

FAAB

Apt Elev 98'

S28 34.4 E016 32.1

JEPPESEN ALEXANDER BAY, S AFR REP

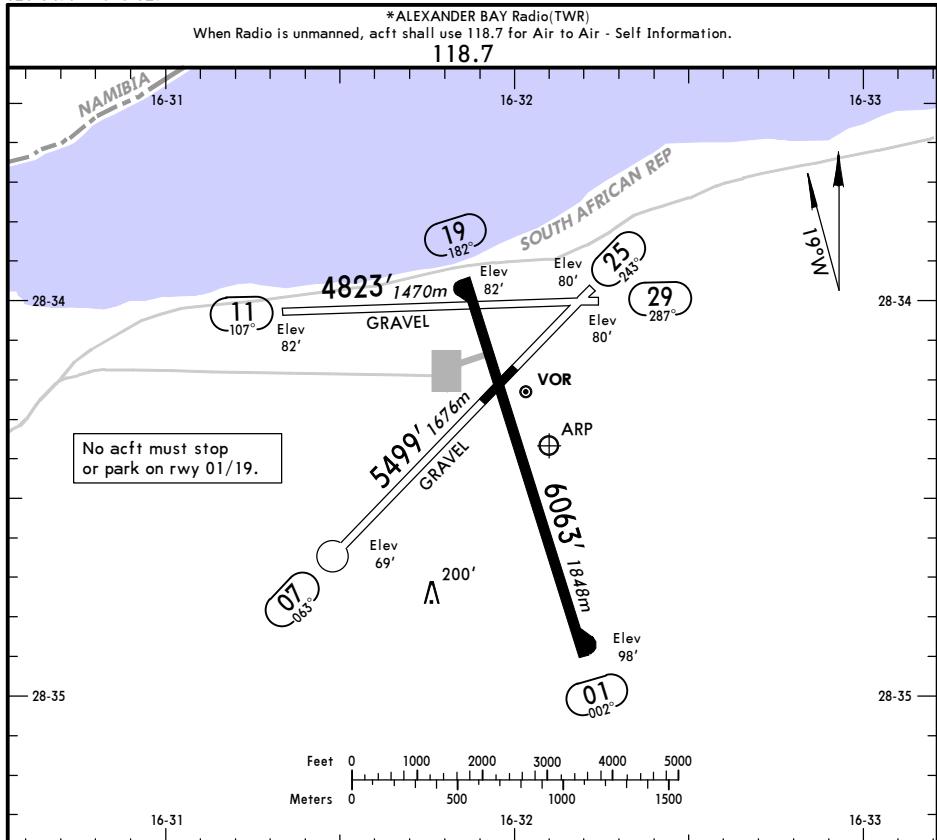
2 MAY 14 10-9

ALEXANDER BAY

\*ALEXANDER BAY Radio(TWR)

When Radio is unmanned, a/cft shall use 118.7 for Air to Air - Self Information.

118.7



## ADDITIONAL RUNWAY INFORMATION

## USABLE LENGTHS

RWY	HIRL (100m)	LANDING BEYOND		TAKE-OFF	WIDTH
		Threshold	Glide Slope		
01					151' 46m
19	HIRL (100m)				
07					118' 36m
25					
11					115' 35m
29					

## JAR-OPS

## TAKE-OFF 1

## All Rwy's

LVP must be in Force

RCLM (DAY only)  
or RLRCLM (DAY only)  
or RLNIL  
(DAY only)

A	250m	400m	500m
B			
C			
D	NOT APPLICABLE		

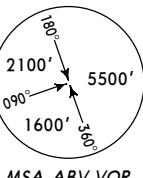
1 Operators applying U.S. Ops Specs: CL required below 300m.

FAAB/ALJ  
ALEXANDER BAY

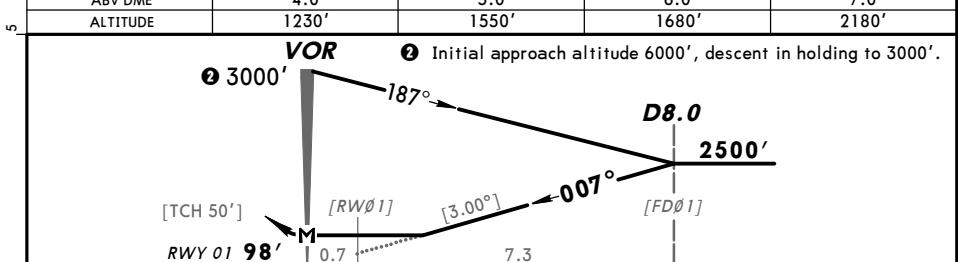
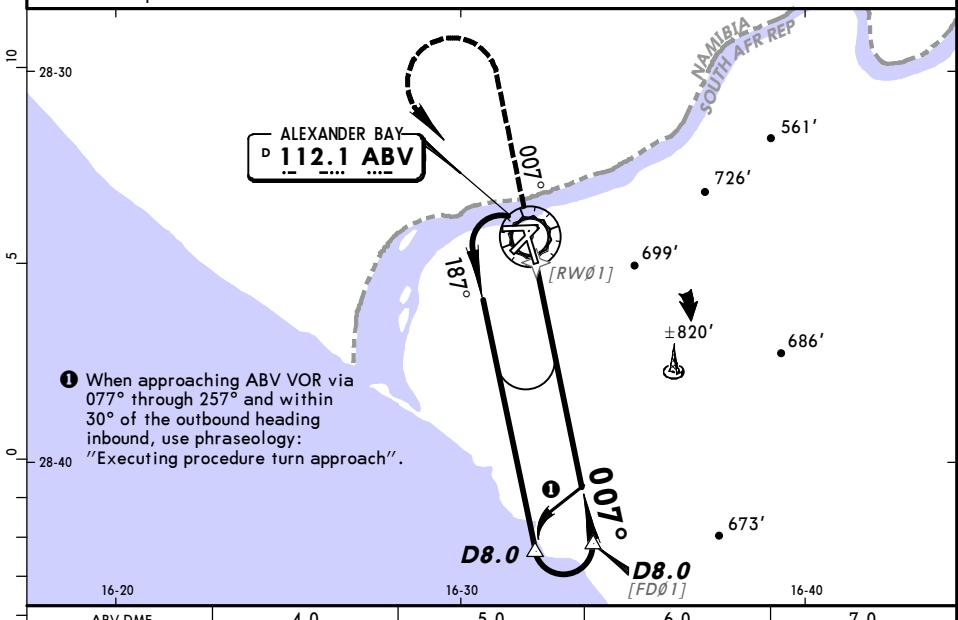
JEPPESEN ALEXANDER BAY, S AFR REP  
2 MAR 07 13-1 CAT A, B & C  
Eff 15 Mar VOR-A Rwy 01

\*ALEXANDER BAY Radio (TWR)  
When Radio is unmanned, acft shall use 118.7 for Air to Air - Self Information  
118.7

VOR ABV <b>112.1</b>	Final Apch Crs <b>007°</b>	Minimum Alt <b>D8.0</b> <b>2500'</b> (2402')	MDA(H) <b>1370'</b> (1272')	Apt Elev <b>98'</b> RWY <b>98'</b>
MISSING APCH: Climb STRAIGHT AHEAD to 3000', then turn LEFT to VOR.				



Alt Set: hPa Rwy Elev: 4 hPa Trans level: By ATC Trans alt: 6000'  
1. DME required. 2. Approach procedure is conducted outside controlled airspace and entirely at the discretion of pilot-in-command.



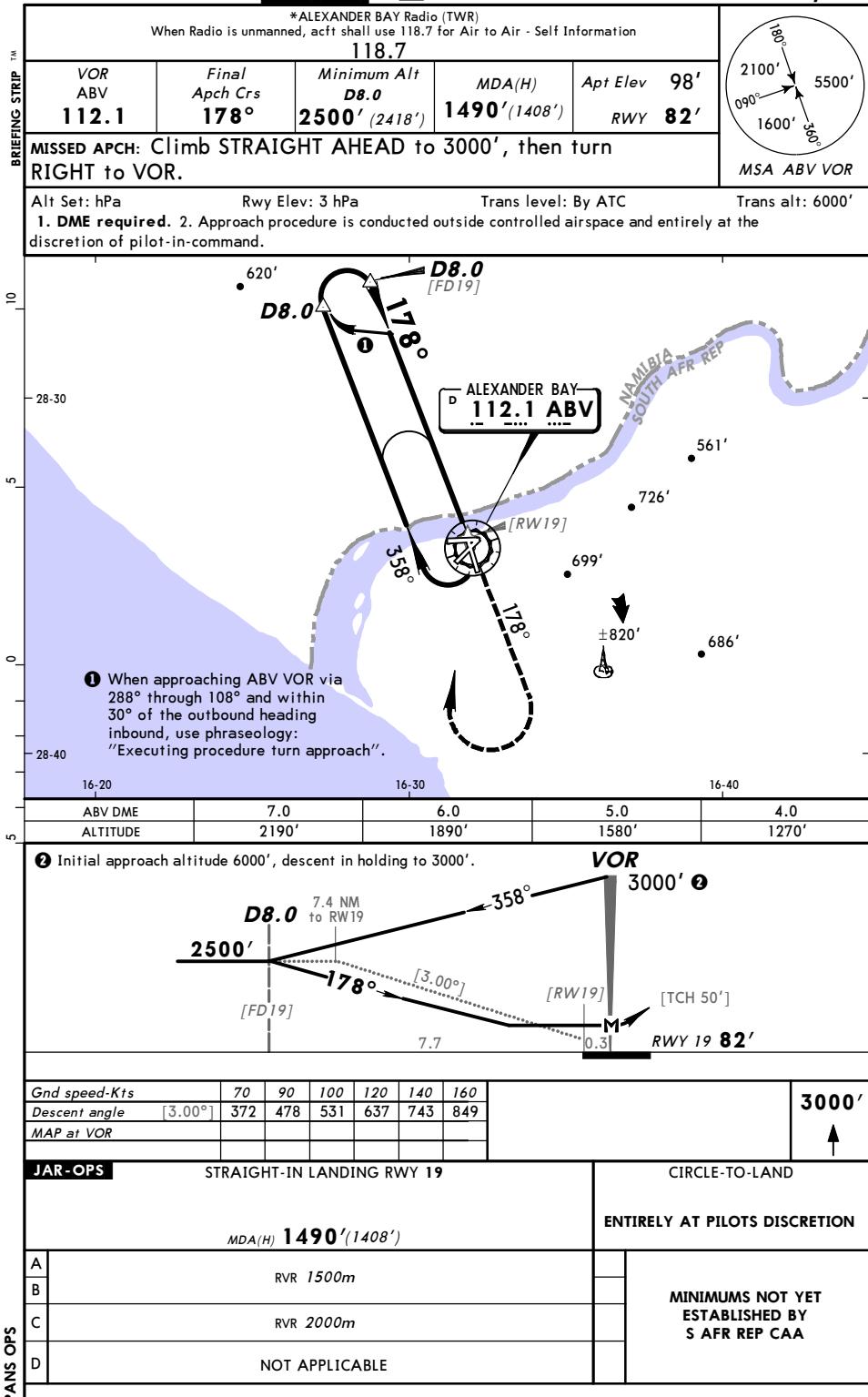
Gnd speed-Kts	70	90	100	120	140	160		3000'
Descent angle	[3.00°]	372	478	531	637	743		
MAP at VOR								

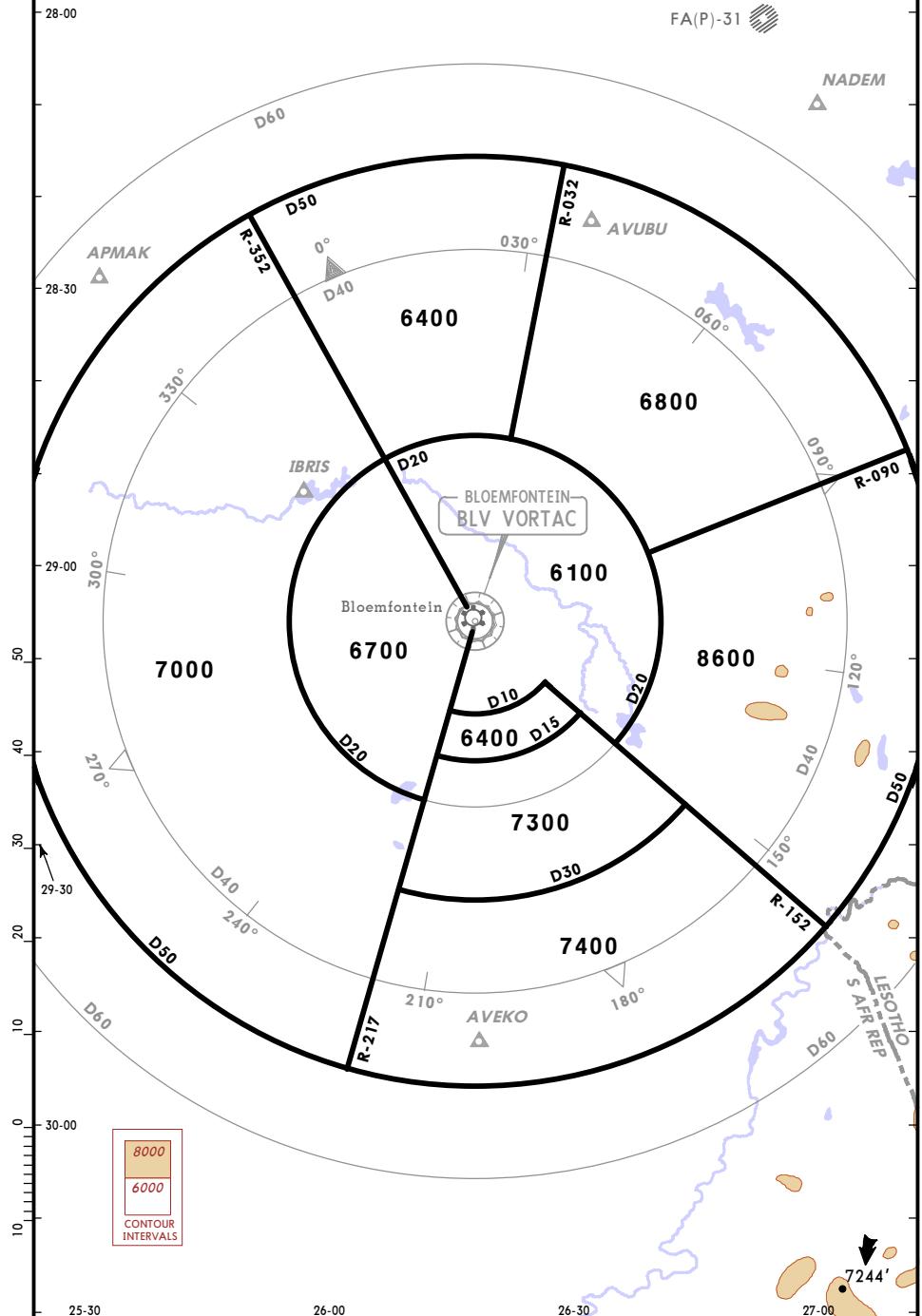
JAR-OPS		STRAIGHT-IN LANDING RWY 01		CIRCLE-TO-LAND	
MDA(H) <b>1370'</b> (1272')				ENTIRELY AT PILOTS DISCRETION	
A		RVR 1500m			
B					
C		RVR 2000m			
D		NOT APPLICABLE			
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA					

PANS OPS

CHANGES: Procedure title. Procedure.

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\*BLOEMFONTEIN Approach (R)  
124.3Apt Elev  
4457'Alt Set: hPa Trans level: By ATC Trans alt: 8000'  
Radar minimum altitude 5500' (1000' QFE) up to D20 BLV,  
thereafter 6000' (1500' QFE).

**NOISE ABATEMENT****LT minus 2 HOURS = UTC (Z)****DEPARTURES**

The below procedures apply to jet ACFT and may be disregarded if at 3000' AGL or when leveled off by ATC or when leveled by SID.

Take-off to 1500' AGL - Take-off power.

- Take-off flaps.

- Climb at  $V_2 + 10$  to 20 KT or as limited by body angle.

- Depending on ACFT type, the take-off power/thrust may be reduced at a lower height.

At 1500' AGL - Reduce thrust to not less than climb power/thrust.

1500' to 3000' AGL - Climb at  $V_2 + 10$  to 20 KT.

At 3000' AGL - Accelerate smoothly to en-route climb speed with flap retraction on schedule.

No jet ACFT are to use RWY or TWY intersection for take-off between 2200-0600LT.

**RUN-UP TESTS**

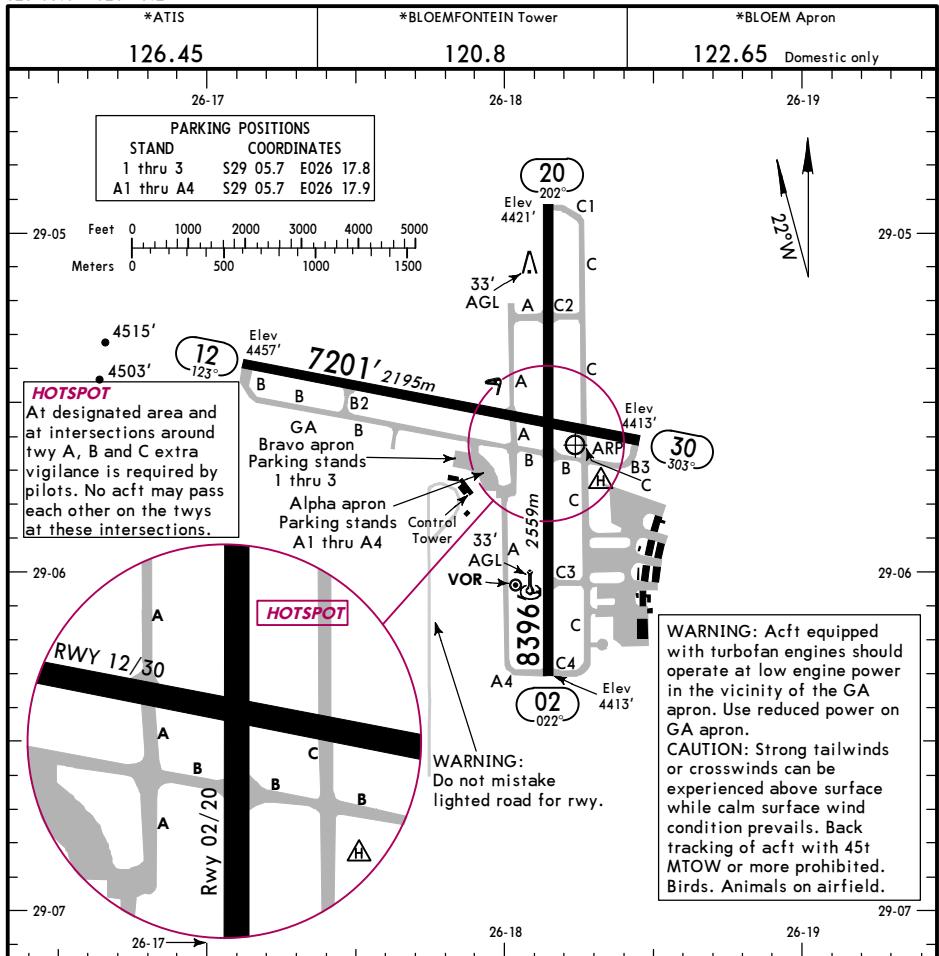
Engine run-ups on the apron will only be permitted with the authorization of the aerodrome chief.

329 05.0 E020 10.2

28 MAR 14 (10-9)

Eff 3 Apr

BRAM FISCHER INTL



#### **ADDITIONAL RUNWAY INFORM**

RWY		USABLE LENGTHS			TAKE-OFF	WIDTH
		Threshold	Glide Slope			
02	20	❶ HIRL (60m) PAPI-L(angle 3.0°)				151' 46m
12	30	❷ HIRL (60m) PAPI-L(angle 3.2°) ❸ HIRL (60m) PAPI-R(angle 2.7°)				151' 46m

- ① Activate on 120.8. Key mike 3 times within 4 seconds.
  - ② Activate on 120.8. Key mike 5 times within 4 seconds.

JAR-OPS

TAKE-OFF 1 & DEPARTURE PROCEDURE

<b>LVP must be in Force</b>		<b>All Rwy's</b>
A	RCLM (DAY only) or RL	RCLM (DAY only) or RL
B	250m	400m
C		
D	300m	500m

**1** Operators applying U.S. Ops Specs: CL required below 300m.

#### **DEPARTURE PROCEDURE**

Make right-hand circuit after T/O rwy 30 or as directed by ATC.

## **NOISE ABATEMENT PROCEDURE**

No engine run-ups will be allowed on the apron w/o permission from AD chief.

<b>STRAIGHT-IN RWY</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>02</b>	VOR ① <b>5070'(657')</b> <b>R1500m</b>	<b>5070'(657')</b> <b>R1500m</b>	<b>5070'(657')</b> <b>C3000m</b>	<b>5070'(657')</b> <b>C3000m</b>
<b>20</b>	VOR ① <b>5000'(579')</b> <b>R1500m</b>	<b>5000'(579')</b> <b>R1500m</b>	<b>5000'(579')</b> <b>C2400m</b>	<b>5000'(579')</b> <b>C2400m</b>

① Continuous Descent Final Approach.

<b>CIRCLE-TO-LAND</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	ENTIRELY AT PILOTS DISCRETION MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA			

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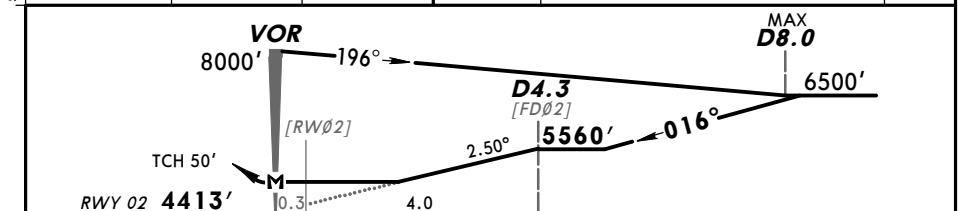
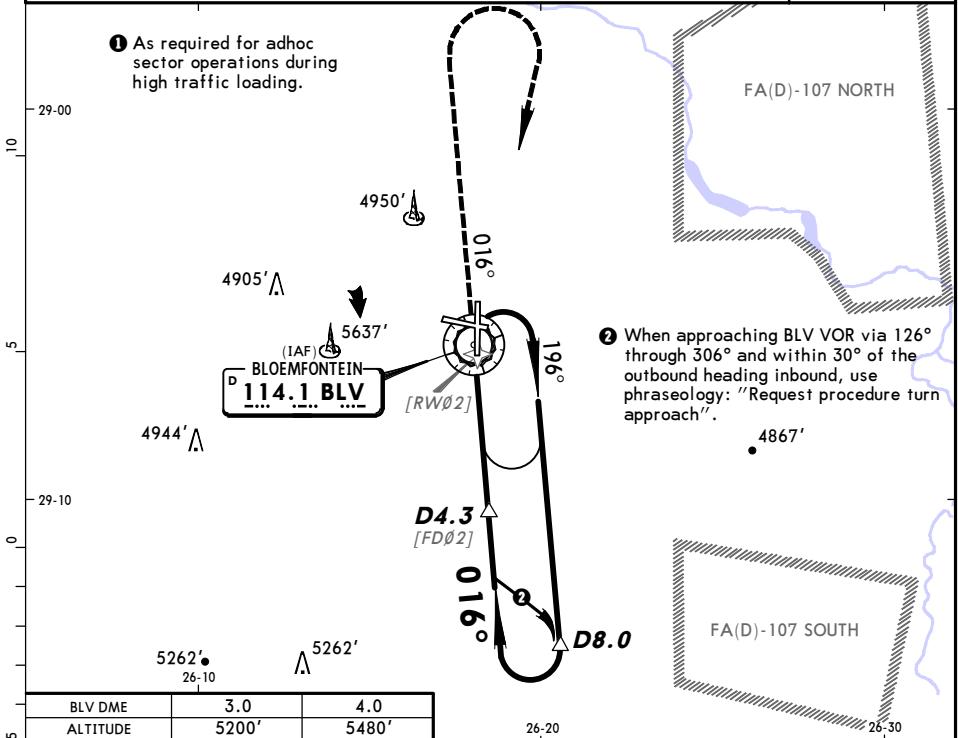
### **TAKE-OFF RWY 02, 12, 20, 30**

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<b>LVP must be in force</b>			
	<b>RCLM (DAY only) or RL</b>	<b>RCLM (DAY only) or RL</b>	<b>NIL (DAY only)</b>
A			
B	250m		
C		400m	500m
D	300m		

28 MAR 14 13-1 Eff 3 Apr

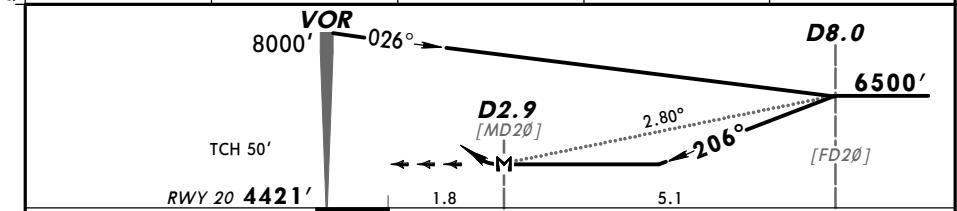
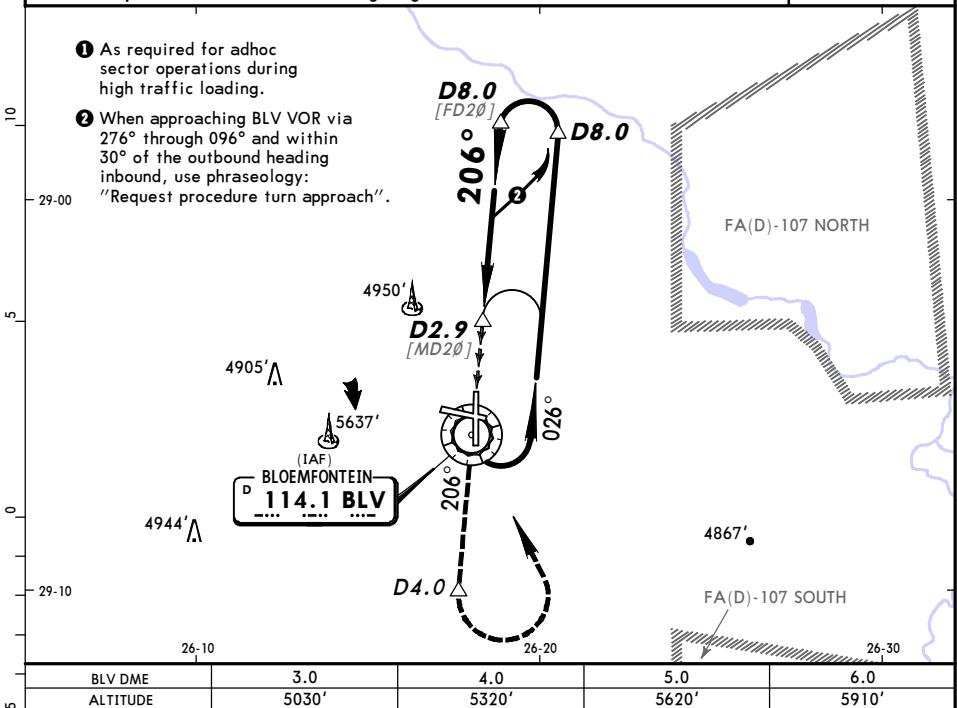
*ATIS	*BLOEMFONTEIN Approach (R)		*BLOEMFONTEIN Approach (R) ①	*BLOEMFONTEIN Tower
126.45	124.3	119.4	West 124.3	120.8
VOR BLV 114.1	Final Apch Crs 016°	Minimum Alt D4.3 5560' (1147')	MDA(H) 5070' (657')	Apt Elev 4457' RWY 4413'
MISSED APCH: Climb on R-016 outbound to 8000', then turn RIGHT to VOR, or as directed.				7800' MSA BLV VOR



Gnd speed-Kts	70	90	100	120	140	160		PAPI-L	BLV on 114.1 R-016
Descent Angle	2.50°	310	398	442	531	619			
MAP at VOR									

JAR-OPS STRAIGHT-IN LANDING RWY 02		CIRCLE-TO-LAND
MDA(H) 5070' (657')		ENTIRELY AT PILOTS DISCRETION
A	RVR 1500m	
B		
C	RVR 2000m	
D		
		MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA

*ATIS	*BLOEMFONTEIN Approach (R)		*BLOEMFONTEIN Approach (R) ①		*BLOEMFONTEIN Tower
126.45	124.3	West 119.4	East 124.3		120.8
VOR BLV <b>114.1</b>	Final Apch Crs <b>206°</b>	Minimum Alt <b>D8.0</b> <b>6500' (2079')</b>	MDA(H) <b>5000' (579')</b>	Apt Elev 4457' RWY 4421'	
MISSING APCH: Climb STRAIGHT AHEAD via VOR on R-206 to 8000'. At D4.0 turn LEFT to VOR, or as directed.					
Alt Set: hPa Rwy Elev: 152 hPa Trans level: By ATC Trans alt: 8000' 1. DME required. 2. Pilot controlled lighting 120.8.					
MSA BLV VOR					



JAR-OPS	Straight-in Landing RWY 20	Circle-to-Land
ENTIRELY AT PILOTS DISCRETION		

A	RVR 1500m	
B		
C	RVR 2000m	
D		

MINIMUMS NOT YET ESTABLISHED  
BY S AFR REP CAA

**FABM**  
Apt Elev 5561'

**JEPPESEN**

17 NOV 00 (16-1)

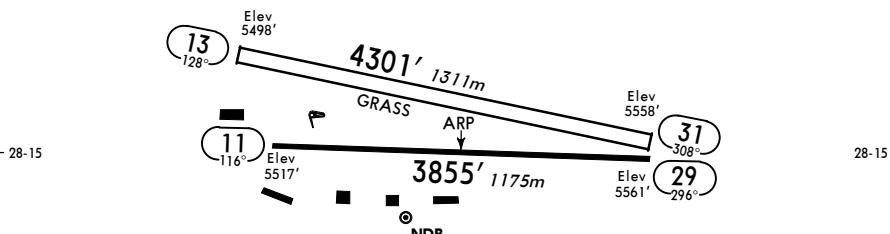
**BETHLEHEM, S AFR REP**

**BETHLEHEM**

S28 15.0 E028 20.0

**BETHLEHEM**  
(Air to Air Self-Information)  
**124.8**

28-20



Feet 0 500 1000 1500 2000 2500 3000  
Meters 0 200 400 600 800 1000

28-20

ADDITIONAL RUNWAY INFORMATION

USABLE LENGTHS

RWY	MIRL	LANDING BEYOND		TAKE-OFF	WIDTH
		Threshold	Glide Slope		
11					49' 15m
29	MIRL				
13					151' 46m
31					

JAR-OPS

TAKE-OFF 1

All Rwy's

LVP must be in Force

RCLM (DAY only)  
or RL

RCLM (DAY only)  
or RL

NIL  
(DAY only)

A

250m

400m

500m

B

C

D

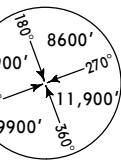
NOT APPLICABLE

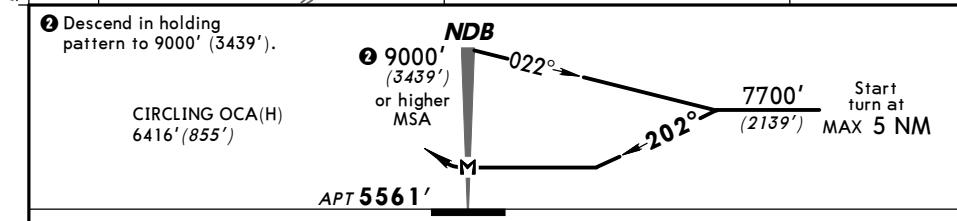
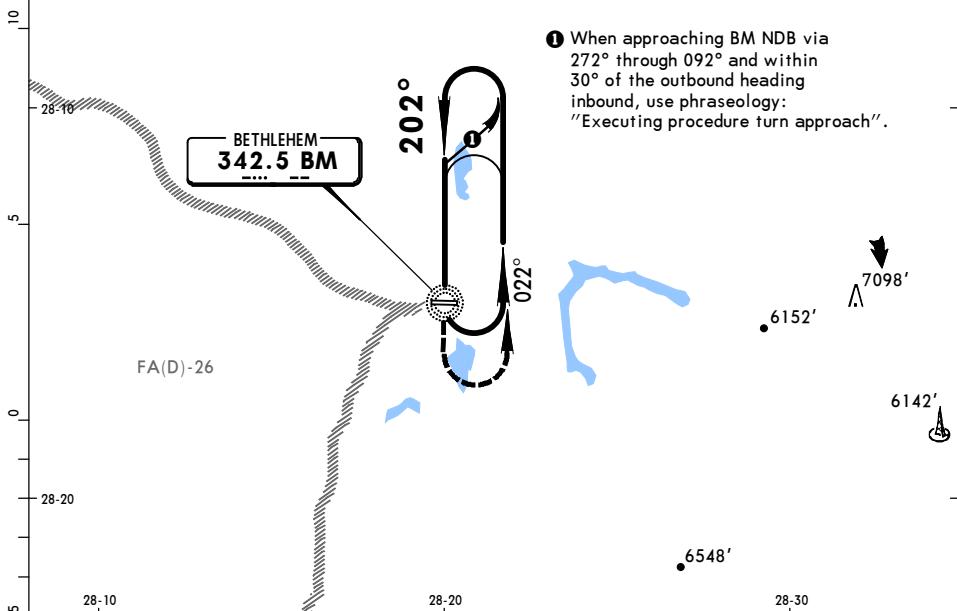
Operators applying U.S. Ops Specs: CL required below 300m.

FABM  
BETHLEHEM

JEPPESEN BETHLEHEM, S AFR REP  
17 NOV 00 (16-1) CAT A & B CLOUD BREAK PROCEDURE NDB

BETHLEHEM  
(Air to Air Self-Information)  
124.8

NDB BM <b>342.5</b>	Final Apch Crs <b>202°</b>	Minimum Alt No FAF	MDA(H) <b>6420' (859')</b>	Apt Elev <b>5561'</b>	 MSA BM NDB
MISSING APCH: Climbing turn LEFT onto heading 022° to 9000', then turn LEFT and return to NDB.					
Alt Set: hPa Apt Elev: 188 hPa Trans level: By ATC Trans alt: 9000' (3439') 1. CAUTION: High ground and microwave tower West of AD approx 2 NM from THR Rwy 11 and 13. 2. Approach procedure is conducted outside controlled airspace and entirely at the discretion of the pilot-in-command.					



MAP at NDB	9000' onto hdg	CIRCLE-TO-LAND
JAR-OPS	ENTIRELY AT PILOTS DISCRETION	
	Max Kts	MDA(H) VIS
A	100	<b>6420' (859')</b> 1500m
B	135	<b>6420' (859')</b> 1600m
C		NOT APPLICABLE
D		

PANS OPS CHANGES: Apt elev. Procedure bearings. OCA(H). © JEPPESEN SANDERSON, INC., 2000. ALL RIGHTS RESERVED.

## 1. GENERAL

### 1.1. ATIS

D-ATIS 127.0

### 1.2. SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM

#### 1.2.1. GENERAL

Landing ACFT contact APRON prior to top of descent or when within VHF range for parking bay allocation. Parking bays to be confirmed upon landing.

ACFT must advise registration estimated time of arrival, persons on board and last APT of departure.

Parking bay info and registration is to be transmitted to GROUND on vacating RWY for taxi instructions.

Before entering the apron contact APRON to verify gate is still available.

#### 1.2.2. OPERATION OF MODE S TRANSPONDER

In order to prevent the potential risk for Multilateration (MLAT) false targets, aircrew shall adhere to the following procedures:

- ACFT operators shall ensure that Mode S transponders are able to operate when an ACFT is on the ground, transmitting Mode S squitter and replying to Mode S addressed interrogations only.
- When an ACFT is on the ground, the transponder shall be inhibited to reply to Mode S all-call interrogation and replies to Mode A/C interrogations shall also be suppressed.
- Flight crew shall select the assigned Mode A (squawk) code and activate the Mode S transponder at the request for pushback or taxi, whichever is first, and after landing until reaching the ACFT stand.
- The transponder shall be switched off immediately after parking.
- Activation of a Mode S transponder normally means selecting the AUTO or XPDR position and transponders provided with on-the-ground sensors are automatically switched in this function before take-off and after landing. If using a transponder not fitted with an on-ground-sensor then refer to the operator's guide. Selection of STAND-BY mode will not activate the Mode S transponder and selecting ON could override the required suppression of SSR Mode A replies and Mode S all-call replies when an ACFT is on the ground.

### 1.3. TAXI PROCEDURES

ACFT with wingspan of 171'/52m or more must use apron TWYs to only access stands on main aprons and not as a thoroughfare. ACFT using apron TWYs must reduce taxi speed to 10 KT or below.

Exercise CAUTION while using TWY T due to no markings and lights.

Exercise CAUTION on TWY H as not managed by GROUND. Contact to be established with GROUND prior to passing security gate.

ACFT with wingspan 171'/52m or greater must use apron TWYs only to access the ACFT stands on the main aprons and not as a thoroughfare due to reduced wing-tip clearance. ACFT using apron TWYs must reduce taxi speed to 10 knots or below.

Due to proximity of service road to stand B10, ACFT that power out of this stand must adhere to the taxi guide line markings.

### 1.4. PARKING INFORMATION

Docking guidance system available at stands A3 thru A17.

### 1.5. OTHER INFORMATION

Paragliding in vicinity of APT.

## 2. ARRIVAL

### 2.1. CAT II/III OPERATIONS

RWY 01 approved for CAT II/III and RWY 19 for CAT II operations, special air-crew and ACFT certification required.

### 2.2. RWY OPERATIONS

When RWY 19 is in use all arriving ACFT expect clearance for ILS Z procedure unless otherwise directed by ATC.

## 3. DEPARTURE

### 3.1. GENERAL

Departing ACFT contact Clearance Delivery to receive ATC clearance Monday to Friday 0530-1900LT, SAT and SUN 0700-1900LT. Outside ops hours contact GROUND.

Pilots contact APRON advising destination and number of persons on board.

### 3.2. START-UP & PUSH-BACK PROCEDURES

Prior to start-up the following info has to be passed to GROUND:

- Call sign;
- ACFT registration;
- Flight level requested;
- Parking bay.

ACFT are not to request push-back until the TUG is connected and ready to push.

An ACFT will commence push-back within 1 min of being given push-back.

Pilot is deemed responsible for the push-back and is to ensure that no incidents arise.

Essential traffic info will be passed by ATC to pilot-in-command for onward relay to engineer.

All ACFT in addition will monitor on APRON frequency whilst on the aprons.

ACFT that power out of bay B10 must adhere to the taxi guideline markings.

### 3.3. NOISE ABATEMENT PROCEDURES

The below procedures apply to jet ACFT and may be disregarded if at 3160' or when leveled off by ATC or when leveled by SID.

Take-off to 1660'     - Take-off power;  
                          - Take-off flaps;  
                          - Climb at  $V_2 + 10$  to 20 KT or as limited by body angle.  
                          - Depending on ACFT type, the take-off power/thrust may be reduced at a lower height.

At 1660'            - Reduce thrust to not less than climb power/thrust.

1660' to 3160'     - Climb at  $V_2 + 10$  to 20 KT.

At 3160'            - Accelerate smoothly to en-route climb speed with flap retraction on schedule.

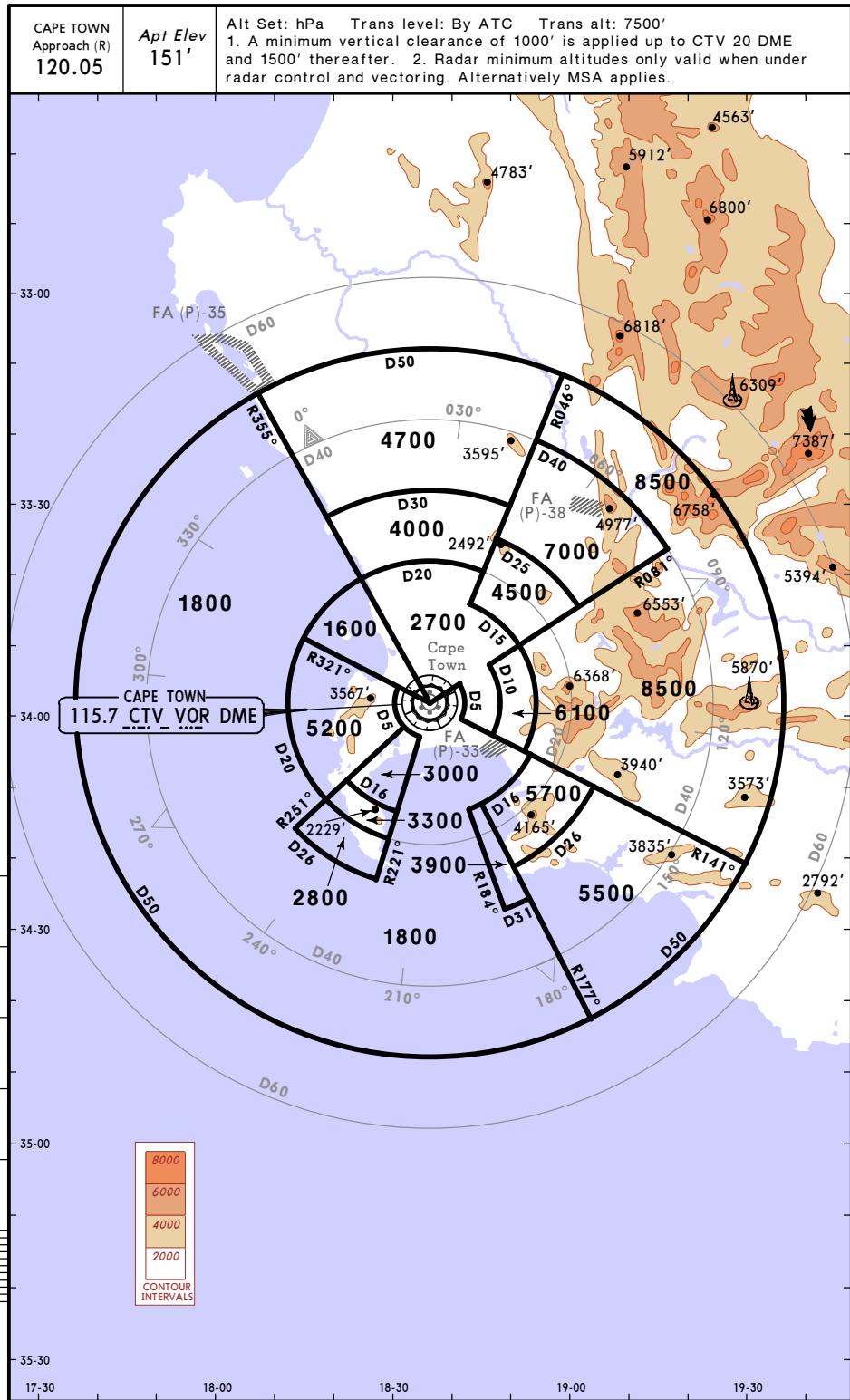
No jet ACFT are to use RWY or TWY intersection for take-off between 2200-0600LT.

Avoid overflying of Tygerberg hospital, 3 NM North of AD, when taking off from RWY 01 and 34.

Between 2200-0600LT engine run-ups are not allowed, unless in emergency.

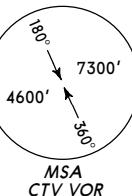
### 3.4. OTHER INFORMATION

**CAUTION:** Do not confuse THR 16 for THR 19 when taxiing on TWY A1 for take-off RWY 19.

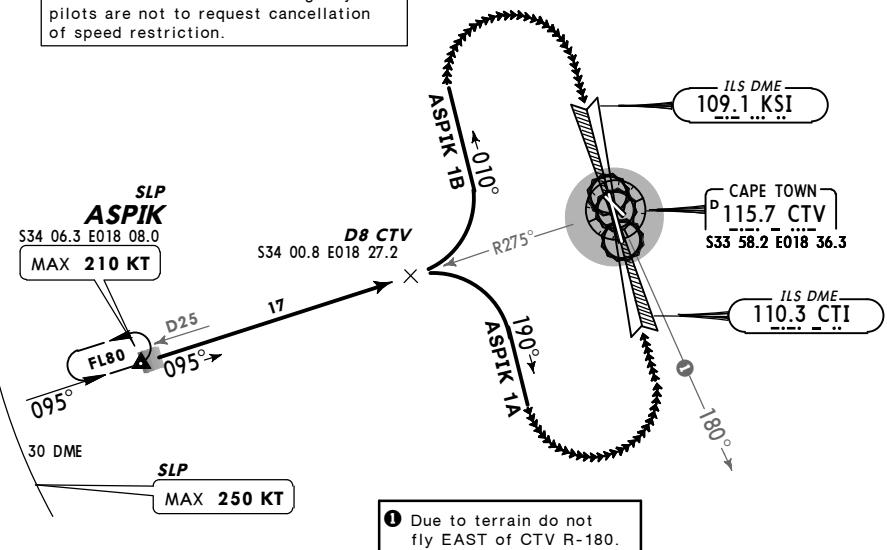


ATIS 127.0	Apt Elev 151'	Alt Set: hPa Trans level: By ATC Trans alt: 7500' 1. STARs include minimum noise routings. 2. SIDs and STARs must be announced on ATIS and will only be in force when Surveillance RADAR is operational. 3. If unable to comply with STAR advise ATC. 4. Only aircraft equipped to comply with part 91-34 RoA may accept procedures overflying the ocean.
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**ASPIK 1A [ASPI1A]**  
**ASPIK 1B [ASPI1B]**  
**RWYS 01, 19 ARRIVALS**



**SPEED LIMIT POINTS (SLP)**  
 If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restriction.



LOST COMMS LOST COMMS

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL100, whichever is higher, comply with appropriate STAR communication failure procedure.

**Before ASPIK:** Proceed to ASPIK and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to 6500', leave ASPIK on "After ASPIK" procedure.

#### ASPIK 1A

**After ASPIK:** Continue on STAR, maintain 6500', when passing CTV R-225 on 190° track turn LEFT to CTV. When reaching CTV complete VOR DME ILS approach.

#### ASPIK 1B

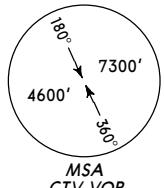
**After ASPIK:** Continue on STAR, maintain last assigned FL, when passing CTV R-320 on 010° track turn RIGHT to CTV, descend to 6500'. When reaching CTV complete VOR DME ILS approach.

STAR	RWY	ROUTING
<b>ASPIK 1A</b>	<b>01</b>	Intercept CTV R-275 inbound to D8 CTV, turn RIGHT, 190° track for RADAR vectoring to ILS.
<b>ASPIK 1B</b>	<b>19</b>	Intercept CTV R-275 inbound to D8 CTV, turn LEFT, 010° track for RADAR vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

**Rwy 01:** To E TETAN 1C; to SE OKTED 1A; to N KODES 1A.

**Rwy 19:** To E TETAN 1B; to SE OKTED 1B; to N & NW KODES 1B.

D-ATIS 127.0	Apt Elev 151'	Alt Set: hPa Trans level: By ATC Trans alt: 7500' 1. STARs include minimum noise routings. 2. SIDs and STARs must be announced on ATIS and will only be in force when Surveillance RADAR is operational. 3. If unable to comply with STAR advise ATC. 4. Only aircraft equipped to comply with part 91-34 RoA may accept procedures overflying the ocean.	
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## ERDAS 1A [ERDA1A] RWY 01 ARRIVAL

▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST

LOST If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or

► FL100, whichever is higher, comply with appropriate STAR communication failure procedure.

**Before ERDAS:** Proceed to ERDAS and enter holding, hold at last assigned FL for minimum 5 minutes, then climb/descend to FL100, leave ERDAS on "After ERDAS" procedure.

► **After ERDAS:** Continue on STAR, maintain last assigned FL, when passing CTV R-156 on 190° track turn RIGHT to CTV, climb/descend to 6500'. When reaching CTV complete VOR DME ILS approach.

TO SIA DOWN TO SIA DOWN TO SIA DOWN TO SIA DOWN TO SIA

LOST COMMS  
LOST COMMS  
LOST COMMS

ERDAS  
S33 24.8 E019 11.2

FL100  
245°  
245°  
244.2  
14.2

SLP  
D30 CTV  
MAX  
250 KT

### SPEED LIMIT POINTS (SLP)

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.

CAPE TOWN  
D 115.7 CTV  
S33 58.2 E018 36.3

SLP  
D8 CTV  
S33 52.2 E018 42.7

MAX  
210 KT

NOT TO SCALE

ILS DME  
110.3 CTI

R065°  
190°

8000  
CTV 16 DME

### ROUTING

Intercept CTV R-065 inbound to D8 CTV, turn LEFT, 190° track for RADAR vectoring to ILS.

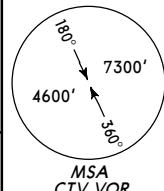
In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

To E TETAN 1C; to SE OKTED 1A; to N KODES 1A.

1 To avoid high ground, when established on 190° track and below 5700', do not exceed CTV 16 DME.

D-ATIS  
127.0Apt Elev  
151'

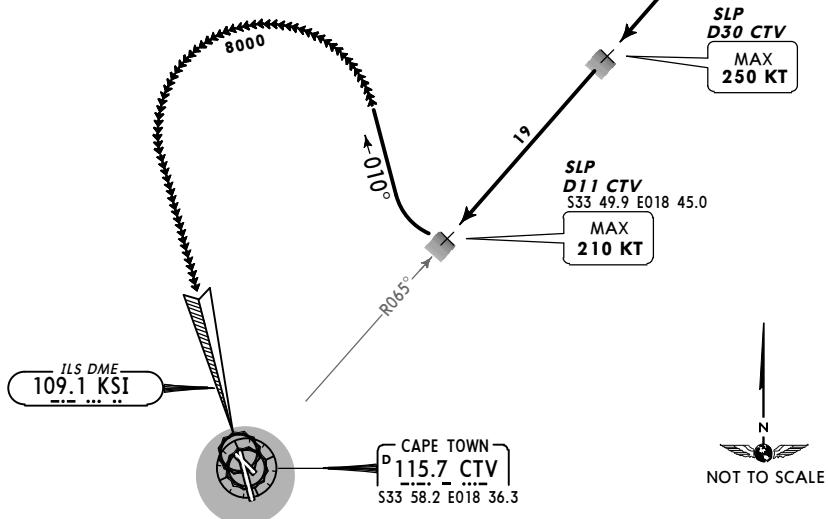
Alt Set: hPa Trans level: By ATC Trans alt: 7500'  
 1. SIDs and STARs must be announced on ATIS and will only be in force when Surveillance RADAR is operational.  
 2. If unable to comply with STAR advise ATC.  
 3. Only aircraft equipped to comply with part 91-34 RoA may accept procedures overflying the ocean.



## ERDAS 1B [ERDA 1B] RWY 19 ARRIVAL

### SPEED LIMIT POINTS (SLP)

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.



LOST COMMS  
 If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL100, whichever is higher, comply with appropriate STAR communication failure procedure.

**Before ERDAS:** Proceed to ERDAS and enter holding, hold at last assigned FL for minimum 5 minutes, then climb/descend to FL100, leave ERDAS on "After ERDAS" procedure.

**After ERDAS:** Continue on STAR, maintain last assigned FL, when passing CTV R-035 on 010° track turn LEFT to CTV, descend to 6500'. When reaching CTV complete VOR DME ILS approach.

DOWN TO SW DOWN TO SW

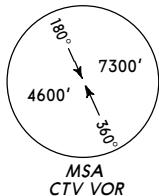
### ROUTING

Intercept CTV R-065 inbound to D11 CTV, turn RIGHT, 010° track for RADAR vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

To E TETAN 1B; to SE OKTED 1B; to N & NW KODES 1B.

ATIS 127.0	Apt Elev 151'	Alt Set: hPa Trans level: By ATC Trans alt: 7500' 1. STARs include minimum noise routings. 2. SIDs and STARs must be announced on ATIS and will only be in force when Surveillance Radar is operational. 3. If unable to comply with STAR advise ATC. 4. Only aircraft equipped to comply with part 91-34 RoA may accept procedures overflying the ocean.
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## EVUKI 1A [EVUK1A] RWY 01 ARRIVAL

**EVUKI**  
S33 10.0 E018 21.0

**SLP**  
**D30 CTV**

**MAX 250 KT**

202°  
20  
D37

R022°  
D-17

**SLP**  
**ROBBEN ISLAND**

**D 117.6 RIV**  
S33 48.0 E018 21.9

**MAX 210 KT**

6000  
315°  
170°  
D15.7  
334°  
12

### SPEED LIMIT POINTS (SLP)

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restriction.

⚠ Due to terrain do not fly EAST of CTV R-180.



**CAPE TOWN**  
**P 115.7 CTV**  
S33 58.2 E018 36.3

**ILS DME**

**110.3 CTI**

180°

NOT TO SCALE

LOST COMMS LOST COMMS

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL100, whichever is higher, comply with appropriate STAR communication failure procedure.

**Before EVUKI:** Continue on STAR, then to RIV and enter holding, hold at last assigned FL for minimum 5 minutes, then climb/descend to FL100, leave RIV on "After RIV" procedure.

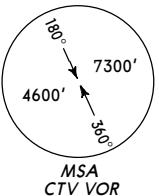
**After RIV:** Continue on RIV 4C STAR, maintain last assigned FL, when passing CTV R-225 on 190° track turn LEFT to CTV, descend to 6500'. When reaching CTV complete VOR DME ILS approach.

### ROUTING

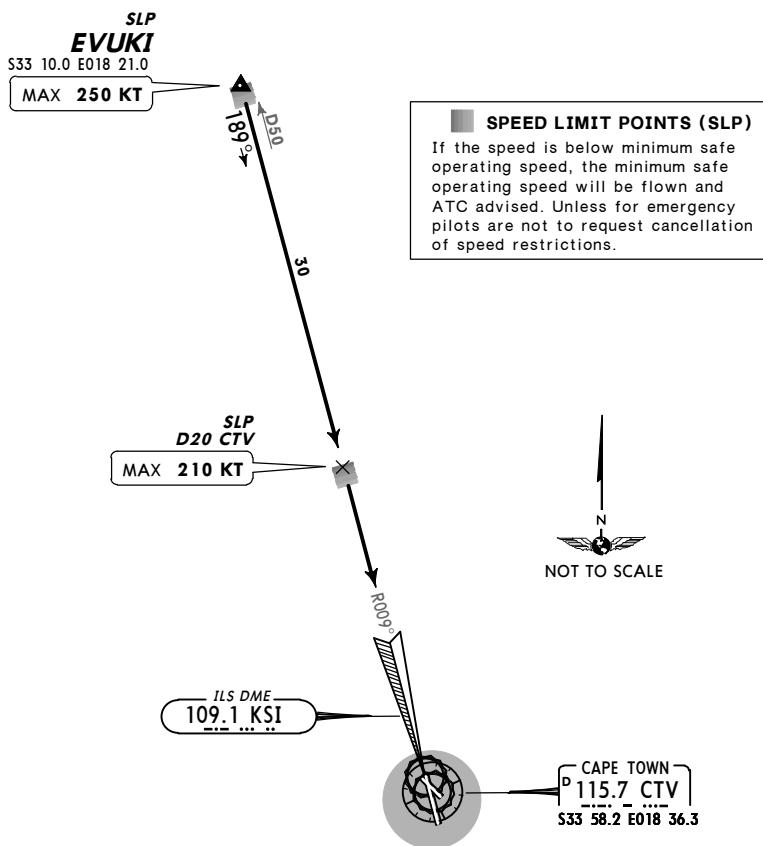
To RIV, RIV R-170 to D12 RIV, turn RIGHT, 190° track for RADAR vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

To E **TETAN 1C**; to SE **OKTED 1A**; to N **KODES 1A**.

D-ATIS 127.0	Apt Elev 151'	Alt Set: hPa Trans level: By ATC Trans alt: 7500' 1. STARs include minimum noise routings. 2. SIDs and STARs must be announced on ATIS and will only be in force when Surveillance RADAR is operational. 3. If unable to comply with STAR advise ATC. 4. Only aircraft equipped to comply with part 91-34 RoA may accept procedures overflying the ocean.	
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## EVUKI 1B [EVUK1B] RWY 19 ARRIVAL



▼ LOST COMMS ▼

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL100, whichever is higher, comply with appropriate STAR communication failure procedure.

**Before EVUKI:** Proceed to EVUKI, continue on STAR and follow "After EVUKI" procedure.

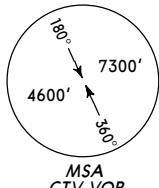
**After EVUKI:** Continue on STAR, maintain last assigned FL or descend to 6500', whichever is lowest. When passing D20 CTV descend to 2700' and complete ILS approach.

### ROUTING

Intercept CTV R-009 inbound to D20 CTV, intercept LOC.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

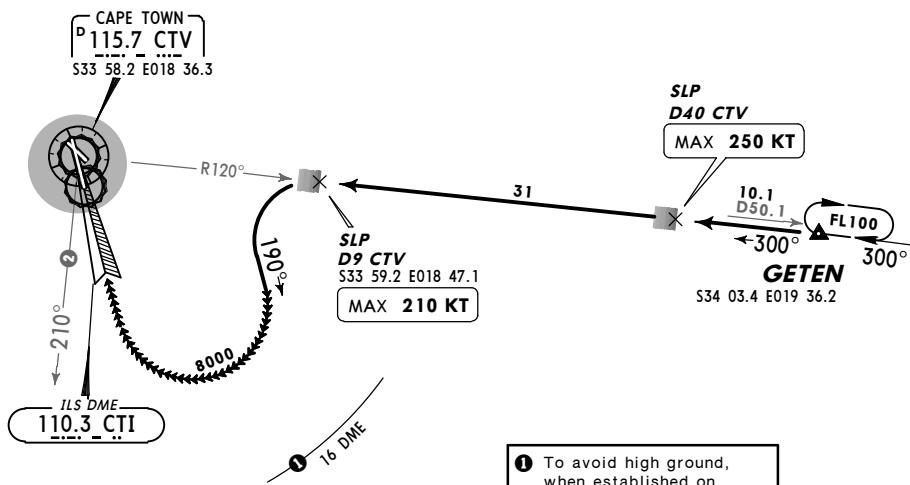
To E **TETAN 1B**; to SE **OKTED 1B**; to N & NW **KODES 1B**.

D-ATIS 127.0	Apt Elev 151'	Alt Set: hPa Trans level: By ATC Trans alt: 7500' 1. STARs include minimum noise routings. 2. SIDs and STARs must be announced on ATIS and will only be in force when Surveillance RADAR is operational. 3. If unable to comply with STAR advise ATC. 4. Only aircraft equipped to comply with part 91-34 RoA may accept procedures overflying the ocean.	
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## GETEN 1A [GETE1A] RWY 01 ARRIVAL



**SPEED LIMIT POINTS (SLP)**  
If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.



LOST COMMS LOST COMMS

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL100, whichever is higher, comply with appropriate STAR communication failure procedure.

**Before GETEN:** Proceed to GETEN and enter holding, hold at last assigned FL for minimum 5 minutes then climb/descend to FL100, leave GETEN on "After GETEN" procedure.

**After GETEN:** Continue on STAR, maintain last assigned FL, when passing CTV R-156 on 190° track turn RIGHT to CTV, descend to 6500'. When reaching CTV complete VOR DME ILS approach.

### ROUTING

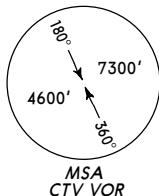
Intercept CTV R-120 inbound to D9 CTV, turn LEFT, 190° track for RADAR vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

To E TETAN 1C; to SE OKTED 1A; to N KODES 1A.

D-ATIS  
127.0Apt Elev  
151'

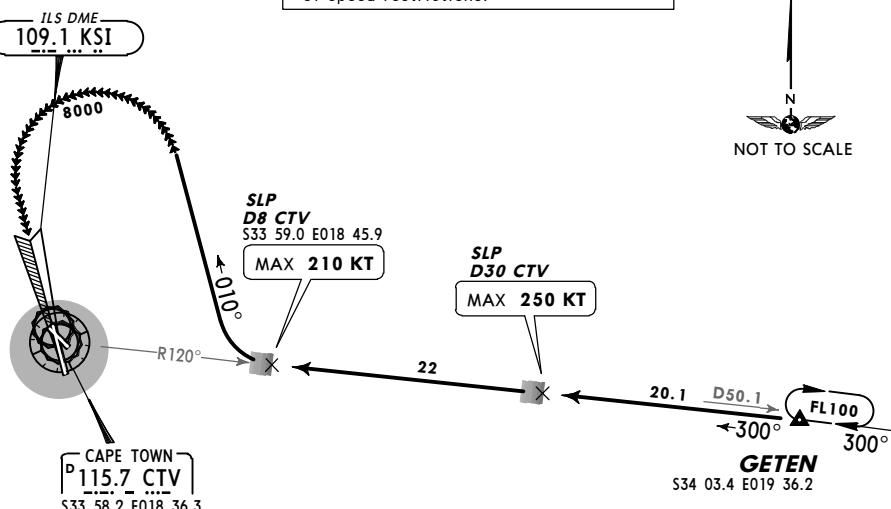
Alt Set: hPa Trans level: By ATC Trans alt: 7500'  
 1. SIDs and STARs must be announced on ATIS and will only be in force when Surveillance RADAR is operational.  
 2. If unable to comply with STAR advise ATC.  
 3. Only aircraft equipped to comply with part 91-34 RoA may accept procedures overflying the ocean.



## GETEN 1B [GETE1B] RWY 19 ARRIVAL

### SPEED LIMIT POINTS (SLP)

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.



LOST COMMS  
 If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL100, whichever is higher, comply with appropriate STAR communication failure procedure.

**Before GETEN:** Proceed to GETEN and enter holding, hold at last assigned FL for minimum 5 minutes, then climb/descend to FL100, leave GETEN on "After GETEN" procedure.

**After GETEN:** Continue on STAR, maintain last assigned FL, when passing CTV R-035 on 010° track turn LEFT to CTV, descend to 6500'. When reaching CTV complete VOR DME ILS approach.

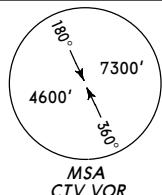
### ROUTING

Intercept CTV R-120 inbound to D8 CTV, turn RIGHT, 010° track for RADAR vectoring to ILS.

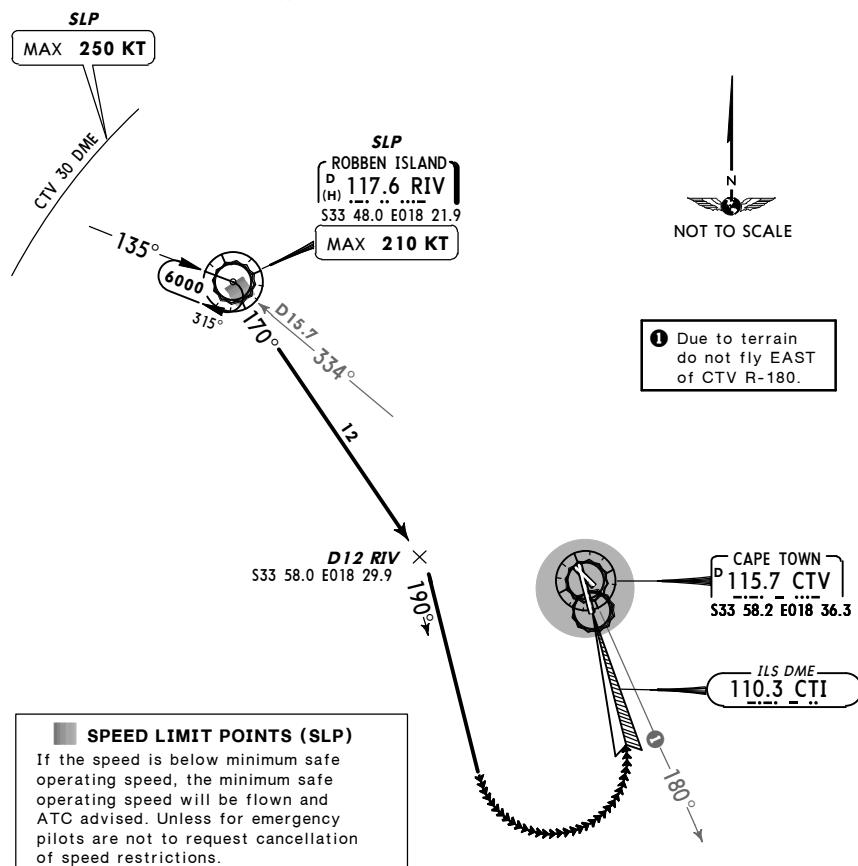
In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

To E TETAN 1B; to SE OKTED 1B; to N & NW KODES 1B.

D-ATIS 127.0	Apt Elev 151'	Alt Set: hPa Trans level: By ATC Trans alt: 7500' 1. STARs include minimum noise routings. 2. SIDs and STARs must be announced on ATIS and will only be in force when Surveillance RADAR is operational. 3. If unable to comply with STAR advise ATC. 4. Only aircraft equipped to comply with part 91-34 RoA may accept procedures overflying the ocean.
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## ROBBEN ISLAND 4C (RIV 4C) RWY 01 ARRIVAL



LOST COMMS LOST COMMS

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL100, whichever is higher, comply with appropriate STAR communication failure procedure.

**Before RIV:** Proceed to RIV and enter holding, hold at last assigned FL for minimum 5 minutes, then climb/descend to FL100, leave RIV on "After RIV" procedure.

**After RIV:** Continue on STAR, maintain last assigned FL, when passing CTV R-225 on 190° track turn LEFT to CTV, descend to 6500'. When reaching CTV complete VOR DME ILS approach.

DOWN TO SLOPE DOWN TO SLOPE

### ROUTING

On RIV R-170 to D12 RIV, turn RIGHT, 190° track for RADAR vectoring to ILS.

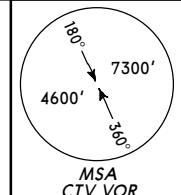
In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

To E TETAN 1C; to SE OKTED 1A; to N KODES 1A.

Apt Elev  
151'

- Trans level: By ATC Trans alt: 7500'  
 1. If unable to comply with SIDs advise ATC.  
 2. Contact CAPE TOWN Approach on frequency provided in ATC clearance at 2000'.  
 3. SIDs and STARs must be announced on ATIS and will only be in force when Surveillance RADAR is operational.  
 4. Cross CTR boundary at or above 2500'.

**IMSMOM 1A [IMSO1A]**  
**IMSMOM 1B [IMSO1B]**  
**RWYS 01, 19 DEPARTURES**  
**SPEED: MAX 250 KT BELOW FL100**



N  
 NOT TO SCALE

**IMSMOM**S33 56.1  
E018 00.5**IMSMOM 1A**

297°

12

**ASPIK**

S34 06.3 E018 08.0

D25 275°

CAPE TOWN  
P 115.7 CTV  
S33 58.2 E018 36.3

S33 58.2

E018 36.3

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E018 36.3

Apt Elev  
151'

- Trans level: By ATC Trans alt: 7500'  
 1. If unable to comply with SIDs advise ATC.  
 2. Contact CAPE TOWN Approach on frequency provided in ATC clearance at 2000'.  
 3. SIDs and STARs must be announced on ATIS and will only be in force when Surveillance RADAR is operational.  
 4. Cross CTR boundary at or above 2500'.

**KODES 1A [KODE1A]  
KODES 1B [KODE1B]  
RWYS 01, 19 DEPARTURES  
SPEED: MAX 250 KT BELOW FL100**

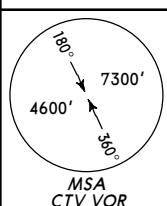
LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼

Comply with SID, maintain last assigned FL.  
 When passing CTV 30 DME climb to flight plan level, at KODES continue as per flight plan. Aircraft wishing to return must continue to SID termination point at FL90, then proceed to ERDAS and comply with the appropriate STAR communication failure procedure.

GOWNS ▶ LOST COMMS

ROBBEN ISLAND  
D 117.6 RIV  
S33 48.0 E018 21.9

NOT TO SCALE

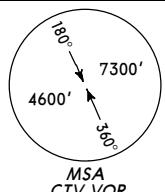


Initial climb clearance FL90, further climb under RADAR control

SID	RWY	ROUTING
KODES 1A	01	On runway track to CTV 3 DME, turn LEFT, 330° track, intercept CTV R-354 to D8 CTV, turn RIGHT, 060° track, intercept CTV R-032 to KODES, continue as per flight plan.
KODES 1B	19	On runway track to CTV 5 DME, turn RIGHT, 240° track, intercept CTV R-210, when passing 5500' turn RIGHT, 335° track, when passing CTV R-250 turn RIGHT to RIV, RIV R-050 to KODES, continue as per flight plan.

Apt Elev  
151'

- Trans level: By ATC Trans alt: 7500'  
 1. If unable to comply with SIDs advise ATC.  
 2. Contact CAPE TOWN Approach on frequency provided in ATC clearance at 2000'.  
 3. SIDs and STARs must be announced on ATIS and will only be in force when Surveillance RADAR is operational.  
 4. Cross CTR boundary at or above 2500'.

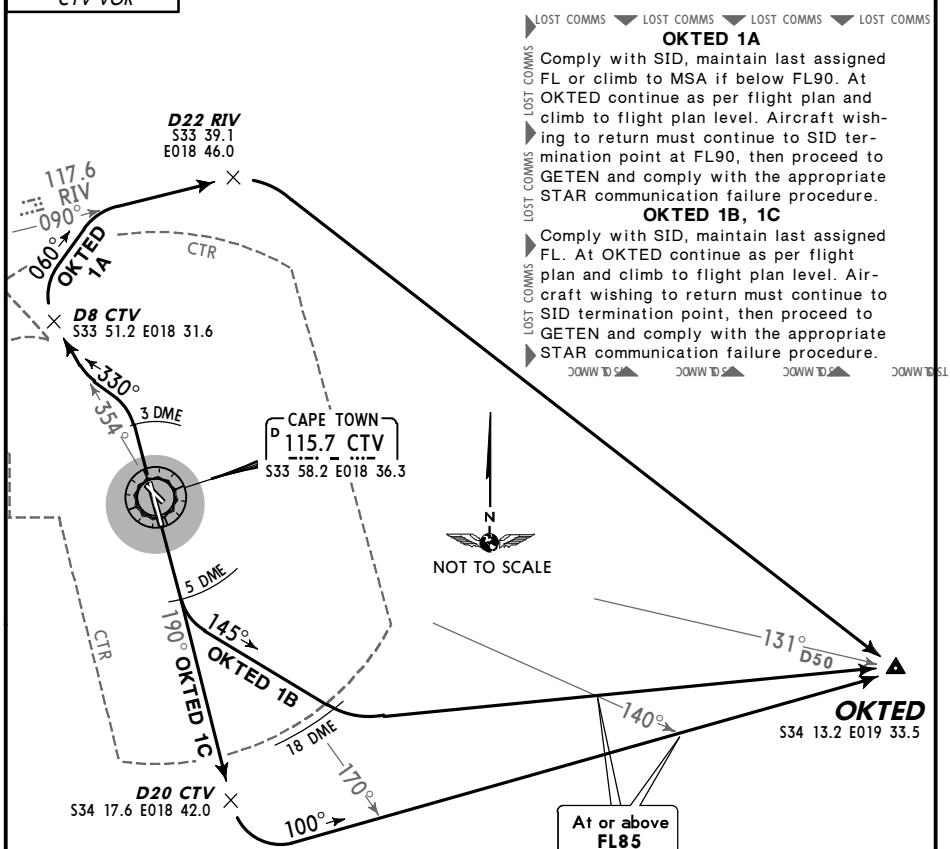


OKTED 1A [OKTE1A]

OKTED 1B [OKTE1B]

OKTED 1C [OKTE1C]

RWYS 01, 19 DEPARTURES

**SPEED: MAX 250 KT BELOW FL100**

These SIDs require minimum climb gradients of

**OKTED 1B**

6.2% until passing FL85.

**OKTED 1C**

4.6% until passing 5700'.

Initial climb clearance **FL90**, further climb under RADAR control

SID	RWY	ROUTING
OKTED 1A	01	On runway track to CTV 3 DME, turn LEFT, 330° track, intercept CTV R-354 to D8 CTV, turn RIGHT, 060° track, intercept RIV R-090 to D22 RIV, turn RIGHT to OKTED, continue as per flight plan.
OKTED 1B	19	On runway track to CTV 5 DME, turn LEFT, 145° track to CTV 18 DME, turn LEFT to OKTED, continue as per flight plan.
OKTED 1C		On runway track to CTV 5 DME, intercept CTV R-190 to D20 CTV, turn LEFT, 100° track, when passing CTV R-170 direct to OKTED, continue as per flight plan.

Apt Elev 151'

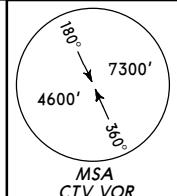
Trans level: By ATC Trans alt: 7500'  
 1. If unable to comply with SIDs advise ATC.  
 2. Contact CAPE TOWN Approach on frequency provided in ATC clearance at 2000'.  
 3. SIDs and STARs must be announced on ATIS and will only be in force when Surveillance RADAR is operational.  
 4. Cross CTR boundary at or above 2500'.

## TETAN 1A [TETA1A]

## TETAN 1B [TETA1B]

## TETAN 1C [TETA1C]

RWYS 19, 01 DEPARTURES  
**SPEED MAX 250 KT BELOW FL100**



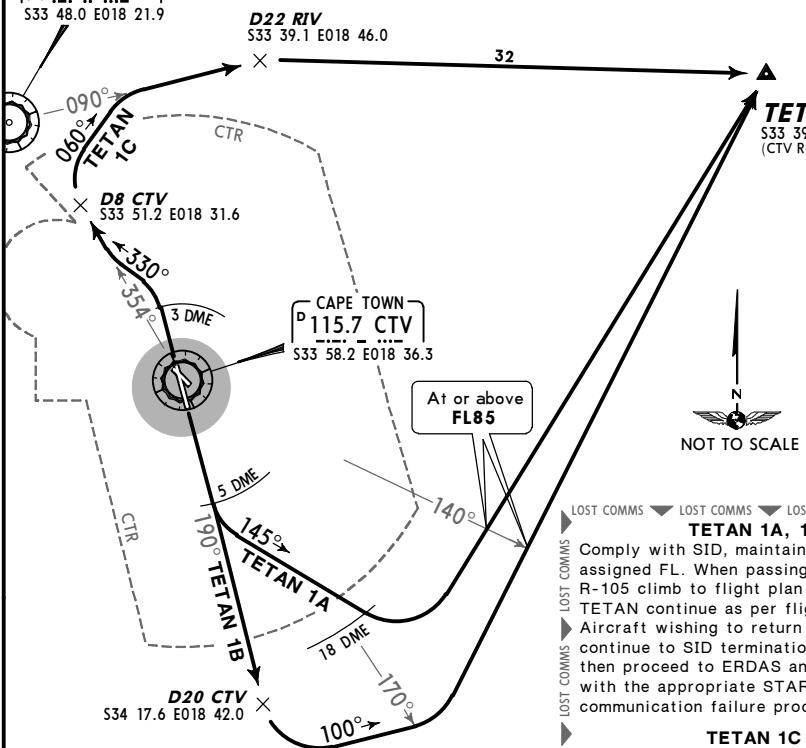
ROBBEN ISLAND  
(H) 117.6 RIV  
S33 48.0 E018 21.9

D22 RIV  
S33 39.1 E018 46.0

X 32

32

**TETAN**  
S33 39.8 E019 25.0  
(CTV R-089/D44.5)



These SIDs require minimum climb gradients of  
**TETAN 1A**

6.2% until passing FL85.

**TETAN 1B**

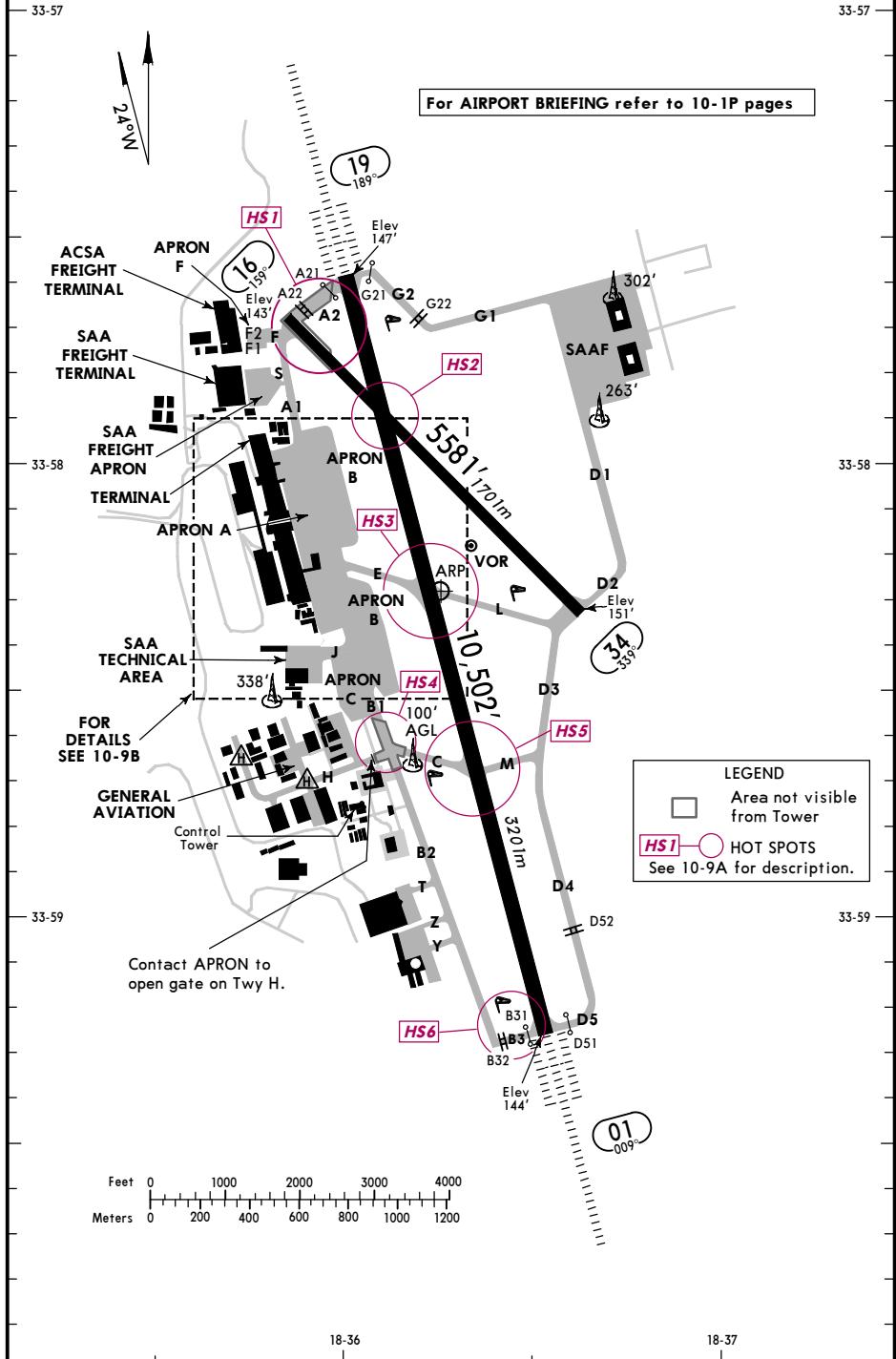
4.6% until passing 5700'.

Gnd speed-KT	75	100	150	200	250	300
6.2% V/V(fpm)	471	628	942	1256	1570	1884
4.6% V/V(fpm)	349	466	699	932	1165	1398

Initial climb clearance FL90, further climb under RADAR control

SID	RWY	ROUTING
TETAN 1A	19	On runway track to CTV 5 DME, turn LEFT, 145° track to CTV 18 DME, turn LEFT to TETAN, continue as per flight plan.
TETAN 1B		On runway track to CTV 5 DME, intercept CTV R-190 to D20 CTV, turn LEFT, 100° track, when passing CTV R-170 turn LEFT to TETAN, continue as per flight plan.
TETAN 1C	01	On runway track to CTV 3 DME, turn LEFT, 330° track, intercept CTV R-354 to D8 CTV, turn RIGHT, 060° track, intercept RIV R-090 to D22 RIV, turn RIGHT to TETAN, continue as per flight plan.

D-ATIS	*CAPE TOWN Delivery (Outside ops hours use GND freq)	CAPE TOWN Apron	Ground	Tower
127.0	122.1	122.65	121.9	118.1



RWY	ADDITIONAL RUNWAY INFORMATION			TAKE-OFF	WIDTH
	USABLE LENGTHS LANDING BEYOND				
	Threshold				
01	HIRL (60m) CL (15m) ALSF-II TDZ PAPI (3.0°)	RVR		9348' 2849m	200' 61m
19	HIRL (60m) CL (15m) ALSF-II TDZ PAPI (3.2°)	① RVR			
16	HIRL (60m) PAPI-L (3.0°)				151' 46m
34					

① PAPI must not be used beyond 5 NM from threshold.

**② TAKE-OFF RUN AVAILABLE**

RWY 01:

From rwy head 10,502'(3201m)  
twy C int 6824'(2080m)

RWY 19:

From rwy head 10,502'(3201m)  
rwy 16/34 int 8629'(2630m)  
twy E int 6152'(1875m)

### HOT SPOTS

For information only, not to be construed as ATC instructions.

**[HS1]** Portion of manoeuvring area not directly visible from Tower. ATC clearances issued based on known traffic. Exercise extreme caution when entering this area.

Precision approach holding point A2. Exercise extreme caution and listen to ATC taxi clearance for holding position.

**[HS2] [HS3] [HS5]** Intermediate take off points. Exercise caution and ensure ATC clearance to enter the RWY before proceeding.

**[HS4]** Portion of manoeuvring area not directly visible from Tower. ATC clearances issued based on known traffic. Exercise extreme caution when entering this area.

**[HS6]** Precision approach holding point B3. Exercise extreme caution and listen to ATC clearance for holding position.

**JAR-OPS**

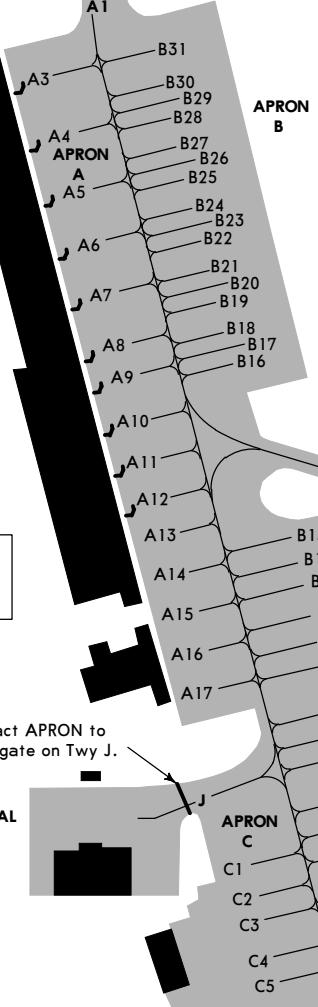
**TAKE-OFF ①**

Approved Operators	Rwy 01/19 LVP must be in Force		LVP must be in Force	All Rwy's	
	RL, CL & mult. RVR req	RL & CL		RCLM (DAY only) or RL	NIL (DAY only)
A					
B	125m	150m	200m	250m	400m
C					500m
D	150m	200m	250m	300m	

① Operators applying U.S. Ops Specs: CL required below 300m; approved HUD required below 150m.

NOT TO  
SCALE

TERMINAL



APRON B

APRON B

APRON C

SAA  
TECHNICAL  
AREA

RWY 16/34

RWY 01/19

L

HS3

**INS COORDINATES**

STAND No.	COORDINATES	STAND No.	COORDINATES
A3 thru A5	S33 58.0 E018 35.9	B22 thru B27	S33 58.0 E018 35.9
A6, A7	S33 58.1 E018 35.9	B28 thru B31	S33 57.9 E018 35.9
A8 thru A11	S33 58.2 E018 35.9	C1 thru C5	S33 58.5 E018 36.0
A12 thru A15	S33 58.3 E018 35.9	F1, F2	S33 57.7 E018 35.8
A16, A17	S33 58.4 E018 35.9		
B1 thru B3	S33 58.5 E018 36.1		
B4 thru B10	S33 58.4 E018 36.1		
B11 thru B14	S33 58.3 E018 36.1		
B15	S33 58.3 E018 36.0		
B16 thru B21	S33 58.1 E018 36.0		

<b>STRAIGHT-IN RWY</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
01	CAT 3B ILS	<b>approved</b>	<b>approved</b>	<b>approved</b>	<b>approved</b>
	CAT 3A ILS	<b>RA50' R200m</b>	<b>RA50' R200m</b>	<b>RA50' R200m</b>	<b>RA50' R200m</b>
	CAT 2 ILS	<b>244'(100')</b> <b>RA106'R300m</b>	<b>244'(100')</b> <b>RA106'R300m</b>	<b>244'(100')</b> <b>RA106'R300m</b>	<b>244'(100')</b> <b>RA106'R300m</b>
	ILS <i>FULL</i>	<b>344'(200') R550m</b>	<b>344'(200') R550m</b>	<b>344'(200') R550m</b>	<b>344'(200') R550m</b>
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	<b>LOC</b>	<b>NOT APPLICABLE</b>			
	VOR Z <b>①</b>	<b>530'(386') R1100m</b>	<b>530'(386') R1100m</b>	<b>530'(386') R1200m</b>	<b>530'(386') R1400m</b>
	<i>ALS out</i>	R1800m	R1800m	R1800m	R2000m
	VOR Y	<b>640'(496') R1700m</b>	<b>640'(496') R1700m</b>	<b>640'(496') R1900m</b>	<b>640'(496') R1900m</b>
	<i>ALS out</i>	C2500m	C2500m	C2700m	C2700m
19	CAT 2 ILS	<b>247'(100') RA100'R300m</b>	<b>247'(100') RA100'R300m</b>	<b>247'(100') RA100'R300m</b>	<b>247'(100') RA100'R300m</b>
	ILS <i>FULL</i>	<b>347'(200') R550m</b>	<b>347'(200') R550m</b>	<b>347'(200') R550m</b>	<b>347'(200') R550m</b>
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	<b>LOC</b>	<b>NOT APPLICABLE</b>			
	VOR <b>①</b>	<b>550'(403') R1200m</b>	<b>550'(403') R1200m</b>	<b>550'(403') R1200m</b>	<b>550'(403') R1400m</b>
	<i>ALS out</i>	R1500m	R1500m	R1900m	R2000m

**①** Continuous Descent Final Approach.

<b>CIRCLE-TO-LAND</b>					
ENTIRELY AT PILOTS DISCRETION MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA					

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### **TAKE-OFF RWY 01, 16, 19, 34**

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<b>LVP must be in Force</b>					
Approved Operators HIRL, CL & multi. RVR req	RL, CL & multi. RVR req	RL & CL	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A	125m	150m	200m	250m	
B				400m	500m
C					
D	150m	200m	250m	300m	

**FACT/CPT**  
**CAPE TOWN INTL**

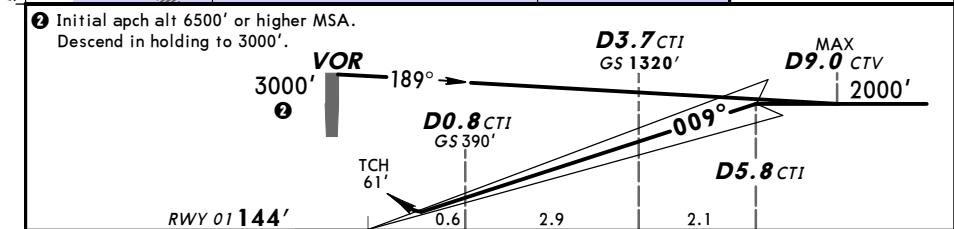
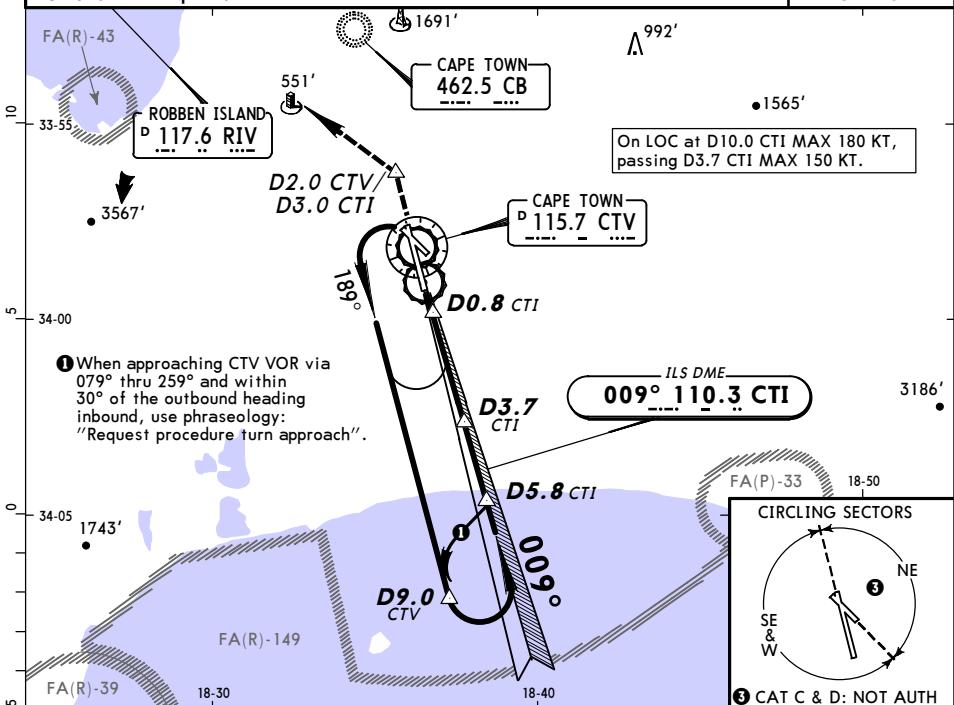
**JEPPESEN** CAPE TOWN, S AFR REP  
25 FEB 11 11-1 Eff 10 Mar ILS Rwy 01

D-ATIS	CAPE TOWN Approach (R)	*CAPE TOWN Director (APP)	CAPE TOWN Tower	Ground
127.0	120.05	124.35	118.1	121.9
LOC CTI <b>110.3</b>	Final Apch Crs <b>009°</b>	GS <b>D3.7 CTI</b> <b>1320' (1176')</b>	ILS DA(H) <b>344' (200')</b>	Apt Elev 151' RWY 144'

**BRIEFING STRIP™**

**MISSED APCH:** Track on CB NDB climbing to D2.0 CTV/D3.0 CTI, then climbing turn LEFT towards RIV VOR. At 6500' turn RIGHT to CTV VOR, or as directed.

Alt Set: hPa Rwy Elev: 5 hPa Trans level: By ATC Trans alt: 7500' VOR and DME required.



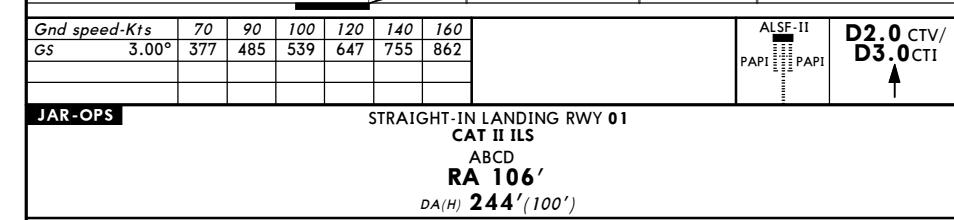
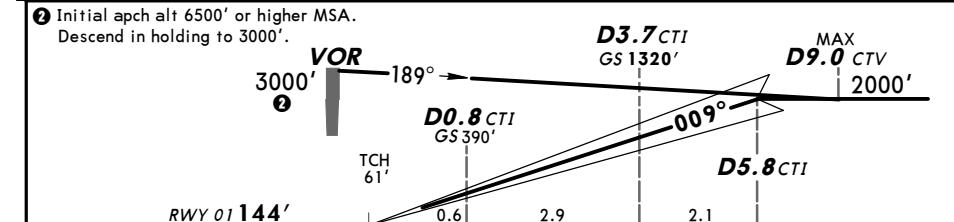
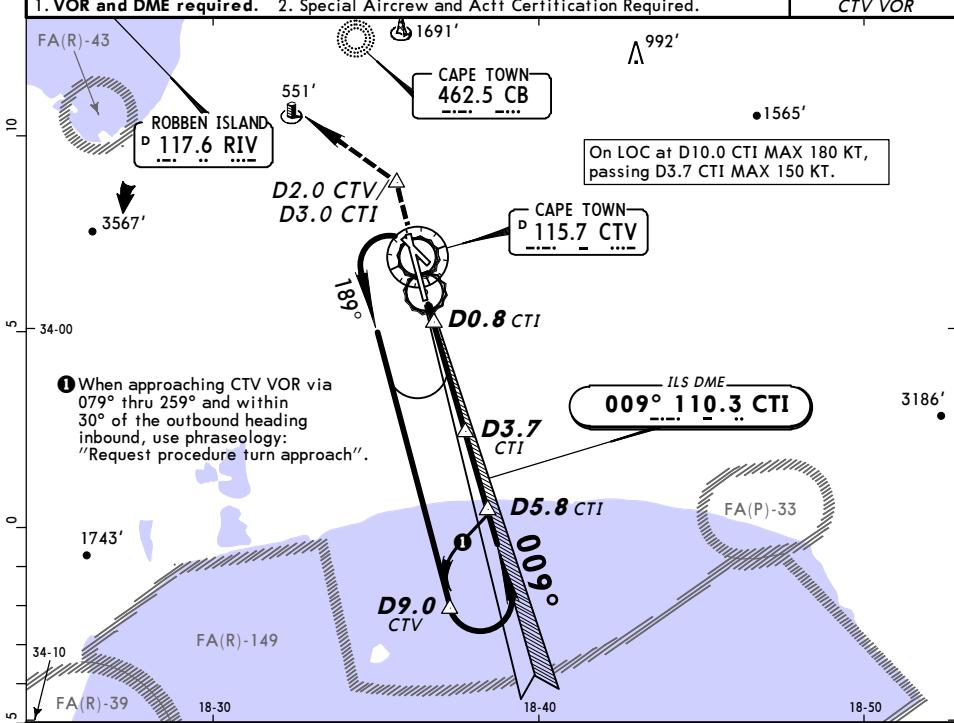
JAR-OPS STRAIGHT-IN LANDING RWY 01		CIRCLE-TO-LAND	
ILS DA(H) 344' (200')		LOC (GS out)	ENTIRELY AT PILOTS DISCRETION
FULL	ALS out		
A	RVR 550m	NOT APPLICABLE	
B	RVR 1000m		
C			MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA
D			

**PANS OPS**

D-ATIS	CAPE TOWN Approach (R)	*CAPE TOWN Director (APP)	CAPE TOWN Tower	Ground
127.0	120.05	124.35	118.1	121.9
LOC CTI <b>110.3</b>	Final Apch Crs <b>009°</b>	GS <b>D3.7 CTI</b> <b>1320' (1176')</b>	CAT II ILS <b>RA 106'</b> DA(H) 244'(100')	Apt Elev 151' RWY 144'

**MISSED APCH:** Track on CB NDB climbing to D2.0 CTV/D3.0 CTI, then climbing turn LEFT towards RIV VOR. At 6500' turn RIGHT to CTV VOR, or as directed.

Alt Set: hPa  
Rwy Elev: 5 hPa  
Trans level: By ATC  
Trans alt: 7500'  
1. VOR and DME required.  
2. Special Aircrew and Acft Certification Required.



① Operators applying U.S. Ops Specs: Autoland or HGS required below RVR 350m.

CHANGES: Communications.

D-ATIS 127.0	CAPE TOWN Approach (R) 120.05	*CAPE TOWN Director (APP) 124.35	CAPE TOWN Tower 118.1	Ground 121.9
LOC KSI <b>109.1</b>	Final Apch Crs <b>189°</b>	GS <b>D5.4 KSI</b> <b>1973' (1826')</b>	ILS DA(H) <b>347' (200')</b>	Apt Elev 151' RWY 147'
				7300' 4600' MSA CTV VOR

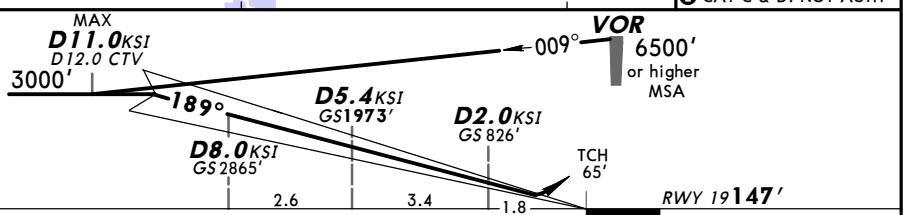
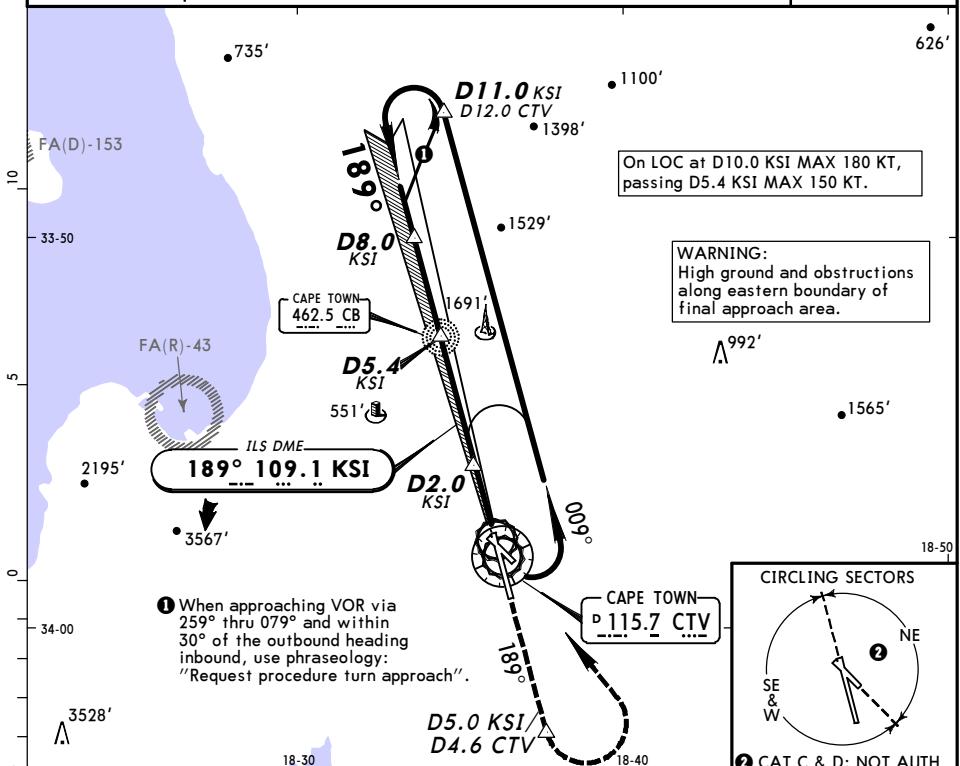
**MISSSED APCH:** Climb on R-189 to D5.0 KSI/D4.6 CTV, then turn LEFT to VOR climbing to 4000', or as directed.

Alt Set: hPa  
Rwy Elev: 5 hPa  
VOR and DME required.

Rwy Elev: 5 hPa

Trans level: By ATC

Trans alt: 7500'



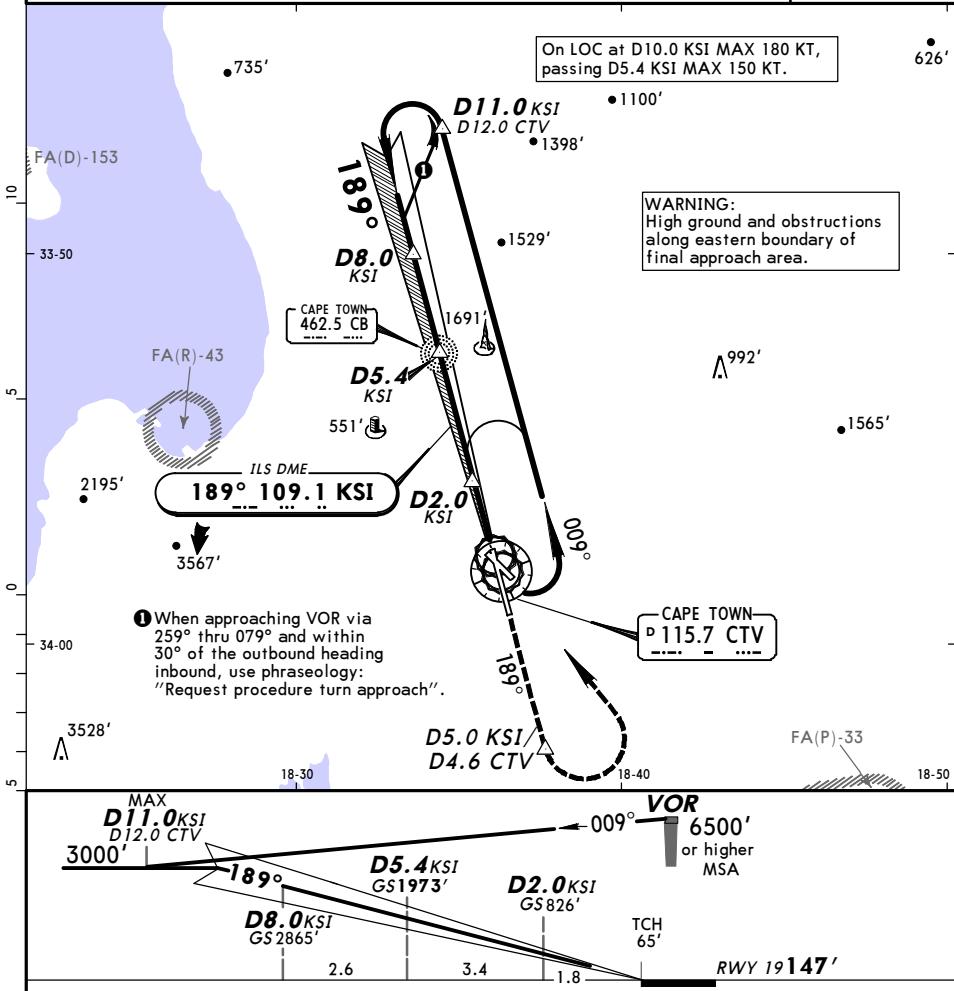
Gnd speed-Kts	70	90	100	120	140	160		ALSF-II	D5.0 KSI/ D4.6 CTV on R-189
GS	3.20°	402	517	574	689	804	919	PAPI PAPI	

JAR-OPS STRAIGHT-IN LANDING RWY 19		LOC (GS out)		CIRCLE-TO-LAND	
ILS DA(H) 347' (200')		LOC (GS out)		ENTIRELY AT PILOTS DISCRETION	
FULL ALS out					
A					
B					
C	RVR 550m	RVR 1000m	NOT APPLICABLE		MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA
D					

D-ATIS	CAPE TOWN Approach (R)	*CAPE TOWN Director (APP)	CAPE TOWN Tower	Ground
127.0	120.05	124.35	118.1	121.9
LOC KSI <b>109.1</b>	Final Apch Crs <b>189°</b>	GS <b>D5.4 KSI</b> <b>1973'</b> (1826')	CAT II ILS <b>RA 100'</b> DA(H) 247' (100')	Apt Elev 151' <b>RWY 147'</b>

MISSED APCH: Climb on R-189 to D5.0 KSI/D4.6 CTV, then turn LEFT to VOR climbing to 4000', or as directed.

Alt Set: hPa      Rwy Elev: 5 hPa      Trans level: By ATC      Trans alt: 7500'  
1. VOR and DME required. 2. Special Aircrew and Acft Certification Required.

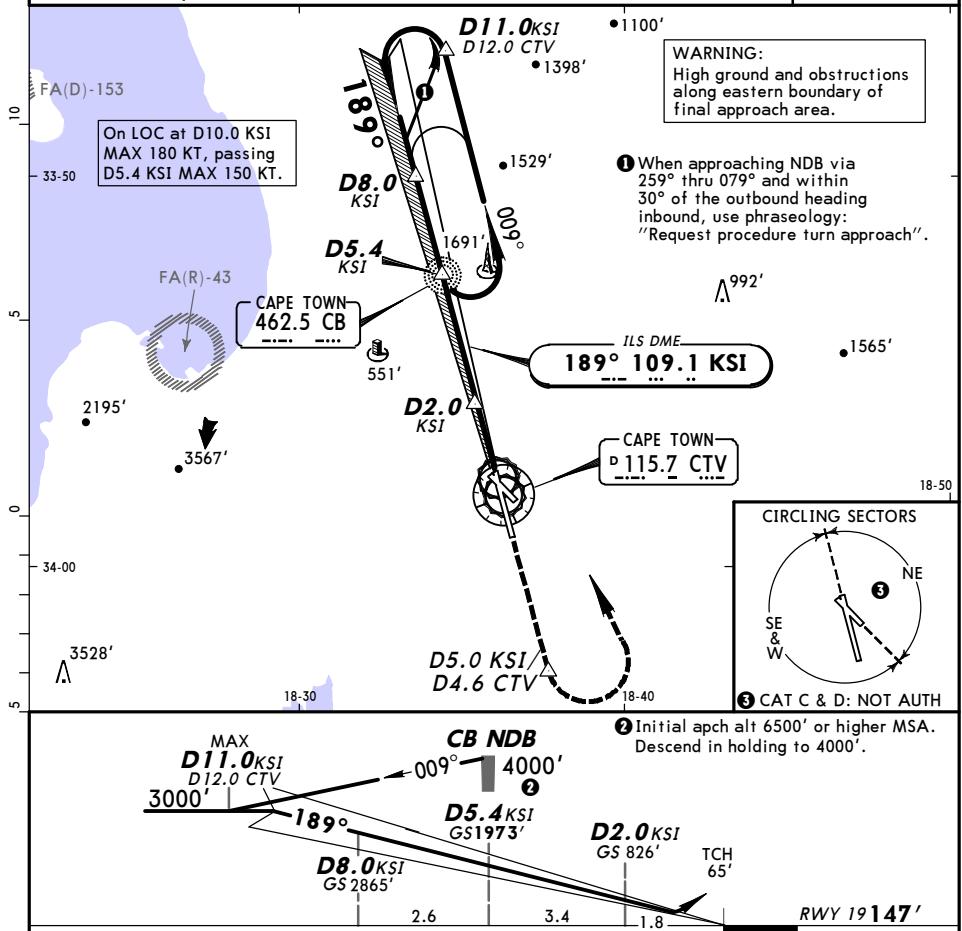


JAR-OPS	STRAIGHT-IN LANDING RWY 19							
	CAT II ILS							
	ABCD							
	RA 100'							
	DA(H) 247' (100')							
ALSF-II	PAPI	PAPI						
<b>D5.0 KSI/</b>	<b>D4.6 CTV on</b>	<b>115.7</b>	<b>CTV</b>	<b>R-189</b>				

PANS OPS	RVR 300m 1							
② Operators applying U.S. Ops Specs: Autoland or HGS required below RVR 350m.								

D-ATIS	CAPE TOWN Approach (R)	*CAPE TOWN Director (APP)	CAPE TOWN Tower	Ground
127.0	120.05	124.35	118.1	121.9
LOC KSI <b>109.1</b>	Final Apch Crs <b>189°</b>	GS <b>D5.4 KSI</b> <b>1973' (1826')</b>	ILS DA(H) <b>347' (200')</b>	Apt Elev 151' RWY 147'
<b>MISSSED APCH:</b> Climb on rwy heading to D5.0 KSI/D4.6 CTV, then turn LEFT to CB NDB climbing to 4000', or as directed.				
Alt Set: hPa NDB and DME required.	Rwy Elev: 5 hPa	Trans level: By ATC	Trans alt: 7500'	

BRIEFING STRIP™



Gnd speed-Kts	70	90	100	120	140	160		ALSF-II	D5.0 KSI/ D4.6 CTV on	Rwy
GS	3.20°	402	517	574	689	804	919			
								PAPI	PAPI	

JAR-OPS		STRAIGHT-IN LANDING RWY 19			CIRCLE-TO-LAND		
		ILS DA(H) <b>347' (200')</b>		LOC (GS out)	ENTIRELY AT PILOTS DISCRETION		
FULL		ALS out		NOT APPLICABLE			
A							
B							
C	RVR 550m	RVR 1000m					
D							
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA							

PANS OPS CHANGES: Communications.

**FACT/CPT**  
**CAPE TOWN INTL**

**JEPPESEN**  
25 FEB 11  
Eff 10 Mar 11-3A

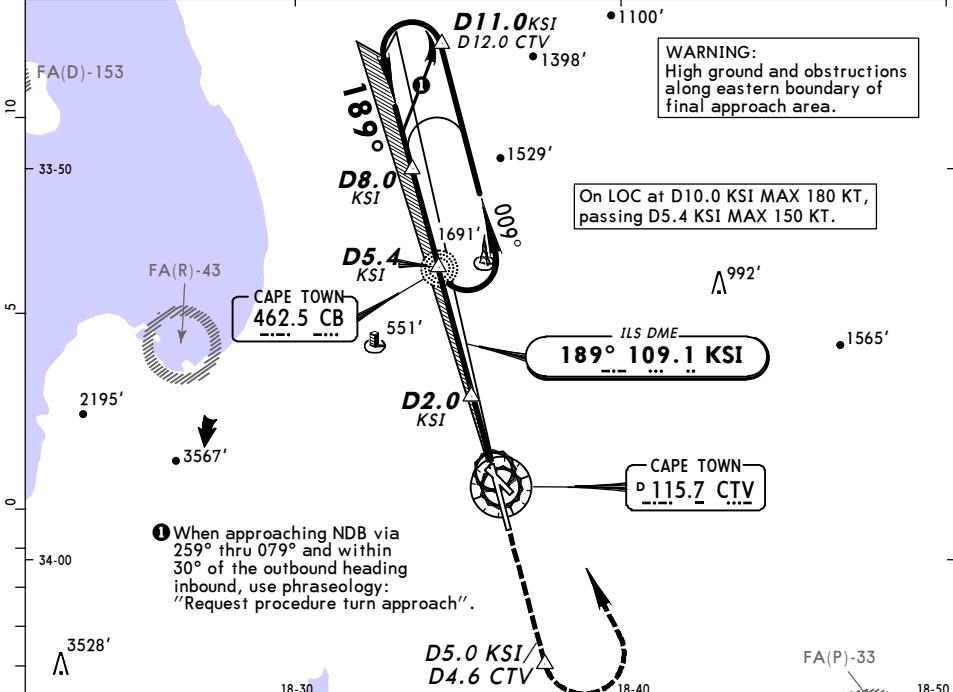
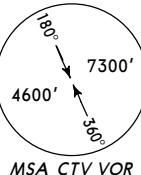
**CAPE TOWN, S AFR REP**  
**CAT II ILS Y Rwy 19**

D-ATIS	CAPE TOWN Approach (R)	*CAPE TOWN Director (APP)	CAPE TOWN Tower	Ground
127.0	120.05	124.35	118.1	121.9
LOC KSI <b>109.1</b>	Final Apch Crs <b>189°</b>	GS <b>D5.4 KSI</b> <b>1973'</b> (1826')	CAT II ILS <b>RA 100'</b> DA(H) 247' (100')	Apt Elev 151' <b>RWY 147'</b>

**MISSSED APCH:** Climb on rwy heading to D5.0 KSI/D4.6 CTV, then turn LEFT to CB NDB climbing to 4000', or as directed.

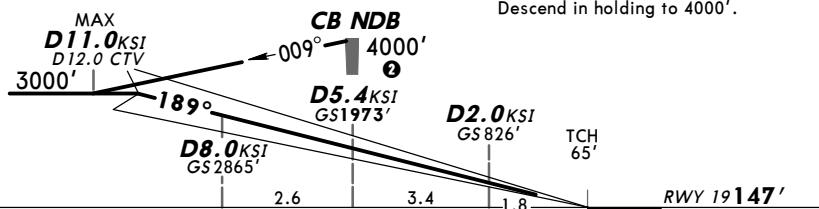
Alt Set: hPa Rwy Elev: 5 hPa Trans level: By ATC Trans alt: 7500'

1. NDB and DME required. 2. Special Aircrew and Acft Certification Required.



- ① When approaching NDB via 259° thru 079° and within 30° of the outbound heading inbound, use phraseology: "Request procedure turn approach".

- ② Initial apch alt 6500' or higher MSA.  
Descend in holding to 4000'.



Gnd speed-Kts	70	90	100	120	140	160		ALSF-II	D5.0 KSI/ D4.6 CTV on	Rwy
GS	3.20°	402	517	574	689	804	919		PAPI	hgd

**JAR-OPS**

**STRAIGHT-IN LANDING Rwy 19**

**CAT II ILS**

**ABCD**

**RA 100'**

**DA(H) 247' (100')**

**RVR 300m**

<b>■ Operators applying U.S. Ops Specs: Autoland or HGS required below RVR 350m.</b>
<b>CHANGES: Communications.</b>

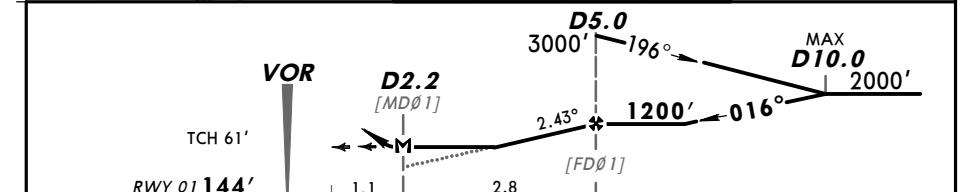
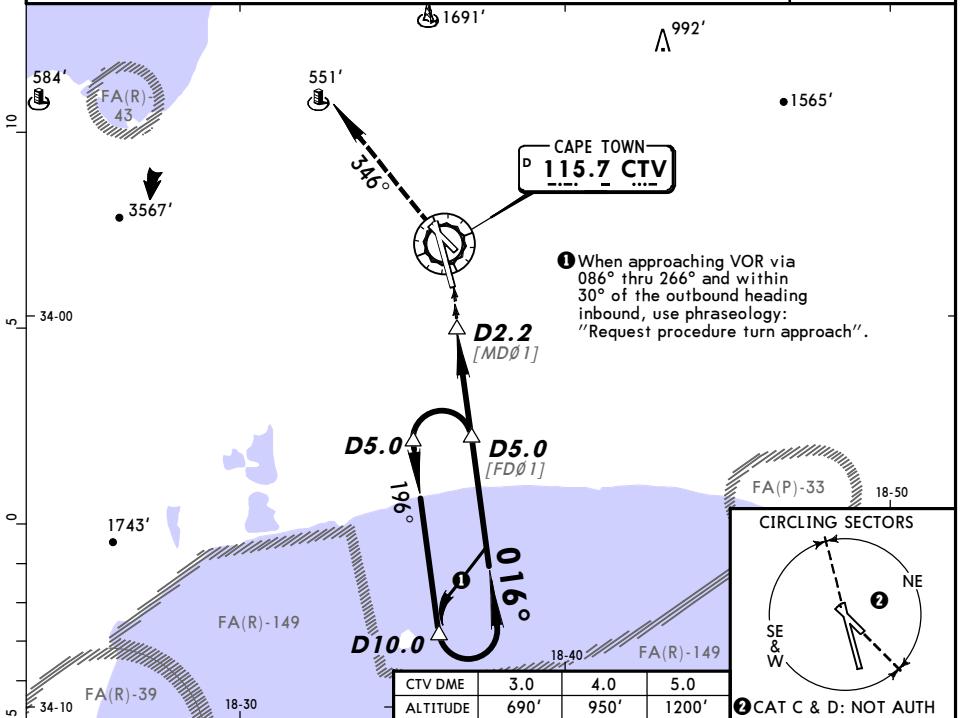
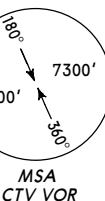
17 MAY 13 (13-1)

CAPE TOWN, S AFR REP

VOR Z Rwy 01

D-ATIS	CAPE TOWN Approach (R)	*CAPE TOWN Director (APP)	CAPE TOWN Tower	Ground
127.0	120.05	124.35	118.1	121.9
VOR CTV <b>115.7</b>	Final Apch Crs <b>016°</b>	Minimum Alt <b>D5.0</b> <b>1200' (1056')</b>	MDA(H) <b>530' (386')</b>	Apt Elev 151' RWY 144'

**MISSED APCH:** Climb on R-196 inbound to VOR, then climbing turn LEFT onto R-346. At 6500' turn RIGHT and return to D5.0/R-196 via VOR.



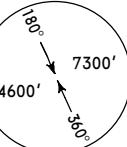
Gnd speed-Kts	70	90	100	120	140	160		ALSF-II	CTV	CTV
Descent Angle	2.43°	301	387	430	516	602		PAPI	115.7	LT
MAP at D2.2								PAPI		R-346

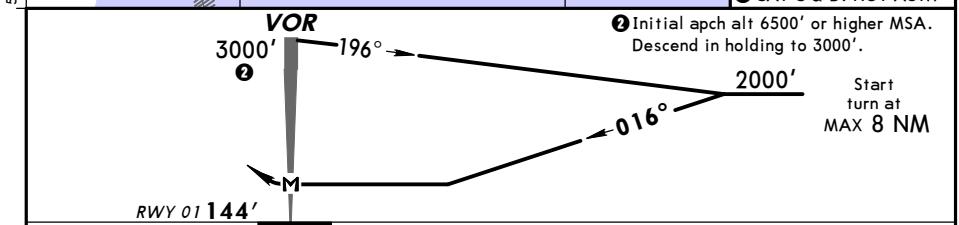
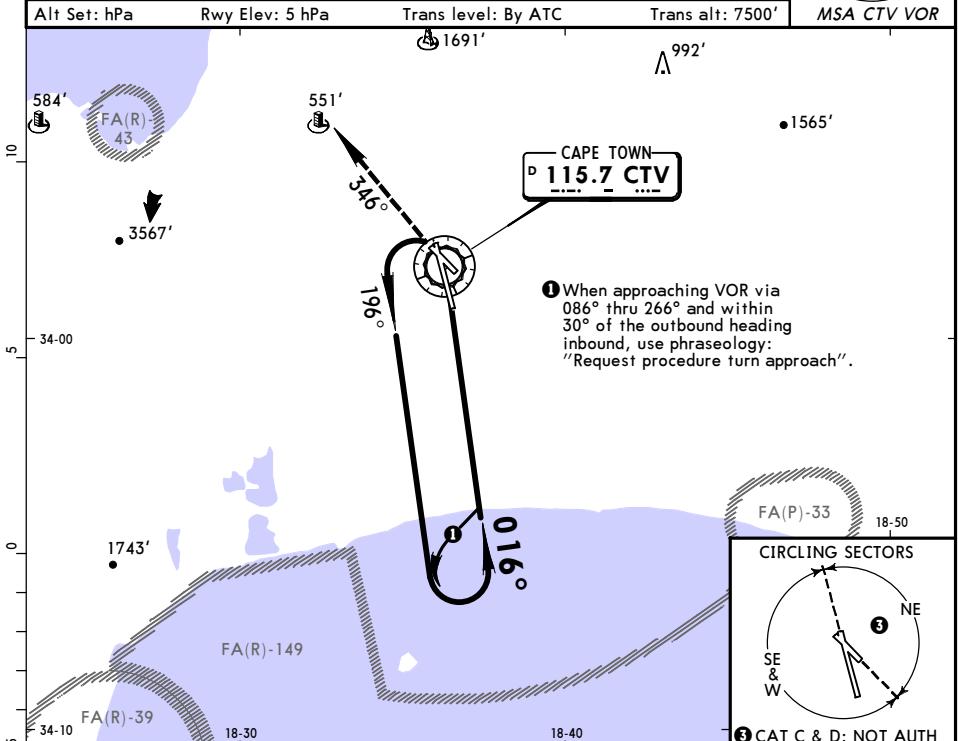
JAR-OPS		STRAIGHT-IN LANDING RWY 01				CIRCLE-TO-LAND			
		MDA(H) <b>530' (386')</b>						ENTIRELY AT PILOTS DISCRETION	
		ALS out							
A	RVR 900m								
B	RVR 1000m	RVR 1500m							
C	RVR 1400m	RVR 1800m							
D	RVR 1400m	RVR 2000m							

MINIMUMS NOT  
YET ESTABLISHED  
BY S AFR REP CAA

17 MAY 13 (13-2)

D-ATIS	CAPE TOWN Approach (R)	*CAPE TOWN Director (APP)	CAPE TOWN Tower	Ground
127.0	120.05	124.35	118.1	121.9
VOR CTV <b>115.7</b>	Final Apch Crs <b>016°</b>	Minimum Alt No FAF	MDA(H) <b>640' (496')</b>	Apt Elev 151' RWY 144'

<b>BRIEFING STRIP</b>	MISSSED APCH: Climbing turn LEFT on R-346 to 6500', then turn RIGHT and return to VOR.				
	Alt Set: hPa	Rwy Elev: 5 hPa	Trans level: By ATC	Trans alt: 7500'	



MAP at VOR		ALSF-II PAPI PAPI	6500' on 115.7 LT R-346												
<b>JAR-OPS</b>		<b>STRAIGHT-IN LANDING RWY 01</b>													
MDA(H) <b>640' (496')</b>			<b>ENTIRELY AT PILOTS DISCRETION</b>												
ALS out															
<table border="1"> <tr> <td>A</td><td>RVR 1000m</td><td>RVR 1500m</td> </tr> <tr> <td>B</td><td>RVR 1200m</td><td>RVR 2000m</td> </tr> <tr> <td>C</td><td></td><td></td> </tr> <tr> <td>D</td><td>RVR 1600m</td><td></td> </tr> </table>			A	RVR 1000m	RVR 1500m	B	RVR 1200m	RVR 2000m	C			D	RVR 1600m		<b>MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA</b>
A	RVR 1000m	RVR 1500m													
B	RVR 1200m	RVR 2000m													
C															
D	RVR 1600m														

D-ATIS	*CAPE TOWN Approach (R)	*CAPE TOWN Director (APP)	CAPE TOWN Tower	Ground
127.0	120.05	124.35	118.1	121.9
VOR CTV <b>115.7</b>	Final Apch Crs <b>187°</b>	Minimum Alt <b>D5.5</b> <b>2000' (1853')</b>	MDA(H) <b>550' (403')</b>	Apt Elev 151' <b>RWY 147'</b>

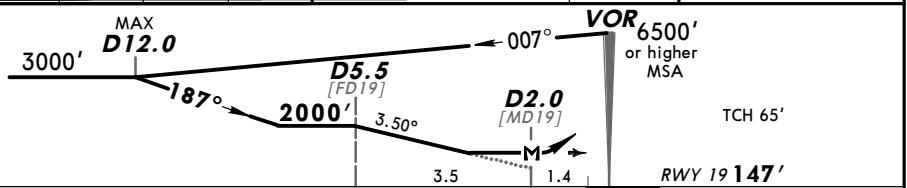
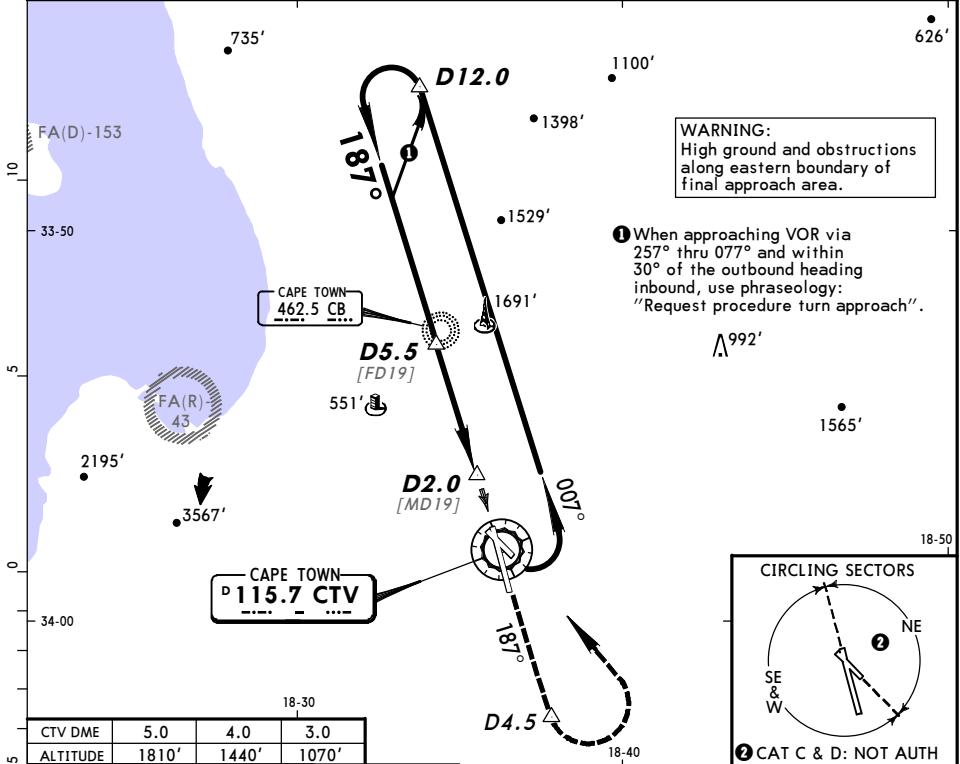
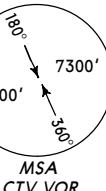
**MISSSED APCH:** Climb on R-187 to D4.5, then turn LEFT to VOR climbing to 4000', or as directed.

Alt Set: hPa  
DME required.

Rwy Elev: 5 hPa

Trans level: By ATC

Trans alt: 7500'



JAR-OPS STRAIGHT-IN LANDING RWY 19				CIRCLE-TO-LAND			
MDA(H) 550' (403')				ENTIRELY AT PILOTS DISCRETION			
ALS out				MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA			
A RVR 900m		RVR 1500m					
B RVR 1000m		RVR 1800m					
C RVR 1400m		RVR 2000m					

**FAEL/ELS**  
EAST LONDON

**JEPPESEN**

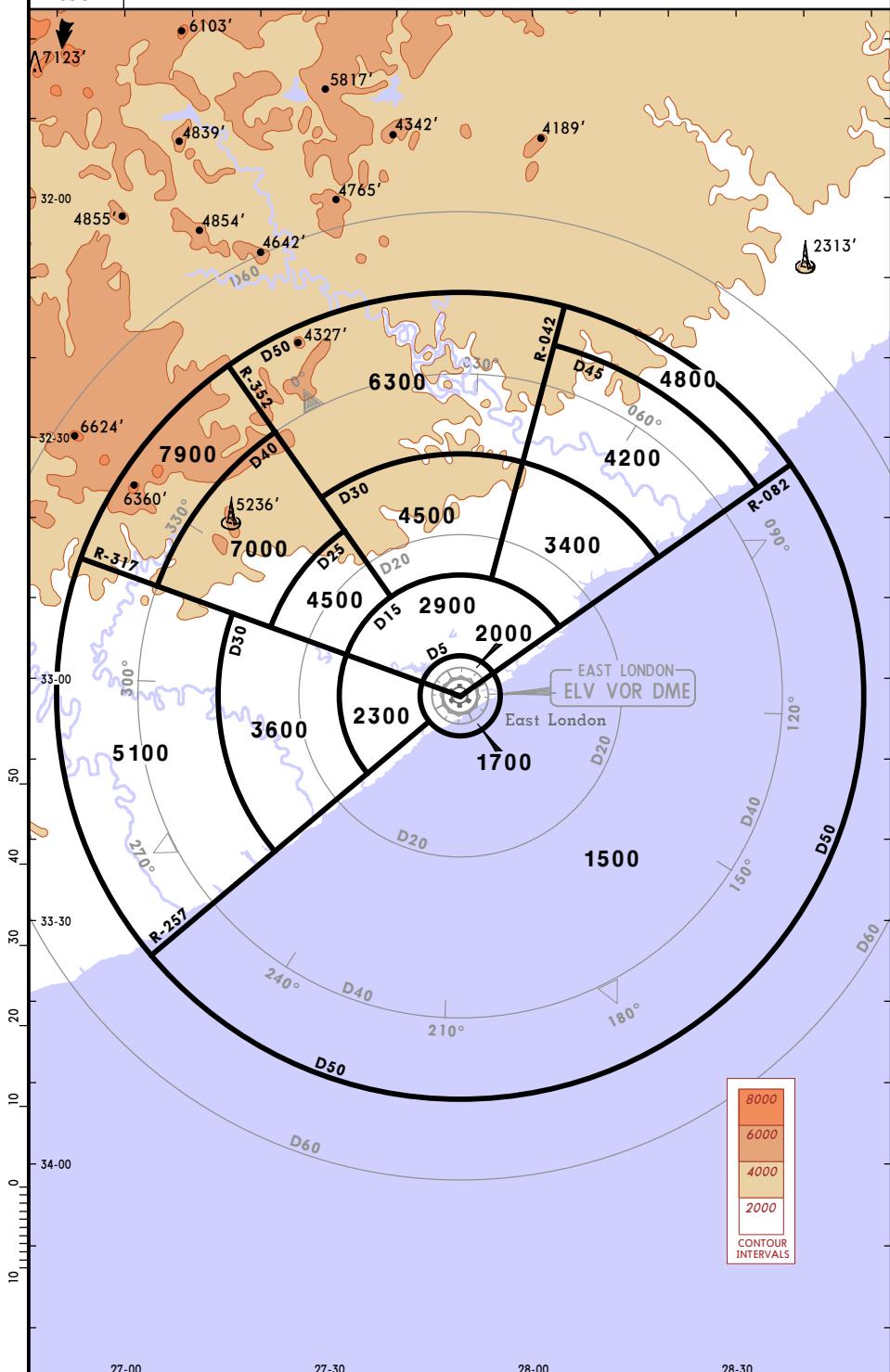
13 APR 07

10-1R

**EAST LONDON, S AFR REP**  
**RADAR MINIMUM ALTITUDES**

Apt Elev  
435'

Alt Set: hPa Trans level: By ATC Trans alt: 7000'  
A minimum vertical clearance of 1000' is applied up to D20 ELV and 1500' thereafter.



**NOISE ABATEMENT****LT minus 2 HOURS = UTC (Z)****DEPARTURES**

The below procedures apply to jet aircraft and may be disregarded if at 3440' or when leveled off by ATC or when leveled by SID.

Take-off to 1940'

- take-off power;
- take-off flaps;
- climb at  $V_2 + 10$  to 20 KT or as limited by body angle;
- depending on ACFT type, the take-off power/thrust may be reduced at a lower altitude;

At 1940'

- reduce thrust (if not already reduced) to not less than climb power/thrust;

1940' to 3440'

- climb at  $V_2 + 10$  to 20 KT;

At 3440'

- accelerate smoothly to en-route climb speed with flap retraction on schedule.

No jet aircraft are to use RWY or TWY intersection for take-off between 2200-0600LT.

**RUN-UP TESTS**

| Engine run-ups only allowed on THR of RWY 24.

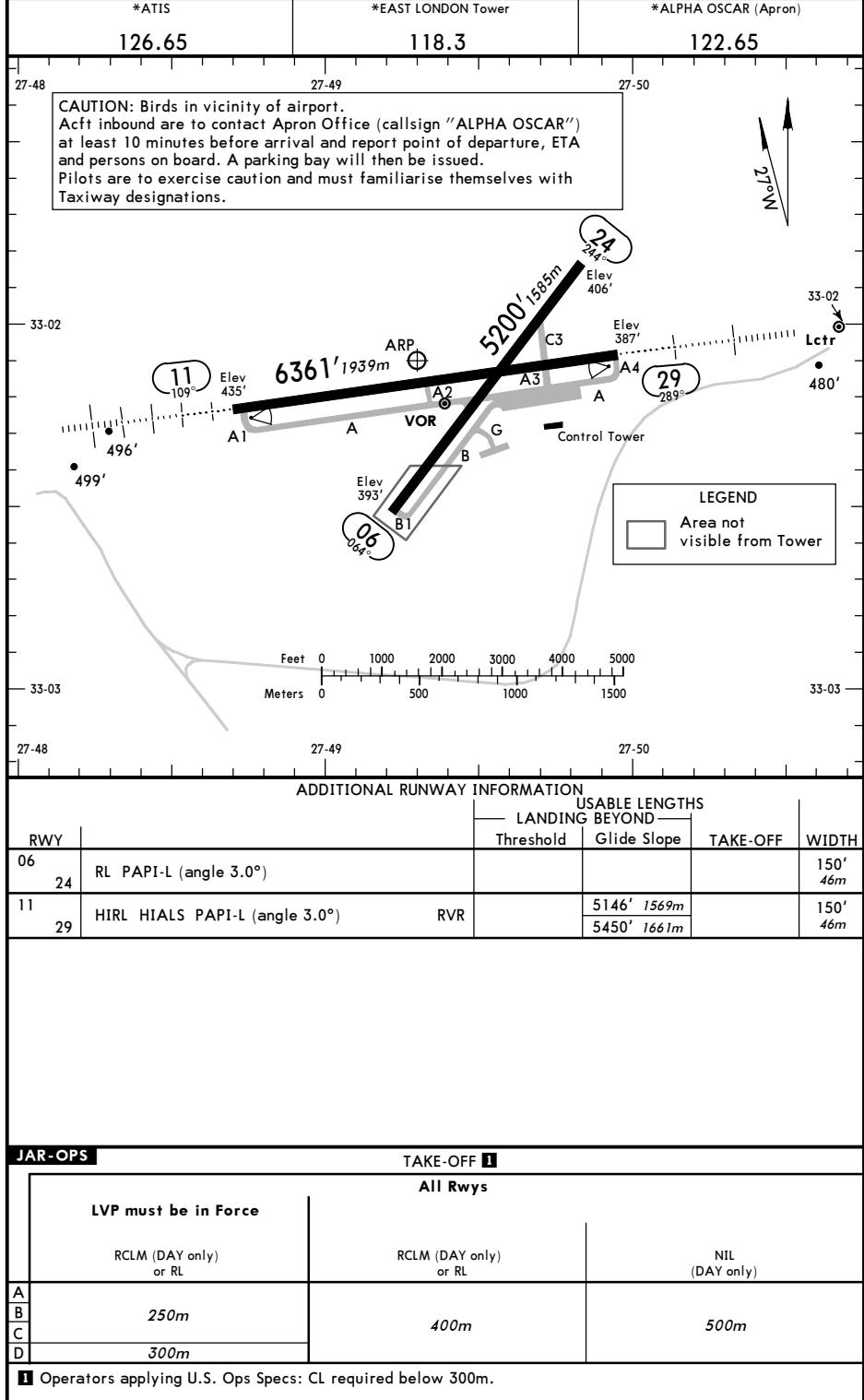
FAEL/ELS

Apt Elev 435'

S33 02.1 E027 49.3

JEPPESEN EAST LONDON, S AFR REP  
22 MAR 13 10-9 Eff 4 Apr

EAST LONDON



<b>STRAIGHT-IN RWY</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
11	ILS <i>FULL</i> <i>Limited</i> <i>ALS out</i>	<b>635'(200')</b> <b>R550m</b> R750m R1200m	<b>635'(200')</b> <b>R550m</b> R750m R1200m	<b>635'(200')</b> <b>R550m</b> R750m R1200m	<b>635'(200')</b> <b>R550m</b> R750m R1200m
	LOC	NOT APPLICABLE			
	VOR ①	<b>1120'(685')</b> <b>R1500m</b>	<b>1120'(685')</b> <b>R1500m</b>	<b>1120'(685')</b> <b>C2400m</b>	<b>1120'(685')</b> <b>C2400m</b>
29	ILS <i>FULL</i> <i>Limited</i> <i>ALS out</i>	<b>587'(200')</b> <b>R550m</b> R750m R1200m	<b>587'(200')</b> <b>R550m</b> R750m R1200m	<b>587'(200')</b> <b>R550m</b> R750m R1200m	<b>587'(200')</b> <b>R550m</b> R750m R1200m
	LOC	NOT APPLICABLE			
	VOR Z ①②	<b>810'(423')</b> <b>R1300m</b> R1500m	<b>810'(423')</b> <b>R1300m</b> R1500m	<b>810'(423')</b> <b>R1300m</b> R2000m	<b>810'(423')</b> <b>R1300m</b> R2000m
	<i>ALS out</i>	R1500m	R1500m	R2000m	R2000m
	VOR Y ①③	<b>1060'(673')</b> <b>R1500m</b>	<b>1060'(673')</b> <b>R1500m</b>	<b>1060'(673')</b> <b>C2400m</b>	<b>1060'(673')</b> <b>C2400m</b>

- ① Continuous Descent Final Approach.  
 ② Missed apch climb gradient mim 5.0%.  
 ③ Missed apch climb gradient mim 2.5%.

<b>CIRCLE-TO-LAND ①</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

① Entirely at pilots discretion.

---

### TAKE-OFF RWY 06, 11, 24, 29

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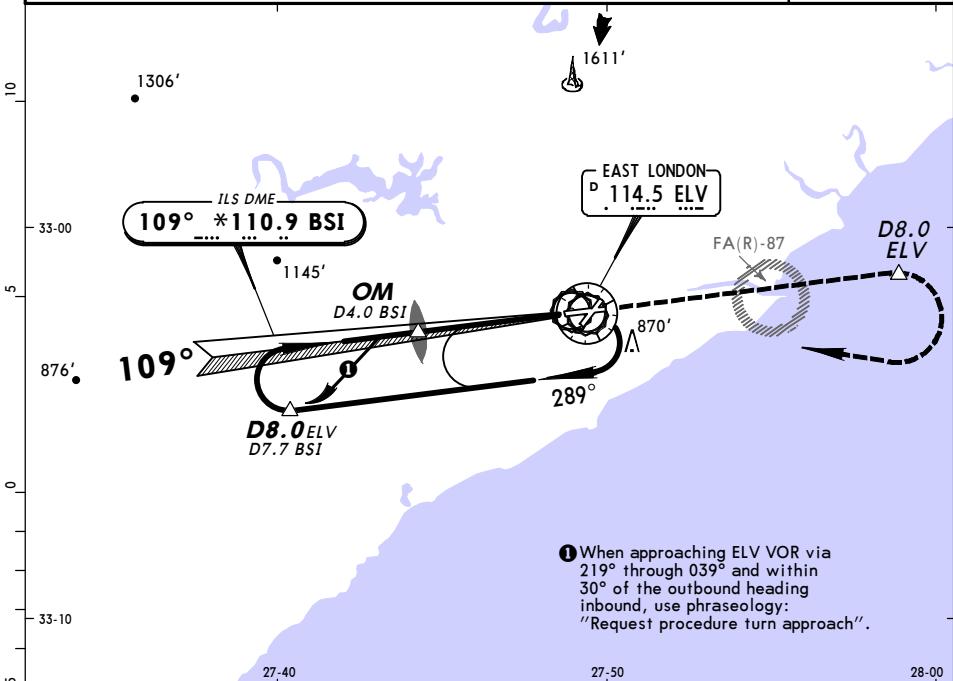
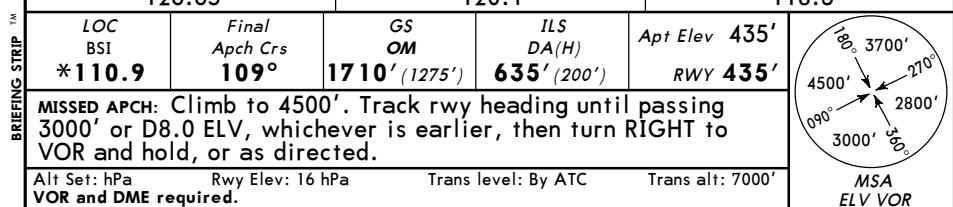
<b>LVP must be in force</b>			
	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A			
B	<b>250m ①</b>	<b>400m</b>	<b>500m</b>
C			
D	<b>300m</b>		

① Operators applying U.S. Ops Specs: CL required below 300m.

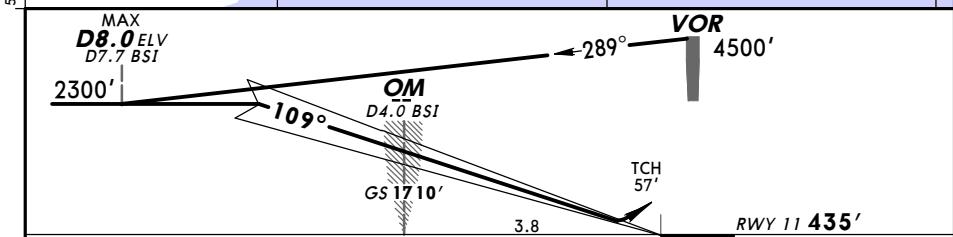
**FAEL/ELS**  
EAST LONDON

**JEPPESSEN EAST LONDON, S AFR REP**  
7 MAR 14 (11-1)

*ATIS 126.65		*EAST LONDON Approach 120.1			*EAST LONDON Tower (outside APP hr) 118.3	
LOC BSI	Final Apch Crs	GS OM	ILS DA(H)	Apt Elev 435' RWY 435'		
<b>MISSSED APCH:</b> Climb to 4500'. Track rwy heading until passing 3000' or D8.0 ELV, whichever is earlier, then turn RIGHT to VOR and hold, or as directed.						
Alt Set: hPa	Rwy Elev: 16 hPa	Trans level: By ATC	Trans alt: 7000'			



- ① When approaching ELV VOR via 219° through 039° and within 30° of the outbound heading inbound, use phraseology: "Request procedure turn approach".



Gnd speed-Kts	70	90	100	120	140	160	HIALS	RWY	3000'	D8.0
GS	3.00°	372	478	531	637	743	849	PAPI		ELV
									whichver is earlier	

JAR-OPS		STRAIGHT-IN LANDING RWY 11				CIRCLE-TO-LAND					
ILS DA(H) 635'(200')		LOC (GS out)				ENTIRELY AT PILOTS DISCRETION					
FULL		ALS out									
A											
B											
C											
D											
PANS OPS		NOT APPLICABLE				MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA					

**FAEL/ELS**  
EAST LONDON

**JEPPESSEN EAST LONDON, S AFR REP**  
7 MAR 14 (11-2) ILS Rwy 29

BRIEFING STRIP™

\*ATIS  
126.65

\*EAST LONDON Approach  
120.1

\*EAST LONDON Tower (outside APP hr)  
118.3

LOC  
ELI  
**\*109.9**

Final  
Apch Crs  
**289°**

GS  
OM  
**1510' (1123')**

ILS  
DA(H)  
**587' (200')**

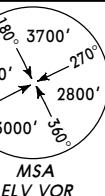
Apt Elev 435'  
RWY **387'**

MISSED APCH: Climb to 4500'. Track rwy heading until passing 3000' or D6.5 ELV, whichever is earlier, then turn LEFT to VOR and hold, or as directed.

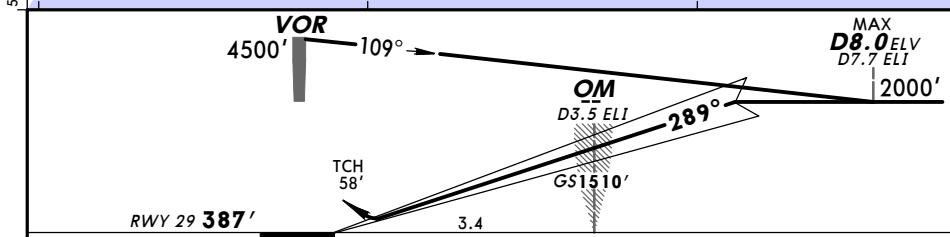
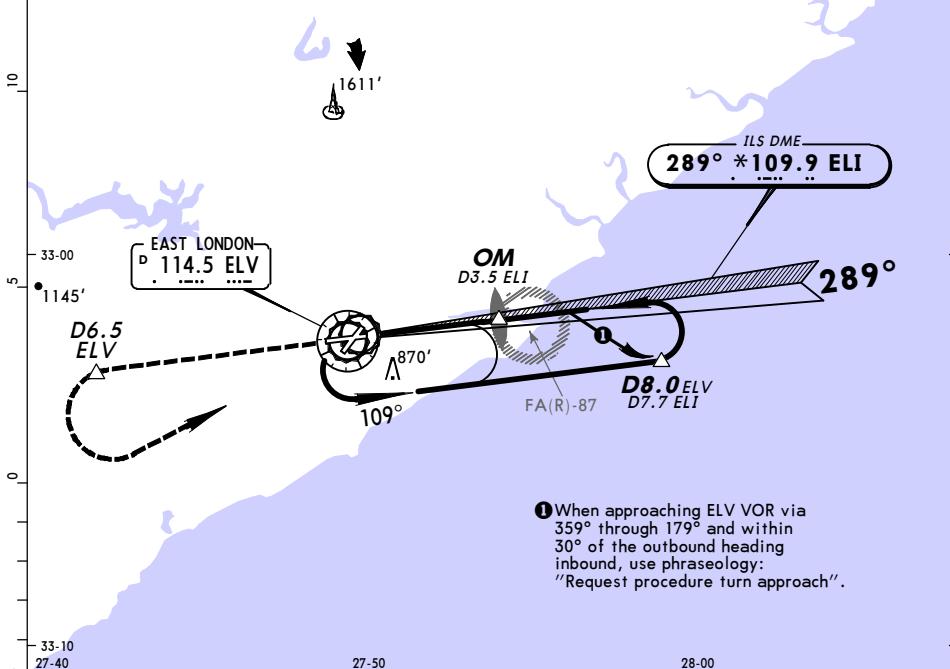
Alt Set: hPa  
Rwy Elev: 14 hPa

Rwy Elev: 14 hPa  
Trans level: By ATC

Trans alt: 7000'  
VOR and DME required.



MSA  
ELV VOR



Gnd speed-Kts	70	90	100	120	140	160	HIALS	RWY	3000'	D6.5
GS	3.00°	372	478	531	637	743	PAPI	hdg	whichever is earlier	ELV

JAR-OPS		STRAIGHT-IN LANDING RWY 29				CIRCLE-TO-LAND											
ILS DA(H) <b>587' (200')</b>		LOC (GS out)				ENTIRELY AT PILOTS DISCRETION											
FULL	ALS out																
A																	
B																	
C	RVR 550m																
D	RVR 1000m																
NOT APPLICABLE																	
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA																	

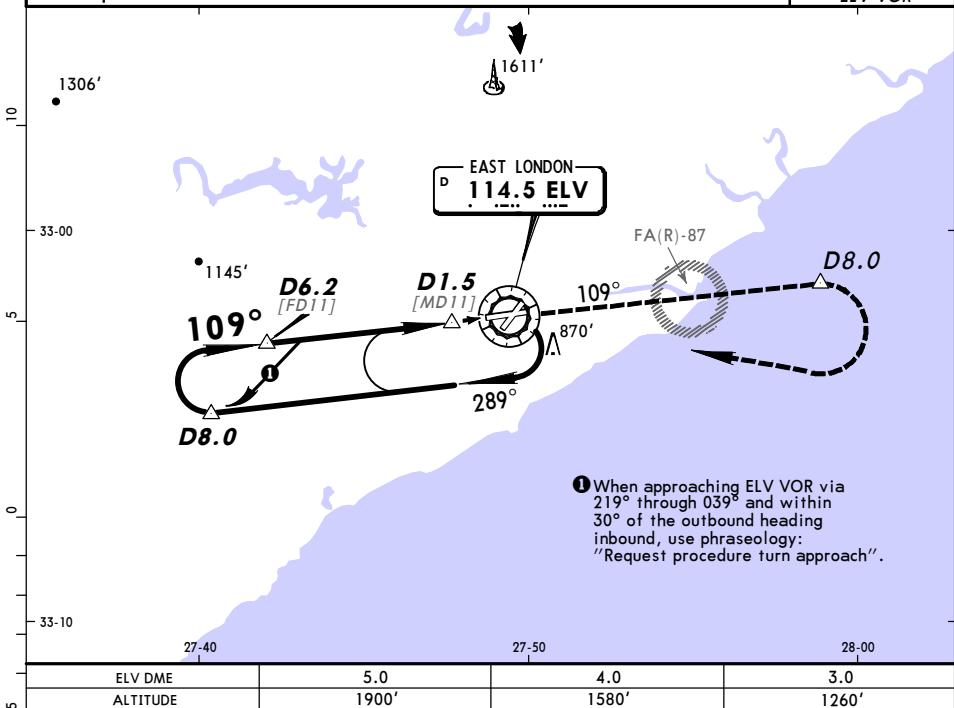
CHANGES: Chart reindexed.

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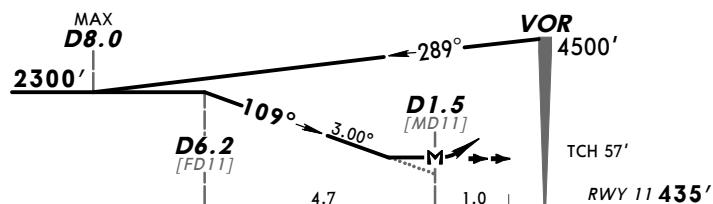
**FAEL/ELS**  
EAST LONDON

**JEPPESSEN EAST LONDON, S AFR REP**  
31 AUG 12 (13-1)  
VOR Rwy 11

*ATIS 126.65		*EAST LONDON Approach (R) 120.1		*EAST LONDON Tower (outside APP hr) 118.3	
VOR ELV <b>114.5</b>	Final Apch Crs <b>109°</b>	Minimum Alt <b>D6.2</b> <b>2300' (1865')</b>	MDA(H) <b>1120' (685')</b>	Apt Elev 435' <b>RWY 435'</b>	
<b>MISSSED APCH:</b> Climb to 4500'. Climb to VOR, then climb on R-109 to 3000' or D8.0, whichever is earlier. Then turn RIGHT to VOR and hold, or as directed.					
Alt Set: hPa DME required.	Rwy Elev: 16 hPa	Trans level: By ATC	Trans alt: 7000'	MSA ELV VOR	



- ① When approaching ELV VOR via 219° through 039° and within 30° of the outbound heading inbound, use phraseology: "Request procedure turn approach".



Gnd speed-Kts	70	90	100	120	140	160	HIALS	ELV
Descent Angle	3.00°	372	478	531	637	743	PAPI	114.5
MAP at D1.5								3000' D8.0 on 114.5 R-109

JAR-OPS		STRAIGHT-IN LANDING RWY 11		CIRCLE-TO-LAND	
MDA(H) 1120' (685')		ALS out		ENTIRELY AT PILOTS DISCRETION	
A RVR 1200m		RVR 1500m			
B RVR 1400m		RVR 2000m			
C				MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA	
D RVR 1800m					

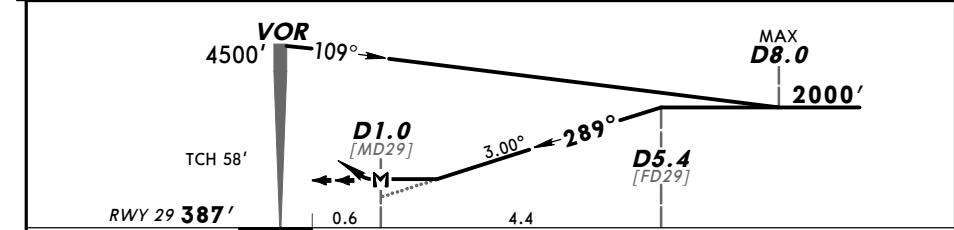
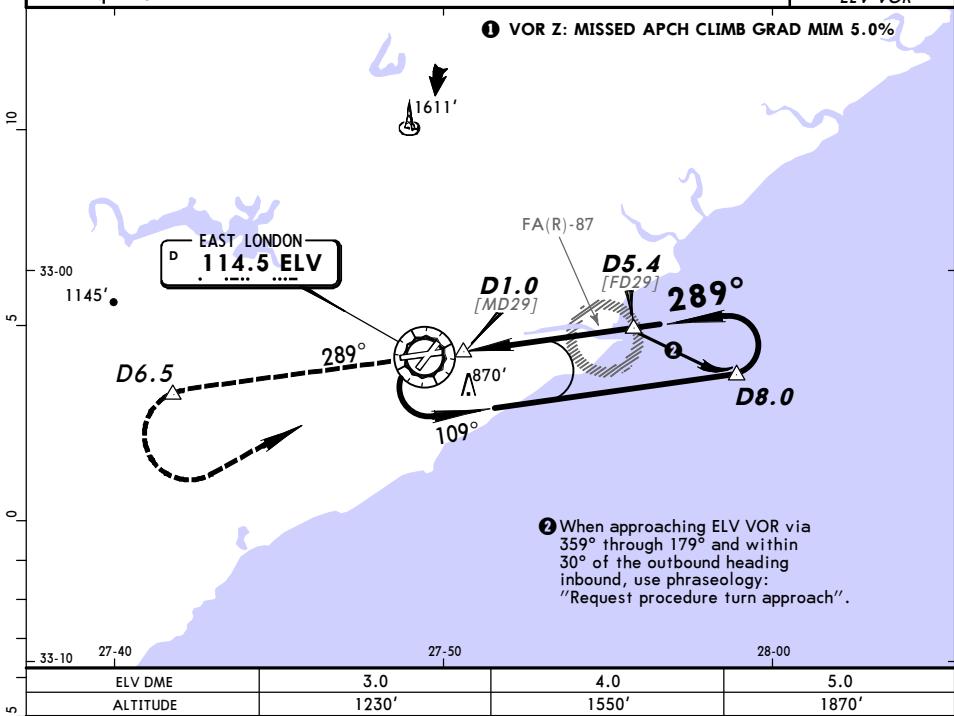
PANS OPS

CHANGES: Tower frequency.

**FAEL/ELS**  
EAST LONDON

**JEPPESEN EAST LONDON, S AFR REP**  
31 AUG 12 (13-2) **① VOR Z or VOR Y Rwy 29**

*ATIS <b>126.65</b>		*EAST LONDON Approach (R) <b>120.1</b>		*EAST LONDON Tower (outside APP hr) <b>118.3</b>	
VOR ELV <b>114.5</b>	Final Apch Crs <b>289°</b>	Minimum Alt <b>D5.4</b> <b>2000'</b> (1613')	MDA(H) Refer to Minimums	Apt Elev 435' <b>RWY 387'</b>	1611' 3700' 4500' 2800' 3000' 270° MSA ELV VOR
<b>MISSSED APCH:</b> Climb to 4500'. Climb to VOR, then climb on R-289 to 3000' or D6.5, whichever is earlier. Then turn LEFT to VOR and hold, or as directed.					
Alt Set: hPa DME required.	Rwy Elev: 14 hPa	Trans level: By ATC		Trans alt: 7000'	



Gnd speed-Kts	70	90	100	120	140	160	HIALS	ELV
Descent Angle	3.00°	372	478	531	637	743	849	114.5
MAP at D1.0								3000' D6.5 on 114.5 R-289

JAR-OPS				STRAIGHT-IN LANDING RWY 29				CIRCLE-TO-LAND			
VOR Z				VOR Y				ENTIRELY AT PILOTS DISCRETION			
Missed apch climb grad min 5.0%		MDA(H)	<b>810'</b> (423')	Missed apch climb grad min 2.5%		MDA(H)	<b>1060'</b> (673')				
ALS out		ALS out		ALS out		ALS out					
A	RVR 900m		RVR 1200m		RVR 1500m		RVR 2000m				
B		RVR 1500m			RVR 1400m						
C	RVR 1000m		RVR 1800m								
D	RVR 1400m		RVR 2000m		RVR 1800m						
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA											

FAGC/GCJ  
Apt Elev 5325'  
S25 59.2 E028 08.4

JEPPESSEN GRAND CENTRAL, S AFR REP  
11 APR 14 10-9 Eff 15 Apr  
GRAND CENTRAL

\*GRAND CENTRAL Radio

122.8

28-08

\*Apron Office  
(For parking instructions)  
130.35

28-09

Microlight acft not permitted except  
in emergency and at airshows.  
Rwy 17 right-hand circuit.

18°N

LEGEND

Area not  
visible from Tower

25-59

25-59

17  
Elev  
5247'

Control  
Tower

NDB

35  
351°

Elev  
5325'

Feet 0 1000 2000 3000 4000 5000  
Meters 0 500 1000 1500

26-00

26-00

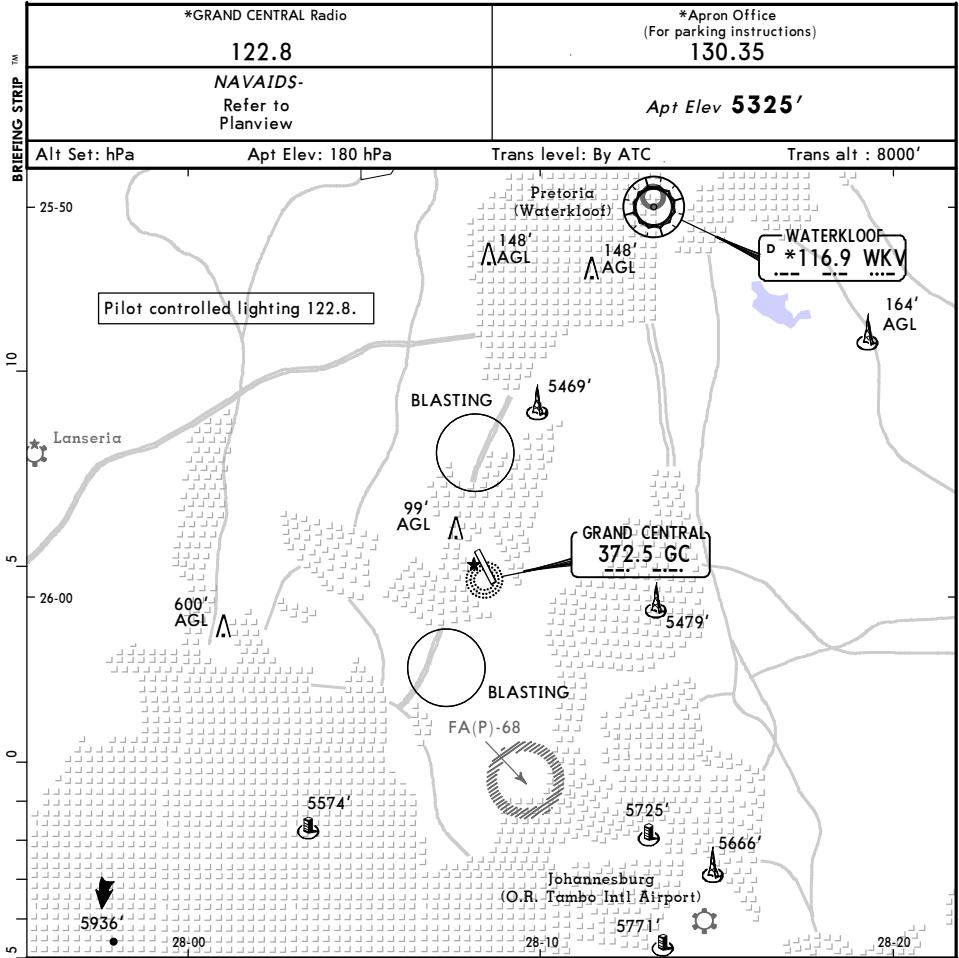
28-08

28-09

ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS			WIDTH
		Threshold	Glide Slope	TAKE-OFF	
17	① RL (100m) ① PAPI-L(angle 3.0°)	5827' 1776m			75' 23m
35					

① Activate on 122.8. Key mike 3 times. Lights will remain for 15 min.



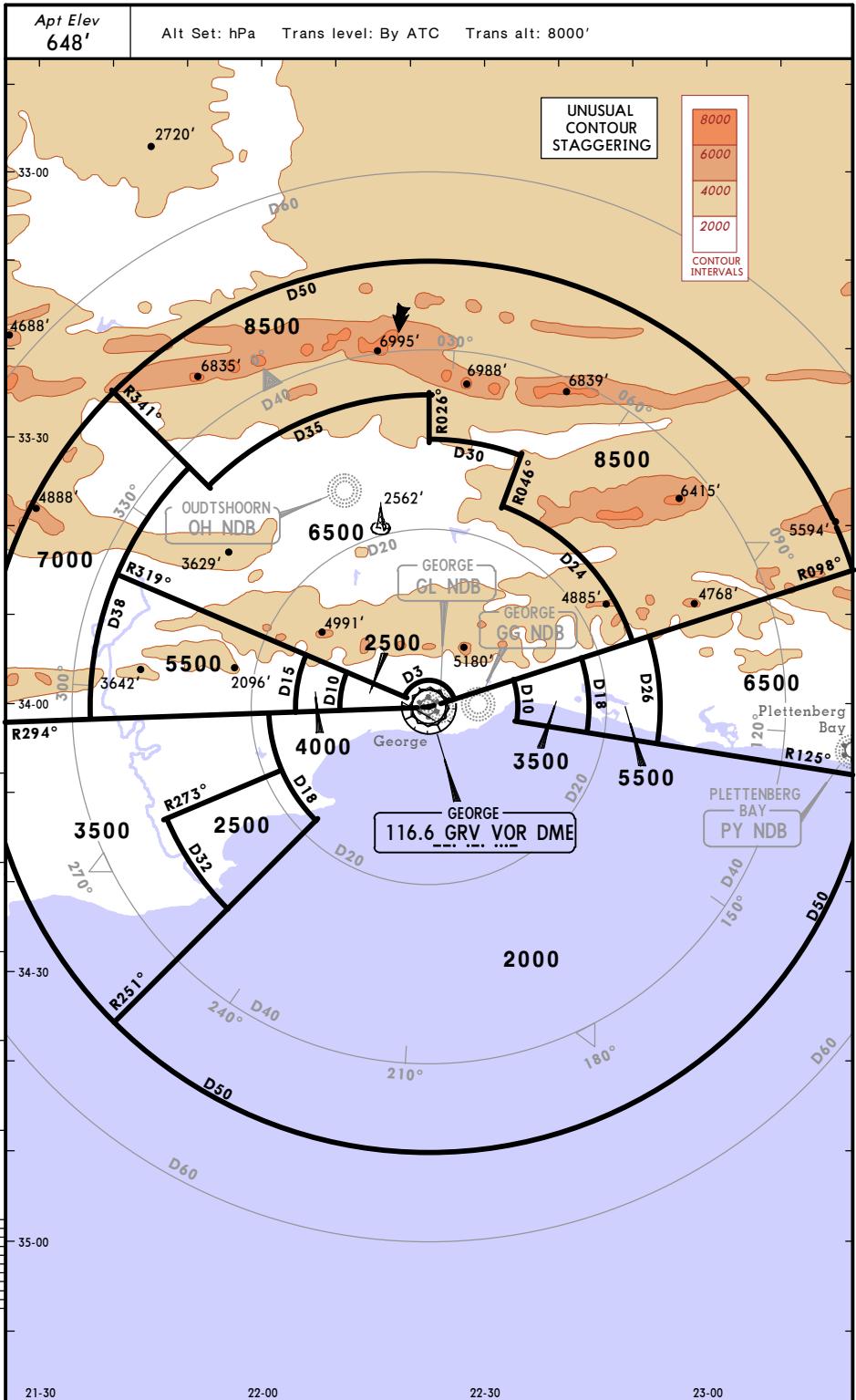
No instrument approach procedure established for this airport.

Lighting -  
Refer to  
Airport  
Chart

FAGG/GRJ  
GEORGE

JEPPESSEN  
4 JUN 10 10-1R

GEORGE, S AFR REP  
RADAR MINIMUM ALTITUDES



## NOISE ABATEMENT

**LT minus 2 HOURS = UTC (Z)**

### DEPARTURES

The below procedures apply to jet aircraft and may be disregarded if at 3650' or when leveled off by ATC or when leveled by SID.

- |                   |                                                                                                                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Take-off to 2150' | - take-off power;<br>- take-off flaps;<br>- climb at $V_2 + 10$ to 20 KT or as limited by body angle;<br>- depending on ACFT type, the take-off power/thrust may be reduced at a lower altitude; |
| At 2150'          | - reduce thrust (if not already reduced) to not less than climb power/thrust;                                                                                                                    |
| 2150' to 3650'    | - climb at $V_2 + 10$ to 20 KT;                                                                                                                                                                  |
| At 3650'          | - accelerate smoothly to en-route climb speed with flap retraction on schedule.                                                                                                                  |

No jet aircraft are to use RWY or TWY intersection for take-off between 2200-0600LT.

### RUN-UP TESTS

Permission required for engine run-ups on the apron.

FAGG/GRJ

Apt Elev 648'

S34 00.4 E022 22.5

JEPPESEN  
14 FEB 14 (10-9)

GEORGE, S AFR REP

GEORGE

\*ATIS

\*GEORGE Apron

\*Tower

126.22

122.65

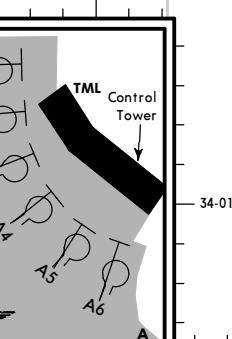
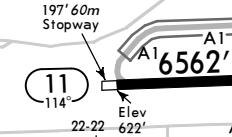
118.9

22-22

22-23

22-24

Prior to start-up apt contact "Apron Office" (Callsign GEORGE APRON) advising apt management of destination and number of persons on board. Prior to landing contact "Apron Office" (Callsign GEORGE APRON) for parking bay allocation and for refuelling. Rwy 11 right hand circuit.



Pilots are to exercise extreme caution with TWY designations and when entering areas not visible from tower. These areas indicate associated facilities, airport terrain and portions of the manoeuvring area.  
CAUTION: Birds in vicinity of airport.

Feet 0 1000 2000 3000 4000 5000  
Meters 0 500 1000 1500

22-23

22-24

RWY		ADDITIONAL RUNWAY INFORMATION			WIDTH
		Threshold	Glide Slope	LANDING BEYOND	
11	❶ HIRL(60m) ❶ PAPI (3.0°)			5590' 1704m	148' 45m
29	❶ HIRL(60m) ❶ CL (30m) ❶ HIALS ❶ TDZ ❷ RVR			5468' 1667m	

❶ Outside ATC hours available, RL only low intensity. Activate on 118.9. Key mike 5 times.

❷ PAPI (3.0°).

## JAR-OPS

## TAKE-OFF ❶

Rwy 29 LVP must be in Force		LVP must be in Force	All Rwy's	
RL, CL & multi. RVR req	RL & CL	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A				
B	150m	200m	250m	400m
C				500m
D	200m	250m	300m	

❶ Operators applying U.S. Ops Specs: CL required below 300m.

CHANGES: Stands.

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STRAIGHT-IN RWY		A	B	C	D
11	ILS	<b>922'(300')</b> <b>R1400m</b>	<b>922'(300')</b> <b>R1400m</b>	<b>922'(300')</b> <b>R1400m</b>	<b>922'(300')</b> <b>R1400m</b>
	VOR ①	<b>1200'(578')</b> <b>R1500m</b>	<b>1200'(578')</b> <b>R1500m</b>	<b>1200'(578')</b> <b>C2400m</b>	<b>1200'(578')</b> <b>C2400m</b>
29	ILS <i>FULL</i>	<b>848'(200')</b> <b>R550m</b>	<b>848'(200')</b> <b>R550m</b>	<b>852'(204')</b> <b>R600m</b>	<b>867'(219')</b> <b>R600m</b>
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	RNAV (LNAV/VNAV)	<b>1030'(382')</b> <b>R1100m</b>	<b>1030'(382')</b> <b>R1200m</b>	<b>1030'(382')</b> <b>R1200m</b>	<b>1030'(382')</b> <b>R1600m</b>
	<i>ALS out</i>	R1500m	R1500m	R2000m	R2000m
	RNAV (LNAV) ①	<b>1260'(612')</b> <b>R1500m</b>	<b>1260'(612')</b> <b>R1500m</b>	<b>1260'(612')</b> <b>C2100m</b>	<b>1260'(612')</b> <b>C2100m</b>
	<i>ALS out</i>	R1500m	R1500m	C2400m	C2400m
	VOR ①	<b>1070'(422')</b> <b>R1300m</b>	<b>1070'(422')</b> <b>R1300m</b>	<b>1070'(422')</b> <b>R1300m</b>	<b>1070'(422')</b> <b>R1400m</b>
	<i>ALS out</i>	R1500m	R1500m	R2000m	R2000m

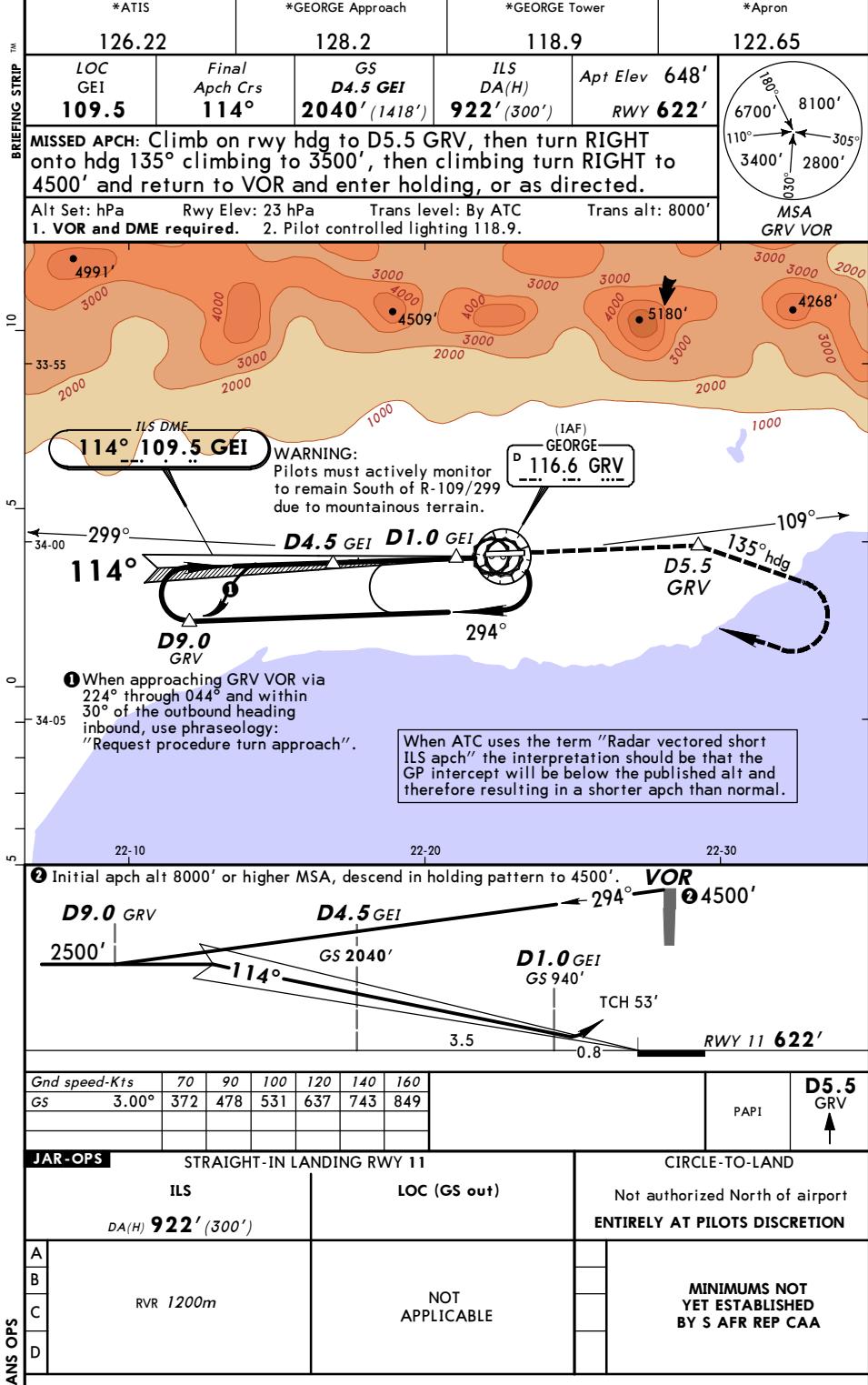
① Continuous Descent Final Approach.

CIRCLE-TO-LAND ②	A	B	C	D
After RNAV Rwy 29	<b>1110'(462')</b> <b>V1500m</b>	<b>1280'(632')</b> <b>V1600m</b>	<b>1600'(952')</b> <b>V2400m</b>	<b>1660'(1012')</b> <b>V3600m</b>
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

② Not authorized North of airport.  
Entirely at Pilots discretion.

### TAKE-OFF RWY 11, 29

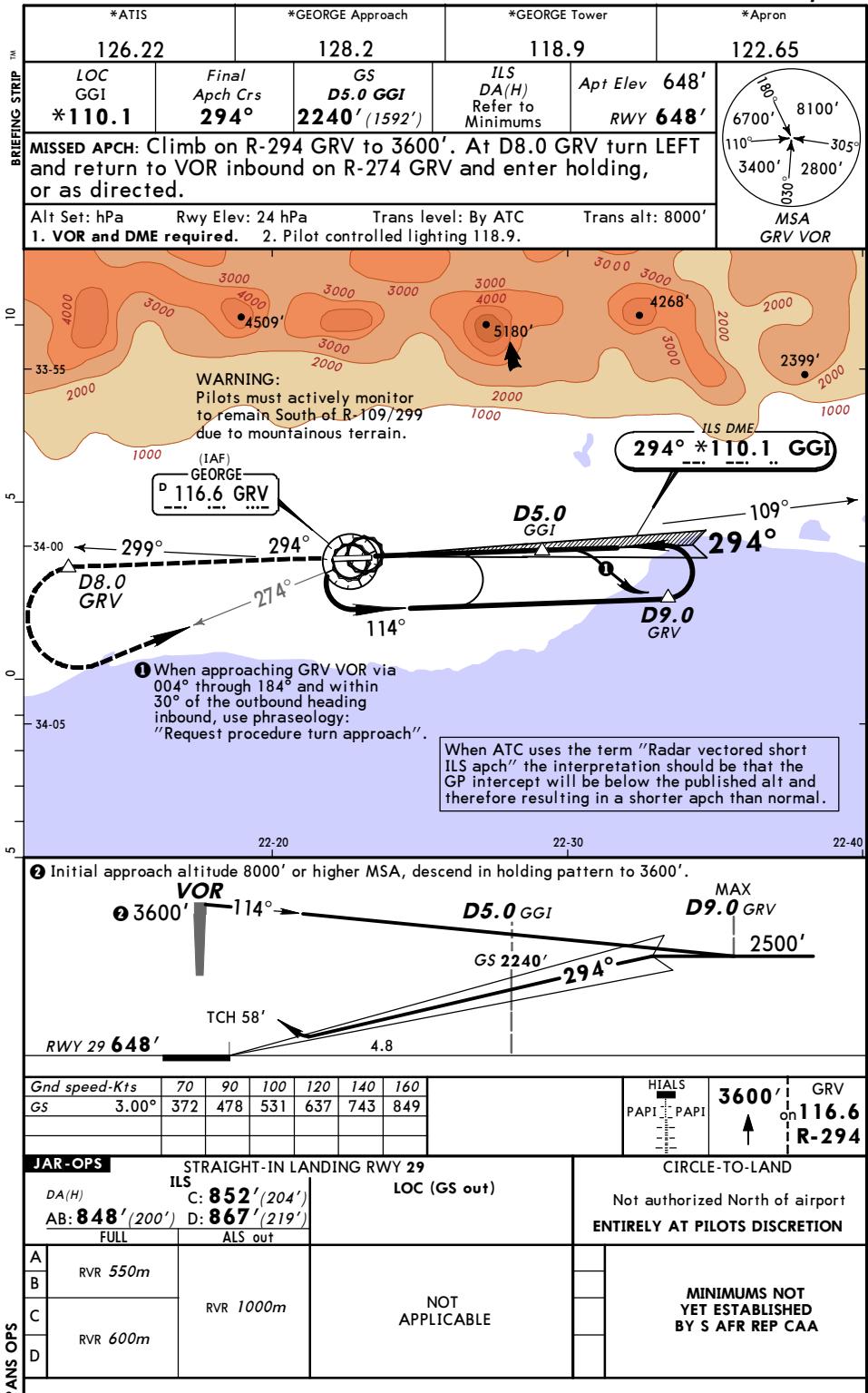
LVP must be in force				
RL, CL & mult. RVR req	RL & CL	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A	150m	200m	250m	400m
B				500m
C				
D	200m	250m	300m	

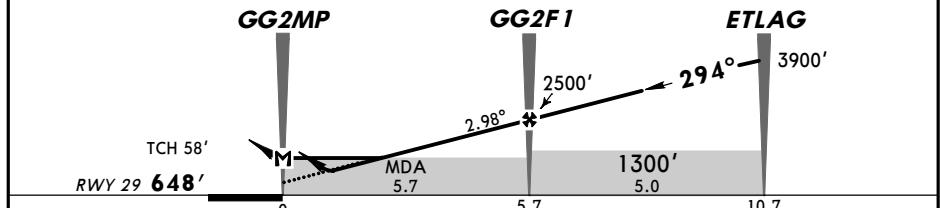
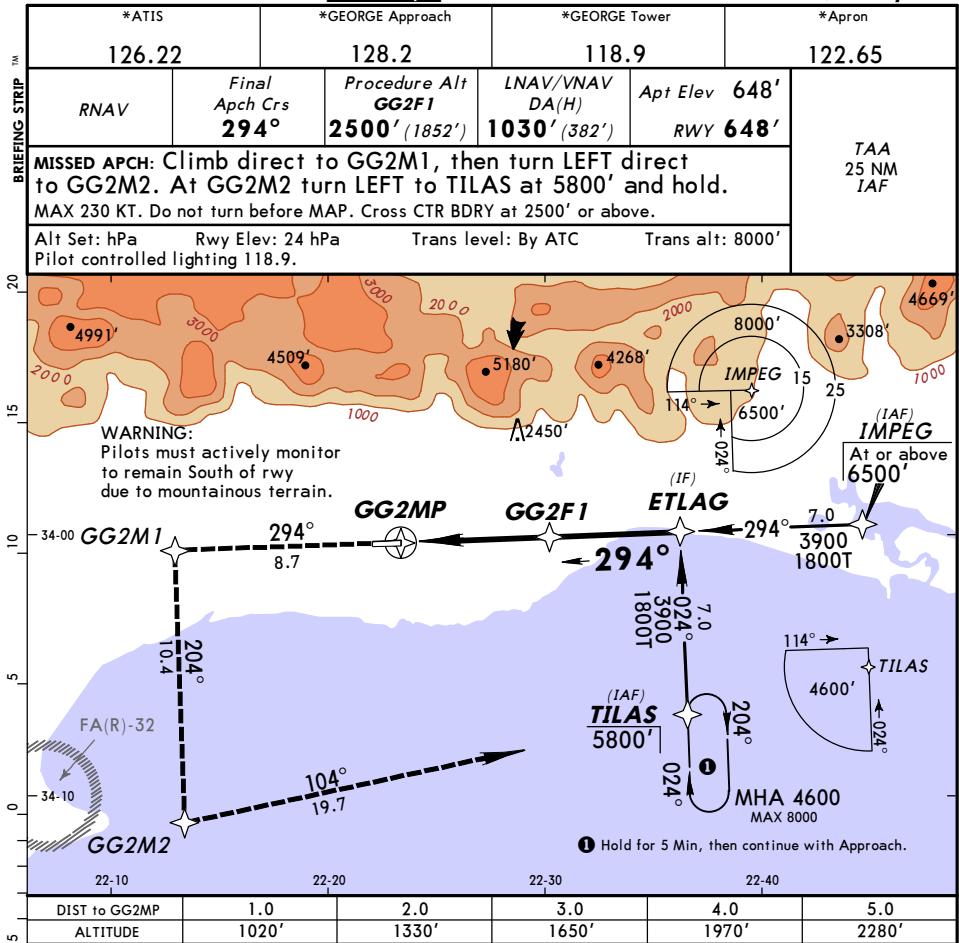


FAGG/GRJ  
GEORGE

JEPPESEN  
14 FEB 14 (11-2)

GEORGE, S AFR REP  
ILS Z Rwy 29





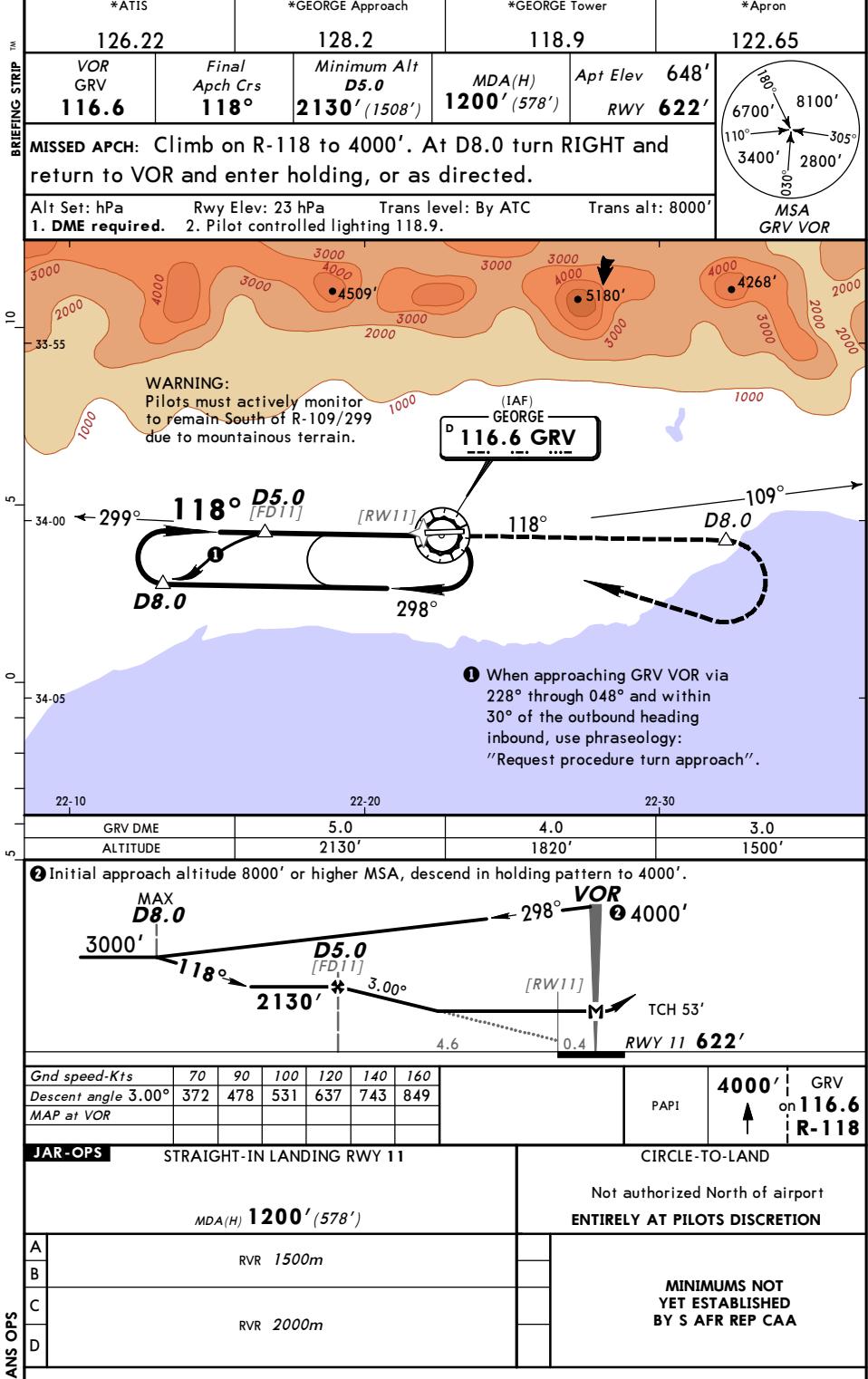
Gnd speed-Kts	70	90	100	120	140	160	HIALS	GG2M1
Descent Angle 2.98°	369	474	527	633	738	843	PAPI	PAPI
MAP at GG2MP								↑

JAR-OPS		STRAIGHT-IN LANDING Rwy 29				CIRCLE-TO-LAND		
LNAV/VNAV		LNAV				Not authorized North of airport ENTIRELY AT PILOTS DISCRETION		
DA(H) <b>1030' (382')</b>		MDA(H) <b>1260' (612')</b>						
FULL	ALS out		ALS out			Max Kts	MDA(H)	VIS
A RVR 1000m	RVR 1500m	RVR 1000m	RVR 1500m	RVR 1200m	RVR 2000m	100	1110' (462')	1500m
B RVR 1200m						135	1280' (632')	1600m
C						180	1600' (952')	2400m
D RVR 1600m						205	1660' (1012')	3600m

FAGG/GRJ  
GEORGE

JEPPESEN  
28 DEC 12 (13-1) Eff 10 Jan

GEORGE, S AFR REP  
VOR Rwy 11



FAGG/GRJ  
GEORGE

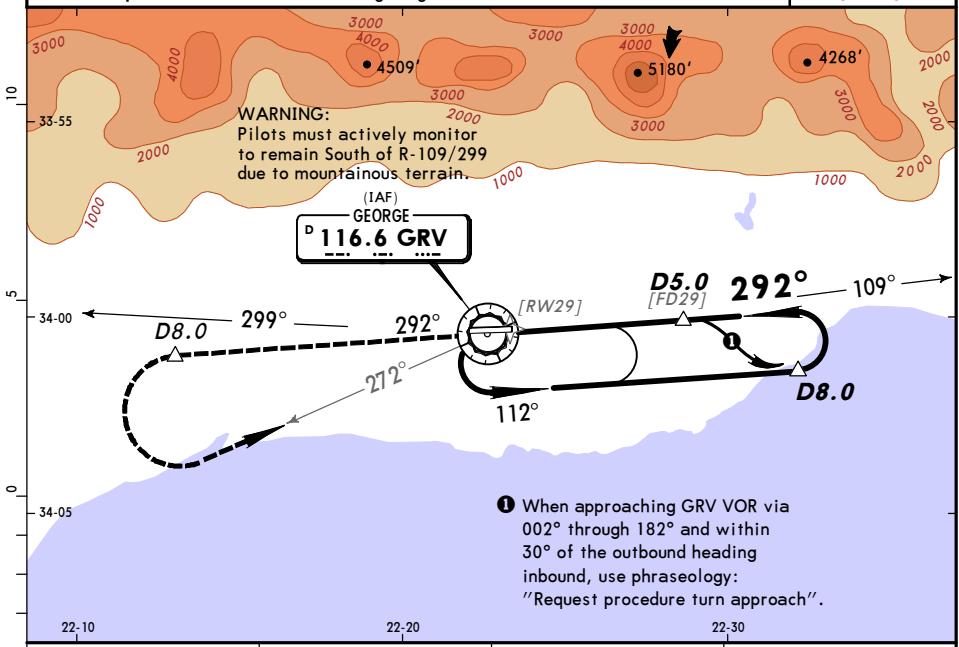
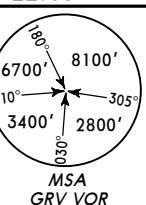
JEPPESEN  
28 DEC 12 13-2 Eff 10 Jan

GEORGE, S AFR REP  
VOR Rwy 29

*ATIS	*GEORGE Approach		*GEORGE Tower		*Apron
126.22	128.2		118.9		122.65
VOR GRV <b>116.6</b>	Final Apch Crs <b>292°</b>	Minimum Alt <b>D5.0</b> <b>2080'</b> (1432')	MDA(H) <b>1070'</b> (422')	Apt Elev <b>648'</b> RWY <b>648'</b>	

MISSED APCH: Climb on R-292 to 3600'. At D8.0 turn LEFT and return to VOR inbound on R-272 and enter holding, or as directed.

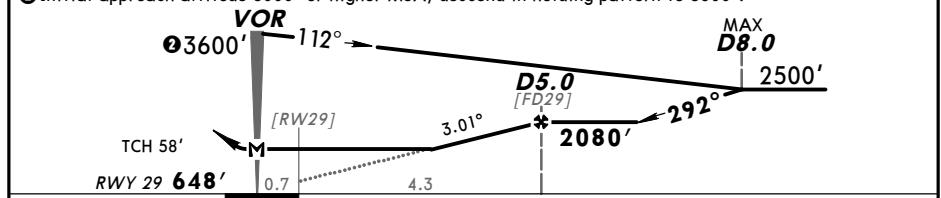
Alt Set: hPa Rwy Elev: 24 hPa Trans level: By ATC Trans alt: 8000'  
1. DME required. 2. Pilot controlled lighting 118.9.



- ① When approaching GRV VOR via 002° through 182° and within 30° of the outbound heading inbound, use phraseology: "Request procedure turn approach".

	22-10	22-20	22-30
GRV DME	3.0	4.0	5.0
ALTITUDE	1450'	1770'	2080'

- ② Initial approach altitude 8000' or higher MSA, descend in holding pattern to 3600'.



Gnd speed-Kts	70	90	100	120	140	160	HIALS	3600'	GRV
Descent angle	3.01°	373	479	532	639	745	PAPI	on 116.6	R-292
MAP at VOR									

JAR-OPS STRAIGHT-IN LANDING RWY 29		CIRCLE-TO-LAND	
MDA(H) <b>1070'</b> (422')		Not authorized North of airport ENTIRELY AT PILOTS DISCRETION	
ALS out			
A	RVR 900m	RVR 1500m	
B	RVR 1000m	RVR 1800m	
C			MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA
D	RVR 1400m	RVR 2000m	

PANS OPS

CHANGES: GL NDB withdrawn.

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\*Tower

118.7

26-14

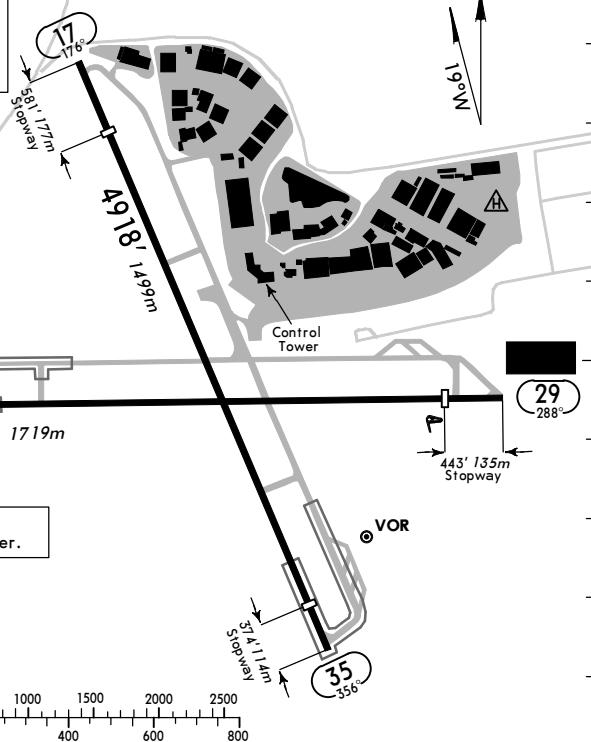
28-09

26-14

**ABN.**  
Windshear on approach rwy 35.  
High tension power lines & high trees on approach rwy 17.  
Rwy 11 & 17 right hand circuit.

**LEGEND**

Area not visible from Tower



Exercise extreme caution when entering areas not visible from Tower.

Feet 0 500 1000 1500 2000 2500  
Meters 0 200 400 600 800

26-15

28-09

26-15

ADDITIONAL RUNWAY INFORMATION

RWY	RL (60m)	PAPI (angle 3.0°)	USABLE LENGTHS		TAKE-OFF	WIDTH
			Threshold	Glide Slope		
11	RL (60m)	PAPI (angle 3.0°)	5197' 1584m		5197' 1584m	49' 15m
					4544' 1385m	49' 15m
17	RL (60m)	PAPI (angle 3.5°)	4337' 1322m		4544' 1385m	49' 15m
					4337' 1322m	49' 15m
35	RL (60m)	PAPI (angle 3.0°)	4544' 1385m		4544' 1385m	49' 15m
					4337' 1322m	49' 15m

**COMMUNICATION FAILURE PROCEDURE**

In the event of a suspected Radio communication failure, all traffic intending to return the ATZ from the Johannesburg Special Rules Area should squawk 7600, switching on all available navigation and landing lights, make the appropriate blind broadcast on frequency 118.7, join overhead the AD at 6500', conform to the circuit pattern, join on the downwind and land. Pilots to vacate the active Rwy in use and contact the Tower telephonically once safe at the hangar.

**JAR-OPS**

**TAKE-OFF 1**

**All Rwy's**

**LVP must be in Force**

RCLM (DAY only)  
or RL

RCLM (DAY only)  
or RL

NIL  
(DAY only)

A

250m

400m

500m

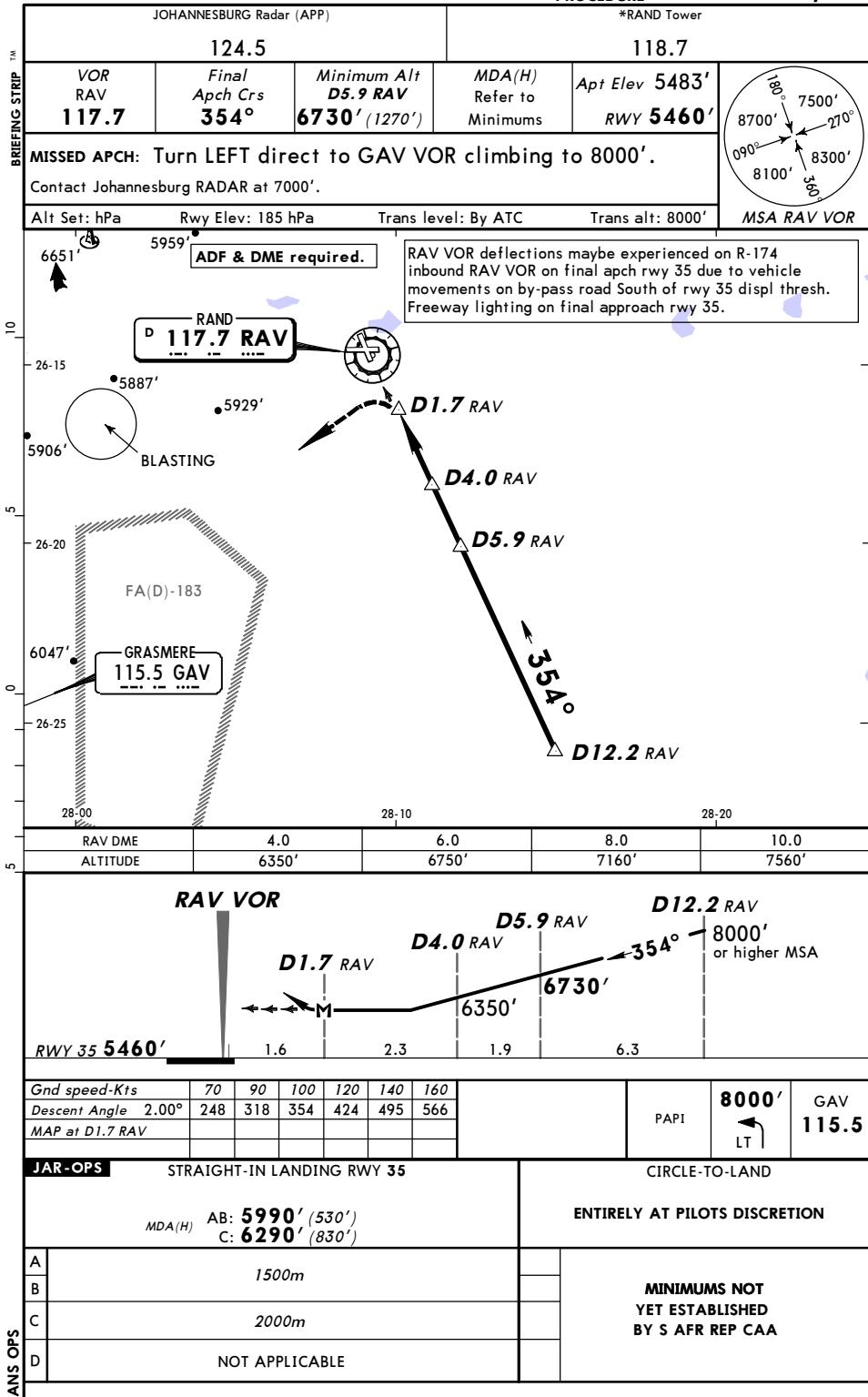
B

C

D

NOT APPLICABLE

**1 Operators applying U.S. Ops Specs: CL required below 300m.**



FAGY

Apt Elev 3528'  
S29 07.4 E030 35.1JEPPESEN  
26 AUG 11 10-9

GREYTOWN, S AFR REP

GREYTOWN

\*GREYTOWN Radio

When Radio is unmanned, acft shall use 123.5 for Air to Air Self-Information

123.5

30-35

Rwy 06 right-hand circuit.

29-07

29-07

Elev 3472' 24° 1462m

25°N

ARP

VOR

Elev 3531'

NDB

Feet 0 500 1000 1500 2000 2500 3000  
 Meters 0 200 400 600 800 1000  
 30-35

29-08

29-08

## ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS			WIDTH
		Threshold	Glide Slope	TAKE-OFF	
06	MIRL (70m)				36' 11m
24	MIRL (70m) PAPI-L (angle 3.0°)				

## JAR - OPS

## TAKE-OFF 1

## All Rwy's

LVP must be in force

RCLM (DAY only)  
or RLRCLM (DAY only)  
or RLNIL  
(DAY only)

A	250m	400m	500m
B			
C			
D			

NOT APPLICABLE

1 Operators applying U.S. Ops Specs: CL required below 300m.

CHANGES: Apt elev. Usable lengths. Note.

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FAGY  
GREYTOWN

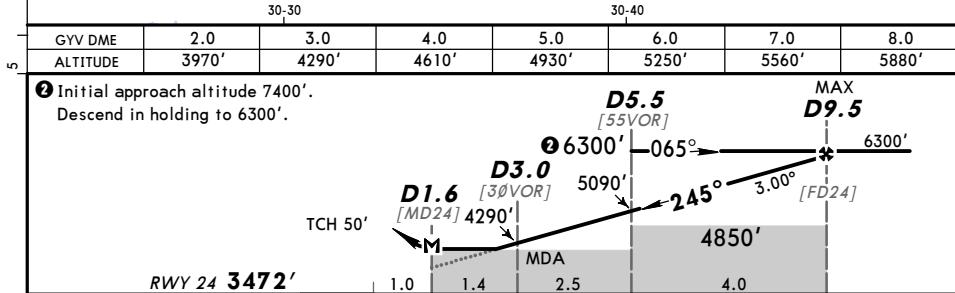
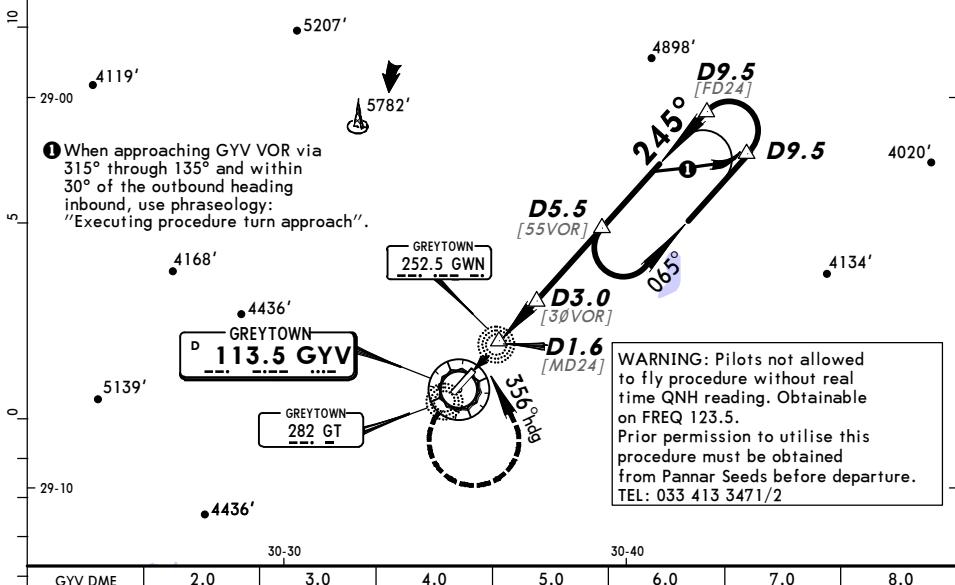
JEPPESEN  
26 AUG 11 (13-1) CAT A, B & C

GREYTOWN, S AFR REP  
VOR Rwy 24

*DURBAN Approach 125.75		*GREYTOWN Radio 123.5	When Radio is unmannned, a/c shall use 123.5 for Air to Air Self-Information	
VOR GYV <b>113.5</b>	Final Apch Crs <b>245°</b>	Procedure Alt <b>D9.5</b> <b>6300' (2828')</b>	MDA(H) (CONDITIONAL) <b>4060' (588')</b>	

**MISSSED APCH:** Home on VOR climbing to 6300'. At VOR turn LEFT on hdg 356°. Intercept R-065 outbound and return to D5.5. Enter holding and reccomence procedure or contact Durban APPROACH for diversion.

Alt Set: hPa Rwy Elev: 121 hPa Trans level: By ATC Trans alt: 7500'  
1. QNH and DME required. 2. Initial approach only with ATC approval. 3. Approach procedure is conducted outside controlled airspace and entirely at the discretion of pilot-in-command.  
4. Holding restricted to MAX 200 KT.

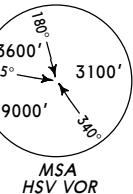


Gnd speed-Kts	70	90	100	120	140	160		
Descent angle	3.00°	372	478	531	637	743	849	
MAP at D1.6								

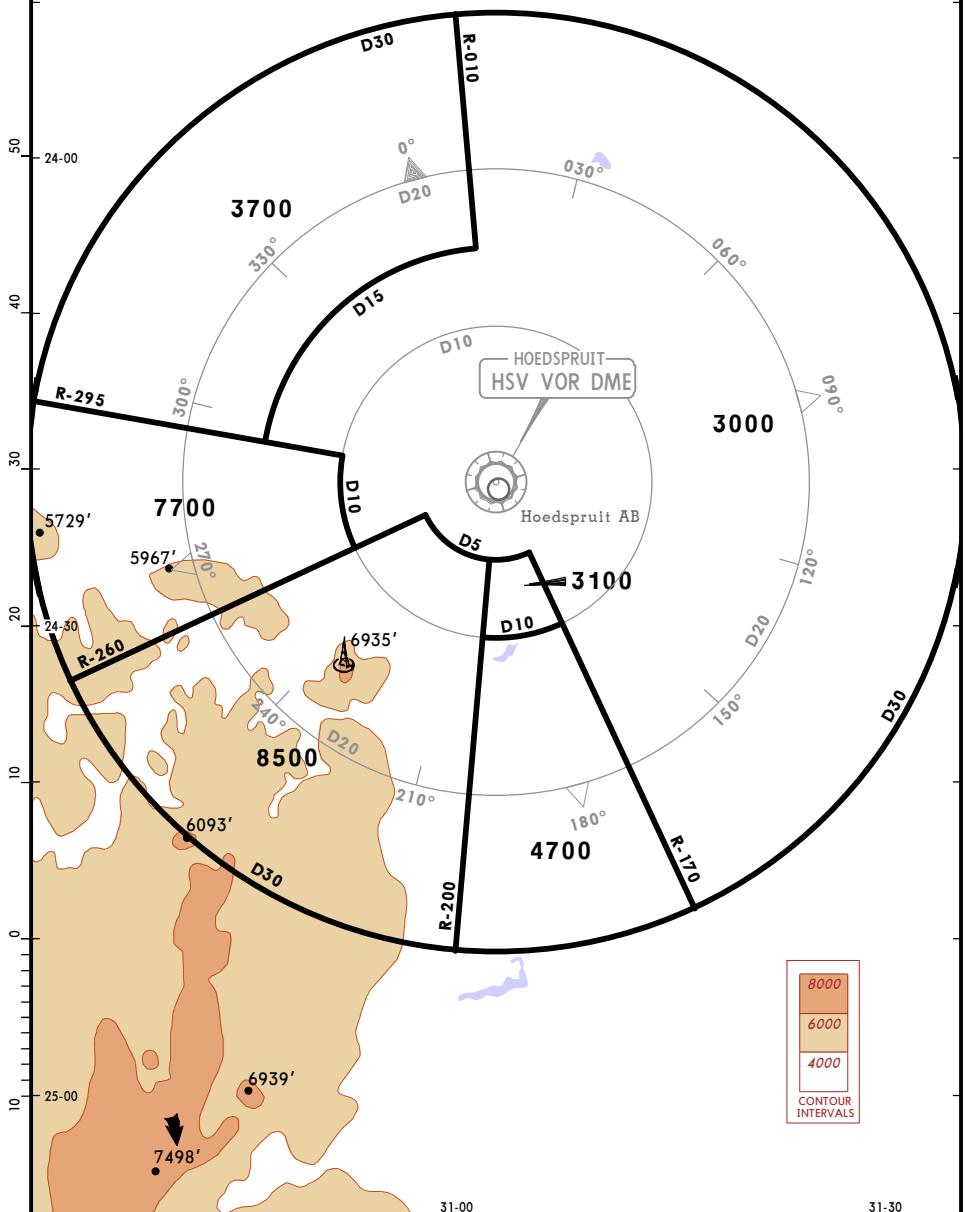
JAR-OPS		STRAIGHT-IN LANDING RWY 24		CIRCLE-TO-LAND	
With D5.5 & D3.0 <b>MDA(H) 4060' (588')</b>		W/o D5.5 & D3.0 <b>MDA(H) 4850' (1378')</b>			
A	RVR 1500m	RVR 1500m	A		
B			B	NOT AUTHORIZED	
C	RVR 2000m	RVR 2000m	C		
D	NOT APPLICABLE		D	NOT APPLICABLE	

Apt Elev  
1738'

Alt Set: hPa Trans level: By ATC Trans alt: 8000'  
Radar terrain clearance altitudes only valid when under positive  
radar control and radar vectoring. Alternatively MSA applies.



UNLICENCED MILITARY AERODROME  
To be used in emergency only



FAHS

Apt Elev 1738'  
S24 21.3 E031 03.0

JEPPESEN

18 JAN 08

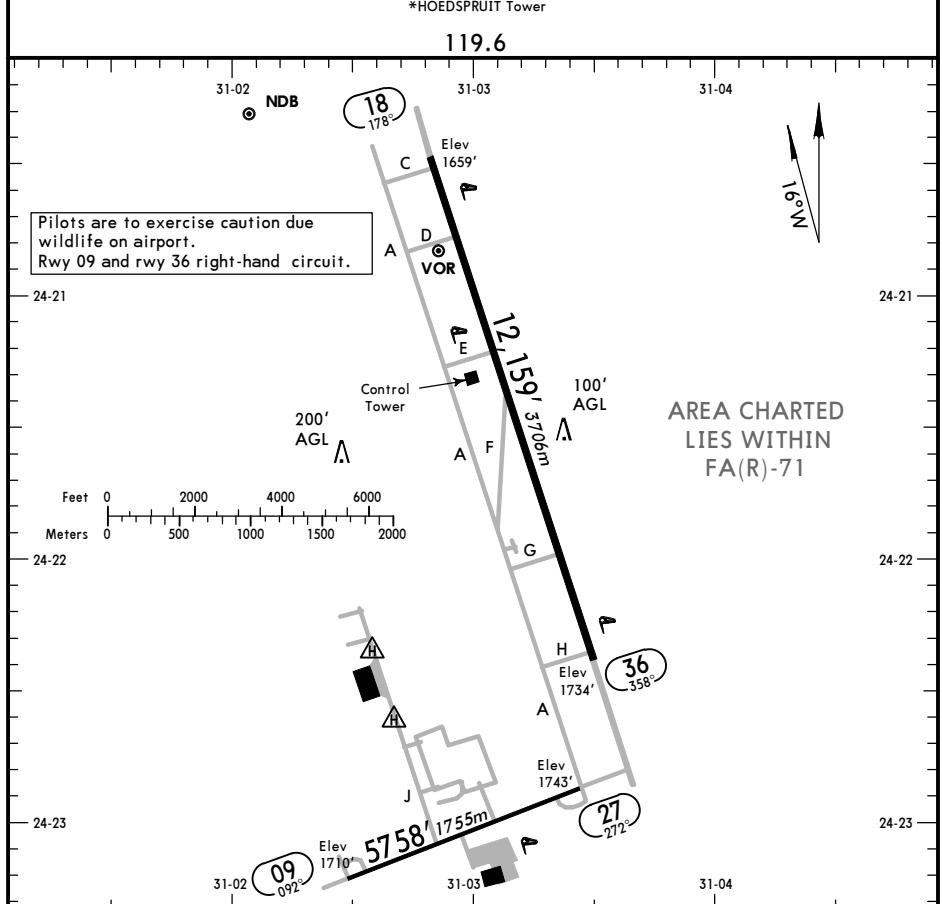
10-9

HOEDSPRUIT, S AFR REP

HOEDSPRUIT AB

\*HOEDSPRUIT Tower

119.6



## ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS			WIDTH
		Threshold	Glide Slope	LANDING BEYOND	
09 27	RL PAPI (angle 3.0°)				89' 27m
18 36	RL PAPI (angle 2.8°)			11,248' 3428m	153' 47m

## JAR-OPS

## TAKE-OFF 1

## All Rwy's

LVP must be in force

RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A		
B	250m	
C		
D	300m	500m

Operators applying U.S. Ops Specs: CL required below 300m.

CHANGES: New airport.

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STRAIGHT-IN RWY		A	B	C	D
18	ILS	1859'(200') R1200m	1859'(200') R1200m	1859'(200') R1200m	1859'(200') R1200m
	LOC		NOT APPLICABLE		
	VOR	2160'(501') C2600m	2160'(501') C2600m	2160'(501') C2800m	2160'(501') C2800m
36	VOR	2170'(436') C2200m	2170'(436') C2200m	2170'(436') C2400m	2170'(436') C2400m
	NDB	2290'(552') C2700m	2290'(552') C2700m	2290'(552') C2900m	2290'(552') C2900m

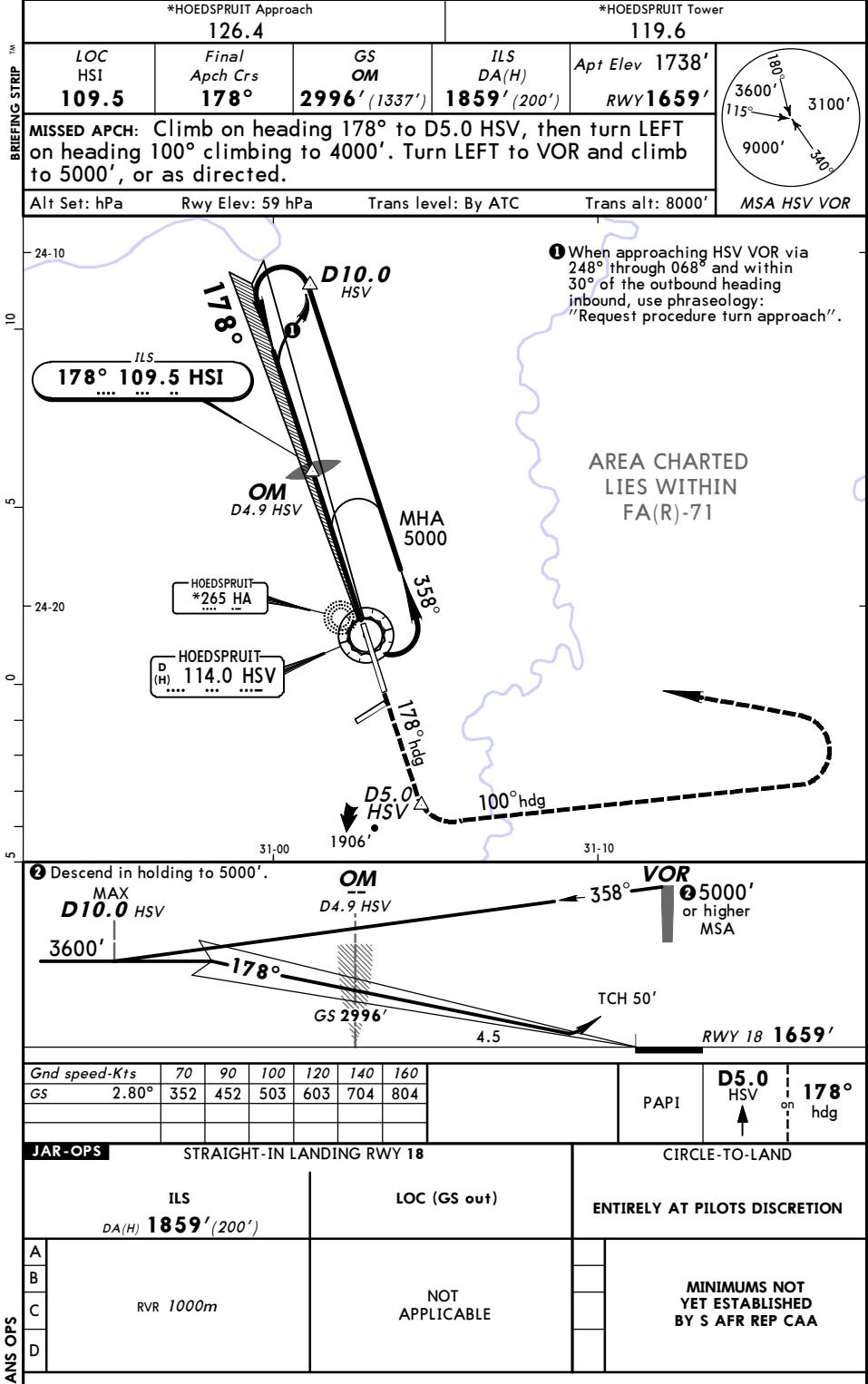
CIRCLE-TO-LAND ①	A	B	C	D
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

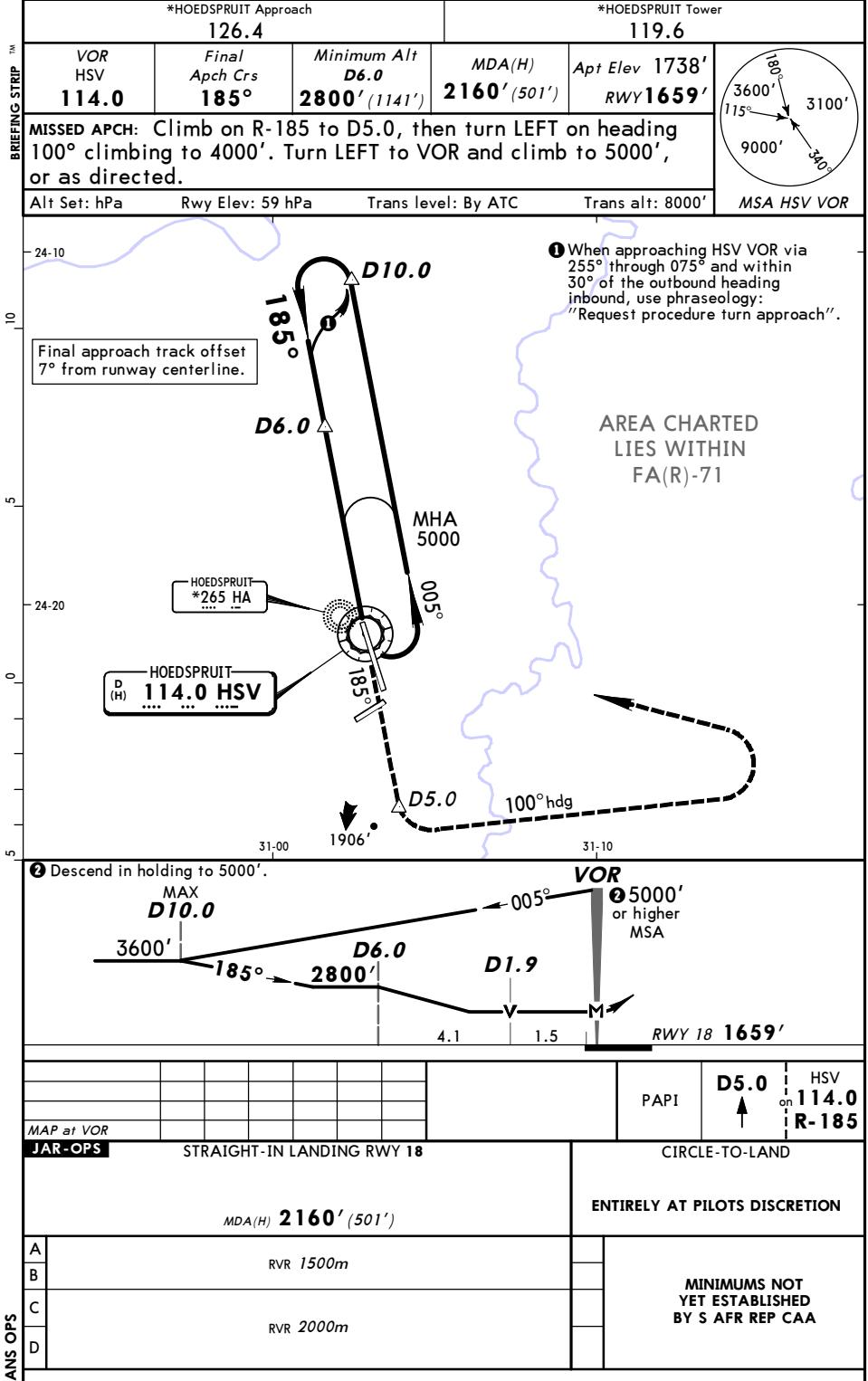
① Entirely at pilots discretion.

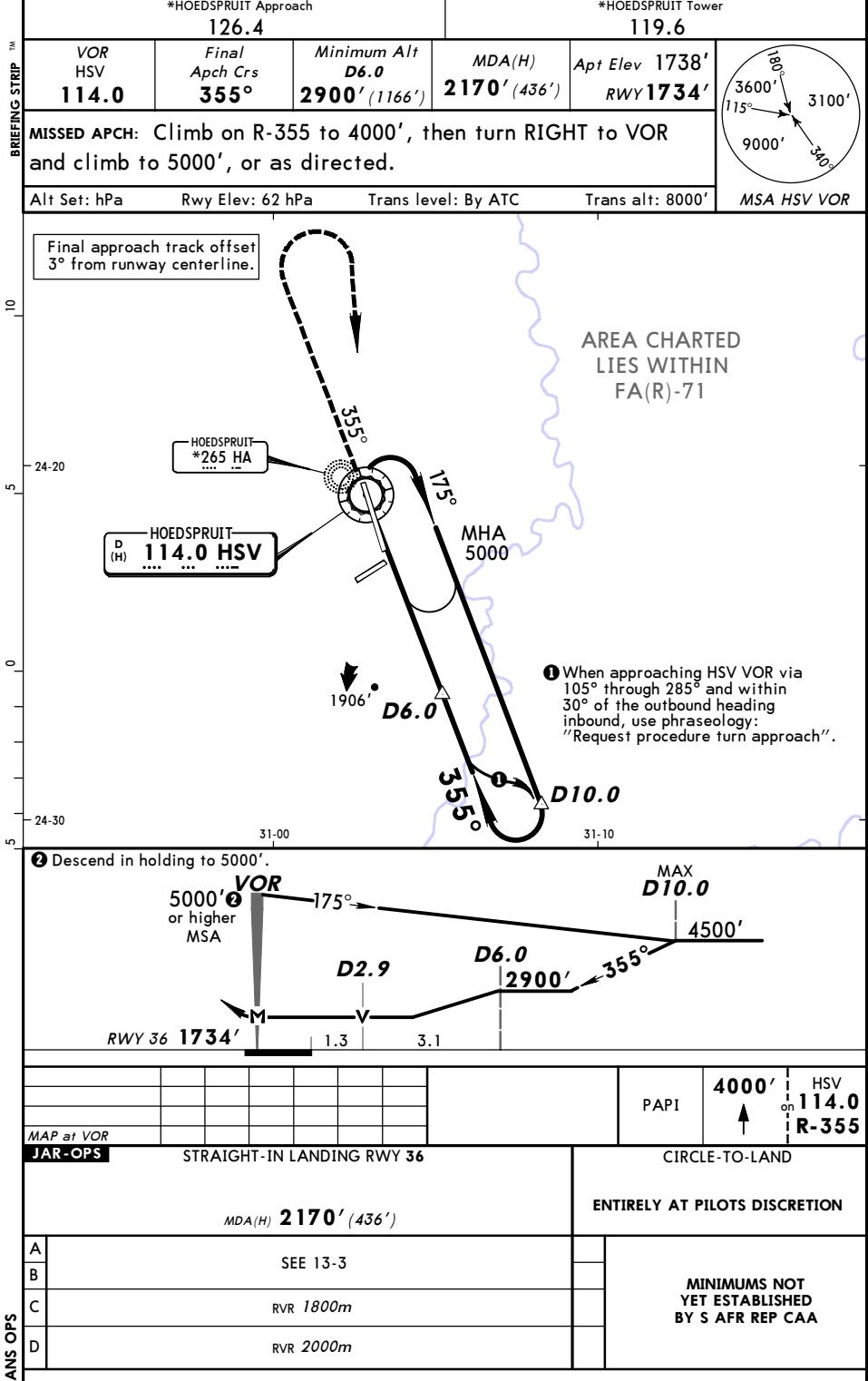
### TAKE-OFF RWY 09, 18, 27, 36 ②

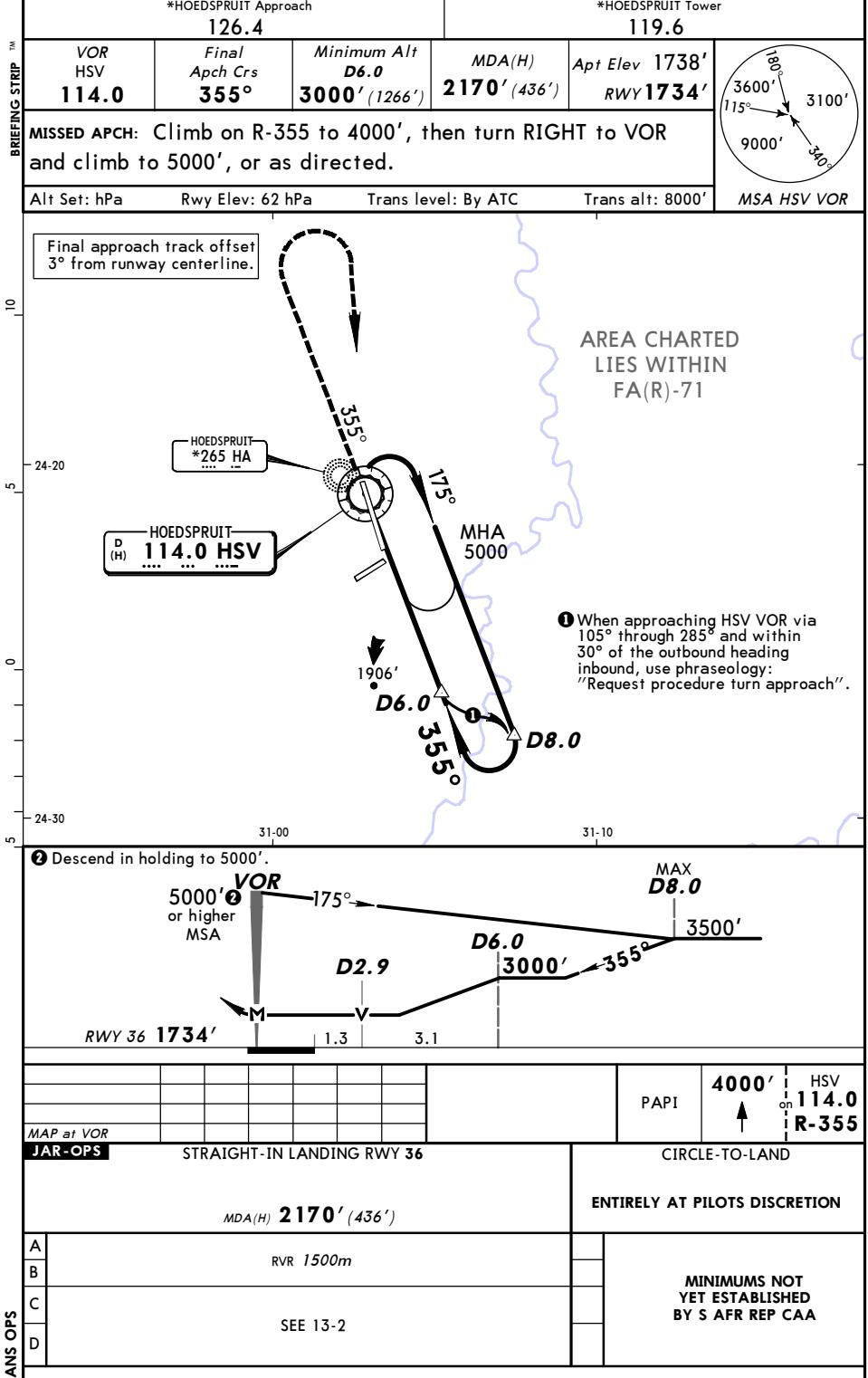
LVP must be in force		RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A				
B	250m			
C				
D	300m		400m	500m

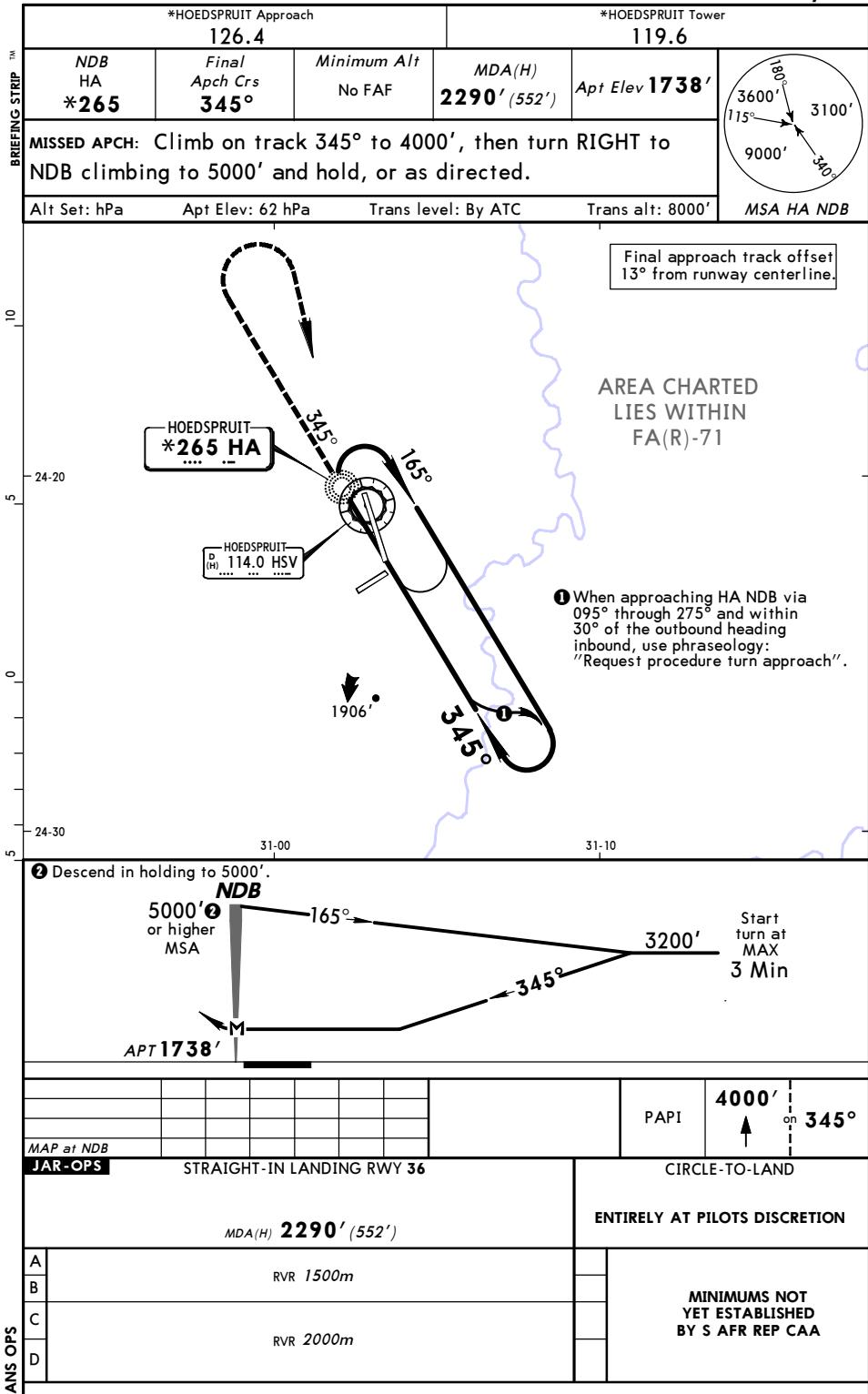
② Operators applying U.S. Ops Specs: CL required below 300m.

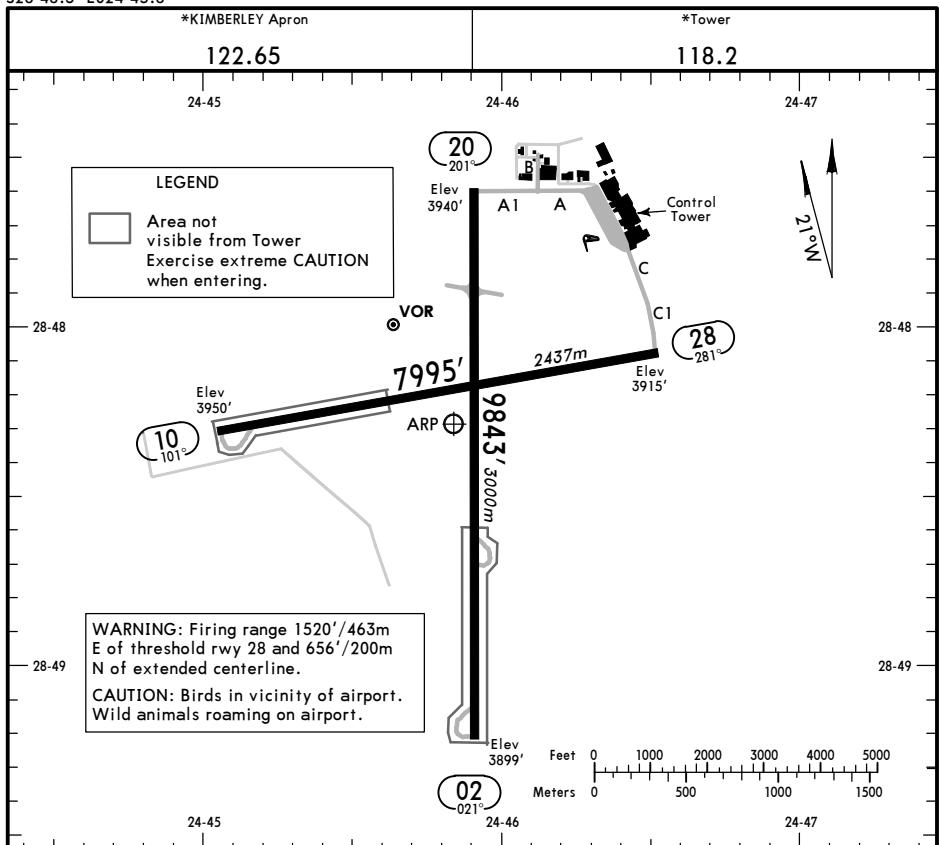












**ADDITIONAL RUNWAY INFORMATION**

RWY		USABLE LENGTHS			WIDTH
		Threshold	Glide Slope	TAKE-OFF	
02	20	1 MIRL (60m)	1 PAPI(angle 3.0°)		151' 46m
10	28	RL (60m)	PAPI(angle 3.0°)		151' 46m

1 Activate on 118.2. Key mike 5 times.

**JAR-OPS**

**TAKE-OFF 1**

**All Rwy's**

**LVP must be in Force**

RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A		
B	250m	
C		
D	300m	500m

1 Operators applying U.S. Ops Specs: CL required below 300m.

**FAKM/KIM**
**JEPPESEN**  
 7 FEB 14      **10-9S**
**Standard**  
**KIMBERLEY, S AFR REP**  
**KIMBERLEY**

<b>STRAIGHT-IN RWY</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	
<b>02</b>	VOR <b>①</b>	<b>4260'(361')</b> <b>R1500m</b>	<b>4260'(361')</b> <b>R1500m</b>	<b>4260'(361')</b> <b>R1700m</b>	<b>4260'(361')</b> <b>R1700m</b>
<b>20</b>	VOR <b>①</b>	<b>4570'(630')</b> <b>R1500m</b>	<b>4570'(630')</b> <b>R1500m</b>	<b>4570'(630')</b> <b>C2400m</b>	<b>4570'(630')</b> <b>C2400m</b>

**①** Continuous Descent Final Approach.

<b>CIRCLE-TO-LAND ②</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

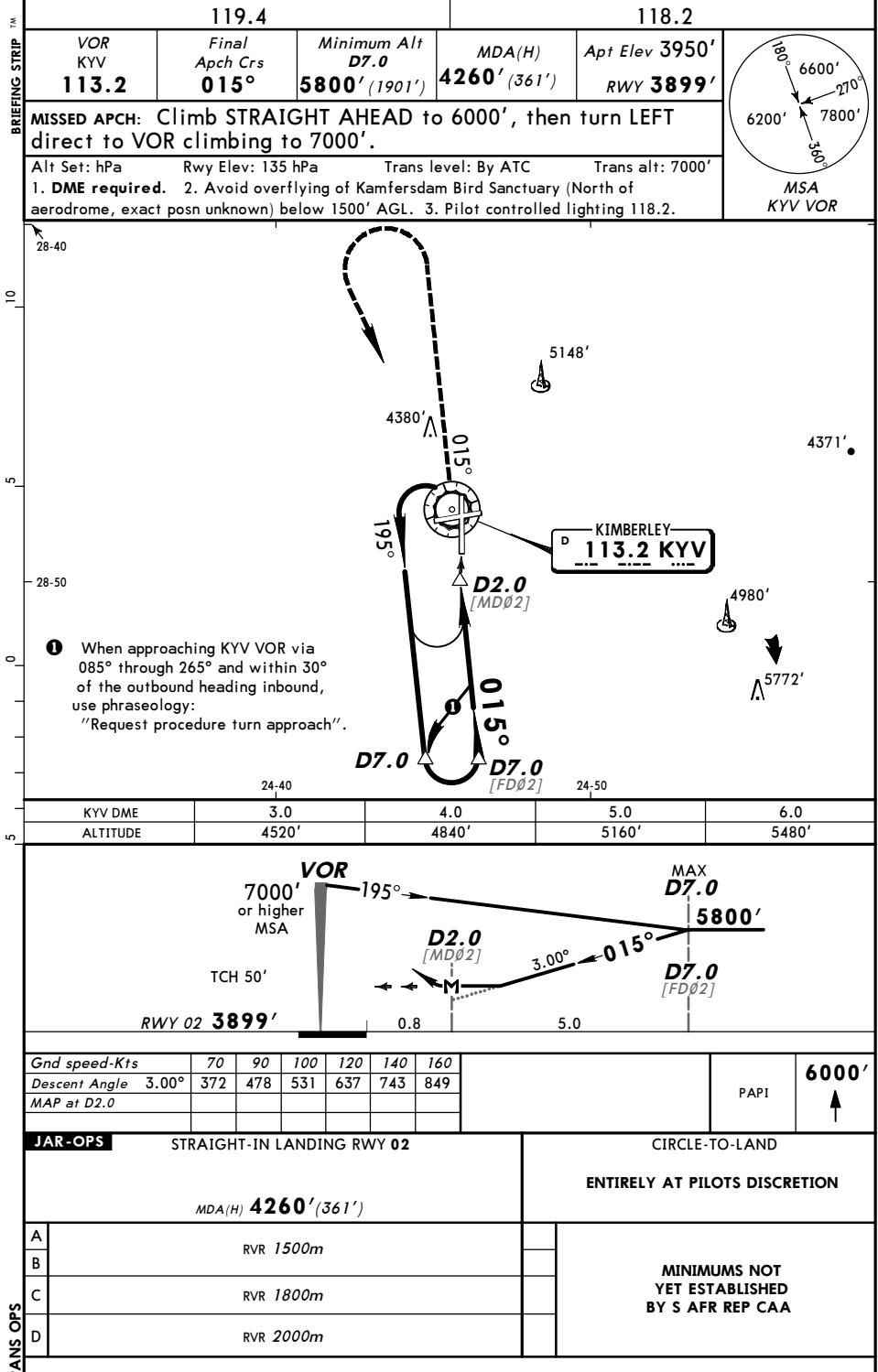
**②** Entirely at pilots discretion.

---

**TAKE-OFF RWY 02, 10, 20, 28**


---

LVP must be in force		RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A				
B	250m			
C			400m	
D	300m			500m



FAKM/KIM  
KIMBERLEYJEPPESEN  
7 FEB 14 (13-2)KIMBERLEY, S AFR REP  
VOR Rwy 20

BRIEFING STRIP™

\*BLOEMFONTEIN Approach

\*KIMBERLEY Tower

119.4

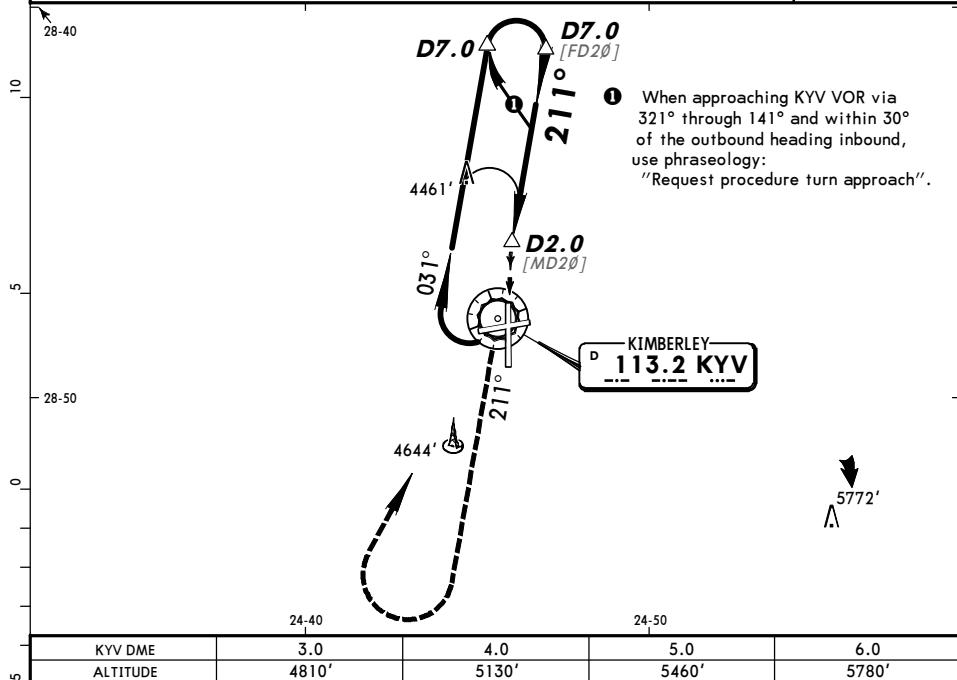
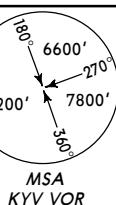
118.2

VOR  
KYV  
**113.2**Final  
Apch Crs  
**211°**Minimum Alt  
**D7.0**  
**6100' (2160')**MDA(H)  
**4570' (630')**Apt Elev 3950'  
**RWY 3940'**

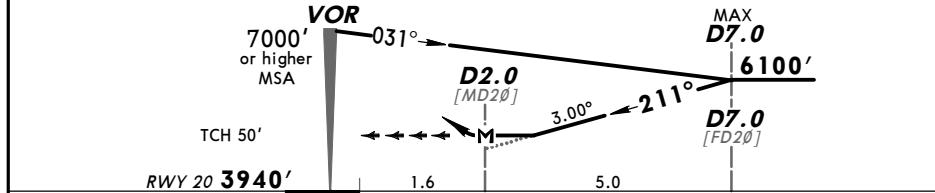
MISSING APCH: Climb STRAIGHT AHEAD to 6000', then turn RIGHT direct to VOR climbing to 7000'.

Alt Set: hPa Rwy Elev: 136 hPa Trans level: By ATC Trans alt: 7000'

1. DME required. 2. Avoid overflying of Kamfersdam Bird Sanctuary (North of aerodrome, exact posn unknown) below 1500' AGL. 3. Pilot controlled lighting 118.2.



KYV DME	3.0	4.0	5.0	6.0
ALTITUDE	4810'	5130'	5460'	5780'

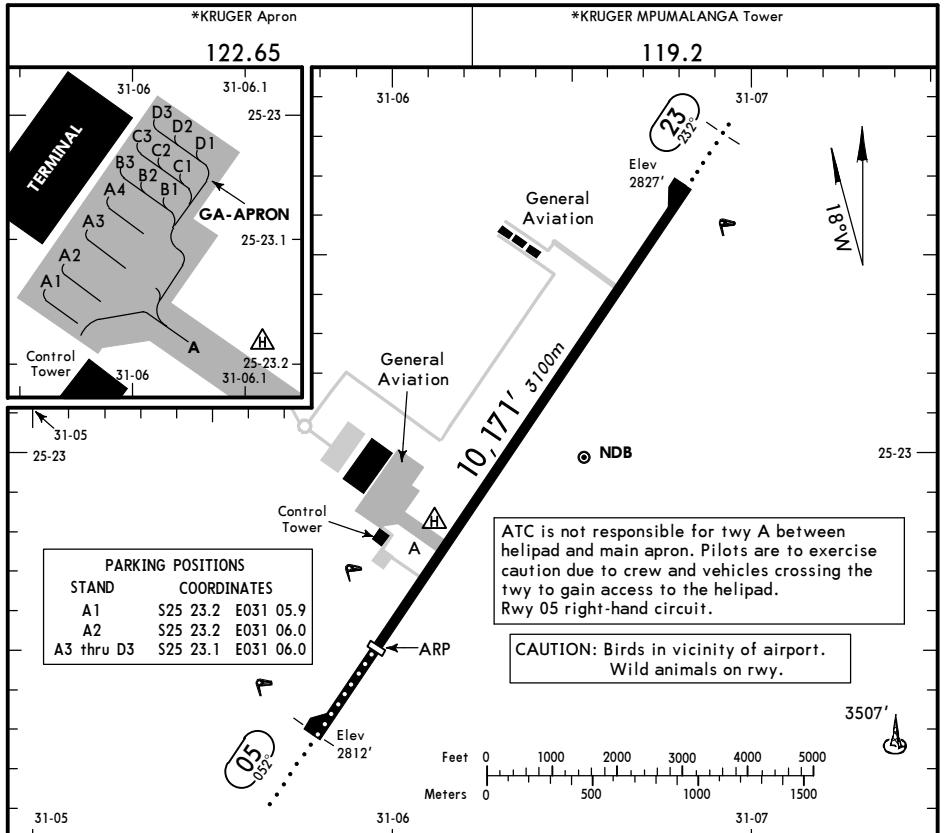


Gnd speed-Kts	70	90	100	120	140	160		PAPI	6000'
Descent Angle 3.00°	372	478	531	637	743	849			
MAP at D2.0									

JAR - OPS		STRAIGHT-IN LANDING RWY 20		CIRCLE-TO-LAND	
ENTIRELY AT PILOTS DISCRETION					

MDA(H) **4570' (630')**

A	RVR 1500m		MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA	
B				
C	RVR 2000m			
D				



RWY	ADDITIONAL RUNWAY INFORMATION			USABLE LENGTHS	
	LANDING BEYOND		TAKE-OFF	WIDTH	
05	HIRL (60m)	HIALS PAPI-L (angle 3.0°)	Threshold	Glide Slope	148' 45m
23	HIRL (60m)	ALS PAPI-L (angle 3.0°)	8530' 2600m	7559' 2304m	

JAR-OPS		TAKE-OFF 1	
All Rwy's			
<b>LVP must be in Force</b>			
RCLM (DAY only) or RL		RCLM (DAY only) or RL	NIL (DAY only)
A	250m	400m	500m
B			
C			
D	300m		

**Operators applying U.S. Ops Specs: CL required below 300m.**

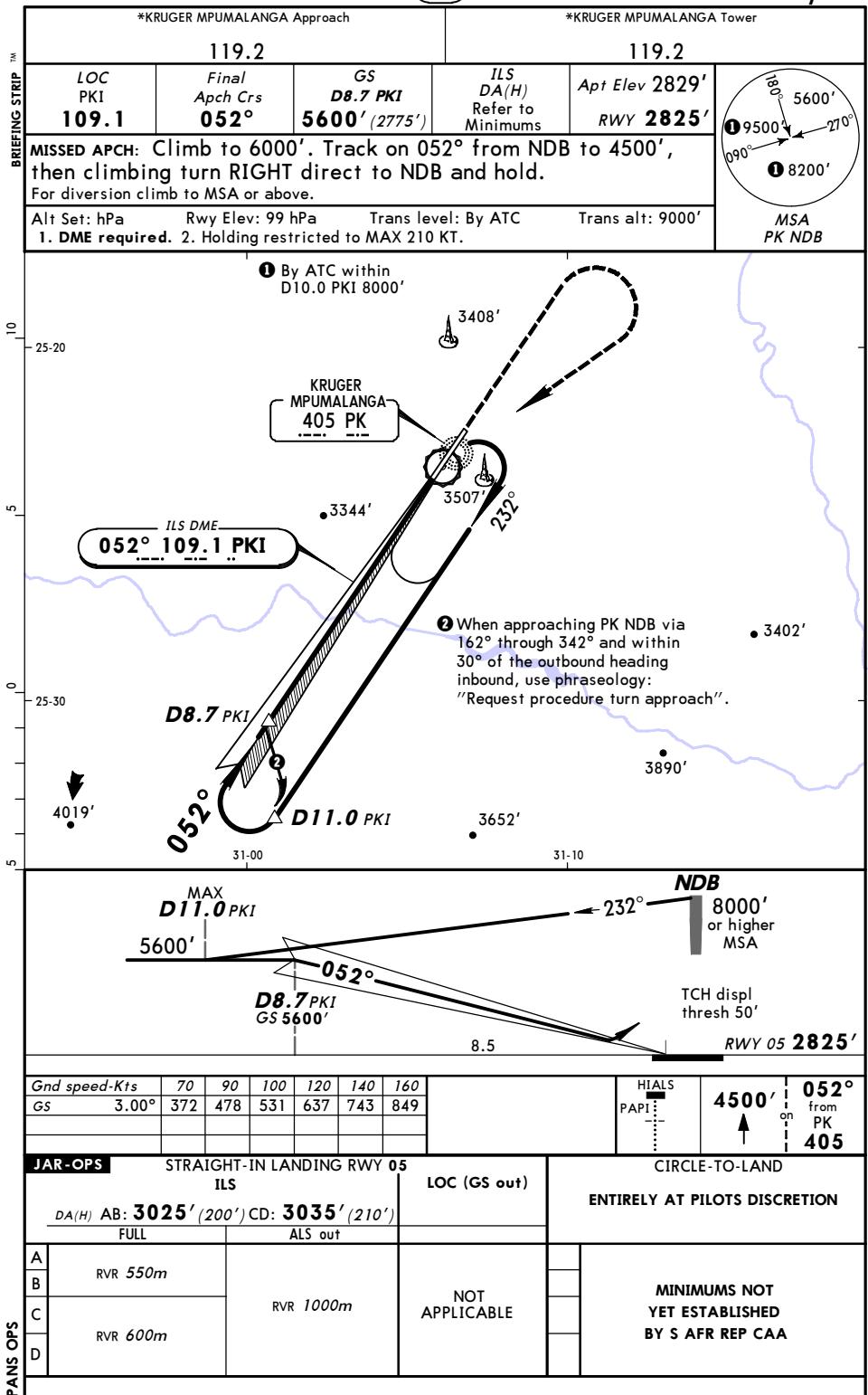
STRAIGHT-IN RWY		A	B	C	D
05	ILS <i>FULL</i> <i>Limited</i> <i>ALS out</i>	<b>3025'(200')</b> <b>R550m</b> R750m R1200m	<b>3025'(200')</b> <b>R550m</b> R750m R1200m	<b>3035'(210')</b> <b>R600m</b> R750m R1200m	<b>3035'(210')</b> <b>R600m</b> R750m R1200m
	NDB <i>ALS out</i>	<b>3560'(735')</b> <b>C2900m</b> C3600m	<b>3560'(735')</b> <b>C2900m</b> C3600m	<b>3560'(735')</b> <b>C3100m</b> C3800m	<b>3560'(735')</b> <b>C3100m</b> C3800m
23	NDB <i>ALS out</i>	<b>3560'(732')</b> <b>C2900m</b> C3600m	<b>3560'(732')</b> <b>C2900m</b> C3600m	<b>3560'(732')</b> <b>C3100m</b> C3800m	<b>3560'(732')</b> <b>C3100m</b> C3800m

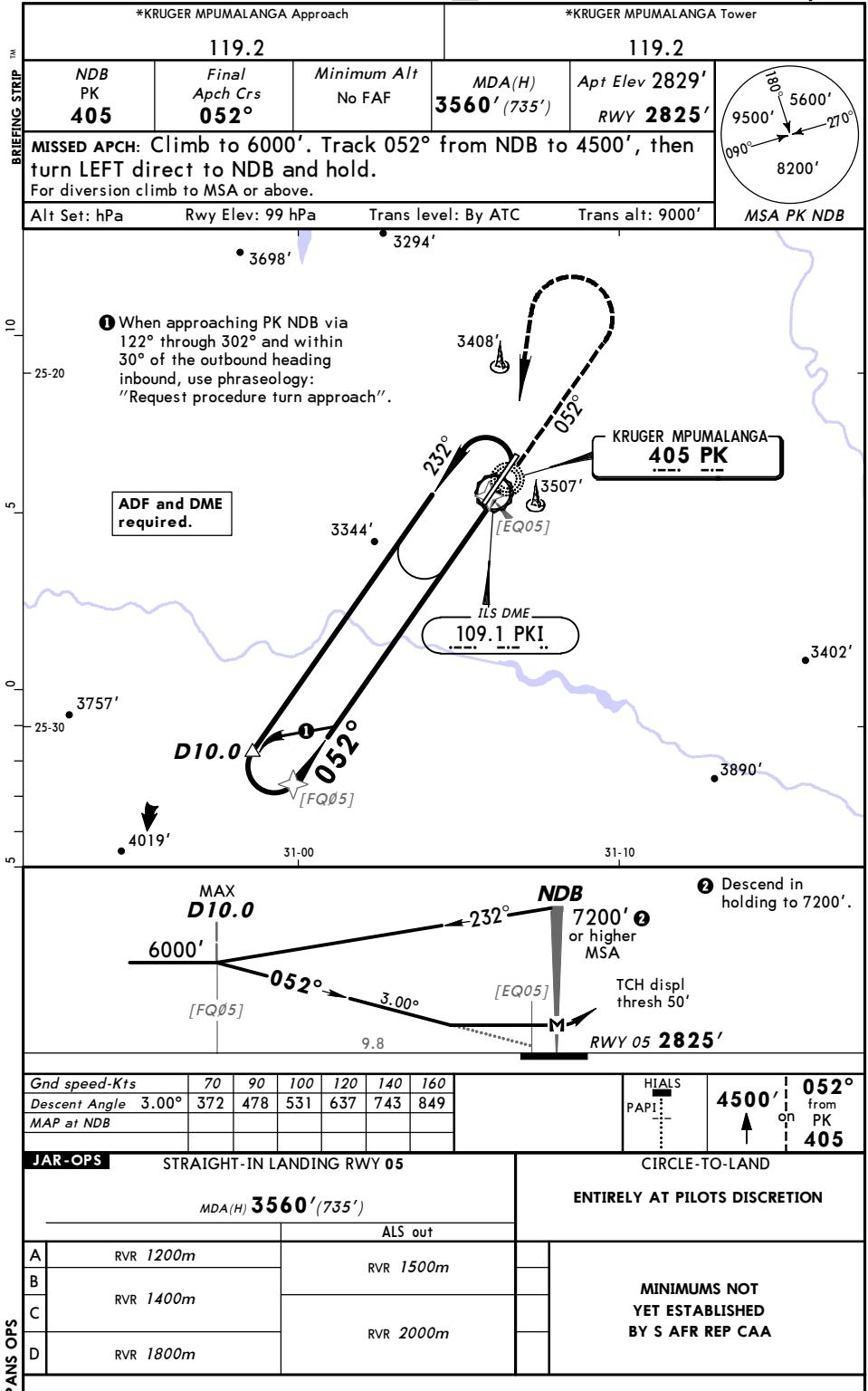
CIRCLE-TO-LAND ①	A	B	C	D
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

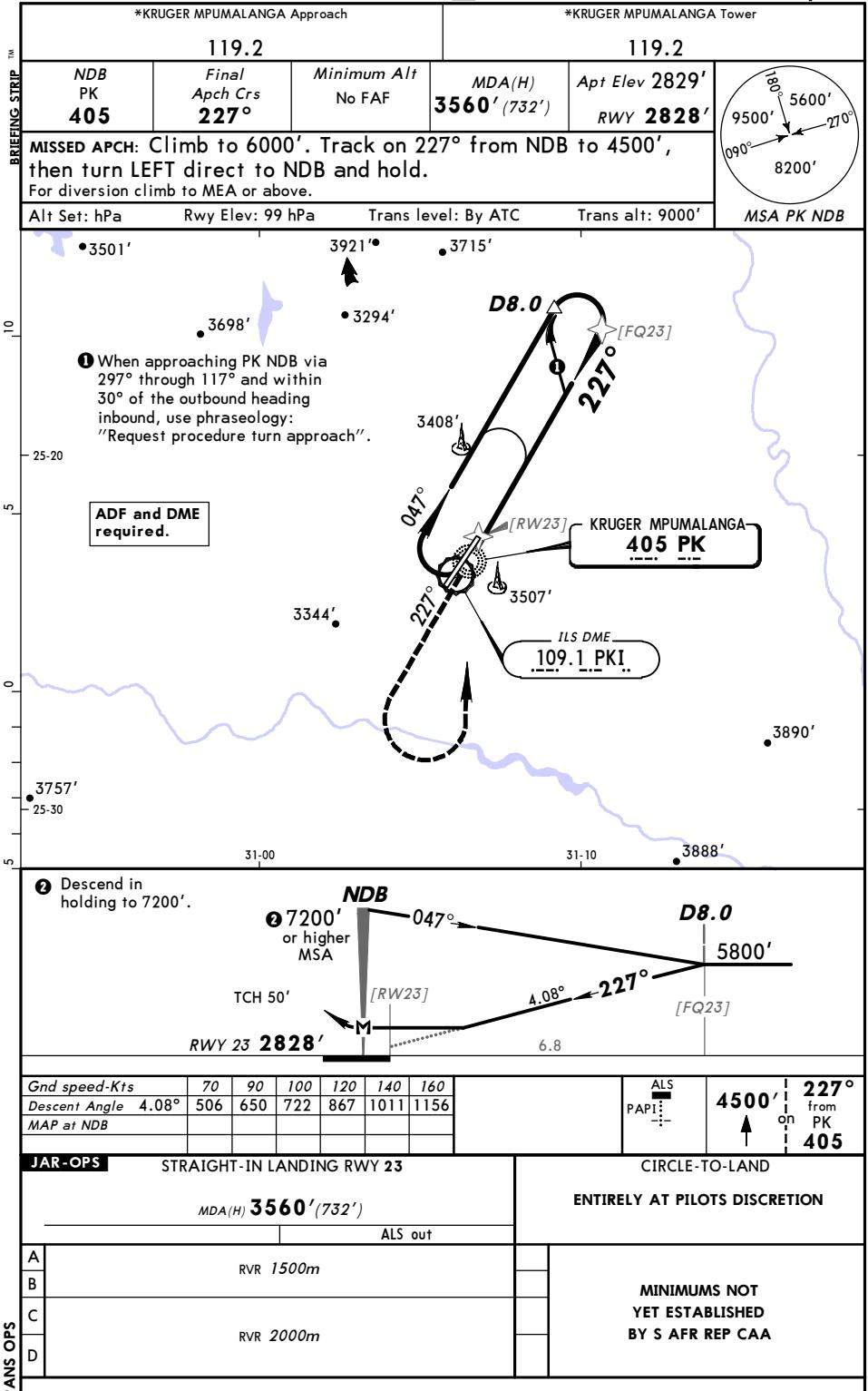
① Entirely at pilots discretion.

### TAKE-OFF RWY 05, 23

LVP must be in force		RCLM (DAY only) or RL	NIL (DAY only)
A			
B	250m		
C			
D	300m	400m	500m







**NOISE ABATEMENT****LT minus 2 HOURS = UTC (Z)****DEPARTURES**

The below procedures apply to jet aircraft and may be disregarded if at 7520' or when leveled off by ATC or when leveled by SID.

- Take-off to 6020'  
At 6020'  
6020' to 7520'  
At 7520'
- take-off power;
  - take-off flaps;
  - climb at  $V_2 + 10$  to 20 KT or as limited by body angle;
  - depending on ACFT type, the take-off power/thrust may be reduced at a lower altitude;
  - reduce thrust (if not already reduced) to not less than climb power/thrust;
  - climb at  $V_2 + 10$  to 20 KT;
  - accelerate smoothly to en-route climb speed with flap retraction on schedule.

No jet aircraft are to use RWY or TWY intersection for take-off between 2200-0600LT.

**RUN-UP TESTS**

Engine testing may be performed between 0500-1900LT daily.

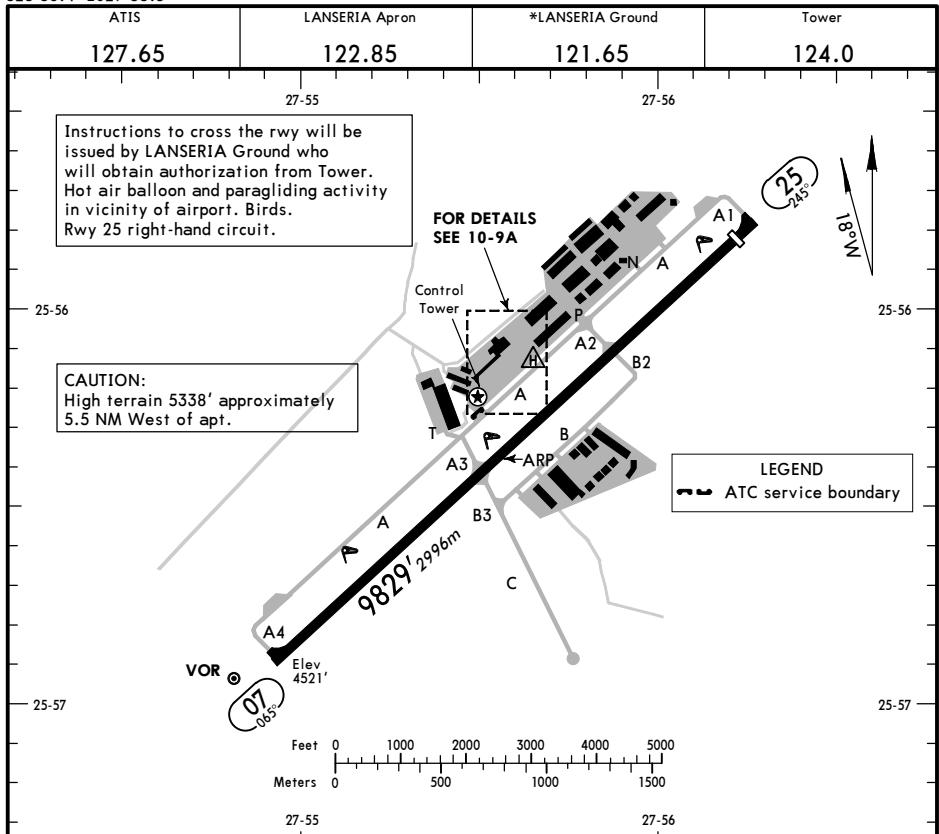
The position where engine tests are conducted will be rotated taking into consideration wind direction, time of day and frequency of tests.

Engine tests may not be conducted in the turning circle of TWY C with aircraft larger than CAT A and by jet aircraft.

FALA/HLA  
Apt Elev 4521'  
S25 56.4 E027 55.5

JEPPESEN  
29 NOV 13 (10-9)

LANSERIA, S AFR REP  
LANSERIA INTL

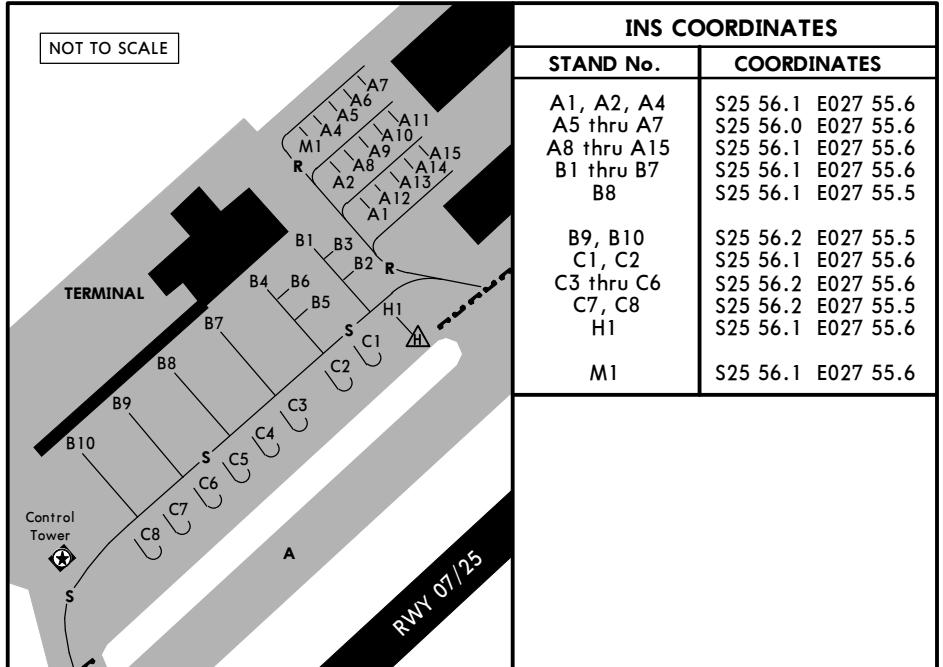
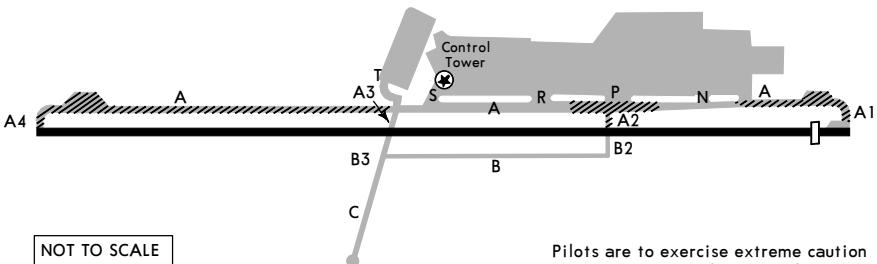


RWY	ADDITIONAL RUNWAY INFORMATION			USABLE LENGTHS		WIDTH
	LANDING BEYOND		TAKE-OFF			
	Threshold	Glide Slope				
07	HIALS ① HIRL (60m)	PAPI (angle 3.0°)				148' 45m
25	HIRL (60m)	PAPI (angle 3.0°)				

① Configuration unknown.

JAR-OPS		TAKE-OFF ①	
All Rwy's			
<b>LVP must be in Force</b>			
RCLM (DAY only) or RL		RCLM (DAY only) or RL	NIL (DAY only)
A			
B	250m		
C		400m	
D	300m		500m
① Operators applying U.S. Ops Specs: CL required below 300m.			

NOT TO SCALE

**RESTRICTED VISIBILITY AREAS****Ground Movement Instructions**

Pilots landing and using the main apron have to contact LANSERIA APRON before entering the apron and provide with the following information:

- Acft registration and type
- ETA
- Passengers on board
- Departure point
- Duration of apron occupation

Pilots departing from the main apron must contact LANSERIA APRON prior to start-up and provide with the following information:

- Acft registration
- ETD
- Passengers on board
- Destination

All IFR departing flights must contact LANSERIA GROUND for start-up clearance, then request traffic and hazard information from LANSERIA APRON prior to taxi.

LANSERIA APRON will only provide parking allocation and hazard information.

The main apron has a slope factor that necessitates the following:

- The use of extra power during taxiing. All operators of multi-engine aircraft must taxi with a minimum of two engines running.
- All aircraft parked on the apron must be properly choked when left unattended.

STRAIGHT-IN RWY	A	B	C	D
07				
RNAV ❷ (LNAV/VNAV)	<b>4861'(340')</b> <b>R1500m</b>	<b>4861'(340')</b> <b>R1500m</b>	<b>4861'(340')</b> <b>R2000m</b>	<b>4861'(340')</b> <b>R2000m</b>
RNAV ❸ (LNAV/VNAV)	<b>5601'(1080')</b> <b>R1500m</b>	<b>5601'(1080')</b> <b>R1500m</b>	<b>5601'(1080')</b> <b>C2400m</b>	<b>5601'(1080')</b> <b>C2400m</b>
RNAV (LNAV) ❶❻	<b>5230'(709')</b> <b>R1500m</b>	<b>5230'(709')</b> <b>R1500m</b>	<b>5230'(709')</b> <b>C2400m</b>	<b>5230'(709')</b> <b>C2400m</b>
RNAV (LNAV) ❶❽	<b>5840'(1319')</b> <b>C5000m</b>	<b>5840'(1319')</b> <b>C5000m</b>	<b>5840'(1319')</b> <b>C5000m</b>	<b>5840'(1319')</b> <b>C5000m</b>
VOR ❶❽	<b>5230'(709')</b> <b>R1500m</b>	<b>5230'(709')</b> <b>R1500m</b>	<b>5230'(709')</b> <b>C2400m</b>	<b>5230'(709')</b> <b>C2400m</b>
VOR ❶❽	<b>5880'(1359')</b> <b>C5000m</b>	<b>5880'(1359')</b> <b>C5000m</b>	<b>5880'(1359')</b> <b>C5000m</b>	<b>5880'(1359')</b> <b>C5000m</b>

❶ Continuous Descent Final Approach.

❷ Missed apch climb grad mim 5.0%

❸ Missed apch climb grad mim 2.5%

❹ Missed apch climb grad mim 4.8%

❽ Missed apch climb grad mim 4.5%

CIRCLE-TO-LAND ❶	100 KT	135 KT	180 KT	D
	<b>5320'(799')</b> V1500m ❷	<b>5320'(799')</b> V1600m ❷	<b>5930'(1409')</b> V2400m ❷	NOT AUTHORIZED

❶ Entirely at pilots discretion.

Not authorized Northwest of rwy.

❷ or higher minimums of preceding straight-in approach.

---

### TAKE-OFF RWY 07/25

---

LVP must be in force	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A			
B	250m		
C		400m	
D	300m		500m

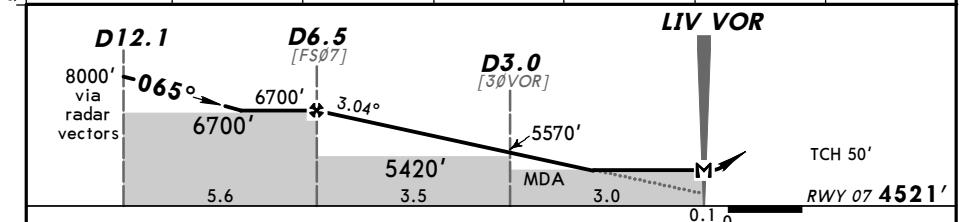
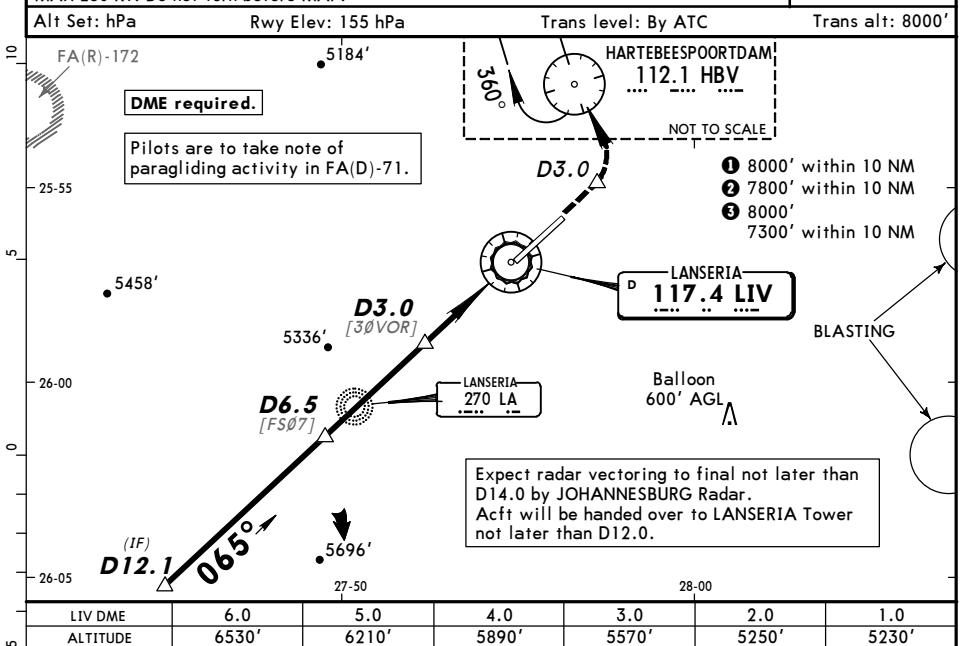
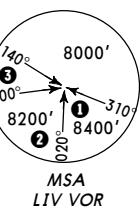
ATIS 127.65		Approach Control through Tower LANSERIA Tower 124.0		JOHANNESBURG Radar (APP) West South/East 123.7 (0500 - 1700)		*Ground 124.5	121.65																																																						
BRIEFING STRIP™	RNAV	Final Apch Crs <b>066°</b>	Procedure Alt <b>LA IF1</b> <b>6700'</b> (2179')	LNAV/VNAV DA(H) Refer to Minimums	Apt Elev 4521'	TAA 25 NM IAF <b>RWY 4521'</b>																																																							
	<b>MISSSED APCH:</b> Climb on R-066 LIV to 8000'. At D3.0 LIV turn LEFT direct to HBV VOR. Contact Johannesburg APPROACH for Radar Vectoring to LA1N1.		MAX 230 KT. Do not turn before MAP. Maintain listening watch on 125.8 MHz.																																																										
<b>MISSSED APCH WITH LOST COMM:</b> Climb on R-066 LIV to 8600'. At D3.0 LIV turn LEFT direct to HBV VOR and enter holding. Hold for 5 Min, then proceed to D6.5/R-003 LIV, descend to 8400' and continue to LIV VOR for a procedural approach.																																																													
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ATIS	Approach Control through Tower LANSERIA Tower	JOHANNESBURG Radar (APP) West South/East	*Ground
127.65	124.0	123.7 (0500 - 1700)	124.5
VOR LIV <b>117.4</b>	Final Apch Crs <b>065°</b>	Procedure Alt <b>D6.5</b> <b>6700' (2179')</b>	MDA(H) Refer to Minimums <b>RWY 4521'</b>

**MISSSED APCH:** Climb STRAIGHT AHEAD to 8000'. At D3.0 after LIV VOR turn LEFT to HBV VOR, contact Johannesburg APP.

MAX 230 KT. Do not turn before MAP.

**MISSSED APCH WITH LOST COMM:** Climb STRAIGHT AHEAD to 8000'. At D3.0 after LIV VOR turn LEFT to HBV VOR and hold for 5 Min. Return to LIV VOR at or above 8000' for VOR Y Rwy 07. MAX 230 KT. Do not turn before MAP.



Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI	Refer to Missed Apch above
Descent Angle	3.04°	376	484	538	645	753		
MAP at LIV VOR								

JAR-OPS		STRAIGHT-IN LANDING RWY 07				CIRCLE-TO-LAND Not authorized Northwest of rwy ENTIRELY AT PILOTS DISCRETION		
Missed apch climb grad min 4.5%: MDA(H) 5230' (709')		Missed apch climb grad min 2.5%: MDA(H) 5880' (1359')				PILOTS DISCRETION		
	ALS out		ALS out			Max Kts	MDA(H)	VIS
A	RVR 1500m		RVR 1500m			100	5320' (799')	1500m
B						135	5320' (799')	1600m
C	RVR 2000m		RVR 2000m			180	5930' (1409')	2400m
D						D	NOT AUTHORIZED	

After missed apch climb gradient 2.5%: MDA(H) 5880' (1359').

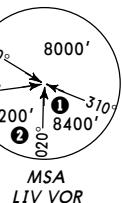
ATIS <b>127.65</b>	Approach Control through Tower LANSERIA Tower <b>124.0</b>	JOHANNESBURG Radar (APP) West South/East <b>123.7 (0500 - 1700)</b>	*Ground <b>124.5</b>	<b>121.65</b>
VOR <b>117.4</b>	Final Apch Crs <b>065°</b>	Procedure Alt <b>D6.5</b> <b>6830' (2309')</b>	MDA(H) Refer to Minumums	Apt Elev 4521' <b>RWY 4521'</b>

**MISSSED APCH:** Climb STRAIGHT AHEAD to 8000'. At D3.0 after LIV VOR turn LEFT to HBV VOR, contact Johannesburg APP.

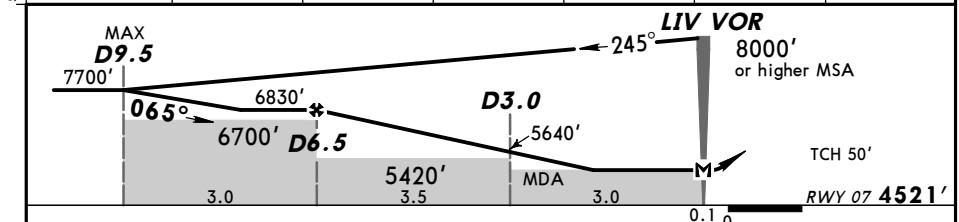
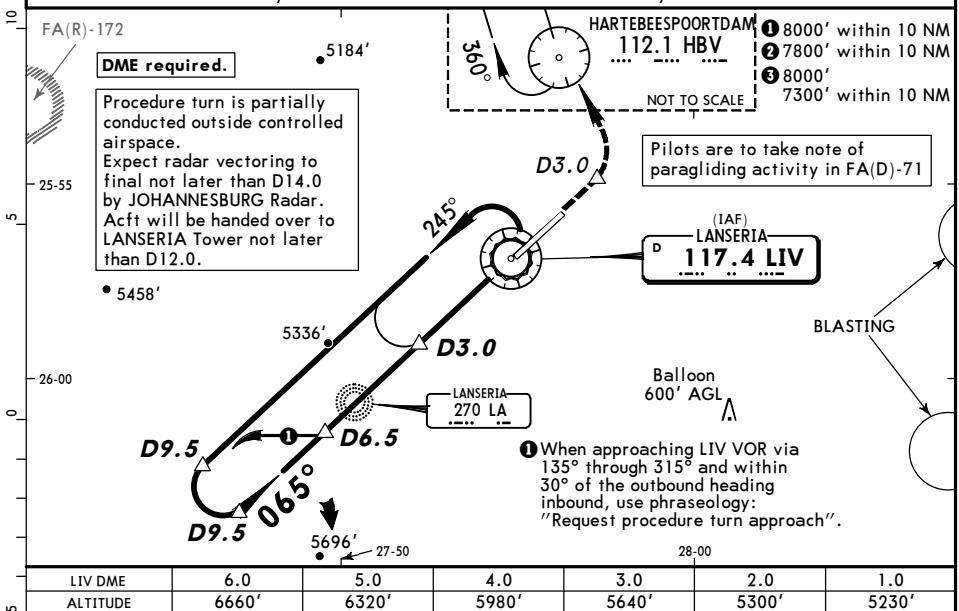
MAX 230 KT. Do not turn before MAP.

**MISSSED APCH WITH LOST COMM:** Climb STRAIGHT AHEAD to 8000'. At D3.0 after LIV VOR turn LEFT to HBV VOR and hold for 5 Min. Return to LIV VOR at or above 8000' for another approach.

MAX 230 KT. Do not turn before MAP.



Alt Set: hPa Rwy Elev: 155 hPa Trans level: By ATC Trans alt: 8000'



Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI	Refer to Missed Apch above
Descent Angle	3.20°	396	510	566	679	793	906	
MAP at LIV VOR								

JAR-OPS		STRAIGHT-IN LANDING RWY 07				CIRCLE-TO-LAND Not authorized Northwest of rwy ENTIRELY AT PILOTS DISCRETION		
Missed apch climb grad min 4.5%: MDA(H) <b>5230' (709')</b>		Missed apch climb grad min 2.5%: MDA(H) <b>5880' (1359')</b>						
ALS out		ALS out						
A	RVR 1500m		RVR 1500m		Max Kts	MDA(H)	VIS	
B					100	5320' (799')	1500m	
C	RVR 2000m		RVR 2000m		135	5320' (799')	1600m	
D					180	5930' (1409')	2400m	
					D	NOT AUTHORIZED		

1 After missed apch climb gradient 2.5%: MDA(H) 5880' (1359').

CHANGES: Procedure designation. MSA. Missed apch. Notes Minimums.

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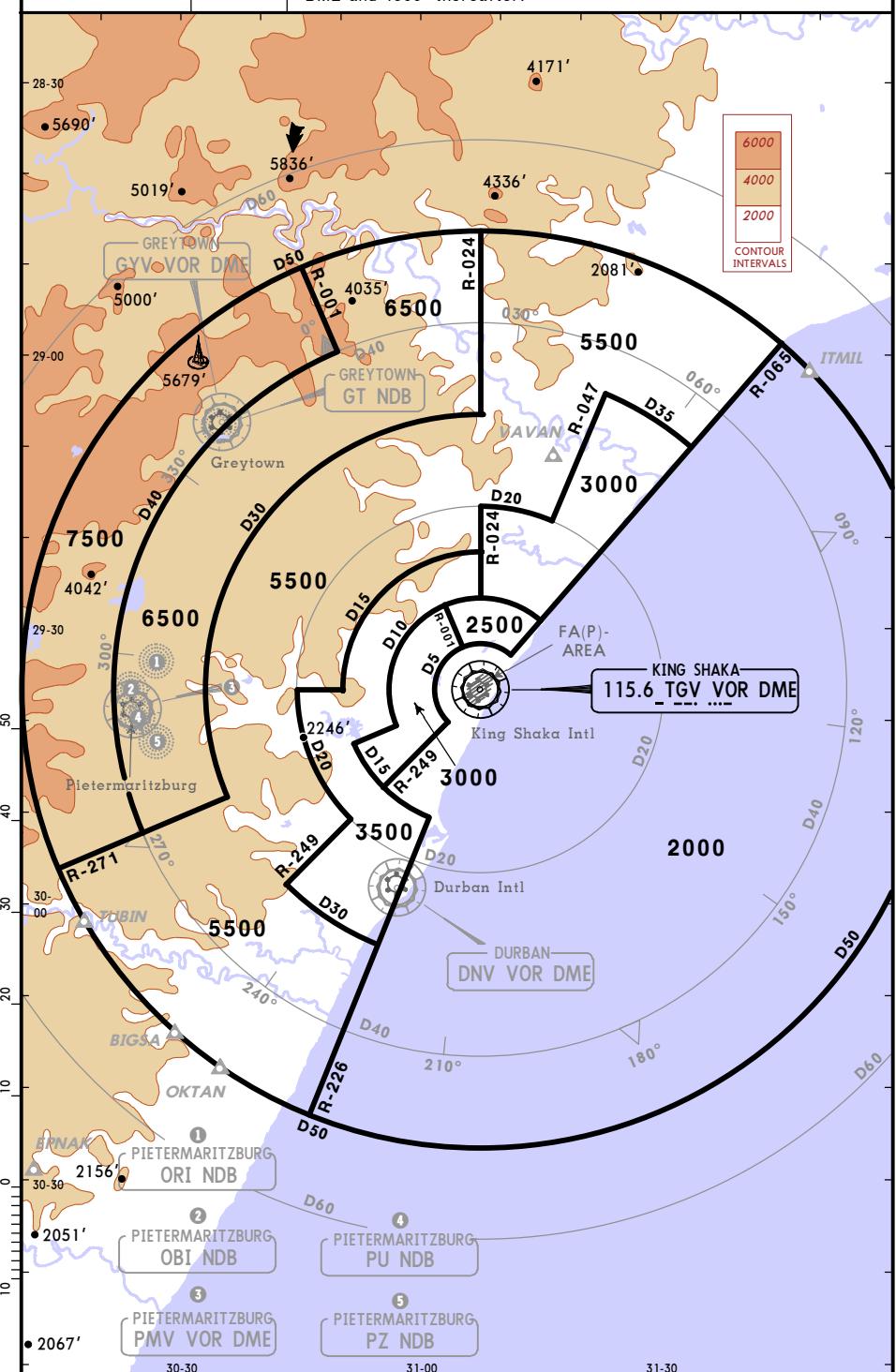
FALE/DUR  
KING SHAKA INTL

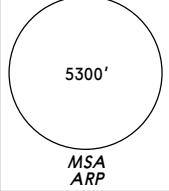
JEPPESEN  
16 JUL 10 20-1R Eff 29 Jul RADAR MINIMUM ALTITUDES

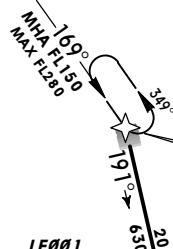
DURBAN Approach (R)  
125.75

Apt Elev  
304'

Alt Set: hPa Trans level: By ATC Trans alt: 5500'  
A minimum vertical clearance of 1000' is applied up to TGV 20  
DME and 1500' thereafter.



D-ATIS <b>127.0</b>	Apt Elev <b>304'</b>	Alt Set: hPa Trans level: By ATC Trans alt: 5500' 1. If unable to comply with STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational.	
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**APMAT 1A [APMA1A]  
RWY 06 RNAV ARRIVAL**RNAV (GNSS)  
RNAV 2 REQUIRED**APMAT**  
S28 47.4 E030 57.0  
(TGV R-014/D50)At or above  
**6300'**  
MAX 250 KT**LE001**  
S29 07.0 E031 02.1At or above  
**6300'**  
MAX 210 KT**LE002**  
S29 26.0 E031 07.1At or above  
**6300'**Direct distance from LE1N1 to:  
King Shaka Intl **16 NM****(IAF)**  
**LE1N1**  
S29 44.3 E030 51.1At or above  
**5600'**When established on  
LOC maintain MAX  
**180 KT** until  
**TGV 10 DME**

3600

23.0

TGV 4 DME

TGV 10 DME

**KING SHAKA**  
(D) **115.6 TGV**  
S29 36.7 E031 07.5\*111.3 TNI  
ILS DMEMAX 150 KT  
or as cleared  
by ATC

**MAXIMUM APPROACH SPEED POINTS (SLP)**  
If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised.  
Unless for emergency pilots are not to request cancellation of speed restrictions.

▼ LOST COMMS ▼ LOST COMMS

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL130, whichever is highest. Comply with associated communication failure procedure.

**Before APMAT:** Proceed to APMAT and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL130 or maintain last assigned FL if below FL130. Leave APMAT on "After APMAT" procedure.

**After APMAT:** Continue on STAR maintaining last assigned FL, when passing LE1N1 descend to FL80, at LE002 turn RIGHT to LE1N1. Continue RNAV (GNSS) approach and intercept ILS.

TO DOWN TO SWA DOWN TO SWA

**ROUTING**

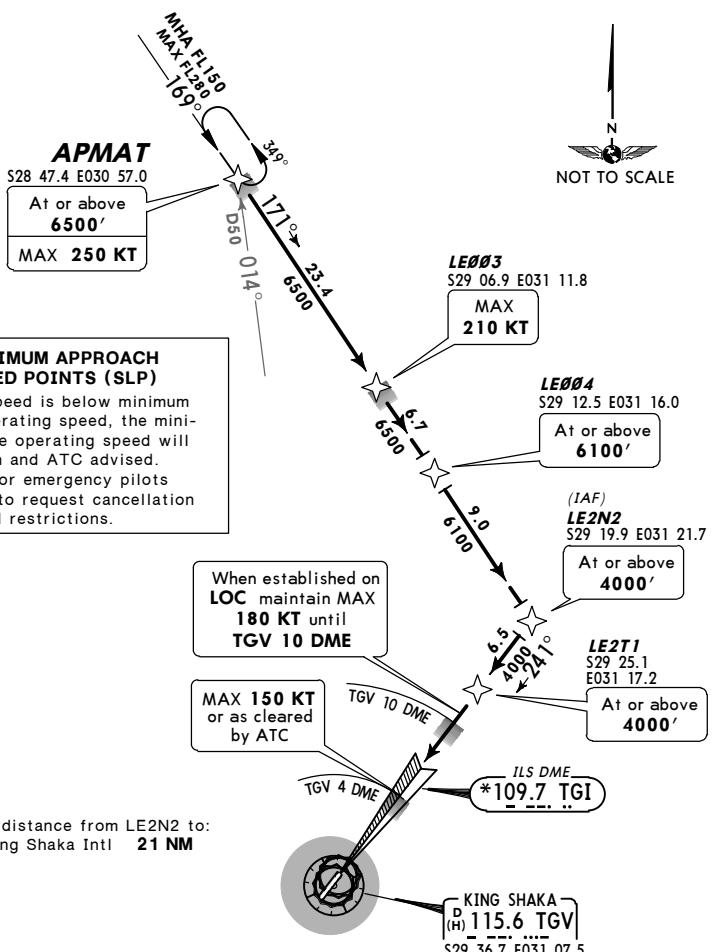
From APMAT to LE002, turn RIGHT to LE1N1 for RADAR vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with **SID ITMIL 1C**.

D-ATIS <b>127.0</b>	Apt Elev <b>304'</b>	Alt Set: hPa Trans level: By ATC Trans alt: 5500' 1. If unable to comply with STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational.
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**APMAT 1B [APMA1B]**  
**RWY 24 RNAV ARRIVAL**  
**RNAV (GNSS)**  
**RNAV 2 REQUIRED**

5300'

MSA  
ARP

LOST COMMS LOST

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL130, whichever is highest. Comply with associated communication failure procedure.

**Before APMAT:** Proceed to APMAT and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL130 or maintain last assigned FL if below FL90. Leave APMAT on "After APMAT" procedure.

**After APMAT:** Continue on STAR maintaining last assigned FL , at LE003 descend to FL80, then via LE004 to LE2N2, turn RIGHT to LE2T1. Continue RNAV (GNSS) approach and intercept ILS.

TO CONMOC SLMCONC SLMCONC SLMCONC SLMCONC SLMCONC SLMCONC SLMCONC

**ROUTING**

From APMAT to LE004, then to LE2N2, turn RIGHT to LE2T1 to intercept ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with **SID OKTAN 1A**.

D-ATIS  
127.0

*Apt Elev*  
**304'**

Alt Set: hPa Trans level: By ATC Trans alt: 5500' 1. If unable to comply with STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational.

5300'

## DUNSA 1A [*DUNS1A*], DUNSA 1B [*DUNS1B*]

RWYS 06-24 RNAV ARRIVALS

RNAV (GNSS)

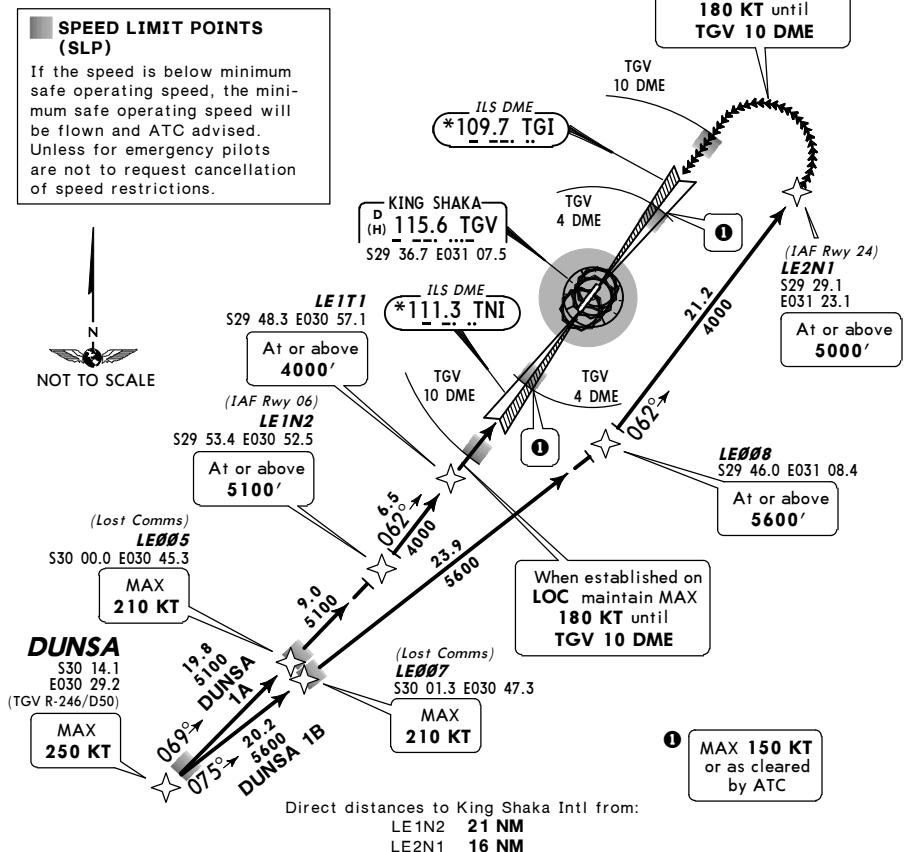
**RNAV 2 REQUIRED**

#### **SPEED LIMIT POINTS (SLP)**

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.

NOT TO SCALE

When established on  
**LOC** maintain MAX  
**180 KT** until  
**TGV 10 DME**



LOST COMMS LOST COMMS

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or EL 130, whichever is highest. Comply with associated communication failure procedure.

**Before DUNSA:** Proceed to DUNSA. Leave DUNSA on "After DUNSA" procedure or FL130, whichever is highest. Comply with associated communication failure procedure.

DUNSA 01  
DUNSA 1A

**After DUNSA:** Continue on STAR maintaining last assigned FL, when passing LE005 descend to FL 80, at LE1N2 proceed to LE1T1. Continue RNAV (GNSS) approach and intercept ILS.

**DUNSA 1B**

**After DUNSA:** Continue on STAR maintaining last assigned FL, when passing LE007 descend to FL80, then to LE008, turn LEET to LE2N1. Continue RNAV (GNSS) approach and intercept ILS.

STAR	RWY	ROUTING
DUNSA 1A	06	From DUNSA to LE1N2, turn LEFT to LE1T1, intercept ILS.
DUNSA 1B	24	From DUNSA to LE008, turn LEFT to LE2N1 for radar vectors to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SID:s:

**RWY 06: SID ITMIL 1C**

RWY 24: SID OKTAN 1A.

D-ATIS 127.0	Apt Elev 304'	Alt Set: hPa Trans level: By ATC Trans alt: 5500' 1. If unable to comply with STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational.	5300' MSA ARP
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**GETOK 1C [GETO1C]**  
**RWY 06 RNAV ARRIVAL**  
 RNAV (GNSS)  
 RNAV 2 REQUIRED

**SPEED LIMIT POINTS (SLP)**

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.

**GETOK**  
S29 30.8 E030 09.3

MAX  
250 KT

121°  
D51  
R301°  
MHA FL120  
MAX FL280  
13 NM outbound  
146°  
25.2  
7900

LE009  
S29 44.2 E030 33.8  
MAX  
210 KT

When established on LOC maintain MAX 180 KT until TGV 10 DME

KING SHAKA  
(H) 115.6 TGV  
S29 36.7 E031 07.5

ILS DME \*111.3 TNI  
TGV 10 DME  
TGV 4 DME  
MAX 150 KT or as cleared by ATC  
LE1T1  
S29 48.3 E030 57.1  
At or above 4000'

LE010  
S29 48.7 E030 42.2  
At or above 8000'

(IAF)  
LE1N2  
S29 53.4 E030 52.5  
At or above 5000'



Direct distance from LE1N2 to :  
King Shaka Intl 21 NM

LOST COMMS LOST  
If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL130, whichever is highest. Comply with associated communication failure procedure.

**Before GETOK:** Proceed to GETOK and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL120 or maintain last assigned FL if below FL120. Leave GETOK on "After GETOK" procedure.

**After GETOK:** Continue on STAR and maintain FL120, proceed via LE010 to LE1N2, turn LEFT to LE1T1. Continue RNAV (GNSS) approach and intercept ILS.

TO DOWN TO SW DOWN TO SE DOWN TO NE DOWN TO NW DOWN TO SW DOWN TO NE DOWN TO SW DOWN TO NE

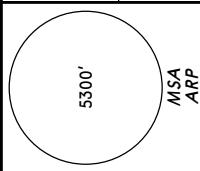
**ROUTING**

From GETOK to LE010, then to LE1N2, turn LEFT to LE1T1, intercept ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with **SID ITMIL 1C**.

D-ATIS  
127.0Apt Elev  
304'

Alt Set: hPa Trans level: By ATC Trans alt: 5500'  
 1. If unable to comply with STAR notify ATC.  
 2. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational.



## GETOK 1D [GETO1D] RWY 24 RNAV ARRIVAL RNAV (GNSS) RNAV 2 REQUIRED

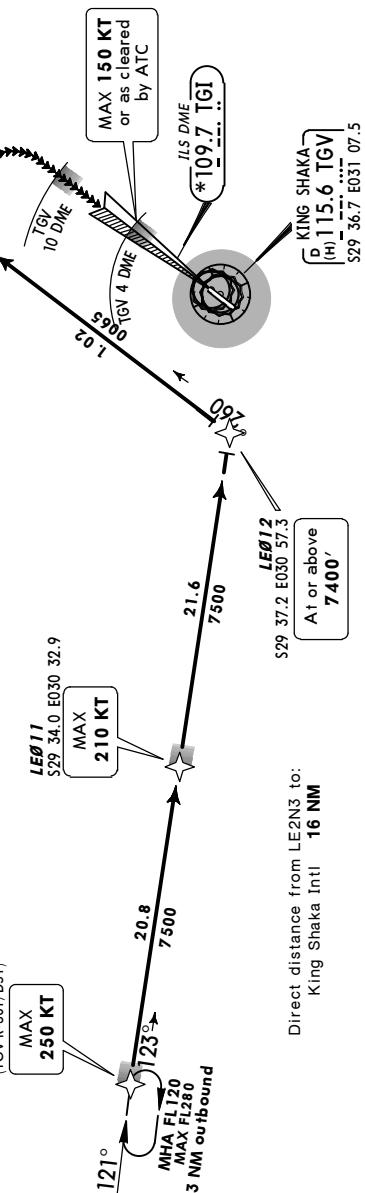
NOT TO SCALE

When established on LOC maintain MAX 180 KT until TGV 10 DME

(IAF)  
\$29 21.2 E031 11.3  
At or above 5300'

### MAXIMUM APPROACH SPEED POINTS (SLP)

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.

**GETOK**\$29 30.8 E030 09.3  
(IGV/R-301/DS1)

LOST COMMS ▶ LOST COMMS

If not cleared for an arrival, proceed to nearest STAR entry at last assigned FL or FL130, whichever is highest. Comply with associated communication failure procedure.

**Before GETOK:** Proceed to GETOK and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL120 or maintain last assigned FL if below FL120. Leave GETOK on "After GETOK" procedure.

**After GETOK:** Continue on STAR and maintain FL120, at LE012 turn LEFT to LE2N3. Continue RNAV (GNSS) approach and intercept ILS.

### ROUTING

From GETOK to LE012, turn LEFT to LEEN3 for radar vectors to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with **SID OKTAN 1A**.

D-ATIS 127.0	Apt Elev 304'	Alt Set: hPa Trans level: By ATC Trans alt: 5500' 1. If unable to comply with STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational.	5300' MSA ARP
-----------------	------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------

**ITMIL 1A [ITMIL1A]  
RWY 06 RNAV ARRIVAL**  
RNAV (GNSS)  
RNAV 2 REQUIRED



NOT TO SCALE

**ITMIL**  
S29 01.9 E031 48.6  
MAX 250 KT

MIA FL150  
MAX FL280  
244°

20.2 5600

23.7 5600

**LE006**  
S29 17.2 E031 33.6  
At or above 5600'  
MAX 210 KT

**KING SHAKA (H) 115.6 TGV**  
S29 36.7 E031 07.5  
\*111.3 TNI  
TGV 4 DME  
MAX 150 KT or as cleared by ATC

TGV 10 DME

**(IAF) LE1N3**  
S29 52.2 E031 03.0  
At or above 5600'

When established on LOC maintain MAX 180 KT until TGV 10 DME

Direct distance from LE1N3 to: King Shaka Intl 16 NM

**MAXIMUM APPROACH SPEED POINTS (SLP)**

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.

▼ LOST COMMS ▼ LOST COMMS

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL130, whichever is highest. Comply with associated communication failure procedure.

**Before ITMIL:** Proceed to ITMIL and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL90 or maintain last assigned FL if below FL90. Leave ITMIL on "After ITMIL" procedure.

**After ITMIL:** Continue on STAR maintaining last assigned FL, when passing LE1N3 descend to FL80, proceed to LE1N3. Continue RNAV (GNSS) approach and intercept ILS.

DOWN TO STAR DOWN TO STAR

**ROUTING**

From ITMIL to LE006, then to LE013, then to LE1N3, turn RIGHT for radar vectoring to ILS.

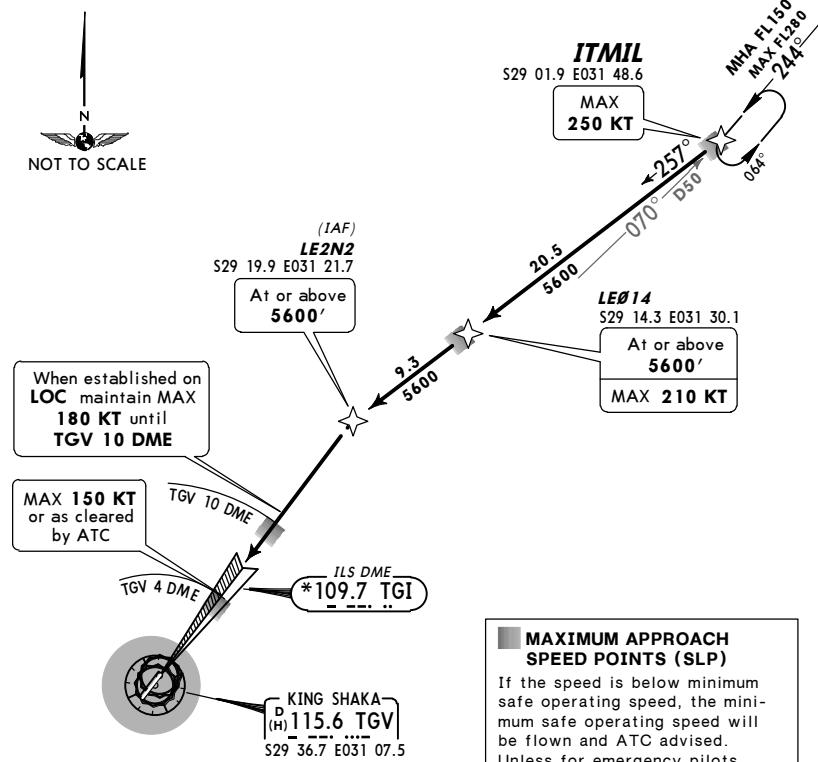
In the event of a missed approach with the intention of diverting to an alternate airport comply with **SID ITMIL 1C**.

D-ATIS 127.0	Apt Elev 304'	Alt Set: hPa Trans level: By ATC Trans alt: 5500' 1. If unable to comply with STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational.	5300'
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**ITMIL 1B [ITM11B]  
RWY 24 RNAV ARRIVAL  
RNAV (GNSS)  
RNAV 2 REQUIRED**

5300'

MSA  
APP



Direct distance from LE2N2 to:  
King Shaka Intl 21 NM

#### **MAXIMUM APPROACH SPEED POINTS (SIP)**

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL130, whichever is highest. Comply with associated communication failure procedure.

**Before ITMIL:** Proceed to ITMIL and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL90 or maintain last assigned FL if below FL90. Leave ITMIL on "After ITMIL" procedure.

**After ITML:** Continue on STAR maintaining last assigned FL, at LE014 descend to FL80, at LE2N2, turn LEFT and continue RNAV (GNSS) approach and intercept ILS.



## **ROUTING**

From ITMIL to LE2N2, turn LEET to intercept ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with **SID OKTAN 1A**.

DURBAN Approach 125.75	Apt Elev 304'	Trans level: By ATC Trans alt: 5500' 1. If unable to comply with SID notify ATC. 2. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 3. SIDs include minimum noise routings. 4. Contact DURBAN Approach on frequency provided in ATC clearance at 2000'. Advise RADAR of level passing on first contact for Mode-C check. 5. Cross CTR boundary at or above 3000'.	5300' MSA ARP
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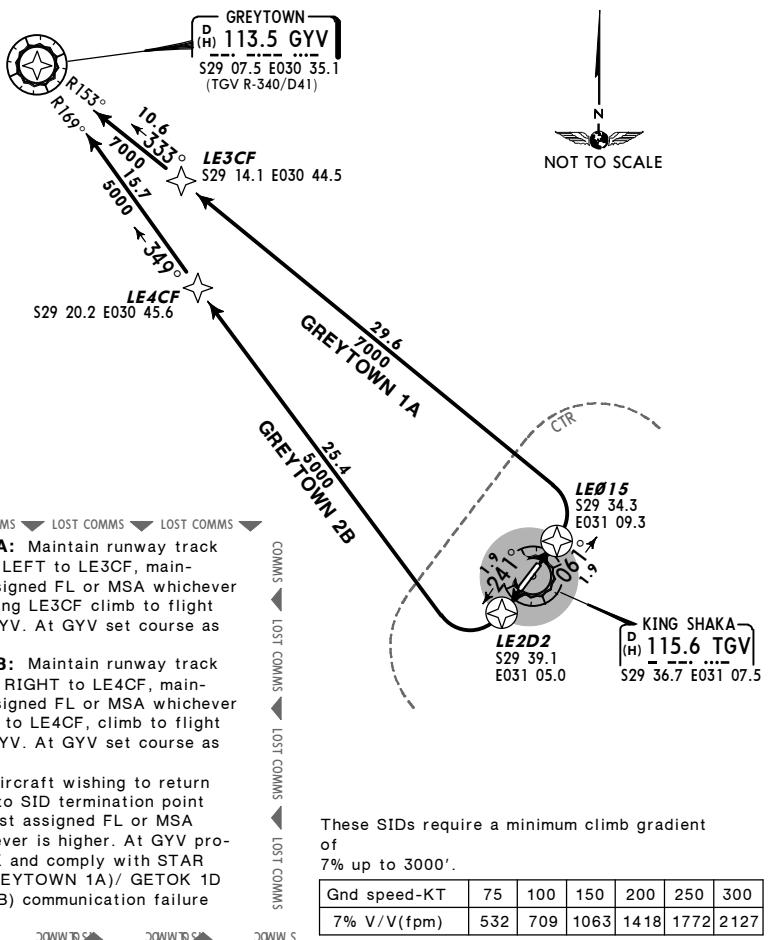
GREYTOWN 1A [GYV1A]

GREYTOWN 2B [GYV2B]

RWYS 06, 24 RNAV DEPARTURES

RNAV (GNSS)

RNAV 2 REQUIRED

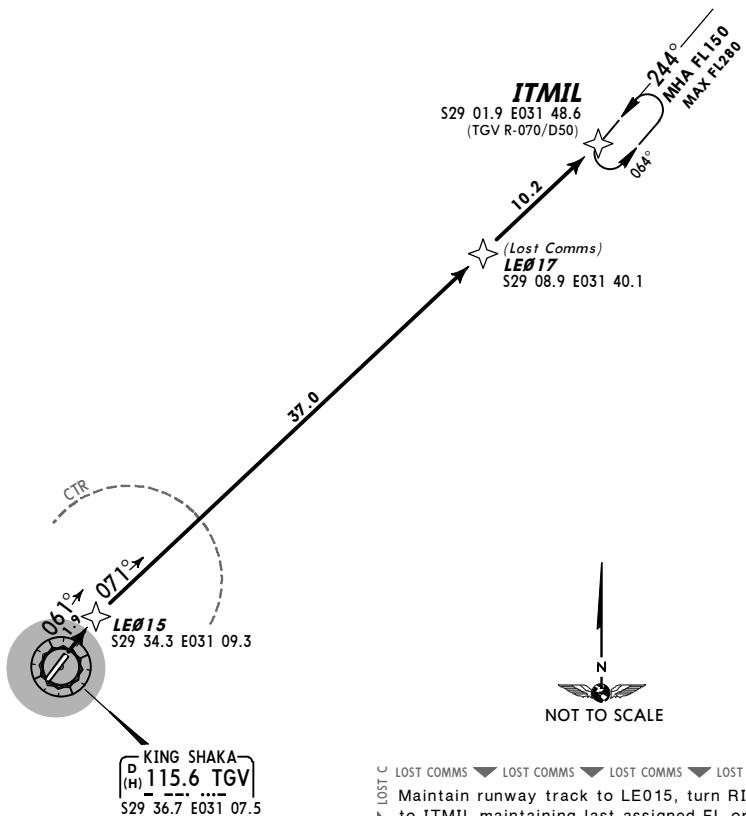
**SPEED: MAX 220 KT UNTIL ESTABLISHED ON TRACK TO GYV**

Initial climb clearance FL70, further climb under RADAR control.

SID	RWY	ROUTING
GREYTOWN 1A	06	On runway track to LE015, turn LEFT to LE3CF, then to GYV, then as per flight plan.
GREYTOWN 2B	24	On runway track to LE2D2, turn RIGHT to LE4CF, then to GYV, then as per flight plan.

DURBAN Approach 125.75	Apt Elev 304'	Trans level: By ATC Trans alt: 5500' 1. If unable to comply with SID notify ATC. 2. SID and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 3. SID include minimum noise routings. 4. Contact DURBAN Approach on frequency provided in ATC clearance at 2000'. Advise RADAR of level passing on first contact for Mode-C check. 5. Cross CTR boundary at or above 3000'.	5300' MSA ARP
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**ITMIL 1C [ITMI1C]**  
**RWY 06 RNAV DEPARTURE**  
**RNAV (GNSS)**  
**RNAV 2 REQUIRED**  
**SPEED: MAX 220 KT UNTIL ESTABLISHED ON TRACK TO ITMIL**



This SID requires a minimum climb gradient of 7% up to 3000'.

Gnd speed-KT	75	100	150	200	250	300
7% V/V(fpm)	532	709	1063	1418	1772	2127

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼  
 Maintain runway track to LEO15, turn RIGHT  
 ▶ to ITMIL maintaining last assigned FL or  
 MSA whichever is higher. When passing  
 LEO17 climb to flight plan level, at ITMIL  
 set course as per flight plan.  
 Aircraft wishing to return must continue to  
 SID termination point and climb to last  
 assigned FL or MSA whichever is higher.  
 Enter ITMIL holding and hold for 5 minutes,  
 then comply with the appropriate STAR  
 communication failure procedure.

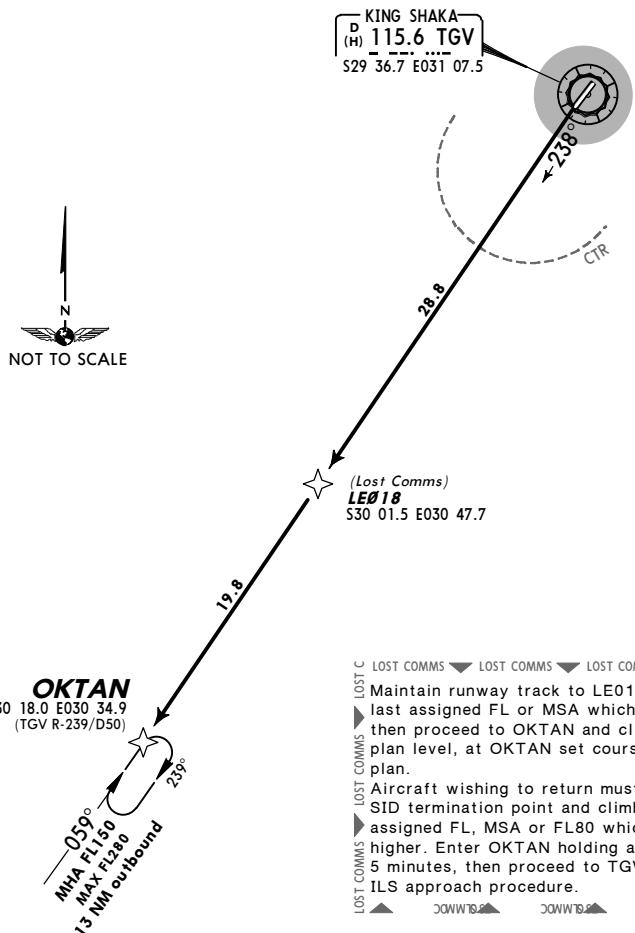
Initial climb clearance **FL70**, further climb under RADAR control.

**ROUTING**

On runway track to LEO15, turn RIGHT to ITMIL, then as per flight plan.

DURBAN Approach 125.75	Apt Elev 304'	Trans level: By ATC Trans alt: 5500' 1. If unable to comply with SID notify ATC. 2. SID and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 3. SID include minimum noise routings. 4. Contact DURBAN Approach on frequency provided in ATC clearance at 2000'. Advise RADAR of level passing on first contact for Mode-C check. 5. Cross CTR boundary at or above 3000'.	5300' MSA ARP
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**OKTAN 1A [OKTA1A]**  
**RWY 24 RNAV DEPARTURE**  
 RNAV (GNSS)  
 RNAV 2 REQUIRED



This SID requires a minimum climb gradient of 7% up to 3000'.

Gnd speed-KT	75	100	150	200	250	300
7% V/V(fpm)	532	709	1063	1418	1772	2127

Initial climb clearance **FL70**, further climb under RADAR control.

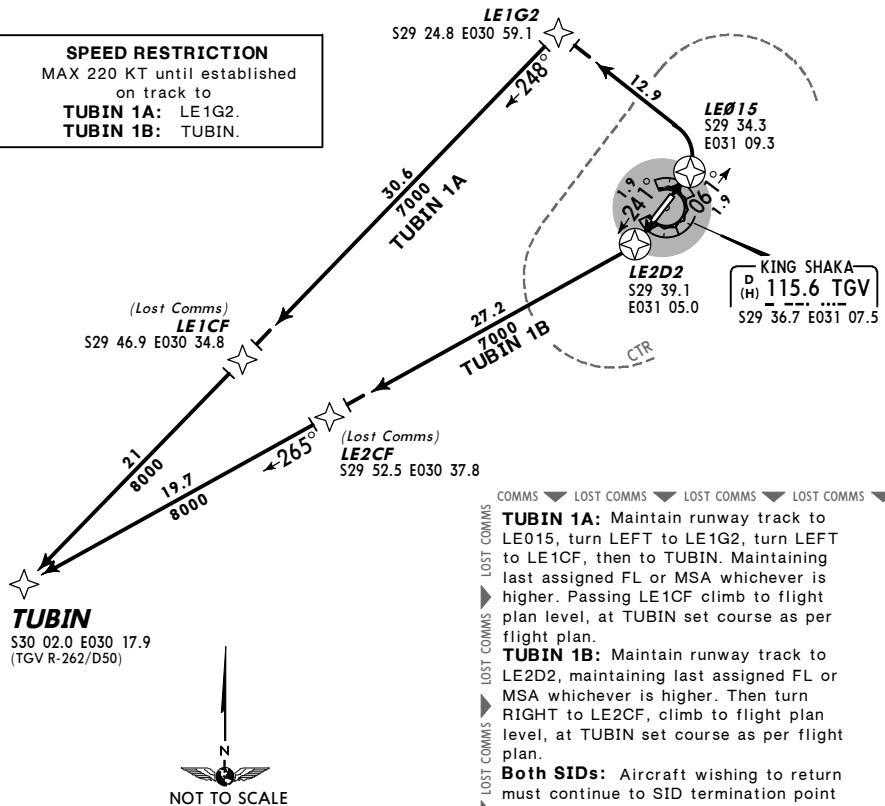
**ROUTING**

Direct to OKTAN, then as per flight plan.

DURBAN Approach 125.75	Apt Elev 304'	Trans level: By ATC Trans alt: 5500' 1. If unable to comply with SID notify ATC. 2. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 3. SIDs include minimum noise routings. 4. Contact DURBAN Approach on frequency provided in ATC clearance at 2000'. Advise RADAR of level passing on first contact for Mode-C check. 5. Cross CTR boundary at or above 3000'.	5300' MSA ARP
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**TUBIN 1A [TUBI1A]**  
**TUBIN 1B [TUBI1B]**  
**RWYS 06, 24 RNAV DEPARTURES**  
**RNAV (GNSS)**  
**RNAV 2 REQUIRED**

**SPEED RESTRICTION**  
MAX 220 KT until established  
on track to  
**TUBIN 1A:** LE1G2.  
**TUBIN 1B:** TUBIN.



These SIDs require a minimum climb gradient of 7% up to 3000'.

Gnd speed-KT	75	100	150	200	250	300
7% V/V(fpm)	532	709	1063	1418	1772	2127

Initial climb clearance **FL70**, further climb under RADAR control.

SID	RWY	ROUTING
<b>TUBIN 1A</b>	<b>06</b>	On runway track to LE015, turn LEFT to LE1G2, turn LEFT to LE1CF, then to TUBIN, then as per flight plan.
<b>TUBIN 1B</b>	<b>24</b>	On runway track to LE2D2, turn RIGHT to LE2CF, then to TUBIN, then as per flight plan.

**NOISE ABATEMENT****LT minus 2 HOURS = UTC (Z)****DEPARTURES**

The below procedures apply to jet ACFT and may be disregarded if at 3000' AGL or when leveled off by ATC or when leveled by SID.

Take-off to 1500' AGL

- take-off power;
- take-off flaps;
- climb at  $V_2 + 10$  to 20 KT or as limited by body angle;
- depending on ACFT type, the take-off power/thrust may be reduced at a lower height;
- reduce thrust to not less than climb power/thrust;
- climb at  $V_2 + 10$  to 20 KT;
- accelerate smoothly to en-route climb speed with flap retraction on schedule.

At 1500' AGL

1500' to 3000' AGL

At 3000' AGL

No jet ACFT are to use RWY or TWY intersection for take-off between 2200-0600LT.

FALE/DUR

Apt Elev 304'

S29 36.7 E031 07.2

JEPPESEN

10 SEP 10

20-9

Eff 23 Sep

DURBAN, S AFR REP

KING SHAKA INTL

D-ATIS

127.0

KING SHAKA INTL Ground

121.65

APRON Control

122.65

Tower

118.45

31-06

31-07

31-08

365°

358'

**WARNING:**

Pilots are to exercise extreme caution when approaching rwy 24: Toll Gate Lights (parallel to thresh 24) approximately 1 NM NE of thresh 24 can be mistaken for rwy lights during NIGHT ops or in IMC.

Contact "Apron Office" (Callsign APRON CONTROL) when within VHF range and prior to landing to obtain parking bay allocation. This INFO must be transmitted to "KING SHAKA INTL Ground" on first contact.

29-36

Control Tower

DELTA Apron

CHARLIE Apron

BRAVO Apron

ALPHA Apron

12,139' 3700m

VOR

Birds in vicinity of airport.

**RUNWAY INCURSION HOT SPOT**

**CAUTION:** The intersection around twy N, G and A is a designated Hotspot and as such extra vigilance is required by pilots.  
No acft may pass each other on the twys at this intersection.

29-37

29-37

29-38

29-38

**ADDITIONAL RUNWAY INFORMATION**

RWY		USABLE LENGTHS			WIDTH
		LANDING BEYOND Threshold	Glide Slope	TAKE-OFF	
06	HIRL (60m) CL (15m) HIALS-II TDZ PAPI (3.0°) ①			11,106' 3385m	197' 60m
24	HIRL (60m) CL (15m) HIALS-II TDZ PAPI (3.0°) ②			11,045' 3367m	

① HST-H with HSTIL.

② HST-G with HSTIL.

**PUSH-BACK PROCEDURE**

Push-back, start and taxi clearances to be requested on GND.

Acft are not to request push-back until the TUG is connected and ready to push.

Before start is requested, acft must be ready for immediate push-back.

**JAR-OPS****TAKE-OFF 1****All Rwy's****LVP must be in force**

	RL & CL	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A				
B	200m	250m		
C			400m	
D	250m	300m		500m

① Operators applying U.S. Ops Specs: CL required below 300m.

CHANGES: Note.

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<b>STRAIGHT-IN RWY</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>06</b>					
	ILS ①	<b>495'(208')</b>	<b>505'(218')</b>	<b>515'(228')</b>	<b>525'(238')</b>
	<i>FULL</i>	<b>R600m</b>	<b>R600m</b>	<b>R600m</b>	<b>R600m</b>
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	ILS ②	<b>1129'(842')</b>	<b>1129'(842')</b>	<b>1129'(842')</b>	<b>1129'(842')</b>
		<b>R1500m</b>	<b>R1500m</b>	<b>C2400m</b>	<b>C2400m</b>
	LOC ③④	<b>660'(373')</b>	<b>660'(373')</b>	<b>660'(373')</b>	<b>660'(373')</b>
		<b>R1000m</b>	<b>R1000m</b>	<b>R1000m</b>	<b>R1400m</b>
	<i>ALS out</i>	R1500m	R1500m	R1800m	R2000m
	LOC ⑤⑥	<b>1300'(1013')</b>	<b>1300'(1013')</b>	<b>1300'(1013')</b>	<b>1300'(1013')</b>
		<b>R1500m</b>	<b>R1500m</b>	<b>C2400m</b>	<b>C2400m</b>
	RNAV ⑦⑧	<b>690'(403')</b>	<b>690'(403')</b>	<b>690'(403')</b>	<b>690'(403')</b>
		<b>R1200m</b>	<b>R1400m</b>	<b>R1400m</b>	<b>R1800m</b>
	<i>ALS out</i>	R1500m	R1500m	R2000m	R2000m
	RNAV ⑨⑩	<b>1220'(933')</b>	<b>1220'(933')</b>	<b>1220'(933')</b>	<b>1220'(933')</b>
		<b>R1500m</b>	<b>R1500m</b>	<b>C2400m</b>	<b>C2400m</b>
	VOR ⑪⑫	<b>650'(363')</b>	<b>650'(363')</b>	<b>650'(363')</b>	<b>650'(363')</b>
		<b>R1000m</b>	<b>R1000m</b>	<b>R1000m</b>	<b>R1400m</b>
	<i>ALS out</i>	R1500m	R1500m	R1800m	R2000m
	VOR ⑬⑭	<b>1920'(1633')</b>	<b>1920'(1633')</b>	<b>1920'(1633')</b>	<b>1920'(1633')</b>
		<b>C5000m</b>	<b>C5000m</b>	<b>C5000m</b>	<b>C5000m</b>
<b>24</b>					
	ILS ①	<b>501'(200')</b>	<b>501'(200')</b>	<b>508'(207')</b>	<b>518'(217')</b>
	<i>FULL</i>	<b>R550m</b>	<b>R550m</b>	<b>R600m</b>	<b>R600m</b>
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	ILS ②	<b>1133'(832')</b>	<b>1133'(832')</b>	<b>1133'(832')</b>	<b>1133'(832')</b>
		<b>R1500m</b>	<b>R1500m</b>	<b>C2400m</b>	<b>C2400m</b>
	LOC ③④	<b>670'(369')</b>	<b>670'(369')</b>	<b>670'(369')</b>	<b>670'(369')</b>
		<b>R1000m</b>	<b>R1000m</b>	<b>R1000m</b>	<b>R1400m</b>
	<i>ALS out</i>	R1500m	R1500m	R1800m	R2000m
	LOC ⑤⑥	<b>1310'(1009')</b>	<b>1310'(1009')</b>	<b>1310'(1009')</b>	<b>1310'(1009')</b>
		<b>R1500m</b>	<b>R1500m</b>	<b>C2400m</b>	<b>C2400m</b>
	RNAV ⑦⑧	<b>780'(476')</b>	<b>780'(476')</b>	<b>780'(476')</b>	<b>780'(476')</b>
		<b>R1500m</b>	<b>R1500m</b>	<b>R1500m</b>	<b>R1800m</b>
	<i>ALS out</i>	R1500m	R1500m	C2200m	C2200m
	RNAV ⑨⑩	<b>1260'(956')</b>	<b>1260'(956')</b>	<b>1260'(956')</b>	<b>1260'(956')</b>
		<b>R1500m</b>	<b>R1500m</b>	<b>C2400m</b>	<b>C2400m</b>
	VOR ⑪⑫	<b>870'(569')</b>	<b>870'(569')</b>	<b>870'(569')</b>	<b>870'(569')</b>
		<b>R1500m</b>	<b>R1500m</b>	<b>R1900m</b>	<b>R1900m</b>
	<i>ALS out</i>	R1500m	R1500m	C2600m	C2600m
	VOR ⑬⑭	<b>1300'(999')</b>	<b>1300'(999')</b>	<b>1300'(999')</b>	<b>1300'(999')</b>
		<b>R1500m</b>	<b>R1500m</b>	<b>C3800m</b>	<b>C3800m</b>
	<i>ALS out</i>	R1500m	R1500m	C4500m	C4500m

① Missed apch climb gradient MIM 3.4%.

② Missed apch climb gradient MIM 2.5%.

③ Continuous Descent Final Approach.

④ Missed apch climb gradient MIM 3.5%.

⑤ Missed apch climb gradient MIM 3.9%.

⑥ Missed apch climb gradient MIM 3.6%.

⑦ Missed apch climb gradient MIM 3.2%.

FALE/DUR

 JEPPESEN  
20 MAY 11 (20-9S1)

**Standard**  
**DURBAN, S AFR REP**  
**KING SHAKA INTL**

CIRCLE-TO-LAND	100 KT	135 KT	180 KT	205 KT
After apch to rwy 06 ①	960'(673')	990'(703')	1170'(883')	1440'(1153')
After apch to rwy 24 ②	960'(659')	990'(689')	1170'(869')	1440'(1139')

V1500m ③      V1600m ③      V2400m ③      V3600m ③

① Circling height based on rwy 06 thresh elev of 287'.

② Circling height based on rwy 24 thresh elev of 301'.

③ or higher minimums of preceding straight-in approach.

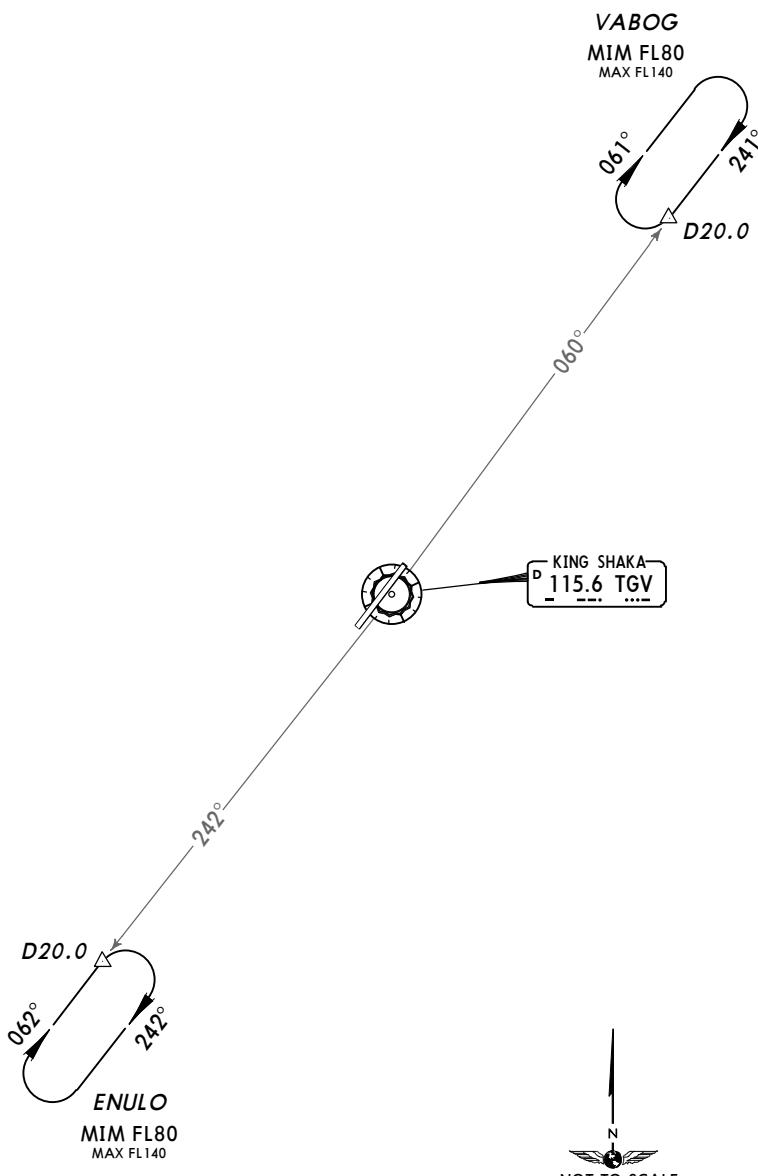
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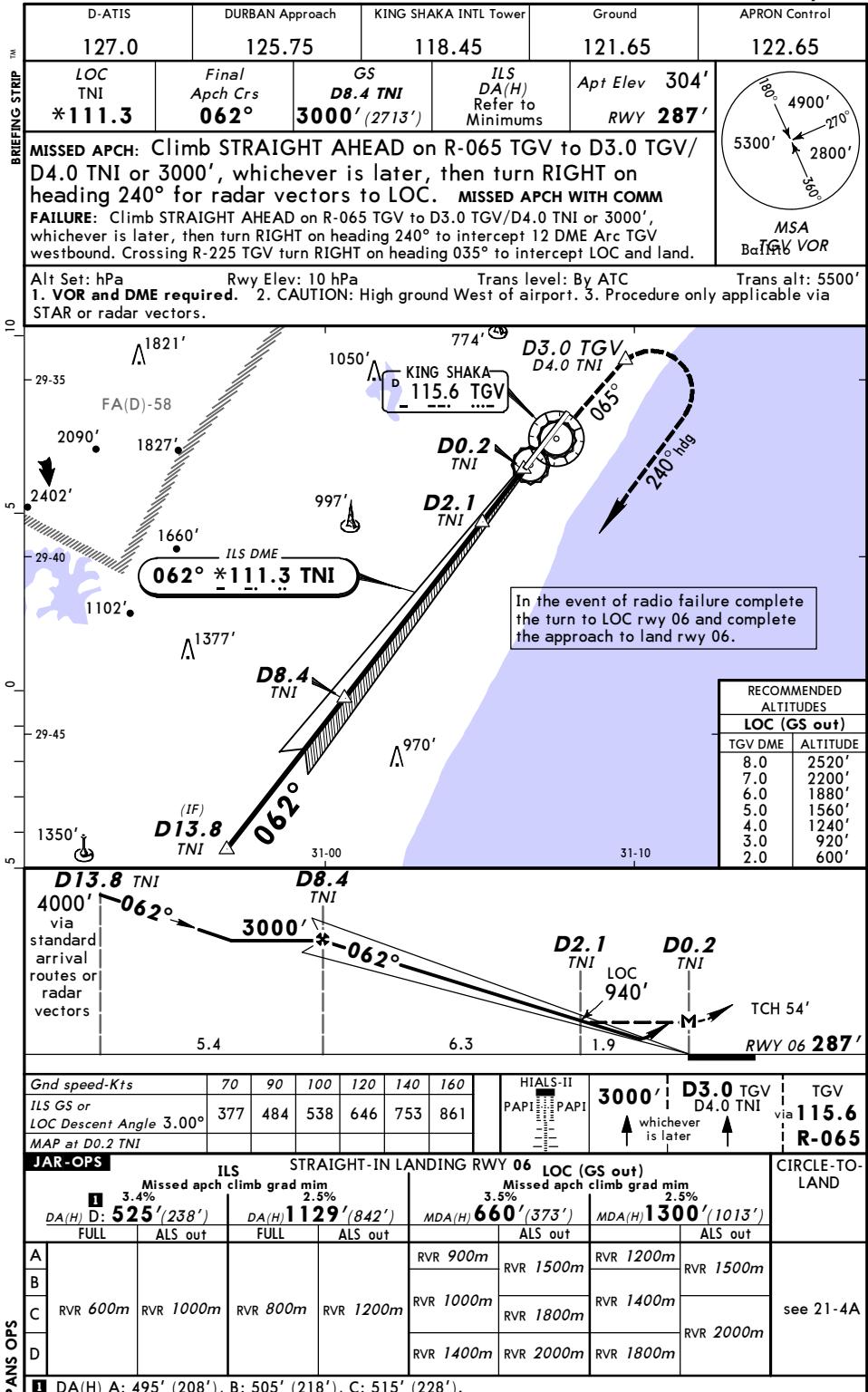
### TAKE-OFF RWY 06, 24

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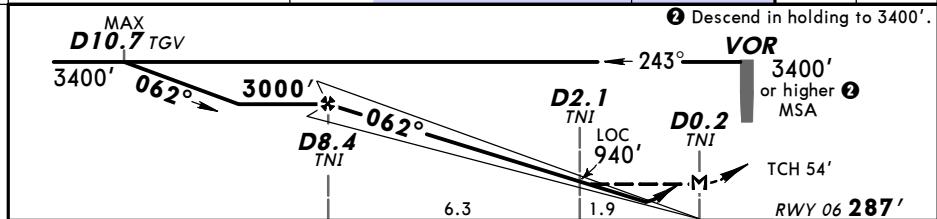
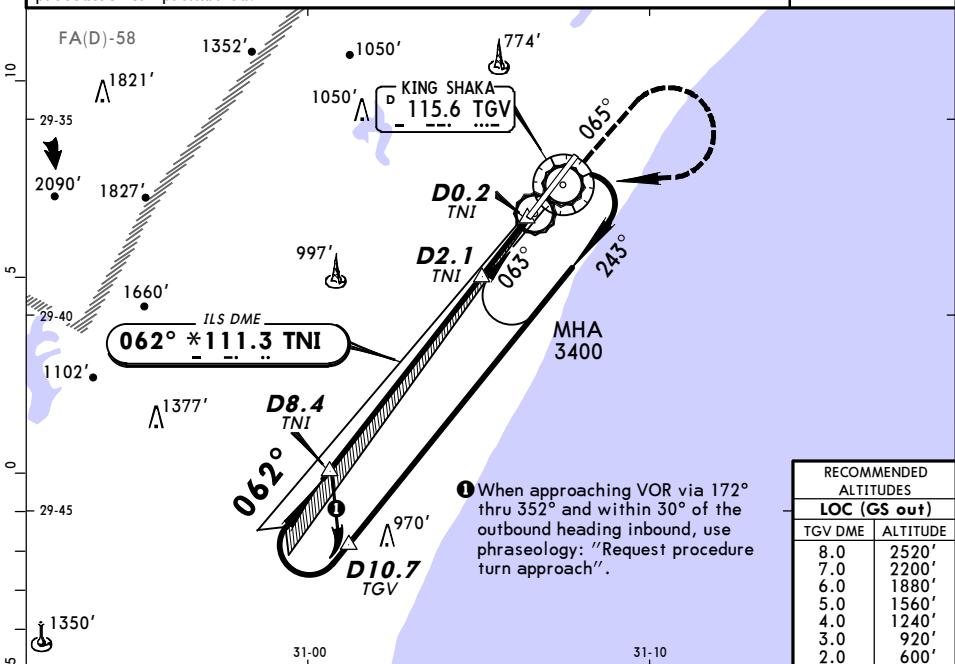
LVP must be in Force					
Approved Operators HIRL, CL & mult. RVR req	RL, CL & mult. RVR req	RL & CL	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A					
B	125m	150m	200m	250m	
C					
D	150m	200m	250m	300m	

## ENULO &amp; VABOG HOLDINGS





D-ATIS	DURBAN Approach	KING SHAKA INTL Tower	Ground	APRON Control
127.0	125.75	118.45	121.65	122.65
LOC TNI <b>*111.3</b>	Final Apch Crs <b>062°</b>	GS <b>D8.4 TNI</b> <b>3000' (2713')</b>	ILS DA(H) Refer to Minimums	Apt Elev 304' RWY 287'
<b>MISSSED APCH:</b> Climb STRAIGHT AHEAD on R-065 TGV to 3000', then turn RIGHT to VOR climbing to 3400'.				
Alt Set: hPa Rwy Elev: 10 hPa Trans level: By ATC Trans alt: 5500' 1. VOR and DME required. 2. CAUTION: High ground West of airport. 3. 080°/260° procedure turn prohibited.				



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II	TGV
ILS GS or LOC Descent Angle 3.00°	377	484	538	646	753	861	PAPI	3000' on 115.6
MAP at D0.2 TNI							M	R-065

JAR-OPS		ILS		STRAIGHT-IN LANDING RWY 06		LOC (GS out)		CIRCLE-TO-LAND
		Missed apch climb grad min				Missed apch climb grad min		
I	3.4%		2.5%			3.5%	2.5%	
DA(H) D: 525'(238')		DA(H) 1129'(842')				MDA(H) 660'(373')	MDA(H) 1300'(1013')	
FULL	ALS out	FULL	ALS out			ALS out	ALS out	
A				RVR 900m		RVR 1200m		
B					RVR 1500m		RVR 1500m	
C	RVR 600m	RVR 1000m	RVR 800m	RVR 1200m	RVR 1000m	RVR 1800m	RVR 1400m	
D					RVR 1400m	RVR 2000m	RVR 1800m	RVR 2000m

I DA(H) A: 495' (208'), B: 505' (218'), C: 515' (228').

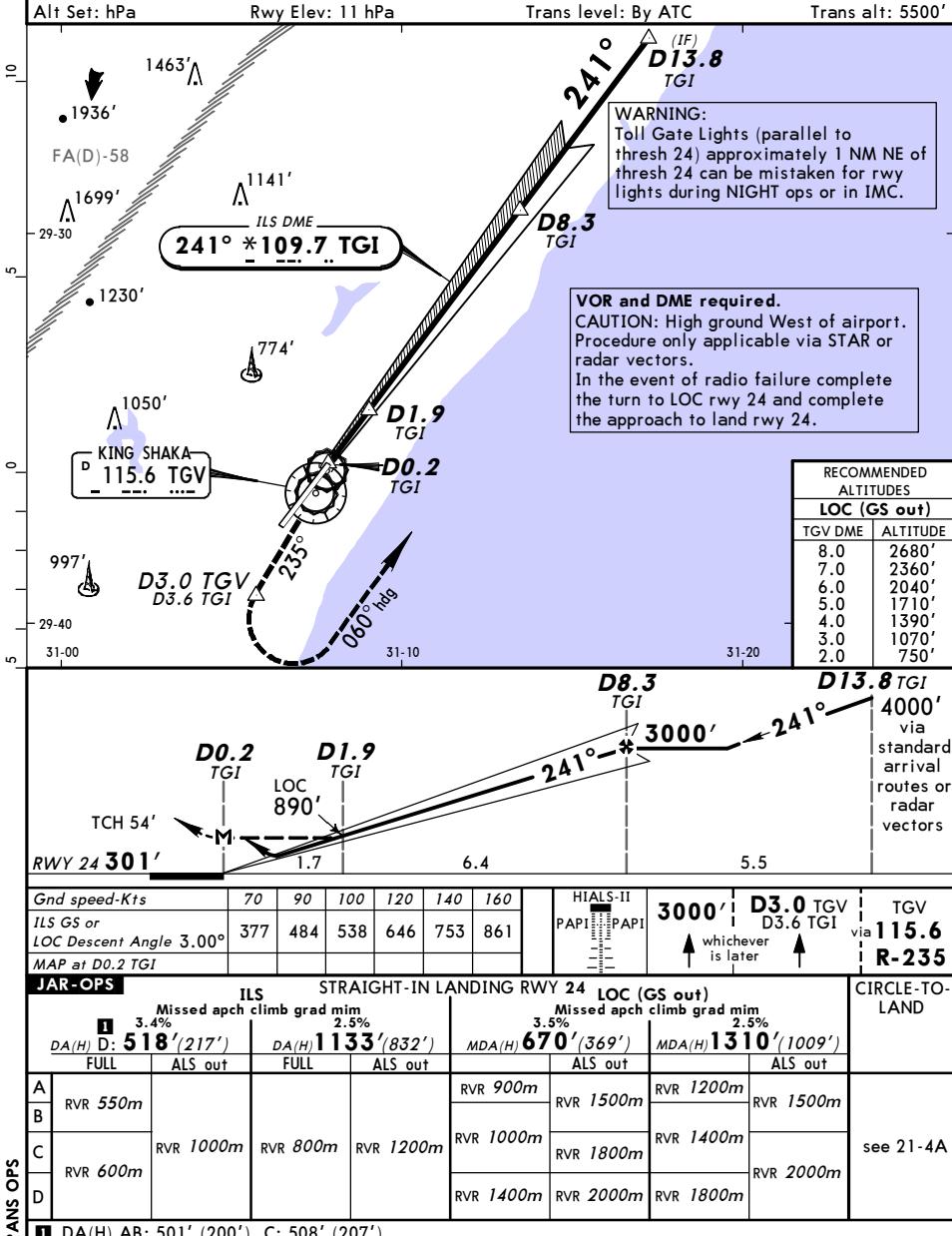
CHANGES: None.

D-ATIS	DURBAN Approach	KING SHAKA INTL Tower	Ground	APRON Control
127.0	125.75	118.45	121.65	122.65
LOC TGI <b>*109.7</b>	Final Apch Crs <b>241°</b>	GS <b>D8.3 TGI</b> <b>3000'</b> (2699')	ILS DA(H) Refer to Minimums	Apt Elev 304' RWY 301'

**BRIEFING STRIP™**

**MISSED APCH:** Climb STRAIGHT AHEAD on R-235 TGV to D3.0 TGV/D3.6 TGI or 3000', whichever is later, then turn LEFT on heading 060° for radar vectors to LOC. **MISSED APCH WITH COMM FAILURE:** Climb STRAIGHT AHEAD on R-235 TGV to D3.0 TGV/D3.6 TGI or 3000', whichever is later, then turn LEFT on heading 060° to intercept 12 DME Arc TGV westbound. Crossing R-079 TGV turn LEFT on heading 215° to intercept LOC and land.

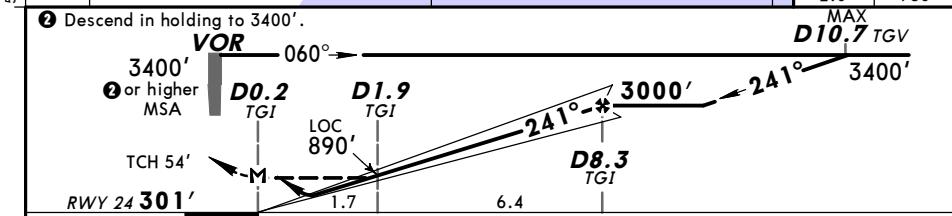
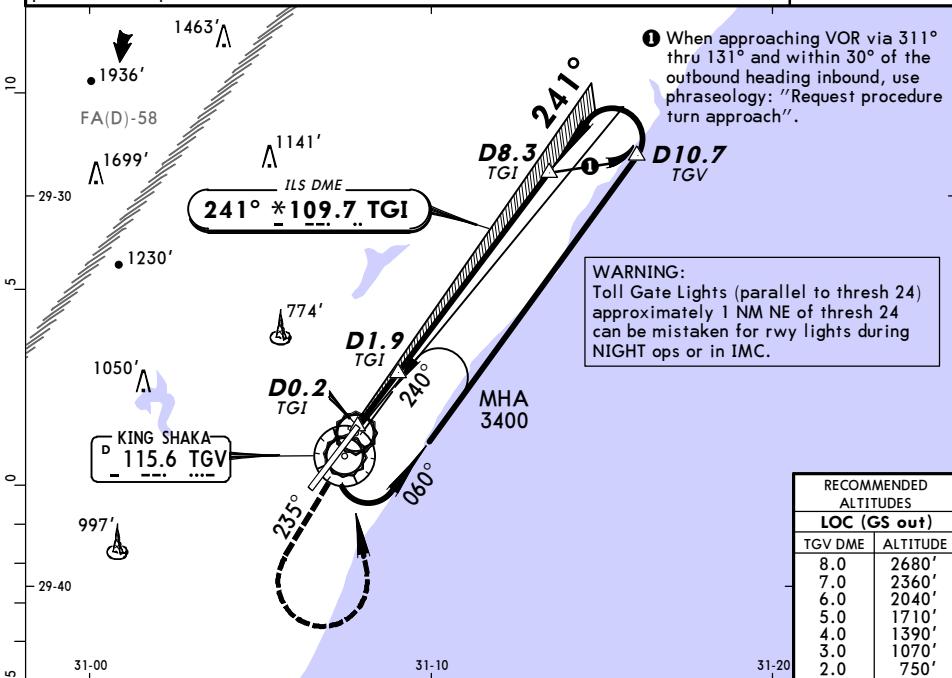
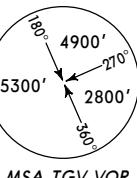
MSA TGV VOR



D-ATIS	DURBAN Approach	KING SHAKA INTL Tower	Ground	APRON Control
127.0	125.75	118.45	121.65	122.65
LOC TGI <b>*109.7</b>	Final Apch Crs <b>241°</b>	GS <b>D8.3 TGI</b> <b>3000' (2699')</b>	ILS DA(H) Refer to Minimums	Apt Elev 304' RWY 301'

BRIEFING STRIP™ MISSED APCH: Climb STRAIGHT AHEAD on R-235 TGV to 3000', then turn LEFT to VOR climbing to 3400'.

Alt Set: hPa Rwy Elev: 11 hPa Trans level: By ATC Trans alt: 5500'  
1. VOR and DME required. 2. CAUTION: High ground West of airport. 3. 080°/260° procedure turn prohibited.



Gnd speed-Kts	70	90	100	120	140	160		HIALS-II	PAPI	3000	TGV
ILS GS or LOC Descent Angle 3.00°	377	484	538	646	753	861				on 115.6	R-235
MAP at D0.2 TGI										LT	

JAR-OPS ILS STRAIGHT-IN LANDING RWY 24 LOC (GS out)				LOC (GS out)				CIRCLE-TO-LAND			
Missed apch climb grad min				Missed apch climb grad min							
DA(H) D: 518'(217')	DA(H) 1133'(832')			MDA(H) 670'(369')	MDA(H) 1310'(1009')						
FULL	ALS out	FULL	ALS out	ALS out	ALS out	ALS out	ALS out				
A	RVR 550m			RVR 900m	RVR 1200m	RVR 1500m	RVR 1500m				
B											
C	RVR 600m	RVR 1000m	RVR 800m	RVR 1200m	RVR 1000m	RVR 1800m	RVR 1400m				
D					RVR 1400m	RVR 2000m	RVR 1800m				
① DA(H) AB: 501' (200'), C: 508' (207').											

CIRCLE-TO-LAND

ENTIRELY AT PILOTS DISCRETION

MISSSED APCH CLIMB GRADIENT MIM 3.4%  
&  
MISSSED APCH CLIMB GRADIENT MIM 3.5%

JAR-OPS		Rwy 06 1	Rwy 24 2	
Max Kts.		After ILS & LOC	After ILS & LOC	
100	MDA(H)	VIS	MDA(H) VIS	
100	960' (673')	1500m	960' (659')	1500m
135	990' (703')	1600m	990' (689')	1600m
180	1170' (883')	2400m	1170' (869')	2400m
205	1440' (1153')	3600m	1440' (1139')	3600m

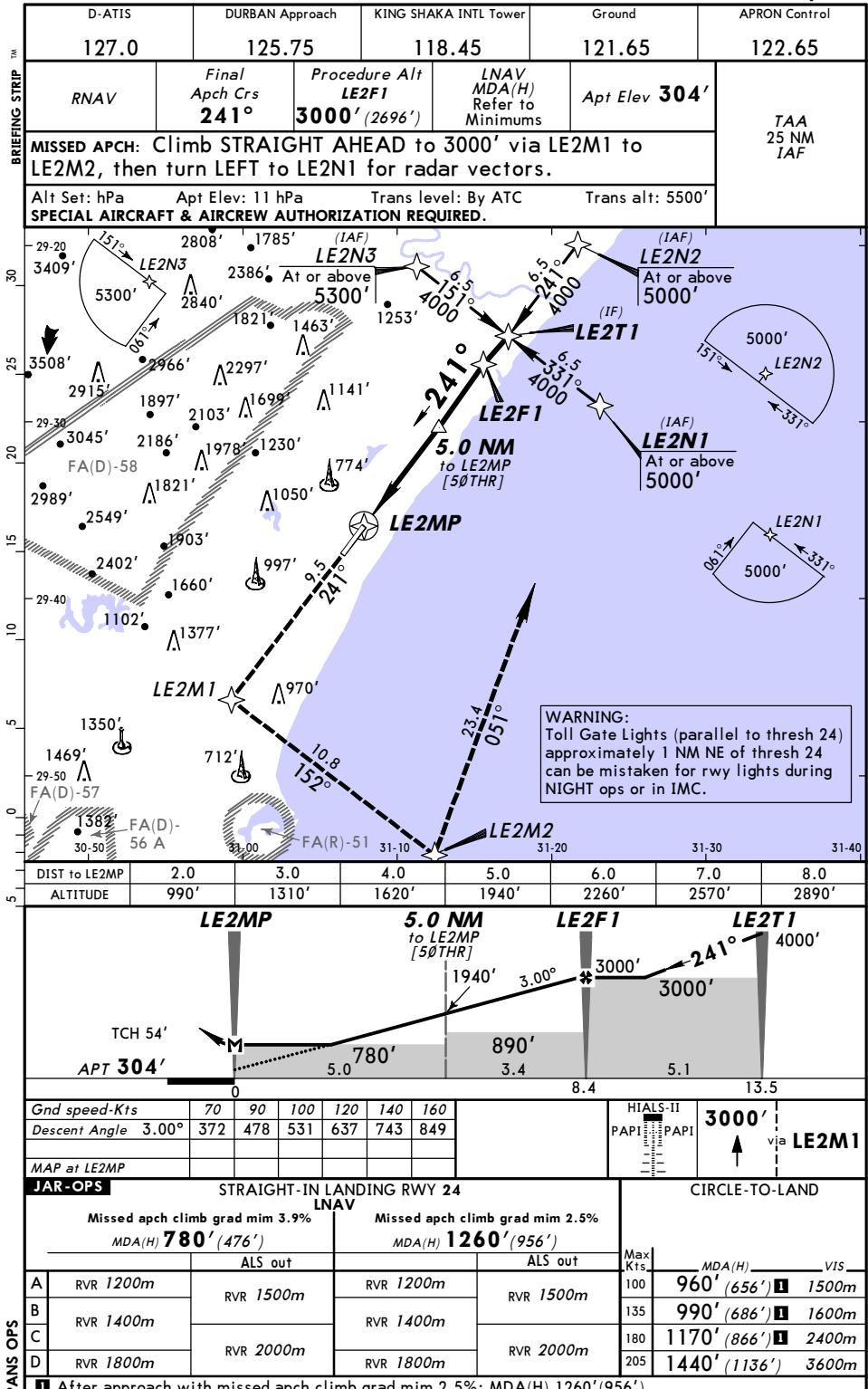
MISSSED APCH CLIMB GRADIENT MIM 2.5%

JAR-OPS		Rwy 06 1		
Max Kts.		After ILS	After LOC	
100	MDA(H)	VIS	MDA(H) VIS	
100	1130' (843')	1500m	1300' (1013')	1500m
135	1130' (843')	1600m	1300' (1013')	1600m
180	1170' (883')	2400m	1300' (1013')	2400m
205	1440' (1153')	3600m	1440' (1153')	3600m

JAR-OPS		Rwy 24 2		
Max Kts.		After ILS	After LOC	
100	MDA(H)	VIS	MDA(H) VIS	
100	1140' (839')	1500m	1310' (1009')	1500m
135	1140' (839')	1600m	1310' (1009')	1600m
180	1170' (869')	2400m	1310' (1009')	2400m
205	1440' (1139')	3600m	1440' (1139')	3600m

**1** Circling height based on rwy 06 thresh elev of 287'.**2** Circling height based on rwy 24 thresh elev of 301'.

D-ATIS		DURBAN Approach	KING SHAKA INTL Tower	Ground	APRON Control		
127.0		125.75	118.45	121.65	122.65		
RNAV	Final Apch Crs <b>062°</b>	Procedure Alt <b>LE1F1</b> <b>3000' (2713')</b>	LNAV MDA(H) Refer to Minimums	Apt Elev 304' RWY 287'	TAA 25 NM IAF		
MISSSED APCH: Climb STRAIGHT AHEAD to 3000' via LE1M1 to LE1M2, then turn RIGHT to LE1N3 for radar vectors.							
Alt Set: hPa Rwy Elev: 10 hPa Trans level: By ATC Trans alt: 5500' SPECIAL AIRCRAFT & AIRCREW AUTHORIZATION REQUIRED.							
DIST to LE1IMP	7.0	6.0	5.0	4.0	3.0		
ALTITUDE	2680'	2350'	2020'	1680'	1350'		
13.5	8.4	5.1	6.1	1.9	0.4		
Gnd speed-Kts	70	90	100	120	140	160	
Descent Angle 3.00°	372	478	531	637	743	849	
MAP at LE1IMP							
JAR-OPS	STRAIGHT-IN LANDING RWY 06 LNAV				CIRCLE-TO-LAND		
Missed apch climb grad mim 3.9% MDA(H) <b>690' (403')</b>		Missed apch climb grad mim 2.5% MDA(H) <b>1220' (933')</b>		Circling height based on rwy 06 thresh elev of 287'			
ALS out		ALS out		Max Kts.	MDA(H) VIS		
A	RVR 1200m	RVR 1200m		100	960' (673') 1500m		
B	RVR 1400m	RVR 1500m		135	990' (703') 1600m		
C	RVR 1800m	RVR 1400m		180	1170' (883') 2400m		
D	RVR 2000m	RVR 1800m		205	1440' (1153') 3600m		
After approach with missed apch climb grad mim 2.5%: MDA(H) 1220' (933').							
CHANGES: Procedure.							

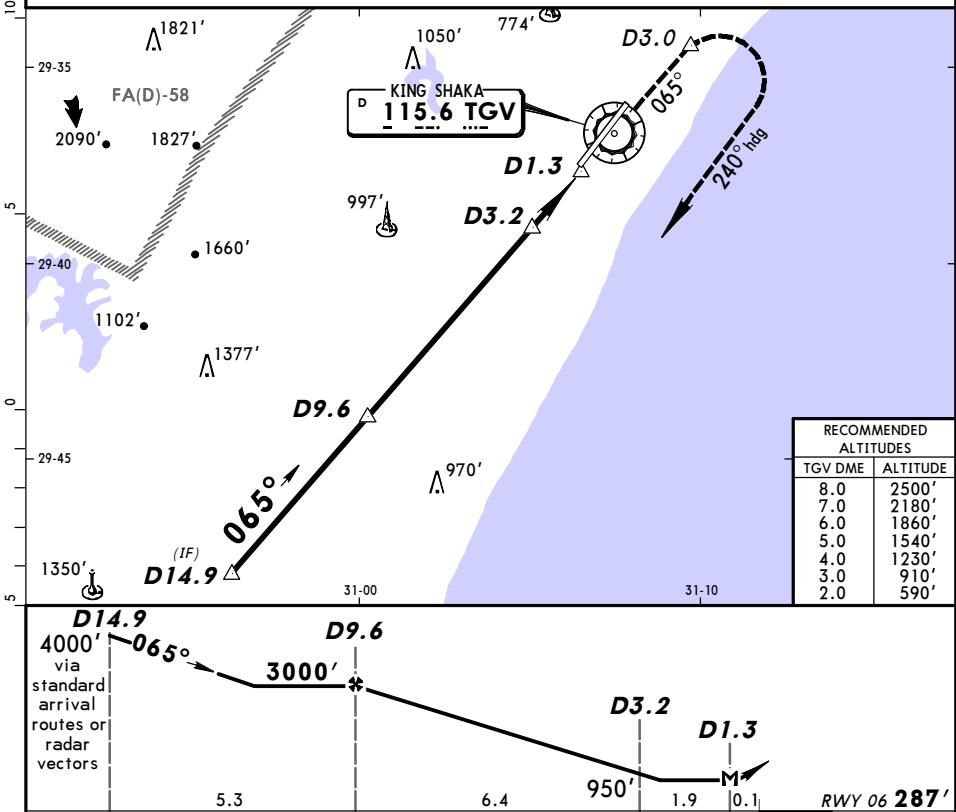


D-ATIS	DURBAN Approach	KING SHAKA INTL Tower	Ground	APRON Control
127.0	125.75	118.45	121.65	122.65
VOR TGV <b>115.6</b>	Final Apch Crs <b>065°</b>	Minimum Alt <b>D9.6</b> <b>3000'</b> (2713')	MDA(H) (CONDITIONAL) <b>650'</b> (363')	Apt Elev 304' RWY 287'

**BRIEFING STRIP**

**MISSSED APCH:** Climb STRAIGHT AHEAD on R-065 to D3.0 or 3000', whichever is later, then turn RIGHT on heading 240° for radar vectors. **MISSSED APCH WITH COMM FAILURE:** Climb STRAIGHT AHEAD on R-065 to D3.0 or 3000', whichever is later, then turn RIGHT on heading 240° to intercept 12 DME Arc westbound. Crossing R-225 turn RIGHT on heading 035° to intercept R-245 and land.

Alt Set: hPa Rwy Elev: 10 hPa Trans level: By ATC Trans alt: 5500'  
1. DME required. 2. CAUTION: High ground West of airport. 3. Procedure only applicable via STAR or radar vectors.



Gnd speed-Kts	70	90	100	120	140	160		HIALS-II PAPI	3000'	D3.0	TGV
Descent Angle 3.00°	372	478	531	637	743	849					
MAP at D1.3											

JAR-OPS		STRAIGHT-IN LANDING RWY 06				CIRCLE-TO-LAND 1	
Missed apch climb grad min 3.6% MDA(H) <b>650'</b> (363')		Missed apch climb grad min 2.5% MDA(H) <b>1920'</b> (1633')				ENTIRELY AT PILOTS DISCRETION	
ALS out							

	ALS out	ALS out	Max Kts.	MDA(H)	VIS
A	RVR 900m	RVR 1200m	100	2 960' (673')	1500m
B	RVR 1000m	RVR 1500m	135	2 990' (703')	1600m
C	RVR 1800m	RVR 1400m	180	2 1170' (883')	2400m
D	RVR 1400m	RVR 2000m	205	2 1440' (1153')	3600m

1 Circling height based on rwy 06 thresh elev of 287'.

2 After missed apch climb grad mim 2.5%: MDA(H) 1920' (1633').

FALE/DUR  
KING SHAKA INTL

JEPPESEN  
17 DEC 10 (23-2)

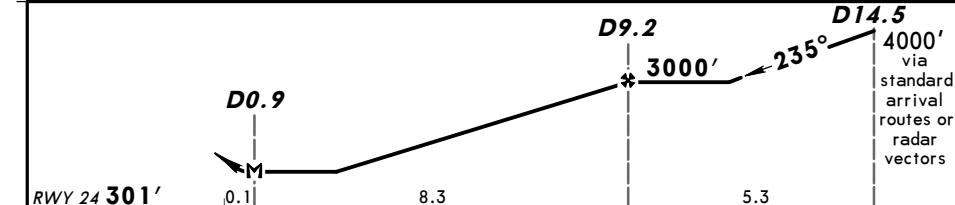
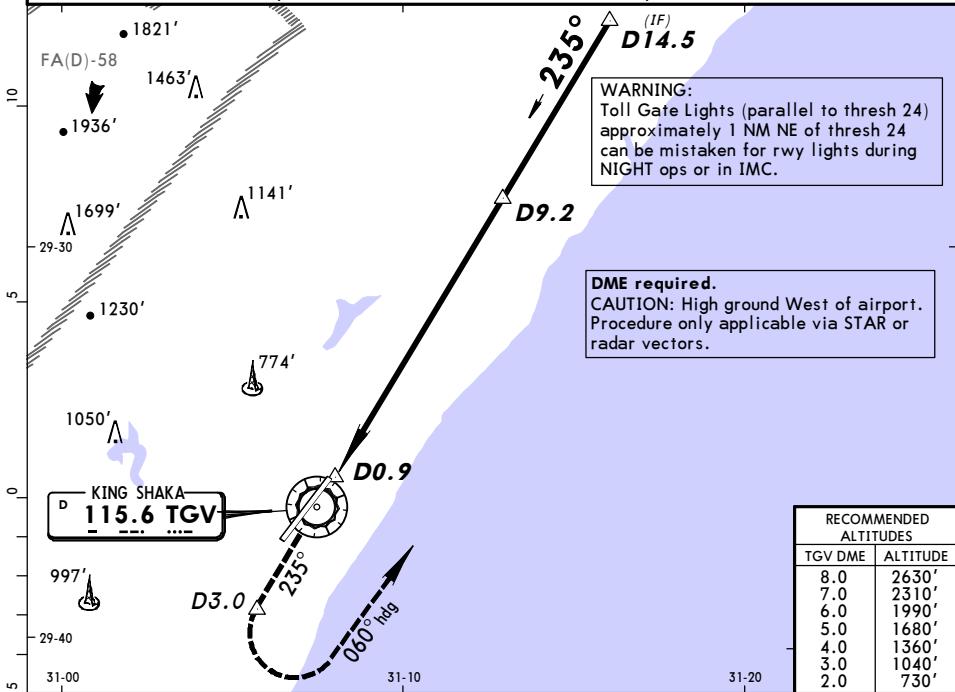
DURBAN, S AFR REP  
VOR Z Rwy 24

D-ATIS 127.0	DURBAN Approach 125.75	KING SHAKA INTL Tower 118.45	Ground 121.65	APRON Control 122.65
VOR TGV <b>115.6</b>	Final Apch Crs <b>235°</b>	Minimum Alt <b>D9.2</b> <b>3000' (2699')</b>	MDA(H) (CONDITIONAL) <b>870' (569')</b>	Apt Elev 304' <b>RWY 301'</b>

**MISSSED APCH:** Climb STRAIGHT AHEAD on R-235 to D3.0 or 3000', whichever is later, then turn LEFT on heading 060° for radar vectors.

**MISSSED APCH WITH COMM FAILURE:** Climb STRAIGHT AHEAD on R-235 to D3.0 or 3000', whichever is later, then turn LEFT on heading 060° to intercept 12 DME Arc westbound. Crossing R-074 turn LEFT on heading 215° to intercept R-055 and land.

Alt Set: hPa Rwy Elev: 11 hPa Trans level: By ATC Trans alt: 5500'



JAR - OPS		STRAIGHT-IN LANDING Rwy 24			CIRCLE-TO-LAND 1	
		Missed apch climb grad mim 3.2% MDA(H) <b>870' (569')</b>		Missed apch climb grad mim 2.5% MDA(H) <b>1300' (999')</b>		ENTIRELY AT PILOTS DISCRETION
		ALS out		ALS out		
A	RVR 1000m		RVR 1200m		RVR 1500m	Max Kts. MDA(H) VIS
B	RVR 1200m		RVR 1400m		RVR 2000m	100 <b>2 960' (659')</b> 1500m
C						135 <b>2 990' (689')</b> 1600m
D	RVR 1600m		RVR 1800m			180 <b>2 1170' (869')</b> 2400m
						205 <b>1 440' (1139')</b> 3600m

1 Circling height based on rwy 24 thresh elev of 301'.

2 After missed apch climb grad mim 2.5%: MDA(H) 1300' (999').

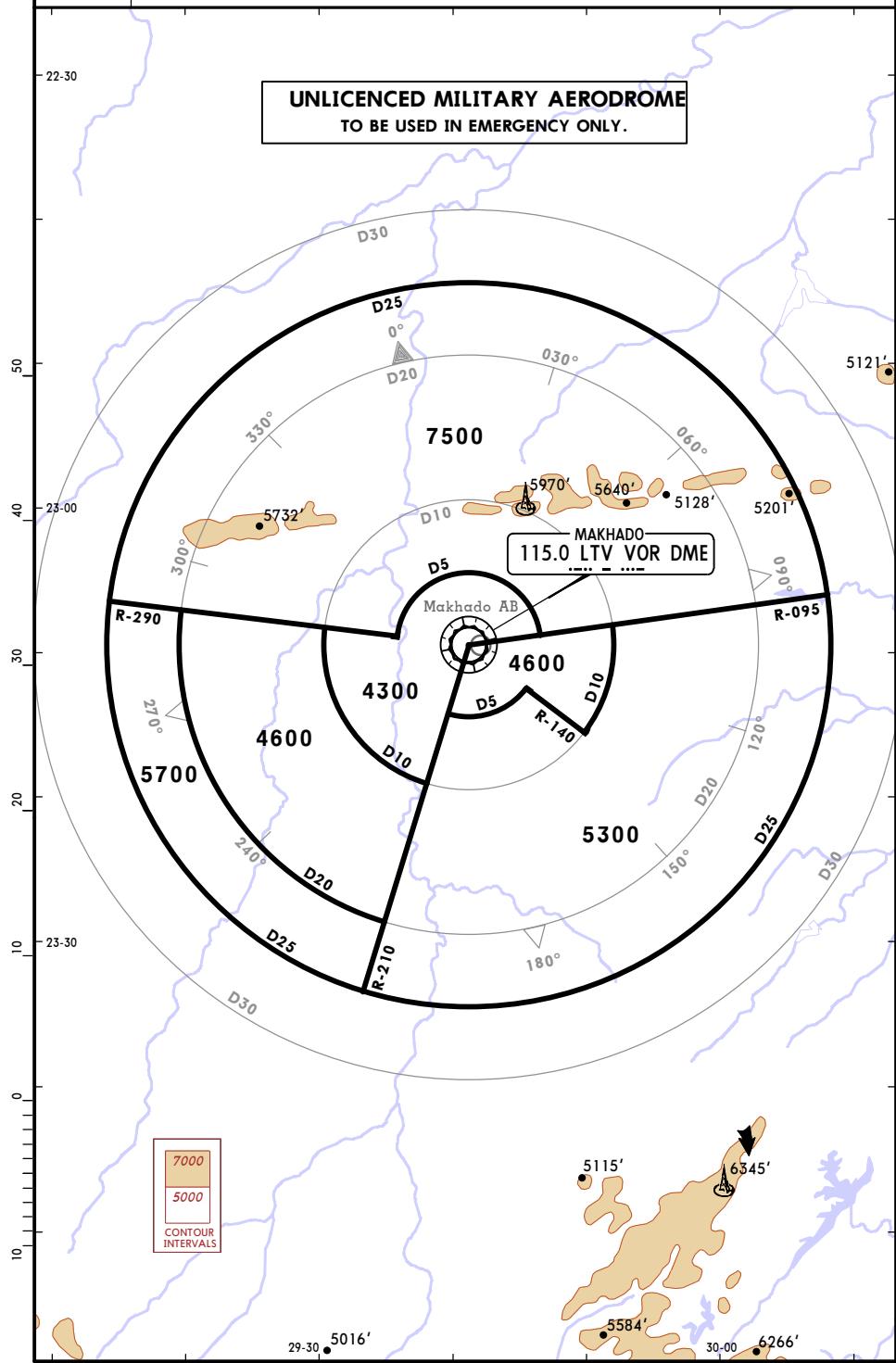
PANS OPS CHANGES: Warning note.

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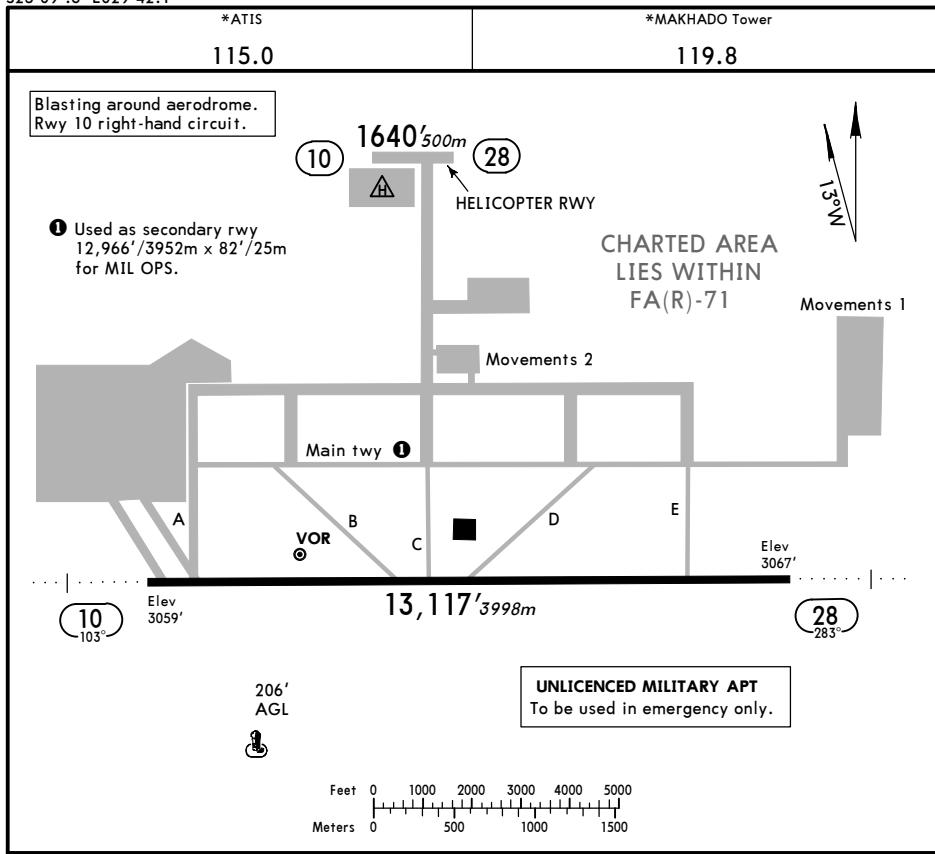
Apt Elev  
3069'

Alt Set: hPa Trans level: By ATC Trans alt: 8000'  
Radar minimum altitudes only valid when under radar control and vectoring.  
Alternatively MSA applies.

**UNLICENCED MILITARY AERODROME**  
TO BE USED IN EMERGENCY ONLY.



FALM

Apt Elev 3069'  
S23 09 .6 E029 42.1JEPPESSEN  
30 JUL 10 (10-9)MAKHADO, S AFR REP  
MAKHADO AB

RWY	RL HIALS TDZ PAPI (angle 2.7°)	USABLE LENGTHS			WIDTH
		Threshold	Glide Slope	TAKE-OFF	
10 28	RL HIALS TDZ PAPI (angle 2.7°)		12,327' 3757m	②	151' 46m
10 28	Helicopter runway				49' 15m

## ② TAKE-OFF RUN AVAILABLE

RWY 10:

From rwy head 13,117'(3998m)  
twy A int 12,040'(3670m)

RWY 28:

From rwy head 13,117'(3998m)  
twy E int 12,040'(3670m)

JAR-OPS

TAKE-OFF ①

All Rwy's

LVP must be in force

RCLM (DAY only)  
or RLRCLM (DAY only)  
or RLNIL  
(DAY only)

A	250m	400m	500m
B			
C			
D	300m		

① Operators applying U.S. Ops Specs: CL required below 300m.

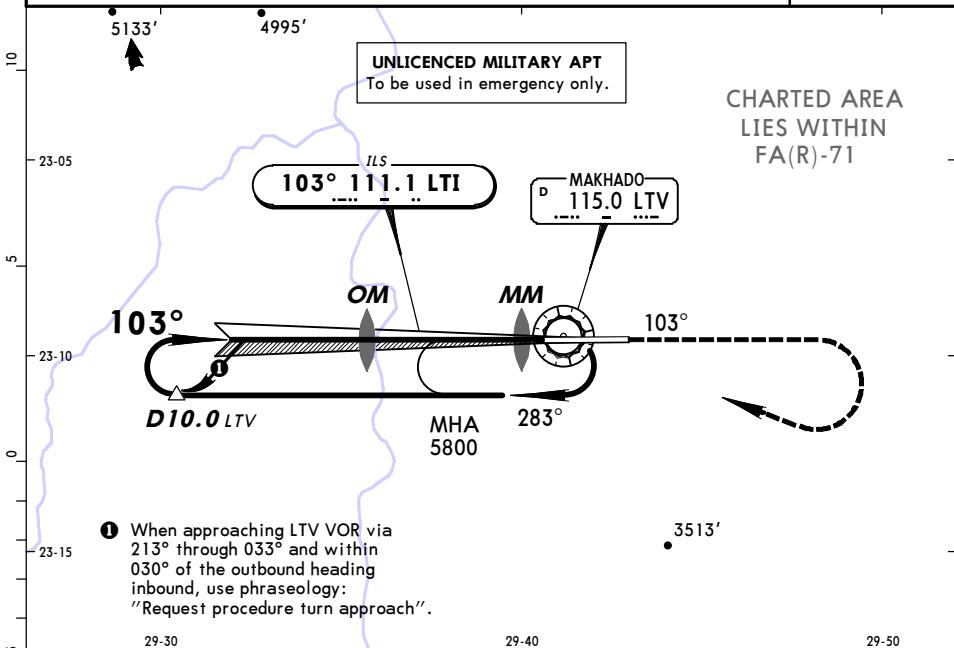
CHANGES: New airport.

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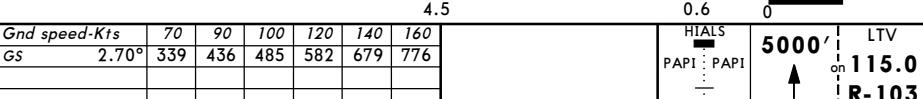
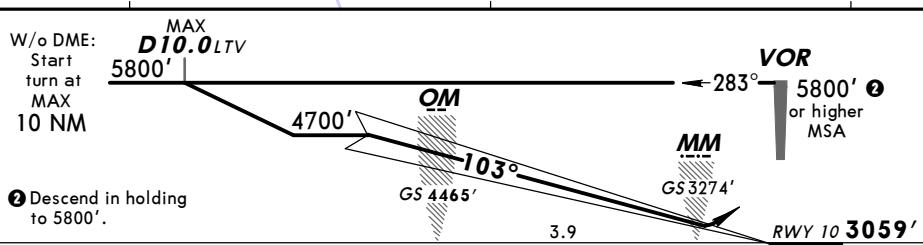
*ATIS		*MAKHADO Approach		*MAKHADO Tower	
115.0		121.2		119.8	
LOC LTI <b>111.1</b>	Final Apch Crs <b>103°</b>	GS OM <b>4465' (1406')</b>	ILS DA(H) Refer to Minimums	Apt Elev 3069' <b>RWY 3059'</b>	7500' 280° 5300' 5700' 35° MSA LTV VOR

**MISSING APCH:** Climb STRAIGHT AHEAD on R-103 LTV outbound to 5000', then turn RIGHT to VOR climbing to 5800', or as directed.

Alt Set: hPa Rwy Elev: 107 hPa Trans level: By ATC Trans alt: 8000'  
Acft are to remain South of R-298 LTV.

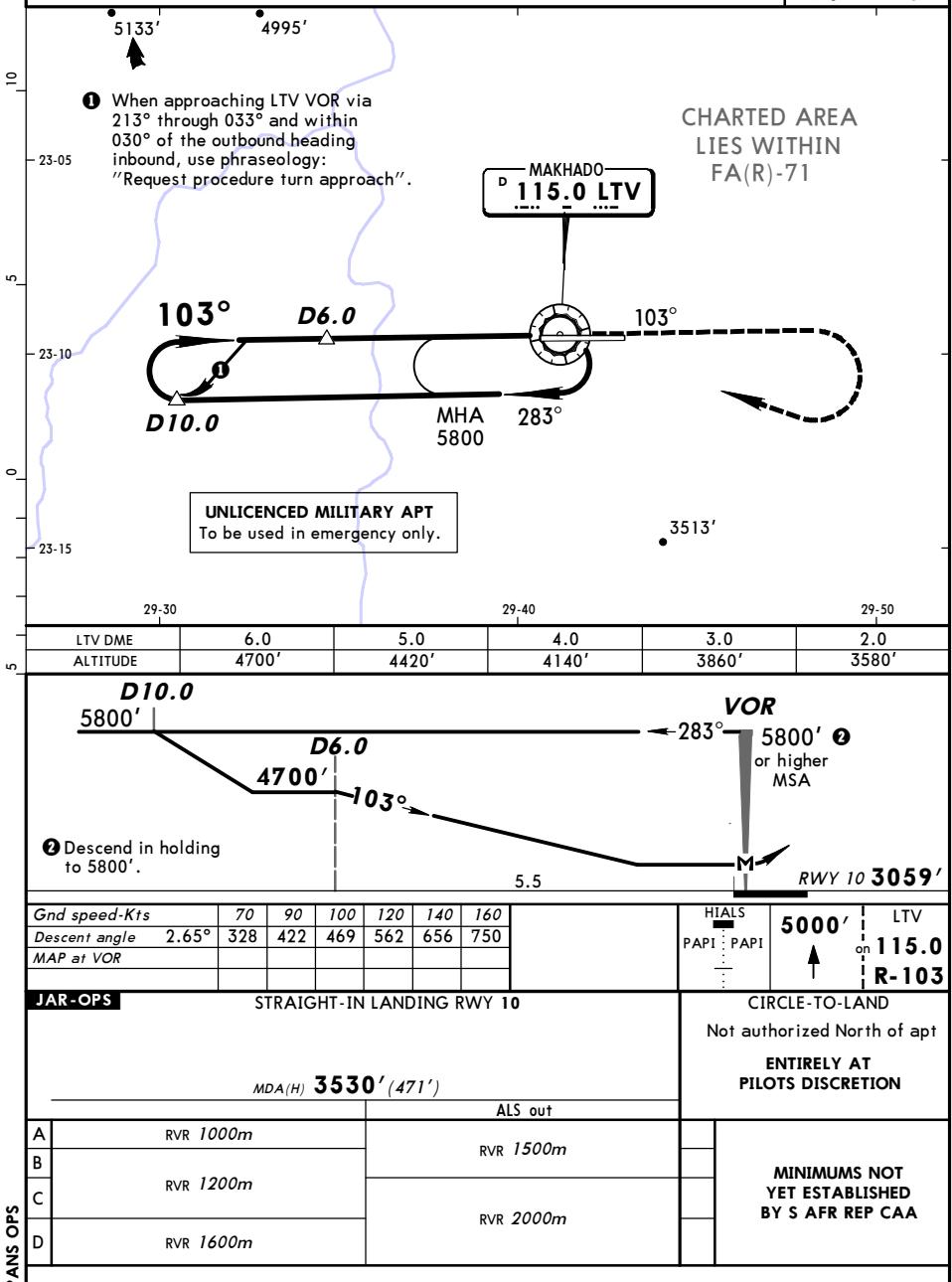


- ① When approaching LTV VOR via 213° through 033° and within 030° of the outbound heading inbound, use phraseology:  
"Request procedure turn approach".



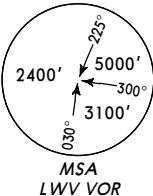
JAR-OPS		STRAIGHT-IN LANDING Rwy 10				CIRCLE-TO-LAND	
ILS		LOC (GS out)				Not authorized North of apt	
DA(H) AB: 3259' (200') D: 3259' (210') C: 3260' (201')						ENTIRELY AT PILOTS DISCRETION	
FULL		NOT APPLICABLE					
A RVR 550m							
B							
C RVR 600m						MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA	
D							

*ATIS		*MAKHADO Approach			*MAKHADO Tower	
115.0		121.2			119.8	
VOR LTV <b>115.0</b>	Final Apch Crs <b>103°</b>	Minimum Alt <b>D6.0</b> <b>4700'</b> (1641')	MDA(H) <b>3530'</b> (471')	Apt Elev 3069' <b>RWY 3059'</b>		
MISSSED APCH: Climb on R-103 outbound to 5000', then turn RIGHT to VOR climbing to 5800'.						
Alt Set: hPa	Rwy Elev: 107 hPa	Trans level: By ATC	Trans alt: 8000'			
Acft are to remain South of R-298 LTV.						

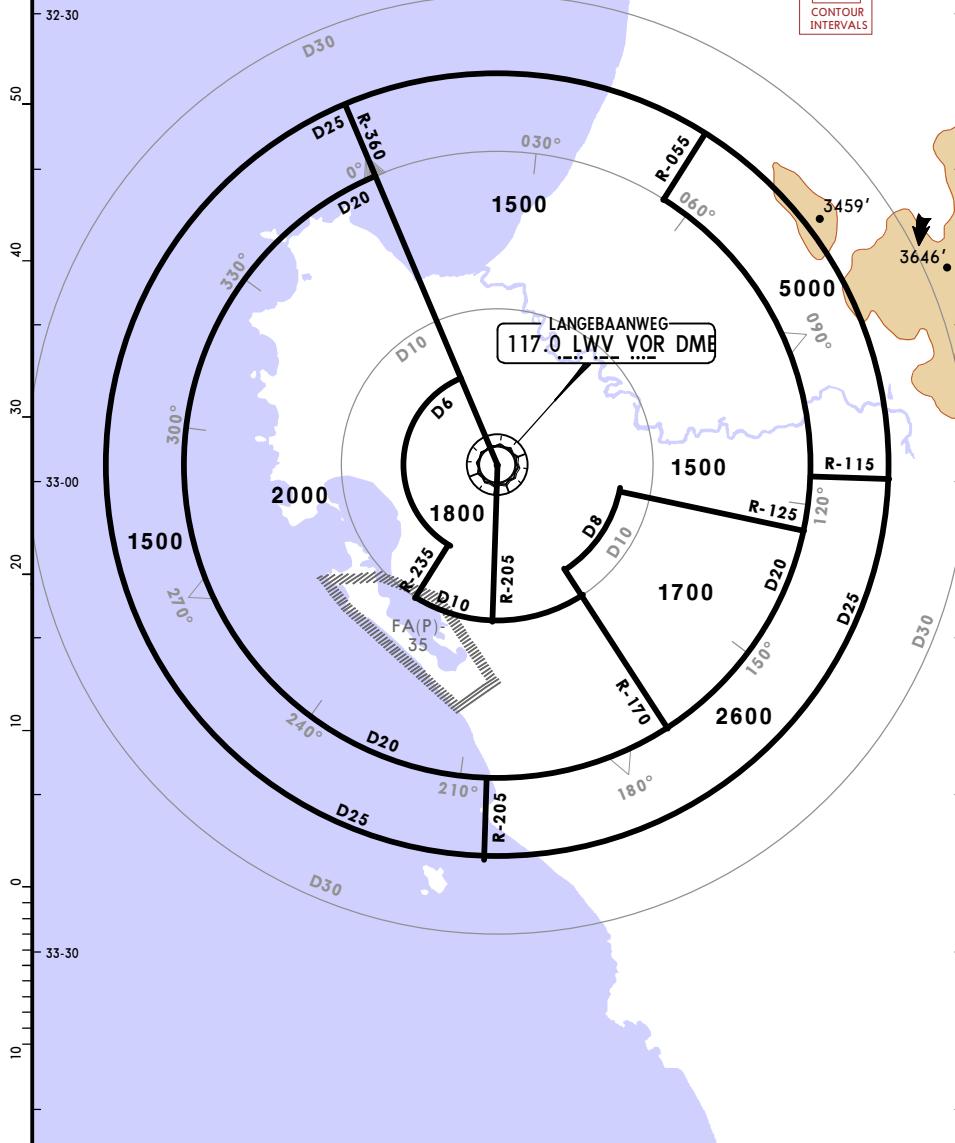
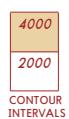


Apt Elev  
108'

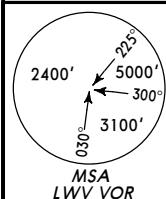
Alt Set: hPa Trans level: By ATC Trans alt: 5000'  
Radar minimum altitudes only valid when under positive radar  
control and radar vectoring. Alternatively MSA applies.



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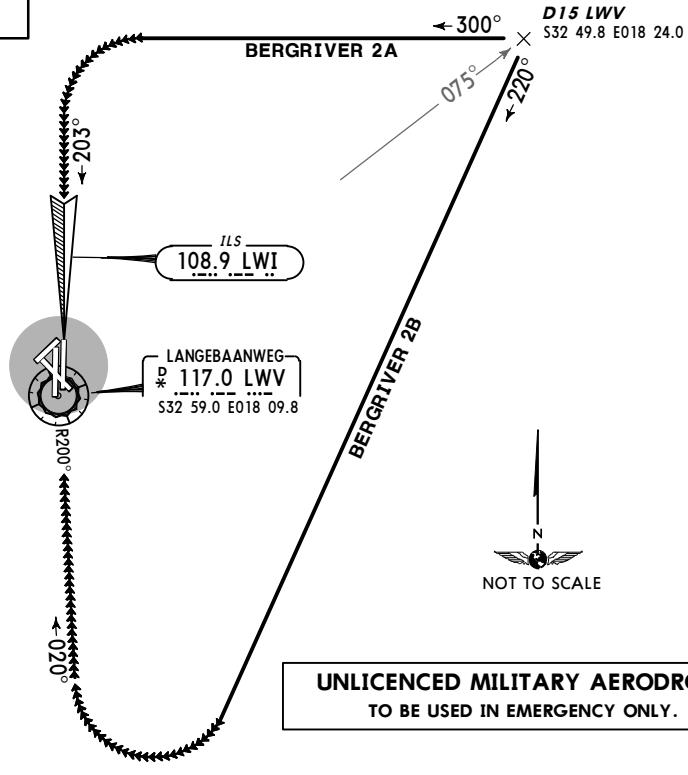
*ATIS 117.0	Apt Elev 108'	Alt Set: hPa Trans level: By ATC Trans alt: 5000' 1. If unable to comply with STAR advise ATC. 2. SIDs and STARs must be announced in operation on ATIS. 3. STARs only available when Surveillance Radar is in operation. 4. STARs include minimum noise routings.
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## BERGRIVER 2A [BERG2A]

## BERGRIVER 2B [BERG2B]

RWYS 20L, 02R ARRIVALS



▼ LOST COMMS ▼

## BERGRIVER 2A

**Before D15 LWV:** Maintain last assigned FL/altitude, commence ILS/VORDME Rwy 20L approach at ETA +10 minutes for landing.

**After D15 LWV:** Maintain last assigned altitude and continue with STAR. When passing LWV R-035 turn LEFT, 230° track, complete ILS/VORDME Rwy 20L approach and land.

## BERGRIVER 2B

**Before D15 LWV:** Maintain last assigned FL/altitude to LWV, commence VORDME Rwy 02R approach at ETA +10 minutes for landing.

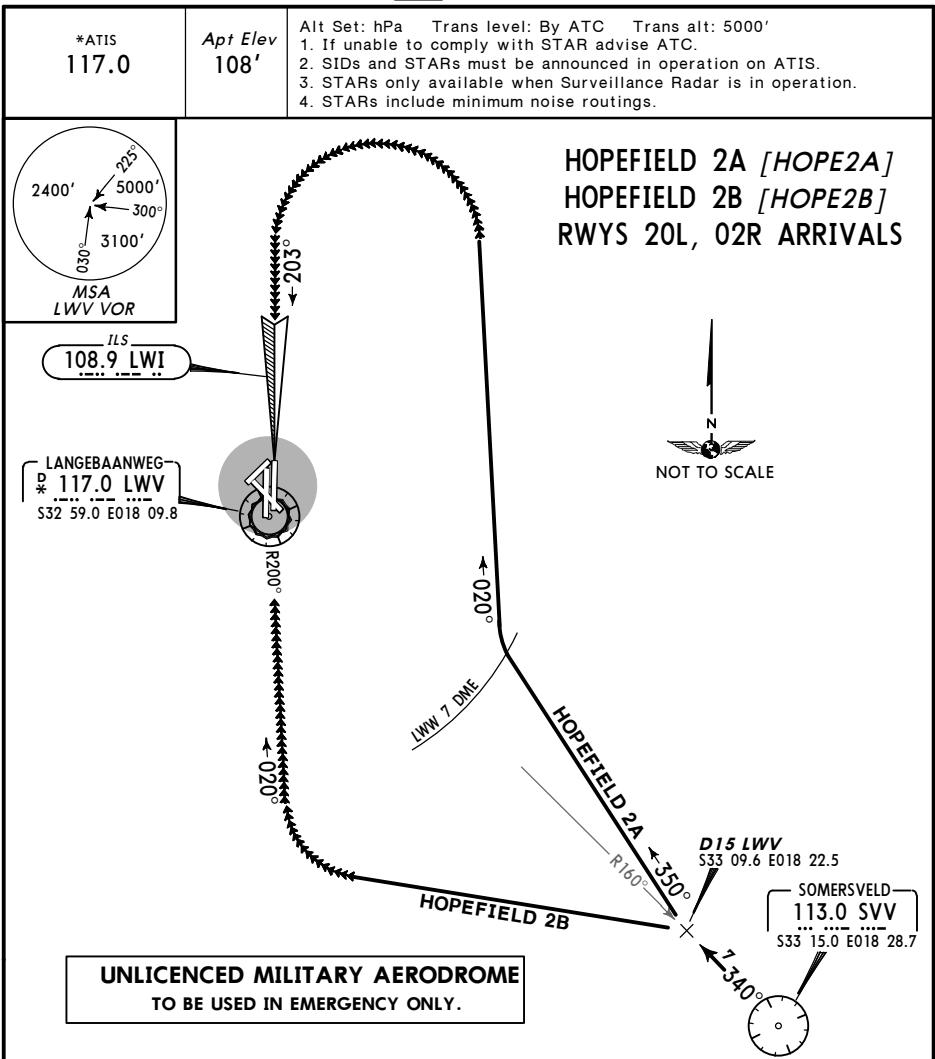
**After D15 LWV:** Turn LEFT, 200° track, climbing to LWV at 5000', commence VORDME Rwy 02R approach at ETA +10 minutes for landing.

STAR	RWY	ROUTING
BERGRIVER 2A	20L	On LWV R-075 inbound, maintain 5000', at D15 LWV turn RIGHT, 300° track, descend to 2000' for radar vectors to ILS.
BERGRIVER 2B	02R	On LWV R-075 inbound, maintain 5000', at D15 LWV turn LEFT, 220° track, descend to 2000' for radar vectors for visual or VORDME approach.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

**Rwy 20:** to NE BERGRIVER 1A;  
to SE HOPEFIELD 1A.

**Rwy 02:** to NE BERGRIVER 1B;  
to SE HOPEFIELD 1B.



▼ LOST COMMS ▼

#### HOPEFIELD 2A

**Before D15 LWV:** Maintain last assigned **FL/altitude** to LWV, commence ILS/VORDME Rwy 20L approach at ETA +10 minutes for landing.

**After D15 LWV:** Climb on last assigned heading to **5000'**, turn to LWV, commence ILS/VORDME Rwy 20L approach at ETA +10 minutes for landing.

#### HOPEFIELD 2B

**Before D15 LWV:** Maintain last assigned **FL/altitude** to LWV, commence VORDME Rwy 02R approach at ETA +10 minutes for landing.

**After D15 LWV:** Turn LEFT, 270° track, climbing to LWV at **5000'**, commence VORDME Rwy 02R approach at ETA +10 minutes and land.

STAR	RWY	ROUTING
HOPEFIELD 2A	20L	On LWV R-160 inbound, maintain <b>5000'</b> , at D15 LWV turn RIGHT, 350° track, descend to <b>2000'</b> , at LWV 7 DME turn RIGHT, 020° track for radar vectors to ILS.
HOPEFIELD 2B	02R	On LWV R-160 inbound, maintain <b>5000'</b> , at D15 LWV descend to <b>2000'</b> for radar vectors for visual or VORDME approach.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

**Rwy 20:** to NE **BERGRIVER 1B**; to SE **HOPEFIELD 1B**.

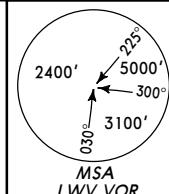
**Rwy 02:** to NE **BERGRIVER 1A**; to SE **HOPEFIELD 1A**.

\*LANGEBAANWEG  
Approach (R)  
122.5

Apt Elev  
108'

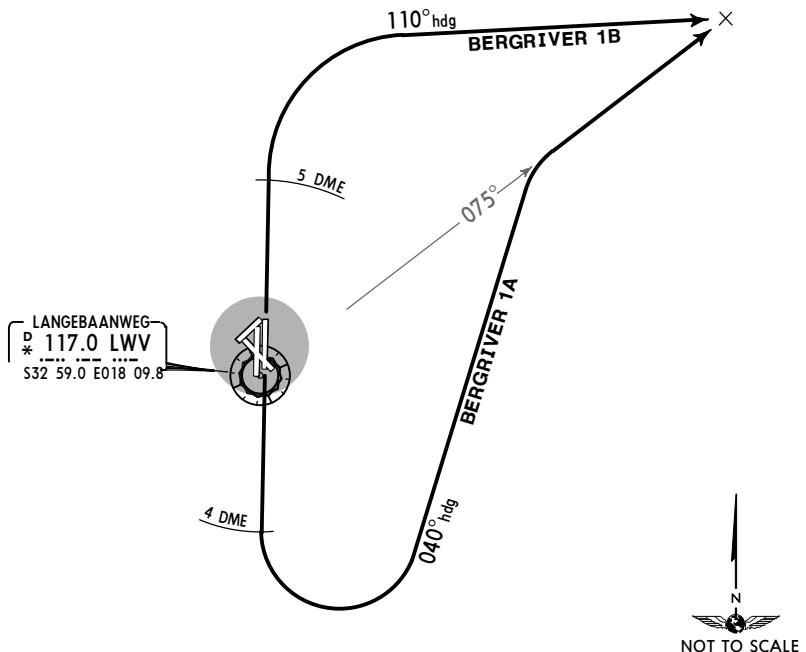
Trans level: By ATC Trans alt: 5000'  
1. If unable to comply with SID advise ATC.  
2. SIDs only applicable when Surveillance Radar is in operation.  
3. At 3000' contact LANGEBAANWEG Approach.  
4. SIDs include minimum noise routings.

**BERGRIVER 1A [BERG1A]**  
**BERGRIVER 1B [BERG1B]**  
**RWYS 20L, 02R DEPARTURES**  
**SPEED: MAX 230 KT**



**UNLICENCED MILITARY AERODROME**  
**TO BE USED IN EMERGENCY ONLY.**

D15 LWV  
S32 49.8 E018 24.0



▼ LOST COMMS ▼

Comply with SID maintain **FL80** or last assigned **FL**. At SID termination point continue as per flight plan.

Aircraft wishing to return must continue to SID termination point. Leave controlled airspace via the shortest route and remain clear of controlled airspace for 5 minutes, then return via

**BERGRIVER 1A:** BERGRIVER 2A STAR LOST COMMS procedure.

**BERGRIVER 1B:** BERGRIVER 2B STAR LOST COMMS procedure.

▲ DOWN TO ▲

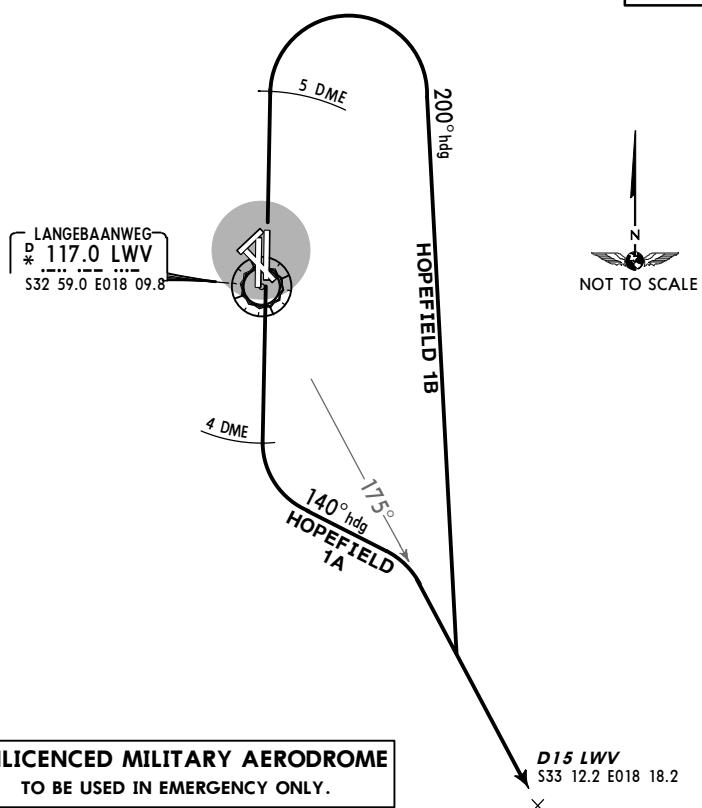
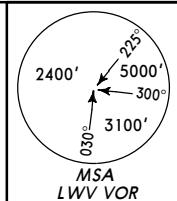
SID	RWY	ROUTING
<b>BERGRIVER 1A</b>	<b>20L</b>	On runway heading to LWV 4 DME, climbing to 3000', turn LEFT, 040° heading, intercept LWV R-075, climbing to <b>FL80</b> , at D15 LWV as per flight plan.
<b>BERGRIVER 1B</b>	<b>02R</b>	On runway heading to LWV 5 DME, climbing to 110° heading, intercept LWV R-075, climbing to 3000', turn RIGHT, <b>FL80</b> , at D15 LWV as per flight plan.

\*LANGEBAANWEG  
Approach (R)  
**122.5**

Apt Elev  
**108'**

Trans level: By ATC Trans alt: 5000'  
1. If unable to comply with SID advise ATC.  
2. SIDs only applicable when Surveillance Radar is in operation.  
3. At 3000' contact LANGEBAANWEG Approach.  
4. SIDs include minimum noise routings.

**HOPEFIELD 1A [HOPE1A]**  
**HOPEFIELD 1B [HOPE1B]**  
**RWYS 20L, 02R DEPARTURES**  
**SPEED: MAX 230 KT**



▼ LOST COMMS ▼

Comply with SID maintain **5000'** or last assigned **FL**. At SID termination point continue as per flight plan.

Aircraft wishing to return must continue to SID termination point. Leave controlled airspace via the shortest route and remain clear of controlled airspace for 5 minutes, then return via **HOPEFIELD 1A**: HOPEFIELD 2A STAR LOST COMMS procedure.  
**HOPEFIELD 1B**: HOPEFIELD 2B STAR LOST COMMS procedure.

▲ DOWN TO SW ▲

SID	RWY	ROUTING
<b>HOPEFIELD 1A</b>	<b>20L</b>	On runway heading to LWV 4 DME, climbing to <b>3000'</b> , turn LEFT, <b>140°</b> heading, intercept LWV R-175, climbing to <b>5000'</b> , at D15 LWV as per flight plan.
<b>HOPEFIELD 1B</b>	<b>02R</b>	On runway heading to LWV 5 DME, climbing to <b>200°</b> heading, intercept LWV R-175, climbing to <b>3000'</b> , turn RIGHT, <b>5000'</b> , at D15 LWV as per flight plan.

FALW/SDB

Apt Elev 108'

S32 58.1 E018 09.9

JEPPESEN LANGEBAANWEG, S AFR REP

24 DEC 04 10-9

LANGEBAANWEG AB

\*ATIS

\*LANGEBAAN Ground

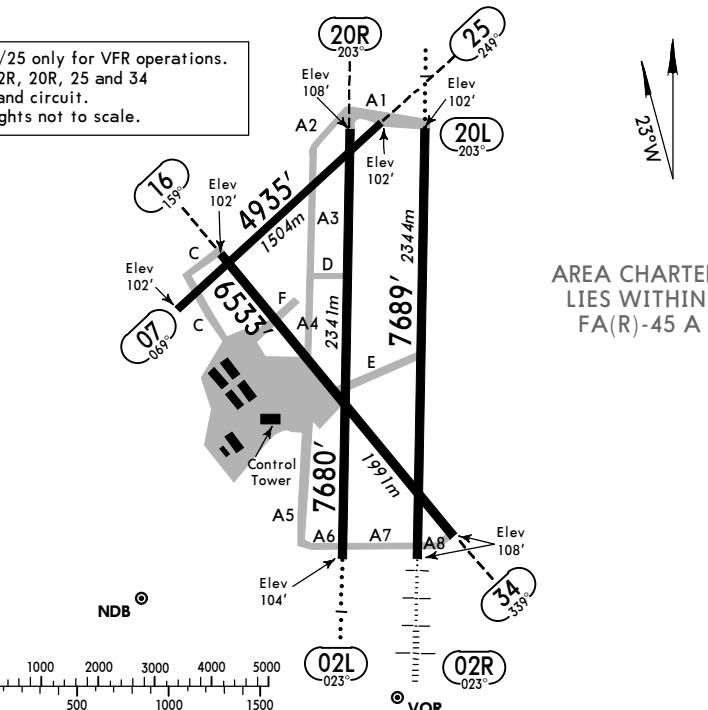
\*Tower

117.0

121.75

128.8 120.8

Rwy 07/25 only for VFR operations.  
Rwys 02R, 20R, 25 and 34  
right-hand circuit.  
Apch lights not to scale.



Feet 0 1000 2000 3000 4000 5000  
Meters 0 500 1000 1500

## ADDITIONAL RUNWAY INFORMATION

RWY	Runway Type	USABLE LENGTHS		TAKE-OFF	WIDTH
		Threshold	Glide Slope		
02R	RL HIALS PAPI (angle 3.00°)				135' 41m
20L	RL ALS PAPI (angle 3.00°)			7022' 2140m	
02L	RL ALS PAPI (angle 3.00°)				150' 46m
20R	RL PAPI (angle 3.00°)				
07	RL (blue)				150' 46m
25					
16					
34	RL PAPI (angle 3.00°)				150' 46m

## JAR-OPS

## TAKE-OFF 1

## All Rwy's

LVP must be in Force

RCLM (DAY only)  
or RLRCLM (DAY only)  
or RLNIL  
(DAY only)

A		
B	250m	
C		400m
D	300m	500m

Operators applying U.S. Ops Specs: CL required below 300m.

<b>STRAIGHT-IN RWY</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>02R</b>	VOR <b>❶</b>	<b>490'(382')</b> <b>R1400m</b> R1500m	<b>490'(382')</b> <b>R1400m</b> R1500m	<b>490'(382')</b> <b>R1400m</b> R1800m	<b>490'(382')</b> <b>R1600m</b> R2000m
	<i>ALS out</i>				
<b>20L</b>	ILS	<b>302'(200')</b> <b>R1000m</b> R1200m	<b>302'(200')</b> <b>R1000m</b> R1200m	<b>302'(200')</b> <b>R1000m</b> R1200m	<b>302'(200')</b> <b>R1000m</b> R1200m
	<i>ALS out</i>				
	VOR DME <b>❶</b>	<b>490'(388')</b> <b>R1500m</b> R1500m	<b>490'(388')</b> <b>R1500m</b> R1500m	<b>490'(388')</b> <b>R1600m</b> R1800m	<b>490'(388')</b> <b>R1800m</b> R2000m
	<i>ALS out</i>				
	VOR	<b>540'(438')</b> <b>R2000m</b> C2200m	<b>540'(438')</b> <b>R2000m</b> C2200m	<b>540'(438')</b> <b>C2200m</b> C2400m	<b>540'(438')</b> <b>C2200m</b> C2400m
	<i>ALS out</i>				
<b>34</b>	NDB <b>❷</b>	<b>520'(412')</b> <b>C2100m</b>	<b>520'(412')</b> <b>C2100m</b>	<b>520'(412')</b> <b>C2300m</b>	<b>520'(412')</b> <b>C2300m</b>
	NDB <b>❸</b>	<b>990'(882')</b> <b>C4200m</b>	<b>990'(882')</b> <b>C4200m</b>	<b>990'(882')</b> <b>C4400m</b>	<b>990'(882')</b> <b>C4400m</b>

**❶** Continuous Descent Final Approach.

**❷** with DME.

**❸** w/o DME.

<b>CIRCLE-TO-LAND <b>❶</b></b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

**❶** Entirely at pilots discretion.

### **TAKE-OFF RWY 02L/R, 07, 16, 20L/R, 25, 34**

<b>LVP must be in force</b>		<b>RCLM (DAY only) or RL</b>	<b>RCLM (DAY only) or RL</b>	<b>NIL (DAY only)</b>
<b>A</b>	250m			
<b>B</b>				
<b>C</b>				
<b>D</b>	300m	400m		500m

\*ATIS  
117.0

\*LANGEBAAN Approach (R)

\*LANGEBAAN Tower

\*Ground  
121.75

LOC  
LWI  
**\*108.9**

Final  
Apch Crs  
**203°**

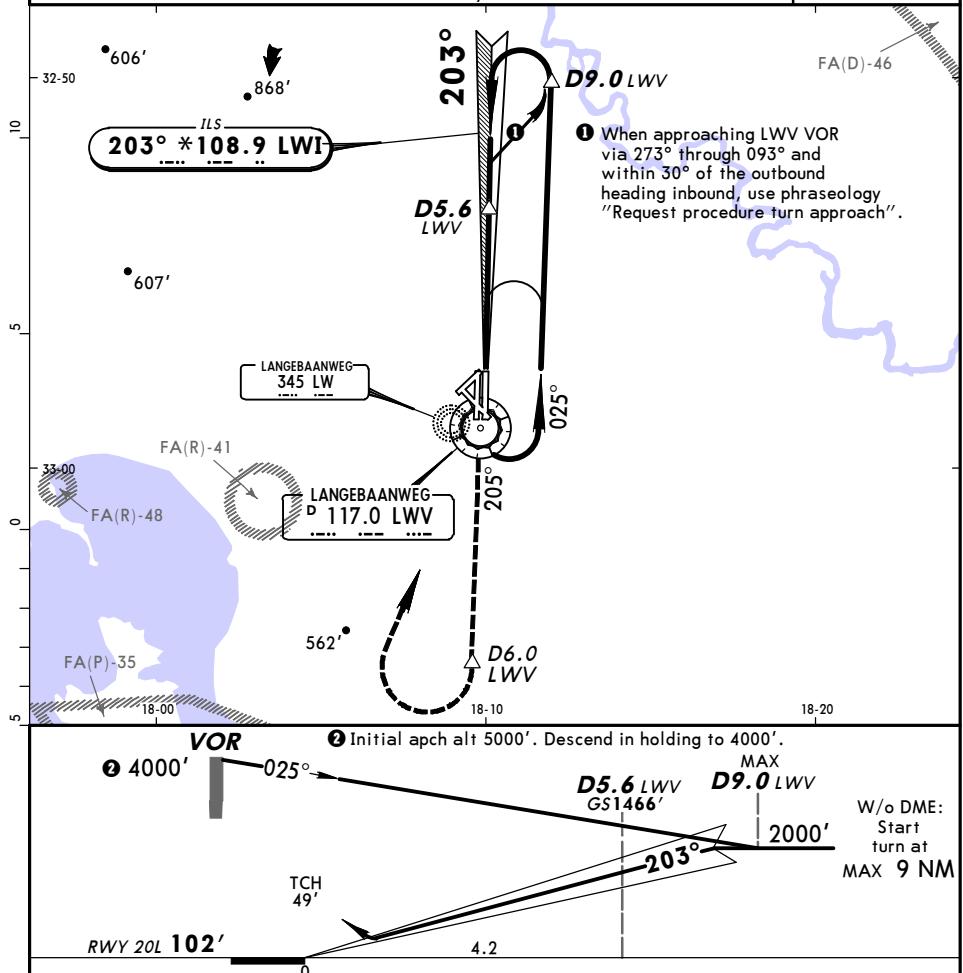
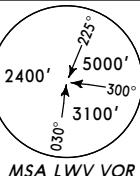
GS  
5.6 LWV

ILS  
DA(H)  
**302' (200')**

Apt Elev 108'  
RWY 102'

MISSED APCH: Climb on R-205 outbound VOR to 4000'. At D6.0 LWV turn RIGHT to VOR and continue climb to 4000'.

Alt Set: hPa Rwy Elev: 4 hPa Trans level: By ATC Trans alt: 5000'  
ILS unreliable in IMC due to intermittent availability.

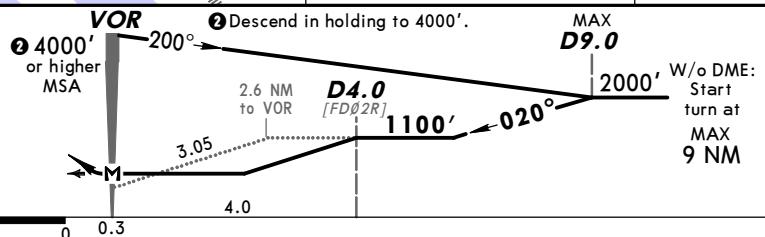
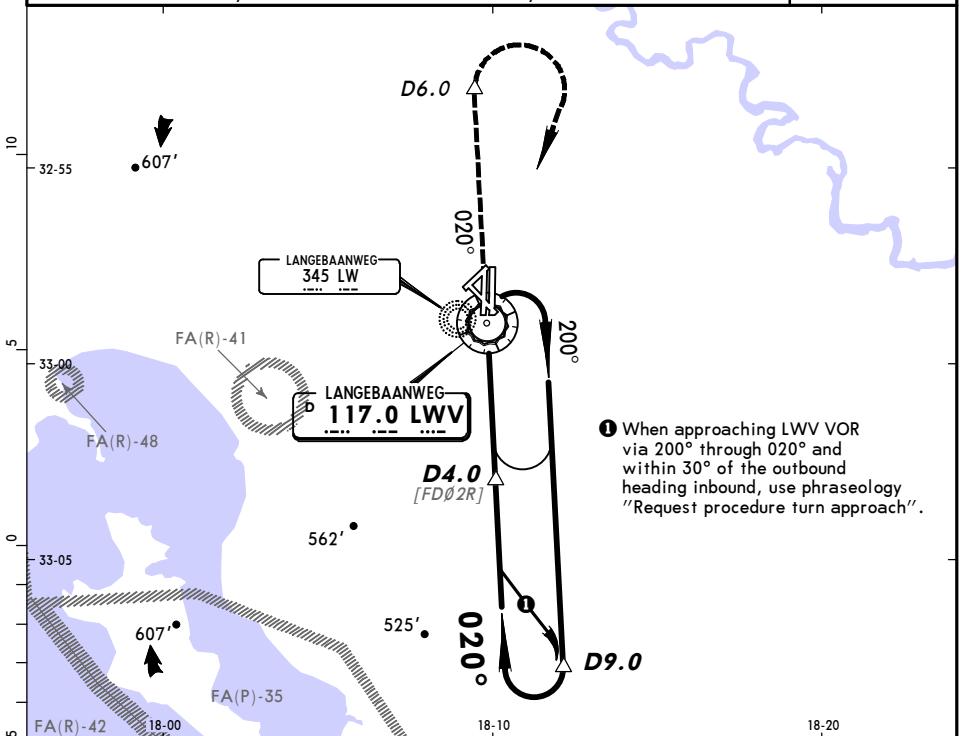


Gnd speed-Kts	70	90	100	120	140	160	ALS	PAPI	4000' LWV
GS	3.00°	372	478	531	637	743	849	...	117.0 R-205

JAR-OPS		STRAIGHT-IN LANDING RWY 20L			CIRCLE-TO-LAND		
ILS		LOC (GS out)			ENTIRELY AT PILOTS DISCRETION		
DA(H) <b>302' (200')</b>							
FULL		ALS out					
A		RVR 800m		NOT APPLICABLE		MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA	
B							
C		RVR 1000m					
D							

*ATIS 117.0	*LANGEBAAN Approach (R) 122.5	*LANGEBAAN Tower 128.8 120.8	*Ground 121.75
VOR LWV <b>117.0</b>	Final Apch Crs <b>020°</b>	Minimum Alt <b>D4.0</b> 1100' (992')	MDA(H) <b>490'</b> (382') Apt Elev 108' RWY 108'
MISSSED APCH: Climb on R-020 outbound VOR to 4000'. At D6.0 turn RIGHT to VOR.			
Alt Set: hPa	Rwy Elev: 4 hPa	Trans level: By ATC	Trans alt: 5000'

BRIEFING STRIP™



Gnd speed-Kts	70	90	100	120	140	160
Descent Angle	3.05°	378	486	540	648	755 863
MAP at VOR						

JAR-OPS STRAIGHT-IN LANDING RWY 02R      CIRCLE-TO-LAND

MDA(H) **490'** (382')

ALS out

ENTIRELY AT PILOTS DISCRETION

A	RVR 1200m	RVR 1500m									
B	RVR 1300m										
C	RVR 1400m	RVR 1800m									
D	RVR 1600m										
PANS OPS											
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA											

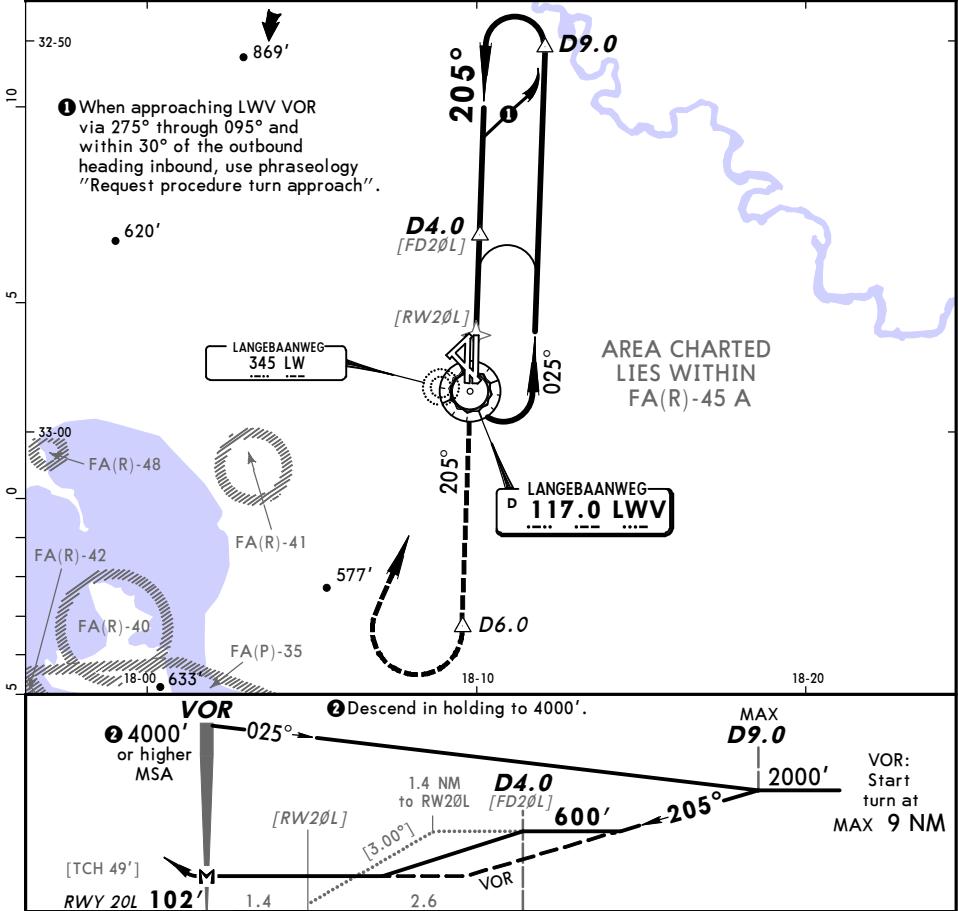
CHANGES: None.

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*ATIS 117.0	*LANGEBAAN Approach (R) 122.5	*LANGEBAAN Tower 128.8 120.8	*Ground 121.75
VOR LWV <b>117.0</b>	Final Apch Crs <b>205°</b>	VOR DME Minimum Alt <b>D4.0</b> <b>600' (498')</b> VOR Minimum Alt No FAF	VOR DME MDA(H) <b>490' (388')</b> VOR MDA(H) <b>540' (438')</b> Apt Elev 108' RWY 102'

MISSED APCH: Climb on R-205 outbound VOR to D6.0 (VOR: to 2100'), then turn RIGHT to VOR climbing to 4000'.

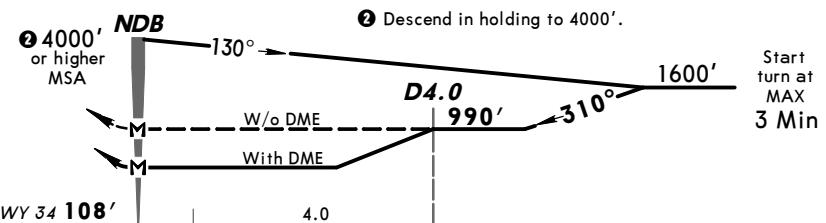
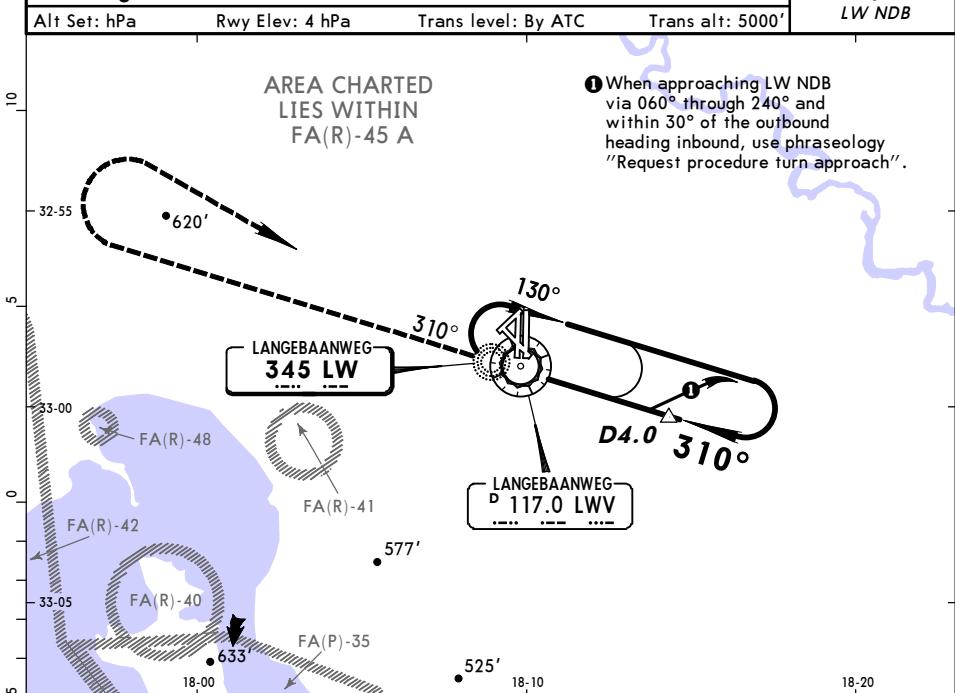
Alt Set: hPa      Rwy Elev: 3 hPa      Trans level: By ATC      Trans alt: 5000'



JAR-OPS		STRAIGHT-IN LANDING Rwy 20L				CIRCLE-TO-LAND		
VOR DME MDA(H) <b>490' (388')</b>		VOR MDA(H) <b>540' (438')</b>				ENTIRELY AT PILOTS DISCRETION		
ALS out		ALS out						
A	RVR 1300m	RVR 1500m		RVR 1300m	RVR 1500m		MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA	
B	RVR 1400m			RVR 1400m				
C	RVR 1600m	RVR 1800m		RVR 1600m	RVR 1800m			
D	RVR 1800m	RVR 2000m		RVR 1800m	RVR 2000m			

*ATIS 117.0	*LANGEBAAN Approach (R) 122.5	*LANGEBAAN Tower 128.8 120.8	*Ground 121.75
NDB LW <b>345</b>	Final Apch Crs <b>310°</b>	With DME Minimum Alt <b>D4.0</b> <b>990' (882')</b> W/o DME Minimum Alt No FAF	With DME MDA(H) <b>520' (412')</b> W/o DME MDA(H) <b>990' (882')</b> Apt Elev 108' RWY 108'
			2400' 5000' 3000' 3100' 030° 225° 300° 310° MSA LW NDB

MISSED APCH: Climb on 310° to 3000', then turn RIGHT to NDB climbing to 4000'.



MAP at NDB	PAPI	3000' on 310°
JAR-OPS	Straight-in Landing Rwy 34	Circle-to-Land

	With DME MDA(H) <b>520' (412')</b>	W/o DME MDA(H) <b>990' (882')</b>	ENTIRELY AT PILOTS DISCRETION
A	RVR 1500m		
B			
C	NOT APPLICABLE		MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA
D			

FALY/LAY  
Apt Elev 3548'  
S28 34.8 E029 45.2

JEPPESEN 6 NOV 09 10-9 Eff 19 Nov

LADYSMITH, S AFR REP  
LADYSMITH

LADYSMITH  
(Air to Air Self-Information)  
124.8

CAUTION: Animals may be on aerodrome and runway.  
Parachuting.



Feet 0 500 1000 1500 2000 2500  
Meters 0 200 400 600 800

ADDITIONAL RUNWAY INFORMATION

RWY	RL (100m) (on request)	USABLE LENGTHS		TAKE-OFF	WIDTH
		Threshold	Glide Slope		
11					49' 15m
29					

JAR-OPS

TAKE-OFF 1

All Rwy's

LVP must be in Force

RCLM (DAY only)  
or RL

RCLM (DAY only)  
or RL

NIL  
(DAY only)

A	250m	400m	500m
B			
C			
D			

NOT APPLICABLE

1 Operators applying U.S. Ops Specs: CL required below 300m.

FALY/LAY  
LADYSMITHJEPPESEN  
6 NOV 09  
Eff 19 Nov  
13-1  
CAT A & B  
LADYSMITH, S AFR REP  
CLOUD BREAK PROCEDURE  
VOR

BRIEFING STRIP™

LADYSMITH  
(Air to Air-Self-Information)

124.8

VOR  
LYV  
**116.5**Final  
Apch Crs  
**085°**Minimum Alt  
VOR  
**5300' (1752')**MDA(H)  
Refer to  
MinimumsApt Elev **3548'**

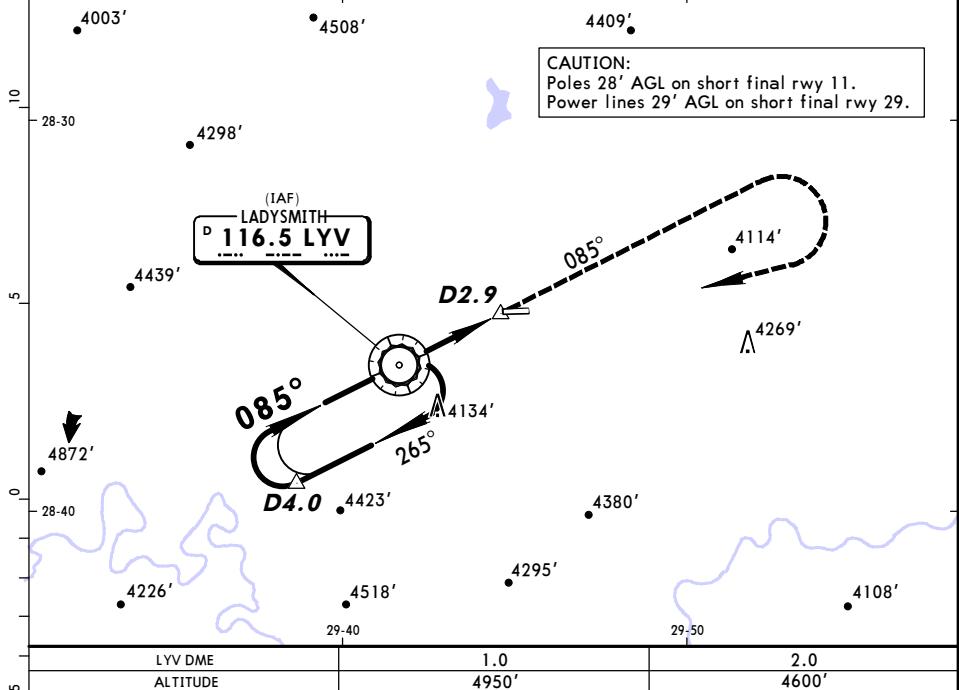
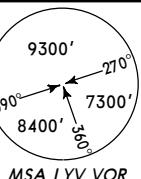
MISSED APCH: Climb on R-085 to 5700', then climbing turn RIGHT to 5900' and return to VOR.

Alt Set: hPa  
DME required.

Apt Elev: 123 hPa

Trans level: By ATC

Trans alt: 9500'



LYV DME

1.0

2.0

ALTITUDE

4950'

4600'

**D4.0**  
5900'**VOR**  
5900' ①Initial approach altitude 7300' or higher MSA.  
Descend in holding pattern to 5900'.

085°

5300' \*

2.9

**D2.9**

APT 3548'

Gnd speed-Kts

70 90 100 120 140 160

Descent Gradient

5.8% 411 529 587 705 822 940

MAP at D2.9

LYV  
on 116.5  
R-085

JAR-OPS

CIRCLE-TO-LAND  
ENTIRELY AT PILOTS DISCRETION

North of airport

	Max Kts	MDA(H)	VIS	MDA(H)	VIS
A	100	<b>4470' (922')</b>	1500m	<b>4260' (712')</b>	1500m
B	135	<b>4470' (922')</b>	1600m	<b>4260' (712')</b>	1600m
C					
D					
		NOT APPLICABLE			

PANS OPS

CHANGES: Printing sequence.

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STRAIGHT-IN RWY		A	B	C	D
22	NDB	1000'(505') C2600m	1000'(505') C2600m	1100'(605') C3200m	NOT APPLICABLE

CIRCLE-TO-LAND ①	A	B	C	D
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

① Entirely at pilots discretion.

### TAKE-OFF RWY 04, 22

LVP must be in force		RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A	250m		400m	500m
B				
C				
D		NOT APPLICABLE		

FAMG  
Apt Elev 495'

JEPPESSEN

12 APR 02 16-1

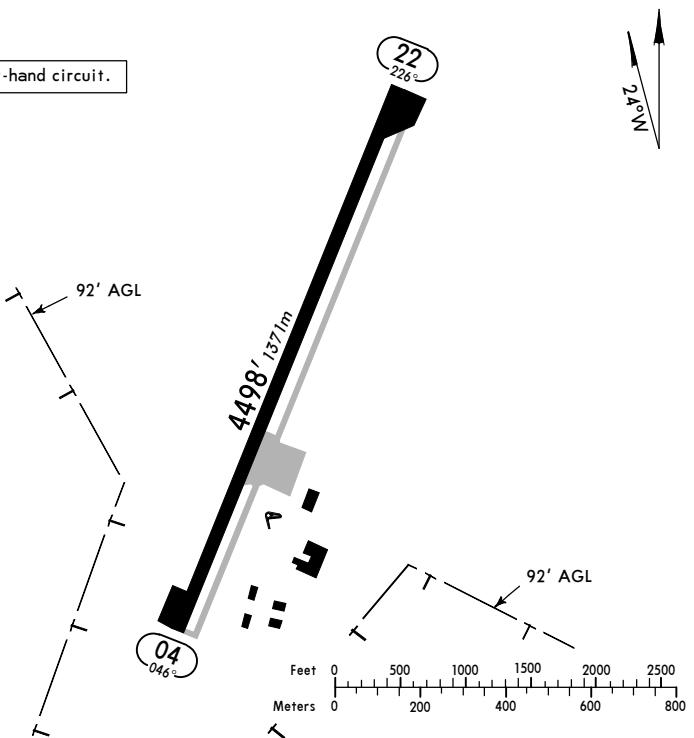
MARGATE, S AFR REP  
MARGATE  
S30 51.4 E030 20.6

\*MARGATE Radio

122.7

When Radio is unmanned, acft shall use 122.7 for Air to Air Self-Information

Rwy 04 right-hand circuit.



ADDITIONAL RUNWAY INFORMATION

RWY	04 22	USABLE LENGTHS			WIDTH
		Threshold	Glide Slope	TAKE-OFF	
					98' 30m

① Activate on 122.7 when MARGATE Radio inop. Key mike 7 times.

JAR-OPS

TAKE-OFF ①

All Rwy's

LVP must be in Force

RCLM (DAY only)  
or RL

RCLM (DAY only)  
or RL

NIL  
(DAY only)

A			
B	250m	400m	500m
C			
D		NOT APPLICABLE	

① Operators applying U.S. Ops Specs: CL required below 300m.

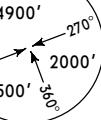
CHANGES: See other side.

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\*MARGATE Radio

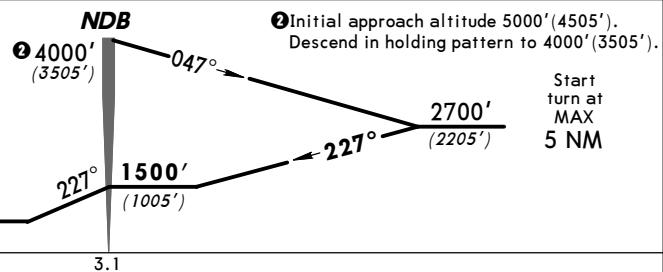
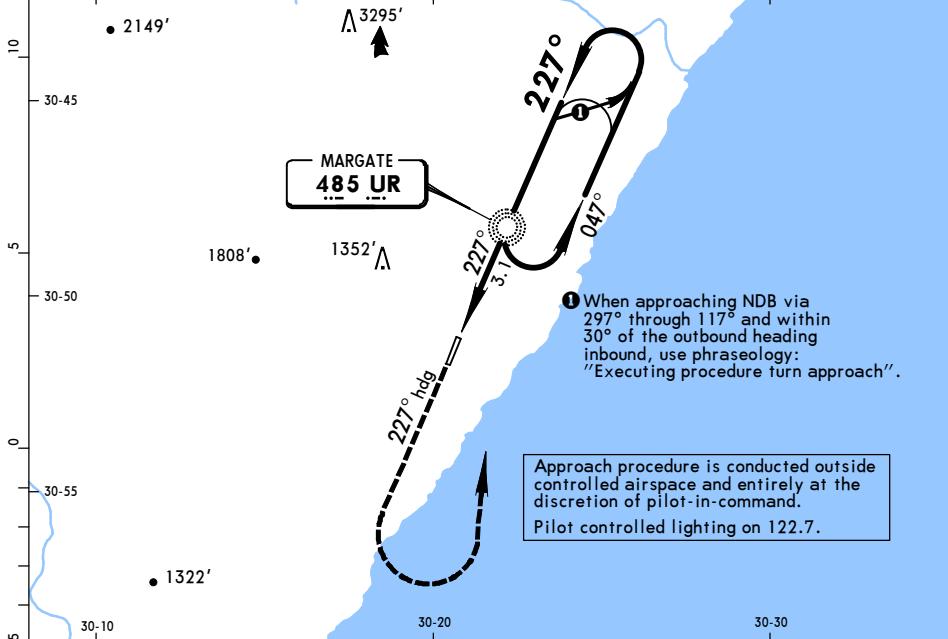
122.7

When Radio is unmanned, acft shall use 122.7 for Air to Air Self-Information

NDB  
UR  
**485**Final  
Apch Crs  
**227°**Minimum Alt  
NDB  
**1500' (1005')**MDA(H)  
Refer to  
MinumumsApt Elev **495'**MSA  
UR NDB

MISSSED APCH: Climb on heading 227° to 2000', then climbing turn LEFT to 4000' and return to NDB .

Alt Set: hPa Apt Elev: 18 hPa Trans level: By ATC Trans alt: 5000'(4505')



Gnd speed-Kts	70	90	100	120	140	160			2000'	227°
NDB to MAP	3.1	2:39	2:04	1:52	1:33	1:20	1:10		on	hdg

JAR - OPS	STRAIGHT-IN LANDING Rwy 22	CIRCLE-TO-LAND
	MDA(H) AB: 1000' (505') C: 1100' (605')	ENTIRELY AT PILOTS DISCRETION

A	RVR 1500m	
B		
C	RVR 2000m	MINIMUMS NOT YET ESTABLISHED BY S AFR REP DCA
D	NOT APPLICABLE	

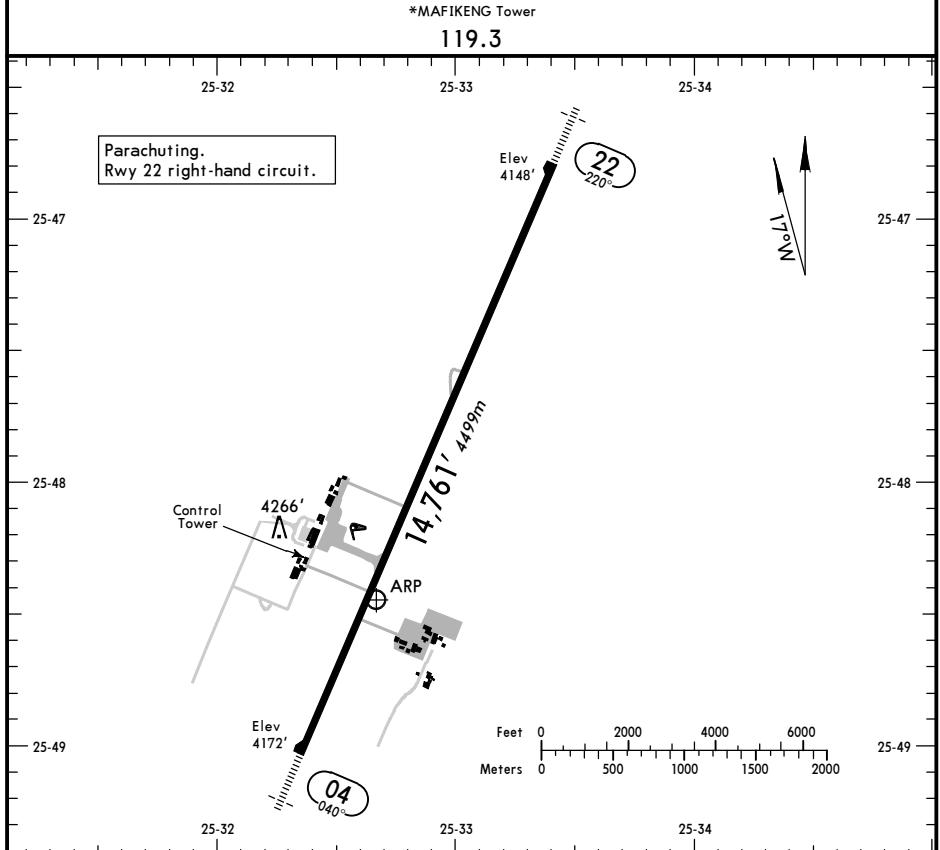
**FAMM/MBD**  
Apt Elev 4181'  
S25 48.4 E025 32.7

**JEPPESSEN**  
13 AUG 10 (10-9) Eff 26 Aug

**MAFIKENG, S AFR REP**  
**MAFIKENG**

\*MAFIKENG Tower

119.3



ADDITIONAL RUNWAY INFORMATION

RWY	① MIRL ① ALS ① PAPI-L (angle 3.0°)	USABLE LENGTHS			TAKE-OFF	WIDTH
		Threshold	Glide Slope	LANDING BEYOND		
04	① MIRL ① ALS ① PAPI-L (angle 3.0°)					148' 45m
22						

① Activate low intensity on 119.3. Key mike 3 times. 5 & 7 clicks increases intensity.

JAR-OPS

TAKE-OFF 1

All Rwy's

LVP must be in Force		RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A				
B	250m			
C		400m		
D	300m			500m

① Operators applying U.S. Ops Specs: CL required below 300m.

STRAIGHT-IN RWY		A	B	C	D
04	VOR ① ②	<b>4690'(518')</b> R1500m	<b>4690'(518')</b> R1500m	<b>4890'(718')</b> C2400m	<b>4890'(718')</b> C2400m
	VOR ③	<b>4690'(518')</b> C2300m	<b>4690'(518')</b> C2300m	<b>4890'(718')</b> C3500m	<b>4890'(718')</b> C3500m
	<i>ALS out</i>	C2600m	C2600m	C3700m	C3700m
	NDB ①	<b>4690'(518')</b> R1500m	<b>4690'(518')</b> R1500m	<b>4890'(718')</b> C2400m	<b>4890'(718')</b> C2400m

① Continuous Descent Final Approach.

② with FMS.

③ w/o FMS.

CIRCLE-TO-LAND ①	A	B	C	D
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

① Not authorized West of airport.

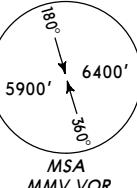
Entirely at pilots discretion.

### TAKE-OFF RWY 04, 22

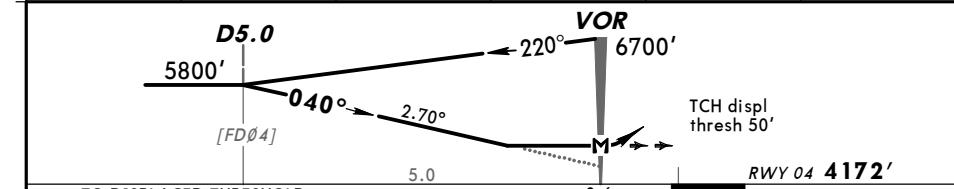
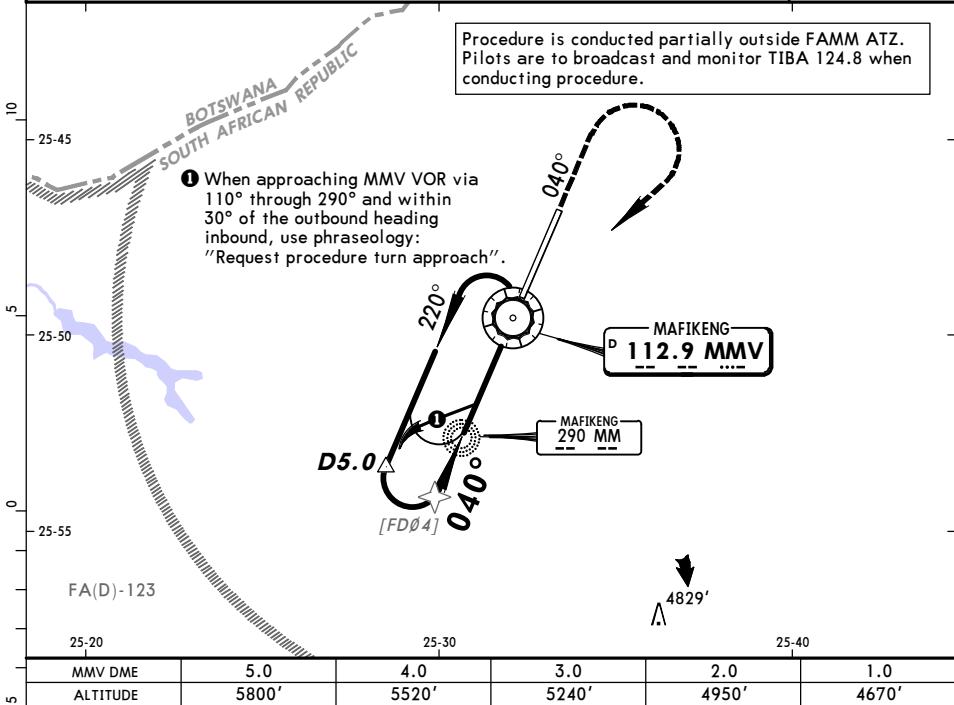
LVP must be in force		RCLM (DAY only) or RL	NIL (DAY only)
A	250m		
B		400m	
C			500m
D	300m		

Approach Control through Tower  
\*MAFIKENG Tower

119.3

VOR MMV <b>112.9</b>	Final Apch Crs <b>040°</b>	Minimum Alt No FAF	MDA(H) Refer to Minumums	Apt Elev 4181' RWY 4172'	
<b>MISSSED APCH:</b> Climb on R-040 to 5550', then turn RIGHT to VOR climbing to 6700', or as directed.					
Alt Set: hPa	Rwy Elev: 144 hPa	Trans level: By ATC		Trans alt: 7000'	

1. DME required. 2. Pilot controlled lighting 119.3.

Procedure is conducted partially outside FAMM ATZ.  
Pilots are to broadcast and monitor TIBA 124.8 when  
conducting procedure.

Gnd speed-Kts	70	90	100	120	140	160	ALS	MMV
Descent gradient 4.71% or Descent angle 2.70°	334	430	478	573	669	764	PAPI	5550' on 112.9
MAP at VOR								R-040

JAR-OPS	STRAIGHT-IN LANDING RWY 04	CIRCLE-TO-LAND
	MDA(H) AB: 4690' (518') CD: 4890' (718')	Not authorized West of airport ENTIRELY AT PILOTS DISCRETION

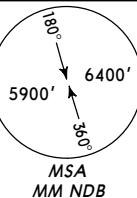
ALS out

A	RVR 1500m			
B				
C	RVR 2000m			
D				

MINIMUMS NOT YET ESTABLISHED  
BY S AFR REP CAA

Approach Control through Tower  
\*MAFIKENG Tower

119.3

NDB  
MM  
**290**Final  
Apch Crs  
**040°**Minimum Alt  
MM NDB  
**5500' (1328')**MDA(H)  
Refer to  
MinimunsApt Elev 4181'  
RWY 4172'

**MISSSED APCH:** Climb STRAIGHT AHEAD to MH NDB to 5550'. At MH NDB or 5550' turn RIGHT to MM NDB climbing to 6700', or as directed.

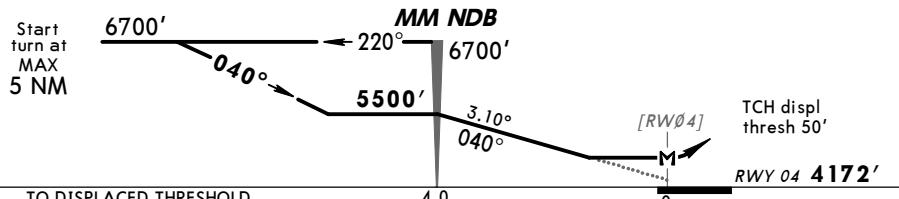
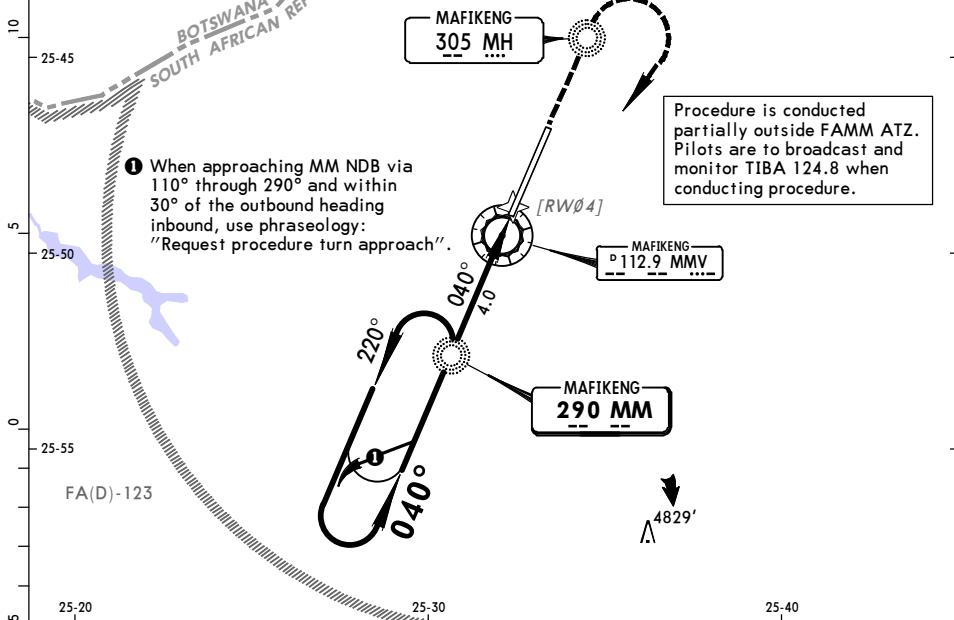
Alt Set: hPa

Rwy Elev: 144 hPa

Trans level: By ATC

Trans alt: 7000'

1. DUAL ADF required. 2. Pilot controlled lighting 119.3.



Gnd speed-Kts	70	90	100	120	140	160		ALS	5550'	MH 305
Descent gradient 5.41% or Descent angle 3.10°	384	494	548	658	768	878		PAPI		
MM NDB to MAP	4.0	3:26	2:40	2:24	2:00	1:43	1:30			

JAR-OPS STRAIGHT-IN LANDING RWY 04

MDA(H) AB: 4690' (518')  
CD: 4890' (718')

ALS out

CIRCLE-TO-LAND  
Not authorized West of airport  
ENTIRELY AT PILOTS DISCRETION

A	RVR 1500m	
B		
C	RVR 2000m	
D		

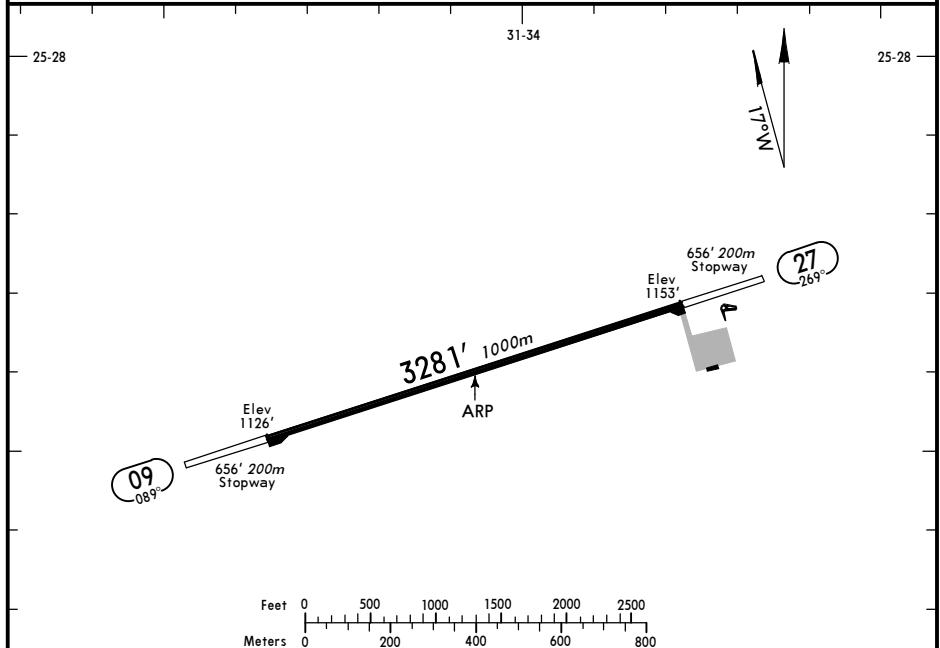
MINIMUMS NOT YET ESTABLISHED  
BY S AFR REP CAA

FAMN/LLE  
Apt Elev 1153'  
S25 28.4 E031 33.9

JEPPESEN  
27 JUL 12 (10-9)

MALELANE, S AFR REP  
MALELANE

MALELANE  
Air to Air Self-Information  
124.8



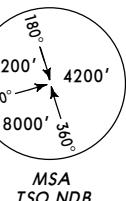
ADDITIONAL RUNWAY INFORMATION					
RWY		USABLE LENGTHS			WIDTH
		Threshold	Glide Slope	TAKE-OFF	
09					59' 18m
27	PAPI-L (3.0°)				

#### LOCAL TRAFFIC REGULATIONS

All traffic in/out of Malelane apt are to operate on Kruger Mpumalanga 130.35 (SRA). All traffic wishing to enter Kruger Mpumalanga airspace are to call Kruger Mpumalanga 119.2, before getting airborne or climb overhead Malelane (remaining 7000' or below) until contact is established and clearance to enter controlled airspace is received.

JAR-OPS		TAKE-OFF 1	
		All Rwy's	
LVP must be in Force		RCLM (DAY only) or RL	RCLM (DAY only) or RL
A	250m	400m	500m
B			
C		NOT APPLICABLE	
D			

1 Operators applying U.S. Ops Specs: CL required below 300m.

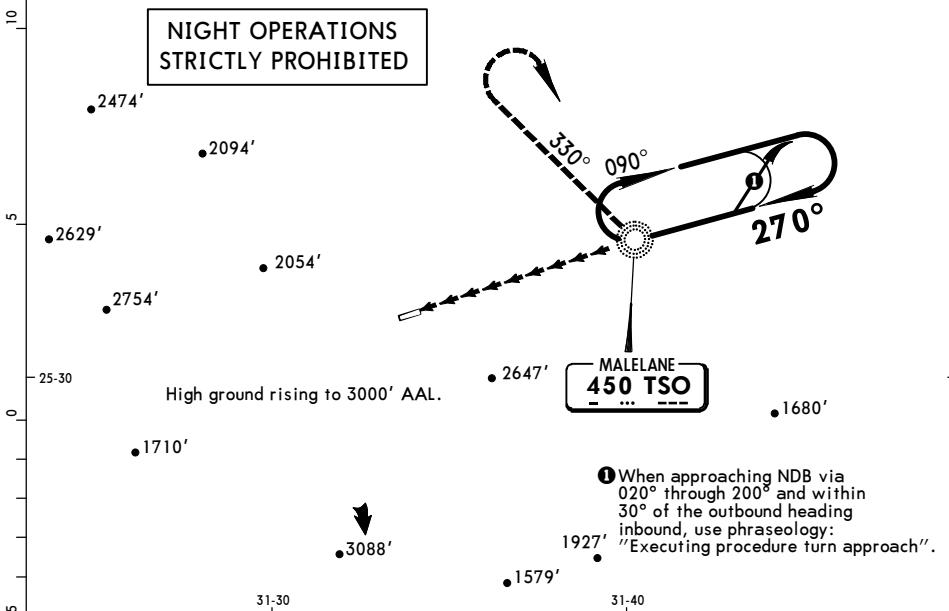
MALELANE  
Air to Air Self-Information  
124.8NDB  
TSO  
**450**Final  
Apch Crs  
**270°**Minimum Alt  
No FAFMDA(H)  
**2000' (847')**Apt Elev **1153'**

**MISSSED APCH:** Turn **RIGHT** on track **330°** climbing to **3000'**, then turn **RIGHT** to **NDB** climbing to **4000'**.  
For diversion climb in holding to **MSA**.

Alt Set: hPa      Apt Elev: 52 hPa      Trans level: By ATC      Trans alt: 7500'  
1. CAUTION: High ground on both sides of airport. 2. Approach procedure is conducted outside controlled airspace and entirely at the discretion of pilot-in-command. 3. When proceeding to any other airport after visual flight has been established, visual flight rules must be strictly adhered to.

25-20

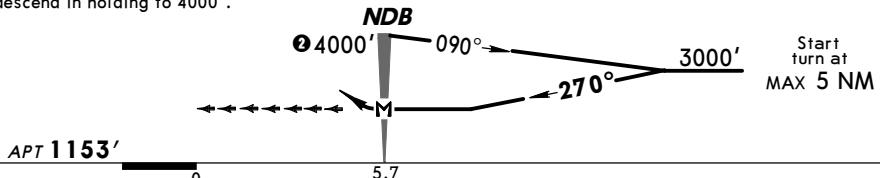
**NIGHT OPERATIONS**  
**STRICTLY PROHIBITED**



- ① When approaching NDB via 020° through 200° and within 30° of the outbound heading inbound, use phraseology:

1927'      "Executing procedure turn approach".

- ② Initial approach altitude 7500' or higher MSA, descend in holding to 4000'.



MAP at NDB  
JAR-OPS

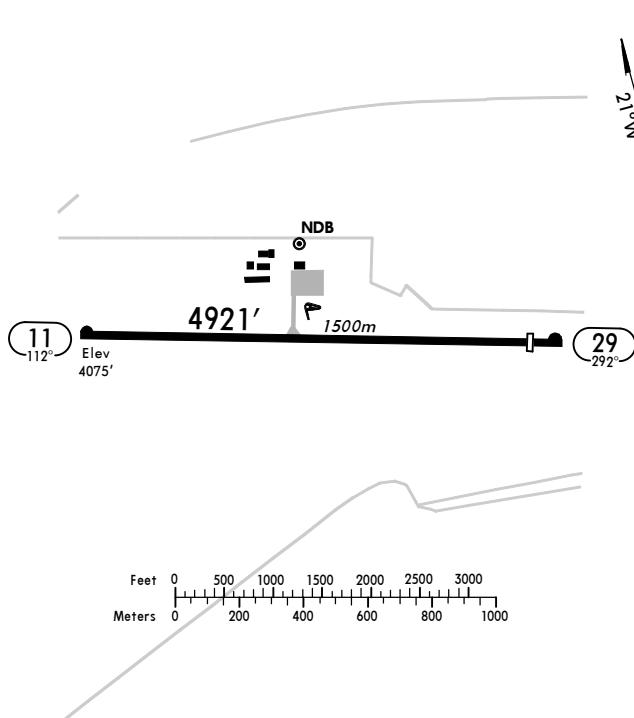
		Lighting- Refer to Airport chart	<b>3000'</b> on <b>330°</b> RT	DAY	NIGHT
Max Kts	MDA(H)				
A 100	<b>2000' (847')</b>	1500m			
B 135	<b>2000' (847')</b>	1600m			
C			NOT APPLICABLE		NOT AUTHORIZED
D					

FANC/NCS  
Apt Elev 4075'  
S27 46.4 E029 58.6

JEPPESSEN  
19 DEC 08 (10-9)

NEWCASTLE, S AFR REP  
NEWCASTLE

NEWCASTLE  
(Air to Air Self-Information)  
124.8



ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS		TAKE-OFF	WIDTH
		Threshold	Glide Slope		
11	① RL (100m) PAPI-L (angle 3.0°)	4593'	1400m	4593' 1400m	75' 23m
29					

① Activate on 124.8. Key mike 7 times.

JAR-OPS

TAKE-OFF ①

All Rwy's

LVP must be in Force

	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A	250m	400m	500m
B			
C			
D			
NOT APPLICABLE			

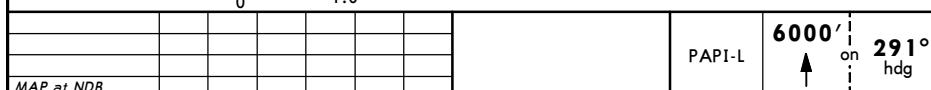
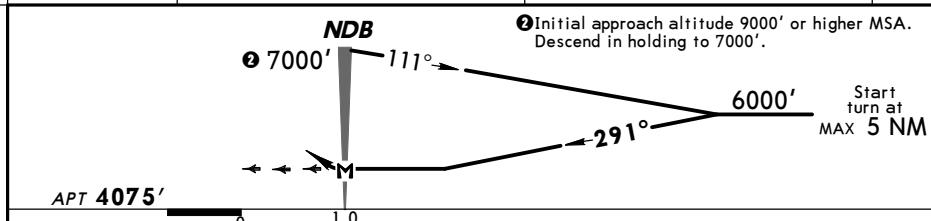
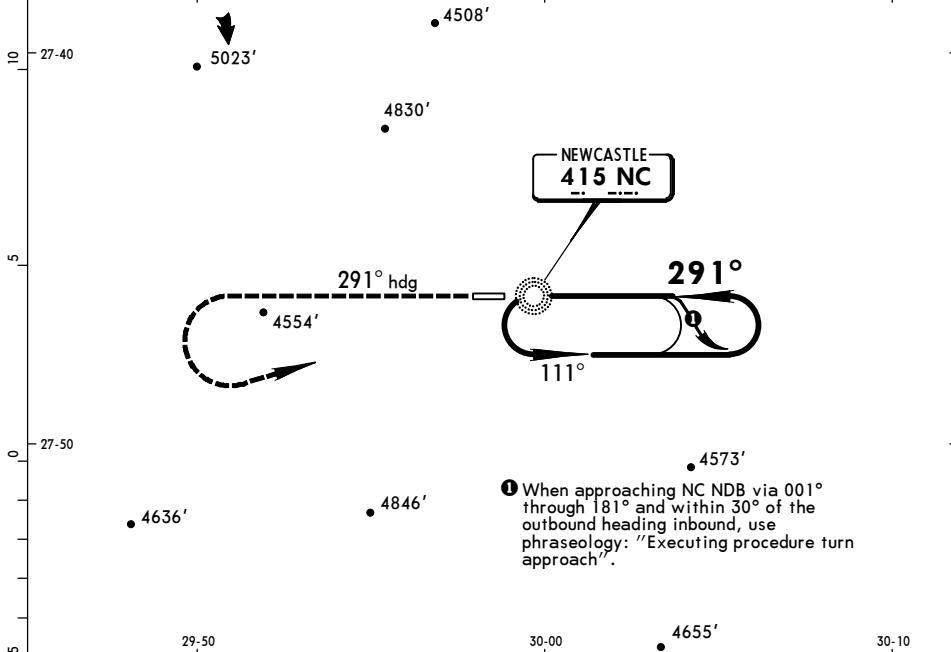
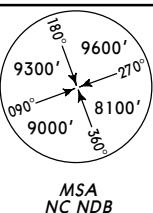
① Operators applying U.S. Ops Specs: CL required below 300m.

NEWCASTLE  
(Air to Air Self-Information)  
124.8NDB  
NC  
**415**Final  
Apch Crs  
**291°**Minimum Alt  
No FAFMDA(H)  
**4870' (795')**Apt Elev **4075'**

MISSSED APCH: Climb on heading 291° to 6000', then turn LEFT climbing to NDB to 7000'.

Alt Set: hPa Apt Elev: 141 hPa Trans level: By ATC Trans alt: 9500'

1. Approach procedure is conducted outside controlled airspace and entirely at the discretion of pilot-in-command. 2. Pilot controlled lighting 124.8.



MAP at NDB

JAR-OPS

STRAIGHT-IN LANDING RWY 29

CIRCLE-TO-LAND

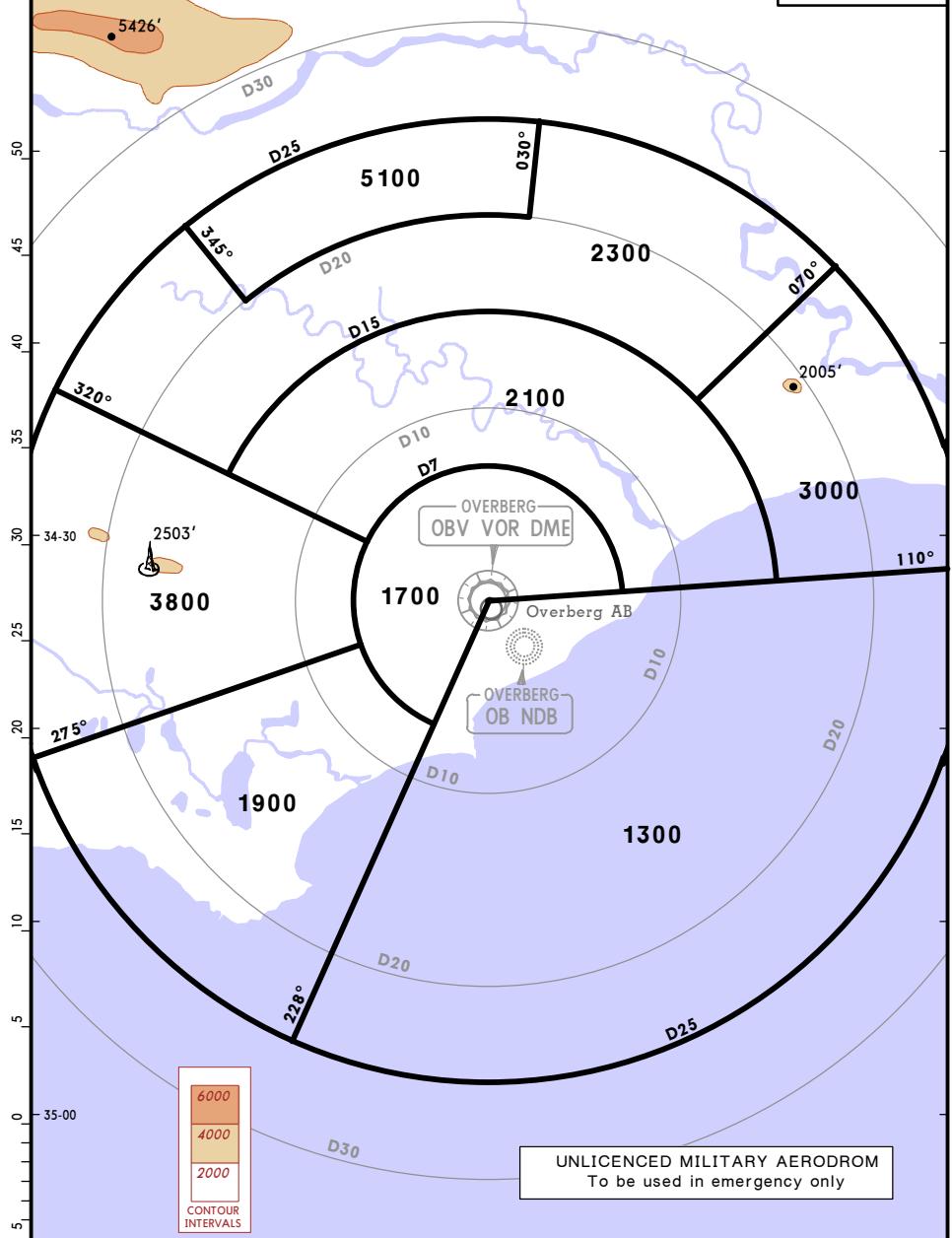
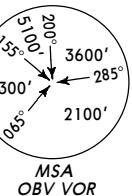
ENTIRELY AT PILOTS DISCRETION

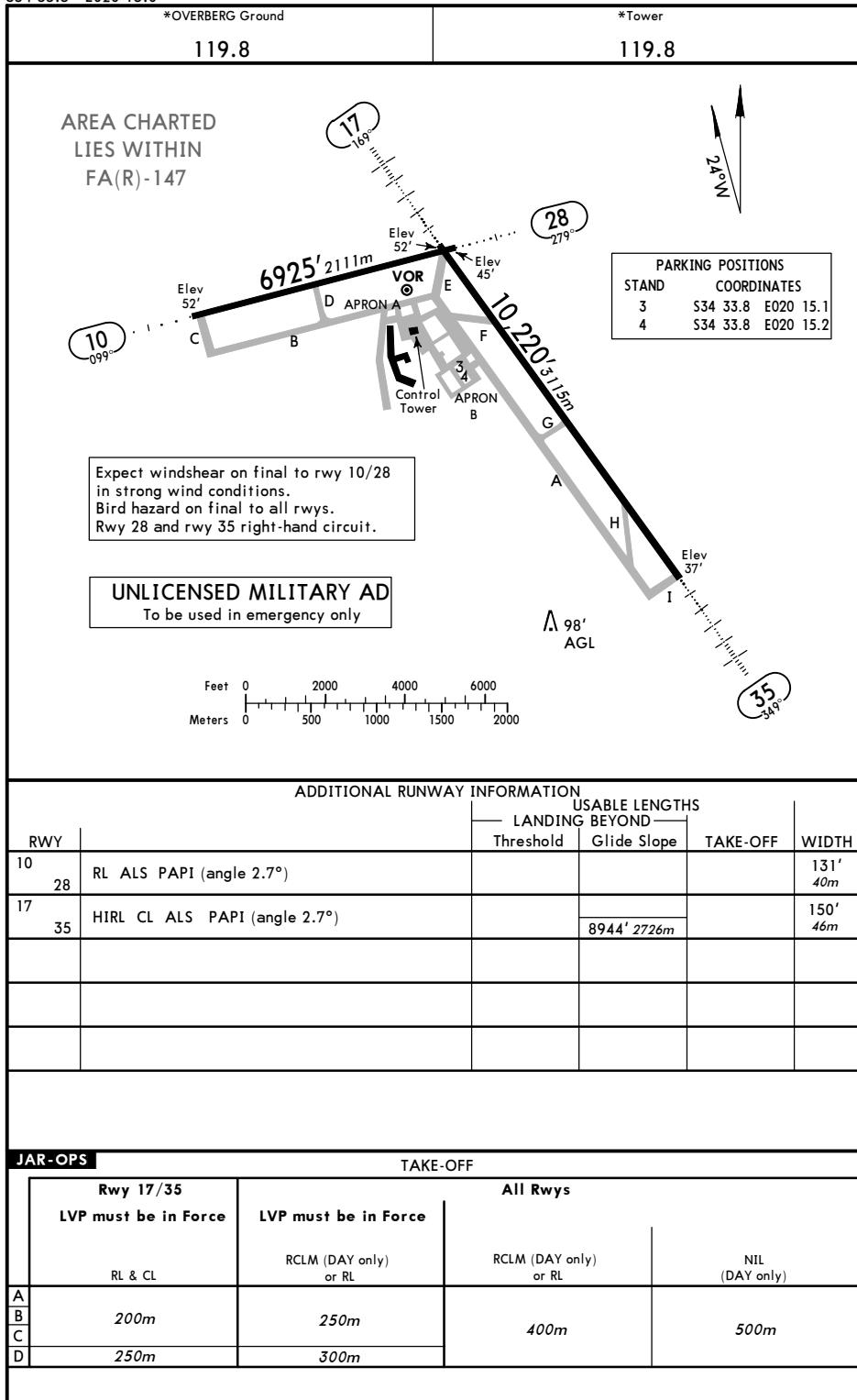
MDA(H) **4870' (795')**

A	RVR 1500m	
B		
C	NOT APPLICABLE	MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA
D		

Apt Elev  
52'

Alt Set: hPa Trans level: By ATC Trans alt: 5000'  
Radar terrain clearance altitudes only valid when under positive  
radar control and radar vectoring. Alternatively MSA applies.



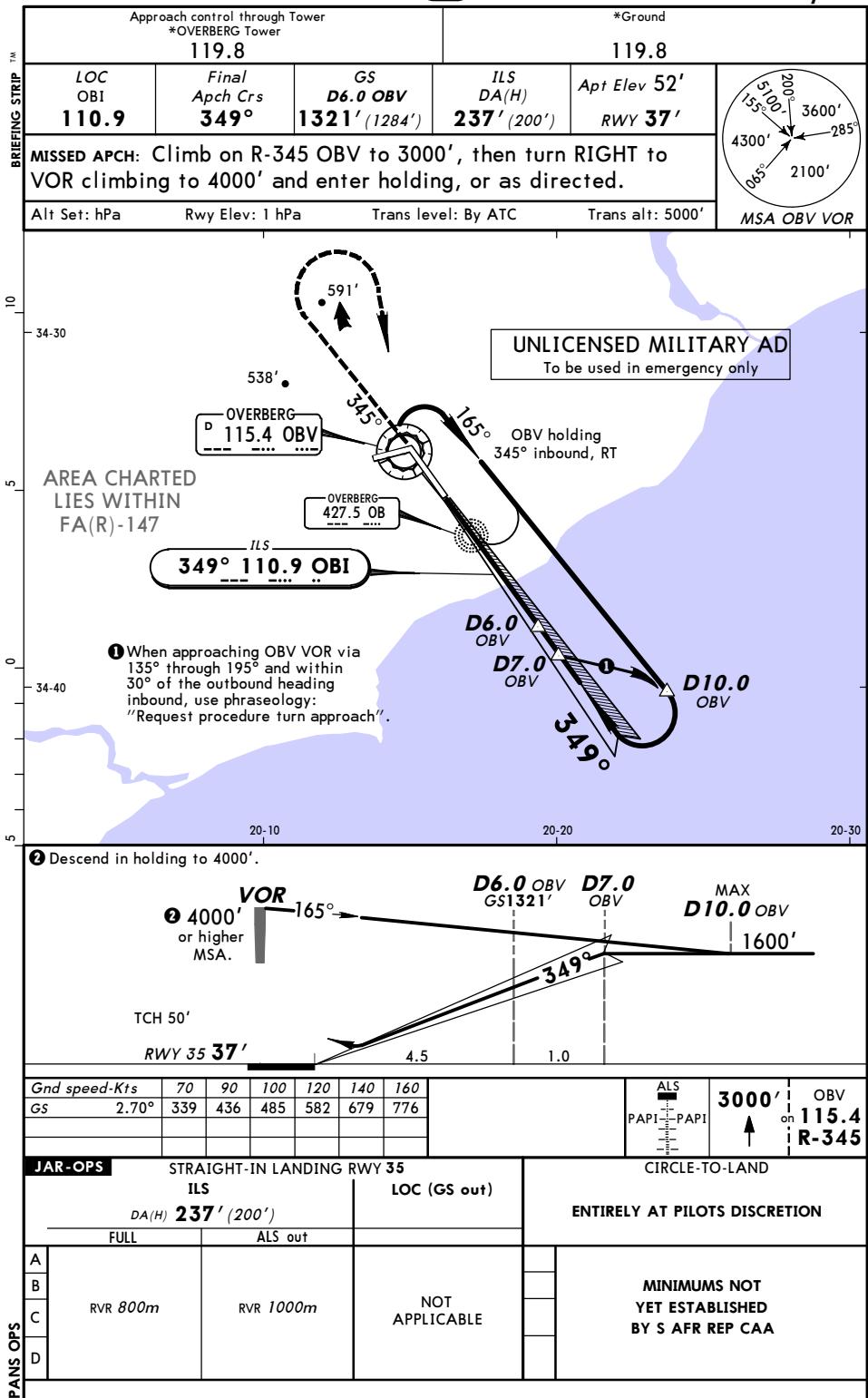


STRAIGHT-IN RWY		A	B	C	D
17	VOR	<b>630' (578')</b> <b>C2600m</b> C2800m	<b>630' (578')</b> <b>C2600m</b> C2800m	<b>630' (578')</b> <b>C2800m</b> C3000m	<b>630' (578')</b> <b>C2800m</b> C3000m
	<i>ALS out</i>	NDB DME	<b>630' (578')</b> <b>C2600m</b> C2800m	<b>630' (578')</b> <b>C2600m</b> C2800m	<b>630' (578')</b> <b>C2800m</b> C3000m
		<i>ALS out</i>	NDB	<b>1310' (1258')</b> <b>C5000m</b>	<b>1310' (1258')</b> <b>C5000m</b>
				<b>1310' (1258')</b> <b>C5000m</b>	<b>1310' (1258')</b> <b>C5000m</b>
35	ILS	<b>237' (200')</b> <b>R1000m</b> R1200m	<b>237' (200')</b> <b>R1000m</b> R1200m	<b>237' (200')</b> <b>R1000m</b> R1200m	<b>237' (200')</b> <b>R1000m</b> R1200m
	<i>ALS out</i>	VOR	<b>350' (313')</b> <b>R1400m</b> R1600m	<b>360' (323')</b> <b>R1500m</b> R1700m	<b>410' (373')</b> <b>R1900m</b> C2100m
		<i>ALS out</i>	NDB DME	<b>430' (393')</b> <b>R1800m</b> R2000m	<b>430' (393')</b> <b>R1800m</b> R2000m
			<i>ALS out</i>	<b>480' (443')</b> <b>C2300m</b> C2500m	<b>480' (443')</b> <b>C2300m</b> C2500m
			NDB	<b>790' (753')</b> <b>C3500m</b> C3700m	<b>790' (753')</b> <b>C3500m</b> C3700m
			<i>ALS out</i>	<b>790' (753')</b> <b>C3700m</b> C3900m	<b>790' (753')</b> <b>C3700m</b> C3900m

CIRCLE-TO-LAND ①	A	B	C	D
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

① Entirely at pilots discretion.

TAKE-OFF RWY 10, 17, 28, 35				
LVP must be in Force				
RL, CL & mult. RVR req	RL & CL	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A	150m	200m	250m	400m
B				500m
C				
D	200m	250m	300m	

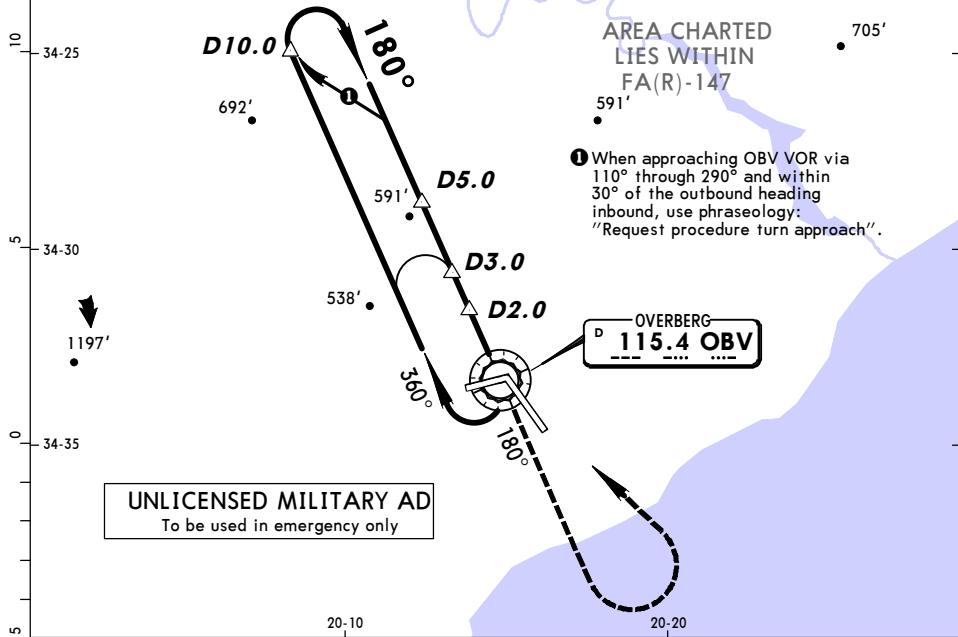


FAOB/OVG  
OVERBERG AB

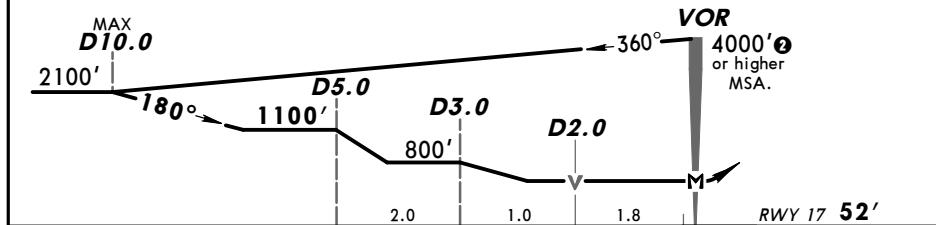
JEPPESEN  
6 OCT 06 (13-1)

OVERBERG, S AFR REP  
VOR DME Rwy 17

Approach control through Tower *OVERBERG Tower 119.8			*Ground 119.8	
VOR OBV <b>115.4</b>	Final Apch Crs <b>180°</b>	Minimum Alt <b>D5.0</b> <b>1100' (1048')</b>	MDA(H) <b>630' (578')</b>	Apt Elev 52' <b>RWY 52'</b>
MISSSED APCH: Climb on R-180 to 3000', then turn LEFT to VOR climbing to 4000' and enter holding, or as directed.				
Alt Set: hPa	Rwy Elev: 2 hPa	Trans level: By ATC	Trans alt: 5000'	MSA OBV VOR



② Descend in holding to 4000'.

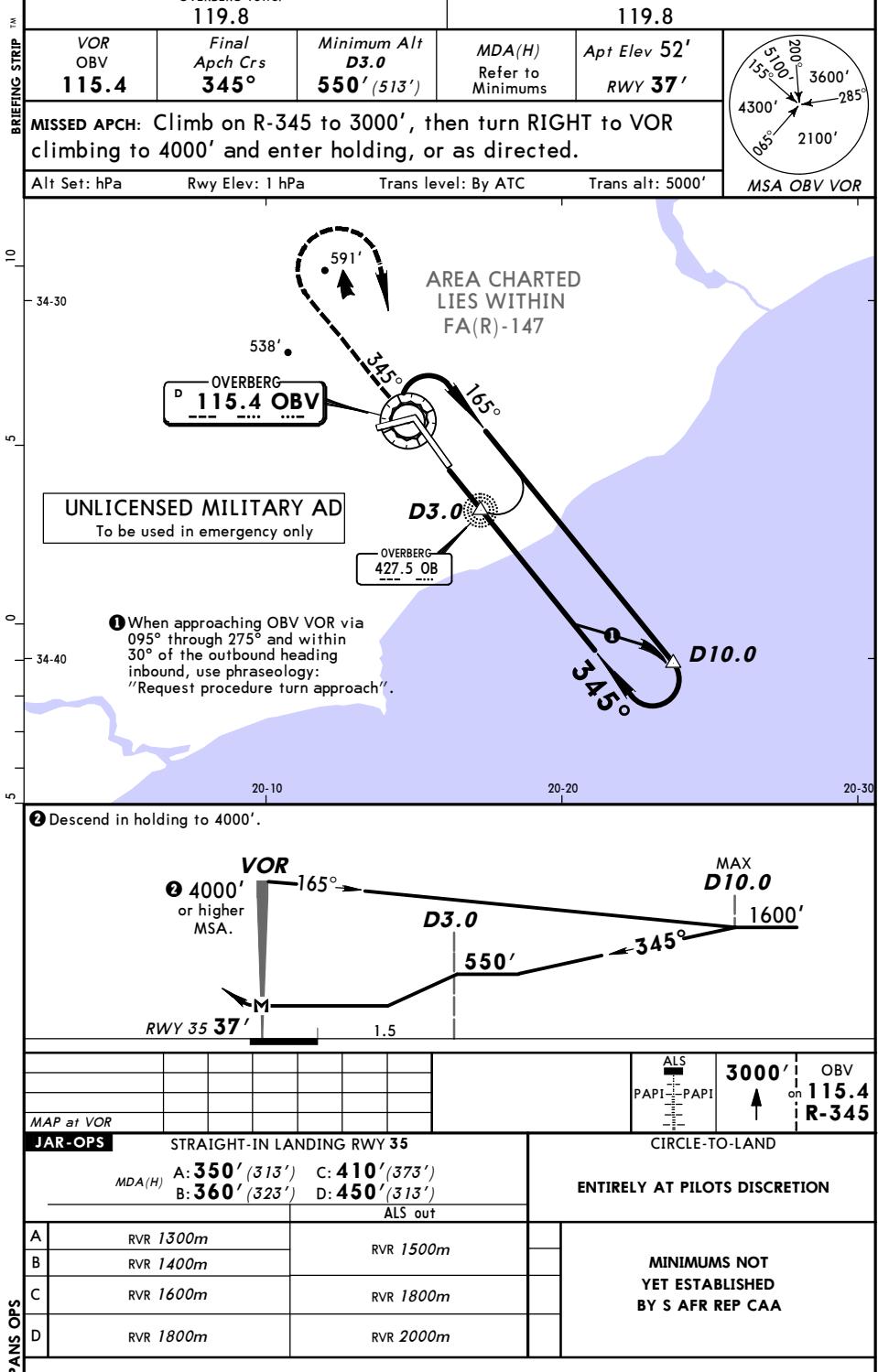


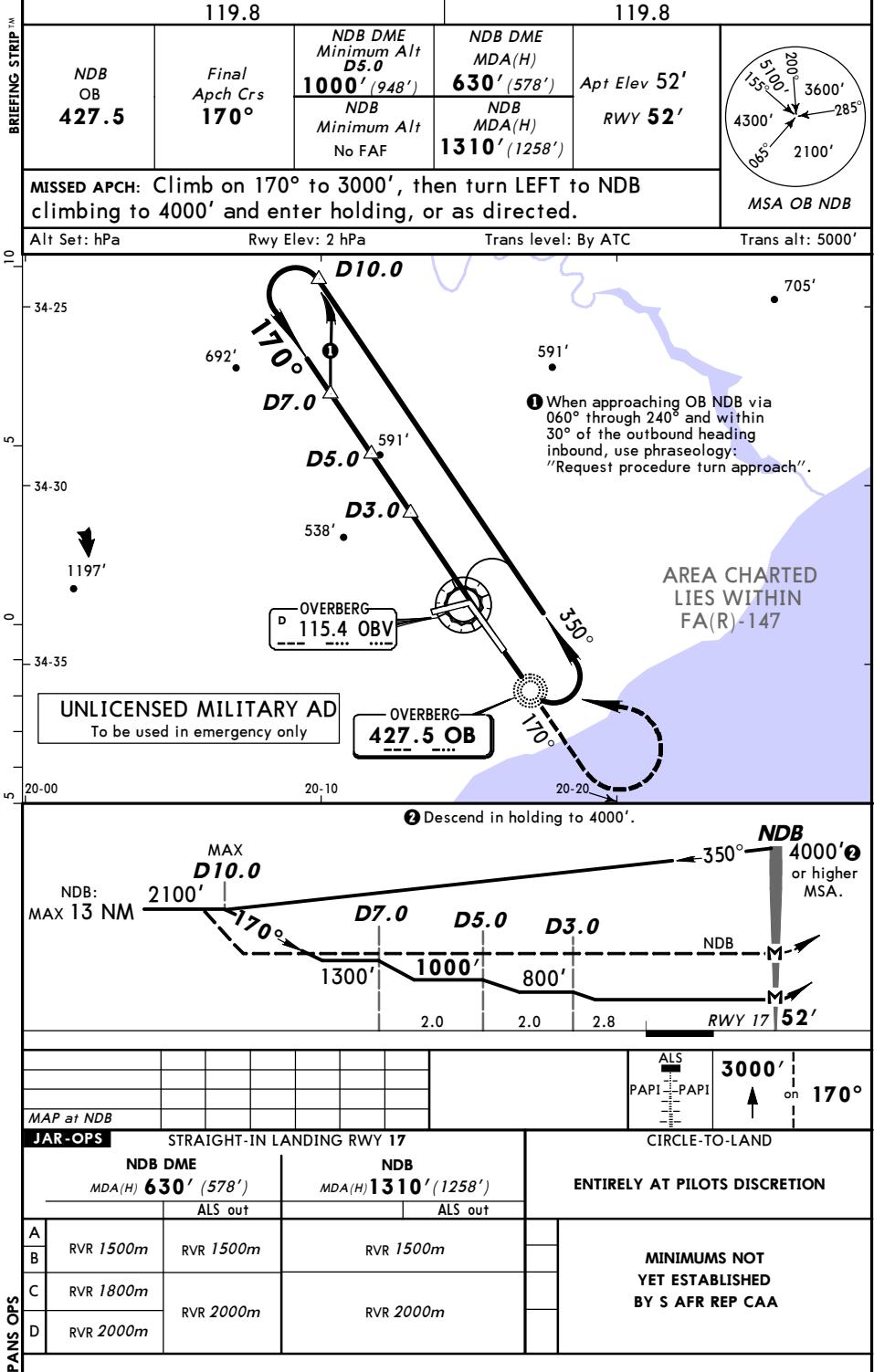
MAP at VOR		ALS	PAPI	3000' on 115.4 R-180	OBV
JAR-OPS	STRAIGHT-IN LANDING RWY 17				

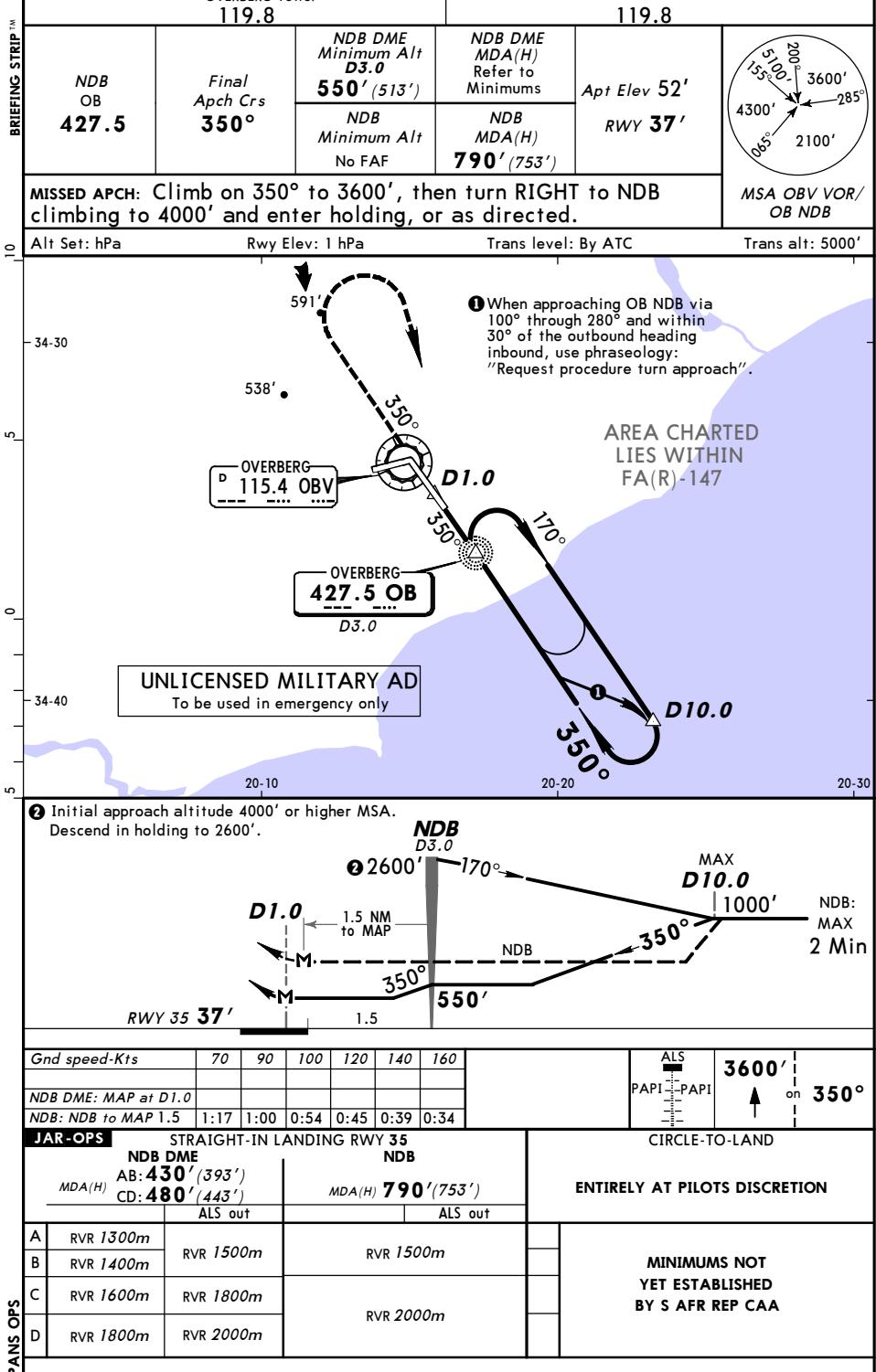
PANS OPS	MDA(H) <b>630' (578')</b>		ENTIRELY AT PILOTS DISCRETION		
	ALS out				
A	RVR 1500m	RVR 1500m			
B	RVR 1800m				
C		RVR 2000m			
D	RVR 2000m				
			MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA		

CHANGES: New procedure.

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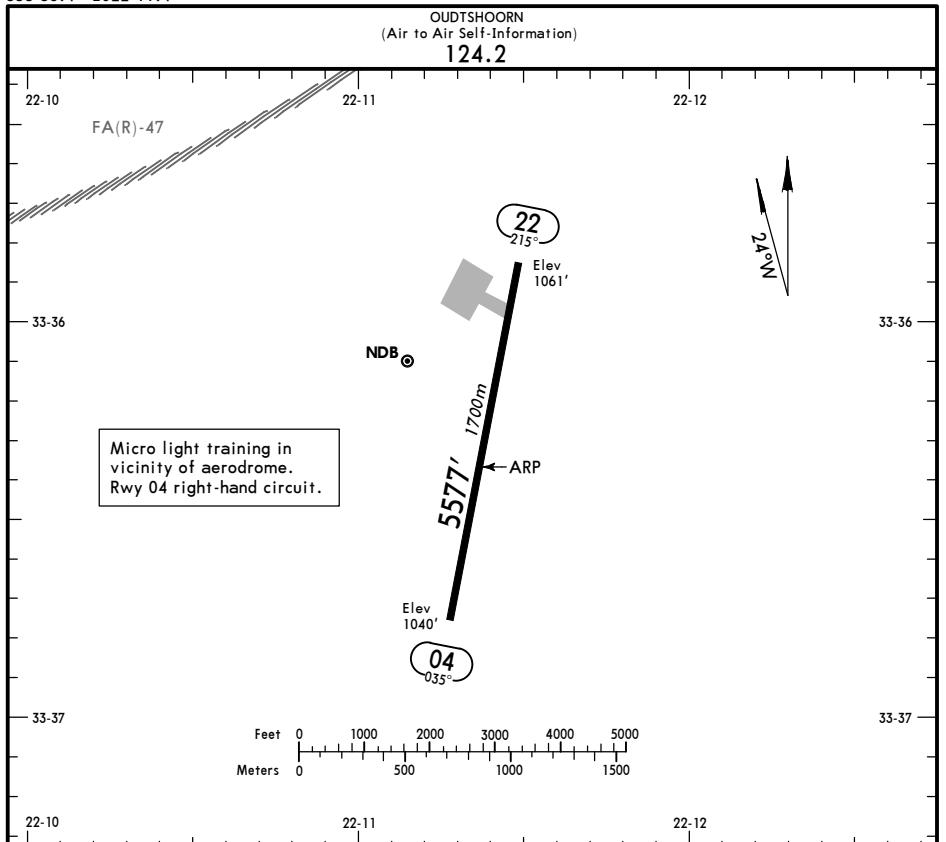




**FAOH/OUH**  
Apt Elev **1063'**  
S33 36.4 E022 11.4

**JEPPESEN OUDTSHOORN, S AFR REP**  
3 AUG 07 **10-9**  
**OUDTSHOORN**

**OUDTSHOORN**  
(Air to Air Self-Information)  
**124.2**



**ADDITIONAL RUNWAY INFORMATION**

RWY	22	① MIRL VASI	USABLE LENGTHS			WIDTH
			Threshold	Glide Slope	TAKE-OFF	
						98' 30m

① Switched on by light sensitive sensor.

**JAR-OPS**

**TAKE-OFF ①**

**All Rwy's**

**LVP must be in Force**

RCLM (DAY only)  
or RL

RCLM (DAY only)  
or RL

NIL  
(DAY only)

A	250m	400m	500m
B			
C			
D			

① Operators applying U.S. Ops Specs: CL required below 300m.

FAOH/OUH  
OUDTSHOORNJEPPESEN OUDTSHOORN, S AFR REP  
3 AUG 07 16-1 CAT A & B CLOUD BREAK PROCEDURE NDB

BRIEFING STRIP™

\*GEORGE Approach

118.9

OUDTSHOORN

(Air to Air Self-Information)

124.2

NDB  
OH  
**367**Final  
Apch Crs  
**290°**Minimum Alt  
No FAFMDA(H)  
**2200' (1137')**Apt Elev **1063'**

9000'

090°

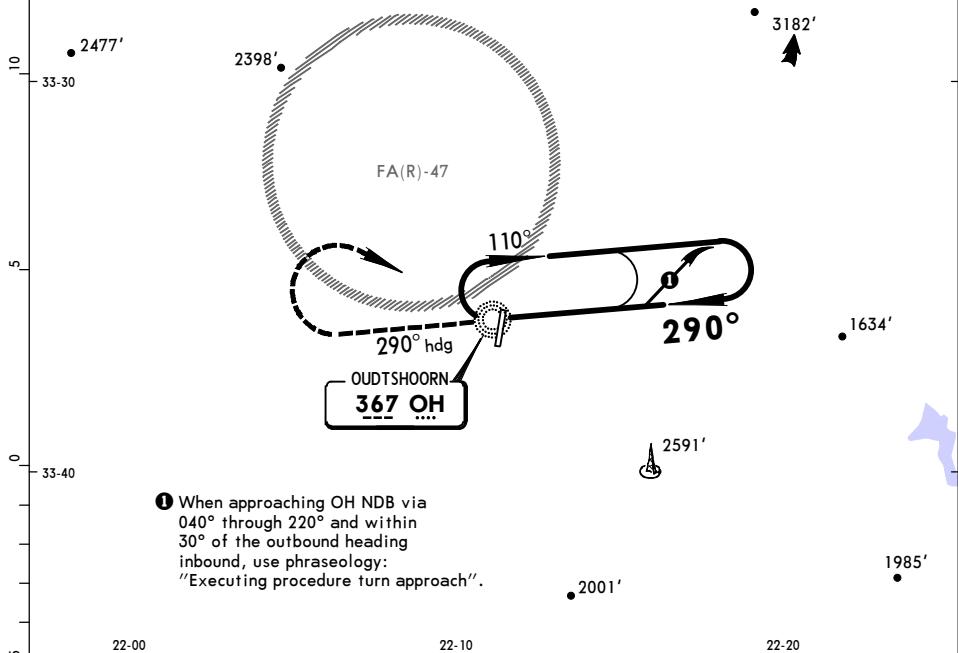
7200'

80°

MSA

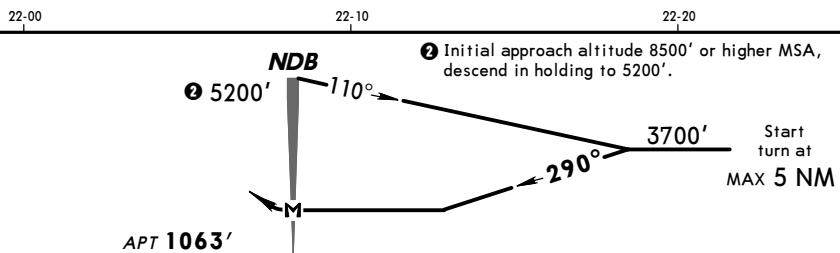
OH NDB

MISSING APCH: Climb on heading 290° to 3000', then climbing turn RIGHT to NDB to 5200'.

Alt Set: hPa Apt Elev: 38 hPa Trans level: By ATC Trans alt: 8000'  
Approach procedure is conducted outside controlled airspace and entirely at the discretion of pilot-in-command.

- ① When approaching OH NDB via 040° through 220° and within 30° of the outbound heading inbound, use phraseology: "Executing procedure turn approach".

- ② Initial approach altitude 8500' or higher MSA, descend in holding to 5200'.



MAP at NDB

JAR-OPS

VASI 3000' 290°  
on hdg

CIRCLE-TO-LAND

ENTIRELY AT PILOTS DISCRETION

	Max Kts	MDA(H)	VIS
A	100	<b>2200' (1137')</b>	1500m
B	135	<b>2200' (1137')</b>	1600m
C			NOT APPLICABLE
D			

PANS OPS

CHANGES: Communications.

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## 1. GENERAL

### 1.1. ATIS

D-ATIS 126.2

### 1.2. LOW VISIBILITY PROCEDURES

Pilots are requested not to exceed 10 KT when transiting or taxiing when Low Visibility Procedures are in force.

### 1.3. SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM

#### 1.3.1. OPERATION OF MODE S TRANSPONDER

In order to prevent the potential risk for Multilateration (MLAT) false targets, aircrew shall adhere to the following procedures:

- ACFT operators shall ensure that Mode S transponders are able to operate when an ACFT is on the ground, transmitting Mode S squitter and replying to Mode S addressed interrogations only.
- When an ACFT is on the ground, the transponder shall be inhibited to reply to Mode S all-call interrogation and replies to Mode A/C interrogations shall also be suppressed.
- Flight crew shall select the assigned Mode A (squawk) code and activate the Mode S transponder at the request for pushback or taxi, whichever is first, and after landing until reaching the ACFT stand.
- The transponder shall be switched off immediately after parking.
- Activation of a Mode S transponder normally means selecting the AUTO or XPDR position and transponders provided with on-the-ground sensors are automatically switched in this function before take-off and after landing. If using a transponder not fitted with an on-ground-sensor then refer to the operator's guide. Selection of STAND-BY mode will not activate the Mode S transponder and selecting ON could override the required suppression of SSR Mode A replies and Mode S all-call replies when an ACFT is on the ground.

### 1.4. TAXI PROCEDURES

Pilots have to exercise CAUTION when taxiing on TWY B towards the holding point RWY 03L.

Any operation of B747-400 ACFT into SAA Technical area will not provide the ICAO recommended clearance distance.

No crossing of red stop bar light will be allowed unless specifically approved by ATC and accompanied by a Follow-me car.

All ACFT to be towed in and out of apron Mike.

Apron C MAX wingspan less than 118'/36m.

TWY C from TWY N intersection to THR RWY 21R restricted to MAX wingspan less than 118'/36m.

MAX wingspan less than 171'/52m on Apron D taxilane, when ACFT with wingspan 213'/65m or more taxiing on TWY A past Apron D from stands D2 to D50.

ACFT with wingspan 213'/65m or more parking at stand D3A must enter and exit Apron D via TWY G10. When manoeuvring on Apron D taxilane exercise CAUTION and remain on TWY centerline to maintain wingtip clearance from other parked ACFT.

ACFT entering Apron A and B via TWY E or ACFT exiting RWY 03L/21R on TWY E in westerly direction use minimal thrust required to avoid adverse jet blast effects to ACFT taking off or landing on RWY 03L/21R.

ACFT to exercise caution when taxiing on TWY B southbound to THR RWY 03L due to Apron Taxilane M extending from TWY B in a southerly direction.

ACFT taking off or landing on RWY 03L/21R be aware of exiting and taxiing ACFT jet blast when passing TWY E intersection.

ACFT entering parking stands on Apron E or F should use the minimal thrust required to avoid adverse effects of jet blast on ground handling on the opposite Apron.

---

## 1. GENERAL

---

### 1.5. PARKING INFORMATION

Stands A1R thru A13, C1 thru C8 and E1 thru E13 equipped with APIS.

CAUTION to be exercised when docking at stands A4 thru A6 due to sunlight reflecting off the Automatic Docking panels at sunrise. Should docking information be impaired, contact Apron Control on 122.65 for assistance.

### 1.6. OTHER INFORMATION

Microlight ACFT operations.

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## 2. ARRIVAL

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### 2.1. CAT II/III OPERATIONS

RWYs 03L, 03R and 21L approved for CAT II operations, special aircrew and ACFT certification required.

### 2.2. TAXI PROCEDURES

HST E designed for class C ACFT.

Recommended exit speed is between 45 KT and 50 KT.

Pilots to advise ATC if unable to vacate RWY 03R via HST E.

### 2.3. OTHER INFORMATION

#### 2.3.1. ALLOCATION OF PARKING BAYS

Prior to top of descent contact Apron Control on 122.65 and provide the following information:

ETA, ACFT Registration, Passengers on board and last APT departed.

The parking bay information and ACFT registration is to be transmitted to Tower, vacating the RWY for taxi instructions.

### 3. DEPARTURE

#### 3.1. START-UP, PUSH-BACK & TAXI PROCEDURES

ACFT on D2, D3 and D4 must push-back to face North and exit via TWY G11 onto TWYA.

#### 3.2. NOISE ABATEMENT PROCEDURES

The below procedures apply to jet ACFT and may be disregarded if at 8560' or when leveled off by ATC or when leveled by SID.

Take-off to 7060' - Take-off power.

- Take-off flaps.
- Climb at  $V_2 + 10$  to 20 KT or as limited by body angle.
- Depending on ACFT type, the take-off power/thrust may be reduced at a lower height.

At 7060' - Reduce thrust to not less than climb power/thrust.

7060' to 8560' - Climb at  $V_2 + 10$  to 20 KT.

At 8560' - Accelerate smoothly to en-route climb speed with flap retraction on schedule.

No jet ACFT are to use RWY or TWY intersection for take-off between 2200-0600LT.

FAOR/JNB  
O R TAMBO INTL

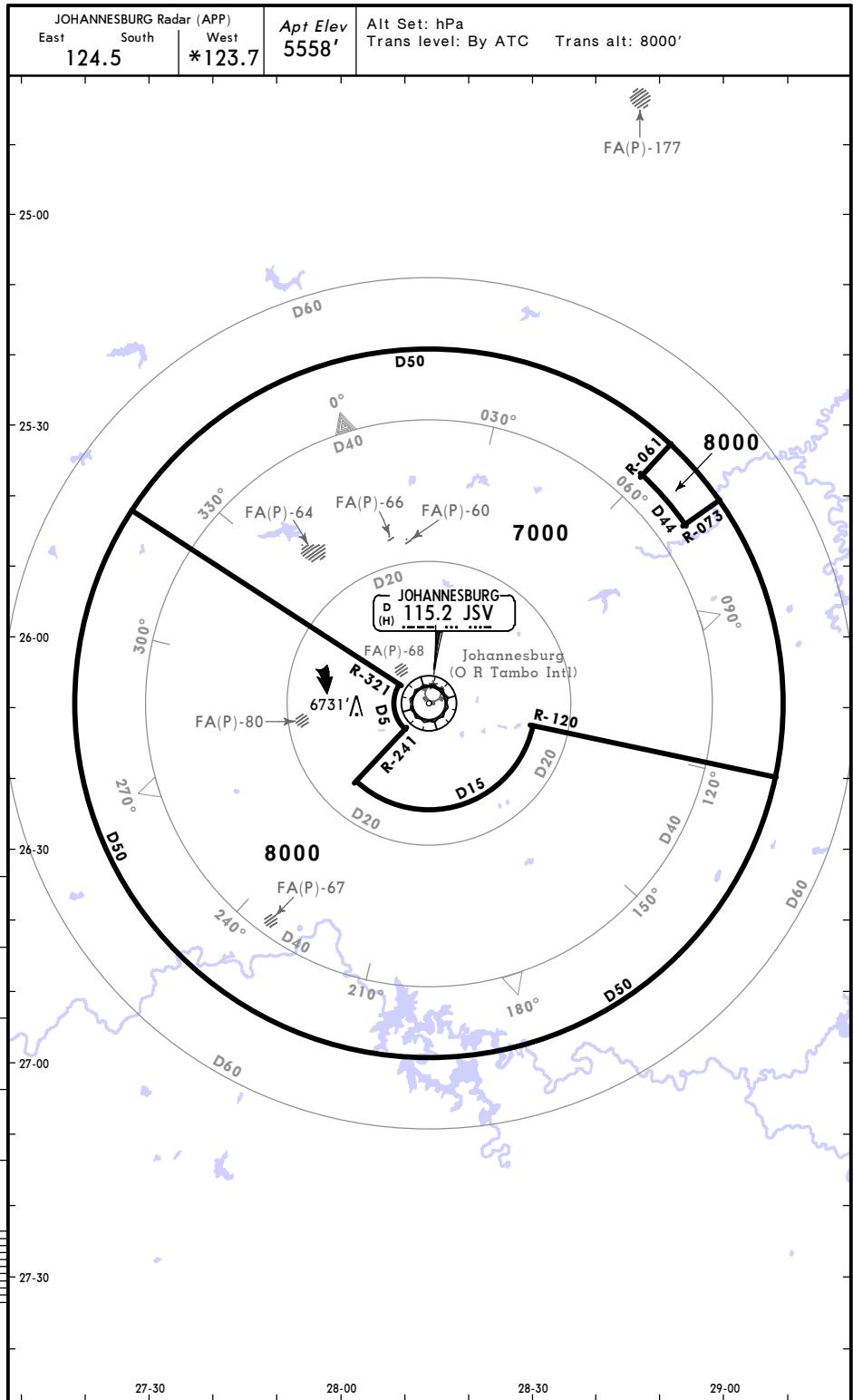
JEPPESEN

JOHANNESBURG, S AFR REP

28 DEC 12 (10-1R)

Eff 10 Jan

RADAR MINIMUM ALTITUDES



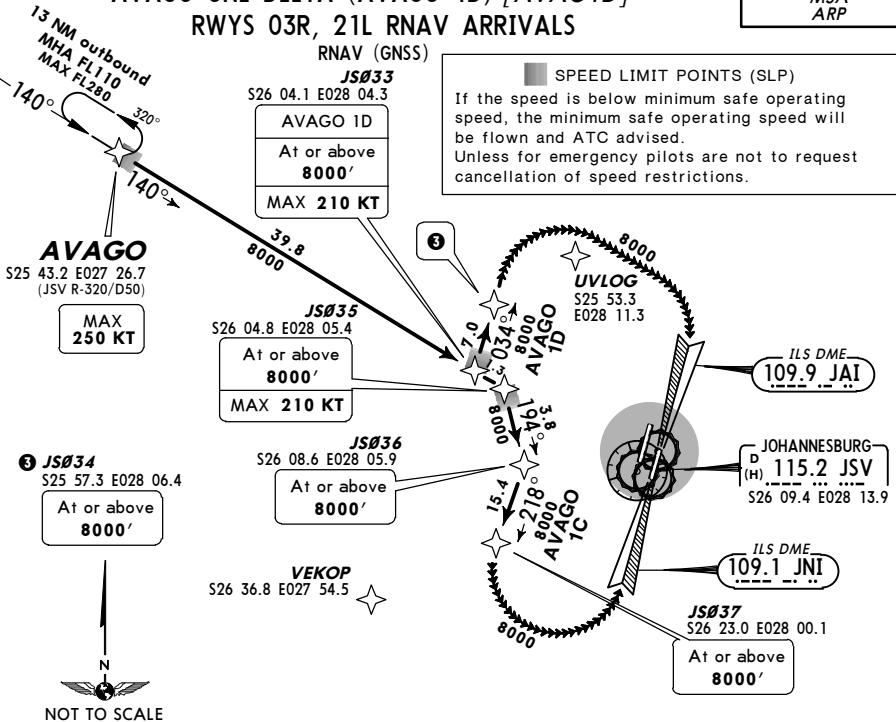
D-ATIS 126.2	Apt Elev 5558'	Alt Set: hPa Trans level: By ATC Trans alt: 8000' 1. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 2. If unable to comply with SIDs & STARs advise ATC. 3. General Aviation traffic up to 7500'.	8400' MSA ARP
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AVAGO ONE CHARLIE (AVAGO 1C) [AVAG1C]

AVAGO ONE DELTA (AVAGO 1D) [AVAG1D]

RWYS 03R, 21L RNAV ARRIVALS

RNAV (GNSS)



**③ JS034**  
S25 57.3 E028 06.4  
At or above 8000'

NOT TO SCALE

▼ LOST COMMS ▼ LOST COMMS

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL90, whichever is highest. Comply with associated communication failure procedure.

**Before AVAGO:** Proceed to AVAGO and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL130 or maintain last assigned FL if below FL130. Leave AVAGO on "After AVAGO" procedure.

#### AVAGO 1C

**After AVAGO:** Continue on STAR, at JS035 descend to FL90, at JS037 descend to 8000', proceed to VEKOP, intercept LOC for ILS approach.

#### AVAGO 1D

**After AVAGO:** Continue on STAR, at JS034 proceed to UVLOG, intercept LOC for ILS approach.

**Note:** Aircraft entering TMA at or below FL110 are to enter the designated holding at last assigned FL and continue on designated STAR.

**Caution:** Holdings below FL110 will be conducted outside controlled airspace.

Pilots to take note of the appropriate FA(D)-, FA(R)- & FA(P)-areas as well as the Magalies Glider Window (FL110-FL145).

STAR	RWY	ROUTING
AVAGO 1C	03R ①	From AVAGO to JS035, turn RIGHT to JS036, turn RIGHT to JS037 for RADAR vectoring to ILS.
AVAGO 1D	21L ②	From AVAGO to JS033, turn LEFT to JS034 for RADAR vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

**Rwy 03:** to W & SW RAGUL 3A;  
to SE APDAK 3A;  
to N & NW VASUR 3A;  
to NE EGMEN 2A (JET)  
EXOBI 1A (TURBOPROP).

**Rwy 21:** to S & SW RAGUL 3B;  
to SE APDAK 2B;  
to N & NW VASUR 3B;  
to NE EGMEN 2B (JET)  
EXOBI 3B (TURBOPROP).

STAR applicable for ① Rwy 03L/ ② Rwy 21R when instructed by ATC or announced on ATIS.

D-ATIS  
126.2Apt Elev  
5558'

Alt Set: hPa Trans level: By ATC Trans alt: 8000'  
 1. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 2. If unable to comply with SIDs & STAR advise ATC. 3. General Aviation traffic up to 7500'.

8400'

MSA  
ARP

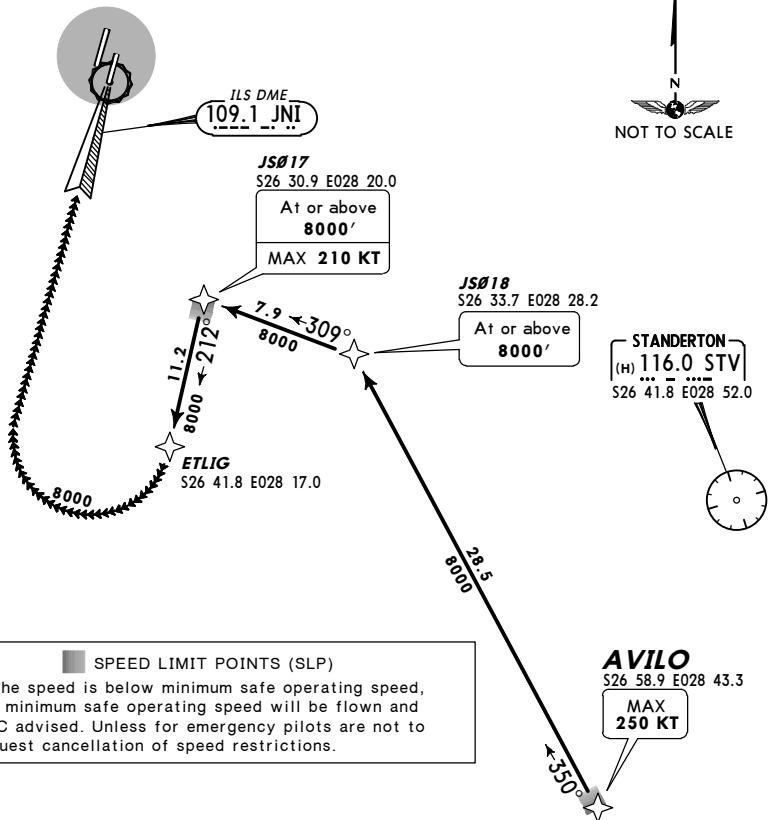
## AVILO ONE BRAVO (AVILO 1B) [AVIL1B]

## RWY 03R RNAV ARRIVAL

RNAV (GNSS)

STAR APPLICABLE FOR RWY 03L

WHEN INSTRUCTED BY ATC OR ANNOUNCED ON ATIS



▼ LOST COMMS ▼

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL90, whichever is highest. Comply with associated communication failure procedure.

**Before AVILO:** Proceed to STV and enter holding, descend to FL240, or if below FL240, hold at last assigned FL for minimum 5 minutes. Leave STV on "After STV" procedure.

**After AVILO:** Continue on STAR to ETLIG, then to JS2F1, intercept LOC for ILS approach.  
**Note:** Aircraft entering TMA at or below FL110 are to enter the designated holding at last assigned FL and continue on designated STAR.

**Caution:** Holdings below FL110 will be conducted outside controlled airspace.

▲ SLIMMDC ▲ SLIMMDC

## ROUTING

From AVILO to JS018, turn LEFT to JS017, turn LEFT to ETLIG for RADAR vetoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

**Rwy 03:** to S & SE **RAGUL 3A**;  
 to SE **APDAK 3A**;  
 to N & NW **VASUR 3A**;  
 to NE **EGMEN 2A (JET)**  
**EXOBI 1A (TURBOPROP)**.

D-ATIS  
126.2Apt Elev  
5558'

Alt Set: hPa Trans level: By ATC Trans alt: 8000'  
 1. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 2. If unable to comply with SIDs & STAR advise ATC. 3. General Aviation traffic up to 7500'.

8400'

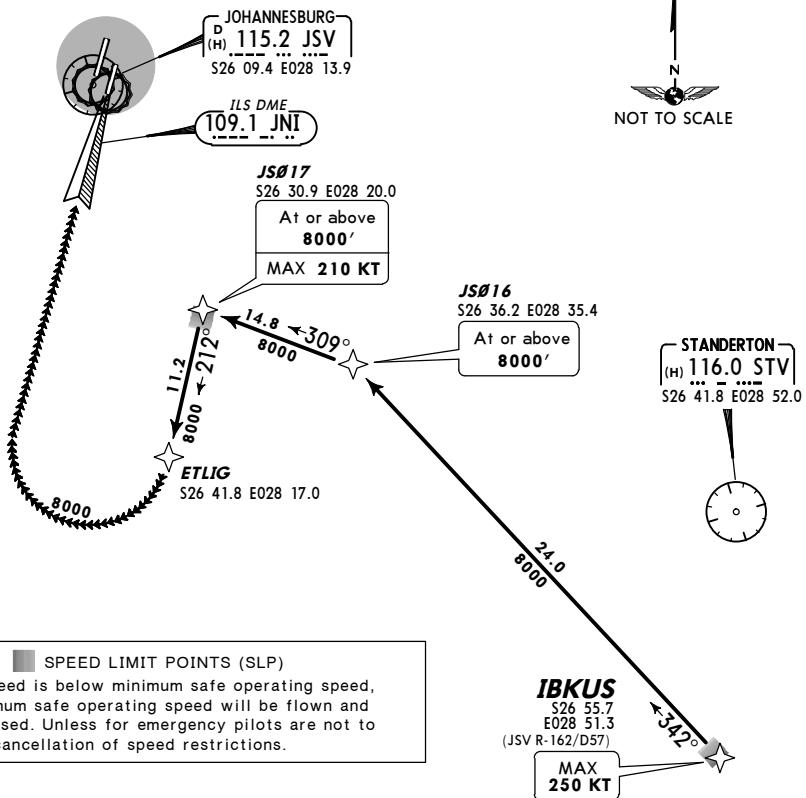
MSA

ARP

## IBKUS ONE BRAVO (IBKUS 1B) [IBKU1B]

## RWY 03R RNAV ARRIVAL

RNAV (GNSS)

STAR APPLICABLE FOR RWY 03L  
WHEN INSTRUCTED BY ATC OR ANNOUNCED ON ATIS

▼ LOST COMMS ▼

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL90, whichever is highest. Comply with associated communication failure procedure.

**Before IBKUS:** Proceed to STV and enter holding, descend to FL240, or if below FL240, hold at last assigned FL for minimum 5 minutes. Leave STV on "After STV" procedure.**After IBKUS:** Continue on STAR to ETLIG, then to JS2F1, intercept LOC for ILS approach.  
**Note:** Aircraft entering TMA at or below FL110 are to enter the designated holding at last assigned FL and continue on designated STAR.**Caution:** Holdings below FL110 will be conducted outside controlled airspace.

▲ GLMNC ▲ GLMNC

## ROUTING

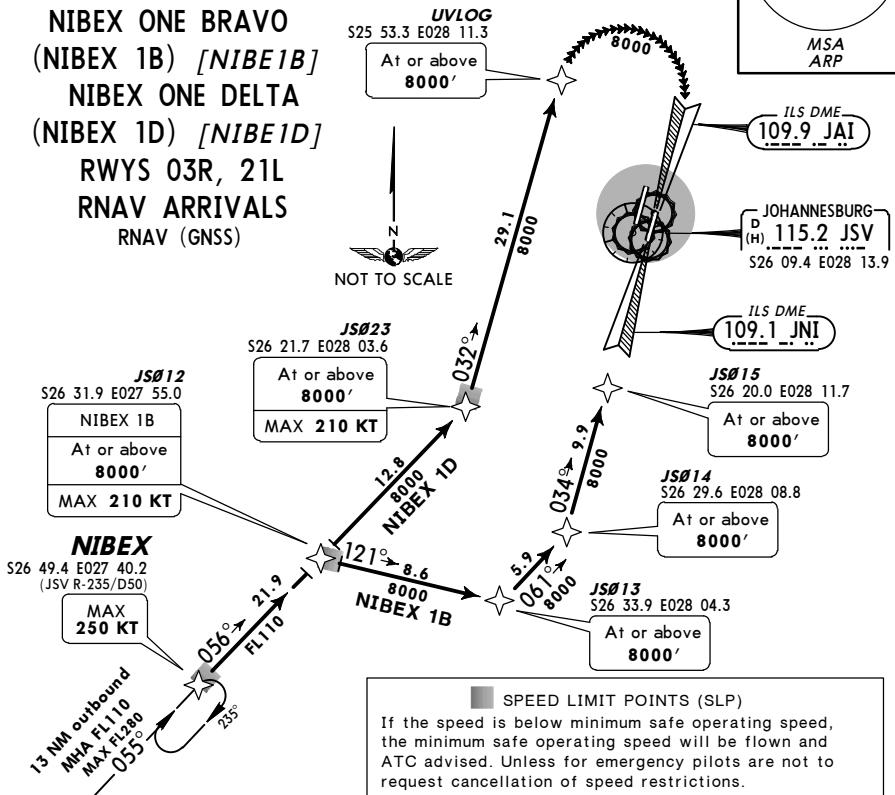
From IBKUS to JS016, turn LEFT to JS017, turn LEFT to ETLIG for RADAR vetoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

- Rwy 03: to S & SE **RAGUL 3A**;
- to SE **APDAK 3A**;
- to N & NW **VASUR 3A**;
- to NE **EGMEN 2A (JET)**
- EXOBI 1A (TURBOPROP)**.

D-ATIS 126.2	Apt Elev 5558'	Alt Set: hPa Trans level: By ATC Trans alt: 8000' 1. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 2. If unable to comply with SIDs & STARs advise ATC. 3. General Aviation traffic up to 7500'.	8400' MSA ARP
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**NIBEX ONE BRAVO**  
**(NIBEX 1B) [NIBE1B]**  
**NIBEX ONE DELTA**  
**(NIBEX 1D) [NIBE1D]**  
**RWYS 03R, 21L**  
**RNAV ARRIVALS**  
**RNAV (GNSS)**



▼ LOST COMMS ▼ LOST COMMS

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL90, whichever is highest. Comply with associated communication failure procedure.

**Before NIBEX:** Proceed to NIBEX and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL130 or maintain last assigned FL if below FL130. Leave NIBEX on "After NIBEX" procedure.

#### NIBEX 1B

**After NIBEX :** Continue on STAR to JS012 descend to FL100, then to JS013 descend to FL90, at JS014 adjust to 9000', at JS015 complete straight-in ILS approach.

#### NIBEX 1D

**After NIBEX:** Continue on STAR, at JS023 descend to FL90, at UVLOG descend to 8000', then to JS012, intercept ILS.

**Note:** Aircraft entering TMA at or below FL110 are to enter the designated holding at last assigned FL and continue on designated STAR.

**Caution:** Holdings below FL110 will be conducted partially outside controlled airspace.

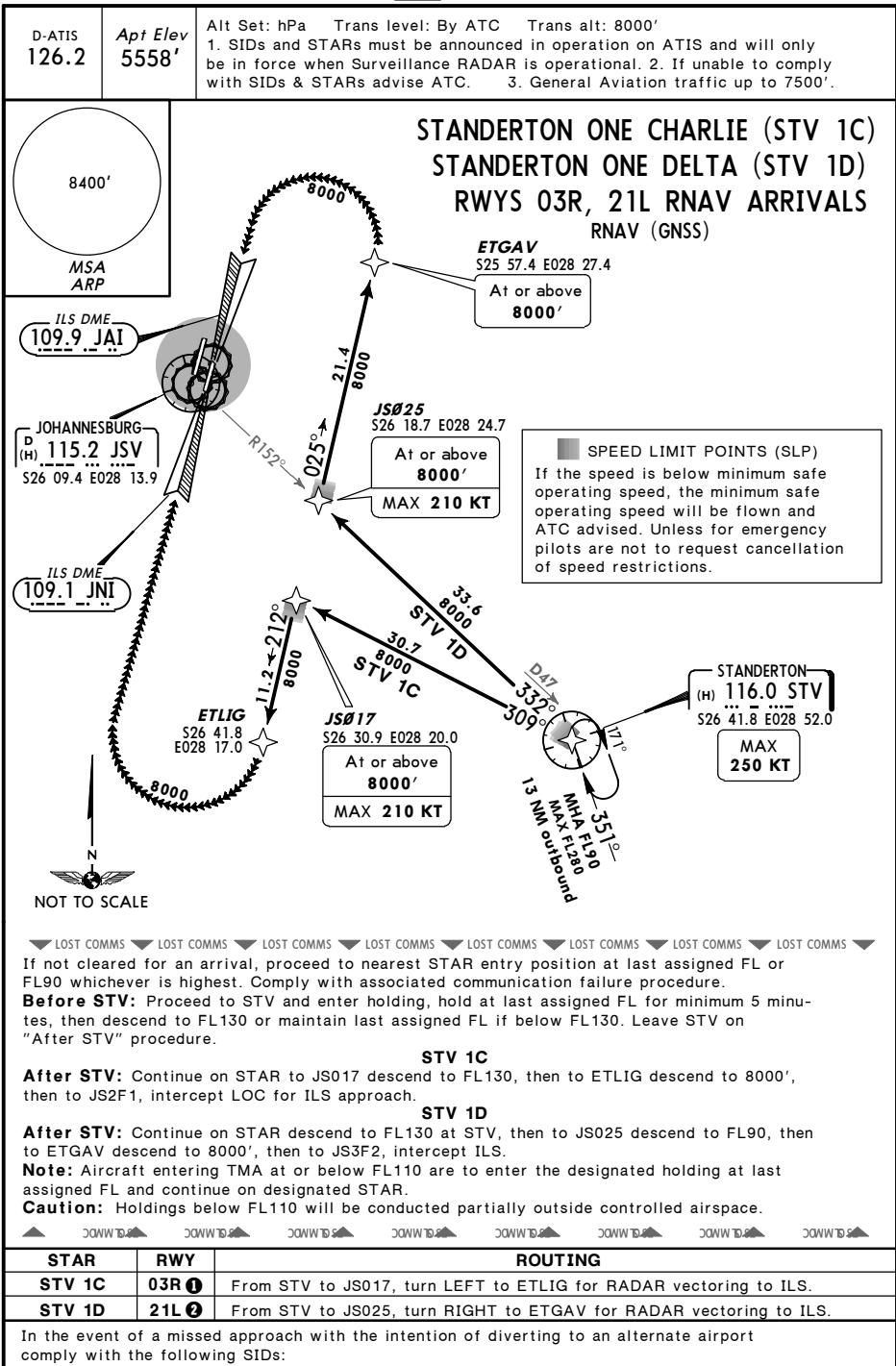
STAR	RWY	ROUTING
<b>NIBEX 1B</b>	<b>03R ①</b>	From NIBEX to JS012, turn RIGHT to JS013, turn LEFT to JS014, turn LEFT to JS015, intercept ILS.
<b>NIBEX 1D</b>	<b>21L ②</b>	From NIBEX to JS023, turn LEFT to UVLOG for RADAR vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

**Rwy 03:** to S & SE **RAGUL 3A**;  
 to SE **APDAK 3A**;  
 to N & NW **VASUR 3A**;  
 to NE **EGMEN 2A (JET)**  
**EXOBI 1A (TURBOPROP)**.

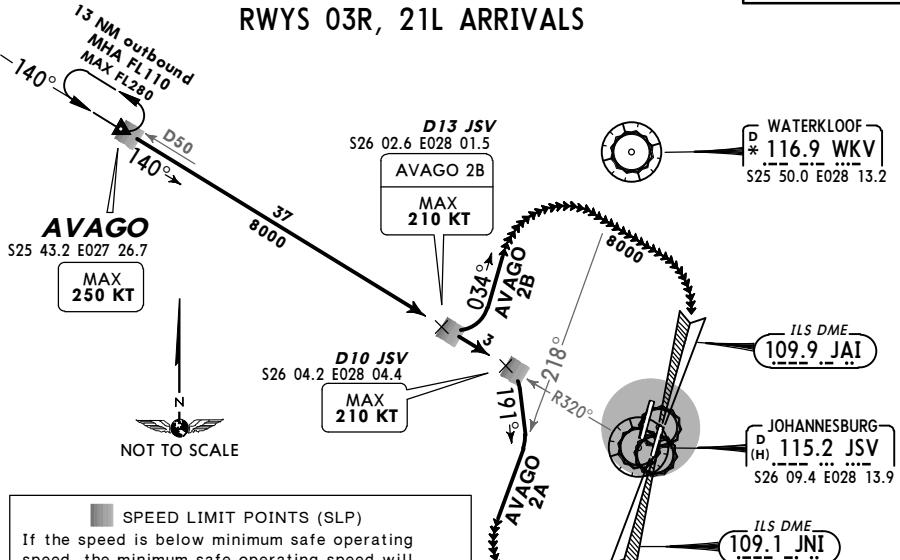
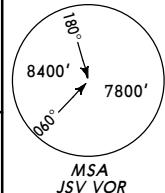
**Rwy 21:** to S & SE **RAGUL 3B**;  
 to SE **APDAK 2B**;  
 to N & NW **VASUR 3B**;  
 to NE **EGMEN 2B (JET)**  
**EXOBI 3B (TURBOPROP)**.

STAR applicable for ① Rwy 03L/ ② Rwy 21R when instructed by ATC or announced on ATIS.



D-ATIS 126.2	Apt Elev 5558'	Alt Set: hPa Trans level: By ATC Trans alt: 8000' 1. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 2. If unable to comply with SIDs & STARs advise ATC. 3. General Aviation traffic up to 7500'.
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## AVAGO TWO ALFA (AVAGO 2A) [AVAG2A] AVAGO TWO BRAVO (AVAGO 2B) [AVAG2B] RWYS 03R, 21L ARRIVALS



### SPEED LIMIT POINTS (SLP)

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised.  
Unless for emergency pilots are not to request cancellation of speed restrictions.

▼ LOST COMMS ▼

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL90, whichever is highest. Comply with associated communication failure procedure.

**Before AVAGO:** Proceed to AVAGO and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL130 or maintain last assigned FL if below FL130. Leave AVAGO on "After AVAGO" procedure.

### AVAGO 2A

**After AVAGO:** Continue on STAR, when passing D10 JSV descend to FL90, when passing D35 WKV on WKV R-218 turn LEFT, 121° track, descend to 8000', when passing JSV R-221 turn LEFT, 061° track, intercept LOC for ILS approach.

### AVAGO 2B

**After AVAGO:** Continue on STAR, when passing D13 JSV descend to FL90, when passing JSV 15 DME on 034° track turn RIGHT, 121° track, descend to 8000', when passing JSV R-026 turn RIGHT, 191° track, intercept LOC for ILS approach.

**Note:** Aircraft entering TMA at or below FL110 are to enter the designated holding at last assigned FL and continue on designated STAR.

**Caution:** Holdings below FL110 will be conducted outside controlled airspace.

Pilots to take note of the appropriate FA(D)-, FA(R)- & FA(P)-areas as well as the Magalies Glider Window (FL110-FL145).

STAR	RWY	ROUTING
AVAGO 2A	03R ①	Intercept JSV R-320 inbound, at D10 JSV turn RIGHT, 191° track, intercept WKV R-218 for RADAR vectoring to ILS.
AVAGO 2B	21L ②	Intercept JSV R-320 inbound, at D13 JSV turn LEFT, 034° track for RADAR vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

**Rwy 03:** to W & SW RAGUL 3A;  
to SE APDAK 3A;  
to N & NW VASUR 3A;  
to E & NE EGEMEN 2A (JET)  
EXOBI 1A (TURBOPROP).

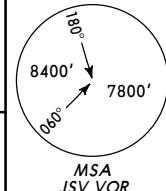
**Rwy 21:** to S & SE RAGUL 3B;  
to SE APDAK 2B;  
to N & NW VASUR 3B;  
to NE EGEMEN 2B (JET)  
EXOBI 3B (TURBOPROP).

STAR applicable for ① Rwy 03L/ ② Rwy 21R when instructed by ATC or announced on ATIS.

D-ATIS  
126.2

Apt Ele  
5558'

Alt Set: hPa Trans level: By ATC Trans alt: 8000' 1. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 2. If unable to comply with SIDs & STARs advise ATC 3. General Aviation traffic up to 7500'

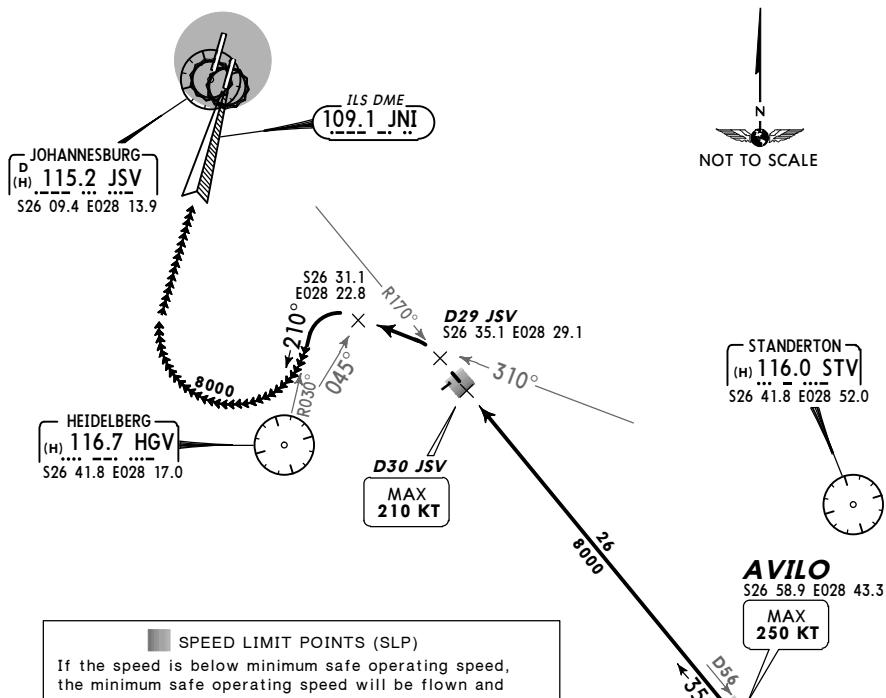


## AVILO ONE ALFA (AVILO 1A) / AVIL 1A

## RWY 03R ARRIVAL

STAR APPLICABLE FOR RWY 03L

WHEN INSTRUCTED BY ATC OR ANNOUNCED ON ATIS



#### SPEED LIMIT POINTS (SLP)

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL 90, whichever is highest. Comply with associated communication failure procedure.

**Before AVILO:** Proceed to STV and enter holding, descend to FL240, or if below FL240, hold at last assigned EL for minimum 5 minutes. Leave STV on on "After STV" procedure.

**After AVILO:** On JSV R-170 inbound descend to FL130, at D29 JSV turn LEFT, intercept STV R-310 descend to FL110, when passing HGV R-030 descend to 8000', when passing JSV R-197 turn RIGHT, 350° track, intercept LOC for ILS approach.

**Note:** Aircraft to route the STV holding in Communication Failure Procedure

**Note:** Aircraft to route the SIV holding in Communication Failure Procedure.  
**Caution:** Holdings below FL110 will be conducted partially outside controlled airspace.

 S3 CLINIMICS  S3 CLINIMICS

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ROUTING

On JSV R-170 inbound to D29 JSV, turn LEFT, intercept STV R-310, when passing HGV R-045 turn LEFT, intercept HGV R-030 inbound for RADAR vetoring to ILS

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SID's:

Bwy 03: to W & SW BAGUL 3A:

to W & SW RAGUN  
to SE APDAK 3A:

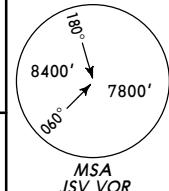
to SE APDAK 3A;  
to N & NW VASUB 3A.

to N & NW VASOR 3A,  
to E & NE EGMEN 2A (.IET)

to E & NE EGMEN 2A (JET)  
EXOBI 1A (TURBOPROP).

D-ATIS  
126.2Apt Elev  
5558'

Alt Set: hPa Trans level: By ATC Trans alt: 8000'  
 1. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 2. If unable to comply with SIDs & STAR advise ATC. 3. General Aviation traffic up to 7500'.

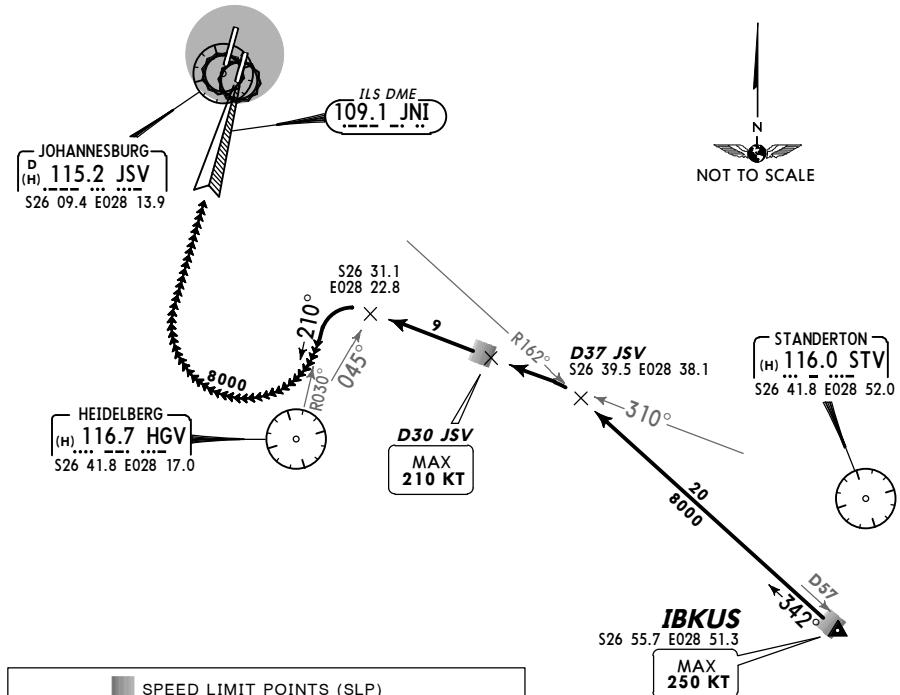


## IBKUS ONE ALFA (IBKUS 1A) [IBKU1A]

## RWY 03R ARRIVAL

STAR APPLICABLE FOR RWY 03L

WHEN INSTRUCTED BY ATC OR ANNOUNCED ON ATIS



## SPEED LIMIT POINTS (SLP)

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.

▼ LOST COMMS ▼

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL90, whichever is highest. Comply with associated communication failure procedure.

**Before IBKUS:** Proceed to STV and enter holding, descend to FL240, or if below FL240, hold at last assigned FL for minimum 5 minutes. Leave STV on "After STV" procedure.

**After IBKUS:** On JSV R-162 inbound descend to FL130, at D37 JSV turn LEFT, intercept STV R-310 descend to FL110, when passing HGV R-030 descend to 8000', when passing JSV R-197 turn RIGHT, 350° track, intercept LOC for ILS approach.

**Note:** Aircraft to route to STV holding in Communication Failure Procedure before IBKUS.

**Caution:** Holdings below FL110 will be conducted partially outside controlled airspace.

## ROUTING

On JSV R-162 inbound to D37 JSV, turn LEFT, intercept STV R-310, when passing HGV R-045 turn LEFT, intercept HGV R-030 inbound for RADAR vetoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

**Rwy 03:** to W & SW **RAGUL 3A;**

to SE **APDAK 3A;**

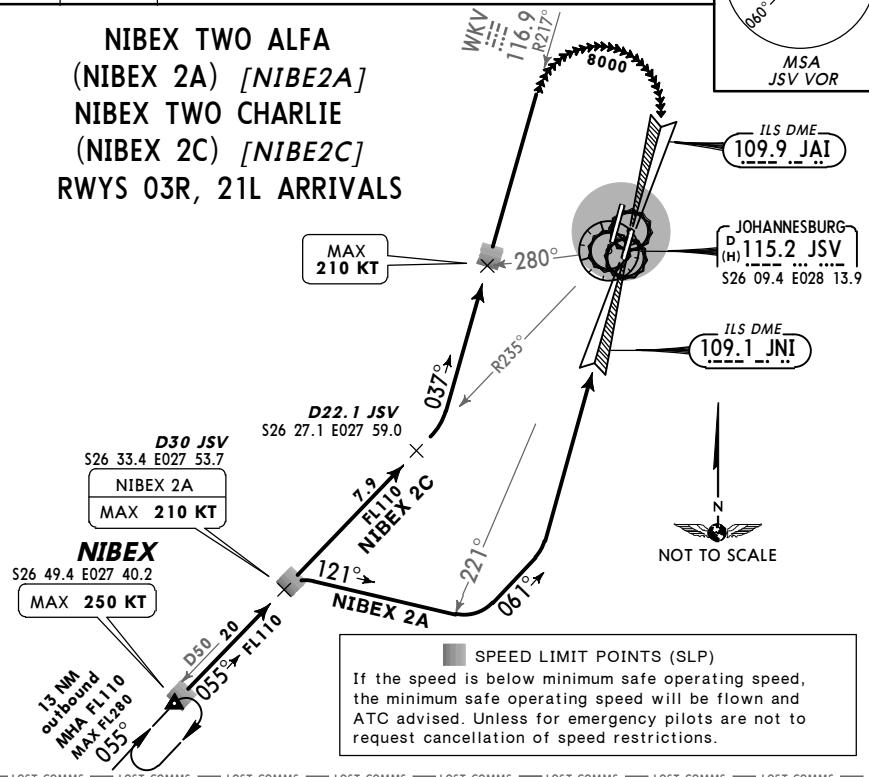
to N & NW **VASUR 3A;**

to E & NE **EGMEN 2A (JET)**

**EXOBI 1A (TURBOPROP).**

D-ATIS 126.2	Apt Elev 5558'	Alt Set: hPa Trans level: By ATC Trans alt: 8000' 1. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 2. If unable to comply with SIDs & STARs advise ATC. 3. General Aviation traffic up to 7500'.
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**NIBEX TWO ALFA**  
**(NIBEX 2A) [NIBE2A]**  
**NIBEX TWO CHARLIE**  
**(NIBEX 2C) [NIBE2C]**  
**RWYS 03R, 21L ARRIVALS**



▼ LOST COMMS ▼ LOST COMMS

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL90, whichever is highest. Comply with associated communication failure procedure.

**Before NIBEX:** Proceed to NIBEX and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL130 or maintain last assigned FL if below FL130. Leave NIBEX on "After NIBEX" procedure.

#### NIBEX 2A

**After NIBEX:** On JSV R-235 inbound to D30 JSV, turn RIGHT, 121° track descend to FL100, when passing JSV R-221 descend to FL90, turn LEFT, 061° track to intercept LOC. Adjust to 9000' for ILS approach.

#### NIBEX 2C

**After NIBEX:** Continue on STAR, when passing JSV R-281 established on WKV R-217 inbound descend to FL90, when passing D14.7 JSV on WKV R-217 turn RIGHT, 121° track, descend to 8000', passing JSV R-025 turn RIGHT, 191° track, intercept LOC for ILS approach.

**Note:** Aircraft entering TMA at or below FL110 are to enter the designated holding at last assigned FL and continue on designated STAR.

**Caution:** Holdings below FL110 will be conducted partially outside controlled airspace.

▲ COMM TO STAR ▲ COMM TO STAR

STAR	RWY	ROUTING
<b>NIBEX 2A</b>	<b>03R ①</b>	Intercept JSV R-235 inbound, at D30 JSV turn RIGHT, 121° track, when passing JSV R-221 turn LEFT, 061° track to intercept ILS.
<b>NIBEX 2C</b>	<b>21L ②</b>	Intercept JSV R-235 inbound, at D22.1 JSV turn LEFT, intercept WKV R-217 inbound for RADAR vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

**Rwy 03:** to W & SW **RAGUL 3A;**  
 to SE **APDAK 3A;**  
 to N & NW **VASUR 3A;**  
 to E & NE **EGMEN 2A (JET)**  
**EXOBI 1A (TURBOPROP).**

**Rwy 21:** to S & SE **RAGUL 3B;**  
 to SE **APDAK 2B;**  
 to N & NW **VASUR 3B;**  
 to NE **EGMEN 2B (JET)**  
**EXOBI 3B (TURBOPROP).**

STAR applicable for ① Rwy 03L/ ② Rwy 21R when instructed by ATC or announced on ATIS.

D-ATIS 126.2	Apt Elev 5558'	Alt Set: hPa Trans level: By ATC Trans alt: 8000' 1. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 2. If unable to comply with SIDs & STARs advise ATC. 3. General Aviation traffic up to 7500'.
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**OKPIT FOUR ALFA  
(OKPIT 4A) [OKPI4A]**  
**OKPIT FOUR BRAVO  
(OKPIT 4B) [OKPI4B]**  
**RWYS 03R, 21L ARRIVALS**

NOT TO SCALE  
N

**OKPIT**

S25 27.7 E028 44.5  
OKPIT 4B  
MAX 250 KT

D40 JSV  
MAX 250 KT

① MHA FL110  
MAX FL280

S25 48.1 E028 29.6 X  
OKPIT 4A

S25 52.7 E028 47.1 X

D15 JSV  
S26 03.8 E028 29.3

D18 JSV  
MAX 210 KT

MAX 210 KT

JOHANNESBURG  
(H) 115.2 JSV  
S26 09.4 E028 13.9

ILS DME  
109.1 JNI

ILS DME  
109.9 JAI

▀ SPEED LIMIT POINTS (SLP)  
If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.

▀ LOST COMMS ▀ LOST COMMS

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL90, whichever is highest. Comply with associated communication failure procedure.

**Before OKPIT:** Proceed to OKPIT and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL130 or maintain last assigned FL if below FL130. Leave OKPIT on "After OKPIT" procedure.

**OKPIT 4A**

**After OKPIT:** Continue on STAR, when passing JSV R-086 while established on HGV R-031 inbound descend to FL100, when passing D15 JSV on HGV R-031 inbound turn RIGHT, 301° track, descend to 8300', when passing JSV R-206 turn RIGHT, 001° track, intercept LOC for ILS approach.

**OKPIT 4B**

**After OKPIT:** Continue on STAR, when passing D18 JSV inbound descend to FL90, when passing JSV 15 DME outbound on 034° track turn LEFT, 301° track, descend to 8000', when passing JSV R-041 turn LEFT, 241° track to intercept LOC for ILS approach.

**Note:** Aircraft entering TMA at or below FL110 are to enter the designated holding at last assigned FL and continue on designated STAR.

**Caution:** Holdings below FL110 will be conducted outside controlled airspace.

Pilots to take note of the appropriate FA(D)-areas.

STAR	RWY	ROUTING
OKPIT 4A	03R ①	Intercept JSV R-052 inbound, intercept HGV R-031 inbound for RADAR vectoring to ILS.
OKPIT 4B	21L ②	Intercept STV R-014 inbound, when passing JSV R-079 turn RIGHT, 231° track, intercept JSV R-086 inbound to D15 JSV, turn RIGHT, 034° track for RADAR vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

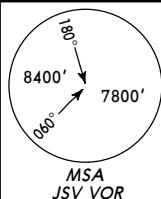
**Rwy 03:** to W & SW RAGUL 3A;  
to SE APDAK 3A;  
to N & NW VASUR 3A;  
to E & NE EGEMEN 2A (JET)  
EXOBI 1A (TURBOPROP).

**Rwy 21:** to S & SW RAGUL 3B;  
to SE APDAK 2B;  
to N & NW VASUR 3B;  
to NE EGEMEN 2B (JET)  
EXOBI 3B (TURBOPROP).

STAR applicable for ① Rwy 03L/ ② Rwy 21R when instructed by ATC or announced on ATIS.

D-ATIS  
126.2Apt Elev  
5558'

Alt Set: hPa Trans level: By ATC Trans alt: 8000'  
 1. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 2. If unable to comply with SIDs & STARs advise ATC. 3. General Aviation traffic up to 7500'.



ILS DME  
109.9 JAI

JOHANNESBURG  
(H) 115.2 JSV  
S26 09.4 E028 13.9

ILS DME  
109.1 JNT

HEIDELBERG  
(H) 116.7 HGV  
S26 41.8 E028 17.0

## STANDERTON SIX ALFA (STV 6A) STANDERTON FIVE BRAVO (STV 5B) RWYS 03R, 21L ARRIVALS

### SPEED LIMIT POINTS (SLP)

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.



D15 JSV  
S26 19.8 E028 26.0

MAX 210 KT

D30 JSV  
MAX 210 KT

STANDERTON  
(H) 116.0 STV  
S26 41.8 E028 52.0

MAX 250 KT

▼ LOST COMMS ▼

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL90 whichever is highest. Comply with associated communication failure procedure.

**Before STV:** Proceed to STV and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL130 or maintain last assigned FL if below FL130. Leave STV on "After STV" procedure.

### STV 6A

**After STV:** On STV R-310 descend to FL130, when passing JSV R-197 turn RIGHT, 350° track descend to 8000', intercept LOC for ILS approach.

### STV 5B

**After STV:** Continue on STAR, when passing D18 JSV on JSV R-152 inbound descend to FL90, when established on HGV R-031 and passing D15 JSV turn LEFT, 301° track, descend to 8000', when passing JSV R-041 turn LEFT, 241° track to intercept LOC for ILS approach.

**Note:** Aircraft entering TMA at or below FL110 are to enter the designated holding at last assigned FL and continue on designated STAR.

**Caution:** Holdings below FL110 will be conducted partially outside controlled airspace.

▲ CONWIND ▲ CONWIND

STAR	RWY	ROUTING
STV 6A	03R ①	On STV R-310, when passing HGV R-045 turn LEFT, intercept HGV R-030 inbound for RADAR vectoring to ILS.
STV 5B	21L ②	Intercept JSV R-152 inbound, at D15 JSV turn RIGHT, 001° track, intercept HGV R-031 for RADAR vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

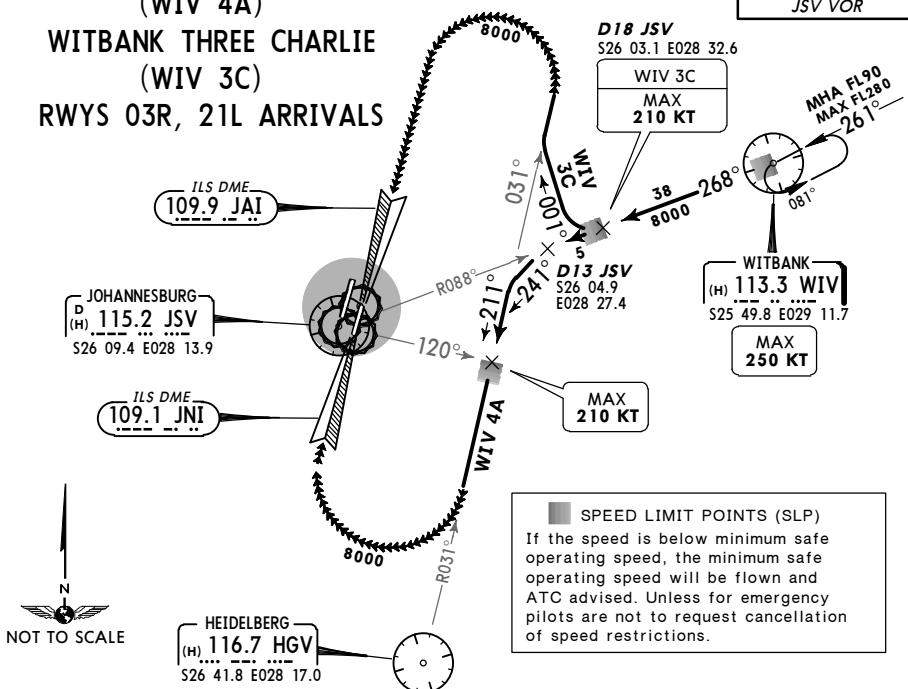
**Rwy 03:** to W & SW **RAGUL 3A;**  
to SE **APDAK 3A;**  
to N & NW **VASUR 3A;**  
to E & NE **EGMEN 2A (JET)**  
**EXOBI 1A (TURBOPROP).**

**Rwy 21:** to S & SW **RAGUL 3B;**  
to SE **APDAK 2B;**  
to N & NW **VASUR 3B;**  
to NE **EGMEN 2B (JET)**  
**EXOBI 3B (TURBOPROP).**

STAR applicable for ① Rwy 03L/ ② Rwy 21R when instructed by ATC or announced on ATIS.

D-ATIS 126.2	Apt Elev 5558'	Alt Set: hPa Trans level: By ATC Trans alt: 8000' 1. SIDs and STARs must be announced in operation on ATIS and will only be in force when Surveillance RADAR is operational. 2. If unable to comply with SIDs & STARs advise ATC. 3. General Aviation traffic up to 7500'.
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**WITBANK FOUR ALFA**  
(WIV 4A)  
**WITBANK THREE CHARLIE**  
(WIV 3C)  
**RWYS 03R, 21L ARRIVALS**



▼ LOST COMMS ▼  
If not cleared for an arrival, proceed to nearest STAR entry position at last assigned FL or FL90, whichever is highest. Comply with associated communication failure procedure.

**Before WIV:** Proceed to WIV and enter holding, hold at last assigned FL for minimum 5 minutes, then descend to FL130 or maintain last assigned FL if below FL130. Leave WIV on "After WIV" procedure.

#### WIV 4A

**After WIV:** Continue on STAR, when passing JSV R-141 while established on HGV R-031 inbound descend to FL90, when passing D15 JSV on HGV R-031 inbound turn RIGHT, 301° track, descend to 8300', when passing JSV R-206 turn RIGHT, 001° track, intercept LOC for ILS approach.

#### WIV 3C

**After WIV:** Continue on STAR, when passing D18 JSV descend to FL90, when passing D15 JSV on HGV R-031 turn LEFT, 301° track, descend to 8000', when passing JSV R-041 turn LEFT, 241° track to intercept LOC for ILS approach.

**Note:** Aircraft entering TMA at or below FL110 are to enter the designated holding at last assigned FL and continue on designated STAR.

**Caution:** Holdings below FL110 will be conducted partially outside controlled airspace.

STAR	RWY	ROUTING
WIV 4A	03R ①	Intercept JSV R-088 inbound, at D13 JSV turn LEFT, 241° track, intercept HGV R-031 inbound for RADAR vectoring to ILS.
WIV 3C	21L ②	Intercept JSV R-088 inbound, at D18 JSV turn RIGHT, 001° track, intercept HGV R-031 for RADAR vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

**Rwy 03:** to W & SW **RAGUL 3A;**  
to SE **APDAK 3A;**  
to N & NW **VASUR 3A;**  
to E & NE **EGMEN 2A (JET)**  
**EXOBI 1A (TURBOPROP).**

**Rwy 21:** to S & SW **RAGUL 3B;**  
to SE **APDAK 2B;**  
to N & NW **VASUR 3B;**  
to NE **EGMEN 2B (JET)**  
**EXOBI 3B (TURBOPROP).**

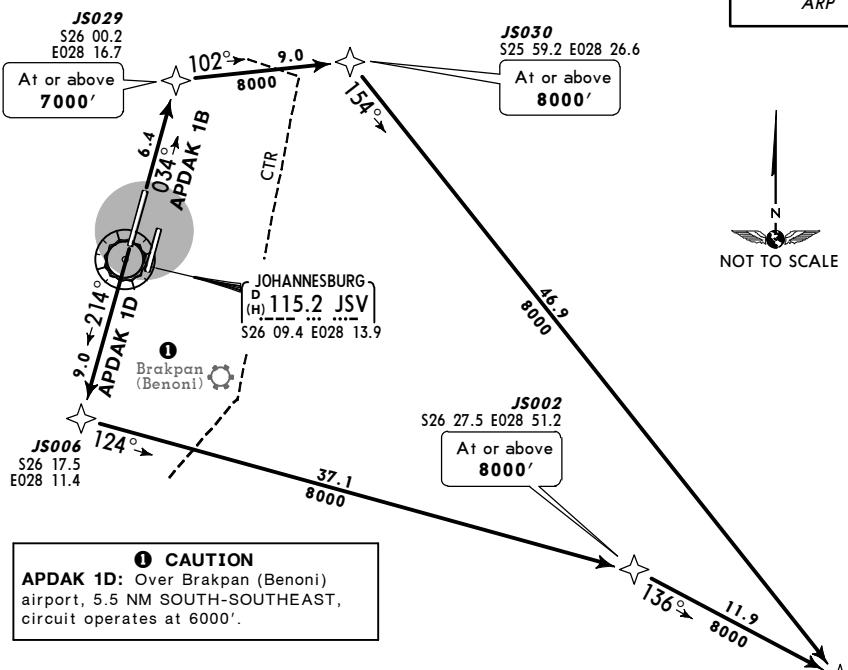
STAR applicable for ① Rwy 03L/ ② Rwy 21R when instructed by ATC or announced on ATIS.

Apt Elev  
5558'

Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS 3. SIDs are applicable only when Surveillance Radar operational. 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'. Advise Radar of level passing on first contact for mode-C check. 5. Cross CTR boundary at or above 8000'. 6. Simultaneous use of parallel runway 03L/R and 21L/R. 7. General Aviation traffic up to 7500'.

**APDAK ONE BRAVO (APDAK 1B) [APDAK 1B]****APDAK ONE DELTA (APDAK 1D) [APDAK 1D]****RWYS 03L, 21R RNAV DEPARTURES****RNAV (GNSS)****SPEED: MAX 250 KT AT OR BELOW FL 100**

8400'

MSA  
ARP**① CAUTION**

**APDAK 1D:** Over Brakpan (Benoni) airport, 5.5 NM SOUTH-SOUTHEAST, circuit operates at 6000'.

COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼

**APDAK 1B:** Comply with SID, climb to FL90 or maintain last assigned FL whichever is the highest.

**APDAK 1D:** Comply with SID, climb to 8400' or maintain last assigned FL whichever is the highest.

**Both SIDs:** At APDAK continue as per flight plan and climb to flight plan level. Aircraft wishing to return must continue to SID termination point and climb to the last assigned FL or MSA if the last cleared FL is below MSA.

Then proceed to STV and comply with STAR STV 6A (Rwy 03R)/STV 5B (Rwy 21L) communication failure procedure.

 COMMS  
▼  
SWIM 1  
▼  
LOST COMMS  
▼  
SWIM 2  
▼  
MSA

These SIDs require minimum climb gradients of

**APDAK 1B:** 4.1% up to FL90.

**APDAK 1D:** 3.8% up to CTR boundary.

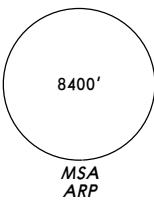
Gnd speed-KT	75	100	150	200	250	300
4.1% V/V(fpm)	311	415	623	830	1038	1246
3.8% V/V(fpm)	289	385	577	770	962	1155

**APDAK 1B:** Climb to **FL90**, further climb under radar control**APDAK 1D:** Climb to **8000'**, further climb under radar control

SID	RWY	ROUTING
<b>APDAK 1B</b>	<b>03L</b>	Climb on runway track to JS029, turn RIGHT to JS030, turn RIGHT to APDAK, then as per flight plan.
<b>APDAK 1D</b>	<b>21R</b>	Climb on runway track to JS006, turn LEFT to JS002, turn RIGHT to APDAK, then as per flight plan.

Apt Elev  
5558'

Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS 3. SIDs are applicable only when Surveillance Radar operational. 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'. Advise Radar of level passing on first contact for mode-C check. 5. Cross CTR boundary at or above 8000'. 6. Simultaneous use of parallel runway 03L/R and 21L/R. 7. General Aviation traffic up to 7500'.



**EGMEN ONE CHARLIE (EGMEN 1C) [EGME1C]**  
**EGMEN ONE DELTA (EGMEN 1D) [EGME1D]**  
**RWYS 03L, 21R DEPARTURES**  
**RNAV (GNSS)**

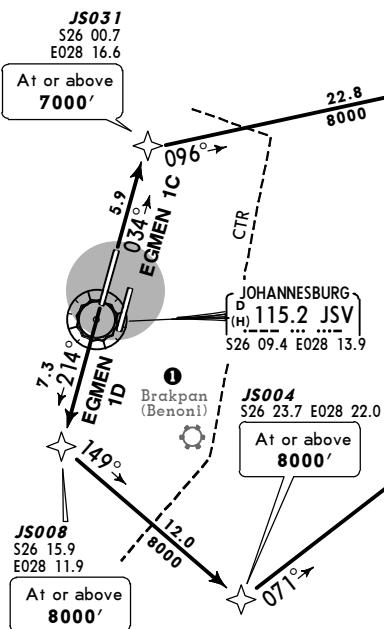
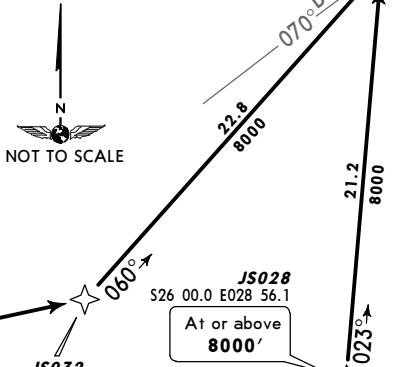
**SPEED: MAX 250 KT AT OR BELOW FL100****EGMEN**  
S25 38.8  
E028 58.1

These SIDs require minimum climb gradients of

**EGMEN 1C:** 4.1% up to CTR boundary.

**EGMEN 1D:** 3.8% up to CTR boundary.

Gnd speed-KT	75	100	150	200	250	300
4.1% V/V(fpm)	311	415	623	830	1038	1246
3.8% V/V(fpm)	289	385	577	770	962	1155



**CAUTION**  
**EGMEN 1D:** Over Brakpan (Benoni) airport, 5.5 NM SOUTH-SOUTHEAST, circuit operates at 6000'.

LOST COMMS ▾ LOST COMMS ▾ LOST COMMS ▾ LOST COMMS ▾  
**EGMEN 1C:** Comply with SID, climb to FL90 or maintain last assigned FL, which ever is the highest.  
**EGMEN 1D:** Comply with SID, climb to 8400' or maintain last assigned FL, which ever is the highest.  
**Both SIDs:** At EGMEN continue as per flight plan and climb to flight plan level. Aircraft wishing to return must continue to SID termination point and climb to the last assigned FL or MSA if last cleared FL is below MSA.  
 Then proceed to OKPIT and comply with STAR OKPIT 4A (Rwy 03R)/OKPIT 4B (Rwy 21L) communication failure procedure.

Climb to **FL90**, further climb under radar control

SID	RWY	ROUTING
<b>EGMEN 1C</b>	<b>03L</b>	Climb on runway track to JS031, turn RIGHT to JS032, turn LEFT to EGMEN, then as per flight plan.
<b>EGMEN 1D</b>	<b>21R</b>	Climb on runway track to JS008, turn LEFT to JS004, turn LEFT to JS028, turn LEFT to EGMEN, then as per flight plan.

Apt Elev  
5558'

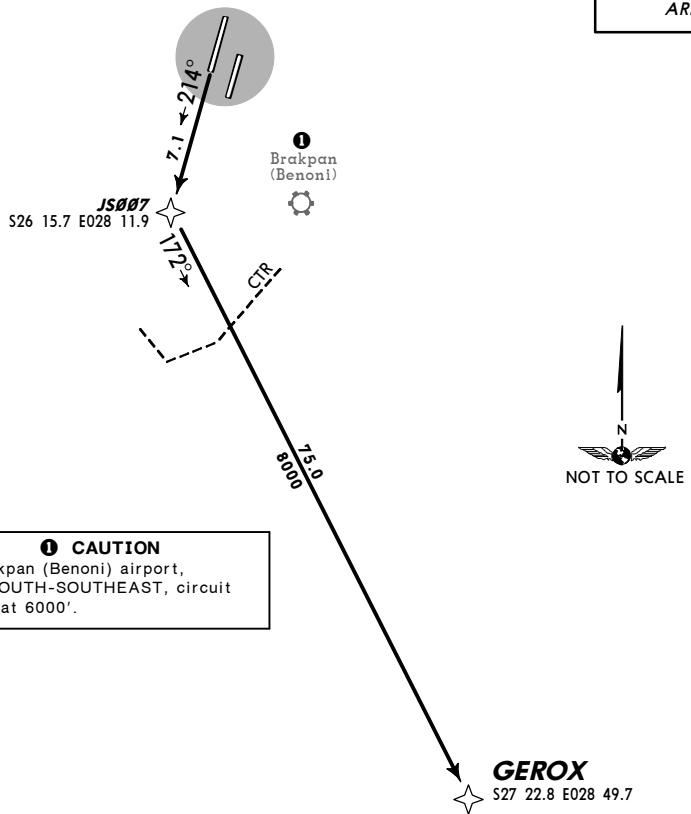
Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS. 3. SIDs are applicable only when Surveillance Radar operational. 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'. Advise Radar of level passing on first contact for mode-C check. 5. Cross CTR boundary at or above 8000'. 6. Simultaneous use of parallel runway 03L/R and 21L/R. 7. General Aviation traffic up to 7500'.

## GEROX ONE CHARLIE (GEROX 1C) [GERO1C] RWY 21R RNAV DEPARTURE

RNAV (GNSS)

**SPEED: MAX 250 KT AT OR BELOW FL100**

8400'

MSA  
ARP

This SID requires a minimum climb gradient of 4.2% up to CTR boundary.

Gnd speed-KT	75	100	150	200	250	300
4.2% V/V(fpm)	319	425	638	851	1063	1276

Climb to **8000'**, further climb under radar control**ROUTING**

Climb on runway track to JS007, turn LEFT to GEROX, then as per flight plan.

LOST COMMS ▾ LOST COMMS ▾ LOST COMMS ▾ LOST COMMS ▾

► Comply with SID, climb to 8400' or maintain last assigned FL, whichever is the highest. At GEROX continue as per flight plan and climb to flight plan level. Aircraft wishing to return must continue to SID termination point and climb to the last assigned FL or

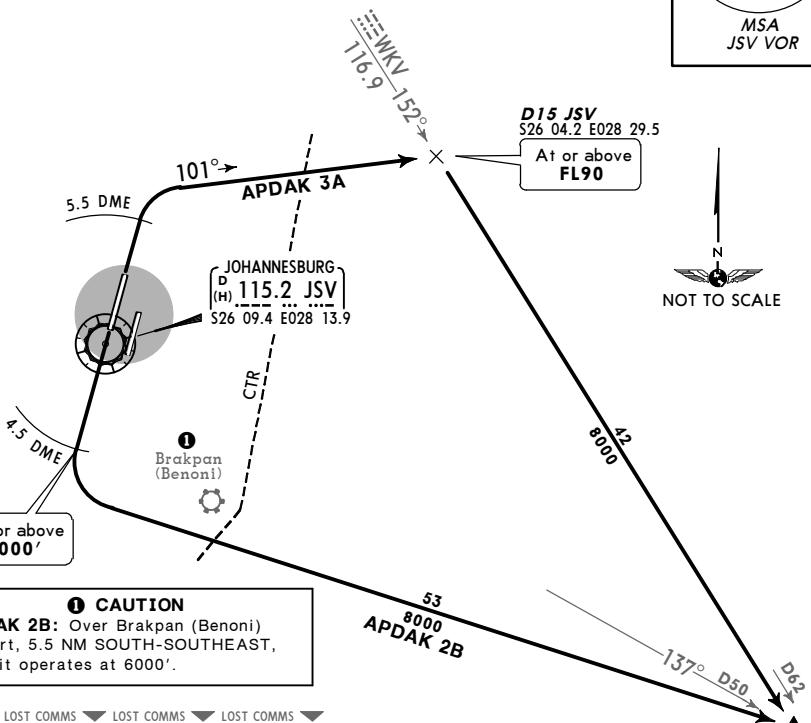
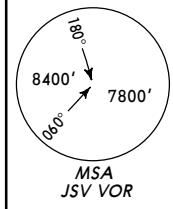
► MSA if last cleared FL is below MSA. Then proceed to STV and enter holding, descend to FL240, if below FL240, hold at last assigned FL for minimum 5 minutes, comply with STAR STV 5B communication failure procedure.

▲ DOWN TO S ▾ DOWN TO S ▾ DOWN TO S ▾ DOWN TO S ▾

Apt Elev  
5558'

Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS. 3. SIDs are applicable only when Surveillance Radar operational. 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'. Advise Radar of level passing on first contact for mode-C check. 5. Cross CTR boundary at or above 8000'. 6. Simultaneous use of parallel runway 03L/R and 21L/R. 7. General Aviation traffic up to 7500'.

**APDAK THREE ALFA (APDAK 3A) [APDA3A]**  
**APDAK TWO BRAVO (APDAK 2B) [APDA2B]**  
**RWYS 03L, 21R DEPARTURES**  
**SPEED: MAX 250 KT AT OR BELOW FL100**



COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼

**APDAK 3A:** Comply with SID, climb to FL90 or maintain last assigned FL whichever is the highest.

**APDAK 2B:** Comply with SID, climb to 8300' or maintain last assigned FL whichever is the highest.

**Both SIDs:** At APDAK continue as per flight plan and climb to flight plan level. Aircraft wishing to return must continue to SID termination point and climb to the last assigned FL or MSA if last cleared FL is below MSA.

Then proceed to STV and comply with appropriate STAR communication failure procedure.

COMMS ▲ LOST COMMS ▲ LOST COMMS ▲  
 SWNWS COMMS ▲ LOST COMMS ▲  
 SWNWS COMMS ▲ LOST COMMS ▲  
 SWNWS COMMS ▲ LOST COMMS ▲

These SIDs require minimum climb gradients of

**APDAK 3A:** 4.5% up to CTR boundary.

**APDAK 2B:** 4.2% up to CTR boundary.

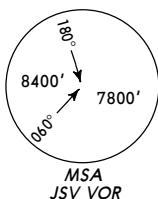
Gnd speed-KT	75	100	150	200	250	300
4.5% V/V(fpm)	342	456	684	911	1139	1367
4.2% V/V(fpm)	319	425	638	851	1063	1276

**APDAK 3A:** Climb to **FL90**, further climb under radar control  
**APDAK 2B:** Climb to **8000'**, further climb under radar control

SID	RWY	ROUTING
APDAK 3A	03L	Climb on runway track to JSV 5.5 DME, turn RIGHT, 101° track, intercept WKV R-152 to APDAK.
APDAK 2B	21R	Climb on runway track to JSV 4.5 DME, turn LEFT to APDAK, then as per flight plan.

Apt Elev  
5558'

Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS 3. SIDs are applicable only when Surveillance Radar operational. 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'. Advise Radar of level passing on first contact for mode-C check. 5. Cross CTR boundary at or above 8000'. 6. Simultaneous use of parallel runway 03L/R and 21L/R. 7. General Aviation traffic up to 7500'.



## EGMEN TWO ALFA (EGMEN 2A) [EGME2A] EGMEN TWO BRAVO (EGMEN 2B) [EGME2B]

### RWYS 03L, 21R DEPARTURES

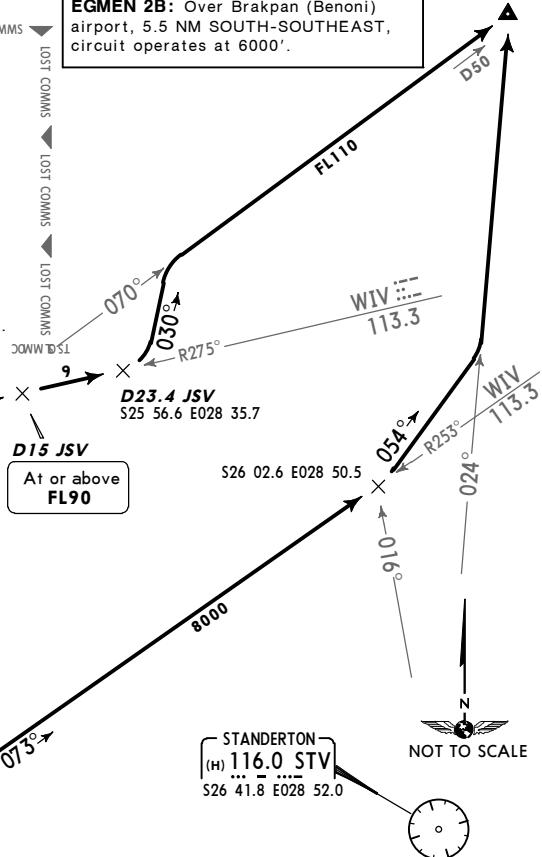
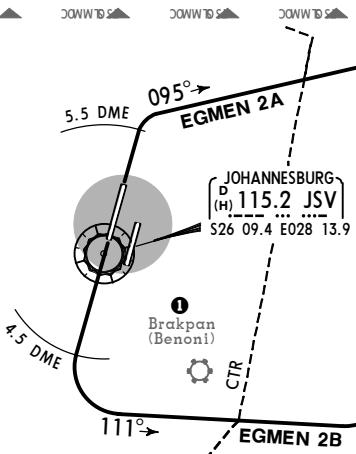
**SPEED: MAX 250 KT AT OR BELOW FL100**

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼

**EGMEN 2A:** Comply with SID, climb to FL90 or maintain last assigned FL, whichever is the highest.**EGMEN 2B:** Comply with SID, climb to 8300' or maintain last assigned FL, whichever is the highest.**Both SIDs:** At EGMEN continue as per flight plan and climb to flight plan level. Aircraft wishing to return must continue to SID termination point and climb to the last assigned FL or MSA if last cleared FL is below MSA.

Then proceed to OKPIT and comply with STAR OKPIT 4A (Rwy 03R)/OKPIT 4B (Rwy 21L) communication failure procedure.

**CAUTION**  
**EGMEN 2B:** Over Brakpan (Benoni) airport, 5.5 NM SOUTH-SOUTHEAST, circuit operates at 6000'.

**EGMEN**S25 38.8  
E028 58.1

These SIDs require minimum climb gradients of  
**EGMEN 2A:** 4.5% up to CTR boundary.  
**EGMEN 2B:** 4.3% up to CTR boundary.

Gnd speed-KT	75	100	150	200	250	300
4.5% V/V(fpm)	342	456	684	911	1139	1367
4.3% V/V(fpm)	327	435	653	871	1089	1306

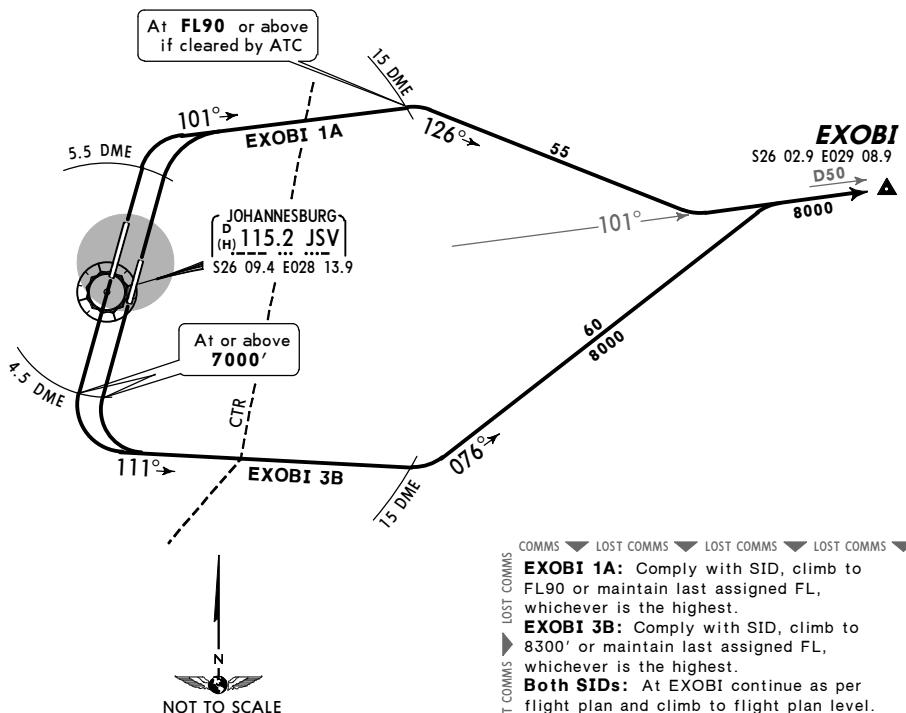
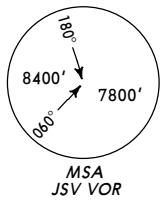
**EGMEN 2A:** Climb to **FL90**, further climb under radar control  
**EGMEN 2B:** Climb to **8000'**, further climb under radar control

SID	RWY	ROUTING
<b>EGMEN 2A</b>	<b>03L</b>	Climb on runway track to JSV 5.5 DME, turn RIGHT, intercept WIV R-275 inbound to D23.4 JSV, turn LEFT, 030° track, intercept JSV R-070 to EGMEN.
<b>EGMEN 2B</b>	<b>21R</b>	Climb on runway track to JSV 4.5 DME, turn LEFT, 111° track, intercept WIV R-253 inbound, when passing STV R-016 turn LEFT, 054° track, intercept STV R-024 to EGMEN.

Apt Elev  
5558'

Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS 3. SIDs are applicable only when Surveillance Radar operational. 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'. Advise Radar of level passing on first contact for mode-C check. 5. Cross CTR boundary at or above 8000'. 6. Simultaneous use of parallel runway 03L/R and 21L/R. 7. General Aviation traffic up to 7500'.

**EXOBI ONE ALFA (EXOBI 1A) [EXOB1A]  
EXOBI THREE BRAVO (EXOBI 3B) [EXOB3B]  
RWYS 03L/R, 21L/R DEPARTURES  
**SPEED: MAX 250 KT AT OR BELOW FL100****



These SIDs require a minimum climb gradient of 4.2% up to CTR boundary.

Gnd speed-KT	75	100	150	200	250	300
4.2% V/V(fpm)	319	425	638	851	1063	1276

**EXOBI 1A:** Climb to **FL90**, further climb under radar control  
**EXOBI 3B:** Climb to **8000'**, further climb under radar control

SID	RWY	ROUTING
<b>EXOBI 1A</b>	<b>03L/R</b>	Climb on runway track to JSV 5.5 DME, turn RIGHT, 101° track to JSV 15 DME, turn RIGHT, 126° track, intercept JSV R-101 to EXOBI, then as per flight plan.
<b>EXOBI 3B</b>	<b>21L/R</b>	Climb on runway track to JSV 4.5 DME, turn LEFT, 111° track to JSV 15 DME, turn LEFT, 076° track, intercept JSV R-101 to EXOBI, then as per flight plan.

Apt Elev  
5558'

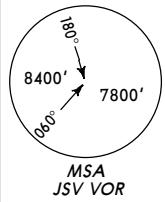
Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS 3. SIDs are applicable only when Surveillance Radar operational. 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'. Advise Radar of level passing on first contact for mode-C check. 5. Cross CTR boundary at or above 8000'. 6. Simultaneous use of parallel runway 03L/R and 21L/R. 7. General Aviation traffic up to 7500'.

**GRASMERE FIVE BRAVO (GRASMERE 5B) [GAV5B]  
GRASMERE SIX CHARLIE (GRASMERE 6C) [GAV6C]**

**RWYS 03L/R, 21R DEPARTURES**

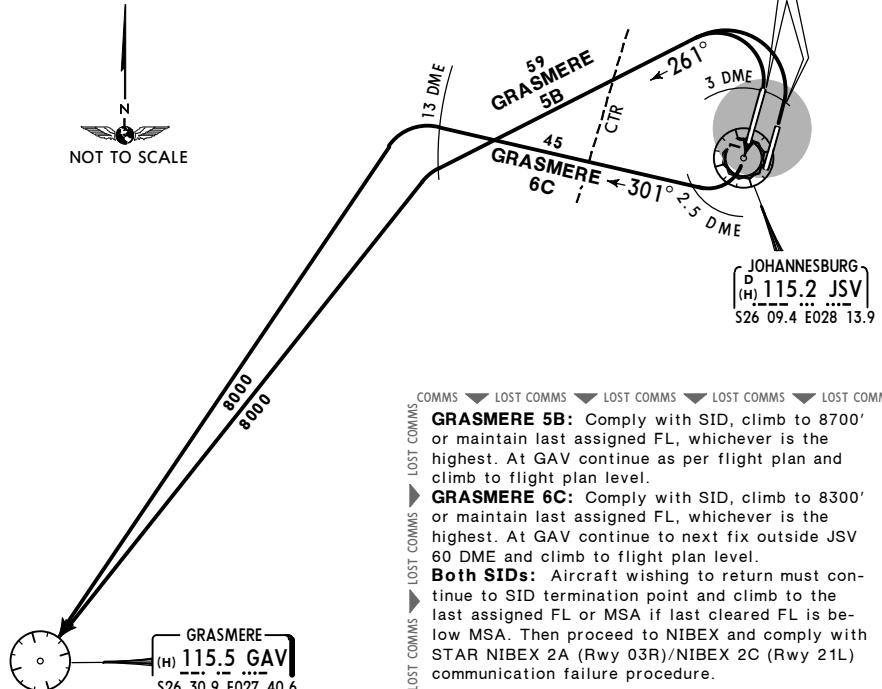
TURBO-PROP AIRCRAFT ONLY

**SPEEDS MAX 250 KT AT OR BELOW FL100**



**CAUTION**  
**GRASMERE 6C:** Aircraft must remain well clear of obstacle west of airport.

At JSV 3 DME or 6100' whichever is later



COMMS LOST COMMS LOST COMMS LOST COMMS LOST COMMS LOST COMMS

**GRASMERE 5B:** Comply with SID, climb to 8700' or maintain last assigned FL, whichever is the highest. At GAV continue as per flight plan and climb to flight plan level.

► **GRASMERE 6C:** Comply with SID, climb to 8300' or maintain last assigned FL, whichever is the highest. At GAV continue to next fix outside JSV 60 DME and climb to flight plan level.

► **Both SIDs:** Aircraft wishing to return must continue to SID termination point and climb to the last assigned FL or MSA if last cleared FL is below MSA. Then proceed to NIBEX 2A (Rwy 03R)/NIBEX 2C (Rwy 21L) communication failure procedure.

These SIDs require minimum climb gradients of

**GRASMERE 5B:** 5% up to CTR boundary.

**GRASMERE 6C:** 5.3% up to CTR boundary.

Gnd speed-KT	75	100	150	200	250	300
5.3% V/V(fpm)	403	537	805	1073	1342	1610
5% V/V(fpm)	380	506	760	1013	1266	1519

Climb to 8000', further climb under radar control!

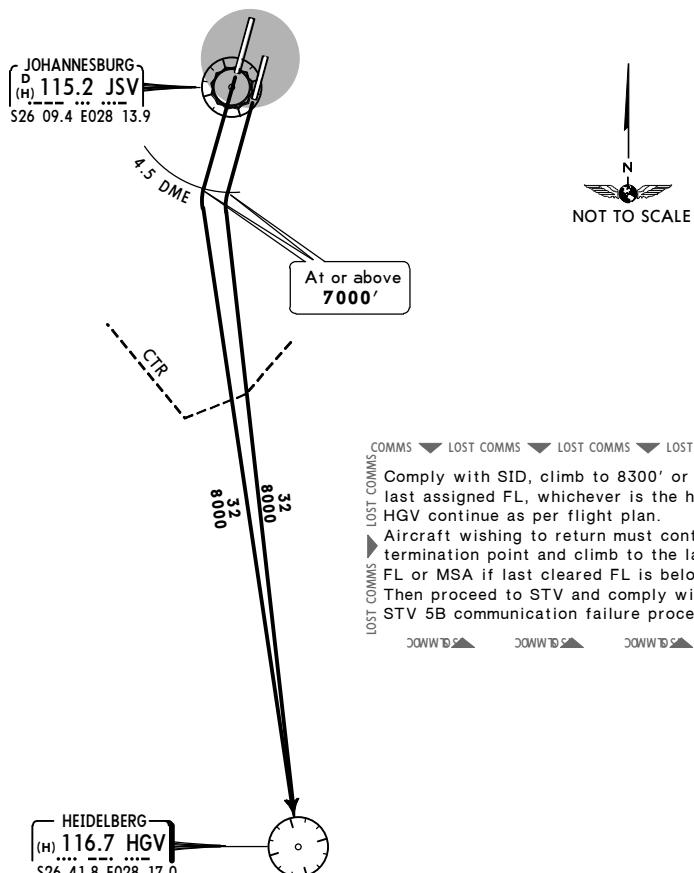
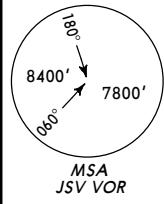
SID	RWY	ROUTING
<b>GRASMERE 5B</b>	<b>03L/R</b>	Climb on runway track to JSV 3 DME or 6100', whichever is later, turn LEFT, 261° track to JSV 13 DME, turn LEFT to GAV, then as per flight plan.
<b>GRASMERE 6C</b>	<b>21R</b>	Climb on runway track to JSV, turn RIGHT (remain within JSV 2.5 DME), 301° track to JSV 13 DME, turn LEFT to GAV, then as per flight plan.

Apt Elev  
5558'

Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS 3. SIDs are applicable only when Surveillance Radar operational. 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'. Advise Radar of level passing on first contact for mode-C check. 5. Cross CTR boundary at or above 8000'. 6. Simultaneous use of parallel runway 03L/R and 21L/R. 7. General Aviation traffic up to 7500'.

## HEIDELBERG FIVE DELTA (HEIDELBERG 5D) [HGV5D]

## RWYS 21L/R DEPARTURE

~~SPEED~~ MAX 250 KT AT OR BELOW FL100

This SID requires a minimum climb gradient of 4.2% up to CTR boundary.

Gnd speed-KT	75	100	150	200	250	300
4.2% V/V(fpm)	319	425	638	851	1063	1276

Climb to 8000', further climb under radar control

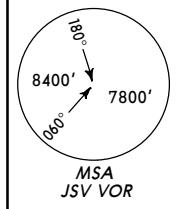
## ROUTING

Climb on runway track to JSV 4.5 DME, turn LEFT to HGV, then as per flight plan.

Apt Elev  
5558'

- Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC.  
 2. SIDs and STARs must be announced in operation on ATIS.  
 3. SIDs are applicable only when Surveillance RADAR operational.  
 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'.  
 Advise RADAR of level passing on first contact for mode-C check.  
 5. Cross CTR boundary at or above 8000'.  
 6. Simultaneous use of parallel runway 03L/R and 21L/R.  
 7. General Aviation traffic up to 7500'.

**LANSERIA ONE CHARLIE (LANSERIA 1C) [LIV1C]**  
**RWY 21R DEPARTURE**  
**TURBO-PROP AIRCRAFT ONLY**  
**SPEED: MAX 250 KT AT OR BELOW FL100**



▲ **VASUR**  
 S25 33.8 E027 53.6

COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS  
 Comply with SID, climb to 8300' or maintain last assigned FL, whichever is the highest. At VASUR continue as per flight plan and climb to flight plan level.  
 ▶ Aircraft wishing to return must continue to SID termination point and climb to the last assigned FL or MSA if last cleared FL is below MSA. Then proceed to AVAGO and comply with STAR AVAGO 2B communication failure procedure.

015°  


N  
 NOT TO SCALE

13 DME

IR

2.5 DME

JOHANNESBURG  
 (H) 115.2 JSV  
 S26 09.4 E028 13.9

This SID requires a minimum climb gradient of 5.3% up to CTR boundary.

Gnd speed-KT	75	100	150	200	250	300
5.3% V/V(fpm)	403	537	805	1073	1342	1610

Climb to **8000'**, further climb under RADAR control

**ROUTING**

Climb on runway track to JSV, turn RIGHT (remain within JSV 2.5 DME), 301° track to JSV 13 DME, turn RIGHT to LIV, LIV R-015 to VASUR, then as per flight plan.

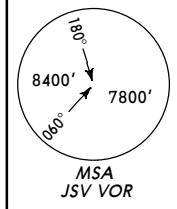
Apt Elev  
5558'

- Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC.  
 2. SIDs and STARs must be announced in operation on ATIS.  
 3. SIDs are applicable only when Surveillance RADAR operational.  
 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'.  
 Advise RADAR of level passing on first contact for mode-C check.  
 5. Cross CTR boundary at or above 8000'.  
 6. Simultaneous use of parallel runway 03L/R and 21L/R.  
 7. General Aviation traffic up to 7500'.

**NESAN ONE ALFA (NESAN 1A) [NESAN 1A]****RWYS 03L/R DEPARTURE**

RNAV REQUIRED

USABLE BETWEEN 0600-2200LT

**SPEED: MAX 250 KT AT OR BELOW FL 100****NESAN**

S25 29.8 E028 07.1

D40 010°

COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS  
 Comply with SID, climb to 8300' or maintain last assigned FL, whichever is the highest. At NESAN continue as per flight plan and climb to flight plan level.  
 ▶ Aircraft wishing to return must continue to SID termination point and climb to the last assigned FL or MSA if last cleared FL is below MSA. Then proceed to OKPIT and comply with STAR OKPIT 4A communication failure procedure.

DOWN TO SAW DOWN TO SAW DOWN TO SAW DOWN TO SAW DOWN TO SAW

DOWN TO SAW



JOHANNESBURG  
(H) 115.2 JSV  
S26 09.4 E028 13.9

This SID requires a minimum climb gradient of 4.2% up to CTR boundary.

Gnd speed-KT	75	100	150	200	250	300
4.2% V/V(fpm)	319	425	638	851	1063	1276

Climb to 8000', further climb under RADAR control

**ROUTING**

Climb on runway track to JSV 8 DME, turn LEFT to NESAN, then as per flight plan.

Apt Elev  
5558'

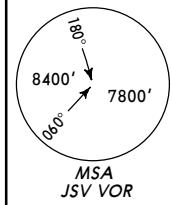
- Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS 3. SIDs are applicable only when Surveillance Radar operational. 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'. Advise Radar of level passing on first contact for mode-C check. 5. Cross CTR boundary at or above 8000'. 6. Simultaneous use of parallel runway 03L/R and 21L/R. 7. General Aviation traffic up to 7500'.

## NORVA TWO ALFA (NORVA 2A) [NORV2A]

## RWYS 03L/R DEPARTURE

TURBO-PROP AIRCRAFT ONLY

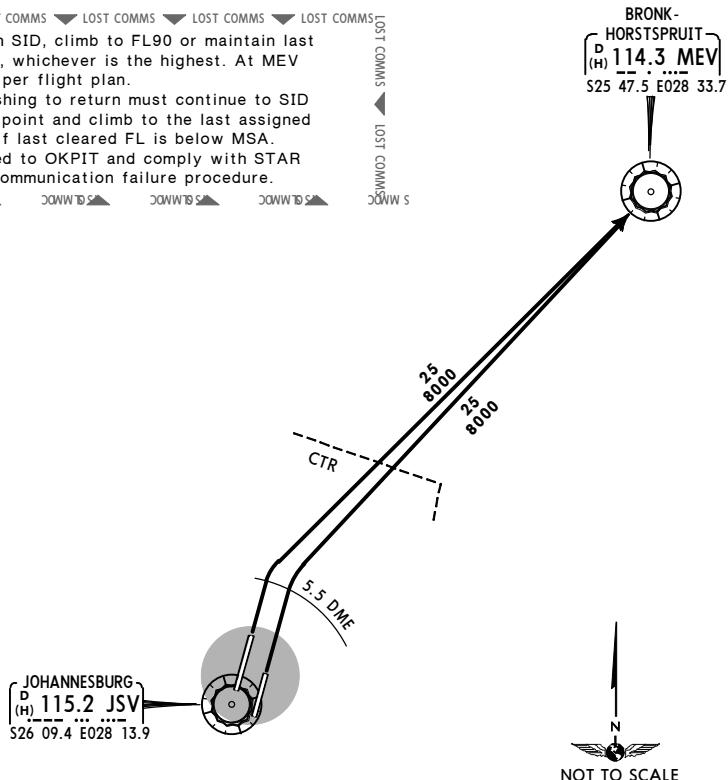
AT OR BELOW FL130

**SPEED: MAX 250 KT AT OR BELOW FL100**

COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS  
 Comply with SID, climb to FL90 or maintain last assigned FL, whichever is the highest. At MEV continue as per flight plan.  
 Aircraft wishing to return must continue to SID termination point and climb to the last assigned FL or MSA if last cleared FL is below MSA.  
 Then proceed to OKPIT and comply with STAR OKPIT 4A communication failure procedure.

DOWN TO S □ DOWN TO S □ DOWN TO S □ DOWN TO S

S □ LOST COMM S □ DOWN TO S



This SID requires a minimum climb gradient of

4.2% up to FL90.

Gnd speed-KT	75	100	150	200	250	300
4.2% V/V(fpm)	319	425	638	851	1063	1276

Climb to FL90, further climb under radar control

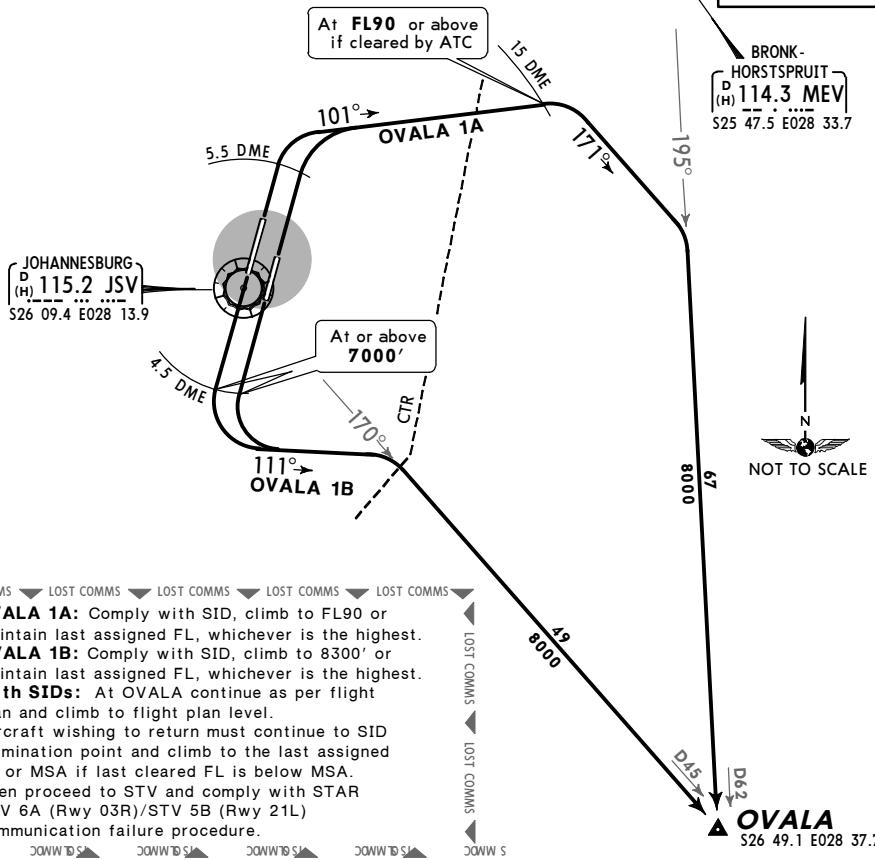
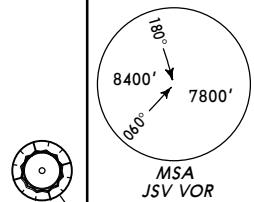
## ROUTING

Climb on runway track to JSV 5.5 DME, turn RIGHT to MEV, then as per flight plan.

Apt Elev  
5558'

Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS 3. SIDs are applicable only when Surveillance Radar operational. 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'. Advise Radar of level passing on first contact for mode-C check. 5. Cross CTR boundary at or above 8000'. 6. Simultaneous use of parallel runway 03L/R and 21L/R. 7. General Aviation traffic up to 7500'.

**OVALA ONE ALFA (OVALA 1A) [OVALA 1A]  
OVALA ONE BRAVO (OVALA 1B) [OVALA 1B]**  
**RWYS 03L/R, 21L/R DEPARTURES**  
**SPEED: MAX 250 KT AT OR BELOW FL100**



These SIDs require minimum climb gradients of  
**OVALA 1A:** 4.1% up to FL90.  
**OVALA 1B:** 4.2% up to CTR boundary.

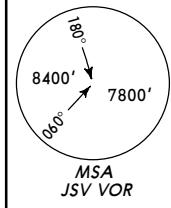
**OVALA 1A:** Climb to **FL90**, further climb under radar control  
**OVALA 1B:** Climb to **8000'**, further climb under radar control

SID	RWY	ROUTING
OVALA 1A	03L/R	Climb on runway track to JSV 5.5 DME, turn RIGHT, 101° track to JSV 15 DME, turn RIGHT, 171° track, intercept MEV R-195 to OVALA, then as per flight plan.
OVALA 1B	21L/R	Climb on runway track to JSV 4.5 DME, turn LEFT, 111° track, intercept JSV R-170 to OVALA, then as per flight plan.

Apt Elev  
5558'

Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS 3. SIDs are applicable only when Surveillance Radar operational. 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'. Advise Radar of level passing on first contact for mode-C check. 5. Cross CTR boundary at or above 8000'. 6. Simultaneous use of parallel runway 03L/R and 21L/R. 7. General Aviation traffic up to 7500'.

**RAGUL THREE ALFA (RAGUL 3A) [RAGU3A]**  
**RAGUL THREE BRAVO (RAGUL 3B) [RAGU3B]**  
**RWYS 03L/R, 21L/R DEPARTURES**  
**SPEED: MAX 250 KT AT OR BELOW FL100**



LOST COMMS ▾ LOST

**RAGUL 3A:** Comply with SID, climb to 8700' or maintain last assigned FL whichever is the highest.**RAGUL 3B:** Comply with SID, climb to FL100 or maintain last assigned FL, whichever is the highest. Cross JSV 12 DME at FL90 or above if cleared above FL90 by ATC, cross JSV 18 DME at FL100 or above if cleared above FL100 by ATC.**Both SIDs:** At RAGUL continue as per flight plan. Aircraft wishing to return must continue to SID termination point and climb to the last assigned FL or MSA if last cleared FL is below MSA.

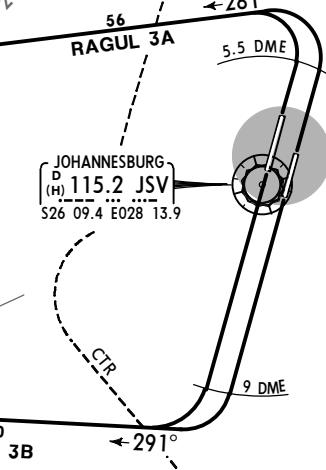
Then proceed to NIBEX and comply with STAR NIBEX 2A (Rwy 03R)/NIBEX 2C (Rwy 21L) communication failure procedure.



NOT TO SCALE

8000

**RAGUL**  
S26 26.9 E027 34.7



These SIDs require a minimum climb gradient of 4.4% up to CTR boundary.

Gnd speed-KT	75	100	150	200	250	300
4.4% V/V(fpm)	334	446	668	891	1114	1337

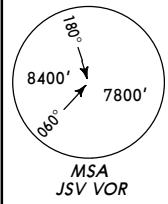
Climb to 8000', further climb under radar control

SID	RWY	ROUTING
RAGUL 3A	03L/R	Climb on runway track to JSV 5.5 DME, turn LEFT, 281° track, intercept WKV R-241 to RAGUL, then as per flight plan.
RAGUL 3B	21L/R	Climb on runway track to JSV 9 DME, turn RIGHT, 291° track, intercept JSV R-262 to RAGUL, then as per flight plan.

Apt Elev  
5558'

Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID or STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS 3. SIDs are applicable only when Surveillance Radar operational. 4. Contact JOHANNESBURG Radar on frequency provided in ATC clearance at 6500'. Advise Radar of level passing on first contact for mode-C check. 5. Cross CTR boundary at or above 8000'. 6. Simultaneous use of parallel runway 03L/R and 21L/R. 7. General Aviation traffic up to 7500'.

**VASUR THREE ALFA (VASUR 3A) [VASU3A]**  
**VASUR THREE BRAVO (VASUR 3B) [VASU3B]**  
**RWYS 03L/R, 21L/R DEPARTURES**  
**SPEED: MAX 250 KT AT OR BELOW FL100**



LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼

Comply with SID, climb to 8700' or maintain last assigned FL, whichever is the highest. At VASUR continue as per flight plan and climb to flight plan level.

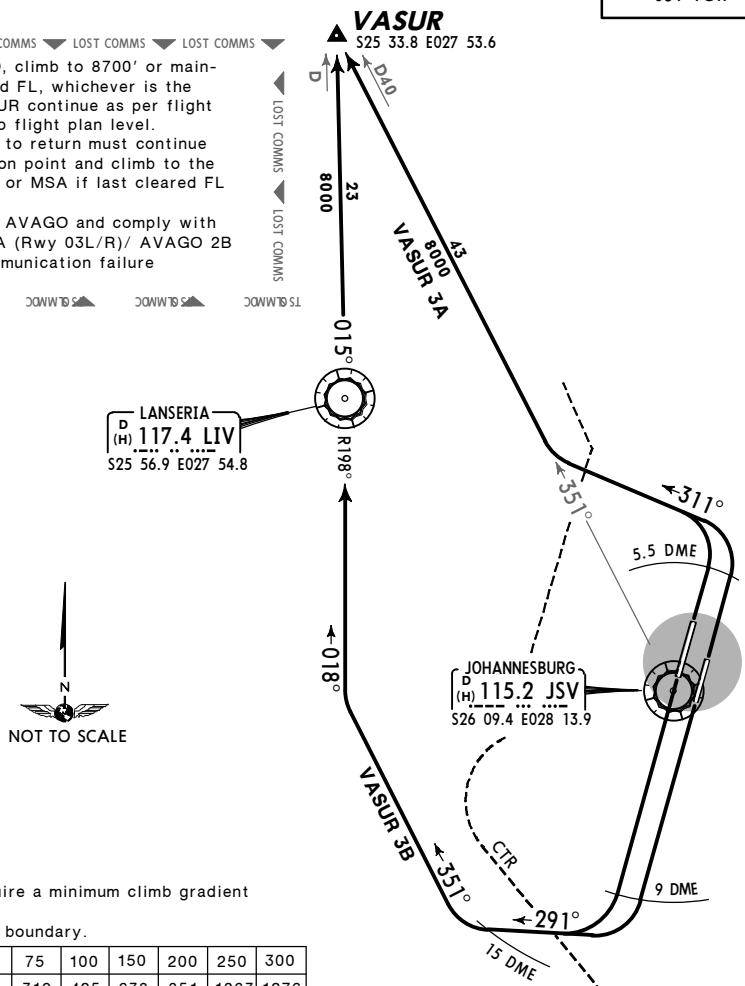
Aircraft wishing to return must continue to SID termination point and climb to the last assigned FL or MSA if last cleared FL is below MSA.

Then proceed to AVAGO and comply with STAR AVAGO 2A (Rwy 03L/R)/ AVAGO 2B (Rwy 21L/R) communication failure procedure.

TS GLMMDC TS GLMMDC TS GLMMDC TS GLMMDC

**VASUR**

S25 33.8 E027 53.6



These SIDs require a minimum climb gradient of 4.2% up to CTR boundary.

Gnd speed-KT	75	100	150	200	250	300
4.2% V/V(fpm)	319	425	638	851	1063	1276

Climb to 8000', further climb under radar control

SID	RWY	ROUTING
VASUR 3A	03L/R	Climb on runway track to JSV 5.5 DME, turn LEFT, 311° track, intercept JSV R-351 to VASUR, then as per flight plan.
VASUR 3B	21L/R	Climb on runway track to JSV 9 DME, turn RIGHT, 291° track to JSV 15 DME, turn RIGHT, 351° track, intercept LIV R-198 inbound to LIV, LIV R-015 to VASUR, then as per flight plan.

FAOR/JNB

Apt Elev 5558'

S26 08.0 E028 14.5

16 MAY 14

10-9

Eff 29 May

O R TAMBO INTL

\*O R TAMBO Clearance Delivery  
(Outside ops hours use GND freq)

121.7 121.9

O R TAMBO Ground  
(also TWR outside Tower hr)

121.9

D-ATIS

126.2

O R TAMBO Apron

122.65

\*Tower

118.6

28-13  
26-06

28-14

28-15

28-16

26-06

For AIRPORT BRIEFING  
refer to 10-1P pagesFOR DETAILS  
SEE 10-9BFOR DETAILS  
SEE 10-9C

AAC HELISTOP

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16 MAY 14

10-9A

Eff 29 May

O R TAMBO INTL

## ADDITIONAL RUNWAY INFORMATION

RWY			USABLE LENGTHS		TAKE-OFF	WIDTH
			Threshold	Glide Slope		
03L	HIRL (60m)	CL ① (30m) HIALS-II TDZ ② HST-RH RVR	13,280' 4048m			197' 60m
21R	HIRL (60m)	CL ① (30m) HIALS-II TDZ ② RVR	13,018' 3968m	12,047' 3672m		

① Operational in CAT II conditions only.

② PAPI (3.0°).

③ Operational in CAT II conditions only.

④ PAPI (3.0°).

⑤ HST-RE &amp; RS

## HOT SPOTS

(For information only, not to be construed as ATC instructions.)

Pilots are to exercise extreme caution when entering following areas.

Intermediate take-off point.

**HS1** All ACFT taxiing West of RWY 03L/21R are on GND frequency and all ACFT vacating RWY 03L/21R or crossing that RWY from East are on TWR frequency.

**HS2** ACFT vacating RET RH conflict with ACFT taxiing on TWY A southbound and ACFT on TWY H crossing RWY 03L/21R.

**HS3** TWY A North of TWY G11 to THR 21R due to limited visibility from Control Tower.  
ATC clearance issued based on known traffic.

**HS4** Portion of the manoeuvring area is not directly visibility from Control Tower.  
ATC clearance issued based on known traffic.

**HS5** ACFT vacating RET RE conflict with ACFT taxiing on TWY Y southbound.

## JAR-OPS

## TAKE-OFF 1

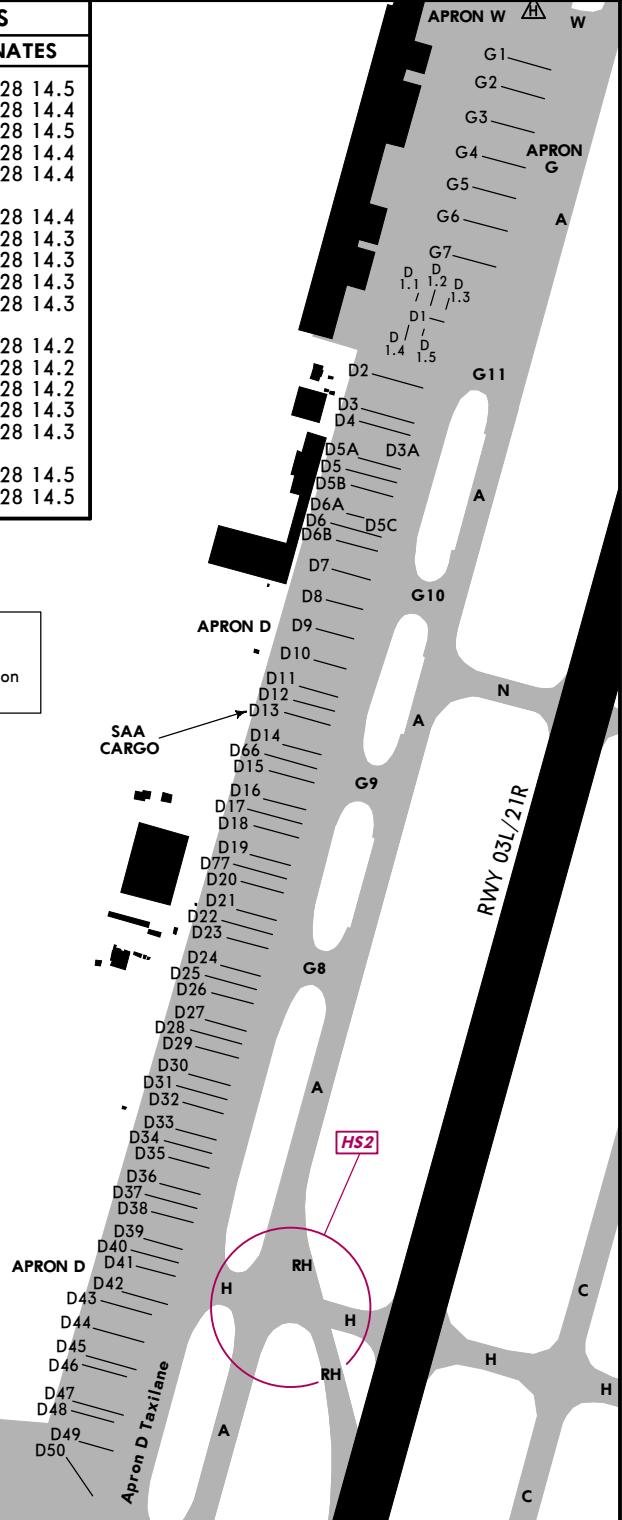
LVP must be in Force		All Rwy's		
RL, CL & multi. RVR req	RL, CL	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A	150m	200m	250m	400m
B				500m
C				
D	200m	250m	300m	

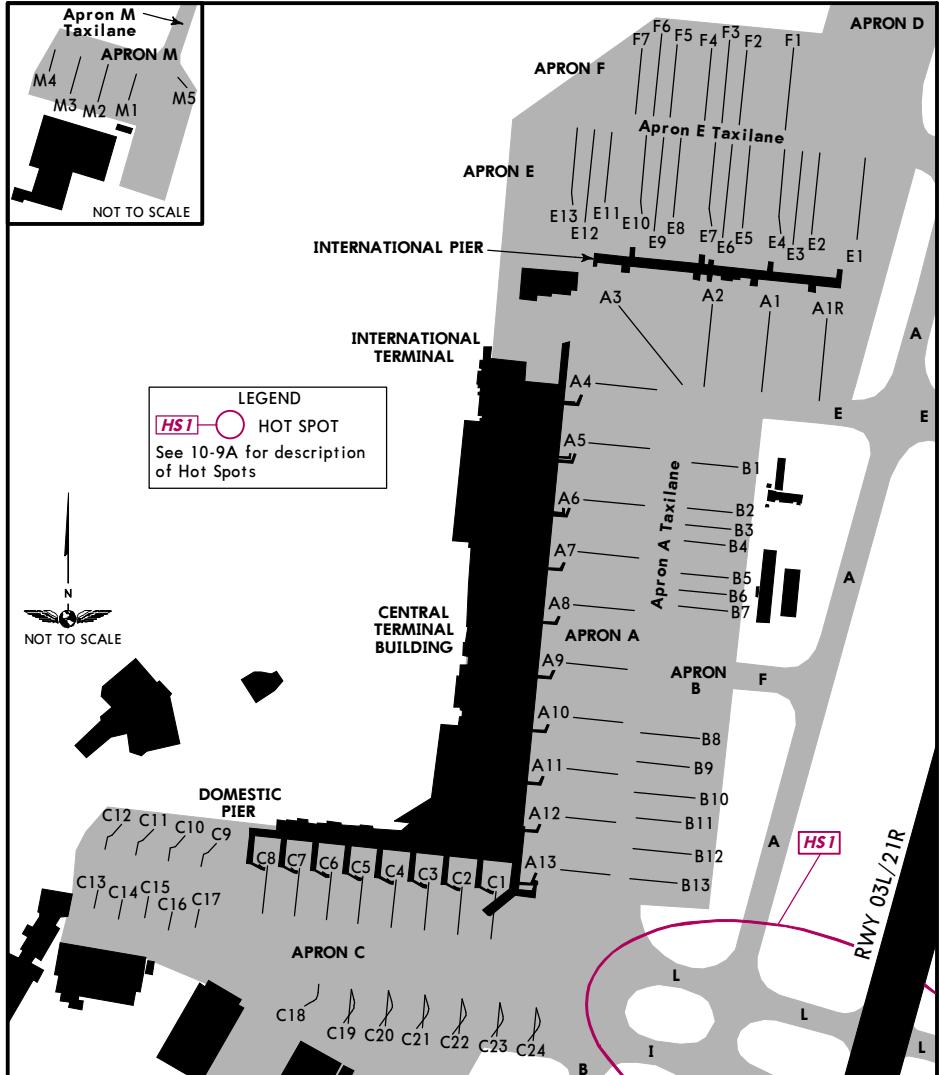
① Operators applying U.S. Ops Specs: CL required below 300m.

## INS COORDINATES

STAND No.	COORDINATES
D1.1 thru D1.3	S26 06.8 E028 14.5
D1.4	S26 06.9 E028 14.4
D1.5	S26 06.9 E028 14.5
D2 thru D4	S26 06.9 E028 14.4
D5 thru D8	S26 07.0 E028 14.4
D9 thru D10	S26 07.1 E028 14.4
D11 thru D14	S26 07.1 E028 14.3
D15 thru D20	S26 07.2 E028 14.3
D21 thru D28	S26 07.3 E028 14.3
D29 thru D35	S26 07.4 E028 14.3
D36	S26 07.4 E028 14.2
D37 thru D44	S26 07.5 E028 14.2
D45 thru D50	S26 07.6 E028 14.2
D66	S26 07.1 E028 14.3
D77	S26 07.2 E028 14.3
G1 thru G4	S26 06.7 E028 14.5
G5 thru G7	S26 06.8 E028 14.5

LEGEND  
 HOT SPOT  
 See 10-9A for description of Hot Spots



**INS COORDINATES**

STAND No.	COORDINATES	STAND No.	COORDINATES
A1, A1R	S26 07.8 E028 14.1	C18 thru C20	S26 08.3 E028 13.8
A2, A3	S26 07.8 E028 14.0	C21 thru C24	S26 08.3 E028 13.9
A4 thru A6	S26 07.9 E028 14.0	E1	S26 07.8 E028 14.2
A7, A8	S26 08.0 E028 14.0	E2	S26 07.7 E028 14.2
A9 thru A11	S26 08.1 E028 14.0	E3, E4	S26 07.8 E028 14.1
A12, A13	S26 08.2 E028 14.0	E5	S26 07.7 E028 14.1
B1 thru B3	S26 07.9 E028 14.1	E6, E7	S26 07.8 E028 14.1
B4, B5	S26 08.0 E028 14.1	E8	S26 07.7 E028 14.1
B6 thru B10	S26 08.1 E028 14.1	E9, E10	S26 07.8 E028 14.0
B11 thru B13	S26 08.2 E028 14.1	E11 thru E13	S26 07.7 E028 14.0
C1, C2	S26 08.2 E028 13.9	F1 thru F5	S26 07.6 E028 14.1
C3 thru C5	S26 08.2 E028 13.8	F6, F7	S26 07.6 E028 14.0
C6 thru C10	S26 08.2 E028 13.7	M1 thru M5	NOT AVAILABLE
C11 thru C14	S26 08.2 E028 13.6		
C15 thru C17	S26 08.2 E028 13.7		

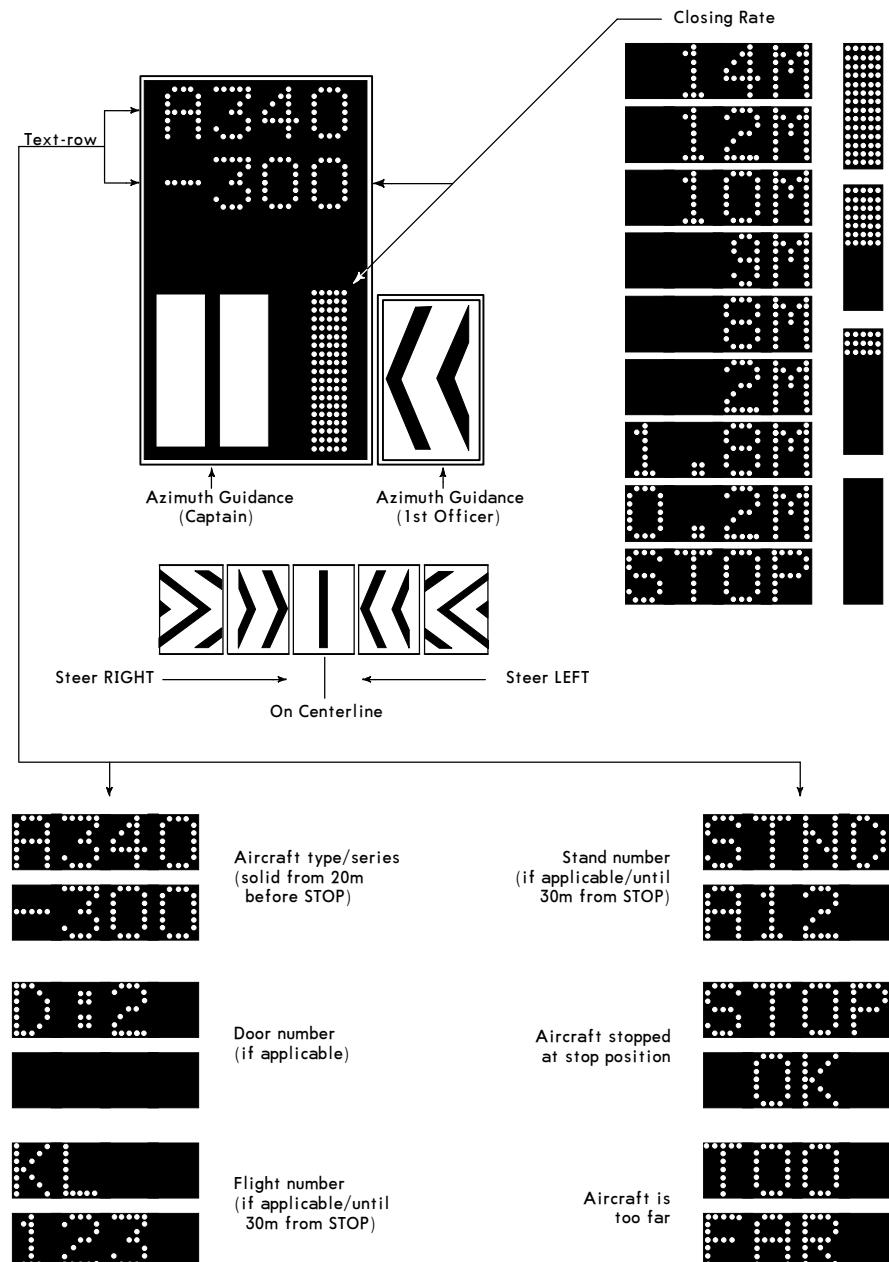
**VISUAL DOCKING GUIDANCE SYSTEM "APIS++"**

(Aircraft Parking and Information System)

Azimuth and stopping guidance are provided from a display unit mounted at the extension of the stand centerline.

- Intercept the centerline and follow the azimuth guidance display.
- Check correct aircraft type/series on the APIS++ display unit.

**Abort docking if display shows STOP or wrong aircraft type/series, or if the azimuth guidance display is not activated.**



FAOR/JNB

JEPPESEN

17 JAN 14

10-9S

JOHANNESBURG, S AFR REP  
O R TAMBO INTL

Standard

STRAIGHT-IN RWY		A	B	C	D
03L	CAT 2 ILS Z	<b>5658'</b> (100') <b>RA86'</b> R300m	<b>5658'</b> (100') <b>RA86'</b> R300m	<b>5658'</b> (100') <b>RA86'</b> R300m	<b>5658'</b> (100') <b>RA86'</b> R300m
	CAT 2 ILS Y ①	<b>5658'</b> (100') <b>RA86'</b> R300m	<b>5658'</b> (100') <b>RA86'</b> R300m	<b>5658'</b> (100') <b>RA86'</b> R300m	<b>5662'</b> (104') <b>RA90'</b> R300m
	ILS Z <i>FULL</i>	<b>5758'</b> (200') <b>R550m</b>	<b>5758'</b> (200') <b>R550m</b>	<b>5758'</b> (200') <b>R550m</b>	<b>5758'</b> (200') <b>R550m</b>
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	ILS Y ② <i>FULL</i>	<b>5758'</b> (200') <b>R550m</b>	<b>5758'</b> (200') <b>R550m</b>	<b>5758'</b> (200') <b>R550m</b>	<b>5758'</b> (200') <b>R550m</b>
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	ILS Y ③ <i>FULL</i>	<b>6273'</b> (715') <b>R1500m</b>	<b>6284'</b> (726') <b>R1500m</b>	<b>6296'</b> (738') <b>C2400m</b>	<b>6317'</b> (759') <b>C2400m</b>
03R	CAT 2 ILS Z	<b>5610'</b> (100') <b>RA95'</b> R300m	<b>5610'</b> (100') <b>RA95'</b> R300m	<b>5610'</b> (100') <b>RA95'</b> R300m	<b>5610'</b> (100') <b>RA95'</b> R300m
	CAT 2 ILS X, W ④	<b>5610'</b> (100') <b>RA95'</b> R300m	<b>5610'</b> (100') <b>RA95'</b> R300m	<b>5610'</b> (100') <b>RA95'</b> R300m	<b>5619'</b> (109') <b>RA102'</b> R300m
	ILS Z <i>FULL</i>	<b>5710'</b> (200') <b>R550m</b>	<b>5710'</b> (200') <b>R550m</b>	<b>5710'</b> (200') <b>R550m</b>	<b>5710'</b> (200') <b>R550m</b>
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	ILS X, W ⑤ <i>FULL</i>	<b>5710'</b> (200') <b>R550m</b>	<b>5710'</b> (200') <b>R550m</b>	<b>5710'</b> (200') <b>R550m</b>	<b>5711'</b> (201') <b>R600m</b>
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	ILS X, W ⑥ <i>FULL</i>	<b>6782'</b> (1272') <b>R1500m</b>	<b>6795'</b> (1285') <b>R1500m</b>	<b>6805'</b> (1295') <b>C2400m</b>	<b>6815'</b> (1305') <b>C2400m</b>
	RNAV ⑦⑧	<b>5940'</b> (430') <b>R1300m</b> R1500m	<b>5940'</b> (430') <b>R1300m</b> R1500m	<b>5940'</b> (430') <b>R1300m</b> R2000m	<b>5940'</b> (430') <b>R1400m</b> R2000m
	RNAV ⑨⑩	<b>6510'</b> (1000') <b>R1500m</b>	<b>6510'</b> (1000') <b>R1500m</b>	<b>6510'</b> (1000') <b>C2400m</b>	<b>6510'</b> (1000') <b>C2400m</b>
21L	CAT 2 ILS Z	<b>5594'</b> (100') <b>RA102'</b> R300m	<b>5594'</b> (100') <b>RA102'</b> R300m	<b>5594'</b> (100') <b>RA102'</b> R300m	<b>5594'</b> (100') <b>RA102'</b> R300m
	CAT 2 ILS X ⑪	<b>5594'</b> (100') <b>RA102'</b> R300m	<b>5594'</b> (100') <b>RA102'</b> R300m	<b>5594'</b> (100') <b>RA102'</b> R300m	<b>5595'</b> (101') <b>RA103'</b> R300m
	ILS Z <i>FULL</i>	<b>5694'</b> (200') <b>R550m</b>	<b>5694'</b> (200') <b>R550m</b>	<b>5694'</b> (200') <b>R550m</b>	<b>5694'</b> (200') <b>R550m</b>
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m

① Missed apch climb gradient mim 3.5% up to 7600'.

② Missed apch climb gradient mim 2.5%.

③ Missed apch climb gradient mim 5.8% up to 8000'.

④ Missed apch climb gradient mim 3.8%.

⑤ Continuous Descent Final Approach.

⑥ Missed apch climb gradient mim 4.6% up to 8000'.

FAOR/JNB

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17 JAN 14

10-9S1

JOHANNESBURG, S AFR REP  
O R TAMBO INTL

Standard

STRAIGHT-IN RWY		A	B	C	D
21L (contd)	ILS X ①	5694'(200') R550m	5694'(200') R550m	5694'(200') R550m	5694'(200') R550m
	FULL	R750m	R750m	R750m	R750m
	Limited	R1200m	R1200m	R1200m	R1200m
	ALS out				
	ILS X ②	6634'(1140') R1500m	6645'(1151') R1500m	6655'(1161') C2400m	6669'(1175') C2400m
	RNAV ③④	6120'(626') R1500m	6120'(626') R1500m	6120'(626') C2200m	6120'(626') C2200m
	ALS out	R1500m	R1500m	C2400m	C2400m
	RNAV ⑤⑥	6530'(1036') R1500m	6530'(1036') R1500m	6530'(1036') C2400m	6530'(1036') C2400m
21R	CAT 2 ILS ⑤	5605'(100') RA98'R300m	5605'(100') RA98'R300m	5605'(100') RA98'R300m	5605'(100') RA98'R300m
	ILS ⑥	5705'(200') R550m	5705'(200') R550m	5705'(200') R550m	5705'(200') R550m
	FULL	R750m	R750m	R750m	R750m
	Limited	R1200m	R1200m	R1200m	R1200m
	ALS out				
	ILS ⑦	6084'(579') R1500m	6091'(586') R1500m	6104'(599') R2000m	6111'(606') C2100m
	ALS out	R1500m	R1500m	C2400m	C2400m
	VOR Z ⑧	6120'(615') R1500m	6120'(615') R1500m	6120'(615') C2100m	6120'(615') C2100m
	ALS out	R1500m	R1500m	C2400m	C2400m
	VOR Y ⑨⑩	5980'(475') R1500m	5980'(475') R1500m	5980'(475') R1500m	5980'(475') R1600m
	ALS out	R1500m	R1500m	C2200m	C2200m
	VOR Y ⑪⑫	7030'(1525') C5000m	7030'(1525') C5000m	7030'(1525') C5000m	7030'(1525') C5000m

① Missed apch climb gradient mim 4.6% up to 8000'.

② Missed apch climb gradient mim 2.5%.

③ Missed apch climb gradient mim 3.5%.

④ Continuous Descent Final Approach.

⑤ Missed apch climb gradient mim 3.7% up to 7000'.

⑥ Missed apch climb gradient mim 5.1% up to 8000'.

CIRCLE-TO-LAND		100 KT	135 KT	180 KT	205 KT
East of rwy		6050'(492')	6060'(502')	6250'(692')	6260'(702')
West of rwy		6070'(512')	6070'(512')	6410'(852')	6410'(852')
		V1500m ⑦	V1600m ⑦	V2400m ⑦	V3600m ⑦

⑦ or higher minimums of preceding straight-in approach

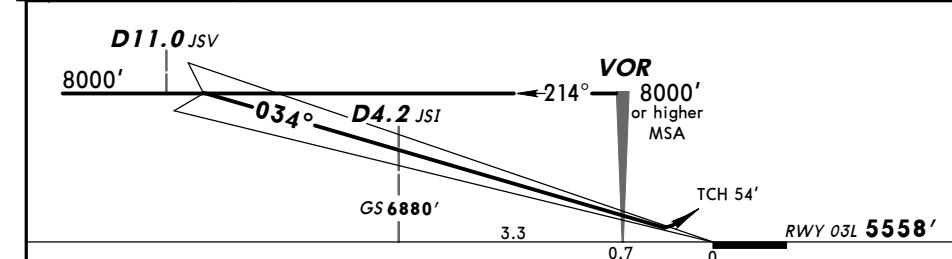
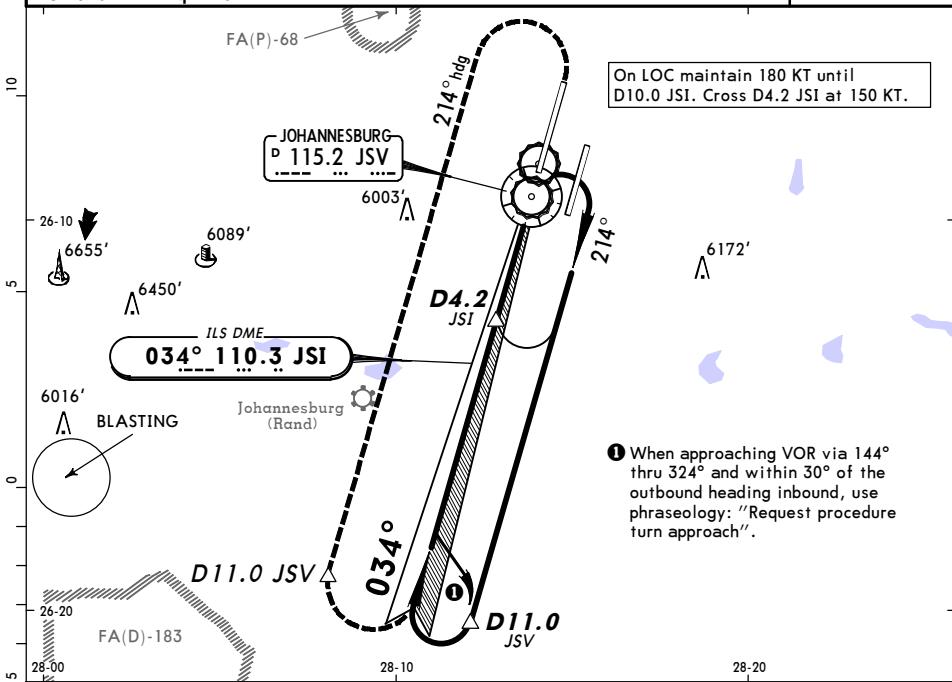
## TAKE-OFF RWY 03L/R, 21L/R

LVP must be in Force					
RL, CL & mult. RVR req		RL & CL	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A	150m	200m	250m	400m	500m
B					
C					
D	200m	250m	300m		

FAOR/JNB  
O R TAMBO INTL

JEPPESEN JOHANNESBURG, S AFR REP  
28 DEC 12 11-1 Eff 10 Jan ILS Z Rwy 03L

D ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1 118.6 121.9
LOC JSI	Final Apch Crs	GS D4.2 JSI	ILS DA(H)	Apt Elev 5558' RWY 5558'
110.3	034°	6880' (1322')	5758' (200')	
MISSSED APCH: Climb to 8300'. Maintain rwy track. When passing 7000' turn LEFT onto 214° heading. Passing D11.0 JSV turn LEFT direct to VOR.				
Alt Set: hPa	Rwy Elev: 188 hPa	Trans level: By ATC	Trans alt: 8000'	
VOR and DME required.				MSA JSV VOR



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	7000'
GS	3.00°	377	484	538	646	753		

JAR-OPS		STRAIGHT-IN LANDING RWY 03L		CIRCLE-TO-LAND	
		ILS	LOC (GS out)		
		DA(H) 5758' (200')			
		FULL	ALS out		
A	RVR 550m	RVR 1000m	NOT APPLICABLE	Max Kts	MDA(H) VIS MDA(H) VIS
B				100	6050' (492') 1500m 6070' (512') 1500m
C				135	6060' (502') 1600m 6070' (512') 1600m
D				180	6250' (692') 2400m 6410' (852') 2400m
				205	6260' (702') 3600m 6410' (852') 3600m

CHANGES: ICAO code.

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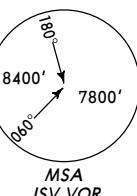
28 DEC 12

Eff 10 Jan

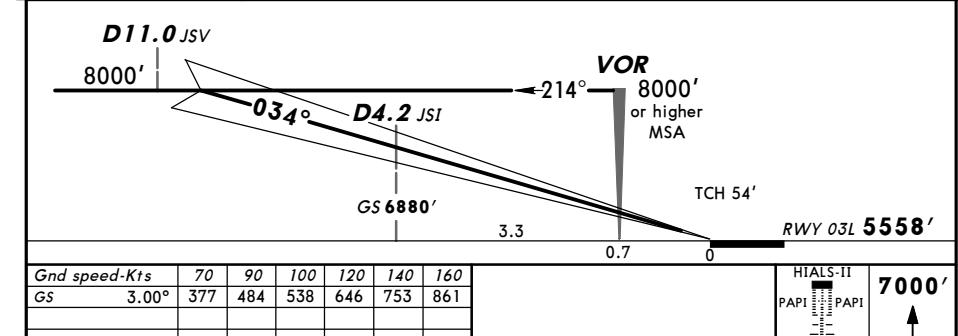
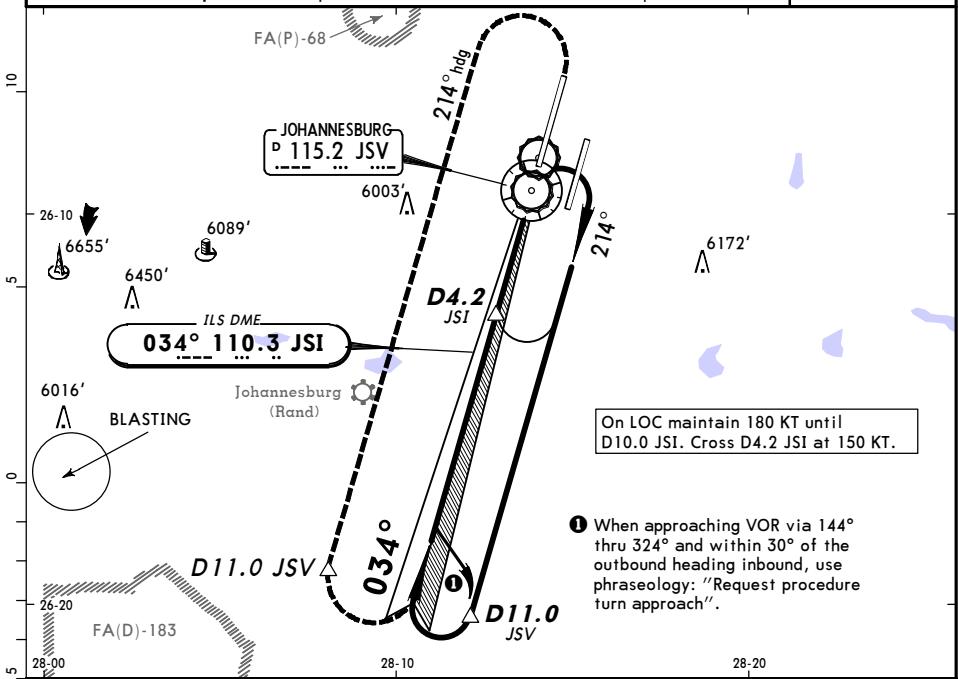
11-1A

D ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1 118.6 121.9
<b>LOC JSI</b> <b>110.3</b>	<b>Final Apch Crs</b> <b>034°</b>	<b>GS D4.2 JSI</b> <b>6880' (1322')</b>	<b>CAT II ILS RA 86'</b> <b>DA(H) 5658' (100')</b>	<b>Apt Elev 5558' RWY 5558'</b>

**MISSSED APCH:** Climb to 8300'. Maintain rwy track. When passing 7000' turn LEFT onto 214° heading. Passing D11.0 JSV turn LEFT direct to VOR.



Alt Set: hPa	Rwy Elev: 188 hPa	Trans level: By ATC	Trans alt: 8000'
1. VOR and DME required.	2. Special Aircrew & Acft Certification Required.		



Gnd speed-Kts	70	90	100	120	140	160		HIALS-II PAPI	7000'
GS	3.00°	377	484	538	646	753			

**JAR - OPS** STRAIGHT-IN LANDING RWY 03L  
**CAT II ILS**  
**RA 86'**  
**DA(H) 5658' (100')**

RVR 300m **I**

**I** Operators applying U.S. Ops Specs: Autoland or HUD required below RVR 350m.

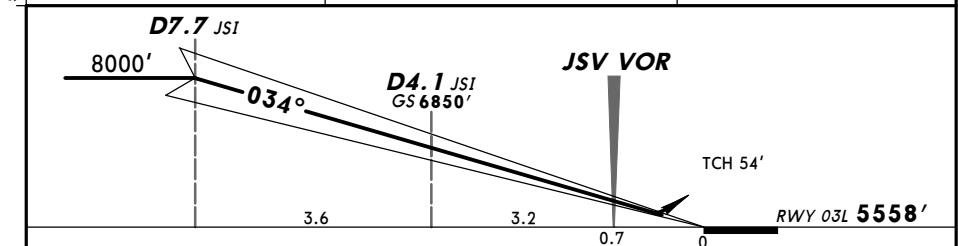
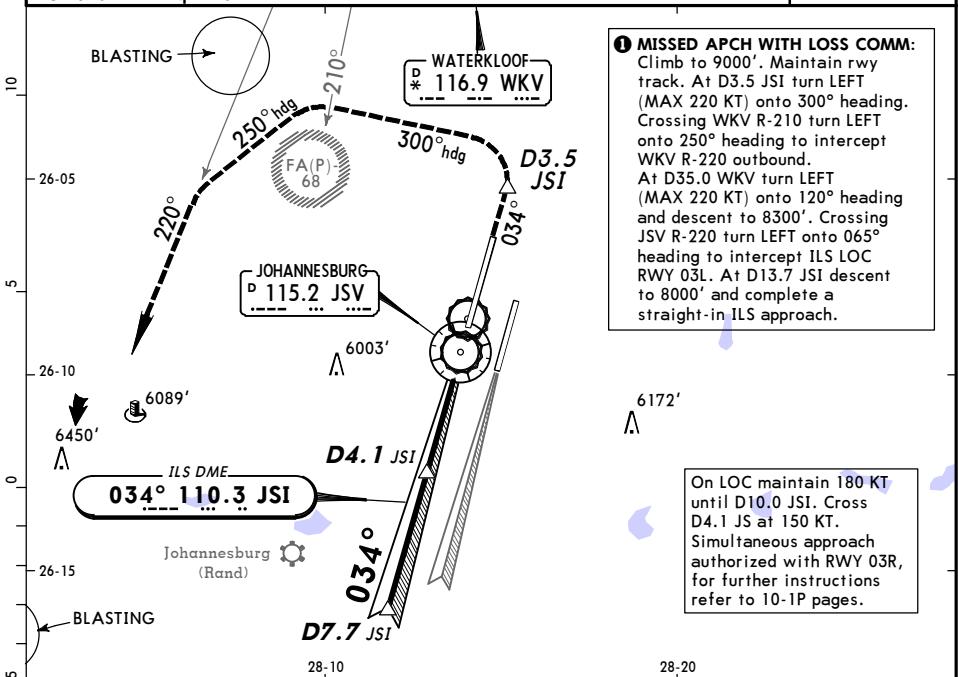
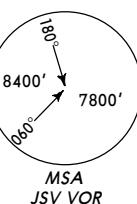
CHANGES: ICAO code.

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FAOR/JNB  
O R TAMBO INTL

JEPPESSEN JOHANNESBURG, S AFR REP  
28 DEC 12 11-2 Eff 10 Jan ILS Y Rwy 03L

D ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1 118.6 121.9
LOC JSI <b>110.3</b>	Final Apch Crs <b>034°</b>	GS <b>D4.1 JSI</b> <b>6850' (1292')</b>	ILS DA(H) Refer to Minimums	Apt Elev 5558' <b>RWY 5558'</b>
MISSED APCH: Climb to 8000'. Maintain rwy track. At D3.5 JSI turn LEFT (MAX 220 KT) onto 300° heading. Crossing WKV R-210 turn LEFT onto 250° heading to intercept WKV R-220 for radar vectoring to ILS RWY 03L. ①				
Alt Set: hPa Rwy Elev: 188 hPa VOR and DME required.			Trans level: By ATC	Trans alt: 8000'



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	D3.5 JSI
GS	3.00°	377	484	538	646	753	861	

JAR-OPS STRAIGHT-IN LANDING RWY 03L			CIRCLE-TO-LAND		
Missed apch climb gradient min 3.5% up to 7600' DA(H) <b>5758' (200')</b>	DA(H) <b>A: 6273' (715') C: 6296' (738')</b> <b>B: 6284' (726') D: 6317' (759')</b>	LOC (GS out)	East of rwy 03L/21R	West of rwy 03L/21R	
FULL ALS out	FULL	ALS out	Max Kts.	MDA(H) VIS	MDA(H) VIS
A			100	6050'(492') 1500m	6070'(512') 1500m
B	RVR 550m	RVR 1000m	135	6060'(502') 1600m	6070'(512') 1600m
C		RVR 800m	180	6250'(692') 2400m	6410'(852') 2400m
D			205	6260'(702') 3600m	6410'(852') 3600m

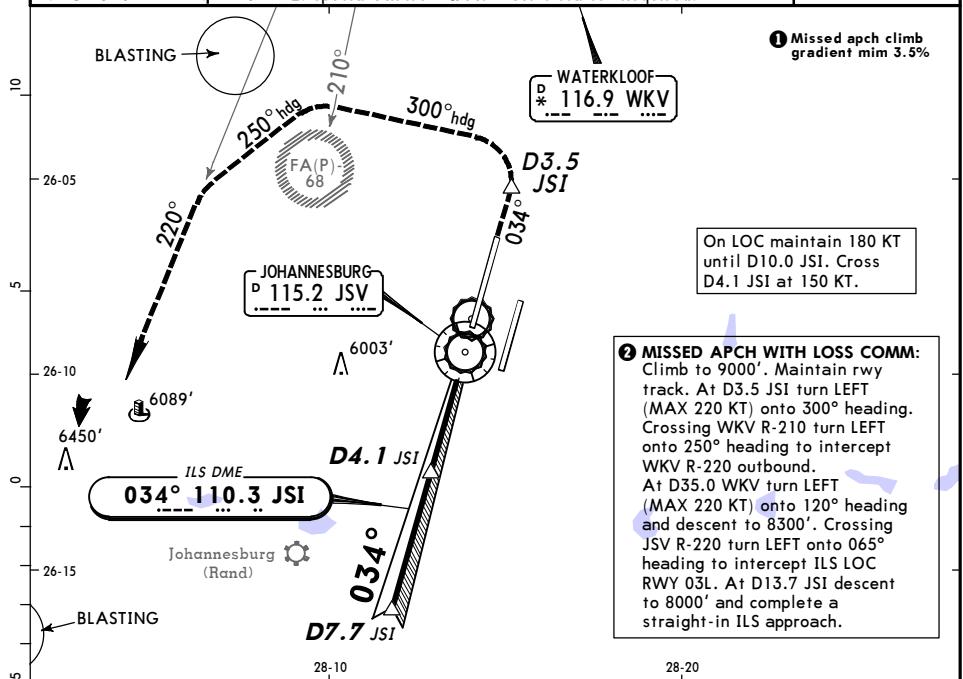
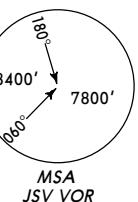
PANS OPS CHANGES: ICAO code.

Eff 10 Jan

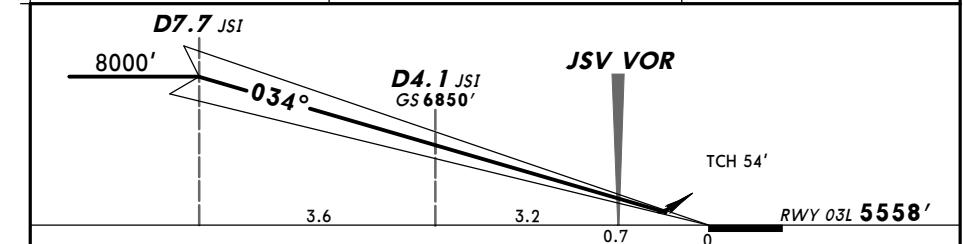
D ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*JOHANNESBURG Director (APP) RA/DA(H)	*O R TAMBO Tower West	East	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1	118.6	121.9
<b>LOC JSI 110.3</b>	<b>Final Apch Crs 034°</b>	<b>GS D4.1 JSI 6850' (1292')</b>	<b>CAT II ILS RA/DA(H) Refer to Minimums</b>	<b>Apt Elev 5558'</b>	<b>RWY 5558'</b>	

**MISSING APCH:** Climb to 8000'. Maintain rwy track. At D3.5 JSI turn LEFT (MAX 220 KT) onto 300° heading. Crossing WKV R-210 turn LEFT onto 250° heading to intercept WKV R-220 for radar vectoring to ILS RWY 03L. ②

Alt Set: hPa Rwy Elev: 188 hPa Trans level: By ATC Trans alt: 8000'  
1. VOR and DME required. 2. Special Aircrew & Acft Certification Required.



② MISSED APCH WITH LOSS COMM:  
Climb to 9000'. Maintain rwy track. At D3.5 JSI turn LEFT (MAX 220 KT) onto 300° heading. Crossing WKV R-210 turn LEFT onto 250° heading to intercept WKV R-220 outbound.  
At D35.0 WKV turn LEFT (MAX 220 KT) onto 120° heading and descent to 8300'. Crossing JSV R-220 turn LEFT onto 065° heading to intercept ILS LOC RWY 03L. At D13.7 JSI descent to 8000' and complete a straight-in ILS approach.



JAR-OPS

STRAIGHT-IN LANDING RWY 03L

CAT II ILS

Missed apch climb gradient min 3.5% up to 7600'

ABC  
RA 86'  
DA(H) 5658' (100')

D  
RA 90'  
DA(H) 5662' (104')

RVR 300m 1

① Operators applying U.S. Ops Specs: Autoland or HUD required below RVR 350m.

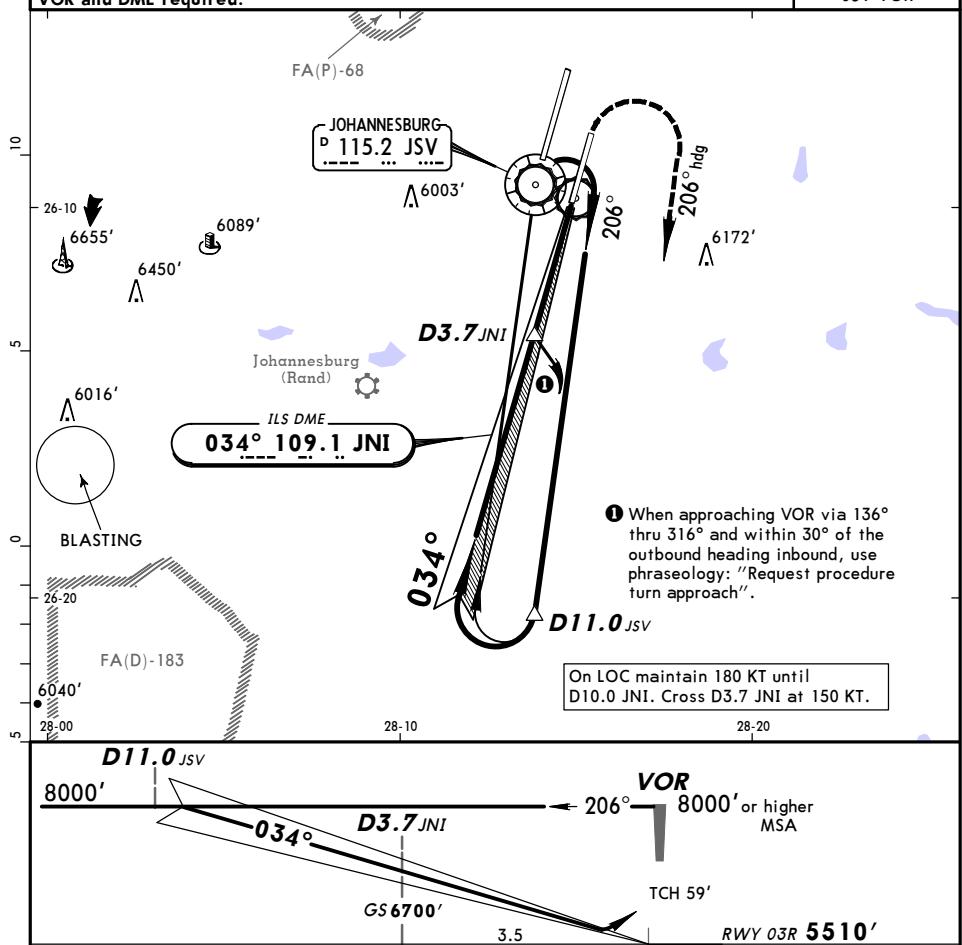
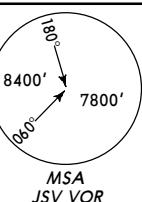
CHANGES: ICAO code.

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D-DATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1 118.6 121.9
<b>LOC</b> <b>JNI</b> <b>109.1</b>	<b>Final</b> <b>Apch Crs</b> <b>034°</b>	<b>GS</b> <b>D3.7 JNI</b> <b>6700' (1190')</b>	<b>ILS</b> <b>DA(H)</b> <b>5710' (200')</b>	<b>Apt Elev 5558'</b> <b>RWY 5510'</b>

**MISSSED APCH:** Climb to 8000'. Maintain rwy track. When passing 7000' turn RIGHT onto 206° heading. Passing D11.0 JSV turn RIGHT direct to VOR.

Alt Set: hPa Rwy Elev: 186 hPa Trans level: By ATC Trans alt: 8000'  
**VOR and DME required.**

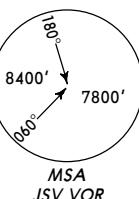


Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI PAPI	<b>7000'</b>
GS	3.00°	377	484	538	646	753		

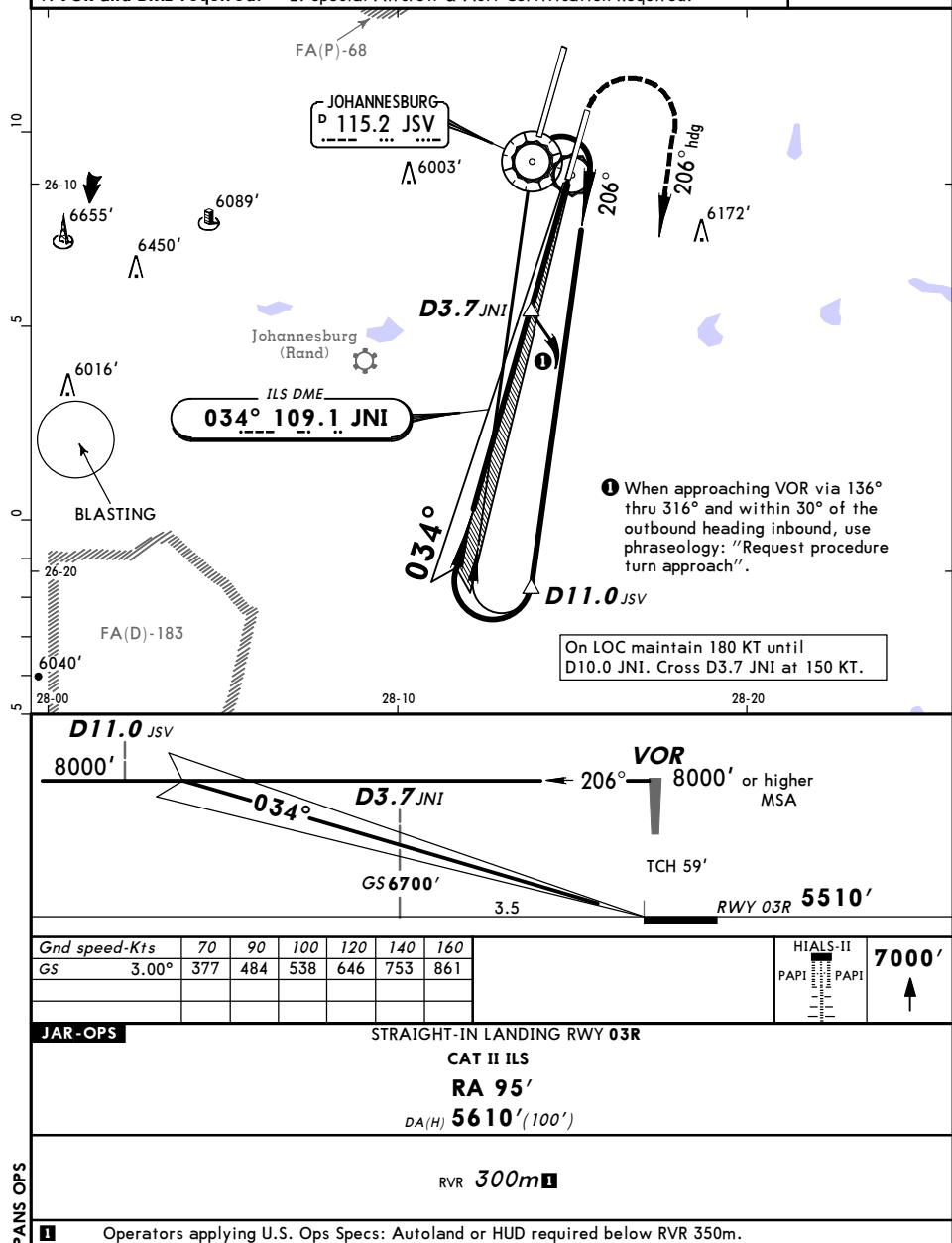
JAR-OPS		STRAIGHT-IN LANDING RWY 03R		CIRCLE-TO-LAND	
		ILS	LOC (GS out)		
		DA(H) <b>5710' (200')</b>		East of rwy 03R/21L West of rwy 03R/21L	
		FULL	ALS out	Max Kts	MDA(H) VIS MDA(H) VIS
A				100	6050' (492') 1500m 6070' (512') 1500m
B	RVR 550m	RVR 1000m		135	6060' (502') 1600m 6070' (512') 1600m
C			NOT APPLICABLE	180	6250' (692') 2400m 6410' (852') 2400m
D				205	6260' (702') 3600m 6410' (852') 3600m

D ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1 118.6 121.9
LOC JNI <b>109.1</b>	Final Apch Crs <b>034°</b>	GS <b>D3.7 JNI</b> <b>6700' (1190')</b>	CAT II ILS <b>RA 95'</b> DA(H) 5610' (100')	Apt Elev 5558' <b>RWY 5510'</b>

**MISSSED APCH:** Climb to 8000'. Maintain rwy track. When passing 7000' turn RIGHT onto 206° heading. Passing D11.0 JSV turn RIGHT direct to VOR.

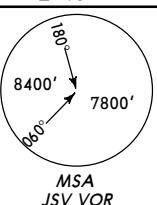


Alt Set: hPa Rwy Elev: 186 hPa Trans level: By ATC Trans alt: 8000'  
1. VOR and DME required. 2. Special Aircrew & Acft Certification Required.



DATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1 118.6 121.9
LOC JNI <b>109.1</b>	Final Apch Crs <b>034°</b>	GS <b>D3.7 JNI</b> <b>6700' (1190')</b>	ILS DA(H) Refer to Minimums	Apt Elev 5558' RWY 5510'

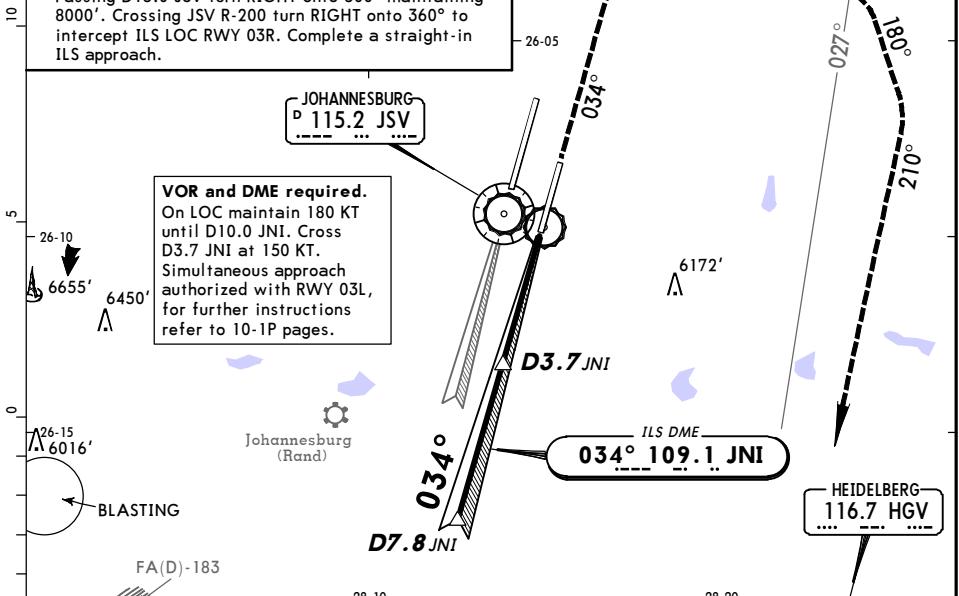
MISSED APCH: Climb to 8000'. Maintain rwy track. At D7.3 JNI/JSV turn RIGHT (MAX 240 KT) onto 130°. Crossing HGV R-027 turn RIGHT onto 180° and intercept HGV R-030 inbound for radar vectoring to ILS RWY 03R. ①



Alt Set: hPa Rwy Elev: 186 hPa Trans level: By ATC Trans alt: 8000'

① MISSED APCH WITH LOSS COMM:

Climb to 8000'. Maintain rwy track. At D7.3 JNI/JSV turn RIGHT (MAX 240 KT) onto 130°. Crossing HGV R-027 turn RIGHT onto 180° and intercept HGV R-030 inbound at normal Missed Apch speed. Passing D15.0 JSV turn RIGHT onto 300° maintaining 8000'. Crossing JSV R-200 turn RIGHT onto 360° to intercept ILS LOC RWY 03R. Complete a straight-in ILS approach.



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	D7.3 JNI/JSV
GS	3.00°	377	484	538	646	753	861	

JAR-OPS				STRAIGHT-IN LANDING RWY 03R ILS		LOC (GS out)		CIRCLE-TO-LAND	
Missed apch climb gradient min 5.8% up to 8000'				DA(H) ABC: 5710'(200') D: 5711'(201')		DA(H) A: 6782'(1272') C: 6805'(1295') B: 6795'(1285') D: 6815'(1305')		East of rwy 03R/21L	
FULL ALS out				Full		Max ALS out		West of rwy 03R/21L	
RVR 550m				RVR 800m		NOT APPLI- CABLE		MDA(H) VIS	
RVR 1000m				RVR 1200m		100 6050'(492') 1500m 135 6060'(502') 1600m 180 6250'(692') 2400m 205 6260'(702') 3600m		6070'(512') 1500m 6070'(512') 1600m 6410'(852') 2400m 6410'(852') 3600m	
RVR 600m									

CHANGES: ICAO code. Chart reindexed.

**FAOR/JNB**  
**O R TAMBO INTL**

28 DEC 12

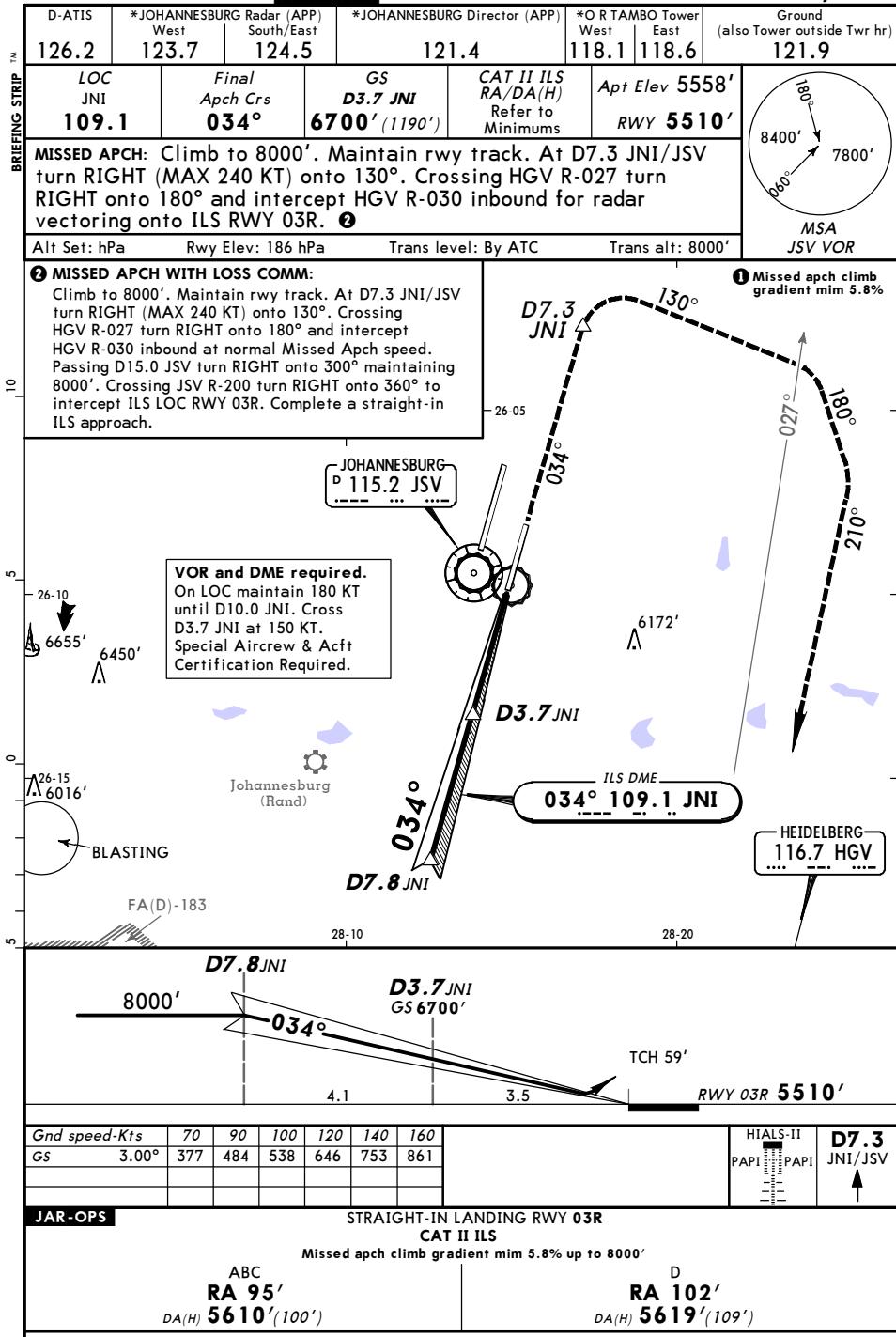
Eff 10 Jan

11-4A

**JEPPESEN**

**JOHANNESBURG, S AFR REP**

**CAT II ILS X Rwy 03R**



PANS OPS

**Operators applying U.S. Ops Specs: Autoland or HUD required below RVR 350m.**

**CHANGES:** ICAO code. Chart reindexed.

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D ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1 118.6
LOC JNI <b>109.1</b>	Final Apch Crs <b>034°</b>	GS <b>D3.7 JNI</b> <b>6700' (1190')</b>	ILS DA(H) Refer to Minimums	Apt Elev 5558' RWY 5510'

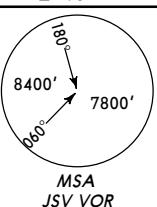
**MISSED APCH:** Climb to 8000'. Maintain rwy track. At D7.3 JNI/JSV turn RIGHT (MAX 240 KT) onto 130°. Crossing HGV R-027 turn RIGHT onto 180° and intercept HGV R-030 inbound for radar vectoring to ILS RWY 03R. ①

Alt Set: hPa Rwy Elev: 186 hPa Trans level: By ATC Trans alt: 8000'

① **MISSED APCH WITH LOSS COMM:**

Climb to 8000'. Maintain rwy track. At D7.3 JNI/JSV turn RIGHT (MAX 240 KT) onto 130°. Crossing HGV R-027 turn RIGHT onto 180° and intercept HGV R-030 inbound at normal Missed Apch speed. Passing D15.0 JSV turn RIGHT onto 300° maintaining 8000'. Crossing JSV R-200 turn RIGHT onto 360° to intercept ILS LOC RWY 03R.

Complete a straight-in ILS approach.



10

5

0

-5

5

**VOR and DME required.**  
On LOC maintain 180 KT until D10.0 JNI. Cross D3.7 JNI at 150 KT. Simultaneous approach authorized with RWY 03L, for further instructions refer to 10-1P pages.

Johannesburg (Rand)

BLASTING

26-10  
6655'  
6450'

6016'

26-20 FA(D)-183

26-10  
6655'  
6450'  
6016'  
28-10 D10.9 JNI  
034° 109.1 JNI  
D3.7 JNI  
6172'  
28-20 HEIDELBERG 116.7 HGV  
ILS DME

**D10.9 JNI**

9000'

**D3.7 JNI**  
GS 6700'

7.2

3.5

TCH 59°

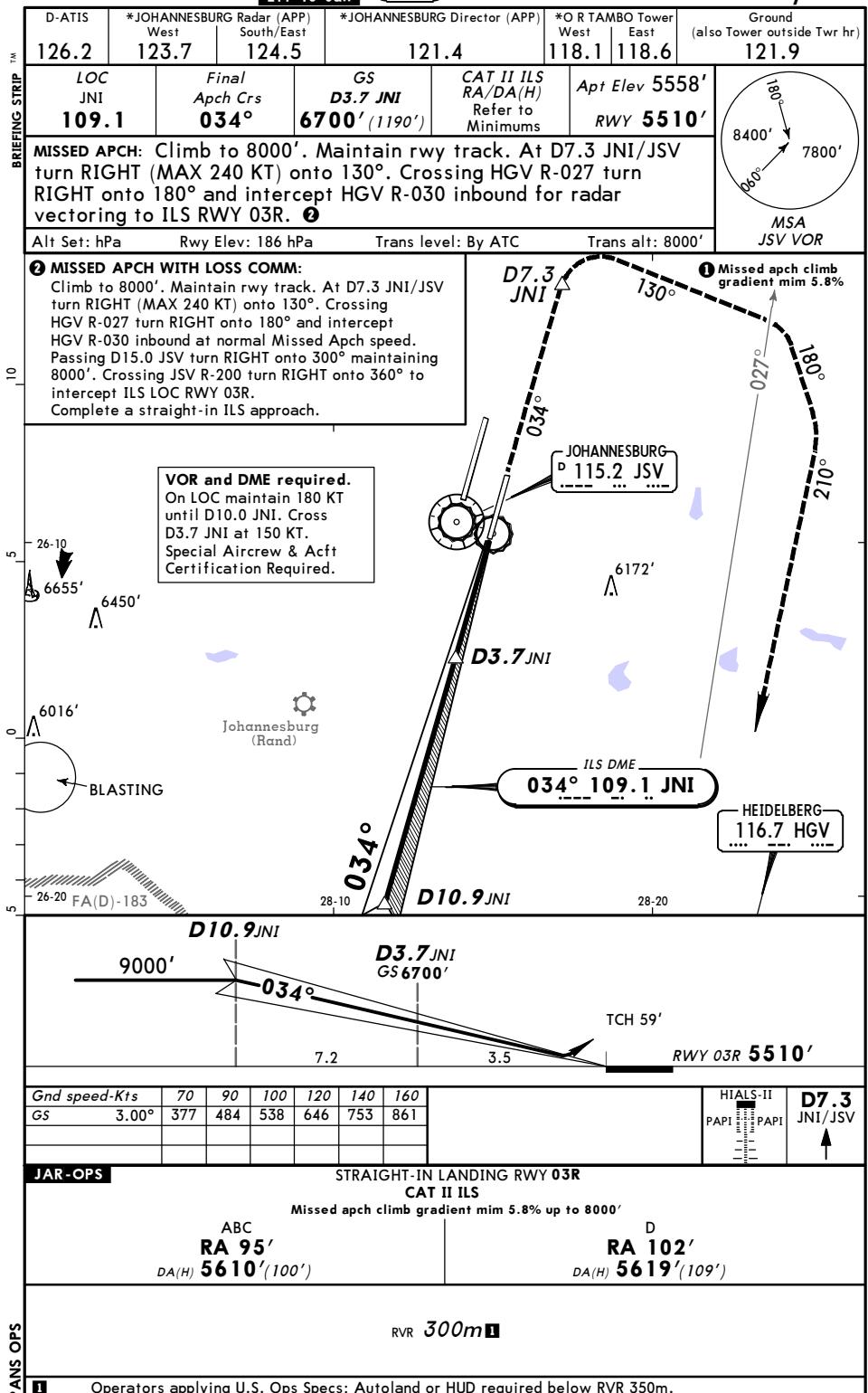
RWY 03R 5510'

Gnd speed-Kts	70	90	100	120	140	160		HIALS-II PAPI	D7.3 JNI/JSV
GS	3.00°	377	484	538	646	753	861		

JAR-OPS		STRAIGHT-IN LANDING RWY 03R ILS			LOC (GS out)		CIRCLE-TO-LAND		
5.8% up to 8000'	DA(H) ABC: 5710'(200') D: 5711'(201')	Missed apch climb gradient min 2.5%	DA(H) ABC: 6782'(1272') C: 6805'(1295') D: 6795'(1285') D: 6815'(1305')						
FULL	ALS out	FULL	ALS out						
A	RVR 550m	RVR 1000m	RVR 800m	RVR 1200m	NOT APPLI-CABLE	Max Kts	MDA(H)	VIS	MDA(H)
B						100	6050'(492') 1500m		6070'(512') 1500m
C						135	6060'(502') 1600m		6070'(512') 1600m
D	RVR 600m					180	6250'(692') 2400m		6410'(852') 2400m
						205	6260'(702') 3600m		6410'(852') 3600m

PANS OPS

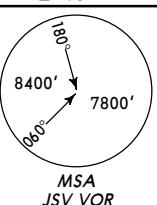
CHANGES: ICAO code. Chart reindexed.



D ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1 118.6
LOC JAI <b>109.9</b>	Final Apch Crs <b>214°</b>	GS <b>D3.7 JAI</b>	ILS DA(H) <b>5694'</b> (200')	Apt Elev 5558' RWY <b>5494'</b>

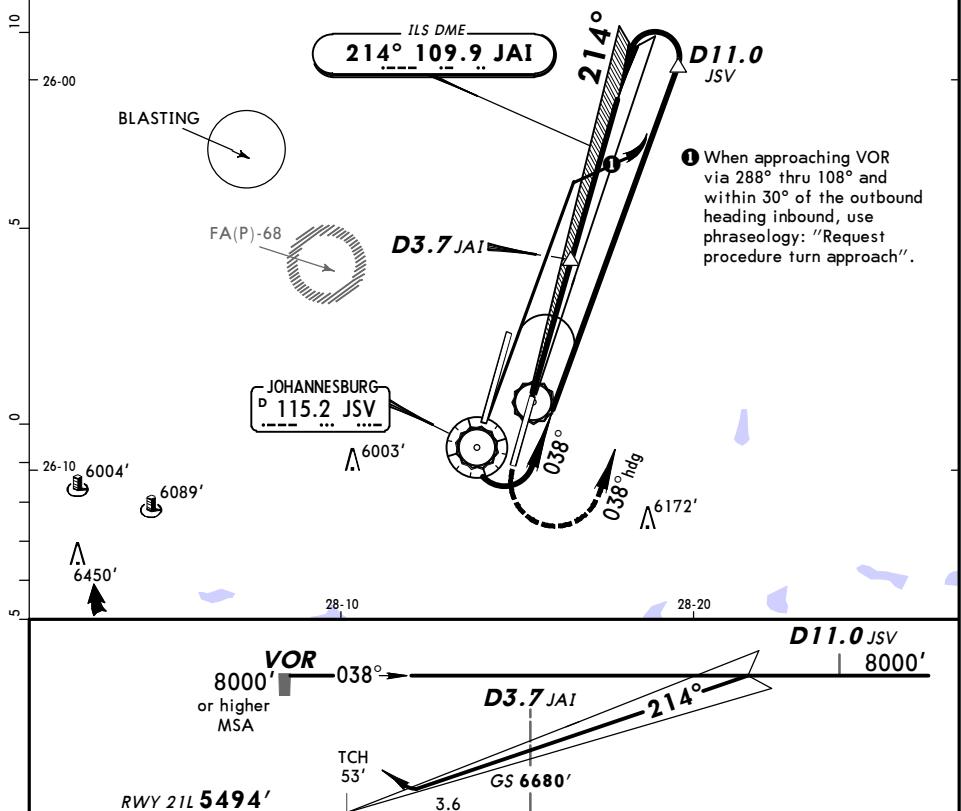
MISSED APCH: Climb to 8000'. Maintain rwy track. When passing 7000' turn LEFT onto 038° heading. Passing D11.0 JSV turn LEFT direct to VOR.

Alt Set: hPa Rwy Elev: 186 hPa Trans level: By ATC Trans alt: 8000'  
**VOR and DME required.**



BLASTING

On LOC maintain 180 KT until D10.0 JAI.  
 Cross D3.7 JAI at 150 KT.



Gnd speed-Kts	70	90	100	120	140	160		HIALS-II
GS	3.00°	377	484	538	646	753		PAPI
								7000'

JAR-OPS		STRAIGHT-IN LANDING RWY 21L		CIRCLE-TO-LAND	
ILS		LOC (GS out)		East of rwy 03R/21L	
DA(H) <b>5694'</b> (200')					
FULL		ALS out			
A	RVR 550m	RVR 1000m	NOT APPLICABLE	Max Kts	MDA(H) VIS MDA(H) VIS
B				100	6050' (492') 1500m 6070' (512') 1500m
C				135	6060' (502') 1600m 6070' (512') 1600m
D				180	6250' (692') 2400m 6410' (852') 2400m
				205	6260' (702') 3600m 6410' (852') 3600m

CHANGES: ICAO code. Chart reindexed.

28 DEC 12

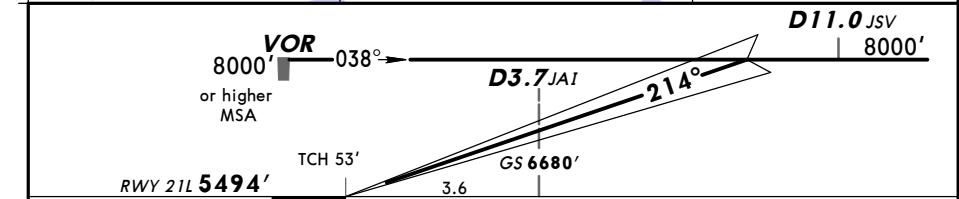
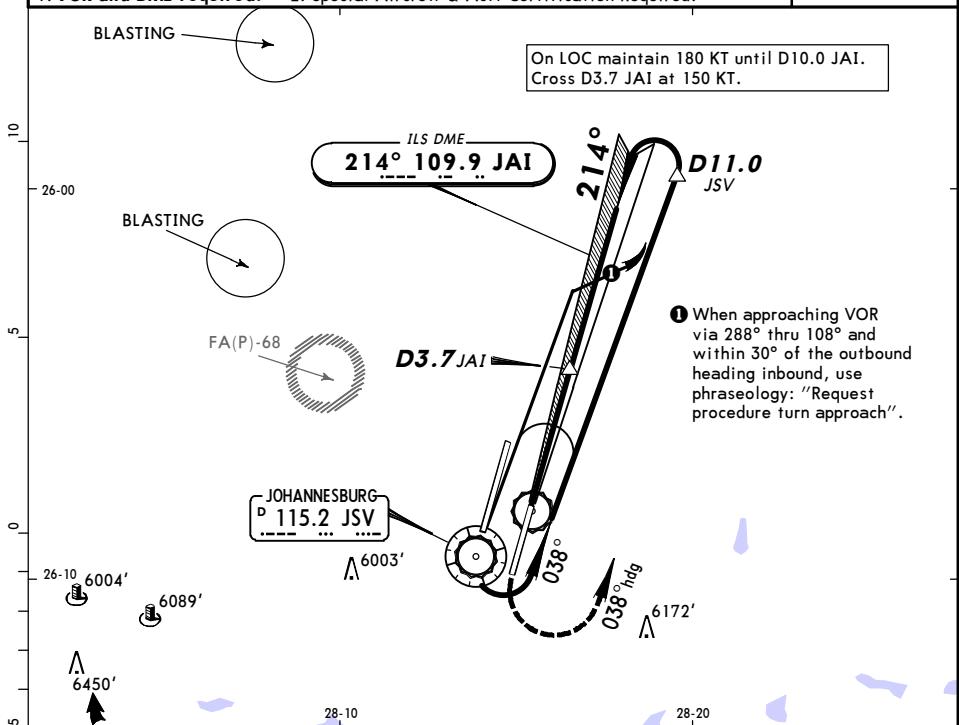
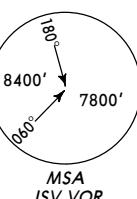
Eff 10 Jan

11-6A

D ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1 118.6 121.9
LOC JAI <b>109.9</b>	Final Apch Crs <b>214°</b>	GS D3.7 JAI <b>6680' (1186')</b>	CAT II ILS RA 102' DA(H) 5594' (100')	Apt Elev 5558' RWY 5494'

**MISSSED APCH:** Climb to 8000'. Maintain rwy track. When passing 7000' turn LEFT onto 038° heading. Passing D11.0 JSV turn LEFT direct to VOR.

Alt Set: hPa Rwy Elev: 186 hPa Trans level: By ATC Trans alt: 8000'  
1. VOR and DME required. 2. Special Aircrew & Acft Certification Required.



Gnd speed-Kts	70	90	100	120	140	160		HIALS-II	PAPI	7000'
GS	3.00°	377	484	538	646	753	861			

JAR-OPS	STRAIGHT-IN LANDING RWY 21L																			
CAT II ILS RA 102' DA(H) 5594' (100')																				
RVR 300m																				

<b>1</b>	Operators applying U.S. Ops Specs: Autoland or HUD required below RVR 350m.
CHANGES: ICAO code. Chart reindexed.	

D-ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1 118.6
LOC JAI <b>109.9</b>	Final Apch Crs <b>214°</b>	GS <b>D4.0 JAI</b> <b>6780' (1286')</b>	ILS DA(H) Refer to Minimums	Apt Elev 5558' <b>RWY 5494'</b>

**MISSSED APCH:** Climb to 7000'. Maintain rwy track. At D3.5 JAI turn LEFT (MAX 240 KT) onto 125° heading, then climb to 8000'. Crossing MEV R-222 turn LEFT onto 070° heading and intercept MEV R-217 inbound for radar vectoring onto ILS RWY 21L. ①

Alt Set: hPa Rwy Elev: 186 hPa

Trans level: By ATC

Trans alt: 8000'

① **MISSSED APCH WITH LOSS COMM:**

Climb to 7000'. Maintain rwy track. At D3.5 JAI turn LEFT (MAX 240 KT) onto 125° heading, then climb to 8000'. Crossing MEV R-222 turn LEFT onto 070° heading and intercept MEV R-217 inbound resuming normal Missed Apch climb gradient once established. At D7.5 MEV turn LEFT (MAX 240 KT) onto 300° heading. Crossing JSV R-048 turn LEFT onto 255° heading to intercept ILS LOC RWY 21L. Complete a straight-in ILS approach.



JOHANNESBURG  
**D 115.2 JSV**

**VOR and DME required.**  
On LOC maintain 180 KT until D10.0 JAI. Cross D4.0 JAI at 150 KT. Simultaneous approach authorized with RWY 21R, for further instructions refer to 10-IP pages.

Johannesburg (Rand)

28-10

6450'  
A

-26-00

**D7.7 JAI**  
**214° 109.9 JAI**  
ILS DME

**D4.0 JAI**

**D3.5 JAI**

6172'

125°

222°

070°

03°

28-20

BRONKHORST-SPRUIT  
**D 114.3 MEV**

TCH 53'  
**RWY 21L 5494'**

**D4.0 JAI**  
GS 6780'  
**214°**  
8000'

3.9

3.7

Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	D 5494' JAI
GS	3.00°	377	484	538	646	753	861	

JAR-OPS STRAIGHT-IN LANDING RWY 21L ILS			LOC (GS out)			CIRCLE-TO-LAND		
Missed apch climb gradient min 4.6% up to 8000' DA(H) <b>5694' (200')</b>	DA(H) <b>A: 6634' (1140')</b> <b>B: 6645' (1151')</b>	2.5% C: <b>6655' (1161')</b> D: <b>6669' (1175')</b>				East of rwy 03R/21L	West of rwy 03R/21L	
FULL ALS out	FULL	ALS out				Max Kts	MDA(H) VIS	MDA(H) VIS
A	RVR 550m	RVR 1000m	RVR 800m	RVR 1200m	NOT APPLI-CABLE	100	6050' (492') 1500m	6070' (512') 1500m
B						135	6060' (502') 1600m	6070' (512') 1600m
C						180	6250' (692') 2400m	6410' (852') 2400m
D						205	6260' (702') 3600m	6410' (852') 3600m

CHANGES: ICAO code. Chart reindexed.

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FAOR/JNB  
O R TAMBO INTL

28 DEC 12

Eff 10 Jan

JEPPESEN

JOHANNESBURG, S AFR REP  
CAT II ILS X Rwy 21L

11-7A

11-7A

D-ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	East	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1	118.6
LOC JAI <b>109.9</b>	Final Apch Crs <b>214°</b>	GS <b>D4.0 JAI</b> <b>6780' (1286')</b>	CAT II ILS RA/DA(H) Refer to Minimums	Apt Elev 5558' RWY <b>5494'</b>	8400' 7800' MSA JSV VOR

**MISSSED APCH:** Climb to 7000'. Maintain rwy track. At D3.5 JAI turn LEFT (MAX 240 KT) onto 125° heading, then climb to 8000'. Crossing MEV R-222 turn LEFT onto 070° heading and intercept MEV R-217 inbound for radar vectoring onto ILS RWY 21L. ②

Alt Set: hPa Rwy Elev: 186 hPa

Trans level: By ATC

Trans alt: 8000'

② **MISSSED APCH WITH LOSS COMM:**

Climb to 7000'. Maintain rwy track. At D3.5 JAI turn LEFT (MAX 240 KT) onto 125° heading, then climb to 8000'. Crossing MEV R-222 turn LEFT onto 070° heading and intercept MEV R-217 inbound resuming normal Missed Apch climb gradient once established. At D7.5 MEV turn LEFT (MAX 240 KT) onto 300° heading. Crossing JSV R-048 turn LEFT onto 255° heading to intercept ILS LOC RWY 21L. Complete a straight-in ILS approach.

① Missed apch climb  
gradient mim 4.6%

BRONKHORST-  
SPRUIT  
**D 114.3 MEV**

10

5

0

5

Gnd speed-Kts

26-10  
6450'

VOR and DME required.  
On LOC maintain 180 KT  
until D10.0 JAI. Cross  
D4.0 JAI at 150 KT.  
Special Aircrew & Acft  
Certification Required.

Johannesburg  
(Rand)

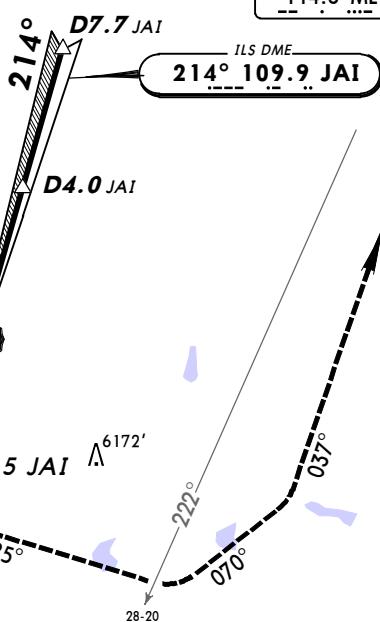
28-10

TCH

53'

RWY 21L **5494'**

-26-00



Gnd speed-Kts	70	90	100	120	140	160		HIALS-II PAPI	D 3.5 JAI
GS	3.00°	377	484	538	646	753	861		

JAR-OPS

STRAIGHT-IN LANDING RWY 21L

CAT II ILS

Missed apch climb gradient mim 4.6% up to 8000'

ABC  
**RA 102'**  
**DA(H) 5594' (100')**

D  
**RA 103'**  
**DA(H) 5595' (101')**

RVR 300m 1

PANS OPS

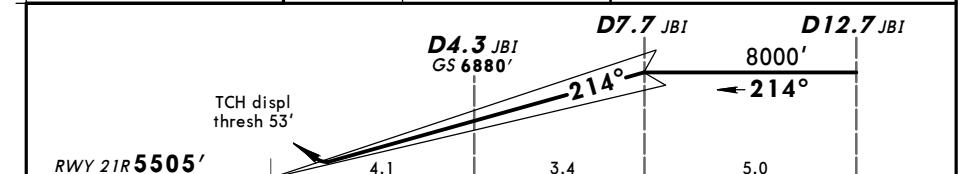
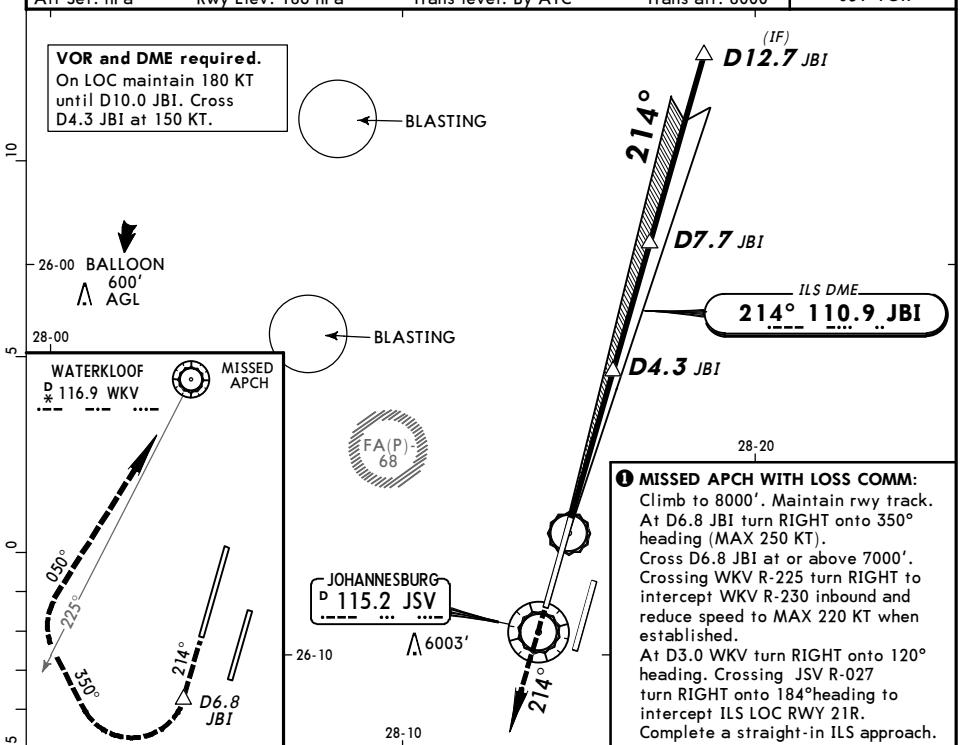
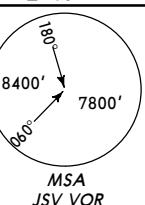
① Operators applying U.S. Ops Specs: Autoland or HUD required below RVR 350m.

CHANGES: ICAO code. Chart reindexed.

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D-ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*OR TAMBO Tower West	Ground (also Tower outside TWR hr)
126.2	123.7	124.5	121.4	118.1 118.6
LOC JBI <b>110.9</b>	Final Apch Crs <b>214°</b>	GS <b>D4.3 JBI</b> <b>6880' (1375')</b>	ILS DA(H) Refer to Minimums	Apt Elev 5558' <b>RWY 5505'</b>

**MISSSED APCH:** Climb to 8000'. Maintain rwy track. At D6.8 JBI turn RIGHT onto 350° heading. Cross D6.8 JBI at or above 7000'. Crossing WKV R-225 turn RIGHT to intercept WKV R-230 inbound for radar vectoring to ILS RWY 21R. MAX 250 KT.

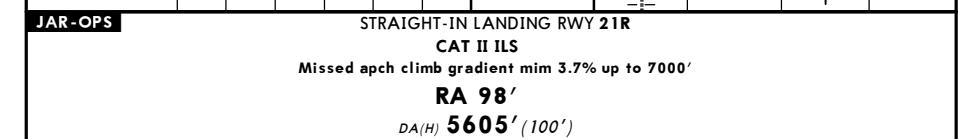
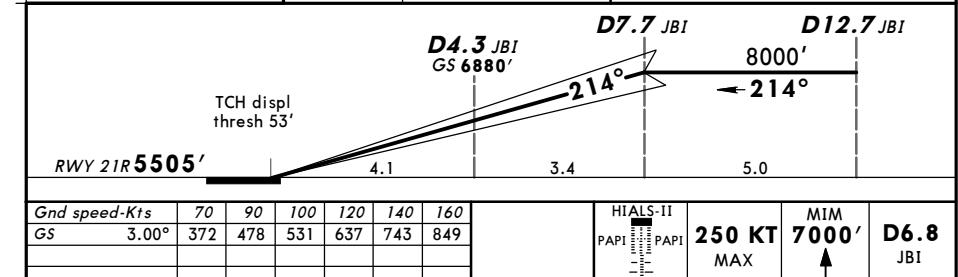
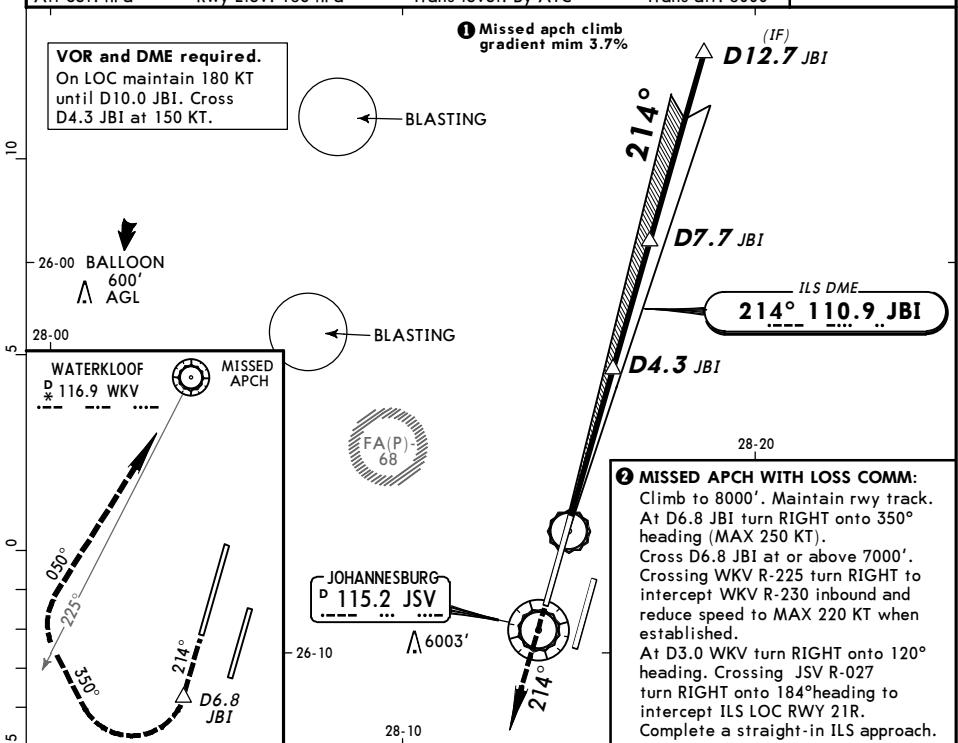
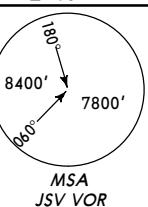


JAR-OPS		STRAIGHT-IN LANDING RWY 21R				CIRCLE-TO-LAND			
Missed apch climb gradient mim		LOC (GS out)				East of rwy 03L/21R			
3.7% up to 7000'		DA(H) 2.5%				West of rwy 03L/21R			
DA(H) <b>5705' (200')</b>		A: 6084' (579') C: 6104' (599') B: 6091' (586') D: 6111' (606')				MDA(H) VIS MDA(H) VIS			
A	FULL	ALS out	FULL	ALS out	NOT APPLICABLE	100	6050' (492') 1500m	6070' (512') 1500m	
B	RVR 550m	RVR 1000m	RVR 800m	RVR 1200m		135	6060' (502') 1600m	6070' (512') 1600m	
C						180	6250' (692') 2400m	6410' (852') 2400m	
D						205	6260' (702') 3600m	6410' (852') 3600m	

CHANGES: None.

D-ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1 118.6 121.9
LOC JBI <b>110.9</b>	Final Apch Crs <b>214°</b>	GS D4.3 JBI <b>6880' (1375')</b>	CAT II ILS RA 98' DA(H) 5605'(100')	Apt Elev 5558' RWY 5505'

**MISSED APCH:** Climb to 8000'. Maintain rwy track. At D6.8 JBI turn RIGHT onto 350° heading. Cross D6.8 JBI at or above 7000'. Crossing WKV R-225 turn RIGHT to intercept WKV R-230 inbound for radar vectoring to ILS RWY 21R. MAX 250 KT. ②



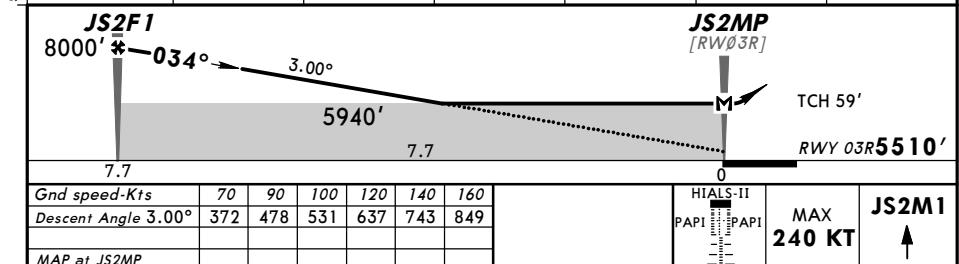
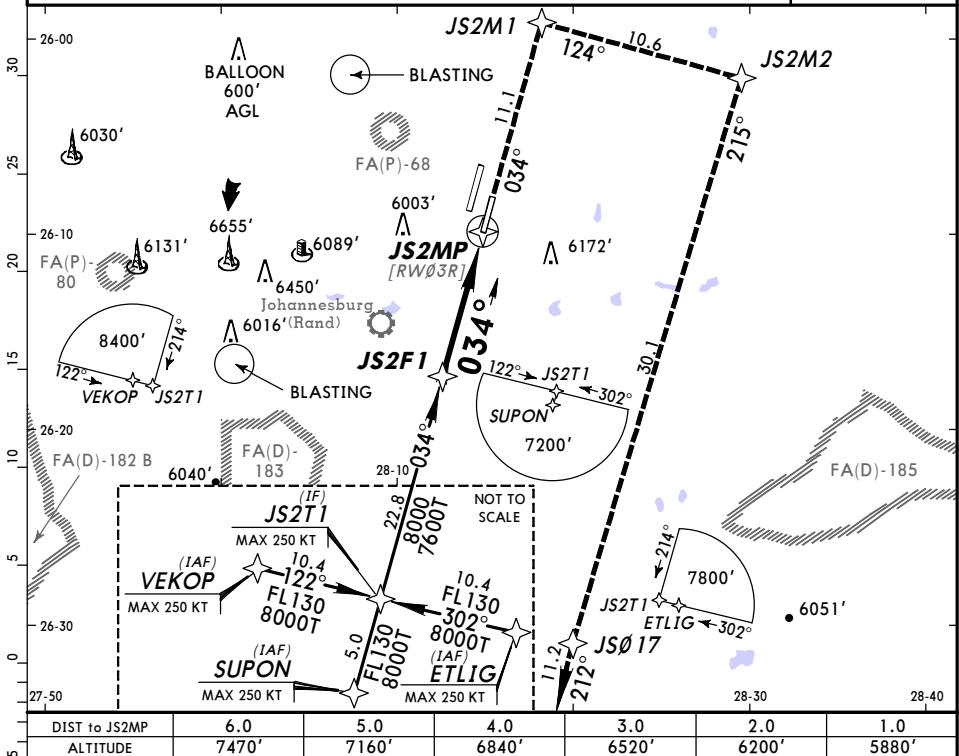
RVR 300m 1

1 Operators applying U.S. Ops Specs: Autoland or HUD required below RVR 350m.

CHANGES: New procedure.

D-ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)			
	126.2	123.7	124.5	121.4	118.1	118.6	121.9

BRIEFING STRIP™	RNAV	Final Apch Crs <b>034°</b>	Procedure Alt <b>JS2F1</b> <b>8000' (2490')</b>	LNAV MDA(H) Refer to Minimums	Apt Elev 5558' <b>RWY 5510'</b>	TAA 25 NM IAF
	MISSED APCH: Climb to FL 130. Climb to JS2M1, then to JS2M2 turning RIGHT to JS017 and return to ETLIG, or as directed. MAX 240 KT.				MAX 240 KT.	
Alt Set: hPa	Rwy Elev: 186 hPa	Trans level: By ATC	Trans alt: 8000'	SPECIAL AIRCRAFT & AIRCREW AUTHORIZATION REQUIRED.		

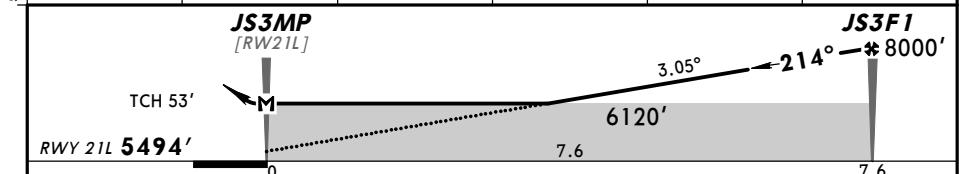
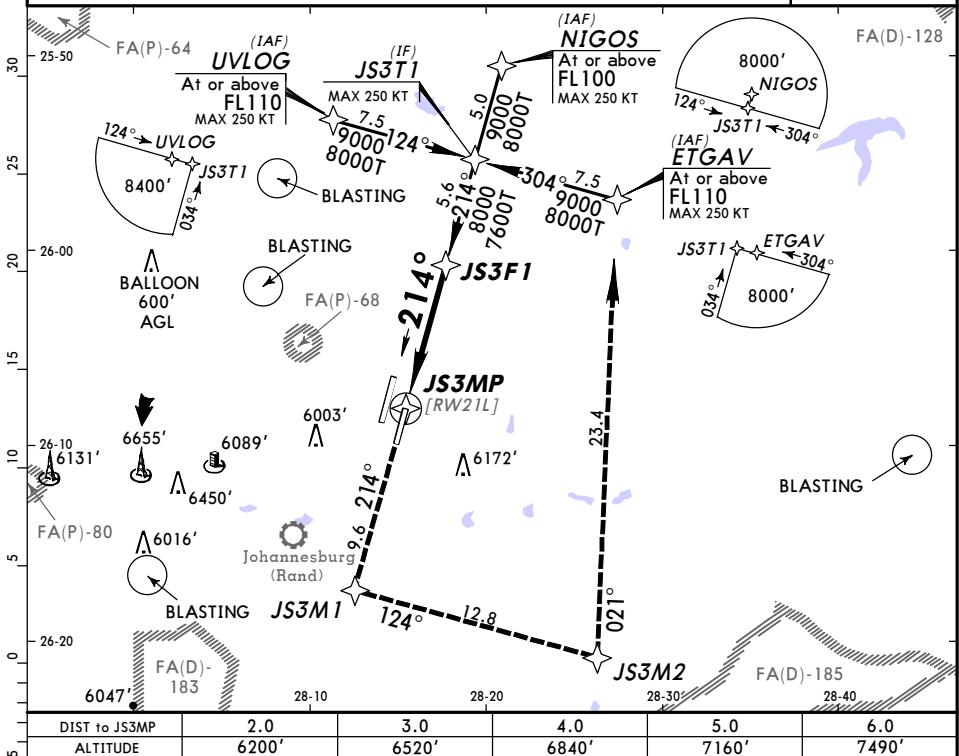


JAR-OPS STRAIGHT-IN LANDING RWY 03R		CIRCLE-TO-LAND	
LNAV		East of rwy 03R/21L	
Missed apch climb gradient min 3.8%	MDA(H) <b>5940' (430')</b>	Missed apch climb gradient min 2.5%	MDA(H) <b>6510' (1000')</b>
ALS out	ALS out	Max Kts	MDA(H) VIS
A RVR 900m	RVR 1500m	100	6050' (492') 1 1500m
B RVR 1000m	RVR 1400m	135	6060' (502') 1 1600m
C RVR 1400m	RVR 2000m	180	6250' (692') 1 2400m
D RVR 1400m	RVR 1800m	205	6260' (702') 1 3600m
After approach with missed apch climb grad min 2.5%: MDA(H) 6510' (952').		MDA(H) VIS	

**PANS OPS** CHANGES: None. © JEPPESEN, 2011, 2012. ALL RIGHTS RESERVED.

D-ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*D-ATIS	*OR TAMBO Tower West	Ground (also Tower outside TWR hr)
126.2	123.7	124.5	121.4	118.1	118.6

RNAV	Final Apch Crs <b>214°</b>	Procedure Alt <b>JS3F1</b> <b>8000' (2506')</b>	LNAV MDA(H) Refer to Minimums	Apt Elev 5558' <b>RWY 5494'</b>	TAA 25 NM IAF
MISSSED APCH: Climb to 8000' to JS3M1, then continue via JS3M2 to ETGAV, or as directed. MAX 240 KT.					
Alt Set: hPa Rwy Elev: 186 hPa Trans level: By ATC Trans alt: 8000'					
<b>SPECIAL AIRCRAFT &amp; AIRCREW AUTHORIZATION REQUIRED.</b>					



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II	PAPI	MAX 240 KT	JS3M1
Descent Angle 3.05°	378	486	540	648	755	863				

MAP at JS3MP

JAR-OPS STRAIGHT-IN LANDING RWY 21L LNAV			CIRCLE-TO-LAND		
Missed apch climb gradient min 3.5% MDA(H) <b>6120' (626')</b>			Missed apch climb gradient min 2.5% MDA(H) <b>6530' (1036')</b>		
ALS out	ALS out	ALS out	Max Kts	MDA(H)	VIS
A RVR 1000m	RVR 1500m	RVR 1200m	100	6120'(562') <b>I</b> 1500m	6120'(562') <b>I</b> 1500m
B RVR 1200m	RVR 2000m	RVR 1400m	135	6120'(562') <b>I</b> 1600m	6120'(562') <b>I</b> 1600m
C RVR 1600m	RVR 1800m	RVR 2000m	180	6250'(692') <b>I</b> 2400m	6410'(852') <b>I</b> 2400m
D RVR 1600m	RVR 1800m	RVR 2000m	205	6260'(702') <b>I</b> 3600m	6410'(852') <b>I</b> 3600m

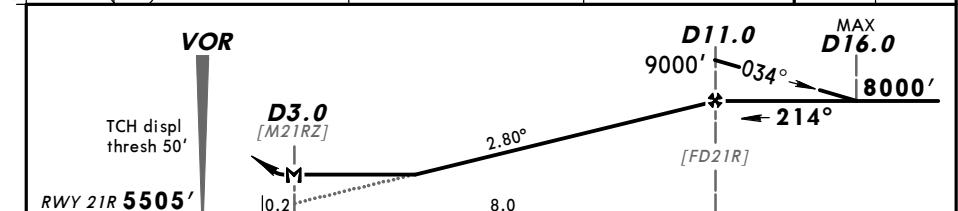
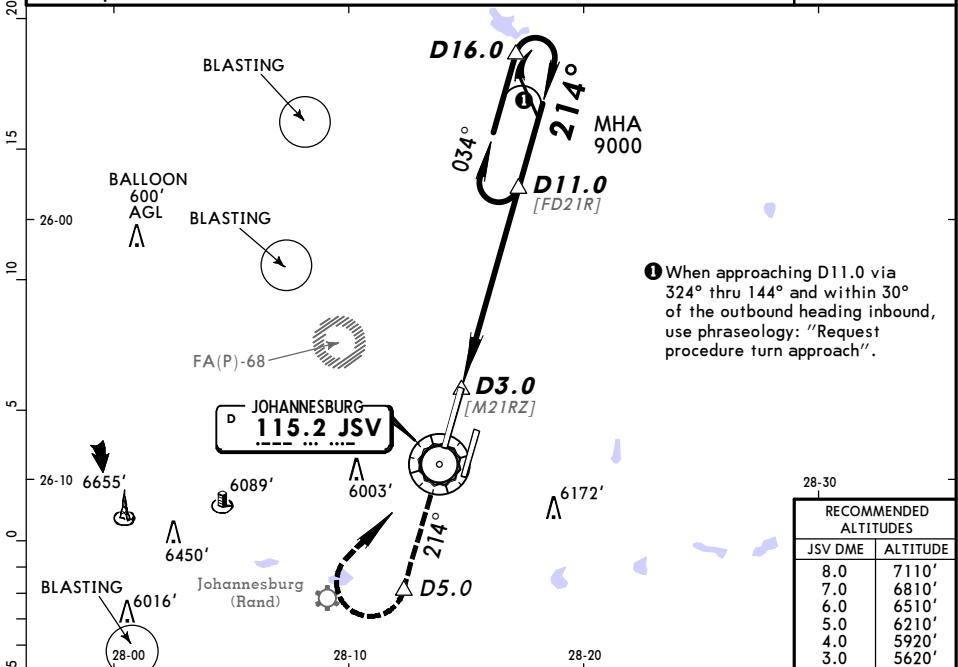
1 After approach with missed apch climb grad mim 2.5%: MDA(H) 6530'(972').

CHANGES: Waypoint designations.

D-ATIS 126.2	*JOHANNESBURG Radar (APP) West 123.7	*JOHANNESBURG Director (APP) South/East 124.5	121.4	*# O R TAMBO Tower West 118.1	East 118.6	Ground (also Tower outside Twr hr) 121.9
VOR JSV <b>115.2</b>	Final Apch Crs <b>214°</b>	Minimum Alt <b>D11.0</b> <b>8000'</b> (2495')	MDA(H) <b>6120'</b> (615')	Apt Elev 5558' <b>RWY 5505'</b>		

**MISSSED APCH:** Climb on R-214 to 7500' or D5.0, whichever is later, then turn RIGHT to VOR climbing to FL 90. Intercept R-034 to D11.0 and hold, or as directed.

Alt Set: hPa DME required.	Rwy Elev: 186 hPa	Trans level: By ATC	Trans alt: 8000'
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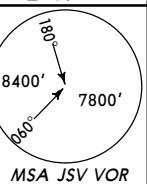
Gnd speed-Kts	70	90	100	120	140	160		HIALS-II	JSV	7500'	D5.0
Descent Angle	2.80°	347	446	495	594	693	792	PAPI	115.2		whichever later
MAP at D3.0								PAPI	R-214		

JAR-OPS STRAIGHT-IN LANDING RWY 21R						CIRCLE-TO-LAND					
MDA(H) <b>6120'</b> (615')						East of rwy 03L/21R					
	ALS out						Max Kts	MDA(H)	VIS	MDA(H)	VIS
A	RVR 1000m		RVR 1500m				100	6050' (492')	1500m	6070' (512')	1500m
B	RVR 1200m		RVR 2000m				135	6060' (502')	1600m	6070' (512')	1600m
C							180	6250' (692')	2400m	6410' (852')	2400m
D	RVR 1600m						205	6260' (702')	3600m	6410' (852')	3600m

28 DEC 12 13-2 Eff 10 Jan

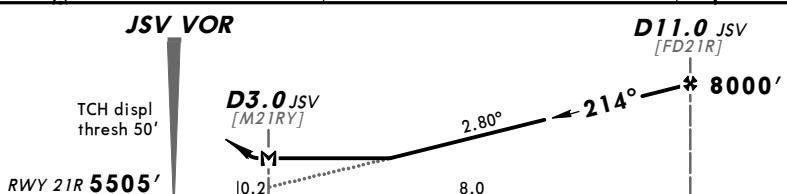
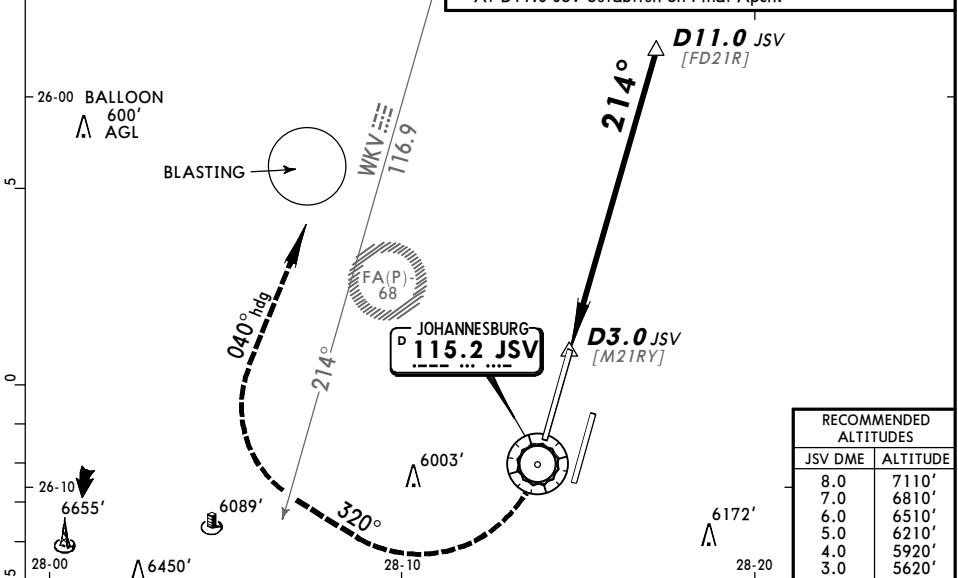
D ATIS	*JOHANNESBURG Radar (APP) West	*JOHANNESBURG Director (APP) South/East	*O R TAMBO Tower West	Ground (also Tower outside Twr hr)
126.2	123.7	124.5	121.4	118.1 118.6 121.9
VOR JSV <b>115.2</b>	Final Apch Crs <b>214°</b>	Minimum Alt <b>D11.0 JSV</b> <b>8000'</b> (2495')	MDA(H) Refer to Minumums	Apt Elev 5558' <b>RWY 5505'</b>

**MISSED APCH:** Climb to 8000'. Maintain rwy track. At JSV VOR turn RIGHT (MAX 240 KT) onto heading 320°. Crossing R-214 WKV turn RIGHT onto heading 040° for radar vectoring onto RWY 21R.



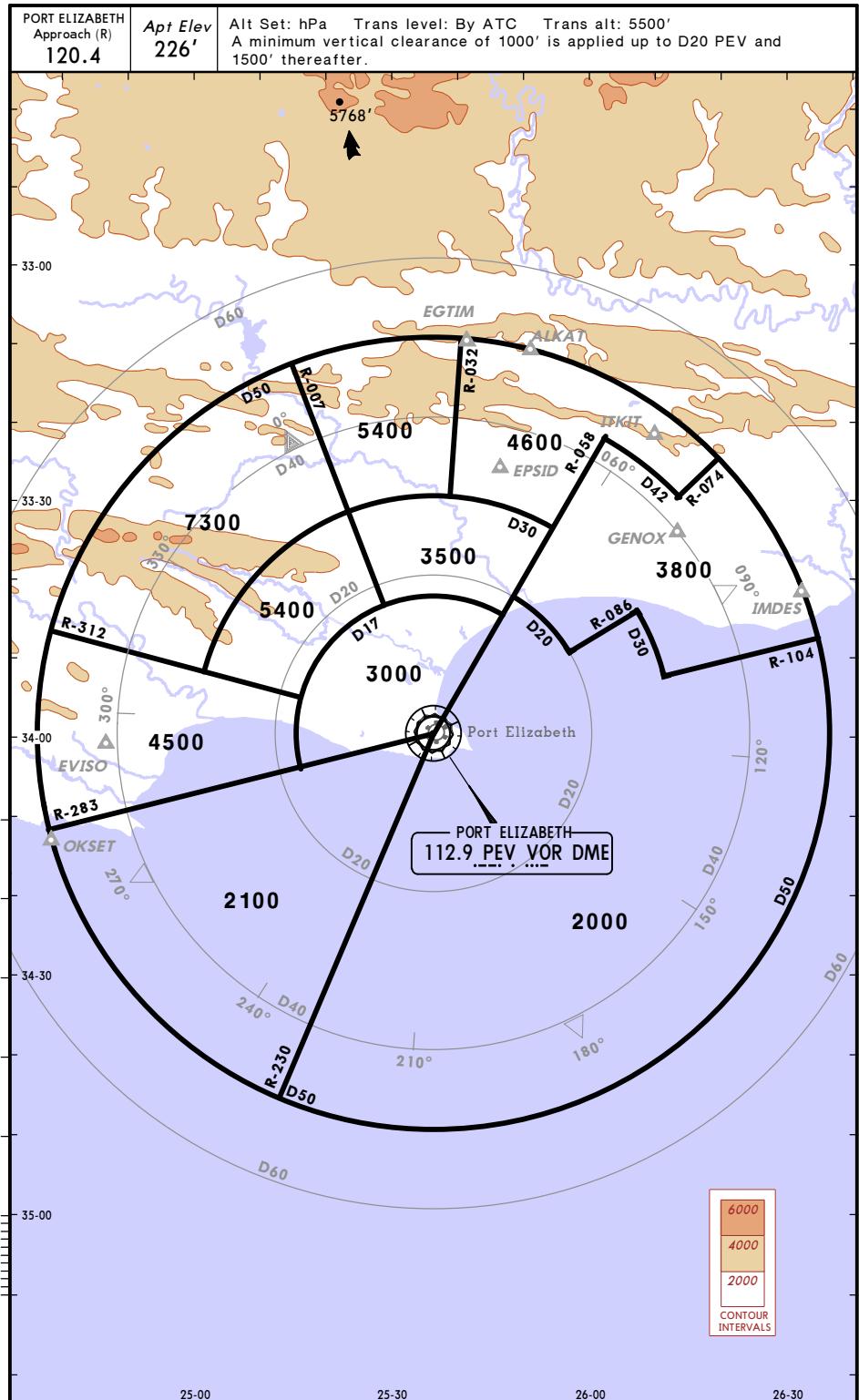
Alt Set: hPa Rwy Elev: 186 hPa Trans level: By ATC Trans alt: 8000'

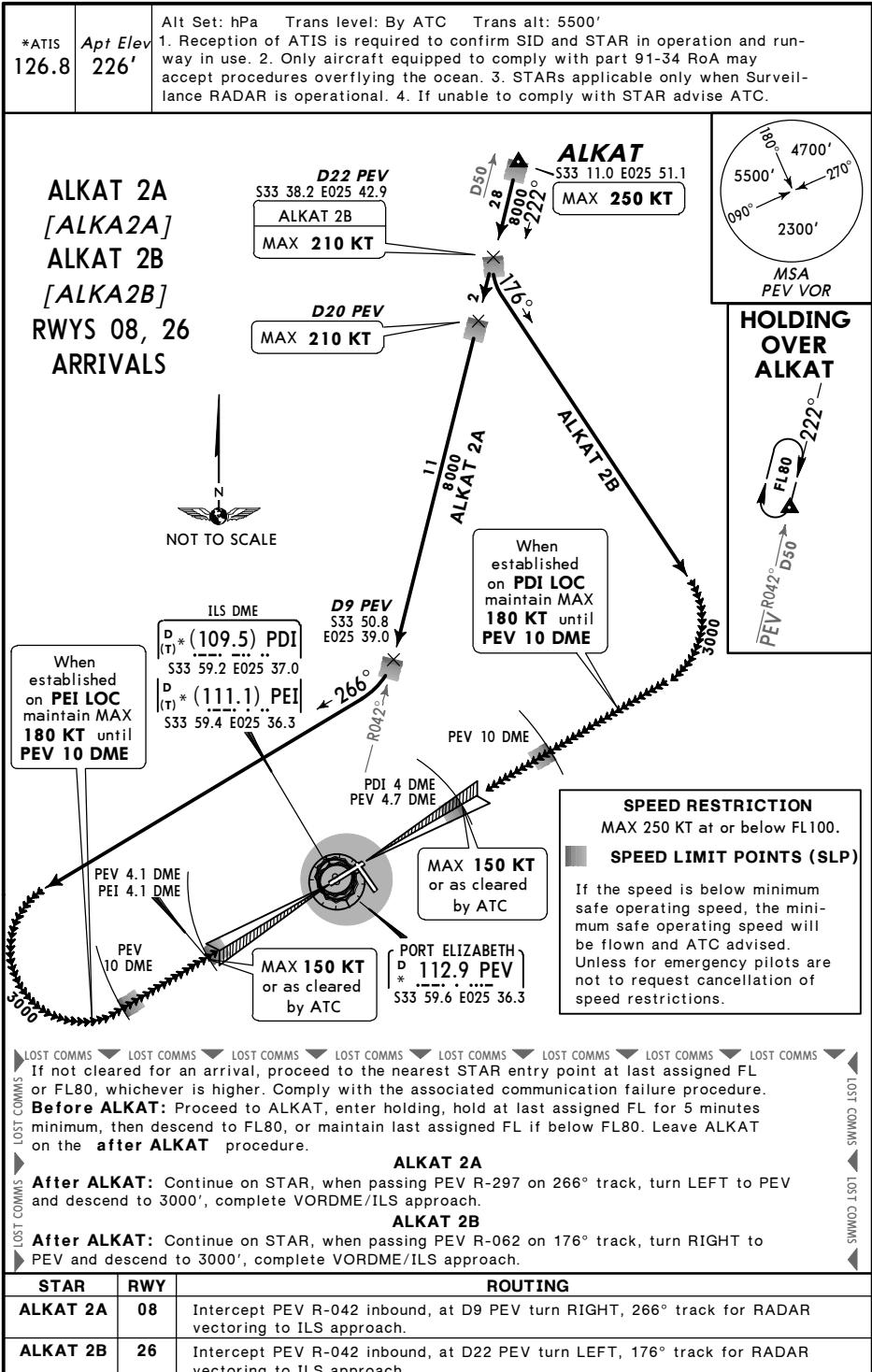
<b>DME required.</b> Simultaneous approach authorized with RWY 21L, for further instructions refer to 10-IP pages.	<b>BLASTING</b>	<b>① MISSED APCH WITH LOSS COMM:</b> Climb to 8000'. Maintain rwy track. At JSV VOR turn RIGHT (MAX 240 KT) onto heading 320°. Crossing R-214 WKV turn RIGHT onto heading 040° for radar vectoring onto RWY 21R.
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Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	JSV <b>115.2</b>
Descent Angle 2.80°	347	446	495	594	693	792		
MAP at D3.0 JSV								

JAR-OPS STRAIGHT-IN LANDING RWY 21R			CIRCLE-TO-LAND		
Missed apch climb gradient min 5.1% up to 8000			Missed apch climb gradient min 2.5%		
<b>MDA(H) 5980'</b> (475')			<b>MDA(H) 7030'</b> (1525')		
ALS out			ALS out		
A RVR 1000m	RVR 1500m	RVR 1200m	RVR 1500m	Max Kts	MDA(H) VIS
B RVR 1200m	RVR 2000m	RVR 1400m	RVR 2000m	100	6050' (492') 1500m
C RVR 1600m		RVR 1800m		135	6060' (502') 1600m
D RVR 1600m				180	6250' (692') 2400m
				205	6260' (702') 3600m
					6070' (512') 1500m
					6070' (512') 1600m
					6410' (852') 2400m
					6410' (852') 3600m



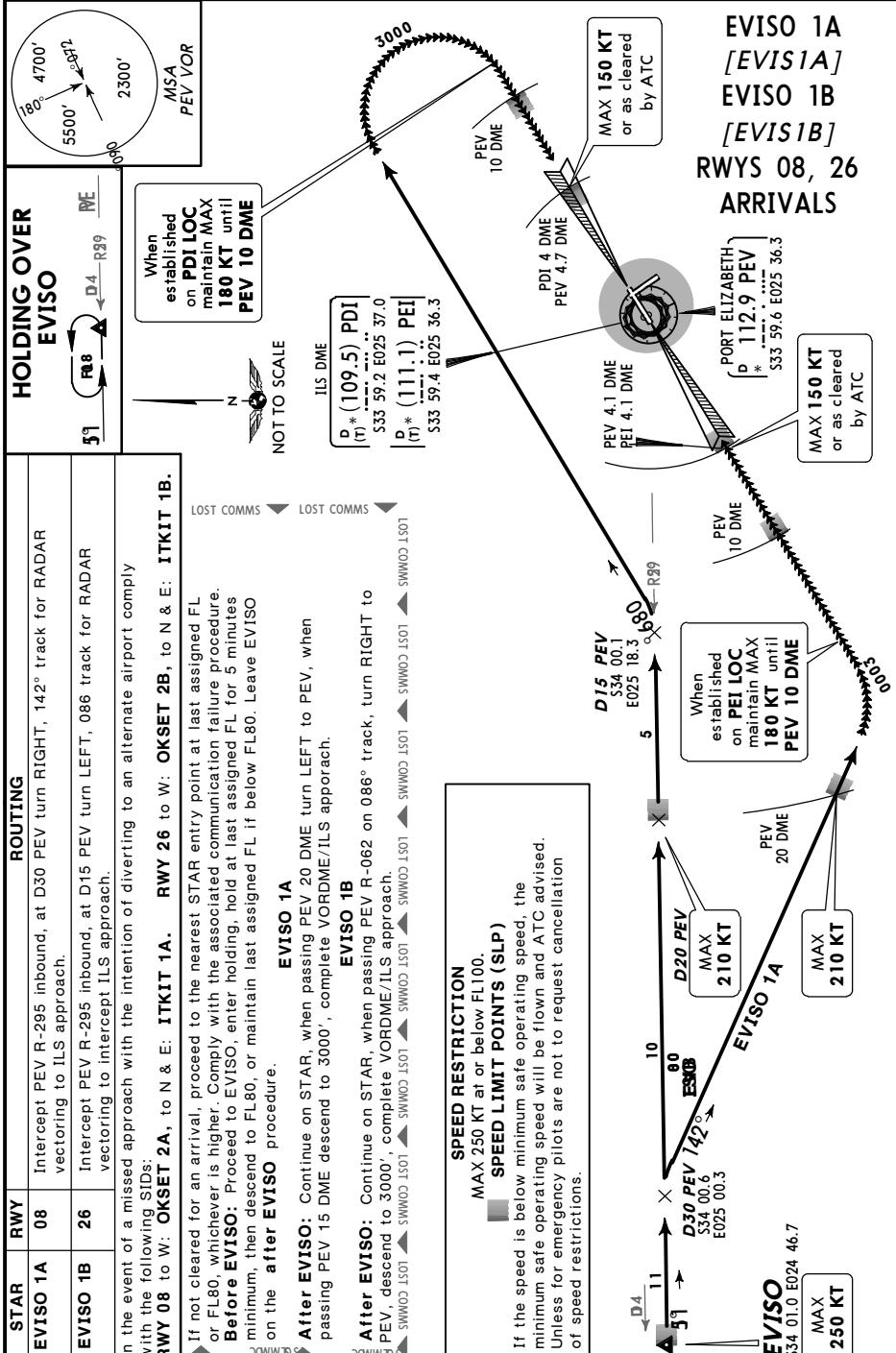


22 MAR 13 10-2A

Eff 4 Apr

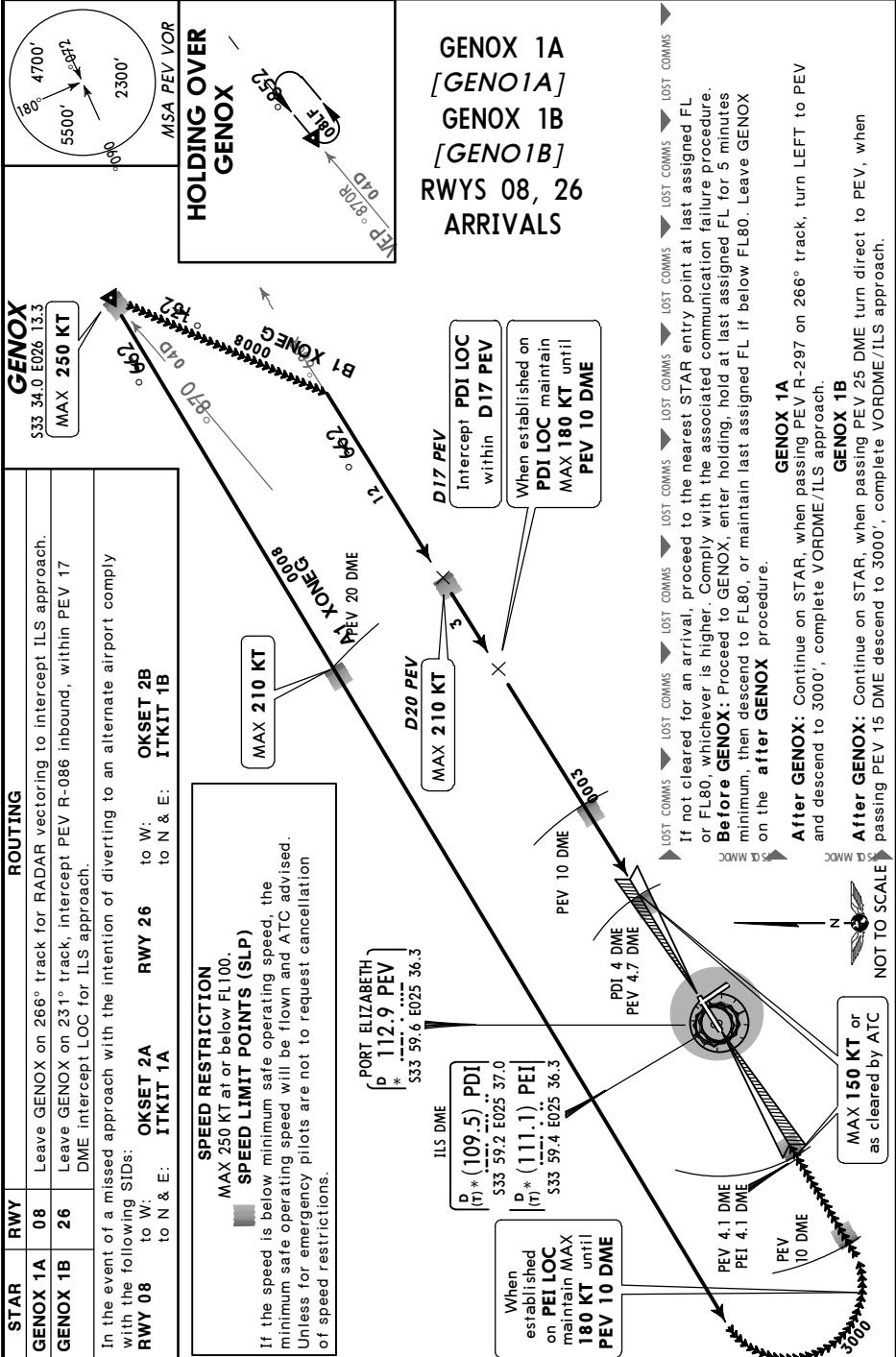
STAR

*ATIS 126.8	Apt Elev 226'	Alt Set: hPa      Trans level: By ATC      Trans alt: 5500' 1. Reception of ATIS is required to confirm SID and STAR in operation and runway in use. 2. Only aircraft equipped to comply with part 91-34 RoA may accept procedures overflying the ocean. 3. STARs applicable only when Surveillance RADAR is operational. 4. If unable to comply with STAR advise ATC.
----------------	------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



**CHANGES:** STAR EVISQ 1B speed restriction at PEV 4.7 DME established.

*ATIS 126.8	Apt Elev 226'	Alt Set: hPa Trans level: By ATC Trans alt: 5500' 1. Reception of ATIS is required to confirm SID and STAR in operation and runway in use. 2. Only aircraft equipped to comply with part 91-34 RoA may accept procedures overflying the ocean. 3. STARs applicable only when Surveillance RADAR is operational. 4. If unable to comply with STAR advise ATC.
----------------	------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



PORT ELIZABETH Approach (R) <b>120.4</b>	Apt Elev <b>226'</b>	Trans level: By ATC Trans alt: 5500' 1. Reception of ATIS is required to confirm SID and STAR in operation and runway in use. 2. SID applicable only when Surveillance RADAR is operational. 3. At 2000' contact PORT ELIZABETH APP. Advise PORT ELIZABETH APP of level passing on first contact for Mode C check. 4. Cross CTR boundary at or above 3000'. 5. If unable to comply with SID notify ATC. 6. SIDs include minimum noise routings.
---------------------------------------------	-------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

LOST COMMS ▾ LOST COMMS ▾ LOST COMMS ▾ LOST COMMS ▾

Comply with SID, climb to MSA or maintain last assigned FL whichever is higher. At PEV R-064/D40 climb to filed FL, at SID termination point continue as per flight plan.

Aircraft wishing to return continue to SID termination point and climb to last assigned FL or MSA, if last cleared level is below MSA.

**ITKIT 1A:** At ITKIT proceed to GENOX and comply with the STAR GENOX 1A communication failure procedure.

**ITKIT 1B:** At ITKIT proceed to GENOX and comply with the STAR GENOX 1B communication failure procedure.

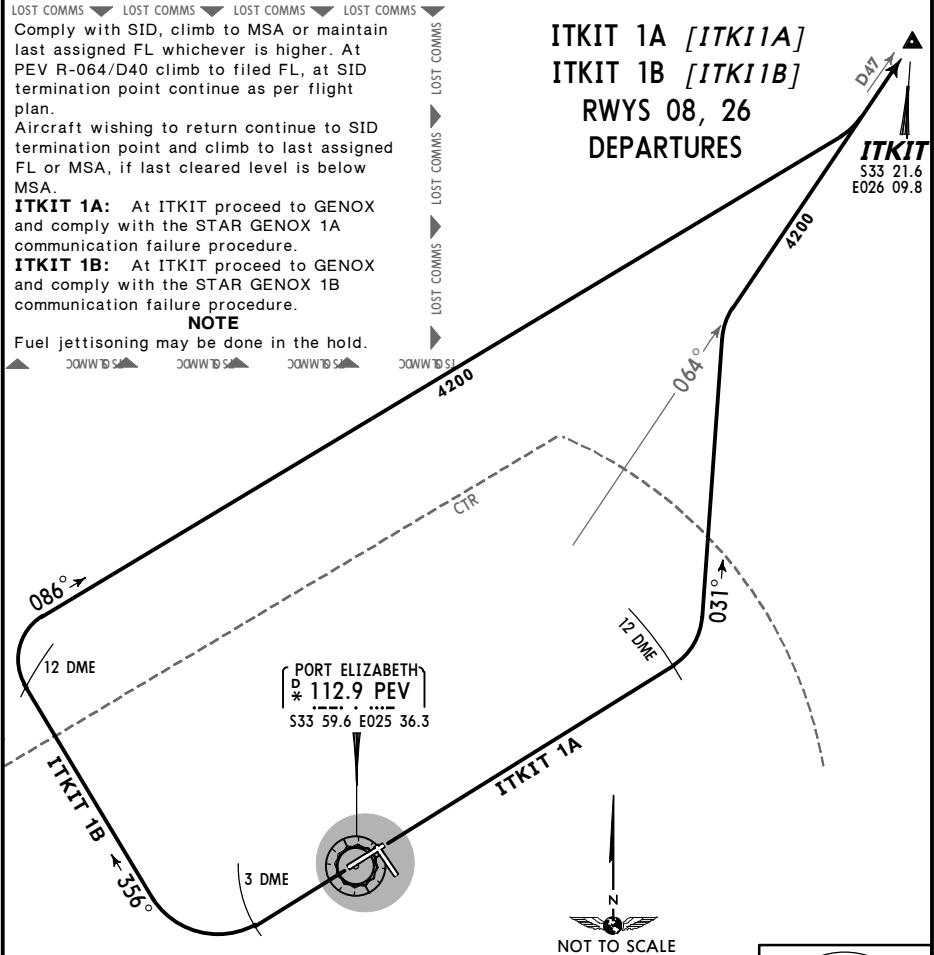
**NOTE**

Fuel jettisoning may be done in the hold.

LOST COMMS ▾  
LOST COMMS ▾  
LOST COMMS ▾  
LOST COMMS ▾  
DOWN TO SIDS

**ITKIT 1A [ITK11A]****ITKIT 1B [ITK11B]****RWYS 08, 26****DEPARTURES**

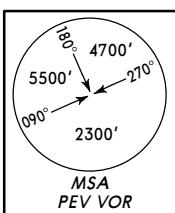
DIV 4  
ITKIT  
S33 21.6  
E026 09.8

**ITKIT 1B**

This SID requires a minimum climb gradient of 4.5% until passing 3000' to remain clear of FAPZ traffic.

Gnd speed-KT	75	100	150	200	250	300
4.5% V/V(fpm)	342	456	684	911	1139	1367

NOT TO SCALE



Initial climb clearance **FL70**, further climb under RADAR control

SID	RWY	ROUTING
<b>ITKIT 1A</b>	<b>08</b>	Climb on runway track to PEV 12 DME, turn LEFT, 031° track, intercept PEV R-064 to ITKIT, continue as per flight plan.
<b>ITKIT 1B</b>	<b>26</b>	Climb on runway track to PEV 3 DME, turn RIGHT, 356° track, at PEV 12 DME turn RIGHT, 086° track, intercept PEV R-064 to ITKIT, continue as per flight plan.



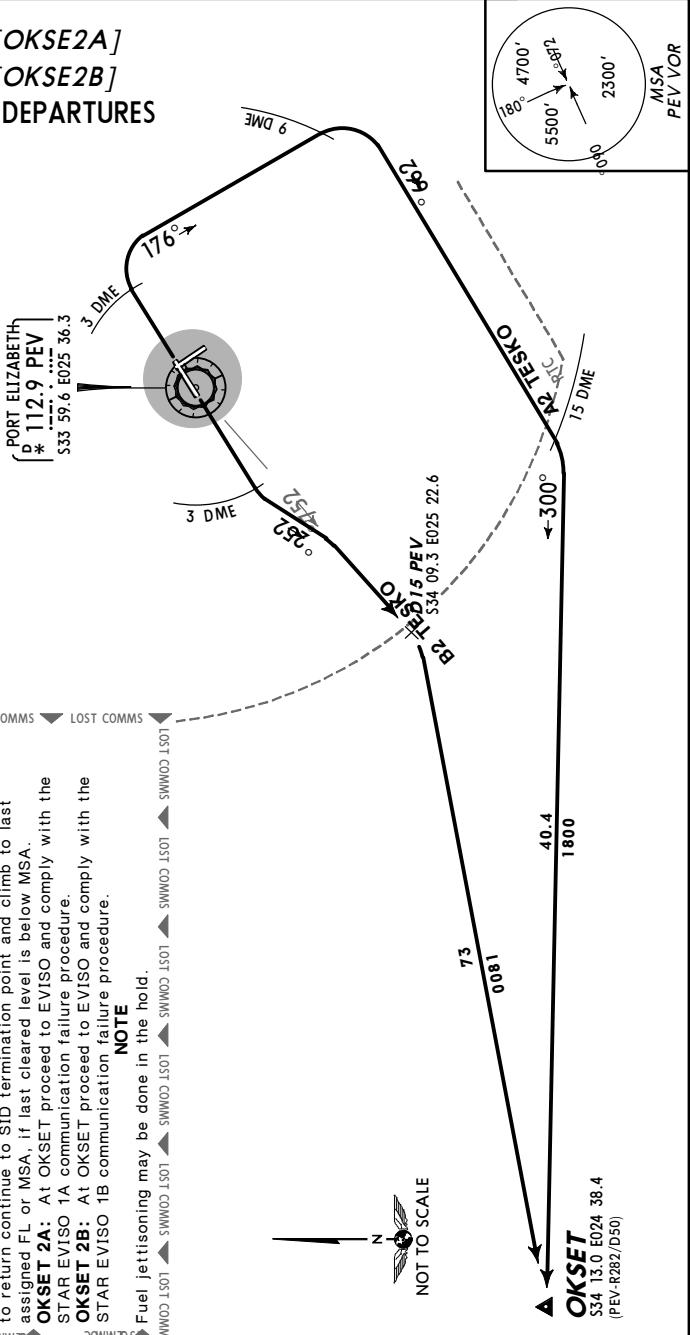
**PORT ELIZABETH**  
Approach (R)  
**120.4**

*Apt Elev*  
226'

Trans level: By ATC Trans alt: 5500'

1. Reception of ATIS is required to confirm SID and STAR in operation and runway in use.
2. SID applicable only when Surveillance Radar is operational.
3. At 2000' contact PORT ELIZABETH APP. Advise PORT ELIZABETH APP of level passing on first contact for Mode C check.
4. Cross CTR boundary at or above 3000'.
5. If unable to comply with SID notify ATC.
6. SIDs include minimum noise routings.

OKSET 2A [OKSE2A]  
OKSET 2B [OKSE2B]  
RWYS 08, 26 DEPARTURES



*CHANGES:* MEA established.

**NOISE ABATEMENT****LT minus 2 HOURS = UTC (Z)****DEPARTURES**

The below procedures apply to jet aircraft and may be disregarded if at 3230' or when leveled off by ATC or when leveled by SID.

- |                   |                                                                                                                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Take-off to 1730' | - take-off power;<br>- take-off flaps;<br>- climb at $V_2 + 10$ to 20 KT or as limited by body angle;<br>- depending on ACFT type, the take-off power/thrust may be reduced at a lower altitude; |
| At 1730'          | - reduce thrust (if not already reduced) to not less than climb power/thrust;                                                                                                                    |
| 1730' to 3230'    | - climb at $V_2 + 10$ to 20 KT;                                                                                                                                                                  |
| At 3230'          | - accelerate smoothly to en-route climb speed with flap retraction on schedule.                                                                                                                  |

No jet aircraft are to use RWY or TWY intersection for take-off between 2200-0600LT.

FAPE/PLZ

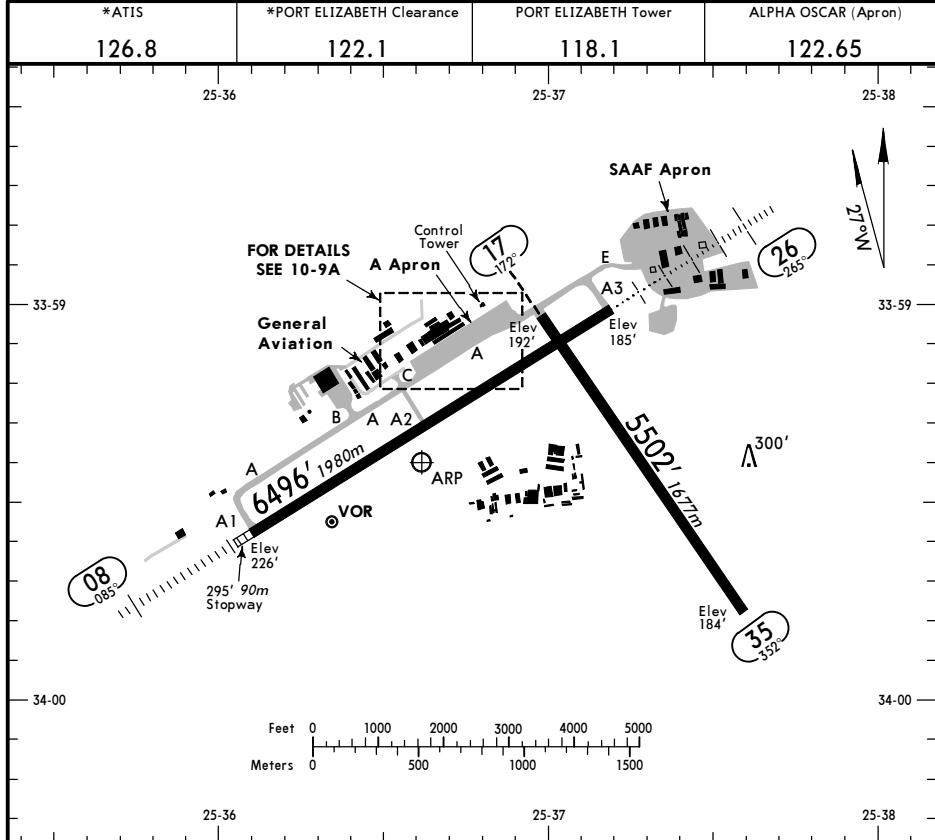
Apt Elev 226'

S33 59.4 E025 36.6

JEPPESEN PORT ELIZABETH, S AFR REP

21 FEB 14 (10-9)

PORT ELIZABETH

GENERAL

CAUTION: Birds in the vicinity of airport.

Powerlines on approach rwy 35.

Pilots have to contact "ALPHA OSCAR" for allocation of parking bays, while still on taxiway.

Marshalling guidance at stands.

Pushback on departure. An engineer escorts departing acft from apron.

## ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS			WIDTH
		Threshold	Glide Slope	LANDING BEYOND	
08 26	HIRL (60m) HIALS PAPI (angle 3.0°)			5220' 1591m 5165' 1574m	151' 46m
17 35	RL (60m) PAPI-L (angle 3.0°)				151' 46m

## JAR-OPS

## TAKE-OFF 1

## All Rwy's

LVP must be in Force

RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A		
B	250m	
C		
D	300m	500m

1 Operators applying U.S. Ops Specs: CL required below 300m.

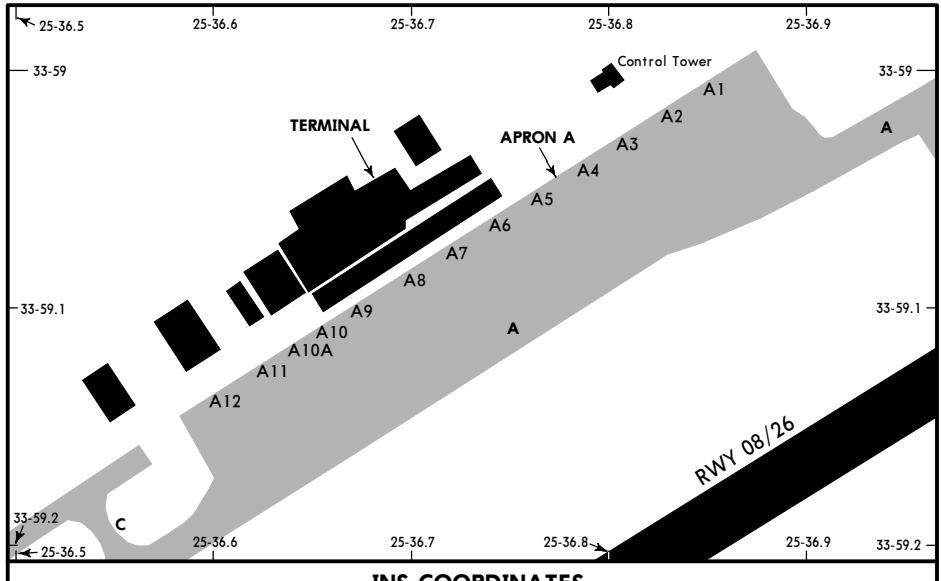
CHANGES: Stopway established.

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FAPE/PLZ

**JEPPESEN PORT ELIZABETH, S AFR REP**  
 21 FEB 14 (10-9A)

PORT ELIZABETH

**INS COORDINATES**

STAND No.	COORDINATES	
A1	S33 59.0 E025 36.9	
A2 thru A5	S33 59.0 E025 36.8	
A6	S33 59.1 E025 36.8	
A7 thru A10	S33 59.1 E025 36.7	
A10A thru A12	S33 59.1 E025 36.6	

<b>STRAIGHT-IN RWY</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>08</b>	ILS	<b>526'(300')</b>	<b>526'(300')</b>	<b>526'(300')</b>	<b>526'(300')</b>
	<i>FULL</i>	<b>R650m</b>	<b>R650m</b>	<b>R650m</b>	<b>R650m</b>
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1400m	R1400m	R1400m	R1400m
	VOR <b>①②</b>	<b>680'(454')</b>	<b>680'(454')</b>	<b>680'(454')</b>	<b>680'(454')</b>
		<b>R1400m</b>	<b>R1400m</b>	<b>R1400m</b>	<b>R1600m</b>
	<i>ALS out</i>	R1500m	R1500m	C2100m	C2100m
	VOR <b>①③</b>	<b>680'(454')</b>	<b>680'(454')</b>	<b>680'(454')</b>	<b>680'(454')</b>
		<b>R1400m</b>	<b>R1400m</b>	<b>R1400m</b>	<b>R1600m</b>
	<i>ALS out</i>	C2100m	C2100m	C2100m	C2100m
<b>26</b>	ILS	<b>385'(200')</b>	<b>385'(200')</b>	<b>385'(200')</b>	<b>385'(200')</b>
	<i>FULL</i>	<b>R550m</b>	<b>R550m</b>	<b>R550m</b>	<b>R550m</b>
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	VOR <b>①②</b>	<b>660'(475')</b>	<b>660'(475')</b>	<b>660'(475')</b>	<b>660'(475')</b>
		<b>R1500m</b>	<b>R1500m</b>	<b>R1500m</b>	<b>R1600m</b>
	<i>ALS out</i>	R1500m	R1500m	C2200m	C2200m
	VOR <b>③</b>	<b>660'(475')</b>	<b>660'(475')</b>	<b>660'(475')</b>	<b>660'(475')</b>
		<b>R1700m</b>	<b>R1700m</b>	<b>R1900m</b>	<b>R1900m</b>
	<i>ALS out</i>	C2400m	C2400m	C2600m	C2600m

**①** Continuous Descent Final Approach.

**②** with FMS.

**③** w/o FMS.

<b>CIRCLE-TO-LAND ④</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

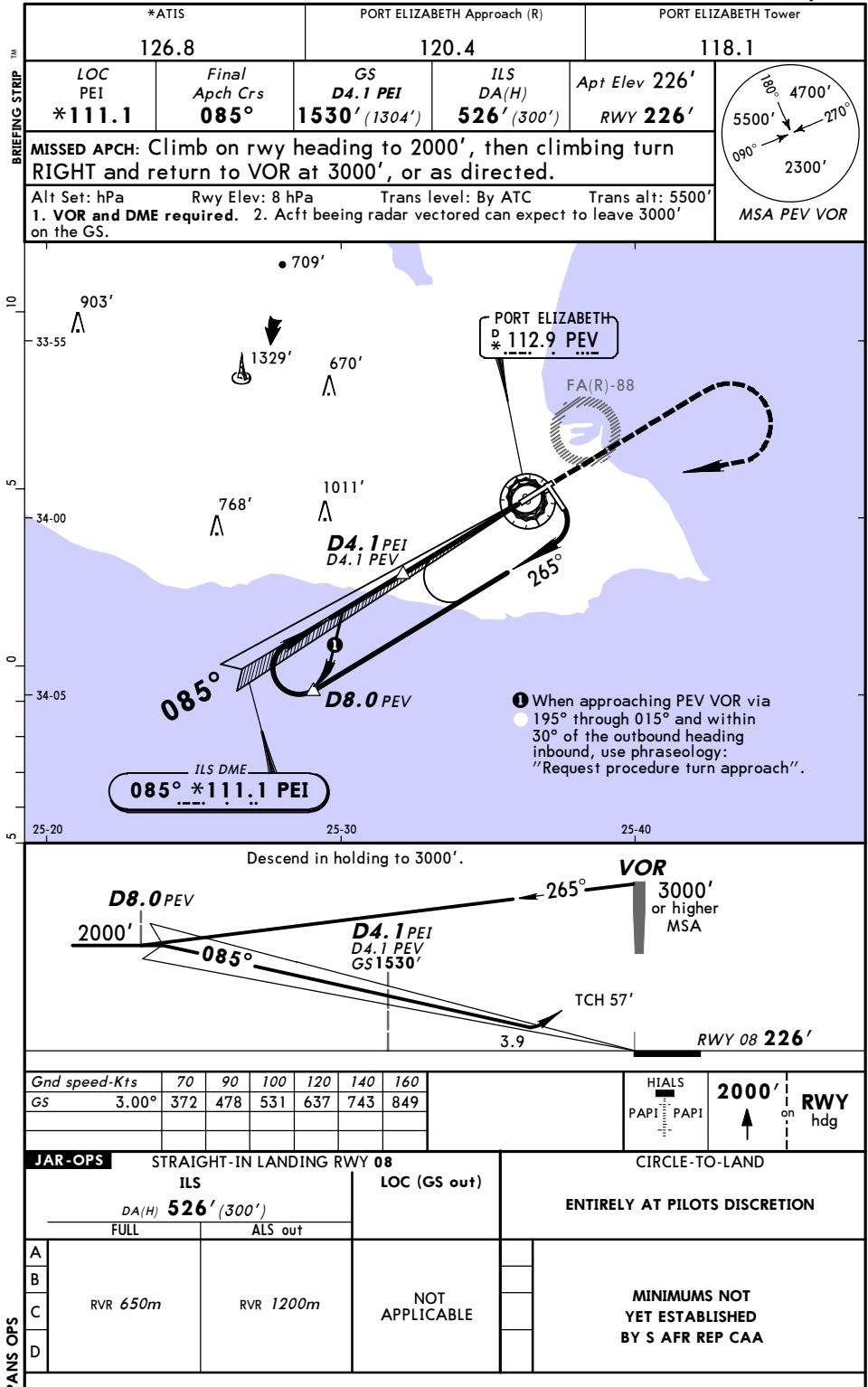
**④** Entirely at pilots discretion.

### **TAKE-OFF RWY 08, 17, 26, 35**

<b>LVP must be in force</b>			
	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
<b>A</b>			
<b>B</b>	250m		
<b>C</b>		400m	
<b>D</b>	300m		500m

FAPE/PLZ  
PORT ELIZABETH

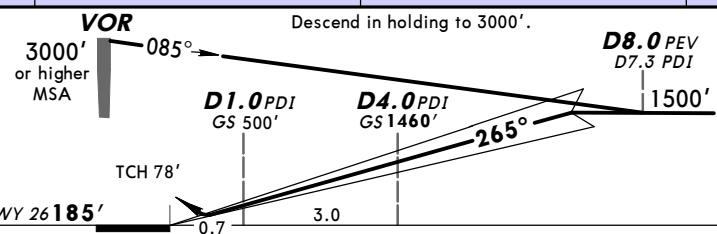
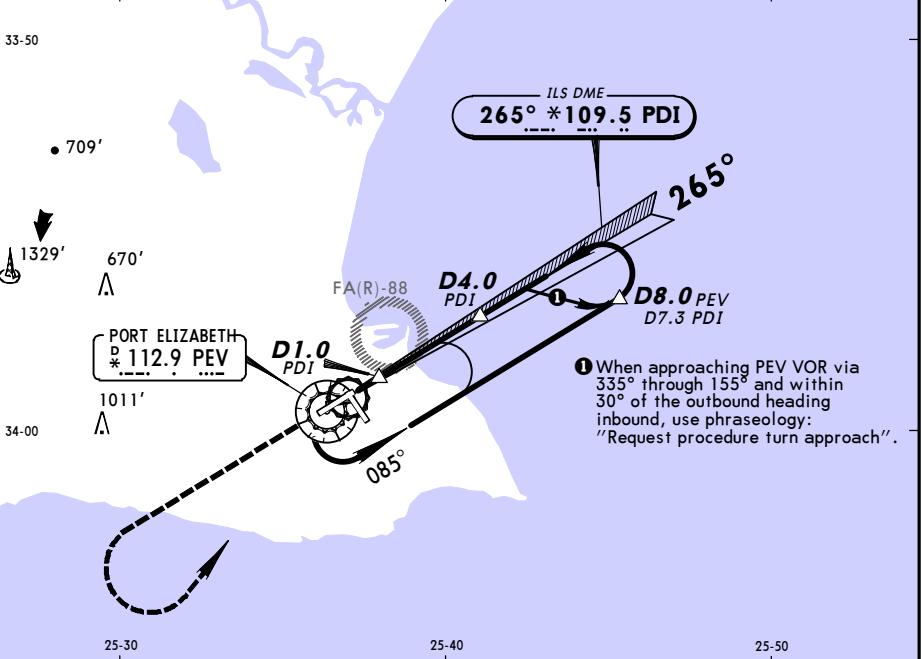
JEPPESEN PORT ELIZABETH, S AFR REP  
7 DEC 12 (11-1) Eff 13 Dec



*ATIS		PORT ELIZABETH Approach (R)	PORT ELIZABETH Tower	
126.8		120.4		118.1
LOC PDI *109.5	Final Apch Crs 265°	GS D4.0 PDI 1460' (1275')	ILS DA(H) 385' (200')	Apt Elev 226' RWY 185'

MISSING APCH: Climb on rwy heading to 2000', then climbing turn LEFT and return to VOR at 3000', or as directed.

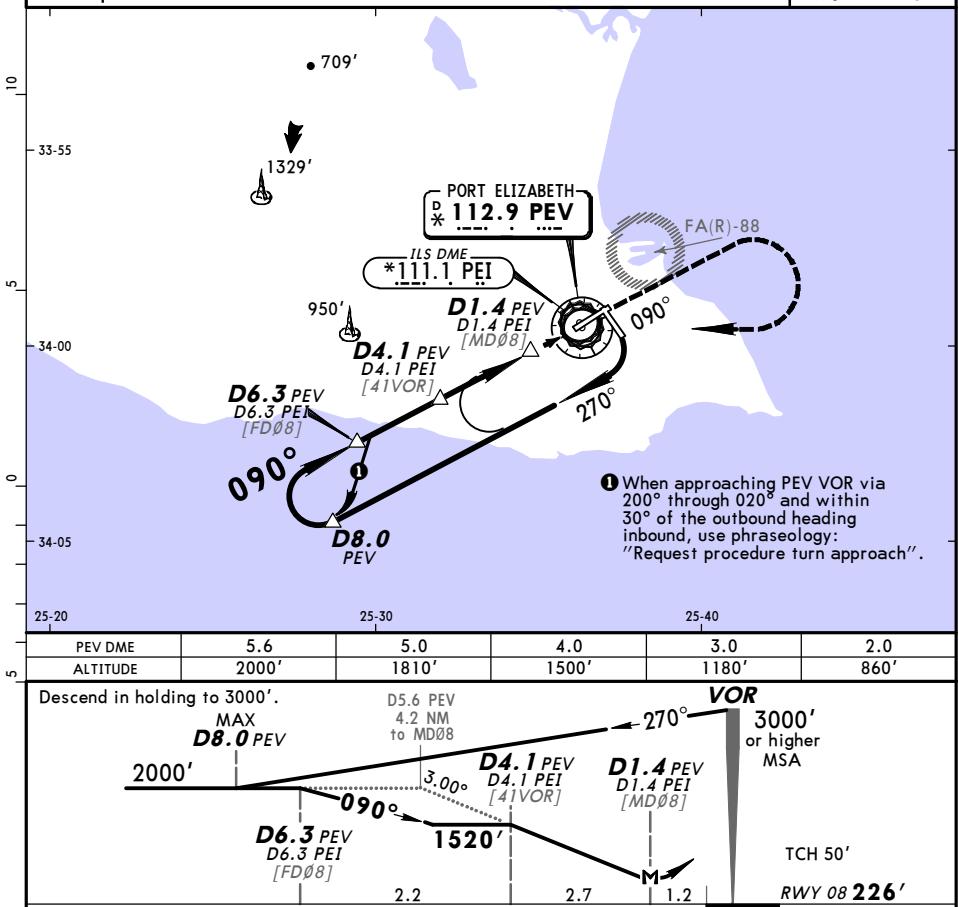
Alt Set: hPa Rwy Elev: 7 hPa Trans level: By ATC Trans alt: 5500'  
VOR and DME required.



Gnd speed-Kts	70	90	100	120	140	160	HIALS	2000'	RWY
GS	3.00°	372	478	531	637	743	849		
							PAPI	on	hdg

JAR-OPS		STRAIGHT-IN LANDING Rwy 26		CIRCLE-TO-LAND	
ILS DA(H) 385' (200')		LOC (GS out)		ENTIRELY AT PILOTS DISCRETION	
FULL	ALS out				
A					
B					
C	RVR 550m	RVR 1000m	NOT APPLICABLE		MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA
D					

*ATIS		PORT ELIZABETH Approach (R)		PORT ELIZABETH Tower	
126.8		120.4		118.1	
VOR PEV <b>*112.9</b>	Final Apch Crs <b>090°</b>	Minimum Alt <b>D4.1 PEV</b> <b>1520'</b> (1294')	MDA(H) <b>680'</b> (454')	Apt Elev 226' <b>RWY 226'</b>	180° 4700' 5500' 270° 090° 2300' MSA PEV VOR
MISSING APCH: Climb on R-090 outbound VOR to 2000', then turn RIGHT and return to VOR climbing to 3000', or as directed.					
Alt Set: hPa	Rwy Elev: 8 hPa	Trans level: By ATC	Trans alt: 5500'		
DME required.					



Gnd speed-Kts						HIALS	PEV	
Descent Angle	3.00°	372	478	531	637	PAPI	on 112.9	
MAP at D1.4 PEV/D1.4 PEI							R-090	
<b>JAR-OPS STRAIGHT-IN LANDING RWY 08</b>						<b>CIRCLE-TO-LAND</b>		
MDA(H) <b>680'</b> (454')						<b>ENTIRELY AT PILOTS DISCRETION</b>		
ALS out								
PANS OPS	RVR 1000m		RVR 1500m		MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA			
	RVR 1200m		RVR 2000m					
	RVR 1600m							



FAPG/PBZ  
Apt Elev 465'  
S34 05.3 E023 19.7

JEPPESEN PLETENBERG BAY, S AFR REP  
26 AUG 11 10-9

PLETENBERG BAY

\*PLETENBERG BAY Radio  
When Radio is unmanned, acft shall use 124.8 for Air to Air Self-Information.

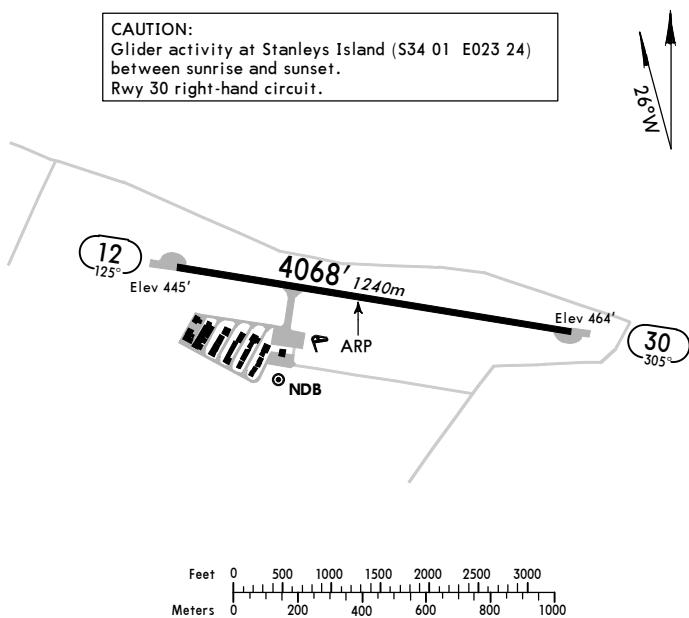
124.8

23-19

23-20

34-05

34-05



34-06  
23-19

23-20

34-06

ADDITIONAL RUNWAY INFORMATION

RWY	USABLE LENGTHS			TAKE-OFF	WIDTH
	Threshold	LANDING BEYOND Glide Slope			
12					
30					66' 20m

JAR-OPS

TAKE-OFF 1 & DEPARTURE PROCEDURE

All Rwy's

LVP must be in Force

RCLM (DAY only)  
or RL

RCLM (DAY only)  
or RL

NIL  
(DAY only)

A

250m

400m

500m

B

C

D

NOT APPLICABLE

1 Operators applying U.S. Ops Specs: CL required below 300m.

DEPARTURE PROCEDURE

Contact GEORGE Tower on 118.9 or CAPE TOWN E Information on 124.7 before entering GEORGE TMA.  
Contact CAPE TOWN ACC E on 124.7 passing 2000' before requesting clearance from GEORGE Approach.

\*PLETTENBERG BAY Radio  
When Radio is unmanned, acft shall use 124.8 for Air to Air Self-Information.

124.8

NDB PY <b>277.5</b>
---------------------------

Final Apch Crs <b>296°</b>
----------------------------------

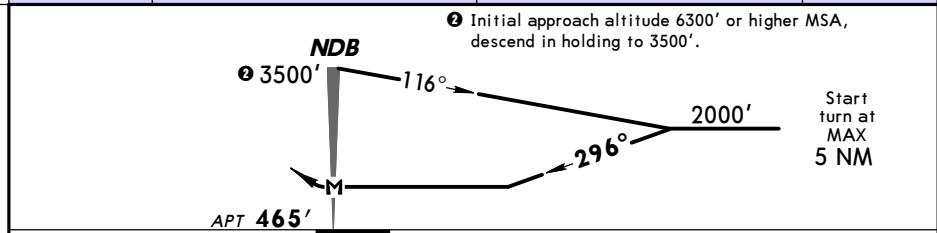
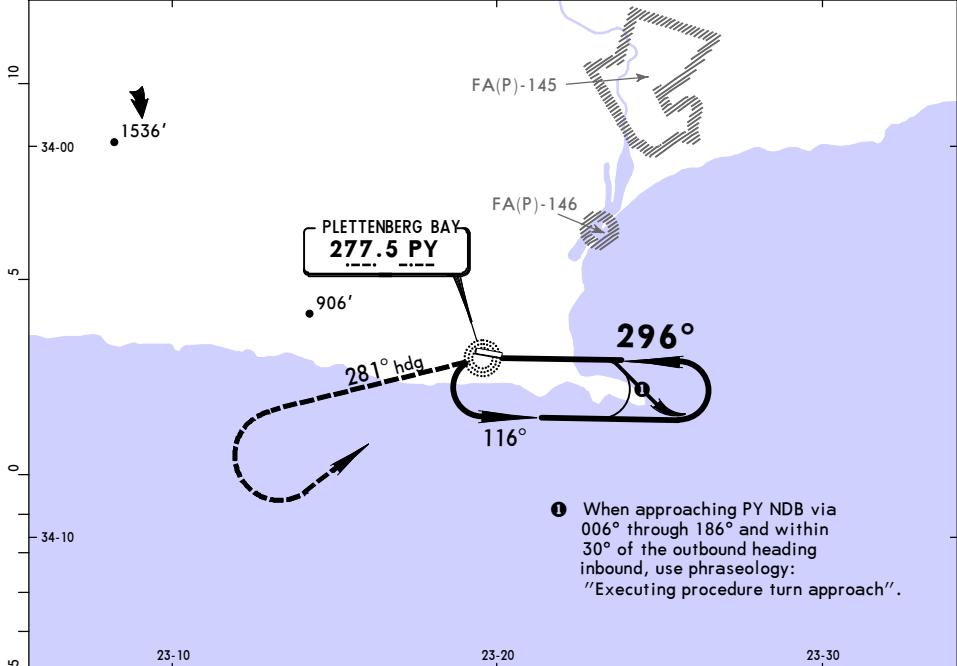
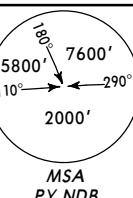
Minimum Alt No FAF
-----------------------

MDA(H) <b>1310' (845')</b>
-------------------------------

Apt Elev <b>465'</b>
----------------------

MISSIED APCH: Turn LEFT onto heading 281° climbing to 2000', then turn LEFT to NDB climbing to 3500'.

Alt Set: hPa Apt Elev: 17 hPa Trans level: By ATC Trans alt: 7200'  
Approach procedure is conducted outside controlled airspace and entirely at the discretion of pilot-in-command.



MAP at NDB		2000' onto <b>hdg 281°</b>	
<b>JAR-OPS</b>		<b>STRAIGHT-IN LANDING RWY 30</b>	
		<b>CIRCLE-TO-LAND</b>	
		<b>ENTIRELY AT PILOTS DISCRETION</b>	
MDA(H) <b>1310' (845')</b>			
A RVR 1500m			
B			
C		<b>MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA</b>	
D			

FAPH

Apt Elev 1419'  
027.55°/25.3 from HSV 114.0

JEPPESEN

3 MAR 00

10-9

PHALABORWA, S AFR REP

HENDRIK VAN ECK

S23 56.2 E031 09.3

\*VAN ECK Information

124.8

31-09

31-10

Rwy 01 right-hand circuit.

19  
189' Stopway

Elev 1433'

4505'  
1373m70' AGL  
Control Tower  
ARPParking positions  
A1 - B4

## PARKING POSITIONS

STAND COORDINATES  
A1 thru B4 S23 56.2 E31 09.3

Elev 1396'

600' 183m  
Stopway01  
009°

15°NW

Feet 0 1000 2000 3000 4000 5000  
Meters 0 500 1000 1500

23-57

23-56

31-09

31-10

GENERAL:CAUTION:

Animals may be present on airport. Birds in vicinity of airport.

Obtain start-up clearance when parachuting is in progress.

Landing and take-off clearances are based only on those portions of the rwy visible to Tower at the time the clearance is issued together with the known and reported situation on rwy.

Dirt taxiways not available for use. Acft to backtrack on rwy.

## ADDITIONAL RUNWAY INFORMATION

USABLE LENGTHS  
LANDING BEYOND  
Threshold Glide Slope

TAKE-OFF

WIDTH

RWY				
01 19	HIRL PAPI (angle 3.0°)			60' 18m

① Due to blasting SW of aerodrome, circuits are to be flown to the E. ACFT departing rwy 19 proceeding W, must maintain rwy heading for at least 3 NM before turning RIGHT.

## JAR-OPS

## TAKE-OFF ①

## All Rwy's

LVP must be in Force

RCLM (DAY only)  
or RLRCLM (DAY only)  
or RLNIL  
(DAY only)

A	250m	400m	500m
B			
C			
D			

NOT APPLICABLE

① Operators applying U.S. Ops Specs: CL required below 300m.

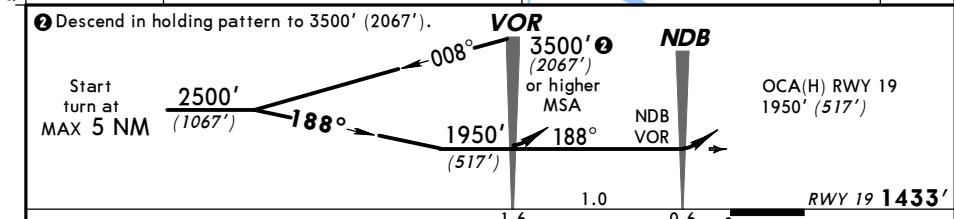
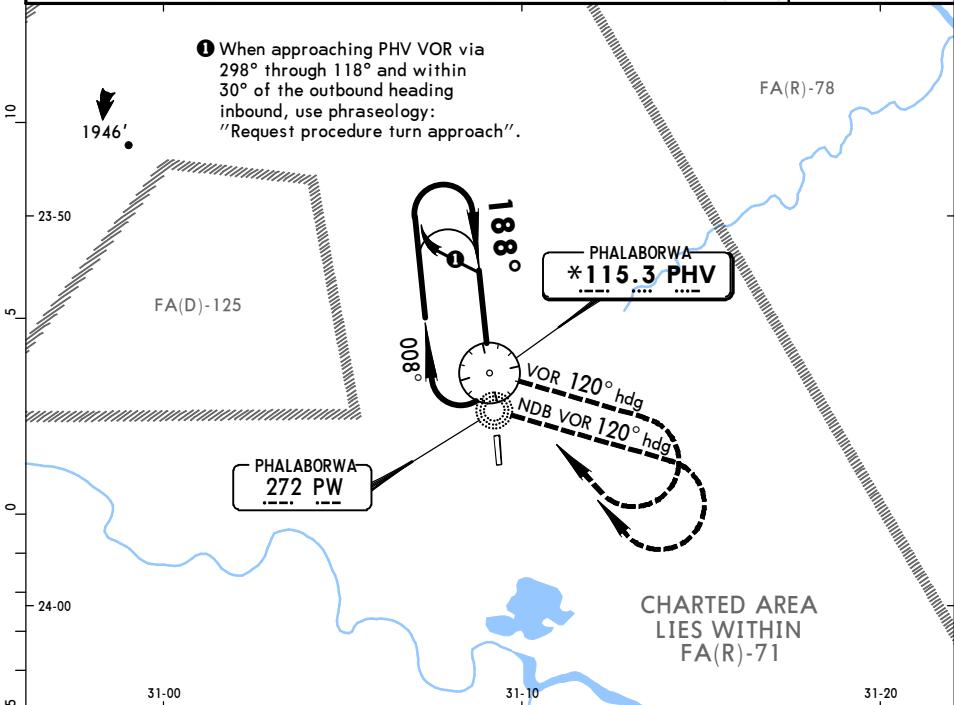
CHANGES: Comm. Parking stands added. Lights. Minimums.

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124.8

VOR PHV <b>*115.3</b>	Final Apch Crs <b>188°</b>	Minimum Alt No FAF	NDB VOR/VOR MDA(H) <b>1950' (517')</b>	Apt Elev 1419' <b>RWY 1433'</b>	3200' 300' 4000' MSA PHV VOR
MISSSED APCH: Turn LEFT onto heading 120° climbing to 2500', then turn RIGHT to VOR climbing to 3500', or as directed.					

Alt Set: hPa Rwy Elev: 51 hPa Trans level: By ATC Trans alt: 3500'(2067')



NDB VOR: MAP at NDB	1.0	0.6	0	PAPI	2500' LT on 120° hdg
VOR: MAP at VOR					

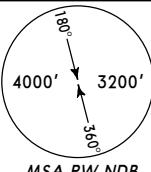
JAR-OPS	STRAIGHT-IN LANDING RWY 19	CIRCLE-TO-LAND
MDA(H) 1950' (517')		
A	RVR 1500m	
B		
C	NOT APPLICABLE	MINIMUMS NOT YET ESTABLISHED BY S AFR REP DCA
D		

\*VAN ECK Information

124.8

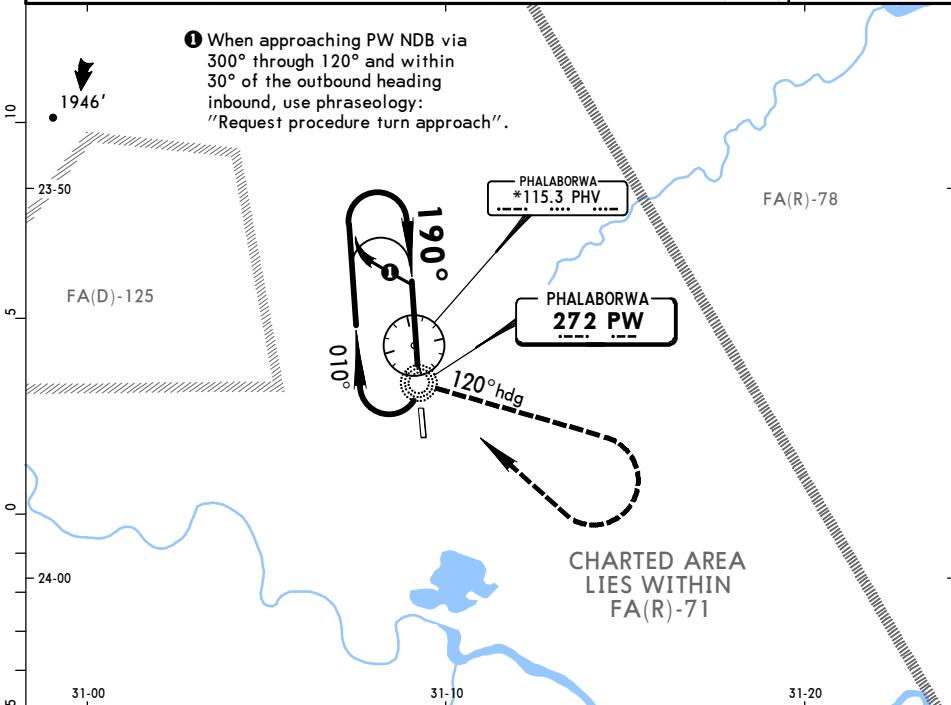
NDB PW <b>272</b>	Final Apch Crs <b>190°</b>	Minimum Alt No FAF	MDA(H) <b>1950' (517')</b>	Apt Elev 1419' RWY 1433'
-------------------------	----------------------------------	-----------------------	-------------------------------	-----------------------------

**MISSSED APCH:** Turn LEFT onto heading 120° climbing to 2500', then turn RIGHT to NDB climbing to 3500', or as directed.



MSA PW NDB

Alt Set: hPa Rwy Elev: 51 hPa Trans level: By ATC Trans alt: 3500'(2067')



2 Descend in holding pattern to 3500' (2067').

Start turn at  
MAX 5 NM  
2500'  
190°

**NDB**

3500' ②  
(2067')  
or higher  
MSA

OCA(H) RWY 19  
1950' (517')

RWY 19 **1433'**

0.6

0

PAPI

**2500'**  
LT  
120°  
hdg

MAP at NDB

JAR-OPS

STRAIGHT-IN LANDING RWY 19

CIRCLE-TO-LAND

ENTIRELY AT PILOTS DISCRETION

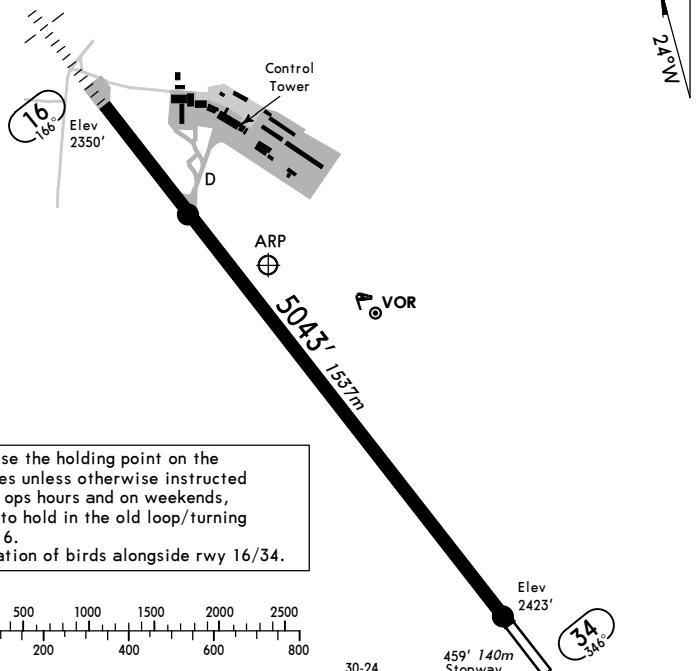
MDA(H) **1950' (517')**

A	RVR 1500m	MINIMUMS NOT YET ESTABLISHED BY S AFR REP DCA
B		
C	NOT APPLICABLE	
D		

\*PIETERMARITZBURG Tower

122.0

30-24



#### ADDITIONAL RUNWAY INFORMATION

RWY	USABLE LENGTHS			WIDTH
	LANDING BEYOND Threshold	Glide Slope	TAKE-OFF	
16	① HIRL (90m) ALS ① PAPI-L (angle 3.5°)			98' 30m
34	① HIRL (90m) ① PAPI-L (angle 3.0°)			

① Activate on 122.0 outside ATC hours. Key mike 7 times for full intensity and 5 times to dim to 30%. Automatically switched off after 15 min.

#### JAR-OPS

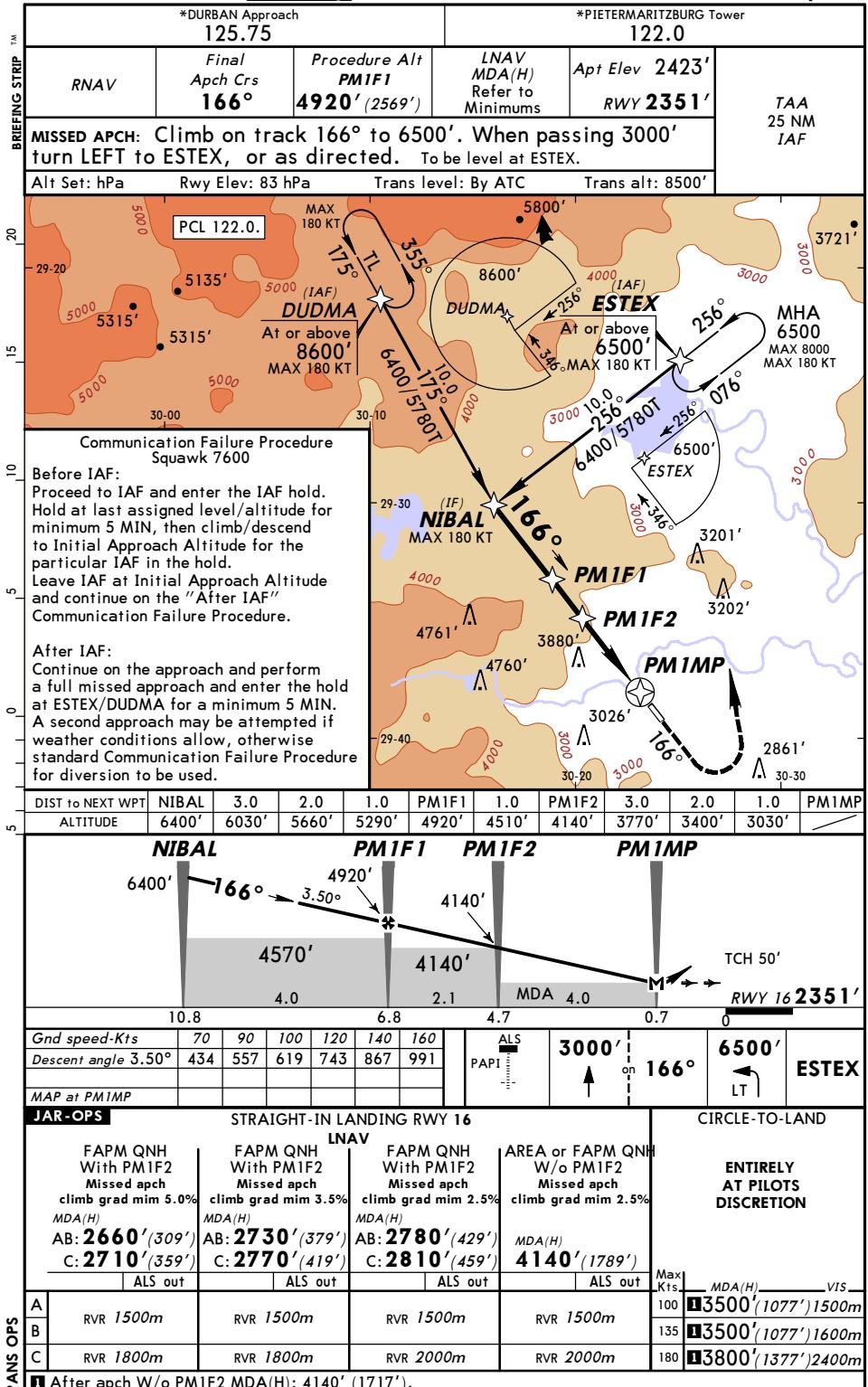
#### TAKE-OFF ①

#### All Rwy's

LVP must be in Force

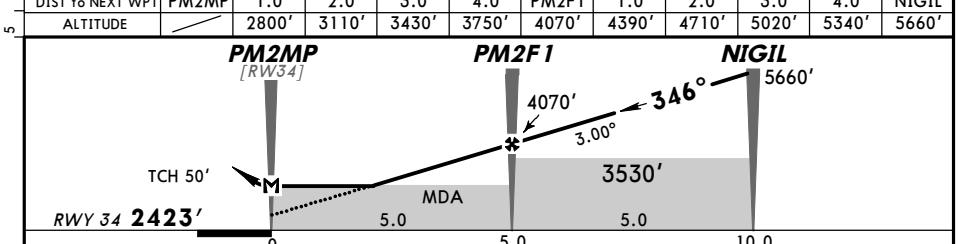
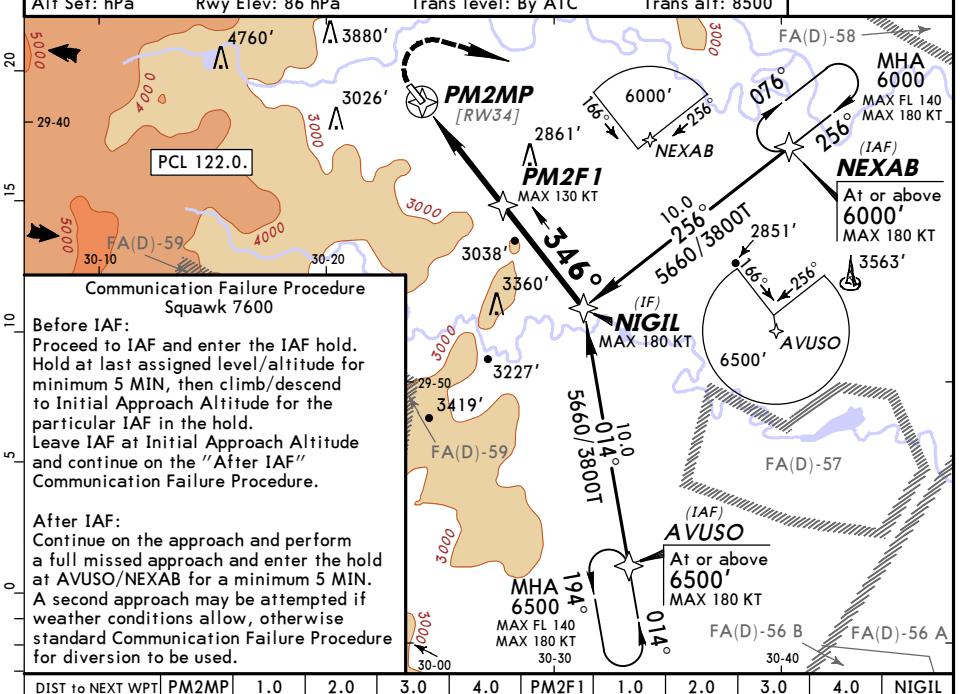
	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A			
B	250m	400m	500m
C			
D	NOT APPLICABLE		

① Operators applying U.S. Ops Specs: CL required below 300m.



CHANGES: Displaced threshold withdrawn. Lights.

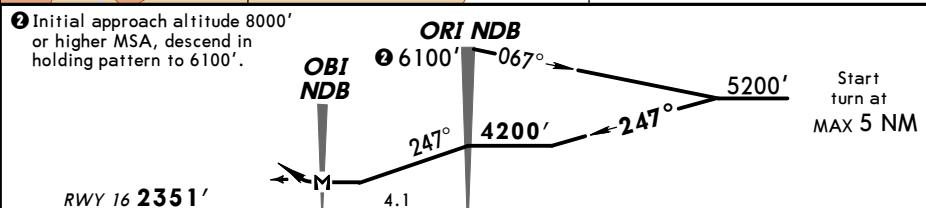
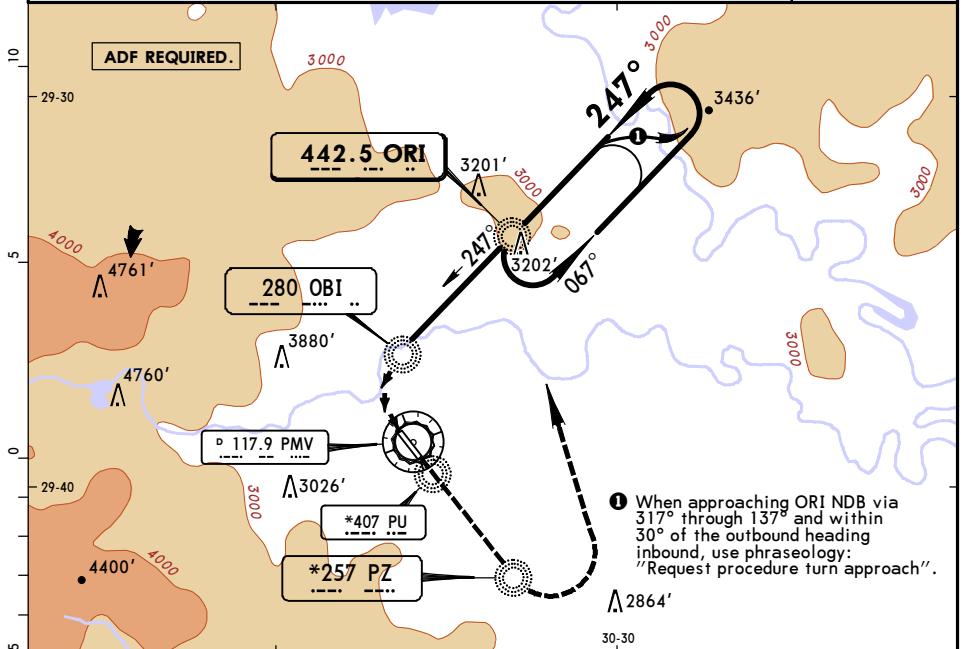
*DURBAN Approach 125.75			*PIETERMARITZBURG Tower 122.0		
RNAV	Final Apch Crs <b>346°</b>	Procedure Alt <b>PM2F1</b> <b>4070' (1647')</b>	LNAV MDA(H) Refer to Minimums	Apt Elev 2423' <b>RWY 2423'</b>	TAA 25 NM IAF
MISSSED APCH: Climb on track 346° to 6000'. When passing 3200' (CAT A & B) or 3400' (CAT C) turn RIGHT to NEXAB, or as directed. To be level at NEXAB.					



Gnd speed-Kts	70	90	100	120	140	160	PAPI-L	Refer to Missed Apch above
Descent angle 3.00°	372	478	531	637	743	849		

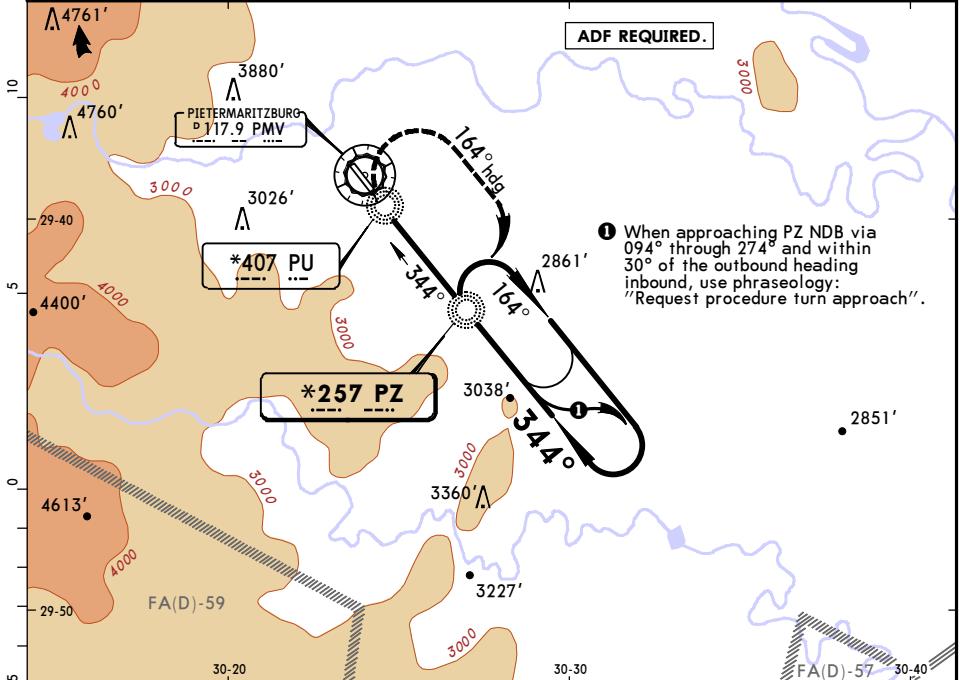
JAR-OPS STRAIGHT-IN LANDING RWY 34			CIRCLE-TO-LAND	
FAPM QNH Missed apch climb grad min 3.3%	LNAV FAPM QNH Missed apch climb grad min 2.5%	AREA QNH	ENTIRELY AT PILOTS DISCRETION	
MDA(H) AB: <b>3030' (607')</b> C: <b>3100' (677')</b>	MDA(H) AB: <b>3030' (607')</b> C: <b>3300' (877')</b>	MDA(H) AB: <b>3500' (1077')</b> C: <b>3800' (1377')</b>	Max LKts	MDA(H) VIS
A RVR 1500m	RVR 1500m	RVR 1500m	100	3500' (1077') 1500m
B RVR 2000m	RVR 2000m	RVR 2000m	135	3500' (1077') 1600m
C NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE	180	3800' (1377') 2400m
D NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE	D	NOT APPLICABLE

*DURBAN Approach			*PIETERMARITZBURG Tower		
125.75			122.0		
NDB ORI <b>442.5</b>	Final Apch Crs <b>247°</b>	Minimum Alt ORI NDB <b>4200' (1849')</b>	MDA(H) Refer to Minumums	Apt Elev 2423' <b>RWY 2351'</b>	
MISSING APCH: Climbing turn LEFT and track onto PZ NDB, then turn LEFT to ORI NDB climbing to 6100'.					
Alt Set: hPa Rwy Elev: 83 hPa Trans level: By ATC Trans alt: 8500' 1. Straight-in visual approach not allowed at night. 2. Procedure only authorized provided ORI, OBI and PZ NDB are operational. 3. Pilot controlled lighting 122.0. 4. High ground immediately West of PU NDB may give false indication on ADF.					

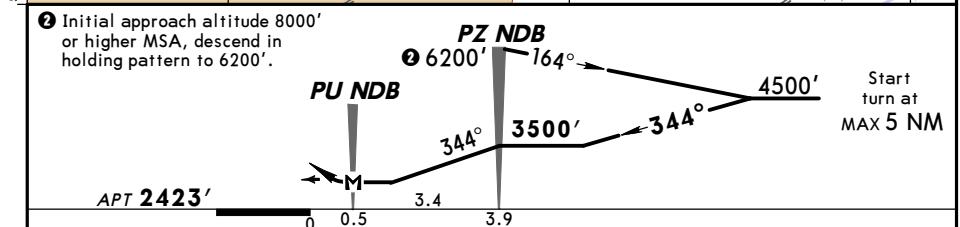


MAP at OBI NDB		ALS PAPI	PZ 257 LT
<b>JAR-OPS</b>		<b>LANDING RWY 16</b>	
MDA(H) AB: <b>3000' (649')</b> C: <b>3020' (669')</b>		<b>CIRCLE-TO-LAND</b>	
ALS out		<b>ENTIRELY AT PILOTS DISCRETION</b>	
A	RVR 1500m		
B	RVR 2000m		
C	NOT APPLICABLE	<b>MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA</b>	
D			

*DURBAN Approach			*PIETERMARITZBURG Tower		
125.75			122.0		
NDB PZ <b>*257</b>	Final Apch Crs <b>344°</b>	Minimum Alt PZ NDB <b>3500' (1077')</b>	MDA(H) <b>3300' (877')</b>	Apt Elev <b>2423'</b>	
MISSING APCH: Turn RIGHT onto heading 164° climbing to 4500', then turn RIGHT to PZ NDB climbing to 6200'.					
Alt Set: hPa	Apt Elev: 86 hPa	Trans level: By ATC	Trans alt: 8500'		
1. High ground immediately West of PU NDB may give false indication on ADF.					
2. Pilot controlled lighting 122.0.					



- ① When approaching PZ NDB via 094° through 274° and within 30° of the outbound heading inbound, use phraseology: "Request procedure turn approach".



MAP at PU NDB		PAPI-L	4500' onto 164° RT
JAR-OPS	Straight-in Landing RWY 34		CIRCLE-TO-LAND
ENTIRELY AT PILOTS DISCRETION			
MDA(H) <b>3300' (877')</b>			
RVR 1500m			Max Kts. 100 MDA(H) 3300' (877') VIS 1500m
NOT APPLICABLE			135 3300' (877') 1600m
C			C NOT APPLICABLE
D			D

FAPN/NTY

Apt Elev 3412'  
052.4°/4.6 from PNV 112.6

JEPPESEN PILANESBERG, S AFR REP

27 JUN 03

10-9

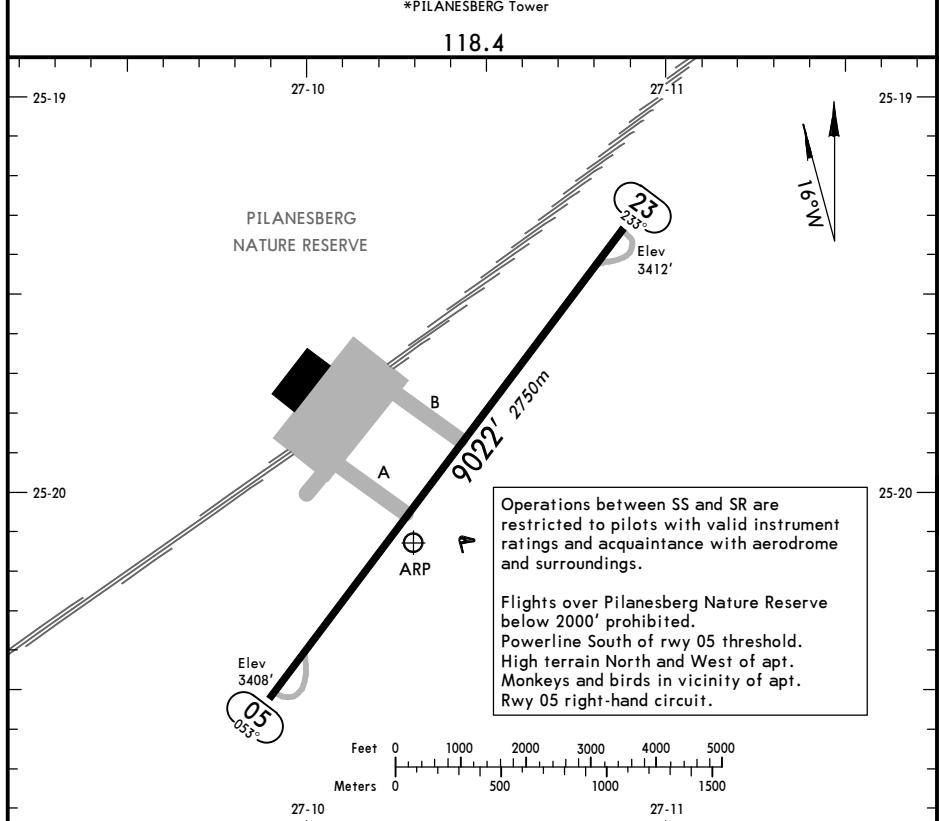
Eff 10 Jul

PILANESBERG INTL

S25 20.1 E027 10.3

\*PILANESBERG Tower

118.4



## ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS			WIDTH
		Threshold	Glide Slope	TAKE-OFF	
05 23	① RL    ① PAPI-L (angle 3.0°)				98' 30m

① Activate on 118.4. Key mike 3 times.

## JAR-OPS

## TAKE-OFF ①

## All Rwy's

LVP must be in Force

	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A			
B	250m		
C		400m	
D	300m		500m

① Operators applying U.S. Ops Specs: CL required below 300m.

STRAIGHT-IN RWY		A	B	C	D
05	VOR	4110'(698') C3400m	4110'(698') C3400m	4110'(698') C3600m	4110'(698') C3600m
	NDB	4220'(808') C4000m	4220'(808') C4000m	4220'(808') C4200m	NOT APPLICABLE

CIRCLE-TO-LAND ①	A	B	C	D
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

- ① Prohibited Northwest of airport.  
Entirely at pilots discretion.

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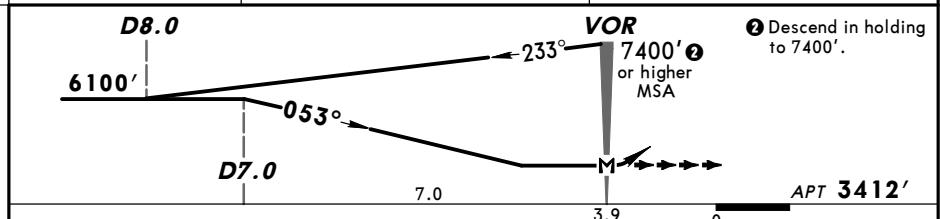
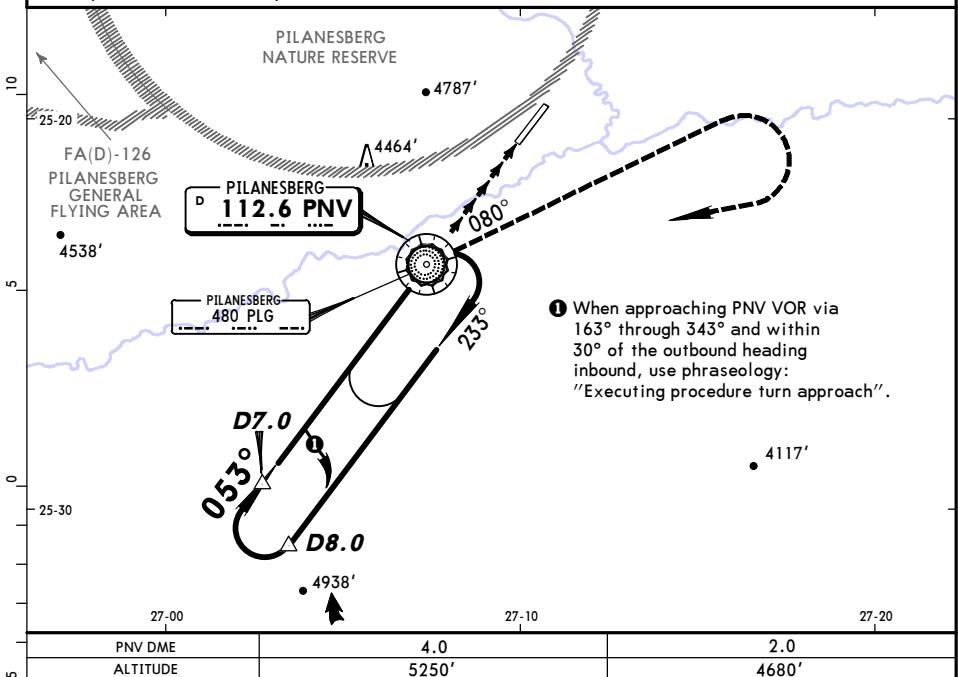
**TAKE-OFF RWY 05, 23**


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LVP must be in force		RCLM (DAY only) or RL	NIL (DAY only)
A	250m		
B		400m	
C			500m
D	300m		

*PILANESBERG Tower 118.4				
VOR PNV <b>112.6</b>	Final Apch Crs <b>053°</b>	Minimum Alt <b>D7.0</b>	MDA(H) <b>4110' (698')</b>	Apt Elev <b>3412'</b>
MISSSED APCH: Turn RIGHT onto R-080 climbing to 5800', then turn RIGHT to VOR climbing to 7400' and join holding, or as directed.				

BRIEFING STRIP™  
Alt Set: hPa Apt Elev: 119 hPa Trans level: By ATC Trans alt: 7400'  
1. Pilot controlled lighting 118.4. 2. Approach procedure is conducted outside controlled airspace and entirely at the discretion of pilot-in-command.

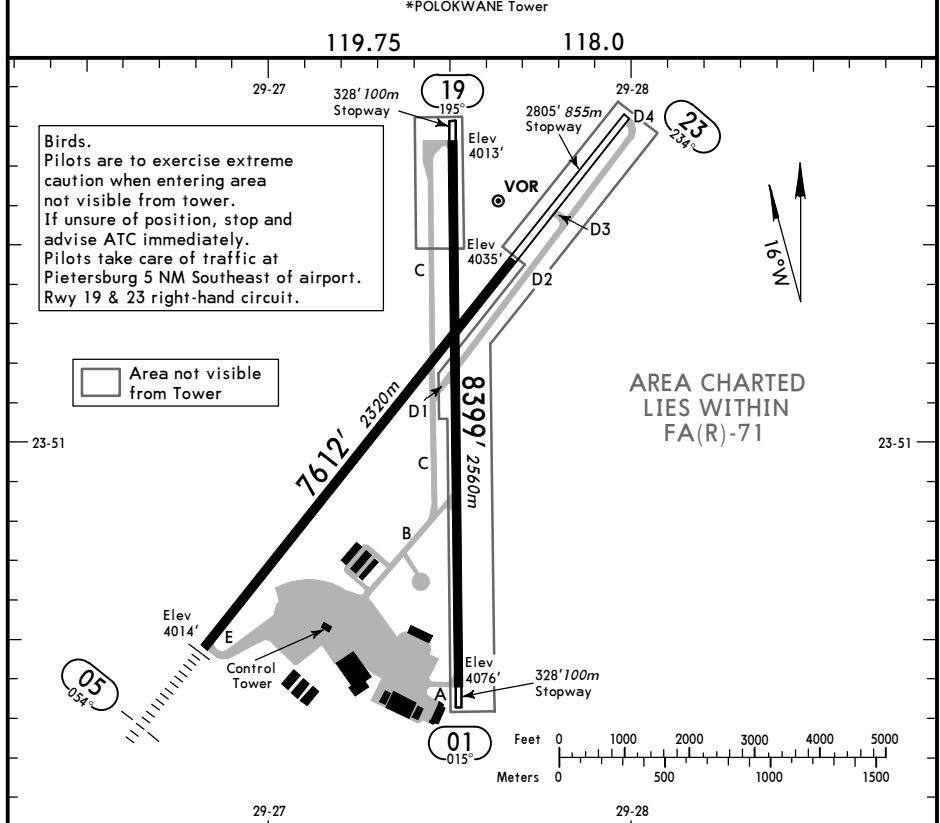


JAR-OPS	STRAIGHT-IN LANDING RWY 05	CIRCLE-TO-LAND Prohibited Northwest of apt ENTIRELY AT PILOTS DISCRETION
	MDA(H) 4110' (698')	

A	RVR 1500m	MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA
B		
C	RVR 2000m	
D		



\*POLOKWANE Tower



#### ADDITIONAL RUNWAY INFORMATION

#### USABLE LENGTHS

RWY		LANDING BEYOND		TAKE-OFF	WIDTH
		Threshold	Glide Slope		
01	19	PAPI (angle 3.0°)			148' 45m
05	HIRL	ALS	PAPI-R (angle 3.0°)	6579' 2005m	148' 45m
	23	HIRL	PAPI (angle 3.0°)		

#### JAR-OPS

#### TAKE-OFF 1

#### All Rwy's

LVP must be in force

RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A		
B	250m	
C		
D	300m	

Operators applying U.S. Ops Specs: CL required below 300m.

<b>STRAIGHT-IN RWY</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>05</b>	ILS <b>①</b>	<b>4214'(200')</b> <b>R1000m</b> R1200m	<b>4214'(200')</b> <b>R1000m</b> R1200m	<b>4214'(200')</b> <b>R1000m</b> R1200m	<b>4214'(200')</b> <b>R1000m</b> R1200m
	<i>ALS out</i>				
	ILS <b>②</b>	<b>4730'(716')</b> <b>R1500m</b>	<b>4730'(716')</b> <b>R1500m</b>	<b>4730'(716')</b> <b>C2400m</b>	<b>4730'(716')</b> <b>C2400m</b>
	VOR <b>③</b>	<b>4510'(496')</b> <b>R1500m</b> R1500m	<b>4510'(496')</b> <b>R1500m</b> R1500m	<b>4710'(696')</b> <b>C3000m</b> C3200m	<b>4710'(696')</b> <b>C3000m</b> C3200m
	<i>ALS out</i>				

**①** Missed apch climb gradient mim 3.5%.

**②** Missed apch climb gradient mim 2.5%.

**③** Continuous Descent Final Approach.

<b>CIRCLE-TO-LAND ④</b>	<b>100 KT</b>	<b>135 KT</b>	<b>180 KT</b>	<b>205 KT</b>
After ILS 05	<b>4690'(614')</b> V1500m	<b>4980'(904')</b> V1600m	<b>5210'(1134')</b> V2400m	<b>5210'(1134')</b> V3600m
After VOR 05 <b>⑤</b>	MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA			

**④** Entirely at pilots discretion.

**⑤** Not authorized Southeast of rwy 05/23.

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### **TAKE-OFF RWY 01, 05, 19, 23**

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<b>LVP must be in force</b>			
	<b>RCLM (DAY only) or RL</b>	<b>RCLM (DAY only) or RL</b>	<b>NIL (DAY only)</b>
A			
B	250m		
C		400m	
D	300m		500m

\*POLOKWANE Tower

BRIEFING STRIP™

119.75 118.0

LOC  
PPI  
**108.7**Final  
Apch Crs  
**054°**GS  
**D7.9 PPV**  
**6200' (2186')**ILS  
DA(H)  
Refer to  
MinimumsApt Elev  
4076'  
RWY **4014'**

**MISSED APCH:** Climb to 6700'. Track rwy centerline to D2.0 PPV, then turn LEFT onto 231°. At D11.0 PPV turn LEFT direct to VOR. MAX 230 KT.

Alt Set: hPa

Rwy Elev: 139 hPa

Trans level: By ATC

Trans alt: 9000'

MSA VOR PPV

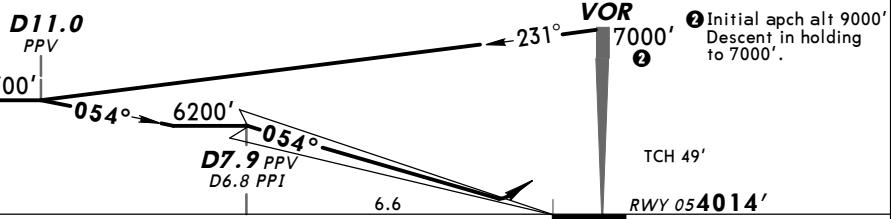
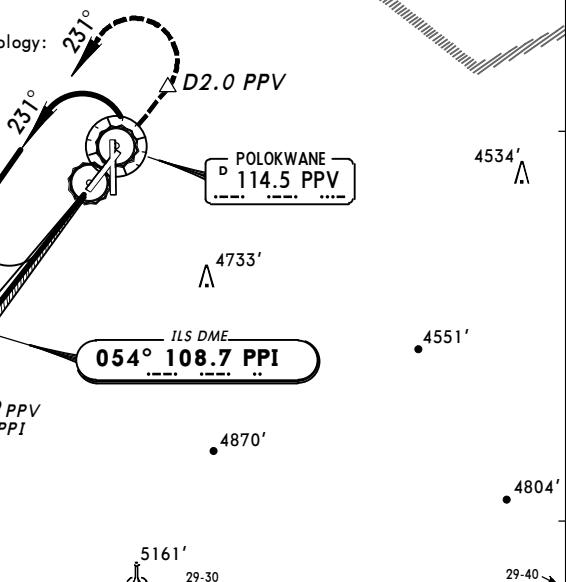
A 4813'

**VOR DME required.**

CAUTION: Do not exceed D18.0 PPV on the outbound leg of the racetrack due to high ground Southwest of airport.

FA(R)-76

- ① When approaching PPV VOR via 124° through 304° and within 30° of the outbound heading inbound, use phraseology: "Request procedure turn approach".



Gnd speed-Kts	70	90	100	120	140	160	ALS	230 KT MAX	D2.0 PPV	RWY track
GS	3.00°	372	478	531	637	743	849			

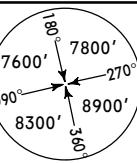
JAR-OPS		STRAIGHT-IN LANDING RWY 05				LOC (GS out)		CIRCLE-TO-LAND		
Missed apch climb gradient mim 3.5%		Missed apch climb gradient mim 2.5%		DA(H) 4730' (716')		ENTIRELY AT PILOTS DISCRETION				
FULL	ALS out	FULL	ALS out				Max Kts	MDA(H)	VIS	
A								4690' (614')	1500m	
B	RVR 800m	RVR 1000m	RVR 1000m	RVR 1200m				4980' (904')	1600m	
C								5210' (1134')	2400m	
D					NOT APPLICABLE			5210' (1134')	3600m	

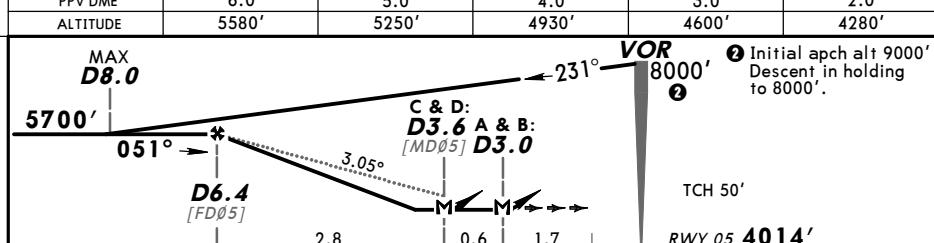
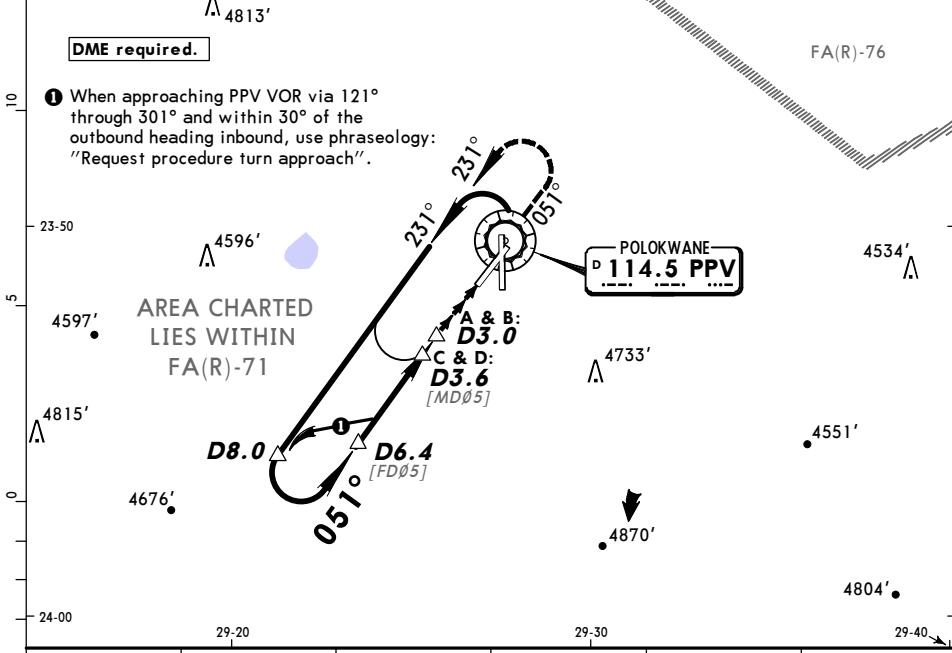
CHANGES: Racetrack. Missed apch climb gradient.

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\*POLOKWANE Tower

BRIEFING STRIP™

VOR PPV <b>114.5</b>	Final Apch Crs <b>051°</b>	Minimum Alt <b>D6.4</b> <b>5700'</b> (1686')	MDA(H) Refer to Minumums	Apt Elev <b>4076'</b> RWY <b>4014'</b>	
<b>MISSSED APCH:</b> Climb STRAIGHT AHEAD onto R-051 outbound to 5500', then turn LEFT onto 231° climbing to 8000'. At or before D8.0 turn LEFT to VOR.					
Alt Set: hPa	Rwy Elev: 139 hPa	Trans level: By ATC		Trans alt: 9000'	MSA VOR PPV



Gnd speed-Kts	70	90	100	120	140	160	ALS	5500'	PPV
Descent angle	3.05°	378	486	540	648	755	PAPI	114.5	
CAT A & B: MAP at D3.0									
CAT C & D: MAP at D3.6									

JAR-OPS	Straight-in landing RWY 05	CIRCLE-TO-LAND
MDA(H)	AB: <b>4510'</b> (496') CD: <b>4710'</b> (696')	Not authorized Southeast of rwy 05/23 ENTIRELY AT PILOTS DISCRETION
	ALS out	
A	RVR 1500m	
B		
C	RVR 2000m	MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA
D		

FARB/RCB

Apt Elev 109'

S28 44.4 E032 05.6

JEPPESSEN 10-9

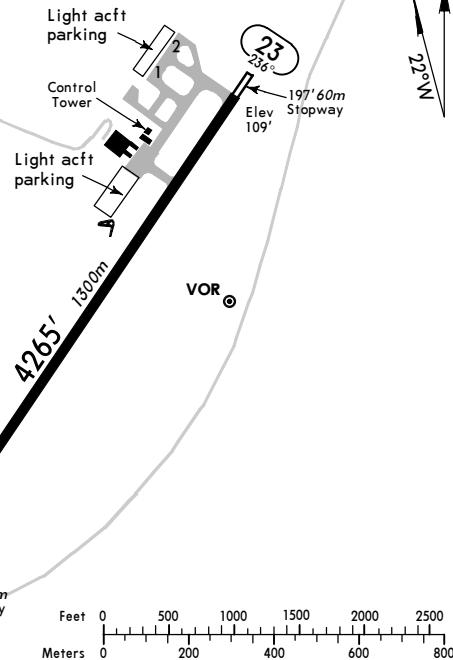
24 JUN 05

RICHARDS BAY, S AFR REP  
RICHARDS BAY

\*RICHARDS BAY Tower

118.9

ABN.  
**CAUTION:** Birds and monkeys  
on aerodrome.  
Intense helicopter ops btn ships  
and the harbour up to 1000'. All  
VFR traffic operating coastwise  
to exercise caution and to monitor  
on all appropriate freqs.



## ADDITIONAL RUNWAY INFORMATION

RWY	RL (95m) PAPI-L (angle 2.7°)	USABLE LENGTHS		TAKE-OFF	WIDTH
		Threshold	Glide Slope		
05	RL (95m) PAPI-L (angle 2.7°)				69' 21m
23	RL (95m) PAPI-L (angle 3.4°)				

## JAR-OPS

## TAKE-OFF 1

## All Rwy's

LVP must be in Force

RCLM (DAY only)  
or RLRCLM (DAY only)  
or RLNIL  
(DAY only)

A			
B	250m	400m	500m
C			
D	NOT APPLICABLE		

1 Operators applying U.S. Ops Specs: CL required below 300m.

FARB/RCB  
RICHARDS BAY

JEPPESEN  
11 JUN 04 13-1 CAT A, B & C  
CLOUDBREAK RICHARDS BAY, S AFR REP

\*RICHARDS BAY Tower

118.9

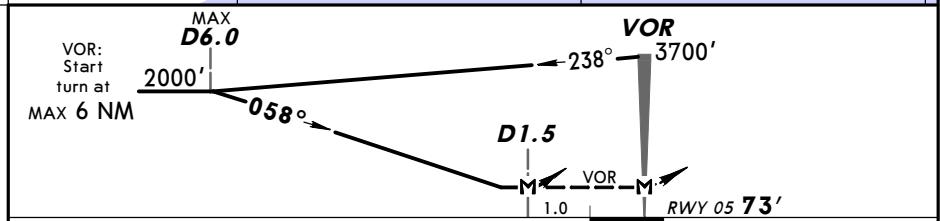
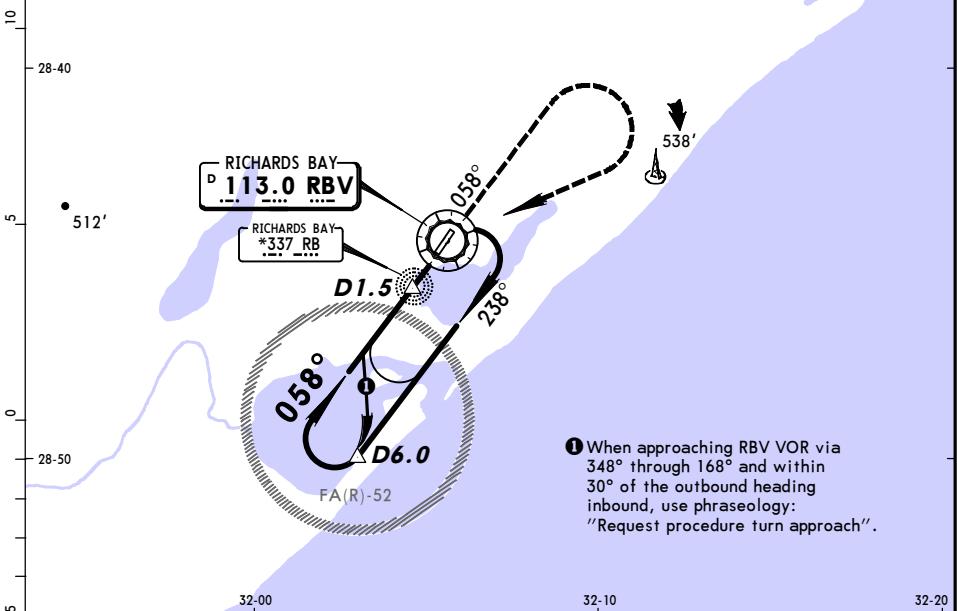
VOR RBV <b>113.0</b>	Final Apch Crs <b>058°</b>	Minimum Alt No FAF	MDA(H) Refer to Minimuns	Apt Elev 109' <b>RWY 73'</b>
----------------------------	----------------------------------	-----------------------	--------------------------------	---------------------------------

**MISSSED APCH:** Climb on R-058 to 1500', then turn RIGHT and return to VOR climbing to 2000' and hold, or as directed.

Alt Set: hPa      Rwy Elev: 3 hPa      Trans level: By ATC      Trans alt: 3500'

• 515'

MSA RBV VOR



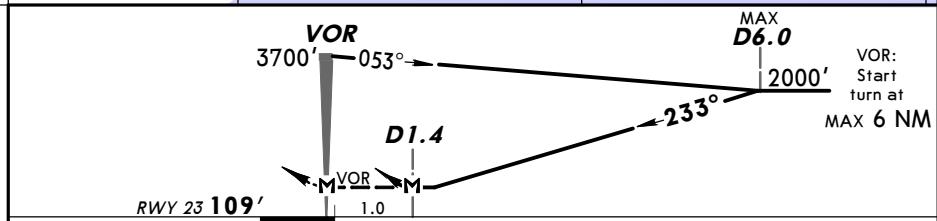
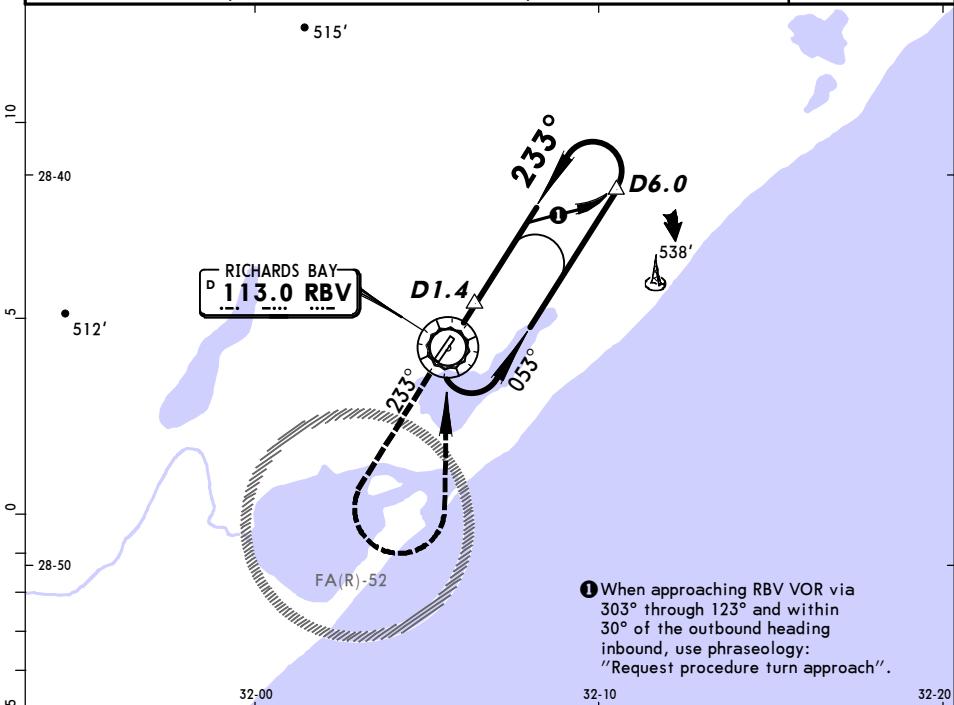
VOR DME: MAP at D1.5	PAPI-L	1500	RBV on 113.0 R-058
VOR: MAP at VOR			

JAR-OPS	STRAIGHT-IN LANDING RWY 05	CIRCLE-TO-LAND Not authorized West of rwy ENTIRELY AT PILOTS DISCRETION
	MDA(H) AB: 580' (507') C: 670' (597')	
A	RVR 1500m	
B		
C	RVR 2000m	
D	NOT APPLICABLE	MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA

\*RICHARDS BAY Tower

118.9

VOR RBV <b>113.0</b>	Final Apch Crs <b>233°</b>	Minimum Alt No FAF	MDA(H) Refer to Minumums	Apt Elev 109' <b>RWY 109'</b>
<b>MISSSED APCH:</b> Climb on R-233 to 1500', then turn LEFT and return to VOR climbing to 2000' and hold, or as directed.				
Alt Set: hPa	Rwy Elev: 4 hPa	Trans level: By ATC	Trans alt: 3500'	MSA RBV VOR



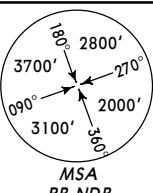
VOR DME: MAP at D1.4	PAPI-L	1500' on 113.0 R-233
VOR: MAP at VOR		

JAR-OPS	STRAIGHT-IN LANDING RWY 23	CIRCLE-TO-LAND Not authorized West of rwy ENTIRELY AT PILOTS DISCRETION
	MDA(H) AB: 610'(501') C: 700'(591')	
A	RVR 1500m	
B		
C	RVR 2000m	
D	NOT APPLICABLE	MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA

Approach Control through Tower

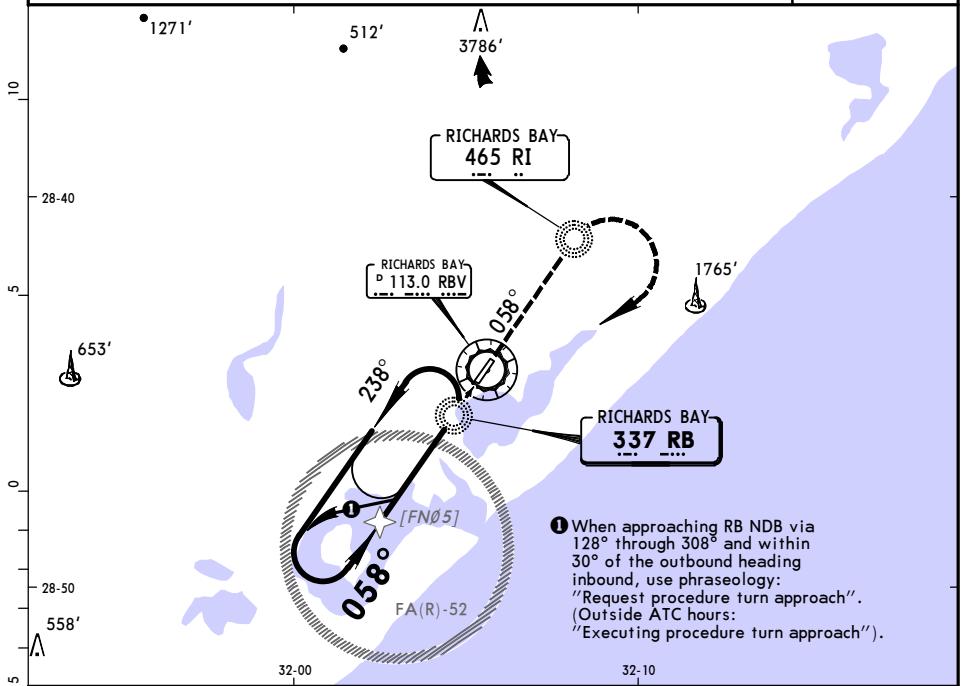
\*RICHARDS BAY Tower

118.9

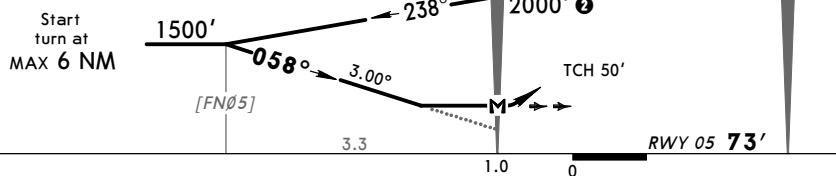
NDB  
RB  
**337**Final  
Apch Crs  
**058°**Minimum Alt  
No FAFMDA(H)  
**710' (637')**Apt Elev 109'  
RWY **73'**

**MISSSED APCH:** Track onto RI NDB on 058° climbing to 2000', then turn **RIGHT** and return to RB NDB, or as directed.

Alt Set: hPa      Rwy Elev: 3 hPa      Trans level: By ATC      Trans alt: 3500'  
**1. Dual ADF required.** 2. Outside ATC hours procedure is conducted entirely at discretion of pilot-in-command.



- 2 Initial approach altitude 3700'. Descend in holding to 2000'.



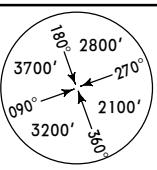
Gnd speed-Kts	70	90	100	120	140	160				
Descent angle 3.00°	372	478	531	637	743	849				
MAP at RB NDB							PAPI-L	2000' on 058°	RI	465

JAR-OPS	Straight-in landing RWY 05	Circle-to-land Not authorized West of rwy
	MDA(H) <b>710' (637')</b>	ENTIRELY AT PILOTS DISCRETION

A	RVR 1500m	
B		
C	NOT APPLICABLE	MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA
D		

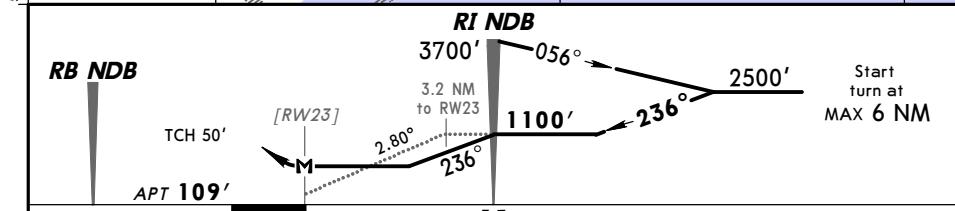
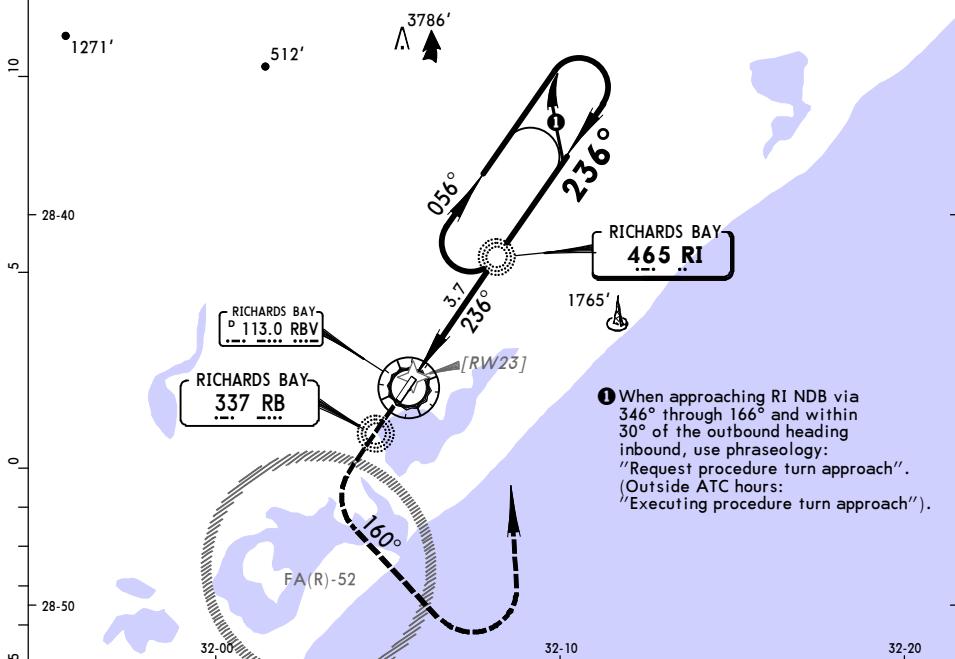
Approach Control through Tower  
\*RICHARDS BAY Tower

118.9

NDB  
RI  
**465**Final  
Apch Crs  
**236°**Minimum Alt  
RI NDB  
**1100' (991')**MDA(H)  
**610' (501')**Apt Elev **109'**

**MISSED APCH:** Climb on track to RB NDB to 1200', then climbing turn LEFT onto 160° to 2500', then turn LEFT and return to RI NDB at 2500'.

Alt Set: hPa Apt Elev: 4 hPa Trans level: By ATC Trans alt: 3500'  
Outside ATC hours procedure is conducted entirely at discretion of pilot-in-command.



Gnd speed-Kts	70	90	100	120	140	160		RB 337	1200'	2500'	onto 160°
Descent angle	2.80°	347	446	495	594	693	792				
RI NDB to MAP	3.7	3:10	2:28	2:13	1:51	1:35	1:23	PAPI-L			

JAR-OPS	Straight-in landing RWY 23	CIRCLE-TO-LAND Not authorized West of rwy
	MDA(H) <b>610' (501')</b>	ENTIRELY AT PILOTS DISCRETION

A	RVR 1500m	
B		
C	NOT APPLICABLE	MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA
D		

**FASS/SIS**  
Apt Elev **3848'**  
S27 39.0 E023 00.0

**JEPPESEN**  
2 MAY 14 10-9

**SISHEN, S AFR REP**  
**SISHEN**

\*SISHEN Radio

**123.5**

When Radio is unmanned, acft shall use 123.5 for Air to Air Self-information

22-59

23-00

23-00



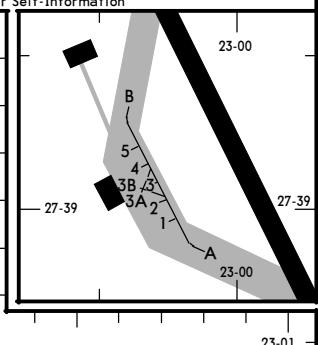
(11)  
175°

Elev  
3835'

**WARNING: Blasting activity.**  
Rwy 35 right-hand circuit.

PARKING POSITIONS	
STAND	COORDINATES
1 thru 3	S27 39.0 E022 59.9
4, 5	S27 38.9 E022 59.9

1451' 2271m



27-39

27-39

A ← ARP

VOR

Elev  
3876'

(35)  
355°

Feet  
Meters

0	1000	2000	3000	4000
0	200	400	600	800

22-59

23-00

23-01

**ADDITIONAL RUNWAY INFORMATION**

RWY	RL	USABLE LENGTHS			WIDTH
		Threshold	Glide Slope	TAKE-OFF	
17					
35	RL				76' 23m

**JAR-OPS**

**TAKE-OFF 1**

All Rwy's

LVP must be in Force

RCLM (DAY only)  
or RL

RCLM (DAY only)  
or RL

NIL  
(DAY only)

A

250m

400m

500m

B

C

D

NOT APPLICABLE

**1** Operators applying U.S. Ops Specs: CL required below 300m.

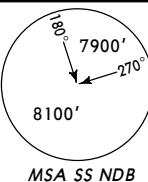
FASS/SIS  
SISHENJEPPESEN  
2 MAY 14 (16-1) CAT A & BSISHEN, S AFR REP  
CLOUD BREAK  
PROCEDURE  
NDB

BRIEFING STRIP™

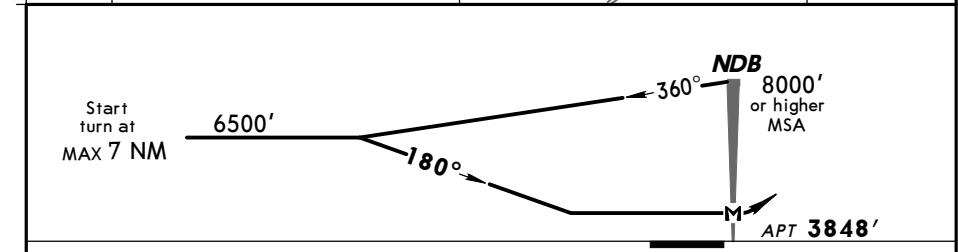
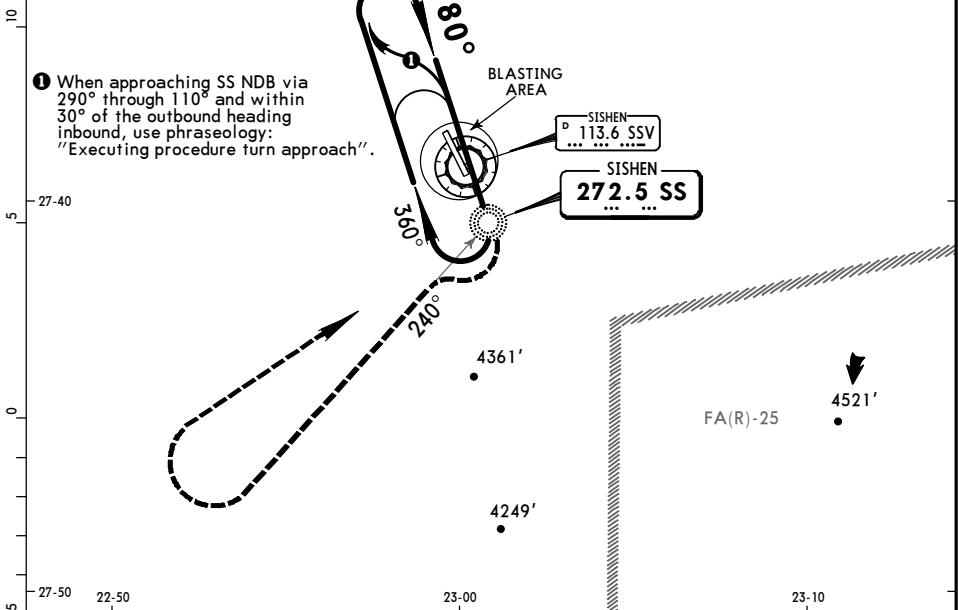
\*SISHEN Radio

123.5

When Radio is unmanned, acft shall use 123.5 for Air to Air Self-Information

NDB  
SS  
**272.5**Final  
Apch Crs  
**180°**Minimum Alt  
No FAFMDA(H)  
**4700' (852')**Apt Elev **3848'**

MISSIED APCH: Turn RIGHT onto 240° from NDB and climb to 6500', then turn RIGHT, climb to 8000' and return to NDB.

Alt Set: hPa Apt Elev: 133 hPa Trans level: By ATC Trans alt: 8000'  
Approach procedure is conducted outside controlled airspace and entirely at the discretion of pilot-in-command.MAP at NDB  
JAR-OPS6500' 240°  
onto from SS  
**272.5**

CIRCLE-TO-LAND

ENTIRELY AT PILOTS DISCRETION

	Max Kts	MDA(H)	VIS
A	100	<b>4700' (852')</b>	1500m
B	135	<b>4700' (852')</b>	1600m
C			NOT APPLICABLE
D			

PANS OPS

CHANGES: Navaids.

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**FASZ**  
Apt Elev 1020'

**JEPPESSEN**

10 MAR 00 (16-1)

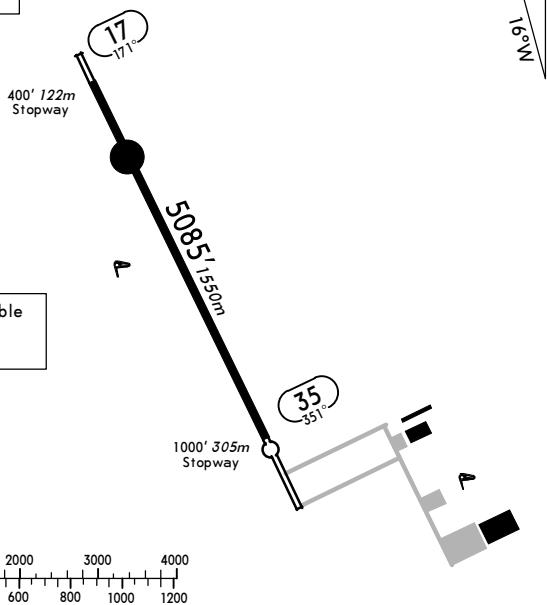
**SKUKUZA, S AFR REP**  
**SKUKUZA**  
S24 58.0 E031 36.0

SKUKUZA  
(Air to Air Self-Information)  
**124.8**

**CAUTION:**  
Birds in vicinity of airport.  
Rwy 35 right-hand circuit.

Frequency 131.65 available  
for requests for parking  
space of SA EXPRESS.

Feet 0 1000 2000 3000 4000  
Meters 0 200 400 600 800 1000 1200



**ADDITIONAL RUNWAY INFORMATION**

**USABLE LENGTHS**

RWY		LANDING BEYOND		TAKE-OFF	WIDTH
		Threshold	Glide Slope		
17					98' 30m
35					

**JAR-OPS**

**TAKE-OFF 1**

**All Rwy's**

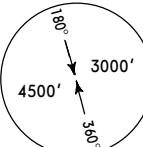
**LVP must be in Force**

	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A	250m	400m	500m
B			
C			
D			
	NOT APPLICABLE		

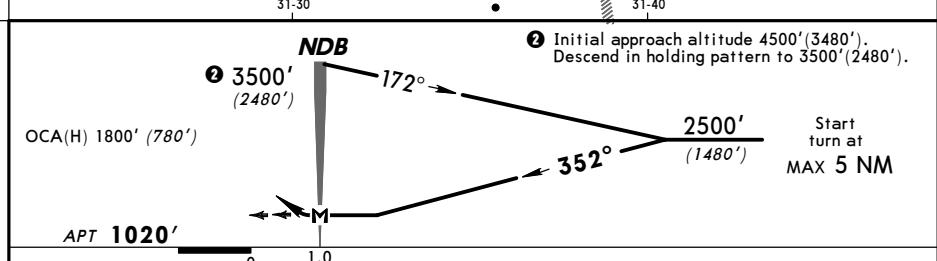
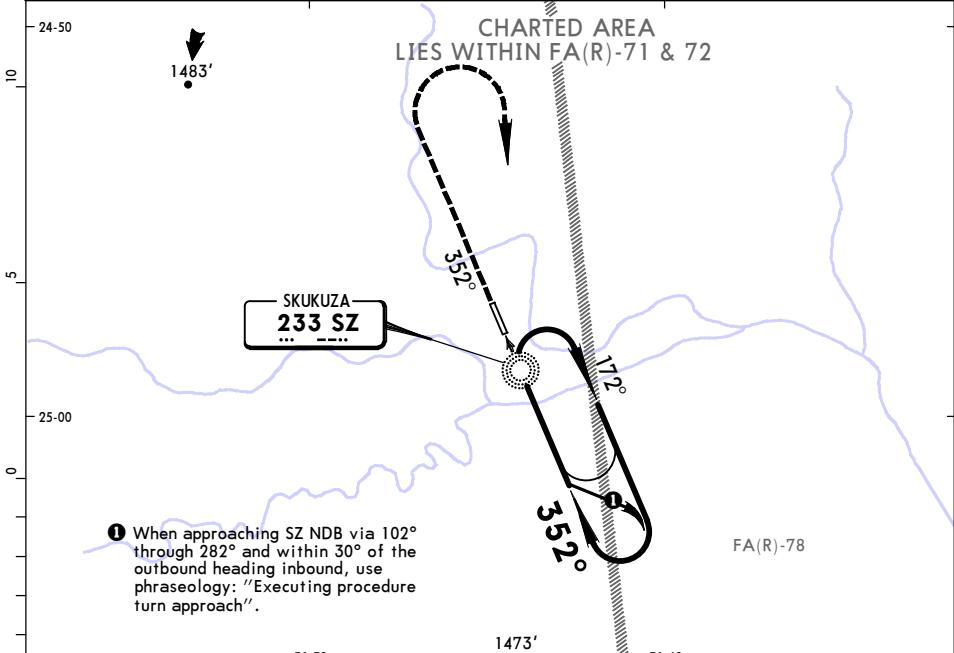
**1** Operators applying U.S. Ops Specs: CL required below 300m.

SKUKUZA  
(Air to Air Self-Information)

124.8

NDB  
SZ  
**233**Final  
Apch Crs  
**352°**Minimum Alt  
No FAFMDA(H)  
**1800' (780')**Apt Elev **1020'**MSA  
SZ NDB

MISSSED APCH: Climb on 352° from NDB to 3500', then turn RIGHT to NDB.

Alt Set: hPa Apt Elev: 37 hPa Trans level: By ATC Trans alt: 9000' (7980')  
Approach procedure is conducted outside controlled airspace and entirely at the discretion of pilot-in-command.

FATT

Apt Elev 5313'  
S26 46.7 E029 20.3JEPPESEN TUTUKA POWER STATION, S AFR REP  
16 JUL 04 (16-1)

TUTUKA POWER STATION

TUTUKA Radio

122.2

When Radio is unmanned, acft shall use 122.2 for Air to Air Self-Information

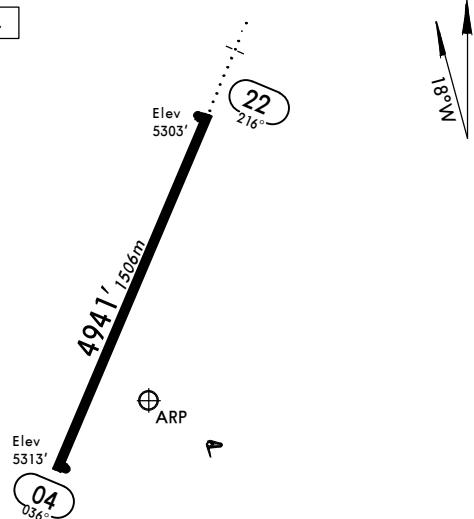
29-20

29-21

Rwy 22 right-hand circuit.

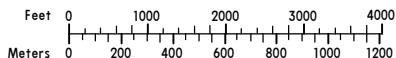
26-46

26-46



26-47

26-47



29-20

29-21

## ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS			WIDTH
		LANDING BEYOND Threshold	Glide Slope	TAKE-OFF	
04	RL				59' 18m
22	RL ALS				

① Activate lights on 122.2. Key mike 3 times. Lights will remain on for 15 minutes.

## JAR-OPS

## TAKE-OFF ①

## All Rwy's

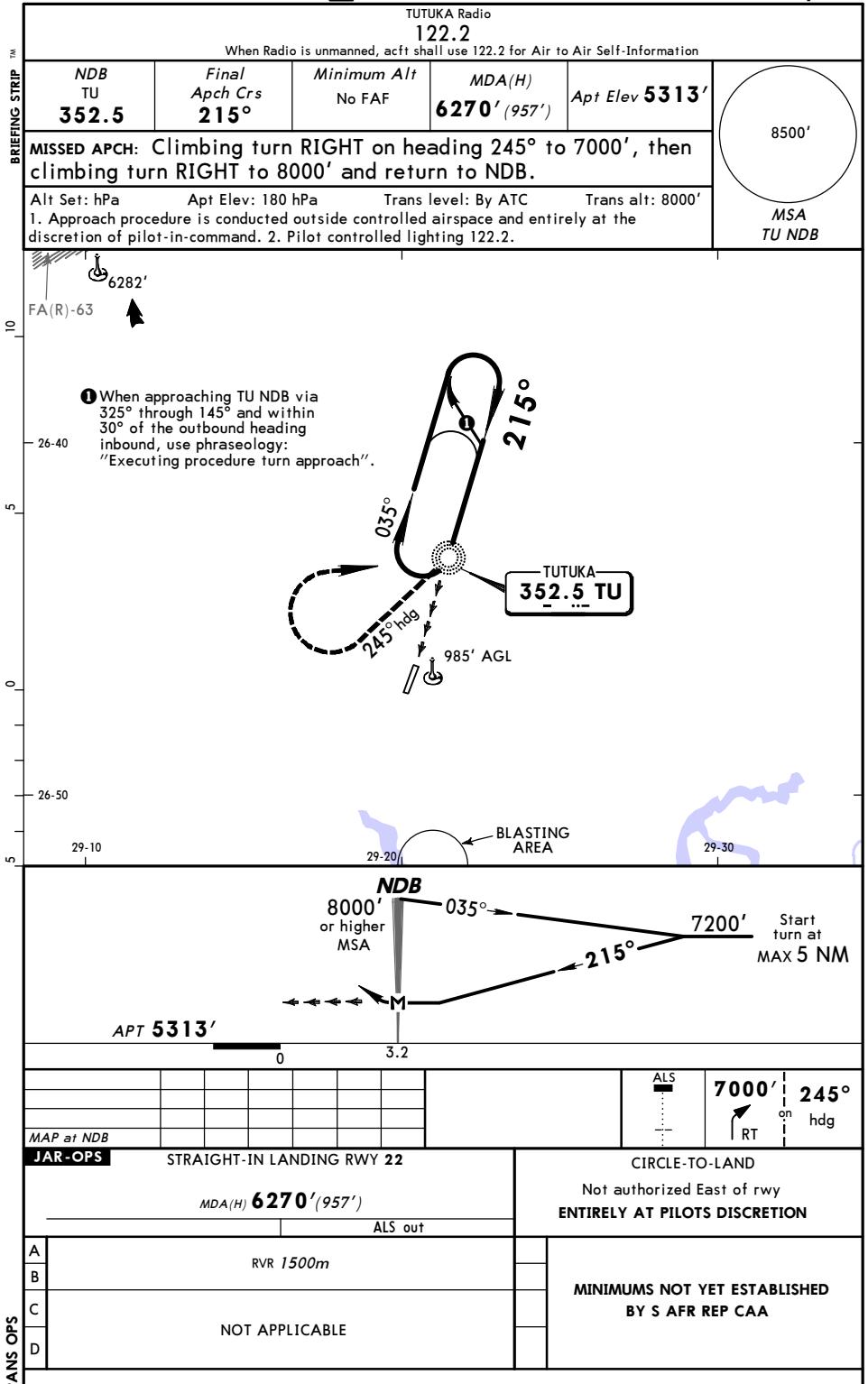
LVP must be in Force

RCLM (DAY only)  
or RLRCLM (DAY only)  
or RLNIL  
(DAY only)

A	250m	400m	500m
B			
C			
D			

NOT APPLICABLE

① Operators applying U.S. Ops Specs: CL required below 300m.



FATZ/LTA  
Apt Elev 1914'  
S23 49.4 E030 19.6

JEPPESEN  
16 JUL 04 (16-1)

TZANEEN, S AFR REP  
TZANEEN

TZANEEN  
(Air to Air Self-Information)  
124.8

30-19

30-20

23-49

23-49

Elev 1808'

24

ARP

4659' 1420m



Elev 1914'  
06

Feet 0 500 1000 1500 2000 2500 3000  
Meters 0 200 400 600 800 1000

23-50

30-19

30-20

23-50

#### ADDITIONAL RUNWAY INFORMATION

RWY	RL	USABLE LENGTHS			WIDTH
		Threshold	Glide Slope	TAKE-OFF	
06					66' 20m
24					

#### JAR-OPS

#### TAKE-OFF 1

##### All Rwy's

LVP must be in Force

RCLM (DAY only)  
or RL

NIL  
(DAY only)

A  
B  
C  
D

250m

400m

500m

NOT APPLICABLE

1 Operators applying U.S. Ops Specs: CL required below 300m.

FATZ/LTA  
TZANEEN

JEPPESEN

16 JUL 04

(16-1)

CAT  
A & B

TZANEEN, S AFR REP  
CLOUD BREAK  
PROCEDURE NDB Rwy 24

BRIEFING STRIP™

TZANEEN  
(Air to Air Self-Information)  
124.8

NDB  
TZ  
**212.5**

Final  
Apch Crs  
**254°**

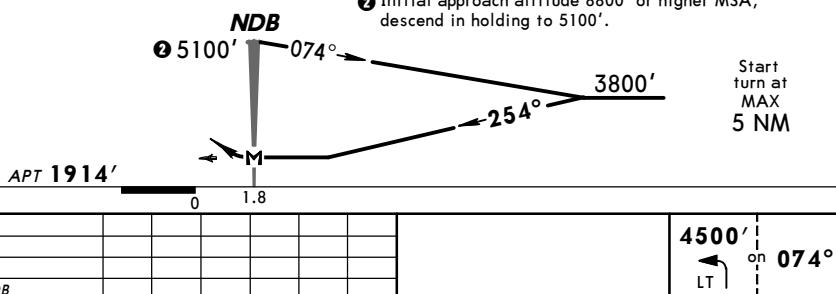
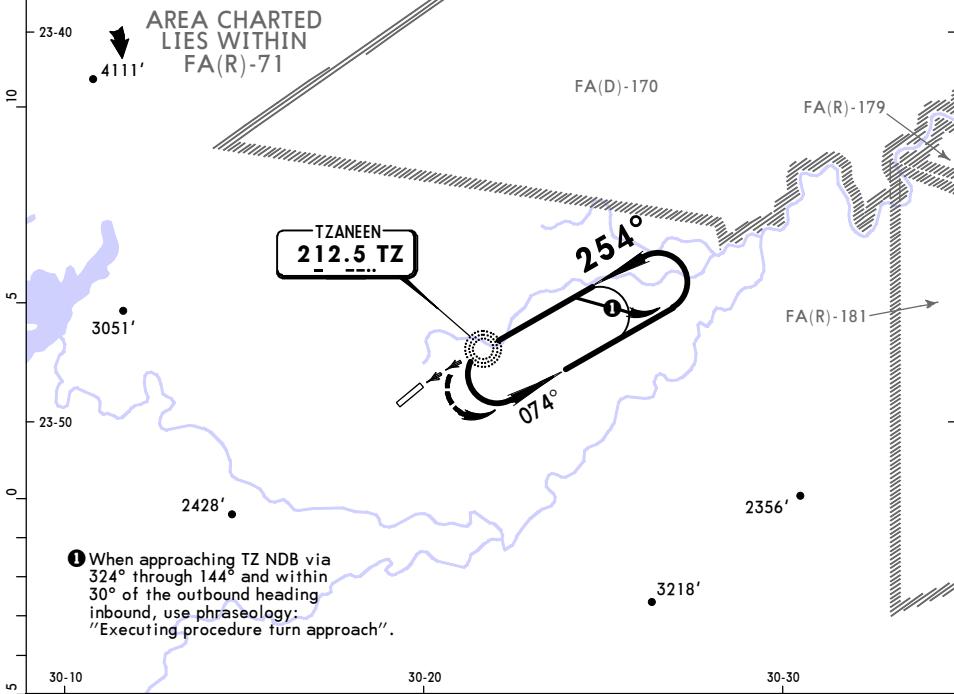
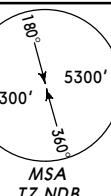
Minimum Alt  
No FAF

MDA(H)  
**2500' (586')**

Apt Elev **1914'**

MISSED APCH: Turn LEFT onto track 074° climbing to 4500', then turn LEFT and return to NDB at 5100'.

Alt Set: hPa Apt Elev: 68 hPa Trans level: By ATC Trans alt: 8500'  
Approach procedure is conducted outside controlled airspace and entirely at the discretion of pilot-in-command.



MAP at NDB

STRAIGHT-IN LANDING RWY 24

CIRCLE-TO-LAND

ENTIRELY AT PILOTS DISCRETION

MDA(H) **2500' (586')**

PANS OPS

RVR 1500m

CHANGES: MSA. Procedure.

NOT APPLICABLE

MINIMUMS NOT  
YET ESTABLISHED  
BY S AFR REP CAA

**FAUL/ULD**

Apt Elev **1720'**  
S28 19.2 E031 25.0

**JEPPESEN**

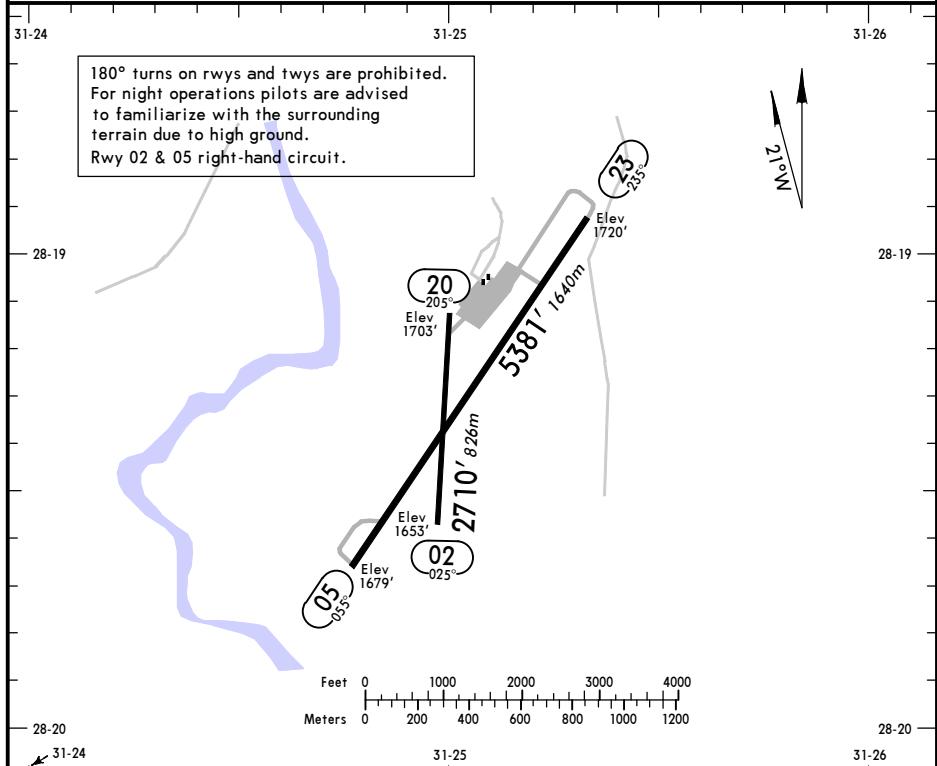
24 DEC 04 (16-1)

**ULUNDI, S AFR REP**  
**PRINCE MANGOSUTHU BUTHELEZI**

ULUNDI Radio

When Radio is unmanned, acft shall use 124.8 for Air to Air Self-Information

**124.8**



**ADDITIONAL RUNWAY INFORMATION**

RWY		USABLE LENGTHS		TAKE-OFF	WIDTH
		Threshold	Glide Slope		
02	20			NA	59' 18m
05	① 23	RL	NA		75' 23m
	② RL PAPI-L (angle 3.2°)				

- ① Activate lights on 130.0. Key mike 3 times for 35%, 5 times for 75% and 7 times for 100%.  
 ② First 1640'(500m) HIRL.

**JAR-OPS**

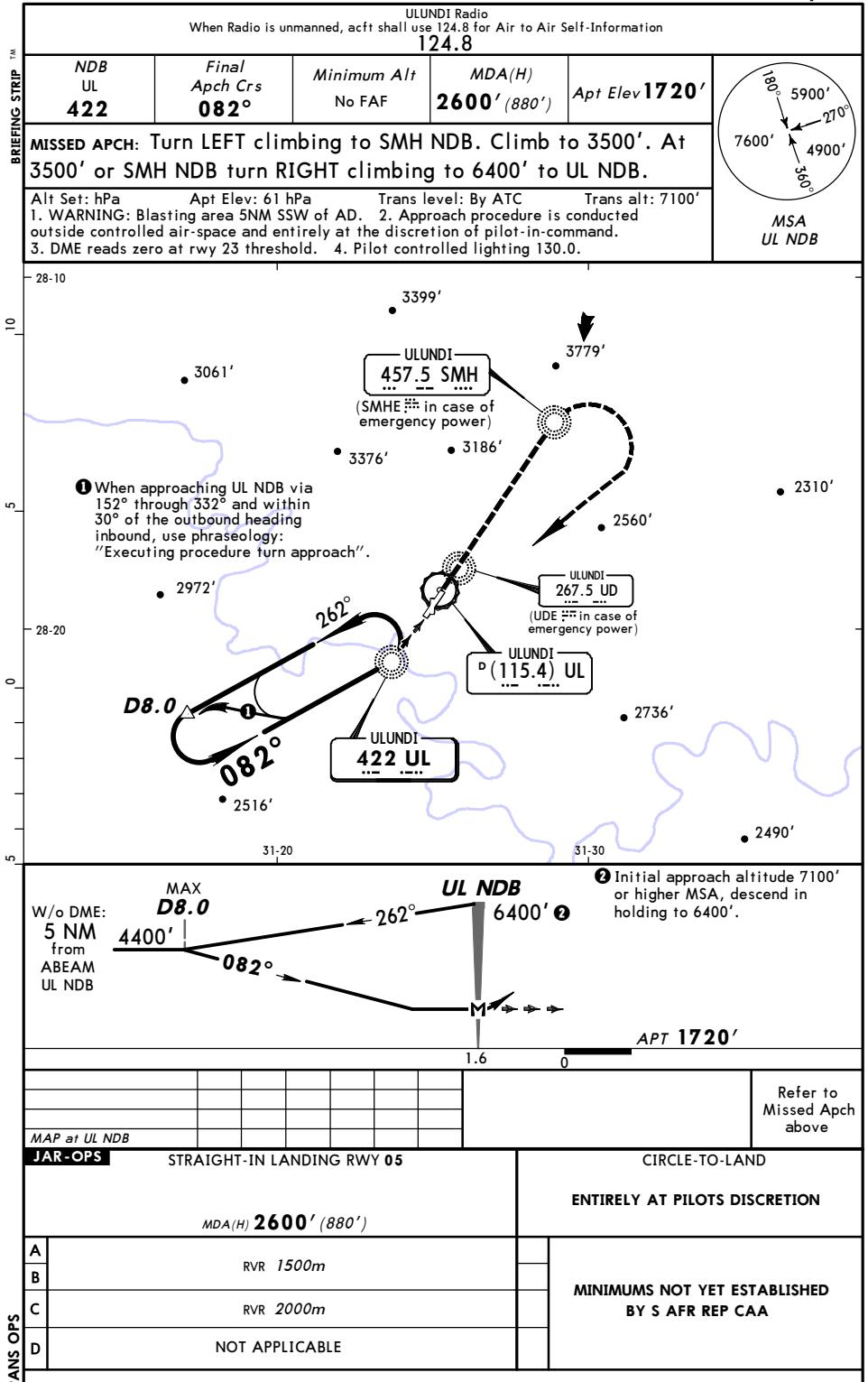
**TAKE-OFF 1**

**Rwys 05, 20 & 23**

**LVP must be in Force**

RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A		
B	250m	400m
C		500m
D	NOT APPLICABLE	

- ① Operators applying U.S. Ops Specs: CL required below 300m.



DRILLING STBIB TW

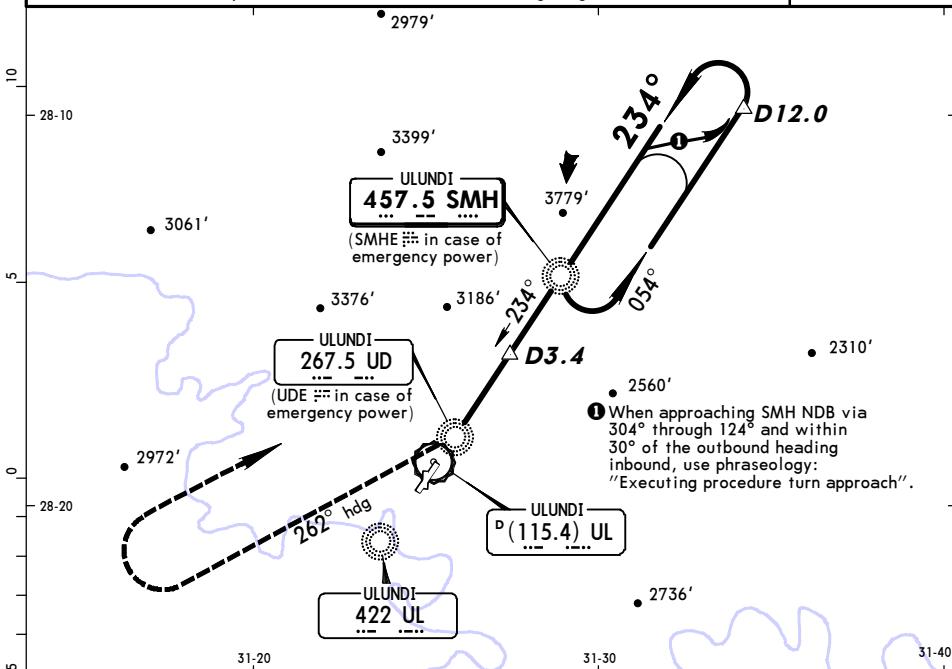
UNDI Radio

When Radio is unmanned, acft shall use 124.8 for Air to Air Self-Information

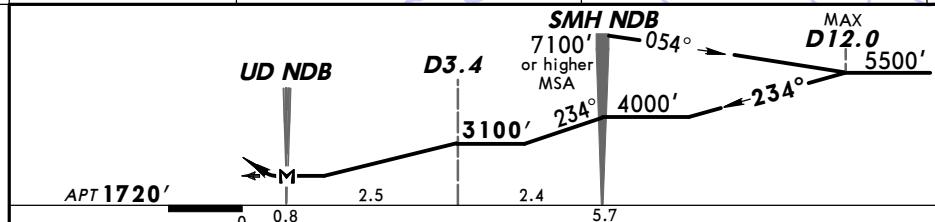
124.8

124-6				
NDB SMH <b>457.5</b>	Final Apch Crs <b>234°</b>	Minimum Alt <b>D3.4</b> <b>3100'</b> (1380')	MDA(H) <b>2250'</b> (530')	Apt Elev <b>1720'</b>
<b>MISSSED APCH:</b> Turn RIGHT climbing on heading 262° to 4500', then climbing turn RIGHT to 5500' to SMH NDB.				
Alt Set: hPa	Apt Elev: 61 hPa	Trans level: By ATC	Trans alt: 7100'	

1. WARNING: Blasting area 5NM SSW of AD. 2. Approach procedure is conducted outside controlled air-space and entirely at the discretion of pilot-in-command.  
3. DME reads zero at rwy 23 threshold. 4. Pilot controlled lighting 130.0.



① When approaching SMH NDB via  $304^{\circ}$  through  $124^{\circ}$  and within  $30^{\circ}$  of the outbound heading inbound, use phraseology:  
"Executing procedure turn approach".



**MAP at IUD NDB**

JAR-OPS STRAIGHT-IN LANDING RWY 23 CIRCLE-TO-LAND

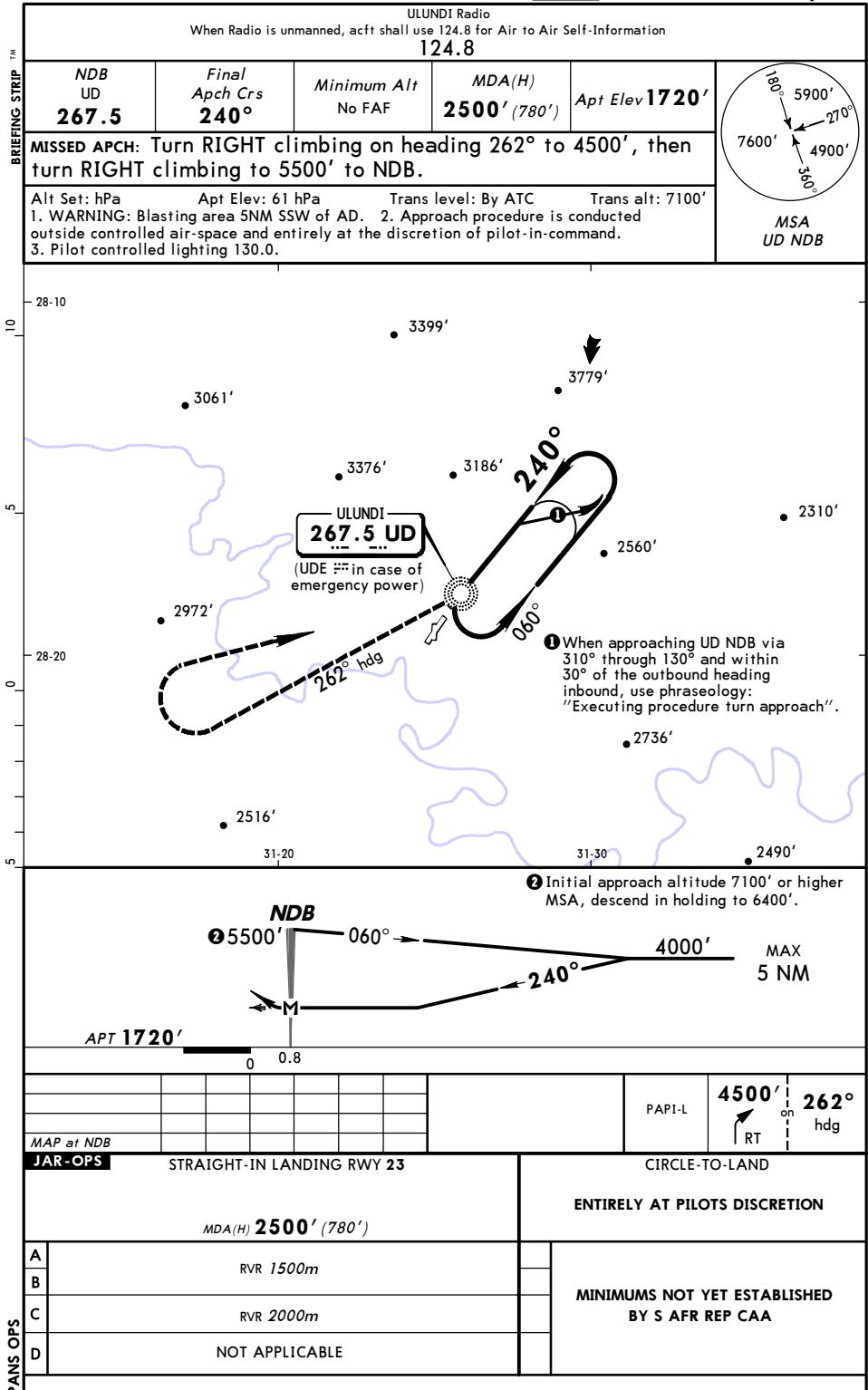
ENTIRELY AT PILOT'S DISCRETION

*MDA(H) 2250' (530')*

A	RVR 1500m		
B			
C	RVR 2000m		
D	NOT APPLICABLE		<b>MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA</b>

•

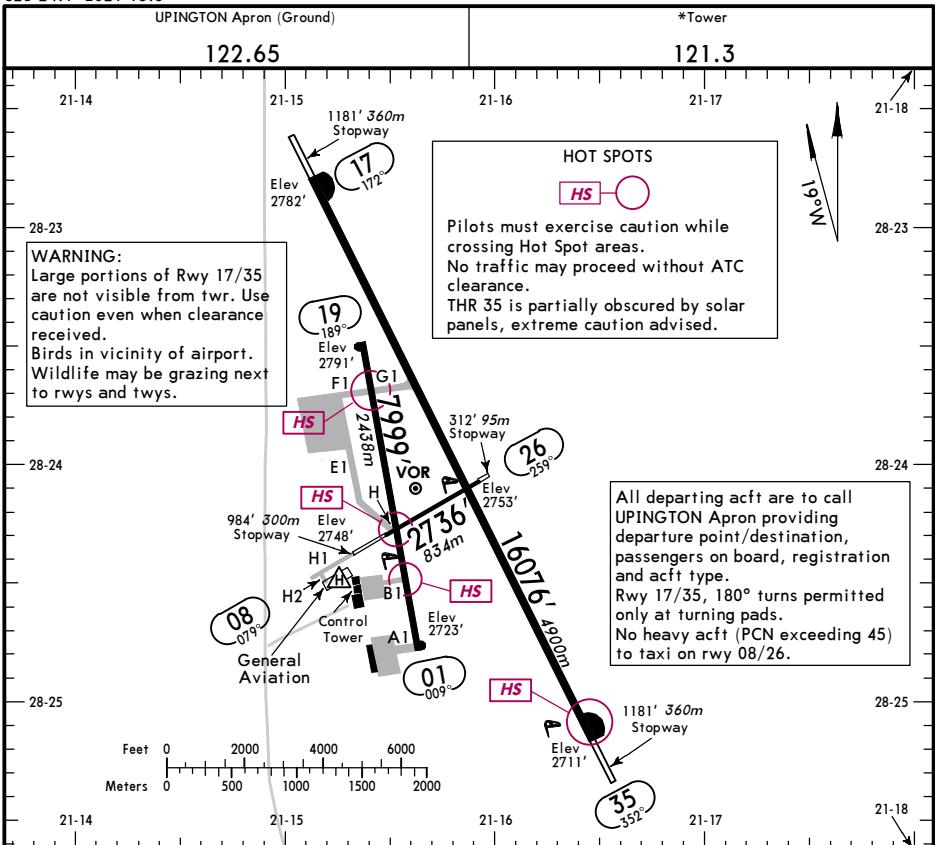
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**FAUP/UTN**  
Apt Elev 2791'  
S28 24.1 E021 15.6

**JEPPESSEN**  
25 APR 14 10-9 Eff 1 May

**UPINGTON, S AFR REP**  
UPINGTON INTL



#### ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS			WIDTH
		LANDING BEYOND	Threshold	Glide Slope	
01	① 19	RL PAPI-L (angle 3.0°)			151' 46m
08	② 26				98' 30m
17	① 35	HIRL (60m) PAPI-L (angle 3.0°)			197' 60m

① Activate lights on 121.3. Key mike 5 times.

② Non instrumental rwy for daylight operations only and used as twy for rwy 17/35.

#### JAR-OPS

#### TAKE-OFF ①

Rwys 01/19, 17/35

LVP must be in Force

RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A		
B	250m	
C		
D	300m	

① Operators applying U.S. Ops Specs: CL required below 300m.

CHANGES: Hot spots established. Note.

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**FAUP/UTN**

**JEPPESSEN**  
28 FEB 14      **10-9S**  
Eff 6 Mar

**Standard**  
**UPINGTON, S AFR REP**  
**UPINGTON INTL**

<b>STRAIGHT-IN RWY</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>35</b>	VOR ①	<b>3670'(959')</b> <b>R1500m</b>	<b>3670'(959')</b> <b>R1500m</b>	<b>3670'(959')</b> <b>C2400m</b>	<b>3670'(959')</b> <b>C2400m</b>
	VOR	<b>3670'(959')</b> <b>C4700m</b>	<b>3670'(959')</b> <b>C4700m</b>	<b>3670'(959')</b> <b>C4900m</b>	<b>3670'(959')</b> <b>C4900m</b>
	NDB ①	<b>3300'(589')</b> <b>C2700m</b>	<b>3300'(589')</b> <b>C2700m</b>	<b>3300'(589')</b> <b>C2700m</b>	<b>3300'(589')</b> <b>C2700m</b>

① Continuous Descent Final Approach.

<b>CIRCLE-TO-LAND ②</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

② Entirely at pilots discretion.

### **TAKE-OFF RWY 01, 08, 17, 19, 26, 35**

<b>LVP must be in force</b>		<b>RCLM (DAY only) or RL</b>	<b>RCLM (DAY only) or RL</b>	<b>NIL (DAY only)</b>
A	250m			
B		400m		
C				500m
D	300m			

FAUP/UTN  
UPINGTON INTL

JEPPESEN  
28 FEB 14  
Eff 6 Mar  
(13-1)

UPINGTON, S AFR REP  
VOR Rwy 35

BRIEFING STRIP™

\*UPINGTON Tower  
Approach Control through Tower  
121.3

Apron (Ground) ①

VOR  
UPV  
**116.5**

*Final*  
Apch Crs  
**348°**

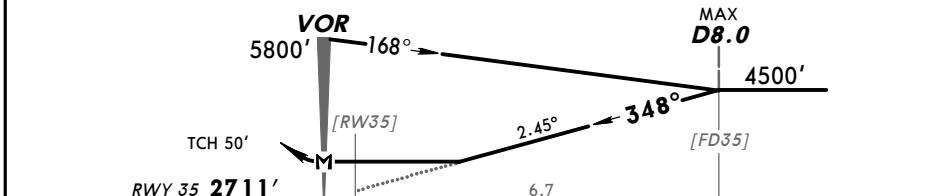
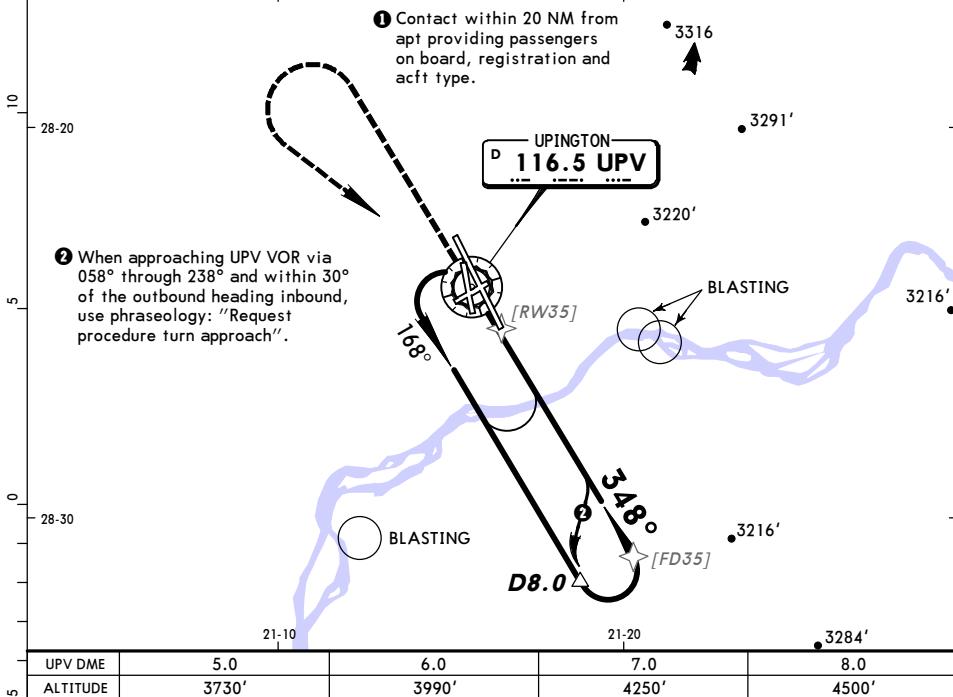
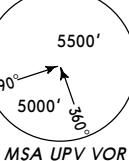
Minimum Alt  
No FAF

MDA(H)  
**3670' (959')**

Apt Elev 2791'  
RWY **2711'**

MISSSED APCH: Climb to 5500', then turn LEFT, climbing to 5800'  
direct to VOR.

Alt Set: hPa Rwy Elev: 95 hPa Trans level: By ATC Trans alt: 5500'  
1. DME required. 2. Rwy 01/19 pilot controlled lighting 121.3.



Gnd Speed-Kts	70	90	100	120	140	160		PAPI-L	5500'
Descent Angle	2.45°	303	390	433	520	607	693		
MAP at VOR									

JAR-OPS STRAIGHT-IN LANDING RWY 35		CIRCLE-TO-LAND
MDA(H) <b>3670' (959')</b>		
A RVR 1500m		
B		
C RVR 2000m		MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA
D		

PANS OPS CHANGES: Minimums.

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FAUP/UTN  
UPINGTON INTL

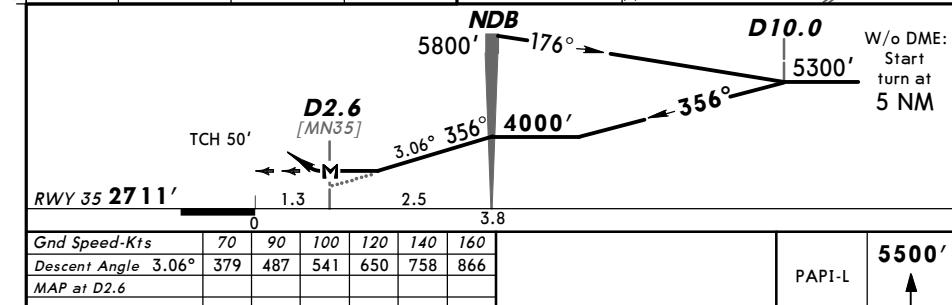
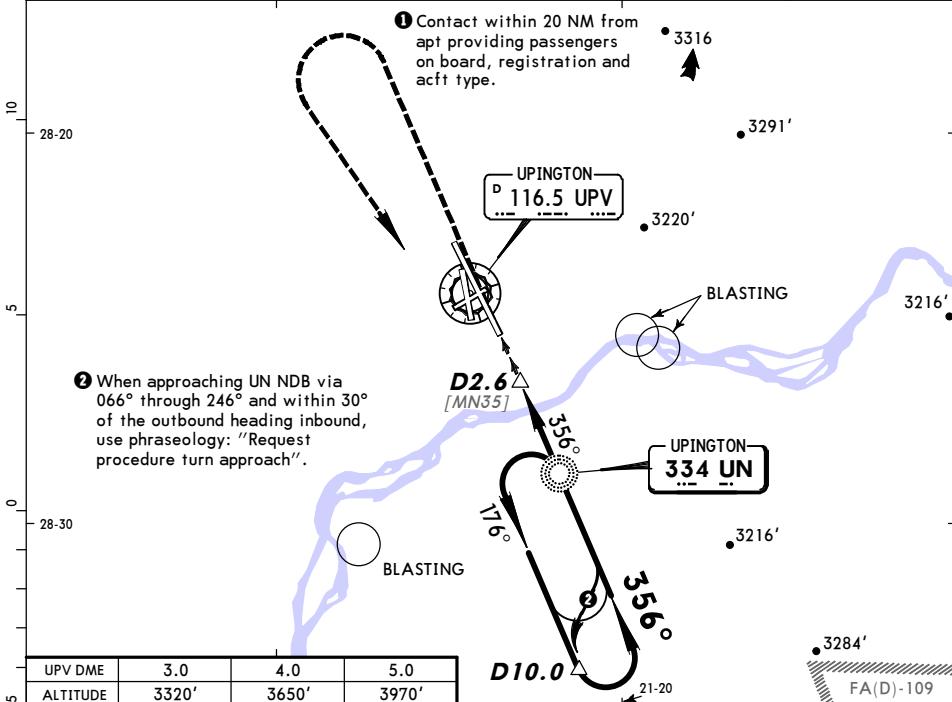
28 FEB 14  
Eff 6 Mar

(16-1)

UPINGTON, S AFR REP  
NDB Rwy 35

BRIEFING STRIP™

*UPINGTON Tower Approach Control through Tower 121.3				Apron (Ground) ① 122.65
NDB UN <b>334</b>	Final Apch Crs <b>356°</b>	Minimum Alt NDB <b>4000' (1289')</b>	MDA(H) <b>3300' (589')</b>	Apt Elev 2791' RWY 2711'
MISSSED APCH: Climb to 5500', then turn LEFT, climbing to 5800' direct to NDB.				
Alt Set: hPa 1. ADF/DME required. 2. Rwy 01/19 pilot controlled lighting 121.3.	Rwy Elev: 95 hPa	Trans level: By ATC	Trans alt: 5500'	MSA UN NDB



JAR-OPS		Straight-In Landing RWY 35	CIRCLE-TO-LAND	
MDA(H) <b>3300' (589')</b>				
RVR 1500m			ENTIRELY AT PILOTS DISCRETION	
RVR 2000m			MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA	
A B C D				

CHANGES: Minimums.

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**FAUT/UTT**Apt Elev **2429'**  
S31 32.8 E028 40.5**JEPPESSEN**  
11 APR 14 (10-9) Eff 15 Apr**MTHATHA, S AFR REP**

MTHATHA

\*MTHATHA Tower

**121.3**

28-41

28-40

Rwy 32 right-hand circuit.

**PARKING POSITIONS  
STAND COORDINATES**

STAND	COORDINATES
J1 thru J3	S31:32.9 E028:40.3
J4 thru J6	S31:32.9 E028:40.4
J7, J8	S31:32.9 E028:40.5

26°N

197' 60m Stopway

14

Apron H

Apron G

28-40

8530' 2600m

31-33

VOR

2484'

31-33

RWY 14/32

ARP

APRON J

A

D

E

F

A

J1

J2

J3

J4

J5

J6

J7

J8

31-32.8

31-32.9

31-32.9

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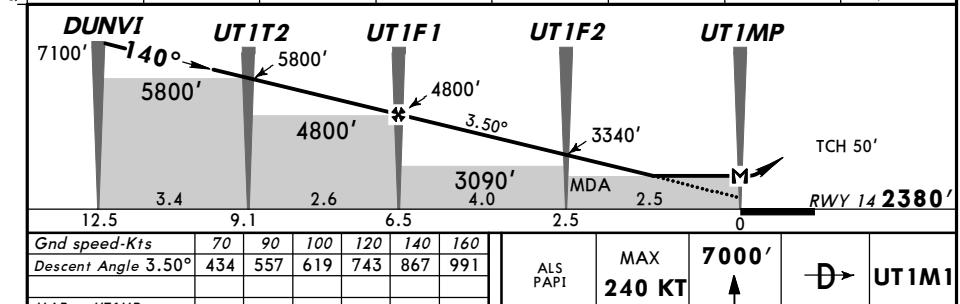
31-33

\*MTHATHA Tower

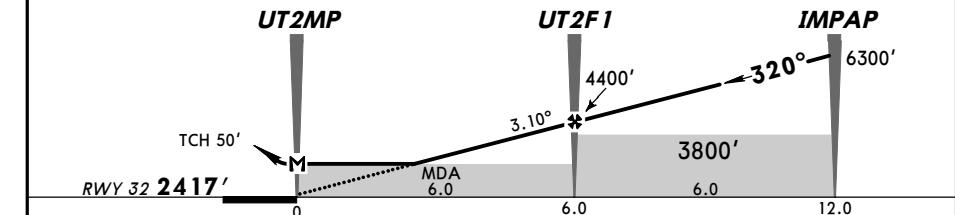
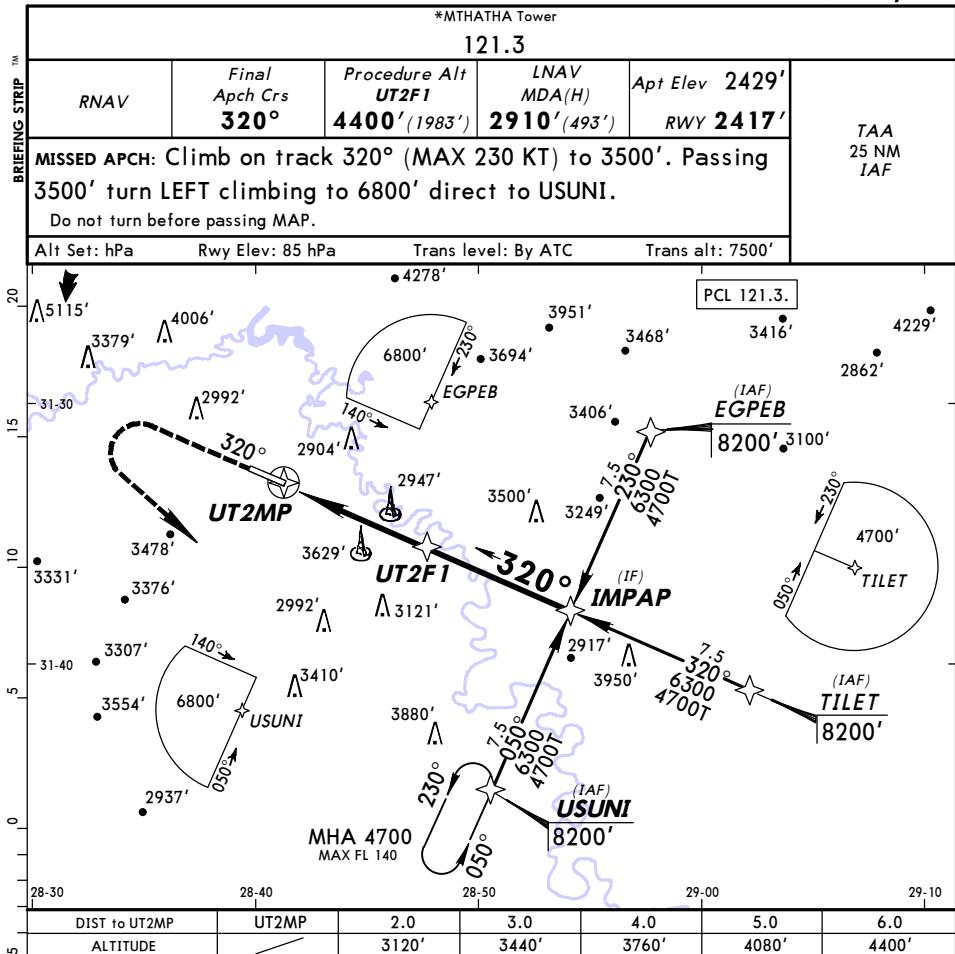
121.3

BRIEFING STRIP™	RNAV	Final Apch Crs <b>140°</b>	Procedure Alt <b>UT1F1 4800' (2420')</b>	LNAV MDA(H) Refer to Minimums	Apt Elev <b>2429'</b> <b>RWY 2380'</b>	TAA 25 NM IAF
	MISSSED APCH: Climb to 7000' (MAX 240 KT) direct to UT1M1. Passing UT1M1 turn RIGHT direct to ESTUB. Do not turn before passing UT1M1.					
	Alt Set: hPa Pilot controlled lighting 121.3.	Rwy Elev: 84 hPa	Trans level: By ATC	Trans alt: 7500'		

DIST to UTIMP: 6.0, 5.0, 4.0, 3.0, UT1F2, 2.0, UT1IMP  
ALTITUDE: 4620', 4260', 3890', 3530', 3340', 3160'



JAR-OPS		STRAIGHT-IN LANDING RWY 14 LNAV				CIRCLE-TO-LAND		
Missed apch climb gradient mim 3.5%		Missed apch climb gradient mim 2.5%				Not authorized South of rwy		
MDA(H) <b>2950' (570')</b>		MDA(H) <b>3120' (740')</b>						
ALS out		ALS out				Max Kts	MDA(H)	VIS
A	RVR 1500m		RVR 1500m			100	3120' (691')	1500m
B						135	3130' (701')	1600m
C	RVR 2000m		RVR 2000m			180	3390' (961')	2400m
D						205	3390' (961')	3600m



Gnd speed-Kts	70	90	100	120	140	160		ALS PAPI	MAX <b>230 KT</b>	<b>3500'</b> on <b>320°</b>
Descent Angle 3.10°	384	494	548	658	768	878				

JAR-OPS		STRAIGHT-IN LANDING RWY 32			CIRCLE-TO-LAND					
		LNAV <b>MDA(H) 2910' (493')</b>			Not authorized South of rwy					
PANS OPS		ALS out								
A		Max Kts								
B		MDA(H)								
C		VIS								
D		100      2910' (481')      1500m								
		135      3130' (701')      1600m								
		180      3390' (961')      2400m								
		205      3390' (961')      3600m								



FAUT/UTT  
MTHATHAJEPPESEN  
11 APR 14  
Eff 15 Apr  
13-2  
CAT A, B & CMTHATHA, S AFR REP  
VOR Rwy 32

\*MTHATHA Tower

BRIEFING STRIP TM

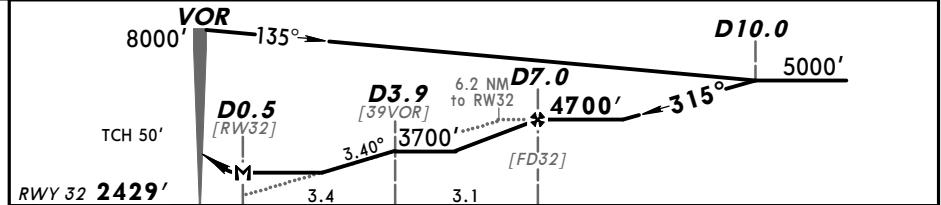
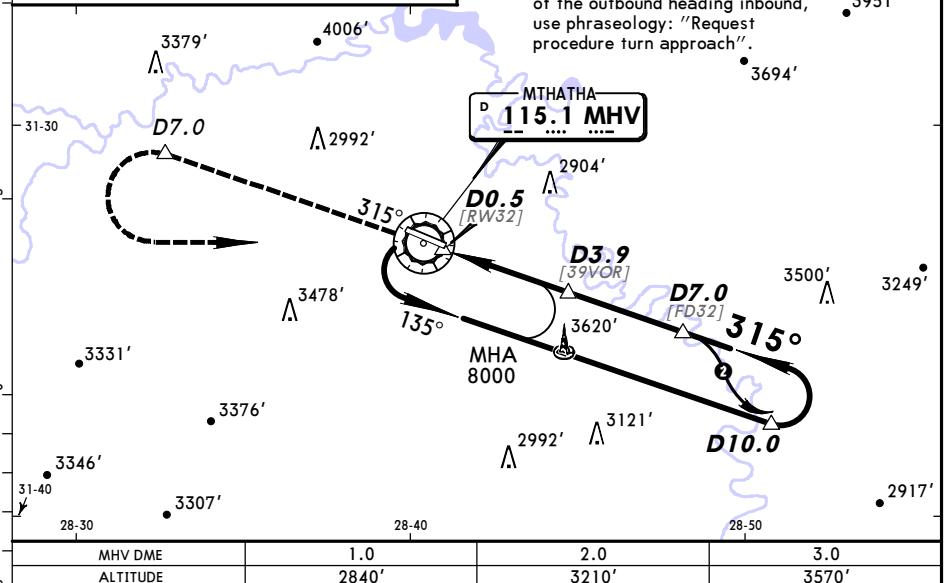
VOR MHV <b>115.1</b>	Final Apch Crs <b>315°</b>	Minimum Alt <b>D7.0</b> <b>4700' (2271')</b>	MDA(H) <b>3000' (571')</b>	Apt Elev <b>2429'</b> RWY <b>2429'</b>	7800' 270° 090° 5900' MSA MHV VOR
----------------------------	----------------------------------	----------------------------------------------------	-------------------------------	----------------------------------------------	--------------------------------------------------

**MISSIED APCH:** Climb to 4000'. Leave VOR on R-315 outbound to D7.0, then turn LEFT direct to VOR climbing to 5000' to enter the holding. Hold until cleared for another apch. MAX 230 KT. ①

Alt Set: hPa Rwy Elev: 86 hPa Trans level: By ATC Trans alt: 7500'  
1. DME required. 2. Pilot controlled lighting 121.3.

① **MISSIED APCH WITH LOSS COMM:**

Leave VOR on R-315 outbound to D7.0 climbing to 4000', then turn LEFT direct to VOR climbing to 5000' to enter the holding. Hold for minimum 5 Min and start another apch. MAX 230 KT.



JAR-OPS	STRAIGHT-IN LANDING RWY 32	CIRCLE-TO-LAND
ENTIRELY AT PILOTS DISCRETION		

PANS OPS	MDA(H) <b>3000' (571')</b>	Max Kts	MDA(H)	VIS
A	RVR 1400m	100	3050' (621')	1500m
B	RVR 1500m	135	3210' (781')	1600m
C	RVR 1600m	180	4060' (1631')	2400m
D	NOT APPLICABLE	D	NOT APPLICABLE	

**FAVM**  
Apt Elev 2316'

**JEPPESEN**  
3 MAR 00 16-1

**VENETIA, S AFR REP**  
VENETIA  
S22 27.0 E029 20.3

VENETIA Radio

**124.8**

When Radio is unmanned, a/cft shall use 124.8 for Air to Air Self-Information.

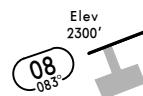
29-20

29-21

**WARNING:**  
Daily blasting activity taking place.  
Pilots to contact Venetia on company  
freq 130.4 before take-off.  
Rwy 08 right-hand circuit.



22-27



**26**  
763°  
Elev  
2315'

22-27

AREA CHARTED  
LIES WITHIN  
BLASTING AREA



29-20

29-21

**ADDITIONAL RUNWAY INFORMATION**

RWY	USABLE LENGTHS			TAKE-OFF	WIDTH
	Threshold	Glide Slope	LANDING BEYOND		
08					49' 15m
26					

**JAR - OPS**

**TAKE-OFF **I****

**All Rwy's**

**LVP must be in Force**

RCLM (DAY only)  
or RL

RCLM (DAY only)  
or RL

NIL  
(DAY only)

**A**

250m

400m

500m

**B**

**C**

**D**

NOT APPLICABLE

**I** Operators applying U.S. Ops Specs: CL required below 300m.

FAVM  
VENETIA

JEPPESEN  
3 MAR 00 (16-1) CAT A & B CLOUD BREAK PROCEDURE VENETIA, S AFR REP NDB Rwy 08

VENETIA Radio

124.8

When Radio is unmanned, acft shall use 124.8 for Air to Air Self-Information.

BRIEFING STRIP™

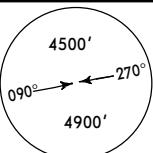
NDB  
VM  
**417.5**

Final  
Apch Crs  
**083°**

Minimum Alt  
No FAF

MDA(H)  
**2920' (604')**

Apt Elev **2316'**



MSA  
VM NDB

MISSING APCH: Climb on heading 083° to 3400', climbing turn  
RIGHT to 5500' and return to NDB.

Alt Set: hPa Apt Elev: 82 hPa Trans level: By ATC Trans alt: 7000' (4684')

1. WARNING: Daily blasting activity taking place. Pilots to contact Venetia on company freq 130.4 before approaching. 2. Approach procedure is conducted outside controlled airspace and entirely at the discretion of pilot-in-command.

- 22-20

10

.5

22-30

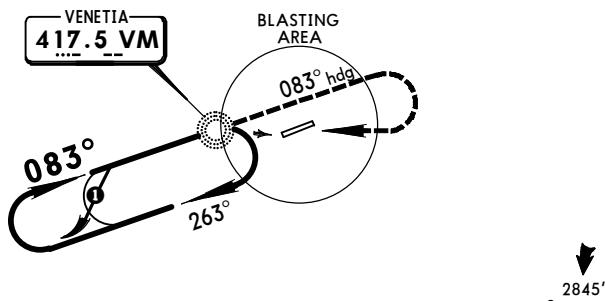
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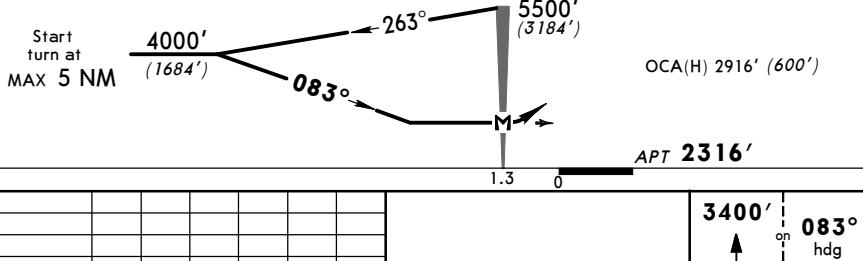
29-10

29-20

29-30



- ① When approaching VM NDB via 193° through 013° and within 30° of the outbound heading inbound, use phraseology: "Executing procedure turn approach".



MAP at NDB

LANDING RWY 08

CIRCLE-TO-LAND

Not authorized North of airport  
ENTIRELY AT PILOTS DISCRETION

A

RVR 1500m

B

NOT APPLICABLE

C

MINIMUMS NOT YET ESTABLISHED  
BY S AFR REP DCA

D

FAVV

Apt Elev 4846'  
S26 34.5 E027 57.8

JEPPESEN VEREENIGING, S AFR REP

1 APR 05 (16-1)

VEREENIGING

VEREENIGING Radio

122.1

When Radio is unmanned, acft shall use 122.1 for Air to Air Self-Information

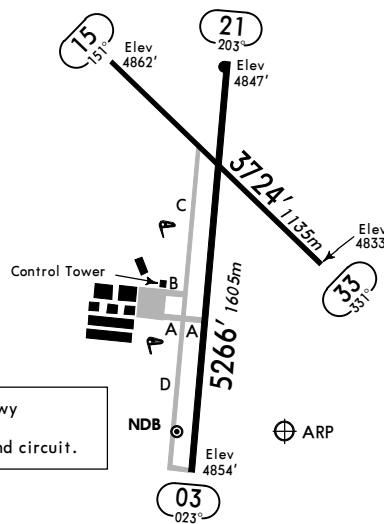
27-57

27-58

N081

26-34

26-34



Feet 0 1000 2000 3000 4000  
Meters 0 200 400 600 800 1000 1200

26-35

27-57

27-58

26-35

## ADDITIONAL RUNWAY INFORMATION

## USABLE LENGTHS

RWY	① MIRL    ① PAPI-L (angle 3.4°)	LANDING BEYOND		TAKE-OFF	WIDTH
		Threshold	Glide Slope		
03					72' 22m
21					
15					52' 16m
33					

① Activate on 122.1. Key mike 5 times.

## JAR-OPS

## TAKE-OFF ①

## All Rwy's

LVP must be in Force

	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A	250m	400m	500m
B			
C			
D			
	NOT APPLICABLE		

① Operators applying U.S. Ops Specs: CL required below 300m.

1 APR 05

(16-1)

CAT A & B

CLOUD BREAK

PROCEDURE

VEREENIGING Radio

122.1

When Radio is unmanned, acft shall use 122.1 for Air to Air - Self Information.

BRIEFING STRIP™

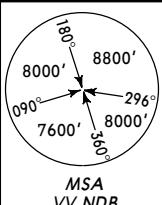
NDB  
VV  
**\*460**

Final  
Apch Crs  
**027°**

Minimum Alt  
No FAF

MDA(H)  
**5740' (886')**

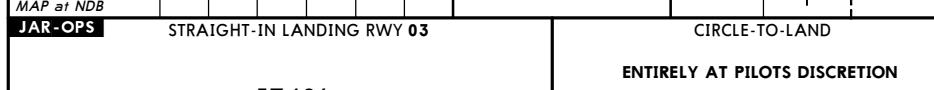
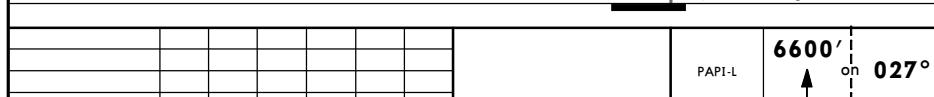
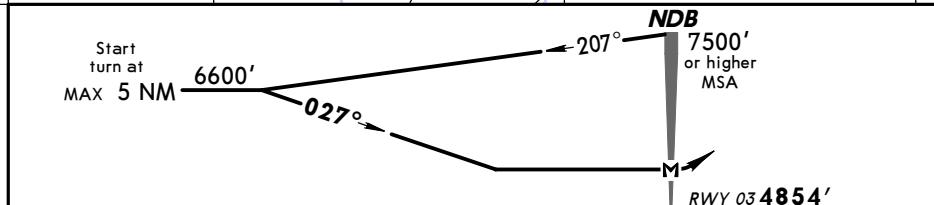
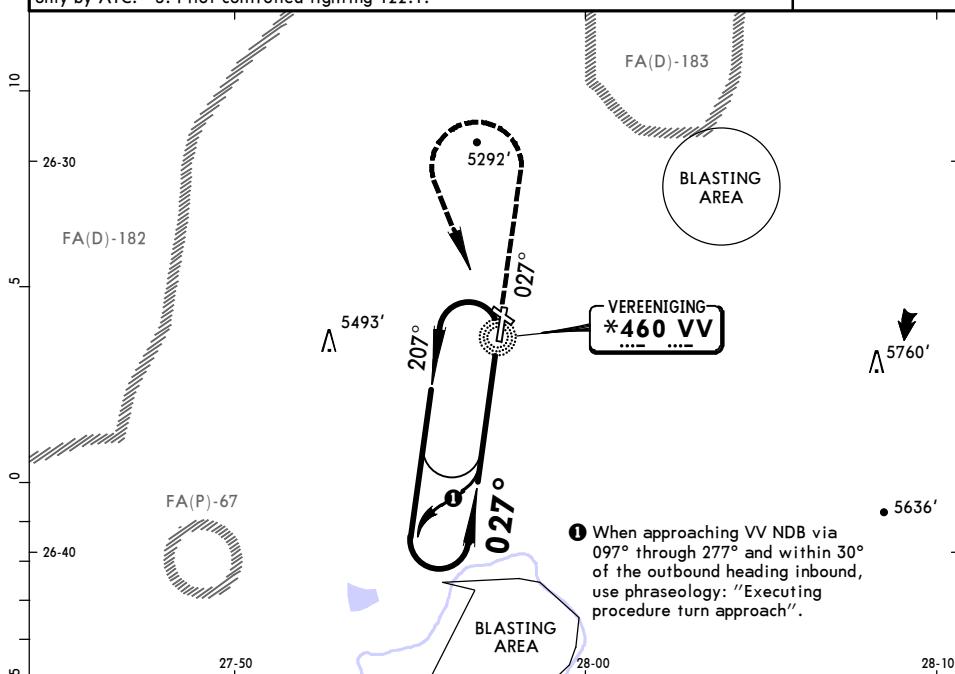
Apt Elev 4846'  
**RWY 4854'**



**MISSSED APCH:** Climb on track 027° to 6600', then climbing turn LEFT to 7500' and return to NDB, or as directed.

Alt Set: hPa      Rwy Elev: 166 hPa      Trans level: By ATC      Trans alt: 8000'

1. Approach procedure is conducted outside controlled airspace and entirely at the discretion of pilot-in-command.
2. Any approaches between 090° to 296° above 7500' only by ATC.
3. Pilot controlled lighting 122.1.



A	RVR 1500m	NOT APPLICABLE	MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA
B			
C			
D			

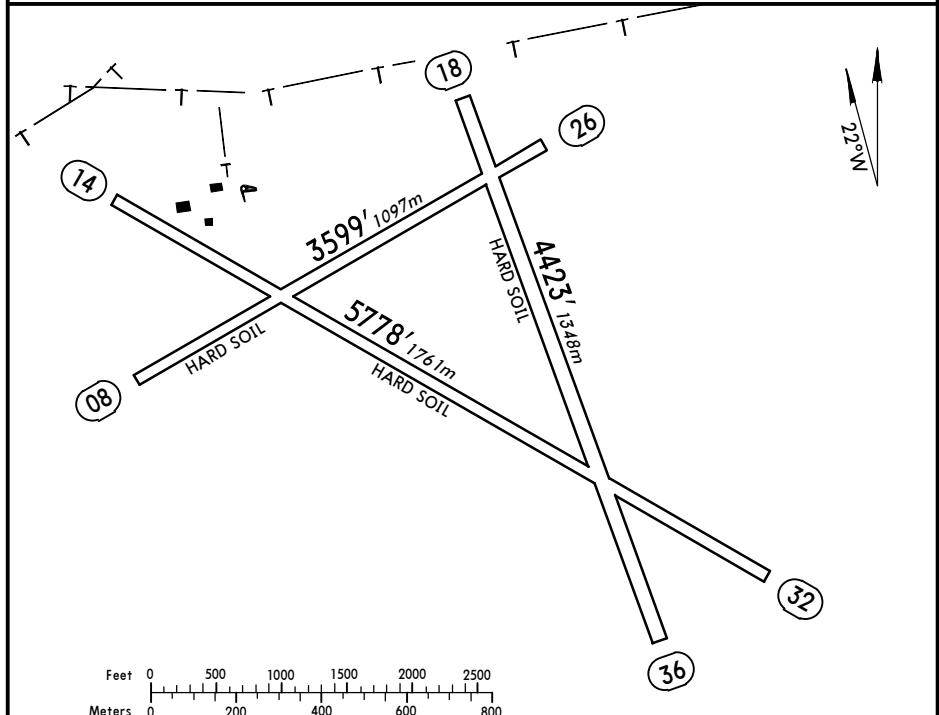
**FAWW**  
Apt Elev 4122'

**JEPPESEN**  
3 MAR 00 19-1

**VICTORIA WEST S AFR REP**  
**VICTORIA WEST**  
S31 24.0 E023 09.0

**VICTORIA WEST**  
(Air to Air Self-Information)  
124.8

22°NW



**ADDITIONAL RUNWAY INFORMATION**

RWY	RL	USABLE LENGTHS			WIDTH
		LANDING BEYOND Threshold	Glide Slope	TAKE-OFF	
08					89' 27m
26					
14					89' 27m
32	RL				
18					118' 36m
36					

VICTORIA WEST  
(Air to Air-Self-Information)

124.8

BRIEFING STRIP™

NAVAIDS-  
Refer to  
Planview

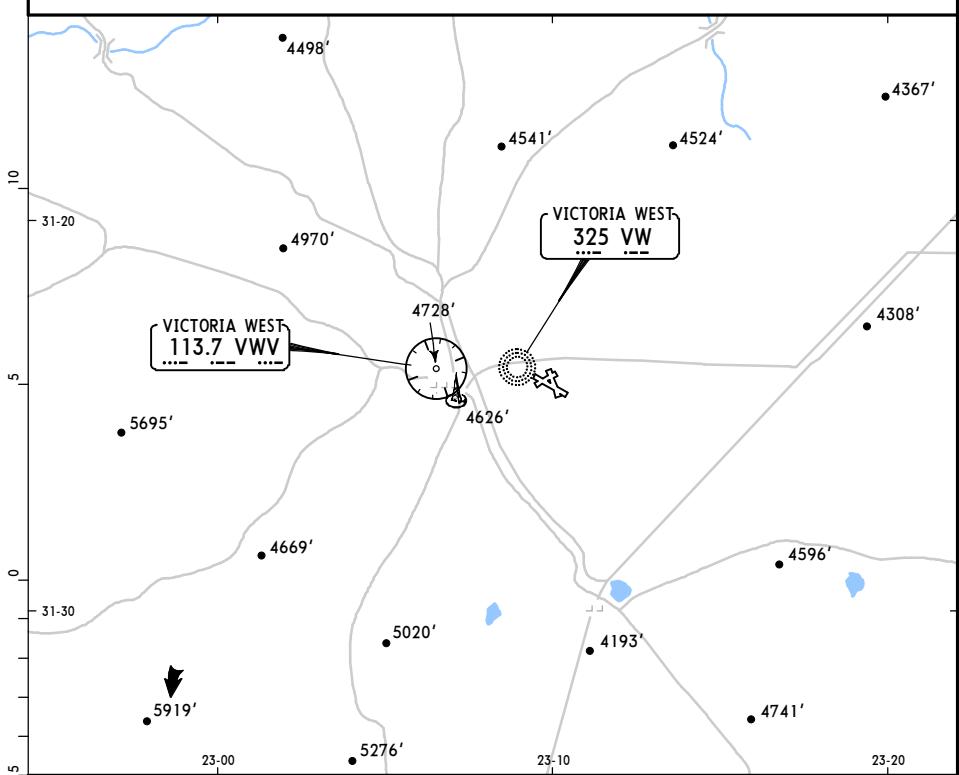
Apt Elev 4122'

Alt Set: hPa

Apt Elev: 142 hPa

Trans level: By ATC

Trans alt : By ATC

No instrument approach procedure  
established for this airport

## **NOISE ABATEMENT**

**LT minus 2 HOURS = UTC (Z)**

### **GENERAL**

No low level circuits on SUN.

### **DEPARTURES**

The below procedures apply to jet aircraft and may be disregarded if at 7100' or when leveled off by ATC or when leveled by SID.

- |                   |                                                                                                                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Take-off to 5600' | - take-off power;<br>- take-off flaps;<br>- climb at $V_2 + 10$ to 20 KT or as limited by body angle;<br>- depending on ACFT type, the take-off power/thrust may be reduced at a lower altitude; |
| At 5600'          | - reduce thrust (if not already reduced) to not less than climb power/thrust;                                                                                                                    |
| 5600' to 7100'    | - climb at $V_2 + 10$ to 20 KT;                                                                                                                                                                  |
| At 7100'          | - accelerate smoothly to en-route climb speed with flap retraction on schedule.                                                                                                                  |

No jet aircraft are to use RWY or TWY intersection for take-off between 2200-0600LT.

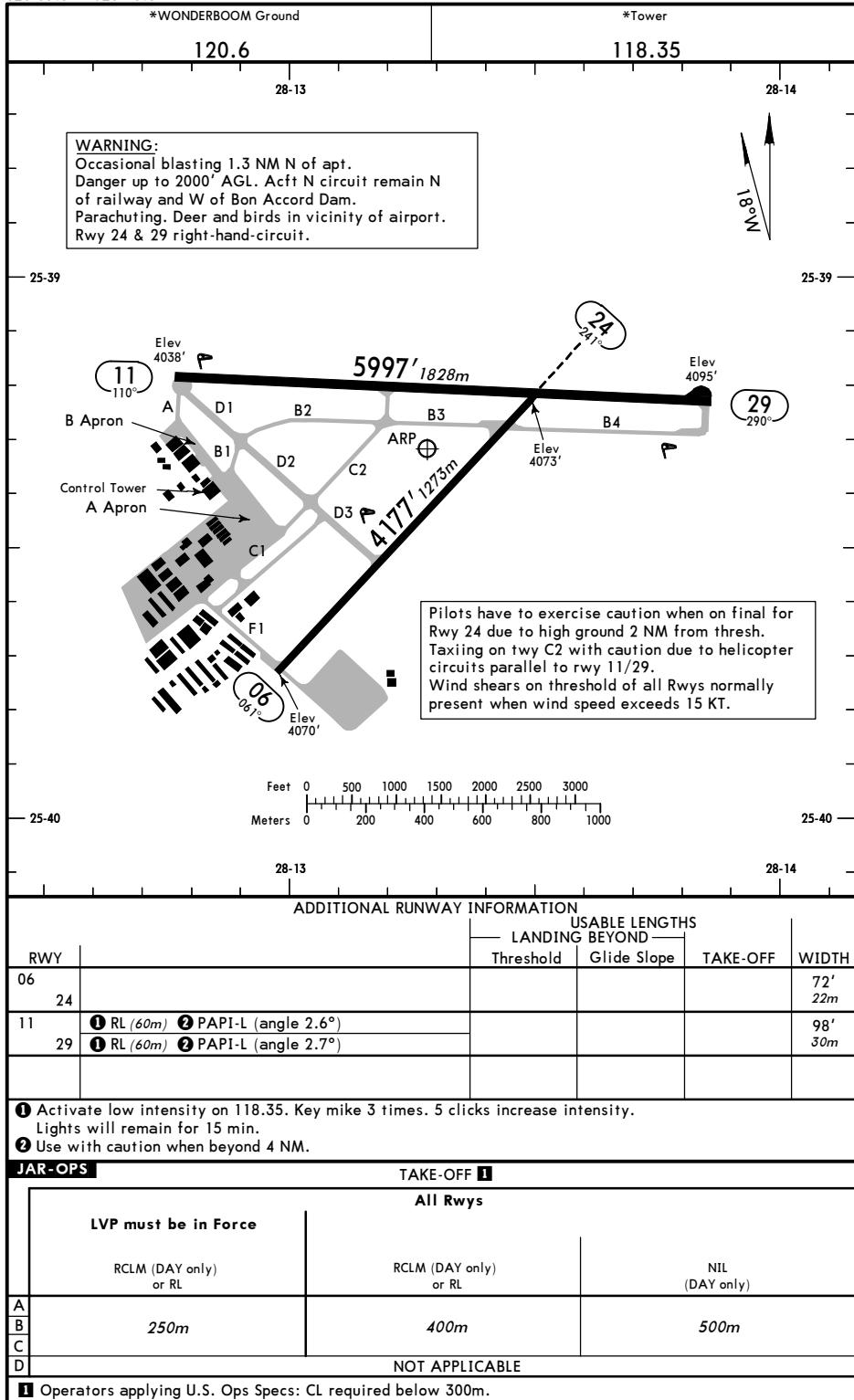
### **RUN-UP TESTS**

No engine runs allowed MON-SAT between 1900-0700LT and SUN before 1100LT and after 1700LT.

**FAWB/PRY**  
Apt Elev 4095'  
S25 39.3 E028 13.3

**JEPPESSEN**  
16 NOV 12 (10-9)

**PRETORIA, S AFR REP**  
WONDERBOOM



FAWB/PRY


**JEPPESEN**  
 13 APR 12      10-9S

**PRETORIA, S AFR REP**  
 Standard  
 WONDERBOOM

STRAIGHT-IN RWY	A	B	C	D	
29	NDB ①	4500'(405') R1500m	4500'(405') R1500m	4500'(405') R1900m	NOT APPLICABLE

① Continuous Descent Final Approach.

CIRCLE-TO-LAND ②	A	B	C	D
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

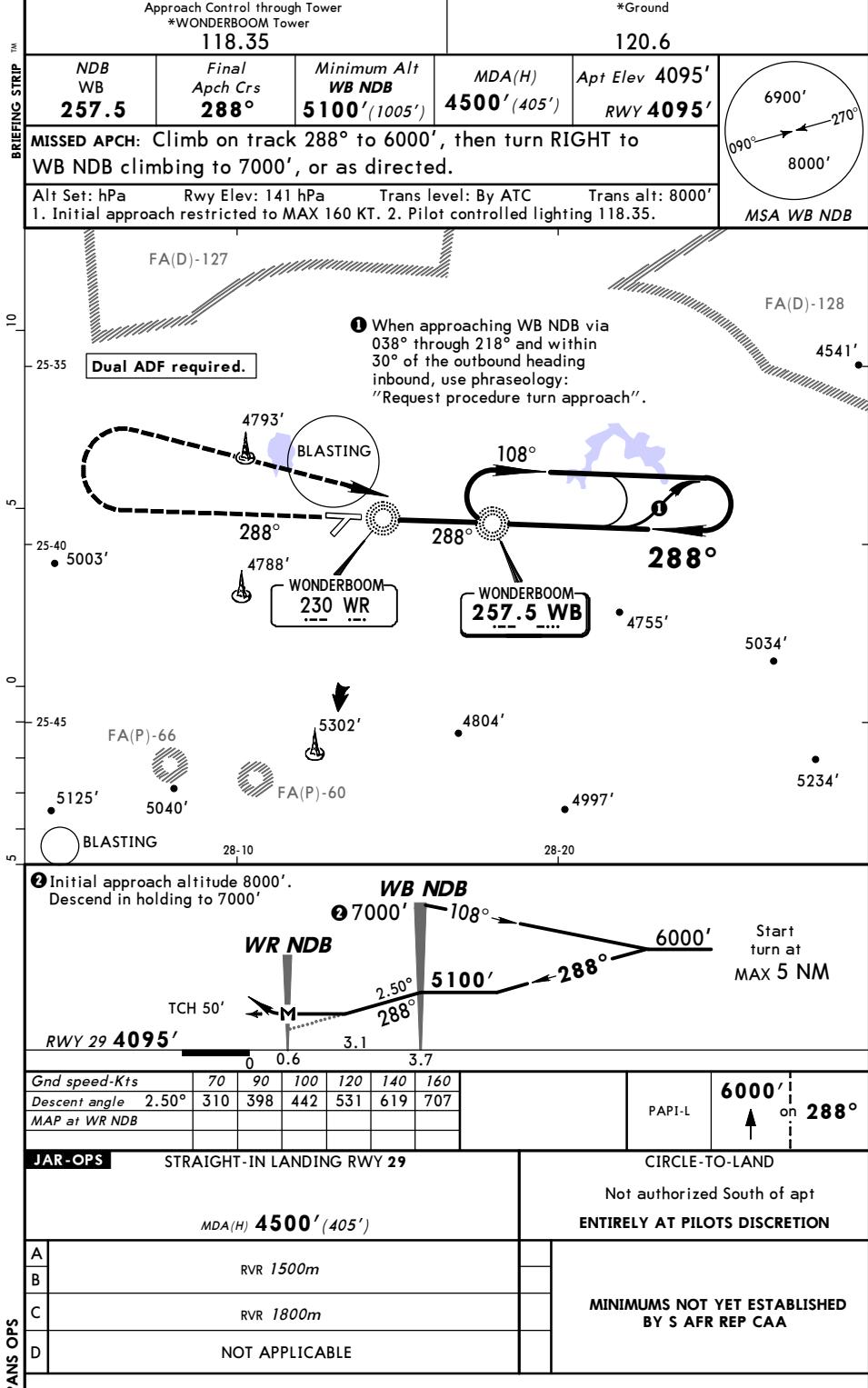
 ② Not authorized South of airport.  
 Entirely at pilots discretion.

---

**TAKE-OFF RWY 06, 11, 24, 29**


---

LVP must be in force		RCLM (DAY only) or RL	NIL (DAY only)
A	250m	400m	500m
B			
C			
D	NOT APPLICABLE		



FAWI

Apt Elev 5078'  
S25 50.0 E029 11.6

JEPPESEN

16 JUL 04 (13-1)

WITBANK, S AFR REP

WITBANK

\*WITBANK Radio

When Radio is unmanned, acft shall use 123.5 for Air to Air - Self Information

123.5

29-11

29-12

**CAUTION:** Parachuting and glider activities  
on weekends and public holidays.



25-50

25-50

TERMINAL

22  
216

VOR

ARP

4134' / 1260m

04  
036Elev  
5078'

Feet	0	1000	2000	3000	4000
Meters	0	200	400	600	800

29-11

29-12

## ADDITIONAL RUNWAY INFORMATION

## USABLE LENGTHS

## LANDING BEYOND

Threshold

Glide Slope

TAKE-OFF

WIDTH

RWY					
04	MIRL				36' 11m
22					

## JAR-OPS

## TAKE-OFF 1

## All Rwy's

**LVP must be in Force**RCLM (DAY only)  
or RLRCLM (DAY only)  
or RLNIL  
(DAY only)

A

250m

400m

500m

B

NOT APPLICABLE

C

D

Operators applying U.S. Ops Specs: CL required below 300m.

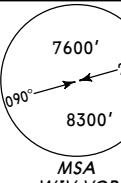
CHANGES: See other side.

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## JOHANNESBURG Approach

134.4

\*WITBANK Radio

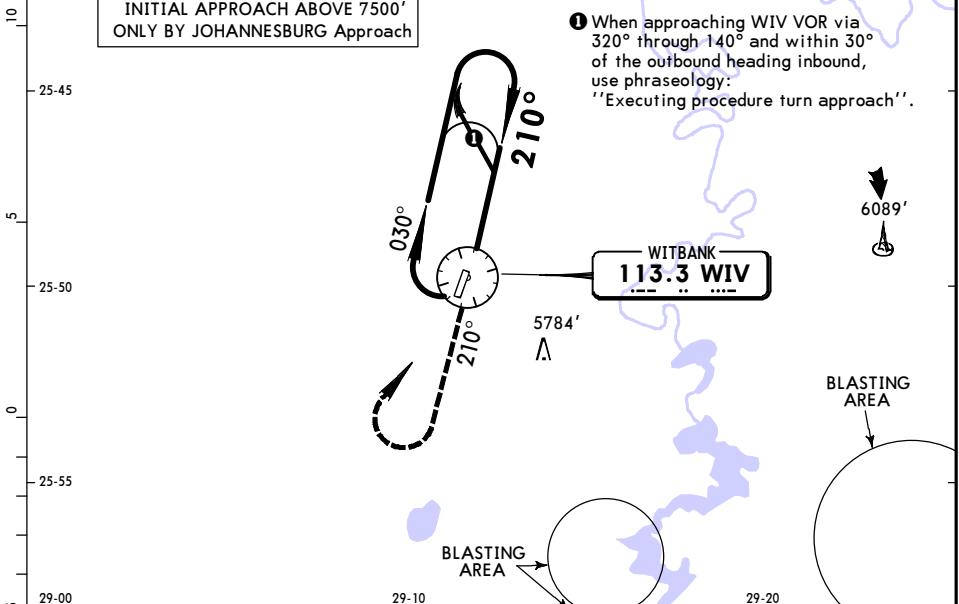
When Radio is unmanned,  
a/cft shall use 123.5 for  
Air to Air - Self InformationVOR  
WIV  
**113.3**Final  
Apch Crs  
**210°**Minimum Alt  
No FAFMDA(H)  
**5800' (722')**Apt Elev **5078'**

**MISSED APCH:** Climb on R-210 to 6600', then turn RIGHT to VOR climbing to 7500'.

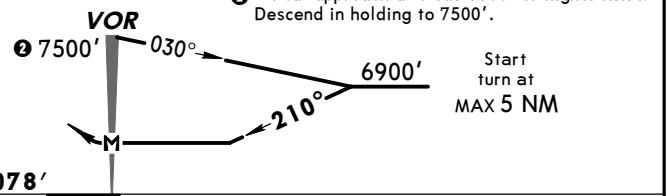
Alt Set: hPa Apt Elev: 173 hPa Trans level: By ATC Trans alt: 8000'  
Approach procedure is conducted outside controlled airspace and entirely at the discretion of the pilot-in-command.

INITIAL APPROACH ABOVE 7500'  
ONLY BY JOHANNESBURG Approach

- ① When approaching WIV VOR via 320° through 140° and within 30° of the outbound heading inbound, use phraseology:  
"Executing procedure turn approach".



- ② Initial approach altitude 8000' or higher MSA.  
Descend in holding to 7500'.



MAP at VOR

6600' WIV  
on **113.3**  
R-210

JAR-OPS

CIRCLE-TO-LAND

Not authorized East of rwy

ENTIRELY AT PILOTS DISCRETION

	Max Kts	MDA(H)	VIS
A	100	<b>5800' (722')</b>	1500m
B	135	<b>5800' (722')</b>	1600m
C			NOT APPLICABLE
D			

Apt Elev  
**4940'**

- Alt Set: hPa Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with STAR notify ATC.  
 2. SIDs and STARs must be announced in operation on ATIS and will only be in force when FAJS Surveillance Radar is operational.  
 3. STARs include minimum noise routes.

8900'

MSA  
WKV VOR

## BRONKHORST 3C (MEV 3C) RWY 01 ARRIVAL

**UNLICENCED MILITARY AERODROME**  
TO BE USED IN EMERGENCY ONLY.

WATERKLOOF  
D 116.9 WKV  
S25 50.0 E028 13.2

D9 WKV  
S25 48.8 E028 23.1

MAX 210 KT

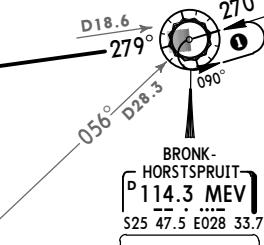
R099°  
961  
Brpt 090°

ILS DME  
111.3 WKI

FA(R)-171

Pretoria Flying  
TNG Area 2

BRONKHORSTSPRUIT  
D 114.3 MEV  
S25 47.5 E028 33.7  
MAX 250 KT



NOT TO SCALE

! Ensure not to penetrate the Pretoria Flying TNG Area 2 and FA(R)-171.

JOHANNESBURG  
D 115.2 JSV  
S26 09.4 E028 13.9

### MAXIMUM APPROACH SPEED POINTS (SLP)

If the speed is below minimum safe operating speed, the minimum safe operating speed will be flown and ATC advised. Unless for emergency pilots are not to request cancellation of speed restrictions.

▼ LOST COMMS ▼

If not cleared for an arrival, proceed to nearest STAR entry position at last assigned **FL or FL90**, whichever is highest. Comply with associated communication failure procedure.

**Before MEV:** Proceed to MEV and enter holding, hold at last assigned **FL** for minimum 5 minutes, then descend to **FL120** in the holding. Leave MEV at **FL120** on MEV 3C STAR and descend to **8000'**, when passing D9 WKV descend to **6500'**, when passing WKV R-145 turn RIGHT, 280° heading, when passing WKV R-170 turn RIGHT, 340° heading to intercept ILS.

**After MEV:** Continue on STAR and descend to **FL90**, when passing D9 WKV descend to **6500'**, when passing WKV R-145 turn RIGHT, 280° heading, when passing WKV R-170 turn RIGHT, 340° heading to intercept ILS.

**Note:** Aircraft entering TMA at or below **FL110** are to enter the designated holding at last assigned **FL** and continue on designated STAR.

**Caution:** Holdings below **FL110** will be conducted partially outside controlled airspace.

### ROUTING

Intercept WKV R-099 inbound to D9 WKV, turn LEFT, 190° heading for radar vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

to E & SE **MEV 3A**;  
to N, W & SW **HBV 2G**.

Apt Elev  
**4940'**

- Alt Set: hPa Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with STAR notify ATC.  
 2. SIDs and STARs must be announced in operation on ATIS and will only be in force when FAJS Surveillance Radar is operational.  
 3. STARs include minimum noise routes.

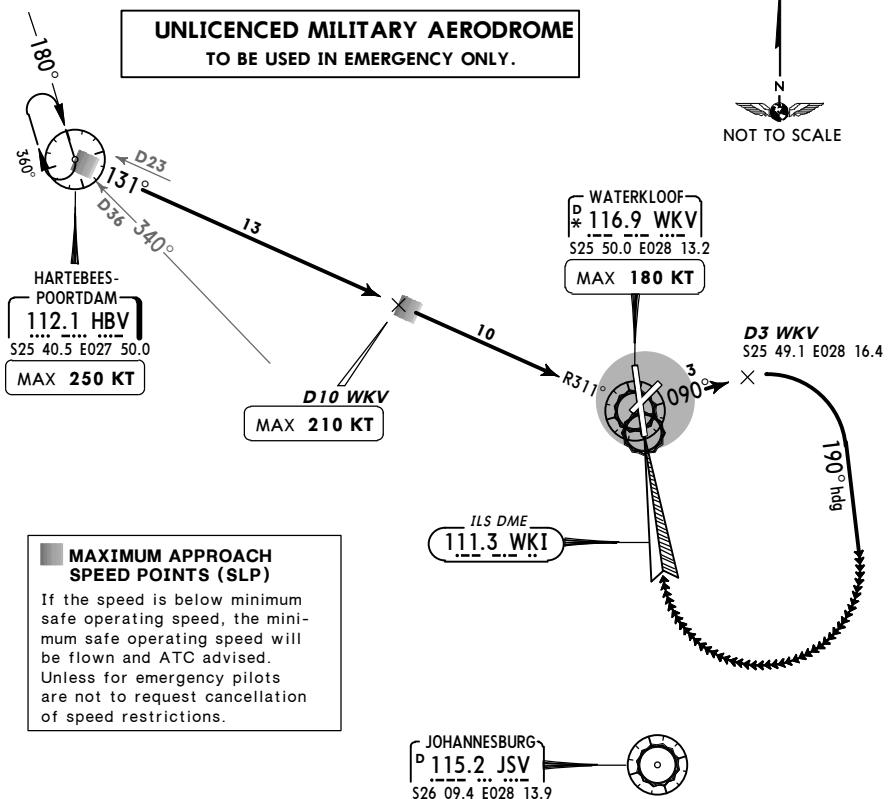
8900'

MSA  
WKV VOR

## HARTBEES 2F (HBV 2F) RWY 01 ARRIVAL

### UNLICENCED MILITARY AERODROME TO BE USED IN EMERGENCY ONLY.

NOT TO SCALE



▼ LOST COMMS ▼  
 If not cleared for an arrival, proceed to nearest STAR entry position at last assigned **FL** or **FL90**, whichever is highest. Comply with associated communication failure procedure.

**FL** or

**Before HBV:** Proceed to HBV and enter holding, hold at last assigned **FL** for minimum 5 minutes, then descend to **FL120** in the holding. Leave HBV at **FL120** on HBV 2F STAR, at D10 WKV descend to **FL90**, when passing WKV descend to **6500'**, at D3 WKV turn **RIGHT**, **190° heading**, when passing WKV R-145 turn **RIGHT**, **280° heading**, when passing WKV R-170 turn **RIGHT**, **340° heading** to intercept ILS.

**After HBV:** Continue on STAR maintaining last assigned **FL**, at D10 WKV descend to **FL90**, when passing WKV descend to **6500'**, at D3 WKV turn **RIGHT**, **190° heading**, when passing WKV R-145 turn **RIGHT**, **280° heading**, when passing WKV R-170 turn **RIGHT**, **340° heading** to intercept ILS.

**Note:** Aircraft entering TMA at or below **FL110** are to enter the designated holding at last assigned **FL** and continue on designated STAR.

**Caution:** Holdings below **FL110** will be conducted partially outside controlled airspace.

### ROUTING

Direct to WKV, turn LEFT, WKV R-090 to D3 WKV, turn RIGHT, **190° heading** for radar vectoring to ILS.

In the event of a missed approach with the intention of diverting to an alternate airport comply with the following SIDs:

to E & SE **MEV 3A**;  
 to N, W & SW **HBV 2G**.

*Apt Elev  
4940'*

Trans level: By ATC Trans alt: 8000'  
1. If unable to comply with SID notify ATC.  
2. Contact JOHANNESBURG Radar at 6500' on frequency provided.  
3. Cross CTR boundary at or above 8000'.  
4. SIDs include minimum noise routes.

8900'

BRONKHORST 3A (MEV 3A)

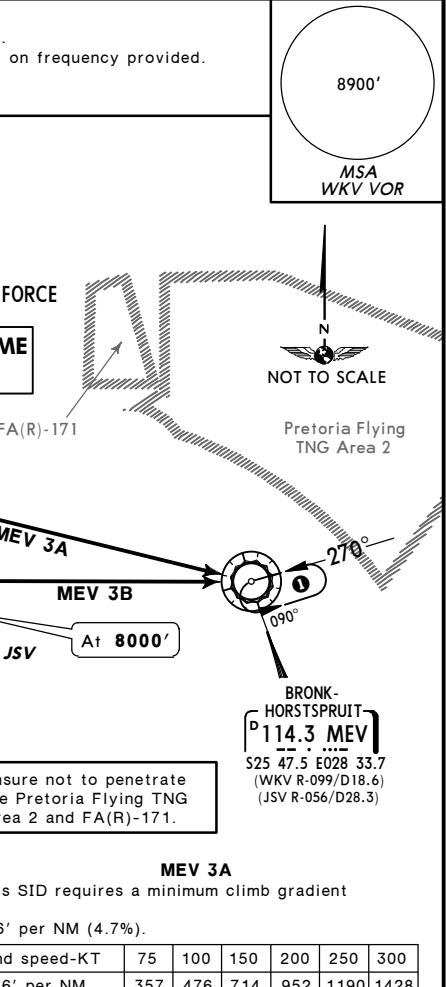
BRONKHORST 3B (MEV 3B)

RWYS 01 19 DEPARTURES

#### **PROCEDURES TO BE FLOWN ONLY**

**PROCEDURES TO BE FOLLOWED  
ON AUTHORITY FROM SOUTH AFRICAN AIR FORCE**

**UNLICENCED MILITARY AERODROME**  
**TO BE USED IN EMERGENCY ONLY.**



Comply with SID, maintain last assigned

Comply with SID, maintain last assigned **FL** to MEV; at MEV continue as per right plan. Aircraft wishing to return must continue to SID termination point and climb to preferred above MSA at or below last assigned **FL**. At MEV enter holding and comply with the appropriate STAR LOST COMMS procedure.

FL

Comply with SID, maintain last assigned climb to flight plan **FL**.

Aircraft wishing to return must continue to SID termination point and climb to preferred above MSA at or below last assigned **FL**. At MEV enter holding and comply with the MEV 3C LOST COMMS procedure.

**Note:** Fuel jettisoning may be done in the holding prior to commencing the STAR.

**Caution:** Holdings below FL110 will be conducted partially outside controlled airspace.

SL MDC SL MDC

**MEV 3A:** Climb to 8000'. further climb under radar control.

**MEV 3A:** Climb to **5000'**, further climbs under radar control  
**MEV 3B:** Climb to **7000'**, at D20 JSV climb to **8000'**,  
further climb under radar control

*Apt Elev*  
4940'

Trans level: By ATC Trans alt: 8000'  
1. If unable to comply with SID notify ATC.  
2. Contact JOHANNESBURG Radar at 6500' on frequency provided.  
3. Cross CTR boundary at or above 8000'.  
4. SIDs include minimum noise routes.

8900'

8900'

MSA  
WKV VOB

### HARTBEES 3D (HBV 3D)

## HARTBEES 2G (HBV 2G)

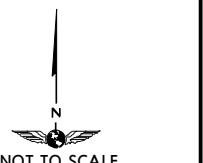
## RWY 01 DEPARTURES

## **PROCEDURES TO BE FLOWN ONLY**

## ON AUTHORITY FROM SOUTH AFRICAN AIR FORCE

## **UNLICENCED MILITARY AERODROME**

**TO BE USED IN EMERGENCY ONLY.**



NOT TO SCALE

The diagram illustrates a flight route between three airports:

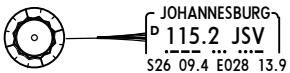
- HARTEBEES-POORTDAM**: Located at S25 40.5 E027 50.0. It is marked with a black square icon.
- WATERKLOOF**: Located at S25 50.0 E028 13.2. It is marked with a dashed square icon.
- BRONK-HORSTS普UIT**: Located at S25 47.5 E028 33.7. It is marked with a blue square icon.

The route starts at Hartebeespoortdam at 112.1 HBV, heading 340°. At 360°, it turns 180° to 090°. The route continues to Waterkloof at 116.9 WKV, then turns 311° to 045° towards Bronkhorstspruit at 114.3 MEV. The route is labeled "HBV 2G" and "HBV 3D".

A callout box indicates "At 8000'". A north arrow is present in the top right corner, and a "NOT TO SCALE" note is also present.

These SIDs require a minimum climb gradient of 286' per NM (4.7%).

Gnd speed-KT	75	100	150	200	250	300
286' per NM	357	476	714	952	1190	1428



LOST COMMS LOST COMMS

Comply with SID, maintain last assigned climb to flight plan **FL**. **FL** to HBV, at HBV continue as per flight plan and

Aircraft wishing to return must continue to SID termination point and climb to preferred above MSA at or below last assigned **FL**. At HBV enter holding and comply with the appropriate STAR LOST COMMS procedure.

**Note:** Fuel jettisoning may be done in the holding prior to commencing the STAR appropriate STAR LEGT COMMS procedure.

**Note:** Fuel jettisoning may be done in the holding prior to commencing the STAR.  
**Caution:** Holdings below **E110** will be conducted partially outside controlled airspace.

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HBV 2G: Climb to 8000', further climb under radar control.		
SID	ROUTING	
<b>HBV 3D</b>	Climb on runway heading to WKV 4.5 DME, turn RIGHT towards MEV, at turn RIGHT to HBV, then as per flight plan.	<b>8000'</b>
<b>HBV 2G</b>	Climb on runway heading to WKV 4.5 DME, turn LEFT to HBV, then as per flight plan	

Apt Elev  
**4940'**

- Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID notify ATC.  
 2. Contact JOHANNESBURG Radar at 6500' on frequency provided.  
 3. Cross CTR boundary at or above 8000'.  
 4. SIDs include minimum noise routes.

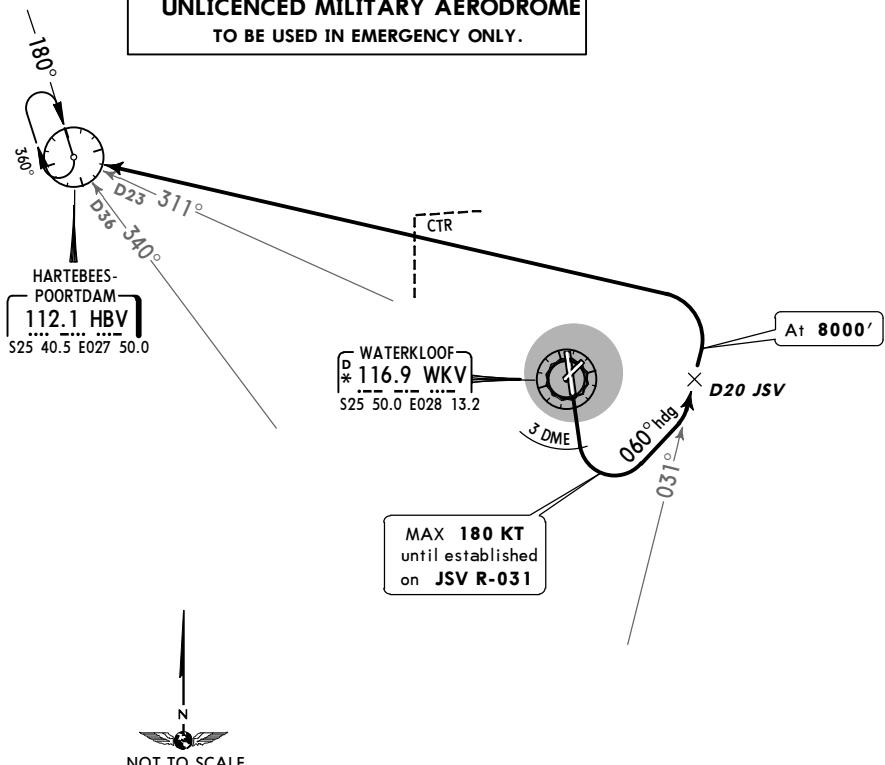
8900'

MSA  
WKV VOR**HARTBEES 3E (HBV 3E)****RWY 19 DEPARTURE**

PROCEDURES TO BE FLOWN ONLY

ON AUTHORITY FROM SOUTH AFRICAN AIR FORCE

**UNLICENCED MILITARY AERODROME**  
**TO BE USED IN EMERGENCY ONLY.**



▼ LOST COMMS ▼

Comply with SID, maintain last assigned **FL** to HBV, at HBV continue as per flight plan and climb to flight plan **FL**.

Aircraft wishing to return must continue to SID termination point and climb to preferred above MSA at or below last assigned **FL**. At HBV enter holding and comply with the HBV 2F LOST COMMS procedure.

**FL**

**Note:** Fuel jettisoning may be done in the holding prior to commencing the STAR.

**Caution:** Holdings below **FL110** will be conducted partially outside controlled airspace.

▲ GLMNC ▲

Climb to **7000'**, at D20 JSV climb to **8000'**, further climb under radar control.

**ROUTING**

Climb on runway heading to WKV 3 DME, turn LEFT, 060° heading, intercept JSV R-031 to D20 JSV, at **8000'** turn LEFT to HBV, then as per flight plan.

Apt Elev  
**4940'**

- Trans level: By ATC Trans alt: 8000'  
 1. If unable to comply with SID notify ATC.  
 2. Contact JOHANNESBURG Radar at 6500' on frequency provided.  
 3. Cross CTR boundary at or above 8000'.  
 4. SIDs include minimum noise routes.

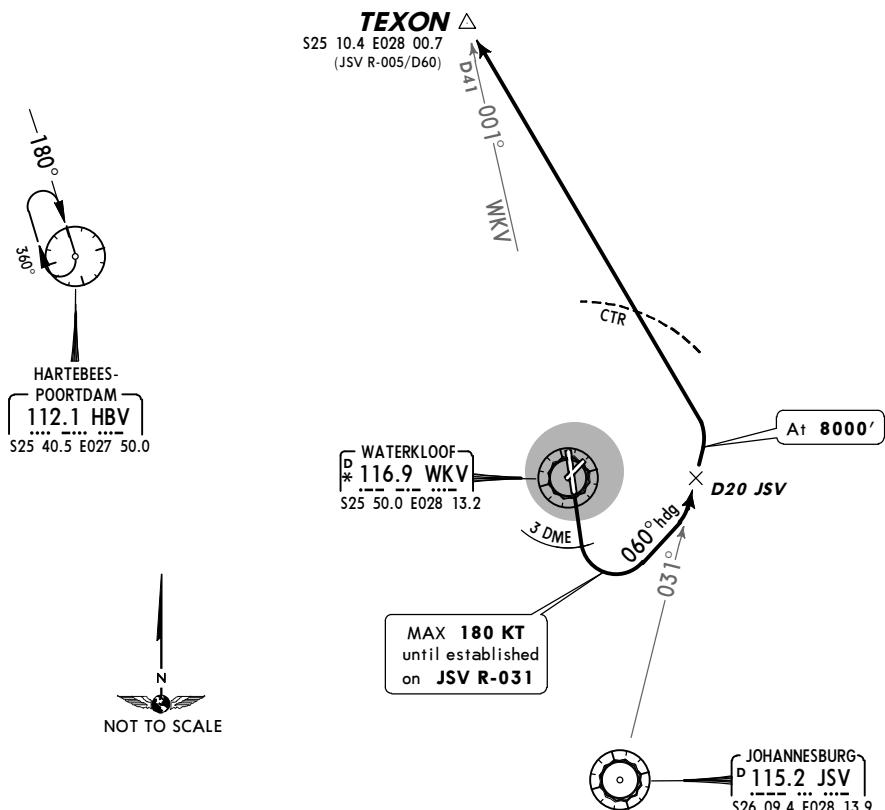
8900'

MSA  
WKV VOR**TEXON 1B [TEXO1B]****RWY 19 DEPARTURE**

PROCEDURES TO BE FLOWN ONLY

ON AUTHORITY FROM SOUTH AFRICAN AIR FORCE

**UNLICENCED MILITARY AERODROME**  
**TO BE USED IN EMERGENCY ONLY.**



▼ LOST COMMS ▼

Comply with SID, maintain last assigned **FL** to TEXON, at TEXON continue as per flight plan and climb to flight plan **FL**.

Aircraft wishing to return must continue to SID termination point and climb to preferred above MSA at or below last assigned **FL**. At TEXON proceed to HBV, enter holding and comply with HBV 2F LOST COMMS procedure.

**FL**

**Note:** Fuel jettisoning may be done in the holding prior to commencing the STAR.

**Caution:** Holdings below **FL110** will be conducted partially outside controlled airspace.

▲ GM/MC ▲ GM/MC

Climb to **7000'**, at D20 JSV climb to **8000'**, further climb under radar control.

**ROUTING**

Climb on runway heading to WKV 3 DME, turn LEFT, 060° heading, intercept JSV R-031 to D20 JSV, at **8000'** turn LEFT to TEXON, then as per flight plan.

## **NOISE ABATEMENT**

**LT minus 2 HOURS = UTC (Z)**

### **GENERAL**

The following procedures are designed to avoid excessive noise in areas adjacent to the aerodrome and in areas overflown during take-off and landing. Strict adherence within the limits of safety and performance is required.

Aircraft not landing at Waterkloof are not permitted to overfly built-up areas below 5950'.

Rapid changes in engine power should be avoided.

Runway changes will only take place if the wind velocity exceeds 8 KT.

Heavy category aircraft commanders are permitted to select the runway for arrivals and departures. Heavy category aircraft are not permitted to practice 500' circuits.

Bad weather circuits (500') may be flown in IMC or two per training/rating sortie.

No aerobatic flights or low level arrivals may take place at Waterkloof unless authorized.

### **ARRIVALS**

All arrivals, wind and traffic permitting, will be executed on RWY 01.

The final approach path shall be strictly at the angle defined by the ILS and PAPIGP (3°).

### **DEPARTURES**

All departures, wind and traffic permitting, will be executed on RWY 19.

- |                   |                                                                                                                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Take-off to 6450' | - take-off power;<br>- take-off flaps;<br>- climb at $V_2 + 10$ to 20 KT or as limited by body angle;<br>- depending on ACFT type, the take-off power/thrust may be reduced at a lower altitude; |
| At 6450'          | - reduce thrust (if not already reduced) to not less than climb power/thrust;                                                                                                                    |
| 6450' to 7950'    | - climb at $V_2 + 10$ to 20 KT;                                                                                                                                                                  |
| At 7950'          | - accelerate smoothly to en-route climb speed with flap retraction on schedule.                                                                                                                  |

### **RUN-UP TESTS**

Between 1800-0600LT engine run-ups will only be permitted with the authorization of the operations coordinator.

**FAWK/WKF**  
*Apt Elev 4940'*  
S25 49.7 E028 13.3

**JEPPESEN WATERKLOOF, S AFR REP**  
11 APR 14 **10-9** Eff 15 Apr **WATERKLOOF AB**

\*WATERKLOOF Ground

121.85

\*Tower

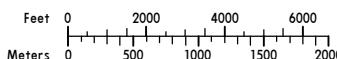
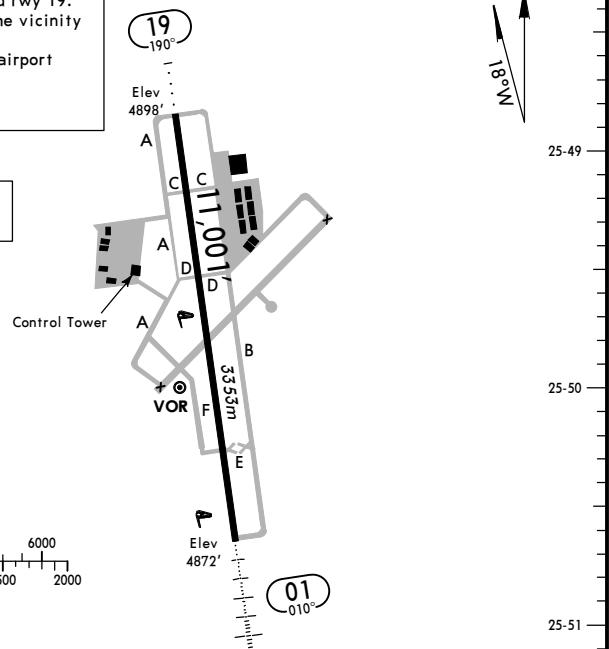
124.1

28-11                    28-12  
IBN. PPO - CIV.  
CAUTION: Windshear at threshold rwy 19.  
Operation of microlight acft in the vicinity  
of airport.  
Bad visibility in winter South of airport  
due to smog.  
Birds in vicinity of airport.  
Rwy 01 right-hand circuit.

25-49

**UNLICENCED MILITARY APT**

25-49



## ADDITIONAL RUNWAY INFORMATION

RWY	ADDITIONAL RUNWAY INFORMATION			USABLE LENGTHS		TAKE-OFF	WIDTH
				LANDING BEYOND			
	Threshold	Glide Slope					
01	HIRL	HIALS	PAPI (angle 3.0°)		10,090' 3075m		148' 45m
	19	HIRL	ALS				

JAR-OPS

TAKE OFF

---

All Rows

LVP must be in Force

RCLM (DAY only)  
or RL

RCLM (DAY only)  
or RL

**NIL**  
**(DAY only)**

4

8

1

250m

D 300m

**FAWK/WKF****JEPPESSEN**11 APR 14  
Eff 15 Apr

10-9S

**Standard****WATERKLOOF, S AFR REP**  
**WATERKLOOF AB**

<b>STRAIGHT-IN RWY</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
01				
ILS	<b>5086'(214')</b>	<b>5102'(230')</b>	<b>5112'(240')</b>	<b>5122'(250')</b>
<i>FULL</i>	<b>R600m</b>	<b>R600m</b>	<b>R600m</b>	<b>R600m</b>
<i>Limited</i>	R750m	R750m	R750m	R750m
<i>ALS out</i>	R1200m	R1200m	R1200m	R1300m

<b>CIRCLE-TO-LAND ①</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

① Entirely at pilots discretion.

**TAKE-OFF RWY 01, 19**

<b>LVP must be in force</b>		<b>RCLM (DAY only) or RL</b>	<b>NIL (DAY only)</b>
A	250m		
B		400m	
C			500m
D	300m		

11 APR 14

Eff 15 Apr

(11-1)

