For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART

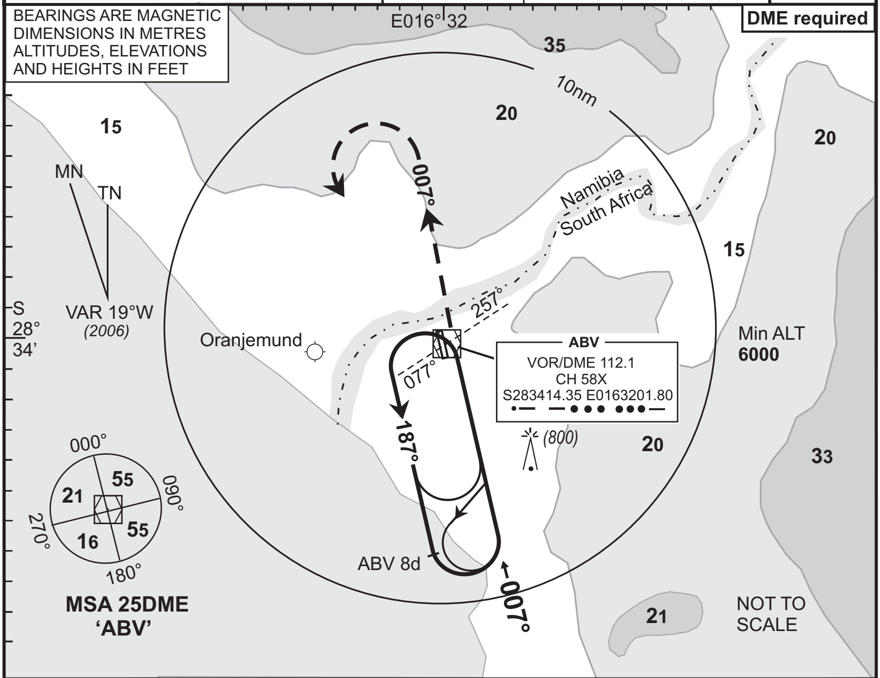
AERODROME ELEV 98
HEIGHTS RELATED TO
THR RWY 01-ELEV 98

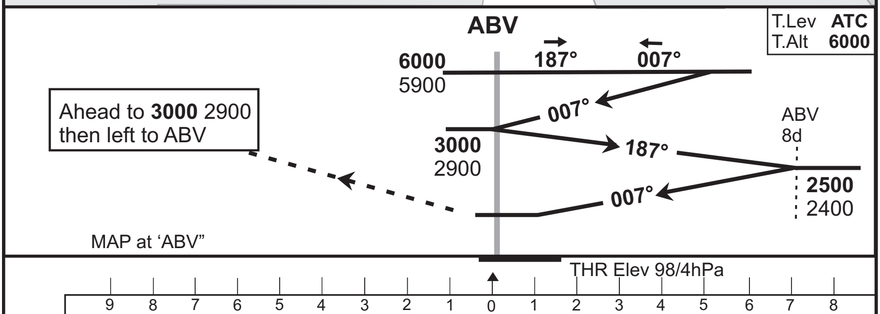
(Cat A, B, C)

ALEXANDER BAY
VOR-A Rwy 01

FAAB

ALEXANDER BAY Radio (AFIS) 118.7			VOR-01 EFF 15 Mar 07





1. **This procedure is conducted outside controlled airspace, entirely at the discretion of the pilot in command.**
2. Initial approach altitude **6000** or higher MSA. Descend in the hold to **3000** FT ALT.
3. Procedure turn approach applicable only within 30° of the outbound heading. Use phraseology "Executing procedure turn approach".
4. RoD from ABV 8d computes at 3° angle of descent.
5. Circle to land at the discretion of the pilot in command.

OCA/H					
Cat of ACFT		**A**	**B**	**C**	**D**
Straight -in		1272	1272	1272	N/A
Approach	N/A				
Circling: As per note 5.					

8DME - THR						
Speed	Kt	80	100	120	140	160
Time	M:s	5:28	4:22	3:09	3:07	2:44
Rate of Descent	Fpm	430	530	640	740	850
Advisory Alt/Hgt 8d to VOR/DME		7d **2180**(2400)	6d **1860**(1760)	5d **1550**(1452)	4d **1230**(1130)	

Rev: New Format.

WGS-84

INSTRUMENT APPROACH CHART

AERODROME ELEV 98
HEIGHTS RELATED TO
THR RWY 19-ELEV 82

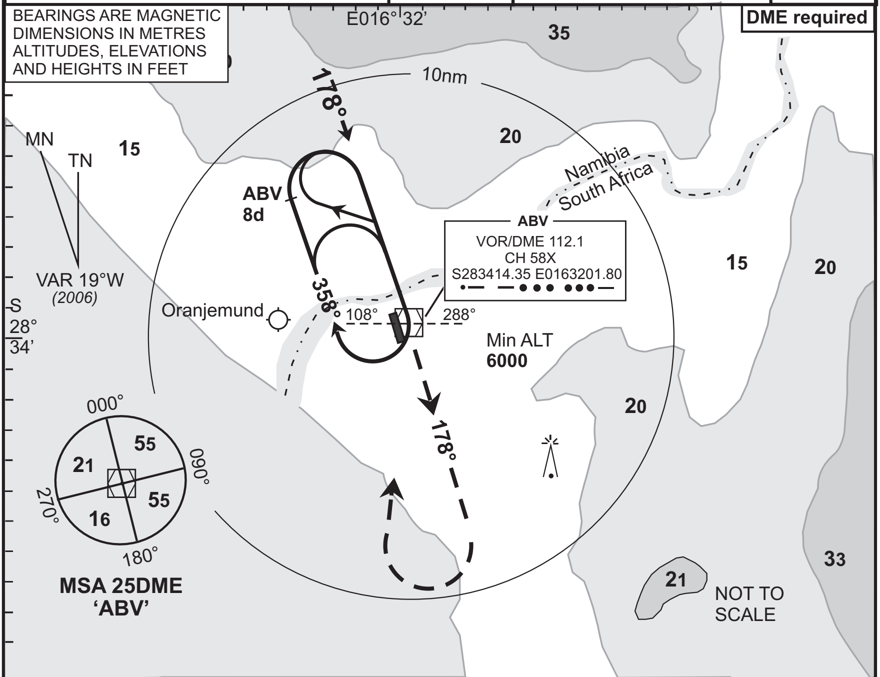
(Cat A, B, C)

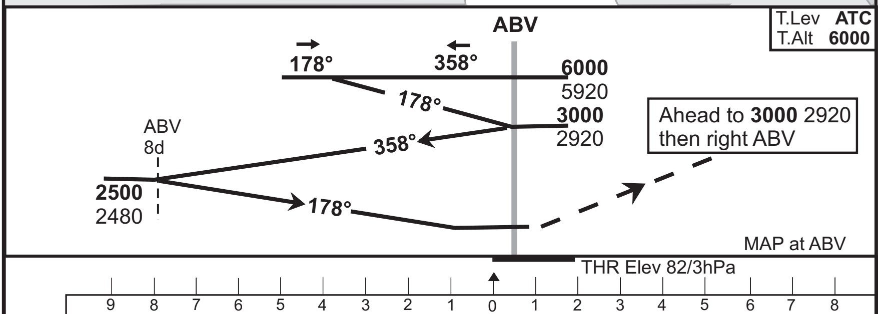
ALEXANDER BAY
VOR-B Rwy 19

FAAB

ALEXANDER BAY Radio (AFIS)
118.7

VOR-02
EFF
15 Mar 07





1. **This procedure is conducted outside controlled airspace, entirely at the discretion of the pilot in command.**
2. Initial approach altitude **6000** or higher MSA. Descend in the hold to **3000** FT ALT.
3. Procedure turn approach applicable only within 30° of the outbound heading. Use phraseology "Executing procedure turn approach".
4. RoD from ABV 8d computes at 2.9° angle of descent.
5. Circle to land at the discretion of the pilot in command.

OCA/H					
Cat of ACFT		A	B	C	D
Straight -in		1402	1402	1402	N/A
Approach	N/A				
Circling: As per note 5.					

8DME - THR						
Speed	Kt	80	100	120	140	160
Time	M:s	5:46	4:37	3:51	3:18	2:53
Rate of Descent	Fpm	410	510	620	720	820
Advisory Alt/Hgt 8d to VOR/DME	7d: **2190**(2110)	6d: **1890**(1810)	5d: **1580**(1500)	4d: **1270**(1190)		

Rev: New Format.

WGS-84

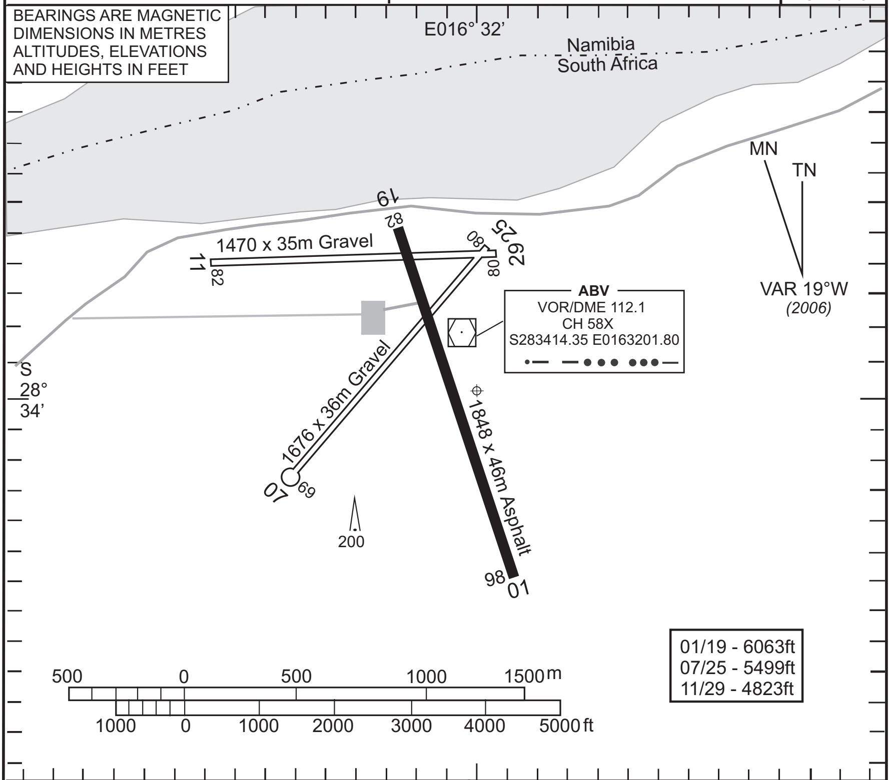
AERODROME CHART | S28°34’23.94” E016°32’03.61” | ELEV 98

ALEXANDER BAY

FAAB

ALEXANDER BAY Radio (AFIS)
118.7

AD-01
EFF
15 Mar 07



RWY	PAPI	APPROACH	THR	RUNWAY	L. DIST	SLOPE
01 (343°T)	Nil	Nil	Nil	HRL	Full	0.26D
19 (163°T)					Full	0.26U
07 (044°T)	Nil	Nil	Nil	Nil	Full	0.20U
25 (224°T)					Full	0.20D
11 (088°T)	Nil	Nil	Nil	Nil	Full	0.04D
29 (268°T)					Full	0.04U

OTHER LIGHTING: Nil

CIRCLING OCH

STOPWAYS

RUNWAY AVAILABILITY

1. No aircraft to stop or park on RWY 01/19.

Rev: New Format.

WGS-84

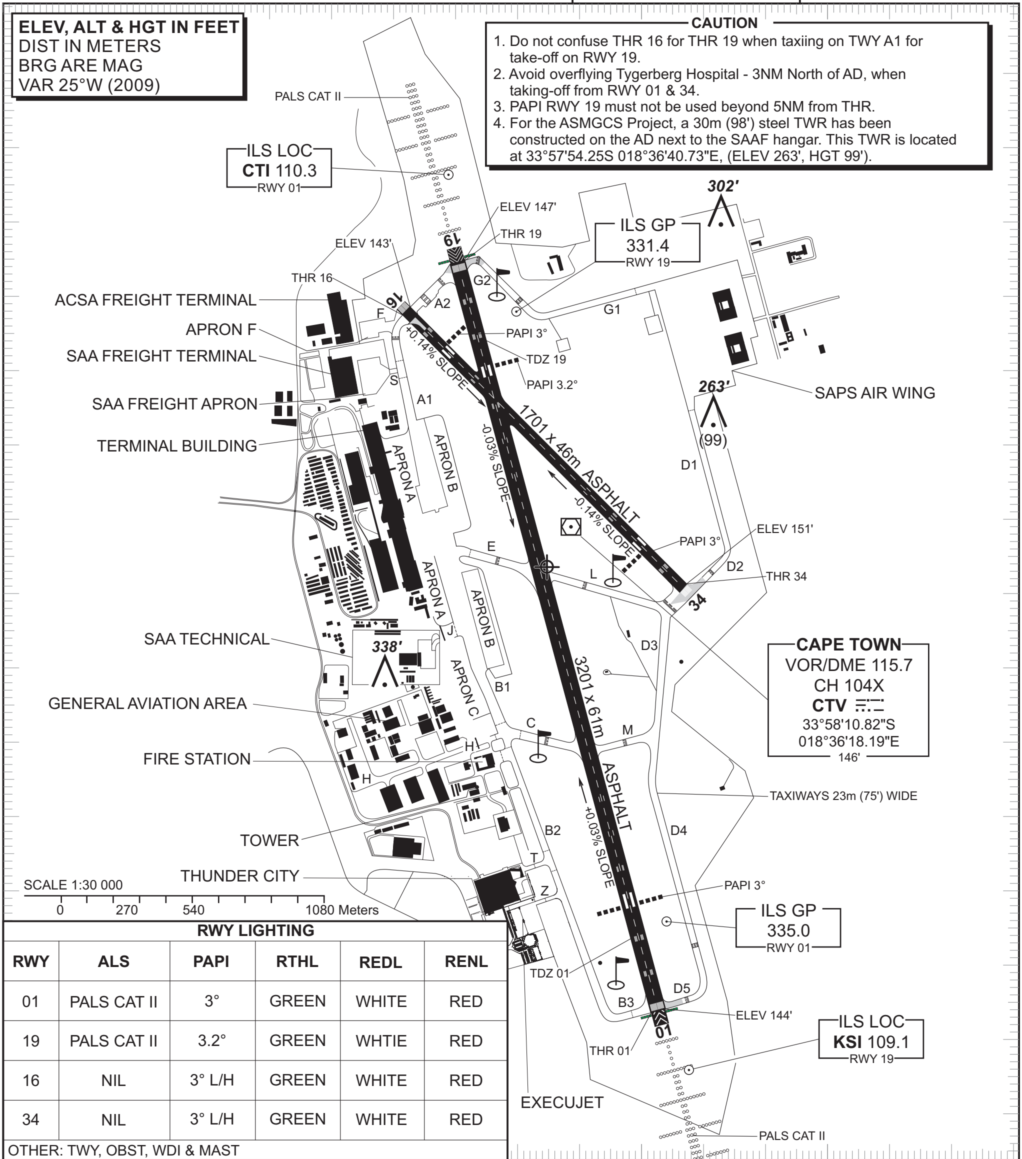
AERODROME CHART

33°58'16.93"S
018°36'15.45"E

ELEV 151'

CAPE TOWN ATIS 127.00
APN 122.65
SMC 121.90
TWR 118.10

CAPE TOWN INTL
FACT



RWY LIGHTING

RWY	ALS	PAPI	RTHL	REDL	RENL
01	PALS CAT II	3°	GREEN	WHITE	RED
19	PALS CAT II	3.2°	GREEN	WHTIE	RED
16	NIL	3° L/H	GREEN	WHITE	RED
34	NIL	3° L/H	GREEN	WHITE	RED

OTHER: TWY, OBST, WDI & MAST

PHYSICAL CHARACTERISTICS

RWY	DIRECTION	THR COORDINATES	THR ELEVATION	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	SWY (m)	CWY (m)	SLOPE	SURFACE	BEARING STRENGTH	CIRCUIT
01	345°(T)	33°59'15.864"S 018°36'32.013"E	144'	3201	4172	3201	3201	NIL	971	0.0003U	ASPH	PCN 66/F/A/X/T	L/H
19	165°(T)	33°57'35.429"S 018°36'00.181"E	147'	3201	3544	3201	3201	NIL	343	0.0003D			L/H
16	135°(T)	33°57'40.957"S 018°35'50.890"E	143'	1701	1701	1701	1701	NIL	NIL	0.0014U	ASPH	PCN 32/F/A/X/U	UNK
34	315°(T)	33°58'20.144"S 018°36'37.564"E	151'	1701	1701	1701	1701	NIL	NIL	0.0014D			UNK

CHANGE: B3 TWY Stop Bar Lights

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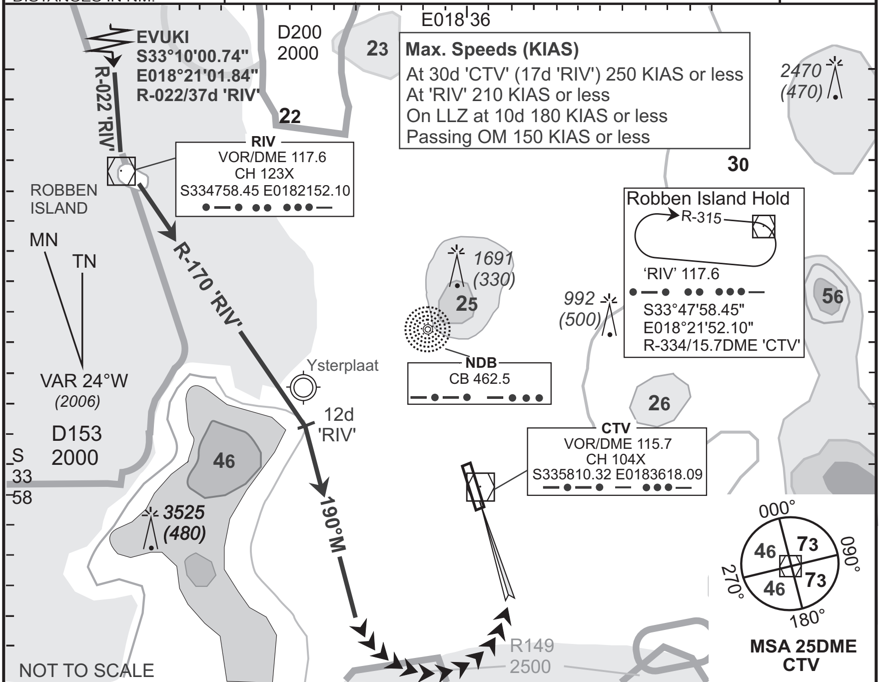
STANDARD ARRIVAL CHART INSTRUMENT (STAR)

CAPE TOWN INTL
RWY 01
EVUKI 1A

FACT

Elev 151	T.alt 7500 T.lev ATC	Approach 119.7	Tower 118.1	ATIS 127.0	ARR-05
BEARINGS ARE MAGNETIC DIMENSIONS IN METRES ALTITUDES, ELEVATIONS AND HEIGHTS IN FEET. DISTANCES IN NM.	1. SIDS and STARS must be announced in operation on ATIS 2. SIDS and STARS will only be in force when Surveillance Radar is in operation 3. If unable to comply with SID or STAR, notify ATC				EFF 05 JUN 08



STAR	RWY	Routeing (including Min Noise Routeing)
EVUKI 1A	01	From EVUKI route direct 'RIV'. Leave 'RIV' on R-170 'RIV'. Passing 12d 'RIV' (outbound) turn right to track 190°M for radar vectoring onto the ILS RWY 01.
Comm Fail (Squawk 7600)		**Before EVUKI.** Continue on the EVUKI 1A STAR. Proceed to 'RIV' and enter the 'RIV' hold. Hold at last assigned level for minimum 5 minutes, then climb/descend to FL100 in the hold. Leave 'RIV' at FL100 and continue on the **after 'RIV'** Communication Failure procedure. **After 'RIV'.** Continue on the routeing for the ROBBEN ISLAND 4C STAR and maintain last assigned level. Crossing R-225 'CTV' on track 190°M turn left direct 'CTV', then descend to 6500 FT ALT. On reaching 'CTV' complete the VOR/DME/ILS approach and land RWY 01. **Communication Failure Procedure for STAR:** In the event of a missed approach with the intention of diverting to an alternate aerodrome, proceed as follows: To the east: follow routeing for the TETAN ONE CHARLIE SID. To the south-east: follow the routeing for the OKTED ONE ALFA SID. To the north: follow the routeing for the KODES ONE ALFA SID. **Note 1:** Due to terrain do not cross East of R180 'CTV'.

CAA South Africa

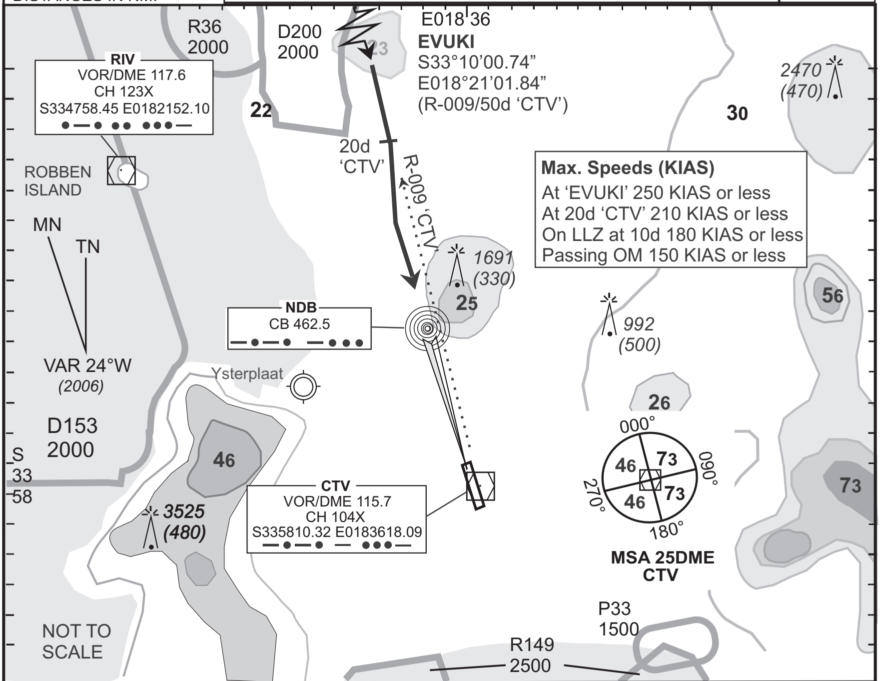
STANDARD ARRIVAL CHART INSTRUMENT (STAR)

CAPE TOWN INTL
RWY 19
EVUKI 1B

FACT

Elev	T.alt 7500 / T.lev ATC	Approach	Tower	ATIS		ARR-09
151		119.7	118.1	127.0		

BEARINGS ARE MAGNETIC DIMENSIONS IN METRES ALTITUDES, ELEVATIONS AND HEIGHTS IN FEET. DISTANCES IN NM.	1. SIDS and STARS must be announced in operation on ATIS 2. SIDS and STARS will only be in force when Surveillance Radar is in operation 3. If unable to comply with SID or STAR, notify ATC	EFF 10 May 07



STAR	RWY	Routeing (including Min Noise Routeing)
EVUKI 1B	19	Leave EVUKI on R-009 'CTV' (inbound). Passing 20DME 'CTV' adjust onto the LLZ RWY 19.
Comm Fail (Squawk 7600)		**Before EVUKI.** Proceed to EVUKI and continue on the EVUKI 1B STAR. Comply with the '**After EVUKI'** Communication Failure procedure. **After EVUKI.** Continue on the routeing for the EVUKI 1B STAR, maintain last assigned level or descend to 6500 FT ALT, whichever is the lowest. Crossing 20DME 'CTV' descend to 2700 FT ALT. and complete the straight-in ILS approach and land RWY 19. **Communication Failure Procedure for STAR:** In the event of a missed approach with the intention of diverting to an alternate aerodrome, proceed as follows: To the east: TETAN ONE BRAVO SID. To the south-east: OKTED ONE BRAVO SID. To the north and north-west: KODES ONE BRAVO SID.

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INSTRUMENT APPROACH CHART

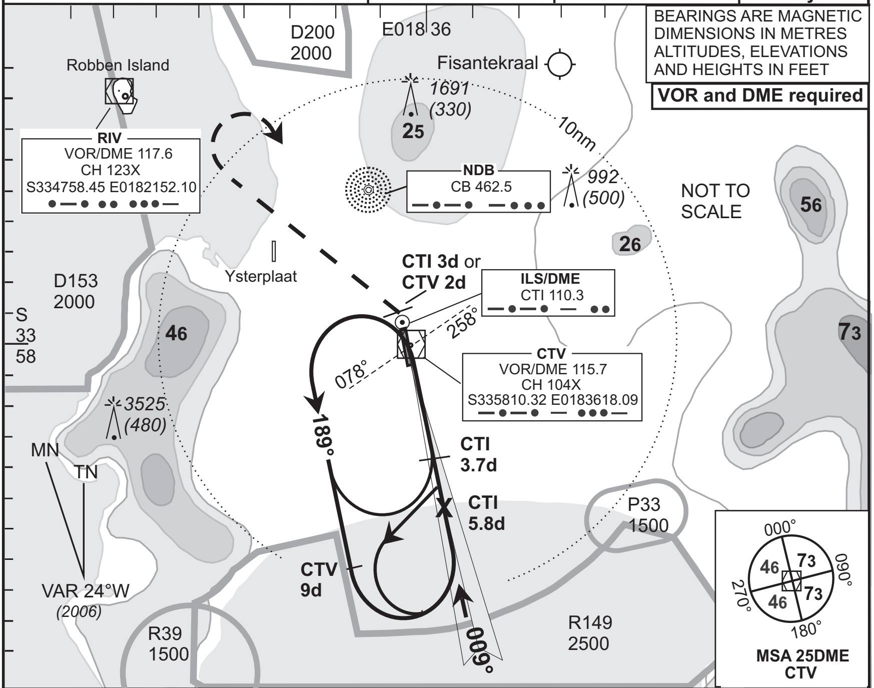
AERODROME ELEV 151
HEIGHTS RELATED TO
THR RWY 01-ELEV 144

(Cat A - D)

CAPE TOWN INTL
ILS Rwy 01

FACT

CAPE TOWN Approach 119.7	Tower 118.1	ATIS 127.0	ILS-01 EFF 10 May 07



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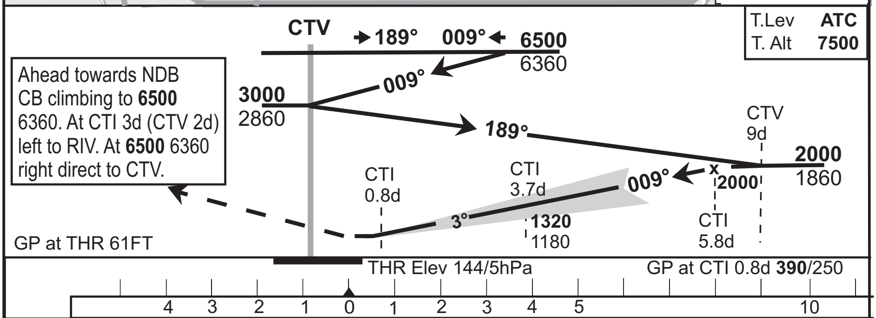

1. Initial approach altitude **6500** or higher MSA.
2. Descend in the hold to **3000.**
3. Procedure turn approach applicable only within 30° of the outbound heading. Use phraseology “ Request procedure turn approach”.
4. Circling approach between 010°M & 160°M are not authorised for Cat C & D aircraft.
5. ILS/DME “CTI” indicates 0.2d at THR 01.
6. Cat 11 & 111B operation must be approved by CAA.
7. Circle to land at the discretion of the pilot in command.

OCA/H					
Cat of ACFT		A	B	C	D
Straight -in	Cat 1	**279**(135)	**287**(143)	**296**(152)	**305**(161)
	Cat 11	**192**(48)	**203**(59)	**216**(72)	**229**(85)
Approach	GP INOP				
Circling					

OM - THR						
Speed	Kt	80	100	120	140	160
Time	M:s	4:12	3:22	2:48	2:24	2:06
Rate of Descent	Fpm	420	530	640	740	850
CTI GP/DME		5.8d	3.7d	0.8d		
GP Altitude		**2000**(1860)	**1320**(1180)	**390**(250)		

CAA South Africa

Rev: New Format.

WGS-84

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INSTRUMENT APPROACH CHART

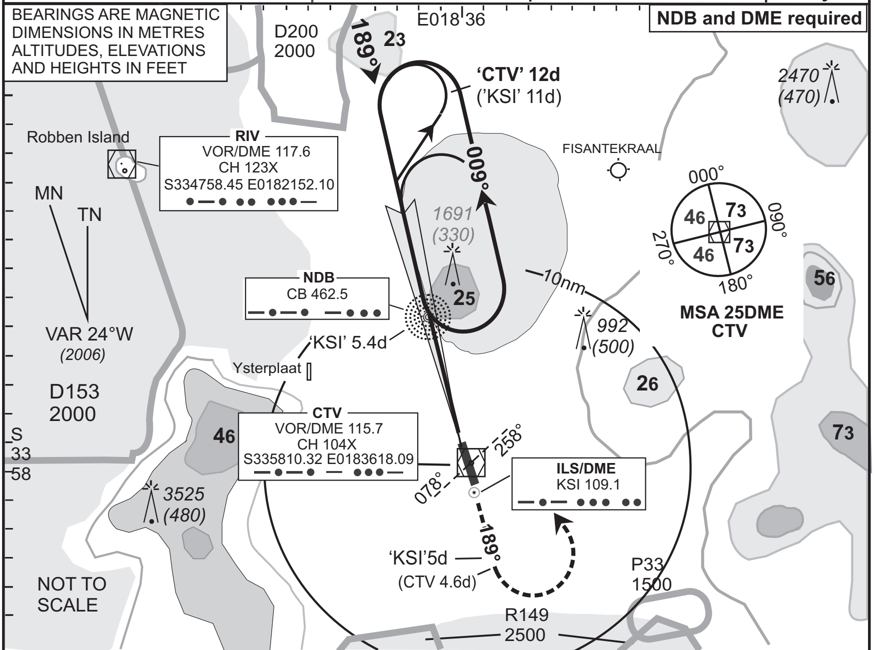
AERODROME ELEV 151
HEIGHTS RELATED TO
THR RWY 19-ELEV 147

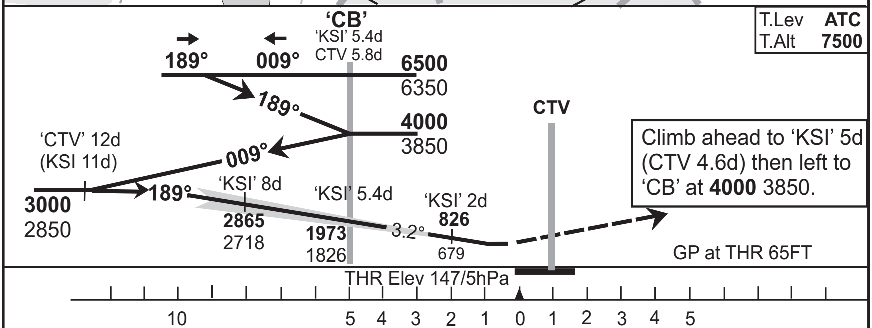
(Cat A-D)

CAPE TOWN INTL
ILS Y Rwy 19

CAPE TOWN Approach 119.7	Tower 118.1	ATIS 127.0	ILS-03 EFF 10 May 07

FACT





1. Initial approach altitude **6500** or higher MSA. Descend in the hold to **4000.**
2. Procedure turn approach applicable only within 30° of the outbound heading. Use phraseology "Request procedure turn approach".
3. **Caution:** High ground and obstructions along eastern boundary of the final approach area.
4. Circling approaches between 010°M and 160°M are not authorised for Cat C & D aircraft.
5. Cat 11 operations and minima must be approved by CAA.
6. Circle to land at the discretion of the pilot in command.

.

OCA/H					
Cat of ACFT		**A**	**B**	**C**	**D**
Straight	Cat 1	**283**(136)	**291**(144)	**301**(154)	**310**(163)
-in	Cat 11	**195**(48)	**206**(59)	**219**(72)	**232**(85)
Approach	GP INOP				
Circling					

OM - THR						
Speed	Kt	80	100	120	140	160
Time	M:s	3:54	3:07	2:36	2:13	1:57
Rate of Descent	Fpm	450	570	680	790	900
KSI GP/DME	8d	5.4d	2d			
GP Altitude	**2865**(2718)	**1973**(1826)	**826**(679)			

Rev: New Format. WGS-84

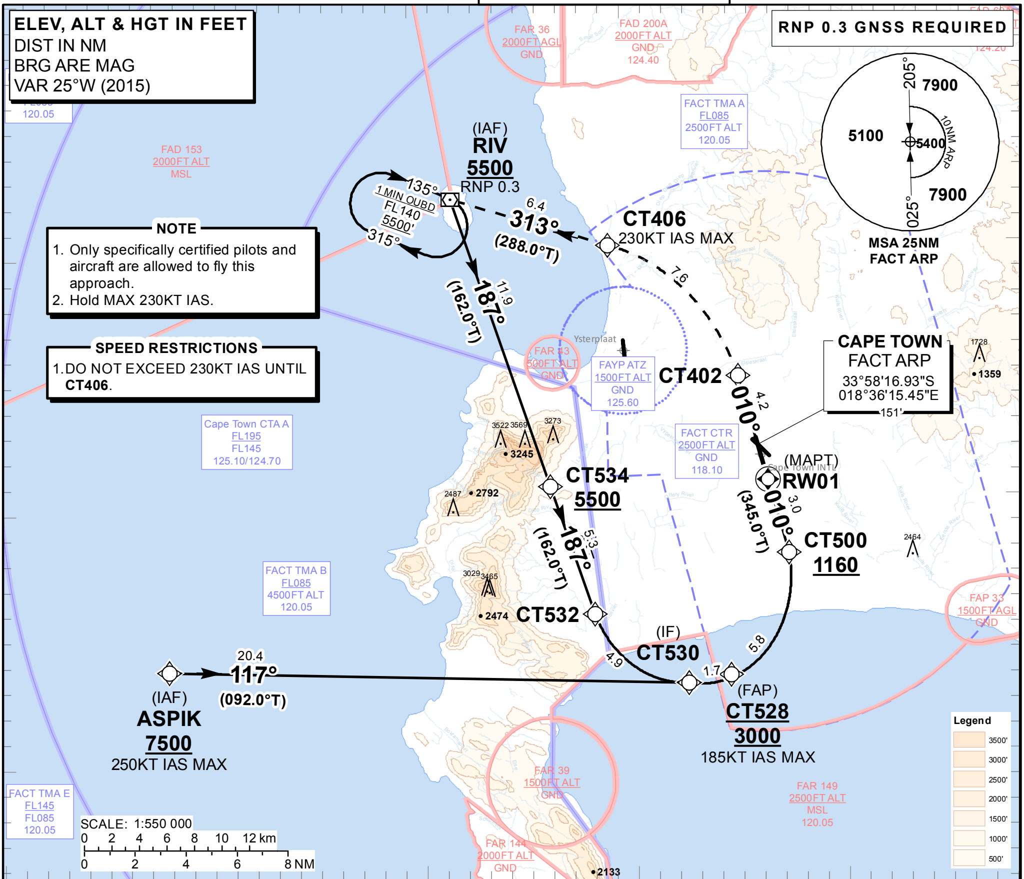
CAA South Africa

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 151'
HEIGHTS RELATED TO
THR RWY 01 - ELEV 144'

RADAR APP: 120.05
TWR: 118.10
ATIS: 127.00

CAPE TOWN INTL
RNAV (RNP) Z RWY 01
CAT C - D

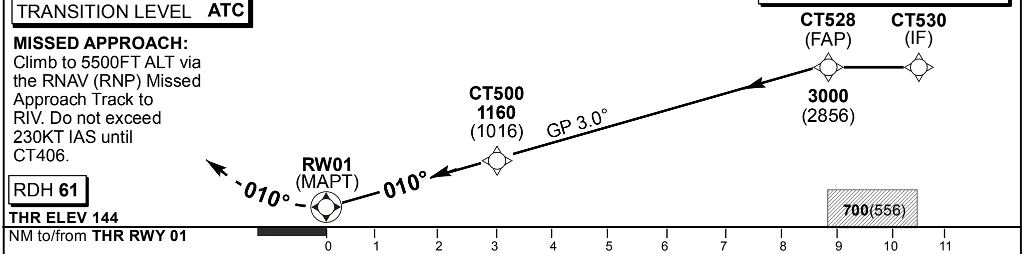


DIST (NM) to THR 01	**8.8**	**7**	**6**	**5**	**4**	**3**	**2**	**0**
DIST (NM) to Next WPT	**FAP**	**7**	**6**	**5**	**4**	**CT500**	**2**	**RW01**
ADVISORY ALT (HGT)	**3000** (2856)	**2430** (2286)	**2110** (1966)	**1800** (1656)	**1480** (1336)	**1160** (1016)	**840** (696)	

TRANSITION ALT **7500**
TRANSITION LEVEL **ATC**

INA ALT: **5500** or higher MSA

MISSED APPROACH:
Climb to 5500FT ALT via the RNAV (RNP) Missed Approach Track to RIV. Do not exceed 230KT IAS until CT406.



MIN TEMP: -1°C			C	D
Straight-in Approach	RNP 0.3	2.5% DA(H)	*450* (306)	*470* (326)
		RVR	*NIL*	*NIL*
		ALS OUT	*NIL*	*NIL*
Circling	1. Circling approaches between 010°M & 160°M are not authorised for CAT C & D aircraft. 2. Circle to land at the discretion of the pilot in command.			

GS	KT	80	100	120	140	160
FAP to MAPT	M:S	**6:36**	**5:16**	**4:24**	**3:46**	**3:18**
Rate of descent	FPM	**423**	**529**	**634**	**740**	**846**

NOTE:
1. For A330, speed brake may be required to maintain the vertical profile.

CHANGE: VAR Box - DIST in NM

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 151'
HEIGHTS RELATED TO
THR RWY 34 - ELEV 151'

For exam purposes only don't use for Navigation

RADAR APP: 120.05
TWR: 118.10
ATIS: 127.00

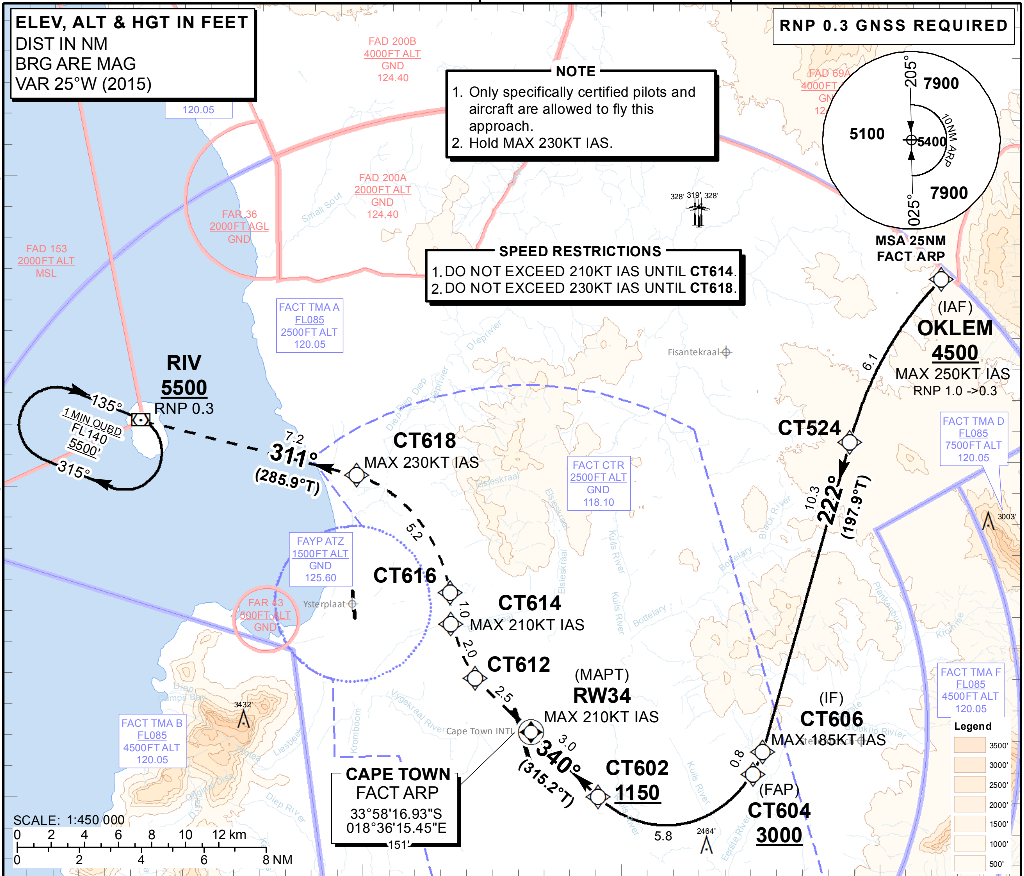
CAPE TOWN INTL
RNAV (RNP) Z RWY 34
CAT C - D

ELEV, ALT & HGT IN FEET
DIST IN NM
BRG ARE MAG
VAR 25°W (2015)

RNP 0.3 GNSS REQUIRED

NOTE
1. Only specifically certified pilots and aircraft are allowed to fly this approach.
2. Hold MAX 230KT IAS.

SPEED RESTRICTIONS
1. DO NOT EXCEED 210KT IAS UNTIL **CT614**.
2. DO NOT EXCEED 230KT IAS UNTIL **CT618**.

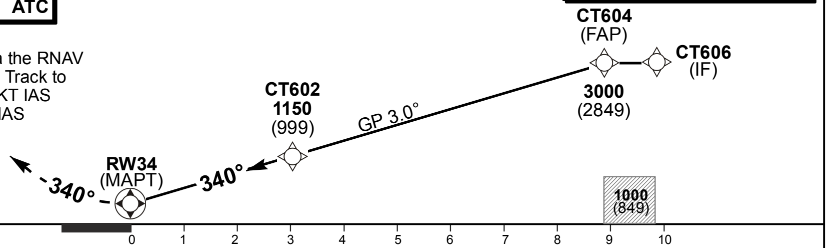


DIST (NM) to THR 34	8.8	7	6	5	4	3	2	0
DIST (NM) to Next WPT	FAP	7	6	5	4	CT602	2	RW34
ADVISORY ALT (HGT)	3000 (2849)	2430 (2279)	2110 (1959)	1800 (1649)	1480 (1329)	1150 (999)	840 (689)	

TRANSITION ALT **7500**
TRANSITION LEVEL **ATC**

INA ALT: **5500** or higher MSA

MISSED APPROACH:
Climb to 5500FT ALT via the RNAV (RNP) Missed Approach Track to RIV. Do not exceed 210KT IAS until CT614 and 230KT IAS until CT618.



RDH **50**
THR ELEV **151**
NM to/from **THR RWY 34**

CHANGE: VAR Box - DIST in NM

MIN TEMP: -1°C			C	D
Straight-in Approach	RNP 0.3	2.5% DA(H)	*490* (339)	*500* (349)
		RVR	*NIL*	*NIL*
		ALS OUT	*NIL*	*NIL*
Circling	1. Circling approaches between 010°M & 160°M are not authorised for CAT C & D aircraft. 2. Circle to land at the discretion of the pilot in command.			

GS	KT	80	100	120	140	160
FAP to MAPT	M:S	6:36	5:16	4:24	3:46	3:18
Rate of descent	FPM	424	530	636	742	848

NOTE:
1. For A330, speed brake may be required to maintain the vertical profile.

STANDARD ARRIVAL CHART INSTRUMENT (STAR)

CAPE TOWN INTL
RWY 01
ROBBEN ISLAND 4C

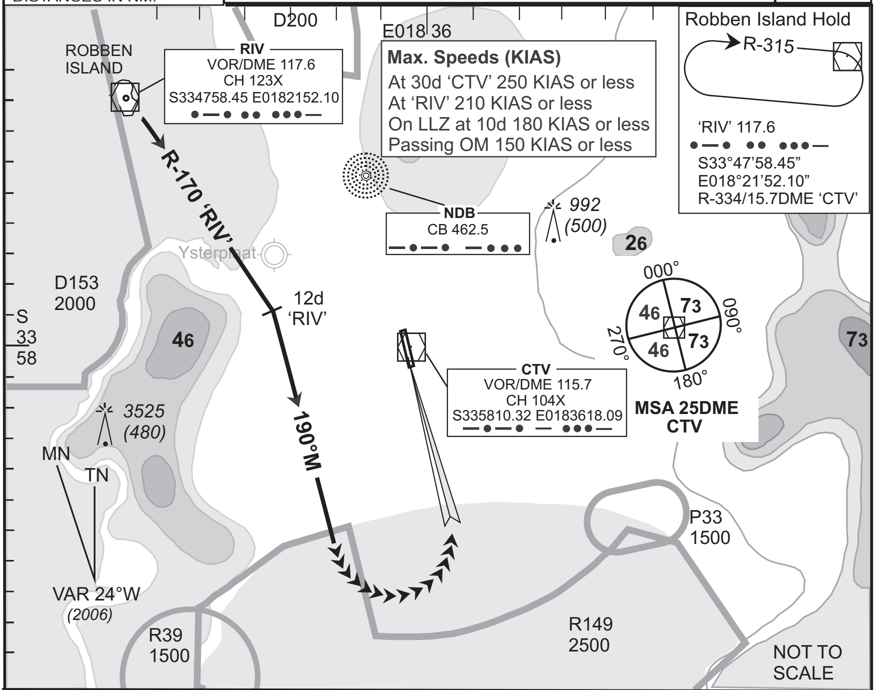
Elev	T.alt 7500	Approach	Tower	ATIS		ARR-03
151	T.lev ATC	119.7	118.1	127.0		

BEARINGS ARE MAGNETIC DIMENSIONS IN METRES ALTITUDES, ELEVATIONS AND HEIGHTS IN FEET. DISTANCES IN NM.

1. SIDS and STARS must be announced in operation on ATIS
2. SIDS and STARS will only be in force when Surveillance Radar is in operation
3. If unable to comply with SID or STAR, notify ATC

EFF 10 May 07

FACT



STAR	RWY	Routeing (including Min Noise Routeing)
RIV 4C	01	Leave 'RIV' on R-170. Passing 12 DME 'RIV' (outbound) turn right to track 190°M for radar vectoring onto ILS RWY 01.
Comm Fail (Squawk 7600)		**Before 'RIV'.** Proceed to 'RIV' and enter the 'RIV' hold. Hold at last assigned level for minimum 5 minutes, then climb/descend to FL100 in the hold. Leave 'RIV' at FL100 and continue on the **after 'RIV'** Communication Failure procedure. **After 'RIV'.** Continue on the routeing for the ROBBEN ISLAND 4C STAR and maintain last assigned level. Crossing R-225 'CTV' on track 190°M turn left direct 'CTV' then descend to 6500 FT ALT. On reaching 'CTV' complete the VOR/DME/ILS approach and land RWY 01. **Note:** Due to terrain do not cross (east of) R-180 'CTV'. **Communication Failure Procedure for STAR:** In the event of a missed approach with the intention of diverting to an alternate aerodrome, proceed as follows: To the east: follow routeing for the TETAN ONE CHARLIE SID. To the south-east: follow the routeing for the OKTED ONE ALFA SID. To the north: follow the routeing for the KODES ONE ALFA SID

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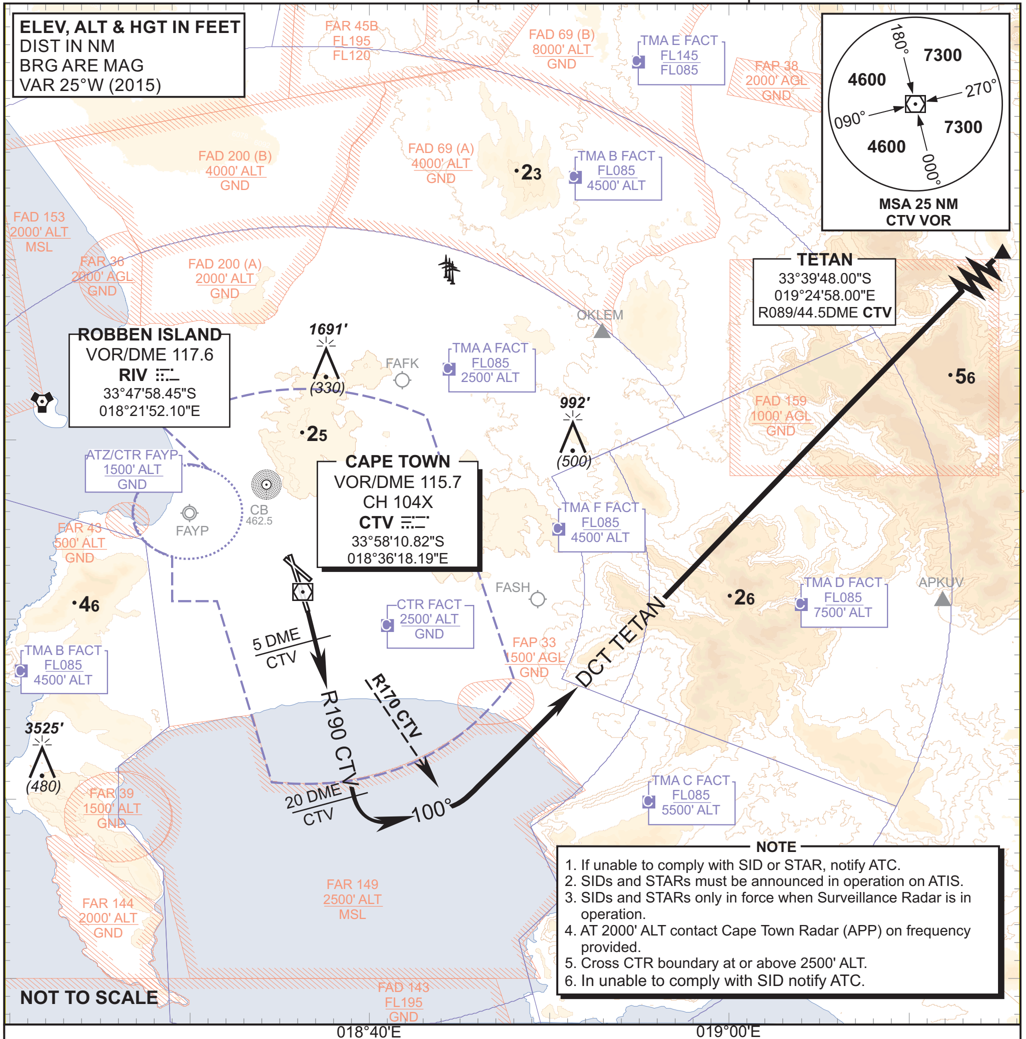
STANDARD DEPARTURE CHART - INSTRUMENT (SID)

TRANSITIONAL ALTITUDE		
7500'		
TRANSITIONAL LEVEL		
ATC		

APP 120.05
TWR 118.10
ATIS 127.00

CAPE TOWN INTL
RWY 19
TETAN 1B



TETAN 1B. RWY 19	**Climb to FL090, maintain RWY track to 5DME CTV then adjust onto R190 CTV (OUBD). Passing 20DME CTV turn left to track 100°. Crossing R170 CTV turn left direct TETAN. Further climb will be under radar control. At TETAN set course as per flight plan.** **Restricted to a minimum climb gradient of 4.6% until passing 5700' ALT due to terrain. Do not cross North of R140 CTV below 8500' ALT.** 4.6% @ 140KT IAS = 652 FPM 4.6% @ 180KT IAS = 838 FPM 4.6% @ 220KT IAS = 1024 FPM
	COMMUNICATION FAILURE PROCEDURE (Squawk 7600) Comply with the TETAN 1B SID and maintain lat assigned level. Crossing R105 CTV climb to flight plan level. At TETAN continue as per flight plan. Aircraft wishing to return must continue to the SID termination point and then route direct to ERDAS and comply with the appropriate ERDAS STAR Communication Failure procedure.

CHANGE: TMA F/SIGNIFICANT Points

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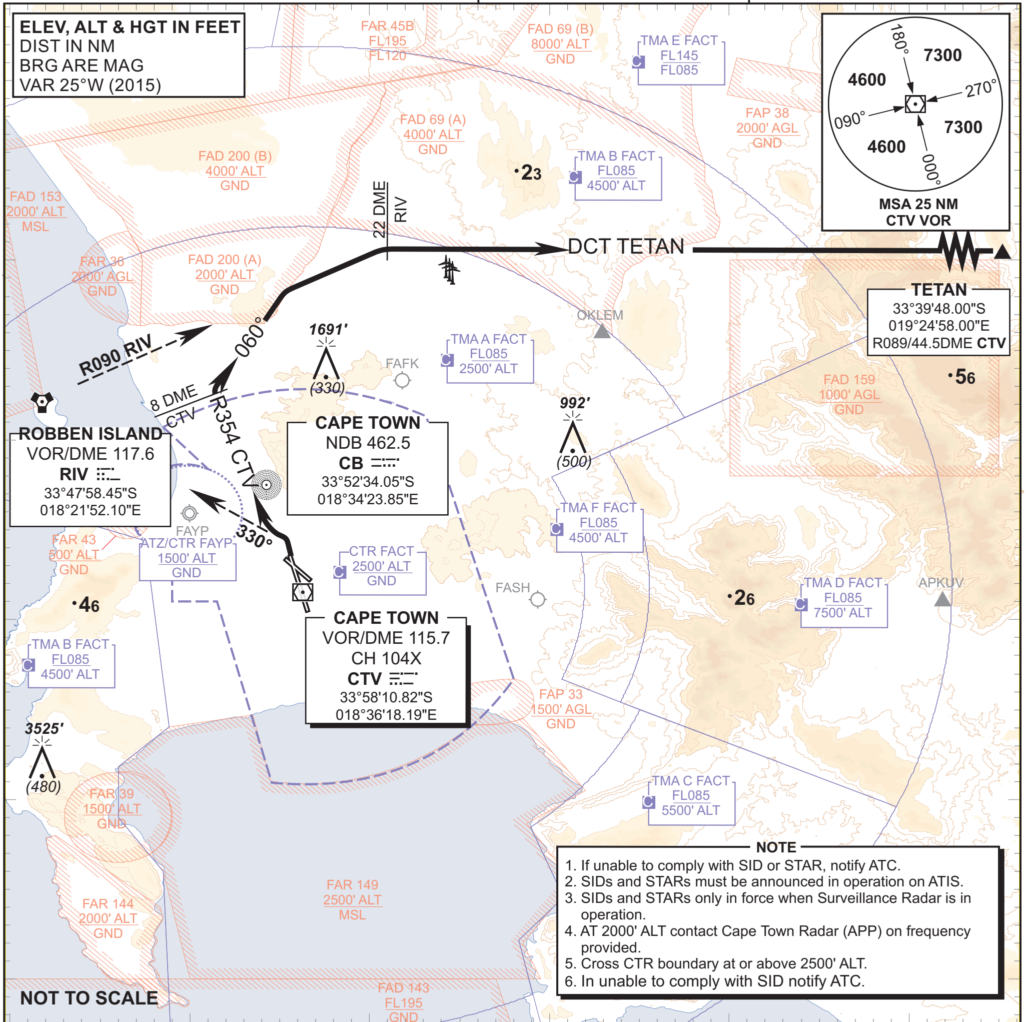
STANDARD DEPARTURE CHART - INSTRUMENT (SID)

TRANSITIONAL ALTITUDE
7500'
TRANSITIONAL LEVEL
ATC

APP 120.05
TWR 118.10
ATIS 127.00

CAPE TOWN INTL
RWY 01
TETAN 1C



NOTE
1. If unable to comply with SID or STAR, notify ATC.
2. SIDs and STARs must be announced in operation on ATIS.
3. SIDs and STARs only in force when Surveillance Radar is in operation.
4. AT 2000' ALT contact Cape Town Radar (APP) on frequency provided.
5. Cross CTR boundary at or above 2500' ALT.
6. In unable to comply with SID notify ATC.

TETAN 1C, RWY 01	**Climb to FL090, track RWY heading to 3DME CTV, then turn left to track 330° to intercept R354 CTV (OUBD). Passing 8DME CTV turn right to track 060° to intercept R090 RIV (OUBD), passing 22DME RIV turn right direct TETAN. Further climb will be under radar control. At TETAN set course as per flight plan.**
	COMMUNICATION FAILURE PROCEDURE (Squawk 7600) Comply with the TETAN 1C SID, maintain last assigned level. Passing 30DME CTV climb to flight plan level. At TETAN continue as per flight plan. Aircraft wishing to return must continue to the SID termination point at FL090, then proceed to GETEN and comply with the appropriate GETEN STAR Communication Failure procedure.

CHANGE: TMA F/SIGNIFICANT Points

For exam purposes only don't use for Navigation

FACT

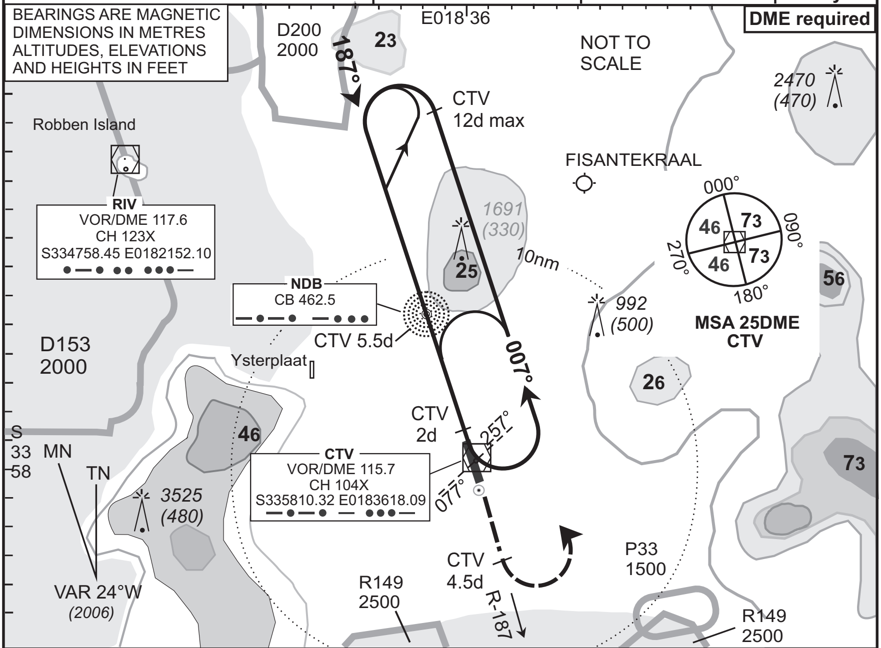
INSTRUMENT APPROACH CHART

AERODROME ELEV 151
HEIGHTS RELATED TO THR RWY 19 - ELEV 147

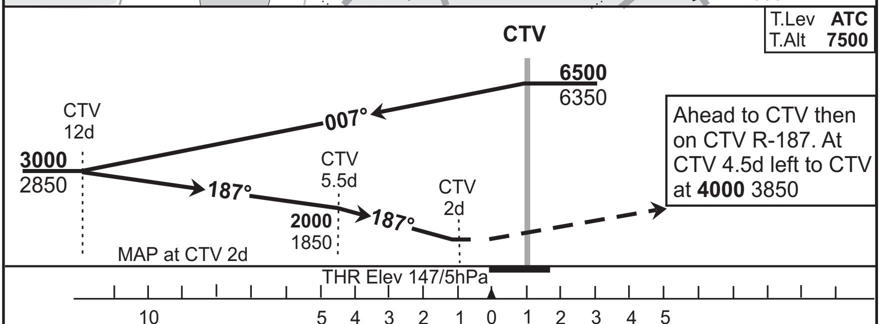
(Cat A - D)

CAPE TOWN INTL
VOR Rwy 19

CAPE TOWN Approach 119.7	Tower 118.1	ATIS 127.0	VOR-02 EFF 10 May 07



© AV.DIRECT / 291206



1. Initial approach altitude **6500** or higher MSA. Descend in the hold to **6500.**
2. Procedure turn approach applicable only within 30° of the outbound heading. Use phraseology “Request procedure turn approach”.
3. RoD from CTV 5.5d computes at 3.5° angle of descent.
4. **Caution:** High ground and obstructions along eastern boundary of the final approach area.
5. Circling approaches between 010°M and 160°M are not authorised for Cat C & D aircraft.
6. Circle to land at the discretion of the pilot in command.

OCA/H

Cat of ACFT		A	B	C	D
Straight -in		**546**(399)	**546**(399)	**546**(399)	**546**(399)
Approach	N/A				
Circling					

5.5d CTV - THR

Speed	Kt	80	100	120	140	160
Time	M:s	3:40	2:56	2:27	2:06	1:50
Rate of Descent	Fpm	490	620	740	870	990

5.5d CTV to THR	5.5d	5d	4d	3d
Advisory Alt/Hgt	**2000**(1850)	**1810**(1660)	**1440**(1290)	**1070**(920)

CAA South Africa

Rev: New Format.

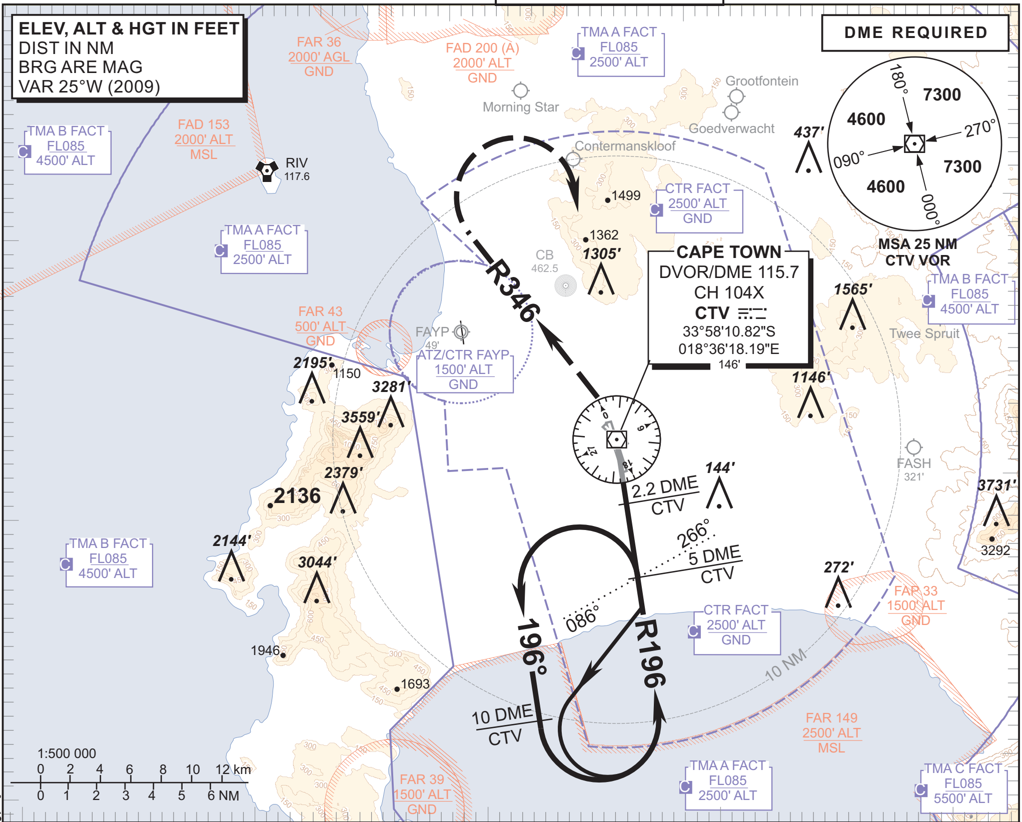
WGS-84

INSTRUMENT APPROACH CHART

AERODROME ELEV 151'
HEIGHTS RELATED TO
THR RWY 01 - ELEV 144'

RADAR APP	120.05
TWR	118.10
SMC	121.90
ATIS	127.00

CAPE TOWN INTL
VOR Z RWY 01
CAT A - D

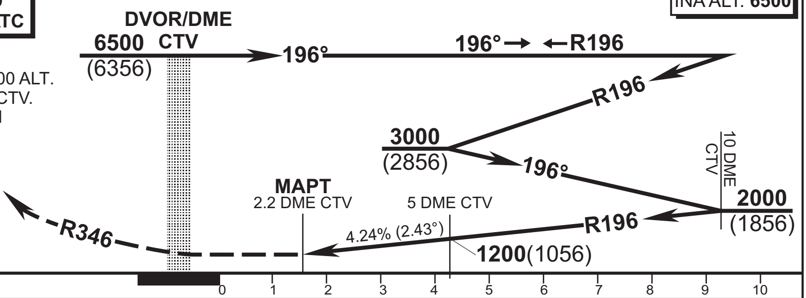


CTV DME	5	4	3				
ADVISORY ALT (HGT)	***1200*** (1056)	***950*** (806)	***690*** (546)				

TRANSITION ALT **7500**
TRANSITION LEVEL **ATC**

INA ALT: **6500**

MISSED APPROACH:
Climb on R196 CTV to 6500 ALT.
At CTV, turn left on R346 CTV.
At 6500 ALT, turn right and return to CTV via R196 to 5DME CTV.



THR ELEV 144
NM to/from **THR RWY 01**

OCA (H)		A	B	C	D
Straight-in Approach	VOR	***523*** (379)	***523*** (379)	***523*** (379)	***523*** (379)
Circling	1. Circling approaches between 010°M & 160°M are not authorised for CAT C & D aircraft. 2. Circle to land at the discretion of the pilot in command.				

GS	KT	80	100	120	140	160
5 DME **CTV** to THR	M:S	**2:55**	**2:20**	**1:57**	**1:40**	**1:27**
Rate of descent	FPM	**344**	**430**	**516**	**602**	**688**

NOTE:
1. Descend in the hold to 3000' ALT.
2. Procedure Turn Approach applicable only within 30° of the OUBD HDG. Use phraseology "Request Procedure Turn Approach".
3. 5 DME CTV to THR, RoD computes at 2.43°.

CHANGE: Revised

For exam purposes only don't use for Navigation

AERODROME CHART

33°02'06.43"S 027°49'16.86"E **ELEV 435'**

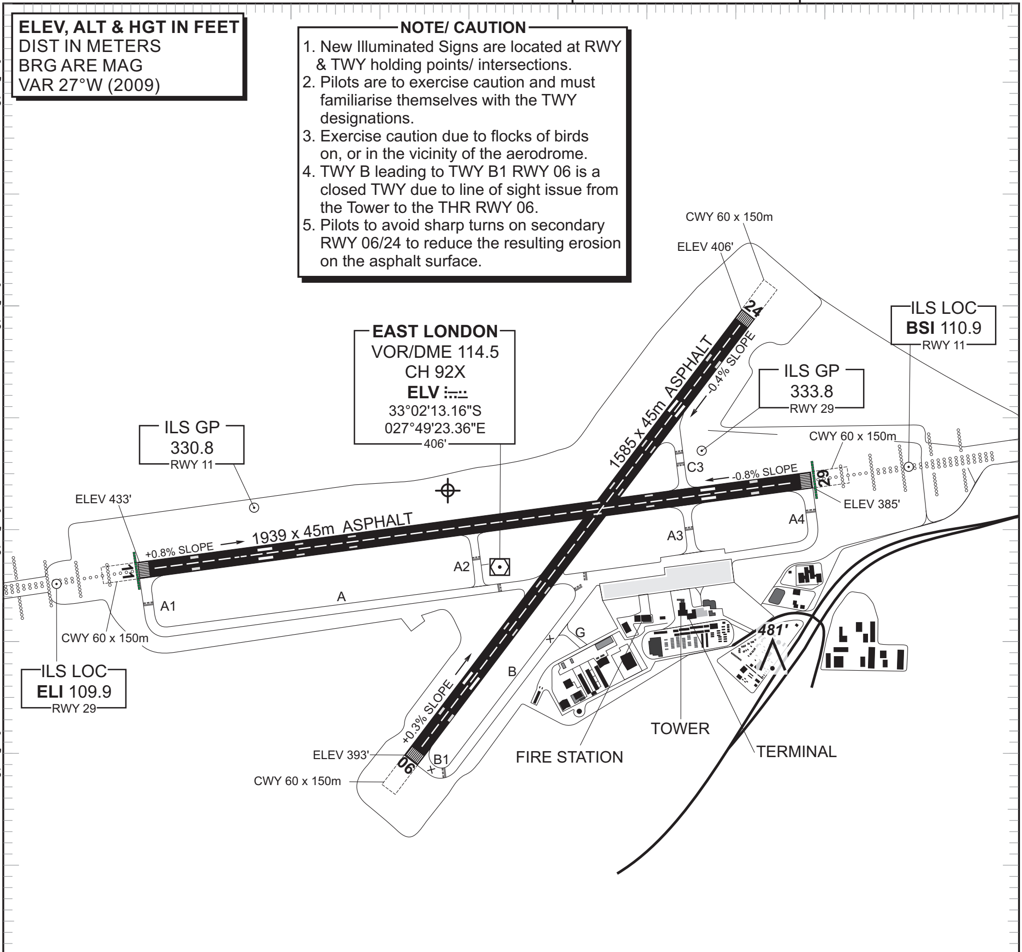
EAST LONDON ATIS	126.65
APN	122.65
TWR	118.30
APP	120.10

EAST LONDON
FAEL

ELEV, ALT & HGT IN FEET
DIST IN METERS
BRG ARE MAG
VAR 27°W (2009)

NOTE/ CAUTION

1. New Illuminated Signs are located at RWY & TWY holding points/ intersections.
2. Pilots are to exercise caution and must familiarise themselves with the TWY designations.
3. Exercise caution due to flocks of birds on, or in the vicinity of the aerodrome.
4. TWY B leading to TWY B1 RWY 06 is a closed TWY due to line of sight issue from the Tower to the THR RWY 06.
5. Pilots to avoid sharp turns on secondary RWY 06/24 to reduce the resulting erosion on the asphalt surface.



SCALE 1:20 000

0 185 370 740 Meters

27°49'E 27°49'30"E 28°00'E

RWY LIGHTING

RWY	ALS	PAPI	RTHL	REDL	RENL
11	PALS CAT I	3°	GREEN	WHITE	RED
29	PALS CAT I	3°	GREEN	WHITE	RED
06	NIL	3°	GREEN	WHITE	RED
24	NIL	3°	GREEN	WHITE	RED

OTHER: TWY

PHYSICAL CHARACTERISTICS

RWY	DIRECTION	THR COORDINATES	THR ELEVATION	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	SWY	CWY	SLOPE	SURFACE	BEARING STRENGTH	CIRCUIT
11	082°	33°02'13.96"S 027°48'42.98"E	433'	1939	2239	1939	1939	0m	60m	0.008 U	ASPH	PCN 52/F/A/W/T	L/R
29	262°	33°02'05.16"S 027°49'57.00"E	385'	1939	2099	1939	1939		60m	0.008 D			L/R
06	037°	33°02'31.15"S 027°49'13.04"E	393'	1585	1885	1585	1585	0m	60m	0.003 U	ASPH	PCN 46/F/A/W/T	L/R
24	217°	33°01'50.21"S 027°49'49.70"E	406'	1585	1745	1585	1585		60m	0.004 D			L/R

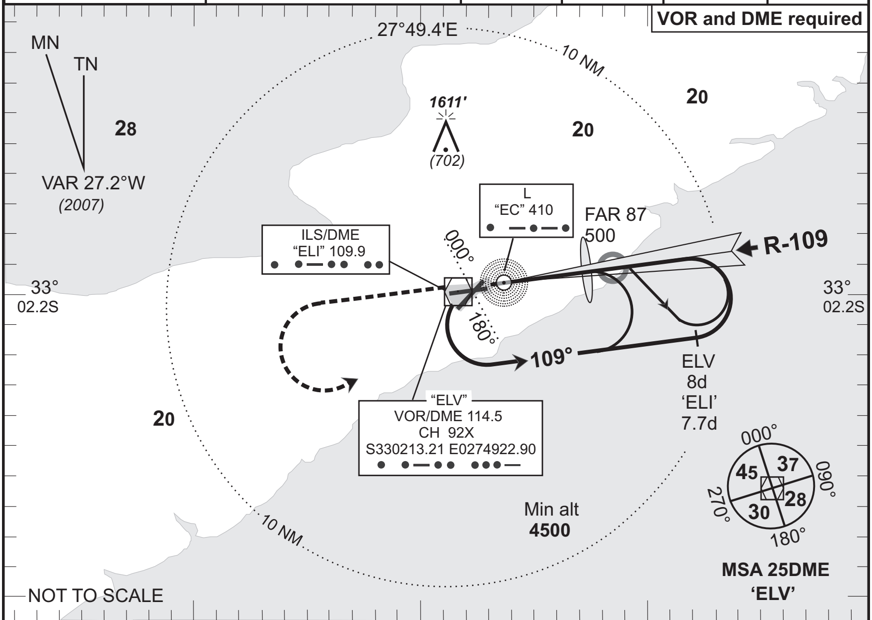
CHANGE: ARP East Coordinate

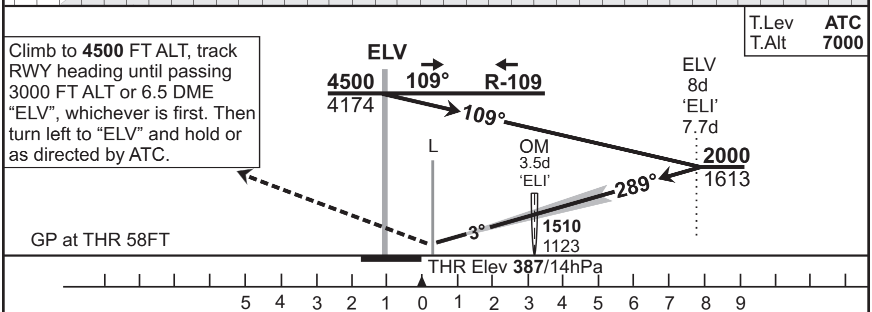
INSTRUMENT APPROACH CHART | **AERODROME ELEV 435 HEIGHTS RELATED TO THR RWY 29 - ELEV 387** | (Cat A - D)

EAST LONDON
ILS Rwy 29

FAEL

BEARINGS ARE MAGNETIC ALTITUDES, ELEVATIONS AND HEIGHTS IN FEET. DISTANCES IN NM.	**EAST LONDON Approach 120.1**	**Tower 118.3**	**Apron 122.65**	**ATIS 126.65**	**ILS-03** **EFF 03 Jul 08**





1. Initial approach altitude **4500** or higher MSA.
2. Procedure turn approach applicable only within 30° of the outbound heading. Use phraseology "Request procedure turn approach".
3. Circle to land at the discretion of the pilot in command.
4. ILS/DME ("ELI" 109.9) collocated with glide slope transmitter.

OCA/H					
Cat of ACFT		**A**	**B**	**C**	**D**
Straight -in	Cat 1	**522**(135)	**530**(143)	**540**(153)	**549**(162)
	Cat 11				
Approach	GP INOP				
Circling					

"ELI" 3.5d - THR						
Speed	Kt	80	100	120	140	160
Time	M:s	2:32	2:01	1:41	1:26	1:16
Rate of Descent	Fpm	420	530	640	740	850
"ELI" ILS/DME	3.5d	3d	2d			
Advisory Alt/Hgt	**1510**(1123)	**1350**(963)	**1032**(645)			

Rev: VAR & FAD-190 Removed

WGS-84

CAA South Africa

FAEL

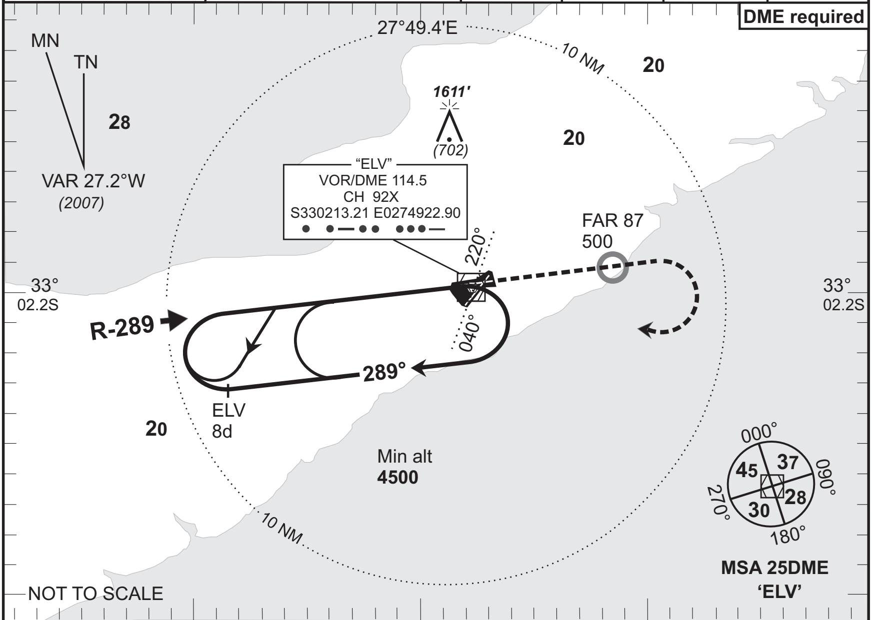
INSTRUMENT APPROACH CHART

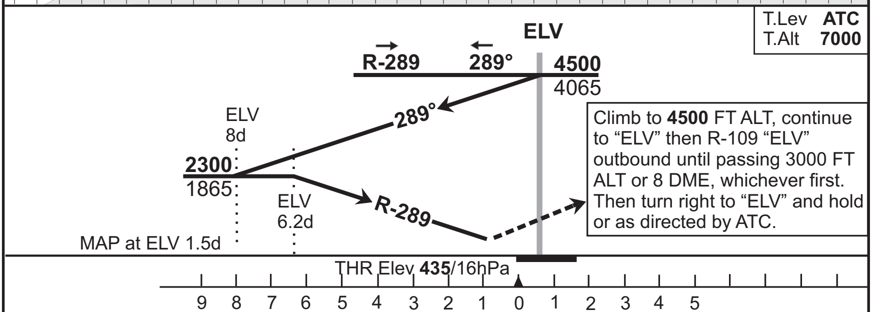
AERODROME ELEV 435
HEIGHTS RELATED TO
THR RWY 11 - ELEV 435

EAST LONDON

(Cat A - D) **VOR Rwy 11**

BEARINGS ARE MAGNETIC ALTITUDES, ELEVATIONS AND HEIGHTS IN FEET. DISTANCES IN NM.	**EAST LONDON Approach 120.1**	**Tower 118.3**	**Apron 122.65**	**ATIS 126.65**	**VOR-01** EFF 03 Jul 08





1. Initial approach altitude **4500** or higher MSA.
2. Procedure turn approach applicable only within 30° of the outbound heading. Use phraseology "Request procedure turn approach".
3. RoD computes at 3° angle of descent.
4. Circle to land at the discretion of the pilot in command.

OCA/H					
Cat of ACFT		**A**	**B**	**C**	**D**
Straight -in Approach		**1120**(685)	**1120**(685)	**1120**(685)	**1120**(685)
Circling					

"ELV" 6.2d - THR						
Speed	Kt	80	100	120	140	160
Time	M:s	4:14	3:24	2:49	2:25	2:07
Rate of Descent	Fpm	420	530	640	740	850
"ELV" VOR/DME	6.2d	5d		4d	3d	
Advisory Alt/Hgt	**2300**(1865)	**1900**(1465)		**1580**(1145)	**1260**(825)	

Rev: VAR & FAD-190 Removed

WGS-84

CAA South Africa

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INSTRUMENT APPROACH CHART

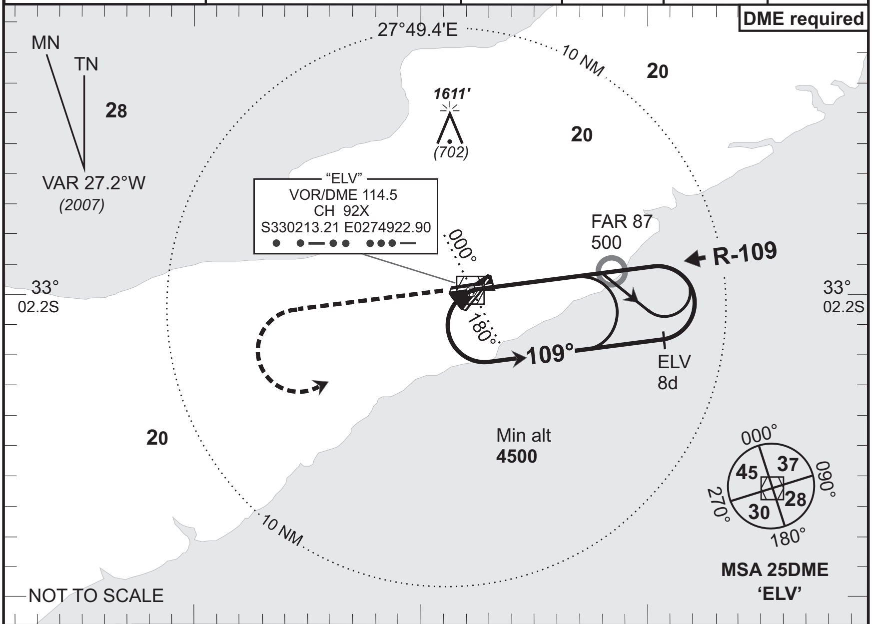
AERODROME ELEV 435
HEIGHTS RELATED TO
THR RWY 29 - ELEV 387

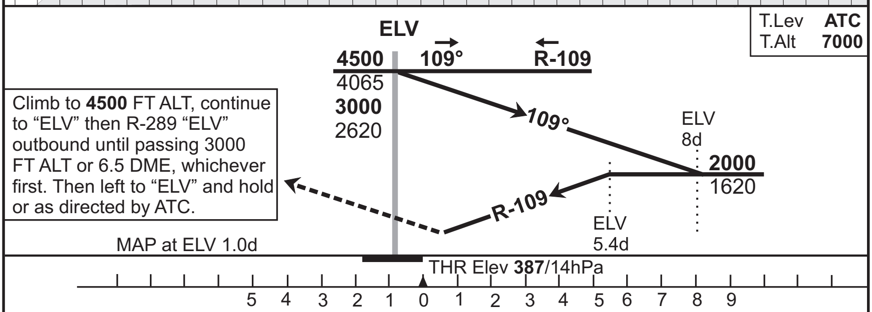
EAST LONDON

(Cat A - D) **VOR Y Rwy 29**

FAEL

BEARINGS ARE MAGNETIC ALTITUDES, ELEVATIONS AND HEIGHTS IN FEET. DISTANCES IN NM.	**EAST LONDON Approach 120.1**	**Tower 118.3**	**Apron 122.65**	**ATIS 126.65**	**VOR-03** EFF 03 Jul 08





Climb to **4500** FT ALT, continue to "ELV" then R-289 "ELV" outbound until passing 3000 FT ALT or 6.5 DME, whichever first. Then left to "ELV" and hold or as directed by ATC.

1. Initial approach altitude **4500** or higher MSA.
2. Procedure turn approach applicable only within 30° of the outbound heading. Use phraseology "Request procedure turn approach".
3. RoD computes at 3° angle of descent.
4. Circle to land at the discretion of the pilot in command.
5. **OCH @ min 2.5% climb gradient Cat A - D 673**

OCA/H					
Cat of ACFT		**A**	**B**	**C**	**D**
Straight -in		**1060**(673)	**1060**(673)	**1060**(673)	**1060**(673)
Approach					
Circling					

"ELV" 5.4d - THR						
Speed	Kt	80	100	120	140	160
Time	M:s	3:41	2:57	2:27	2:06	1:50
Rate of Descent	Fpm	420	530	640	740	850

"ELV" VOR/DME	5.4d	5d	4d	3d
Advisory Alt/Hgt	**2000**(1613)	**1870**(1483	**1550**(1163)	**1230**(843)

CAA South Africa

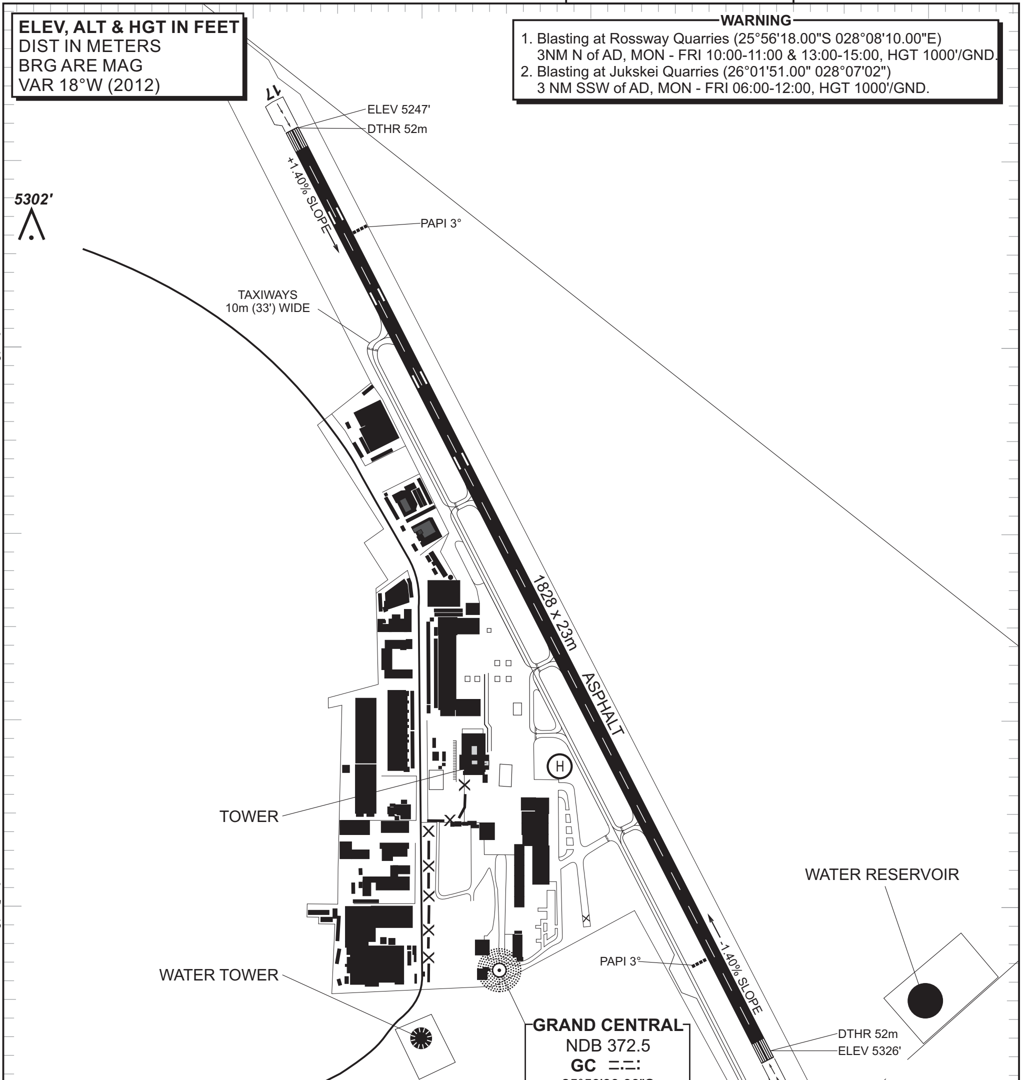
Rev: VAR & FAD-190 Removed

WGS-84

AERODROME CHART 25°59'13.44"S 028°08'25.97"E **ELEV 5325'**

FAGC AFIS 122.80

GRAND CENTRAL
FAGC



RWY LIGHTING

RWY	APCH LGT	PAPI	THR LGT	EDGE LGT	RWY END
17	NIL	3°L	DTHR GREEN	WHITE	RED
35	NIL	3°L	DTHR GREEN	WHITE	RED

OTHER: TWY, APRON, OBST & MAST

PHYSICAL CHARACTERISTICS

RWY	DIRECTION	THR COORDINATES	THR ELEVATION	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	SWY (m)	CWY (m)	SLOPE	SURFACE	BEARING STRENGTH	CIRCUIT
17	153°T	25°58'48.54"S 028°08'11.82"E	5247'	1828	1828	1828	1776	0	0	0.014 U	ASPH	PCN 45	R/H
35	333°T	25°59'38.36"S 028°08'40.15"E	5326'	1828	1828	1828	1776	0	0	0.014 D			L/H

CHANGE: RWY Bearing Strength

INSTRUMENT APPROACH CHART - ICAO

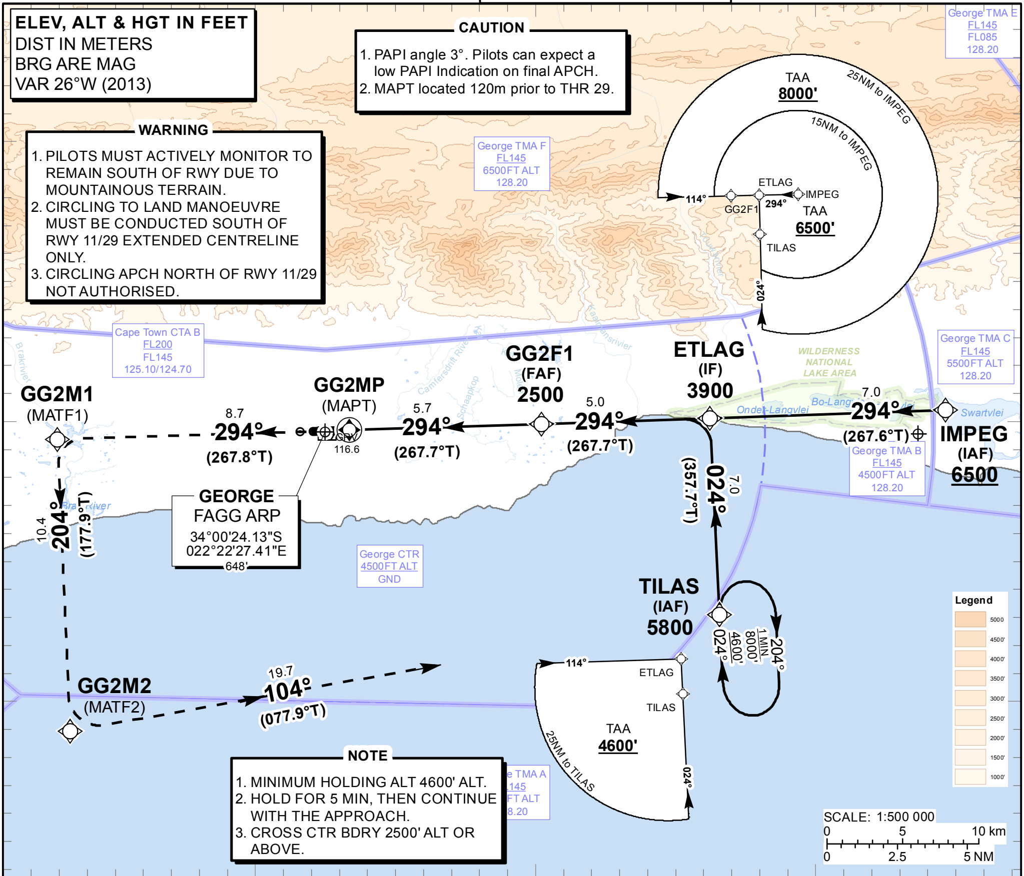
AERODROME ELEV 648'
HEIGHTS RELATED TO
THR RWY 29 - ELEV 648'

For exam purposes only don't use for Navigation

GEORGE ARRIVAL 123.80
TWR: 118.90
ALPHA OSCAR (APN) 122.65
ATIS: 126.225

GEORGE RNAV (GNSS) RWY 29

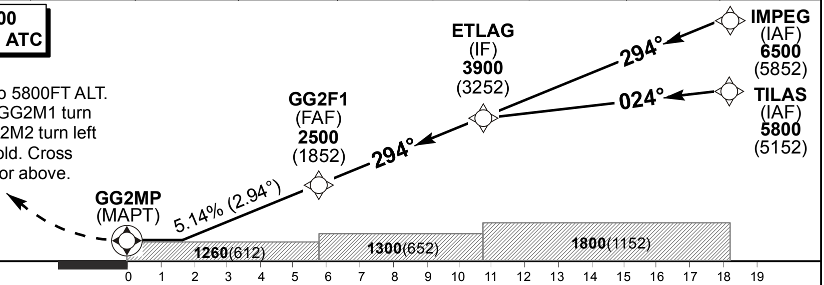
CAT A - D



DIST (NM) to THR 29	5.8	5	4	3	2	1	0.06	0
DIST (NM) to Next WPT	5.7 (FAF)	4.94	3.94	2.94	1.94	0.94	GG2MP	THR 29
ADVISORY ALT (HGT)	2500 (1852)	2260 (1612)	1950 (1302)	1640 (992)	1330 (682)	1020 (372)	720 (72)	700 (52)

TRANSITION ALT 8000
TRANSITION LEVEL ATC

MISSED APPROACH:
MAX 230KT IAS. Climb to 5800FT ALT. Route direct GG2M1. At GG2M1 turn left direct GG2M2. At GG2M2 turn left direct TILAS and enter hold. Cross CTR BDRY 2500FT ALT or above.



THR ELEV 648
NM to/from THR RWY 29

MIN TEMP: 0°C			A	B	C	D
Straight-in Approach	LNAV	2.5%	1260 (612)	1260 (612)	1260 (612)	1260 (612)
	LNAV/VNAV	2.5%	1030(382)	1030(382)	1030(382)	1030(382)
	RVR		1000m	1200m	1200m	1600m
	ALS OUT		1500m	1500m	2000m	2000m
Circling	HGT Related to AD ELEV		1110 (462)	1280 (632)	1600(952)	1660(1012)

GS	KT	80	100	120	140	160
FAF to MAPT	M:S	4:16	3:25	2:51	2:26	2:08
Rate of descent	FPM	416	520	625	729	833

NOTE:
1. Rate of Descent is 5.14%.
2. Turns prior to MAPT prohibited.
3. Circle to land at the discretion of the pilot in command.
4. Pilots to report any safety concerns or operational issues with regards to this procedure to ATC.

CHANGE: Notam Revisions

For exam purposes only don't use for Navigation

AERODROME CHART

34°00'24.13"S
022°22'27.41"E

ELEV 648'

GEORGE	ATIS 126.225
ALPHA OSCAR (APN)	122.65
	TWR 118.90
	APP 128.20

GEORGE
FAGG

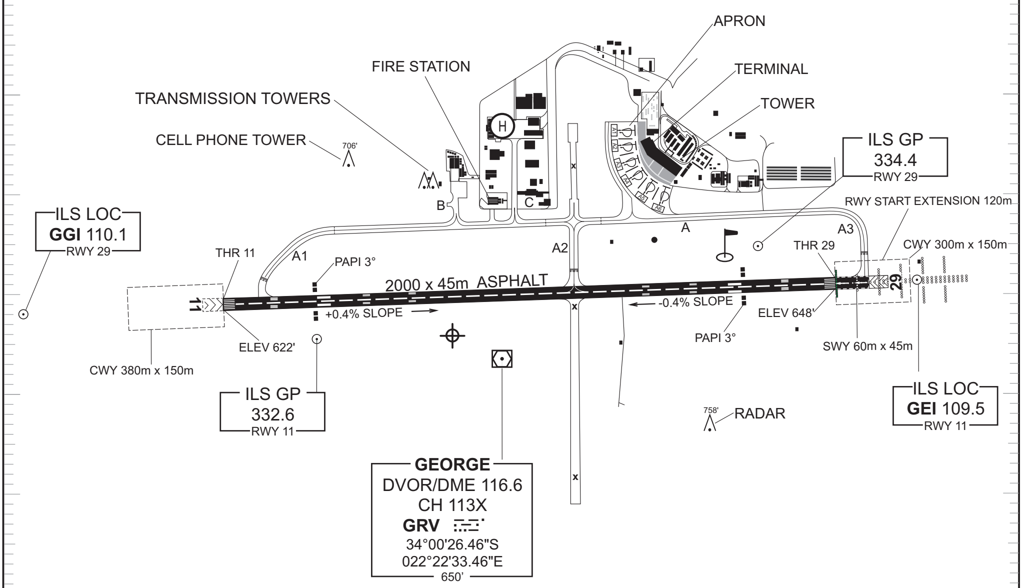
ELEV, ALT & HGT IN FEET
DIST IN METERS
BRG ARE MAG
VAR 26°W (2015)

NOTE

1. Contact Apron prior to TWR on start-up.
2. After Hours Remote RWY Lights:
   5 clicks on FREQ 118.9 MHZ switches lights ON, RWY and TWY lights switches OFF after 15 minutes.

CAUTION

1. Bird activity on aerodrome.
2. Pilots are to exercise caution and must familiarise themselves with the TWY designations.
3. RWY 11/A1 intersection TORA 1865.



SCALE 1:20 000
0 175 350 700 Meters

RWY LIGHTING					
RWY	**ALS**	**PAPI**	**RTHL**	**REDL**	**RENL**
11	NIL	3°	GREEN	WHITE	RED
29	PALS CAT II	3°	GREEN	WHITE	RED

OTHER: OBST & TWY

22°22'E 22°22'30"E 22°23'E 22°23'30"E

PHYSICAL CHARACTERISTICS

RWY	DIRECTION	THR COORDINATES	THR ELEVATION	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	SWY	CWY	SLOPE	SURFACE	BEARING STRENGTH	CIRCUIT
11	088°(T)	34°00'21.30"S 022°21'59.01"E	622'	2000	2300	2060	2000	60m	300m	0.004 U	ASPH	PCN 49/F/B/Y/U	R/H
29	268°(T)	34°00'18.83"S 022°23'16.90"E	648'	2120	2500	2120	2000	0m	380m	0.004 D			L/H

CHANGE: RWY Physical Characteristics

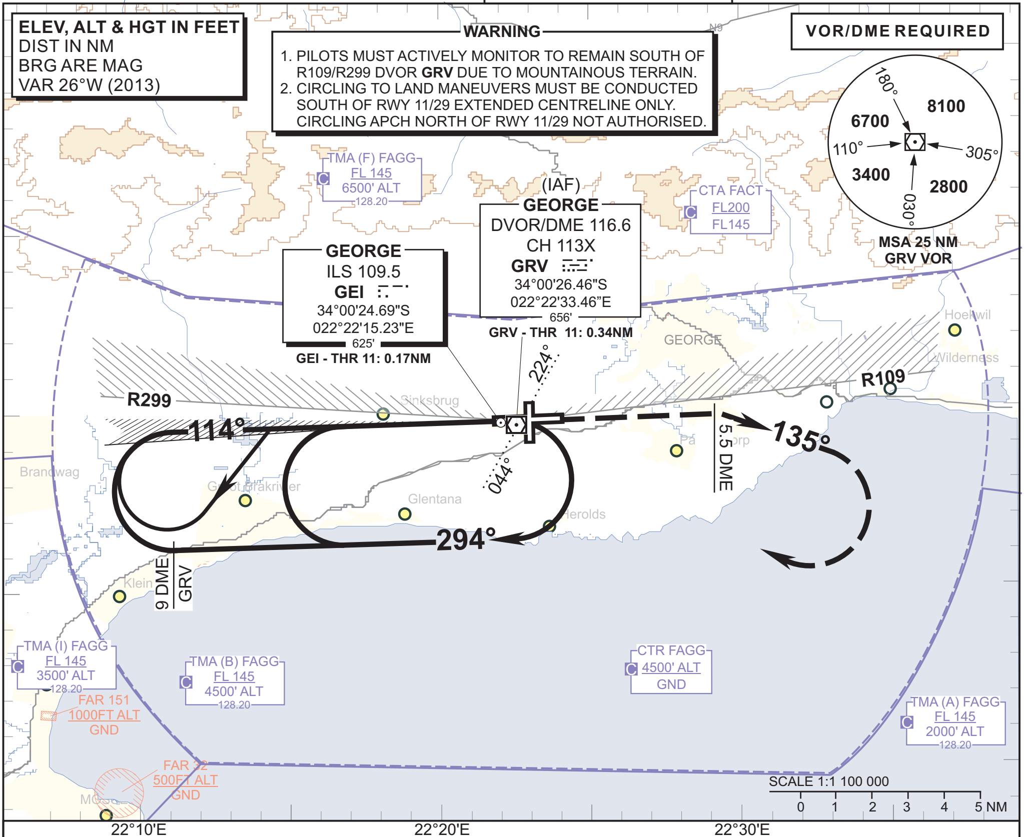
For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART

AERODROME ELEV 648'
HEIGHTS RELATED TO THR RWY 11 - ELEV 622'

GEORGE APP: 128.20
TWR: 118.90
ALPHA OSCAR (APN): 122.65
ATIS: 126.225

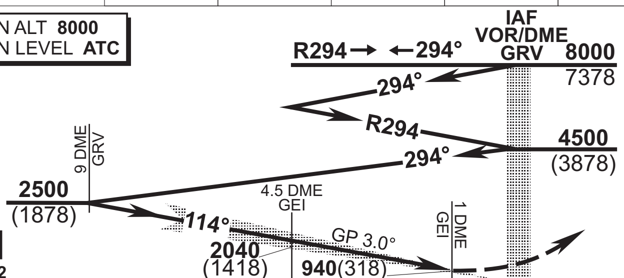
GEORGE ILS RWY 11
CAT A - D



GEI LOC/DME	4.5	3	2	1			
ADVISORY ALT (HGT)	*2040* (1418)	*1570* (948)	*1260* (638)	*940* (318)			

TRANSITION ALT **8000**
TRANSITION LEVEL **ATC**

INA ALT: **8000** or higher MSA



MISSED APPROACH:
Track RWY centreline to 5.5 DME GRV, and turn right on HDG 135°. At 3500' ALT turn right climbing to 4500' ALT and return to **GRV** and enter hold or as directed by ATC.

ILS RDH **53**

THR ELEV 622

NM to/from **THR RWY 11**: 9 8 7 6 5 4 3 2 1 0

OCA (H)		A	B	C	D
Straight-in Approach	CAT I	*922* (300)			
Circling		Circle to land South of RWY 11/29 extended centreline only			

GS	KT	80	100	120	140	160
4.5 DME **GEI** - THR	M:S	**3:15**	**2:36**	**2:10**	**1:51**	**1:37**
Rate of descent	FPM	**420**	**525**	**630**	**736**	**841**

NOTE:
1. Descend in the hold to 4500' ALT.
2. Procedure turn approach applicable only within 30° of the outbound heading. Use phraseology "Request procedure turn approach".
3. Circle to land at the discretion of the pilot in command.
4. DME **GEI** (109.5 MHZ) collocated with glide path transmitter.

CHANGE: OCA/H Table

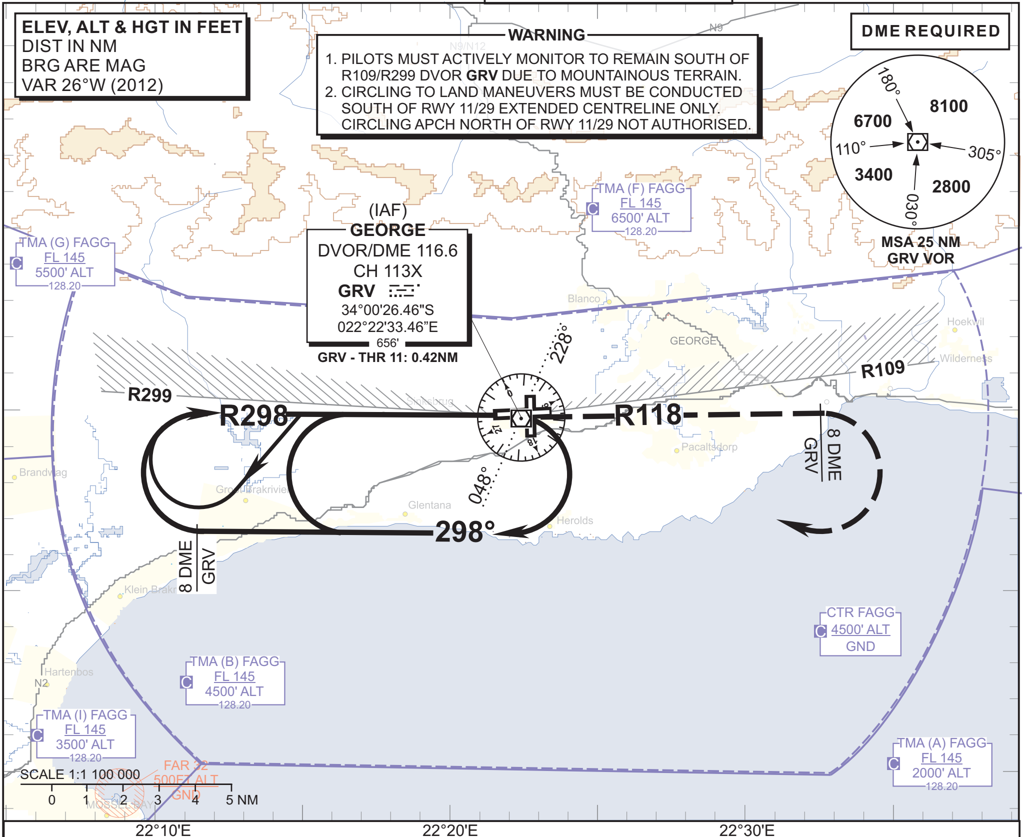
For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART

AERODROME ELEV 648'
HEIGHTS RELATED TO THR RWY 11 - ELEV 622'

GEORGE	APP: 128.20
	TWR: 118.90
ALPHA OSCAR (APN):	122.65
	ATIS: 126.225

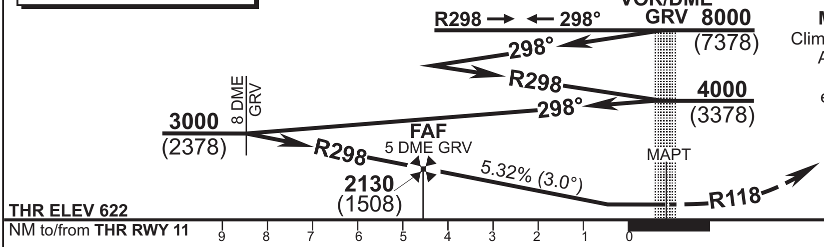
GEORGE VOR RWY 11
CAT A - D



GRV VOR/DME	5	4	3				
ALT (HGT)	***2130*** (1508)	***1810*** (1188)	***1490*** (868)				

TRANSITION ALT **8000**
TRANSITION LEVEL **ATC**

INA ALT: **8000** or higher MSA



MISSED APPROACH:
Climb on R118 to 4000' ALT. At 8 DME **GRV** turn right and return to **GRV**, and enter hold or as directed by ATC.

GS	KT	80	100	120	140	160
5 DME **GRV** - THR	M:S	**3:23**	**2:43**	**2:15**	**1:56**	**1:42**
Rate of descent	FPM	**431**	**538**	**646**	**754**	**861**

OCA (H)		A	B	C	D
Straight-in Approach	VOR/DME	***1200*** (578)			
Circling		Circle to land South of RWY 11/29 extended centreline only			

NOTE:
1. Descend in the hold to 4000' ALT.
2. Procedure turn approach applicable only within 30° of the outbound heading. Use phraseology "Request procedure turn approach".
3. Circle to land at the discretion of the pilot in command.

CHANGE: Rate of descent

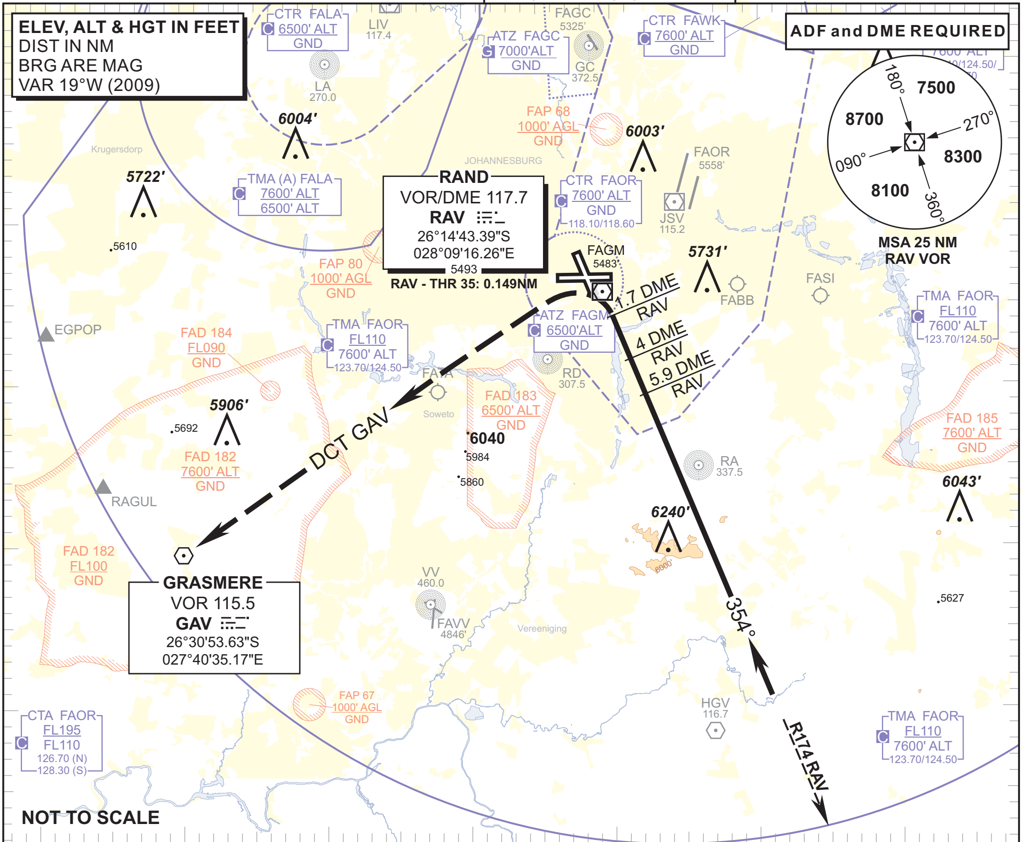
For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART

AERODROME ELEV 5483'
HEIGHTS RELATED TO
THR RWY 35 - ELEV 5460'

RADAR APP S 124.50 ATIS 126.20
E 124.50 115.20
W 123.70
TWR E 118.60
W 118.10
FAGM TWR 118.70

RAND/JOHANNESBURG
BREAKCLOUD
CAT A - C VOR A RWY 35

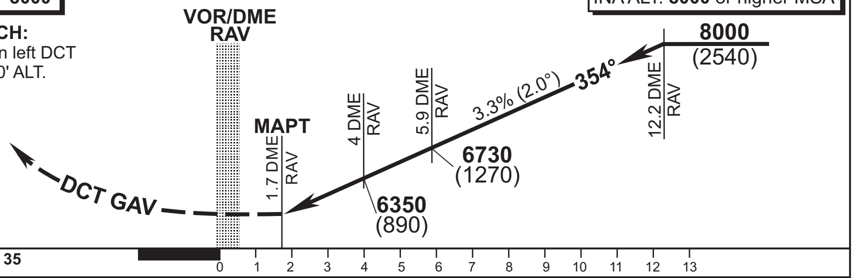


RAV VOR/DME	1.7	4	5.9	6	8	10	12.2
ALT (HGT)	***5890*** (430)	***6350*** (890)	***6730*** (1270)	***6750*** (1290)	***7160*** (1700)	***7560*** (2100)	***8000*** (2540)

TRANSITION ALT **8000**

INA ALT: **8000** or higher MSA

MISSED APPROACH:
At 1.7 DME **RAV**, turn left DCT GAV climbing to 8000' ALT.
At 7000' ALT contact FAOR Radar APP.



OCA (H)		A	B	C
Straight-in Approach	VOR	***5986*** (526)	***5986*** (526)	***6286*** (826)
Circling		Circle to land at the discretion of the pilot in command		

GS	KT	80	100	120	140	160
12.2 DME RAV-THR	M:S	**9:16**	**7:25**	**6:10**	**5:18**	**4:38**
Rate of descent	FPM	269	336	403	470	538

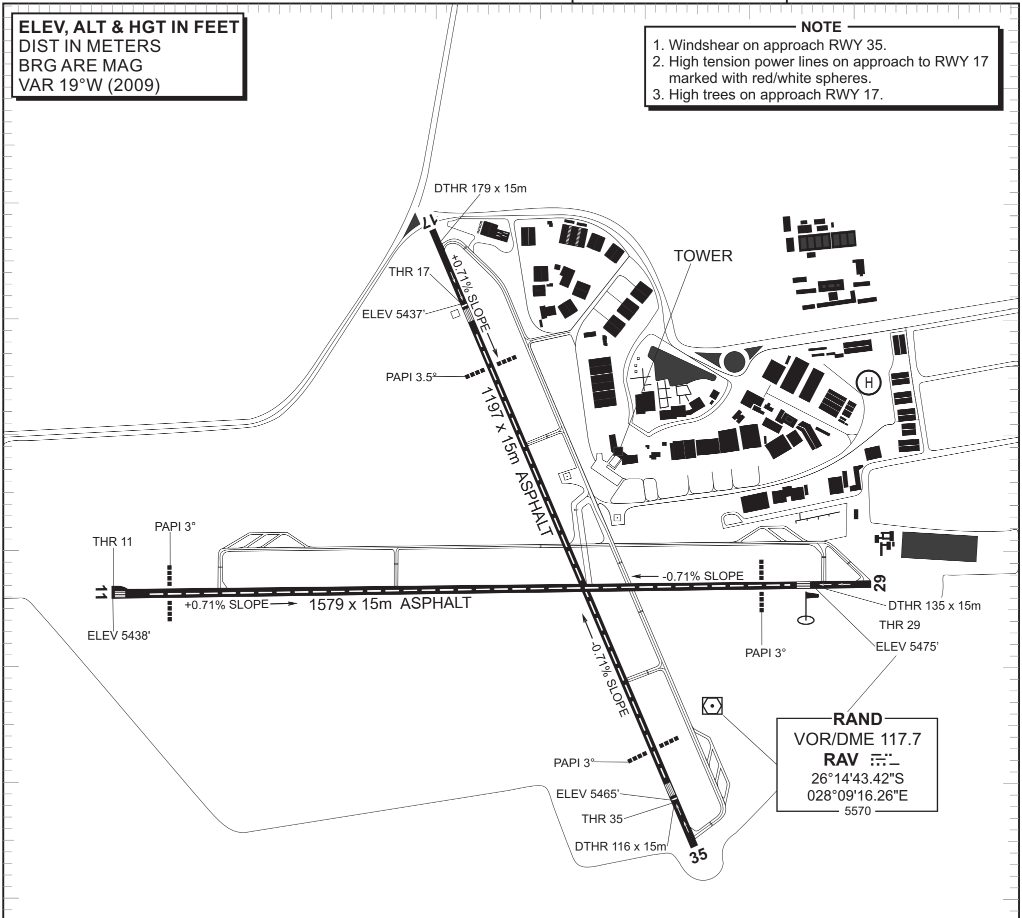
NOTE:
1. Freeway lighting on approach to RWY 35.
2. Expect VOR deflections on R174 **RAV** due to vehicle movements on by-pass road South of THR 35.

CHANGE: Morse Code RAV

AERODROME CHART 26°14'31.12"S 028°09'04.88"E **ELEV 5483'**

RADAR APP 134.40 (N)
123.70 (W)
124.50 (S & E)
TWR 118.70

RAND (JOHANNESBURG)
FAGM



26° 14' 00"S

26° 14' 30"S

26° 15 00'S

SCALE 1:20 000

0 180 360 720 Meters

028°08'30"E 028°09'E 028°09'30"E

RWY LIGHTING

RWY	ALS	PAPI	RTHL	REDL	RENL
11	NIL	3°	GREEN	WHITE	RED
29	NIL	3°	GREEN	WHITE	RED
17	NIL	3.5°	GREEN	WHITE	RED
35	NIL	3°	GREEN	WHITE	RED

OTHER: OBST, TWY & AD BEACON

PHYSICAL CHARACTERISTICS

RWY	DIRECTION (T)	THR COORDINATES	THR ELEVATION	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	SWY (m)	CWY (m)	SLOPE	SURFACE	BEARING STRENGTH	CIRCUIT
11	089°	26°14'33.55"S 028°08'25.99"E	5438'	1579	1579	1714	1714	135	0	0.007 U	ASPH	LCN 51	R/H
29	269°	26°14'32.87"S 028°09'22.86"E	5475'	1714	1714	1714	1579	0	0	0.007 D	ASPH	LCN 51	L/H
17	157°	26°14'12.66"S 028°08'54.55"E	5437'	1376	1376	1492	1313	116	0	0.007 U	ASPH	LCN 43	R/H
35	337°	26°14'48.44"S 028°09'11.51"E	5465'	1313	1313	1492	1376	179	0	0.007 D	ASPH	LCN 43	L/H

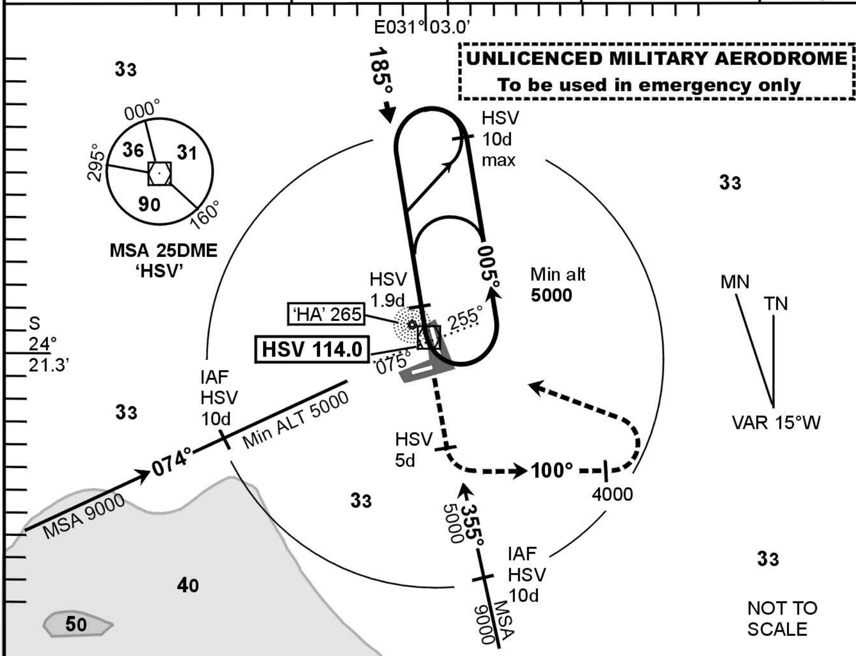
CHANGE: RWY Physical Characteristics

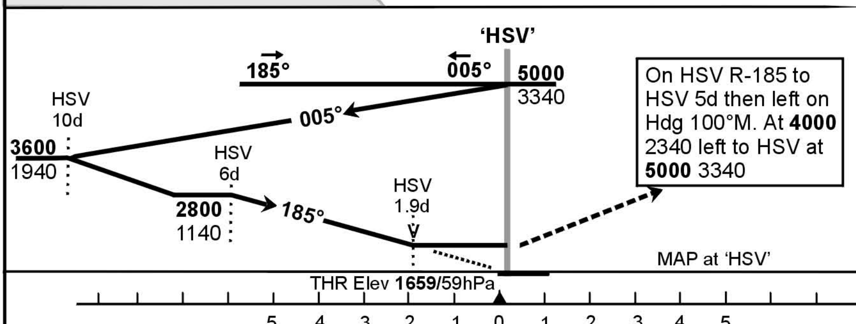
Elev	OCH: 499
1738	

For exam purposes only don't use for Navigation

HOEDSPRUIT AFB
(CAT A - D) VOR/DME 18

FAHS	HOEDSPRUIT Approach	Radar	Tower	HSV	VOR-01
	126.4	119.6 123.3	119.6	114.0	EFF 08 July 04





	T.Lev	ATC
—	T.Alt	8000

kt	fpm	6d
200	650	—
180	590	THR
160	510	2:06
140	450	2:24
120	390	2:48
100	330	3:22
80	290	4:12

1. Initial approach altitude **5000** or higher MSA.
2. Descend in the hold to **5000.**
3. When approaching between HSV R-155 to HSV R-215 use phraseology 'Request procedure turn approach'.
4. Circling to land at pilot's discretion.
5. FAT offset 7° from RWY centerline.

Rev: Topo clearance heights and MSA reviewed. Chart #.

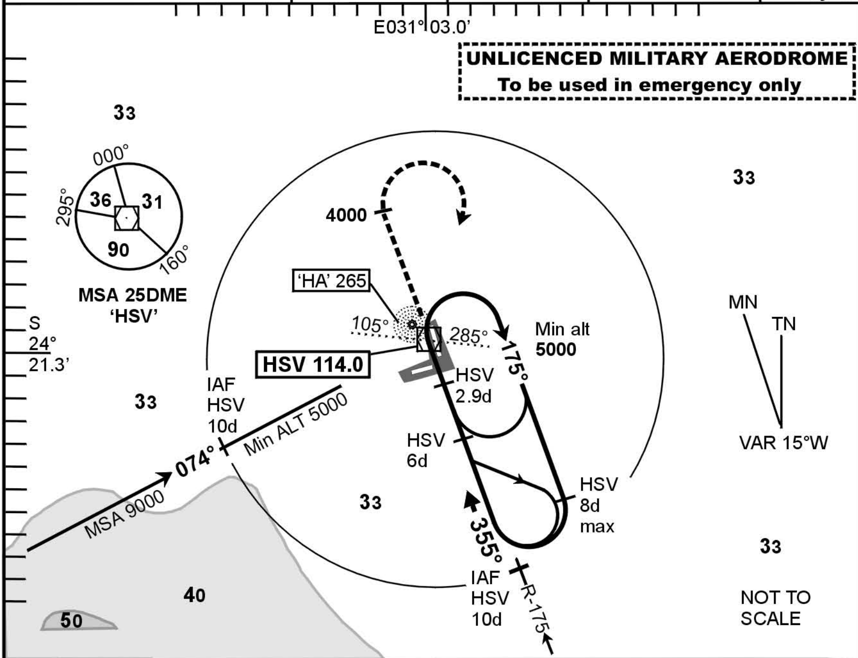
WGS-84

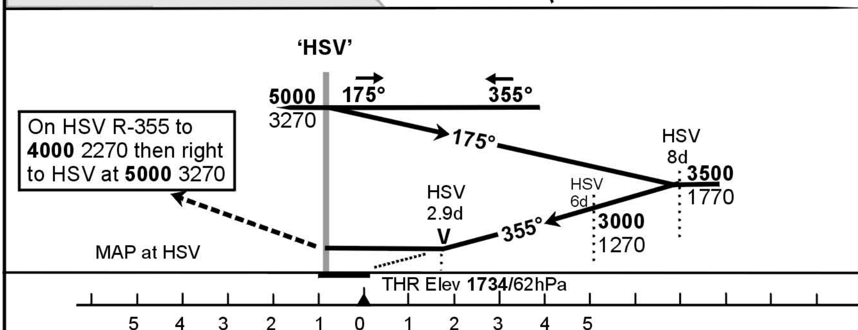
Elev 1738	OCH: 428

HOEDSPRUIT AFB

(Cat A - B) VOR/DME 36

HOEDSPRUIT Approach	Radar	Tower	HSV	VOR-02
126.4	119.6 123.3	119.6	114.0	EFF 08 July 04





T.Lev	ATC
T.Alt	8000

kt	fpm	6d
200	884	—
180	790	THR
160	700	1:41
140	618	1:56
120	530	2:15
100	411	2:42
80	380	3:22

1. Initial approach altitude **5000** or higher MSA.
2. Descend in the hold to **5000.**
3. When approaching between HSV R-325 to HSV R-025 use phraseology 'Request procedure turn approach'.
4. Circling to land at pilot's discretion.
5. FAT offset 3° from RWY centerline.

Rev: Topo clearance heights and MSA reviewed. Chart #.

WGS-84

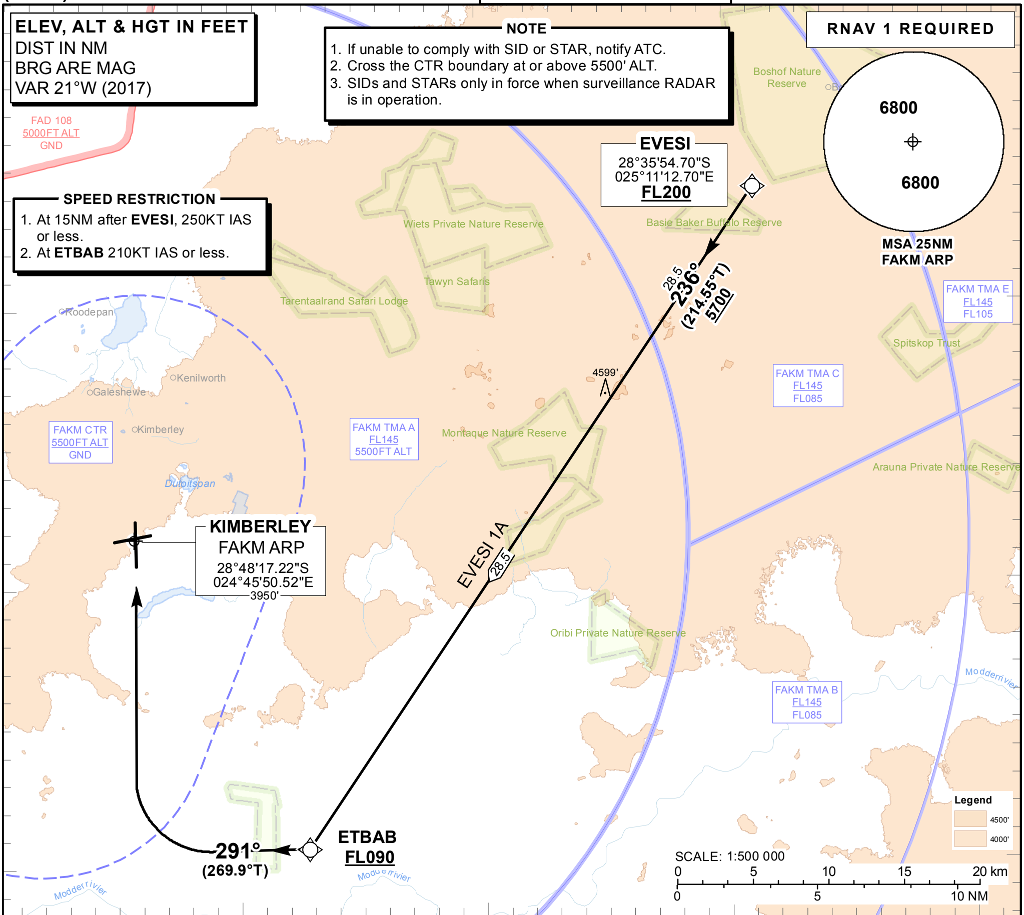
STANDARD ARRIVAL CHART - INSTRUMENT (STAR)

TRANSITIONAL ALTITUDE 7000'
TRANSITIONAL LEVEL ATC

For exam purposes only don't use for Navigation

KIMBERLEY TWR: 118.20
APN: 122.65
BLOEMFONTEIN APP: 124.30

KIMBERLEY RNAV (GNSS) RWY 02
EVESI 1A



EVESI 1A: RWY 02	**Leave EVESI for ETBAB. At ETBAB turn right and continue on the RNAV (GNSS) APCH RWY 02.**

COMMUNICATION FAILURE PROCEDURE (Squawk 7600)

Before EVESI: Proceed to EVESI and continue on EVESI 1A RNAV (GNSS) RWY 02 STAR to ETBAB. At ETBAB enter the RNAV (GNSS) RWY 02 hold at FL110. Hold for minimum 5 MIN, then descend in the hold to FL090 and complete the RNP APCH RWY 02.

After EVESI: Continue on the EVESI 1A RNAV (GNSS) RWY 02 STAR to ETBAB. At ETBAB enter the RNAV (GNSS) RWY 02 hold at FL110. Hold for minimum 5 MIN, then descend in the hold to FL090 and complete the RNP APCH RWY 02.

CHANGE: New Procedure

For exam purposes only don't use for Navigation

AERODROME/ HELIPORT CHART - ICAO

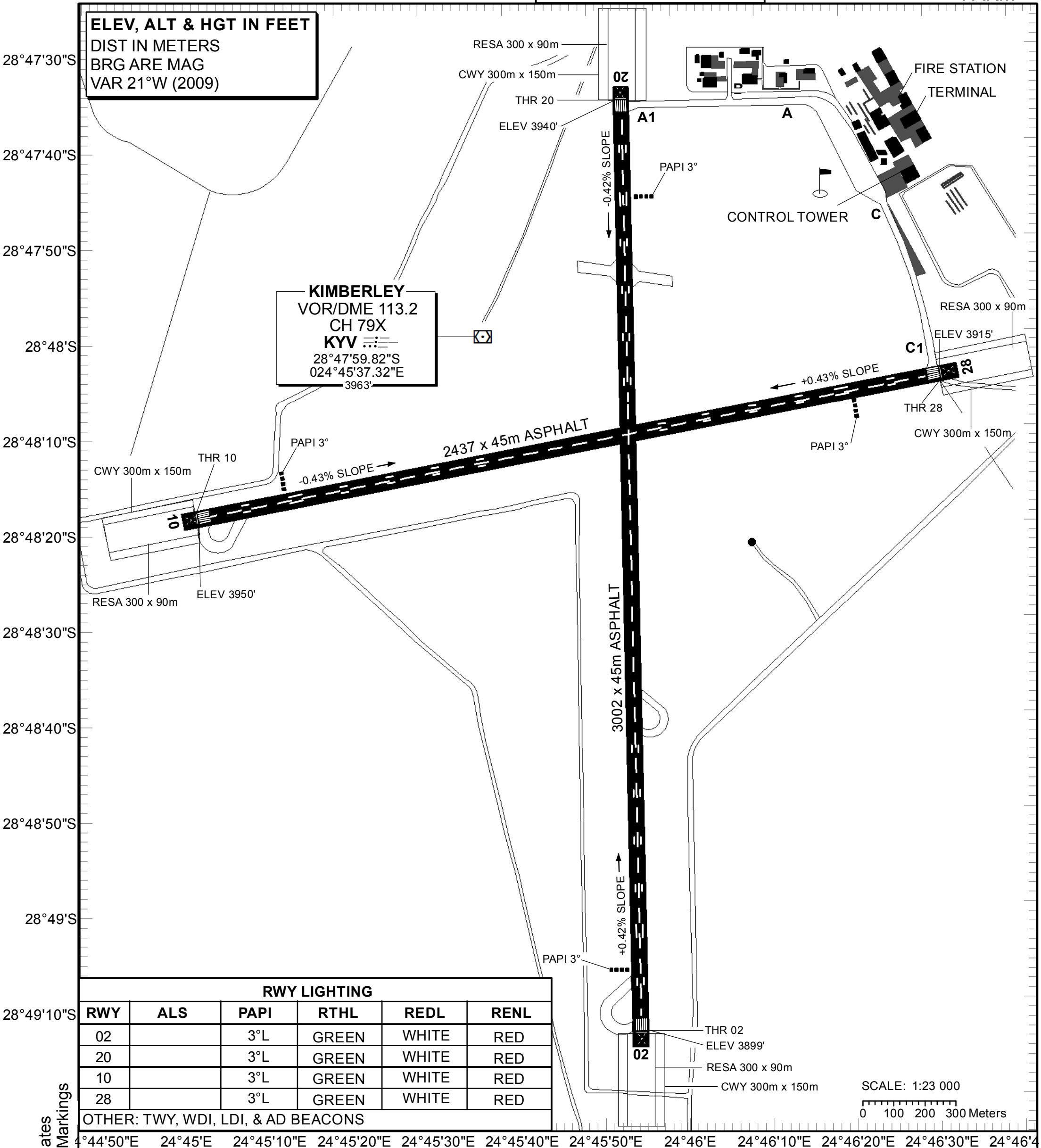
28°48'17.22"S
024°45'50.52"E

ELEV 3950'

KIMBERLEY TWR : 118.20
APN : 122.65
BLOEMFONTEIN APP : 119.40

KIMBERLEY

FAKM



RWY LIGHTING

RWY	ALS	PAPI	RTHL	REDL	RENL
02		3°L	GREEN	WHITE	RED
20		3°L	GREEN	WHITE	RED
10		3°L	GREEN	WHITE	RED
28		3°L	GREEN	WHITE	RED

OTHER: TWY, WDI, LDI, & AD BEACONS

PHYSICAL CHARACTERISTICS

RWY	DIRECTION (T)	THR COORDINATES	THR ELEVATION	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	SWY (m)	CWY (m)	SLOPE	SURFACE	BEARING STRENGHT	CIRCUIT
02	360°	28°49'12.959"S 024°45'54.634"E	3899'	3002	3302	3002	3002	0	300	0.004U	ASPH	PCN 42/F/A/W/T	L/H
20	180°	28°47'35.471"S 024°45'54.374"E	3940'	3002	3302	3002	3002	0	300	0.004D			R/H
10	080°	28°48'18.494"S 024°45'03.039"E	3950'	2437	2737	2437	2437	0	300	0.004D	ASPH	PCN 42/F/A/W/T	NIL
28	260°	28°48'04.572"S 024°46'31.537"E	3915'	2437	2737	2437	2437	0	300	0.004U			NIL

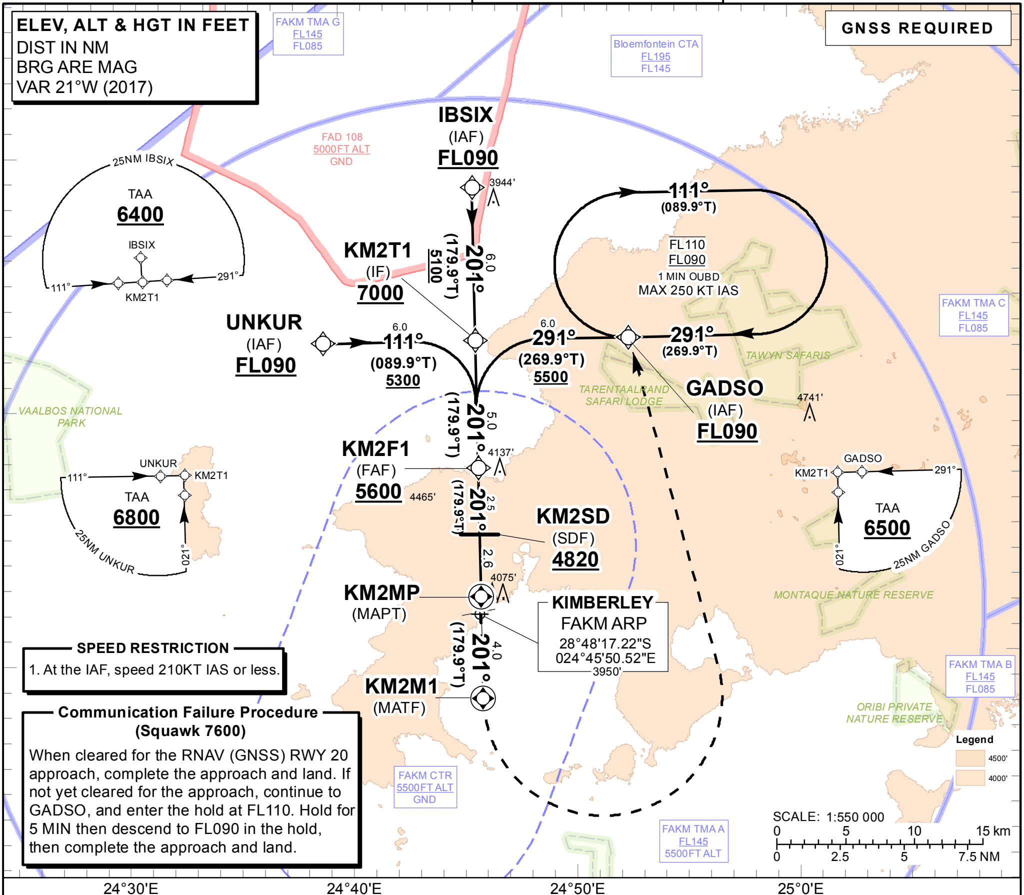
CHANGE: THR Coordinates TWY & APN Markings

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 3950'
HEIGHTS RELATED TO
THR RWY 20 - ELEV 3940'

KIMBERLEY TWR: 118.20
APN: 122.65
BLOEMFONTEIN APP: 119.40

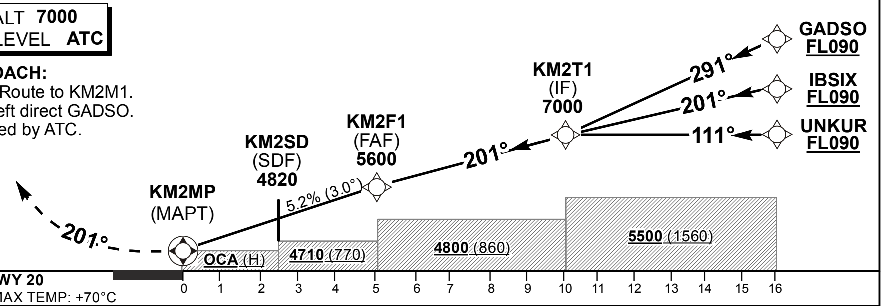
KIMBERLEY
RNAV (GNSS) RWY 20
CAT A - D



DIST (NM) to KM2MP	5.1	5	4	3	2.6	2
ADVISORY ALT(HGT)	*5600* (1660)	*5590* (1650)	*5270* (1330)	*4950* (1010)	*4820* (880)	*4630* (690)

TRANSITION ALT 7000
TRANSITION LEVEL ATC

MISSED APPROACH:
Climb to FL090. Route to KM2M1.
At KM2M1 turn left direct GADSO.
Hold or as directed by ATC.



MIN TEMP: -10°C/ MAX TEMP: +70°C

			OCA (H)	A	B	C	D
Straight-in Approach	LNAV ONLY	2.5%		*5020* (1080)	*5020* (1080)	*5020* (1080)	*5020* (1080)
		4.4%		*4540* (600)	*4540* (600)	*4540* (600)	*4540* (600)
	LNAV/ VNAV	2.5%		*4940* (1000)	*4940* (1000)	*4940* (1000)	*4940* (1000)
		3.3%		*4390* (450)	*4390* (450)	*4390* (450)	*4390* (450)
	RVR			1500m	1500m	1800m	2000m
	ALS OUT			1500m	1500m	2000m	2000m
Circling				*4520* (570)	*4620* (670)	*5390* (1440)	*5390* (1440)

GS	KT	80	100	120	140	160	180
KM2F1 to KM2MP	M:S	3:47	3:01	2:31	2:09	1:53	1:41
Rate of descent	FPM	425	531	638	744	850	956

NOTE:
1. RoD is 5.2%.
2. Turns prior MAPT prohibited.
3. BaroVNAV operations not authorised below -10°C and MAX VPA 3.5° temperature +70°C.

CHANGE: New Procedure

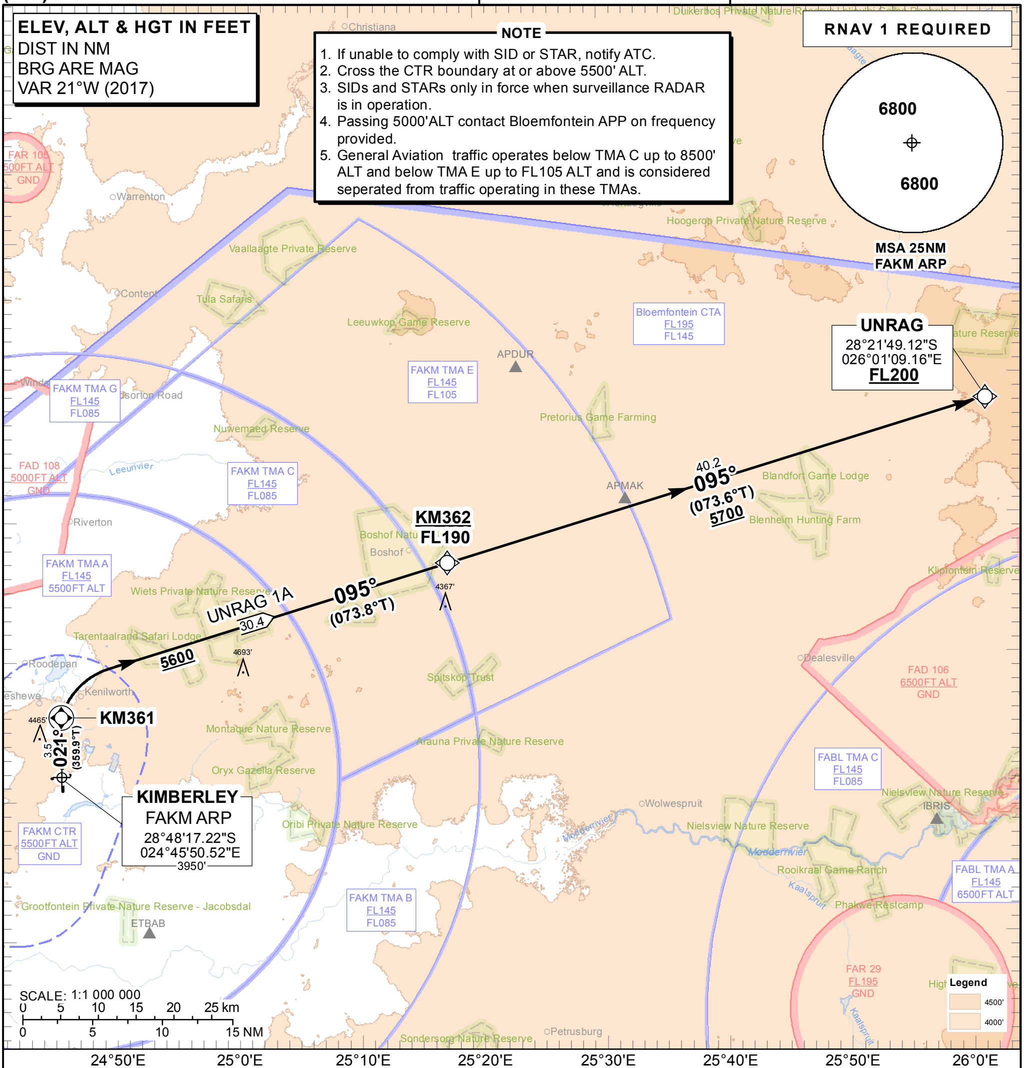
STANDARD DEPARTURE CHART - INSTRUMENT (SID)

For exam purposes only don't use for Navigation

TRANSITIONAL ALTITUDE
7000'
TRANSITIONAL LEVEL
ATC

KIMBERLEY TWR: [illegible]8.20
APN: 122.65
BLOEMFONTEIN APP: 124.30

KIMBERLEY
RNAV (GNSS) RWY 02
UNRAG 1A



UNRAG 1A: RWY 02	**Climb to FL200. Maintain RWY track 021°M to KM361. At KM361 turn right direct to KM362. Reach KM362 at FL190 or below. At KM362 route to UNRAG. At UNRAG set course as per flight plan.** **Restricted to a minimum climb gradient of 5.3% until KM361, thereafter 3.5% until UNRAG.** 5.3% @ 140KT IAS = 751 FPM 5.3% @ 160KT IAS = 859 FPM 5.3% @ 180KT IAS = 966 FPM 5.3% @ 200KT IAS = 1073 FPM 5.3% @ 220KT IAS = 1181 FPM
	COMMUNICATION FAILURE PROCEDURE (Squawk 7600) Comply with UNRAG 1A RNAV (GNSS) SID. At UNRAG climb to flight plan level and set course as per flight plan. Aircraft wishing to return to FAKM must continue as per the UNRAG 1A SID to UNRAG. At UNRAG turn right direct to ETBAB descending to FL110. Cross the TMA boundary at FL150 or above. At ETBAB comply with the RNP APCH RWY 02 Communication Failure Procedure.

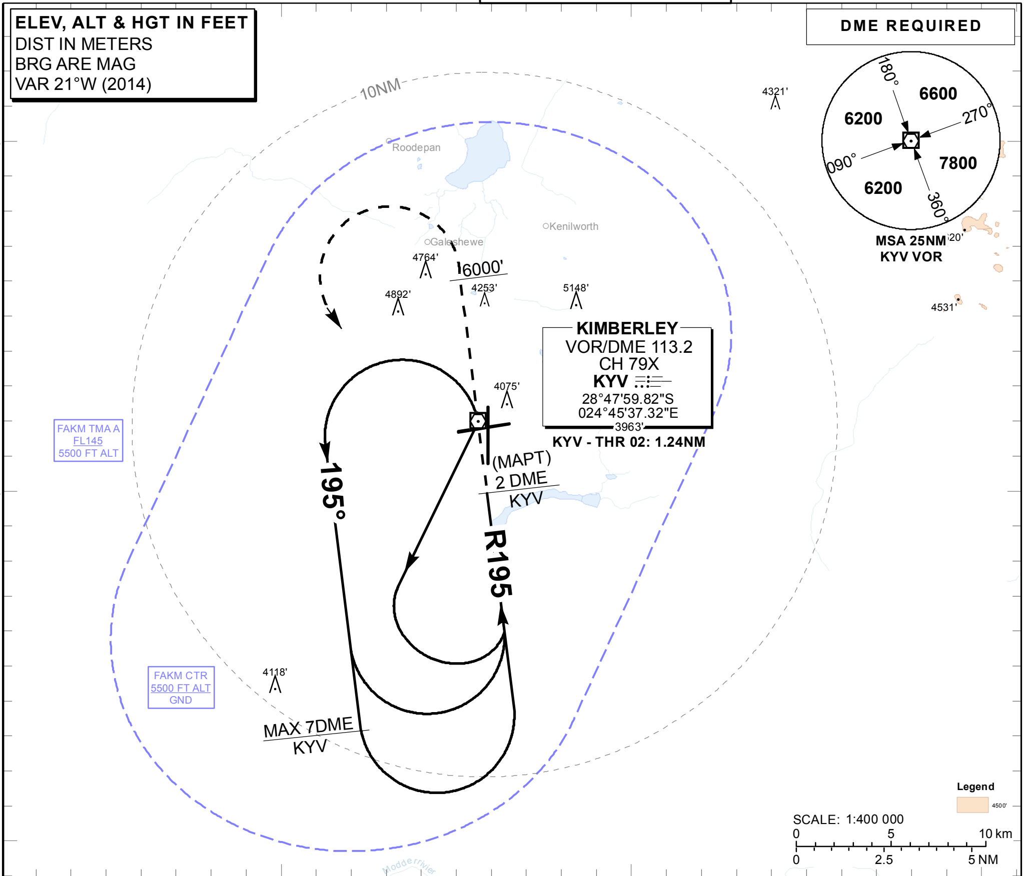
CHANGE: New Procedure

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 3950'
HEIGHTS RELATED TO
THR RWY 02 - ELEV 3899'

KIMBERLEY TWR: 118.20
APRON: 122.65
BLOEMFONTEIN APP: 119.40

KIMBERLEY VOR RWY 02
CAT A - D

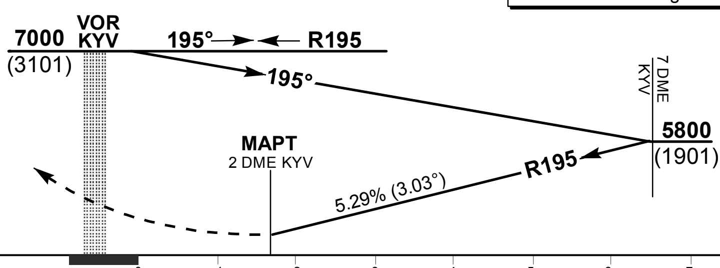


KYV DME	7	6	5	4	3
ADVISORY ALT(HGT)	**5800** (1901)	**5480** (1581)	**5160** (1261)	**4840** (941)	**4520** (621)

TRANSITION ALT **7000**
TRANSITION LEVEL **ATC**

INA ALT: **7000** or higher MSA

MISSED APPROACH:
Climb to 6000FT ALT.
At 6000FT ALT turn
left direct to
VOR **KYV**. Hold at
7000FT ALT.



THR ELEV 3899
NM to/from **THR RWY 02**
0 1 2 3 4 5 6 7

OCA (H)		A	B	C	D
Straight-in Approach	VOR	*4260* (361)	*4260* (361)	*4260* (361)	*4260* (361)
Circling	Circle to land at the discretion of the pilot in command				

GS	KT	80	100	120	140	160
7 DME to THR	M:S	**4:19**	**3:27**	**2:53**	**2:28**	**2:10**
Rate of descent	FPM	**429**	**536**	**643**	**750**	**857**

NOTE:
1. Procedure Turn Approach applicable only within 30° of the Outbound Heading. Use phraseology "Request Procedure Turn Approach".
2. RoD from 7 DME KYV computes at 3.03°.

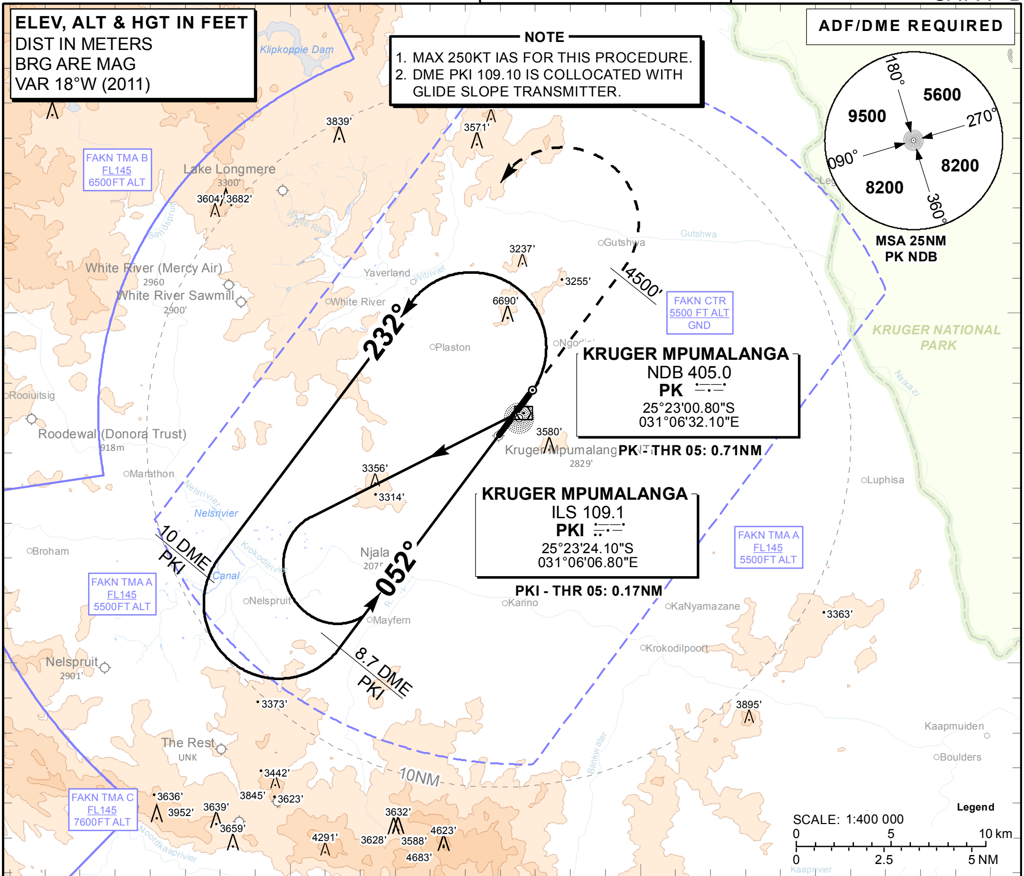
CHANGE: OCA (H)

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 2829'
HEIGHTS RELATED TO
THR RWY 05 - ELEV 2825'

For exam purposes only don't use for Navigation
KRUGER APP/TWR: 119.20
LOWVELD INFO: 129.40

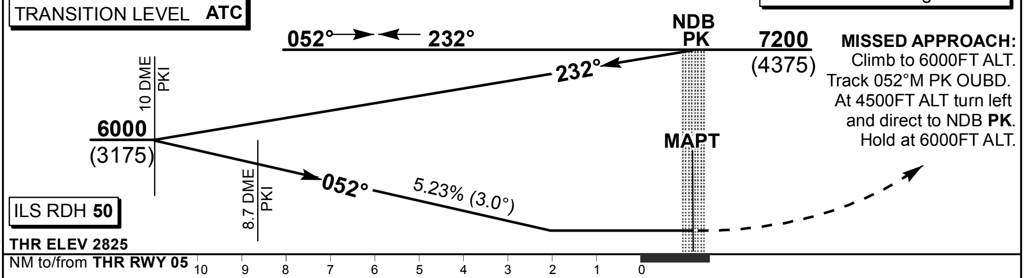
KRUGER MPUMALANGA INTL
NDB RWY 05
CAT A - D



PKI DME	8.7	8	7	6	5	4	3
ADVISORY ALT(HGT)	**5590** (2765)	**5370** (2545)	**5050** (2225)	**4730** (1905)	**4420** (1595)	**4100** (1275)	**3780** (955)

TRANSITION ALT **9000**
TRANSITION LEVEL **ATC**

INA ALT: **7200** or higher MSA



MISSED APPROACH:
Climb to 6000FT ALT.
Track 052°M PK OUBD.
At 4500FT ALT turn left and direct to NDB **PK**.
Hold at 6000FT ALT.

GS	KT	80	100	120	140	160
10 DME to THR	M:S	7:22	5:54	4:55	4:13	3:41
Rate of descent	FPM	424	530	636	742	848

OCA (H)		A	B	C	D
Straight-in Approach	NDB	*3564* (735)	*3564* (735)	*3564* (735)	*3564* (735)
Circling	Circle to land at the discretion of the pilot in command				

NOTE:
1. Procedure Turn Approach applicable only wihtin 30° of the Outbound Heading. Use phraseology "Request Procedure Turn Approach".
2. For diversion, climb to MSA or above.
3. RoD from 10NM computes at 3.0°.

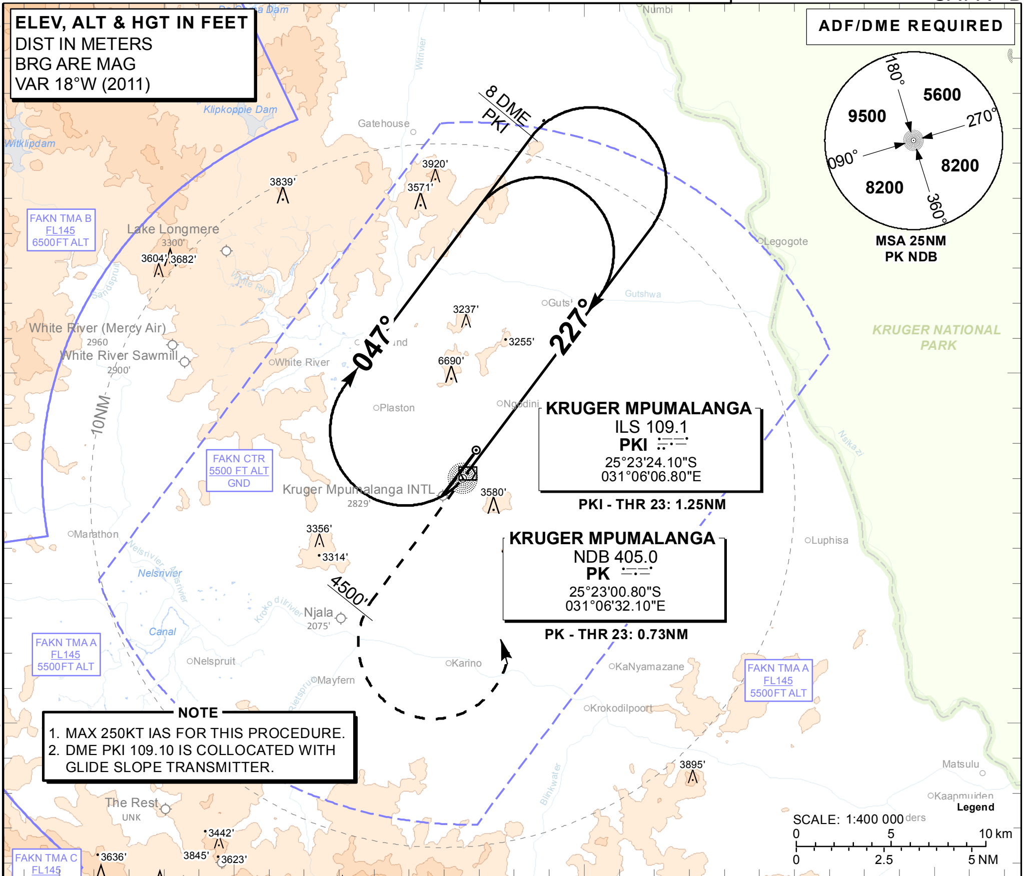
CHANGE: LASS Frequency

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 2829'
HEIGHTS RELATED TO
THR RWY 23 - ELEV 2828'

For exam purposes only don't use for Navigation
KRUGER APP/TWR: 119.20
LOWVELD INFO: 129.40

KRUGER MPUMALANGA INTL
NDB RWY 23
CAT A - D

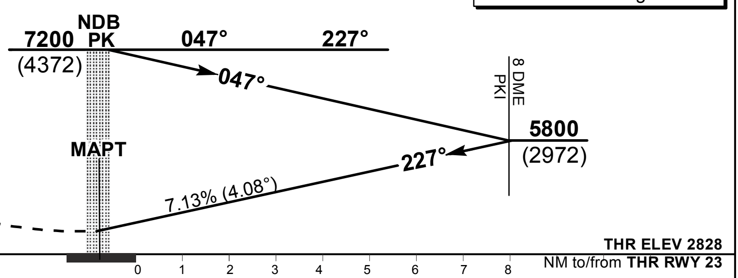


PKI DME	8	7	6	5	4	3
ADVISORY ALT(HGT)	**5800** (2972)	**5370** (2542)	**4940** (2112)	**4510** (1682)	**4070** (1242)	**3640** (812)

TRANSITION ALT **9000**
TRANSITION LEVEL **ATC**

INA ALT: **7200** or higher MSA

MISSED APPROACH:
Climb to 6000FT ALT.
Track 227°M PK OUBD.
At 4500FT ALT turn left and direct to NDB **PK**.
Hold at 6000FT ALT.



OCA (H)		A	B	C	D
Straight-in Approach	NDB	***3560*** (732)	***3560*** (732)	***3560*** (732)	***3560*** (732)
Circling	Circle to land at the discretion of the pilot in command				

GS	KT	80	100	120	140	160
8 DME to THR	M:S	**5:04**	**4:03**	**3:23**	**2:54**	**2:32**
Rate of descent	FPM	**577**	**721**	**866**	**1010**	**1154**

NOTE:
1. Procedure Turn Approach applicable only wihtin 30° of the Outbound Heading. Use phraseology "Request Procedure Turn Approach".
2. For diversion, climb to MSA or above.
3. RoD from 8 DME computes at 4.08°.

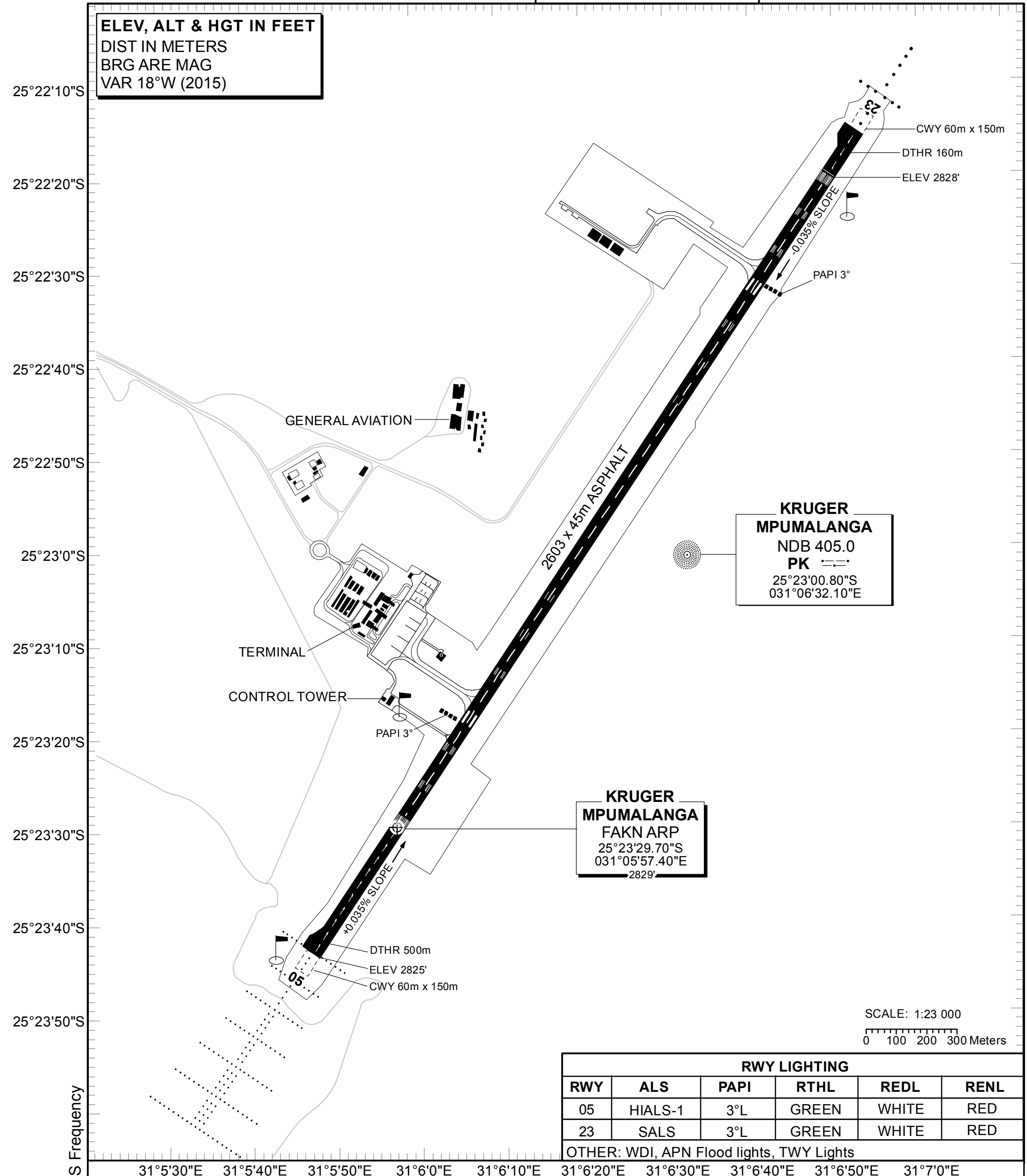
CHANGE: LASS Frequency

AERODROME/
HELIPORT
CHART - ICAO

25°23'29.70"S **ELEV 2829'**
031°05'57.40"E

KRUGER APP: 119.20
TWR: 119.20
LOWVELD: 129.40

KRUGER MPUMALANGA INTL
FAKN



RWY LIGHTING

RWY	ALS	PAPI	RTHL	REDL	RENL
05	HIALS-1	3°L	GREEN	WHITE	RED
23	SALS	3°L	GREEN	WHITE	RED

OTHER: WDI, APN Flood lights, TWY Lights

PHYSICAL CHARACTERISTICS

RWY	DIRECTION (T)	THR COORDINATES	THR ELEVATION	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	DTHR (m)	CWY (m)	SLOPE	SURFACE	BEARING STRENGHT	CIRCUIT
05	034°	25°23'29.75"S 031°05'57.36"E	2825'	3263	3323	3263	2763	500	60	0.0003U	ASPH	PCN 56/F/B/X/T	N/A
23	214°	25°22'19.76"S 031°06'49.68"E	2828'	3263	3323	3263	3103	160	60	0.0003D	ASPH		

CHANGE: LASS Frequency

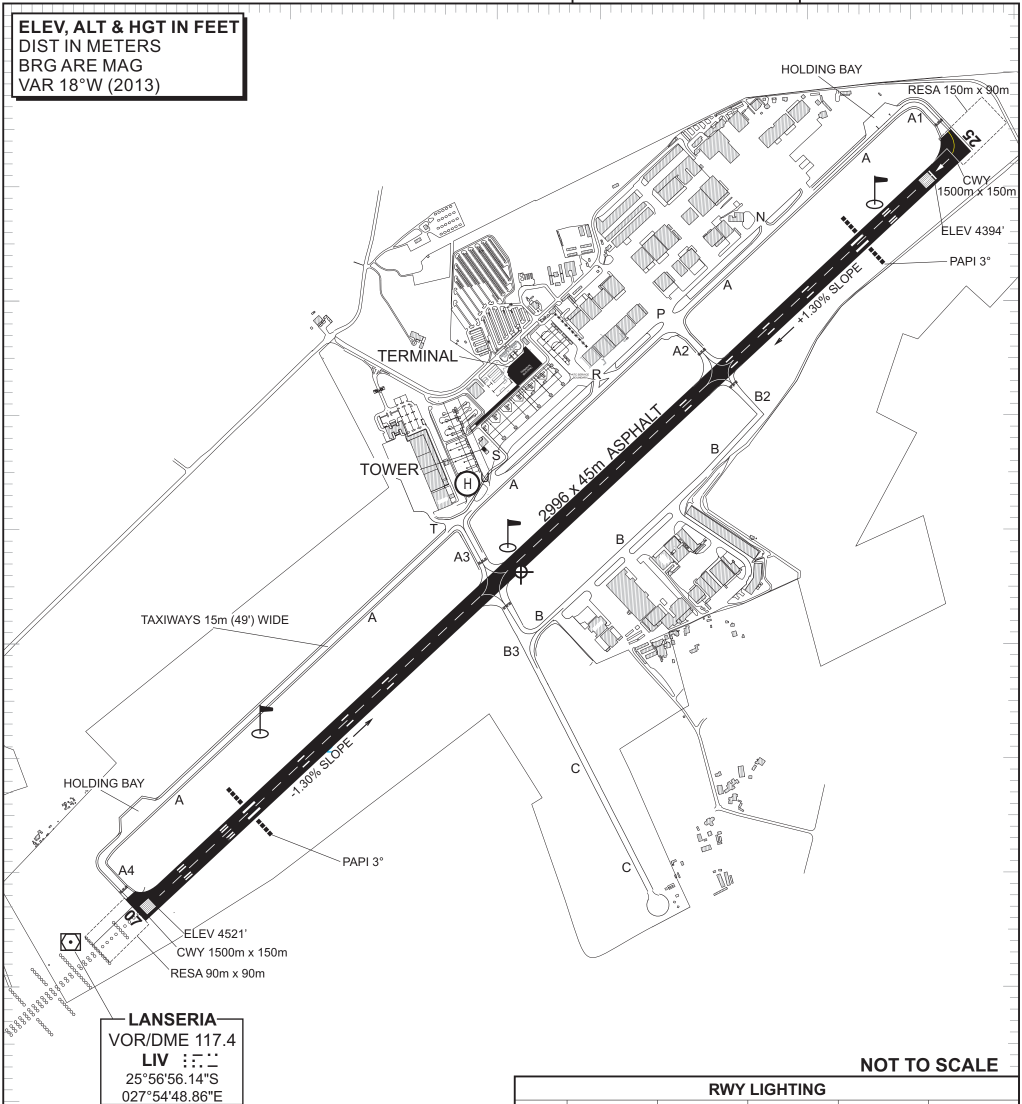
EFF: 27 APR 17

For exam purposes only don't use for Navigation

AERODROME CHART 25°56'22.89"S 027°55'32.07"E **ELEV 4521'**

LANSERIA APN 122.85
GND 121.65
TWR 124.00

LANSERIA INTL
FALA



CHANGE: TORA / ASDA RWY 25

RWY LIGHTING					
RWY	ALS	PAPI	RTHL	REDL	RENL
07	PALS CAT 1	3°	GREEN	WHITE	RED
25	NIL	3°	GREEN	WHITE	RED

OTHER: TWY, WDI, APRON, TWR, VOR & NDB

27°55'E 27°55'30"E 27°56'E

PHYSICAL CHARACTERISTICS

RWY	DIRECTION	THR COORDINATES	THR ELEVATION	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	RESA (m)	CWY (m)	SLOPE	SURFACE	BEARING STRENGTH	CIRCUIT
07	047°(T)	25°56'53.84"S 027°54'55.55"E	4521'	2996	4496	2996	2996	150	1500	0.013 D	ASPH	PCN 50/F/B/W/T	L
25	227°(T)	25°55'49.55"S 027°56'12.98"E	4394'	2996	4547	2996	2925	90	1500	0.013 U			R

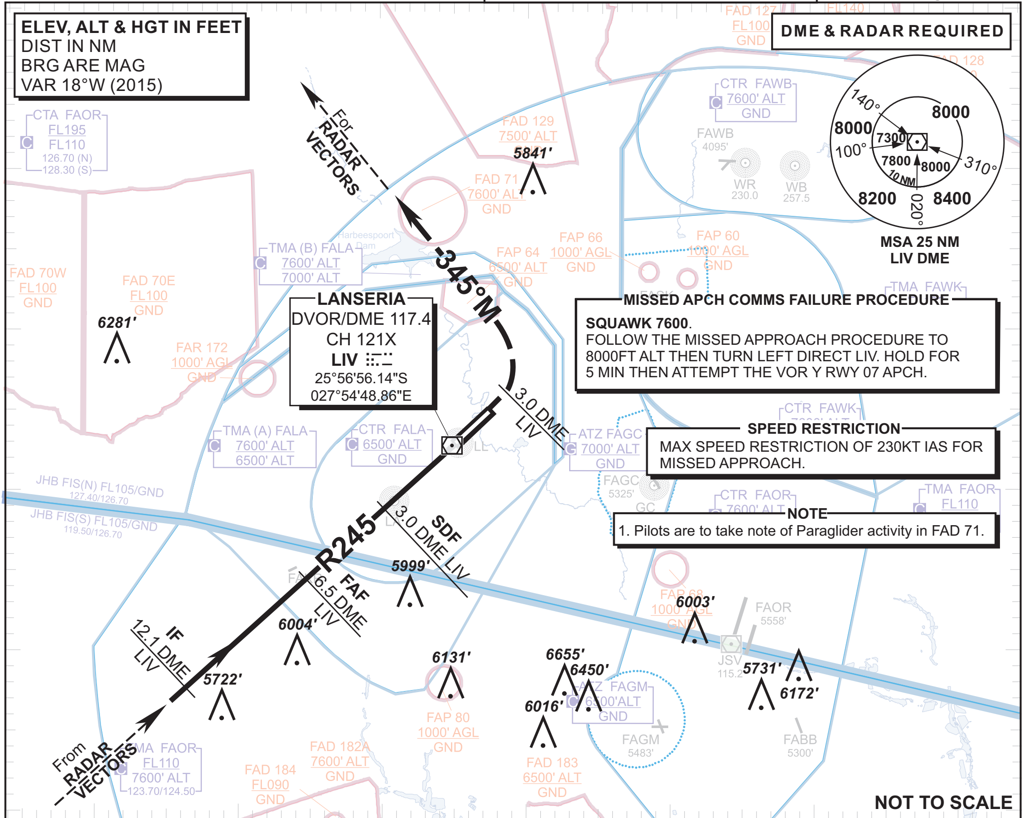
For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART

AERODROME ELEV 4521'
HEIGHTS RELATED TO
THR RWY 07 - ELEV 4521'

FALA APN: 122.85 JOHANNESBURG APP S: 124.50
SMC: 121.65 E: 124.50
TWR: 124.00 W: 123.70
ATIS: 127.65 SMC: 121.90

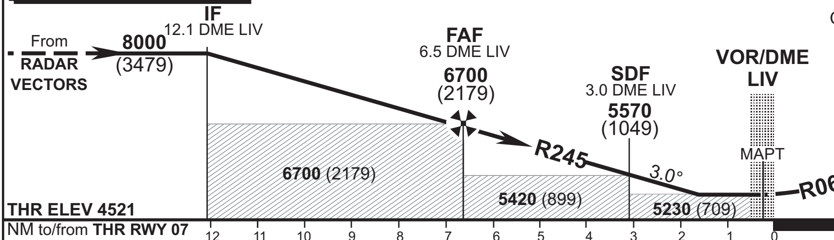
LANSERIA INTL VOR Z RWY 07 STRAIGHT-IN
CAT A - D



LIV DME	6	5	4	3	2	1
ADVISORY ALT (HGT)	***6530*** (2009)	***6210*** (1689)	***5890*** (1369)	***5570*** (1049)	***5250*** (729)	***5230*** (709)

TRANSITION ALT **8000**
TRANSITION LEVEL **ATC**

INA ALT: via **RADAR VECTORS**



MISSED APPROACH:
Climb straight ahead on R065 **LIV** (OUBD) to 8000FT ALT.
At 3.0 DME **LIV**, turn left onto track 345°M for Radar Vectors.
(MAX 230KT IAS)

OCA (H)		A	B	C	D
Straight-in Approach	With 2.5% Missed APCH Gradient	***5880*** (1359)			
	With 4.5% Missed APCH Gradient	***5230*** (709)			
Circling (HGT Related to AD ELEV)		***5320*** (799)		***5930*** (1409)	**PROHIBITED**

GS	KT	80	100	120	140	160
FAF to THR	M:S	4:58	3:59	3:19	2:50	2:29
Rate of descent	FPM	427	533	640	746	853

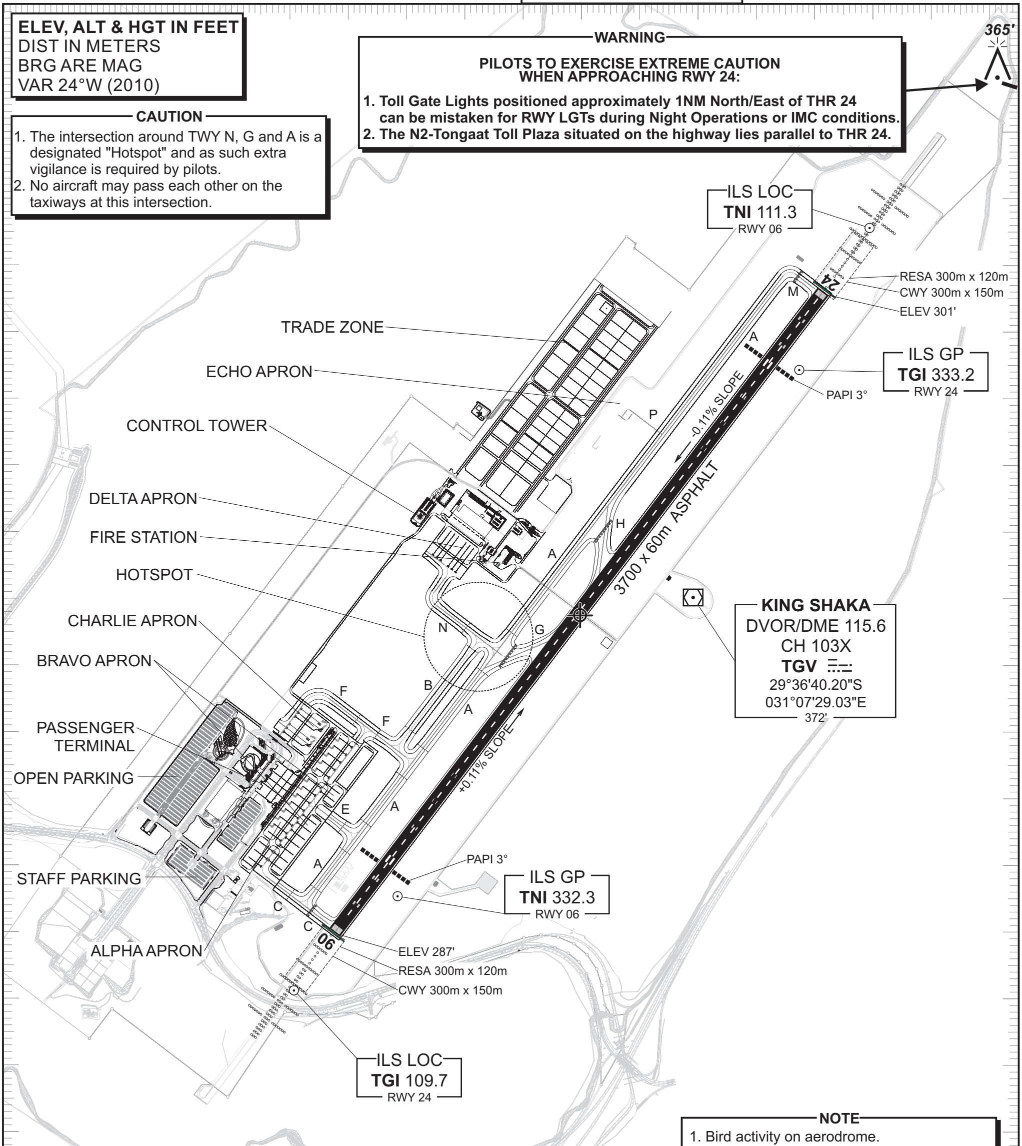
NOTE:
1. Rate of descent from FAF equivalent to 3°.
2. All circling approaches to land southeast of RWY 07/25 and entirely at the discretion of the pilot in command.
3. CAT D Circling prohibited.
4. No turns before MAPT.
5. Advise ATC of an intention to divert in the event of a missed approach.

CHANGE: HBV Decommissioned

AERODROME CHART 29°36'42.38"S **ELEV 304'**
031°07'09.53"E

RADAR APP 125.75
TWR 118.45
GND 121.65
ATIS 127.00

DURBAN
(KING SHAKA INTERNATIONAL)
FALE



RWY LIGHTING

RWY	ALS	PAPI	RTHL	REDL	RENL
06	PALS CAT II	3°	GREEN	WHITE	RED
24	PALS CAT II	3°	GREEN	WHITE	RED
OTHER: CENTRE LINE, THR, TDZ, EDGE					

0 200 400 600 800 1000 Meters

031°06'E 031°07'E 031°08'E

PHYSICAL CHARACTERISTICS

RWY	DIRECTION (T)	THR COORDINATES	THR ELEVATION	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	RESA (m)	CWY (m)	SLOPE (m)	SURFACE	BEARING STRENGTH	CIRCUIT
06	037°	29°37'30.19"S 031°06'27.89"E	287'	3700	4000	3700	3700	300	300	0.001 U	ASPH	PCN 85/F/A/X/T	
24	217°	29°35'54.56"S 031°07'51.16"E	301'	3700	4000	3700	3700	300	300	0.001 D	ASPH		

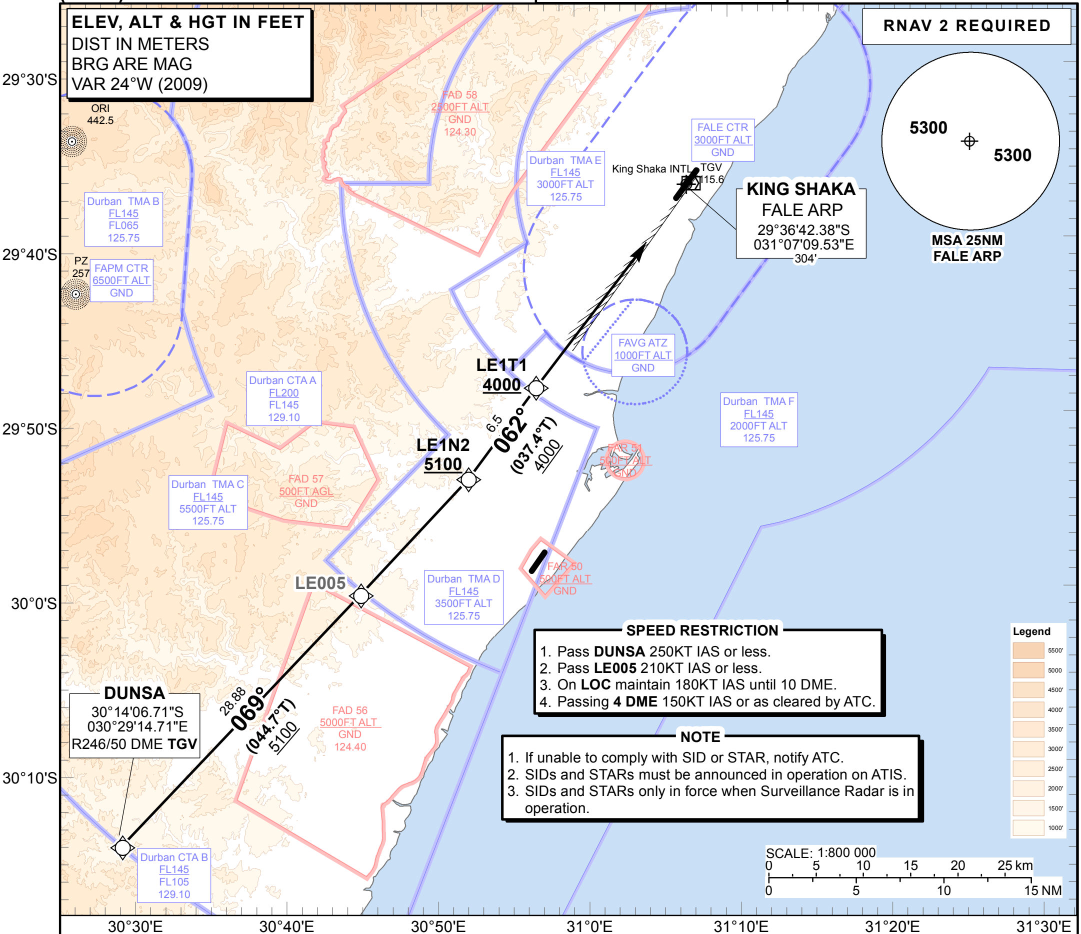
CHANGE: SWY Removed/ RESAs

STANDARD ARRIVAL CHART - INSTRUMENT (STAR)

TRANSITIONAL ALTITUDE **5500'**
TRANSITIONAL LEVEL **ATC**

RADAR APP: 125.75
TWR: 118.45
GND: 121.65
ATIS: 127.00

DURBAN
(KING SHAKA INTERNATIONAL)
RNAV (GNSS) RWY 06
DUNSA 1A



DUNSA 1A: RWY 06	**Leave DUNSA for LE1N2. At LE1N2 turn left to LE1T1 and intercept the ILS LOC RWY 06.**
	COMMUNICATION FAILURE PROCEDURE (Squawk 7600) **Before DUNSA:** Proceed to DUNSA and comply with the **"After DUNSA"** Communication Failure Procedure. **After DUNSA:** Continue on the DUNSA 1A RNAV (GNSS) STAR maintaining last assigned level. Passing LE005 descend to FL080. At LE1N2 (not below 5100' ALT) continue to LE1T1 (not below 4000' ALT). Continue with the RNAV (GNSS) RWY 06 APCH and intercept the ILS LOC RWY 06 and land RWY 06. In the event of a missed approach with the intention of diverting to an alternate aerodrome, proceed as follows: Comply with the ITMIL 1C RNAV (GNSS) SID. At ITMIL continue to the diversion aerodrome.

CHANGE: New Format

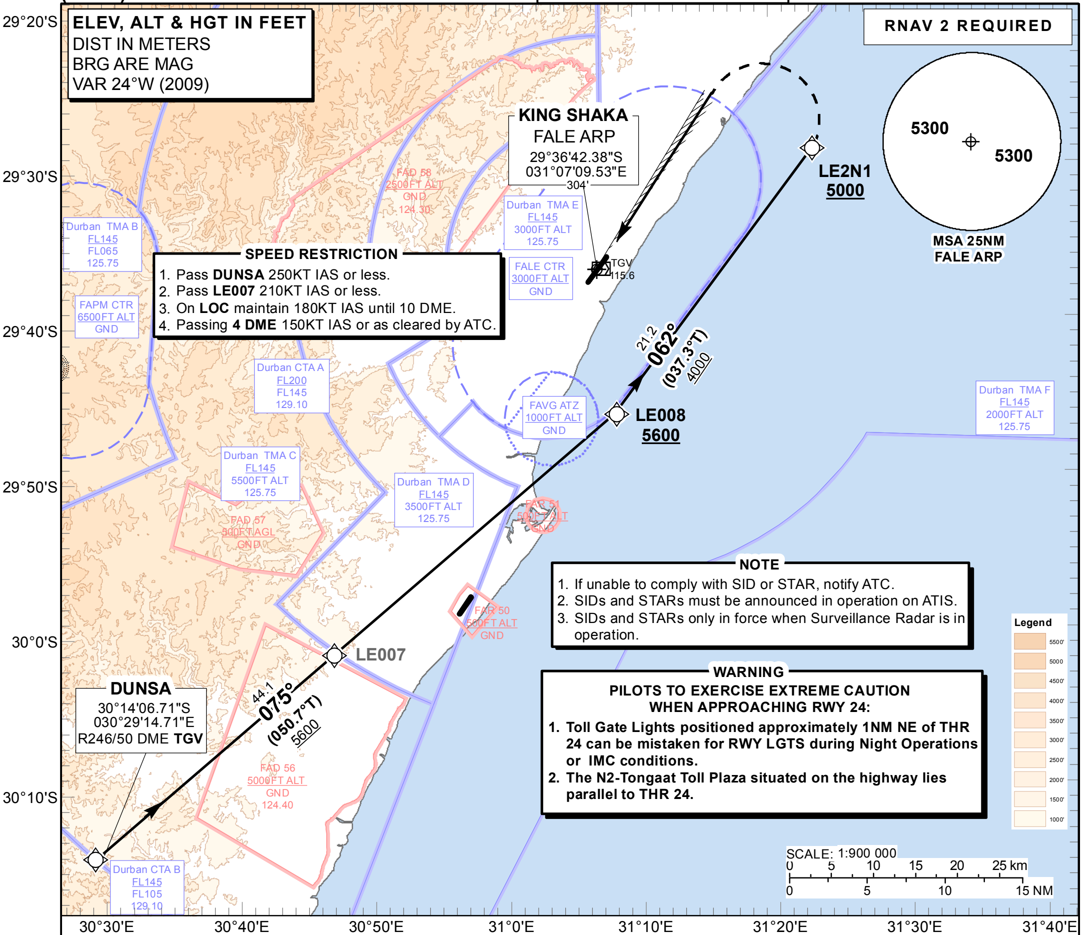
STANDARD ARRIVAL CHART - INSTRUMENT (STAR)

TRANSITIONAL ALTITUDE	**5500'**
TRANSITIONAL LEVEL	**ATC**

For exam purposes only don't use for Navigation

RADAR APP: 125.75
TWR: 118.45
GND: 121.65
ATIS: 127.00

DURBAN
(KING SHAKA INTERNATIONAL)
RNAV (GNSS) RWY 24
DUNSA 1B



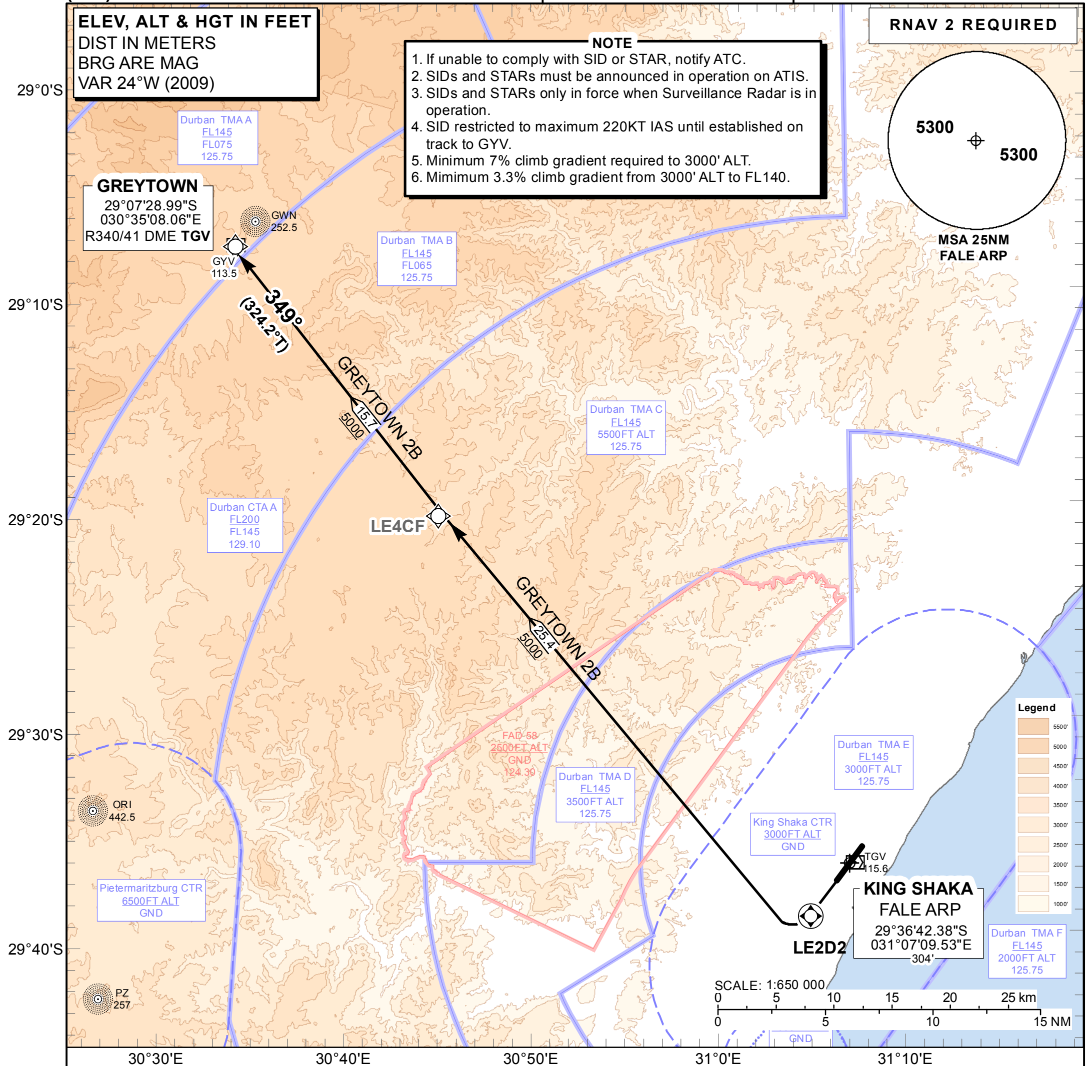
DUNSA 1B: RWY 24	**Leave DUNSA for LE008. At LE008 turn left proceeding to LE2N1 for radar vectors onto the ILS LOC RWY 24 and land.**
	COMMUNICATION FAILURE PROCEDURE (Squawk 7600) **Before DUNSA:** Proceed to DUNSA and comply with the **"After DUNSA"** Communication Failure Procedure. **After DUNSA:** Continue on the DUNSA 1B RNAV (GNSS) STAR maintaining last assigned level. Passing LE007 descend to FL080. At LE008 (not below 5600' ALT) turn left to LE2N1 and continue with the RNAV (GNSS) RWY 24 APCH and intercept the ILS LOC RWY 24 and land RWY 24. In the event of a missed approach with the intention of diverting to an alternate aerodrome, proceed as follows: Comply with the OKTAN 1A RNAV (GNSS) SID. At OKTAN continue to the diversion aerodrome.

CHANGE: New Format

STANDARD DEPARTURE CHART - INSTRUMENT (SID)

TRANSITIONAL ALTITUDE 5500'	APP: 125.75
TRANSITIONAL LEVEL ATC	TWR: 118.45
	GND: 121.65
	ATIS: 127.00

DURBAN
(KING SHAKA INTERNATIONAL)
RNAV (GNSS) RWY 24
GREYTOWN 2B



GREYTOWN 2B: RWY 24	**Climb to FL070. Maintain RWY track to LE2D2. At LE2D2 turn right direct to LE4CF. At LE4CF proceed to GYV. Further climb will be under radar control. At GYV set course as per flight plan.** **Restricted to a minimum climb gradient of 7.0% to 3000' ALT.** 7.0% @ 140KT IAS = 992 FPM 7.0% @ 180KT IAS = 1276 FPM 7.0% @ 220KT IAS = 1560 FPM
	COMMUNICATION FAILURE PROCEDURE (Squawk 7600) Maintain RWY track to LE2D2. At LE2D2 turn right direct to LE4CF maintaining last assigned flight level or MSA, whichever is higher. Passing LE4CF climb to flight plan level and proceed to GYV. At GYV set course as per flight plan. Aircraft wishing to return must continue to the SID termination point and climb to the last assigned level, MSA or FL080 whichever is higher. At GYV proceed to GETOK and comply with GETOK 1D STAR Communication Failure Procedure.

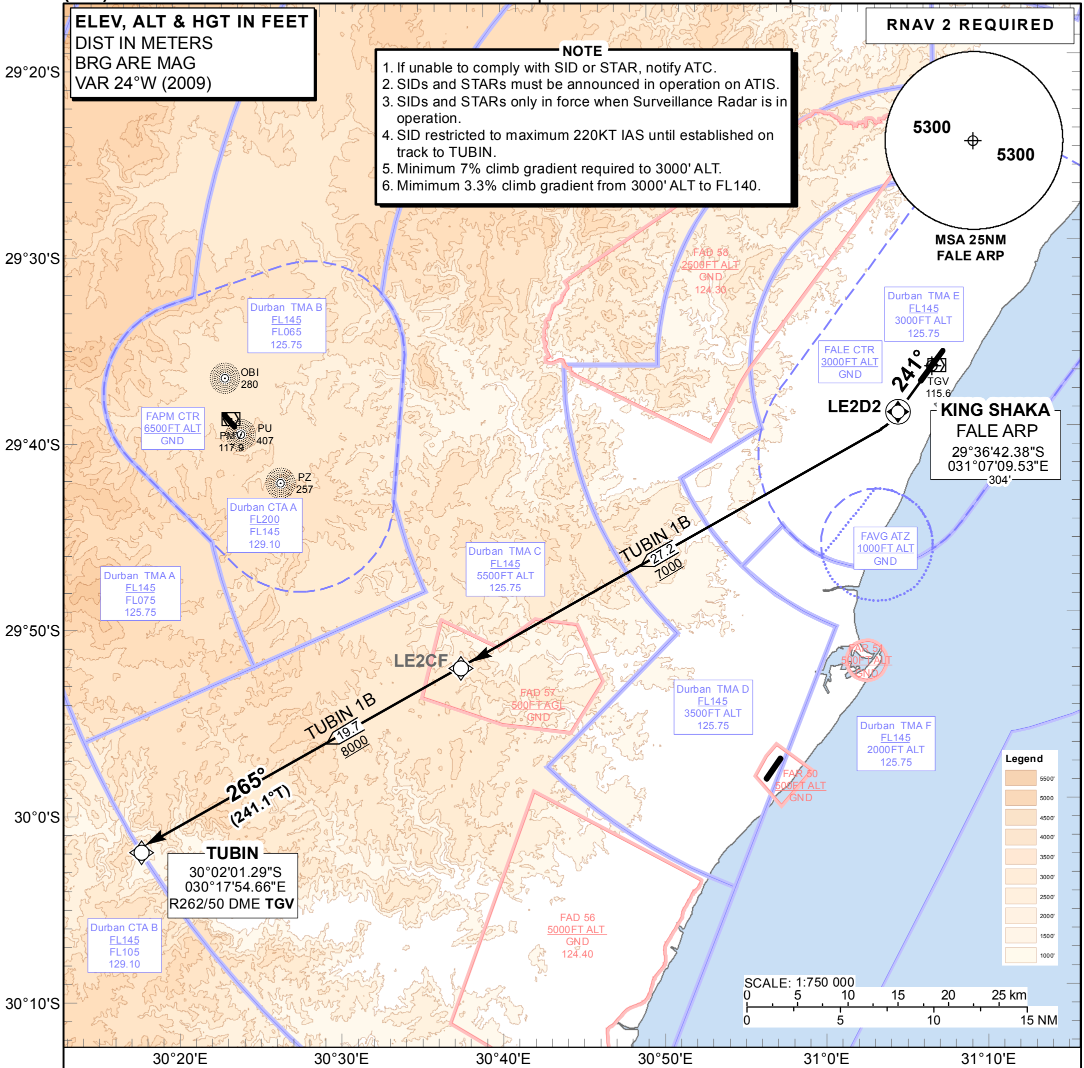
CHANGE: New Format

STANDARD DEPARTURE CHART - INSTRUMENT (SID)

TRANSITIONAL ALTITUDE
5500'
TRANSITIONAL LEVEL
ATC

RADAR: 125.75
TWR: 118.45
GND: 121.65
ATIS: 127.00

DURBAN
(KING SHAKA INTERNATIONAL)
RNAV (GNSS) RWY 24
TUBIN 1B



TUBIN 1B: RWY 24	**Climb to FL070. Maintain RWY track to LE2D2. At LE2D2 turn right direct to LE2CF. At LE2CF proceed to TUBIN. Further climb will be under radar control. At TUBIN set course as per flight plan.** **Restricted to a minimum climb gradient of 7.0% to 3000' ALT.** 7.0% @ 140KT IAS = 992 FPM 7.0% @ 180KT IAS = 1276 FPM 7.0% @ 220KT IAS = 1560 FPM
	COMMUNICATION FAILURE PROCEDURE (Squawk 7600) Maintain RWY track to LE2D2 maintaining last assigned flight level or MSA whichever is higher. At LE2D2 turn right direct LE2CF and climb to flight plan level. At TUBIN set course as per flight plan. Aircraft wishing to return must continue to the SID termination point and climb to the last assigned level, MSA or FL080 whichever is higher. At TUBIN proceed to DUNSA and comply with DUNSA 1B STAR Communication Failure Procedure.

CHANGE: New Format

AERODROME GROUND MOVEMENT CHART

26°08'01.30"S
028°14'32.34"E

ELEV 5558'

FAOR ATIS: 126.20	APP S: 124.50
115.20	E: 124.50
APN: 122.65	W: 123.70
TWR E: 118.60	SMC: 121.90
W: 118.10	

JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
FAOR

ELEV, ALT & HGT IN FEET
DIST IN METERS
BRG ARE MAG
VAR 18°W (2010)

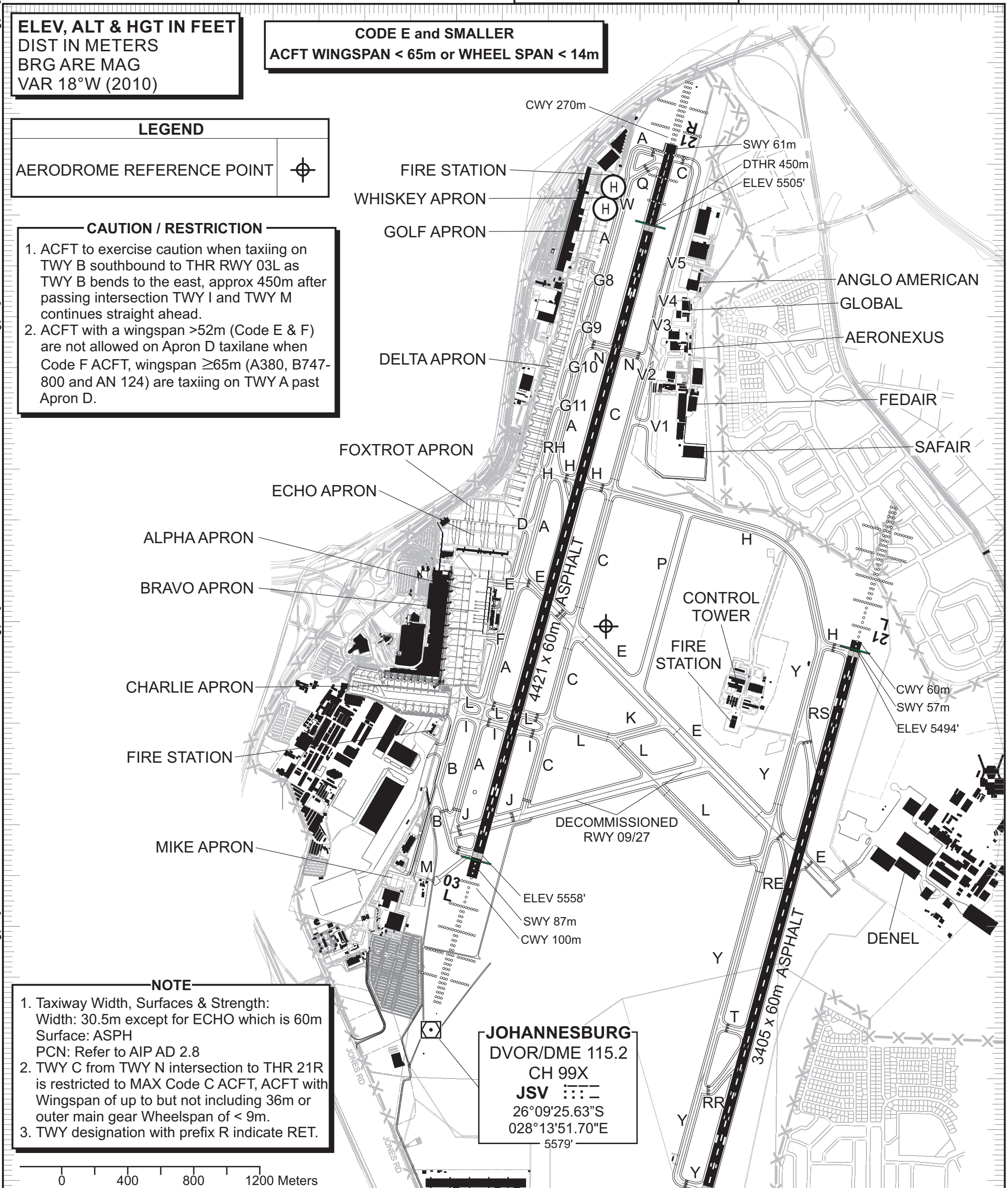
CODE E and SMALLER
ACFT WINGSPAN < 65m or WHEEL SPAN < 14m

LEGEND

AERODROME REFERENCE POINT

CAUTION / RESTRICTION

1. ACFT to exercise caution when taxiing on TWY B southbound to THR RWY 03L as TWY B bends to the east, approx 450m after passing intersection TWY I and TWY M continues straight ahead.
2. ACFT with a wingspan >52m (Code E & F) are not allowed on Apron D taxilane when Code F ACFT, wingspan ≥65m (A380, B747-800 and AN 124) are taxiing on TWY A past Apron D.



JOHANNESBURG
DVOR/DME 115.2
CH 99X
JSV
26°09'25.63"S
028°13'51.70"E
5579'

NOTE

1. Taxiway Width, Surfaces & Strength:
   Width: 30.5m except for ECHO which is 60m
   Surface: ASPH
   PCN: Refer to AIP AD 2.8
2. TWY C from TWY N intersection to THR 21R is restricted to MAX Code C ACFT, ACFT with Wingspan of up to but not including 36m or outer main gear Wheelspan of < 9m.
3. TWY designation with prefix R indicate RET.

PHYSICAL CHARACTERISTICS

RWY	DIRECTION (T)	THR COORDINATES	THR ELEVATION	BEARING STRENGTH
03L	016°	26°08'47.11"S 028°14'03.63"E	5558'	PCN
21R	196°	26°06'42.86"S 028°14'42.09"E	5505'	71/F/A/W/U
03R	016°	26°09'53.17"S 028°14'53.22"E	5510'	PCN
21L	196°	26°08'06.64"S 028°15'26.20"E	5494'	71/F/A/W/U

028°13'E 028°14'E 028°15'E

CHANGE: Caution/Restriction No 1 revised

AERODROME HOTSPOT CHART

26°08'01.30"S
028°14'32.34"E

ELEV 5558'

FAOR ATIS: 126.20	APP S: 124.50
115.20	E: 124.50
APN: 122.65	W: 123.70
TWR E: 118.60	SMC: 121.90
W: 118.10	

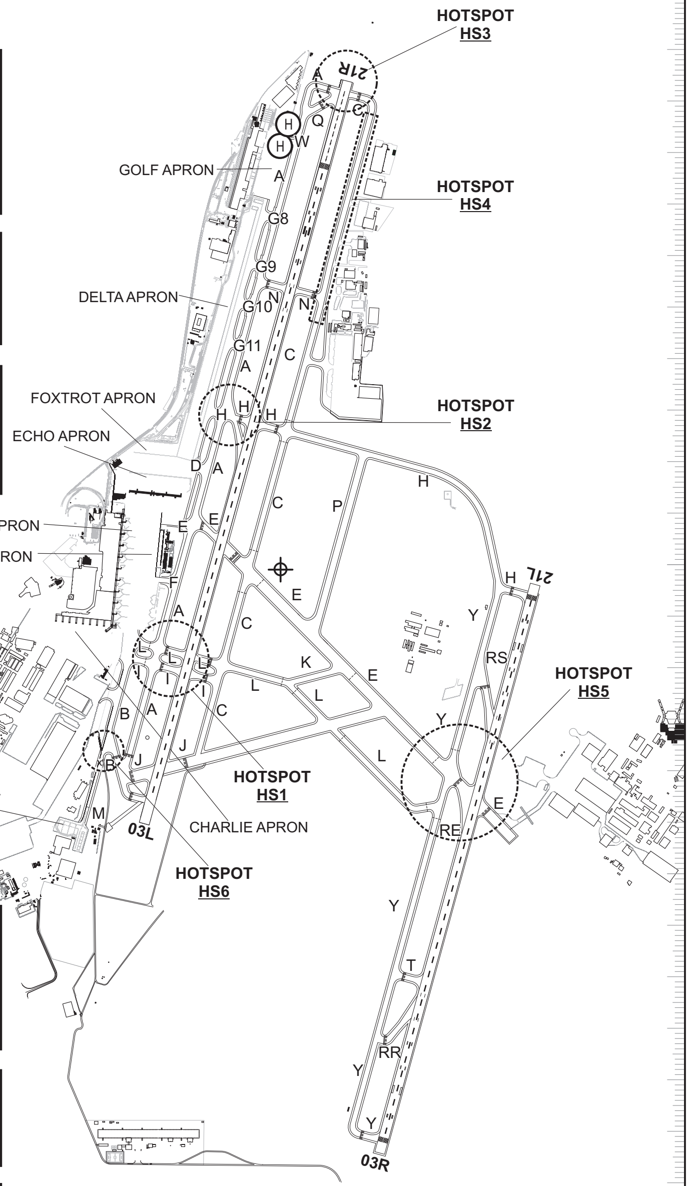
JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
FAOR

ELEV, ALT & HGT IN FEET
DIST IN METERS
BRG ARE MAG
VAR 18°W (2010)

NOTE: HS1
Intersections of taxiways Lima and India with RWY 03L/21R and TWY A
1. Intermediate take-off point.
2. All aircraft taxiing west of RWY 03L/21R are on GND frequency and all aircraft vacating RWY 03L/21R or crossing that RWY from the east are on TWR frequency.
3. Pilots are to exercise extreme caution when entering this area.

NOTE: HS2
RET RH exit from RWY 03L
1. Aircraft vacating RET RH conflict with ACFT taxiing on TWY A southbound and aircraft on TWY H crossing RWY 03L/21R.
2. Pilots are to exercise extreme caution when entering this area.

NOTE: HS3
RWY end RWY 03L
1. Taxiway A north of TWY G8 to THR 21R due to limited visibility from control tower.
2. ATC clearance issued based on known traffic.
3. Pilots are to exercise extreme caution when entering this area.



NOTE: HS4
TWY C from TWY N intersection to the holding point RWY21R
1. Portion of the manoeuvring area which is not directly visible from the control tower.
2. ATC clearance issued based on known traffic.
3. Pilots are to exercise extreme caution when entering this area.

NOTE: HS5
RET RE exit from RWY 03R
1. Aircraft vacating RET RE conflict with ACFT taxiing on TWY Y southbound.
2. Pilots are to exercise extreme caution when entering this area.

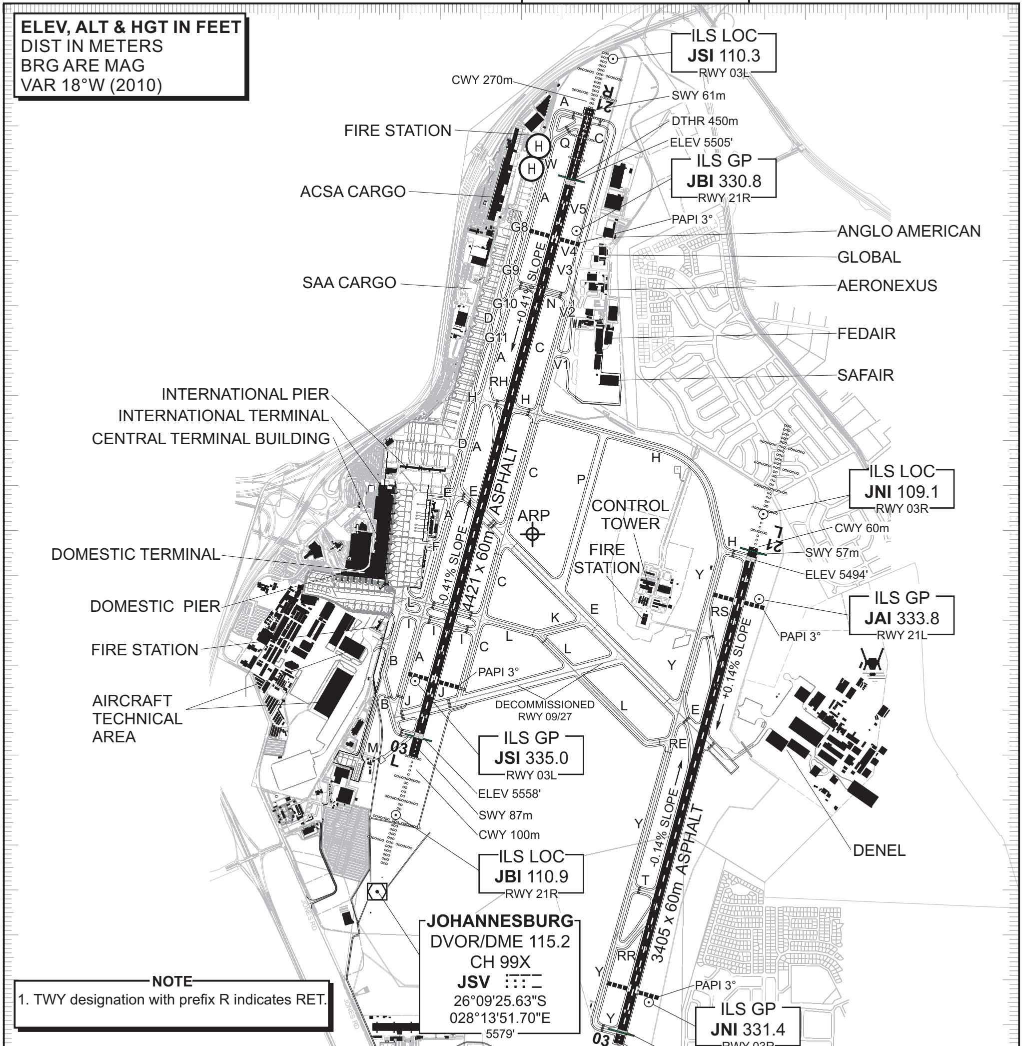
NOTE: HS6
INT TWY B AND TWY M:
1. Aircraft to exercise extreme caution when taxiing southbound on TWY B to THR 03L as TWY bends to the east approximately 450m after passing intersection TWY I and TWY M continues straight ahead.

CHANGE: New Hot Spot 6 (HS6)/Caution removed

AERODROME CHART 26°08'01.30"S 028°14'32.34"E ELEV 5558'

FAOR ATIS: 126.20, 115.20
APN: 122.65
TWR E: 118.60, W: 118.10
APP S: 124.50, E: 124.50, W: 123.70
SMC: 121.90

JOHANNESBURG (O.R. TAMBO INTERNATIONAL) FAOR



RWY LIGHTING

RWY	ALS	PAPI	RTHL	REDL	RENL
03L	PALS CAT II	3°	GREEN	WHITE	RED
21R	PALS CAT II	3°	GREEN	WHITE	RED
03R	PALS CAT II	3°	GREEN	WHITE	RED
21L	PALS CAT II	3°	GREEN	WHITE	RED

OTHER: TWY, APRON, FLOODS

028°13'E 028°14'E 028°15'E 028°16'E

PHYSICAL CHARACTERISTICS

RWY	DIRECTION (T)	THR COORDINATES	THR ELEVATION	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	SWY (m)	CWY (m)	SLOPE	SURFACE	BEARING STRENGTH	CIRCUIT
03L	016°	26°08'47.11"S 028°14'03.63"E	5558'	4421	4691	4482	4421	61	270	0.004D	ASPH	PCN	L/H
21R	196°	26°06'42.86"S 028°14'42.09"E	5505'	4421	4521	4508	3971	87	100	0.004U	ASPH	71/F/A/W/U	R/H
03R	016°	26°09'53.17"S 028°14'53.22"E	5510'	3405	3465	3462	3405	57	60	0.001D	ASPH	PCN	R/H
21L	196°	26°08'06.64"S 028°15'26.20"E	5494'	3405	3465	3462	3405	57	60	0.001U	ASPH	71/F/A/W/U	L/H

CHANGE: PCN Update

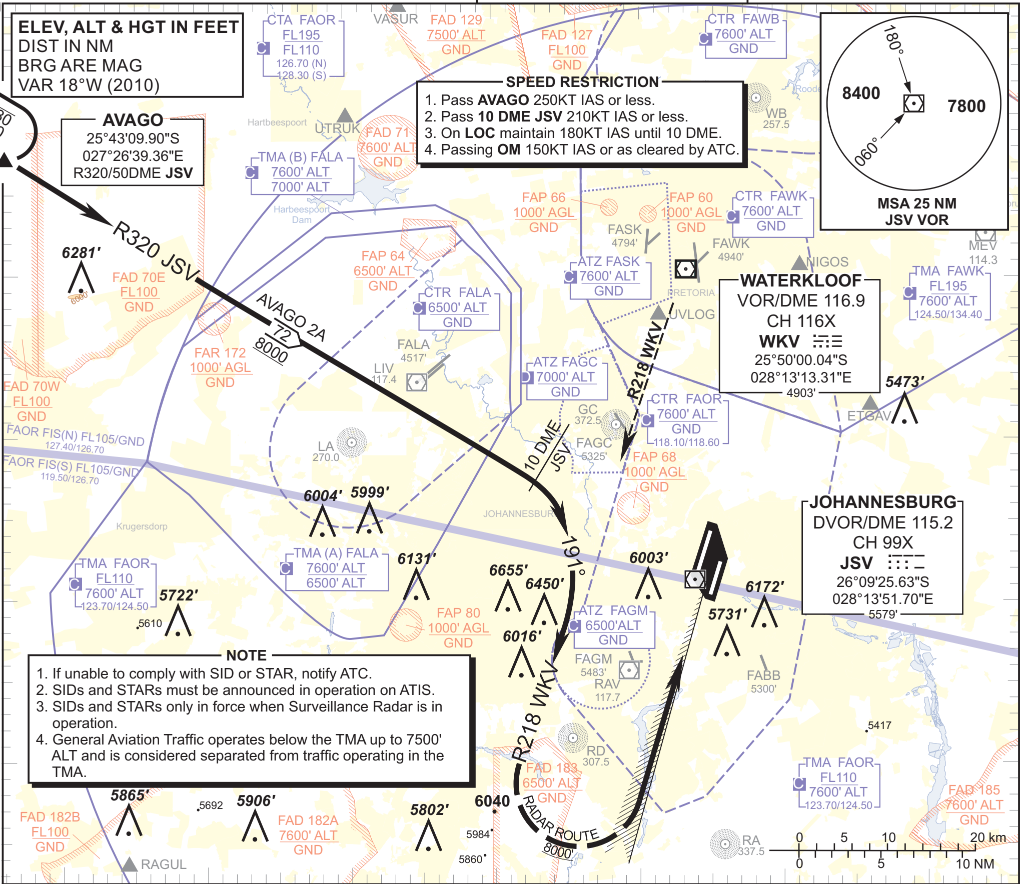
For exam purposes only don't use for Navigation

STANDARD ARRIVAL CHART - INSTRUMENT (STAR)

TRANSITION ALTITUDE
8000'
TRANSITION LEVEL
ATC

RADAR APP		TWR	
S	124.50	E	118.60
E	124.50	W	118.10
W	123.70	ATIS	126.20
DIR	121.40		115.20
ACC N	126.70	SMC	121.90

JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
RWY 03
AVAGO 2A



AVAGO 2A RWY 03:

Leave AVAGO on R320 JSV (INBD). Crossing 10 DME JSV turn right onto track 191° to intercept R218 WKV (OUBD) for radar vectoring onto the ILS RWY 03.

COMMUNICATION FAILURE PROCEDURE (Squawk 7600)

Before AVAGO: Proceed to AVAGO and enter the AVAGO hold. Hold at last assigned level for minimum 5 MIN, then descend to FL130 in the hold or maintain last assigned level if below FL130. Leave AVAGO on the **"After AVAGO"** Communication Failure Procedure.

After AVAGO: Continue on the routeing for the AVAGO 2A STAR. Passing 10 DME JSV descend to FL090. Passing 35 DME WKV on R218 turn left onto track 121° and descend to 8000' ALT. Crossing R221 JSV turn left onto track 061° to intercept the ILS LOC RWY 03. Complete a straight-in ILS APCH and land RWY 03R.

Note: Aircraft entering the TMA at FL110 and below are to enter the AVAGO hold at last assigned level and continue on the routeing for the AVAGO 2A STAR.

Caution: Holding patterns below FL110 will be conducted outside of controlled airspace. Pilots to take note of the appropriate FADs, FAPs, FARs as well as the Magalies Glider Window (FL110 - FL145).

In the event of a missed approach with the intention of diverting to an alternate aerodrome, proceed as follows:

To the North and North-West:	Follow the routeing for the VASUR 3A SID.
To the East and North-East:	Follow the routeing for the EGMEN 2A SID (Jet ACFT) or EXOBI 1A SID (Turboprop ACFT).
To the South-East:	Follow the routeing for the APDAK 3A SID.
To the West and South-West:	Follow the routeing for the RAGUL 3A SID.

CHANGE: WATERKLOOF NAVAID BLOCK - VOR/DME

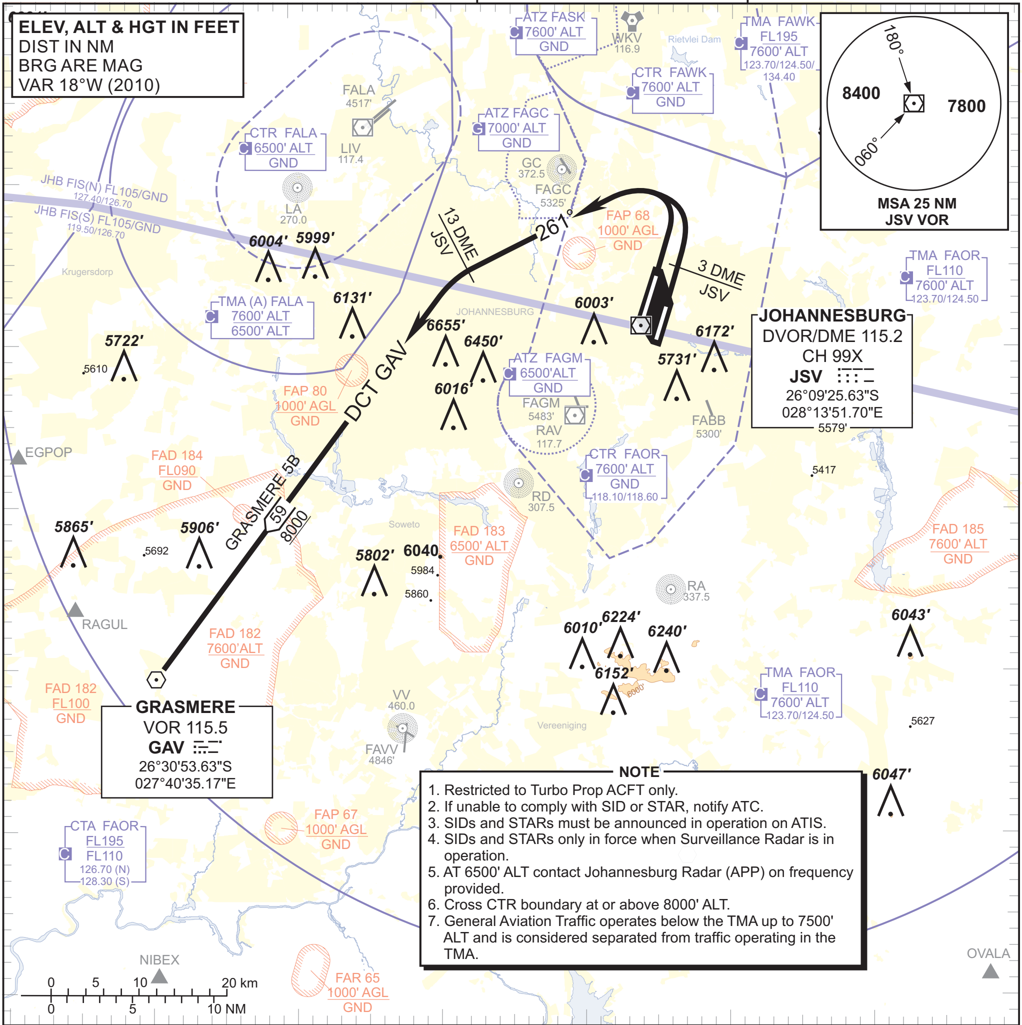
For exam purposes only don't use for Navigation

STANDARD DEPARTURE CHART - INSTRUMENT (SID)

TRANSITION ALTITUDE
8000'
TRANSITION LEVEL
ATC

RADAR APP S 124.50	TWR E 118.60
E 124.50	W 118.10
W 123.70	ATIS 126.20
DIR 121.40	115.20
ACC N 126.70	SMC 121.90

JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
RWY 03L/R
GRASMERE 5B



GRASMERE 5B RWY 03L/R:	**Climb to 8000' ALT, maintain RWY track to 3 DME JSV or 6100' ALT, whichever is later, then turn left onto track 261°. Crossing 13 DME JSV turn left direct to GAV. Further climb will be under radar control. At GAV set course as per flight plan.** **Restricted to a minimum climb gradient of 5.0% to CTR boundary.** 5.0% @ 80KT IAS = 405 FPM 5.0% @ 120KT IAS = 608 FPM 5.0% @ 160KT IAS = 810 FPM 5.0% @ 200KT IAS = 1013 FPM
	COMMUNICATION FAILURE PROCEDURE (Squawk 7600) Comply with GRASMERE 5B SID, climbing to 8700' ALT or maintain last assigned level, whichever is the highest. At GAV set course as per flight plan and climb to flight plan level. Aircraft wishing to return must continue to the SID termination point and climb to the last assigned level or MSA if last cleared level is below MSA. At GAV proceed to NIBEX and comply with the NIBEX 2A RWY 03R STAR Communication Failure Procedure.

NOTE
1. Restricted to Turbo Prop ACFT only.
2. If unable to comply with SID or STAR, notify ATC.
3. SIDs and STARs must be announced in operation on ATIS.
4. SIDs and STARs only in force when Surveillance Radar is in operation.
5. AT 6500' ALT contact Johannesburg Radar (APP) on frequency provided.
6. Cross CTR boundary at or above 8000' ALT.
7. General Aviation Traffic operates below the TMA up to 7500' ALT and is considered separated from traffic operating in the TMA.

CHANGE: NDB NMT withdrawn

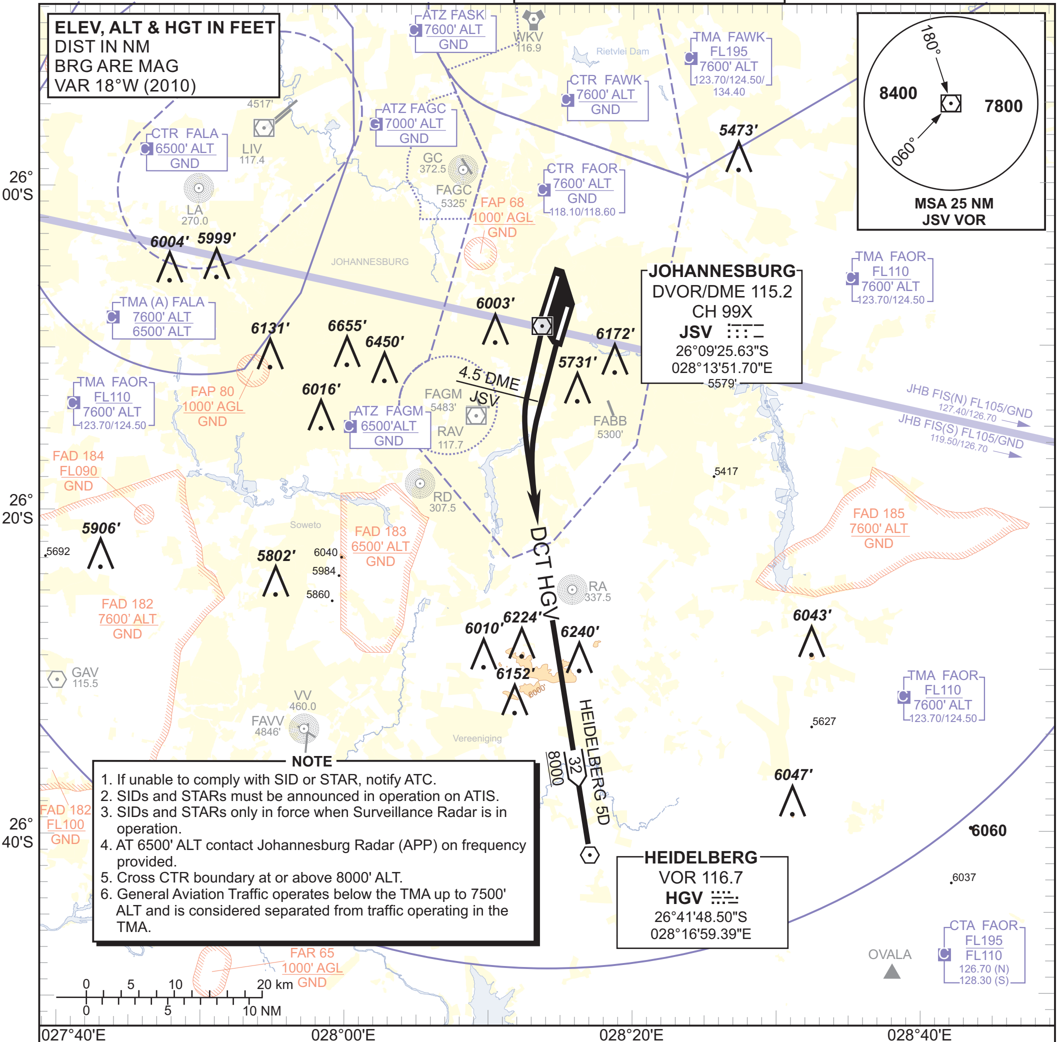
For exam purposes only don't use for Navigation

STANDARD DEPARTURE CHART - INSTRUMENT (SID)

TRANSITION ALTITUDE
8000'
TRANSITION LEVEL
ATC

RADAR APP S	124.50	TWR E	118.60
E	124.50	W	118.10
W	123.70	ATIS	126.20
DIR	121.40		115.20
ACC N	126.70	SMC	121.90

JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
RWY 21L/R
HEIDELBERG 5D



HEIDELBERG 5D: RWY 21L/R	**Climb to 8000' ALT, maintain RWY track to 4.5 DME JSV then turn left direct to HGV. Cross 4.5 DME JSV at 7000' ALT or above. Further climb will be under radar control. At HGV set course as per flight plan.** **Restricted to a minimum climb gradient of 4.2% to CTR boundary.** 4.2% @ 140KT IAS = 595 FPM 4.2% @ 180KT IAS = 766 FPM 4.2% @ 220KT IAS = 936 FPM
	COMMUNICATION FAILURE PROCEDURE (Squawk 7600) Comply with the HEIDELBERG 5D SID, climbing to 8300' ALT or maintain last assigned level, whichever is the highest. At HGV set course as per flight plan. Aircraft wishing to return must continue to the SID termination point and climb to last assigned level or MSA if last cleared level is below MSA. At HGV proceed to STV and comply with the STANDERTON 5B RWY 21L STAR Communication Failure procedure.

CHANGE: NDB NMT withdrawn

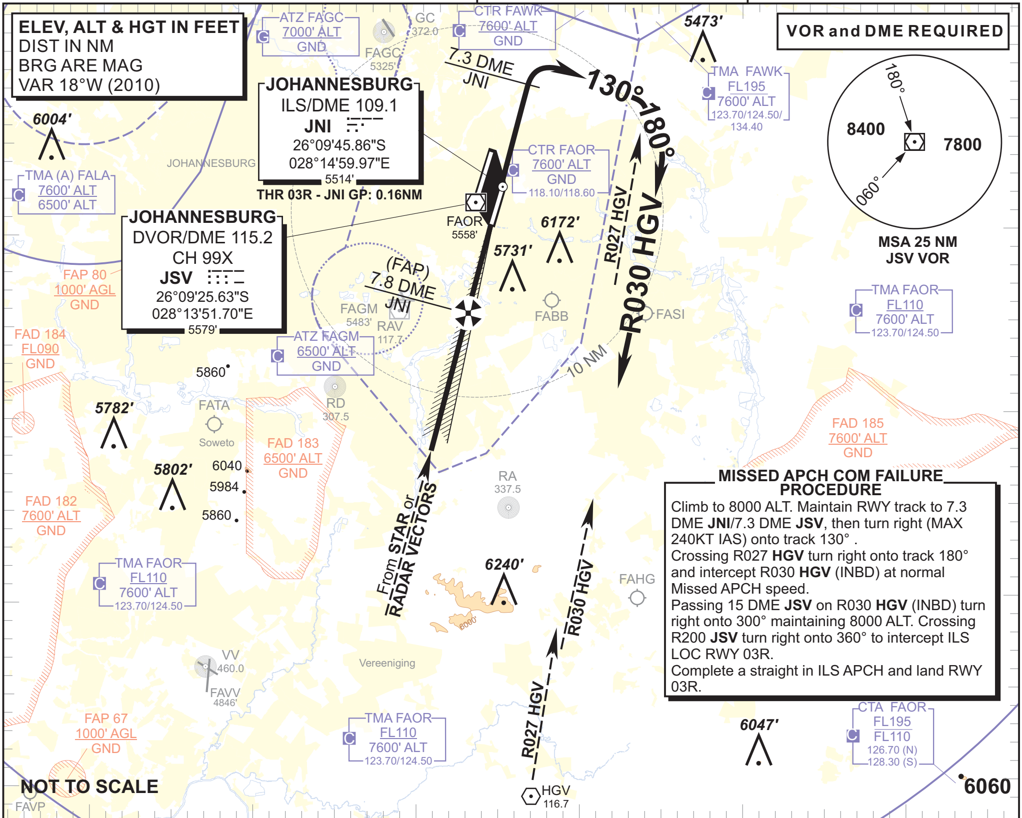
For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART

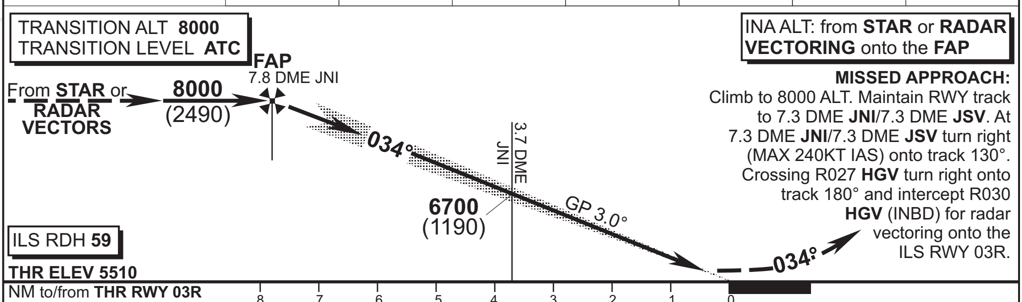
AERODROME ELEV 5558'
HEIGHTS RELATED TO THR RWY 03R - ELEV 5510'

RADAR APP S 124.50 / E 124.50 / W 123.70
TWR E 118.60 / W 118.10
ATIS 126.20 / 115.20
SMC 121.90

JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
ILS X RWY 03R
CAT A - D



JNI DME	3	2	1
ADVISORY ALT (HGT)	*6480* (970)	*6160* (650)	*5840* (330)



MISSED APPROACH: Climb to 8000 ALT. Maintain RWY track to 7.3 DME **JNI**/7.3 DME **JSV**. At 7.3 DME **JNI**/7.3 DME **JSV** turn right (MAX 240KT IAS) onto track 130°. Crossing R027 **HGV** turn right onto track 180° and intercept R030 **HGV** (INBD) for radar vectoring onto the ILS RWY 03R.

OCA (H)			A	B	C	D/DL
Straight-in Approach	With 5.8% Missed APCH Gradient	CAT I	*5710* (200)	*5710* (200)	*5710* (200)	*5711* (201)
		CAT II	*5610* (100)	*5610* (100)	*5610* (100)	*5619* (109)
	With 2.5% Missed APCH Gradient	CAT I	*6782* (1272)	*6795* (1285)	*6805* (1295)	*6815* (1305)
		CAT II	*6694* (1184)	*6713* (1203)	*6727* (1217)	*6740* (1230)
Circling	WEST OF RWY 03/21		*6070* (512)		*6410* (852)	
	EAST OF RWY 03/21		*6050* (492)		*6250* (692)	

GS	KT	80	100	120	140	160
FAP to THR	M:S	5:44	4:35	3:49	3:17	2:52
Rate of descent	FPM	425	531	647	743	849
GS	KT	120	140	160	180	200
MAPT ROC (5.8%)	FPM	705	822	940	1057	1175

NOTE:
1. 5.8% Missed APCH climb gradient required to cross CTR BDRY 8000 ALT or above.
2. CAT II operations and minima must be approved by the SACAA.
3. DME **JNI** (109.1 MHZ) co-located with Glide Path transmitter.
4. Parallel approach authorised with RWY 03L.

CHANGE: NDB NMT withdrawn

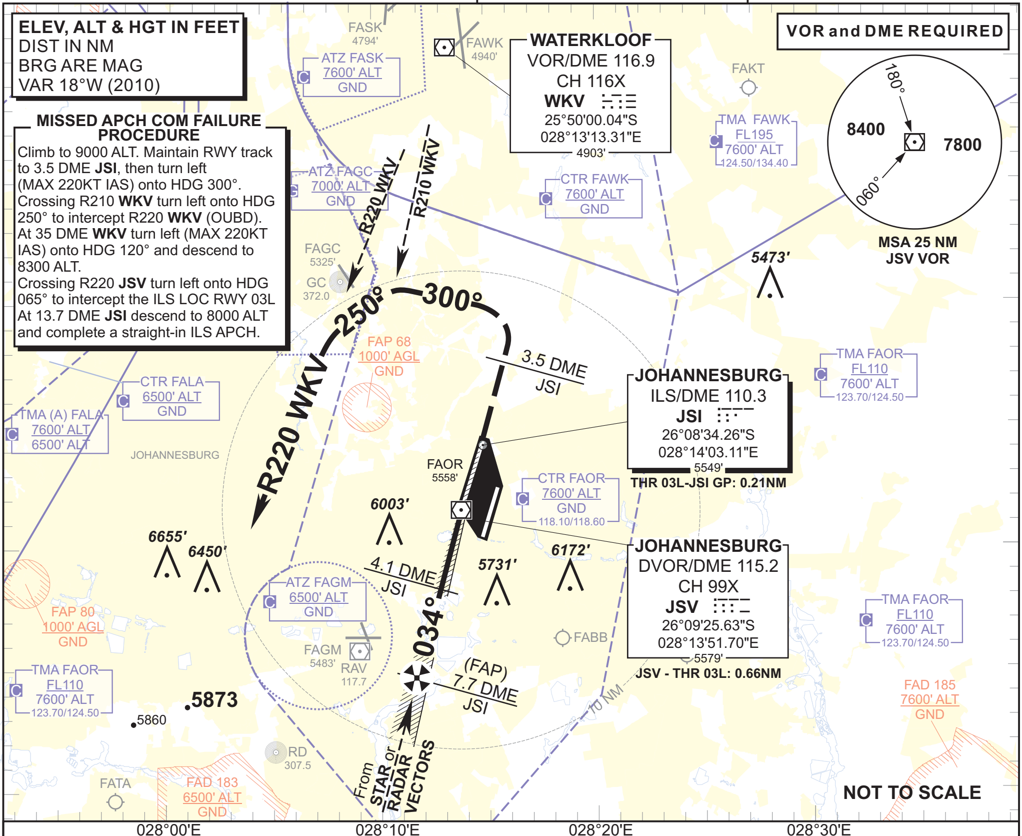
For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART

AERODROME ELEV 5558'
HEIGHTS RELATED TO
THR RWY 03L - ELEV 5558'

RADAR APP S	124.50	ATIS	126.20
E	124.50		115.20
W	123.70	SMC	121.90
TWR E	118.60		
W	118.10		

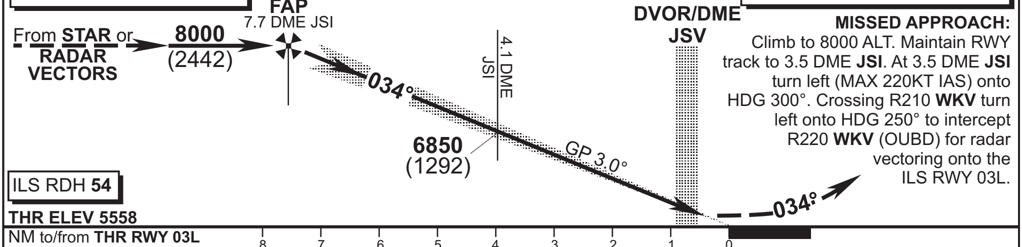
JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
ILS Y RWY 03L
CAT A - D



JSI DME	3	2	1				
ADVISORY ALT (HGT)	*6500* (942)	*6190* (632)	*5870* (312)				

TRANSITION ALT **8000**
TRANSITION LEVEL **ATC**

INA ALT: from **STAR** or **RADAR VECTORING** onto the **FAP**



MISSED APPROACH:
Climb to 8000 ALT. Maintain RWY track to 3.5 DME **JSI**. At 3.5 DME **JSI** turn left (MAX 220KT IAS) onto HDG 300°. Crossing R210 **WKV** turn left onto HDG 250° to intercept R220 **WKV** (OUBD) for radar vectoring onto the ILS RWY 03L.

OCA (H)			A	B	C	D/DL
Straight-in Approach	With 3.5% Missed APCH Gradient	CAT I	*5758* (200)	*5758* (200)	*5758* (200)	*5759* (201)
		CAT II	*5658* (100)	*5658* (100)	*5658* (100)	*5662* (104)
	With 2.5% Missed APCH Gradient	CAT I	*6273* (715)	*6284* (726)	*6296* (738)	*6317* (759)
		CAT II	*6176* (618)	*6192* (634)	*6206* (648)	*6220* (662)
Circling	WEST OF RWY 03/21		*6070* (512)		*6410* (852)	
	EAST OF RWY 03/21		*6050* (492)		*6250* (692)	

GS	KT	80	100	120	140	160
FAP to THR	M:S	**5:37**	**4:30**	**3:45**	**3:13**	**2:48**
Rate of descent	FPM	**425**	**531**	**637**	**743**	**849**
GS	KT	120	140	160	180	200
MAPT ROC (3.5%)	FPM	**425**	**496**	**567**	**638**	**709**

NOTE:
1. 3.5% Missed APCH climb gradient required to cross CTR BDRY 7600 ALT or above.
2. DME **JSI** (110.3 MHZ) co-located with Glide Path transmitter.
3. Parallel approach authorised with RWY 03R.

CHANGE: LANSERIA CTR & TMA and NOTE

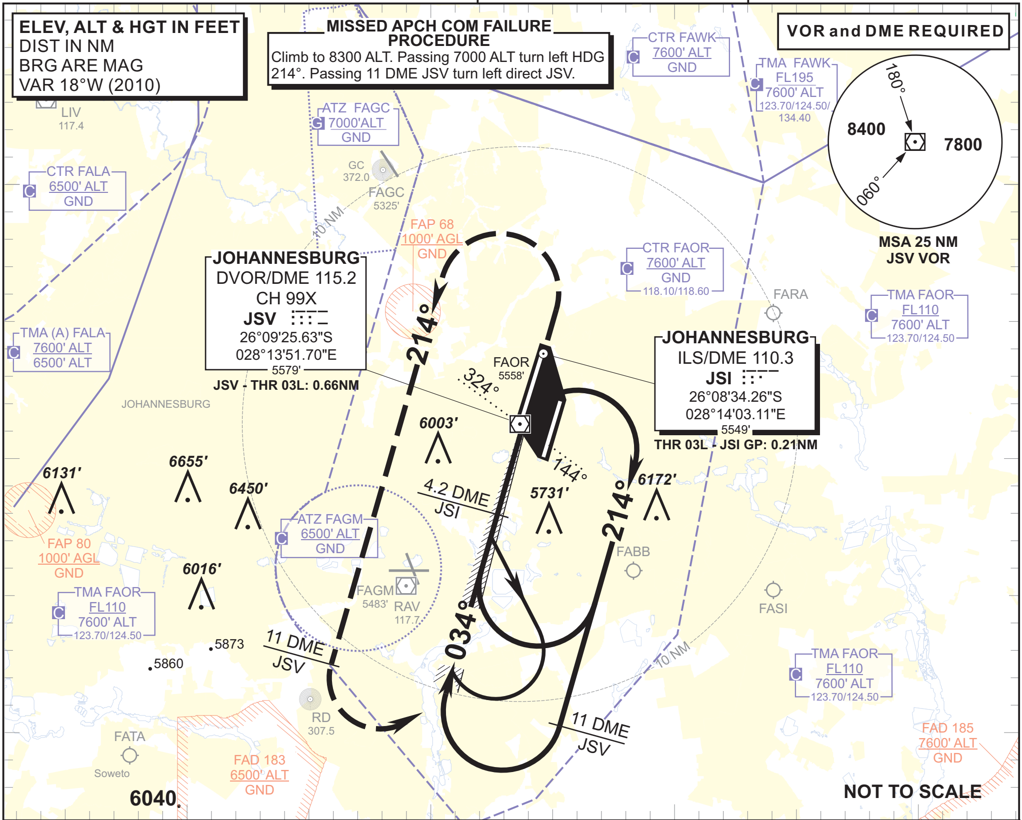
For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART

AERODROME ELEV 5558'
HEIGHTS RELATED TO THR RWY 03L - ELEV 5558'

RADAR APP S 124.50	ATIS 126.20	
E 124.50	115.20	
W 123.70	SMC 121.90	
TWR E 118.60		
W 118.10		

JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
ILS Z RWY 03L
CAT A - D

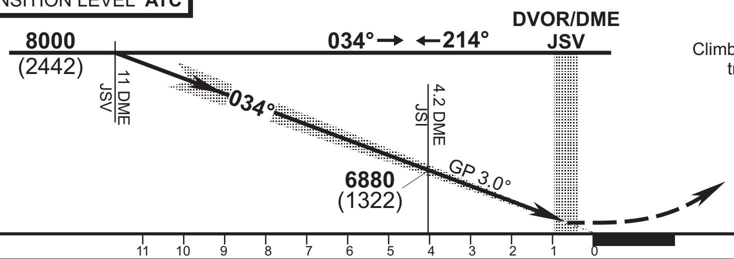


028°00'E 028°10'E 028°20'E 028°30'E

JSI DME	4	3	2	1			
ADVISORY ALT (HGT)	*6820* (1262)	*6500* (942)	*6190* (632)	*5870* (312)			

TRANSITION ALT **8000**
TRANSITION LEVEL **ATC**

INA ALT: **8000** or higher MSA



MISSED APPROACH:
Climb to 8300 ALT. Maintain RWY track. Passing 7000 ALT, turn left HDG 214°. Passing 11 DME JSV turn left direct to JSV.

ILS RDH 54

THR ELEV 5558

NM to/from **THR RWY 03L**

OCA (H)		A	B	C	D
Straight-in Approach	CAT I	*5758* (200)	*5758* (200)	*5758* (200)	*5758* (200)
	CAT II	*5658* (100)	*5658* (100)	*5658* (100)	*5658* (100)
Circling	WEST OF RWY 03/21	*6070* (512)		*6410* (852)	
	EAST OF RWY 03/21	*6050* (492)		*6250* (692)	

GS	KT	80	100	120	140	160
4.2DME **JSI** to THR	M:S	2:59	2:24	2:00	1:43	1:30
Rate of descent	FPM	425	531	637	743	849

NOTE:
1. Procedure Turn Approach applicable only within 30° of the OUBD HDG. Use phraseology "Request Procedure Turn Approach".
2. CAT II operations and minima must be approved by the SACAA.
3. DME **JSI** (110.3 MHZ) co-located with Glide Path transmitter.

CHANGE: Location Indicator FAOR / NDB JB/JN & JA decommissioned

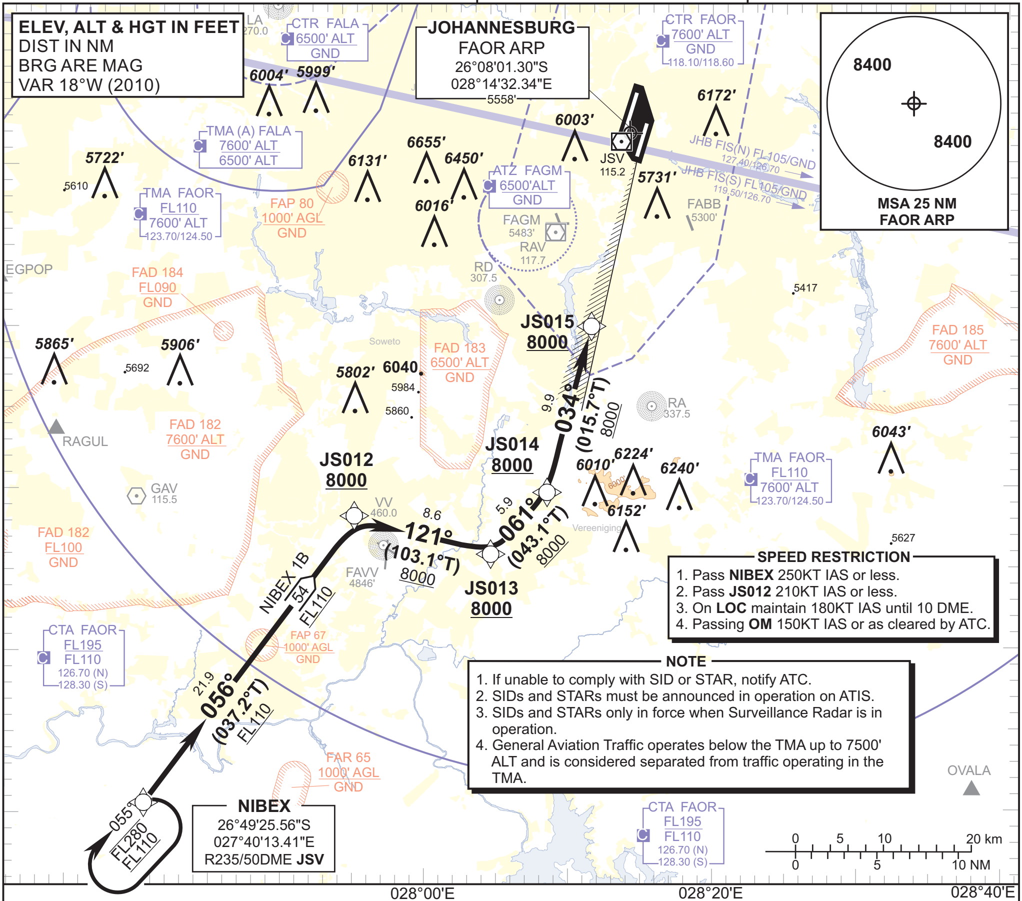
For exam purposes only don't use for Navigation

STANDARD ARRIVAL CHART - INSTRUMENT (STAR)

TRANSITION ALTITUDE
8000'
TRANSITION LEVEL
ATC

RADAR APP S 124.50	TWR E 118.60
E 124.50	W 118.10
W 123.70	ATIS 126.20
DIR 121.40	115.20
ACC N 126.70	SMC 121.90

JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
RNAV (GNSS) RWY 03R
NIBEX 1B



SPEED RESTRICTION

1. Pass **NIBEX** 250KT IAS or less.
2. Pass **JS012** 210KT IAS or less.
3. On **LOC** maintain 180KT IAS until 10 DME.
4. Passing **OM** 150KT IAS or as cleared by ATC.

NOTE

1. If unable to comply with SID or STAR, notify ATC.
2. SIDs and STARs must be announced in operation on ATIS.
3. SIDs and STARs only in force when Surveillance Radar is in operation.
4. General Aviation Traffic operates below the TMA up to 7500' ALT and is considered separated from traffic operating in the TMA.

NIBEX 1B RWY 03R : **Leave NIBEX for JS012. At JS012 turn right to JS013. At JS013 turn left to JS014. At JS014 turn left proceeding to JS015 and intercept the ILS LOC RWY 03R.**

COMMUNICATION FAILURE PROCEDURE (Squawk 7600)

Before NIBEX: Proceed to NIBEX and enter the NIBEX RNAV (GNSS) hold. Hold at last assigned level for minimum 5 MIN, then descend to FL130 in the hold or maintain last assigned level if below FL130. Leave NIBEX on the **"After NIBEX"** Communication Failure Procedure.

After NIBEX: Continue on the NIBEX 1B RNAV (GNSS) STAR to JS012. At JS012 descend to FL100, at JS013 descend to FL090, at JS014 adjust to 9000'ALT. At JS015 complete a straight-in ILS approach and land RWY 03R.

Note: Aircraft entering the TMA at FL110 and below are to enter the NIBEX RNAV (GNSS) hold at last assigned level and continue on the routeing for the NIBEX 1B STAR.

Caution: Holding patterns below FL110 will be conducted partially outside controlled airspace.

In the event of a missed approach with the intention of diverting to an alternate aerodrome, proceed as follows:

To the North and North-West:	Follow the routeing for the VASUR 3A SID.
To the North-East:	Follow the routeing for the EGMEN 2A SID (Jet ACFT) or EXOBI 1A SID (Turboprop ACFT).
To the South-East:	Follow the routeing for the APDAK 3A SID.
To the South and South-East:	Follow the routeing for the RAGUL 3A SID.

CHANGE: NDB NMT withdrawn

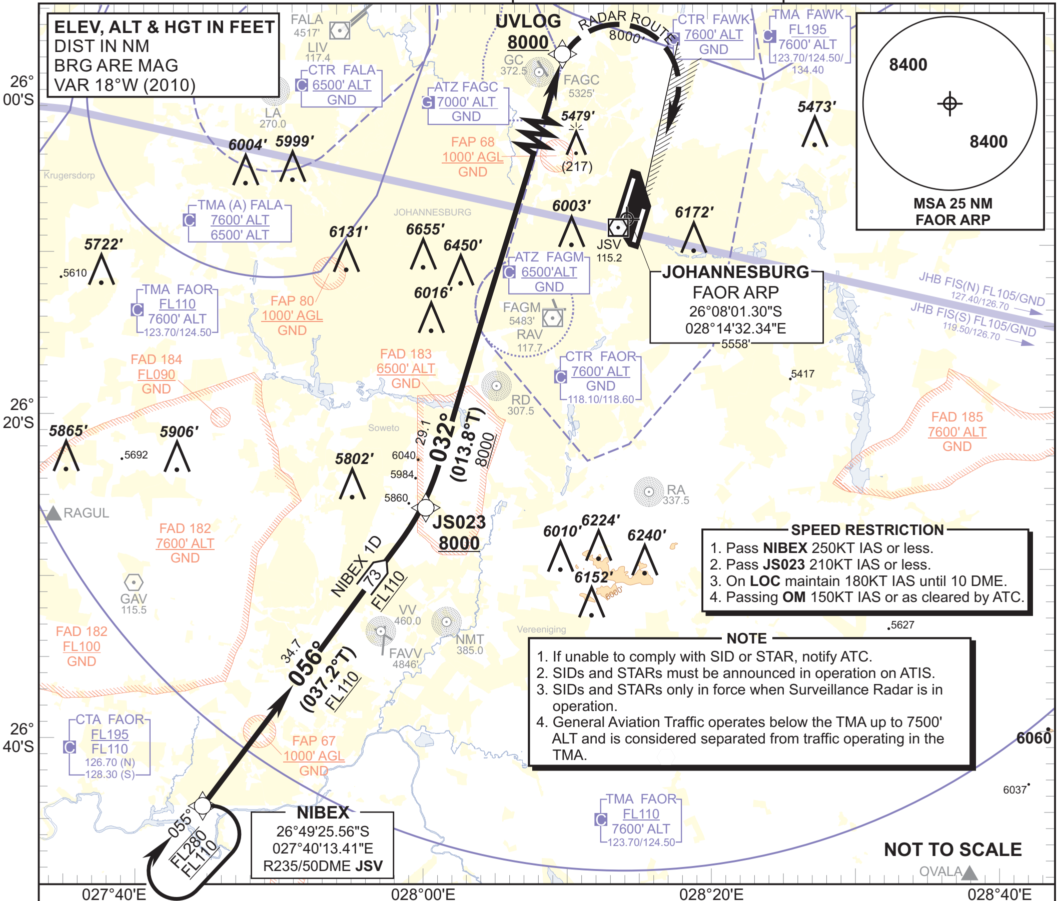
For exam purposes only don't use for Navigation

STANDARD ARRIVAL CHART - INSTRUMENT (STAR)

TRANSITION ALTITUDE
8000'
TRANSITION LEVEL
ATC

RADAR APP S	124.50	TWR E	118.60
E	124.50	W	118.10
W	123.70	ATIS	126.20
DIR	121.40		115.20
ACC N	126.70	SMC	121.90

JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
RNAV (GNSS) RWY 21L
NIBEX 1D



NIBEX 1D: RWY 21L	**Leave NIBEX for JS023. At JS023 turn left proceeding to UVLOG for radar vectoring onto the ILS LOC RWY 21L.**

COMMUNICATION FAILURE PROCEDURE (Squawk 7600)

Before NIBEX: Proceed to NIBEX and enter the NIBEX RNAV (GNSS) hold. Hold at last assigned level for minimum 5 MIN, then descend to FL130 in the hold, or maintain last assigned level if below FL130. Leave NIBEX on the **"After NIBEX"** Communication Failure Procedure.

After NIBEX: Continue on the NIBEX 1D RNAV (GNSS) STAR. At JS023 descend to FL090, at UVLOG descend to 8000' ALT. At UVLOG continue on the RNAV (GNSS) RWY 21L to JS3F2 and intercept the ILS RWY 21L and land RWY 21L.

Note: Aircraft entering the TMA at FL110 and below are to enter the NIBEX RNAV (GNSS) hold at last assigned level and continue on the routeing for the AVAGO 1C STAR.

Caution: Holding patterns below FL110 will be conducted partially outside controlled airspace.

In the event of a missed approach with the intention of diverting to an alternate aerodrome, proceed as follows:

To the North and North-West:	Follow the routeing for the VASUR 3B SID
To the North-East:	Follow the routeing for the EGMEN 2B SID (Jet ACFT) or EXOBI 3B SID (Turboprop ACFT)
To the South-East:	Follow the routeing for the APDAK 2B SID
To the South and South-East:	Follow the routeing for the RAGUL 3B SID

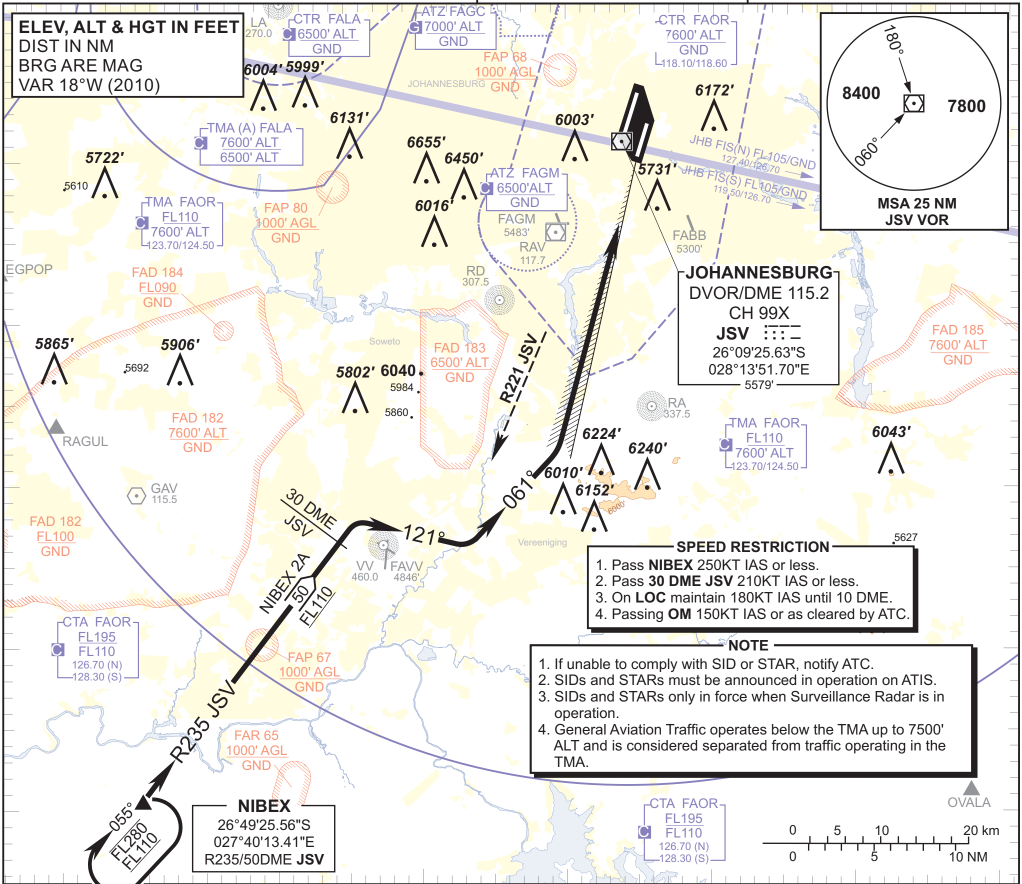
CHANGE: Missed APCH diversion text for South-East

STANDARD ARRIVAL CHART - INSTRUMENT (STAR)

TRANSITION ALTITUDE
8000'
TRANSITION LEVEL
ATC

RADAR APP S	124.50	TWR E	118.60
E	124.50	W	118.10
W	123.70	ATIS	126.20
DIR	121.40		115.20
ACC N	126.70	SMC	121.90

JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
RWY 03R
NIBEX 2A



SPEED RESTRICTION

1. Pass **NIBEX** 250KT IAS or less.
2. Pass **30 DME JSV** 210KT IAS or less.
3. On **LOC** maintain 180KT IAS until 10 DME.
4. Passing **OM** 150KT IAS or as cleared by ATC.

NOTE

1. If unable to comply with SID or STAR, notify ATC.
2. SIDs and STARs must be announced in operation on ATIS.
3. SIDs and STARs only in force when Surveillance Radar is in operation.
4. General Aviation Traffic operates below the TMA up to 7500' ALT and is considered separated from traffic operating in the TMA.

NIBEX 2A RWY 03R

Leave NIBEX on R235 JSV (INBD). At 30 DME JSV turn right onto track 121°. Crossing R221 JSV turn left onto track 061° to intercept the ILS LOC RWY 03.

COMMUNICATION FAILURE PROCEDURE (Squawk 7600)

Before NIBEX: Proceed to NIBEX and enter the NIBEX hold. Hold at last assigned level for minimum 5 MIN then descend to FL130 in the hold or maintain last assigned level if below FL130. Leave NIBEX on the **"After NIBEX"** Communication Failure Procedure.

After NIBEX: Leave NIBEX on R235 JSV (INBD). At 30 DME JSV turn right onto track 121° and descend to FL100. Crossing R221 JSV descend to FL090 and turn left onto track 061° to intercept the ILS LOC RWY 03R. Adjust to 9000' ALT and complete a straight-in ILS APCH and land RWY 03R.

Note: Aircraft entering the TMA at FL110 and below are to enter the NIBEX hold at last assigned level and continue on the routeing for the NIBEX 2A STAR.

Caution: Holding patterns below FL110 will be conducted partially outside controlled airspace.

In the event of a missed approach with the intention of diverting to an alternate aerodrome, proceed as follows:

To the North and North-West:	Follow the routeing for the VASUR 3A SID.
To the East and North-East:	Follow the routeing for the EGMEN 2A SID (Jet ACFT) or EXOBI 1A SID (Turboprop ACFT).
To the South-East:	Follow the routeing for the APDAK 3A SID.
To the West and South-West:	Follow the routeing for the RAGUL 3A SID.

CHANGE: NDB NMT withdrawn

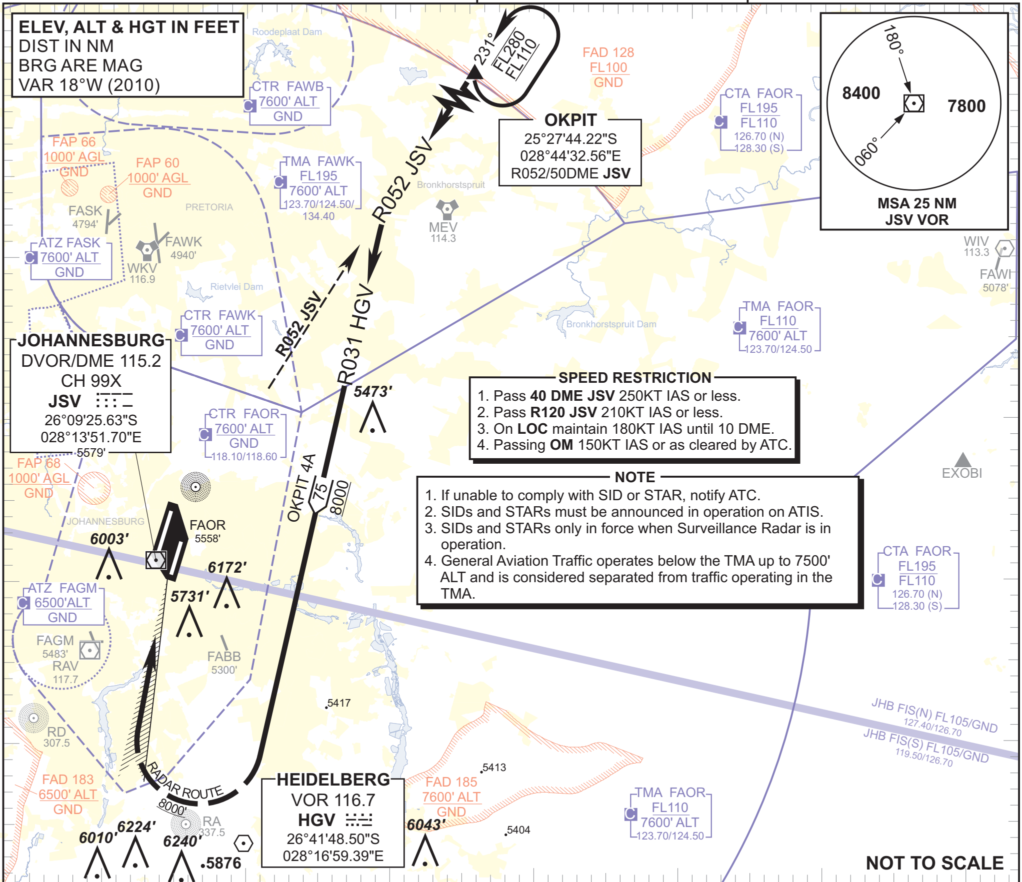
For exam purposes only don't use for Navigation

STANDARD ARRIVAL CHART - INSTRUMENT (STAR)

TRANSITION ALTITUDE
8000'
TRANSITION LEVEL
ATC

RADAR APP S	124.50	TWR E	118.60
E	124.50	W	118.10
W	123.70	ATIS	126.20
DIR	121.40		115.20
ACC N	126.70	SMC	121.90

JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
RWY 03R
OKPIT 4A



OKPIT 4A RWY 03R: **Leave OKPIT on R052 JSV (INBD) to intercept R031 HGV (INBD) for radar vectoring onto the ILS RWY 03R.**

COMMUNICATION FAILURE PROCEDURE (Squawk 7600)

Before OKPIT: Proceed to OKPIT and enter the OKPIT hold. Hold at last assigned level for minimum 5 minutes, then descend to FL130 in the hold, or maintain last assigned level if below FL130. Leave OKPIT on the **"After OKPIT"** Communication Failure Procedure.

After OKPIT: Continue on the routeing for the **OKPIT 4A STAR**. Crossing R086 JSV, while established on R031 HGV, descend to FL100. Passing 15 DME JSV on R031 HGV turn right onto track 301° and descend to 8300' ALT. Crossing R206 JSV turn right onto track 001° to intercept the LOC RWY 03R. Complete a straight-in ILS APCH and land RWY 03R.

Note: Aircraft entering the TMA at FL110 and below are to enter the OKPIT hold at last assigned level, and continue on the routeing for the OKPIT 4A STAR.

Caution: Holding patterns below FL110 will be conducted outside of controlled airspace. Pilots to take note of the appropriate FADs.

In the event of a missed approach with the intention of diverting to an alternate aerodrome, proceed as follows:

To the North and North-West:	Follow the routeing for the VASUR 3A SID.
To the East and North-East:	Follow the routeing for the EGMEN 2A SID (Jet ACFT) or EXOBI 1A SID (Turboprop ACFT).
To the South-East:	Follow the routeing for the APDAK 3A SID.
To the West and South-West:	Follow the routeing for the RAGUL 3A SID.

CHANGE: Location Indicator FAOR/ NDB JB/JN & JA decommissioned

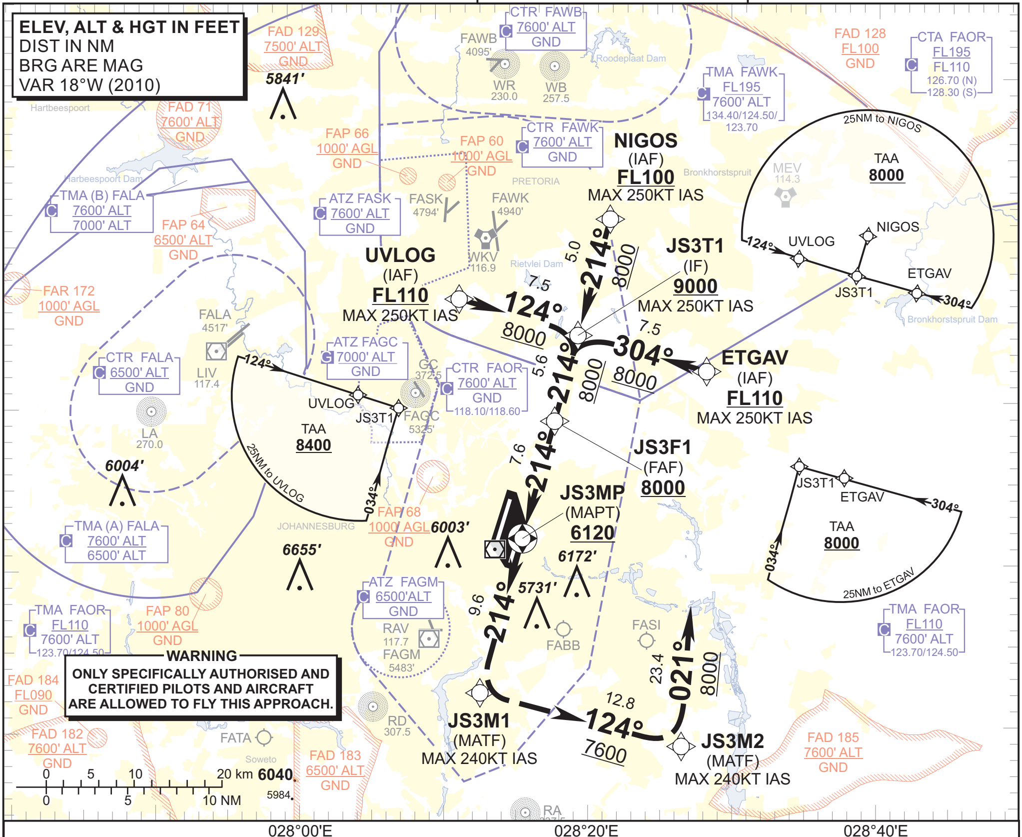
For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART

AERODROME ELEV 5558'
HEIGHTS RELATED TO
THR RWY 21L - ELEV 5494'

RADAR APP S	124.50	ATIS	126.20
E	124.50		115.20
W	123.70	SMC	121.90
TWR E	118.60		
W	118.10		

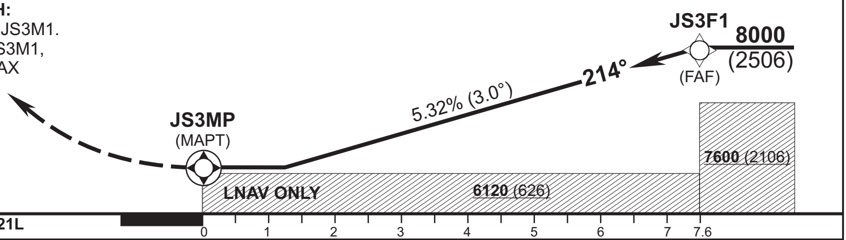
JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
RNAV (GNSS) RWY 21L
CAT A - D



DIST (NM) to JS3MP	6	5	4	3	2		
ADVISORY ALT (HGT)	*7490* (1996)	*7160* (1666)	*6840* (1346)	*6520* (1026)	*6200* (706)		

TRANSITION ALT **8000**
TRANSITION LEVEL **ATC**

MISSED APPROACH:
Climb to 8000 ALT to JS3M1. From JS3MP route JS3M1, JS3M2 to ETGAV (MAX 240KT IAS) or as directed by ATC.



THR ELEV 5494

NM to/from **THR RWY 21L**

		A	B	C	D
Straight-in Approach	With 3.5% Missed APCH Gradient	*6120* (626)	*6120* (626)	*6120* (626)	*6120* (626)
	With 2.5% Missed APCH Gradient	*6530*(1036)	*6530*(1036)	*6530*(1036)	*6530*(1036)
	RVR	900m	1000m	1000m	1400m
	ALS OUT	1500m	1500m	1800m	2000m
Circling	WEST OF RWY 03/21	*6070* (512)		*6410* (852)	
	EAST OF RWY 03/21	*6050* (492)		*6250* (692)	

GS	KT	80	100	120	140	160
JS3F1 to JS3MP	M:S	**5:42**	**4:34**	**3:48**	**3:16**	**2:51**
Rate of descent	FPM	**431**	**538**	**646**	**754**	**861**
GS	KT	120	140	160	180	200
3.5% Missed APCH Climb Gradient	FPM	**425**	**496**	**567**	**638**	**709**

NOTE:
1. Minimum 3.5% Missed Approach Climb Gradient required to cross the CTR BDRY at 7600 ALT or above.
2. MAX 240KT IAS on Missed Approach.

CHANGE: WYPT Renumbering

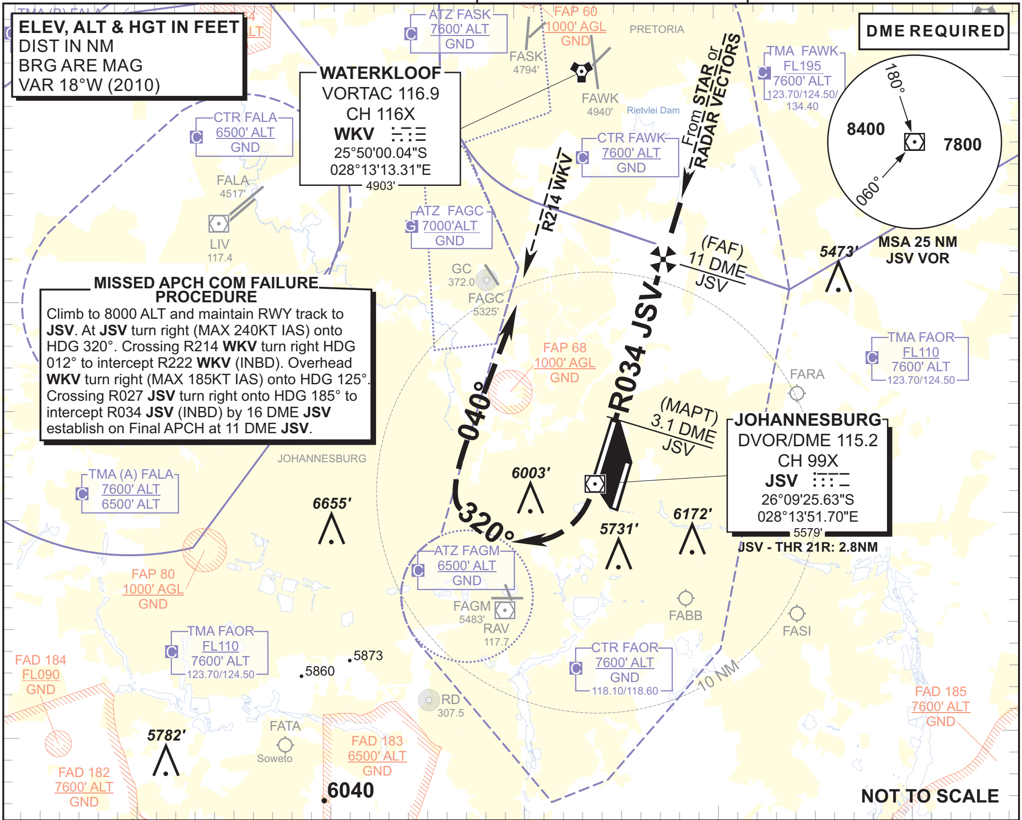
For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART

AERODROME ELEV 5558'
HEIGHTS RELATED TO THR RWY 21R - ELEV 5505'

RADAR APP S	124.50	ATIS	126.20
E	124.50		115.20
W	123.70	SMC	121.90
TWR E	118.60		
W	118.10		

JOHANNESBURG
(O.R. TAMBO INTERNATIONAL)
VOR Y RWY 21R
CAT A - D



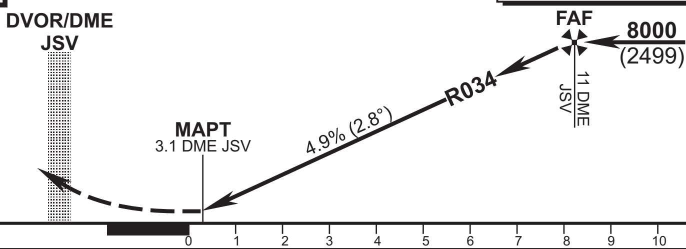
JSV DME	8	7	6	5	4	3
ADVISORY ALT (HGT)	*7110* (1605)	*6810* (1305)	*6510* (1005)	*6210* (705)	*5920* (415)	*5620* (115)

TRANSITION ALT **8000**
TRANSITION LEVEL **ATC**

INA ALT: from **STAR** or **RADAR VECTORING** onto the **FAF**

MISSED APPROACH:
Climb to 8000 ALT and maintain RWY track to **JSV**. Overhead **JSV** turn right (MAX 240KT IAS) onto HDG 320°. Crossing R214 **WKV** turn right onto HDG 040° for radar vectoring onto RWY 21R.

THR ELEV 5505



OCA (H)		A	B	C	D/DL
Straight-in Approach	With 5.0% Missed APCH Gradient	*5980* (475)	*5980* (475)	*5980* (475)	*5980* (475)
	With 2.5% Missed APCH Gradient	*7030*(1525)	*7030*(1525)	*7030*(1525)	*7030*(1525)
Circling	WEST OF RWY 03/21	*6070* (565)		*6410* (905)	
	EAST OF RWY 03/21	*6050* (545)		*6250* (745)	

GS	KT	80	100	120	140	160
FAF to THR	M:S	**6:09**	**4:55**	**4:06**	**3:31**	**3:04**
Rate of descent	FPM	**398**	**497**	**597**	**696**	**796**
GS	KT	120	140	160	180	200
5.1% Missed APCH Climb Gradient	FPM	**620**	**723**	**826**	**930**	**1033**

NOTE:
1. 5.1% Missed APCH climb gradient required to cross CTR BDRY 8000 ALT or above.
2. Parallel approach authorised with RWY 21L.

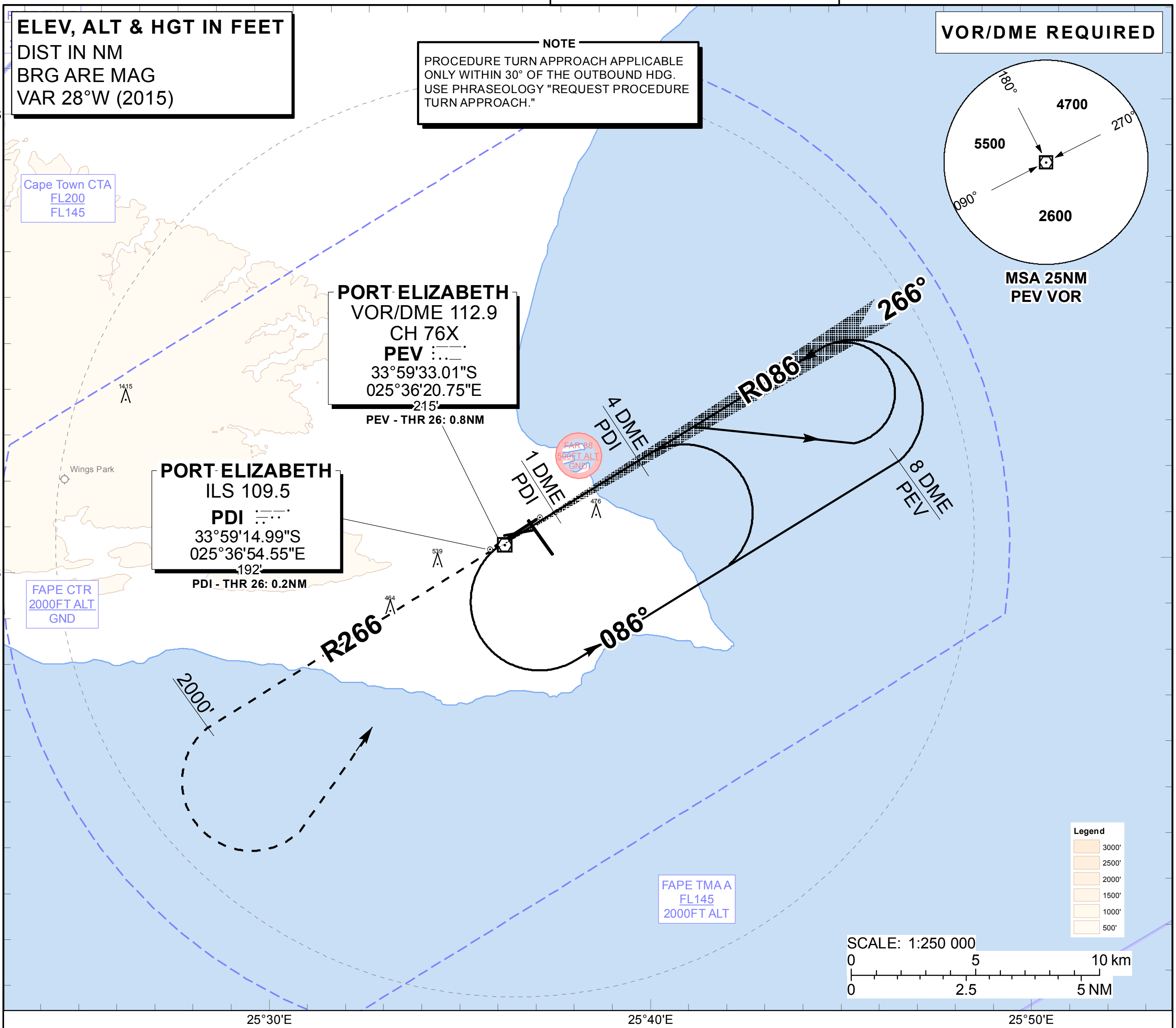
CHANGE: NDB JB/JN & JA decommissioned
Location Indicator FAOR /

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 229'
HEIGHTS RELATED TO THR RWY 26 - ELEV 189'

RADAR APP: 120.40
TWR: 118.10
CLEARANCE: 122.10
ATIS: 126.80

PORT ELIZABETH
ILS Z RWY 26
CAT A - D

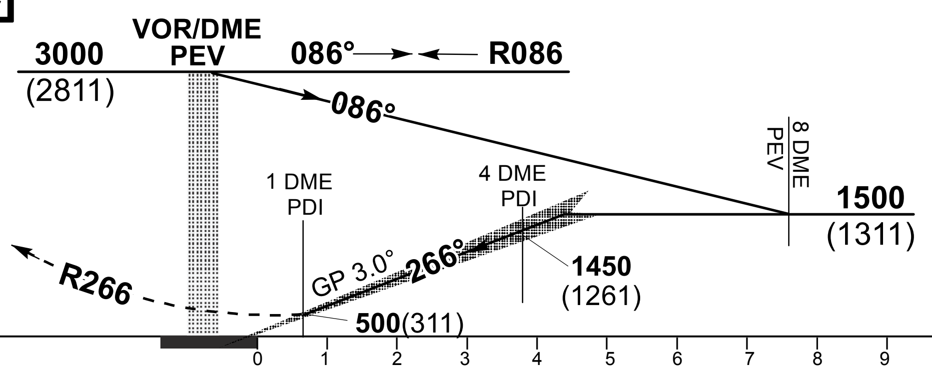


PDI /DME	4	3	2	1			
ADVISORY ALT(HGT)	**1450** (1261)	**1140** (951)	**820** (631)	**500** (311)			

TRANSITION ALT **5500**
TRANSITION LEVEL **ATC**

INA ALT: **3000** or higher MSA

MISSED APPROACH:
Climb to 2000FT ALT.
Maintain RWY track
then turn left, climbing
to 3000FT ALT and
return to PEV.



ILS RDH **50**

THR ELEV 189

NM to/from **THR RWY 26**

						GS	KT	80	100	120	140	160
OCA (H)		**A**	**B**	**C**	**D**	4.2 DME **PDI** - THR	M:S	**2:58**	**2:23**	**1:59**	**1:42**	**1:29**
Straight-in Approach	CAT I	*389* (200)	*389* (200)	*389* (200)	*389* (200)	Rate of descent	FPM	**425**	**531**	**637**	**743**	**849**
						NOTE:						
Circling	Circle to land at the discretion of the pilot in command.											

CHANGE: NEW Procedure

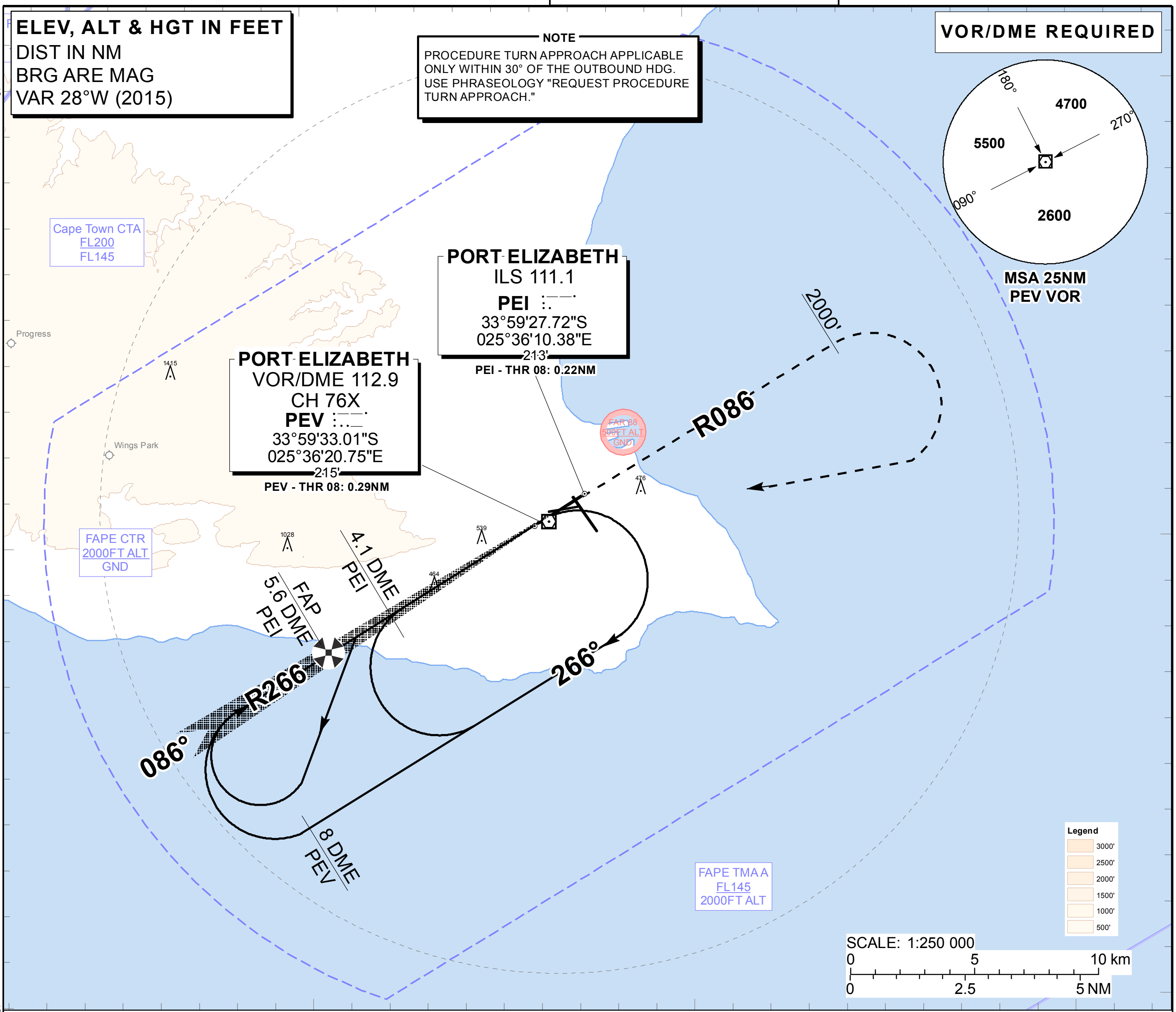
For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 229'
HEIGHTS RELATED TO
THR RWY 08 - ELEV 229'

RADAR APP: 120.40
TWR: 118.10
CLEARANCE: 122.10
ATIS: 126.80

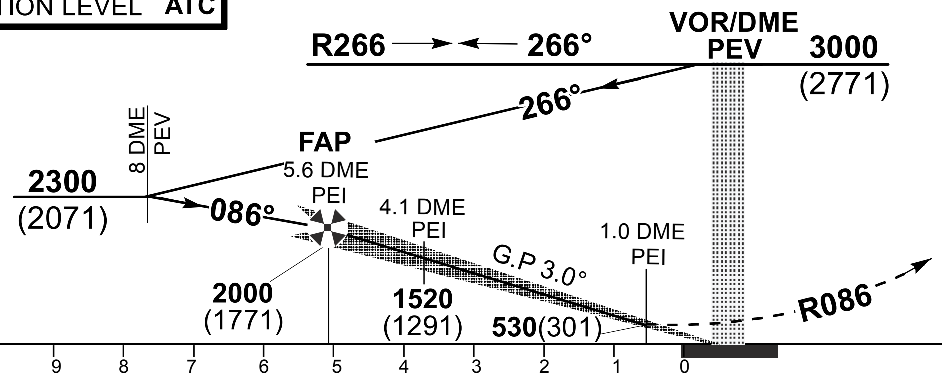
PORT ELIZABETH
ILS RWY 08
CAT A - D



PEI/DME	4.1	4	3	2	1		
ADVISORY ALT(HGT)	1520 (1291)	1490 (1261)	1170 (941)	850 (621)	530 (301)		

TRANSITION ALT **5500**
TRANSITION LEVEL **ATC**

INA ALT: **3000** or higher MSA



MISSED APPROACH:
Climb to 2000FT ALT. Maintain RWY track then turn right, climbing to 3000FT ALT and return to PEV.

ILS RDH **50**

THR ELEV **229**

NM to/from **THR RWY 08**

OCA (H)		A	B	C	D
Straight-in Approach	CAT I	***429*** (200)	***429*** (200)	***429*** (200)	***429*** (200)
Circling	Circle to land at the discretion of the pilot in command.				

GS	KT	80	100	120	140	160
5.6 DME **PEI** - THR	M:S	4:03	3:15	2:42	2:19	2:02
Rate of descent	FPM	425	531	637	743	849

NOTE:

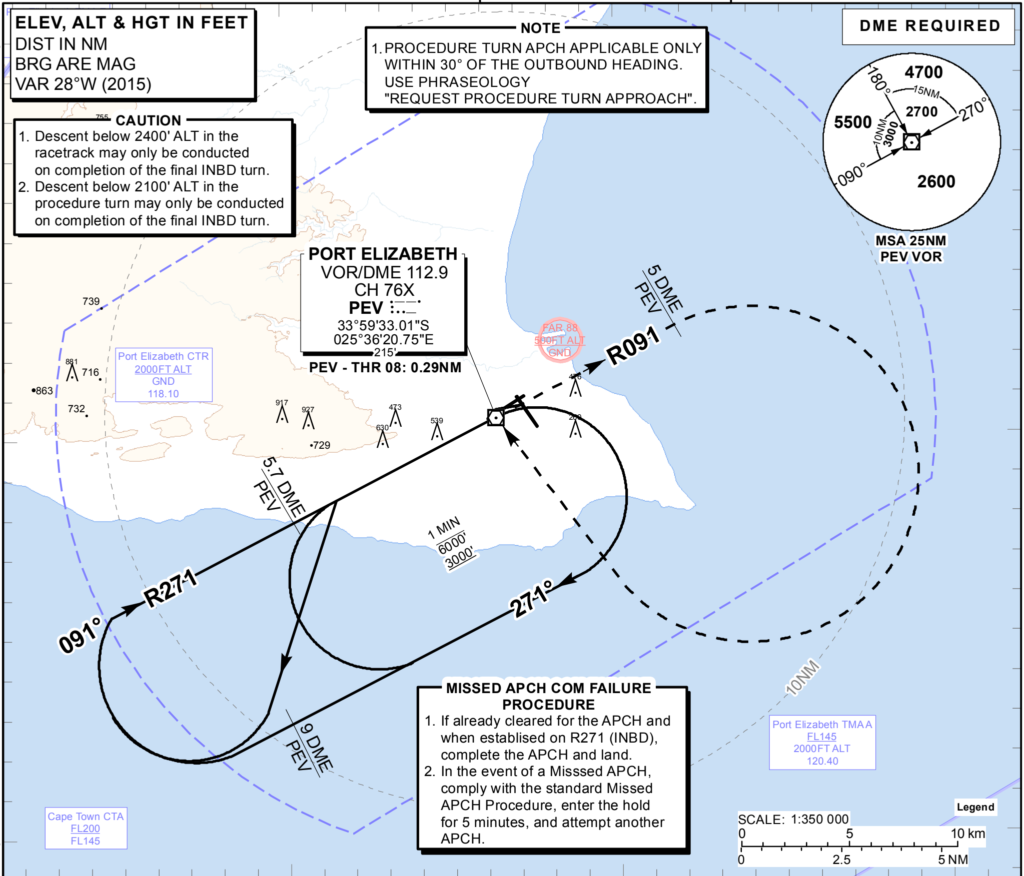
CHANGE: NEW Procedure

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 229'
HEIGHTS RELATED TO
THR RWY 08 - ELEV 229'

RADAR APP: 120.4
TWR: 118.10
CLEARANCE: 122.10
ATIS: 126.80

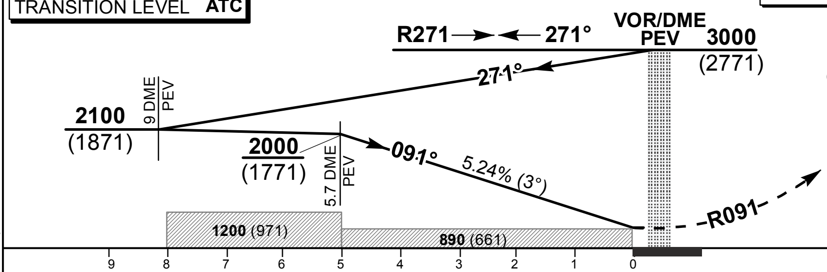
PORT ELIZABETH INTL
VOR Z RWY 08
CAT A - D



DIST (NM) to THR 08	5.7	5	4	3
ADVISORY ALT(HGT)	2000 (1771)	1780 (1551)	1460 (1231)	1150 (921)

TRANSITION ALT 5500
TRANSITION LEVEL ATC

INA ALT: 3000 or higher MSA



MISSED APPROACH:
MAPT ABM THR.
Climb to 3000FT ALT.
Continue on R091 PEV (OUBD) to 5 DME PEV, turn right direct to PEV and enter the hold or as directed by ATC.
Contact FAPE APCH.

THR ELEV 229
NM to/from THR RWY 08

OCA (H)		A	B	C	D
Straight-in Approach		*890* (661)	*890* (661)	*890* (661)	*890* (661)
Circling		*890*(661)	*960*(731)	*1320*(1091)	*1390*(1161)

GS	KT	80	100	120	140	160
5.7DME **PEV** - THR	M:S	**4:02**	**3:14**	**2:41**	**2:18**	**1:47**
Rate of descent	FPM	**425**	**532**	**638**	**744**	**851**

NOTE:
1. RoD from 5.7 DME PEV computes at 5.24% (3.0°).
2. All circling approaches are entirely at the discretion of the pilot in command.

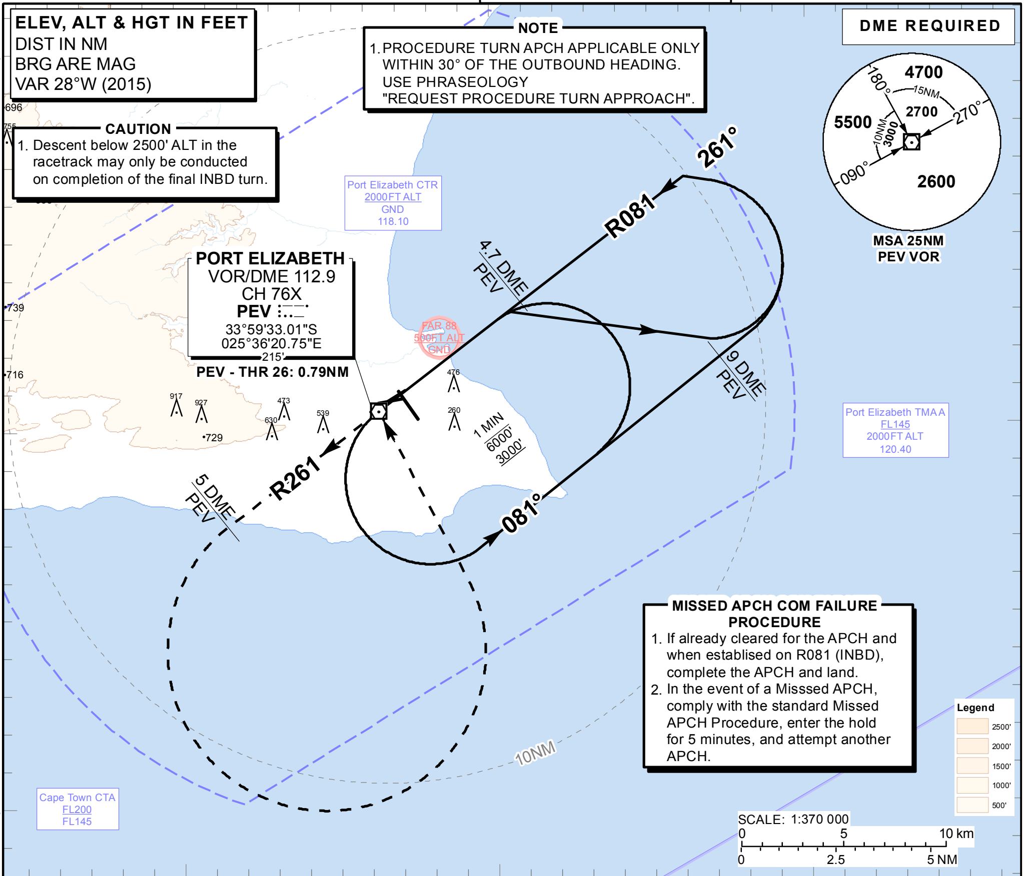
CHANGE: Revised Advisory Altitudes

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 229'
HEIGHTS RELATED TO
THR RWY 26 - ELEV 189'

RADAR APP: 120.4
TWR: 118.10
CLEARANCE: 122.10
ATIS: 126.80

PORT ELIZABETH INTL
VOR Z RWY 26
CAT A - D

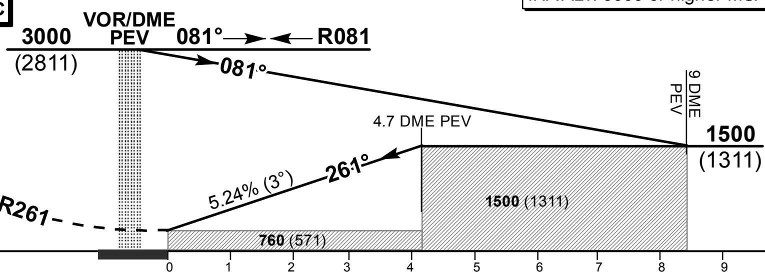


DIST (NM) to THR 26	4.7	4	3				
ADVISORY ALT(HGT)	**1500** (1311)	**1270** (1081)	**950** (761)				

TRANSITION ALT **5500**
TRANSITION LEVEL **ATC**

INA ALT: **3000** or higher MSA

MISSED APPROACH:
MAPT ABM THR.
Climb to 3000FT ALT.
Continue on R261 PEV (OUBD) to 5 DME PEV, turn left direct to PEV and enter the hold or as directed by ATC.
Contact FAPE Approach.



THR ELEV 189
NM to/from THR RWY 26

OCA (H)		A	B	C	D
Straight-in Approach		*760* (571)	*760* (571)	*760* (571)	*760* (571)
Circling		*890*(661)	*960*(731)	*1320*(1091)	*1390*(1161)

GS	KT	80	100	120	140	160
4.7DME **PEV** - THR	M:S	**2:58**	**2:22**	**1:58**	**1:41**	**1:29**
Rate of descent	FPM	**425**	**531**	**637**	**743**	**850**

NOTE:
1. RoD from 4.7 DME PEV computes at 5.24% (3.0°).
2. All circling approaches are entirely at the discretion of the pilot in command.

CHANGE: Revised Advisory Altitudes

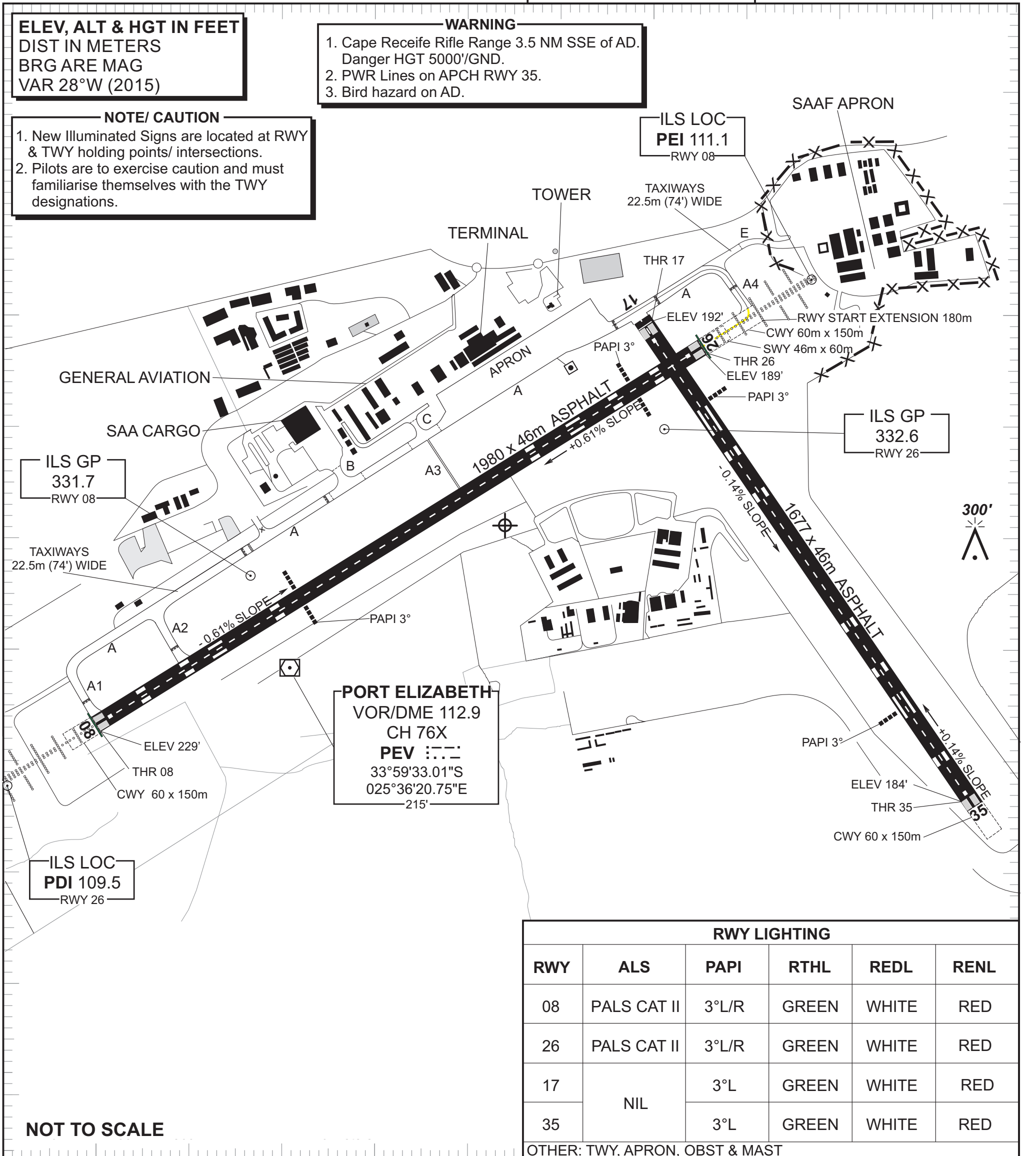
For exam purposes only don't use for Navigation

AERODROME CHART

33°59'24.05"S
025°36'37.00"E
ELEV 229'

FAPE ATIS 126.80
APN 122.65
TWR 118.10
APP 120.40

PORT ELIZABETH INTL
FAPE



RWY LIGHTING					
RWY	**ALS**	**PAPI**	**RTHL**	**REDL**	**RENL**
08	PALS CAT II	3°L/R	GREEN	WHITE	RED
26	PALS CAT II	3°L/R	GREEN	WHITE	RED
17	NIL	3°L	GREEN	WHITE	RED
35		3°L	GREEN	WHITE	RED

OTHER: TWY, APRON, OBST & MAST

PHYSICAL CHARACTERISTICS

RWY	DIRECTION	THR COORDINATES	THR ELEVATION	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	SWY (m)	CWY (m)	SLOPE	SURFACE	BEARING STRENGTH	CIRCUIT
08	058°	33°59'37.89"S 025°36'00.00"E	229'	1980	2040	2040	1980	60	60	0.006 D	ASPH	PCN 50/F/B/X/T	R
26	238°	33°59'03.93"S 025°37'05.57"E	189'	2160	2220	2160	1980	0	60	0.006 U			L
17	146°	33°59'01.81"S 025°36'58.63"E	192'	1677	1737	1677	1677	0	60	0.001 D	ASPH	PCN 50/F/B/X/T	UNK
35	326°	33°59'46.78"S 025°37'35.51"E	184'	1677	1677	1677	1677	0	0	0.001 U			

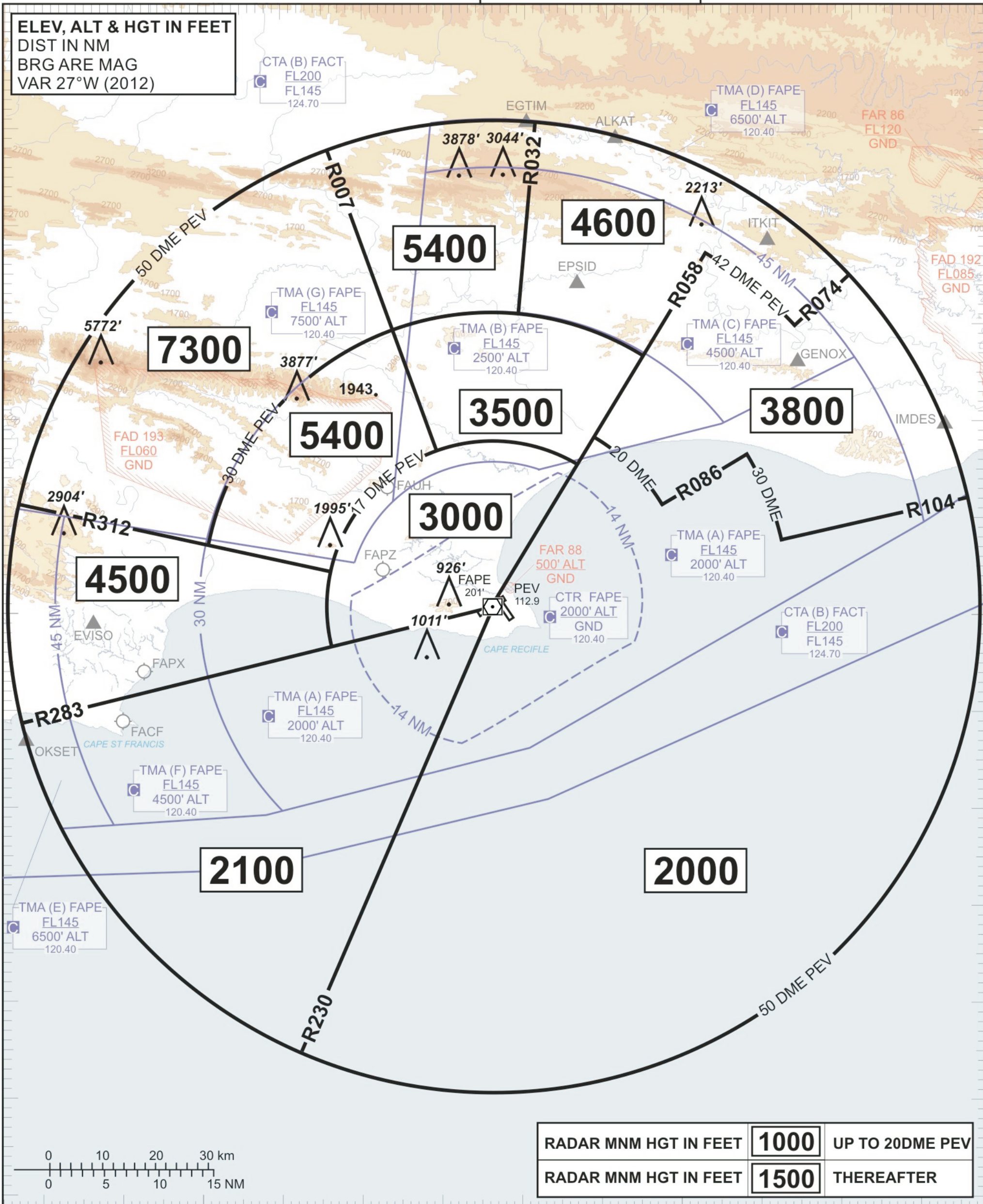
CHANGE: ILS CAT II change

RADAR MINIMUM ALTITUDE CHART

AERODROME ELEV 221'
TRANSITION ALT 5500'

RADAR APP 120.40
ATIS 126.80

PORT ELIZABETH INTL
FAPE



RADAR MNM HGT IN FEET	1000	UP TO 20DME PEV
RADAR MNM HGT IN FEET	1500	THEREAFTER

CHANGE: MSA Sectors/CTR Boundary/FACT CTA(B)

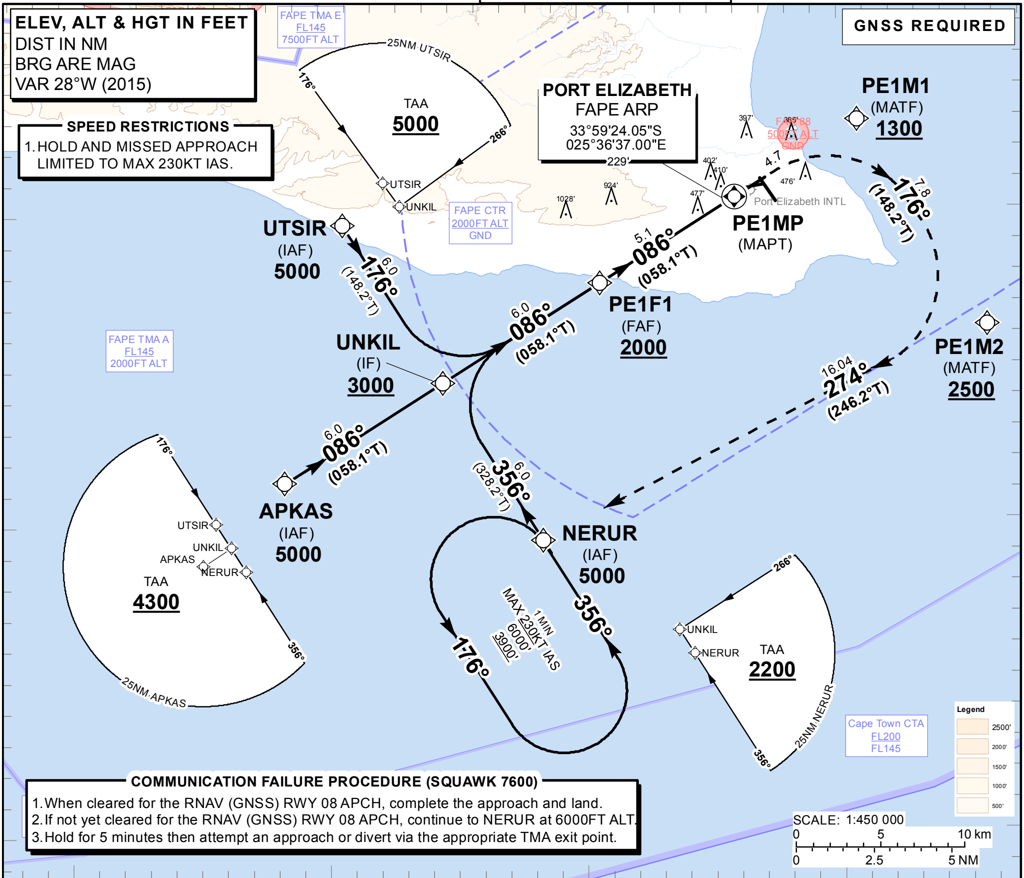
INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 229'
HEIGHTS RELATED TO
THR RWY 08 - ELEV 229'

For exam purposes only don't use for Navigation

RADAR: 120.40
TWR: 118.10
CLEARANCE: 122.10
ATIS: 126.80

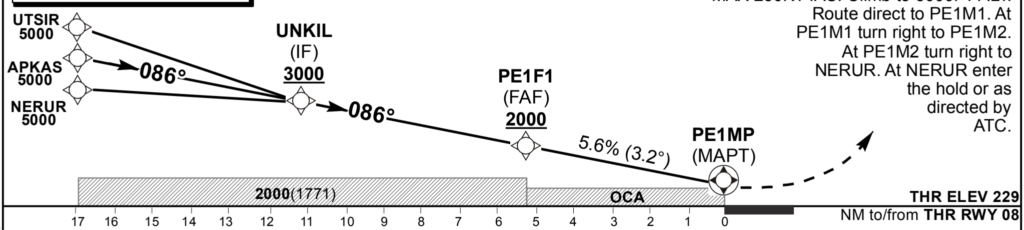
PORT ELIZABETH
RNAV (GNSS) RWY 08
CAT A - D



DIST (NM) to THR 08	11.1	10.1	9.1	8.1	7.1	6.1	5.1	4	3	2	1	0
DIST (NM) to Next WPT	**UNKIL**	**5**	**4**	**3**	**2**	**1**	**PE1F1**	**4**	**3**	**2**	**1**	**PE1MP**
ADVISORY ALT (HGT)	**3000**(2771)	**2840**(2611)	**2670**(2441)	**2500**(2271)	**2340**(2111)	**2170**(1941)	**2000**(1771)	**1630**(1401)	**1290**(1061)	**960**(731)	**620**(391)	**280**(51)

TRANSITION ALT **5500**
TRANSITION LEVEL **ATC**

MISSED APPROACH:
MAX 230KT IAS. Climb to 3000FT ALT. Route direct to PE1M1. At PE1M1 turn right to PE1M2. At PE1M2 turn right to NERUR. At NERUR enter the hold or as directed by ATC.



CHANGE: Revised Waypoint Names and Positions

MIN TEMP: 0°C			A	B	C	D	GS	KT	80	100	120	140	160
Straight-in Approach	LNAV	OCA(H)	*750* (521)	*750* (521)	*750* (521)	*750* (521)	FAF to MAPT	M:S	3:51	3:05	2:34	2:12	1:55
	VNAV	OCA(H)	*723* (494)	*723* (494)	*723* (494)	*723* (494)	Rate of descent	FPM	448	560	672	783	895
	RVR		*1500m*	*1500m*	*1800m*	*2000m*	2.5% Climb Gradient	FPM	203	253	304	354	405
	ALS OUT		*1500m*	*1500m*	*2000m*	*2000m*	NOTE: 1. Turns prior PE1MP prohibited. 2. RoD 5.6% (3.2°).						
Circling		Circle to land at the discretion of the pilot in command											

For exam purposes only don't use for Navigation

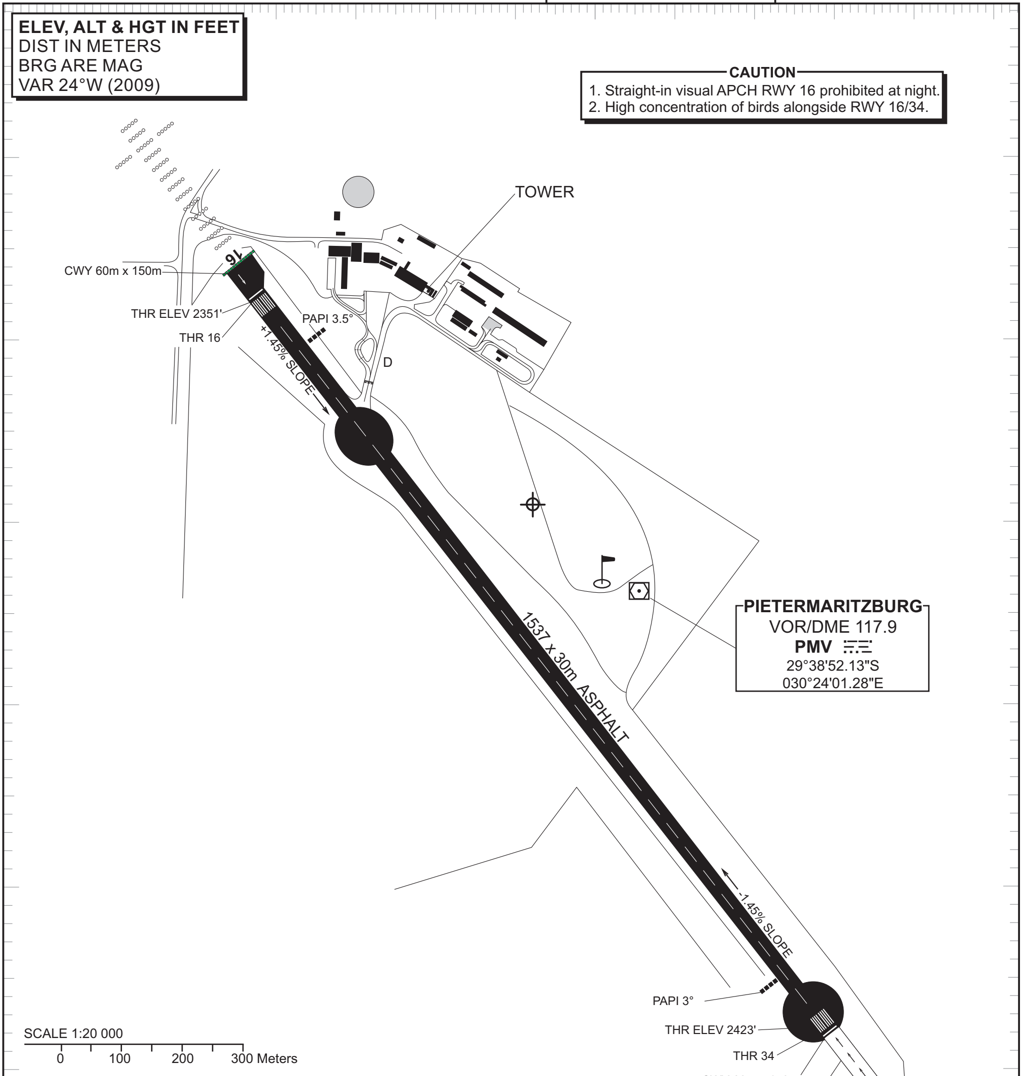
AERODROME CHART

29°38'48.44"S
030°23'51.98"E

ELEV 2423'

PIETERMARITZBURG
TWR 122.00
DURBAN APP 125.75

PIETERMARITZBURG
FAPM



RWY LIGHTING					
RWY	**ALS**	**PAPI**	**RTHL**	**REDL**	**RENL**
16	SALS	3.5° L	GREEN	WHITE	RED
34	NIL	3.0° L	GREEN	WHITE	RED

OTHER: Remote switching after ATC HOD

030°23'30"E 030°24'E 030°24'30"E

PHYSICAL CHARACTERISTICS

RWY	DIRECTION (T)	THR COORDINATES	THR ELEVATION	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	SWY (m)	CWY (m)	SLOPE	SURFACE	BEARING STRENGTH	CIRCUIT
16	142°	29°38'36.35"S 030°23'37.76"E	2351'	1537	1597	1667	1537	130	60	0.0145U	ASPH	PCN 34	UNK
34	322°	29°39'15.73"S 030°24'12.94"E	2423'	1537	1597	1537	1537	NIL	60	0.0145D	ASPH	PCN 34	UNK

CHANGE: RWY Physical Characteristics

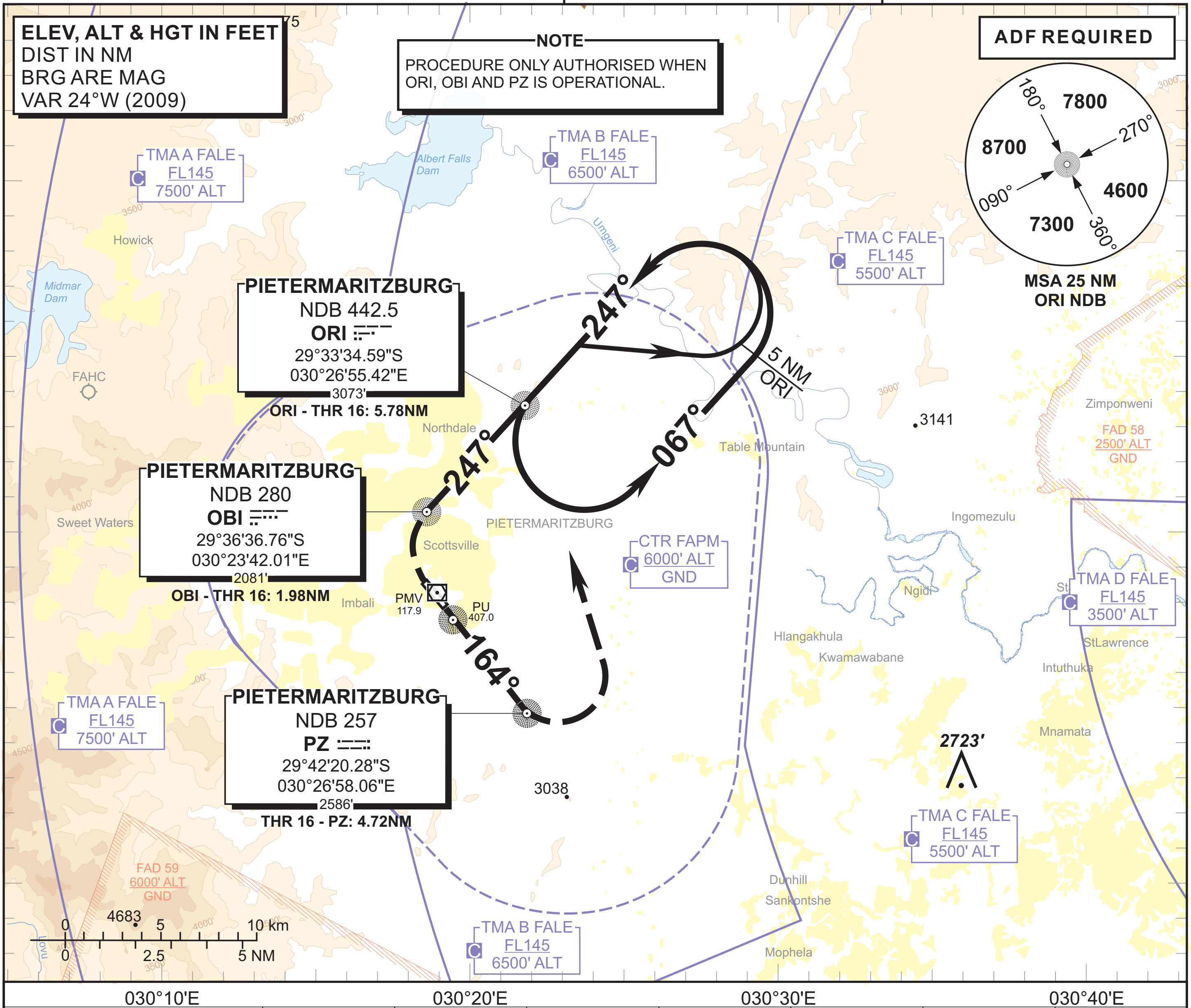
For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART

AERODROME ELEV 2423'
HEIGHTS RELATED TO
THR RWY 16 ELEV 2351'

PIETERMARITZBURG TWR 122.00
DURBAN APP 125.75

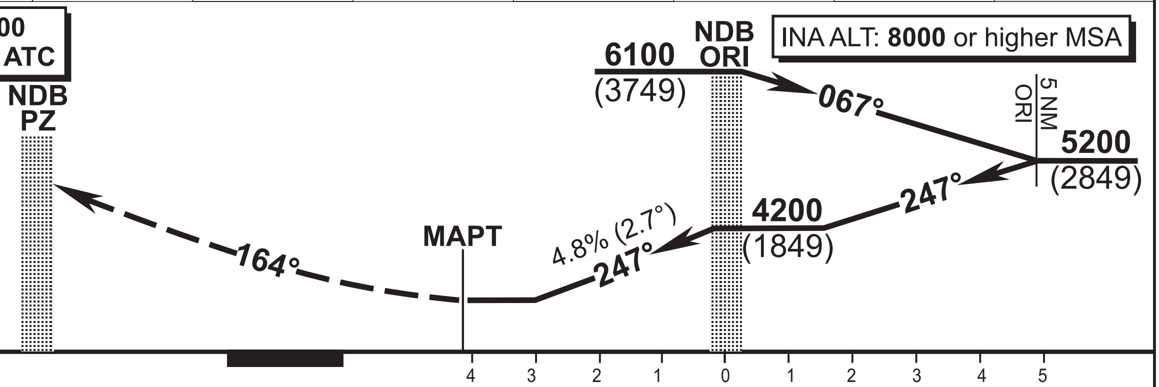
PIETERMARITZBURG
NDB A RWY 16
CAT A - C



SPEED	KT	80	100	120	140	160
ADVISORY ALT (HGT) FROM **NDB ORI** TO **OBI**	+20s	***4080*** (1729)	***4040*** (1689)	***4010*** (1659)	***3980*** (1629)	***3950*** (1599)
	+40s	***3950*** (1599)	***3880*** (1529)	***3820*** (1469)	***3750*** (1399)	***3690*** (1339)
	+60s	***3820*** (1469)	***3720*** (1369)	***3620*** (1269)	***3520*** (1169)	***3430*** (1079)

TRANSITION ALT **8500**
TRANSITION LEVEL **ATC**

MISSED APPROACH: At **OBI** commence climbing turn left onto **PZ** to 6100 ALT. At **PZ** turn left to **ORI** and continue climb to 6100 ALT.



OCA (H)		**A**	**B**	**C**
Straight-in Approach	Breakcloud NDB	***3000*** (649)		***3020*** (669)
Circling		1. Circle to land at the discretion of the pilot in command.		

GS	KT	80	100	120	140	160
ORI - OBI	M:S	**3:06**	**2:29**	**2:04**	**1:46**	**1:33**
Rate of descent	FPM	**389**	**486**	**583**	**681**	**778**

NOTE:
1. Procedure Turn Approach applicable only within 30° of the outbound heading. Use phraseology "Request Procedure Turn Approach".
2. High GND immediately west of PU may give false indication on ADF.

CHANGE: Freq Revised

For exam purposes only don't use for Navigation

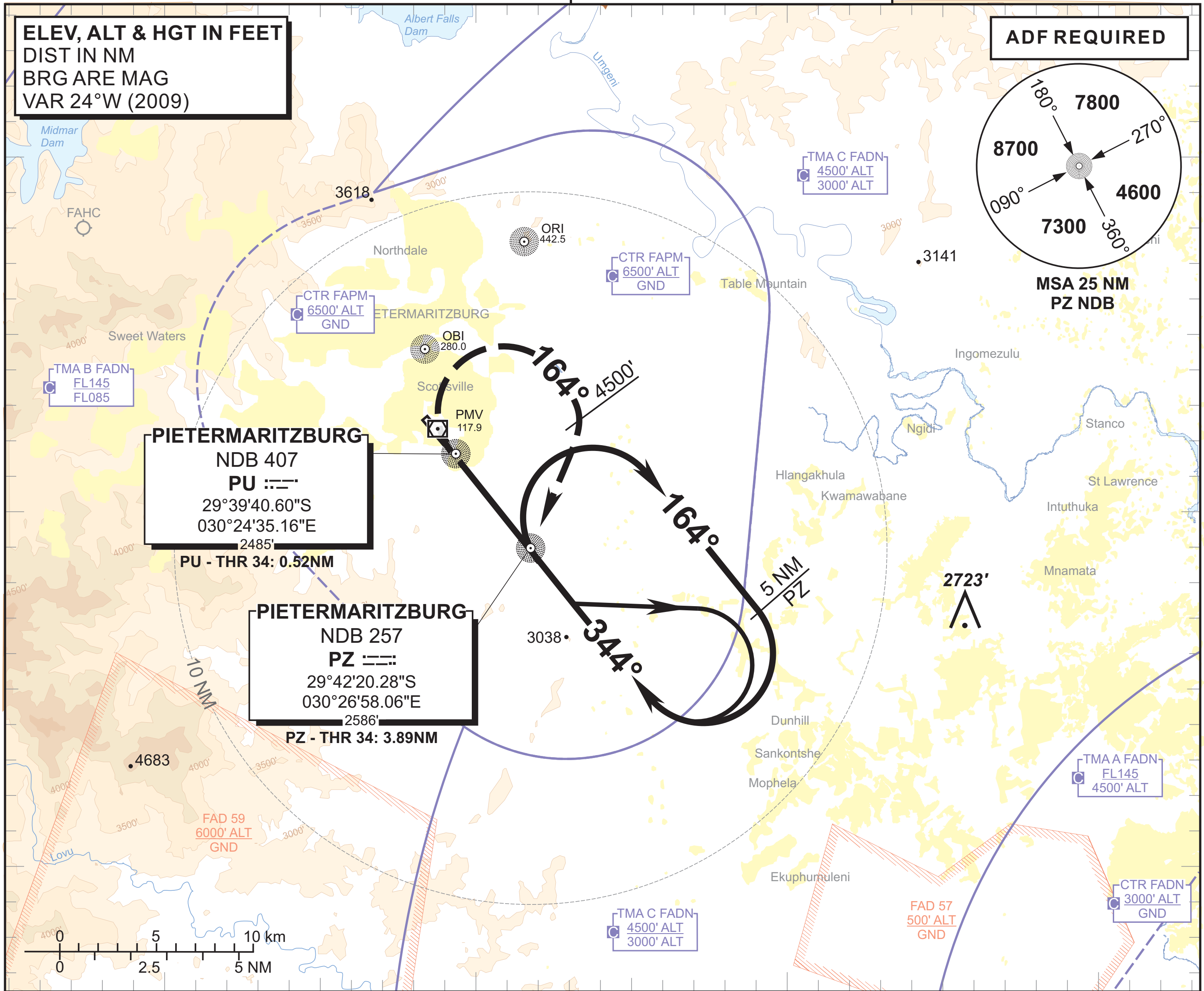
INSTRUMENT APPROACH CHART

AERODROME ELEV 2423'
HEIGHTS RELATED TO AERODROME ELEV 2423'

PIETERMARITZBURG TWR 122.00
DURBAN APP 125.75

PIETERMARITZBURG NDB B RWY 34

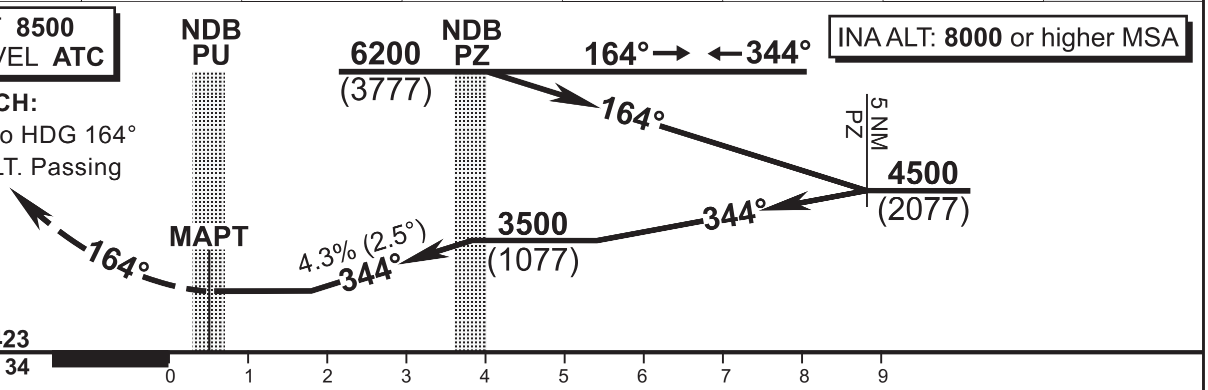
CAT A - B



SPEED	KT	80	100	120	140	160	
ADVISORY ALT (HGT)	+20s	***3390*** (967)	***3360*** (937)	***3330*** (907)	***3300*** (877)	***3270*** (847)	
FROM **NDB PZ *3500*** (1077)	+40s	***3270*** (847)	***3210*** (787)	***3150*** (727)	***3090*** (667)	***3040*** (617)	
	+60s	***3150*** (727)	***3060*** (637)	***2980*** (557)	***2890*** (467)	***2800*** (377)	

TRANSITION ALT **8500**
TRANSITION LEVEL **ATC**

MISSED APPROACH:
At **PU** turn right onto HDG 164° climbing to 6200 ALT. Passing 4500 ALT turn right to **PZ** climbing to 6200 ALT.



OCA (H)		A	B
Straight-in Approach	Breakcloud NDB	***3300*** (877)	
Circling		1. Circle to land at the discretion of the pilot in command.	

GS	KT	80	100	120	140	160
PZ - THR	M:S	**2:55**	**2:20**	**1:57**	**1:40**	**1:28**
Rate of descent	FPM	**352**	**440**	**528**	**615**	**703**

NOTE:
1. Procedure Turn Approach applicable only within 30° of the outbound heading. Use phraseology "Request Procedure Turn Approach".
2. High GND immediately west of PU may give false indication on ADF.

CHANGE: Freq Revised

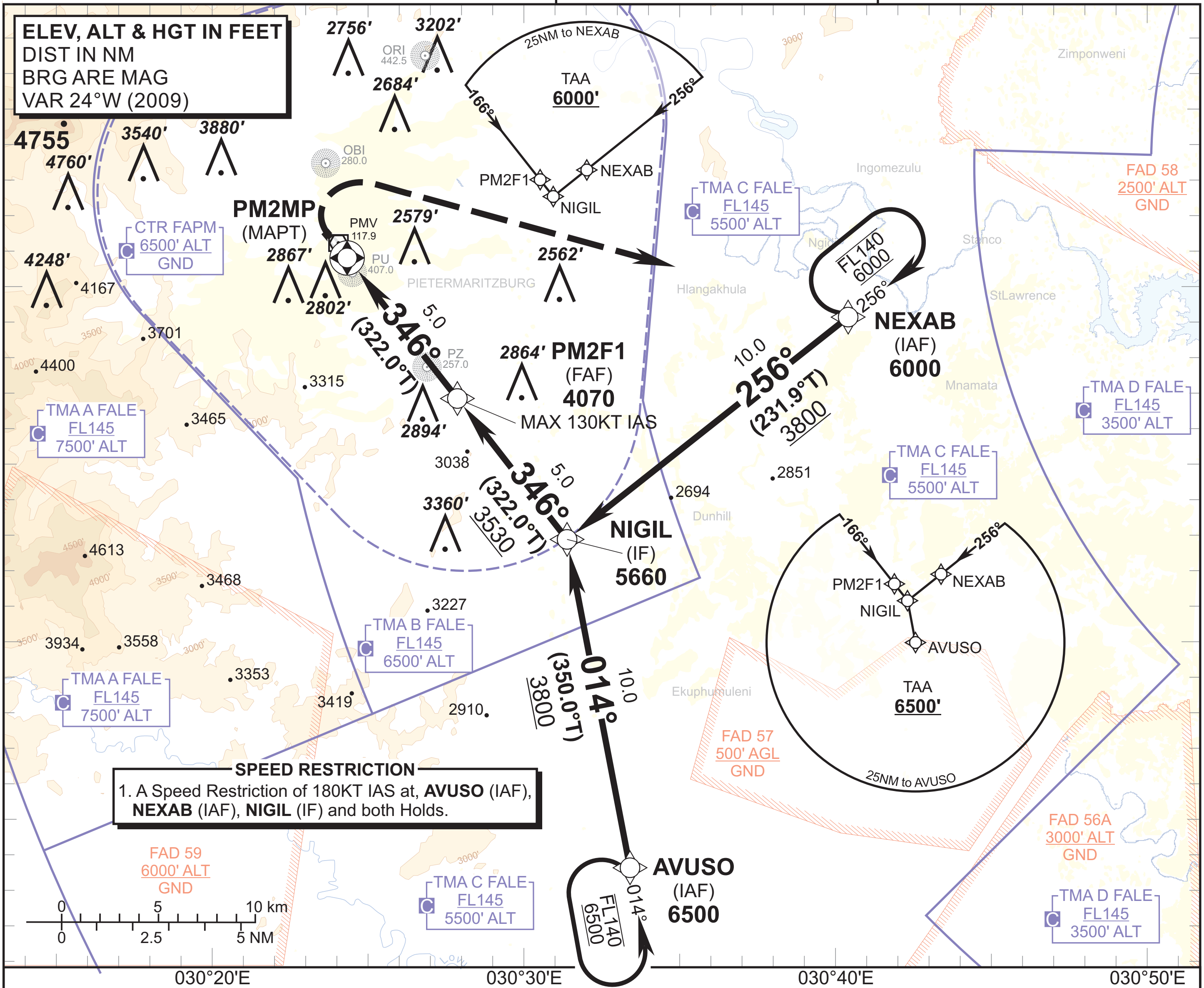
For exam purposes only don't use for Navigation

INSTRUMENT APPROACH CHART

AERODROME ELEV 2423'
HEIGHTS RELATED TO
THR RWY 34 - ELEV 2423'

PIETERMARITZBURG TWR 122.00
DURBAN APP 125.75

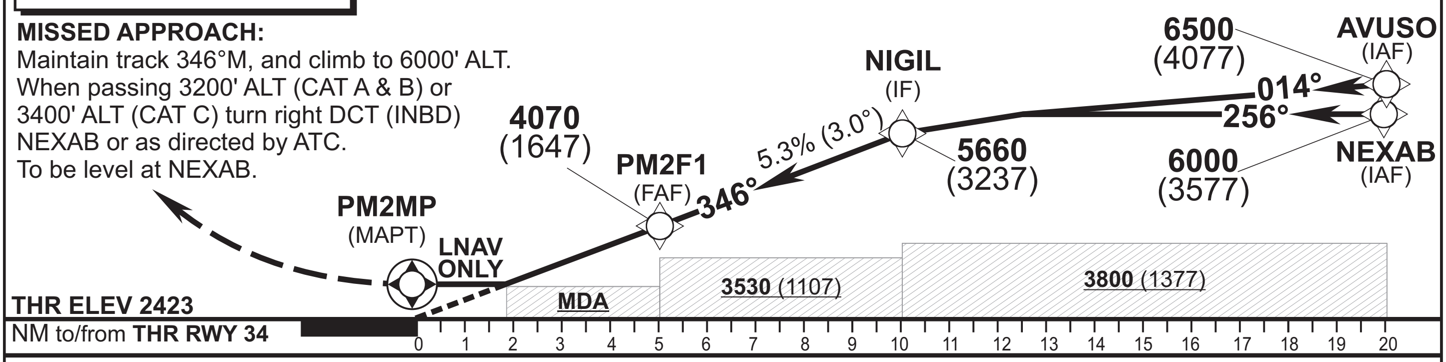
PIETERMARITZBURG RNAV (GNSS) RWY 34
CAT A - C



DIST (NM) to THR 34	(MAPT) 0	1	1.8	2	3	4	(FAF) 5	6	7	8	9	(IF) 10
DIST (NM) to Next WPT	**PM2MP**	**1**	**1.8**	**2**	**3**	**4**	**PM2F1**	**1.0**	**2.0**	**3.0**	**4.0**	**NIGIL**
ADVISORY ALT	**THR 34**	**2800**	**MDA**	**3110**	**3430**	**3750**	**4070**	**4390**	**4710**	**5020**	**5340**	**5660**

TRANSITION ALT **8500**
TRANSITION LEVEL **ATC**

MISSED APPROACH:
Maintain track 346°M, and climb to 6000' ALT.
When passing 3200' ALT (CAT A & B) or 3400' ALT (CAT C) turn right DCT (INBD) NEXAB or as directed by ATC.
To be level at NEXAB.



OCA (H)				A	B	C	C/RVR
Straight-in Approach	LNAV	AREA QNH	2.5%MDA(H)	3500(1077)	3500(1077)	3800(1377)	2000
		FAPM QNH	2.5%MDA(H)	3030(607)	3030(607)	3300(877)	2000
			3.3%MDA(H)	3030(607)	3030(607)	3100(677)	2000
		RVR		1500	1500		
Circling	HGT Related to AD ELEV			3500(1077)	3500(1077)	3800(1377)	

GS	KT	70	100	120	140	160
PM2F1 to THR	M:S	4:17	3:00	2:30	2:09	1:53
Rate of descent	FPM	373	532	639	745	852
GS	KT	100	120	150	180	210
2.5% Missed APCH Climb Gradient	FPM	253	304	380	456	532
3.3% Missed APCH Climb Gradient	FPM	334	401	502	602	702

CHANGE: Missed APCH Text

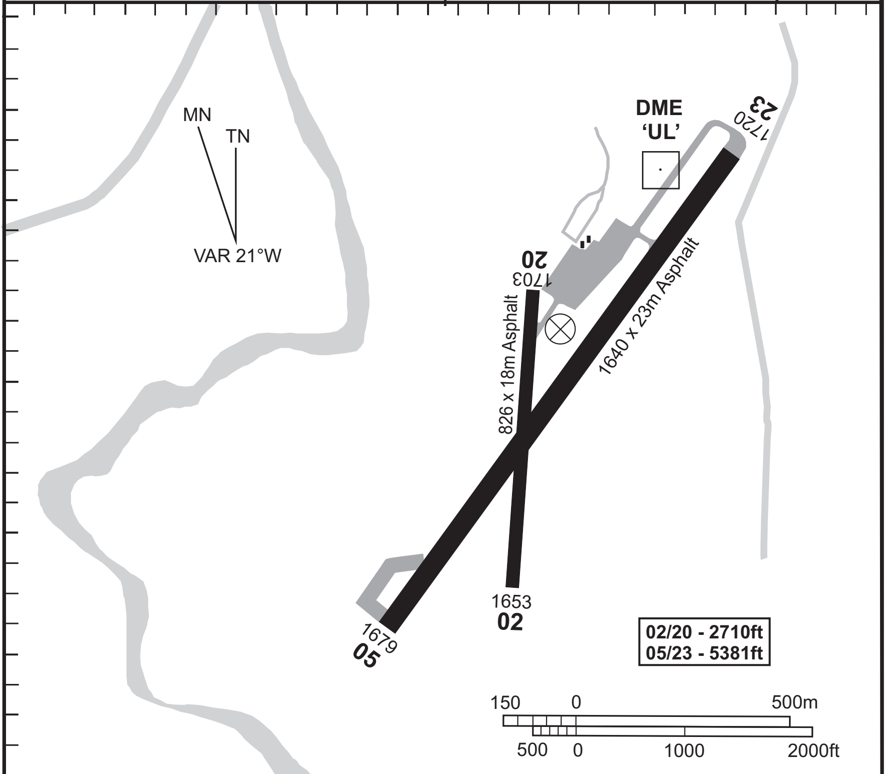
Elev	A/D	S28°19.1’
1720	REF PT	E031°25.1’

(PRINCE MANGOSUTHO BUTHELEZI) ULUNDI AERODROME

FAUL

ULUNDI
124.8 (Common traffic advisory)

AD-01
EFF
08 July 04



RWY	PAPI	APPROACH	THR	RUNWAY	L. DIST	SLOPE
02 (004°T)	Nil	Nil	Nil	Nil	Full	
20 (184°T)					Full	
05 (034°T)	Nil	Nil	Nil	RL	Full	0.80U
23 (214°T)	Nil			RL (First 500m HRL)	Full	0.80D

OTHER LIGHTING: Obstruction, wind indicators

PILOT ACTIVATED LIGHTING
Activate on 130.0. 3tx 35%, 5tx 75% and 7tx 100%. Duration of lighting 17 minutes.

RUNWAY AVAILABILITY
RWY 20: Landing prohibited
RWY 02: Take-off prohibited

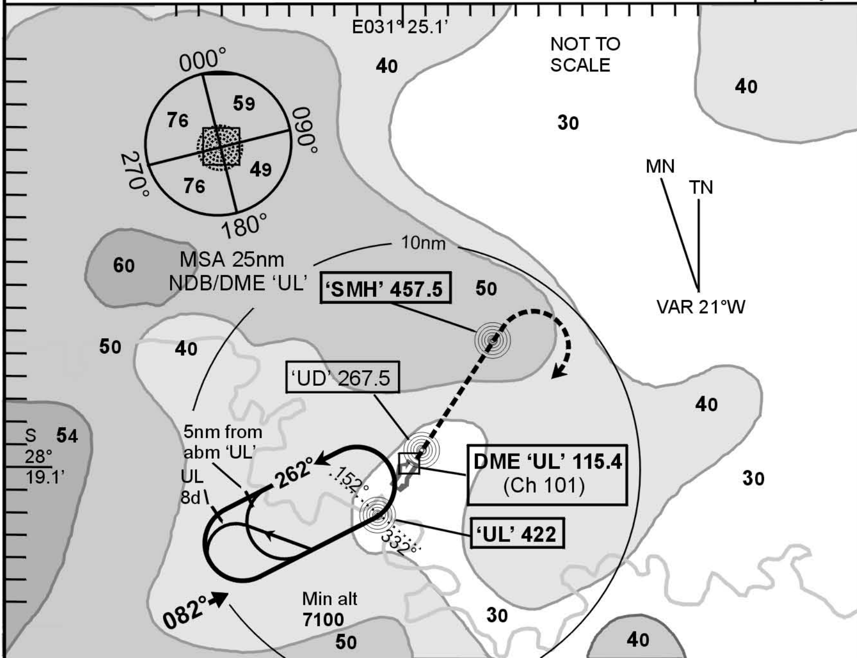
1. 180° turns on runway are prohibited.
2. For night operations the pilot must hold a valid instrument rating and be familiar with the immediate surroundings of the airfield. Instrument approach procedures must be used for letdown.

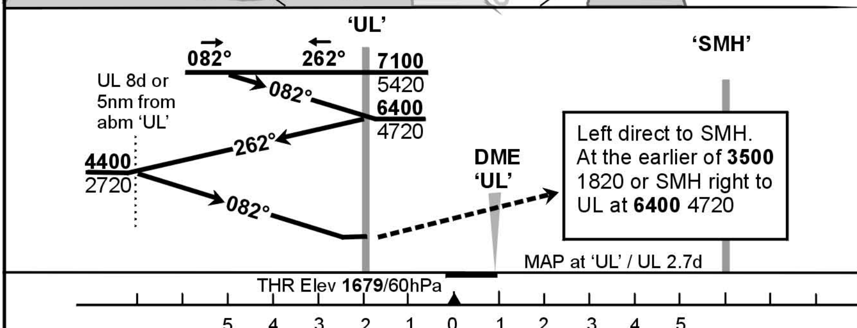
Rev: Chart #. | WGS-84

FAUL

Elev 1720	OCH: 877	(PRINCE MANGOSUTHO BUTHELEZI) ULUNDI (Cat A, B, C) BREAKCLOUD 2 NDB/DME 05

ULUNDI **124.8** (Common traffic advisory)	NDB-01 EFF 08 July 04





T.Lev	ATC
T.Alt	7100

kt	fpm	'UL' — THR
200	1240	
180	1110	
160	990	0:38
140	870	0:46
120	740	0:54
100	620	1:05
80	490	1:21

1. **This procedure is conducted outside controlled airspace, entirely at the discretion of the pilot in command.**
2. Initial approach altitude **7100** or higher MSA.
3. Descend in the hold to **6400.**
4. Procedure turn approach applicable only within 30° of the outbound heading. Use phraseology 'Executing procedure turn approach'.
5. RoD from UL 8d computes at 3.5° angle of descent.
6. Circle to land at the discretion of the pilot in command.
7. RWY 20: Landing prohibited
   RWY 02: Take-off prohibited.

Advisory Alt/Hgt	
UL DME	
8d	**4400** 2720
7d	**4030** 2350
6d	**3660** 1980
5d	**3290** 1610
4d	**2920** 1240

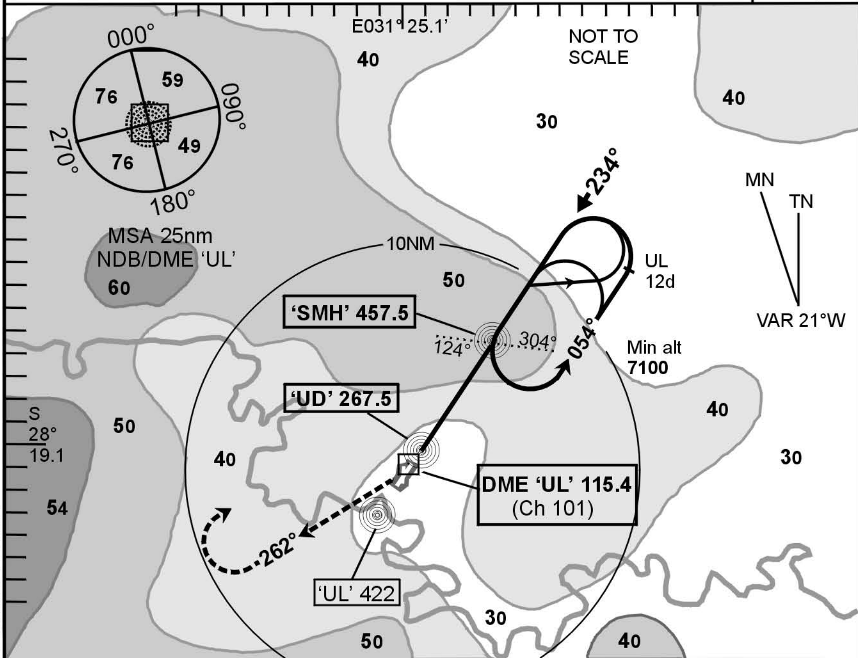
Rev: Topo clearance heights and MSA reviewed. Chart #. | WGS-84

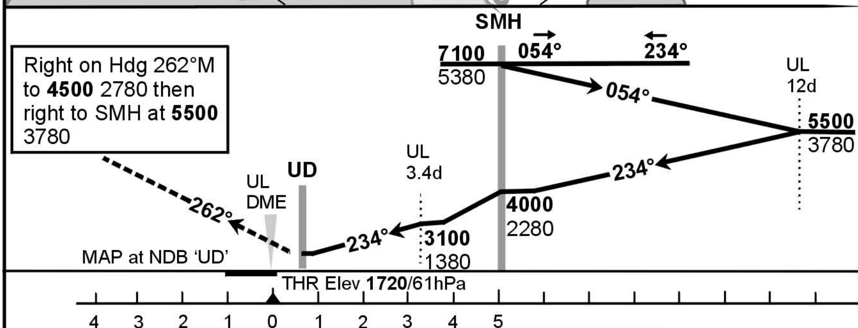
Elev 1720	OCH: 527	(PRINCE MANGOSUTHO BUTHELEZI) **ULUNDI**
		(Cat A, B, C) BREAKCLOUD 2 NDB/DME 23

FAUL

ULUNDI
124.8 (Common traffic advisory)

NDB-02
EFF 08 July 04





—	T.Lev	ATC
	T.Alt	7100
	kt	fpm

kt	fpm	3.4d — THR
200	1270	
180	1150	
160	1020	1:16
140	890	1:27
120	760	1:42
100	640	2:02
80	510	2:33

1. **This procedure is conducted outside controlled airspace, entirely at the discretion of the pilot in command.**
2. Initial approach altitude **7100** or higher MSA.
3. Procedure turn approach applicable only within 30° of the outbound heading. Use phraseology 'Executing procedure turn approach'.
4. RoD from UL 3.4d computes at 3.6° angle of descent.
5. Circle to land at the discretion of the pilot in command.
6. RWY 20: Landing prohibited
   RWY 02: Take-off prohibited.

Advisory Alt/Hgt

UL DME		
3.4d	**3100**	1380
3d	**2950**	1230
2d	**2570**	850

Rev: Topo clearance heights and MSA reviewed. Chart #.

WGS-84