

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

TWR 118.6 / 118.25
APP 120.3
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

**SINGAPORE/Singapore Changi
RWY 02C/20C
KADAR DEPARTURES
KADAR 1A (R02C)
KADAR 3B (R20C)**

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 26°E (2015)

DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

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

GENERAL INFORMATION

**INITIAL CLIMB
3000FT OR AS DIRECTED BY ATC**

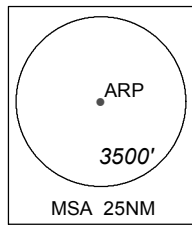
ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02C

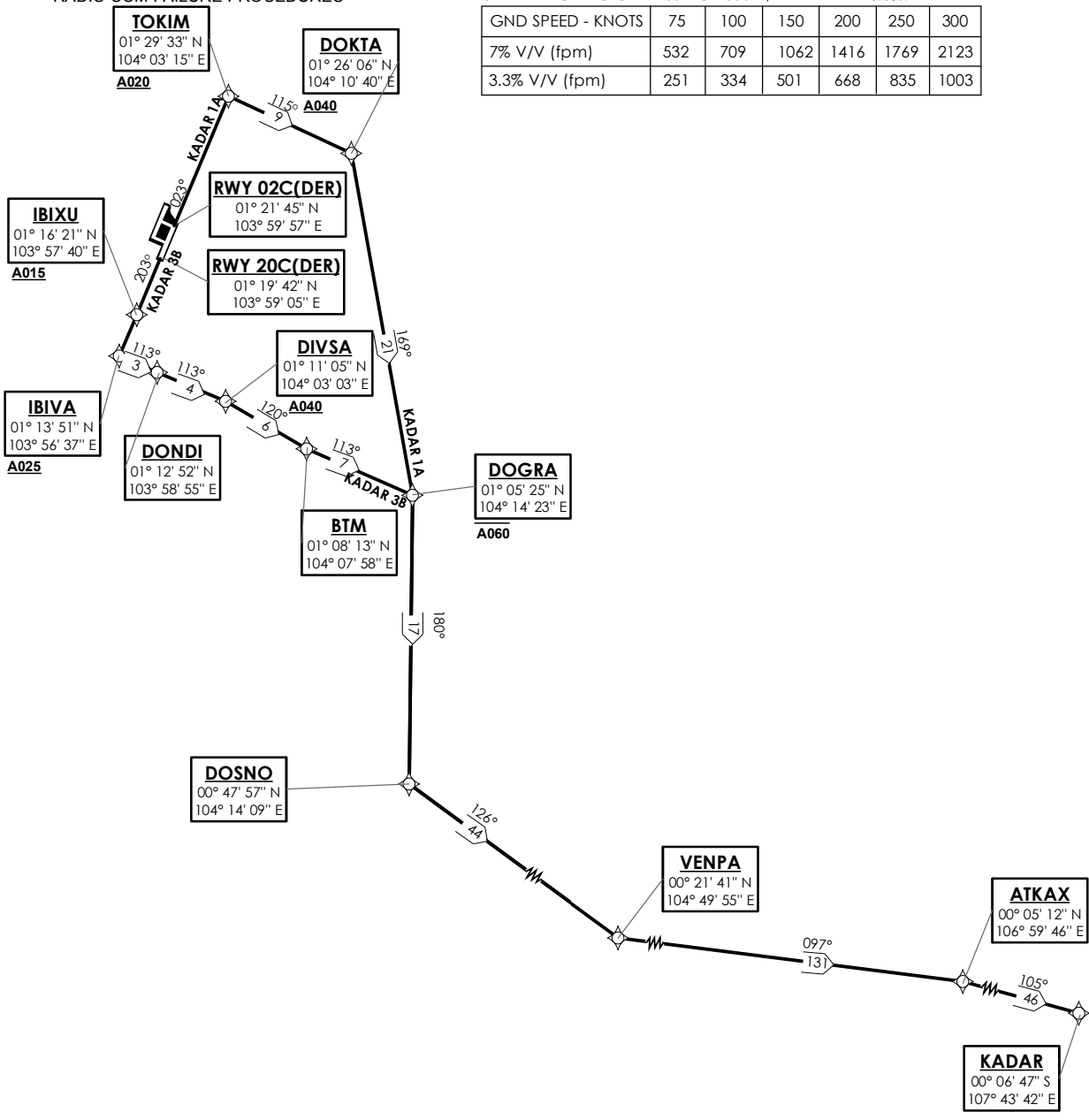
SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SEE (ENR 1.5-4) FOR MINIMUM CLIMB GRADIENT CRITERIA.

RWY 20C

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.
DEPARTURES SHALL BE ON A MINIMUM NET CLIMB GRADIENT OF 7%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.



GND SPEED - KNOTS	75	100	150	200	250	300
7% V/V (fpm)	532	709	1062	1416	1769	2123
3.3% V/V (fpm)	251	334	501	668	835	1003



NOT TO SCALE

7 DEC 2017

KADAR 1A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS**Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To TOKIM on course 023° at or above 2000ft, turn right. To DOKTA at or above 4000ft, turn right. To DOGRA at or below 6000ft, turn right. To DOSNO, turn left. To VENPA, turn left. To ATKAX, turn right. To KADAR.	TOKIM [M023; A020+; R] -	CF	N
	DOKTA [A040+; R] -	TF	N
	DOGRA [A060-; R] -	TF	N
	DOSNO [L] -	TF	N
	VENPA [L] -	TF	N
	ATKAX [R] -	TF	N
	KADAR	TF	N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOKIM	-	023(022.5)	-0.5	R	A020+	-	RNAV1
TF	DOKTA	-	115(114.5)	-0.5	R	A040+	-	RNAV1
TF	DOGRA	-	169(168.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	VENPA	-	126(125.5)	-0.5	L	-	-	RNAV1
TF	ATKAX	-	097(096.5)	-0.5	R	-	-	RNAV1
TF	KADAR	-	105(104.5)	-0.5	-	-	-	RNAV1

KADAR 3B (SID) RNAV GNSS RWY 20C - DESCRIPTIONS**Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To IBIXU on course 203° at or above 1500ft. To IBIVA at or above 2500ft, turn left. To DONDI. To DIVSA at or above 4000ft, turn right. To BTM, turn left. To DOGRA at or below 6000ft, turn right. To DOSNO, turn left. To VENPA, turn left. To ATKAX, turn right. To KADAR.	IBIXU [M203; A015+] -	CF	N
	IBIVA [A025+; L] -	TF	N
	DONDI -	TF	N
	DIVSA [A040+; R] -	TF	N
	BTM [L] -	TF	N
	DOGRA [A060-; R] -	TF	N
	DOSNO [L] -	TF	N
	VENPA [L] -	TF	N
	ATKAX [R] -	TF	N
	KADAR	TF	N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	IBIVA	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DONDI	-	113(112.5)	-0.5	-	-	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	R	A040+	-	RNAV1
TF	BTM	-	120(119.5)	-0.5	L	-	-	RNAV1
TF	DOGRA	-	113(112.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	VENPA	-	126(125.5)	-0.5	L	-	-	RNAV1
TF	ATKAX	-	097(096.5)	-0.5	R	-	-	RNAV1
TF	KADAR	-	105(104.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

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