STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO
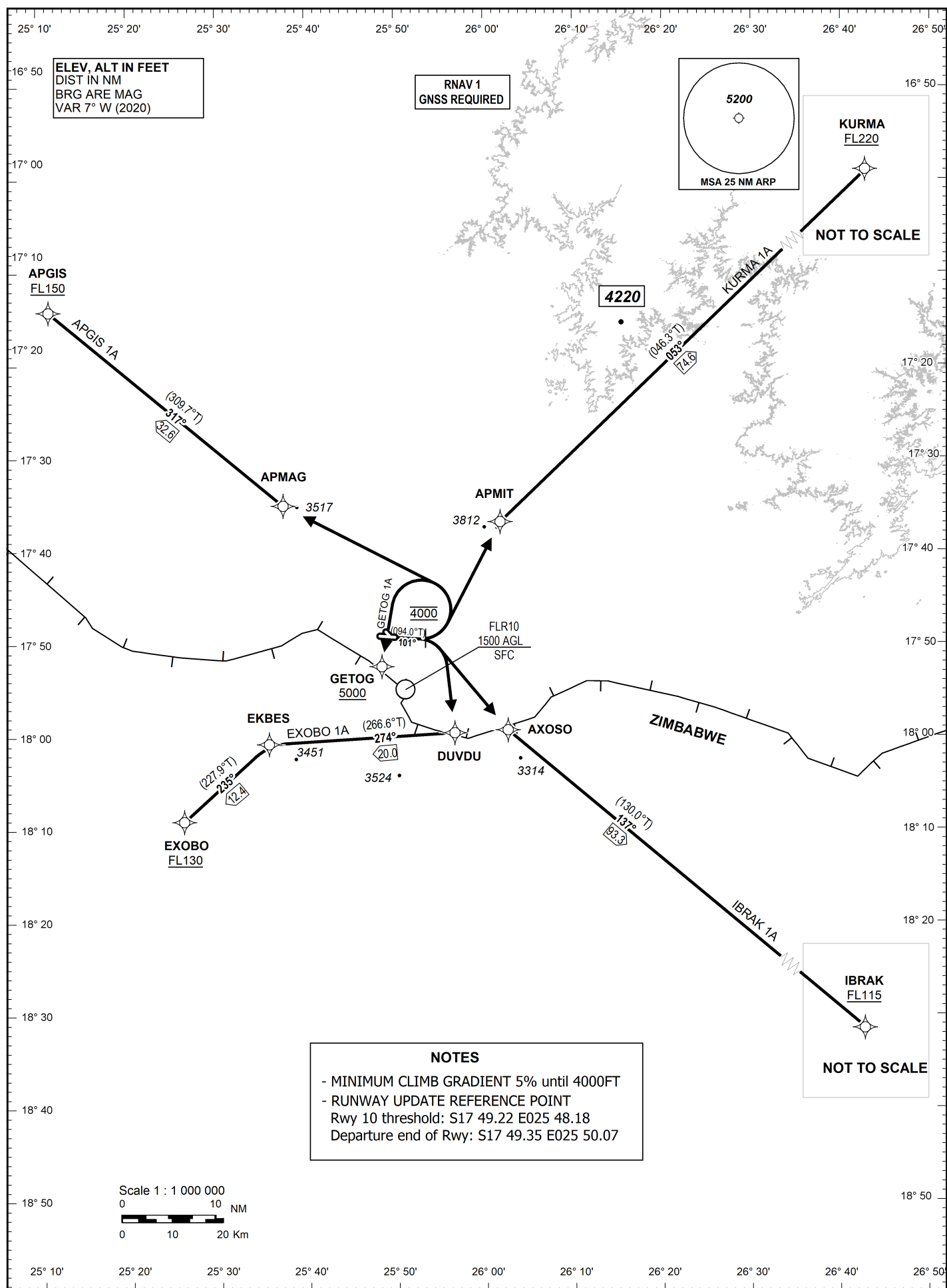
TRANSITION ALTITUDE
5000

APP	124.300
TWR	118.100

HARRY MWAANGA NKUMBULA INTL/Livingstone (FLHN)
RNAV SID RWY 10
APGIS 1A, EXOBO 1A, GETOG 1A, IBRAK 1A, KURMA 1A

ELEV, ALT IN FEET
DIST IN NM
BRG ARE MAG
VAR 7° W (2020)

RNAV 1
GNSS REQUIRED

5200
MSA 25 NM ARP

KURMA
FL220
NOT TO SCALE

APGIS
FL150

APGIS 1A
(309.7°T)
317°
32.6

APMAG
3517

4220

KURMA 1A
(046.3°T)
053°
74.6

APMIT
3812

GETOG 1A
(094.0°T)
101°
4000

FLR10
1500 AGL
SFC

GETOG
5000

EKBES

EXOBO 1A
(266.6°T)
274°
20.0

3451

DUVDU
3524

AXOSO
3314

ZIMBABWE

(227.9°T)
235°
12.4

EXOBO
FL130

(130.0°T)
137°
93.3

IBRAK 1A

IBRAK
FL115
NOT TO SCALE

NOTES
- MINIMUM CLIMB GRADIENT 5% until 4000FT
- RUNWAY UPDATE REFERENCE POINT
  Rwy 10 threshold: S17 49.22 E025 48.18
  Departure end of Rwy: S17 49.35 E025 50.07

Scale 1 : 1 000 000
0   10   NM
0   10   20 Km

STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

HARRY MWAANGA NKUMBULA INTL/Livingstone (FLHN)
RNAV SID RWY 10

APGIS 1A, EXOBO 1A, GETOG 1A, IBRAK 1A, KURMA 1A

TABULAR DESCRIPTION

RNAV SID RWY 10

APGIS 1A

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course M°(T°)	Magnetic Variation (°)	Distance (NM) / Duration	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA (%)	Rec Navaids	Navigation Specification
010	CA	-	-	101 (094.0)	-7.2	-	-	@4000	-	-	-	RNAV 1
020	DF	APMAG	-	-	-	-	-	-	-	-	-	RNAV 1
030	TF	APGIS	-	317 (309.7)	-	32.6	-	+FL150	-	-	-	RNAV 1

EXOBO 1A

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course M°(T°)	Magnetic Variation (°)	Distance (NM) / Duration	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA (%)	Rec Navaids	Navigation Specification
010	CA	-	-	101 (094.0)	-7.2	-	-	@4000	-	-	-	RNAV 1
020	DF	DUVDU	-	-	-	-	-	-	-	-	-	RNAV 1
030	TF	EKBES	-	274 (266.6)	-	20.0	-	-	-	-	-	RNAV 1
040	TF	EXOBO	-	235 (227.9)	-	12.4	-	+FL130	-	-	-	RNAV 1

GETOG 1A

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course M°(T°)	Magnetic Variation (°)	Distance (NM) / Duration	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA (%)	Rec Navaids	Navigation Specification
010	CA	-	-	101 (094.0)	-7.2	-	-	@4000	-	-	-	RNAV 1
020	DF	GETOG	-	-	-	-	L	+5000	-	-	-	RNAV 1

IBRAK 1A

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course M°(T°)	Magnetic Variation (°)	Distance (NM) / Duration	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA (%)	Rec Navaids	Navigation Specification
010	CA	-	-	101 (094.0)	-7.2	-	-	@4000	-	-	-	RNAV 1
020	DF	AXOSO	-	-	-	-	-	-	-	-	-	RNAV 1
030	TF	IBRAK	-	137 (130.0)	-	93.3	-	+FL115	-	-	-	RNAV 1

KURMA 1A

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course M°(T°)	Magnetic Variation (°)	Distance (NM) / Duration	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA (%)	Rec Navaids	Navigation Specification
010	CA	-	-	101 (094.0)	-7.2	-	-	@4000	-	-	-	RNAV 1
020	DF	APMIT	-	-	-	-	-	-	-	-	-	RNAV 1
030	TF	KURMA	-	053 (046.3)	-	74.6	-	+FL220	-	-	-	RNAV 1

**STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

**HARRY MWAANGA NKUMBULA INTL/Livingstone
(FLHN)
RNAV SID RWY 10**
APGIS 1A, EXOBO 1A, GETOG 1A, IBRAK 1A, KURMA 1A

WAYPOINT LIST
RNAV SID RWY 10

WaypointIdentifier	Coordinates	
APGIS	S 17 14 13.0	E 025 11 11.6
APMAG	S 17 35 09.6	E 025 37 23.7
APMIT	S 17 36 56.4	E 026 01 45.9
AXOSO	S 17 59 22.1	E 026 02 33.8
EKBES	S 18 00 50.3	E 025 35 40.0
EXOBO	S 18 09 09.0	E 025 26 02.7
GETOG	S 17 52 30.0	E 025 48 24.0
DUVDU	S 17 59 39.6	E 025 56 34.0
IBRAK	S 18 59 15.8	E 027 17 59.3
KURMA	S 16 45 04.0	E 026 57 59.0

ROUTING

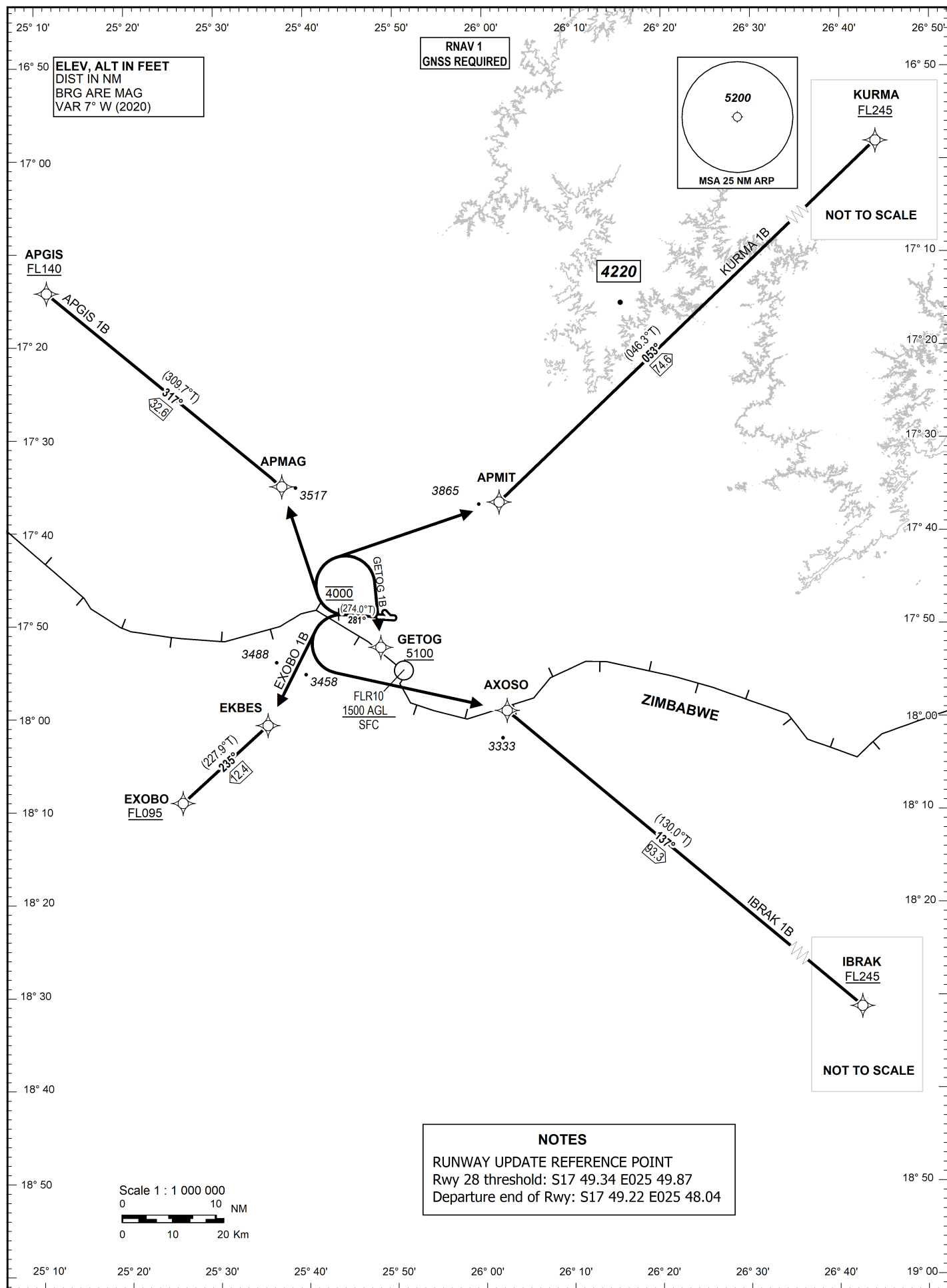| NAME	TEXT
APGIS 1A	Minimum climb gradient 5.0% to 4000 FT. After take -off climb on course 101° to 4000 FT, turn LEFT di rect to APMAG, then track 317° to APGIS. MCA/MCL: APGIS AT or ABOVE FL150.
EXOBO 1A	Minimum climb gradient 5.0% to 4000 FT. After take -off climb on course 101° to 4000 FT, turn RIGHT d irect to DUVDU, track 274° to EKBES, then track 235° to EXOBO. MCA/MCL: EXOBO AT or ABOVE FL130.
GETOG 1A	Minimum climb gradient 5.0% to 4000 FT. After take -off climb on course 101° to 4000 FT, turn LEFT di rect to GETOG. MCA/MCL: GETOG AT or ABOVE 5000'.
IBRAK 1A	Minimum climb gradient 5.0% to 4000 FT. After take -off climb on course 101° to 4000 FT, turn RIGHT d irect to AXOSO, then trac k 137° to IBRAK. MCA/MCL: IBRAK AT or ABOVE FL115.
KURMA 1A	Minimum climb gradient 5.0% to 4000 FT. After take -off climb on course 101° to 4000 FT, turn LEFT di rect to APMIT, then track 053° to KURMA. MCA/MCL: KURMA AT or ABOVE FL220.

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STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

TRANSITION ALTITUDE
5000

APP 124.300
TWR 118.100

HARRY MWAANGA NKUMBULA INTL/Livingstone (FLHN)
RNAV SID RWY 28

APGIS 1B, EXOBO 1B, GETOG 1B, IBRAK 1B, KURMA 1B

ELEV, ALT IN FEET
DIST IN NM
BRG ARE MAG
VAR 7° W (2020)

RNAV 1
GNSS REQUIRED

5200
MSA 25 NM ARP

KURMA
FL245

NOT TO SCALE

APGIS
FL140

APGIS 1B
(309.7°T)
317°
32.6

4220

KURMA 1B
(046.3°T)
053°
74.6

APMAG
3517

3865

APMIT

GETOG 1B
4000
(274.0°T)
281°

GETOG
5100

EXOBO 1B
3488
3458

FLR10
1500 AGL
SFC

AXOSO
3333

ZIMBABWE

EKBES

EXOBO
FL095

(227.9°T)
235°
42.4

(130.0°T)
137°
93.3

IBRAK 1B

IBRAK
FL245

NOT TO SCALE

NOTES
RUNWAY UPDATE REFERENCE POINT
Rwy 28 threshold: S17 49.34 E025 49.87
Departure end of Rwy: S17 49.22 E025 48.04

Scale 1 : 1 000 000
0   10   NM
0   10   20 Km

STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

HARRY MWAANGA NKUMBULA INTL/Livingstone (FLHN)
RNAV SID RWY 28
APGIS 1B, EXOBO 1B, GETOG 1B, IBRAK 1B, KURMA 1B

TABULAR DESCRIPTION

RNAV SID RWY 28
APGIS 1B

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course M°(T°)	Magnetic Variation (°)	Distance (NM) / Duration	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA (%)	Rec Navaids	Navigation Specification
010	CA	-	-	281 (274.0)	-7.2	-	-	@4000	-	-	-	RNAV 1
020	DF	APMAG	-	-	-	-	-	-	-	-	-	RNAV 1
030	TF	APGIS	-	317 (309.7)	-	32.6	-	+FL140	-	-	-	RNAV 1

EXOBO 1B

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course M°(T°)	Magnetic Variation (°)	Distance (NM) / Duration	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA (%)	Rec Navaids	Navigation Specification
010	CA	-	-	281 (274.0)	-7.2	-	-	@4000	-	-	-	RNAV 1
020	DF	EKBES	-	-	-	-	-	-	-	-	-	RNAV 1
030	TF	EXOBO	-	235 (227.9)	-	12.4	-	+FL095	-	-	-	RNAV 1

GETOG 1B

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course M°(T°)	Magnetic Variation (°)	Distance (NM) / Duration	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA (%)	Rec Navaids	Navigation Specification
010	CA	-	-	281 (274.0)	-7.2	-	-	@4000	-	-	-	RNAV 1
020	DF	GETOG	-	-	-	-	R	+5100	-	-	-	RNAV 1

IBRAK 1B

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course M°(T°)	Magnetic Variation (°)	Distance (NM) / Duration	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA (%)	Rec Navaids	Navigation Specification
010	CA	-	-	281 (274.0)	-7.2	-	-	@4000	-	-	-	RNAV 1
020	DF	AXOSO	-	-	-	-	L	-	-	-	-	RNAV 1
030	TF	IBRAK	-	137 (130.0)	-	93.3	-	+FL245	-	-	-	RNAV 1

KURMA 1B

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course M°(T°)	Magnetic Variation (°)	Distance (NM) / Duration	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA (%)	Rec Navaids	Navigation Specification
010	CA	-	-	281 (274.0)	-7.2	-	-	@4000	-	-	-	RNAV 1
020	DF	APMIT	-	-	-	-	R	-	-	-	-	RNAV 1
030	TF	KURMA	-	053 (046.3)	-	74.6	-	+FL245	-	-	-	RNAV 1

STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO

HARRY MWAANGA NKUMBULA INTL/Livingstone
(FLHN)
RNAV SID RWY 28
APGIS 1B, EXOBO 1B, GETOG 1B, IBRAK 1B, KURMA 1B

WAYPOINT LIST
RNAV SID RWY 28

WaypointIdentifier	Coordinates	
APGIS	S 17 14 13.0	E 025 11 11.6
APMAG	S 17 35 09.6	E 025 37 23.7
APMIT	S 17 36 56.4	E 026 01 45.9
AXOSO	S 17 59 22.1	E 026 02 33.8
EKBES	S 18 00 50.3	E 025 35 40.0
EXOBO	S 18 09 09.0	E 025 26 02.7
GETOG	S 17 52 30.0	E 025 48 24.0
IBRAK	S 18 59 15.8	E 027 17 59.3
KURMA	S 16 45 04.0	E 026 57 59.0

ROUTING

NAME	TEXT
APGIS 1B	After take-off climb on course 281° to 4000 FT, turn RIGHT direct to APMAG, then track 317° to APGIS . MCA/MCL: APGIS AT or ABOVE FL140.
EXOBO 1B	After take-off climb on course 281° to 4000 FT, turn LEFT direct to EKBES, then track 235° to EKBES. MCA/MCL: EXOBO AT or ABOVE FL095.
GETOG 1B	After take-off climb on course 281° to 4000 FT, turn RIGHT direct to GETOG. MCA/MCL: GETOG AT or ABOVE 5100'.
IBRAK 1B	After take-off climb on course 281° to 4000 FT, turn LEFT direct to AXOSO, then track 137° to IBRAK. MCA/MCL: IBRAK AT or ABOVE FL245.
KURMA 1B	After take-off climb on course 281° to 4000 FT, turn RIGHT direct to APMIT, then track 53° to KURMA. MCA/MCL: KURMA AT or ABOVE FL245.

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