But the under-laying value is still an MDA : Jeppesen "does NOT include an add-on when publishing a DA(H) for a CDFA non-precision approach", they say. **Actually for this very approach what is labeled as DA here is the OCA(H) value in feet published by the State.**

Jeppesen rightfully aimed at coping with the recommandation to fly non precision approaches with a CDFA technique, which can be found for instance in the FAA advisory circular 120-108 dated January 2011 (or ICAO DOC 9365). The move in the recent years was to extend the 3D operations (via the technique of CDFA to a decision altitude) to non-precision approach procedures. Yet the evolution of Jeppesen charting convention was hesitant.

Past 2019



Std/State STRAIGHT-IN LANDING

CDFA

1 DA/MDA(H) 1310′(820′)

1 VNAV DA(H) in lieu of MDA(H) depends on operator policy.

This was not the end, since a definitive (?) evolution of the convention was recently published by **adding a foot note on each plate** with explicitly explains that <u>the DA mentioned is in fact an MDA which does not include a height loss adjustment</u> for the CDFA flying technique.

JEPPESEN

BRIEFING BULLETIN 23 AUG 19 JEP 19-A

GLOBAL APPLICATION OF NEW AERODROME OPERATING MINIMUMS (AOM) CONCEPT

Non-precision CDFA flight technique/continuous descent profile (LNAV, LP, LOC, VOR, NDB, VDF, SRA, etc.)	OCA, OCH, OCA(H)	DA/MDA(H)	The DA/MDA(H) is determined according to the rules described in ICAO AWOM and **does not include a height loss adjustment.** Adjustments may be made for rounded source values.

The current **Standard** label on existing charts, which indicates the AOM are according to EU-OPS/EASA AIR OPS, will be replaced by **Std/State**.

Want to know more about the aerodrome minima ?
Please consult my paper on the subject.

Flying to Aerodrome Operating Minima

Previously in this presentation, we have seen than EASA had regulations relevant for circling appraoch minima.
Let's see what TERPS has for us.

Source : https://www.faa.gov/TERPS

Document Type	Number	Directive	Date
Order	8260.3E	United States Standard for Terminal Instrument Procedures (TERPS)	2020-09-16

United States Standard for Terminal Instrument Procedures (TERPS), described in FAA Order No 8260.3E, 2020

3-3-3. Establishing Circling Visibility Minimums. Establish as a statute (SM) value. Meter (M) values are for locations outside the United States only. Determine circling visibility as the highest of:
a. The value specified in the applicable row and column of table 3-3-7.
b. The distance from the MAP to the nearest surface authorized for landing by a circling aligned procedure

Jeppesen

CIRCLE-TO-LAND
Not Authorized North of Rwys 10L-28R

Max Kts	MDA(H)
140	3740′(869′) -2½
165	3820′(949′) -3

Table 3-3-7. Authorized Circling Visibility Minimums

height above airport

CAT →	A		B		C		D		E	
HAA	SM	M	SM	M	SM	M	SM	M	SM	M
350 - 449	1	1600								
450 - 549	1	1600	1	1600	1 1/2	2400				
550 - 600	1	1600	1	1600	1 1/2	2400	2	3200	2	3200
601 - 670	1	1600	1	1600	1 3/4	2800	2	3200	2 1/4	3600
671 – 740	1	1600	1	1600	2	3200	2 1/4	3600	2 1/2	4000
741 - 810	1	1600	1	1600	2 1/4	3600	2 1/2	4000	2 3/4	4400
811 - 880	1 1/4	2000	1 1/4	2000	2 1/2	4000	2 3/4	4400	3	4800
881 - 950	1 1/4	2000	1 1/4	2000	2 3/4	4400	3	4800	3	4800
951 and above	1 1/4	2000	1 1/2	2400	3	4800	3	4800	3	4800

Federal Aviation Administration

LIDO

Circling 2) New TERPS

870 - 2.5V
3740

950 - 3.0V
3820

ft - ft/SM
ft

Check the measuring unit used !

https://forums.x-plane.org/index.php?/files/file/53495-non-precisions-and-apv-approaches-what-really-is-this-minimum-on-the-chart/

For a reminder, don't confuse **procedures classification** (like non-precision and precision approaches) and **operation methods** (like 2D operation or 3D operation).

The move in the recent years was to extend the 3D operations (via the technique of CDFA) to non-precision procedures.

ICAO document « Manual of All-weather Operations » makes a clear distinction between approach procedures and approach operations.

An **Instrument approach procedure** is the instrument flight procedure allowing an aircraft to navigate on the final approach down to a given obstacle clearance height (OCH), relying on a given type of navigational infrastructure.

Procedures are classified as either :

- non-precision (NPA) ;

- approach procedure with a vertical guidance (APV) ;

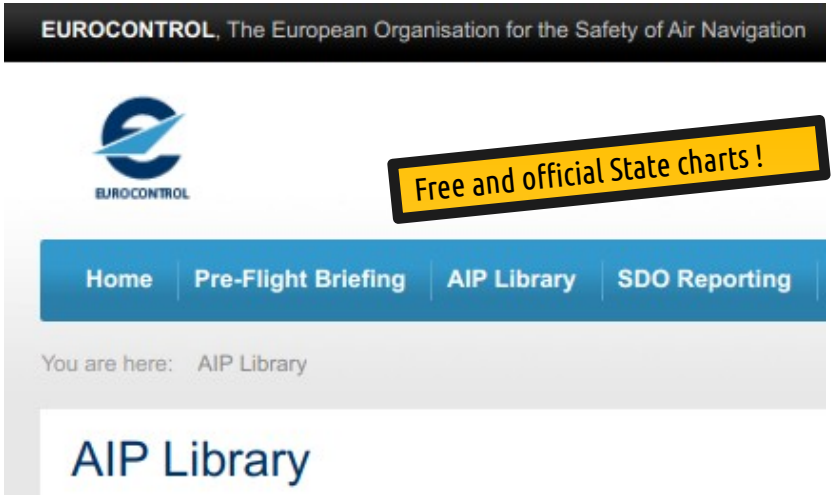
- precision approach (PA) procedure.

An operation method, is the manner in which an operated aircraft will follow the procedure. The classification approach operations is based on the performance, or ability to join an aerodrome minima throughout a flight method.

A 2D operation uses lateral navigation only. All 2D operations are classified as type A and are flown to an MDA/H.

3D approach operations use both lateral and vertical navigation guidance. LNAV/VNAV operations are an example of 3D operation method.

Source : Doc 9365, https://elibrary.icao.int/reader/



Options to gather charts for flight simulation

1) European State charts official and first-hand, for free, with an **EAD Basic** account :

https://www.ead.eurocontrol.int/fwf-eadbasic/restricted/user/aip/aip_overview.faces

2) **AviaPlanner**, by UFETA LLC, has LIDO charts

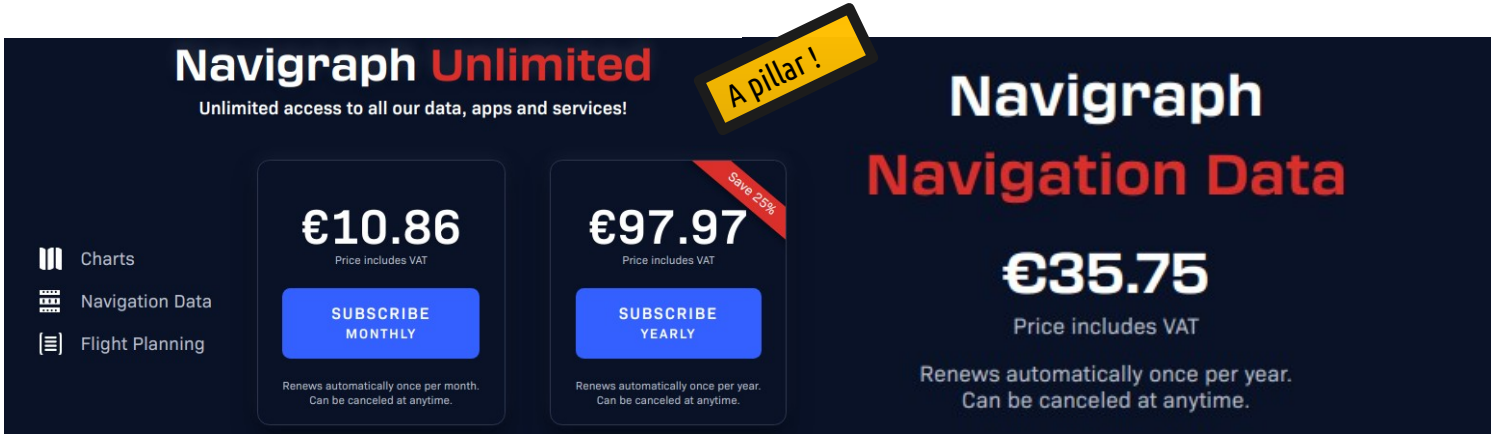
Attention !

https://aviaplanner.com/#sectionProducts

Verified on July 2024 : all TEMPO, SID INIT, SIDPT LIDO charts are missing from the Aviaplanner LIDO charts package.

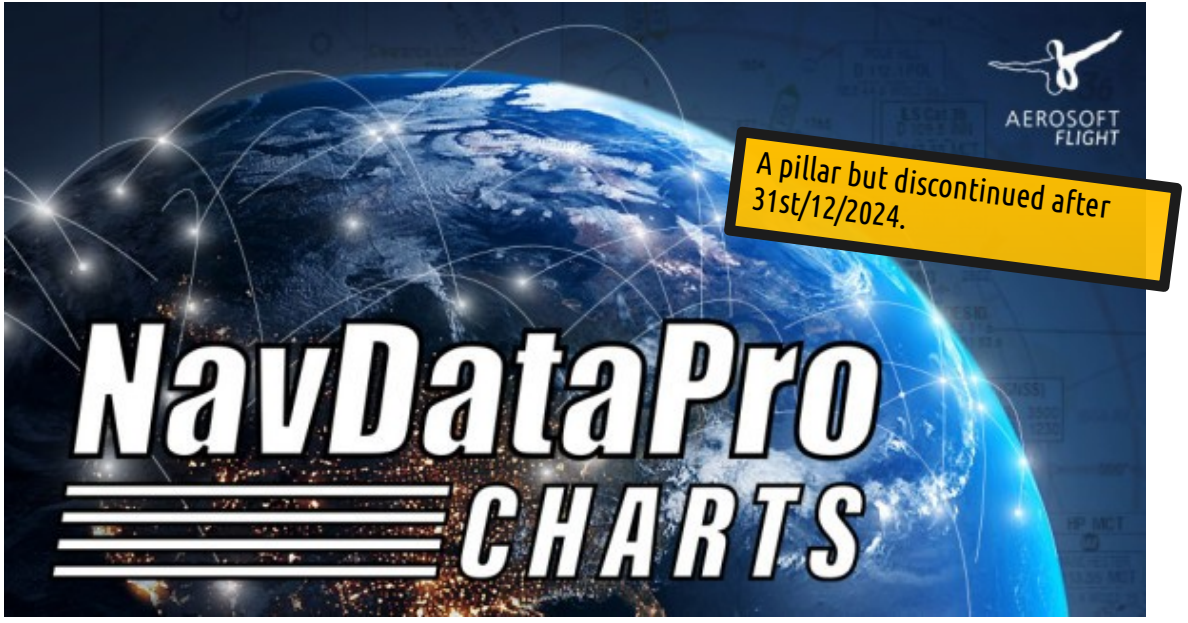
So for a start, a price at UFETA of 30 $ yearly (27,52 €) for the annual AviaPlanner access is a similar price to what we paid for charts-only products till 2021 at Aerosoft and Navigraph, but with some data loss due to some missing LIDO plates.

I see on the forums that people are enthusiastic about the cheap AviaPlanner package. I say : no, it's not cheap, it's the same at the moment for charts only products !



2) Navigraph has the Jeppesen charts in **Navigraph Unlimited**

https://navigraph.com/account/subscription

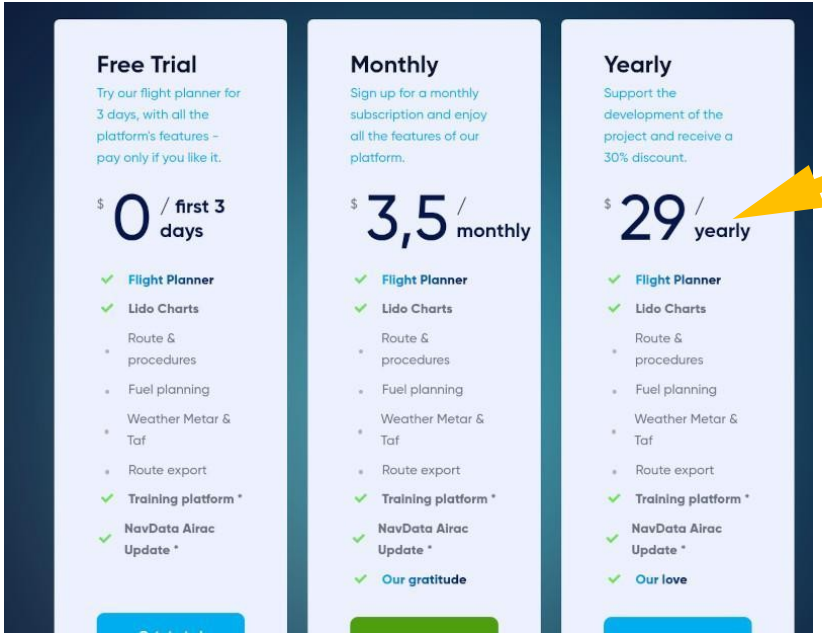


3) Aerosoft **NavDataPro** (charts and navdata) has complete LIDO charts
End of service in 12/2024.

https://www.aerosoft.com/fr/boutique/flight/p3d-fsx/flight-simulator-x/utilitares/1484/navdatapro-charts-one-month-access

Prices for charts-only products, when the where last available.

		01/05/15	01/05/16	01/10/18	01/03/21	
Jeppesen	1 year	19,92 €	23,90 €	31,08 €	32,38 €	Navigraph
LHS	1 year	24,00 €	25,20 €	30,24 €	30,24 €	Aerosoft NDP



AviaPlanner

The document provides a comparative analysis of Jeppesen and LIDO charts used in aviation.

The key differences highlighted include:

Chart Format and Presentation:

Jeppesen charts traditionally use a dive and level-off method down to the Minimum Descent Altitude (MDA), while more recent revisions have introduced the concept of Decision Altitude (DA) for non-precision approaches using Continuous Descent Final Approach (CDFA) techniques. LIDO charts, by contrast, integrate various pieces of information such as geographical elements and minimum sector altitudes more seamlessly.

Charting Conventions:

Jeppesen has undergone several revisions in its charting conventions to better align with CDFA recommendations, often leading to confusion among users due to inconsistent labeling and the addition of explanatory footnotes. LIDO charts tend to provide a clearer, more integrated presentation, which is consistent across different types of charts.

Operational Techniques:

The evolution of Jeppesen charts reflects a shift towards promoting 3D operations (using both lateral and vertical navigation guidance) even for non-precision approaches. LIDO charts consistently support this integrated approach, aiding pilots in maintaining situational awareness and ensuring safer operations.

User Experience:

The document discusses user experiences with both Jeppesen and LIDO charts, noting that Jeppesen’s frequent changes have led to some confusion, whereas LIDO's approach has been praised for its clarity and consistency. The document also resumes which aviation charts are available for flight simulation users at this date (2024) through suppliers such as Aerosoft (NavDataPro), Navigraph (Navigraph Unlimited), Ufeta (Aviaplanner) or EAD basic.

Keywords

Jeppesen charts - LIDO charts - Aviation navigation - Minimum Descent Altitude (MDA) - Decision Altitude (DA) - Continuous Descent Final Approach (CDFA) - Non-precision approach - 3D operations - Charting conventions - User experience - Instrument flight procedure