JEPPESENWATERKLOOF, S AFR REP FAWK/WKF WATERKLOOF (10-2)16 JUL 10 Trans level: By ATC Trans alt: 8000' Apt Elev 1. If unable to comply with STAR notify ATC. 2. SIDs and STARs must be announced in operation on ATIS and 4940' will only be in force when FAJS Surveillance Radar is operational. 8900' 3 STARs include minimum noise routes BRONKHORST 3C (MEV 3C) MSA WKV VOR RWY 01 ARRIVAL UNLICENCED MILITARY AERODROME TO BE USED IN EMERGENCY ONLY. Pretoria Flying TNG Area 2 FA(R)-171 D9 WKV S25 48.8 E028 23.1 WATERKLOOF-* 116.9 WKV **MAX 210 KT** S25 50.0 E028 13.2 R099° **BRONK-**- HORSTSPRUIT-114.3 MEV S25 47.5 E028 33.7 **MAX 250 KT** ILS DME 111.3 WKI Ensure not to penetrate the Pretoria Flying TNG Area 2 and FA(R)-171. NOT TO SCALE 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 FL120 on MEV 3C STAR and minutes, then descend to FL120 in the holding. Leave MEV at 6500', when passing WKV R-145 turn descend to 8000', when passing D9 WKV descend to

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

ACC WWDC

A CT WWDC

COWWDC

Intercept WKV R-099 inbound to D9 WKV, turn LEFT, 190° heading for radar vectoring to ILS.

ACC WWDC

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

C WWDC

to E & SE MEV 3A; to N, W & SW HBV 2G.

CC WWDC

A CT WWDC

<u>D10 WKV</u> MAX 210 KT

MAXIMUM APPROACH SPEED POINTS (SLP)

MAX 250 KT

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.



__ ILS DME__ 111.3 WKI

LOST COMMS LOST COMMS

Before HBV: Proceed to HBV and enter holding, hold at last assigned minutes, then descend to FL120 in the holding. Leave HBV at D10 WKV descend to FL90, when passing 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 U.S.

to E & SE MEV 3A; to N, W & SW HBV 2G.

JEPPESENWATERKLOOF, S AFR REP FAWK/WKF WATERKLOOF (10-3)16 JUL 10

8900'

WKV VOR

Pretoria Flying TNG Area 2

FL

FL

C WWDC



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.

BRONKHORST 3A (MEV 3A) BRONKHORST 3B (MEV 3B)

RWYS 01, 19 DEPARTURES PROCEDURES TO BE FLOWN ONLY

ON AUTHORITY FROM SOUTH AFRICAN AIR FORCE

UNLICENCED MILITARY AERODROME

TO BE USED IN EMERGENCY ONLY.



MEV 3A MEV 3B WATERKLOOF-116.9 WKV 8000 D20 JSV S25 50.0 E028 13.2 **BRONK-**HORSTSPRUIT D114.3 MEV S25 47.5 E028 33.7 Ensure not to penetrate (WKV R-099/D18.6) **MAX 180 KT** the Pretoria Flying TNG (JSV R-056/D28.3) until established Area 2 and FA(R)-171. on JSV R-031

FA(R)-171

MEV 3A

This SID requires a minimum climb gradient

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 ▼ LO

MEV 3A

FL to MEV, at MEV continue as per flight plan. Comply with SID, maintain last assigned 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.

Comply with SID, maintain last assigned FL to MEV, at MEV 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 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. A OF WWDC A CIT WWDC

MEV 3A: Climb to 8000', further climb under radar control.

MEV 3B: Climb to 7000', at D20 JSV climb to 8000',

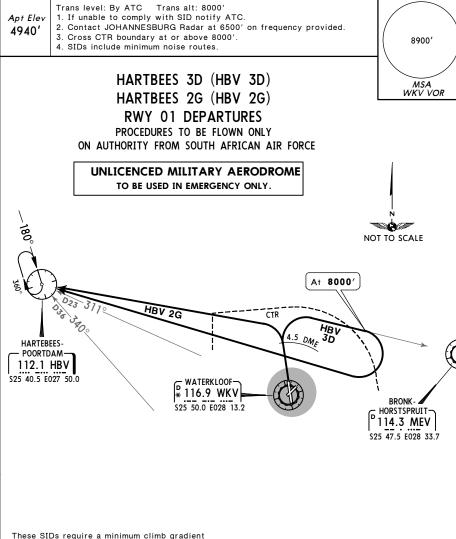
further climb under radar control. SID RWY ROUTING MEV 3A 01 Climb on runway heading to WKV 4.5 DME, turn RIGHT to MEV, then as per flight plan MEV 3B 19 Climb on runway heading to WKV 3 DME, turn LEFT, 060° heading. 8000' turn RIGHT to MEV, then as intercept JSV R-031 to D20 JSV, at per flight plan.

JOHANNESBURG

115.2 JSV S26 09.4 E028 13.9 FAWK/WKF WATERKLOOF

JEPPESENWATERKLOOF, S AFR REP

16 JUL 10 (10-3A)



These SIDs require a minimum climb gradient

286' per NM (4.7%).

Gnd speed-KT	75	100	150	200	250	300
286' per NM	357	476	714	952	1190	1428

JOHANNESBURG D 115.2 JSV

▼ 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

FL. At HBV enter holding and comply with the above MSA at or below last assigned appropriate STAR 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.

COWWDC WWDC A OF WWDC A CIT WWDC ACC WWDC A GEWWDC A GT WWDC A GEWINDS A OF WWDC

HBV 2G: Climb to 8000', further climb under radar control.				
SID	ROUTING			
HBV 3D	Climb on runway heading to WKV 4.5 DME, turn RIGHT towards MEV, at turn RIGHT to HBV, then as per flight plan.	8000′		
HBV 2G	Climb on runway heading to WKV 4.5 DME, turn LEFT to HBV, then as per flight plan.			

FL

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JEPPESENWATERKLOOF, S AFR REP FAWK/WKF WATERKLOOF 16 JUL 10 (10-3C) Trans level: By ATC Trans alt: 8000' 1. If unable to comply with SID notify ATC. Apt Elev 2. Contact JOHANNESBURG Radar at 6500' on frequency provided. 4940' 3. Cross CTR boundary at or above 8000'. 8900' 4. SIDs include minimum noise routes. TEXON 1B [TEXO1B] MSA WKV VOR **RWY 19 DEPARTURE** PROCEDURES TO BE FLOWN ONLY ON AUTHORITY FROM SOUTH AFRICAN AIR FORCE UNLICENCED MILITARY AERODROME TO BE USED IN EMERGENCY ONLY. TEXON A S25 10.4 E028 00.7 (JSV R-005/D60) HARTEBEES-POORTDAM 112.1 HBV At 8000' S25 40.5 E027 50.0 WATERKLOOF-116.9 WKV D20 JSV S25 50.0 E028 13.2 **MAX 180 KT** until established on JSV R-031 NOT TO SCALE **JOHANNESBURG** D 115.2 JSV S26 09.4 E028 13.9 ▼ 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 FL FL. At TEXON proceed to HBV, enter holding and above MSA at or below last assigned comply with HBV 2F 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. ACCUM/WDC ACT WWDC A CT WWDC A G WWDC A CIT WWDC A OF WWDC

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.

24 SEP 10

13 JEPPESEN 10-4

WATERKLOOF, S AFR REP

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;

- 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 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 JEPPESEN WATERKLOOF, S AFR REP
11 APR 14 10-9 Eff 15 APF WATERKLOOF AB Apt Elev **4940'** \$25 49.7 E028 13.3 WATERKLOOF AB *WATERKLOOF Ground 121.85 124.1 28-12 28-13 28-14 28-15 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. 4898 Rwy 01 right-hand circuit. 25-49 25-49 UNLICENCED MILITARY APT To be used in emergency only. Control Tower 0 25-50 25-50 VOR 2000 4000 6000 Elev 1000 1500 500 01 25-51 25-51 -28-11 28-12 28-13 28-14 28-15 ADDITIONAL RUNWAY INFORMATION USABLE LENGTHS - LANDING BEYOND Glide Slope **RWY** Threshold TAKE-OFF WIDTH HIRL HIALS 10.090' 3075m PAPI (angle 3.0°) 148' 19 HIRL ALS PAPI (angle 3.0° JAR-OPS TAKE-OFF All Rwys LVP must be in Force RCLM (DAY only) RCLM (DAY only) NIL or RL or RL (DAY only) В 250m 400m 500m D 300m



WATERKLOOF S AFR REP WATERKLOOF AB

				**/	TERRESON AD
STRAIGHT-IN RWY		Α	В	С	D
01	ILS	5086 ′(214′)	5102 ′(230′)	5112 ′(240′)	5122 ′(250′)
FL	JLL	R600m	R600m	R600m	R600m
Limit	ed	R750m	R750m	R750m	R750m
ALS	out	R1200m	R1200m	R1200m	R1300m

CIRCLE-TO-LAND 0	Α	В	С	D	
	MINIMUMS NOT YET ESTABLISHED BY S AFR REP CAA				

[•] Entirely at pilots discretion.

TAKE-OFF RWY 01, 19		
LVP must be in force		
RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A B 250m	400m	500m
D 300m		

JEPPESEN WATERKLOOF, S AFR REP FAWK/WKF WATERKLOOF AB Eff 15 Apr *JOHANNESBURG Radar (APP) *WATERKLOOF Towe *Ground West South/East 123.7 124.5 124.1 121.85 8000' LOC Final GS ILS STRIP Apt Elev 4940' DA(H) D4.5 WKI WKI Apch Crs Refer to RWY 4872 111.3 010° 6376'(1504' RIEFING Minimums MISSED APCH: Climb on heading 010° to 7000′, then turn RIGHT onto 090° climbing to 8000′, then turn RIGHT to MEV VOR and comply with MSA WKV VOR **1** 8300' BRONKHORST 3C STAR, or as directed. Rwy Elev: 166 hPa Trans alt: 8000' 1. VOR and DME required. 2. Radar vectored ILS. 3. Acft under JOHANNESBURG radar control until established on ILS or passing through 8000'. 4. ILS DME reads zero at rwy 01 thresh. FA(P)-66 2 **BRONKHORSTPRUIT** FA(P)-60 114.3 MEV WATERKLOOF *116.9 WK 25-50 **D0.7** WKI UNLICENCED MILITARY APT To be used in emergency only. 5469 A **D4.5** WKI ILS DME_ 010° 111.3 WKI 5362 Grand Central BLASTING 5362 5345' 26-00 28-10 28-20 **D4.5** WKI GS 6376 RADAR VECTORS **D0.7** WKI Initial apch alt GS 5134 -010° by ATC RWY 01 4872' 3.8 0.7 90 100 **HIALS** Gnd speed-Kts 70 120 140 160 7000' hdq 3.00° 372 478 531 637 743 849 PAPI -- PAPI 010° JAR-OPS STRAIGHT-IN LANDING RWY 01 CIRCLE-TO-LAND LOC (GS out) A:5086'(214') C:5112'(240') B:5102'(230') D:5122'(250') **ENTIRELY AT** PILOTS DISCRETION FULL ALS out MINIMUMS NOT YET В NOT RVR 600m RVR 1000m **ESTABLISHED BY** APPLICABLE c S AFR REP CAA D