

SKBO/BOG**BOGOTA, COLOMBIA****ELDORADO INTL**

18 NOV 16

(10-1P)**AIRPORT BRIEFING****1. General**

Every aircraft that uses PUENTE AEREO, the regional and international passenger and/or cargo aprons must be towed until reaching the SPOT or the taxiway that Ground control indicates.

A340- 600 aircraft using the international gate must be towed on taxiway FOXTROT, to start taxi.

Taxiway D prohibited for aircraft category E, between taxiway MIKE and WHISKEY.

Aircraft stand C5 limited to aircraft type B757, B767, A300, must enter towed to this stand.

Aircraft stand C7 authorized up to aircraft type A340-600.

Turbine aircraft category C that enter aircraft stands A13 to A15 must be towed.

These speeds are subject to change per ATC requirements.

2. GROUND CONTROL

In order to quickly evacuate the runway fast exit, aircraft exiting via taxiways D and J shall continue its taxi following the appropriate standard route to go to its parking stand, applying the right of way, as established in ICAO Annex 2. Contact with the corresponding Ground Control unit shall be done without stopping the aircraft when crossing the safety line informing of the current position and apron or parking stand of destination, if no contact is established, the pilot in command shall stop the aircraft prior to crossing the next intersection.

Note: This procedure does not apply when the reported RVR is equal or below 550 meters, in this case shall proceed in accordance with the provision of the Low Visibility Procedures.

3. AERODROME CONTROL

1. Aircraft taxiing to the runway threshold shall apply the provisions of 2.10 (see below) and shall keep listening to the Aerodrome Control Frequency until clearance to enter the take-off runway or any other type of instruction is received.

(Provisions of 2.10: Normally, crews of departing aircraft may make the change to the corresponding Aerodrome Control frequency without waiting for instructions from Ground Control, by applying the monitoring procedure as follows:

- Rwy 13L, when entering the holding bay.
- Rwy 13R, crossing Taxiway Q.
- Rwy 31L, when entering the holding bay.
- Rwy 31R, crossing at the level of Taxiway L.)

2. In order to speed up the traffic, the immediate take-off of an aircraft may be authorized prior to entering the runway. By accepting such authorization, the aircraft shall circulate via the taxiway to the runway and take-off without stopping.

3. Unless there is a different request before granting permission to take-off, once in the air, all aircraft in climb and leaving the take-off trajectory, shall change to the corresponding departure frequency, without prior warning from the aerodrome control as follows:

- On EAST configuration with SID's which first turn is on heading to SOA VOR, shall call on frequency 119.95 MHz and for those whose turn is on heading to ZIP VOR shall call on frequency 121.30 MHz.
- On WEST configuration, traffic with SID's ending with N or NE course, shall call on frequency 121.30 MHz and traffic with SID's ending with W, WSW, SW or SE course, shall call on frequency 119.95 MHz.

4. Normally, crews of arriving aircraft can change the corresponding Ground Control frequency without waiting for instructions from the Aerodrome Control.

5. Between Sunset and Sunrise or in low visibility conditions, aircraft shall notify clear runway on the Aerodrome Control frequency.

4. SPEED ADJUSTMENTS

Within Bogota TMA, unless ATC indicates another speed setting, the departures, arrivals and approaches to Eldorado Intl Airport under RADAR control should adjust their speeds as specified below:

- IAS 185 Kts until turn complete on departures to SOA VOR and ZIP VOR.
- IAS 230 Kts at or below 14,000'.
- IAS 250 Kts at SLP.

Approximate speed settings:

- IAS 190 Kts at BOG VOR.
- IAS 170 Kts at Outer Marker Rwy 13L.

(Continue on next page)

SKBO/BOG**BOGOTA, COLOMBIA****ELDORADO INTL**

18 NOV 16

(10-1P1)**AIRPORT BRIEFING****4. SPEED ADJUSTMENTS (cont.)**

- IAS 170 Kts at D5.0 ILS 13R.
- IAS 185 Kts at MAP Circling VOR-C.

Note 1: Speed adjustments upon request of ATC. Aircraft unable to adjust to previously described speeds must maintain maximum allowable speed at all times up to the LOM of Rwy 13L or 5 DME ILS of Rwy 13R and must inform of the maintained speed.

Note 2: The controller is authorized to initiate missed approach to crews that do not comply with speed restrictions.

Note 3: Above restrictions do not apply when weather conditions (turbulence, windshear, tailwind and rain) that affect the safety of aircraft maneuvers and braking approximation are presented on the runway.

Note 4: Speed Restrictions:

Aircraft Category C, D, E:

- IAS 270 Kts below FL250 and 40 NM BOG VOR
- IAS 250 Kts at ABL/VULAM/PUNPU.
- IAS 190 Kts at BOG VOR.
- IAS 170 Kts at FAF/FAP Runway 13L/13R.
- IAS 185 Kts at Rwy 31L/31R MAP Circling.

Aircraft Category B:

- IAS 200 Kts at ABL/VULAM/PUNPU.
- IAS 190 Kts at BOG VOR.
- IAS 170 Kts at FAF/FAP Rwy 13L/13R.
- IAS 185 Kts at Rwy 31L/31R MAP Circling.

Crews must inform ATC if aircraft speeds differ from speed restrictions by more than 10 Kts to allow for accurate sequence and spacing.

Turboprop aircraft that cannot comply with established speeds must maintain highest possible speed.

The speed restrictions for FAP/FAF Rwy 13L/13R do not apply when the aircraft follows an NPA without guide vector (LOC/VOR/NDB/RNAV/LNAV).

Restrictions do not apply if tailwind exceeds 8 Kts that may affect vertical path control.

ATC may cancel an active approach and initiate missed approach procedures or provide vector guidance to those aircraft not in compliance with restricted airspeeds for sequence requirements.

ATC may supply alternate speed requirements which must be achieved by crews as quickly as possible.

SKBO/BOG ELDORADO INTL

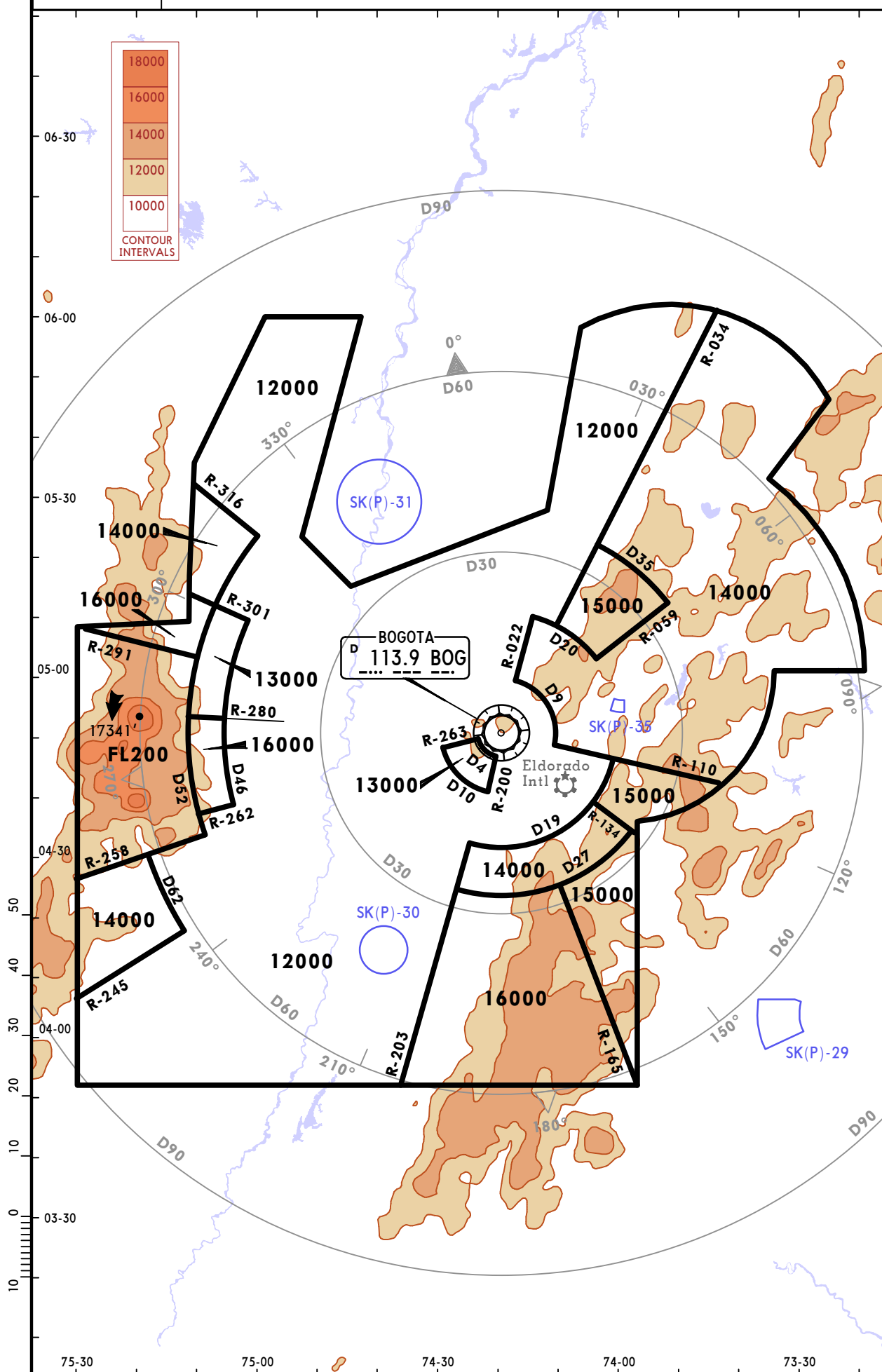
JEPPESEN
3 JUN 16 (10-1R)

BOGOTA, COLOMBIA

RADAR MINIMUM ALTITUDES

Apt Elev
8360'

Alt Set: IN (hPa on req)
Trans level: FL190 Trans alt: 18000'



SKBO/BOG
ELDORADO INTL

JEPPESEN
6 NOV 15 **10-2** Eff 12 Nov

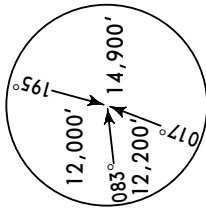
BOGOTA, COLOMBIA

STAR

ATIS
113.9

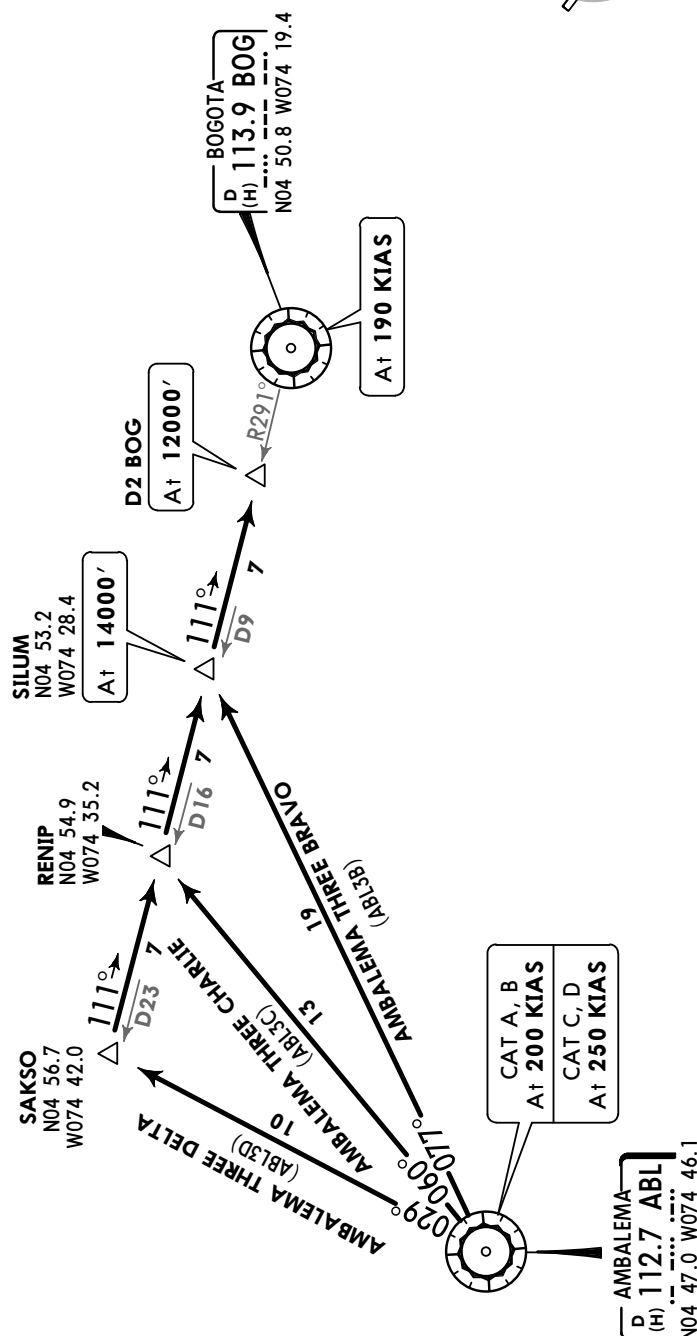
Apt Elev
8360'

Alt set: IN (hPa on req)
Trans level: FL190 Trans alt: 18000'
Adjust speeds per 10-1P.

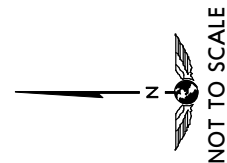


MSA BOG VOR

**AMBALEMA THREE BRAVO (ABL3B),
AMBALEMA THREE CHARLIE (ABL3C),
AMBALEMA THREE DELTA (ABL3D) ARRIVALS**
(RWYS 13L/R, 31L/R)



Direct distance from D2 BOG to:
Eldorado Intl 16 NM



SKBO/BOG
ELDORADO INTL

JEPPesen
6 NOV 15 **(10-2A)** **Eff 12 Nov**

BOGOTA, COLOMBIA

STAR

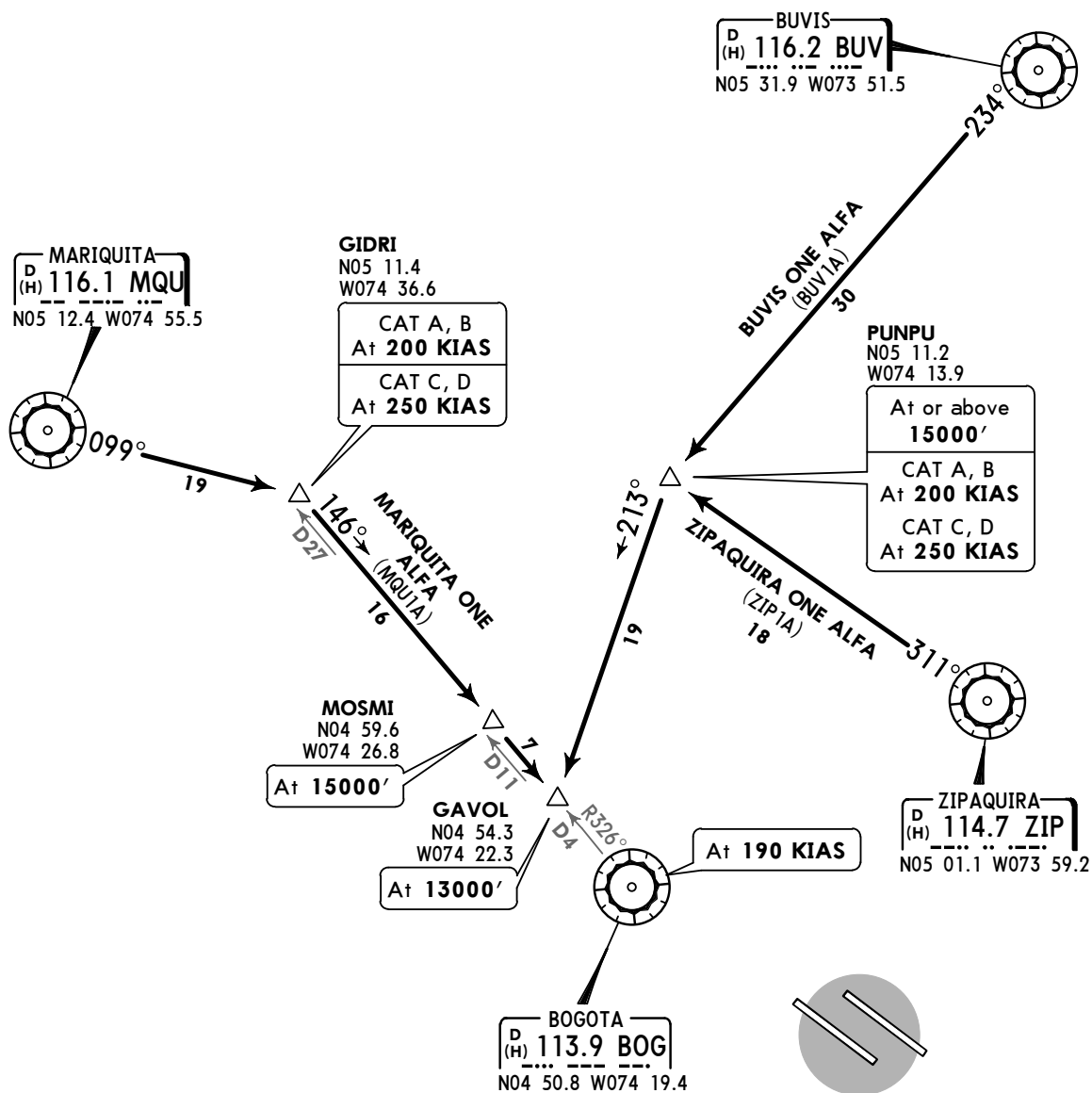
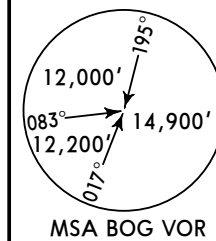
ATIS
113.9

Apt Elev
8360'

Alt set: IN (hPa on req) Trans level: FL190
1. BUVIS ONE ALFA, ZIPAQUIRA ONE ALFA:
PUNPU EXPECT vectors to localizer.
2. Adjust speeds per 10-1P.

Trans alt: 18000'
RNAV 1 required or from

**BUVIS ONE ALFA (BUV1A),
MARIQUITA ONE ALFA (MQU1A),
ZIPAQUIRA ONE ALFA (ZIP1A) ARRIVALS**
(RWYS 13L/R, 31L/R)



SKBO/BOG
ELDORADO INTL



6 NOV 15

10-2B

Eff 12 Nov

BOGOTÁ, COLOMBIA

STAR

ATIS
113.9

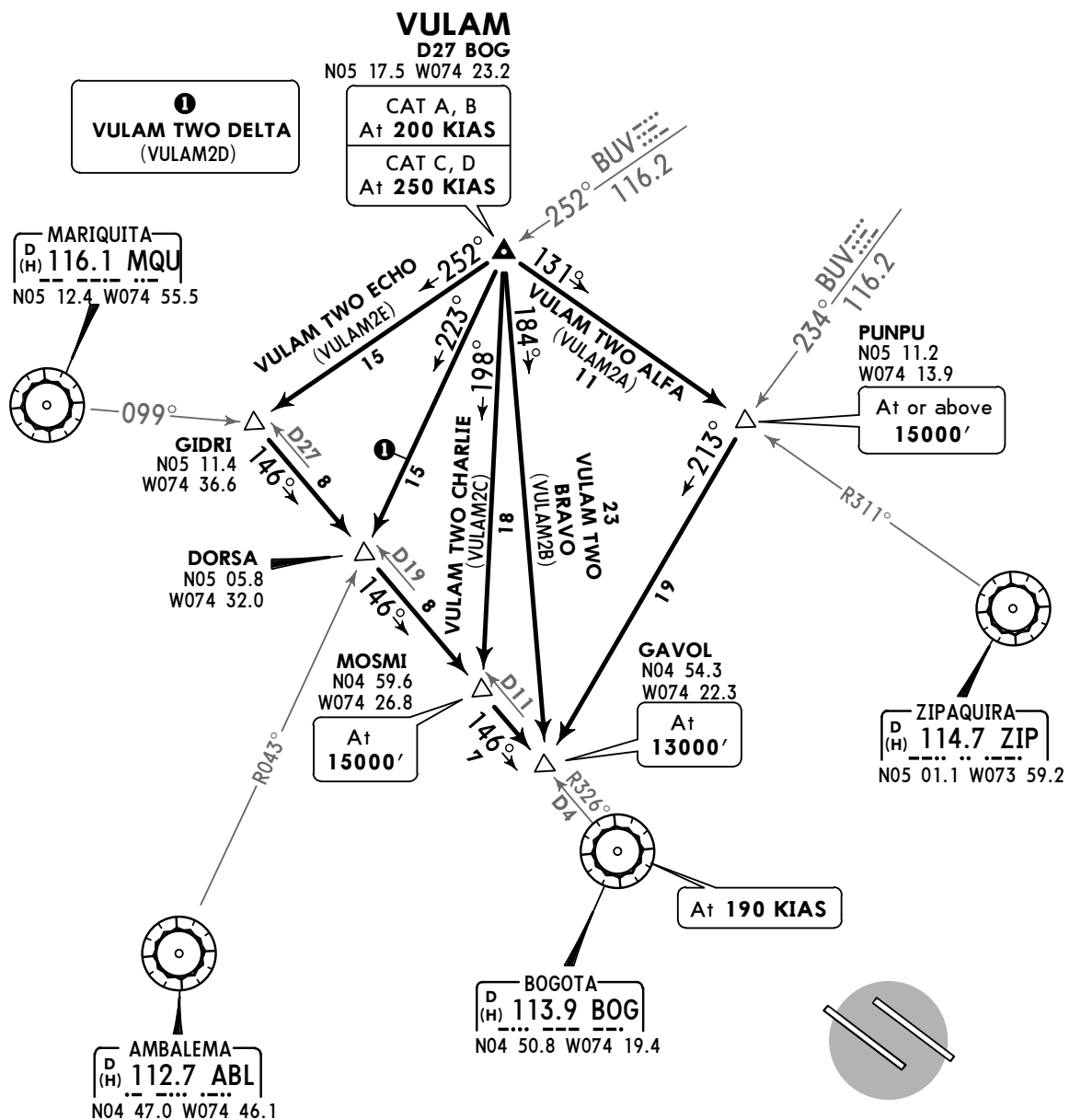
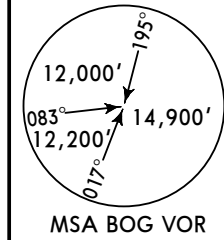
Apt Elev
8360'

Alt set: IN (hPa on req) Trans level: FL190 Trans alt: 18000'

1. VULAM TWO BRAVO, VULAM TWO CHARLIE: **RNAV 1 required** or assigned heading to VULAM and follow the procedure and EXPECT vectors.
2. VULAM TWO ALFA: **RNAV 1 required** or at PUNPU EXPECT vectors to localizer.
3. Adjust speeds per 10-1P.

VULAM TWO ALFA (VULAM2A)[VULA2A],
VULAM TWO BRAVO (VULAM2B)[VULA2B],
VULAM TWO CHARLIE (VULAM2C)[VULA2C],
VULAM TWO DELTA (VULAM2D)[VULA2D],
VULAM TWO ECHO (VULAM2E)[VULA2E]
ARRIVALS

(RWYS 13L/R, 31L/R)



Direct distance from GAVOL to:
Eldorado Intl 18 NM

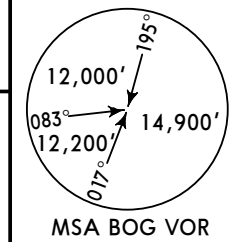


SKBO/BOG
ELDORADO INTL

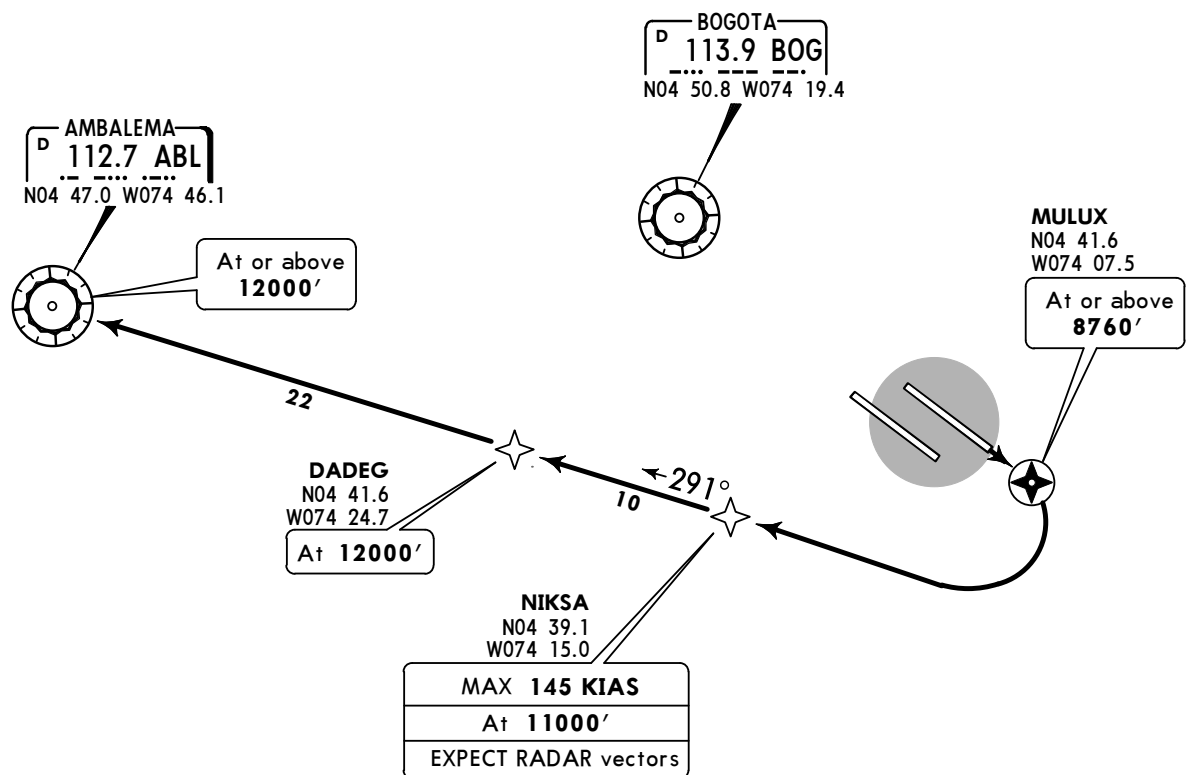
JEPPESEN
12 FEB 16 **(10-3)**

BOGOTA, COLOMBIA
RNAV SID

BOGOTA Departure			Apt Elev 8360'	Trans level: FL190 Trans alt: 18000' RNAV 1 certification required.
North	Central	South		
121.3	119.5	119.95		



AMBALEMA 2F (ABL 2F) [ABL2F]
RNAV (GNSS)
(RWY 13L)
CAT A, B



This SID requires the following minimum climb gradients: MAINTAIN 8.2% until MULUX, then 5.0% to NIKSA.

Gnd speed-KT	75	100	150	200	250	300
5.0% V/V (fpm)	380	506	760	1013	1266	1519
8.2% V/V (fpm)	623	830	1246	1661	2076	2491

INITIAL CLIMB

Climb to 12000'.

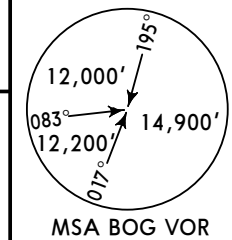
SKBO/BOG
ELDORADO INTL

JEPPESEN
12 FEB 16 **10-3A**

BOGOTA, COLOMBIA

RNAV SID

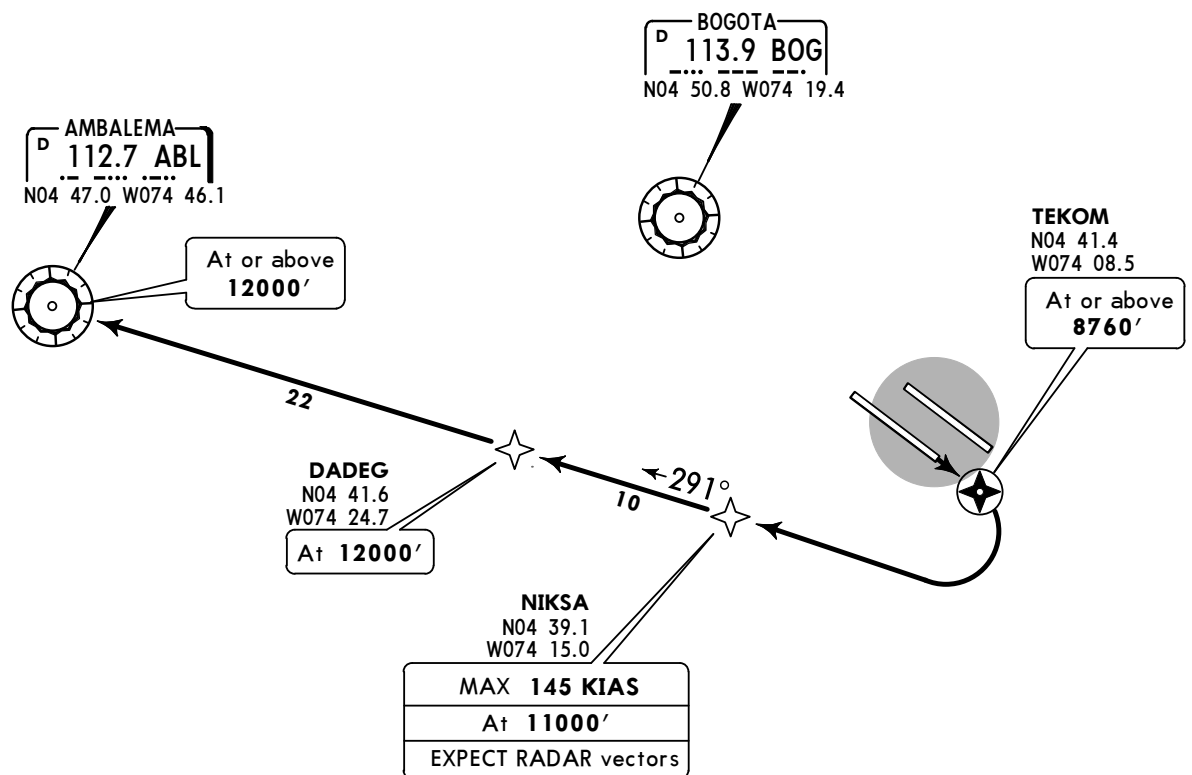
BOGOTA Departure			Apt Elev 8360'	Trans level: FL190 Trans alt: 18000' RNAV 1 certification required.
North	Central	South		
121.3	119.5	119.95		



AMBALEMA 2G (ABL 2G) [ABL2G]

RNAV (GNSS)
(RWY 13R)

CAT A, B



Direct distance from Eldorado Intl to:
TEKOM 1 NM



This SID requires the following minimum climb
gradients: MAINTAIN 8.2% until TEKOM, then
5.0% to NIKSA.

Gnd speed-KT	75	100	150	200	250	300
5.0% V/V (fpm)	380	506	760	1013	1266	1519
8.2% V/V (fpm)	623	830	1246	1661	2076	2491

INITIAL CLIMB

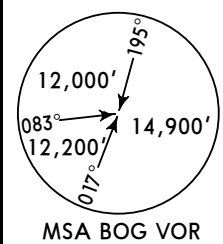
Climb to 12000'.

SKBO/BOG
ELDORADO INTL

JEPPESEN
30 DEC 16 **10-3B** Eff 5 Jan

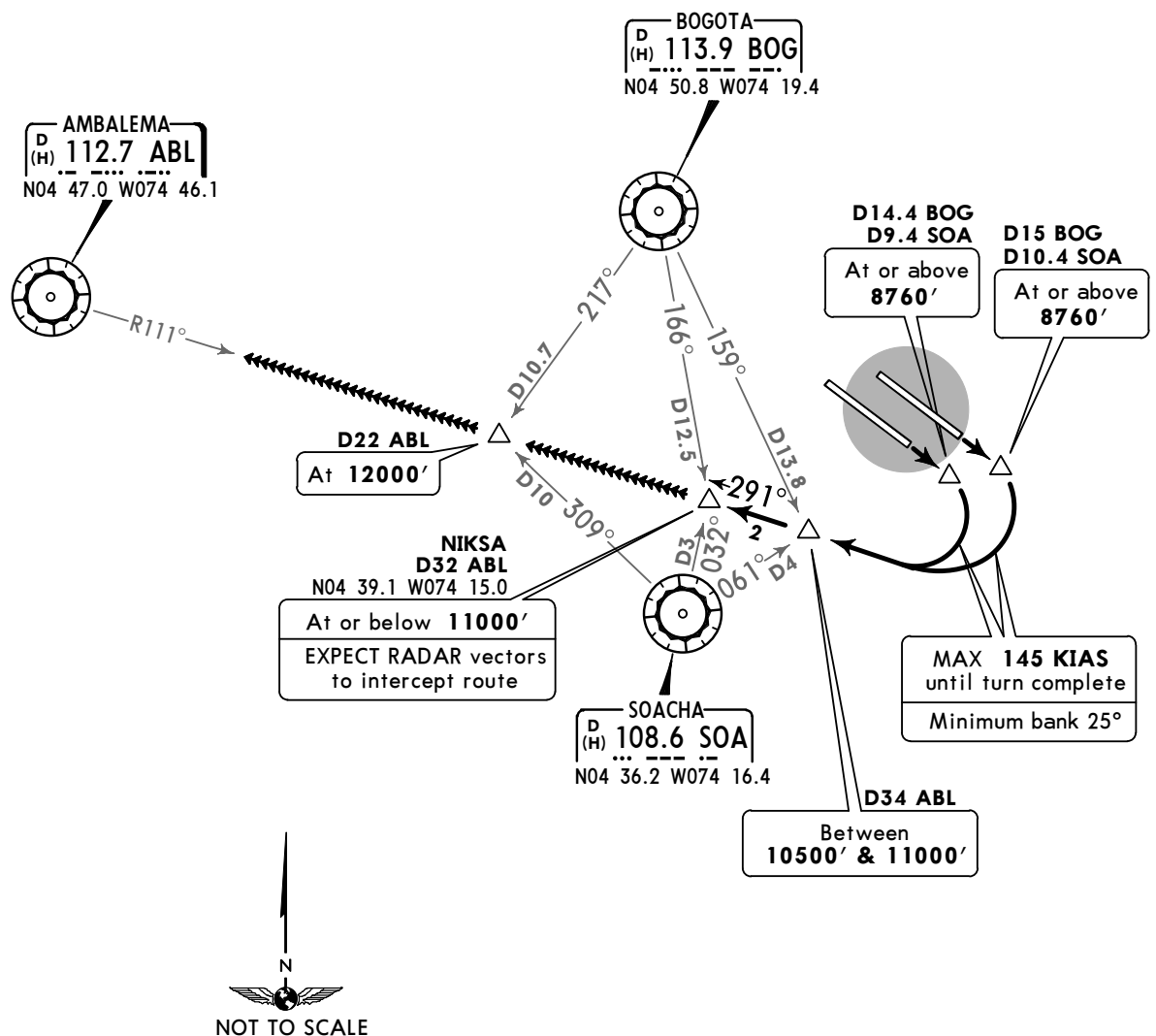
BOGOTA, COLOMBIA

SID

BOGOTA Departure			Apt Elev 8360'	Trans level: FL190 Trans alt: 18000' 1. RADAR required. 2. ABL, BOG and SOA VORs required. 3. ABL5E RWY 13L is only available when RWY 13R is inoperative.	
North	Central	South			
121.3	119.5	119.95			

AMBALEMA FIVE ECHO (ABL 5E) DEPARTURE
(RWYS 13L/R)

CAT A, B



This SID requires the following minimum climb gradients:
MAINTAIN 8.2% until turn complete on bearing 291°, then 5.0% to 11000'.

Gnd speed-KT	75	100	150	200	250	300
5.0% V/V (fpm)	380	506	760	1013	1266	1519
8.2% V/V (fpm)	623	830	1246	1661	2076	2491

INITIAL CLIMB

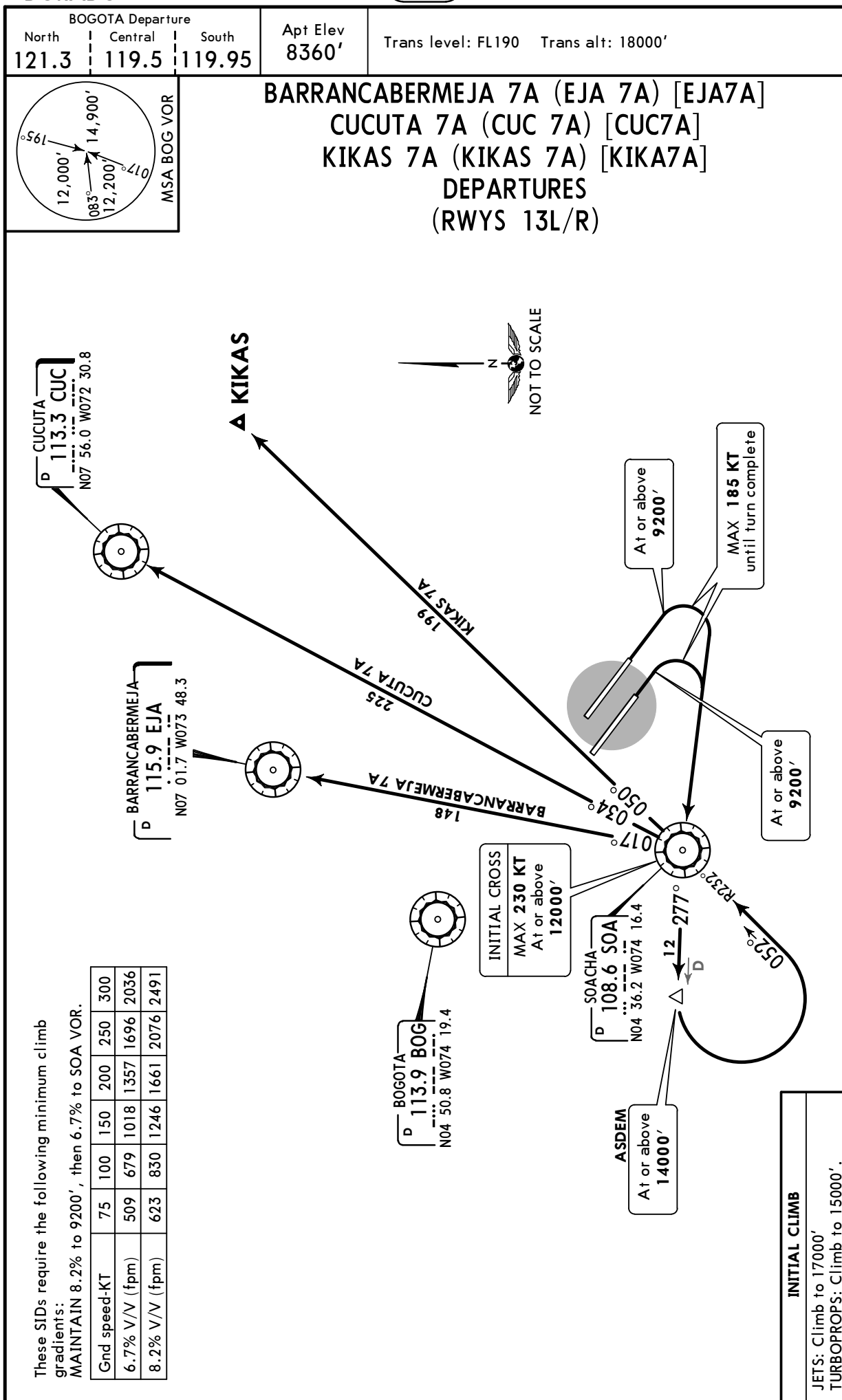
JETS: Climb to 12000'.
TURBOPROPS: Climb to 12000'.

SKBO/BOG
ELDORADO INTL

JEPPESEN
30 DEC 16 **10-3C** Eff 5 Jan

BOGOTA, COLOMBIA

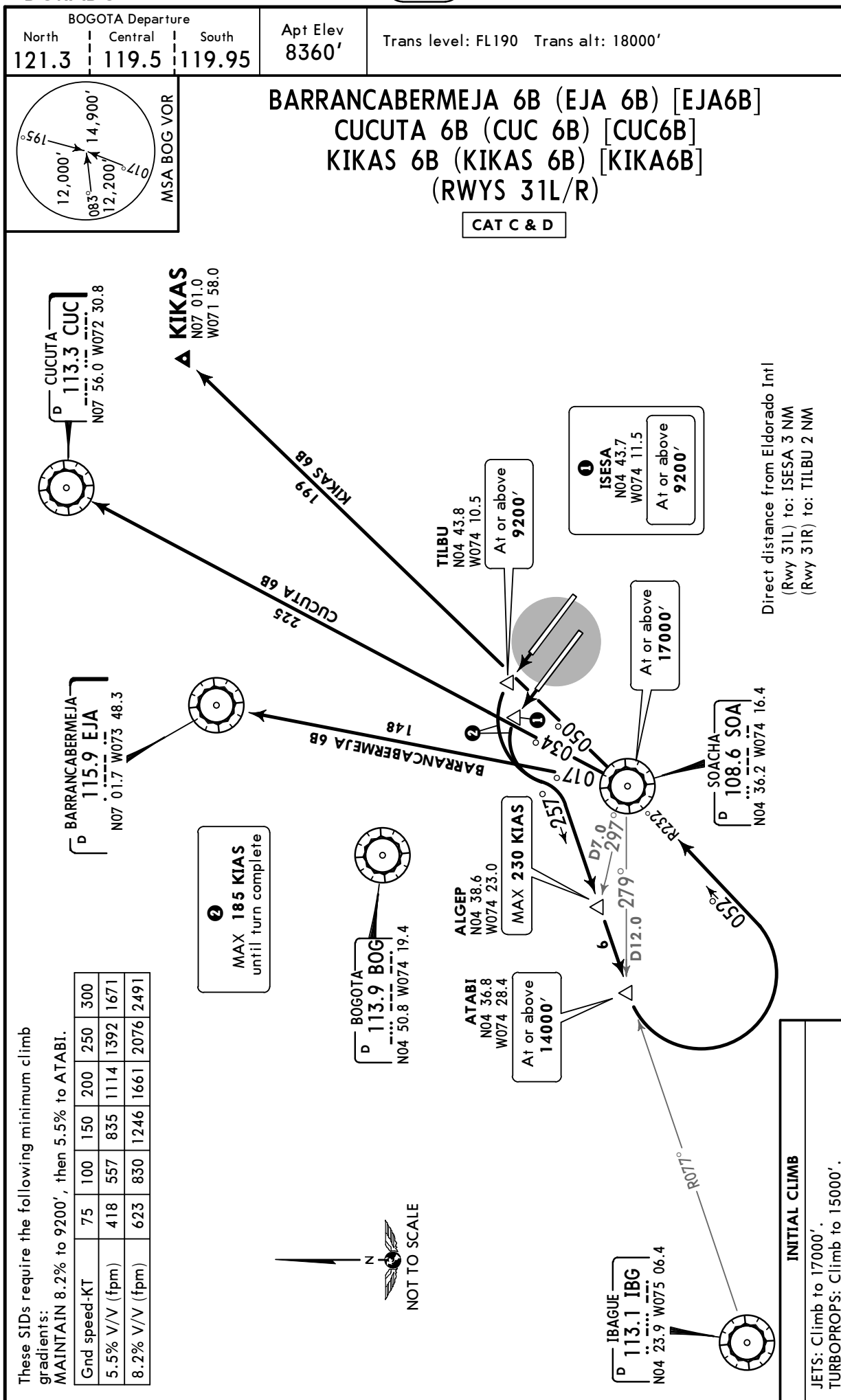
SID



SKBO/BOG
ELDORADO INTL

JEPPesen
22 APR 16 **(10-3D)** **Eff 28 Apr**

BOGOTA, COLOMBIA
SID



SKBO/BOG
ELDORADO INTL

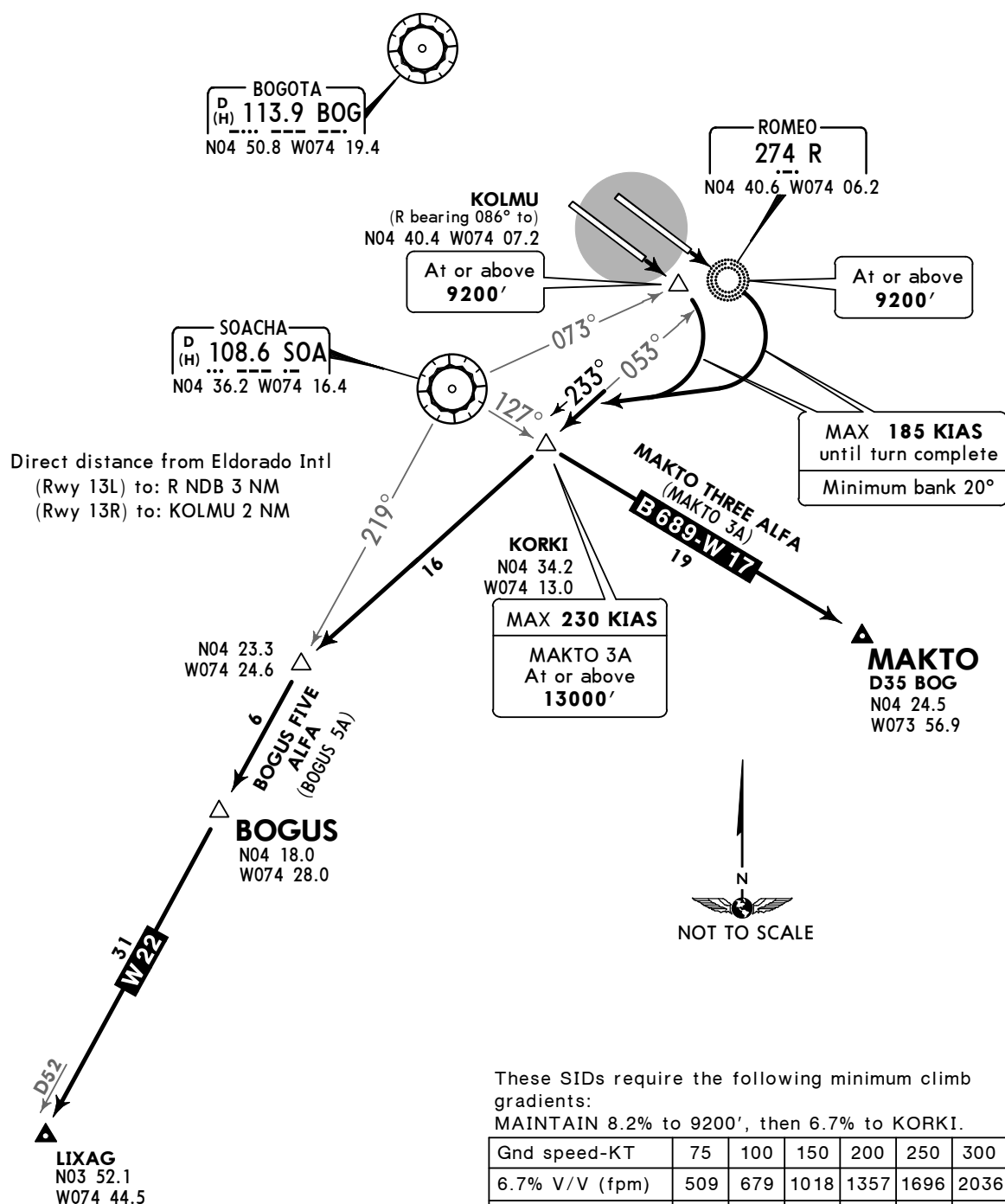
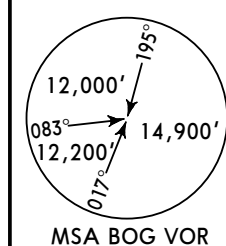
JEPPESSEN
22 APR 16 (10-3E) Eff 28 Apr

BOGOTA, COLOMBIA

SID

BOGOTA Departure			Apt Elev 8360'	Trans level: FL190 Trans alt: 18000' If it is not possible to comply with MAKTO THREE ALFA climb gradient proceed via BOGUS FIVE ALFA until leaving 15000' then EXPECT RADAR vectors to MAKTO.
North	Central	South		
121.3	119.5	119.95		

**BOGUS FIVE ALFA (BOGUS 5A) [BOGU5A],
MAKTO THREE ALFA (MAKTO 3A) [MAKT3A]
DEPARTURES
(RWYS 13L/R)**



These SIDs require the following minimum climb gradients:
MAINTAIN 8.2% to 9200', then 6.7% to KORKI.

Gnd speed-KT	75	100	150	200	250	300
6.7% V/V (fpm)	509	679	1018	1357	1696	2036
8.2% V/V (fpm)	623	830	1246	1661	2076	2491

SID	INITIAL CLIMB
BOGUS FIVE ALFA	JETS: Climb to 18000'. TURBOPROPS: Climb to 16000'.
MAKTO THREE ALFA	JETS: Climb to 16000'. TURBOPROPS: Climb to 16000'.

SKBO/BOG
ELDORADO INTL



JEPPESEN

6 NOV 15

(10-3F)

Eff 12 Nov

BOGOTA, COLOMBIA

SID

BOGOTA Departure

North121.3Central119.5South119.95

Apt Elev8360'

Trans level: FL190
Trans alt: 18000'

12,000'

083°

12,200'

017°

195°

14,900'

MSA BOG VOR

BOGUS FIVE BRAVO (BOGUS 5B) [BOGU5B],
KAMIS FIVE BRAVO (KAMIS 5B) [KAMI5B],
MAKTO THREE BRAVO (MAKTO 3B) [MAKT3B],
ZIAPAQUIRA FIVE JULIET (ZIP 5J) [ZIP5J]
DEPARTURES
(RWYS 31L/R)

NOT TO SCALE

1

ISESA
N04 43.7
W074 11.5
At or above
9200'

BOGOTA
D (H) 113.9 BOG
N04 50.8 W074 19.4

MAX 185 KIAS
until turn complete

1

TILBU
N04 43.8
W074 10.5
At or above
9200'

MAX 230 KIAS
At or above
13000'

SOACHA
D (H) 108.6 SOA
N04 36.2 W074 16.4

ZIAPAQUIRA FIVE JULIET
(ZIP 5J)
22
At or above
15000'

ROMEO
274 R
N04 40.6 W074 06.2

KAMIS
N04 21.9
W074 37.0
18 TO GIR VOR
N04 11.5 W074 52.0

BOGUS
N04 18.0
W074 28.0

MAKTO
N04 24.5
W074 56.9

Direct distance from Eldorado Intl
(Rwy 31L) to: ISESA 3 NM
(Rwy 31R) to: TILBU 2 NM

These SIDs require the following minimum climb
gradients:
BOGUS FIVE BRAVO, KAMIS FIVE BRAVO
and ZIAPAQUIRA FIVE JULIET:
MAINTAIN 8.2% to SOA VOR.
MAKTO THREE BRAVO: MAINTAIN 8.2% to 14000'.

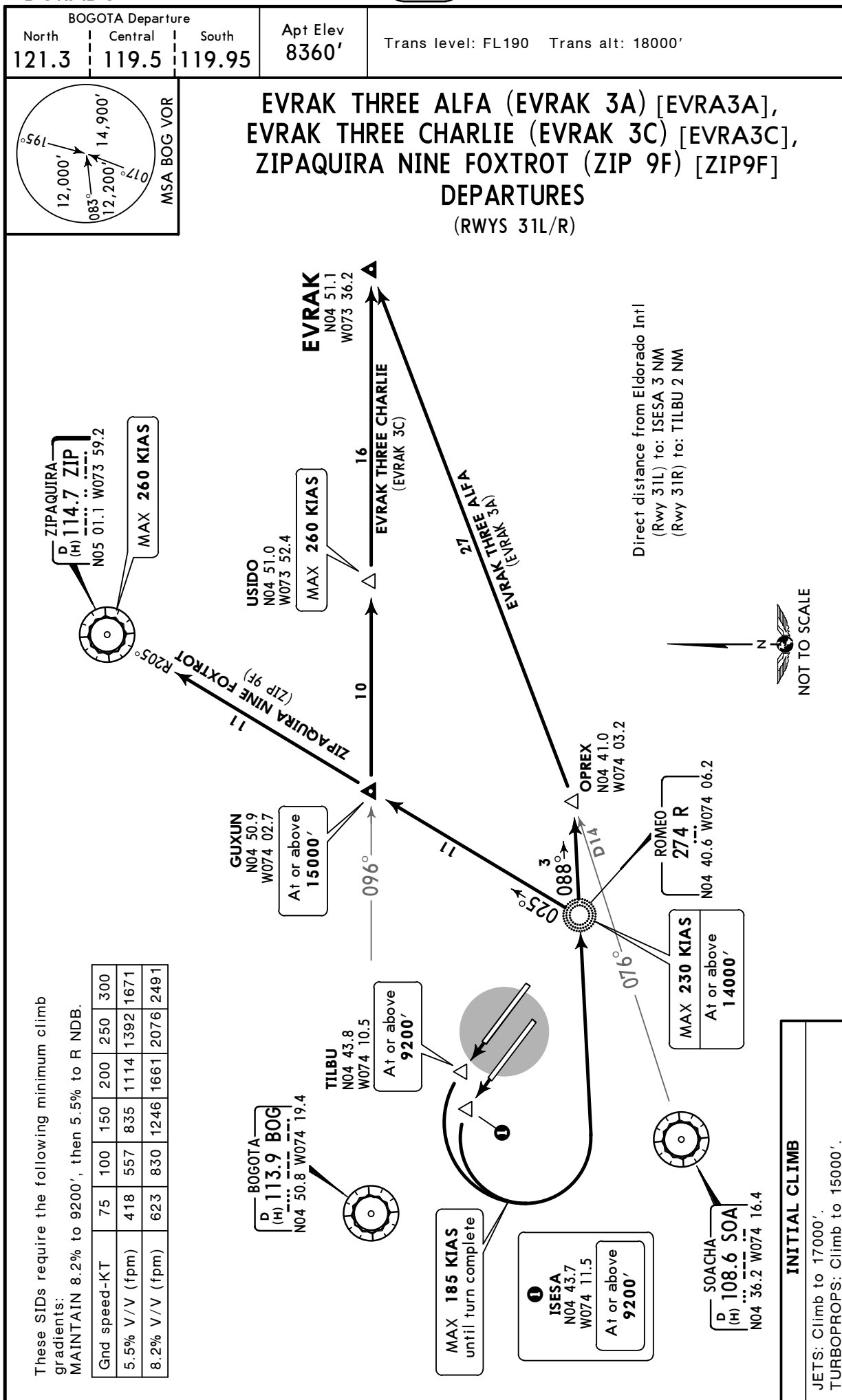
Gnd speed-KT	75	100	150	200	250	300
5.5% V/V (fpm)	418	557	835	1114	1392	1671
8.2% V/V (fpm)	623	830	1246	1661	2076	2491

SKBO/BOG
ELDORADO INTL

JEPPESSEN
6 NOV 15 **10-3G** **Eff 12 Nov**

BOGOTA, COLOMBIA

SID



These SIDs require the following minimum climb gradients:
MAINTAIN 8.2% to 9200', then 5.5% to R NDB.

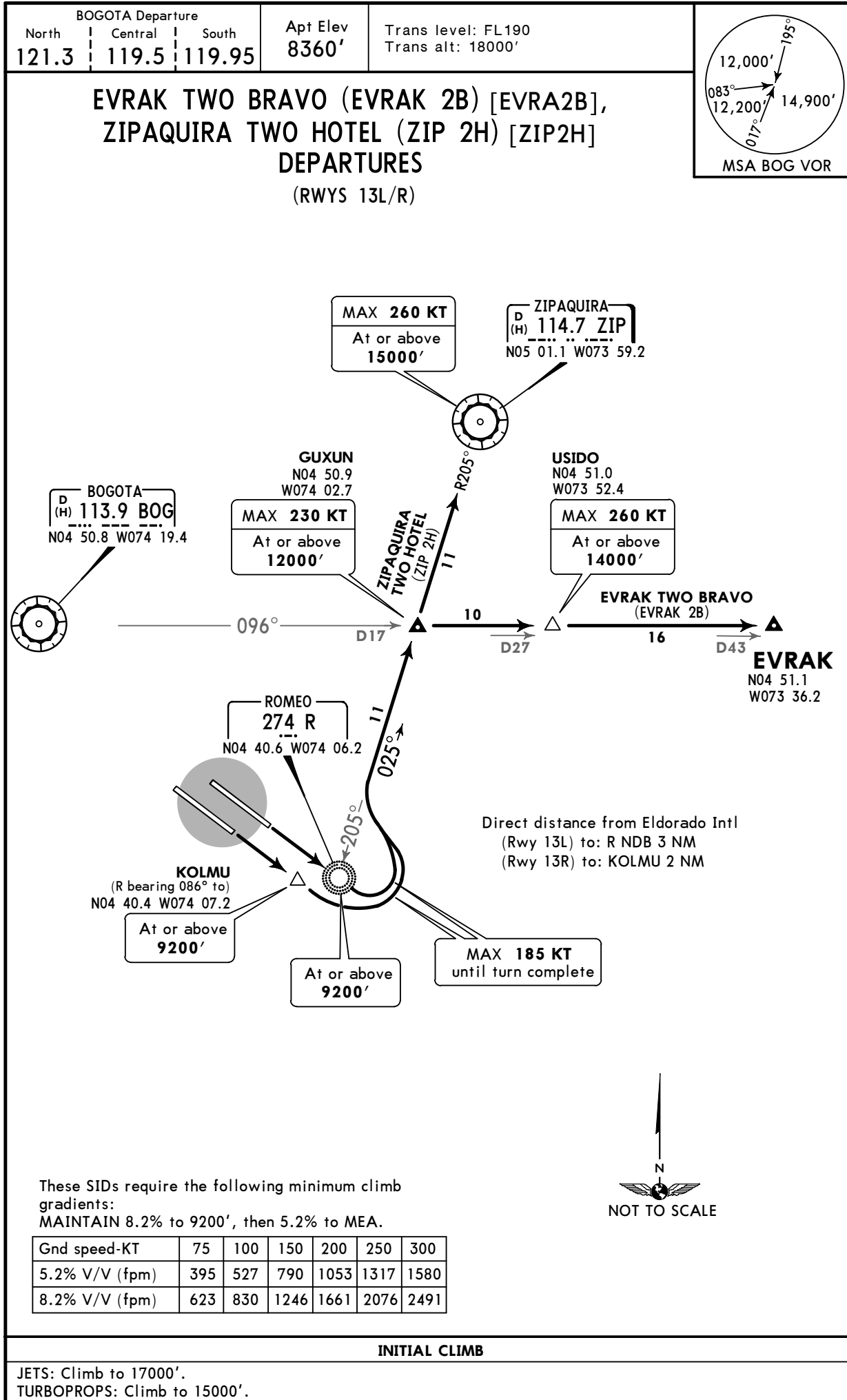
Gnd speed-KT	75	100	150	200	250	300
5.5% V/V (fpm)	418	557	835	1114	1392	1671
8.2% V/V (fpm)	623	830	1246	1661	2076	2491

SKBO/BOG
ELDORADO INTL

JEPPESEN
30 DEC 16 **(10-3H)** Eff 5 Jan

BOGOTA, COLOMBIA

SID



SKBO/BOG
ELDORADO INTL

JEPPESEN

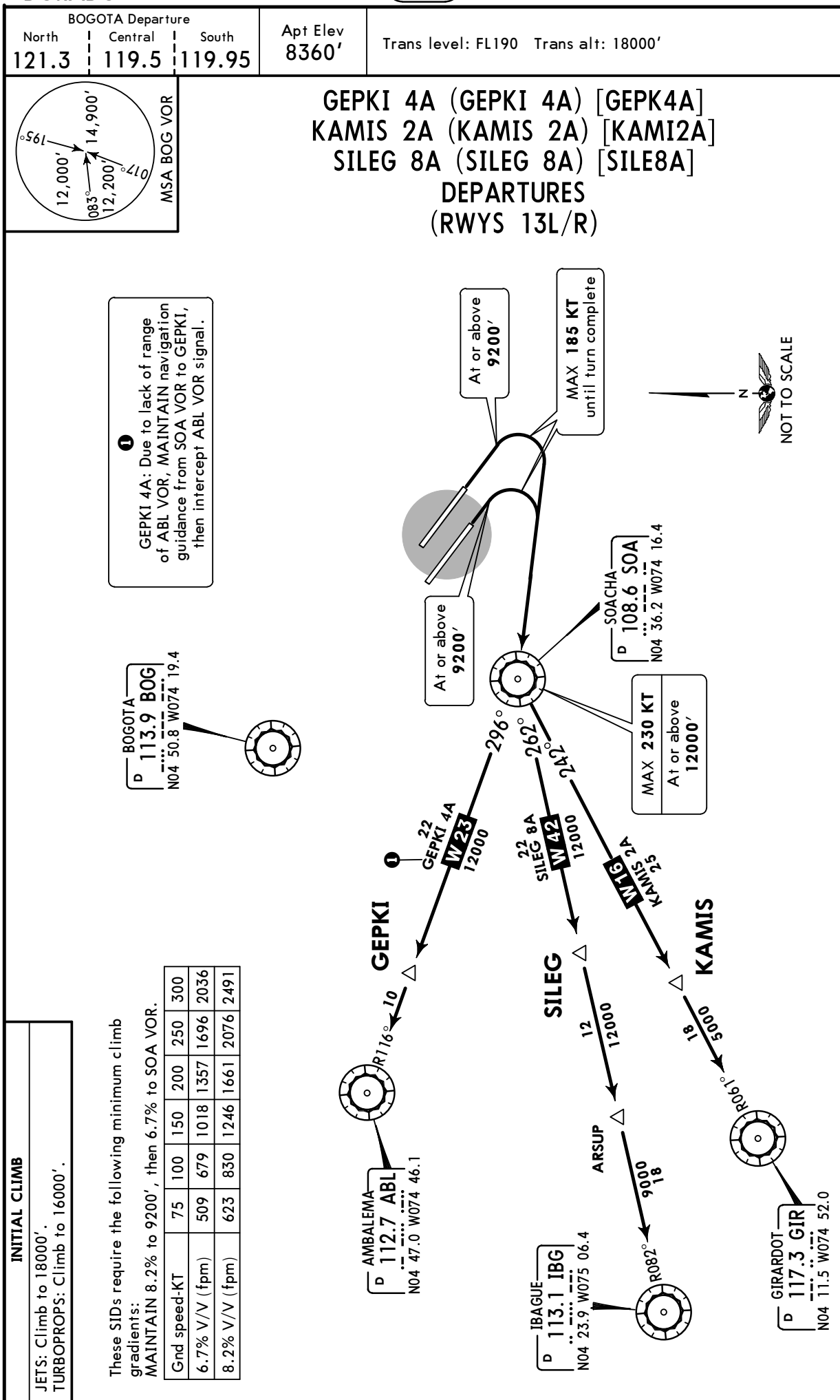
30 DEC 16

(10-3J)

Eff 5 Jan

BOGOTA, COLOMBIA

SID

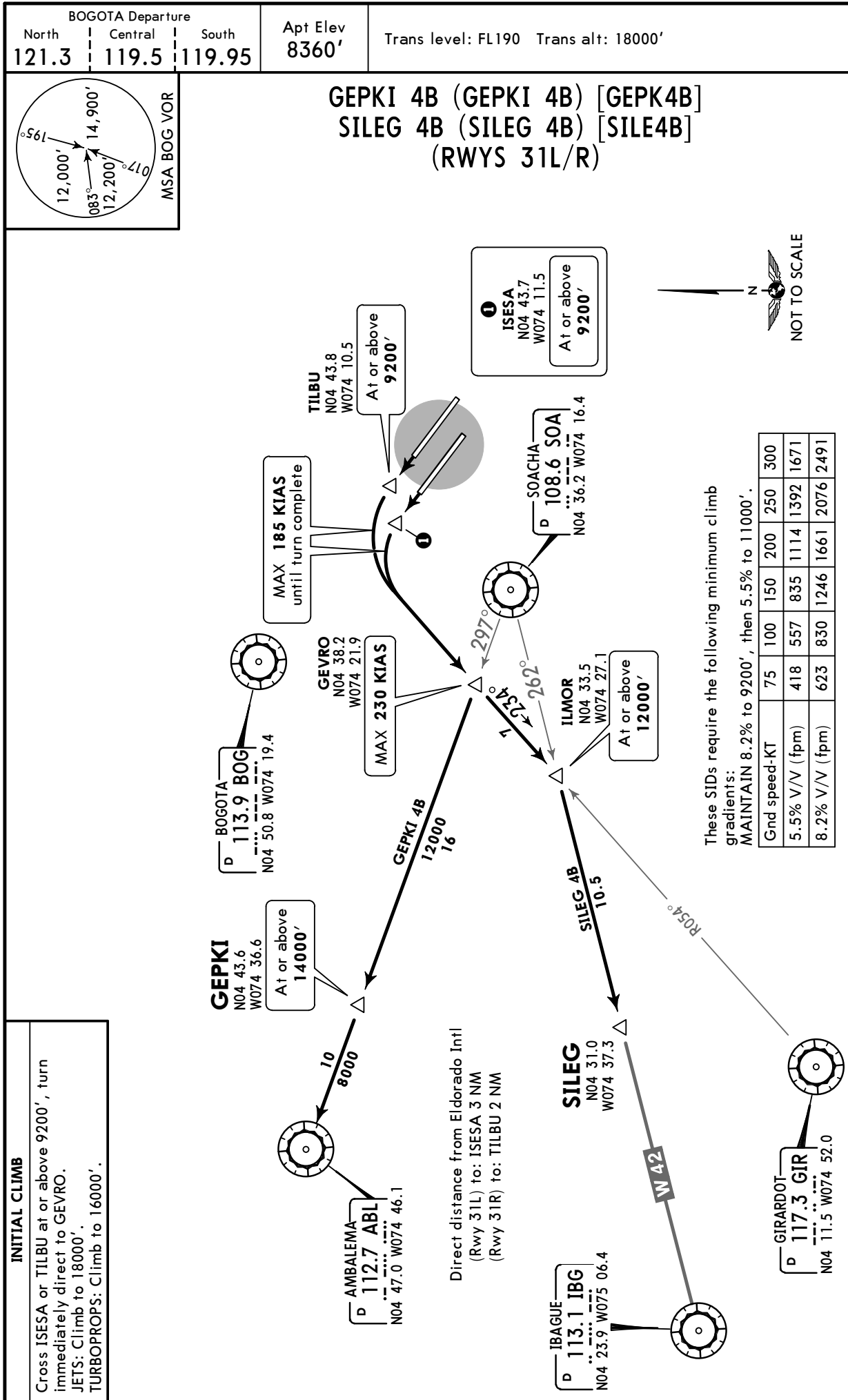


SKBO/BOG
ELDORADO INTL

JEPPESSEN
22 APR 16 **10-3K** Eff 28 Apr

BOGOTA, COLOMBIA

SID

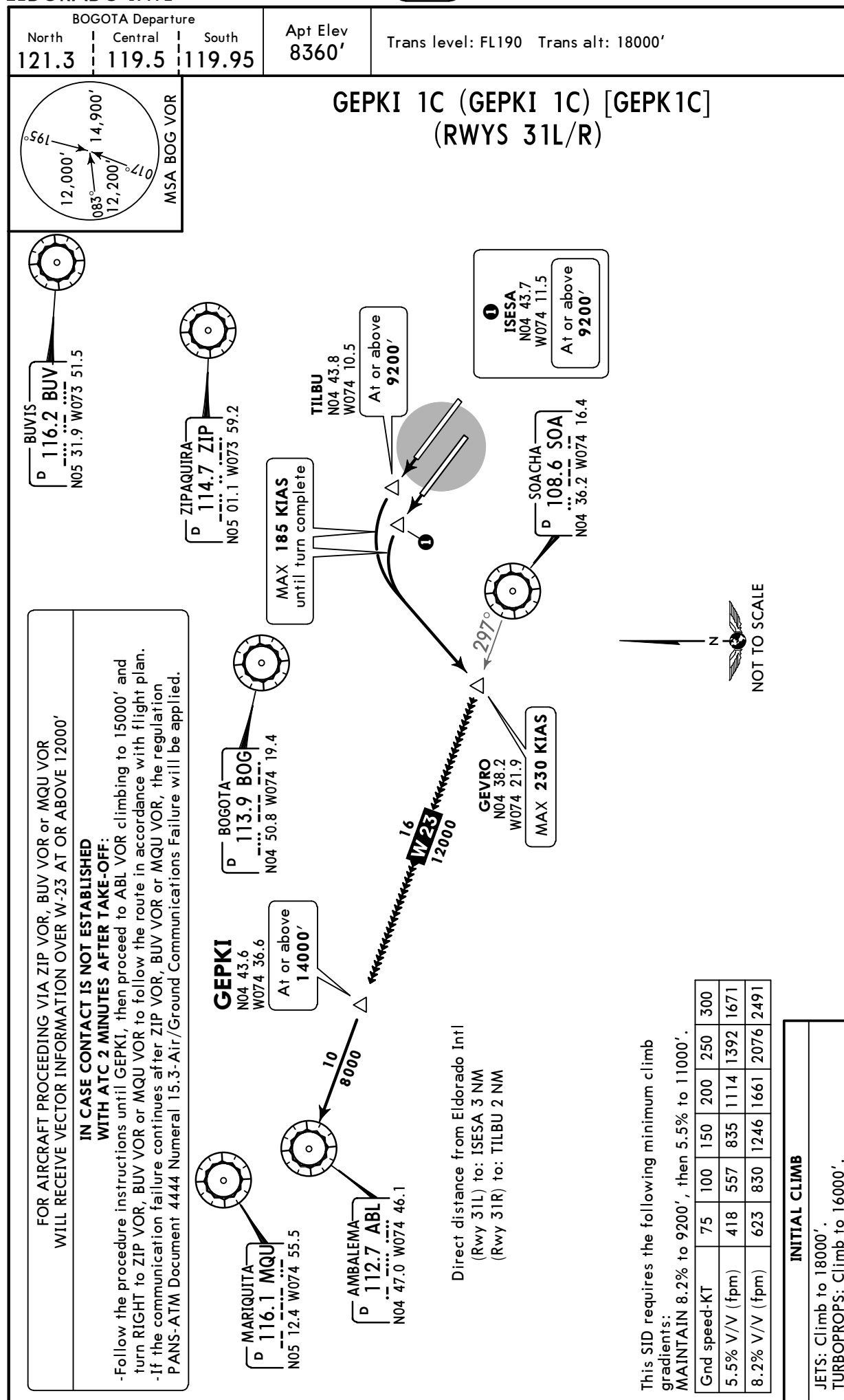


SKBO/BOG
ELDORADO INTL

JEPPESEN
22 APR 16 10-3L Eff 28 Apr

BOGOTA, COLOMBIA

SID

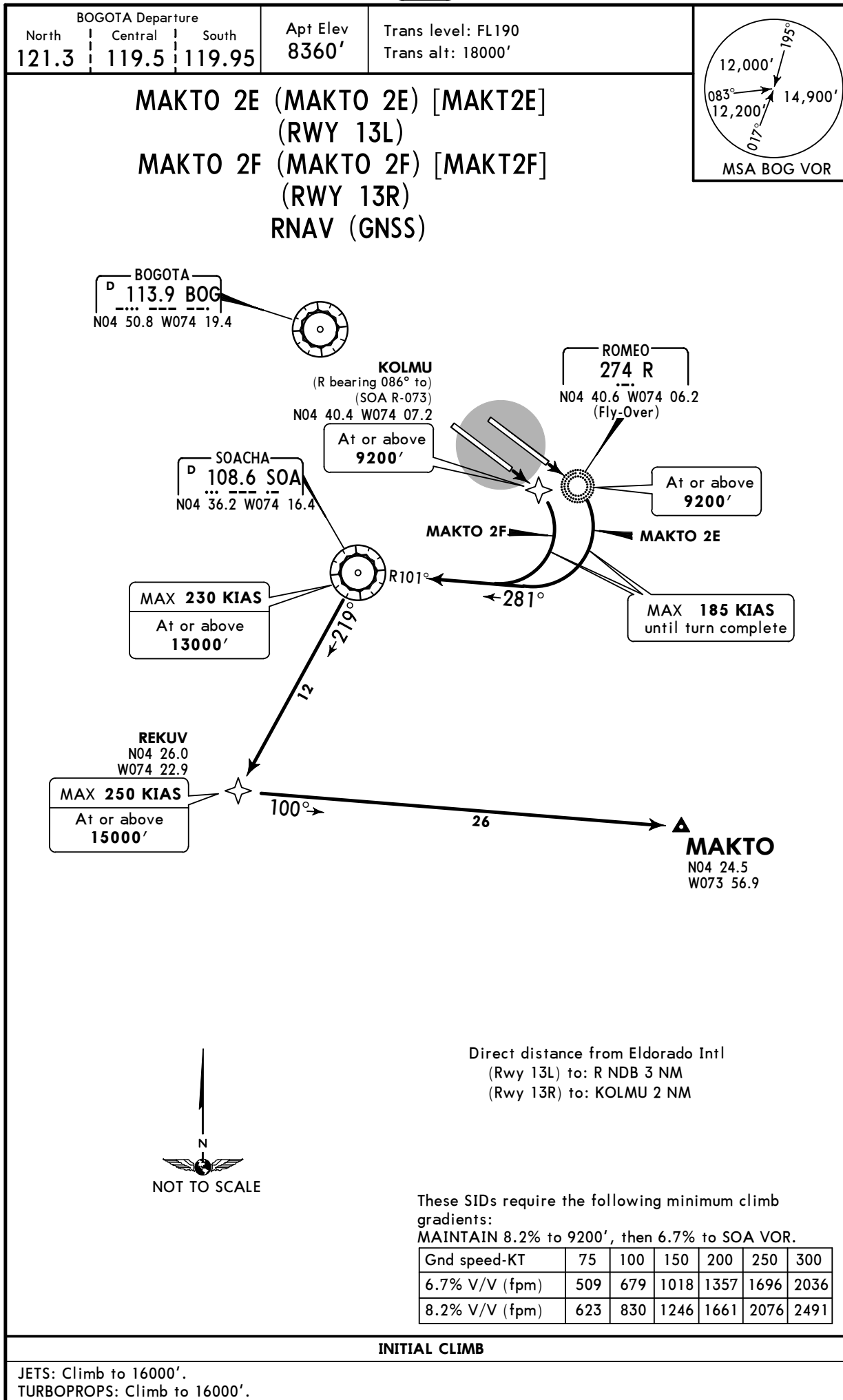


SKBO/BOG
ELDORADO INTL

JEPPESEN
22 APR 16 **(10-3M)** Eff 28 Apr

BOGOTA, COLOMBIA

RNAV SID



Direct distance from Eldorado Intl
(Rwy 13L) to: R NDB 3 NM
(Rwy 13R) to: KOLMU 2 NM

These SIDs require the following minimum climb gradients:
MAINTAIN 8.2% to 9200', then 6.7% to SOA VOR.

Gnd speed-KT	75	100	150	200	250	300
6.7% V/V (fpm)	509	679	1018	1357	1696	2036
8.2% V/V (fpm)	623	830	1246	1661	2076	2491

INITIAL CLIMB

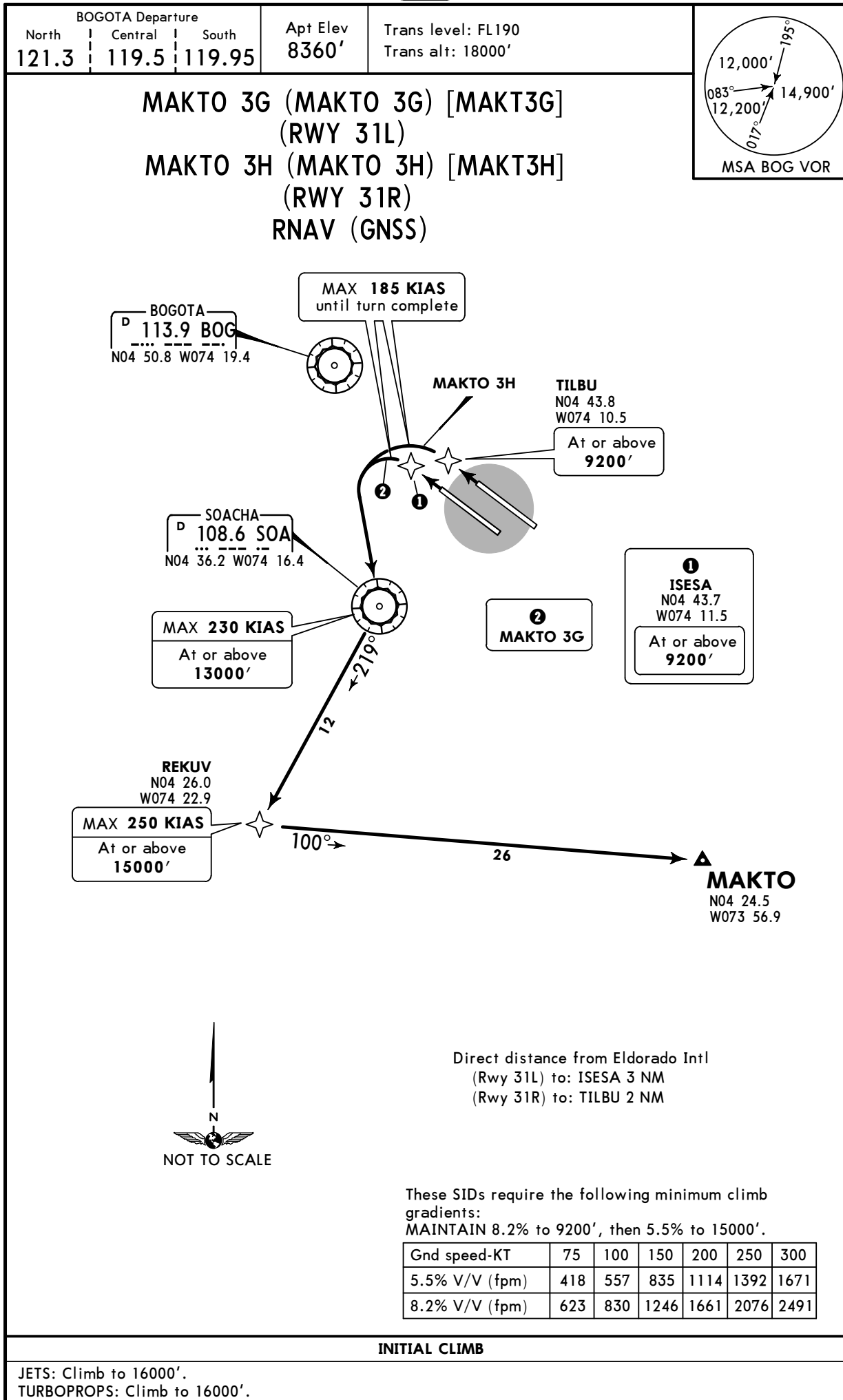
JETS: Climb to 16000'.
TURBOPROPS: Climb to 16000'.

SKBO/BOG
ELDORADO INTL

JEPPESEN
22 APR 16 **(10-3N)** Eff 28 Apr

BOGOTA, COLOMBIA

RNAV SID



SKBO/BOG
ELDORADO INTL

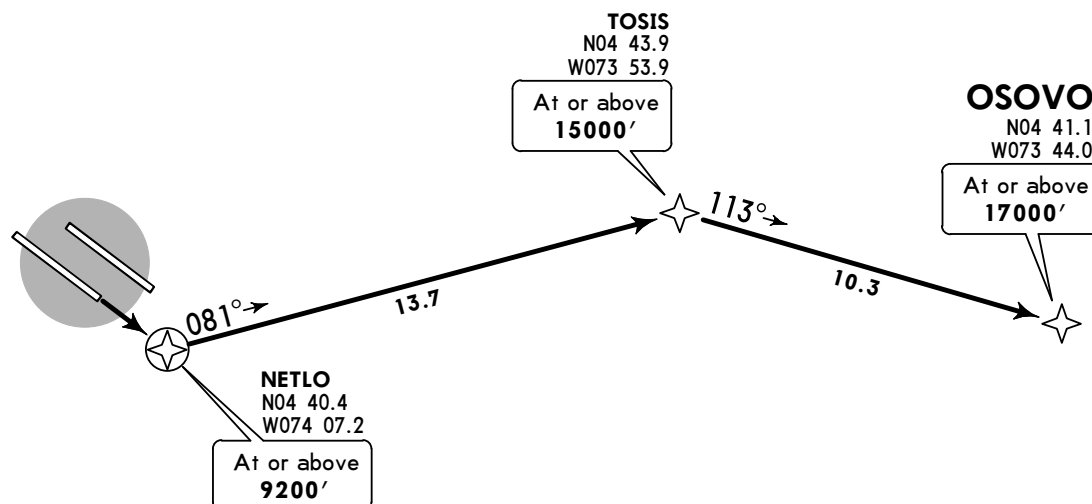
JEPPESEN
22 APR 16 **(10-3P)** **Eff 28 Apr**

BOGOTA, COLOMBIA
RNAV SID

BOGOTA Departure			Apt Elev 8360'	Trans level: FL190 Trans alt: 18000' 1. RNAV 1 certification required. 2. GNSS only.
North	Central	South		
121.3	119.5	119.95		

OSOVO 3A (OSOVO 3A) [OSOV3A]
RNAV (GNSS)
(RWY 13R)

CAT A, B



Direct distance from Eldorado Intl to:
NETLO 2 NM



This SID requires the following minimum climb
gradients: MAINTAIN 8.2% until NETLO, then
7.3% to TOSIS.

Gnd speed-KT	75	100	150	200	250	300
7.3% V/V (fpm)	554	739	1109	1479	1848	2218
8.2% V/V (fpm)	623	830	1246	1661	2076	2491

INITIAL CLIMB

Climb to 17000'.

SKBO/BOG
ELDORADO INTL

JEPPESEN
22 APR 16 **(10-3Q)** **Eff 28 Apr**

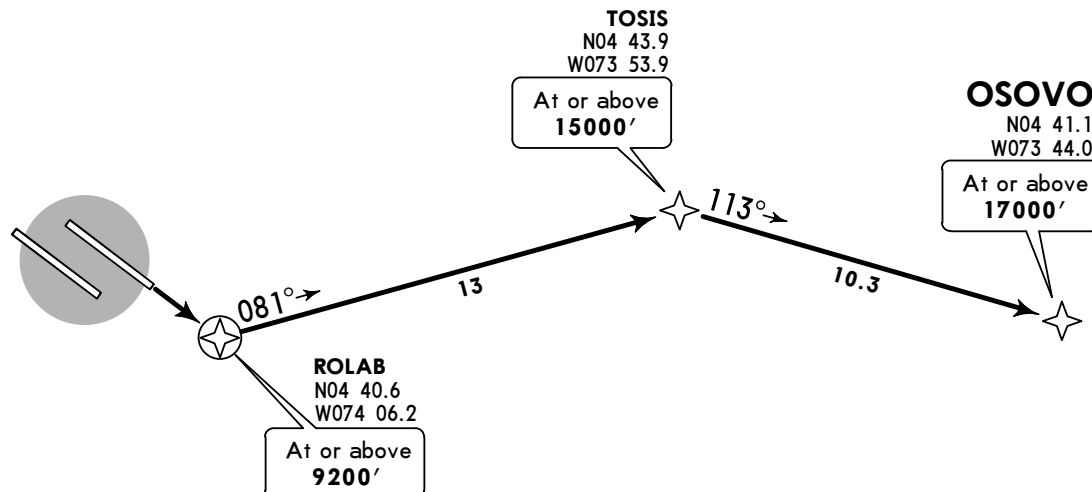
BOGOTA, COLOMBIA
RNAV SID

BOGOTA Departure			Apt Elev 8360'	Trans level: FL190 Trans alt: 18000' 1. RNAV 1 certification required. 2. GNSS only.
North	Central	South		
121.3	119.5	119.95		

OSOVO THREE BRAVO (OSOVO 3B)[OSOV3B]
RNAV (GNSS) DEPARTURE

(RWY 13L)

CAT A, B



Direct distance from Eldorado Intl to:
ROLAB 3 NM



This SID requires the following minimum climb gradients: MAINTAIN 8.2% until ROLAB, then 7.4% until reaching 15000'.

Gnd speed-KT	75	100	150	200	250	300
7.4% V/V (fpm)	562	749	1124	1499	1873	2248
8.2% V/V (fpm)	623	830	1246	1661	2076	2491

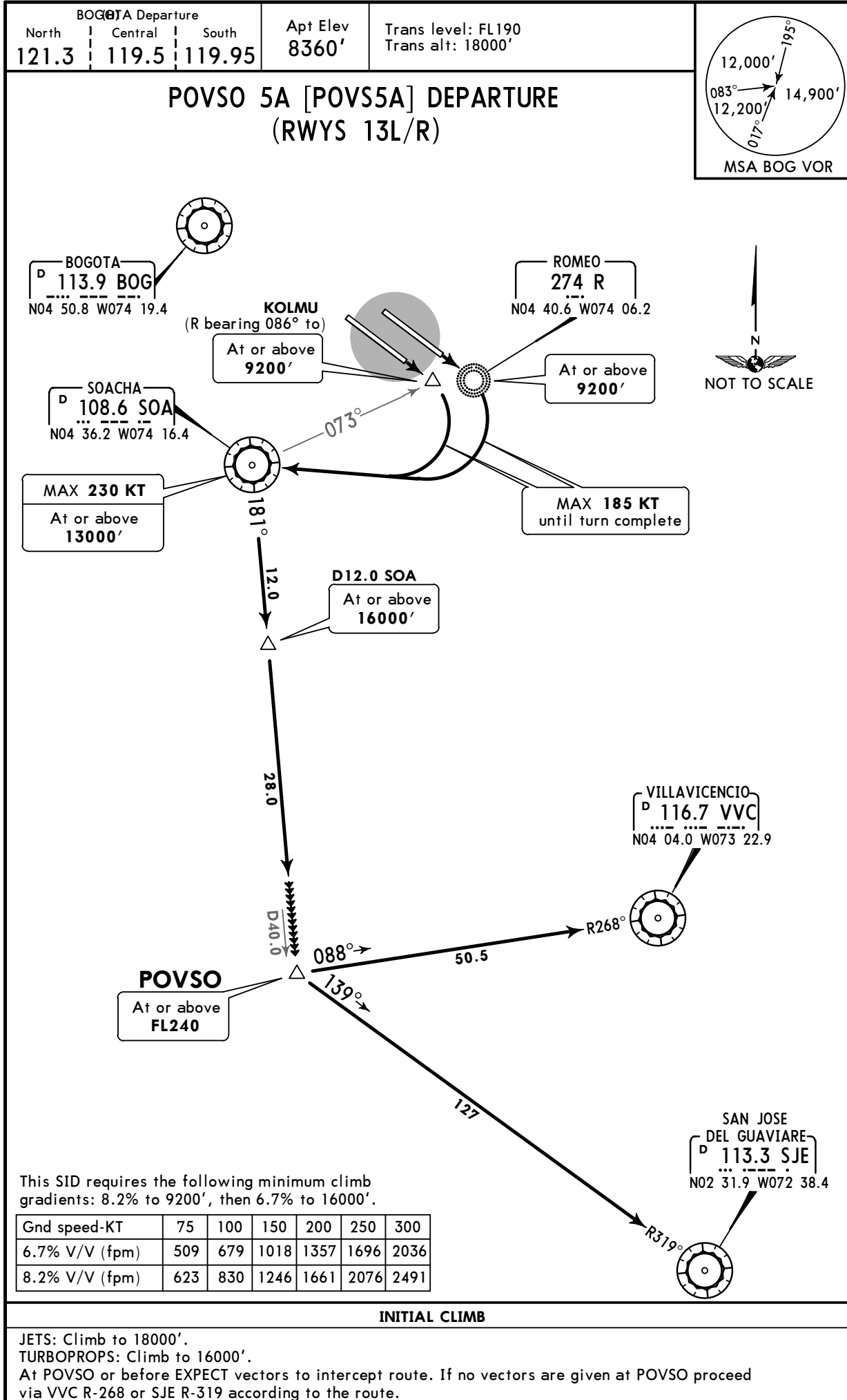
INITIAL CLIMB

Climb to 17000'.

SKBO/BOG
ELDORADO INTL

JEPPesen
24 MAR 17 **(10-3S)**

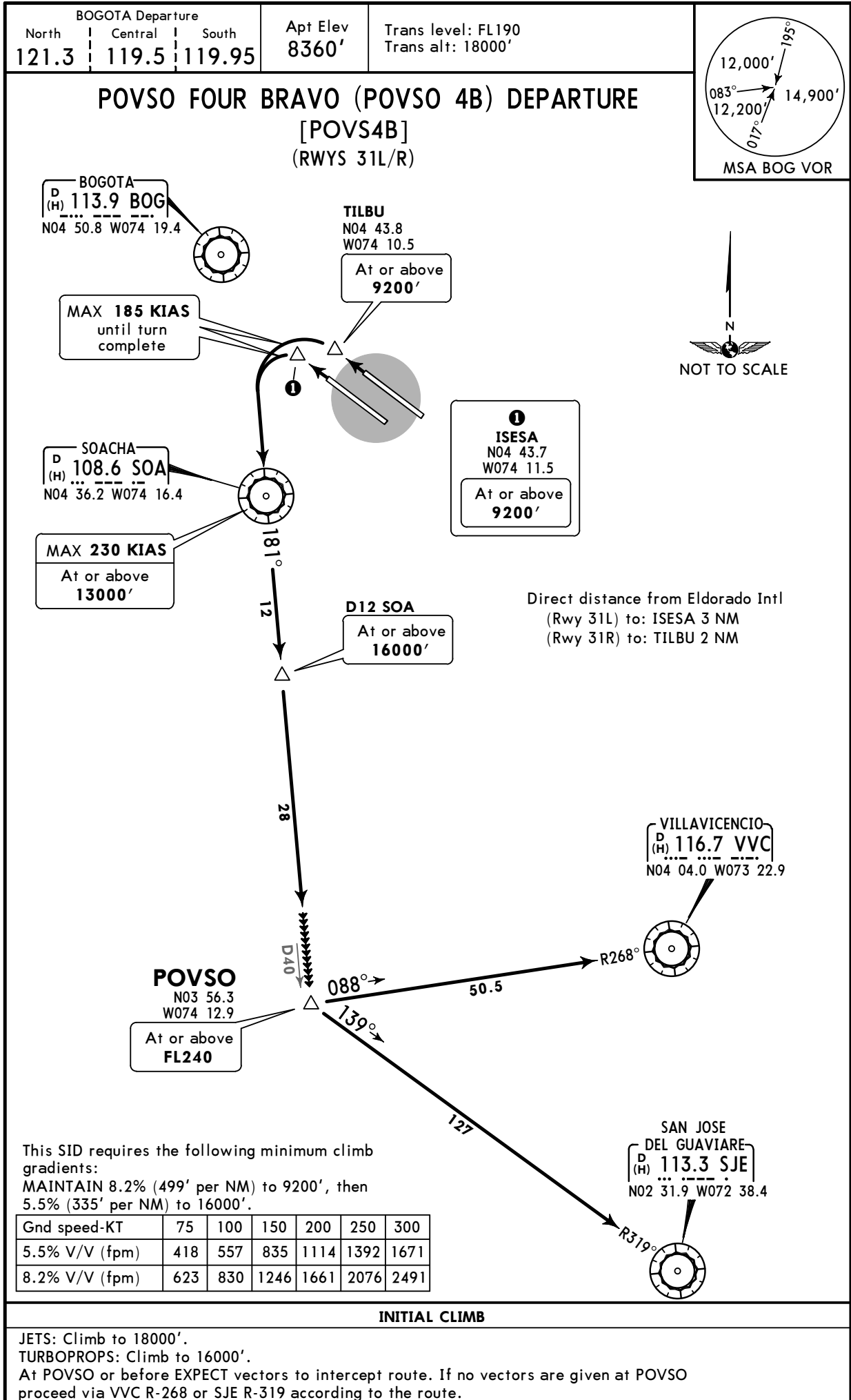
BOGOTA, COLOMBIA
SID



SKBO/BOG
ELDORADO INTL

JEPPesen
24 MAR 17 **(10-3T)**

BOGOTA, COLOMBIA
SID



SKBO/BOG
ELDORADO INTL

JEPPESEN

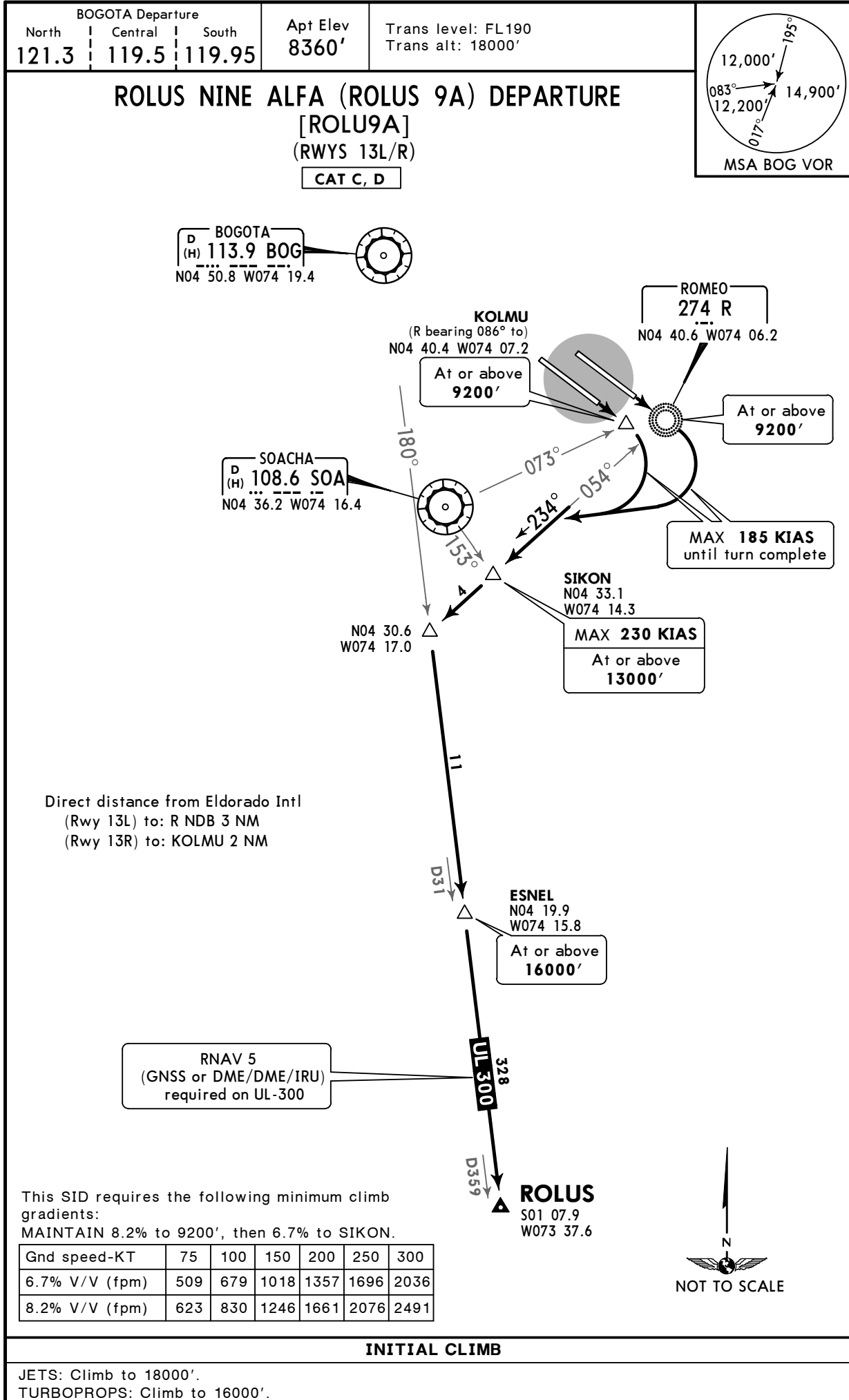
22 APR 16

(10-3U)

Eff 28 Apr

BOGOTA, COLOMBIA

SID



SKBO/BOG
ELDORADO INTL

JEPPESEN

22 APR 16

(10-3V)

Eff 28 Apr

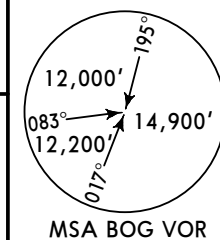
BOGOTA, COLOMBIA

SID

BOGOTA Departure		
North	Central	South
121.3	119.5	119.95

Apt Elev
8360'

Trans level: FL190
Trans alt: 18000'

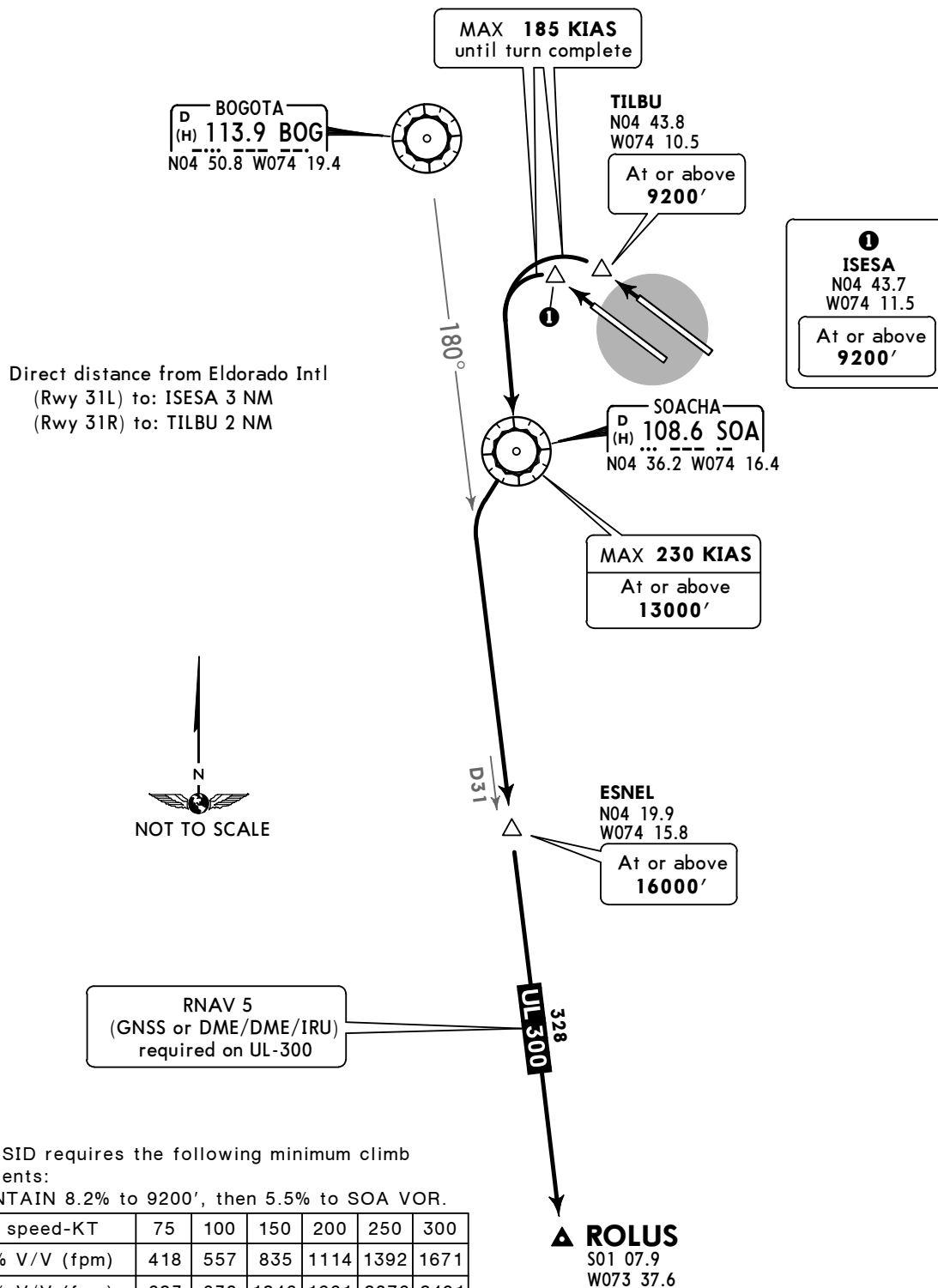


ROLUS NINE BRAVO (ROLUS 9B) DEPARTURE

[ROLU9B]

(RWYS 31L/R)

CAT C, D



This SID requires the following minimum climb gradients:
MAINTAIN 8.2% to 9200', then 5.5% to SOA VOR.

Gnd speed-KT	75	100	150	200	250	300
5.5% V/V (fpm)	418	557	835	1114	1392	1671
8.2% V/V (fpm)	623	830	1246	1661	2076	2491

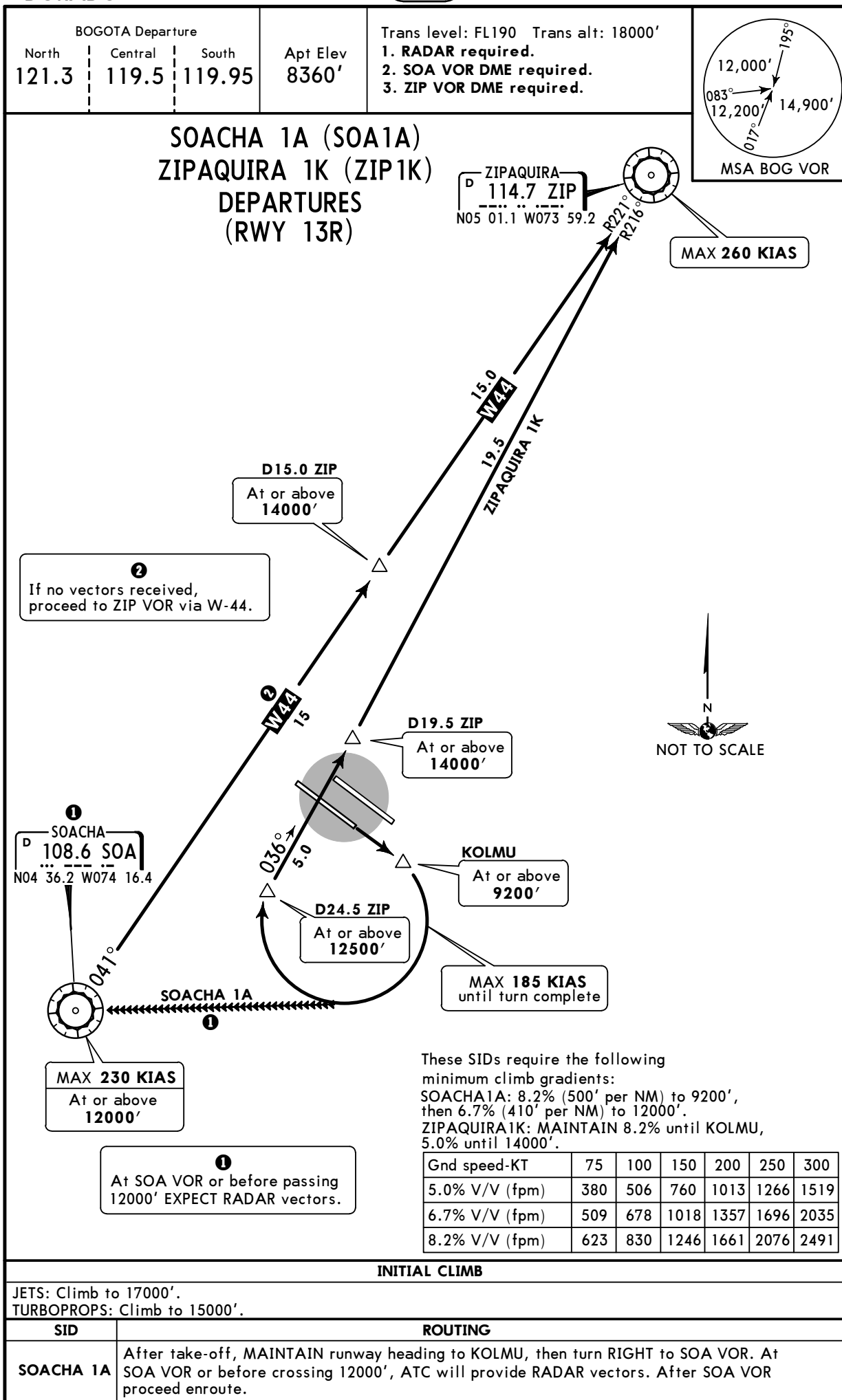
INITIAL CLIMB

JETS: Climb to 18000'.
TURBOPROPS: Climb to 16000'.

SKBO/BOG
ELDORADO INTL

JEPPesen
10 FEB 17 **(10-3W)**

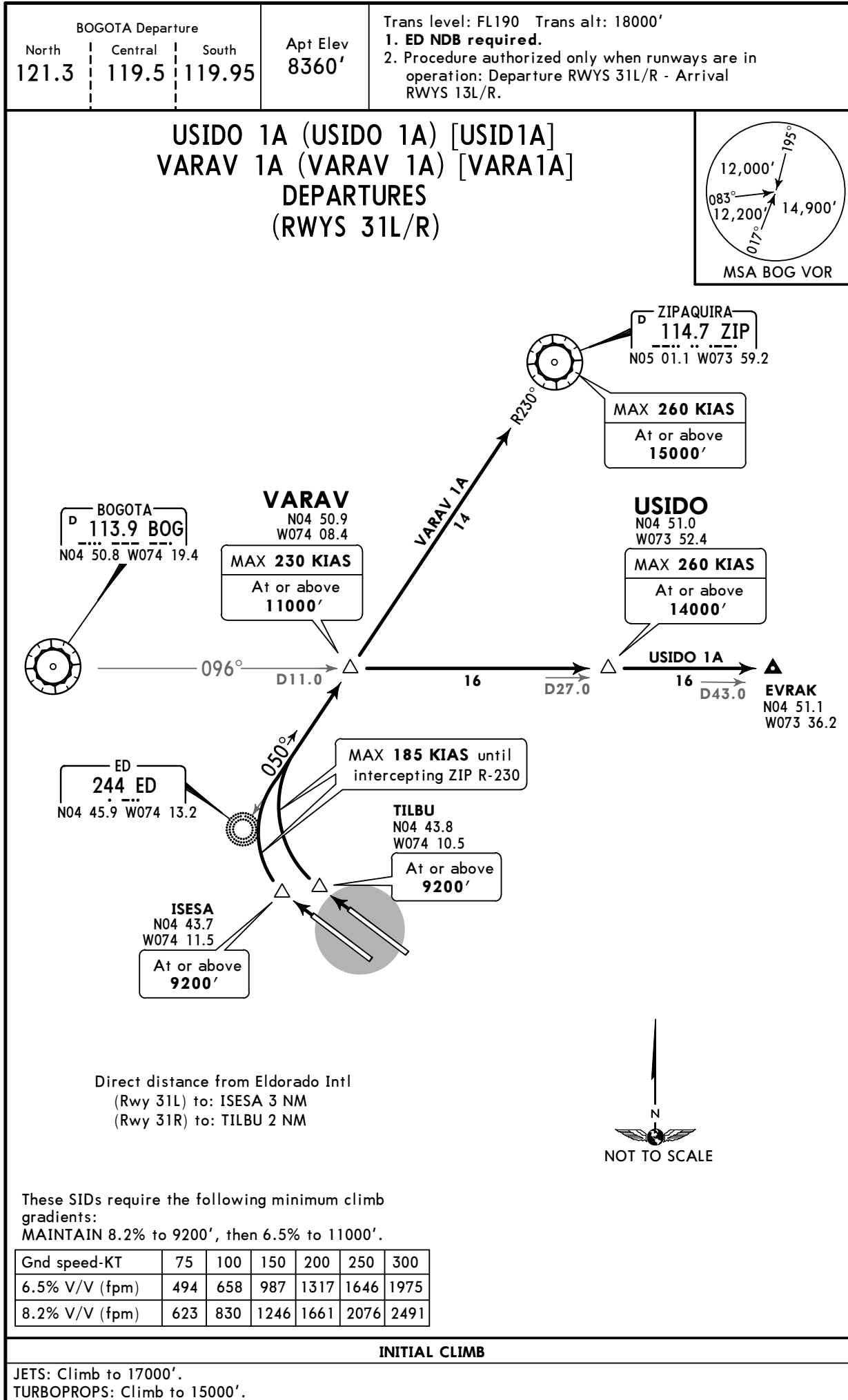
BOGOTA, COLOMBIA
SID



SKBO/BOG
ELDORADO INTL

JEPPESEN
10 FEB 17 **(10-3X)**

BOGOTA, COLOMBIA
SID



SKBO/BOG

JEPPESSEN
 27 MAR 15 (10-4)

 BOGOTA, COLOMBIA
 ELDORADO INTL

NOISE ABATEMENT PROCEDURES
STANDARD: LT plus 5 hours = UTC
RUNWAY 13 L/R

This procedure implies a reduction of power at a prescribed minimum altitude and delay the flaps/slats retraction until a maximum prescribed altitude is reached. At the prescribed altitude, accelerate and retract flaps/slats maintaining a positive rate of climb and completing the transition to enroute normal climbing procedures.

- The climb speed until noise abatement starting point will be not less than $V_2 + 10$ Kts.
- **Take-off Rwy 13L:** Maintain Rwy heading until R NDB and start turn. Reaching 800' AGL adjust and maintain engine power according to the noise reduction program approved in the operational manual. Maintain a climbing speed of $V_2 + 10$ kts with flaps and slats in take-off configuration.
- **Take-off Rwy 13R:** Maintain Rwy heading until KOLMU and start turn. Reaching 800' AGL adjust and maintain engine power according to the noise reduction program approved in the operational manual. Maintain a climbing speed of $V_2 + 10$ kts with flaps and slats in take-off configuration.
- At 11,000', maintaining a positive rate of climb, accelerate and retract flaps/slats.
- At 12,500', accelerate to enroute climb speed.

NOTE 1: Maintain maximum climb gradient in the initial take-off phase.

NOTE 2: For DC-10 aircraft the criteria will be $V_2 + 20$ Kts.

NOTE 3: Reduced take-off power procedure is recommended in accordance with the operational manual.

In addition, the following criteria should be taken into account:

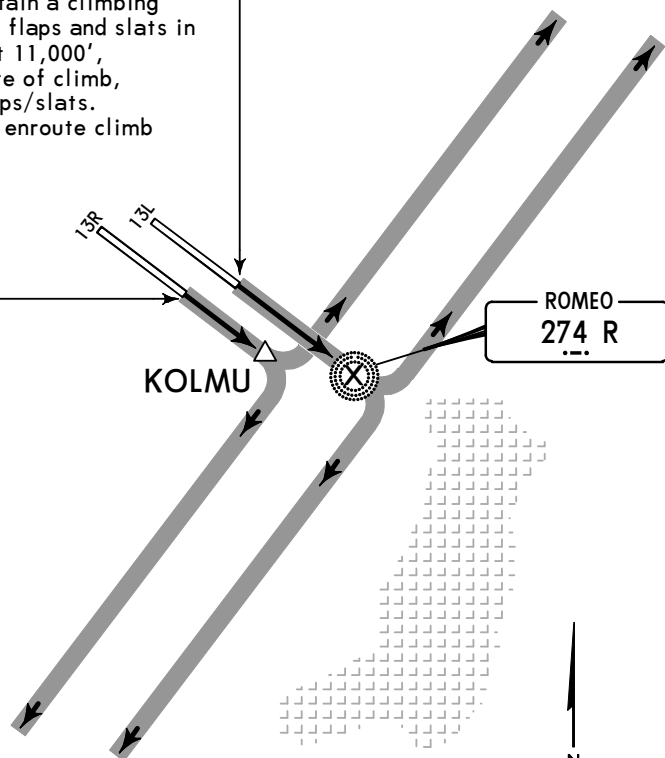
1. The power rules to be applied after the failure or loss of one engine, or any other apparent loss of performance, at any stage of take-off or climb during the noise abatement procedure, will be at pilot in command discretion, and noise abatement considerations will no longer apply.
2. The maximum acceptable angle for each kind of fuselage will not be exceeded.

Take-off Rwy 13L

Maintain Rwy hdg until R NDB and start turn. Reaching 800' AGL adjust and maintain engine power according to the noise reduction program approved in the operational manual. Maintain a climbing speed of $V_2 + 10$ kts with flaps and slats in take-off configuration. At 11,000', maintaining a positive rate of climb, accelerate and retract flaps/slats. At 12,500', accelerate to enroute climb speed.

Take-off Rwy 13R

Maintain Rwy hdg until KOLMU and start turn. Reaching 800' AGL adjust and maintain engine power according to the noise reduction program approved in the operational manual. Maintain a climbing speed of $V_2 + 10$ kts with flaps and slats in take-off configuration. At 11,000', maintaining a positive rate of climb, accelerate and retract flaps/slats. At 12,500', accelerate to enroute climb speed.



NOT TO SCALE

SKBO/BOG**JEPPESSEN**
27 MAR 15 (10-4A)**BOGOTA, COLOMBIA**
ELDORADO INTL**NOISE ABATEMENT PROCEDURES****STANDARD: LT plus 5 hours = UTC****RUNWAY 31 L/R**

This procedure implies a reduction of power at a prescribed minimum altitude and delay the flaps/slats retraction until a maximum prescribed altitude is reached. At the prescribed altitude, accelerate and retract flaps/slats maintaining a positive rate of climb and completing the transition to enroute normal climbing procedures.

- The climb speed until noise abatement starting point will not be less than $V_2 + 10$ Kts.
- Reaching 800' AGL start turn, adjust and maintain climb engine power.
Maintain a climbing speed of $V_2 + 10$ Kts with flaps and slats in take-off configuration.
- At 11,000', maintaining a positive rate of climb, accelerate and retract flaps/slats.
- At 12,500', accelerate to enroute climb speed.

NOTE 1: Maintain maximum climb gradient in the initial take-off phase.

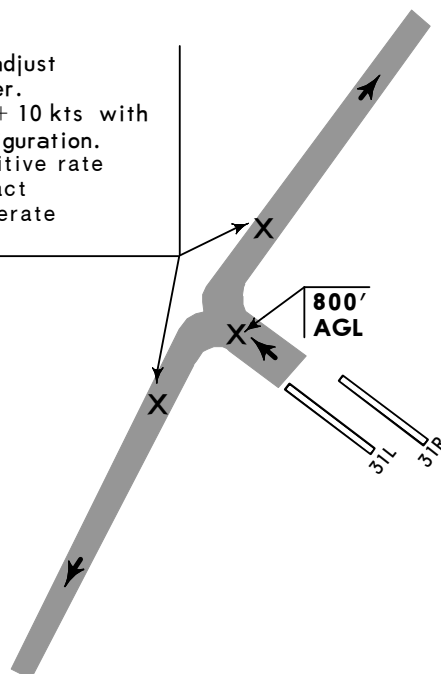
NOTE 2: For DC-10 aircraft the criteria will be $V_2 + 20$ Kts.

NOTE 3: Reduced take-off power procedure is recommended in accordance with the operational manual.

In addition, the following criteria should be taken into account:

1. The power rules to be applied after the failure or loss of one engine, or any other apparent loss of performance, at any stage of take-off or climb during the noise abatement procedure, will be at pilot in command discretion, and noise abatement considerations will no longer apply.
2. The maximum acceptable angle for each kind of fuselage will not be exceeded.

Reaching 800' AGL start turn, adjust and maintain climb engine power. Maintain climbing speed of $V_2 + 10$ kts with flaps and slats in take-off configuration. At 11,000', maintaining a positive rate of climb, accelerate and retract flaps/slats. At 12,500', accelerate to enroute climb speed.



SKBO

JEPPESEN

1 FEB 02

10-6

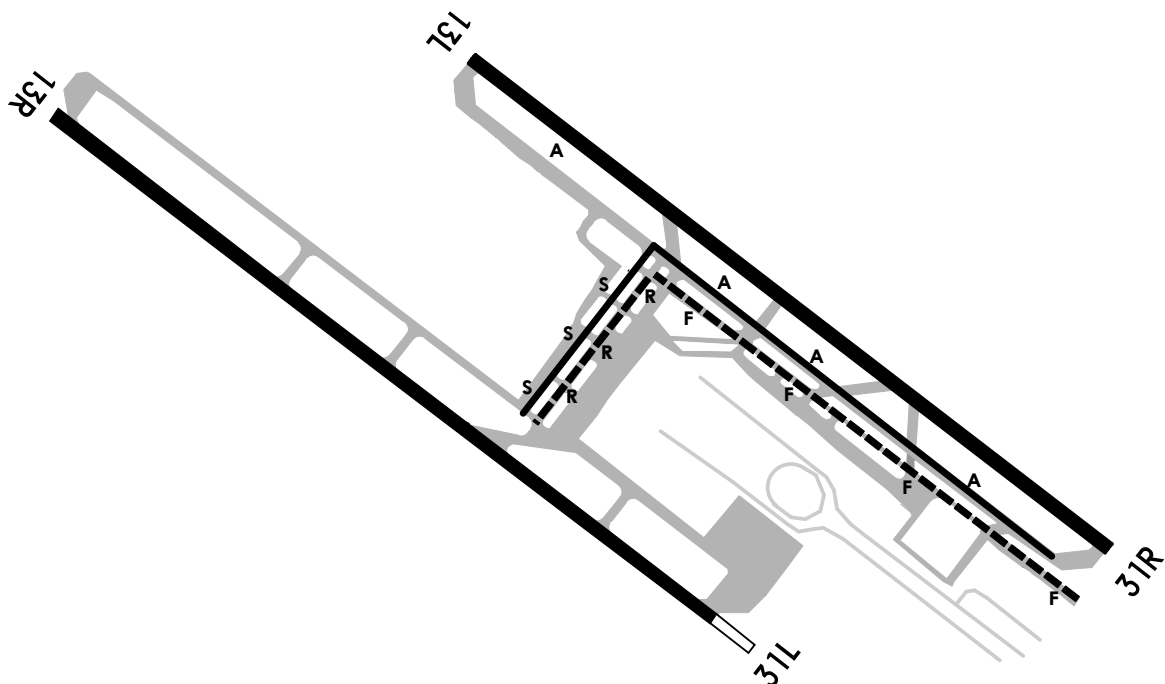
TAXI
BOGOTA, COLOMBIA
ÉLDORADO INTL
Coded Taxi Routes

PREFERRED TAXI ROUTES FOR DEPARTURES/ARRIVALS

Preferred routes will be issued by Ground Control. Route will indicate that the aircraft is to proceed via Taxiway Alfa, Sierra or Foxtrot, Romeo and taxi circuit 1 or 2.

To Runways 13R/13L	
Route Ident	Routing via
CIRCUIT 1	Alfa - Sierra
CIRCUIT 2	Foxtrot - Romeo

To Runways 31L/31R	
Route Ident	Routing via
CIRCUIT 1	Alfa - Sierra
CIRCUIT 2	Foxtrot - Romeo



———— CIRCUIT 1 TAXIWAYS ALFA & SIERRA

----- CIRCUIT 2 TAXIWAYS FOXTROT & ROMEO

SKBO/BOG

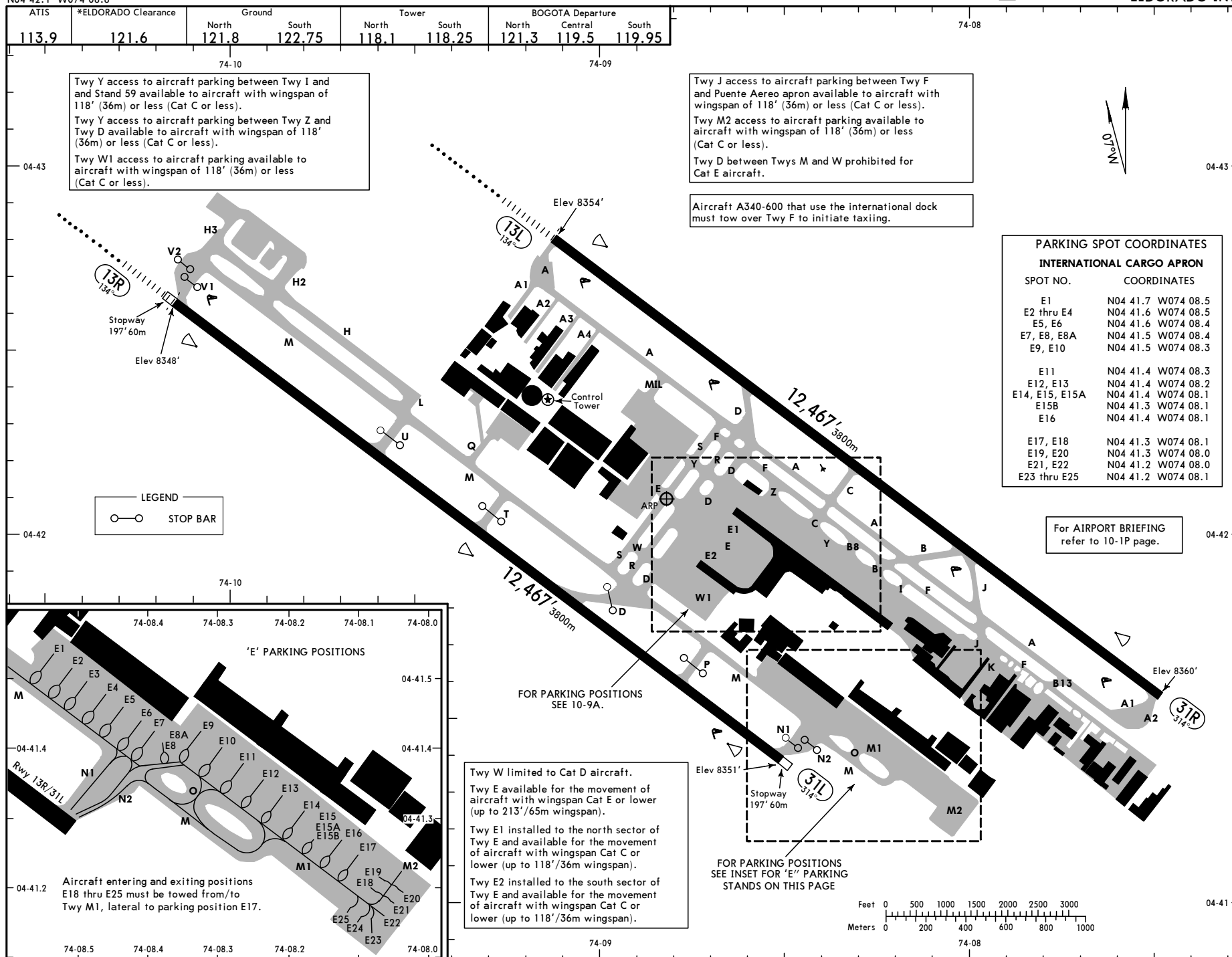
Apt Elev **8360'**

N04 42.1 W074 08.8

JEPPESEN BOGOTA, COLOMBIA

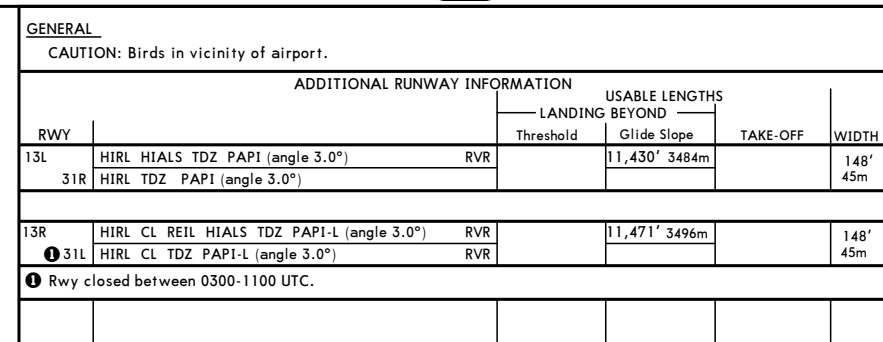
7 APR 17 **(10-9)**

ELDORADO INTL



JEPPESEN
7 APR 17 10-9A

ELDORADO INTL



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TAKE-OFF				
Rwy 13R/31L				
1 Take-off Alternate Airport Filed				Standard
RL & CL & RCLM		RL & CL or RCLM	RL & CL or RCLM	
Stop Barrier or Runway Protection Lights				
1 Eng	570' - 3000m			
2 Eng	1 hour alternate (1 Eng inop)			1600m
	RVR 350m	500m	550m	
3 & 4 Eng	2 hour alternate (1 Eng inop)			800m
	RVR 350m	500m	550m	

Rwy 13L/31R				
1 Take-off Alternate Airport Filed				Standard
RL & CL & RCLM		RL & CL or RCLM	RL & CL or RCLM	
Stop Barrier or Runway Protection Lights				
1 Eng	570' - 3000m			
2 Eng	1 hour alternate (1 Eng inop)			1600m
	550m			
3 & 4 Eng	2 hour alternate (1 Eng inop)			800m
	550m			

1 With appropriate approval.

CHANGES: Apron, terminal extended, parking stands 11-13, 71-73 added, stands 51A, 108, 109 removed, notes.

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SKBO/BOG **JEPPESEN****SMGCS**

10 OCT 14

(10-9B)**Eff 16 Oct****BOGOTA, COLOMBIA**
ELDORADO INTL**LOW VISIBILITY PROCEDURES**

The purpose of this document is to provide safe operation at the airport while operating in Low Visibility Conditions (LVP).

The following related information, complements all the procedures established in the SMGCS Manual of El Dorado airport, and apply to all aerodrome traffic that circulates the maneuvering area thereof, including vehicles and persons, while low visibility conditions remain.

1. FACILITIES DESCRIPTION

- 1.1 Runway 13R is equipped with ILS and is approved for CAT II operations as well as LVTO Level I and II. Runway 31L is approved for LVTO Level I and II. Runway 13L is equipped with ILS and is approved for CAT I operations as well as LVTO Level I and II (with taxi restrictions). Runway 31R is approved for LVTO operations Level I and II (with taxi restrictions).
- 1.2 SIGNAL AND GUIDANCE TAXI SYSTEMS:
 - a. TAXI GUIDANCE SYSTEM: Illuminated position indicators, NO ENTRY labels, mandatory instructions and information labels, taxi holding points, stop bars and runway protection lights are provided.
 - b. RUNWAY SIGNALING: Threshold, centerline, touchdown zone, and aiming point markings.
 - c. TAXIWAY SIGNALING: Center and edge.

2. CRITERIA FOR STARTING, IN FORCE AND ENDING PHASES OF LVP PROCEDURES

- 2.1 Preparation phase of LVP procedures will begin by the emission of the LVP PRELIMINARY WARNING advice, which will be released when the El Dorado airport current forecast (TAF), expected for formation and/or presence of mist or fog.
- 2.2 Given that it may take several hours between the time the preliminary warning is made based on the interpretation of the TAF, until the time that the enforcement of the LVP, a notice that PRELIMINARY WARNING CONFIRMED will be issued.
 - a. The reported visibility from the IDEAM (Colombian Institute of Hydrology, Meteorology and Environmental Studies) observer, in the SPECI/METAR is equal to or lower than 2000m.
 - b. The TDZ RVR indicator for Runway 13R/13L or 31L/31R indicates a 1000m value with a decreasing trend.
 - c. The IDEAM meteorological observer, crew, or electronic equipment reports cloud ceiling that are equal to or less than 300 ft.
- 2.3 The operation phase of the LVP procedures will begin by the emission of LVP PROCEDURES ARE IN FORCE advice when:
 - a. TDZ RVR indicator of any runway 13R, 13L, 31R, 31L, indicates a value of 550m or less.
 - b. When the IDEAM observer report a meteorological visibility of lower than 800m.
 - c. LVP procedures will be initiated based on which of the above conditions happen first.
- 2.4 The suspension phase of LVP procedures will be carried out by issuing notice of suspension of the LVP procedures which will be issued when:
 - a. The LVP procedures are affected by a technical issue. A NOTAM will inform of the failure and duration.
 - b. It is known or suspected, that an aircraft is under bomb threat or being hijacked at the El Dorado airport.
 - c. Landings or take-offs are not expected for two (2) or more hours.
 - d. Disorientation or doubt exists about the position of an aircraft or vehicle at the airport. In this situation, take-off, approach and taxi procedures will be able to resume ONLY when there is certainty of the aircraft or missing vehicle position.

SKBO/BOG**SMGCS**

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(10-9C)**Eff 16 Oct****BOGOTA, COLOMBIA**
ELDORADO INTL**LOW VISIBILITY PROCEDURES**

- e. When the IDEAM observer reports a visibility or RVR values that are less than CAT II and Take-off level II operations, all take-off and approach operations will be suspended at the airport.
- 2.5 The ending phase of the LVP procedures will begin by issuing the announcement that LVP procedures are CANCELLED. This will be emitted when:
 - a. The TDZ RVR indicator of Runway 13R indicates a value of U1000m (3000 ft) or more and a reduction of the same TDZ RVR value is not expected in the next thirty (30) minutes.
 - b. When the IDEAM observer reported meteorological visibility is greater than 2000m (6000 ft).
 - c. When the equipment supporting LVP, is affected by any degradation and there is no possibility of a prompt solution.
 - d. Despite having equal or lower RVR values for the prescribed LVP procedure minimums, the visibility conditions of the other runway, as well as that of the different taxiways, allows the visualization of traffic from the control tower, and according the aerodrome controller criteria, the cancellation of such procedures does not affect the SAFETY of the operations.

3. RUNWAY EXIT DETAILS

- 3.1 The exits for Runways 13R and 31L are equipped with GREEN/YELLOW lights.
- 3.2 except as otherwise authorized by ATC, aircraft which have landed must exit Runway 13R by taxiway D or N.
- 3.3 Pilot in command shall notify "free runway" when exiting the runway and all lights of the taxiway ahead are GREEN.
- 3.4 Aircraft exiting runway 13R via taxiway DELTA, shall continue taxiing via taxiway ROMEO, stopping at marked position R1.
- 3.5 Aircraft exiting runway 13R via taxiway NOVEMBER, shall continue taxiing via taxiway MIKE, stopping at marked position M5, unless control reports to stop when entering taxiway MIKE, and then follow the taxi instructions of the FOLLOW ME.

4. HOLDING POINTS USAGE AND MOVEMENT RESTRICTIONS

- 4.1 Has established a system of geographic position markings painted on the taxiways, to determine the aircraft positions.
- 4.2 During Low Visibility Procedures with a reported threshold RVR value of the runway in use below 550m and up to 350m shall be mandatory the usage of the geographic marks and runway the holding points, as indicated below:
 - For the departing traffic, will only use the geographical position marks of EVEN numbering (F2, S4, M6, A8, and A10) and the holding positions V1 of runway 13R, and N1 of runway 31L.
 - For the arriving traffic, will only use the geographical position marks of ODD numbering (M5, R1, R3 and A7).
- 4.3 The ground controller SHALL NOT authorize an aircraft to the next intermediate holding point until the preceding aircraft has been authorized to continue beyond the assigned geographical position mark and it has reported done.
- 4.4. During LVP Procedures with a reported threshold RVR value used for take-off equal or greater than 500, only will be able to operate those operations authorized by the UAEAC through the operation specifications may carry out take-off LEVEL I, LEVEL II or when the standard take-off minimums are present, remaining under the absolute responsibility of the crew to inform whether they are authorized or not for this type of operation and to adjust to the minimum necessary for the take-off.
- 4.5. During LVP procedures with a reported RVR value at the threshold of the departure runway below 500m (1500 ft) up to 350m (1150 ft), only aircraft operators authorized by UAEAC through OPSPECS have approval to carry out CAT II approaches.
- 4.6. Taxiing to the threshold of the runway in use for departures shall not be authorized if the reported RVR value at the threshold is below 350m (1150 ft).

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10-9D**Eff 16 Oct****BOGOTA, COLOMBIA**
ELDORADO INTL**LOW VISIBILITY PROCEDURES**

- 4.7. During the enforcement, towing of aircraft between different aprons shall not be authorized.
- 4.8. During the enforcement of the LVP the movement of rotary wing aircraft is restricted; State aircraft with the status of HEAD or STATE are expected, providing that the necessary conductive measures have been taken to guarantee the safety of other aircraft.
- 4.9. Ground control will update the RVR values to taxiing aircraft.
- 5. LVP PROCEDURES DESCRIPTION**
- 5.1 Crews and airlines will be informed about LVP operations by means of:
- 5.1.1 ATIS information, through manual recordings updated every 30 minutes and automatic recordings every 10 minutes.
- 5.1.2 Aeronautical frequencies.
- 5.1.3 A message emitted through the Automatic Message Handling System (AMHS).
- 5.2 ATC will guarantee a minimum separation of **15 NM** for aircraft approaching Runway 13R. ATC will do this in order to allow preceding aircraft time to exit the sensitive and critical areas of the Runway 13R localizer (LSA). This separation might be reduced to **12 NM** providing that there is no traffic for take-off at the holding point of Runway 13R.
- 5.3 Intercept the localizer no less than **10 NM** from the touchdown point on the runway.
- 5.4 For CAT II approach operations only TDZ RVR value will be required (control RVR), and with a value of 350m or above, MID and ROLL OUT RVRs will be only informative.
- 5.5 If an aircraft reports that it has started the approach to Runway 13R and the TDZ RVR reports a value lower than 350m, the control tower will inform the pilot of the new value and he/she will decide whether to continue the approach or start the missed approach procedure.
- 5.6 Regardless of any ATC authorization, no crew may initiate an approach or take-off when the reported meteorological conditions are lower than those prescribed in the operation certifications.
- 5.7 ATC will transmit to the aircraft, as soon as possible, any technical failure related to the RVR equipment, radio, electrical or visual aids that are used for the purpose of approach, landing or take-off.
- 5.8 ATC will have to provide landing clearance further than:
- 1 NM** from the threshold in case of ILS CAT I precision approach.
 - 2 NM** from the threshold in case of ILS CAT II precision approach.
 - 3 NM** from the threshold in case there is no radar service available.
- 5.9 ATC will declare DETRESFA's phase if:
- More than 2 minutes have passed since cleared to take-off and the aircraft is not in radar contact and does not respond to ATC calls.
 - More than 2 minutes have passed since the aircraft notified crossing 4 NM from Runway 13L or 31R TDZ, landing confirmation or missed approach procedure intentions have been communicated, and the aircraft does not respond to ATC calls.
- 5.10 Because Runway 13L/13R has no runway guard lights and stop bars, under visibility condition two (2) or three (3) taxiing to the threshold of runway in use for take-off (13L or 31R) will be restricted to one movement at the time.
- 5.11 The crews will:
- Always listed to the corresponding aeronautical frequency.
 - Request control clearance (El Dorado clearance), only when the RVR values given by ATC are equal to or greater than the take-off minimums for which they are certified.
 - Request push back and start up to ATC when RVR values are equal to or greater than the take-off minimums for which they are certified.
 - Adjust their taxi to comply with the regulation or SLOT (EOBT) assigned by ATC.
 - Refrain from crossing an activated stop bar unless the corresponding confirmation from the Control Tower is received.
 - If runway light guidance (confirmation segment) turns off once the stop bar has been crossed, the crew will stop the aircraft immediately and request additional instructions.

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10 OCT 14

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ELDORADO INTL**LOW VISIBILITY PROCEDURES**

- g. Establish contact with the Control Tower further than 5 NM from the threshold, even if they have not been transferred by Approach Control.
- h. Ask ATC for 'FOLLOW ME' vehicle assistance when the visibility conditions do not allow for a safe taxi.
- i. The crews shall report when:
 - Notify when airborne.
 - Notify once the missed approach procedure is initiated.
 - Notify when the final approach point (FAP) is crossed.
 - Notify once landed.
 - Notify once the runway has been cleared.
 - Notify if any issue exists, technical or otherwise, that may affect LVP safety.
 - Notify when taxiing through an intermediate taxi holding point, where previously has been requested to stop.
 - Immediately stop taxiing and turn on all exterior lights if in doubt or disorientation exists in regard to the aircraft position.
 - Immediately stop taxiing and turn on all exterior lights if unable to see the 'FOLLOW ME' vehicle.
 - Notify ATC about the irregular movement of any vehicle or aircraft into the maneuvering area that may be a risk to the LVP operations.
 - Notify ATC if there is any discrepancy between the RVR values reported by the Control Tower and the visual range from the pilot's cockpit.

6. COMMUNICATIONS FAILURE

An aircraft or vehicle operating in the maneuvering area experiencing a communications failure will proceed as follows:

- a. If the aircraft is going to take-off, it will continue following the assigned route until the clearance limit is reached, using EXTREME CAUTION to avoid deviations. Once the clearance limit is reached, the aircraft will hold position and wait the arrival of the 'FOLLOW ME' vehicle, which will guide it to the assigned parking gate or position.
- b. If the aircraft is landing: it will hold position at the geographic position (R1 or M5) and wait for guidance of the 'FOLLOW ME' vehicle to the assigned gate or parking position.
- c. Vehicles experiencing communications failure will hold position and wait for the 'FOLLOW ME' vehicle assistance.

7. AFTM MEASURES

All Air Traffic Management measures will be taken from Bogota Control Center FMU, taking into account the following in force regulations:

RVR 1000m to 550m

Fifteen (15) or less arrivals/Fifteen (15) or less departures (per hour), for each runway used.

RVR LOWER THAN 550m DEPARTURES - LVTO AND CAT II ARRIVALS

Eight (8) or less arrivals/Eight (8) or less departures (per hour), for each runway used.

RVR LOWER THAN 550m ONLY DEPARTURES - LVTO

Twelve (12) or less (per hour), if there are no arrivals operations.

Taxi operations on Runways 13L or 13R with reported RVR values lower than 550m, either for take-off or landing, will be restricted to just one movement at a time when any of the following visibility conditions are present:

- a. **VISIBILITY CONDITION TWO (2)**

Enough visibility so the pilot can taxi and avoid collisions visually in taxiways and intersections, BUT insufficient visibility for ATC personnel to control traffic by visual surveillance.

Note: Visibility Condition (2) will be in operation at the El Dorado Airport when visibility conditions are lower than 3000m but greater than RVR 400m.

- b. **VISIBILITY CONDITION THREE (3)**

Enough visibility so the pilot can taxi, BUT insufficient to avoid collision with other traffic in taxiways and intersections. It is also insufficient for ATC personnel to control traffic by visual surveillance with this condition. For taxiing purposes these visibilities will normally be equivalent to an RVR value of 400m, but greater than 75m.

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ELDORADO INTL**LOW VISIBILITY PROCEDURES****8. AIRCRAFT OPERATORS****8.1.1 CLEARANCE FOR OPERATION DURING LOW VISIBILITY PROCEDURES**

- a. In an airport where LVP conditions are established, any operation under such conditions is subject to be carried out in accordance with the respective crew and aircraft certifications.
- b. Regardless of the aircraft classification (twin or multi [three or more engines] engine), CAT II operations and/or take-off minimums below standards must be certified by the Air Safety Office of the Colombian Civil Aviation. Operators are responsible for having trained crews to carry out above mentioned operations.
- c. Aircraft must have an instrument departure procedure (UAEAC approved) in case of engine failure.
- d. Take-off alternate airport visibility requirements at the time of departure must not be lower than those needed for landing according to the weather forecast.
- e. Twin engine: Have filed an alternate aerodrome at no more than one (1) hour flight time from El Dorado airport at normal cruising speed in calm air with one (1) engine inoperative.
- f. Multi-engine (3 engines or more): Have filed an alternate aerodrome at no more than one hour flight time from El Dorado Airport at normal cruising speed in calm air with one (1) engine inoperative.

9. LOW VISIBILITY PROCEDURES IN THE MANEUVERING AREA, EXCLUDING THE PARKING AREAS

To comply with the El Dorado Surface Movement Guidance Control System (SMGCS), it is necessary to regulate the taxiing, towing and parking maneuvers of the aircraft safely when the visibility conditions have a value lower than RVR 550m (800m) and above RVR 350m, with a reported cloud ceiling below 200 ft and above 100 ft.

9.1 MOVING OF AIRCRAFT AND VEHICLES IN THE MOVEMENT AREA IN LOW VISIBILITY CONDITIONS**9.1.1 Moving of vehicles**

When the low visibility procedures are in force, movement of vehicles in the maneuvering area are subject to the following rules:

- a. The 'FOLLOW ME', IP, IM and SEI vehicles, can only enter the maneuvering area (runways and taxiways) with the corresponding ATC (Ground Control or Control Tower) authorization, received via radiotelephone (aeronautical frequency).
- b. Maximum speed of the vehicles at all times within the airport is 10 km/hour.
- c. Ground support vehicles will only tow three (3) carts at once.
- d. The Platform Inspector that is in charge of the parking areas will monitor that vehicles circulating through those areas follow the rules stated in Section 6.3 of the Surface Movement Guidance Control System Manual of El Dorado airport and other complimentary rules.

9.1.2 Towing maneuvers

When the low visibility procedures are in force, towing maneuvers will be subject to the following rules:

- a. Will not be authorized the transfer of aircraft, towed or by their own means, among the different aprons.
- b. For towing purposes between parking positions, the platforms: Domestic (positions identified with the letter B) and International (positions identified with the letter C and D) are considered a single platform.
- c. For the transfers of aircraft, towed or by their own means, between the parking positions stated in paragraph (b), it requires the guidance of a 'FOLLOW ME' and prior authorization by the Ground Controller.
- d. Except as provided by the service units that manage the platforms, at the Shuttle and CATAM platforms, simultaneous towing will not be authorized for positions in the same pier or platform.
- e. To start up engines for taxiing, all turbofan aircraft (Category C or higher) parked at the different parking positions and platforms across the El Dorado International airport must be towed to exit its parking position to the assigned SPOT on the taxiway guiding line.
- f. Aircraft towing at the International cargo apron must be assisted by a Platform Inspector (IP), who will guide the towing maneuvers of the exiting aircraft and at the same time provide guidance to any other aircraft that eventually exits the runway through the taxiway NOVEMBER (N).

9.1.3 Departure taxi maneuvers

When the low visibility procedures are in force, departure taxi maneuvers will be subject to the following rules:

- a. Taxi maneuvers will follow the LVP routes and its marked positions as published on the El Dorado Airport SMGCS chart and ATC instructions.

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BOGOTA, COLOMBIA
ELDORADO INTL**LOW VISIBILITY PROCEDURES**

- b. All taxiing aircraft will report their position when reaching a marking on the assigned taxiway and wait for new clearance to continue, thus ensuring a safe operation.
- c. All propeller aircraft exiting from an apron other than the Domestic, International or International and Domestic cargo aprons, will be allowed to exit self-propelled and it is the operator's responsibility to avoid any collision with other aircraft, vehicles or obstacles present in different aprons.
- d. The Platform Inspector responsible for the taxiways prior request from the El Dorado ground controller will proceed to the cargo apron to provide towing guidance to those aircraft exiting the International cargo apron and in turn guide those aircraft eventually exiting the runway through taxiway NOVEMBER.
- e. Taxi to the runway in use for take-off will not be authorized if the RVR value is below LEVEL II minimums (350m).
- f. During LVP procedures, with RVR value below 550m up to 350m reported at the runway in use for take-off, or in Visibility Condition 2, it will be mandatory to use the marking positions and runway holding points.

9.1.4 Arrival taxi maneuvers

When the low visibility procedures are in force, arrival taxi maneuvers will be subject to the following rules:

- a. Landed aircraft must proceed according to paragraph 3 "Runway Exit Details".
- b. All arrival taxi maneuvers will follow LVP approved routes and its intermediate holding points as published on El Dorado Airport SMGCS chart and strictly following ATC instructions.
- c. During LVP procedures, with RVR value below 550m up to 350m reported at the runway in use for take-off, or in visibility conditions 2, will be mandatory to use the marking positions and runway holding points.
- d. All taxiing aircraft will report their position when reaching a marking on the assigned taxiway and wait for new clearance to continue, thus ensuring a safe operation.
- e. All aircraft arriving to the Domestic and International apron, will wait for the presence of a 'FOLLOW ME' vehicle at marked position closest to the assigned parking position.
- f. Upon request from the Ground Controller, the IP (Platform Inspector) managing the apron will proceed to Taxiway DELTA (holding position 1) or MIKE (holding position 5) to provide guidance to the aircraft entering the apron as stated in paragraph (g).
- g. Any aircraft arriving to the Shuttle and CATAM apron, may enter self-propelled and will coordinate the maneuver in the assigned frequency to the service unit managing the apron.
- h. Any aircraft arriving to a different apron, other than Domestic or International passenger aprons, may enter self-propelled and will be the operator's responsibility to avoid any collision with other aircraft, vehicles or obstacles present in the different aprons.
- i. Once the aircraft is parked, will be the operator's responsibility to place the beacons on the wing tips, nose and tail of the aircraft.

9.1.5 Service Units responsible

- a. The application of the LVP procedures in the maneuvering area is responsibility of the Control Tower, which functions and competencies are indicated in the El Dorado International airport LVP Manual.
- b. It is competency of the Direction of Operations (Operations Coordinator) of the airport operator OPAIN S.A. to enforce the LVP procedures and specifically the head of the apron through the CCO and Apron Inspectors.
- c. Crews are responsible to verify at all times the aircraft position, especially at intersections, making sure that taxi is carried out safely.
- d. Vehicle drivers are responsible to verify at all times their position, especially in those areas where vehicle routes pass behind the aircraft parking positions, making sure that driving through is carried out safely.
- e. The lighting system in the maneuvering area as well as Runway 13L/31R and 13R/31L operations are the responsibility of CODAD.

9.1.6 ILS CAT II precision approach and automatic landings training at El Dorado International airport

No CAT II precision approach and automatic landing will be authorized when the visibility is below 3000m and /or the clouds base is below 800 ft, and/or any meteorological phenomena like (DZ, RA, FU, FG, BR) is present.

Aircraft crews wishing to carry out CAT II precision approach and automatic landings training, should request the corresponding authorization to the Bogota Control Center, which in turn shall coordinate with El Dorado control Tower.

If the critical and/or sensitive areas of the ILS/GPDME were not protected, aircraft crew shall be notified, as well as any other situation concerning the approach and landing practice.

SKBO/BOG



24 MAR 17

10-9H

SMGCS
BOGOTA, COLOMBIA
ELDORADO INTL

LOW VISIBILITY PROCEDURES

23. ADDITIONAL INFORMATION

CAUTION: Antenna located at the following coordinates (N 04:51:36 W 074:15:72) without illumination.

CAUTION: Bird concentration in the vicinity of the aerodrome. Implemented by the National Program of Control and Prevention of Bird Strike.

CAUTION: Movement of flocks of birds during take-off and landing operations:

North-South direction between 1030-1200.

South-North direction between 2200-2330.

CAUTION: Increase of migratory birds in aerodrome and vicinity between the months of October and April.

Tower, exercise CAUTION due to low visibility towards:

-Threshold Runway 13R.

-Taxiway M between Taxiway T and Taxiway V.

-Taxiway M between International Cargo Ramp and Taxiway P.

-Taxiway K and holding point Runway 31R.

-Taxiway A and F, between Taxiway C and Runway 31R.

SKBO/BOG
ELDORADO INTL

24 MAR 17

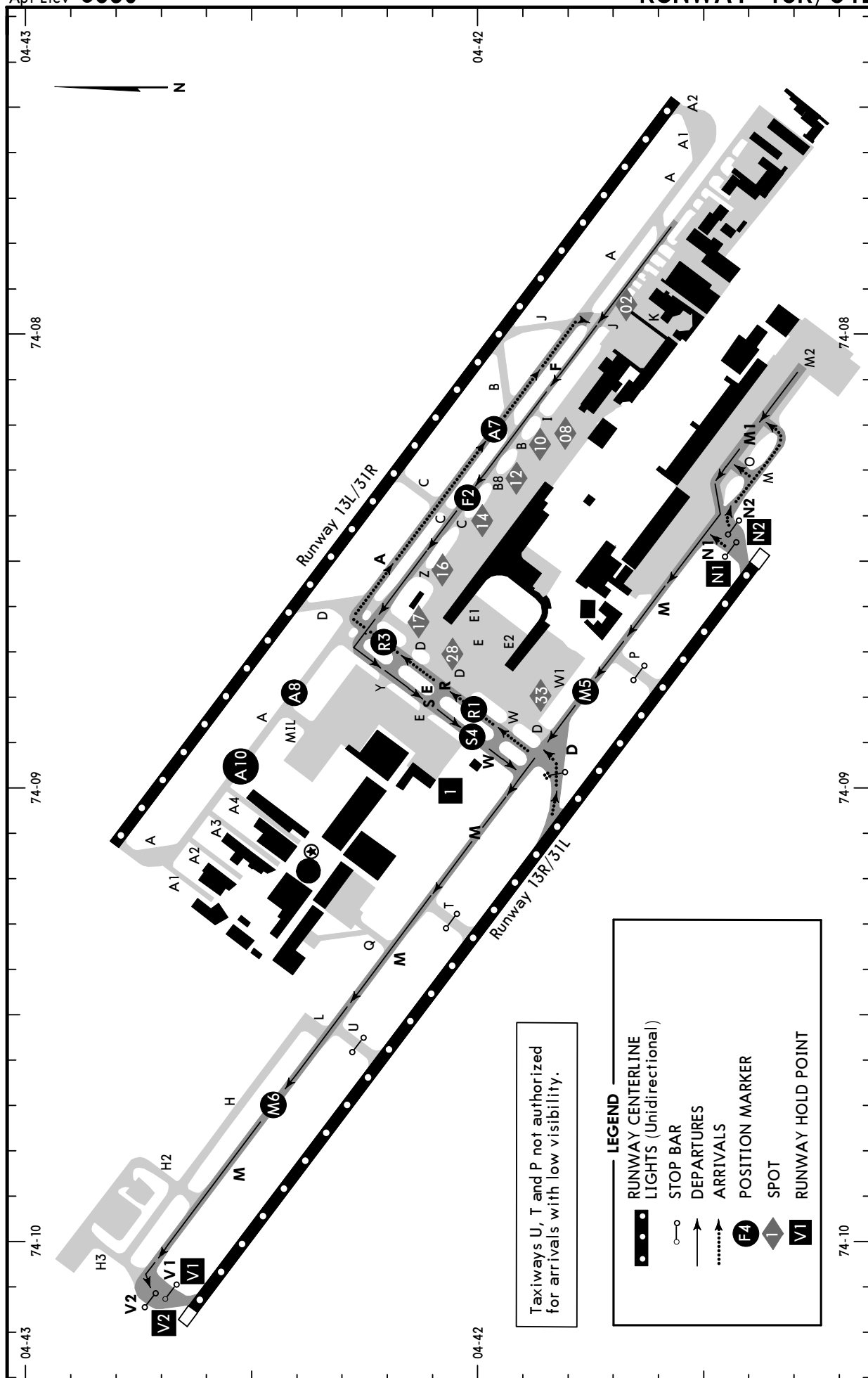
(10-9J)

SMGCS

LESS THAN RVR 550m TO 350m

BOGOTA, COLOMBIA
LOW VISIBILITY TAXI CHART
RUNWAY 13R/31L

Apt Elev **8360'**

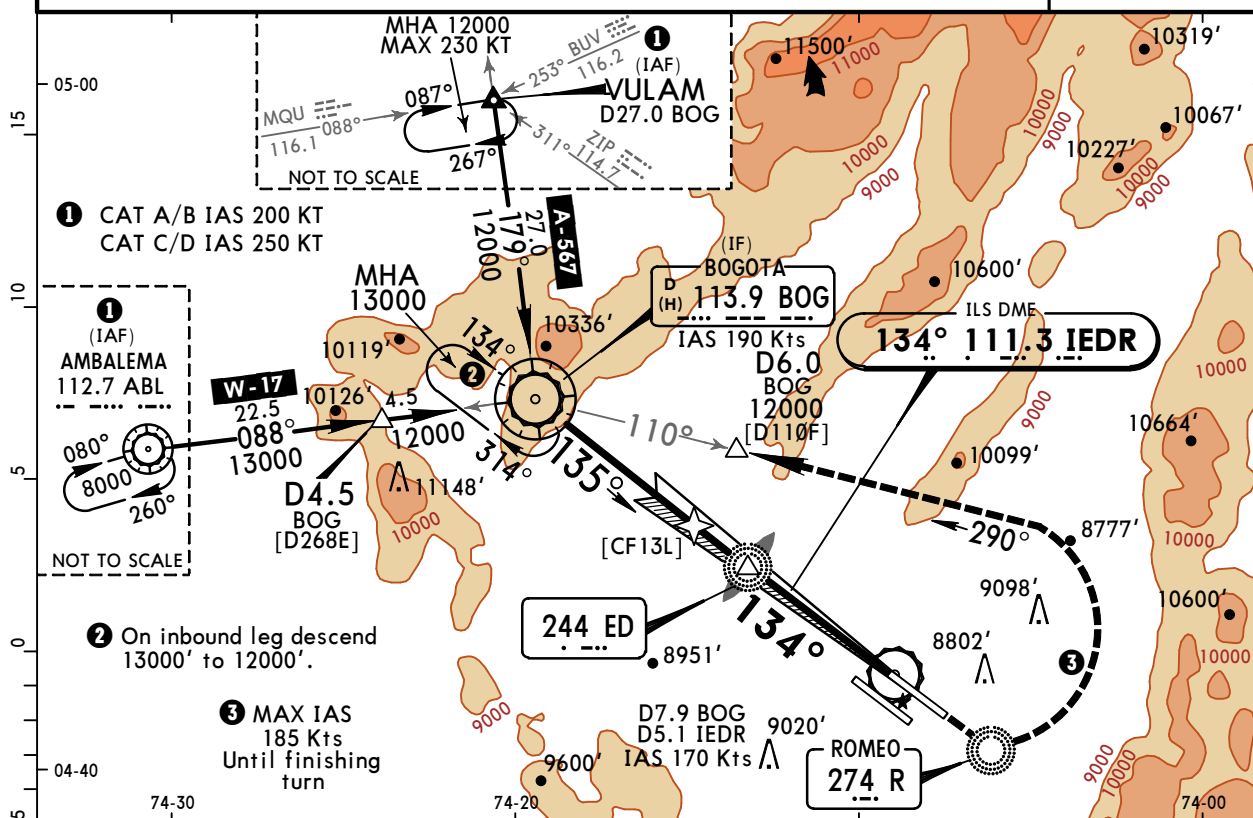


SKBO/BOG
ELDORADO INTL

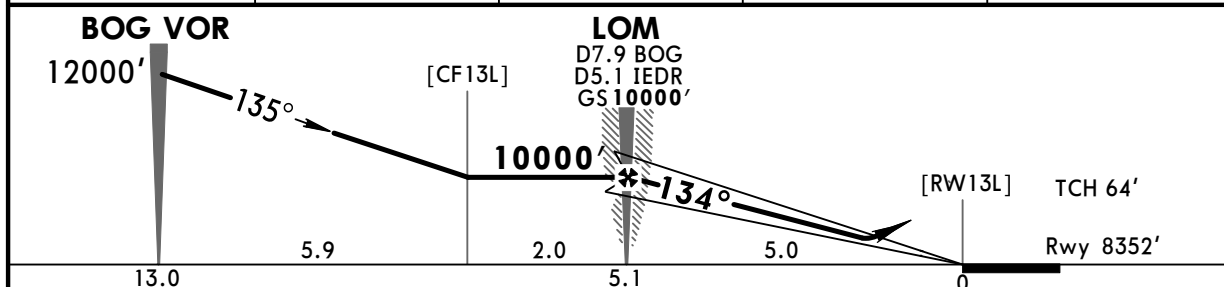
JEPPESSEN
30 DEC 16
Eff 5 Jan

BOGOTA, COLOMBIA
MISSED APCH CLIMB
GRADIENT MIN 3.0% ILS Rwy 13L

	ATIS	BOGOTA Approach			ELDORADO Tower		Ground	
		North	Central	South	North	South	North	South
	113.9	121.3	119.5	119.65	118.1	118.25	121.8	122.75
BRIEFING STRIP™	LOC IEDR 111.3	Final Apch Crs 134°	GS LOM 10000' (1648')		ILS DA(H) 8552' (200')		Apt Elev 8360' Rwy 8352'	
MISSED APCH:	Climb on rwy heading to R NDB, turn LEFT (Max IAS 185 Kts until end of the turn) climbing to intercept BOG VOR R-110 at 10000' or above. Proceed to BOG VOR and enter holding pattern at 13000'. Cross D6.0 BOG at 12000' or above. Radar vectors may be provided before arriving at BOG VOR.							
	Alt Set: INCHES (hPa on req)		Trans level: FL 190		Trans alt: 18000'			
	1. BOG VOR required. 2. BOG DME or IEDR DME required. 3. Exercise caution to the east/southeast due to mountainous terrain 9800' or higher 20 NM from BOG VOR.							
								MSA BOG VOR



IEDR DME	4.0	3.0	2.0	1.0
ALTITUDE	9680'	9370'	9050'	8732'



Gnd speed-Kts	70	90	100	120	140	160
GS 3.00°	372	478	531	637	743	849

HIALS
PAPI PAPI

Rwy
hdg R
274

STRAIGHT-IN LANDING RWY 13L		CIRCLE-TO-LAND
Missed Apch climb gradient min 3.0%		
ILS	LOC (GS out)	
DA(H) 8552' (200')		
Full	HTALS out	

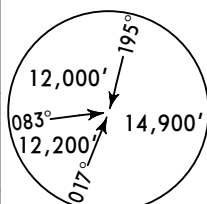
TRANS OPS	A	YCLE	THALES 501		
	B	RVR 550m			
	C	VIS 800m	1200m	Refer to LOC Rwy 13L	Refer to VOR CHARLIE
	D				

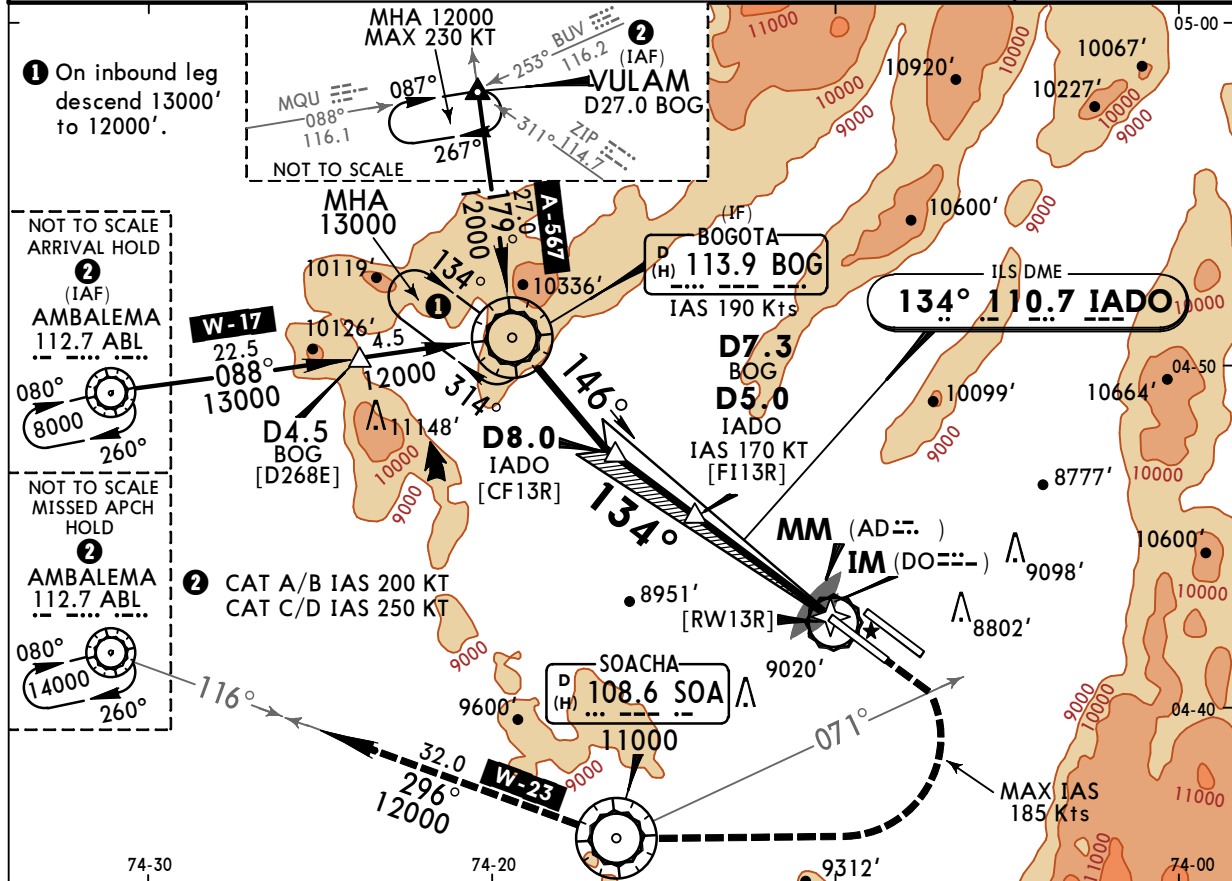
SKBO/BOG
ELDORADO INTL

JEPPesen
30 DEC 16 **(11-3)** Eff 5 Jan

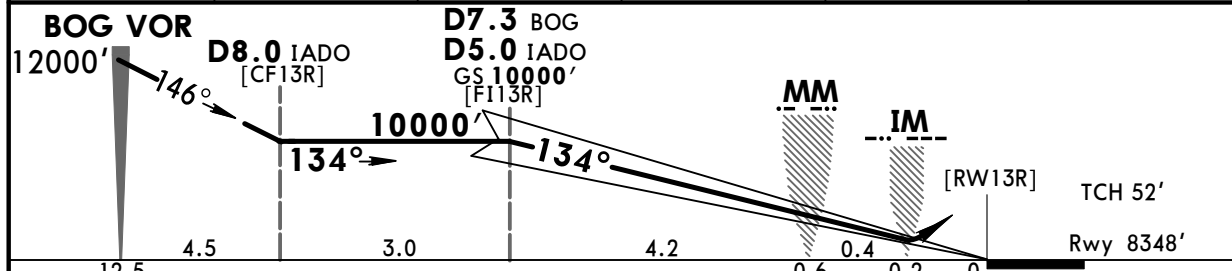
BOGOTA, COLOMBIA
ILS Rwy 13R

BRIEFING STRIP

ATIS		BOGOTA Approach		ELDORADO Tower		Ground		
North 113.9		North 121.3	Central 119.5	South 119.65	North 118.1	South 118.25	North 121.8	South 122.75
LOC IADO 110.7	Final Apch Crs 134°	GS D7.3 BOG D5.0 IADO 10000' (1652')	ILS DA(H) 8550' (202')	Apt Elev 8360' Rwy 8348'				
MISSED APCH: Climb on runway heading until SOA VOR R-071. Then RIGHT climbing turn to SOA VOR, and intercept W-23 to ABL VOR holding at 14000'.								
Alt Set: INCHES (hPa on req) Trans level: FL 190 Trans alt: 18000'								
1. BOG VOR required. 2. BOG DME or IADO DME required. 3. Exercise caution to the east/southeast due to mountainous terrain 9800' or higher 20 NM from BOG VOR.								



IADO DME	5.0	4.0	3.0	2.0	1.0
ALTITUDE	10000'	9670'	9360'	9040'	8720'



12.5							0.8		0.2		0	
Gnd speed-Kts	70	90	100	120	140	160	HIALS		REIL		SOA	
GS	3.00°	372	478	531	637	743	PAPI		↑		Rwy hdg until 108.6	
											R-071	
FAF to IM	4.8	4:07	3:12	2:53	2:24	2:03	1:48					

STRAIGHT-IN LANDING RWY13R			CIRCLE-TO-LAND	
ILS		LOC (GS out)		
DA(H) 8550' (202')				
FULL	HIALS out			
A	RVR 550m VIS 800m	1200m	Refer to LOC Rwy 13R	Refer to VOR CHARLIE
B				
C				
D				

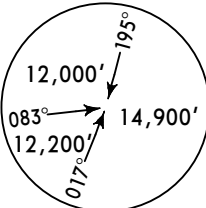
PANS OPS

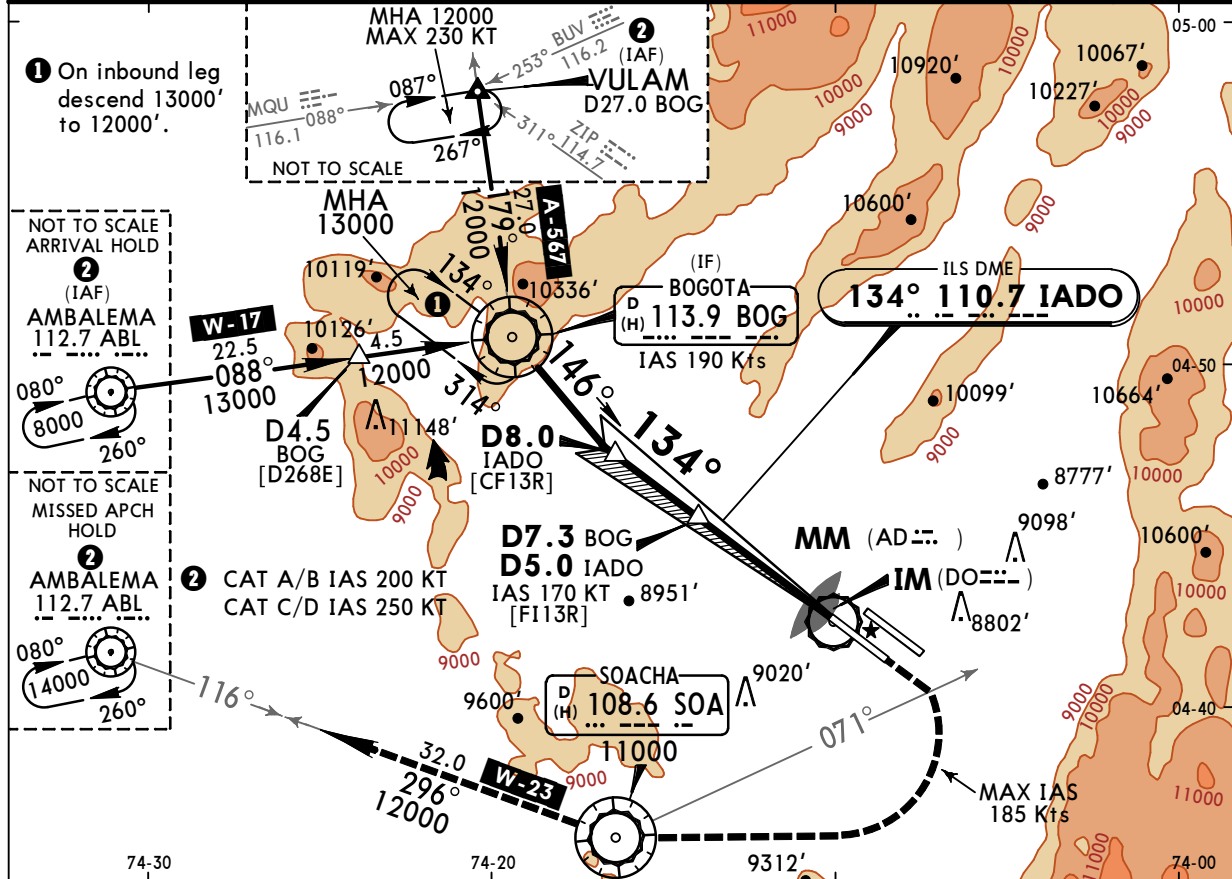
SKBO/BOG
ELDORADO INTL

JEPPesen
30 DEC 16 **(11-3A)** Eff 5 Jan

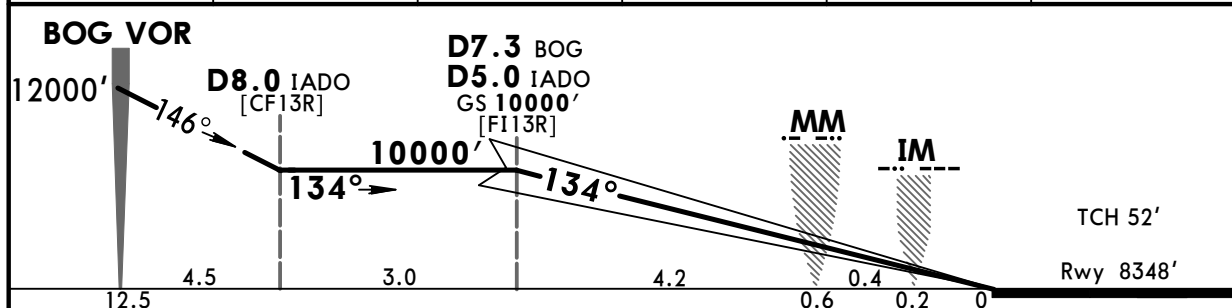
BOGOTA, COLOMBIA
ILS Rwy 13R CAT II

BRIEFING STRIP

ATIS		BOGOTA Approach			ELDORADO Tower		Ground			
North		Central		South	North		South	North	South	
113.9		121.3		119.5	119.65	118.1		118.25	121.8	122.75
LOC IADO		Final Apch Crs		GS D7.3 BOG D5.0 IADO		CAT II ILS Refer to Minimums		Apt Elev 8360' Rwy 8348'		
110.7		134°		10000' (1652')						
MISSED APCH: Climb on rwy heading until SOA VOR R-071. Then RIGHT climbing turn to SOA VOR, and intercept W-23 to ABL VOR holding at 14000'.										
Alt Set: INCHES (hPa on req) Trans level: FL 190 Trans alt: 18000'										
1. Special Aircrew & Acft Certification Required. 2. BOG VOR required. 3. BOG DME or IADO DME required. 4. Exercise caution to the east/southeast due to terrain 9800' or higher 20 NM from BOG VOR.										



IADO DME	5.0	4.0	3.0	2.0	1.0
ALTITUDE	10000'	9670'	9360'	9040'	8720'



Gnd speed-Kts	70	90	100	120	140	160
GS	3.00°	372	478	531	637	849

STRAIGHT-IN LANDING RWY 13R	
CAT II ILS	
RA 100' DA(H) 8450' (102')	RA 150' DA(H) 8500' (152')

1 RVR 350m	2 RVR 500m
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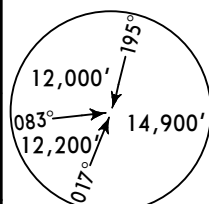
1 2 RVR required, TDZ and MID or Roll Out. **2** Only TDZ RVR required.

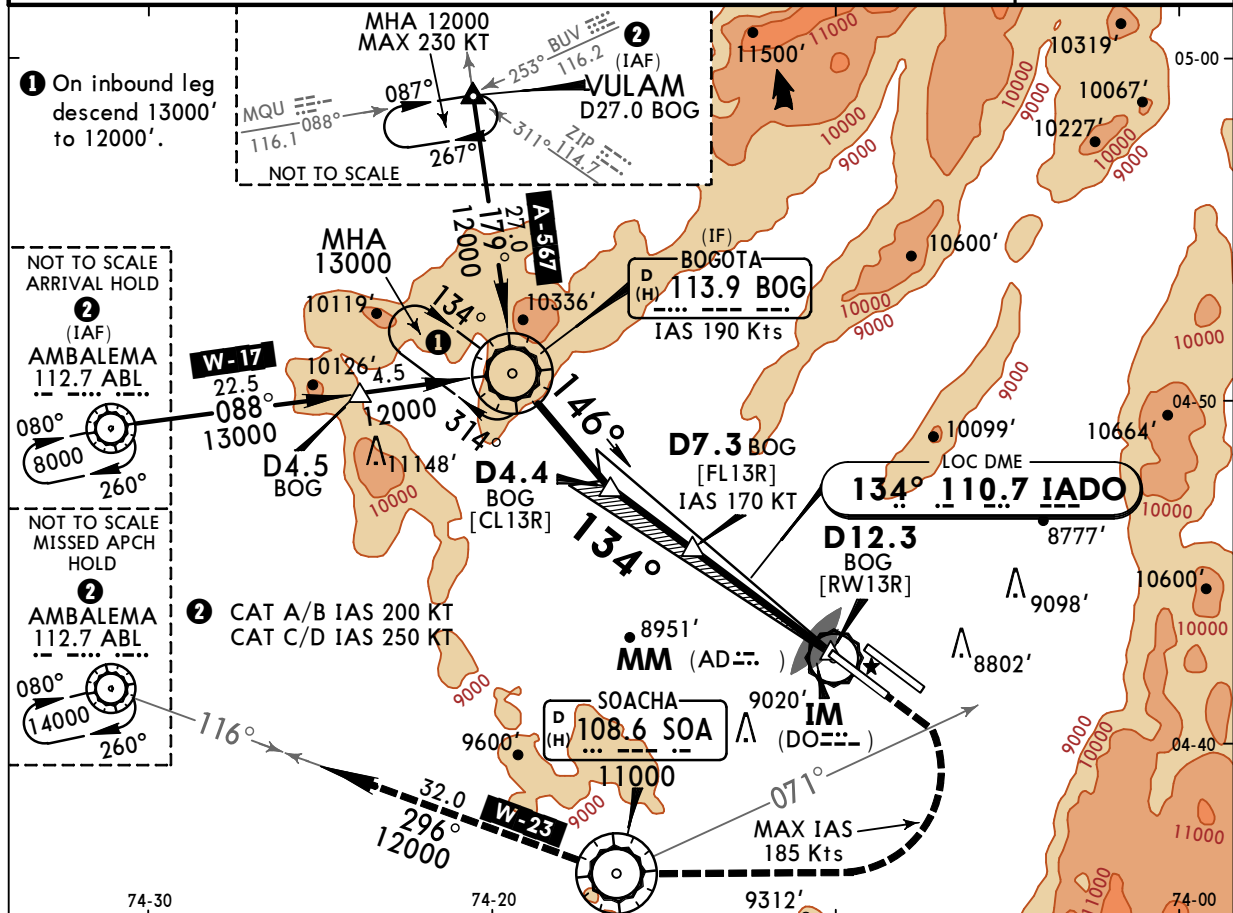
SKBO/BOG
ELDORADO INTL

JEPPesen
30 DEC 16 **(11-4)** **Eff 5 Jan**

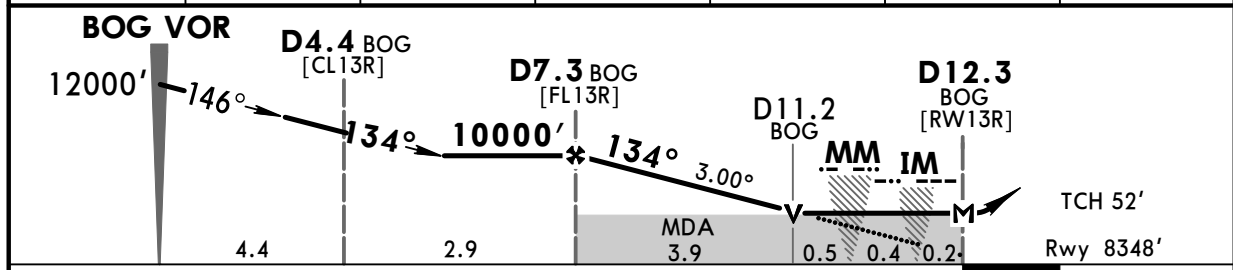
BOGOTA, COLOMBIA
LOC Rwy 13R

BRIEFING STRIP

ATIS		BOGOTA Approach		ELDORADO Tower		Ground	
North 113.9	North 121.3	Central 119.5	South 119.65	North 118.1	South 118.25	North 121.8	South 122.75
LOC IADO 110.7	Final Apch Crs 134°	Minimum Alt D7.3 BOG 10000' (1652')	MDA(H) 8910' (562')	Apt Elev 8360' Rwy 8348'			
MISSED APCH: Climb on rwy heading until SOA VOR R-071. Then RIGHT climbing turn to SOA VOR, and intercept W-23 to ABL VOR holding at 14000'.							
Alt Set: INCHES (hPa on req) Trans level: FL 190 Trans alt: 18000'							
1. BOG VOR/DME required. 2. Exercise caution to the east/southeast due to mountainous terrain 9800' or higher 20 NM from BOG VOR.							



BOG DME	5.0	6.0	7.0	8.0	9.0	10.0
ALTITUDE	10714'	10396'	10078'	9760'	9442'	9124'



Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.00°	372	478	531	637	743	849
MAP at D12.3 BOG or FAF to MAP	5.0	4:17	3:20	3:00	2:30	2:09
					1:53	

STRAIGHT-IN LANDING RWY 13R		CIRCLE-TO-LAND	
MDA(H) 8910' (562')		Refer to VOR CHARLIE	
HIALS out			
A	2100m	2800m	
B			
C	2300m	3000m	
D			

PANS OPS

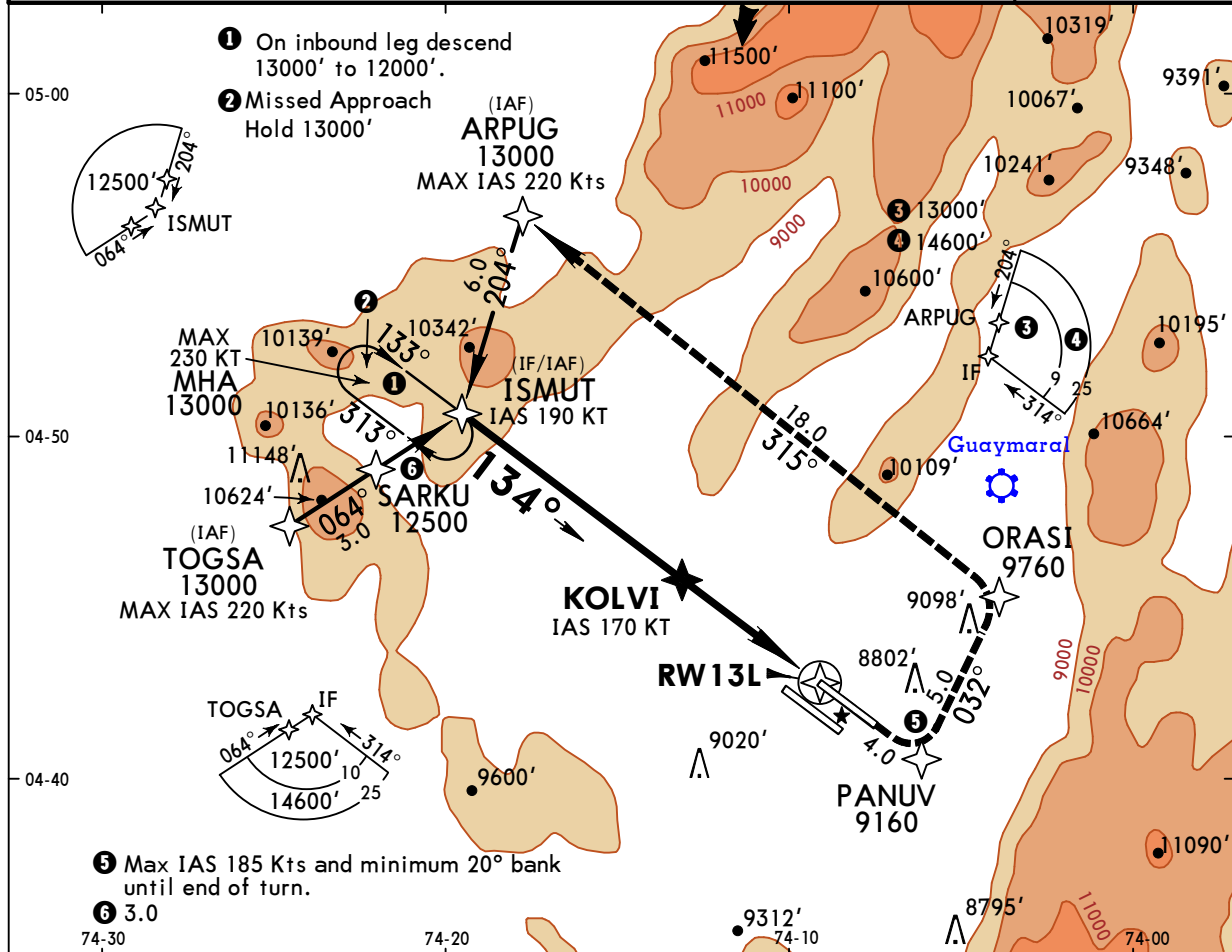
SKBO/BOG
ELDORADO INTL

JEPPESSEN
22 APR 16 (12-1) Eff 28 Apr

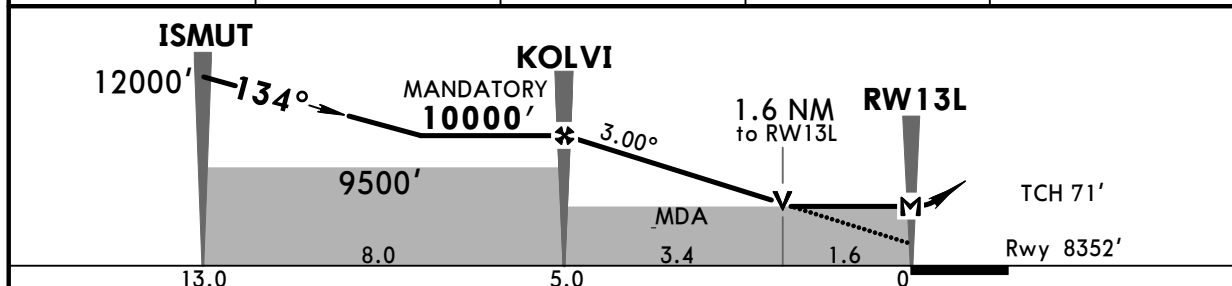
BOGOTA, COLOMBIA
RNAV (GNSS) Rwy 13L

BRIEFING STRIP

ATIS		BOGOTA Approach			ELDORADO Tower		Ground	
113.9		North 121.3	Central 119.5	South 119.65	North 118.1	South 118.25	North 121.8	South 122.75
RNAV	Final Apch Crs 134°	Procedure Alt KOLVI 10000' (1648')		LNNAV MDA(H) 8910' (558')	Apt Elev 8360' Rwy 8352'		TAA 25 NM IAF	
MISSED APCH: Proceed to fly by PANUV, turn LEFT via ORASI to ARPUG (Max IAS 185 Kts and 20° bank until end of turns). Fly by ARPUG, turn LEFT (Max IAS 220 Kts) to ISMUT holding pattern climbing to 13000'.								
Alt Set: INCHES (hPa on req)		Trans level: FL 190			Trans alt: 18000'			
1. GNSS only.								



DIST to THR	5.0	4.0	3.0	2.0
ALTITUDE	10000'	9678'	9359'	9041'



Gnd speed-Kts	70	90	100	120	140	160	<div><div>HIALS</div><div><div><div></div><div>PAPI</div><div>PAPI</div></div></div></div>	<div>9160'</div> <div>↑</div> <div>to PANUV</div>
Descent Angle 3.00°	372	478	531	637	743	849		
MAP at RW13L								

STRAIGHT-IN LANDING RWY13L			CIRCLE-TO-LAND		
LNNAV			HIALS out		
MDA(H) 8910' (558')					
A	2000m	2700m	Refer to VOR CHARLIE		
B					
C	2200m	2900m			
D					

PANS OPS

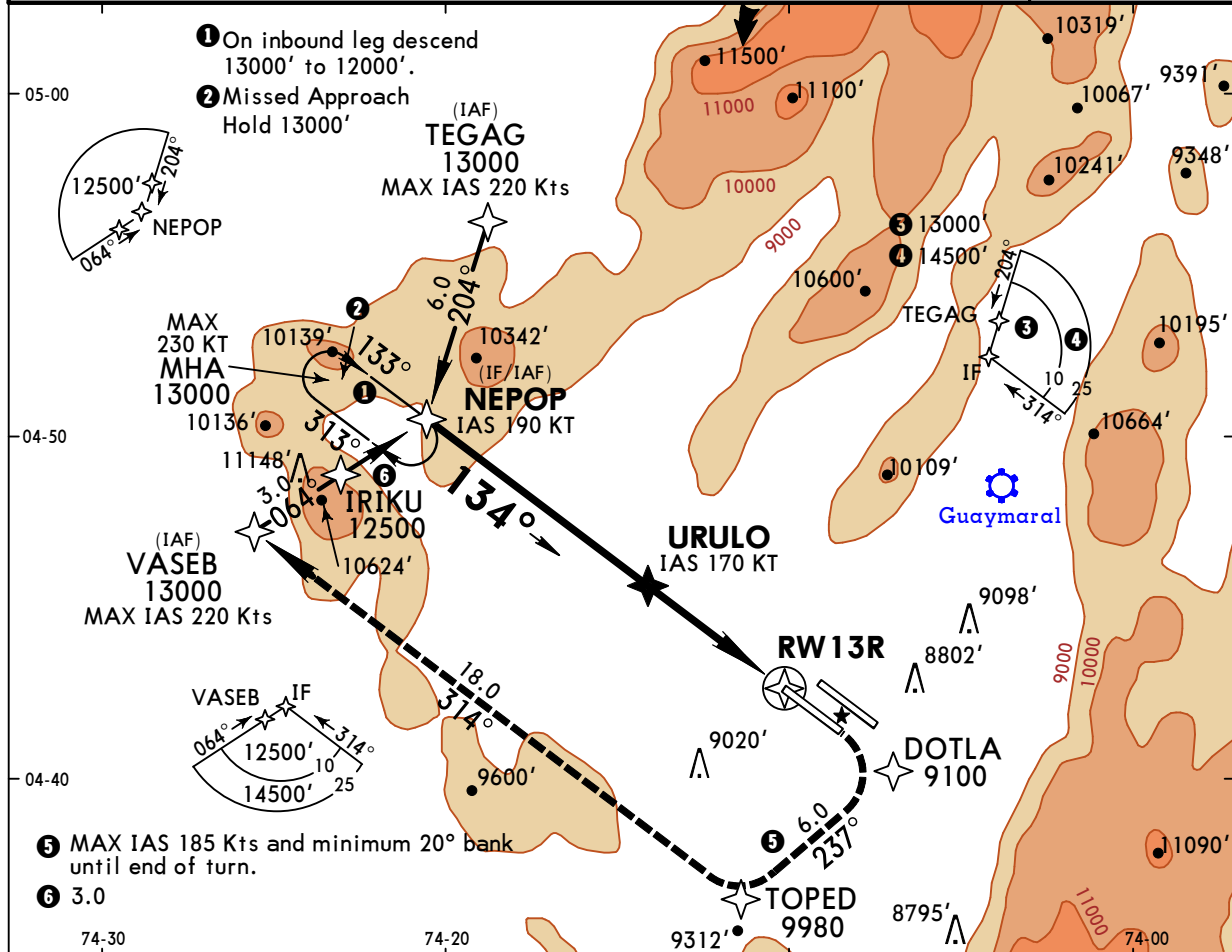
SKBO/BOG
ELDORADO INTL

JEPPesen
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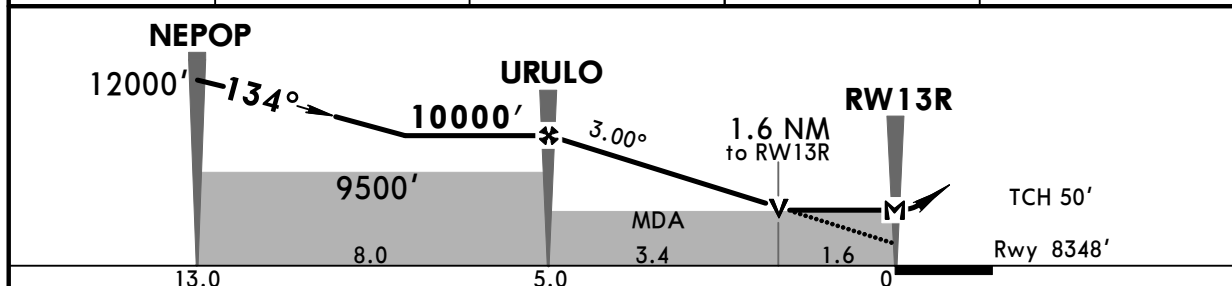
BOGOTA, COLOMBIA
RNAV (GNSS) Rwy 13R

BRIEFING STRIP

ATIS		BOGOTA Approach		ELDORADO Tower		Ground									
North		Central		South		North		South							
113.9		121.3		119.5		119.65		118.1		118.25		121.8		122.75	
RNAV		Final Apch Crs		Procedure Alt		LNAV MDA(H)		Apt Elev		8360'		TAA 25 NM IAF			
		134°		URULO						Rwy 8348'					
				10000' (1652')		8910' (562')									
MISSED APCH: Proceed to fly by DOTLA, turn RIGHT via TOPED to VASEB (Max IAS 185 Kts and 20° bank until end of turns). Fly by VASEB, turn RIGHT (Max IAS 220 Kts) to NEPOP holding pattern climbing to 13000'.															
Alt Set: INCHES (hPa on req)				Trans level: FL 190				Trans alt: 18000'							
1. GNSS only.															



DIST to THR	5.0	4.0	3.0	2.0
ALTITUDE	10000'	9674'	9355'	9037'



Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.00°	372	478	531	637	743	849
MAP at RW13R						

STRAIGHT-IN LANDING RWY13R			CIRCLE-TO-LAND	
LNAV				
MDA(H) 8910' (562')				
HIALS out				
A	2100m	2800m	Refer to VOR CHARLIE	
B				
C	2300m	3000m		
D				

PANS OPS

SKBO/BOG
ELDORADO INTL

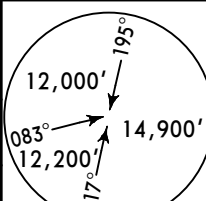
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4 DEC 15
Eff 10 Dec

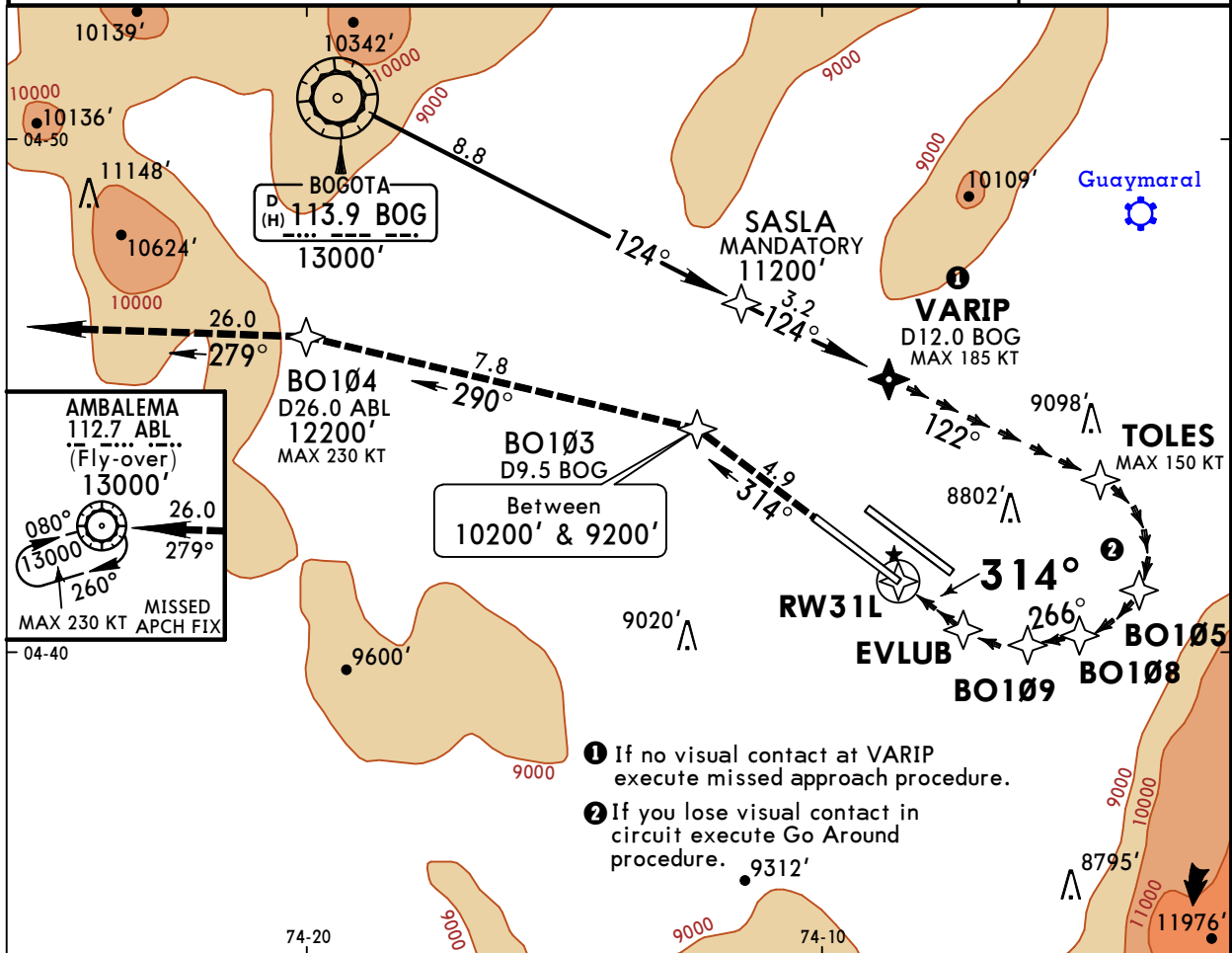
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RNAV VISUAL FLIGHT PROCEDURE
(GNSS) V Rwy 31L

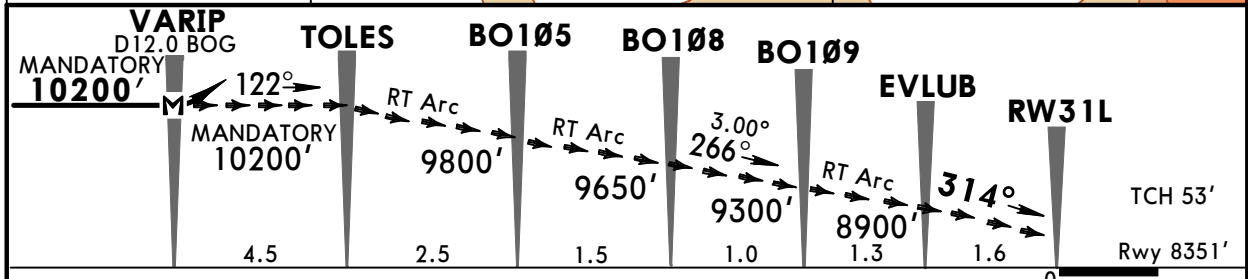
BOGOTA, COLOMBIA

BRIEFING STRIP

ATIS 113.9		BOGOTA Approach North 121.3 Central 119.5 South 119.65		ELDORADO Tower North 118.1 South 118.25		Ground North 121.8 South 122.75	
RNAV	Final Apch Crs 314°	Mandatory Alt VARIP 10200'(1849')		MDA(H) 10200'(1849')		Apt Elev 8360' Rwy 8351'	
MISSED APCH: Maintain RVFP track, climbing to 13000' to ABL VOR and hold. Expect ATC instructions.							
Alt Set: INCHES (hPa on req) Trans level: FL 190 Trans alt: 18000' 1. RNP Approach and RF required. 2. CAUTION: Mountainous terrain in E and SE sectors at 9800' and above within 20 NM of BOG VOR. 3. In case of Go Around procedure, maintain RFVP track, climbing to 13000' to ABL VOR and hold. Expect ATC instructions.							
 MSA BOG VOR							



- 1 If no visual contact at VARIP execute missed approach procedure.
- 2 If you lose visual contact in circuit execute Go Around procedure.



Gnd speed-Kts	70	90	100	120	140	160	PAPI-L		13000'	RVFP track	ABL 112.7
Descent Angle 3.00°	372	478	531	637	743	849			↑		
MAP at VARIP											

STRAIGHT-IN LANDING RWY31L

MDA(H) **10200'**(1849')

PANS OPS

A	
B	
C	
D	6000m

SKBO/BOG
ELDORADO INTL

4 DEC 15

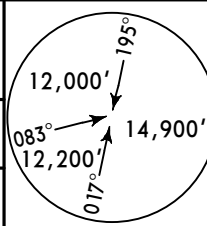
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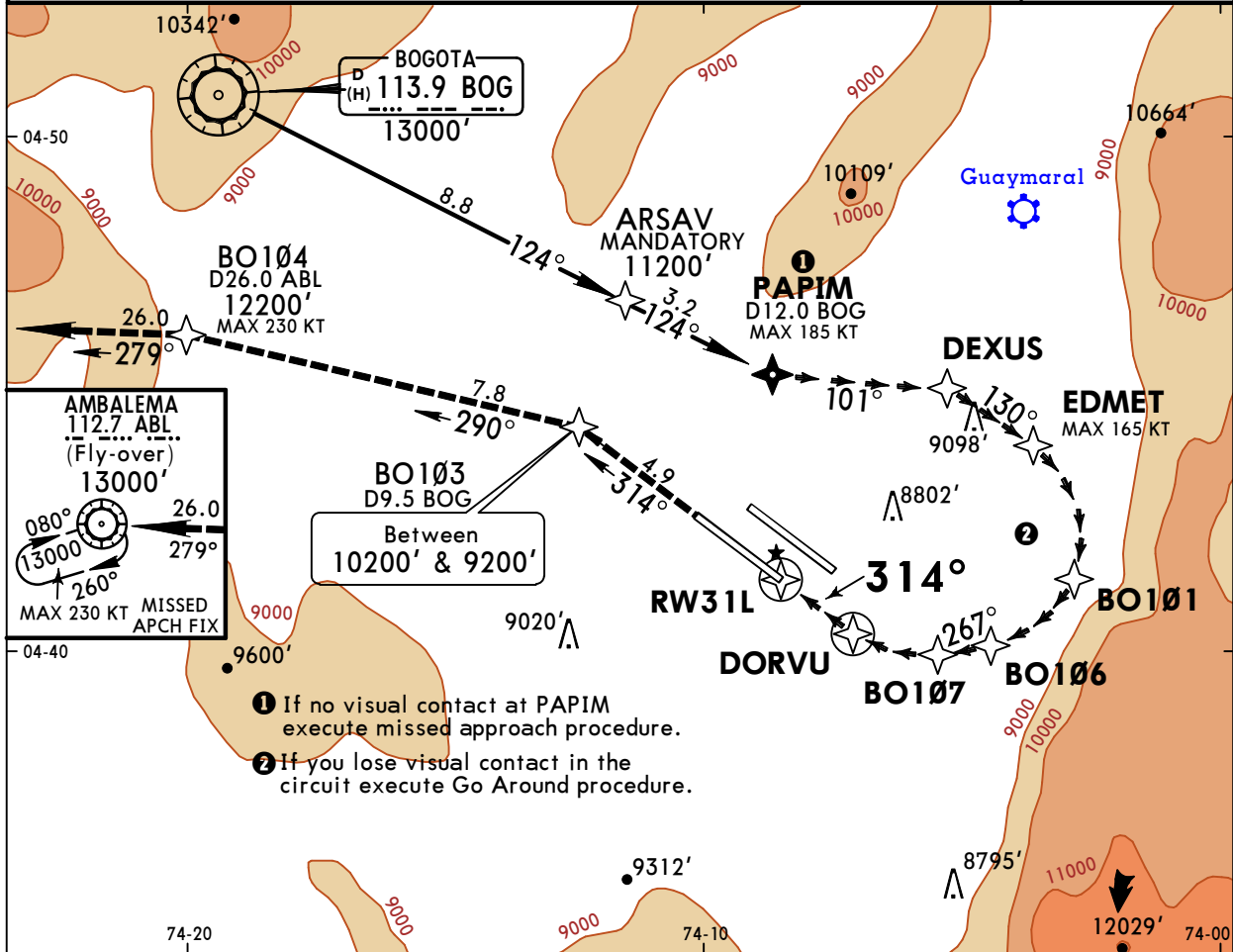
(12-4)

BOGOTA, COLOMBIA
RNAV VISUAL FLIGHT PROCEDURE
(GNSS) S Rwy 31L

CAT C & D

BRIEFING STRIP

ATIS 113.9		North 121.3		BOGOTA Approach Central 119.5		South 119.65		North 118.1		ELDORADO Tower South 118.25		North 121.8		Ground South 122.75	
RNAV		Final Apch Crs 314°		Mandatory Alt PAPIM 10200'(1849')		10200'(1849')		MDA(H)		Apt Elev 8360' Rwy 8351'					
MISSED APCH: Maintain RVFP track, climbing to 13000' to ABL VOR and hold. Expect ATC instructions.															
Alt Set: INCHES (hPa on req)				Trans level: FL 190				Trans alt: 18000'							
1. RNP Approach and RF required. 2. CAUTION: Mountainous terrain in E and SE sectors at 9800' and above within 20 NM of BOG VOR. 3. In case of Go Around procedure maintain RVFP track, climbing to 13000' to ABL VOR and hold. Expect ATC instructions.															
MSA BOG VOR															



	PAPIM	DEXUS	EDMET	BO101	BO106	BO107	DORVU	RW31L
MANDATORY	10200'							
	101°	130°		RT Arc	RT Arc	267°	RT Arc	314°
	MANDATORY 10200'	MANDATORY 10200'	MANDATORY 10200'	9840'	9500'	8960'		TCH 53'
	3.4	2.0	2.9	2.2	1.0	1.7	1.8	Rwy 8351'

Gnd speed-Kts	70	90	100	120	140	160				
Descent Angle	3.00°	372	478	531	637	743	849			
MAP at PAPIM										

STRAIGHT-IN LANDING RWY31L

MDA(H) **10200'**(1849')

PANS OPS

A										
B	NOT APPLICABLE									
C										
D	6000m									

CHANGES: New procedure.

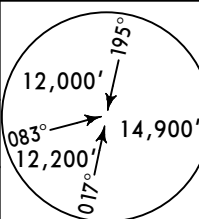
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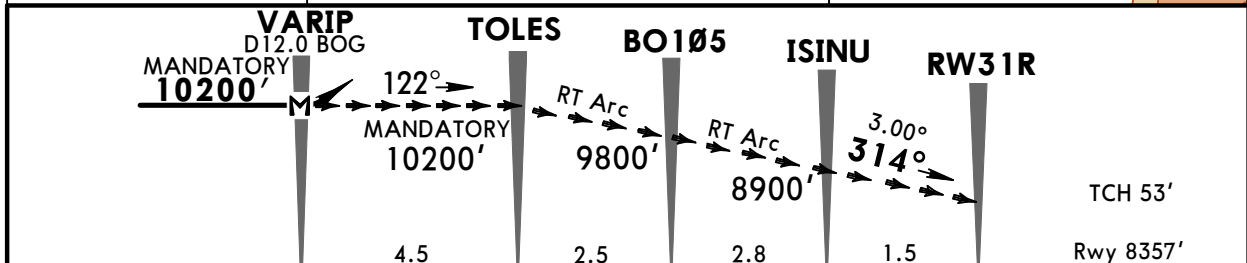
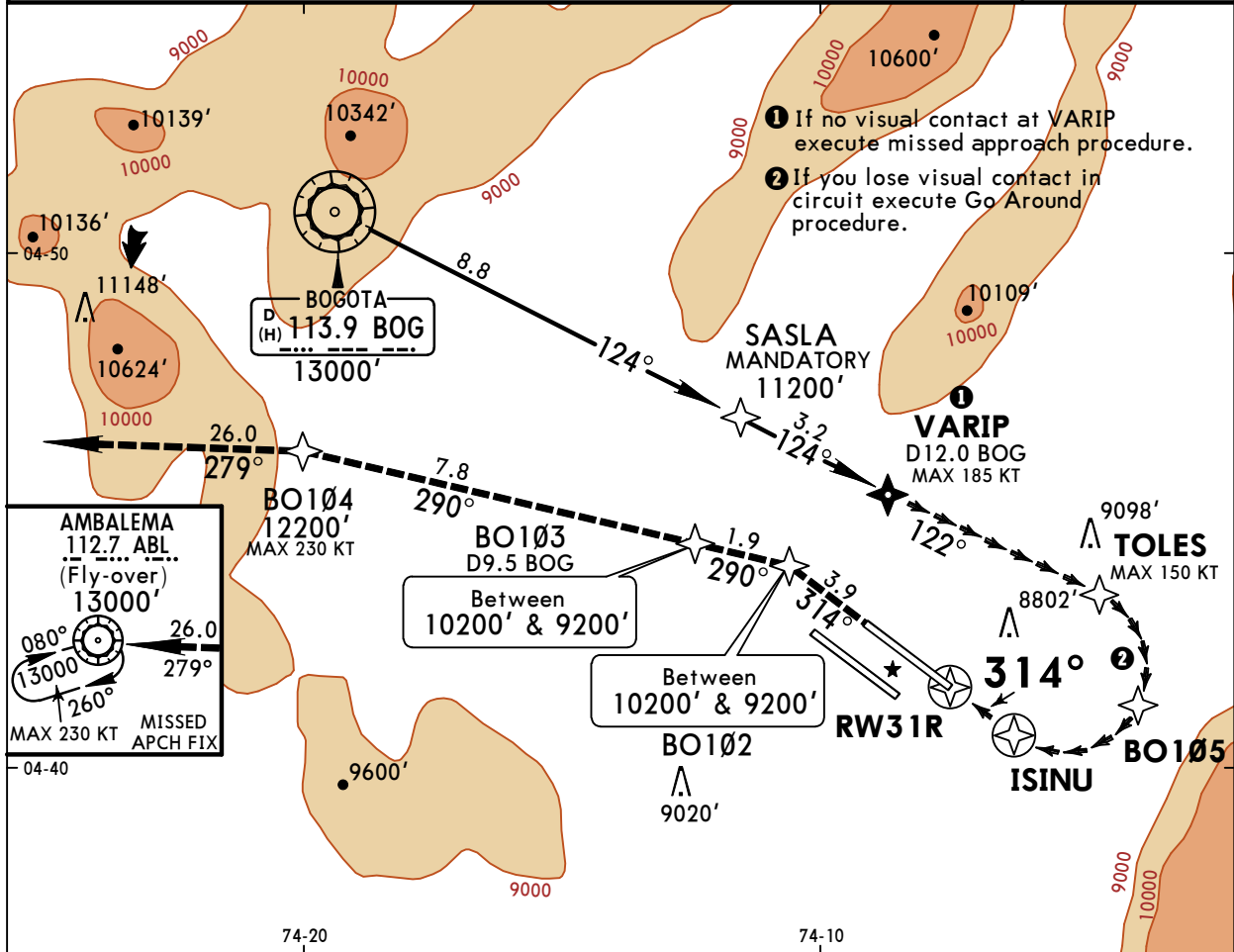
SKBO/BOG
ELDORADO INTL

JEPPESEN
4 DEC 15
Eff 10 Dec (12-5)

BOGOTA, COLOMBIA
RNAV VISUAL FLIGHT
PROCEDURE (GNSS) V Rwy 31R

BRIEFING STRIP

ATIS 113.9		BOGOTA Approach North 121.3 Central 119.5 South 119.65		ELDORADO Tower North 118.1 South 118.25		Ground North 121.8 South 122.75	
RNAV	Final Apch Crs 314°	Mandatory Alt VARIP 10200' (1843')		MDA(H) 10200' (1843')		Apt Elev 8360' Rwy 8357'	
MISSED APCH: Maintain RVFP track, climbing to 13000' to ABL VOR and hold. Expect ATC instructions.							
Alt Set: INCHES (hPa on req) Trans level: FL 190 Trans alt: 18000' 1. RNP Approach and RF required. 2. CAUTION: Mountainous terrain in E and SE sectors at 9800' and above within 20 NM of BOG VOR. 3. In case of Go Around procedure maintain RVFP track, climbing to 13000' to ABL VOR and hold. Expect ATC instructions.							
							MSA BOG VOR



Gnd speed-Kts	70	90	100	120	140	160				
Descent Angle	3.00°	372	478	531	637	743	849			
MAP at VARIP										

STRAIGHT-IN LANDING RWY31R

MDA(H) **10200'** (1843')

PANS OPS

A	
B	
C	
D	6000m

SKBO/BOG
ELDORADO INTL

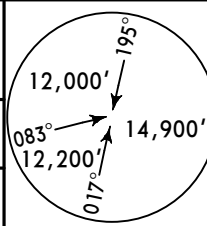
JEPPesen
4 DEC 15
Eff 10 Dec

BOGOTA, COLOMBIA
RNAV VISUAL FLIGHT PROCEDURE
(GNSS) S Rwy 31R

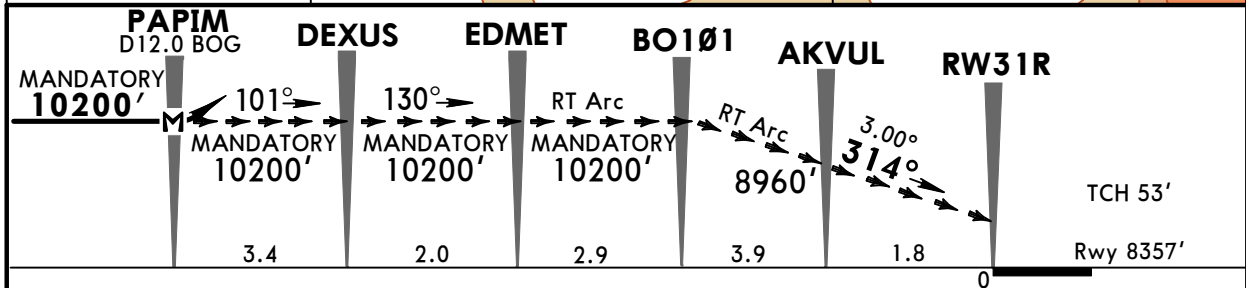
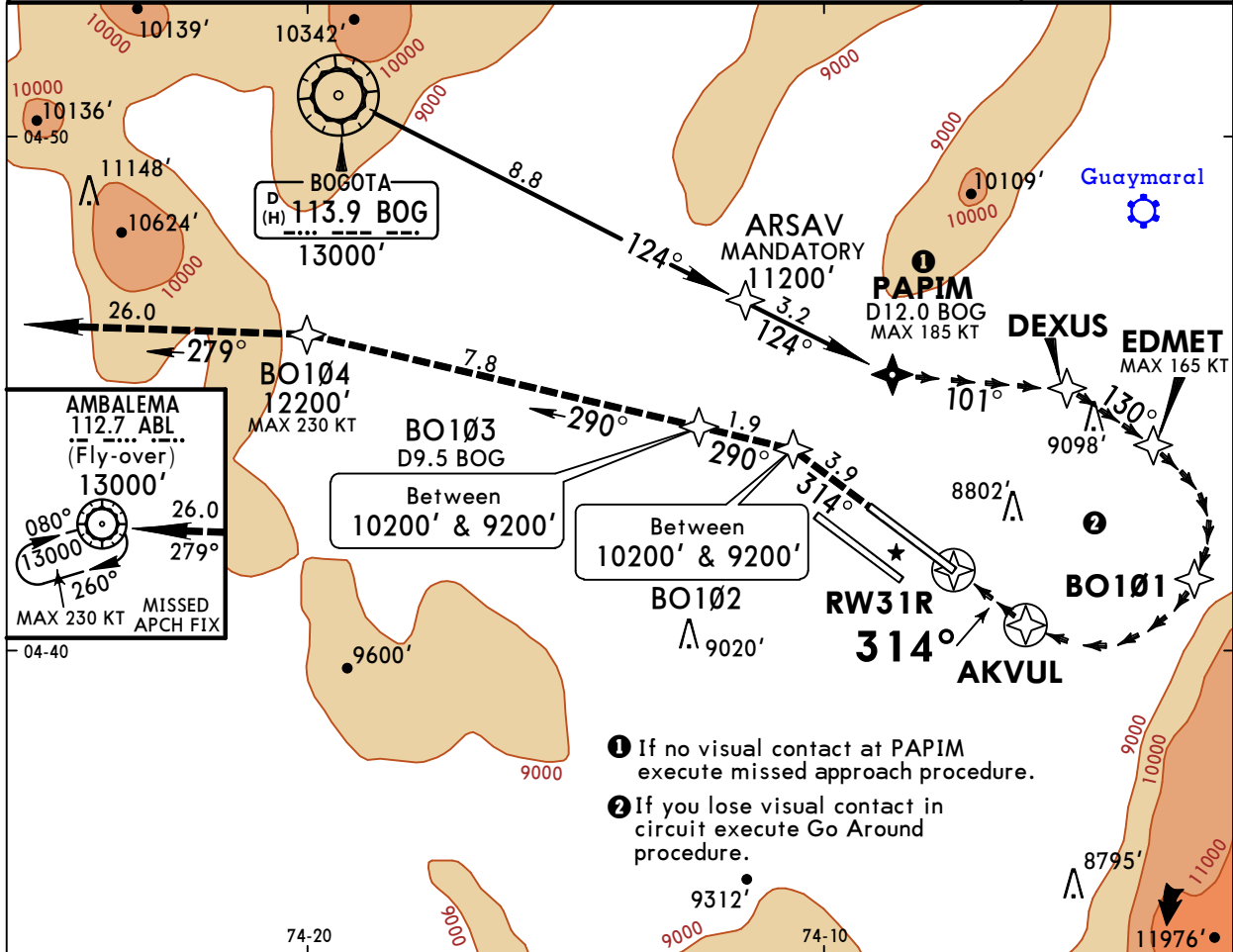
CAT C & D

BRIEFING STRIP

ATIS 113.9		BOGOTA Approach North 121.3 Central 119.5 South 119.65		ELDORADO Tower North 118.1 South 118.25		Ground North 121.8 South 122.75	
RNAV	Final Apch Crs 314°	Mandatory Alt PAPIM 10200'(1843')		MDA(H) 10200'(1843')		Apt Elev 8360' Rwy 8357'	
MISSED APCH: Maintain RVFP track, climbing to 13000' to ABL VOR and hold. Expect ATC instructions.							
Alt Set: INCHES (hPa on req) 1. RNP Approach and RF required.				Trans level: FL 190 2. CAUTION: Mountainous terrain in E and SE sectors at 9800' and above within 20 NM of BOG VOR. 3. In case of Go Around procedure, maintain RVFP track climbing to 13000' to ABL VOR and hold. Expect ATC instructions.			



MSA BOG VOR



Gnd speed-Kts	70	90	100	120	140	160				
Descent Angle	3.00°	372	478	531	637	743	849			
MAP at PAPIM										

STRAIGHT-IN LANDING RWY31R

MDA(H) **10200'**(1843')

PANS OPS

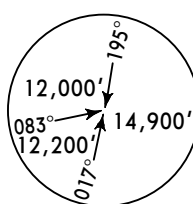
A	NOT APPLICABLE									
B										
C										
D	6000m									

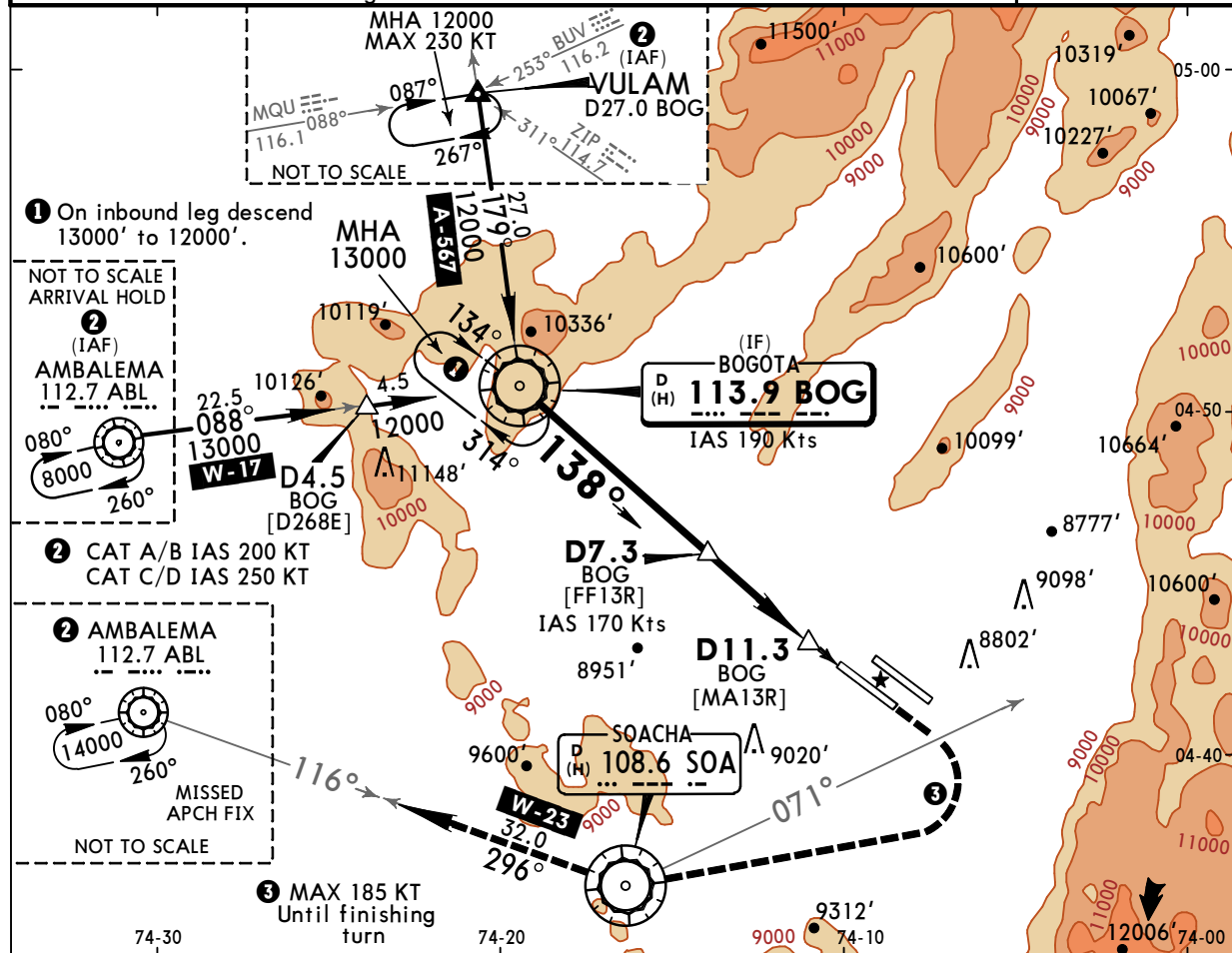
SKBO/BOG
ELDORADO INTL

JEPPesen
21 APR 17 **(13-2)**

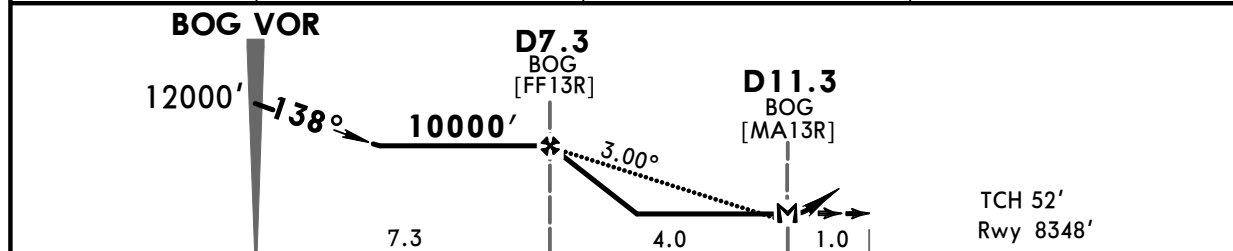
BOGOTA, COLOMBIA
VOR Rwy 13R


BRIEFING STRIP™

ATIS		BOGOTA Approach		ELDORADO Tower		Ground									
North	113.9	North	121.3	Central	119.5	South	119.65	North	118.1	South	118.25	North	121.8	South	122.75
VOR BOG	113.9	Final Apch Crs	138°	Minimum Alt	D7.3 BOG 10000' (1652')		MDA(H)	8910' (562')		Apt Elev 8360' Rwy 8348'					
MISSED APCH: Climb on rwy heading until SOA VOR R-071. Then RIGHT climbing turn to SOA VOR and intercept W-23 to ABL VOR holding at 14000'.															
Alt Set: INCHES (hPa on req) Trans level: FL 190 Trans alt: 18000'															
1. BOG VOR/DME required. 2. Exercise caution to the east/southeast due to mountainous terrain 9800' or higher 20 NM from BOG VOR.															



BOG DME	8.0	9.0	10.0
ALTITUDE	9842'	9526'	9210'



Gnd speed-Kts	70	90	100	120	140	160	HIALS REIL PAPI 	SOA Rwy until 108.6 hdg R-071
Descent Angle 3.00°	372	478	531	637	743	849		
MAP at D11.3 BOG or FAF to MAP 4.0	3:26	2:40	2:24	2:00	1:43	1:30		

STRAIGHT-IN LANDING RWY 13R		CIRCLE-TO-LAND	
MDA(H) 8910' (562')		HIALS out	
A	2100m	Refer to VOR CHARLIE	
B			
C	2300m		
D			

PANS OPS

SKBO/BOG

ELDORADO INTL

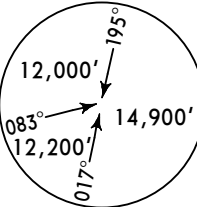
21 APR 17

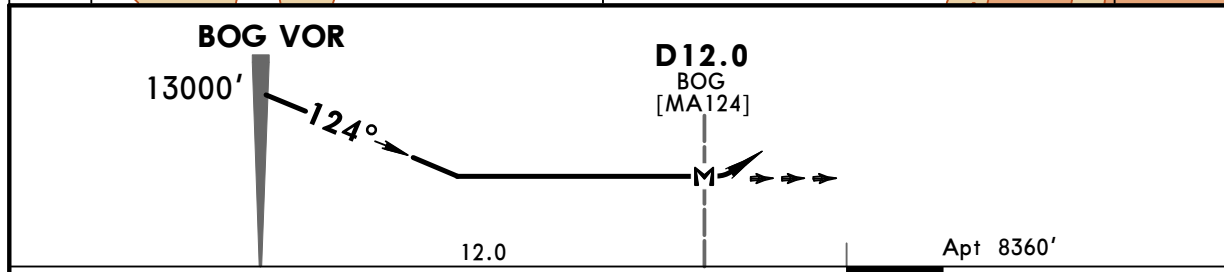
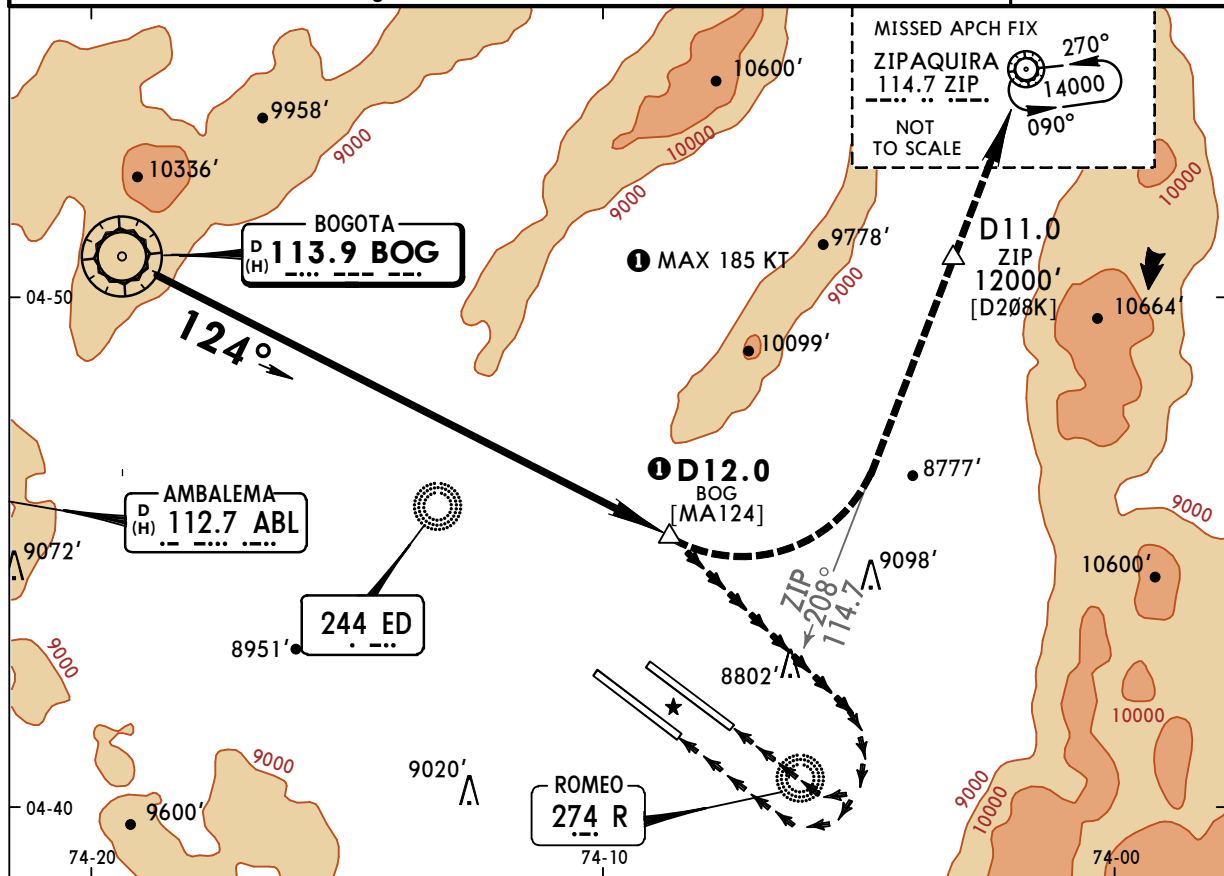
(13-3)

**MISSED APCH CLIMB
GRADIENT MIM 4.0%**

BOGOTA, COLOMBIA
VOR CHARLIE (VOR-C)
Rwy 31R/31L

BRIEFING STRIP™

ATIS		BOGOTA Approach			ELDORADO Tower		Ground	
North		North	Central	South	North	South	North	South
113.9		121.3	119.5	119.65	118.1	118.25	121.8	122.75
VOR BOG		Final Apch Crs		No FAF	MDA(H) Refer to Minimums	Apt Elev 8360'		
113.9		124°						
MISSED APCH: Turn LEFT to intercept ZIP VOR R-208 and climb to 14000'. Cross 12000' or above, 11 NM before ZIP VOR with minimum climb gradient of 4%. Join hold at ZIP VOR and expect ATC instructions. Go around procedure: Expect to follow ATC instructions, otherwise proceed to R NDB then intercept and follow BOG VOR R-136 to D9.5 BOG VOR at or above 9200', turn LEFT to intercept ABL VOR R-099 inbound, or bearing 279° outbound from ED NDB to cross D26.0 ABL VOR at 12200' or above. Proceed to ABL VOR and hold at 13000'. Expect final ATC instructions.								
Alt Set: INCHES (hPa on req)				Trans level: FL 190		Trans alt: 18000'		
1. BOG and ZIP VOR/DME required. 2. Exercise caution to the east/southeast due to mountainous terrain 9800' or higher 20 NM from BOG VOR.								
								MSA BOG VOR



MAP at D12.0 BOG						Lighting - Refer to Airport Chart	ZIP 114.7 R-208
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PANS OPS

CIRCLE-TO-LAND		Missed apch climb gradient mim 4.0%
Max Kts	MDA(H)	
A 100	10200' (1840') - 6000m	
B 135		
C 180		
D 205		

SPZO/CUZ
TNTE FAP ALEJANDRO
VELAZCO ASTETE INTL

JEPPesen
24 FEB 17 **10-2**

CUSCO, PERU
STAR

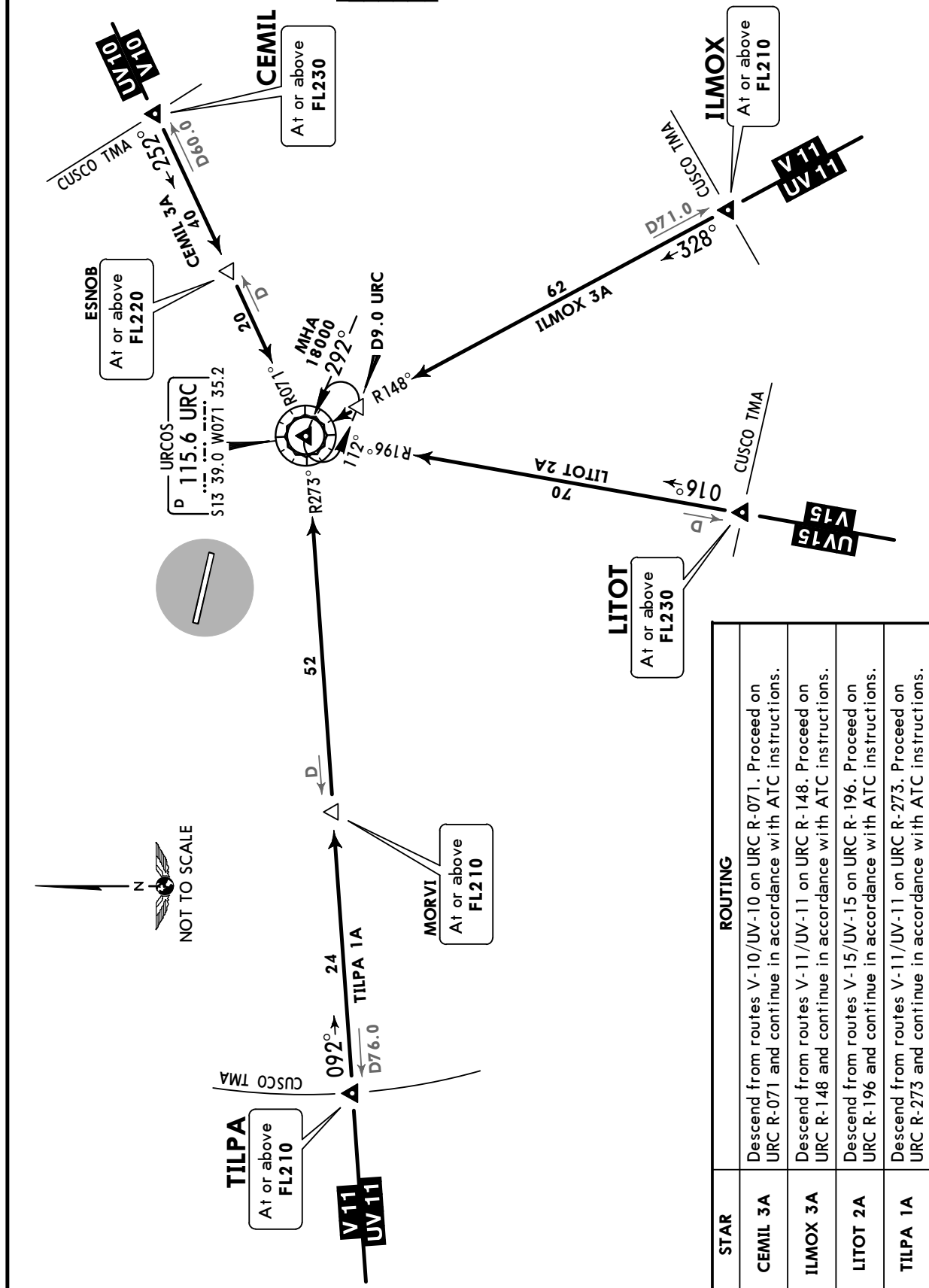
*ATIS
127.0

Apt Elev
10860'

Alt Set: hPa Trans level: By ATC Trans alt: 18000'
In case of DME failure, the minimum holding altitude will be FL230 and the outbound leg 1.5 minutes.

**CEMIL 3A [CEMI3A], ILMOX 3A [ILMO3A]
LITOT 2A [LITO2A], TILPA 1A [TILP1A]**
ARRIVALS

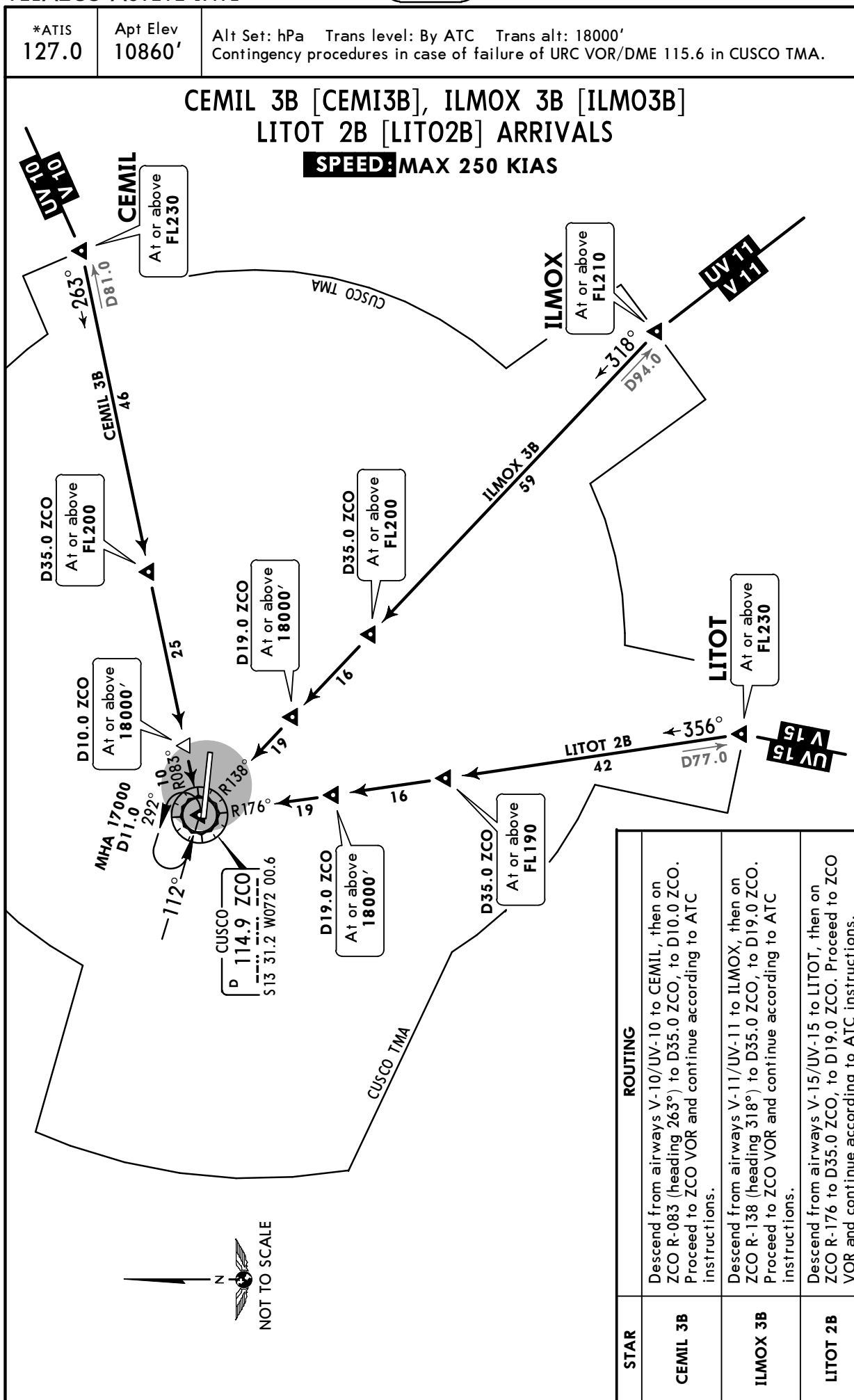
SPEED: MAX 250 KT



SPZO/CUZ
 Tnte FAP Alejandro
 Velazco Astete Intl

JEPPESSEN
 24 FEB 17 **10-2A**

CUSCO, PERU
STAR



SPZO/CUZ
TNTE FAP ALEJANDRO
VELAZCO ASTETE INTL

JEPPESEN
24 FEB 17 **(10-2B)**

CUSCO, PERU
STAR

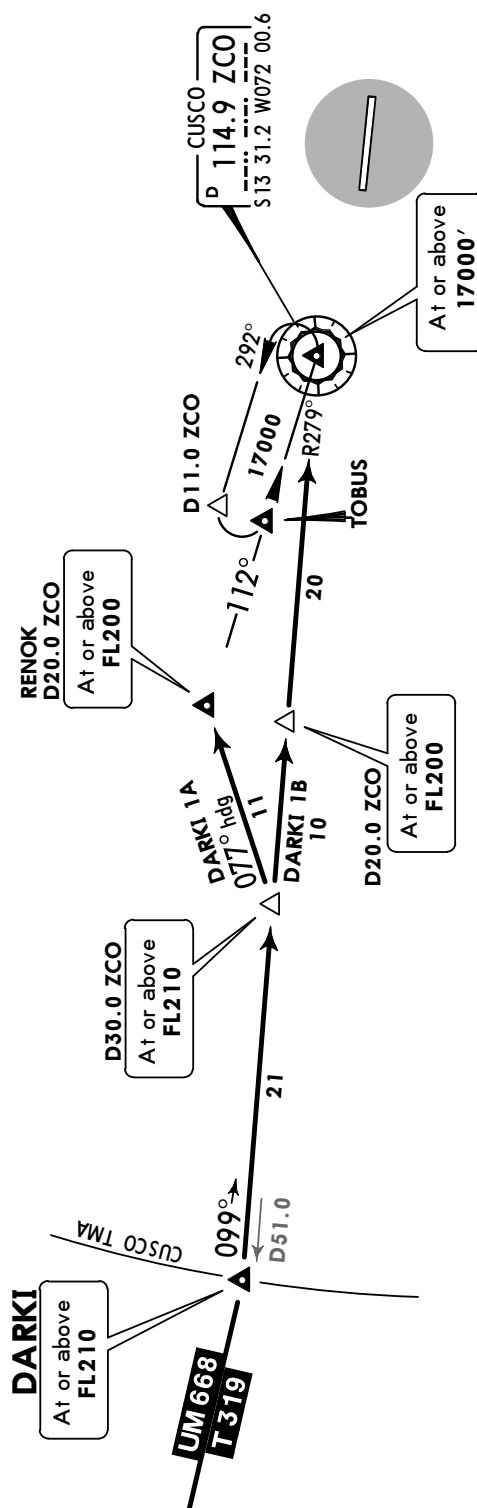
*ATIS
127.0

Apt Elev
10860'

Alt Set: hPa Trans level: By ATC Trans alt: 18000'
In case of DME failure, the minimum holding altitude will be FL230
and the outbound leg 1.5 minutes.

DARKI 1A [DARK1A], DARKI 1B [DARK1B]
ARRIVALS
(RWY 28)

SPEED: MAX 250 KT

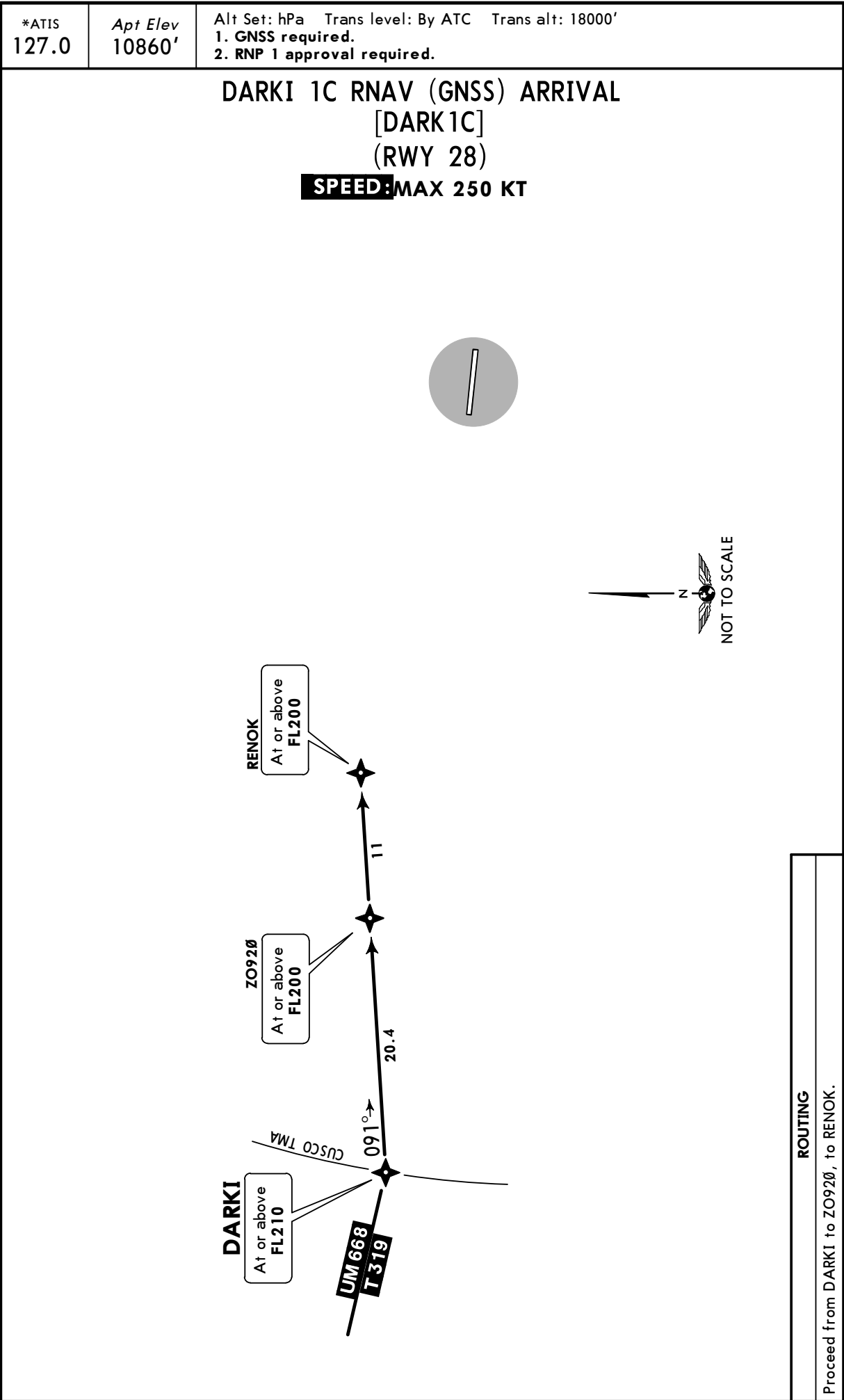


STAR	ROUTING
DARKI 1A	Descend on ZCO R-279 (heading 099°), at D30 ZCO turn LEFT on heading 077° to RENOK.
DARKI 1B	Descend on ZCO R-279 (heading 099°), proceed to ZCO VOR or in accordance with ATC instructions.

SPZO/CUZ
TNTE FAP ALEJANDRO
VELAZCO ASTETE INTL

JEPPESEN
24 FEB 17 10-2C

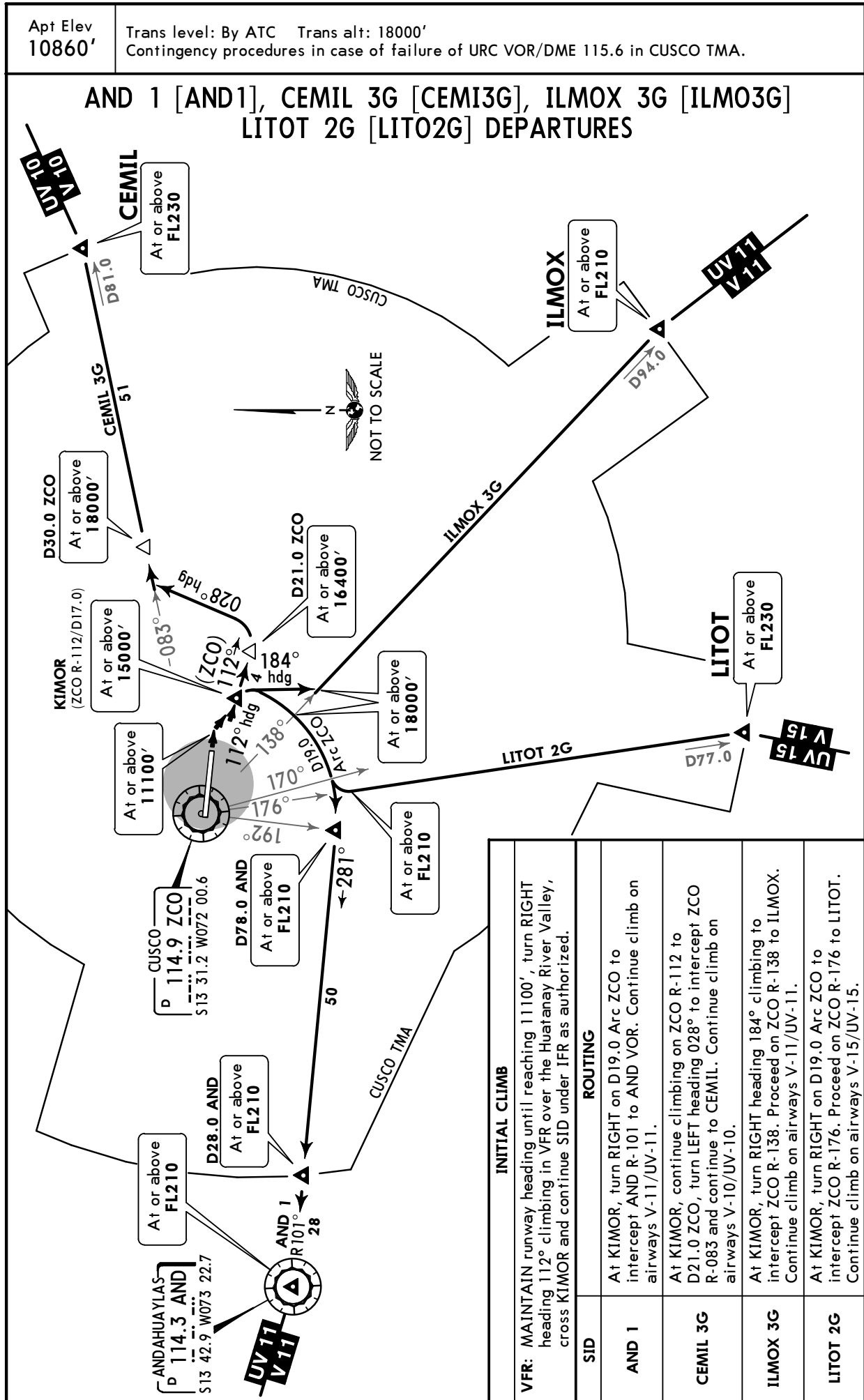
CUSCO, PERU
RNAV STAR



SPZO/CUZ
TNTE FAP ALEJANDRO
VELAZCO ASTETE INTL

JEPPesen
24 FEB 17 **10-3**

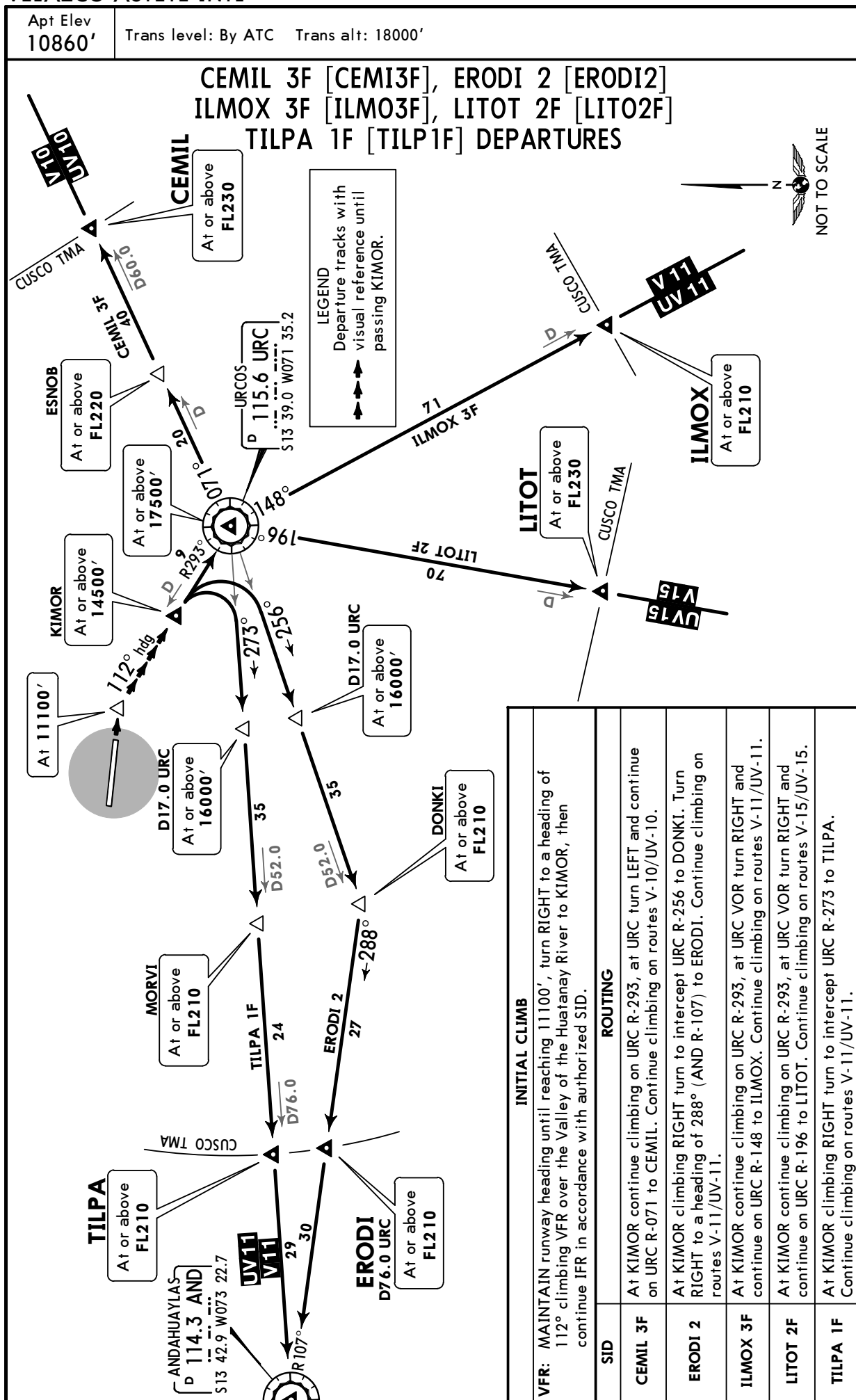
CUSCO, PERU
SID



SPZO/CUZ
TNTE FAP ALEJANDRO
VELAZCO ASTETE INTL

JEPPESSEN
24 FEB 17 10-3A

CUSCO, PERU
SID



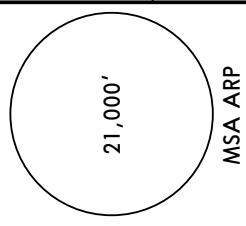
SPZO/CUZ
Tnte FAP ALEJANDRO
VELAZCO ASTETE INTL

JEPPesen
21 APR 17 **10-3B**

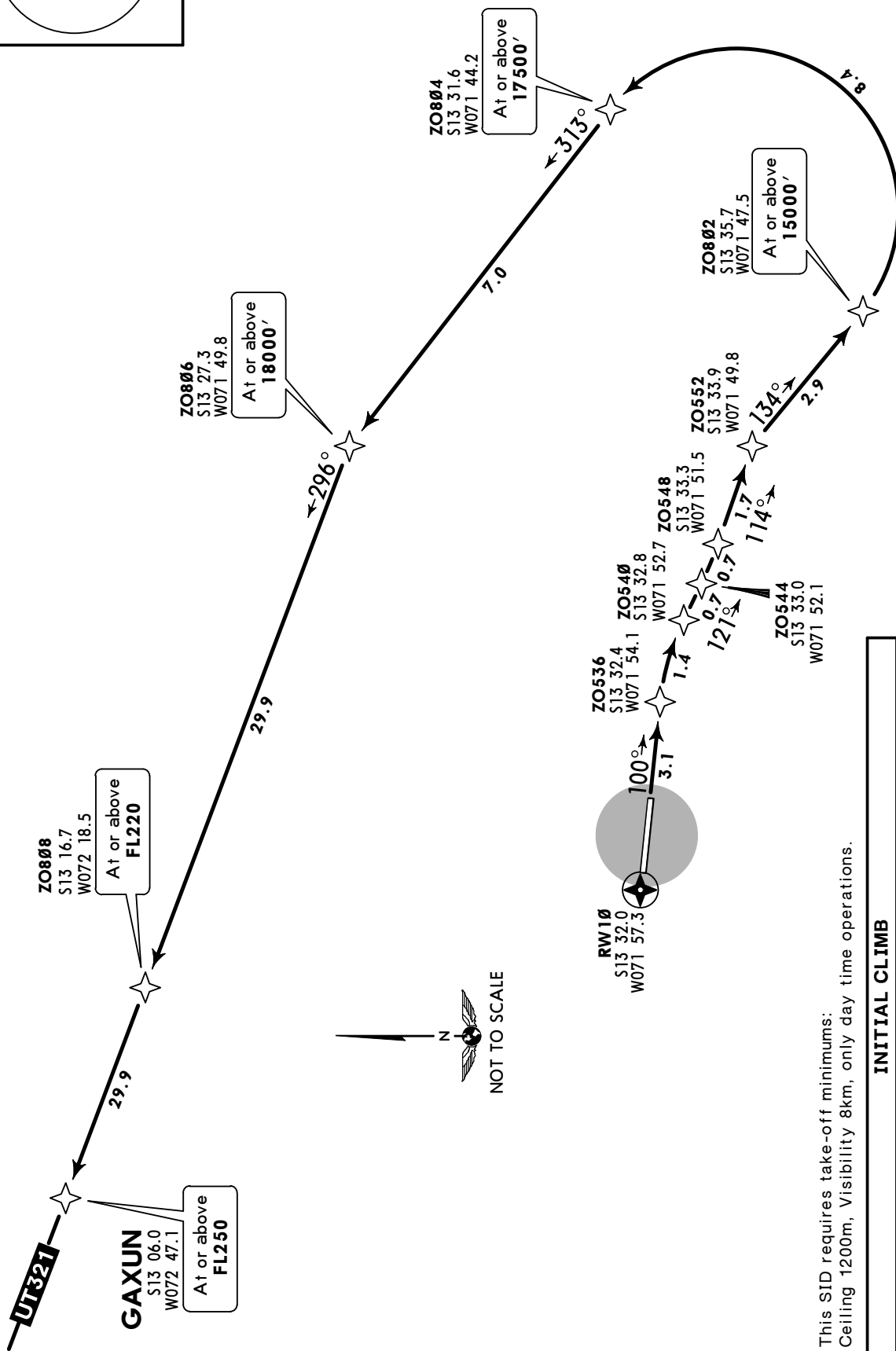
CUSCO, PERU
RNAV SID

Apt Elev
10860'

Trans level: By ATC Trans alt: 18000'
1. RNP 0.3 required. 2. RF required. 3. Authorization required.



GAXUN 1B (RNP) DEPARTURE
[GAXU1B]
(RWY 10)



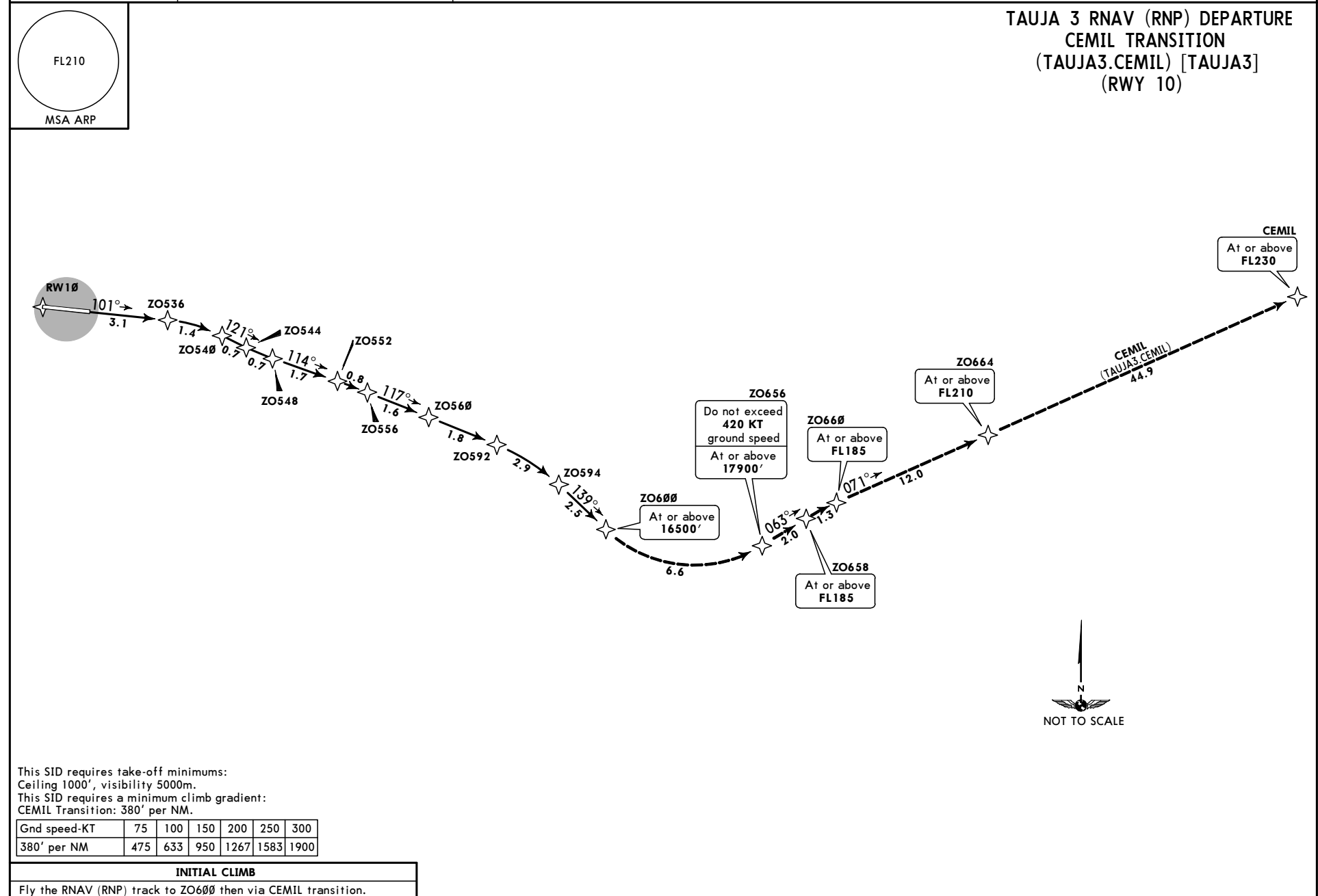
This SID requires take-off minimums:
Ceiling 1200m, Visibility 8km, only day time operations.

INITIAL CLIMB
MAINTAIN runway heading until Z0536, continue on RNAV (RNP) track to cross GAXUN at or above FL250, continue climb on route UT-321.

SPZO/CUZ
 TENIENTE FAP ALEJANDRO
 VELAZCO ASTETE INTL

JEPPESEN 24 FEB 17 **(10-3D)** **CUSCO, PERU**
RNAV SID

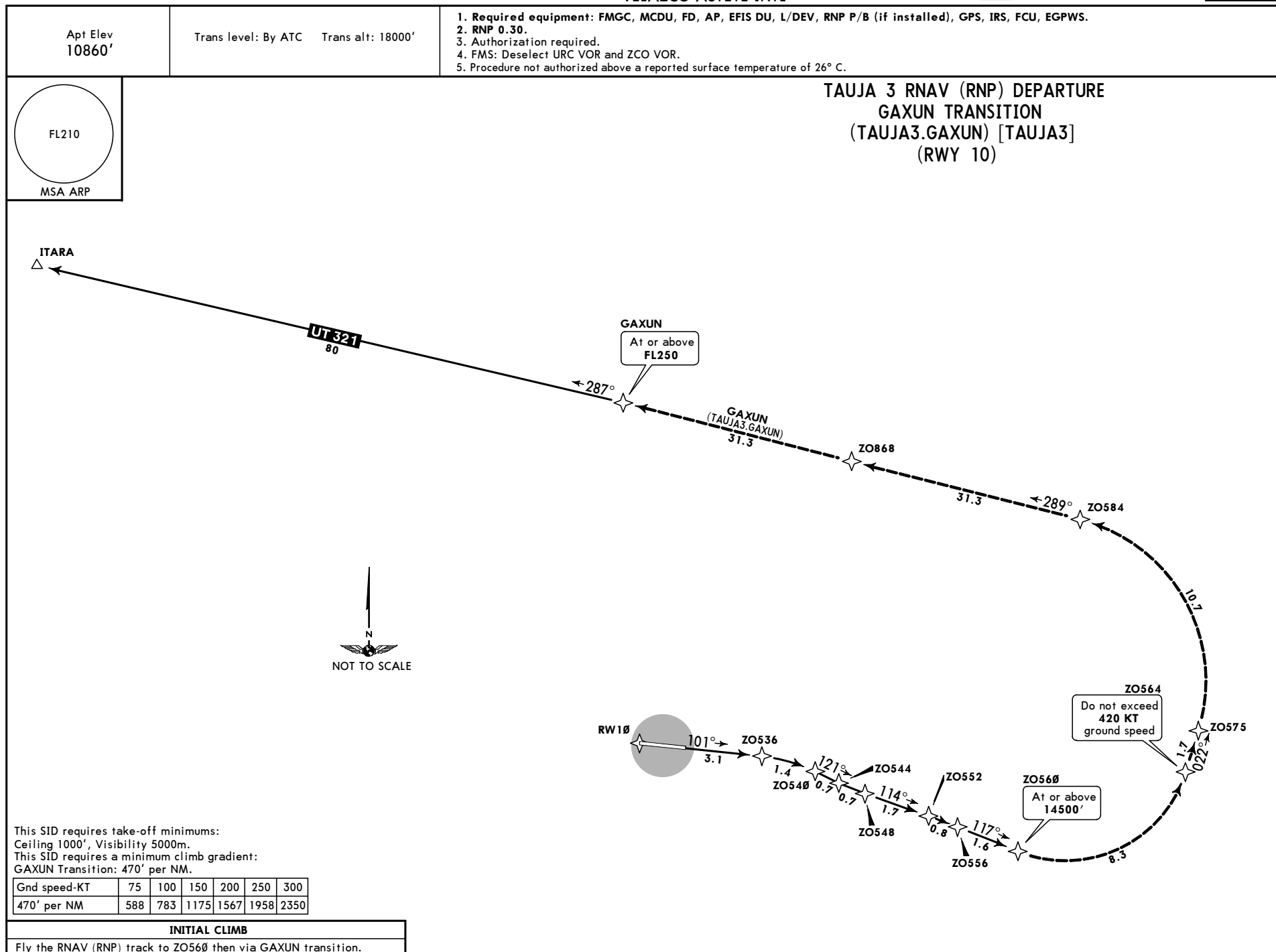
Apt Elev 10860'	Trans level: By ATC Trans alt: 18000'	1. Required equipment: FMGC, MCDU, FD, AP, EFIS DU, L/DEV, RNP P/B (if installed), GPS, IRS, FCU, EGPWS. 2. RNP 0.30. 3. Authorization required. 4. FMS: Deselect URC VOR and ZCO VOR. 5. Procedure not authorized above a reported surface temperature of 26° C.
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SPZO/CUZ
 TENIENTE FAP ALEJANDRO
 VELAZCO ASTETE INTL

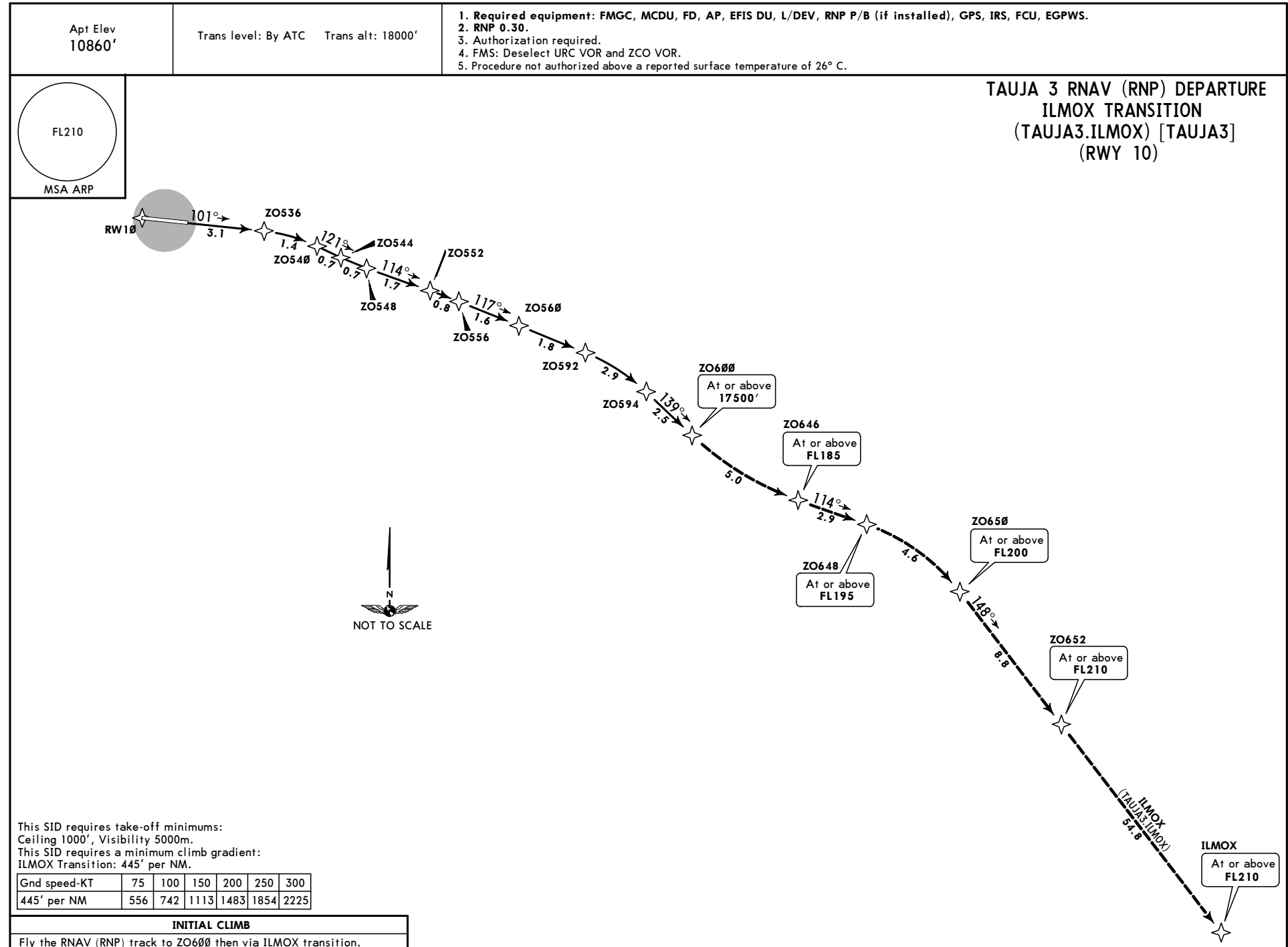
JEPPESSEN
 24 FEB 17 **(10-3E)**

CUSCO, PERU
RNAV SID



SPZO/CUZ
 TENIENTE FAP ALEJANDRO
 VELAZCO ASTETE INTL

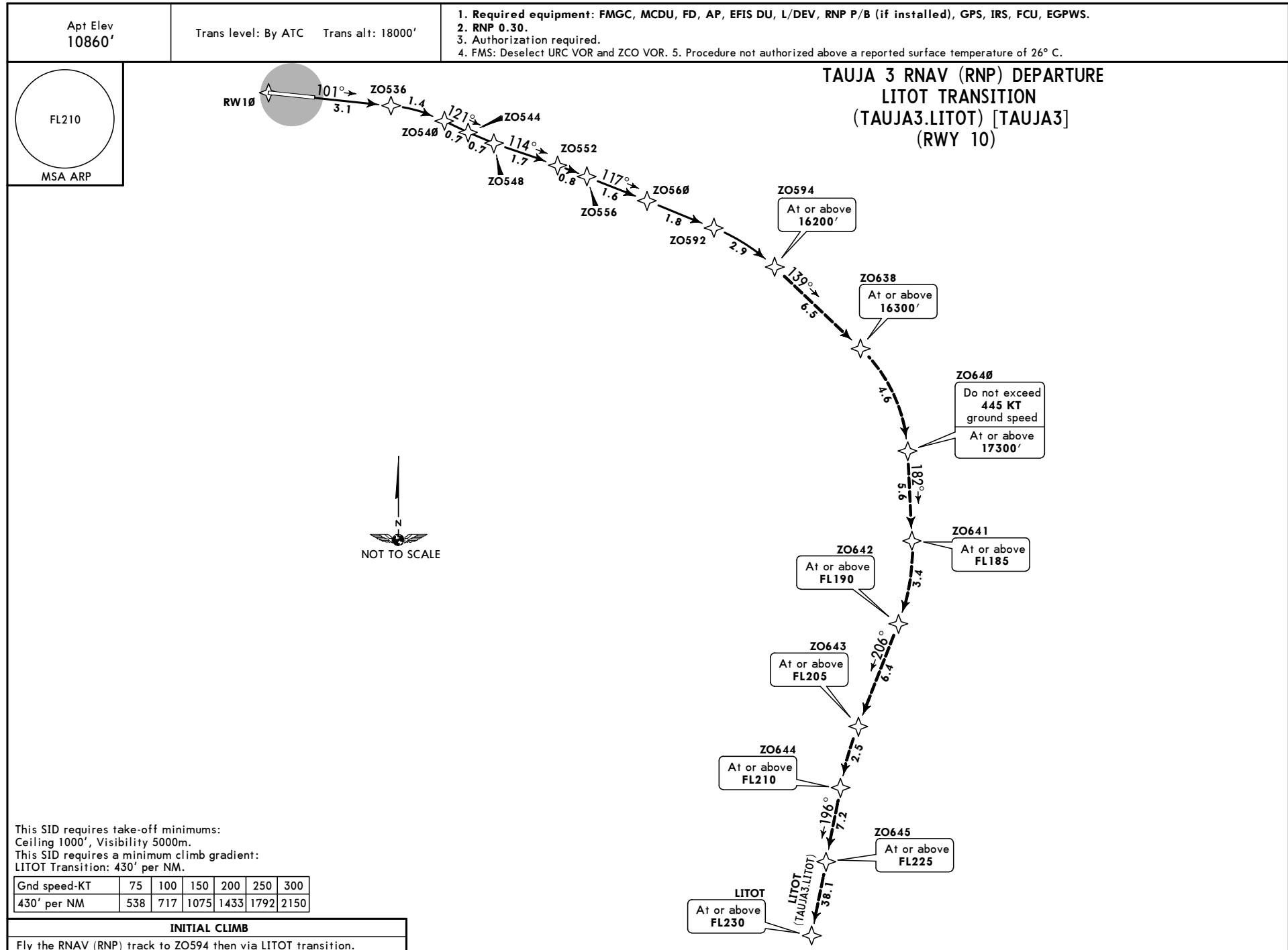
JEPPESSEN CUSCO, PERU
 24 FEB 17 (10-3F) **RNAV SID**



SPZO/CUZ
 TENIENTE FAP ALEJANDRO
 VELAZCO ASTETE INTL

JEPPesen
 24 FEB 17 **10-3G**

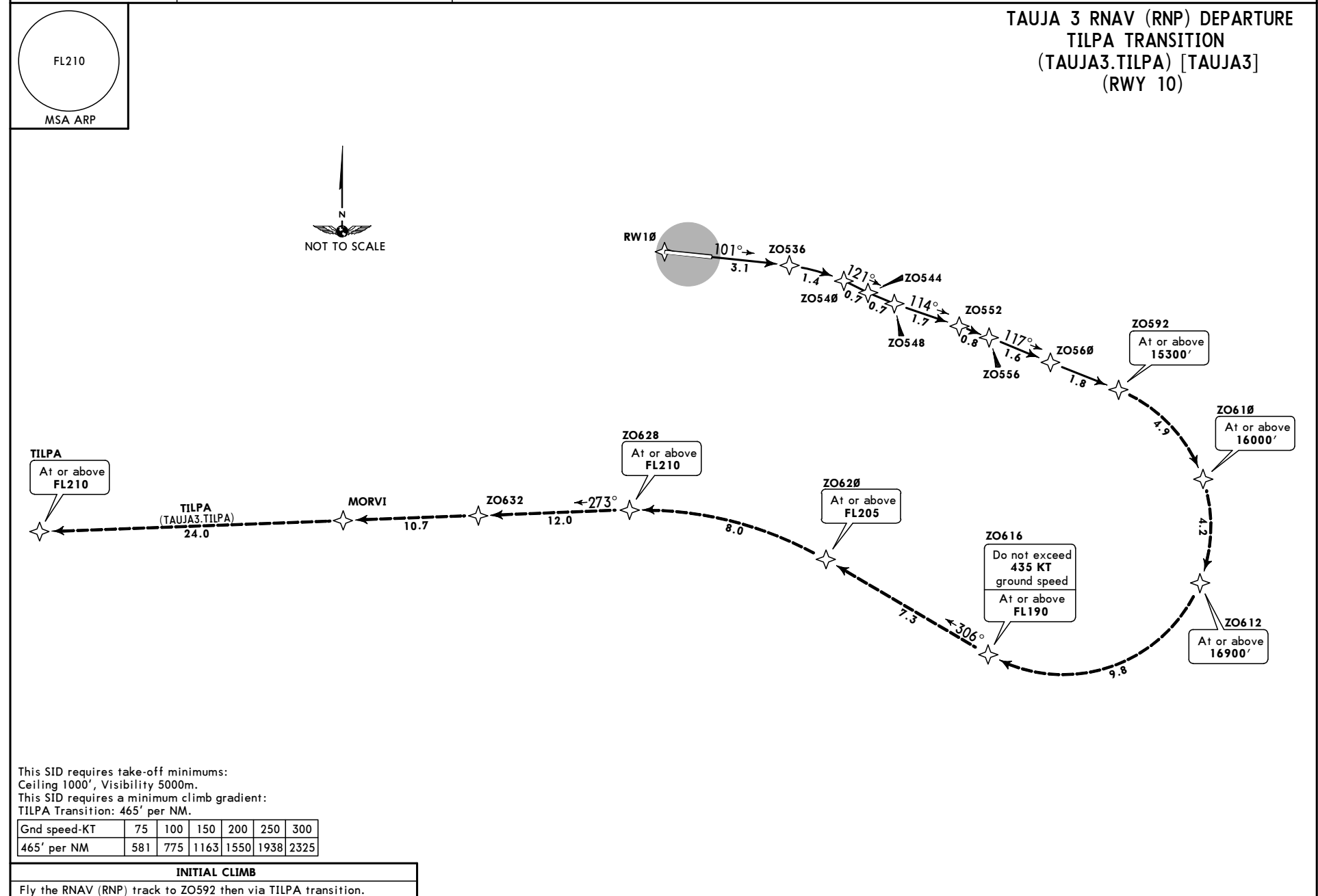
CUSCO, PERU
RNAV SID



SPZO/CUZ
 TENIENTE FAP ALEJANDRO
 VELAZCO ASTETE INTL

JEPPESSEN 24 FEB 17 (10-3H) **CUSCO, PERU**
RNAV SID

Apt Elev 10860'	Trans level: By ATC Trans alt: 18000'	1. Required equipment: FMGC, MCDU, FD, AP, EFIS DU, L/DEV, RNP P/B (if installed), GPS, IRS, FCU, EGPWS. 2. RNP 0.30. 3. Authorization required. 4. FMS: Deselect URC VOR and ZCO VOR. 5. Procedure not authorized above a reported surface temperature of 26° C.
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This SID requires take-off minimums:
 Ceiling 1000', Visibility 5000m.
 This SID requires a minimum climb gradient:
 TILPA Transition: 465' per NM.

Gnd speed-KT	75	100	150	200	250	300
465' per NM	581	775	1163	1550	1938	2325

INITIAL CLIMB
 Fly the RNAV (RNP) track to ZO592 then via TILPA transition.

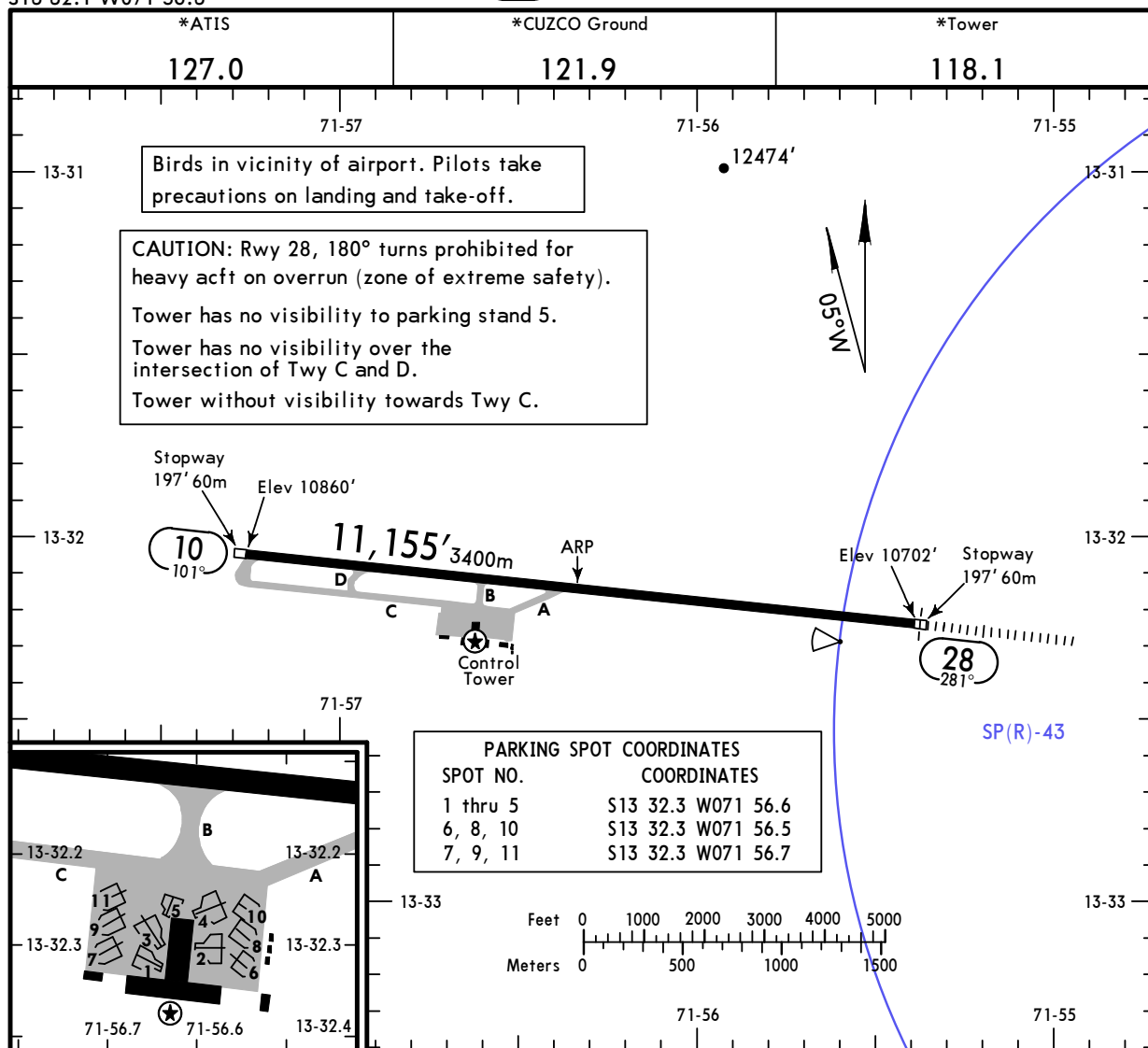
SPZO/CUZ
Apt Elev **10860'**
S13 32.1 W071 56.3

JEPPESEN

24 FEB 17 **(10-9)**

TNTE FAP ALEJANDRO VELAZCO ASTETE

CUSCO, PERU



ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS		TAKE-OFF	WIDTH
		Threshold	Landing Beyond		
① 10	RL CL	NA	NA		148'
② 28	RL CL HIALS PAPI-B (angle 3.0°) RVR			NA	45m

① Landing not authorized, take-off according to procedure.

② Visual landing approach, take-off not authorized.

AIRPORT OPERATING MINIMUMS

	CEILING-VISIBILITY
A	
B	
C	
D	

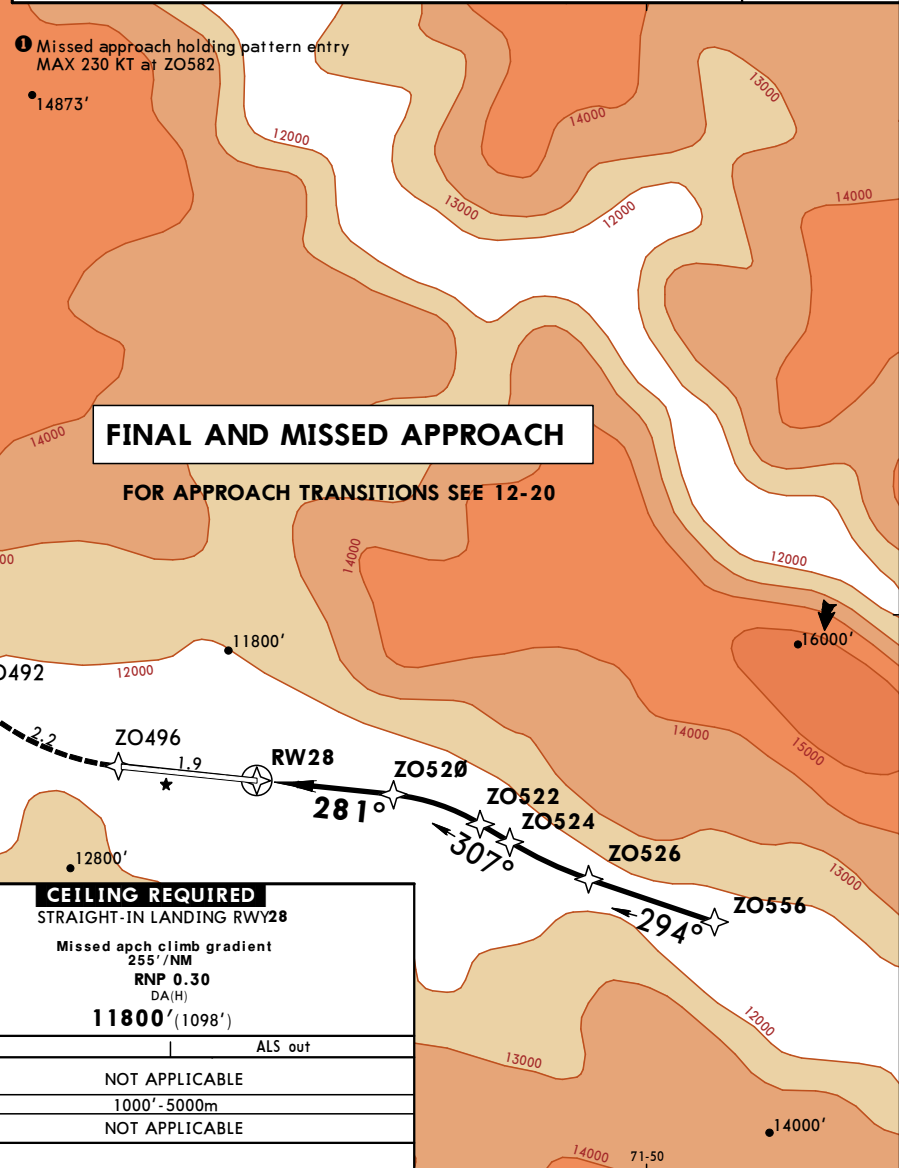
1200m - 8 km

24 FEB 17 **JEPPESEN** **CAT C** CUSCO, PERU
12-20 RNAV (RNP) Rwy 28

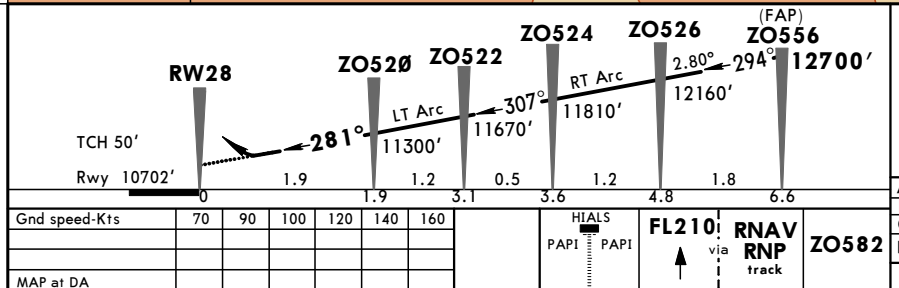


SPZO/CUZ MISSED APCH CLIMB GRADIENT 255'/NM 24 FEB 17
TNTE FAP ALEJANDRO VELAZCO ASTETE (12-20A) RNAV (RNP) Rwy 28 CAT C CUSCO, PERU

BRIEFING STRIP	*ATIS 127.0		*CUSCO Approach 120.6		*CUSCO Tower 118.1		*Ground 121.9		
	RNAV	Final Apch Crs 281°	Minimum Alt ZO556 12700'(1998')	RNP 0.30 DA(H) 11800'(1098')	Apt Elev 10860' Rwy 10702'		<div>21,000'</div> <div>MSA ARP</div>		
	MISSED APCH: Climb to FL210 via the RNAV (RNP) missed approach track to ZO582 and hold. Required minimum climb gradient of 255'/NM								
	Alt Set: hPa Trans level: By ATC Trans alt: 18000'								
	1. AUTHORIZATION REQUIRED. 2. Approach not authorized when airport temperature is below -8°C (18°F) or above 26°C (79°F). 3. One-engine inoperative aircraft continuing below the DA are committed to land. 4. Deselect URC and ZCO VOR. 5. MAX 250 KT within SPZO TMA. 6. VGSI and RNAV glidepath not coincident.								



FINAL AND MISSED APPROACH
FOR APPROACH TRANSITIONS SEE 12-20



CEILING REQUIRED STRAIGHT-IN LANDING RWY28 Missed apch climb gradient 255'/NM RNP 0.30 DA(H) 11800'(1098')	
A	NOT APPLICABLE
B	NOT APPLICABLE
C	1000'-5000m
D	NOT APPLICABLE

SPZO/CUZ

24 FEB 17 **(13-1)**

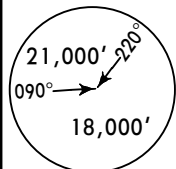
CUSCO, PERU

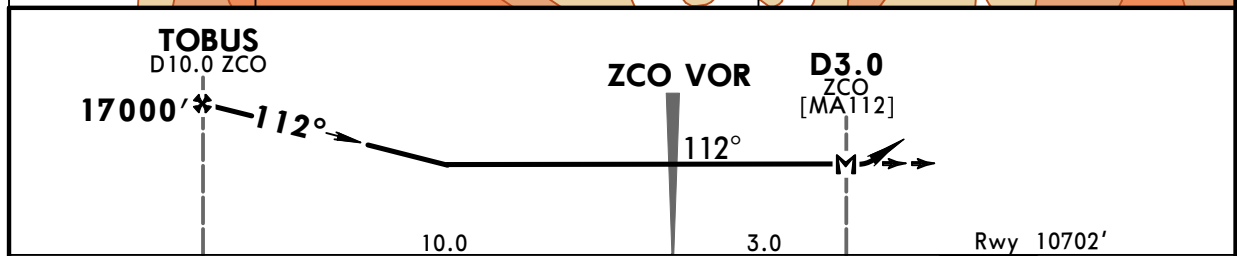
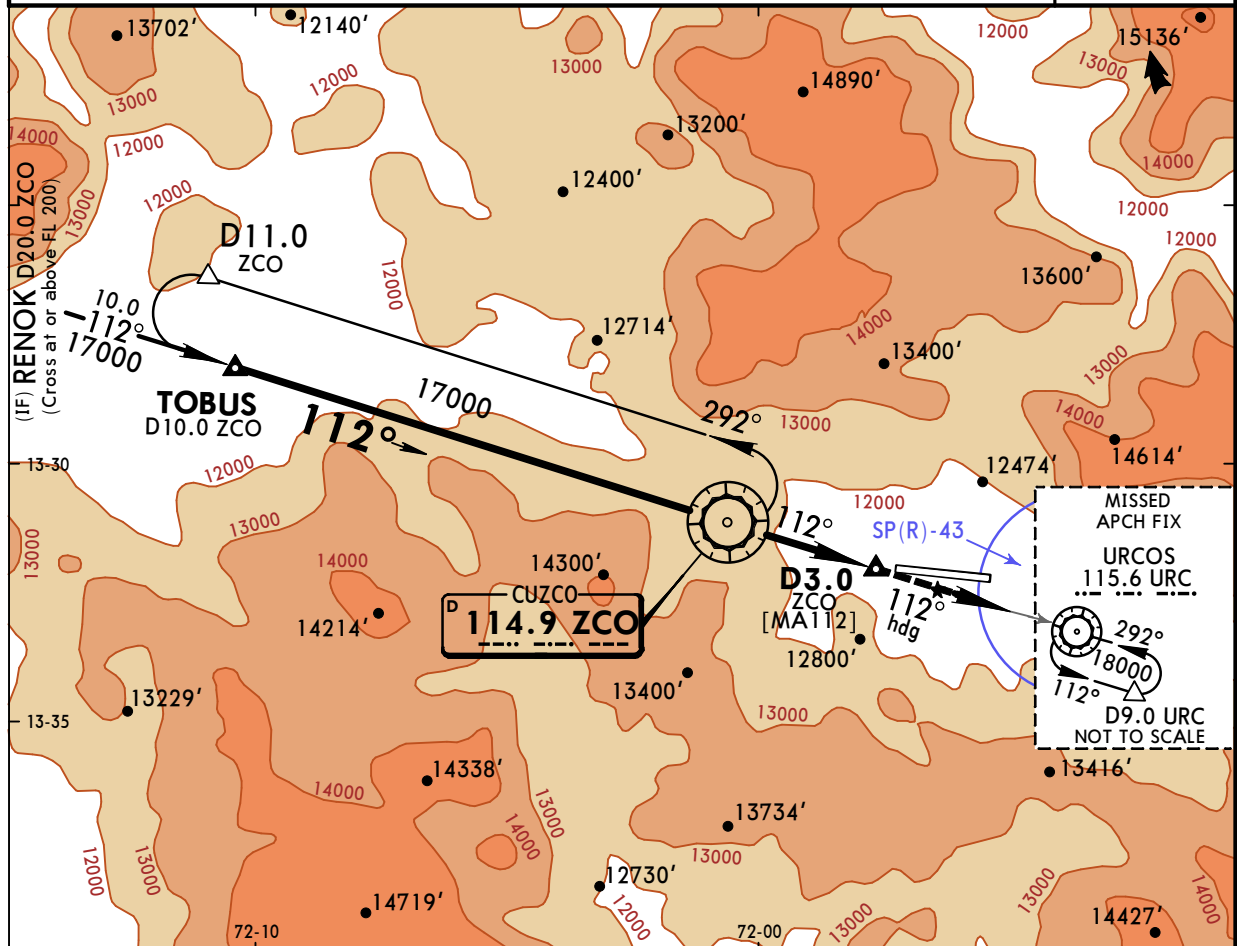
DESCENT CHARLIE

TNTE FAP ALEJANDRO VELAZCO ASTETE

VOR DME (CIRCLING) Rwy 28

BRIEFING STRIP

*ATIS 127.0		*CUZCO Approach 120.6		*CUZCO Tower 118.1		*Ground 121.9	
VOR ZCO 114.9	Final Apch Crs 112°	Minimum Alt TOBUS 17000'(6298')	MDA(H) Refer to Minimums	Apt Elev 10860' Rwy 28 10702'			
MISSED APCH: Climb on 112° heading (R-112 ZCO/R-292 URC) and cross URC VOR at or above 18000' and hold.							
Alt Set: hPa		Rwy Elev: 335 hPa		Trans level: By ATC		Trans alt: 18000'	
1. DME required. 2. Max 220 KT below FL 230.							
MSA ZCO VOR 18,000' within 10 NM							



					HIALS PAPI PAPI		18000'	112° on hdg
MAP at D3.0 ZCO								

CEILING REQUIRED

CIRCLE-TO-LAND
Circling prohibited for Rwy 10
Circling not authorized north of airport

PANS OPS

Max Kts.	MDA(H)	CEIL-VIS
A 100	14500' (3798') 1200m -8.0 km	
B 135		
C 180		
D 205		

SPZO/CUZ

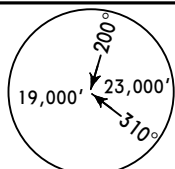
JEPPesen
24 FEB 17 (13-2)

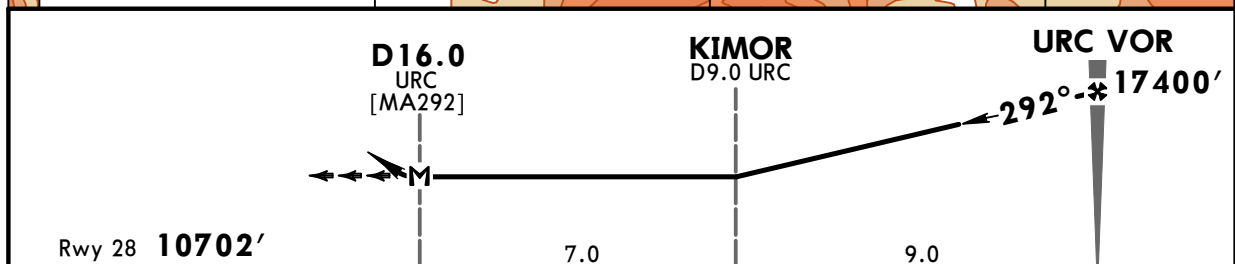
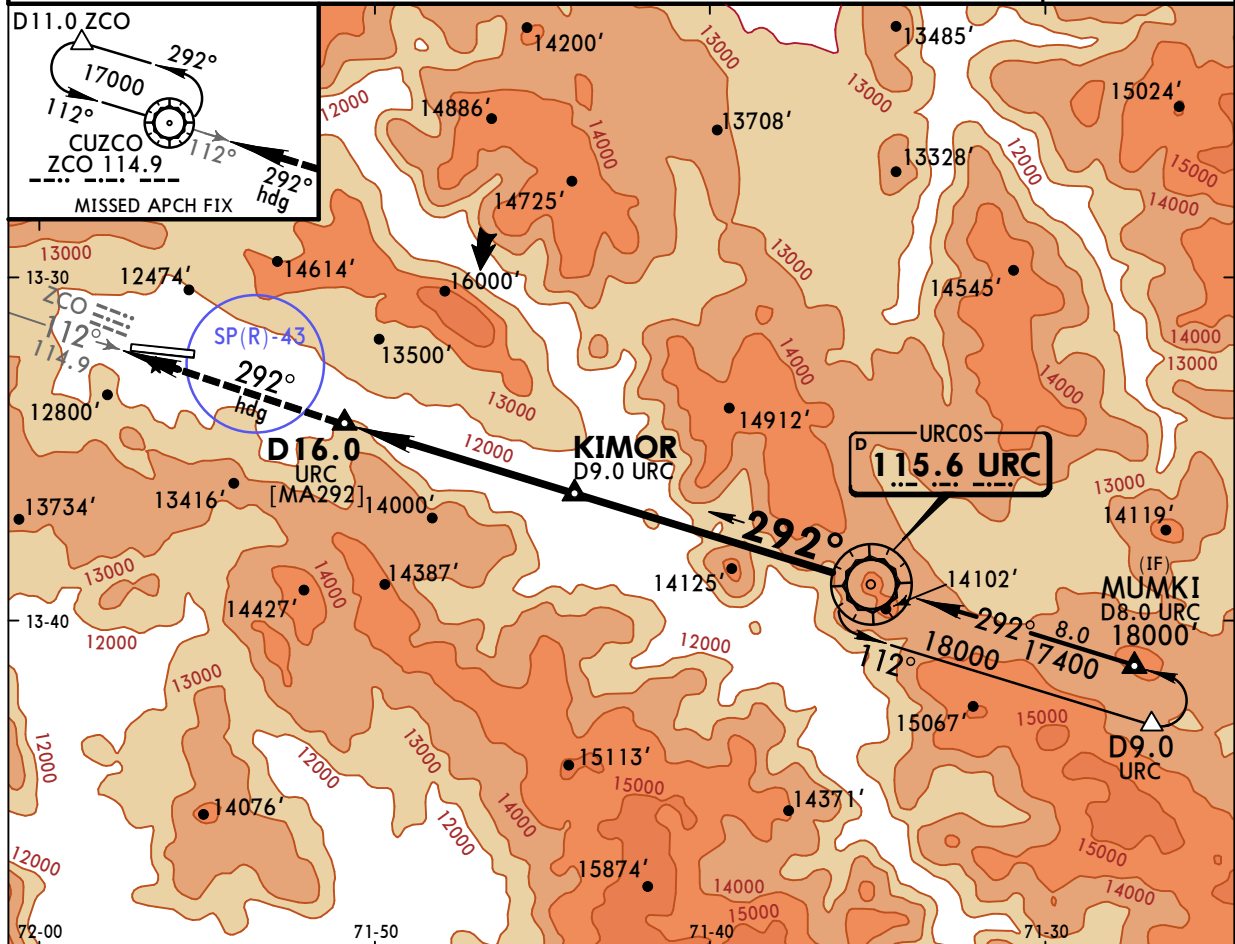
CUSCO, PERU
DESCENT DELTA

TNTE FAP ALEJANDRO VELAZCO ASTETE

VOR DME (CIRCLING) Rwy 28

BRIEFING STRIP

*ATIS 127.0		*CUZCO Approach 120.6		*CUZCO Tower 118.1		*Ground 121.9			
VOR URC 115.6	Final Apch Crs 292°	Minimum Alt URC VOR 17400' (6698')	MDA(H) Refer to Minimums	Apt Elev 10860' Rwy 28 10702'					
MISSED APCH: Climb on 292° heading (R-112 ZCO) and cross ZCO VOR at or above 16000' and hold at ZCO VOR at or above 17000'.									
Alt Set: hPa		Rwy Elev: 335 hPa		Trans level: By ATC				Trans alt: 18000'	
1. DME required.								2. Max 220 KT below FL 230.	



Gnd Speed-Kts	70	90	100	120	140	160	HIALS PAPI PAPI		↑ on 292° hdg
Rate of descent of final 5.3%	376	483	537	644	751	859			
MAP at D16.0 URC									

CEILING REQUIRED

CIRCLE-TO-LAND
Circling prohibited for Rwy 10
Circling not authorized north of airport

	Max Kts	MDA(H)	CEIL-VIS
A	100	14500' (3640')	1200m -8.0 km
B	135		
C	180		
D	205		

PANS OPS