

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

TWR 118.6 / 118.25
APP 120.3
ACC 133.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

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

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

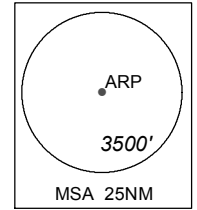
DISTANCES IN NM

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



MASBO
02°02'48"N
102°52'51"E

SABKA
01°50'51"N
103°17'13"E

AGVAR
01°47'19"N
103°41'45"E
A110

AKOMA
01°45'22"N
103°54'43"E

A070
For MASBO 2A only

TOKIM
01°29'33"N
104°03'15"E
A020

RWY 02C (DER)
01°21'45"N
103°59'57"E

RWY 20C (DER)
01°19'42"N
103°59'05"E

TEKONG
DVOR/DME 116.5
VTK
01°24'55"N
104°01'20"E
60M

A070
For MASBO 2B only

SUDPO
01°17'31"N
103°58'08"E
A020

SUKOK
01°15'12"N
104°04'28"E

SUGAM
01°13'18"N
103°56'17"E

SAPTI
01°12'18"N
103°58'35"E

SASGA
01°10'37"N
104°02'28"E
A040

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 SASGA 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 5% UNTIL REACHING OR PASSING 400FT, THEREAFTER 3.3%.

| | | | | | | |
|-------------------|-----|-----|-----|------|------|------|
| GND SPEED - KNOTS | 75 | 100 | 150 | 200 | 250 | 300 |
| 5% V/V (fpm) | 380 | 506 | 760 | 1013 | 1266 | 1519 |
| 3.3% V/V (fpm) | 251 | 334 | 501 | 668 | 835 | 1003 |

NOT TO SCALE

MASBO 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 left. To AKOMA at or above 7000ft, turn left. To AGVAR at or above 11000ft. To SABKA, turn right. To MASBO. | TOKIM [M023; A020+; L] - | CF | N |
| | AKOMA [A070+; L] - | TF | N |
| | AGVAR [A110+] - | TF | N |
| | SABKA [R] - | TF | N |
| | MASBO | 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 | L | A020+ | - | RNAV1 |
| TF | AKOMA | - | 332(331.5) | -0.5 | L | A070+ | - | RNAV1 |
| TF | AGVAR | - | 278(277.5) | -0.5 | - | A110+ | - | RNAV1 |
| TF | SABKA | - | 278(277.5) | -0.5 | R | - | - | RNAV1 |
| TF | MASBO | - | 296(295.5) | -0.5 | - | - | - | RNAV1 |

MASBO 2B (SID) RNAV GNSS RWY 20C - DESCRIPTIONS

Formal & Abbreviated Descriptions

| Formal Description | Abbreviated Description | Path Terminator | Fly-Over required |
|---|--------------------------|-----------------|-------------------|
| To SUDPO on course 203° at or above 2000ft. To SUGAM, turn left. To SAPTI. To SASGA at or above 4000ft, speed 230kts, turn left. To SUKOK, turn left. To VTK at or above 7000ft. To AKOMA, turn left. To AGVAR at or above 11000ft. To SABKA, turn right. To MASBO. | SUDPO [M203; A020+] - | CF | N |
| | SUGAM [L] - | TF | N |
| | SAPTI - | TF | N |
| | SASGA [A040+; K230; L] - | TF | N |
| | SUKOK [L] - | TF | N |
| | VTK [A070+] - | TF | N |
| | AKOMA [L] - | TF | N |
| | AGVAR [A110+] - | TF | N |
| | SABKA [R] - | TF | N |
| | MASBO | TF | N |

Tabular Descriptions

| Path Term | Waypoint Name | Fly-Over | Course °M(°T) | Magnetic Variation | Turn Direction | Altitude | Speed Limit | Navigation Spec |
|-----------|---------------|----------|---------------|--------------------|----------------|----------|-------------|-----------------|
| CF | SUDPO | - | 203(202.5) | -0.5 | - | A020+ | - | RNAV1 |
| TF | SUGAM | - | 203(202.5) | -0.5 | L | - | - | RNAV1 |
| TF | SAPTI | - | 113(113.3) | -0.5 | - | - | - | RNAV1 |
| TF | SASGA | - | 113(113.3) | -0.5 | L | A040+ | K230 | RNAV1 |
| TF | SUKOK | - | 023(023.6) | -0.5 | L | - | - | RNAV1 |
| TF | VTK | - | 342(341.5) | -0.5 | - | A070+ | - | RNAV1 |
| TF | AKOMA | - | 342(341.5) | -0.5 | L | - | - | RNAV1 |
| TF | AGVAR | - | 278(277.5) | -0.5 | - | A110+ | - | RNAV1 |
| TF | SABKA | - | 278(277.5) | -0.5 | R | - | - | RNAV1 |
| TF | MASBO | - | 296(295.5) | -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. |