STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6
APP 120.3
124.05
ACC 133.25

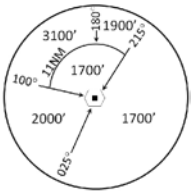
TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
AROSO DEPARTURES
AROSO 2E (R02L)
AROSO 4F (R20R)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM



MSA 25 NM
from TEKONG DVOR

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: ACFT UNABLE TO FLY THE SID PROFILE SHALL INFORM ATC PRIOR TO DEPARTURE AND TO EXPECT RADAR VECTORING, IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.2 [A] - FOR RWY 02L MINIMUM CLIMB GRADIENT AND PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES

AROSO
02°08'46"N
103°24'21"E

308° 24

AKMET
01°53'55"N
103°43'39"E
A110

308° 14

AKOMA
01°45'22"N
103°54'43"E
A070
For AROSO 2E only

AROSO 2E 333° 14

AROSO 4F 342° 21

ATRUM
01°32'56"N
104°00'57"E

333° 3

TOPOM
01°29'55"N
104°02'27"E
A020

RWY 02L (DER)
01°23'05"N
103°59'33"E

RWY 20R (DER)
01°20'47"N
103°58'35"E

AROSO 2E 023°

TEKONG
DVOR/DME 116.5
VTK
01°24'55"N
104°01'20"E
60M
A070
For AROSO 4F only

LEDOX
01° 16' 42" N
103° 56' 51" E
A015

203° AROSO 4F

342° 10

DOSPA
01°14'59"N
104°04'41"E

023° 5

8 113°

LETGO
01° 14' 11" N
103° 55' 48" E
A025

DIVSA
01° 11' 05" N
104° 03' 03" E
A040

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02L

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

RWY 20R

SHALL NOT EXCEED IAS 230KTS UNTIL DIVSA AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 6% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
6% V/V (fpm)	456	608	911	1215	1518	1821
3.3% V/V (fpm)	251	334	501	668	835	1003

NOT TO SCALE

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CHANGES: Amended RWY 02L (DER) coordinates error

AROSO 2E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To TOPOM on course 023° at or above 2000ft, turn left. To ATRUM. To AKOMA at or above 7000ft, turn left. To AKMET at or above 11000ft. To AROSO.	TOPOM [M023; A020+; L] - ATRUM - AKOMA [A070+; L] - AKMET [A110+] - AROSO	CF TF TF TF TF	N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOPOM	-	023(023.4)	-0.4	L	A020+	-	RNAV1
TF	ATRUM	-	333(333.4)	-0.4	-	-	-	RNAV1
TF	AKOMA	-	333(333.4)	-0.4	L	A070+	-	RNAV1
TF	AKMET	-	308(308.4)	-0.4	-	A110+	-	RNAV1
TF	AROSO	-	308(308.4)	-0.4	-	-	-	RNAV1

AROSO 4F (SID) RNAV GNSS RWY 20R - DESCRIPTIONS

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To LEDOX on course 203° at or above 1500ft. To LETGO at or above 2500ft, turn left. To DIVSA at or above 4000ft, speed 230kts, turn left. To DOSPA, turn left. To VTK at or above 7000ft. To AKOMA, turn left. To AKMET at or above 11000ft. To AROSO.	LEDOX [M203; A015+] - LETGO [A025+; L] - DIVSA [A040+; K230; L] - DOSPA [L] - VTK [A070+] - AKOMA [L] - AKMET [A110+] - AROSO	CF TF TF TF TF TF TF TF	N N N N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(203.4)	-0.4	-	A015+	-	RNAV1
TF	LETGO	-	203(203.4)	-0.4	L	A025+	-	RNAV1
TF	DIVSA	-	113(113.4)	-0.4	L	A040+	K230	RNAV1
TF	DOSPA	-	023(023.4)	-0.4	L	-	-	RNAV1
TF	VTK	-	342(342.4)	-0.4	-	A070+	-	RNAV1
TF	AKOMA	-	342(342.4)	-0.4	L	-	-	RNAV1
TF	AKMET	-	308(308.4)	-0.4	-	A110+	-	RNAV1
TF	AROSO	-	308(308.4)	-0.4	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE ON:** **RWY 02L -** PROCEED DIRECT TO NYLON HOLDING AREA (NHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE. **RWY 20R -** PROCEED DIRECT TO SAMKO HOLDING AREA (SHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE.

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