

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

TWR 118.6 / 118.25
APP 120.3
124.05
ACC 134.2

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02C/20C
TOMAN DEPARTURES
TOMAN 2A (R02C)
TOMAN 4B (R20C)

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

DISTANCES IN NM

NOTE: RADAR REQUIRED

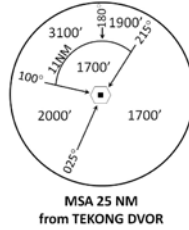
NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: CLOSE-IN OBSTACLES (AIRCRAFT UP TO 80FT)
EXIST ON TAXIWAYS WEST OF RUNWAY 02C

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 3.3 [A] - FOR RWY 02C MINIMUM CLIMB GRADIENT AND
PARAGRAPH 3.4.1 - FOR RWY 20C MINIMUM CLIMB GRADIENT

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



GENERAL INFORMATION

**INITIAL CLIMB
3000FT**

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

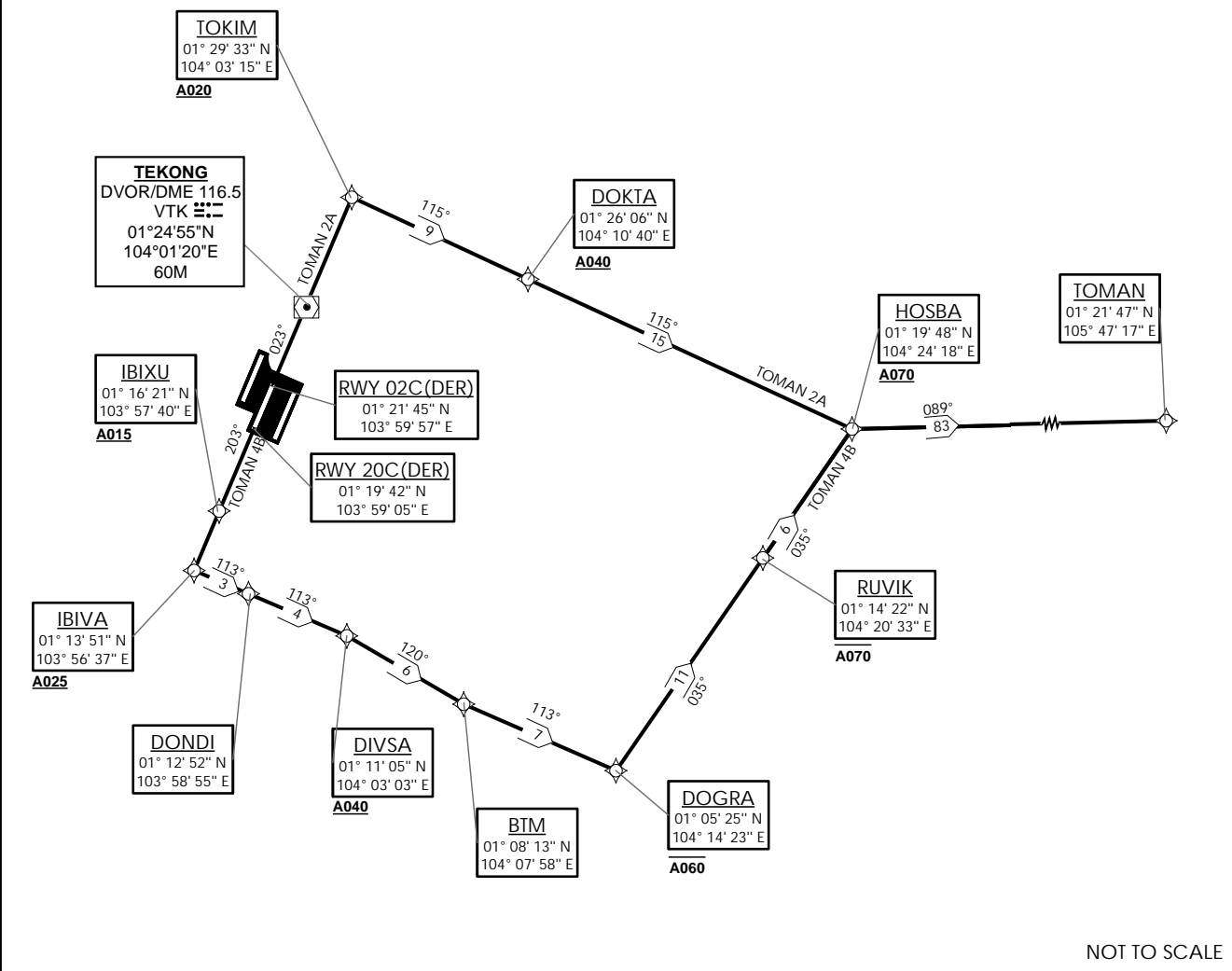
RWY 02C

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.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

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.
SID SHALL BE ON A MINIMUM 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



TOMAN 2A (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. To HOSBA at or above 7000ft, turn left. To TOMAN.	TOKIM [M023; A020+; R] -	CF	N
	DOKTA [A040+] -	TF	N
	HOSBA [A070+; L] -	TF	N
	TOMAN	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(023.4)	-0.4	R	A020+	-	RNAV1
TF	DOKTA	-	115(115.4)	-0.4	-	A040+	-	RNAV1
TF	HOSBA	-	115(115.4)	-0.4	L	A070+	-	RNAV1
TF	TOMAN	-	089(089.4)	-0.4	-	-	-	RNAV1

TOMAN 4B (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 left. To RUVIK at or below 7000ft. To HOSBA at or above 7000ft, turn right. To TOMAN.	IBIXU [M203; A015+] -	CF	N
	IBIVA [A025+; L] -	TF	N
	DONDI -	TF	N
	DIVSA [A040+; R] -	TF	N
	BTM [L] -	TF	N
	DOGRA [A060-; L] -	TF	N
	RUVIK [A070-] -	TF	N
	HOSBA [A070+; R] -	TF	N
TOMAN	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(203.4)	-0.4	-	A015+	-	RNAV1
TF	IBIVA	-	203(203.4)	-0.4	L	A025+	-	RNAV1
TF	DONDI	-	113(113.4)	-0.4	-	-	-	RNAV1
TF	DIVSA	-	113(113.4)	-0.4	R	A040+	-	RNAV1
TF	BTM	-	120(120.4)	-0.4	L	-	-	RNAV1
TF	DOGRA	-	113(113.4)	-0.4	L	A060-	-	RNAV1
TF	RUVIK	-	035(035.4)	-0.4	-	A070-	-	RNAV1
TF	HOSBA	-	035(035.4)	-0.4	R	A070+	-	RNAV1
TF	TOMAN	-	089(089.4)	-0.4	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

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