

**Contact**

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**AMDT**  
**06/2024**  
**Effective date**  
**31 OCT 2024**  
**Publication date**  
**31 OCT 2024**

**wp-AMDT-2024-06****1. Significant information and changes.****1.1 Singapore FIR**

- a. Incorporated AIP Supplement 069/2024 – Area of collection, formula of Route Air Navigation Services (RANS) charges, and other changes.
- b. Incorporated AIRAC AIP Supplement 130/2024 – Amendment to contingency route arrangement between Manila FIR and Singapore FIR.

**1.2 Singapore Changi Airport**

- a. Incorporated AIRAC AIP Supplement 116/2024 – Singapore Changi Airport – Changes to Aircraft Stand E10 lead in line.

**2. This amendment incorporates information contained in the listed AIP Supplements and NOTAMs which are hereby superseded:****AIP Supplements**

069/2024 dated 18/03/2024

116/2024 dated 25/07/2024

130/2024 dated 22/08/2024

**NOTAMs**

A3016/2024 dated 02/09/2024

A3239/2024 dated 18/09/2024

**Amended Pages**

GEN 0.1-1/2: : *replace.*  
GEN 0.2-3: : *replace.*  
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GEN 0.3-3/4: : *replace.*  
GEN 0.3-5/6: : *replace.*  
GEN 0.4-1/2: : *replace.*  
GEN 0.4-3: : *replace.*  
GEN 0.6-3: : *replace.*  
GEN 1.1-1/2: : *replace.*  
GEN 1.3-3/4: : *replace.*  
GEN 1.3-5/6: : *replace.*  
GEN 2.1-1/2: : *replace.*  
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GEN 3.2-5/6: : *replace.*  
GEN 4.2-1/2: : *replace.*

GEN 4.2-3/4: : *replace.*  
GEN 4.2-5/6: : *replace.*  
GEN-4.2-7: : *insert.*  
ENR 0.6-3/4: : *replace.*  
ENR 1.8-25/26: : *replace.*  
ENR 1.8-27/28: : *replace.*  
ENR 1.8-29/30: : *replace.*  
ENR 1.14-1/2: : *replace.*  
ENR-1.14-7 to ENR-1.14-8: : *remove.*  
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AD-2-WSSS-ADC-2 to 2.1: : *replace.*  
AD-2-WSSS-ADC-3: : *replace.*  
AD-2-WSSS-PATC-3: : *replace.*  
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AD-2-WSSS-STAR-5 to 5.1: : *replace.*  
AD-2-WSSS-STAR-6 to 6.1: : *replace.*  
AD-2-WSSS-STAR-7 to 7.1: : *replace.*  
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AD-2-WSSS-STAR-9 to 9.1: : *replace.*  
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AD-2-WSSS-IAC-6: : *replace.*  
AD-2-WSSS-IAC-7: : *replace.*  
AD-2-WSSS-IAC-9 to 9.1: : *replace.*  
AD-2-WSSS-IAC-10 to 10.1: : *replace.*  
AD-2-WSSS-IAC-11 to 11.1: : *replace.*  
AD-2-WSSS-IAC-12 to 12.1: : *replace.*  
AD-2-WSSS-IAC-13 to 13.1: : *replace.*  
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AD-2-WSSS-VAC-1 to 1.1: : *replace.*  
AD-2-WSSL-VFR-1: : *replace.*  
AD-2-WSSL-IFR-1: : *replace.*  
AD-2-WSSL-IFR-2: : *replace.*

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## Part 1 — General (GEN)

### GEN 0

#### GEN 0.1 PREFACE

#### 1 Name of the publishing authority

- 1.1 The Singapore Aeronautical Information Products are published by authority of the Civil Aviation Authority of Singapore.

#### 2 Applicable ICAO documents

- ICAO Annex 15 - Aeronautical Information Service;
  - ICAO Annex 4 - Aeronautical Charts;
  - ICAO Doc 8126 - AIS Manual;
  - ICAO Doc 8697 - Aeronautical Chart Manual.
  - ICAO Doc 10066 - Procedures for Air Navigation Services - Aeronautical Information Management (PANS-AIM)
- 2.1 Differences to ICAO Standards, Recommended Practices and Procedures are listed under subsection GEN 1.7.

#### 3 Publication Media

- 3.1 The Singapore Aeronautical Information Products comprising AIP Singapore, AIP Amendments, AIP Supplements, Aeronautical Information Circulars and NOTAM Lists, including NOTAMs and Pre-Flight Information Bulletins are available for retrieval from AIM-SG URL <https://aim-sg.caas.gov.sg>

#### 4 The AIP structure and established regular amendment interval

##### 4.1 The AIP structure

The AIP forms part of the Aeronautical Information Products, details of which are given in subsection GEN 3.1. The principal AIP structure is shown in graphic form on page GEN 0.1-3.

The AIP is made up of three Parts, General ([GEN](#)), En-route ([ENR](#)) and Aerodromes ([AD](#)), each divided into sections and subsections as applicable, containing various types of information.

##### 4.1.1 PART 1 — GENERAL (GEN)

Part 1 consists of five sections containing information briefly described hereafter.

[GEN 0](#) - Preface; Record of AIP Amendments; Record of current AIP Supplements; Checklist of AIP pages; List of hand amendments to the AIP; and Table of Contents to Part 1.

[GEN 1](#) - *National regulations and requirements* - Designated authorities; Entry, transit and departure of aircraft; Entry, transit and departure of passengers and crew; Entry, transit and departure of cargo; Aircraft instruments, equipment and flight documents; Summary of national regulations and international agreements/conventions; and Differences from ICAO Standards, Recommended Practices and Procedures.

[GEN 2](#) - *Tables and codes* - Measuring system, aircraft markings, holidays; Abbreviations used in AIS publications; Chart symbols; Location indicators; List of radio navigation aids; Conversion tables; and Sunrise/Sunset tables.

[GEN 3](#) - *Services* - Aeronautical Information Services; Aeronautical Charts; Air Traffic Services; Communication Services; Meteorological Services; and Search and Rescue.

[GEN 4](#) - *Charges for aerodromes and air navigation services* - Aerodrome charges and Air navigation services charges.

##### 4.1.2 PART 2 — EN-ROUTE (ENR)

Part 2 consists of seven sections containing information briefly described hereafter.

- [ENR 0](#) - Table of Contents to Part 2.
- [ENR 1](#) - *General rules and procedures* - General rules; Visual flight rules; Instrument flight rules; ATS airspace classification; Holding, approach and departure procedures; Radar services and procedures; Altimeter setting procedures; Regional supplementary procedures; Air traffic flow management; Flight planning; Addressing of flight plan messages; Interception of civil aircraft; Unlawful interference; and Air traffic incidents.
- [ENR 2](#) - *Air traffic services airspace* - Detailed description of Flight Information Region (FIR); Terminal Control Areas (TMA); and other regulated airspace.
- [ENR 3](#) - *ATS routes* - Detailed description of ATS routes; Area Navigation Routes; Helicopter Routes; other routes; and en-route holding.  
  
*Note - Other types of routes which are specified in connection with procedures for traffic to and from aerodromes are described in the relevant sections and subsections of Part 3 - Aerodromes.*
- [ENR 4](#) - *Radio navigation aids/systems* - Radio navigation aids - en-route; special navigation systems; name-code designators for significant points; and aeronautical ground lights - en-route.
- [ENR 5](#) - *Navigation warnings* - Prohibited, restricted and danger areas; military exercise and training areas; other activities of a dangerous nature; air navigation obstacles - en-route; aerial sporting and recreational activities; and bird migration and areas with sensitive fauna.
- [ENR 6](#) - *En-route charts* - En-route Chart - ICAO.

### 4.1.3 PART 3 - AERODROMES (AD)

Part 3 consists of three sections containing information briefly described hereafter.

- [AD 0](#) - Table of Contents to Part 3.
- [AD 1](#) - *Aerodromes* - Introduction - Aerodromes availability; Rescue and fire fighting services; Index to aerodromes; and Grouping of aerodromes.
- [AD 2](#) - *Aerodromes* - Detailed information about aerodromes listed under 24 sub-sections.
- [AD 3](#) - This section has been omitted as there are no heliports in Singapore.

## 4.2 Regular Amendment Interval

Regular amendments to AIP Singapore will be issued once every two months. The publication dates will be on alternate AIRAC effective dates as follows:

Amendment Number	Publication Date
07/2024	26 December 2024
01/2025	20 February 2025
02/2025	17 April 2025
03/2025	12 June 2025
04/2025	07 August 2025
05/2025	02 October 2025
06/2025	27 November 2025

## 5 Service to contact in case of detected AIP errors or omissions

In the compilation of the AIP, care has been taken to ensure that the information contained therein is accurate and complete. Any errors and omissions which may nevertheless be detected, as well as any enquiries or suggestions concerning the Aeronautical Information Products, should be referred to:

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**AIP AMENDMENT**

<b>NR/Year</b>	<b>Publication date</b>	<b>Date inserted</b>	<b>Inserted by</b>
02/2023	20 APR 2023	20 APR 2023	
03/2023	15 JUN 2023	15 JUN 2023	
04/2023	10 AUG 2023	10 AUG 2023	
05/2023	05 OCT 2023	05 OCT 2023	
06/2023	30 NOV 2023	30 NOV 2023	
01/2024	25 JAN 2024	25 JAN 2024	
02/2024	21 MAR 2024	21 MAR 2024	
03/2024	16 MAY 2024	16 MAY 2024	
04/2024	11 JUL 2024	11 JUL 2024	
05/2024	05 SEP 2024	05 SEP 2024	
06/2024	31 OCT 2024	31 OCT 2024	

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**GEN 0.3 RECORD OF CURRENT AIP SUPPLEMENTS**

<b>NR/Year</b>	<b>Subject</b>	<b>AIP section(s) affected</b>	<b>Period of validity (from/to)</b>	<b>Cancellation record</b>
021/2020	Singapore Changi Airport - Long term closure of aircraft stand E5 at Terminal 2, Singapore Changi Airport	AD	30 MAR 2020 / 30 DEC 2024	
059/2020	Singapore Changi Airport - Long term closure of aircraft stand E20 at Terminal 2, Singapore Changi Airport	AD	25 AUG 2020 / 30 DEC 2026	
161/2021	Singapore Changi Airport - Steel Frame	AD	17 JAN 2022 / 17 DEC 2024	
065/2023	Paya Lebar Airport - Luffing Tower Crane	AD	11 MAY 2023 / 31 DEC 2024	
068/2023	Paya Lebar Airport - Cranes	AD	11 MAY 2023 / 31 DEC 2024	
075/2023	Paya Lebar Airport - Topless Crane	AD	08 JUN 2023 / 30 DEC 2024	
076/2023	Paya Lebar Airport - Luffing Cranes	AD	08 JUN 2023 / 30 DEC 2024	
079/2023	Paya Lebar Airport - Mobile Crane	AD	08 JUN 2023 / 31 DEC 2024	
080/2023	Paya Lebar Airport - Mobile Cranes	AD	08 JUN 2023 / 31 DEC 2024	
083/2023	Paya Lebar Airport - Luffing Crane	AD	08 JUN 2023 / 31 DEC 2024	
092/2023	Paya Lebar Airport - Luffer Tower Crane	AD	13 JUL 2023 / 31 DEC 2024	
114/2023	Paya Lebar Airport - Cranes	AD	10 AUG 2023 / 31 DEC 2024	
121/2023	Paya Lebar Airport - Crawler Cranes	AD	07 SEP 2023 / 31 DEC 2024	
127/2023	Singapore Changi Airport - Closure of aircraft stand 604 at East Cargo Apron	AD	02 NOV 2023 / 30 MAY 2025	
131/2023	Paya Lebar Airport - Flat-Top Cranes	AD	12 OCT 2023 / 31 OCT 2024	
139/2023	Singapore Changi Airport - Steel and Frangible Frames and Frangible Posts	AD	30 NOV 2023 / 28 FEB 2025	
141/2023	Singapore Changi Airport - Apply minimum thrust at East Cargo Apron	AD	23 OCT 2023 / 30 MAY 2025	
143/2023	Paya Lebar Airport - Luffing Cranes	AD	09 NOV 2023 / 31 DEC 2024	
146/2023	Paya Lebar Airport - Tower Luffer Cranes	AD	09 NOV 2023 / 31 DEC 2024	
147/2023	Paya Lebar Airport - Tower Cranes	AD	09 NOV 2023 / 31 DEC 2024	
149/2023	Paya Lebar Airport - Topless Cranes	AD	09 NOV 2023 / 31 OCT 2024	
153/2023	Paya Lebar Airport - Tower Cranes	AD	09 DEC 2023 / 08 DEC 2024	
154/2023	Paya Lebar Airport - Topless Cranes	AD	07 DEC 2023 / 01 DEC 2024	
155/2023	Paya Lebar Airport - Luffing Cranes	AD	07 DEC 2023 / 01 DEC 2024	
159/2023	Paya Lebar Airport - Cranes	AD	07 DEC 2023 / 30 NOV 2024	
160/2023	Paya Lebar Airport - Tower Cranes	AD	08 DEC 2023 / 08 DEC 2024	
161/2023	Paya Lebar Airport - Cranes	AD	07 DEC 2023 / 30 NOV 2024	

<b>NR/Year</b>	<b>Subject</b>	<b>AIP section(s) affected</b>	<b>Period of validity (from/to)</b>	<b>Cancellation record</b>
162/2023	Paya Lebar Airport - Luffing Tower Crane	AD	07 DEC 2023 / 30 NOV 2024	
001/2024	Paya Lebar Airport - Tower Cranes	AD	11 JAN 2024 / 31 DEC 2024	
002/2024	Paya Lebar Airport - Tower Cranes	AD	11 JAN 2024 / 31 DEC 2024	
003/2024	Paya Lebar Airport - Luffing Cranes	AD	11 JAN 2024 / 31 DEC 2024	
004/2024	Paya Lebar Airport - Crawler Cranes	AD	11 JAN 2024 / 31 DEC 2024	
005/2024	Paya Lebar Airport - Flat-Top Cranes	AD	11 JAN 2024 / 31 DEC 2024	
006/2024	Paya Lebar Airport - Cranes	AD	11 JAN 2024 / 31 DEC 2025	
007/2024	Paya Lebar Airport - Luffing Cranes	AD	11 JAN 2024 / 31 DEC 2025	
009/2024	Paya Lebar Airport - Luffing Crane	AD	11 JAN 2024 / 31 DEC 2024	
011/2024	Paya Lebar Airport - Tower Cranes	AD	11 JAN 2024 / 31 DEC 2024	
012/2024	Paya Lebar Airport - Mobile Crane	AD	11 JAN 2024 / 31 DEC 2024	
013/2024	Paya Lebar Airport - Flat-Top Cranes	AD	11 JAN 2024 / 31 DEC 2024	
014/2024	Paya Lebar Airport - Luffing Crane	AD	11 JAN 2024 / 31 DEC 2024	
015/2024	Paya Lebar Airport - Cranes	AD	11 JAN 2024 / 30 DEC 2024	
016/2024	Paya Lebar Airport - Luffer Crane	AD	11 JAN 2024 / 31 DEC 2024	
017/2024	Singapore Changi Airport - Closure of aircraft stand 504 at West Cargo Apron	AD	22 FEB 2024 / 31 OCT 2025	
020/2024	Paya Lebar Airport - Saddle Cranes	AD	08 FEB 2024 / 31 DEC 2025	
022/2024	Paya Lebar Airport - Topless Cranes	AD	08 FEB 2024 / 30 NOV 2024	
023/2024	Paya Lebar Airport - Luffing Tower Crane	AD	08 FEB 2024 / 30 JUN 2025	
024/2024	Paya Lebar Airport - Luffing Crane	AD	08 FEB 2024 / 29 JAN 2025	
027/2024	Paya Lebar Airport - Topless Tower Cranes	AD	08 FEB 2024 / 25 JAN 2025	
028/2024	Paya Lebar Airport - Crawler Crane	AD	08 FEB 2024 / 27 NOV 2024	
031/2024	Paya Lebar Airport - Tower Cranes	AD	08 FEB 2024 / 19 DEC 2024	
032/2024	Paya Lebar Airport - Topless Cranes	AD	08 FEB 2024 / 31 DEC 2024	
035/2024	Paya Lebar Airport - Cranes	AD	08 FEB 2024 / 31 DEC 2024	
036/2024	Paya Lebar Airport - Cranes	AD	08 FEB 2024 / 17 JUN 2025	
037/2024	Paya Lebar Airport - Tower Crane	AD	08 FEB 2024 / 31 DEC 2024	
038/2024	Paya Lebar Airport - Luffer Cranes	AD	08 FEB 2024 / 17 JUN 2025	
039/2024	Paya Lebar Airport - Cranes	AD	08 FEB 2024 / 31 DEC 2024	
040/2024	Paya Lebar Airport - Luffing Cranes	AD	08 FEB 2024 / 16 JAN 2025	

<b>NR/Year</b>	<b>Subject</b>	<b>AIP section(s) affected</b>	<b>Period of validity (from/to)</b>	<b>Cancellation record</b>
041/2024	Paya Lebar Airport - Cranes	AD	08 FEB 2024 / 31 DEC 2024	
042/2024	Paya Lebar Airport - Topless Cranes	AD	08 FEB 2024 / 16 JAN 2025	
043/2024	Paya Lebar Airport - Crawler Tower Cranes	AD	08 FEB 2024 / 16 FEB 2025	
044/2024	Paya Lebar Airport - Luffer Cranes	AD	08 FEB 2024 / 31 AUG 2025	
045/2024	Paya Lebar Airport - Mobile Crane	AD	08 FEB 2024 / 16 JAN 2025	
046/2024	Paya Lebar Airport - Tower Cranes	AD	08 FEB 2024 / 16 FEB 2025	
047/2024	Paya Lebar Airport - Luffing Cranes	AD	08 FEB 2024 / 30 DEC 2025	
048/2024	Paya Lebar Airport - Cranes	AD	08 FEB 2024 / 31 DEC 2025	
049/2024	Paya Lebar Airport - Luffer Tower Crane	AD	08 FEB 2024 / 10 JAN 2025	
050/2024	Paya Lebar Airport - Topless Cranes	AD	08 FEB 2024 / 10 JAN 2025	
051/2024	Paya Lebar Airport - Luffing Tower Crane	AD	08 FEB 2024 / 10 JAN 2025	
052/2024	Paya Lebar Airport - Luffing Cranes	AD	08 FEB 2024 / 10 JAN 2025	
053/2024	Paya Lebar Airport - Topless Cranes	AD	08 FEB 2024 / 16 FEB 2025	
056/2024	Singapore Changi Airport - Updated closure schedules for Runway 02L/20R and Runway 02C/20C	AD	31 MAR 2024 / 30 SEP 2025	
060/2024	Paya Lebar Airport - Mobile Cranes	AD	07 MAR 2024 / 31 DEC 2024	
063/2024	Paya Lebar Airport - Cranes	AD	07 MAR 2024 / 31 OCT 2024	
064/2024	Paya Lebar Airport - Obstacles	AD	07 MAR 2024 / 04 FEB 2025	
065/2024	Paya Lebar Airport - Obstacles	AD	07 MAR 2024 / 31 DEC 2024	
070/2024	Paya Lebar Airport - Crawler Tower Cranes	AD	21 MAR 2024 / 31 MAR 2025	
072/2024	Singapore Changi Airport - Closure of Runway 02R/20L, Taxiway closures and restrictions	AD	16 MAY 2024 / 31 OCT 2024	
074/2024	Paya Lebar Airport - Cranes	AD	11 APR 2024 / 25 APR 2025	
075/2024	Paya Lebar Airport - Mobile Cranes	AD	11 APR 2024 / 01 APR 2025	
077/2024	Paya Lebar Airport - Cranes	AD	11 APR 2024 / 31 DEC 2024	
083/2024	Singapore Changi Airport - Decommissioning of aircraft stands E1 and F30 and temporary closure of taxilanes R1, R2, R3 and aircraft stands E2, E3, E4, F31, F32, F33 and F34 due to construction work activities at Terminal 2	AD	09 MAY 2024 / 03 JAN 2028	
084/2024	Paya Lebar Airport - Cranes	AD	09 MAY 2024 / 31 DEC 2024	
086/2024	Paya Lebar Airport - Cranes	AD	09 MAY 2024 / 01 MAY 2025	
087/2024	Paya Lebar Airport - Cranes	AD	09 MAY 2024 / 25 APR 2025	

<b>NR/Year</b>	<b>Subject</b>	<b>AIP section(s) affected</b>	<b>Period of validity (from/to)</b>	<b>Cancellation record</b>
088/2024	Paya Lebar Airport - Mobile Crane	AD	09 MAY 2024 / 31 DEC 2024	
089/2024	Paya Lebar Airport - Mobile Cranes	AD	09 MAY 2024 / 15 APR 2025	
090/2024	Paya Lebar Airport - Mobile Crane	AD	09 MAY 2024 / 31 DEC 2024	
091/2024	Paya Lebar Airport - Topless Cranes	AD	09 MAY 2024 / 15 APR 2025	
093/2024	Paya Lebar Airport - Flat-Top Crane	AD	09 MAY 2024 / 10 APR 2025	
094/2024	Paya Lebar Airport - Crawler Crane	AD	09 MAY 2024 / 30 SEP 2025	
095/2024	Paya Lebar Airport - Topless Tower Cranes	AD	06 JUN 2024 / 02 JUN 2025	
097/2024	Paya Lebar Airport - Cranes	AD	06 JUN 2024 / 19 MAY 2025	
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128/2024	Paya Lebar Airport - Mobile Cranes	AD	15 AUG 2024 / 08 JUL 2025	
132/2024	Singapore Changi Airport - Updated information and data for Runway 02R/20L	AD	03 OCT 2024 / 30 SEP 2026	
133/2024	Singapore Changi Airport - Closure of Taxiways associated with Runway 02R/20L	AD	03 OCT 2024 / 22 DEC 2027	
134/2024	Singapore Changi Airport - Temporary closure of Taxilane N4 behind aircraft stand 604 and downgrade of aircraft stand 603 to Code C	AD	30 AUG 2024 / 02 OCT 2025	
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161/2024	Paya Lebar Airport - Mobile Crane	AD	17 OCT 2024 / 31 OCT 2025	
162/2024	Paya Lebar Airport - Cranes	AD	17 OCT 2024 / 31 JUL 2025	
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ENR 3.2-42	16 MAY 2024	AD 2.WSSS-10	25 JAN 2024	AD-2-WSSS-SID-24 to 24.1	31 OCT 2024
ENR 3.2-43	16 MAY 2024	AD 2.WSSS-11	25 JAN 2024	AD-2-WSSS-SID-25 to 25.1	31 OCT 2024
ENR 3.2-44	16 MAY 2024	AD 2.WSSS-12	25 JAN 2024	AD-2-WSSS-SID-26 to 26.1	31 OCT 2024
ENR 3.2-45	16 MAY 2024	AD 2.WSSS-13	25 JAN 2024	AD-2-WSSS-SID-27 to 27.1	31 OCT 2024
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ENR 3.2-47	16 MAY 2024	AD 2.WSSS-15	25 JAN 2024	AD-2-WSSS-SID-29 to 29.1	31 OCT 2024
ENR 3.4-1	21 MAR 2024	AD 2.WSSS-16	25 JAN 2024	AD-2-WSSS-SID-30 to 30.1	31 OCT 2024
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ENR 3.5-2	02 MAR 2017			AD-2-WSSS-SID-37 to 37.1	31 OCT 2024
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ENR 3.6-3 to 3.1	05 SEP 2024			AD-2-WSSS-SID-41 to 41.1	31 OCT 2024
ENR 3.6-5 to 5.1	05 SEP 2024				



AD-2-WSSS-SID-42 to 42.1	31 OCT 2024	AD 2.WSSL-16	05 SEP 2024
AD-2-WSSS-SID-43 to 43.1	31 OCT 2024	AD 2.WSSL-17	05 SEP 2024
AD-2-WSSS-SID-44 to 44.1	31 OCT 2024	AD 2.WSSL-18	05 SEP 2024
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AD-2-WSSS-SID-46 to 46.1	31 OCT 2024	AD 2.WSSL-20	21 MAR 2024
AD-2-WSSS-SID-47 to 47.1	31 OCT 2024	AD-2-WSSL-ADC-1 to 1.1	16 MAY 2024
AD-2-WSSS-SID-48 to 48.1	31 OCT 2024	AD-2-WSSL-ADC-2	21 MAR 2024
AD-2-WSSS-SID-49 to 49.1	31 OCT 2024	AD-2-WSSL-ADC-3	03 NOV 2022
AD-2-WSSS-SID-50 to 50.1	31 OCT 2024	AD-2-WSSL-AOC-1	16 JUL 2020
AD-2-WSSS-SID-51 to 51.1	31 OCT 2024	AD-2-WSSL-AOC-2	16 JUL 2020
AD-2-WSSS-SID-52 to 52.1	31 OCT 2024	AD-2-WSSL-VAC-1	05 SEP 2024
AD-2-WSSS-SID-53 to 53.1	31 OCT 2024	AD-2-WSSL-VAC-2	05 SEP 2024
AD-2-WSSS-SID-54 to 54.1	31 OCT 2024	AD-2-WSSL-VAC-3	05 SEP 2024
AD-2-WSSS-SID-55 to 55.1	31 OCT 2024	AD-2-WSSL-VAC-4	05 SEP 2024
AD-2-WSSS-SID-56 to 56.1	31 OCT 2024	AD-2-WSSL-VDC-1 to 1.1	05 SEP 2024
AD-2-WSSS-SID-57 to 57.1	31 OCT 2024	AD-2-WSSL-VDC-2 to 2.1	05 SEP 2024
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AD-2-WSSS-SID-59 to 59.1	31 OCT 2024	AD-2-WSSL-IFR-1	31 OCT 2024
AD-2-WSSS-SID-60 to 60.1	31 OCT 2024	AD-2-WSSL-IFR-2	31 OCT 2024
AD-2-WSSS-SID-61 to 61.1	31 OCT 2024	AD 2.WSAP-1	16 JUL 2020
AD-2-WSSS-SID-62 to 62.1	31 OCT 2024	AD 2.WSAP-2	19 JUL 2018
AD-2-WSSS-SID-63 to 63.1	31 OCT 2024	AD 2.WSAP-3	10 OCT 2019
AD-2-WSSS-SID-64 to 64.1	31 OCT 2024	AD 2.WSAP-4	19 JUL 2018
AD-2-WSSS-STAR-1 to 1.1	31 OCT 2024	AD 2.WSAP-5	10 OCT 2019
AD-2-WSSS-STAR-2 to 2.1	31 OCT 2024	AD 2.WSAP-6	12 OCT 2017
AD-2-WSSS-STAR-3 to 3.1	31 OCT 2024	AD 2.WSAP-7	19 JUL 2018
AD-2-WSSS-STAR-4 to 4.1	31 OCT 2024	AD 2.WSAP-8	16 MAY 2024
AD-2-WSSS-STAR-5 to 5.1	31 OCT 2024	AD 2.WSAP-9	21 MAR 2024
AD-2-WSSS-STAR-6 to 6.1	31 OCT 2024	AD 2.WSAP-10	21 MAR 2024
AD-2-WSSS-STAR-7 to 7.1	31 OCT 2024	AD 2.WSAP-11	21 MAR 2024
AD-2-WSSS-STAR-8 to 8.1	31 OCT 2024	AD-2-WSAP-ADC-1	16 JUL 2020
AD-2-WSSS-STAR-9 to 9.1	31 OCT 2024	AD-2-WSAP-ADC-2	16 JUL 2020
AD-2-WSSS-STAR-10 to 10.1	31 OCT 2024	AD-2-WSAP-AOC-1	24 MAR 2022
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AD-2-WSSS-STAR-18 to 18.1	31 OCT 2024	AD 2.WSAT-2	26 MAR 2020
AD-2-WSSS-STAR-19 to 19.1	31 OCT 2024	AD 2.WSAT-3	25 FEB 2021
AD-2-WSSS-IAC-1	31 OCT 2024	AD 2.WSAT-4	25 FEB 2021
AD-2-WSSS-IAC-2	31 OCT 2024	AD 2.WSAT-5	16 MAY 2024
AD-2-WSSS-IAC-3	31 OCT 2024	AD 2.WSAT-6	21 MAR 2024
AD-2-WSSS-IAC-5	31 OCT 2024	AD 2.WSAT-7	21 MAR 2024
AD-2-WSSS-IAC-6	31 OCT 2024	AD-2-WSAT-ADC-1	17 JUN 2021
AD-2-WSSS-IAC-7	31 OCT 2024	AD 2.WSAG-1	25 JAN 2024
AD-2-WSSS-IAC-9 to 9.1	31 OCT 2024	AD 2.WSAG-2	25 JAN 2024
AD-2-WSSS-IAC-10 to 10.1	31 OCT 2024	AD 2.WSAG-3	21 MAR 2024
AD-2-WSSS-IAC-11 to 11.1	31 OCT 2024	AD 2.WMKJ-1	12 NOV 2015
AD-2-WSSS-IAC-12 to 12.1	31 OCT 2024	AD 2.WIDD-1	21 MAR 2024
AD-2-WSSS-IAC-13 to 13.1	31 OCT 2024	AD 2.WIDN-1	21 MAR 2024
AD-2-WSSS-IAC-14 to 14.1	31 OCT 2024	AD 2.WIDN-2	21 MAR 2024
AD-2-WSSS-VAC-1 to 1.1	31 OCT 2024	AD 2.WIDT-1	21 MAR 2024
AD 2.WSSL-1	10 SEP 2020		
AD 2.WSSL-2	30 NOV 2023		
AD 2.WSSL-3	30 NOV 2023		
AD 2.WSSL-4	05 DEC 2019		
AD 2.WSSL-5	30 NOV 2023		
AD 2.WSSL-6	25 JAN 2024		
AD 2.WSSL-7	21 MAR 2024		
AD 2.WSSL-8	08 SEP 2022		
AD 2.WSSL-9	25 JAN 2024		
AD 2.WSSL-10	05 SEP 2024		
AD 2.WSSL-11	21 MAR 2024		
AD 2.WSSL-12	21 MAR 2024		
AD 2.WSSL-13	21 MAR 2024		
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# GEN 1 NATIONAL REGULATIONS AND REQUIREMENTS

## GEN 1.1 DESIGNATED AUTHORITIES

The authority responsible for civil aviation in Singapore is the Civil Aviation Authority of Singapore under the Ministry of Transport. The addresses of the designated authorities concerned with facilitation of international air navigation are as follows:

### 1 CIVIL AVIATION

Post:

CIVIL AVATION AUTHORITY OF SINGAPORE  
SINGAPORE CHANGI AIRPORT, P.O. BOX 1  
SINGAPORE 918141

Tel: (65) 65421122

Fax: (65) 65421231

AFS: WSSSYAYX

URL: [www.caas.gov.sg](http://www.caas.gov.sg)

### 2 METEOROLOGY

Post:

DIRECTOR-GENERAL METEOROLOGICAL SERVICE SINGAPORE  
Singapore Changi Airport, P.O. Box 8  
SINGAPORE 918141

Tel: (65) 65457190

Fax: (65) 65457192

AFS: WSSSYMYX

URL: [www.weather.gov.sg](http://www.weather.gov.sg)

### 3 CUSTOMS

Post:

SINGAPORE CUSTOMS  
55 Newton Road #07-01, Revenue House  
SINGAPORE 307987

Tel: (65) 63552000

URL: [www.customs.gov.sg](http://www.customs.gov.sg)

### 4 IMMIGRATION

Post:

IMMIGRATION & CHECKPOINTS AUTHORITY  
10 Kallang Road, #08-00 ICA Building  
SINGAPORE 208718

Tel: (65) 63916100

URL: [www.ica.gov.sg](http://www.ica.gov.sg)

### 5 HEALTH

Post:

MINISTRY OF HEALTH  
16 College Road, College of Medicine Building  
SINGAPORE 169854

Tel: (65) 63259220

URL: [www.moh.gov.sg](http://www.moh.gov.sg)

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## 6 ENROUTE AND AERODROME CHARGES

Post:

CIVIL AVIATION AUTHORITY OF SINGAPORE  
Singapore Changi Airport P.O. Box 1  
SINGAPORE 918141

Tel: (65) 65421122

Fax: (65) 65421231

AFS: WSSSYAYX

Post:

CHANGI AIRPORT GROUP (S) PTE LTD  
SELETAR AIRPORT  
21 Seletar Aerospace Road 1 #02-01  
SINGAPORE 797405

Tel: (65)64815077 Airside Operations

Fax: (65)64831754

## 7 AGRICULTURE QUARANTINE

Post:

Head Office: ANIMAL & VETERINARY SERVICE  
JEM Office Tower Level 9, 52 Jurong Gateway Road  
SINGAPORE 608550

Email: [animals\\_feedback@nparks.gov.sg](mailto:animals_feedback@nparks.gov.sg)

URL: [www.nparks.gov.sg/avs](http://www.nparks.gov.sg/avs)

Post:

CHANGI ANIMAL AND PLANT QUARANTINE STATION  
Gate C7, Airport Cargo Road Changi Airfreight Centre  
SINGAPORE 918104

Tel: (65) 65457523

## 8 TRANSPORT SAFETY INVESTIGATION BUREAU

Post:

Director (TSIB)  
MINISTRY OF TRANSPORT  
c/o Changi Airport Post Office P.O. Box 1005  
SINGAPORE 918155

Tel: (65) 65412797

Fax: (65) 65422394

URL: [www.mot.gov.sg](http://www.mot.gov.sg)

- Telecommunication and radio communication equipment
- Toy walkie-talkies
- Arms and explosives
- Bulletproof clothing
- Toy guns, pistols, and revolvers
- Weapons, kris, spears and swords
- Medicines and pharmaceutical products
- Poisons
- Dangerous Cargo
- Ionising Radiation (IR) irradiating apparatus & Radioactive material (e.g. x-ray equipment)
- Non-ionising Radiation (IR) irradiating apparatus (e.g. ultraviolet sunlamps)
- Telecommunication and radio communication equipment

Please visit the Immigration & Checkpoints Authority (ICA) website for more information on controlled and prohibited goods .

## 2 IMMIGRATION REQUIREMENTS

2.1 All passengers are required to present themselves with their travel documents, and endorsements (if necessary).

All travellers, including Singapore Citizens, Permanent Residents, Long-Term Pass holders and foreign visitors, are required to electronically submit their pre-trip health and travel history declarations to the Immigration & Checkpoints Authority (ICA) via the SG Arrival Card (SGAC) e-Service, before arriving in Singapore. This does not apply to those transiting/transferring through Singapore without seeking immigration clearance.

All travellers seeking entry into Singapore are required to comply with Singapore's border control requirements, which can be found at [ICA | Entering, Transiting and Departing](#).

2.2 Any person entering Singapore from a place outside Singapore, or is leaving Singapore for a place outside Singapore (including aircrew entering or leaving Singapore on functional check flights) shall present to an immigration officer at an authorised airport, a valid passport or a valid travel document recognised by the Government of Singapore (in the case of an alien, a visa for Singapore where such a visa is required) with the exception of the following persons:

- a. A member of the Singapore Armed Forces travelling on duty;
- b. A member of such Visiting Forces as the Minister may determine;
- c. Any child or person who is included in the passport or other travel document of a parent of the child, or of a spouse or other relative of the person and is accompanying that parent, spouse or relative (as the case may be) when travelling to and leaving from Singapore.

2.3 Nationals of the following countries require visas for the purpose of social visits in Singapore (with exception of an aircrew who is an airline crew member that, in the course of a journey on duty from a place outside Singapore to Singapore, or from a place outside Singapore to a place outside Singapore, calls at an authorised airport):

- Afghanistan
- Algeria
- Bangladesh\*
- Commonwealth of Independent States\*\*
- Democratic People's Republic of Korea (North Korea)
- Egypt
- Georgia<sup>†</sup>
- India\*
- Iran
- Iraq
- Jordan\*
- Kosovo
- Lebanon
- Libya
- Mali
- Morocco\*
- Nigeria\*
- Pakistan
- Somalia
- South Sudan<sup>^</sup>
- Sudan
- Syria

←

- Tunisia\*
- Turkmenistan\*
- Ukraine\*
- Yemen
- Holders of Alien's passport

← Visitors holding Hong Kong Document of Identity, Macao Special Administrative Region (MSAR) Travel Permit, Palestinian Authority Passport, Refugee Travel Document\*\*, Temporary Passport issued by United Arab Emirates, and PRC Travel Document will also require a visa to enter Singapore.

^ South Sudan has been recognised as a sovereign state, with AL2 visa to be imposed. Only the ordinary and official South Sudan TDs has been assessed to be recognised for entry.

\* Commonwealth of Independent States (CIS): Armenia, Azerbaijan, Belarus, Kazakhstan, Kryrgyzstan, Moldova, Russia, Tajikistan, and Uzbekistan.

\*\* Refugee Travel Documents are subjected to assessment of recognition for entry into Singapore.

Nationals of Commonwealth of Independent States (Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, and Uzbekistan), Georgia, Turkmenistan, and Ukraine may qualify for the 96-hour visa free transit facility (VFTF) provided that:

- a. the person is in transit to a third country;
- b. the person holds a valid passport, confirmed onward air-ticket, entry facilities (including visa) to the third country and have sufficient funds for the period of stay in Singapore;
- c. the person continues his journey to the third country within 96 hours visa free period granted; and
- d. the person satisfies Singapore's entry requirements.

← Nationals of India, as well as Nationals of the People's Republic of China (PRC) holding other travel documents issued by the PRC^ (excluding ordinary, diplomatic, public affairs and service passports) may qualify for the 96-hour VFTF provided that:

- a. the person is in transit to or from a third country via Singapore by any mode of transport and will depart via air or sea;
- b. the person holds a valid passport and confirmed onward air/ferry/cruise ticket for departure from Singapore within 96 hours;
- c. the person has a valid visa\*/long-term pass (with a validity of at least 1 month from the date of entry into Singapore under the VFTF) issued by any of the following countries:
  - Australia
  - Canada
  - Germany
  - Japan
  - New Zealand
  - Switzerland
  - United Kingdom
  - United States of America

^ These include the PRC Travel Document, Hong Kong Special Administrative Region (SAR) Document of Identity (DOI) and Macau SAR Travel Permit.

\* A visa is considered valid so long as it is issued by/ good for entry into one of the eight countries listed above. Travellers with Single Journey Visas (SJV) may still be granted VFTF on the return leg of their journey (i.e. after the SJV is used and no longer valid), but:

- the person must travel directly from the country that issued the SJV, en route through Singapore, back to their home country
- the person must not have returned to their home country since they last used the SJV.



2.4 Visitors must satisfy the following basic entry requirements before they are allowed to enter Singapore:

- ←
- a. They are in possession of passports with at least 6 months' validity with assurance of their re-entry into their countries of residence or origin;
  - b. They have sufficient funds to last for the intended period of stay in Singapore;
  - c. They hold confirmed onward/return tickets and entry facilities (including visas) to their onward destinations;
  - d. Short-term travellers holding a passport of travel document from a visa-required country/ region must apply for a Visa; and
  - e. They must fulfil all prevailing public health requirements.

The granting of social visit passes to all visitors is determined by the Immigration & Checkpoints Authority (ICA) officers at the point of entry.

### **3 PUBLIC HEALTH REQUIREMENTS**

3.1 Strict compliance with the provisions of the International Health Regulations, 2005, of the World Health Organisation, and Singapore's Infectious Diseases Act is required.

3.2 The pilot-in-command of an aircraft landing at Airports in Singapore shall furnish the Airport Health Officer with one copy of the General Declaration form (see ICAO Annex 9 Appendix 1) and one copy of the Passenger Manifest (see ICAO Annex 9 Appendix 2) signed by the pilot-in-command.

3.3 Vaccination Certificate Requirements for entry into Singapore are as follows:

A valid International Certificate of Vaccination for yellow fever is required from all travellers, including Singapore Residents, with travel history to countries with risk of yellow fever transmission (regardless of area, city or region) in the six days prior to arrival in Singapore. The certificate is valid for life, beginning from 10 days after the date of vaccination (this applies to existing and new certificates). Travellers without a valid International Certificate of Vaccination for yellow fever (e.g. unvaccinated individuals, including those who are ineligible to receive the vaccination, and travellers whose certificate has yet to become valid), are liable to be quarantined under Section 31 of the Infectious Diseases Act. For more details on public health requirements related to yellow fever, please refer to Singapore's Ministry of Health website (<https://www.moh.gov.sg/diseases-updates/yellow-fever>) and Immigration & Checkpoints Authority website (<https://www.ica.gov.sg/enter-transit-depart/entering-singapore/yellow-fever-vaccination-certificate>).

3.4 For more details on public health requirements related to COVID-19, please refer to <https://www.caas.gov.sg/legislation-regulations/covid-19-publications/>.

### **4 FLYING LICENCES AND RATINGS**

#### **4.1 VISITING PILOTS - HOLDERS OF NON-SINGAPORE PILOT LICENCES**

4.1.1 When a holder of a non-Singapore pilot's licence wishes to fly on a Singapore registered aircraft in a private capacity in Singapore, he will be required to apply for a Certificate of Validation for his foreign licence. The Certificate of Validation, if approved, will be issued for this purpose only and for a limited period. The applicant would also be required to fulfil certain conditions. Pilots who wish to apply for a Certificate of Validation should contact the Personnel Licensing Section of the Civil Aviation Authority of Singapore (see address in paragraph 4.2.2 below)

#### **4.2 CONVERSION OF FOREIGN LICENCE TO SINGAPORE LICENCE**

4.2.1 Pilots holding valid licences, including an instrument rating and/or flying instructor's rating issued by ICAO Contracting States, may be considered for the conversion of their licences under the following conditions:

- a. The pilot must demonstrate formal prospective employment by a Singapore air operator, approved training organisation or flying club to operate on Singapore registered aircraft.  
(This requirement will not be applicable for the conversion of a foreign licence to a Singapore PPL.)
- b. The pilot's foreign licence and its associated ratings must be valid from the time of application to the time of issue of a Singapore licence and its associated ratings.
- c. The pilot must fulfil all conversion terms as specified by CAAS within a period of 6 months preceding the issue of a Singapore licence and its associated ratings.

4.2.2 Further details on the conversion of a foreign licence can be obtained from:

Safety Policy and Planning Division  
Personnel Licensing Section  
Civil Aviation Authority of Singapore  
Singapore Changi Airport Terminal 2  
South Finger Pier Level 3  
Unit No. 038-039  
Singapore 819643

TEL: (65) 65412482  
FAX: (65) 65434941

### **4.3 *PILOTS WHO HAVE ATTAINED THE AGE OF 65***

4.3.1 Any pilot who has attained his 65th birthday shall not be permitted to act as pilot-in-command or co-pilot of an aircraft engaged in scheduled or non-scheduled international commercial air transport operations within Singapore airspace.

# GEN 2 TABLES AND CODES

## GEN 2.1 MEASURING SYSTEM, AIRCRAFT MARKING, HOLIDAYS

### 2.1.1 UNITS OF MEASUREMENT

The table of units of measurement shown in paragraph 3.2 is used for the dissemination of information and in messages transmitted to aircraft.

### 2.1.2 TEMPORAL REFERENCE SYSTEM

Co-ordinated Universal Time (UTC) is used in the air traffic and communication services and in documents published for international distribution by the Aeronautical Information Service. Reporting of time is expressed to the nearest minute, e.g. 12:40:35 is reported as 1241. Local time is 8 hours ahead of UTC. Time checks to aircraft are accurate to within 30 seconds.

### 2.1.3 HORIZONTAL REFERENCE SYSTEM

#### 3.1 *Name/designation of system*

All published geographical coordinates in the Singapore FIR indicating latitude and longitude are expressed in terms of the World Geodetic System – 1984 (WGS-84) geodetic reference datum.

#### 3.2 *Parameters of the Projection*

Projection is expressed in terms of Conical Conformal Projection.

<i>Measurement of</i>	<i>Units</i>
Distance used in navigation, position report, etc. - generally in excess of 4000m	* Kilometres (km) or Nautical miles (NM)
Relatively short distances such as those relating to aerodromes (e.g. runway lengths)	Metres (m)
Altitudes, elevations and heights	Metres (m) or Feet (ft)
Horizontal speed including wind speed	Knots (kt)
Vertical speed	Feet per minute (ft/min)
Wind direction for landing and taking-off	Degrees Magnetic (°M)
Wind direction except for landing and taking-off	Degrees True (°T)
Visibility, including runway visual range	Metres (m) or Kilometres (km)
Altimeter Setting	Hectopascals (hPa)
Temperature	Degrees Celsius (Centigrade) (°C)
Weight	Metric tonnes (t) or kilogrammes (kg)
Time	Hours and minutes, the day of 24 hours beginning at midnight UTC (hhmm)
* International nautical miles, for which conversion into metres is given by: 1 international NM = 1852 metres	

#### 3.3 *Ellipsoid*

Ellipsoid is expressed in terms of the World Geodetic System – 1984 (WGS-84) ellipsoid.

#### 3.4 *Datum*

The World Geodetic System – 1984 (WGS-84) is used.

#### 3.5 *Area of application*

The area of application for the published geographical coordinates coincides with the area of responsibility of the Aeronautical Information Service, i.e. the entire territory of Singapore as well as the airspace over the high seas encompassed by the Singapore Flight Information Region.

### 3.6 **Use of an asterisk to identify published geographical coordinates**

An asterisk (\*) will be used to identify those published geographical coordinates which have been transformed into WGS-84 coordinates but whose accuracy of original field work does not meet the requirements in ICAO Annex 11, Chapter 2 and ICAO Annex 14, Volume I, Chapter 2. Specifications for determination and reporting of WGS-84 coordinates are given in ICAO Annex 11, Chapter 2 and ICAO Annex 14, Volume I, Chapter 2.

## 2.1.4 **VERTICAL REFERENCE SYSTEM**

### 4.1 **Name/designation of system**

The vertical reference system corresponds to mean sea level (MSL).

### 4.2 **Geoid model**

The geoid model used is the Earth Gravitational Model 1996 — (EGM-96).

## 2.1.5 **AIRCRAFT NATIONALITY AND REGISTRATION MARKS**

The nationality mark for aircraft registered in Singapore is the figure 9, followed by the letter V, i.e., 9V. The nationality mark is followed by a hyphen and a registration mark consisting of a three-letter group, e.g., 9V-BAA.

## 2.1.6 **PUBLIC HOLIDAYS IN SINGAPORE**

The following dates are notified as public holidays:

<b>Name of Holiday</b>	<b>Date</b>	<b>Day</b>
Christmas Day	25 December 2024	Wednesday
New Year's Day	01 January 2025	Wednesday
Chinese New Year	29 January 2025	Wednesday
	30 January 2025	Thursday
Hari Raya Puasa	31 March 2025	Monday
Good Friday	18 April 2025	Friday
Labour Day	01 May 2025	Thursday
Vesak Day	12 May 2025	Monday
Hari Raya Haji	07 June 2024	Saturday
National Day	09 August 2025	Saturday
Deepavali	20 October 2025	Monday
Christmas Day	25 December 2025	Thursday

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**k. Visual Approach Chart - ICAO**

This chart is produced for aerodromes used by civil aviation where:

- \* only limited navigation facilities are available; or
- \* radio communication facilities are not available; or
- \* no adequate aeronautical charts of the aerodrome and its surroundings at 1:500 000 or greater scale are available; or
- \* visual approach procedures have been established

The aeronautical data shown include information on aerodromes obstacles, designated airspace, visual approach information, radio navigation aids and communication facilities, as appropriate.

### 3.2.5 LIST OF AERONAUTICAL CHARTS AVAILABLE

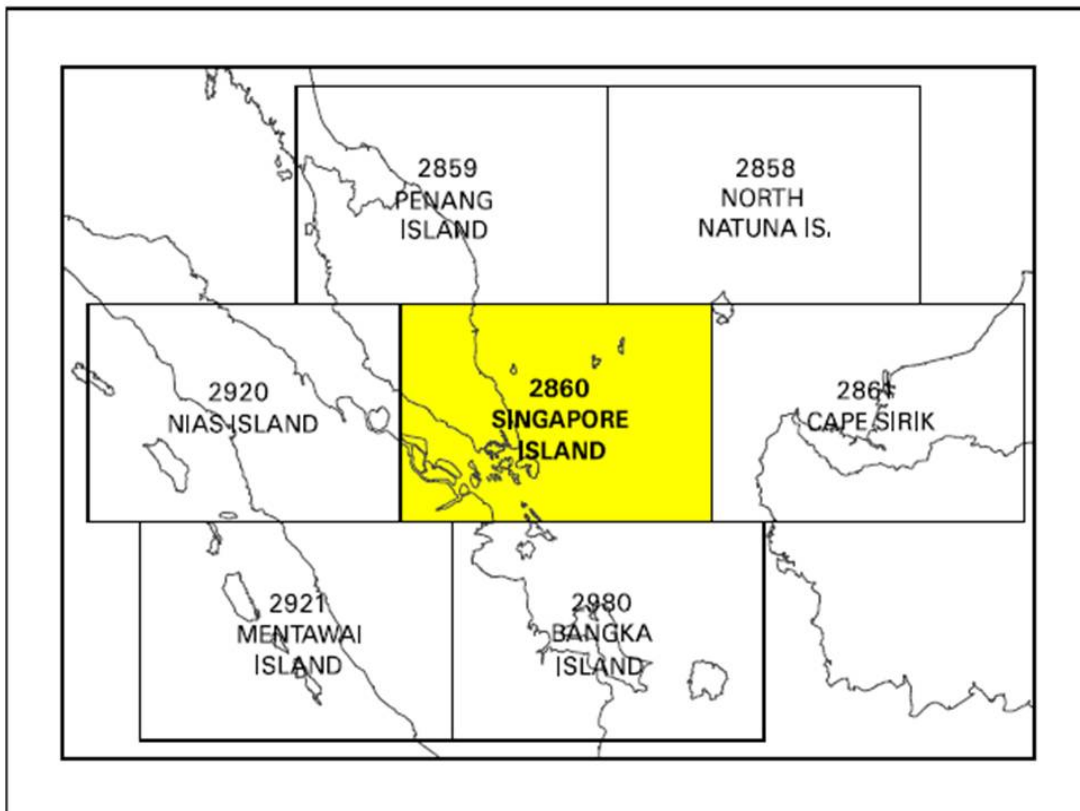
GEN 3.2.5 LIST OF AERONAUTICAL CHARTS AVAILABLE					
<i>Title of Chart Series</i>	<i>Scale</i>	<i>Name and/or number</i>		<i>Price (\$)</i>	<i>Date</i>
<b>World Aeronautical Chart</b> ICAO (WAC)	1:1 000 000	WAC 2860		In AIP	21 MAR 24
<b>Enroute Chart</b> ICAO (ENRC)		ERC 6-1		In AIP	05 SEP 24
<b>Instrument Approach Chart</b> ICAO (IAC)		<b>Singapore Changi</b>			
←	1:400 000	RWY 02L - ICW ILS/DME	AD-2-WSSS-IAC-1	In AIP	31 OCT 24
←	1:400 000	RWY 02C - ICE ILS/DME	AD-2-WSSS-IAC-2	In AIP	31 OCT 24
←	1:400 000	RWY 02R - ICX ILS/DME	AD-2-WSSS-IAC-3	In AIP	31 OCT 24
←	1:400 000	RWY 20R - ICH ILS/DME	AD-2-WSSS-IAC-5	In AIP	31 OCT 24
←	1:400 000	RWY 20C - ICC ILS/DME	AD-2-WSSS-IAC-6	In AIP	31 OCT 24
←	1:400 000	RWY 20C - VTK DVOR/DME	AD-2-WSSS-IAC-7	In AIP	31 OCT 24
←	1:400 000	RWY 02L - RNP	AD-2-WSSS-IAC-9	In AIP	31 OCT 24
←	1:400 000	RWY 02C - RNP	AD-2-WSSS-IAC-10	In AIP	31 OCT 24
←	1:400 000	RWY 20R - RNP	AD-2-WSSS-IAC-11	In AIP	31 OCT 24
←	1:400 000	RWY 20C - RNP	AD-2-WSSS-IAC-12	In AIP	31 OCT 24
←	1:400 000	RWY 02R - RNP	AD-2-WSSS-IAC-13	In AIP	31 OCT 24
←	1:400 000	RWY 20L - RNP	AD-2-WSSS-IAC-14	In AIP	31 OCT 24
		<b>Paya Lebar</b>			
	1:400 000	RWY 20 - PU DVOR/DME	AD-2-WSAP-IAC-1	In AIP	05 SEP 24
	1:400 000	RWY 02 - PU DVOR/DME	AD-2-WSAP-IAC-2	In AIP	16 MAY 24
	1:400 000	RWY 20 - IPS ILS/DME	AD-2-WSAP-IAC-3	In AIP	05 SEP 24
	1:400 000	RWY 02 - IPN ILS/DME	AD-2-WSAP-IAC-4	In AIP	16 MAY 24
	1:400 000	RWY 02 - RNP	AD-2-WSAP-IAC-5	In AIP	05 SEP 24
	1:400 000	RWY 20 - RNP	AD-2-WSAP-IAC-6	In AIP	05 SEP 24
←	1:400 000	<b>Singapore Changi</b>	AD-2-WSSS-VAC-1	In AIP	31 OCT 24
		<b>Seletar</b>			
	1:100 000	RWY 03	AD-2-WSSL-VAC-1	In AIP	05 SEP 24
	1:100 000	RWY 21	AD-2-WSSL-VAC-2	In AIP	05 SEP 24
	1:100 000	RWY 03	AD-2-WSSL-VAC-3	In AIP	05 SEP 24
	1:100 000	RWY 21	AD-2-WSSL-VAC-4	In AIP	05 SEP 24
<b>Visual Departure Chart</b>		<b>Seletar</b>			
	1:100 000	RWY 03	AD-2-WSSL-VDC-1	In AIP	05 SEP 24
	1:100 000	RWY 21	AD-2-WSSL-VDC-2	In AIP	05 SEP 24
←		<b>Singapore Changi</b>	AD-2-WSSS-ADC-2	In AIP	31 OCT 24
		<b>Seletar</b>	AD-2-WSSL-ADC-1	In AIP	16 MAY 24
		<b>Paya Lebar</b>	AD-2-WSAP-ADC-1	In AIP	16 JUL 20
<b>Aerodrome Obstacle Chart</b> ICAO TYPE A (AOC)		<b>Singapore Changi</b>			
	1:10 000	RWY 20R/02L	AD-2-WSSS-AOC-1	In AIP	08 SEP 22
	1:10 000	RWY 20C/02C	AD-2-WSSS-AOC-2	In AIP	05 SEP 24
	1:10 000	RWY 02R/20L	AD-2-WSSS-AOC-4	In AIP	08 SEP 22
		<b>Seletar</b>			
	1:10 000	RWY 03/21	AD-2-WSSL-AOC-1	In AIP	16 JUL 20
		<b>Paya Lebar</b>			
	1:20 000	RWY 20/02	AD-2-WSAP-AOC-1	In AIP	24 MAR 22
<b>Aerodrome Obstacle Chart</b> ICAO TYPE B (AOC)		<b>Singapore Changi</b>			
	1:20 000	RWY 02L/20R, 02C/20C and RWY 02R/20L	AD-2-WSSS-AOC-3	In AIP	21 MAR 24
		<b>Seletar</b>			
	1:20 000	RWY 03/21	AD-2-WSSL-AOC-2	In AIP	16 JUL 20

**GEN 3.2.5 LIST OF AERONAUTICAL CHARTS AVAILABLE**

<i>Title of Chart Series</i>	<i>Scale</i>	<i>Name and/or number</i>		<i>Price (\$)</i>	<i>Date</i>
<b>Precision Approach Terrain Chart</b> ICAO (PATC)	1:2 500	<b>Singapore Changi</b> RWY 02L	AD-2-WSSSPATC-1	In AIP	10 OCT 19
	1:2 500	RWY 20C	AD-2-WSSSPATC-2	In AIP	11 JUL 24
	1:2 500	RWY 02R	AD-2-WSSSPATC-3	In AIP	31 OCT 24
	1:2 500	RWY 20L	AD-2-WSSSPATC-4	In AIP	31 OCT 24
	1:2 500	RWY 02C	AD-2-WSSSPATC-5	In AIP	11 JUL 24

←  
←

**3.2.6 INDEX TO THE WORLD AERONAUTICAL CHART (WAC) - ICAO 1:1 000 000**



**3.2.7 TOPOGRAPHICAL CHARTS**

NIL

**3.2.8 CORRECTIONS TO CHARTS NOT CONTAINED IN THE AIP**

<b>Identification of charts</b>	<b>Location on the chart where the correction has to be made</b>	<b>Precise details of the corrections to be made</b>
NIL	NIL	NIL



## GEN 4.2 AIR NAVIGATION SERVICES CHARGES

### ← ROUTE AIR NAVIGATION SERVICES (RANS) CHARGES

#### 1 GENERAL

← 1.1 All civil aircraft operating in the following areas of the Jakarta FIR ("airspace concerned") will be levied a RANS charge, collected by the Government of the Republic of Singapore on behalf of and for the Government of the Republic of Indonesia:

The area bounded by 031727N 1052959E 012450N 1061648E 001030N 1045656E 000000N 1050340E 000000N 1044330E thence around the arc of a circle radius 90 NM centred on 011324N 1035124E to 013430N 1022353E 011300N 1033000E 011408N 1033142E 011200N 1033900E 011046N 1034015E 010800N 1034500E 011500N 1040000E 011800N 1043000E 012921N 1043441E 011947N 1044606E 021838N 1052205E 023641N 1051311E 024348N 1050854E 025010N 1051210E 031453N 1052619E 031727N 1052959E

Vertical limit: SFC to FL370 (refer to Chart A at page GEN 4.2-7), excluding the Tanjungpinang Terminal Control Area and Control Zone.

#### ← 2 RANS CHARGES

← 2.1 The formula for computing RANS charges in the airspace concerned is as follows:

RANS Charge = Unit Rate X Route Unit

← (a) The Unit Rate is: US\$0.65

(b) The computation of the Route Unit is as follows:

Route Unit = Distance Factor (DF) X Weight Factor

where

← Distance Factor = Great Circle Distance / 100 KM

← Great Circle Distance below 100KM is computed as 1 Distance Factor

← Weight Factor is based on the Weight Factor Table (refer to GEN 4.2-3).

#### 3 EXEMPTION FROM RANS CHARGES

← 3.1 No charge will be levied for the following types of flights in Table 1 below. Operators should insert "STS/" with the reason for special handling in Item 18 of the ICAO flight plan per Table 1 below.

Table 1: Exemptions from RANS charges

	Types of flights exempted from RANS charges	Indicator of reason for special handling by ATS in Item 18 of ICAO Flight Plan
a.	All non-civil flights	STS/STATE
b.	State aircraft belonging to Republic of Indonesia and Republic of Singapore	STS/STATE
c.	VVIP flights such as aircraft used by a Head of State/Government and his group	STS/HEAD
d.	Aircraft used for search and rescue purposes	STS/SAR
e.	Aircraft which have obtained exemption from the Directorate General of Civil Aviation, Indonesia	STS/DGCA EXR
f.	Aircraft which CAAS exempts from landing charges	STS/CAAS EXR
g.	Aircraft used for natural disaster management.	STS/HUM

3.2 CAAS will not collect RANS charges for all flights between Indonesian airports.

← **4**      **COLLECTION OF RANS CHARGES**

| 4.1      CAAS will collect the RANS charges and remit them to the Directorate General of Civil Aviation, Indonesia.

| ← 4.2      Operators will be billed by CAAS on a monthly basis. Payment must be made to CAAS within 14 days of the date of issuance of the invoice. Payment is to be made in United States Dollars and shall include all bank charges such as agent banks' charges.

← **5**      **PERSON LIABLE TO PAY RANS CHARGES**

← 5.1      The person liable to pay the charges is the operator of the aircraft at the time of the flight concerned. If the operator of the aircraft is not known, the owner of the aircraft shall be liable.

**6**      **QUERIES ON LEVYING/BILLING OF RANS CHARGES**

6.1      Please direct any questions regarding the levying and billing of RANS charges to:

Civil Aviation Authority of Singapore  
Finance Division (Revenue)  
Singapore Changi Airport  
P. O. Box 1  
Singapore 918141

TEL : (65) 65412069 or 65412042  
FAX : (65) 65423952  
EMAIL : [caas\\_collection\\_office@caas.gov.sg](mailto:caas_collection_office@caas.gov.sg)

Chart A - Airspace in the Jakarta FIR where Singapore collects RANS charges on behalf of and for Indonesia  
..... [GEN-4.2-7](#)

**Weight Factor Table**

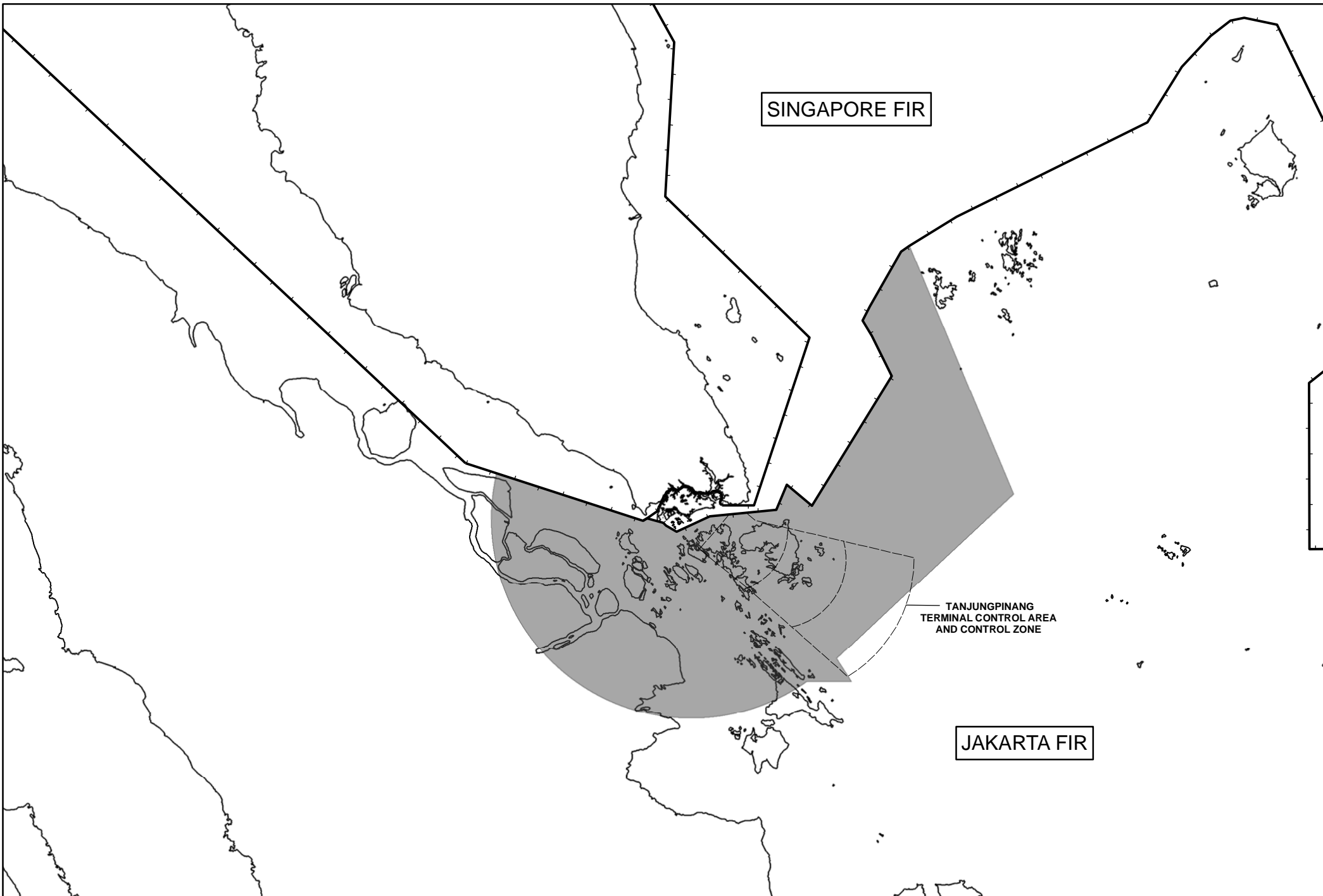
No.	MTOW			Weight Factor
	x 1,000 Kg			
1.	0	-	17.77	10
2.	17.78	-	20.02	11
3.	20.03	-	22.32	12
4.	22.33	-	24.67	13
5.	24.68	-	27.07	14
6.	27.08	-	29.51	15
7.	29.52	-	31.99	16
8.	32.00	-	34.51	17
9.	34.52	-	37.07	18
10.	37.08	-	39.66	19
11.	39.67	-	42.28	20
12.	42.29	-	44.94	21
13.	44.95	-	47.64	22
14.	47.65	-	50.36	23
15.	50.37	-	53.11	24
16.	53.12	-	55.89	25
17.	55.90	-	58.70	26
18.	58.71	-	61.54	27
19.	61.55	-	64.40	28
20.	64.41	-	67.29	29
21.	67.30	-	70.20	30
22.	70.21	-	73.14	31
23.	73.15	-	76.10	32
24.	76.11	-	79.08	33
25.	79.09	-	82.09	34
26.	82.10	-	85.12	35
27.	85.13	-	88.14	36
28.	88.15	-	91.24	37
29.	91.25	-	94.34	38
30.	94.35	-	97.45	39
31.	97.46	-	100.58	40
32.	100.59	-	103.74	41
33.	103.75	-	106.91	42
34.	106.92	-	110.10	43
35.	110.11	-	113.31	44
36.	113.32	-	116.54	45
37.	116.55	-	119.79	46
38.	119.80	-	123.05	47
39.	123.06	-	126.33	48
40.	126.34	-	129.63	49
41.	129.64	-	132.95	50
42.	132.96	-	136.28	51
43.	136.29	-	139.63	52
44.	139.64	-	142.99	53
45.	143.00	-	146.37	54
46.	146.38	-	149.77	55
47.	149.78	-	153.18	56
48.	153.19	-	156.61	57
49.	156.62	-	160.05	58
50.	160.06	-	163.51	59
51.	163.52	-	166.98	60
52.	166.99	-	170.47	61
53.	170.48	-	173.97	62





No.	MTOW			Weight Factor
	x 1,000 Kg			
164.	622.89	-	627.41	173
165.	627.42	-	631.95	174
166.	631.96	-	636.49	175
167.	636.50	-	641.04	176
168.	641.05	-	645.59	177
169.	645.60	-	650.16	178
170.	650.17	-	654.73	179
171.	654.74	-	659.30	180
172.	659.31	-	663.88	181
173.	663.89	-	668.47	182
174.	668.48	-	673.07	183
175.	673.08	-	677.67	184
176.	677.68	-	682.27	185
177.	682.28	-	686.89	186
178.	686.90	-	691.51	187
179.	691.52	-	696.13	188
180.	696.14	-	700.76	189
181.	700.77	-	and so forth	190

# Chart A - Airspace in the Jakarta FIR where Singapore collects RANS charges on behalf of and for Indonesia



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<a href="#">4.4</a>	QUADRANTAL CRUISING LEVELS FOR FLIGHTS BELOW FL200 OPERATING IN UNCONTROLLED AIRSPACE PART OF AIRSPACE WITHIN THE JAKARTA FIR WHERE ATS IS PROVIDED BY SINGAPORE (SEE ENR 2.1) BETWEEN PANGKALPINANG TMA AND PEKANBARU TMA	ENR 1.7-4
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<a href="#">ENR 1.8</a>	REGIONAL SUPPLEMENTARY PROCEDURES	ENR 1.8-1
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<a href="#">1.2</a>	RVSM OPERATIONAL APPROVAL AND MONITORING	ENR 1.8-1
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<a href="#">1.5</a>	SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE	ENR 1.8-2
<a href="#">1.6</a>	PROCEDURES TO MITIGATE WAKE TURBULENCE ENCOUNTERS AND DISTRACTING AIRCRAFT SYSTEM ALERTS IN THE OCEANIC AIRSPACE OF SINGAPORE FIR	ENR 1.8-4
<a href="#">1.7</a>	FLIGHT PLANNING REQUIREMENTS	ENR 1.8-5
<a href="#">1.8</a>	PROCEDURES FOR OPERATION OF NON-RVSM COMPLIANT AIRCRAFT IN RVSM AIRSPACE	ENR 1.8-5
<a href="#">1.9</a>	DELIVERY FLIGHTS FOR AIRCRAFT THAT ARE RVSM COMPLIANT ON DELIVERY	ENR 1.8-5
<a href="#">1.10</a>	PROCEDURES FOR SUSPENSION OF RVSM	ENR 1.8-5
<a href="#">1.11</a>	GUIDANCE FOR PILOTS AND CONTROLLERS FOR ACTIONS IN THE EVENT OF AIRCRAFT SYSTEM MALFUNCTION OR TURBULENCE GREATER THAN MODERATE	ENR 1.8-6
<a href="#">1.12</a>	PROCEDURES FOR AIR-GROUND COMMUNICATION FAILURE	ENR 1.8-6
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<a href="#">2.5</a>	LONGITUDINAL SEPARATION ON ATS ROUTES M758 AND M761	ENR 1.8-13
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<a href="#">5.2</a>	STRATEGIC LATERAL OFFSETS IN EN-ROUTE AIRSPACE	ENR 1.8-18
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<a href="#">6.2</a>	OBTAINING ATC PRIORITY WHEN WEATHER DEVIATION IS REQUIRED	ENR 1.8-19
<a href="#">6.3</a>	ACTIONS TO BE TAKEN WHEN CONTROLLER-PILOT COMMUNICATIONS ARE ESTABLISHED	ENR 1.8-19
<a href="#">6.4</a>	ACTIONS TO BE TAKEN IF A REVISED ATC CLEARANCE CANNOT BE OBTAINED	ENR 1.8-20
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<a href="#">7.1</a>	INTRODUCTION	ENR 1.8-21
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<a href="#">2</a>	ATFM OPERATIONS FOR FLIGHTS ARRIVING AT SINGAPORE CHANGI AIRPORT	ENR 1.9-1
<a href="#">3</a>	ATFM OPERATIONS FOR FLIGHTS PLANNING TO OPERATE WITHIN THE SINGAPORE FIR AND AIRSPACE WHERE ATS IS PROVIDED BY SINGAPORE (SEE ENR 2.1)	ENR 1.9-2
<a href="#">4</a>	SINGAPORE ATFMU CONTACT INFORMATION AND WEB CONFERENCE	ENR 1.9-2
<a href="#">5</a>	BAY OF BENGAL COOPERATIVE ATFM (BOBCAT)	ENR 1.9-2
<a href="#">5.1</a>	INTRODUCTION	ENR 1.9-2
<a href="#">5.2</a>	PROVISION OF ATFM SERVICES	ENR 1.9-2
<a href="#">5.3</a>	ATFM AFFECTED ATS ROUTES, FLIGHT LEVELS AND APPLICABLE HOURS	ENR 1.9-3
<a href="#">5.4</a>	MANDATORY CTOT AND KABUL FIR SLOT ALLOCATION	ENR 1.9-3
<a href="#">5.5</a>	BOBCAT OPERATING PROCEDURES	ENR 1.9-3
<a href="#">5.6</a>	SUBMISSION OF ATS FLIGHT PLAN	ENR 1.9-4
<a href="#">5.7</a>	AIRCRAFT OPERATOR / PILOT-IN-COMMAND AND ANSP RESPONSIBILITIES	ENR 1.9-4
<a href="#">5.8</a>	COORDINATION BETWEEN AIRCRAFT OPERATOR / PILOT-IN-COMMAND, ANSPs AND BANGKOK ATFMU	ENR 1.9-4
<a href="#">5.9</a>	BASIC COMPUTER REQUIREMENT	ENR 1.9-5
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<a href="#">5.11</a>	CONTINGENCY PROCEDURES	ENR 1.9-5
<a href="#">5.12</a>	ATFM SYSTEM FAULT REPORTING	ENR 1.9-5
<a href="#">5.13</a>	ADDRESS OF AIR TRAFFIC FLOW MANAGEMENT UNIT (ATFMU)	ENR 1.9-5

**7.10 CONTINGENCY ROUTES****7.10.1 Between Singapore and Manila FIR**

7.10.1.1 The following table shows the Contingency Routes (CR) Structure, Flight Level Allocation Scheme (FLAS) and Transfer of Control and Communication (TOC) between Singapore and Manila FIR.

CR	ATS Route	Direction	FLAS	ACC	Transfer of Communication (TOC)	Remarks
← CRS-3	N884 (075400N 1122000E - LAXOR)	East	FL310 FL350	Manila ACC	At 075400N 1122000E, contact Manila ACC: - ADS/CPDLC: Logon RPHI - HF: 5655 / 8942 - VHF : 118.9 (LAXOR)	International operators may choose to avoid the Singapore FIR by using alternate ATS routes in other FIRs.
← CRM-3	N884 (LAXOR - LULBU)	East	FL310 FL350 FL390	Singapore ACC	Applicable between 2100-1300 UTC  At LULBU, contact Puerto Princesa Approach 122.0	International operators may choose to avoid the Manila FIR by using alternate ATS routes in other FIRs.  Puerto Princesa Approach Facility Hours of Operations: 2100-1300UTC
	N884 (LAXOR - LEGED)				Applicable between 1300-2100UTC  At LUBAN, contact Clark Tower 118.7	International operators may choose to avoid the Manila FIR by using alternate ATS routes in other FIRs.  Clark Control Tower Hours of Operations: H24
← CRM-4	M767 (TOSOV - TEGID)	West	FL320 FL360 FL400	Singapore ACC	Applicable between 2100-1300UTC  At TOSOV to contact Singapore ATC: - ADS/CPDLC: Logon WSJC - HF: 6556 / 8942	International operators may choose to avoid the Manila FIR by using alternate ATS routes in other FIRs.
	M767 (TELEN - TEGID)				Applicable between 1300-2100UTC  At TELEN to contact Singapore ATC: - ADS/CPDLC: Logon WSJC - HF: 6556 / 8942	
← N/A	M772	N/A	N/A	N/A	Not applicable. M772 will be suspended. No flight planning is allowed.	N/A

7.10.2 **Between Singapore and Ho Chi Minh FIR**

7.10.2.1 The following table shows the Contingency Routes (CR) Structure, Flight Level Allocation Scheme (FLAS) and Transfer of Control and Communication (TOC) between Singapore and Ho Chi Minh FIR.

CR	ATS Route	Direction	FLAS	ACC	Transfer of Communication (TOC)	Remarks
CRS-1	L642 (ESPOB – 060000N 1045600E)	West	FL360 FL400	Ho Chi Minh ACC	At 060000N 1045600E, contact Kuala Lumpur ATC: - VHF: 132.6 - HF: 5655 / 8942	International operators may choose to avoid the Singapore FIR by using alternate ATS routes in other FIRs.
CRS-2	M771 (060000N 1060900E – DUDIS)	East	FL350 FL390	Ho Chi Minh ACC	At 060000N 1060900E, contact Ho Chi Minh ATC: - ADS / CPDLC: Logon VVHM - VHF: 133.05 / 119.35 - HF: 5655 / 8942	International operators may choose to avoid the Singapore FIR by using alternate ATS routes in other FIRs.
CRS-3	N884 (060000N 1095600E – 075400N 1122000E)	East	FL310 FL350	Ho Chi Minh ACC	At 060000N 1095600E, contact Ho Chi Minh ATC: - ADS / CPDLC: Logon VVHM - VHF: 133.05 / 120.7 - HF: 5655 / 8942  At 075400N 1122000E, contact Manila ATC: - ADS / CPDLC: Logon RPHI - VHF: 118.9 (LAXOR) - HF: 5655 / 8942	International operators may choose to avoid the Singapore FIR by using alternate ATS routes in other FIRs.

CR	ATS Route	Direction	FLAS	ACC	Transfer of Communication (TOC)	Remarks
CRS-4	M768 (064600N 1121500E - AKMON )	East	FL330	Ho Chi Minh ACC	At 064600N 1121500E, contact Kota Kinabalu ATC: - ADS / CPDLC: Logon WBFC - VHF: 126.1	International operators may choose to avoid the Singapore FIR by using alternate ATS routes in other FIRs.
		West	FL380	Ho Chi Minh ACC	At 064600N 1121500E, contact Ho Chi Minh ATC: - ADS / CPDLC: Logon VVHM - VHF: 133.05 / 119.35	
CRH-1	N891 (XONAN - IGARI)	North	FL300	Hanoi ACC	At IGARI, contact Hanoi ACC: - VHF: 120.9 / 133.85	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
		South	FL330	Hanoi ACC	At IGARI, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - VHF: 134.9 / 134.35 - HF: 6556 / 8942	
CRH-2	M753 (OSOTA - IPRIX)	North	FL270	Hanoi ACC	At IPRIX, contact Hanoi ACC: - VHF: 120.9	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
		South	FL260	Hanoi ACC	At IPRIX, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - VHF: 134.9 / 134.35 - HF: 6556 / 8942	
CRH-3	R468 / M768 (SAPEN - TSH - AKMON)	East	FL270	Hanoi ACC	At AKMON, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - HF: 6556 / 8942	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
		West	FL380	Hanoi ACC	At AKMON, contact Hanoi ACC: - VHF: 133.05 / 119.35 - HF: 6555 / 8942	
CRH-4	L642 (EXOTO - ESPOB)	West	FL310 FL320 FL390 FL400	Hanoi ACC	At ESPOB, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - VHF: 134.9 / 134.35 - HF: 6556 / 8942	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
CRH-5	M771 (DUDIS - DONDA)	East	FL310 FL320 FL390 FL400	Hanoi ACC	At DUDIS, contact Hanoi ACC: - VHF: 133.05 / 119.35 - HF: 6555 / 8942	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
CRH-6	N892 (MIGUG - MELAS)	West	FL310 FL320 FL390 FL400	Hanoi ACC	At MELAS, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - VHF: 134.9 / 134.35 - HF: 6556 / 8942	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
CRH-7	L625 (AKMON - ARES)	East	FL310 FL320 FL390 FL400	Hanoi ACC	At AKMON, contact Hanoi ACC: - VHF: 133.05 / 119.35 - HF: 6555 / 8942	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.

7.10.3 **Between Singapore and Kota Kinabalu FIR**

7.10.3.1 To be developed

7.10.4 **Between Singapore and Kuala Lumpur FIR**

7.10.4.1 To be developed

**7.11 TRAFFIC INFORMATION BROADCASTS BY AIRCRAFT (TIBA)**

**7.11.1 Introduction and applicability of broadcasts**

7.11.1.1 Traffic information broadcasts by aircraft are intended to permit reports and relevant supplementary information of an advisory nature to be transmitted by pilots on a designated VHF radiotelephone (RTF) frequency for the information of pilots of other aircraft in the vicinity.

7.11.1.2 TIBAs shall be introduced only when necessary and as a temporary measure.

7.11.1.3 The broadcast procedures shall be applied in designated airspace where:

- a. there is a need to supplement collision hazard information provided by air traffic services outside controlled airspace; or
- b. there is a temporary disruption of normal air traffic services.

7.11.1.4 Such airspaces shall be identified by the States responsible for provision of air traffic services within these airspaces, if necessary with the assistance of the appropriate ICAO Regional Office(s), and duly promulgated in aeronautical information publications or NOTAM, together with the VHF RTF frequency, the message formats and the procedures to be used. Where, in the case of paragraph 7.11.1.3 a., more than one State is involved, the airspace should be designated on the basis of regional air navigation agreements and promulgated in Doc 7030.

7.11.1.5 When establishing a designated airspace, dates for the review of its applicability at intervals not exceeding 12 months should be agreed by the appropriate ATS authority(ies).

**7.11.2 Details of broadcasts**

VHF RTF frequency to be used

7.11.2.1 The VHF RTF frequency to be used shall be determined and promulgated on a regional basis. However, in the case of temporary disruption occurring in controlled airspace, the States responsible may promulgate, as the VHF RTF frequency to be used within the limits of that airspace, a frequency used normally for the provision of air traffic control service within that airspace.

7.11.2.2 Where VHF is used for air-ground communications with ATS and an aircraft has only two serviceable VHF sets, one should be tuned to the appropriate ATS frequency and the other to the TIBA frequency.

Listening watch

7.11.2.3 A listening watch shall be maintained on the TIBA frequency 10 minutes before entering the designated airspace until leaving this airspace. For an aircraft taking off from an aerodrome located within the lateral limits of the designated airspace, listening watch should start as soon as appropriate after take-off and be maintained until leaving the airspace.

Time of broadcasts

7.11.2.4 A broadcast shall be made:

- a. 10 minutes before entering the designated airspace or, for a pilot taking off from an aerodrome located within the lateral limits of the designated airspace, as soon as appropriate after take-off;
- b. 10 minutes prior to crossing a reporting point;
- c. 10 minutes prior to crossing or joining an ATS route;
- d. at 20-minute intervals between distant reporting points;
- e. 2 to 5 minutes, where possible, before a change in flight level;
- f. at the time of a change in flight level; and
- g. at any other time considered necessary by the pilot.

Forms of broadcast

- 7.11.2.5 The broadcasts other than those indicating changes in flight level, i.e. the broadcasts referred to in paragraph 7.11.2.4 a., b., c., d. and g., should be in the following form:
- ALL STATIONS (necessary to identify a traffic information broadcast)
- (call sign)
- FLIGHT LEVEL (number) (or CLIMBING\* TO FLIGHT LEVEL (number))
- (direction)
- (ATS route) (or DIRECT FROM (position) TO (position))
- POSITION (position\*\*) AT (time)
- ESTIMATING (next reporting point, or the point of crossing or joining a designated ATS route) AT (time)
- (call sign)
- FLIGHT LEVEL (number) (direction)
- Fictitious example:
- "ALL STATIONS WINDAR 671 FLIGHT LEVEL 350 NORTHWEST BOUND DIRECT FROM PUNTA SAGA TO PAMPA POSITION 5040 SOUTH 2010 EAST AT 2358 ESTIMATING CROSSING ROUTE LIMA THREE ONE AT 4930 SOUTH 1920 EAST AT 0012 WINDAR 671 FLIGHT LEVEL 350 NORTHWEST BOUND OUT"
- 7.11.2.6 Before a change in flight level, the broadcast (referred to in paragraph 7.11.2.4 e.) should be in the following form:
- ALL STATIONS
- (call sign)
- (direction)
- (ATS route) (or DIRECT FROM (position) TO (position))
- LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (position and time)
- 7.11.2.7 Except as provided in paragraph 7.11.2.8, the broadcast at the time of a change in flight level (referred to in paragraph 7.11.2.4 f.) should be in the following form:
- ALL STATIONS
- (call sign)
- (direction)
- (ATS route) (or DIRECT FROM (position) TO (position))
- LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number)  
followed by:
- ALL STATIONS
- (call sign)
- MAINTAINING FLIGHT LEVEL (number)

7.11.2.8 Broadcasts reporting a temporary flight level change to avoid an imminent collision risk should be in the following form:

ALL STATIONS

(call sign)

LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number)  
followed as soon as practicable by:

ALL STATIONS

(call sign)

RETURNING TO FLIGHT LEVEL (number) NOW



## ENR 1.14 AIR TRAFFIC INCIDENTS

### 1 DEFINITION OF AIR TRAFFIC INCIDENTS

- 1.1 An incident is an occurrence other than an accident associated with the operation of an aircraft which affect or could affect the safety of operation.
- 1.2 An incident may be caused by any of the following:
- a. Ground Organisation:
    - i. abnormal function or operation of radio communication or navigational aids, faulty organisation or procedure;
    - ii. personal negligence, incompetence, error or misapplication of procedures or instructions.
  - b. Aircrew - negligence, incompetence, error of judgement, misapplication of procedures or failure to comply with procedures or instructions.
  - c. Aircraft - defects in the aircraft or its equipment.
  - d. Severe meteorological conditions.

### 2 USE OF AIR TRAFFIC INCIDENT REPORTING FORMS

- 2.1 Pilots shall file all incident reports on the "Air Traffic Incident Report Form" (see pages ENR 1.14-3 to ENR 1.14-6) in order to speed up the process of investigation of the various categories of incidents.

### 3 AIR TRAFFIC INCIDENT REPORTING PROCEDURES

- 3.1 A pilot should proceed as follows regarding an incident in which he is or has been involved:
- a. during flight, use the appropriate air/ground frequency for reporting an incident of major significance, particularly if it involves other aircraft, so as to permit the facts to be ascertained immediately;
  - b. as promptly as possible after landing submit a completed "Air Traffic Incident Report Form":
    - i. for confirming a report of an incident made initially as in 3.1 a) above, or for making the initial report on such an incident if it had not been possible to report it by radio;
    - ii. for reporting an incident which did not require immediate notification at the time of occurrence.
- 3.2 An initial report made by radio should contain the following information:
- |   |   |   |
|---|---|---|
| A | - | Type of incident, e.g. near collision.  |
| F | - | Radio call sign of aircraft making report.  |
| J | - | Position, heading or route, true airspeed.  |
| K | - | FL, altitude or height, and aircraft altitude.  |
| L | - | IMC or VMC.   |
| M | - | Time of incident, in UTC.   |
| N | - | Description of other aircraft, if relevant.   |
| O | - | Brief details of incident, including when appropriate, sighting distance and miss distance. |

- 3.3 The confirmatory report on an incident of major significance initially reported by radio or the initial report on any other incident should be submitted to the Aeronautical Information Services located at Passenger Terminal 1, East, 4th Storey, Room 041-52 on the "Air Traffic Incident Report Form." A copy of the incident report form should also be forwarded to the Co-ordination/Investigation Authority as shown in page ENR 1.14-2 para 5 and the operating company or agency concerned.

### 4 INVESTIGATION

- 4.1 All Incident Reports filed will be thoroughly investigated and the complainant will be notified of the results of the investigation as soon as possible.

**5 CO-ORDINATION/INVESTIGATION AUTHORITY**

5.1 Co-ordination/Investigation Authority responsible for the Co-ordination/Investigation of Near Collision/Infringements, ATC Complaints, Fault Reporting and Post-Flight Information Service:

Co-ordination/Investigation Authority	Area Of Responsibility
Director-General of Civil Aviation Civil Aviation Authority of Singapore Singapore Changi Airport P O Box 1 Singapore 918141	Within Singapore FIR and airspace where ATS is provided by Singapore. (Refer to pages ENR 2.1-1 to ENR 2.1-5)

**6 OTHER REPORTS UNDER ICAO INITIATIVE FOR DATA COLLECTION AND ANALYSIS PURPOSES**

6.1 Wake Vortex

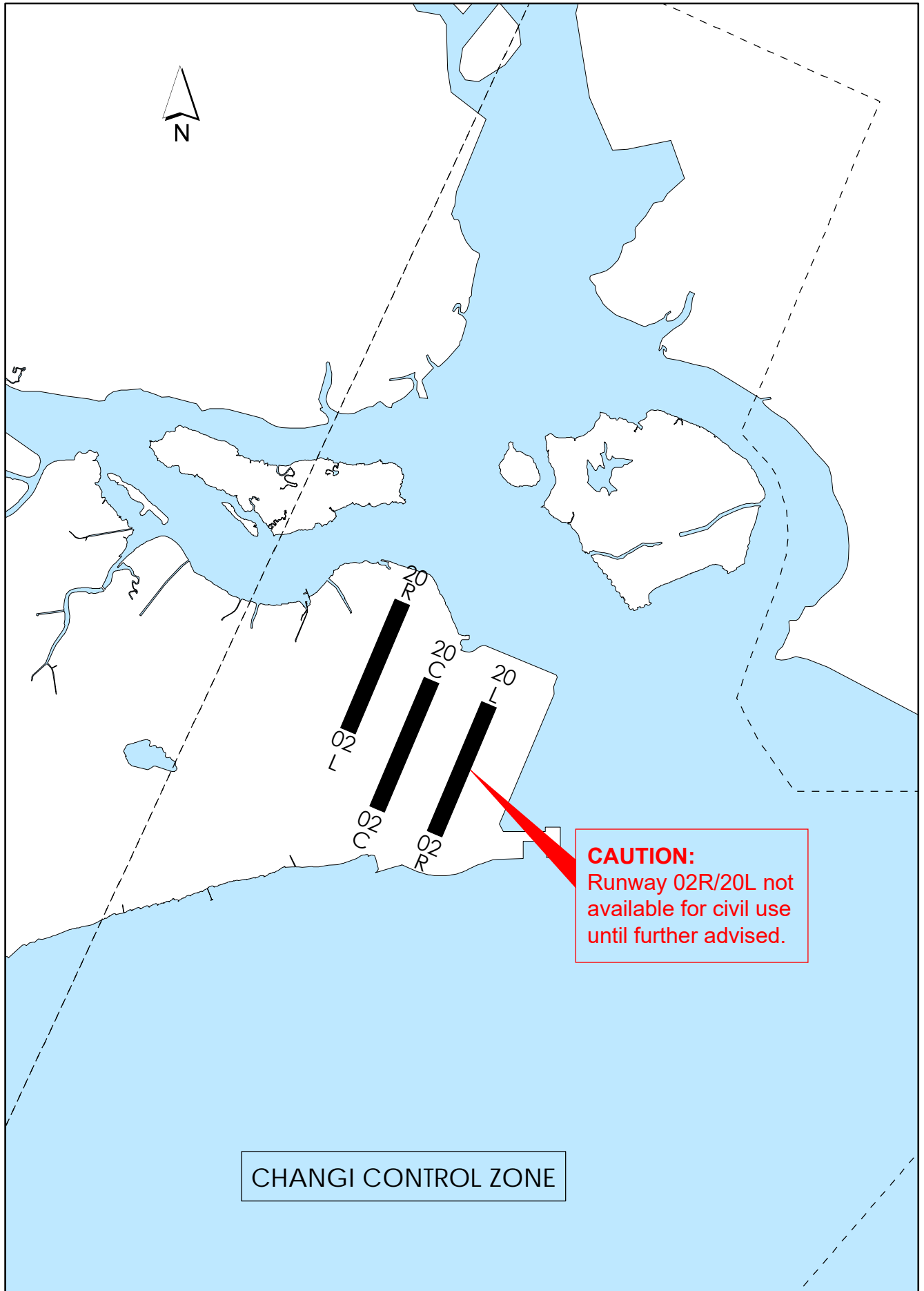
6.1.1 Pilots can submit the report online direct to ICAO at:

<https://portal.icao.int/WTER/Pages/default.aspx>

**← 7 INDEX OF REPORTING FORMS APPENDED TO THIS SECTION**

S/N	Form	Page
1	Air Traffic Incident Report Form	ENR 1.14-3 to ENR 1.14-6

### LOCATIONS OF RUNWAY 02L/20R, RUNWAY 02C/20C AND RUNWAY 02R/20L AT WSSS



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AERODROME CHART - ICAO

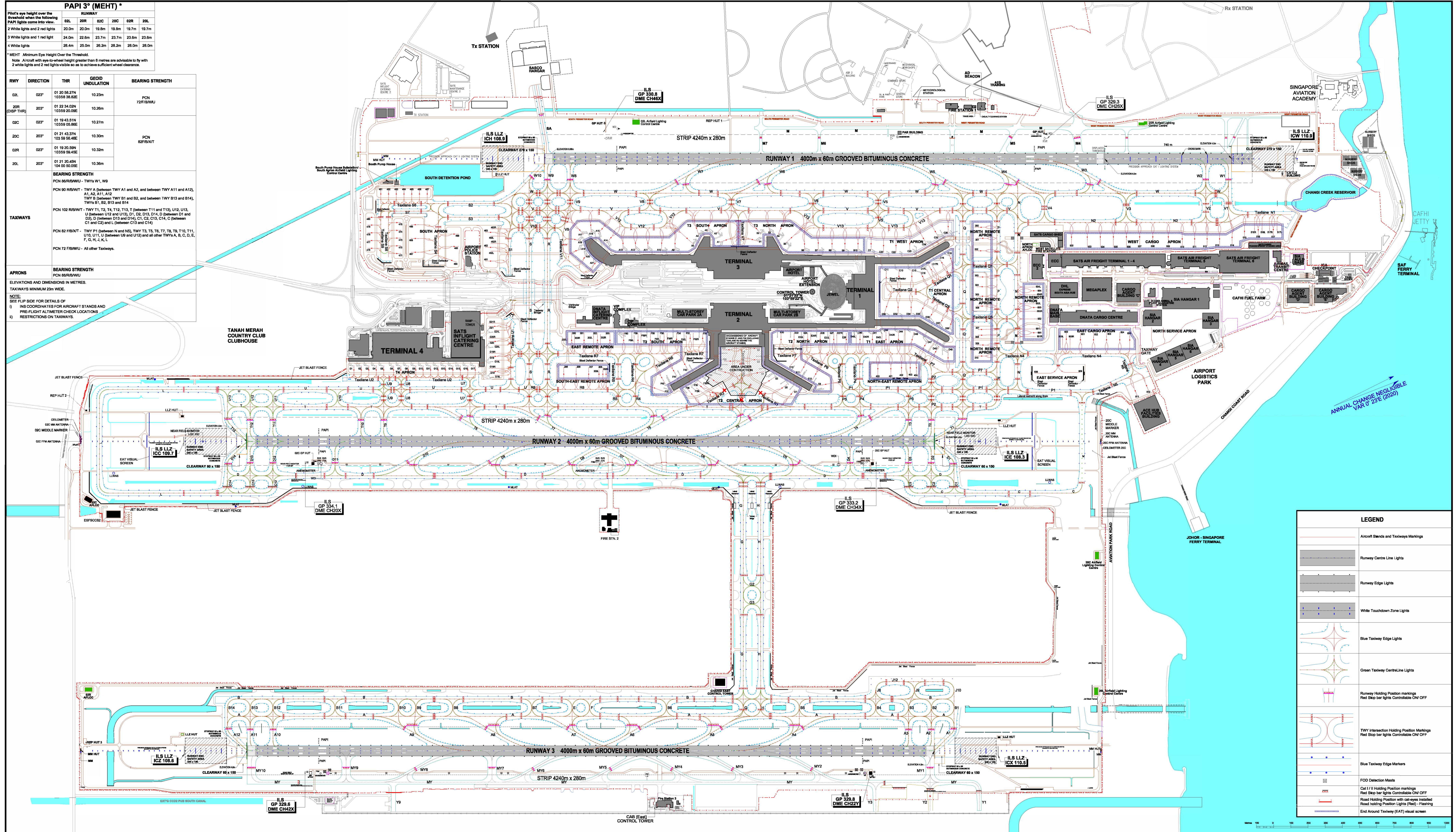
01 21° 33'N  
103° 59' 22'E

AERODROME ELEVATION 6.66m

TWR 118.6 / 118.25 / 131.4  
GND 124.3 / 121.85 / 121.725 / 127.275  
DELIVERY 121.65 / 119.6

RAMP TWR 122.55 (GMC 4 EAST)  
GND 125.65 (GMC 4 WEST)

SINGAPORE/SINGAPORE CHANGI



INS COORDINATES FOR AIRCRAFT STANDS AND PRE-FLIGHT ALTIMETER CHECK LOCATIONS

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION	
T3 SOUTH APRON	A1	01 21 21.52	103 59 06.25	4.75m (15.58ft)	
	A2	01 21 21.75	103 59 04.00	4.65m (15.26ft)	
	A3	01 21 19.86	103 59 02.79	4.68m (15.29ft)	
	A4	01 21 17.61	103 59 02.54	4.79m (15.72ft)	
	A5	01 21 15.50	103 59 03.62	4.86m (15.94ft)	
	A9	01 21 12.56	103 59 03.65	5.02m (16.47ft)	
	A10	01 21 10.34	103 59 02.40	5.04m (16.54ft)	
	A11	01 21 07.93	103 59 01.41	5.25m (17.22ft)	
	A12	01 21 05.76	103 59 00.49	5.38m (17.65ft)	
	A13	01 21 03.59	103 58 59.58	5.48m (17.98ft)	
	A14	01 21 01.66	103 58 57.59	5.57m (18.27ft)	
	A15	01 21 00.77	103 58 55.41	5.48m (17.91ft)	
	A16	01 20 59.27	103 58 54.20	5.51m (18.08ft)	
	A17	01 20 57.25	103 58 54.06	5.23m (17.16ft)	
	A18	01 20 55.87	103 58 55.25	5.37m (17.62ft)	
	A19	01 20 55.26	103 58 57.13	5.40m (17.72ft)	
	A20	01 20 56.09	103 58 58.83	5.45m (17.88ft)	
	A21	01 20 57.10	103 59 00.80	5.49m (18.01ft)	
	T3 NORTH APRON	B1	01 21 26.86	103 59 08.37	4.82m (15.81ft)
B2		01 21 28.18	103 59 06.82	4.68m (15.35ft)	
B3		01 21 30.33	103 59 07.30	4.65m (15.26ft)	
B4		01 21 30.63	103 59 08.60	4.75m (15.58ft)	
B5		01 21 32.98	103 59 10.89	4.80m (15.75ft)	
B6		01 21 35.15	103 59 13.16	4.96m (16.27ft)	
B7		01 21 37.65	103 59 13.93	4.97m (16.31ft)	
B8		01 21 39.94	103 59 15.20	5.13m (16.83ft)	
B9		01 21 42.19	103 59 16.16	5.13m (16.83ft)	
B10		01 21 44.47	103 59 17.12	5.15m (16.90ft)	
T1 WEST APRON	C1	01 21 46.75	103 59 18.08	5.09m (16.70ft)	
	C20	01 21 48.83	103 59 19.23	5.09m (16.67ft)	
	C22	01 21 51.00	103 59 20.13	5.15m (16.90ft)	
	C23	01 21 53.56	103 59 20.77	5.08m (16.67ft)	
	C24	01 21 56.54	103 59 20.97	4.89m (16.04ft)	
	C25	01 21 58.12	103 59 20.59	4.89m (16.04ft)	
C26	01 22 01.48	103 59 20.76	5.01m (16.44ft)		
T1 CENTRAL APRON	C11	01 21 47.42	103 59 23.82	5.09m (16.70ft)	
	C13	01 21 49.63	103 59 24.75	5.03m (16.50ft)	
	C15	01 21 51.89	103 59 25.70	5.08m (16.60ft)	
	C16	01 21 53.47	103 59 26.62	4.88m (15.98ft)	
	C17	01 21 55.50	103 59 26.20	5.01m (16.44ft)	
	C17L	01 21 54.75	103 59 26.22	4.96m (16.27ft)	
	C17R	01 21 56.01	103 59 25.68	5.12m (16.80ft)	
	C18	01 21 57.86	103 59 25.75	4.99m (16.37ft)	
	C19	01 21 59.79	103 59 25.63	4.95m (16.24ft)	
	D30	01 21 44.54	103 59 30.14	5.08m (16.67ft)	
	D32	01 21 46.75	103 59 31.08	5.08m (16.67ft)	
	D34	01 21 49.03	103 59 32.04	5.07m (16.63ft)	
	D35	01 21 50.87	103 59 32.82	5.02m (16.47ft)	
	D36	01 21 51.98	103 59 34.52	5.08m (16.60ft)	
	D37	01 21 53.37	103 59 36.28	4.97m (16.31ft)	
	D38	01 21 54.58	103 59 37.77	4.99m (16.37ft)	
	T1 EAST APRON	D40	01 21 38.13	103 59 32.89	5.11m (16.77ft)
		D40L	01 21 37.38	103 59 32.83	5.09m (16.70ft)
		D40R	01 21 38.77	103 59 32.84	5.13m (16.83ft)
D41		01 21 40.30	103 59 33.81	5.07m (16.63ft)	
D42		01 21 42.77	103 59 34.58	5.15m (16.89ft)	
D42L		01 21 42.00	103 59 34.47	5.12m (16.79ft)	
D42R		01 21 43.45	103 59 34.44	5.21m (17.09ft)	
D44		01 21 44.97	103 59 35.44	5.14m (16.86ft)	
D46		01 21 47.40	103 59 36.72	5.08m (16.67ft)	
D47		01 21 49.19	103 59 38.89	4.93m (16.17ft)	
D48		01 21 50.60	103 59 40.77	4.97m (16.31ft)	
D49		01 21 52.23	103 59 42.35	4.98m (16.34ft)	
T2 NORTH APRON		E8	01 21 27.99	103 59 38.45	4.68m (15.35ft)
		E10	01 21 24.12	103 59 32.64	4.75m (15.58ft)
		E11	01 21 25.57	103 59 34.37	4.78m (15.68ft)
		E12	01 21 27.20	103 59 36.42	4.75m (15.58ft)
		E20	01 21 24.36	103 59 27.08	5.04m (16.54ft)
		E22	01 21 26.64	103 59 28.04	5.07m (16.63ft)
		E24	01 21 29.01	103 59 29.06	5.09m (16.70ft)
	E24L	01 21 28.32	103 59 28.77	5.10m (16.73ft)	
	E24R	01 21 29.53	103 59 29.28	5.08m (16.67ft)	
	E26	01 21 31.19	103 59 29.96	5.08m (16.67ft)	
E27	01 21 33.56	103 59 30.96	5.07m (16.62ft)		
E27L	01 21 32.79	103 59 30.86	5.03m (16.48ft)		
E27R	01 21 34.20	103 59 30.91	5.12m (16.80ft)		
E28	01 21 35.74	103 59 31.89	5.08m (16.67ft)		

INS COORDINATES FOR AIRCRAFT STANDS AND PRE-FLIGHT ALTIMETER CHECK LOCATIONS

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION	
T2 CENTRAL APRON	E2	01 21 19.28	103 59 27.30	4.90m (16.08ft)	
	E3	01 21 18.44	103 59 29.27	4.82m (15.81ft)	
	E4	01 21 18.10	103 59 31.70	4.80m (15.75ft)	
	E5	01 21 19.56	103 59 33.72	4.90m (16.08ft)	
	E6	01 21 21.22	103 59 35.93	4.84m (15.88ft)	
	E7	01 21 22.48	103 59 37.46	4.73m (15.52ft)	
	F31	01 21 13.87	103 59 25.20	4.91m (16.11ft)	
	F32	01 21 13.03	103 59 27.36	4.85m (15.91ft)	
	F33	01 21 11.30	103 59 28.54	4.91m (16.11ft)	
	F34	01 21 08.98	103 59 28.96	4.92m (16.14ft)	
	F35	01 21 06.60	103 59 29.55	4.91m (16.11ft)	
	F35L	01 21 06.06	103 59 30.13	4.74m (15.55ft)	
	F35R	01 21 06.96	103 59 29.05	5.04m (16.54ft)	
F36	01 21 04.34	103 59 29.67	4.82m (15.81ft)		
T2 SOUTH APRON	F37	01 20 59.83	103 59 27.87	4.75m (15.58ft)	
	F40	01 21 05.82	103 59 25.34	4.85m (15.91ft)	
	F41	01 21 03.19	103 59 25.58	4.82m (15.81ft)	
	F42	01 21 00.61	103 59 25.96	4.72m (15.49ft)	
	F50	01 21 10.69	103 59 21.32	5.03m (16.50ft)	
	F52	01 21 09.51	103 59 20.40	5.11m (16.77ft)	
	F52L	01 21 07.82	103 59 20.11	5.16m (16.93ft)	
	F52R	01 21 09.04	103 59 20.62	5.08m (16.67ft)	
	F54	01 21 06.14	103 59 19.40	5.22m (17.13ft)	
	F56	01 21 03.96	103 59 18.48	5.30m (17.39ft)	
	F56L	01 21 03.27	103 59 18.18	5.42m (17.78ft)	
	F56R	01 21 04.49	103 59 18.70	5.34m (17.52ft)	
	F59	01 20 59.41	103 59 17.47	5.49m (18.01ft)	
F59L	01 20 58.72	103 59 16.26	5.67m (18.60ft)		
F59R	01 20 59.03	103 59 16.78	5.60m (18.37ft)		
F60	01 20 56.91	103 59 15.50	5.77m (18.93ft)		
EAST REMOTE APRON	200	01 20 47.83	103 59 11.67	6.23m (20.44ft)	
	200L	01 20 46.91	103 59 11.92	6.28m (20.64ft)	
	200R	01 20 48.35	103 59 11.89	6.18m (20.28ft)	
	201	01 20 49.99	103 59 12.62	5.96m (19.55ft)	
	202	01 20 52.34	103 59 13.57	5.94m (19.49ft)	
	202L	01 20 51.65	103 59 13.28	5.76m (18.90ft)	
	202R	01 20 52.87	103 59 13.79	5.73m (18.80ft)	
	203	01 20 54.52	103 59 14.47	5.92m (19.42ft)	
	SOUTH-EAST REMOTE APRON	205	01 20 43.91	103 59 17.06	4.77m (15.65ft)
		206	01 20 46.08	103 59 17.98	4.76m (15.62ft)
		207	01 20 48.21	103 59 19.01	4.74m (15.55ft)
		208	01 20 50.68	103 59 20.05	4.75m (15.58ft)
		208L	01 20 50.01	103 59 19.76	4.74m (15.55ft)
208R		01 20 51.25	103 59 20.29	4.73m (15.42ft)	
NORTH REMOTE APRON		300	01 22 06.95	103 59 22.67	4.53m (14.86ft)
		301	01 22 06.41	103 59 24.69	4.93m (16.17ft)
		302	01 22 05.21	103 59 26.75	4.97m (16.31ft)
		303	01 22 03.55	103 59 31.40	5.32m (17.45ft)
	304	01 22 02.84	103 59 33.06	5.35m (17.55ft)	
	305	01 22 02.14	103 59 34.71	5.30m (17.39ft)	
	306	01 22 01.41	103 59 36.42	5.16m (16.93ft)	
	307	01 21 59.39	103 59 40.36	5.16m (16.93ft)	
	308	01 21 58.96	103 59 41.35	5.10m (16.73ft)	
	309	01 21 58.52	103 59 43.17	5.05m (16.60ft)	
	310	01 21 57.42	103 59 44.96	4.74m (15.55ft)	
	951	01 22 09.35	103 59 45.23	5.15m (16.90ft)	
	951L	01 22 08.91	103 59 44.27	5.00m (16.40ft)	
951R	01 22 08.35	103 59 45.58	5.00m (16.40ft)		
952	01 22 09.94	103 59 42.65	4.89m (16.04ft)		
953	01 22 11.22	103 59 40.85	4.98m (16.34ft)		
953L	01 22 10.78	103 59 39.89	4.83m (15.85ft)		
953R	01 22 10.41	103 59 41.28	4.87m (15.98ft)		
954	01 22 12.46	103 59 37.95	4.94m (16.21ft)		
954L	01 22 12.02	103 59 38.99	4.70m (15.42ft)		
954R	01 22 11.65	103 59 38.38	4.74m (15.55ft)		
NORTH-EAST REMOTE APRON	400	01 21 38.71	103 59 40.14	4.31m (14.14ft)	
	401	01 21 40.98	103 59 41.10	4.31m (14.14ft)	
	402	01 21 42.85	103 59 41.99	4.30m (14.11ft)	
	403	01 21 44.37	103 59 42.53	4.29m (14.07ft)	
	404	01 21 45.45	103 59 42.98	4.20m (13.78ft)	

INS COORDINATES FOR AIRCRAFT STANDS AND PRE-FLIGHT ALTIMETER CHECK LOCATIONS

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION	
WEST CARGO APRON	502	01 22 22.23	103 59 31.62	4.35m (14.27ft)	
	503	01 22 24.98	103 59 32.78	4.29m (14.07ft)	
	504	01 22 27.26	103 59 33.74	4.29m (14.07ft)	
	505	01 22 29.54	103 59 34.70	4.32m (14.17ft)	
	506	01 22 31.81	103 59 35.66	4.38m (14.37ft)	
	507	01 22 34.11	103 59 36.64	4.36m (14.30ft)	
	508	01 22 36.41	103 59 37.61	4.29m (14.07ft)	
	509	01 22 39.12	103 59 38.76	4.09m (13.42ft)	
	510	01 22 41.37	103 59 40.18	4.19m (13.75ft)	
	511	01 22 43.64	103 59 41.09	4.22m (13.85ft)	
	512	01 22 45.71	103 59 42.01	4.24m (13.91ft)	
	513	01 22 47.89	103 59 42.92	4.26m (13.98ft)	
	514	01 22 50.19	103 59 43.54	4.36m (14.30ft)	
	515	01 22 52.90	103 59 43.20	4.09m (13.43ft)	
	516	01 22 55.39	103 59 43.97	4.04m (13.26ft)	
	516L	01 22 56.24	103 59 43.89	3.96m (12.98ft)	
	516R	01 22 54.93	103 59 43.25	3.95m (12.97ft)	
	517	01 22 58.02	103 59 45.08	4.05m (13.27ft)	
	517L	01 22 58.83	103 59 44.99	3.98m (13.05ft)	
517R	01 22 57.55	103 59 44.35	3.96m (12.98ft)		
EAST CARGO APRON	600	01 22 14.12	103 59 48.10	4.25m (13.94ft)	
	600L	01 22 13.28	103 59 48.27	4.22m (13.83ft)	
	600R	01 22 14.58	103 59 48.81	4.15m (13.60ft)	
	601	01 22 16.52	103 59 49.87	4.27m (14.01ft)	
	602	01 22 18.80	103 59 50.23	4.30m (14.11ft)	
	603	01 22 21.15	103 59 51.02	4.28m (14.07ft)	
	604	01 22 23.46	103 59 51.99	4.31m (14.14ft)	
	605	01 22 25.19	103 59 52.75	4.27m (14.01ft)	
	EAST SERVICE APRON	606	01 22 10.00	103 59 55.53	2.43m (7.97ft)
		609	01 22 12.95	103 59 52.04	2.91m (9.55ft)
610		01 22 15.90	103 59 50.23	2.91m (9.55ft)	
ACEHUB	611	01 22 22.14	104 00 02.87	4.01m (13.16ft)	
	612	01 22 24.50	104 00 02.87	3.91m (12.83ft)	
SOUTH APRON	461	01 20 38.87	103 58 52.75	5.28m (17.32ft)	
	462	01 20 40.69	103 58 50.37	5.75m (18.86ft)	
	462L	01 20 40.41	103 58 51.02	5.48m (17.98ft)	
	462R	01 20 40.97	103 58 49.71	5.71m (18.73ft)	
	463	01 20 41.80	103 58 47.76	5.97m (19.58ft)	

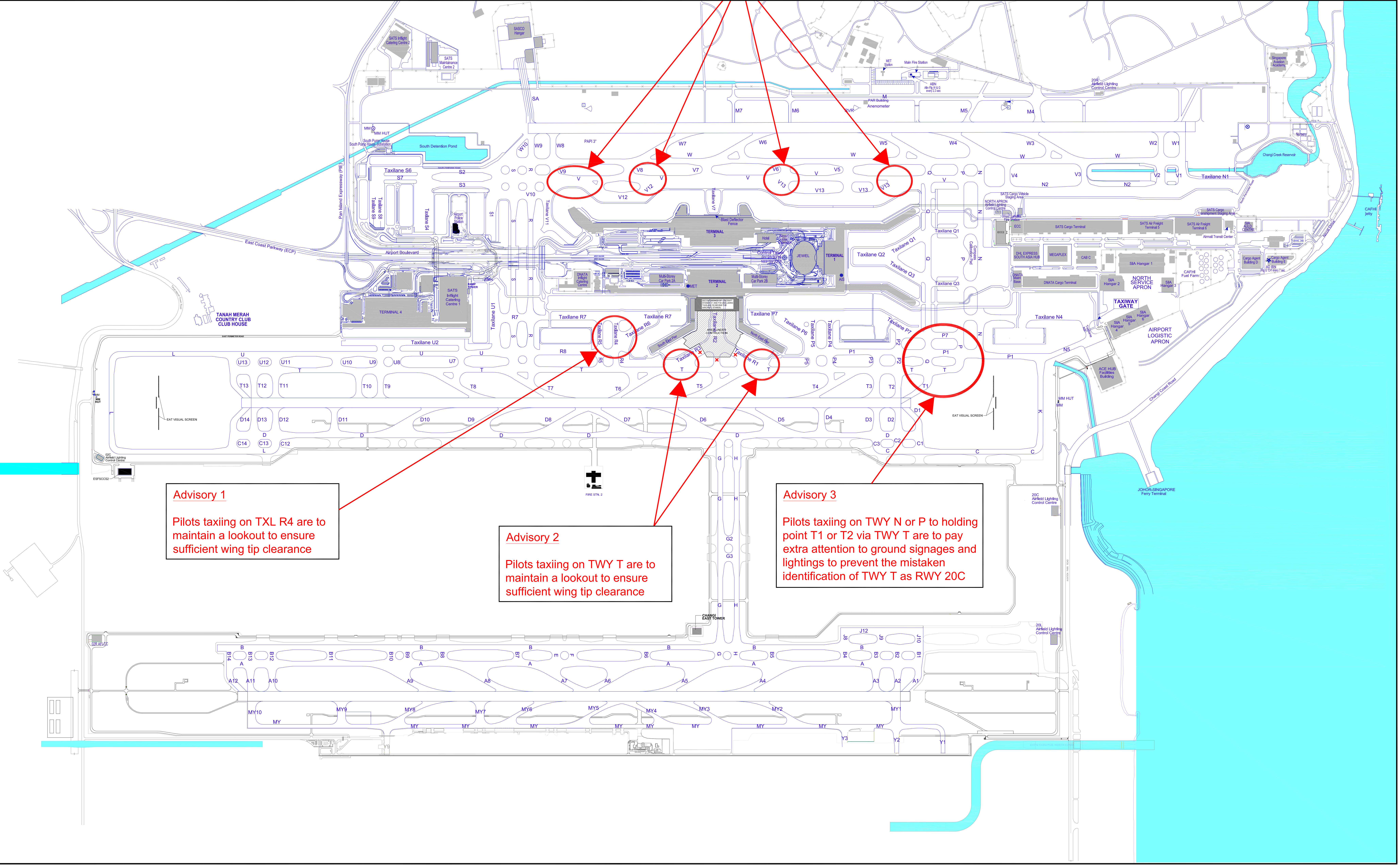
# AERODROME ADVISORY CHART

**Advisory 4**  
Pilots taxiing on TWY V are to maintain a lookout to ensure sufficient wing tip clearance

**Advisory 1**  
Pilots taxiing on TXL R4 are to maintain a lookout to ensure sufficient wing tip clearance

**Advisory 2**  
Pilots taxiing on TWY T are to maintain a lookout to ensure sufficient wing tip clearance

**Advisory 3**  
Pilots taxiing on TWY N or P to holding point T1 or T2 via TWY T are to pay extra attention to ground signages and lightings to prevent the mistaken identification of TWY T as RWY 20C



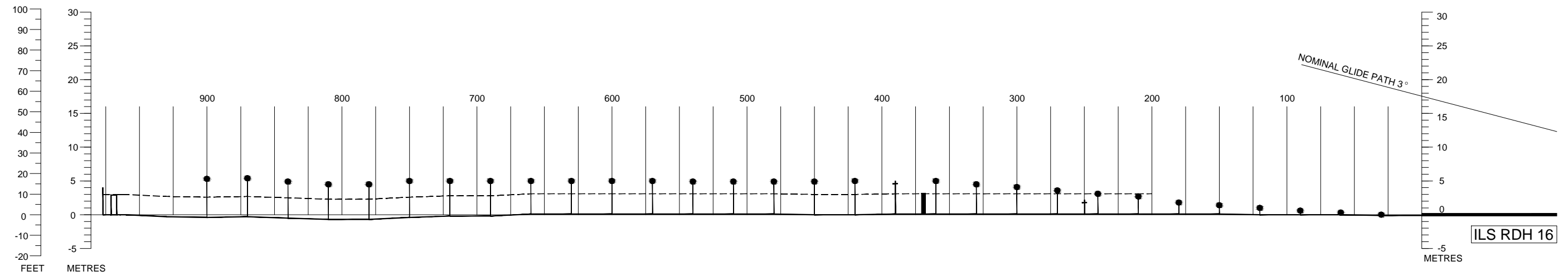
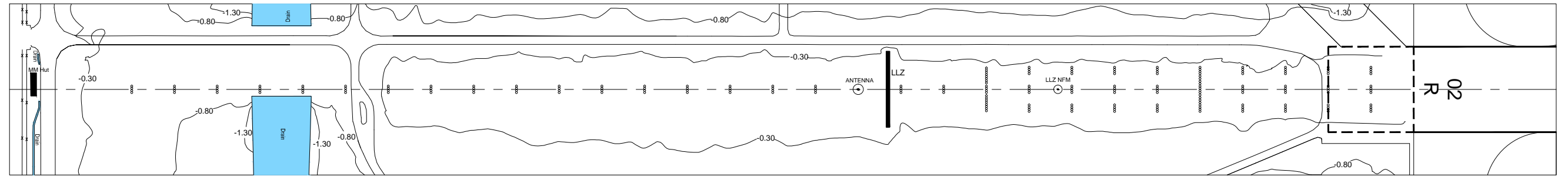
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DISTANCES AND HEIGHTS IN METRES

PRECISION APPROACH TERRAIN CHART - ICAO

SINGAPORE/Singapore Changi  
RWY 02R

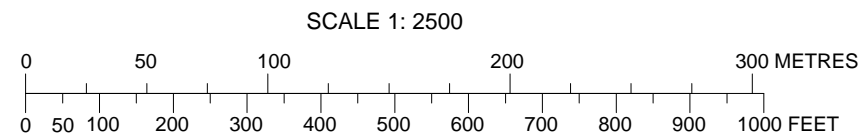


**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

HORIZONTAL SCALE 1 : 2500

VERTICAL SCALE 1 : 500

CONTOUR AND HEIGHTS ARE RELATED TO ELEVATION OF RWY THR



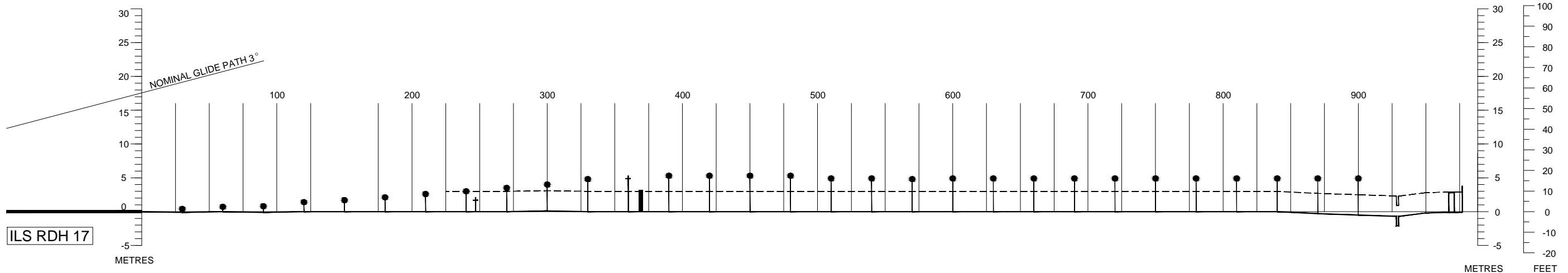
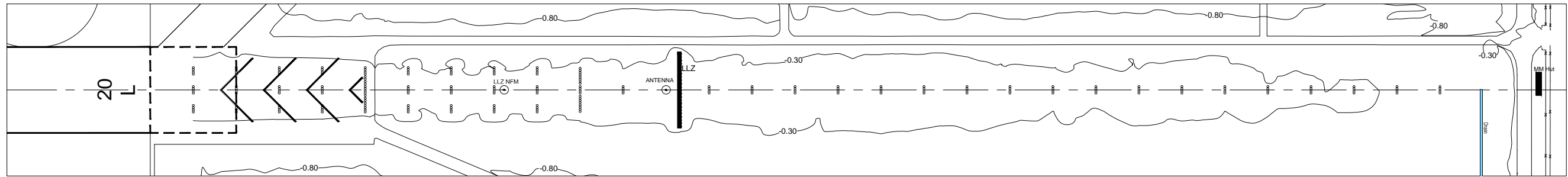
LEGEND		
ANTENNA		⊕ ↑
LOCALISER		LLZ
DRAIN		Blue shaded area
FENCE		-x-x-
CONTOUR		~1.30~
PRECISION APPROACH LIGHT		○ ●
ROAD		==
BUILDING		Black rectangle
CENTRE-LINE PROFILE		—
DEVIATION AT LEAST +/- 3M FROM CENTRE-LINE PROFILE		- - - -
AMENDMENT RECORD		
NO.	DATE	ENTERED BY

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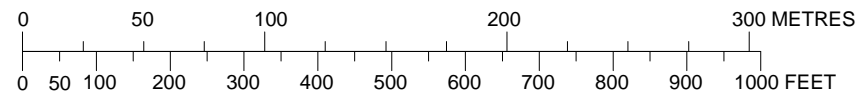
DISTANCES AND HEIGHTS IN METRES

PRECISION APPROACH TERRAIN CHART - ICAO

SINGAPORE/Singapore Changi  
RWY 20L



SCALE 1: 2500



**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

HORIZONTAL SCALE 1 : 2500

VERTICAL SCALE 1 : 500

CONTOUR AND HEIGHTS ARE RELATED TO ELEVATION OF RWY THR

LEGEND		
ANTENNA		
LOCALISER		
BUILDING		
DRAIN		
FENCE		
CONTOUR		
APPROACH LIGHT		
ROAD		
CENTRE-LINE PROFILE		
DEVIATION AT LEAST +/- 3M FROM CENTRE-LINE PROFILE		
AMENDMENT RECORD		
NO.	DATE	ENTERED BY

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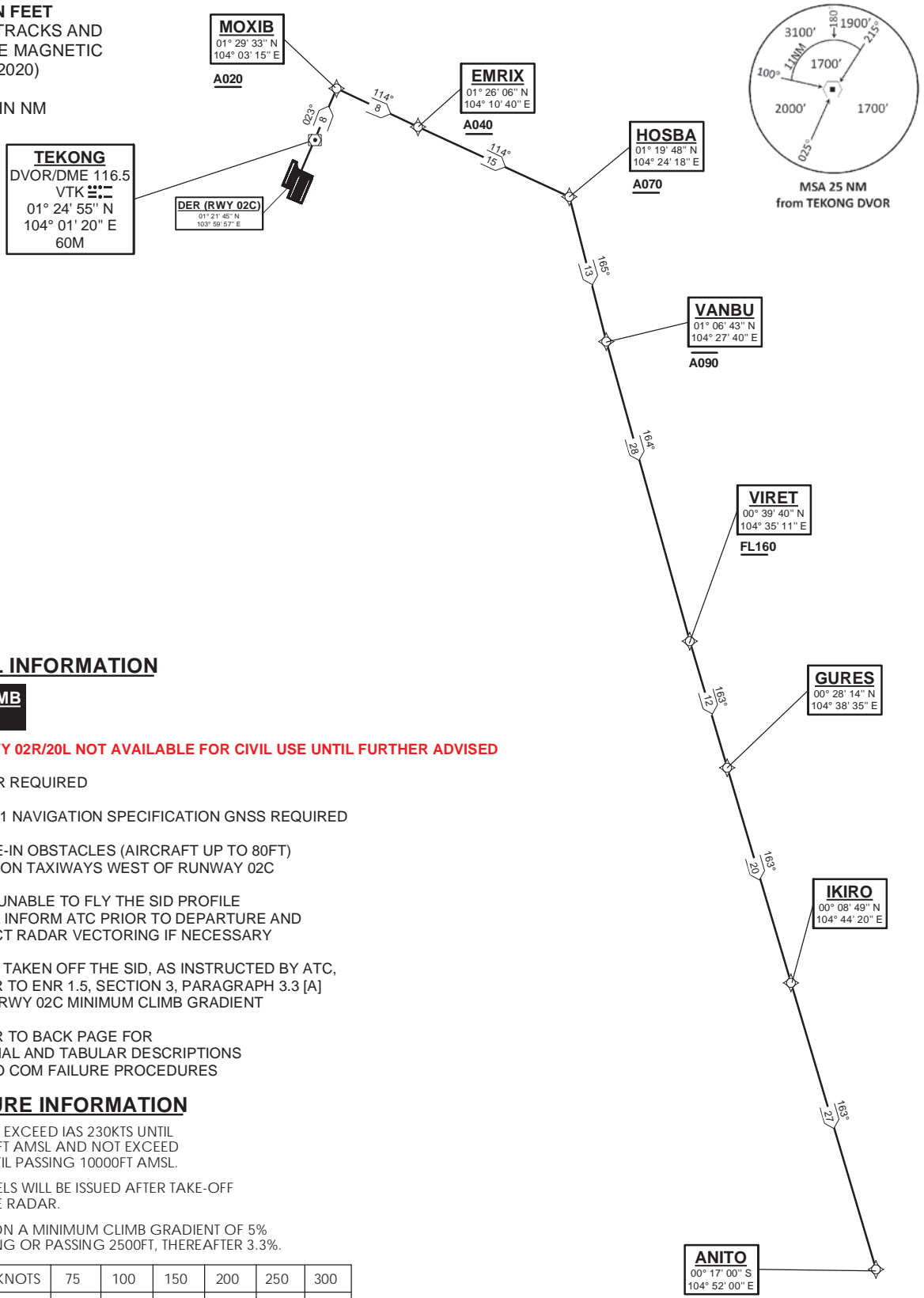
**STANDARD DEPARTURE CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (SID)**

TWR 118.6 / 118.25 APP 120.3 124.05 ACC 134.4	TRANSITION ALTITUDE 11 000ft
	D-ATIS AP ID-WSSS 128.6

**SINGAPORE/Singapore Changi**  
**RWY 02C**  
**ANITO DEPARTURES**  
**ANITO 7A**

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

DISTANCES IN NM



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

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

**ANITO 7A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS**

**Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOXIB on course 023° at or above 2000ft, turn right.	MOXIB [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn right.	HOSBA [A070+; R] -	TF	N
To VANBU at or below 9000ft, turn left.	VANBU [A090-; L] -	TF	N
To VIRET at or above FL160, turn left.	VIRET [FL160+; L] -	TF	N
To GURES.	GURES -	TF	N
To IKIRO.	IKIRO -	TF	N
To ANITO.	ANITO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOXIB	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	8.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	R	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	L	A090-	-	RNAV1
TF	VIRET	-	164(164.4)	28.0	L	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	-	-	-	RNAV1
TF	IKIRO	-	163(163.4)	20.0	-	-	-	RNAV1
TF	KIRDA	-	163(163.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25 APP 120.3 124.05 ACC 134.4	TRANSITION ALTITUDE 11 000ft
	D-ATIS AP ID-WSSS 128.6

**SINGAPORE/Singapore Changi**  
**RWY 20C**  
**ANITO DEPARTURES**  
**ANITO 8B**

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

DISTANCES IN NM

**DER (RWY 20C)**  
01° 19' 42" N  
103° 59' 05" E

**IBIXU**  
01° 16' 21" N  
103° 57' 40" E  
A015

**IBIVA**  
01° 13' 51" N  
103° 56' 37" E  
A025

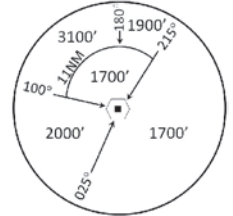
**ISNOM**  
01° 06' 29" N  
103° 58' 26" E  
A040

**UPTEL**  
00° 59' 25" N  
104° 07' 30" E  
A060

**ASOMI**  
01° 01' 42" N  
104° 02' 07" E

**IDKIV**  
00° 56' 52" N  
104° 13' 33" E

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



MSA 25 NM  
from TEKONG DVOR

**GIXEM**  
00° 49' 20" N  
104° 25' 39" E

**VASTI**  
00° 43' 20" N  
104° 34' 06" E

**VIRET**  
00° 39' 40" N  
104° 35' 11" E  
FL160

**GURES**  
00° 28' 14" N  
104° 38' 35" E

**IKIRO**  
00° 08' 49" N  
104° 44' 20" E

**ANITO**  
00° 17' 00" S  
104° 52' 00" E

**GENERAL INFORMATION**

**INITIAL CLIMB**  
3000FT

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORED IF NECESSARY**

**NOTE: WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.1 - FOR RWY 20C MINIMUM CLIMB GRADIENT**

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

**PROCEDURE INFORMATION**

SID 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	1063	1418	1772	2127
3.3% V/V (fpm)	251	334	501	668	835	1003

NOT TO SCALE

### ANITO 8B (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.	IBIXU [M203; A015+] -	CF	N
To IBIVA at or above 2500ft, turn left.	IBIVA [A025+; L] -	TF	N
To ISNOM at or above 4000ft, turn left.	ISNOM [A040+; L] -	TF	N
To ASOMI, turn left.	ASOMI [L] -	TF	N
To UPTTEL at 6000ft.	UPTTEL [@A060] -	TF	N
To IDKIV, turn right.	IDKIV [R] -	TF	N
To GIXEM, turn right.	GIXEM [R] -	TF	N
To VASTI, turn right.	VASTI [R] -	TF	N
To VIRET at or above FL160.	VIRET [FL160+] -	TF	N
To GURES.	GURES -	TF	N
To IKIRO.	IKIRO -	TF	N
To ANITO.	ANITO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(203.4)	4.0	-	A015+	-	RNAV1
TF	IBIVA	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	ISNOM	-	166(166.4)	8.0	L	A040+	-	RNAV1
TF	ASOMI	-	142(142.4)	6.0	L	-	-	RNAV1
TF	UPTTEL	-	112(112.4)	6.0	-	@A060	-	RNAV1
TF	IDKIV	-	112(112.4)	7.0	R	-	-	RNAV1
TF	GIXEM	-	121(121.4)	14.0	R	-	-	RNAV1
TF	VASTI	-	125(125.4)	10.0	R	-	-	RNAV1
TF	VIRET	-	163(163.4)	4.0	-	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	-	-	-	RNAV1
TF	IKIRO	-	163(163.4)	20.0	-	-	-	RNAV1
TF	ANITO	-	163(163.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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



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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.4


TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02R**  
**ANITO DEPARTURES (RADAR)**  
**ANITO 1C**

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

DISTANCES IN NM

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

**DER (RWY02R)**  
01°21'22"N  
104°00'51"E

**HOSBA**  
01°19'48"N  
104°24'18"E  
**A070**

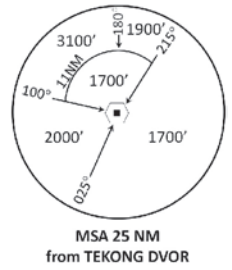
**VANBU**  
01°06'43"N  
104°27'40"E  
**A090**

**VIRET**  
00°39'40"N  
104°35'11"E  
**FL160**

**GURES**  
00°28'14"N  
104°38'35"E

**IKIRO**  
00°08'49"N  
104°44'20"E

**ANITO**  
00°17'00"S  
104°52'00"E



**EXPECT RADAR vectors to waypoint HOSBA**

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.5 - FOR RWY 02R MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

## ANITO 1C (SID) RNAV GNSS RWY 02R - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
Climb heading 023°, Gradient 5% to 2500ft, thence 3.3%. Expect radar vectors to waypoint HOSBA.	-	VA	N
To HOSBA at or above 7000ft.	HOSBA [A070+] -	DF	N
To VANBU at or below 9000ft, turn left.	VANBU [A090-; L] -	TF	N
To VIRET at or above FL160, turn left.	VIRET [FL160+; L] -	TF	N
To GURES.	GURES -	TF	N
To IKIRO.	IKIRO -	TF	N
To ANITO.	ANITO	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
VA	-	-	023(023.4)	-	-	A030	-	-
DF	HOSBA	-	-	-	-	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	L	A090-	-	RNAV1
TF	VIRET	-	164(164.4)	28.0	L	FL160+	-	RNAV1
TF	GURES	-	163(163.3)	12.0	-	-	-	RNAV1
TF	IKIRO	-	163(163.3)	20.0	-	-	-	RNAV1
TF	ANITO	-	163(163.3)	27.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

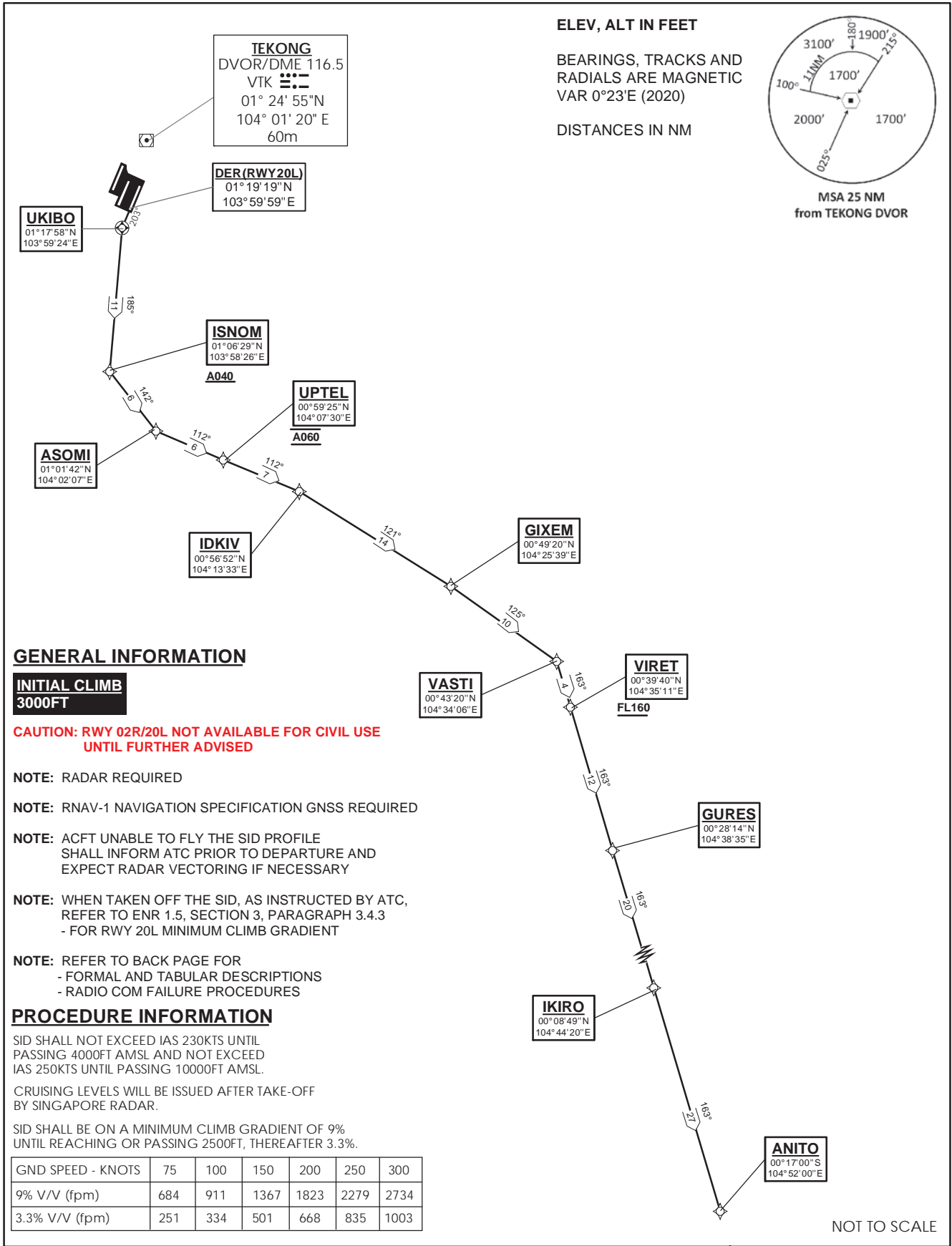
**STANDARD DEPARTURE CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (SID)**

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.4

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20L**  
**ANITO DEPARTURES**  
**ANITO 1D**



**ANITO 1D (SID) RNAV GNSS RWY 20L - DESCRIPTIONS**

**Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To UKIBO on course 203°, turn left.	UKIBO [M203; L] -	CF	N
To ISNOM at or above 4000ft, turn left.	ISNOM [A040+; L] -	TF	N
To ASOMI, turn left.	ASOMI [L] -	TF	N
To UPTTEL at 6000ft.	UPTTEL [@A060] -	TF	N
To IDKIV, turn right.	IDKIV [R] -	TF	N
To GIXEM, turn right.	GIXEM [R] -	TF	N
To VASTI, turn right.	VASTI [R] -	TF	N
To VIRET at or above FL160.	VIRET [FL160+] -	TF	N
To GURES.	GURES -	TF	N
To IKIRO.	IKIRO -	TF	N
To ANITO.	ANITO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	UKIBO	Y	203(203.4)	1.5	L	-	-	RNAV1
TF	ISNOM	-	185(185.4)	11.0	L	A040+	-	RNAV1
TF	ASOMI	-	142(142.4)	6.0	L	-	-	RNAV1
TF	UPTTEL	-	112(112.4)	6.0	-	@A060	-	RNAV1
TF	IDKIV	-	112(112.4)	7.0	R	-	-	RNAV1
TF	GIXEM	-	121(121.4)	14.0	R	-	-	RNAV1
TF	VASTI	-	125(125.4)	10.0	R	-	-	RNAV1
TF	VIRET	-	163(163.4)	4.0	-	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	-	-	-	RNAV1
TF	IKIRO	-	163(163.4)	20.0	-	-	-	RNAV1
TF	ANITO	-	163(163.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

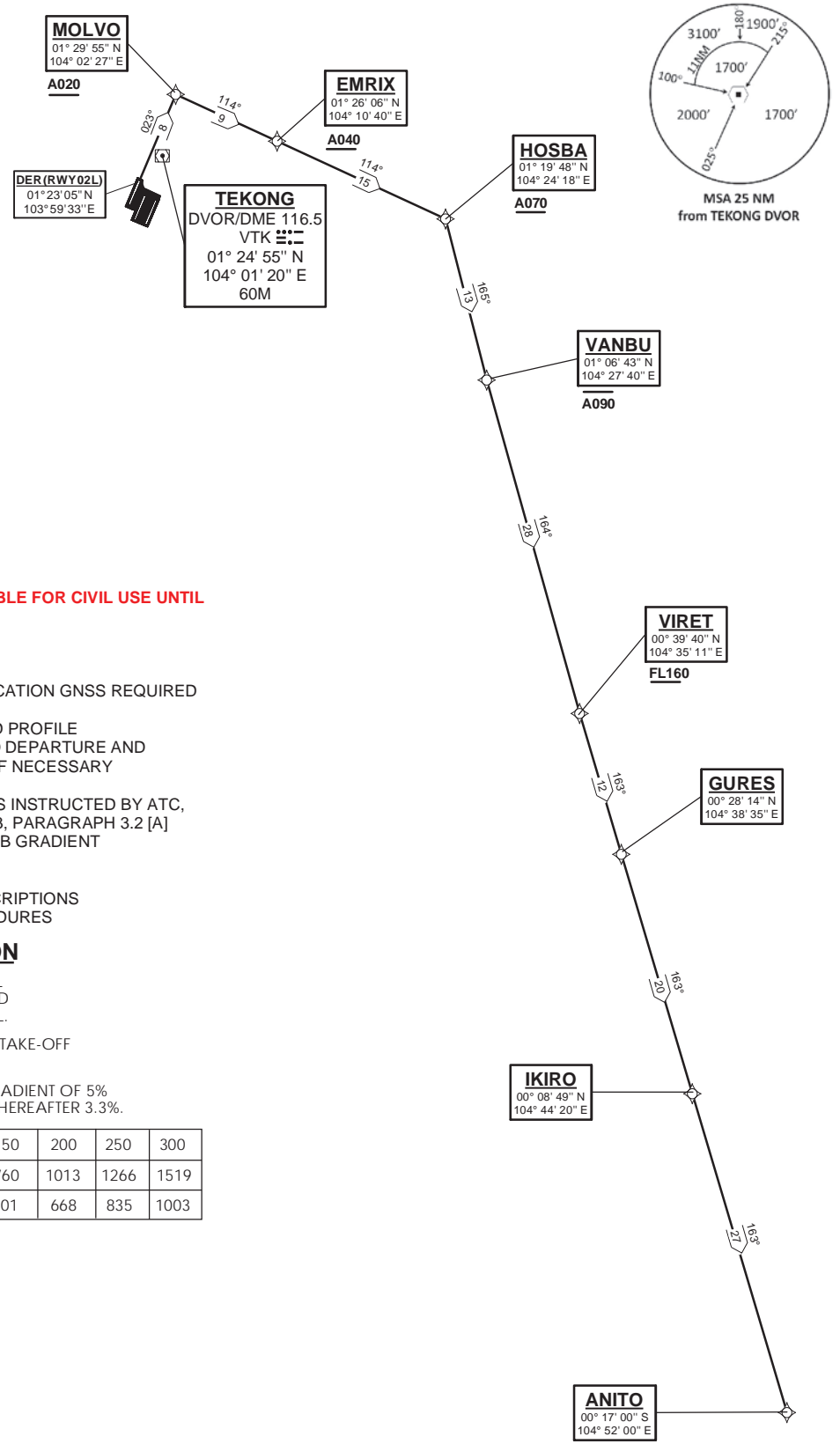
<b>1</b>	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
<b>2</b>	<b>COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE:</b> PROCEED DIRECT TO SAMKO HOLDING AREA (SHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE.

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

TWR 118.6 / 118.25 APP 120.3 124.05 ACC 134.4	TRANSITION ALTITUDE 11 000ft
	D-ATIS AP ID-WSSS 128.6

**SINGAPORE/Singapore Changi**  
**RWY 02L**  
**ANITO DEPARTURES**  
**ANITO 7E**

**ELEV, ALT IN FEET**  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2022)  
  
DISTANCES IN NM



**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTURING 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

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

## ANITO 7E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOLVO on course 023° at or above 2000ft, turn right.	MOLVO [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn right.	HOSBA [A070+; R] -	TF	N
To VANBU at or below 9000ft, turn left.	VANBU [A090-; L] -	TF	N
To VIRET at or above FL160, turn left.	VIRET [FL160+; L] -	TF	N
To GURES.	GURES -	TF	N
To IKIRO.	IKIRO -	TF	N
To ANITO.	ANITO	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOLVO	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	9.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	R	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	L	A090-	-	RNAV1
TF	VIRET	-	164(164.4)	28.0	L	FL160+	-	RNAV1
TF	GURES	-	163(163.3)	12.0	-	-	-	RNAV1
TF	IKIRO	-	163(163.3)	20.0	-	-	-	RNAV1
TF	ANITO	-	163(163.3)	27.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

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

TWR 118.6 / 118.25 APP 120.3 124.05 ACC 134.4	TRANSITION ALTITUDE 11 000ft
	D-ATIS AP ID-WSSS 128.6

**SINGAPORE/Singapore Changi**  
**RWY 20R**  
**ANITO DEPARTURES**  
**ANITO 8F**

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

DISTANCES IN NM

**DER (RWY 20R)**  
01° 20' 47" N  
103° 58' 35" E

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

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

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

**ISNOM**  
01° 06' 29" N  
103° 58' 26" E  
A040

**UPTEL**  
00° 59' 25" N  
104° 07' 30" E  
A060

**ASOMI**  
01° 01' 42" N  
104° 02' 07" E

**IDKIV**  
00° 56' 52" N  
104° 13' 33" E

**GIXEM**  
00° 49' 20" N  
104° 25' 39" E

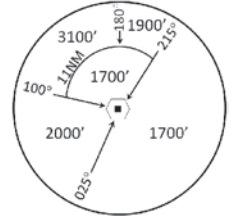
**VASTI**  
00° 43' 20" N  
104° 34' 06" E

**VIRET**  
00° 39' 40" N  
104° 35' 11" E  
FL160

**GURES**  
00° 28' 14" N  
104° 38' 35" E

**IKIRO**  
00° 08' 49" N  
104° 44' 20" E

**ANITO**  
00° 17' 00" S  
104° 52' 00" E



**GENERAL INFORMATION**

**INITIAL CLIMB**  
3000FT

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORED IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

SID 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 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

### ANITO 8F (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.	LEDOX [M203; A015+] -	CF	N
To LETGO at or above 2500ft, turn left.	LETGO [A025+; L] -	TF	N
To ISNOM at or above 4000ft, turn left.	ISNOM [A040+; L] -	TF	N
To ASOMI, turn left.	ASOMI [L] -	TF	N
To UPTTEL at 6000ft.	UPTTEL [@A060] -	TF	N
To IDKIV, turn right.	IDKIV [R] -	TF	N
To GIXEM, turn right.	GIXEM [R] -	TF	N
To VASTI, turn right.	VASTI [R] -	TF	N
To VIRET at or above FL160.	VIRET [FL160+] -	TF	N
To GURES.	GURES -	TF	N
To IKIRO.	IKIRO -	TF	N
To ANITO.	ANITO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(203.4)	5.0	-	A015+	-	RNAV1
TF	LETGO	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	ISNOM	-	161(161.4)	8.0	L	A040+	-	RNAV1
TF	ASOMI	-	142(142.4)	6.0	L	-	-	RNAV1
TF	UPTTEL	-	112(112.4)	6.0	-	@A060	-	RNAV1
TF	IDKIV	-	112(112.4)	7.0	R	-	-	RNAV1
TF	GIXEM	-	121(121.4)	14.0	R	-	-	RNAV1
TF	VASTI	-	125(125.4)	10.0	R	-	-	RNAV1
TF	VIRET	-	163(163.4)	4.0	-	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	-	-	-	RNAV1
TF	IKIRO	-	163(163.4)	20.0	-	-	-	RNAV1
TF	ANITO	-	163(163.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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



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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

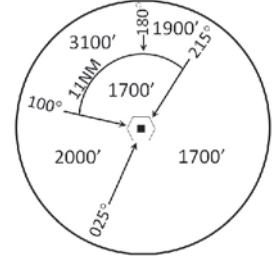
TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02C**  
**AROSO DEPARTURES**  
**AROSO 3A**

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

DISTANCES IN NM



**AROSO**  
02° 08' 46" N  
103° 24' 21" E

307°  
24

**AKMET**  
01° 53' 55" N  
103° 43' 39" E  
**A110**

307°  
14

**AKOMA**  
01° 45' 22" N  
103° 54' 43" E  
**A070**

331°  
18

**MOXIB**  
01° 29' 33" N  
104° 03' 15" E  
**A020**

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

**DER (RWY 02C)**  
01° 21' 45" N  
103° 59' 57" E

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 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**

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

## AROSO 3A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS

### Formal & Abbreviated Descriptions

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

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOXIB	-	023(023.4)	8.0	L	A020+	-	RNAV1
TF	AKOMA	-	331(331.4)	18.0	L	A070+	-	RNAV1
TF	AKMET	-	307(307.4)	14.0	-	A110+	-	RNAV1
TF	AROSO	-	307(307.4)	24.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

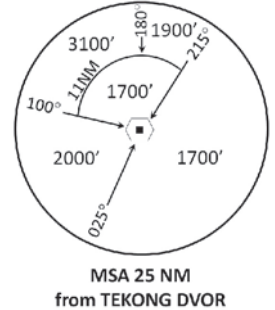
D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20C**  
**AROSO DEPARTURES**  
**AROSO 5B**

ELEV, ALT IN FEET  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2022)

NOT TO SCALE

DISTANCES IN NM



**AROSO**  
02° 08' 46" N  
103° 24' 21" E

**AKMET**  
01° 53' 55" N  
103° 43' 39" E

**AKOMA**  
01° 45' 22" N  
103° 54' 43" E  
**A110**

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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  
EXPECT RADAR VECTORED IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.1  
- FOR RWY 20C MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

SID 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	1063	1418	1772	2127
3.3% V/V (fpm)	251	334	501	668	835	1003

**DER (RWY 20C)**  
01° 19' 42" N  
103° 59' 05" E

**IBIXU**  
01° 16' 21" N  
103° 57' 40" E  
**A015**

**IBIVA**  
01° 13' 51" N  
103° 56' 37" E  
**A025**

**DUBOT**  
01° 08' 46" N  
104° 01' 03" E  
**A040**

**TEKONG**  
DVOR/DME 116.5  
VTK  
01° 24' 55" N  
104° 01' 20" E  
60M  
**A070**

**SALRU**  
01° 17' 01" N  
104° 08' 02" E

**ADPON**  
01° 12' 03" N  
104° 05' 14" E

## AROSO 5B (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.	IBIXU [M203; A015+] -	CF	N
To IBIVA at or above 2500ft, turn left.	IBIVA [A025+; L] -	TF	N
To DUBOT at or above 4000ft, turn left.	DUBOT [A040+; L] -	TF	N
To ADPON, turn left.	ADPON [L] -	TF	N
To SALRU, turn left.	SALRU [L] -	TF	N
To VTK at or above 7000ft, turn right.	VTK [A070+; R] -	TF	N
To AKOMA at or above 11000ft, turn left.	AKOMA [A110+; L] -	TF	N
To AKMET.	AKMET -	TF	N
To AROSO.	AROSO	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(203.4)	4.0	-	A015+	-	RNAV1
TF	IBIVA	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	DUBOT	-	138(138.4)	7.0	L	A040+	-	RNAV1
TF	ADPON	-	052(052.4)	5.0	L	-	-	RNAV1
TF	SALRU	-	029(029.4)	6.0	L	-	-	RNAV1
TF	VTK	-	319(319.4)	10.0	R	A070+	-	RNAV1
TF	AKOMA	-	342(342.4)	21.0	L	A110+	-	RNAV1
TF	AKMET	-	307(307.4)	14.0	-	-	-	RNAV1
TF	AROSO	-	307(307.4)	24.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

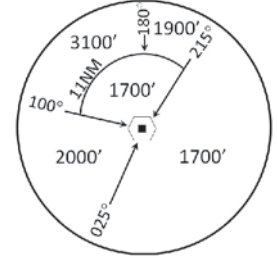
TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02R**  
**AROSO DEPARTURES (RADAR)**  
**AROSO 1C**

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

DISTANCES IN NM



**AROSO**  
02°08'46"N  
103°24'21"E

30°  
24

**AKMET**  
01°53'55"N  
103°43'39"E  
**A110**

30°  
14

**AKOMA**  
01°45'22"N  
103°54'43"E  
**A070**

**EXPECT RADAR vectors**  
to waypoint **AKOMA**

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.5 - FOR RWY 02R MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

**DER(RWY02R)**  
01°21'22"N  
104°00'51"E

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

NOT TO SCALE

**AROSO 1C (SID) RNAV GNSS RWY 02R - DESCRIPTIONS**

**Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
Climb heading 023°, Gradient 5% to 2500ft, thence 3.3%. Expect radar vectors to waypoint AKOMA.	-	VA	N
To AKOMA at or above 7000ft.	AKOMA [A070+] -	DF	N
To AKMET at or above 11000ft.	AKMET [A110+] -	TF	N
To AROSO.	AROSO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
VA	-	-	023(023.4)	-	-	A030	-	-
DF	AKOMA	-	-	-	-	A070+	-	RNAV1
TF	AKMET	-	307(307.4)	14.0	-	A110+	-	RNAV1
TF	AROSO	-	307(307.4)	24.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

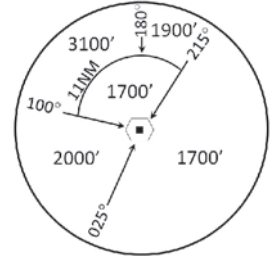
D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20L**  
**AROSO DEPARTURES**  
**AROSO 1D**

ELEV, ALT IN FEET  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2022)

NOT TO SCALE

DISTANCES IN NM



**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORIZING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.3 - FOR RWY 20L MINIMUM CLIMB GRADIENT

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

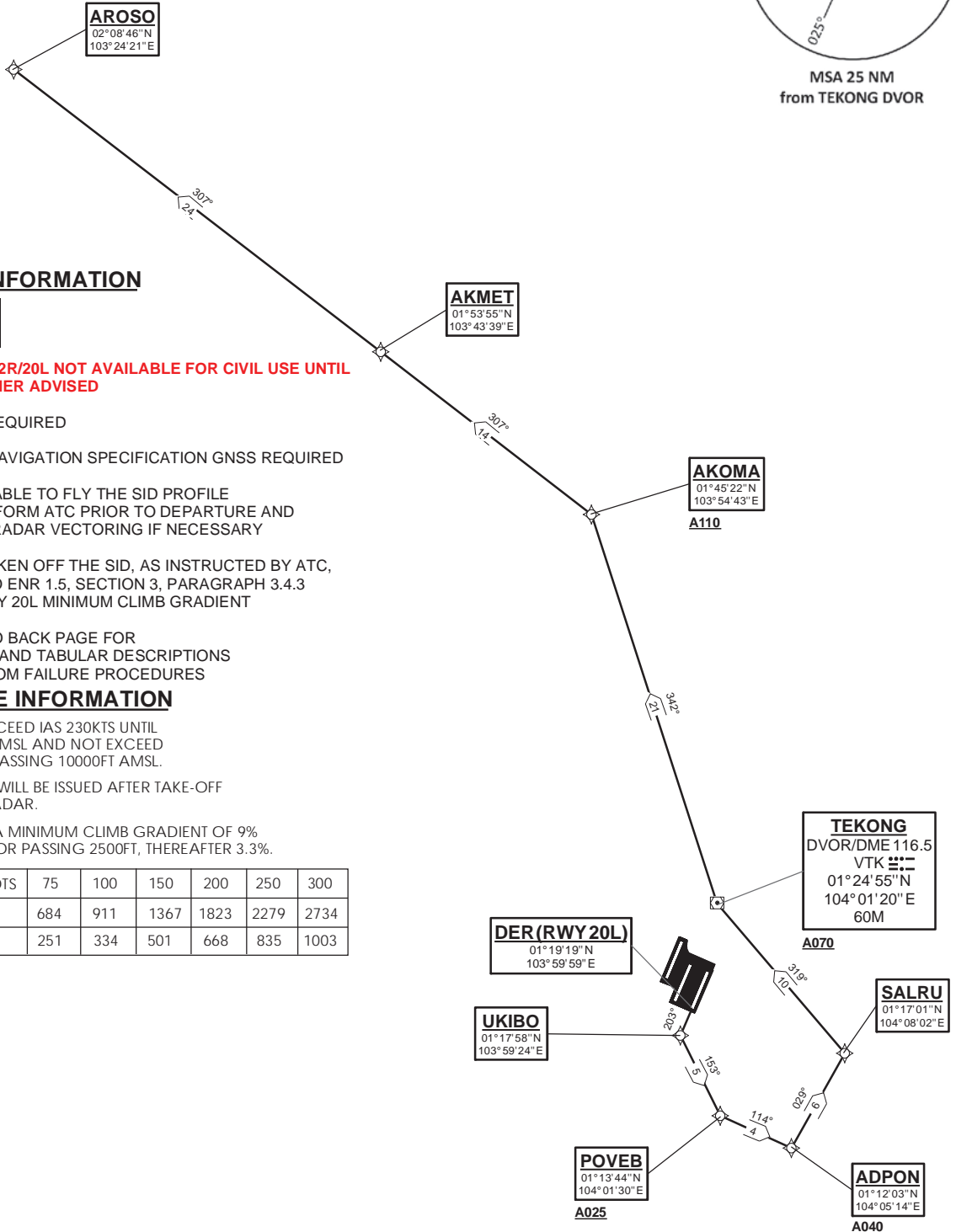
**PROCEDURE INFORMATION**

SID 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 9% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
9% V/V (fpm)	684	911	1367	1823	2279	2734
3.3% V/V (fpm)	251	334	501	668	835	1003



**AROSO 1D (SID) RNAV GNSS RWY 20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To UKIBO on course 203°, turn left.	UKIBO [M203; L] -	CF	N
To POVEB at or above 2500ft, turn left.	POVEB [A025+; L] -	TF	N
To ADPON at or above 4000ft, turn left.	ADPON [A040+; L] -	TF	N
To SALRU, turn left.	SALRU [L] -	TF	N
To VTK at or above 7000ft, turn right.	VTK [A070+; R] -	TF	N
To AKOMA at or above 11000ft, turn left.	AKOMA [A110+; L] -	TF	N
To AKMET.	AKMET -	TF	N
To AROSO.	AROSO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	UKIBO	-	203(203.4)	1.5	L	-	-	RNAV1
TF	POVEB	-	153(153.4)	5.0	L	A025+	-	RNAV1
TF	ADPON	-	114(114.4)	4.0	L	A040+	-	RNAV1
TF	SALRU	-	029(029.4)	6.0	L	-	-	RNAV1
TF	VTK	-	319(319.4)	10.0	R	A070+	-	RNAV1
TF	AKOMA	-	342(342.4)	21.0	L	A110+	-	RNAV1
TF	AKMET	-	307(307.4)	14.0	-	-	-	RNAV1
TF	AROSO	-	307(307.4)	24.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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



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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

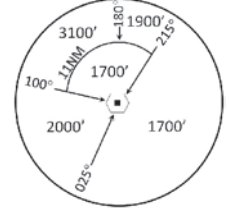
TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02L**  
**AROSO DEPARTURES**  
**AROSO 3E**

**ELEV, ALT IN FEET**  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2022)

DISTANCES IN NM



**AROSO**  
02° 08' 46" N  
103° 24' 21" E

307°  
21

**AKMET**  
01° 53' 55" N  
103° 43' 39" E

**A110**

307°  
14

**AKOMA**  
01° 45' 22" N  
103° 54' 43" E

**A070**

335°  
14

**ATRUM**  
01° 32' 56" N  
104° 00' 57" E

**A030**

335°  
3

**MOLVO**  
01° 29' 55" N  
104° 02' 27" E

**A020**

023°  
8

**DER (RWY 02L)**  
01° 23' 05" N  
103° 59' 33" E

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

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTURING 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

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

31 OCT 2024

**AROSO 3E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

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

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOLVO	-	023(023.4)	8.0	L	A020+	-	RNAV1
TF	ATRUM	-	333(333.4)	3.0	-	-	-	RNAV1
TF	AKOMA	-	333(333.4)	14.0	L	A070+	-	RNAV1
TF	AKMET	-	307(307.4)	14.0	-	A110+	-	RNAV1
TF	AROSO	-	307(307.4)	24.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

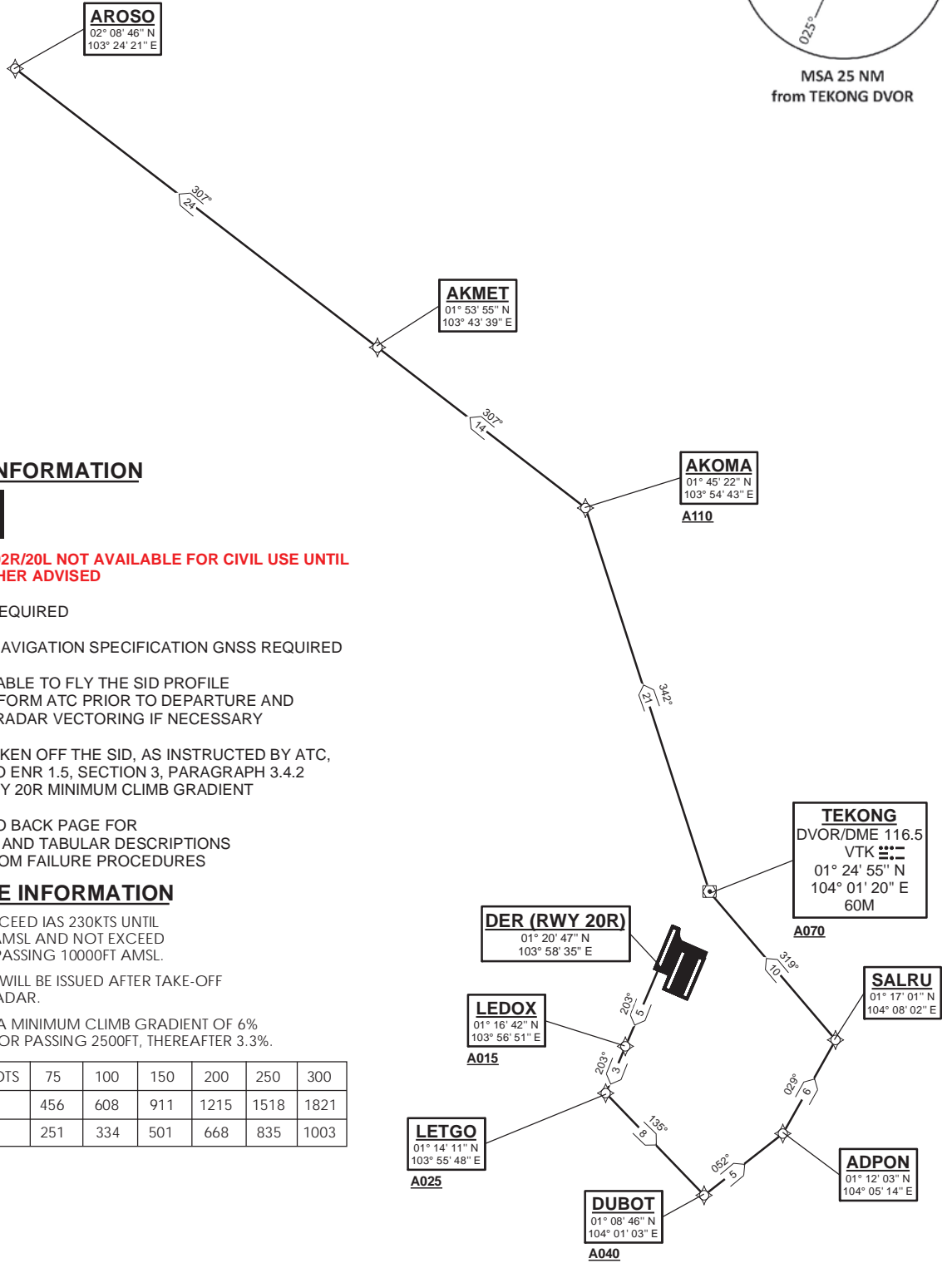
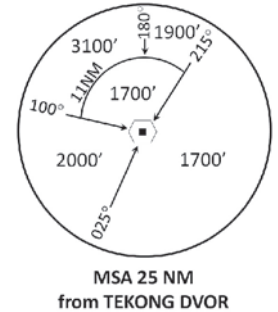
D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20R**  
**AROSO DEPARTURES**  
**AROSO 5F**

**ELEV, ALT IN FEET**  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2022)

NOT TO SCALE

DISTANCES IN NM



**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

SID 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 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

## AROSO 5F (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.	LEDOX [M203; A015+] -	CF	N
To LETGO at or above 2500ft, turn left.	LETGO [A025+; L] -	TF	N
To DUBOT at or above 4000ft, turn left.	DUBOT [A040+; L] -	TF	N
To ADPON, turn left.	ADPON [L] -	TF	N
To SALRU, turn left.	SALRU [L] -	TF	N
To VTK at or above 7000ft, turn right.	VTK [A070+; R] -	TF	N
To AKOMA at or above 11000ft, turn left.	AKOMA [A110+; L] -	TF	N
To AKMET.	AKMET -	TF	N
To AROSO.	AROSO	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(203.4)	5.0	-	A015+	-	RNAV1
TF	LETGO	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	DUBOT	-	135(135.4)	8.0	L	A040+	-	RNAV1
TF	ADPON	-	052(052.4)	5.0	L	-	-	RNAV1
TF	SALRU	-	029(029.4)	6.0	L	-	-	RNAV1
TF	VTK	-	319(319.4)	10.0	R	A070+	-	RNAV1
TF	AKOMA	-	342(342.4)	21.0	L	A110+	-	RNAV1
TF	AKMET	-	307(307.4)	14.0	-	-	-	RNAV1
TF	AROSO	-	307(307.4)	24.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

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

**SINGAPORE/Singapore Changi**  
**RWY 02C**  
**DODSO DEPARTURES**  
**DODSO 1A**

TWR 118.6 / 118.25 APP 120.3 ACC 134.2	TRANSITION ALTITUDE 11 000ft	D-ATIS AP ID-WSSS 128.6
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**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

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

**MOXIB**  
01° 29' 33"N  
104° 03' 15"E  
A020

**DER (RWY 02C)**  
01° 21' 45.00"N  
103° 59' 57.00" E

**EMRIX**  
01° 26' 06"N  
104° 10' 40"E  
A040

**HOSBA**  
01° 19' 48"N  
104° 24' 18"E  
A070

**VEBMA**  
01° 20' 30"N  
104° 53' 32"E

**TOMAN**  
01° 21' 47"N  
105° 47' 17"E

**DODSO**  
01° 22' 25"N  
106° 14' 02"E

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

- 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 VECTORED, 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

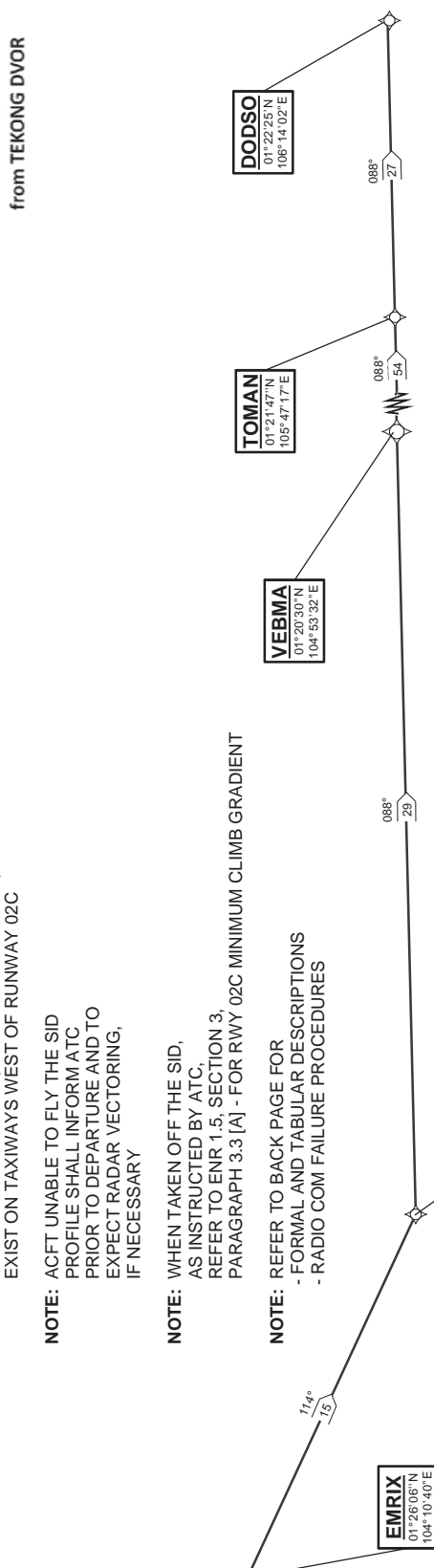
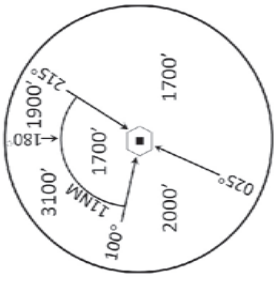
**NOTE:** REFER TO BACK PAGE FOR - FORMAL AND TABULAR DESCRIPTIONS - RADIO COM FAILURE PROCEDURES

MSA 25 NM  
from TEKONG DVOR

**ELEV, ALT IN FEET**

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

DISTANCES IN NM



NOT TO SCALE

31 OCT 2024

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

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOXIB on course 203° at or above 2000ft, turn right.	MOXIB [M203; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn left.	HOSBA [A070+; L] -	TF	N
To VEBMA.	VEBMA -	TF	N
To TOMAN.	TOMAN -	TF	N
To DODSO.	DODSO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOXIB	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	8.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	L	A070+	-	RNAV1
TF	VEBMA	-	088(088.4)	29.0	-	-	-	RNAV1
TF	TOMAN	-	088(088.4)	54.0	-	-	-	RNAV1
TF	DODSO	-	088(088.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
ACC 134.2

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20C**  
**DODSO DEPARTURES**  
**DODSO 1B**

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

- 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 EXPECT RADAR VECTORED IF NECESSARY
- NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.1 - FOR RWY 20C MINIMUM CLIMB GRADIENT
- NOTE:** REFER TO BACK PAGE FOR
  - FORMAL AND TABULAR DESCRIPTIONS
  - RADIO COM FAILURE PROCEDURES

**PROCEDURE INFORMATION**

SID 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.

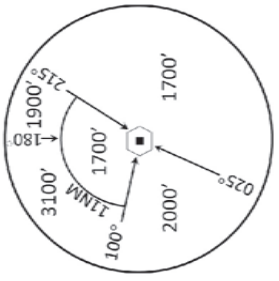
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
7% V/V (fpm)	532	709	1063	1418	1772	2127
3.3% V/V (fpm)	251	334	501	668	835	1003

**ELEV, ALT IN FEET**

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

DISTANCES IN NM



MSA 25 NM  
from TEKONG DVOR

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

**DER (RWY 20C)**  
01° 19' 42.00"N  
103° 59' 05.00"E

**IBIXU**  
01° 16' 21"N  
103° 57' 40"E  
A015

**IBIVA**  
01° 13' 51"N  
103° 56' 37"E  
A025

**DUBOT**  
01° 08' 46"N  
104° 01' 03"E  
A040

**ERVIV**  
01° 04' 45"N  
104° 10' 13"E  
A060

**TOMAN**  
01° 21' 47"N  
105° 47' 17"E

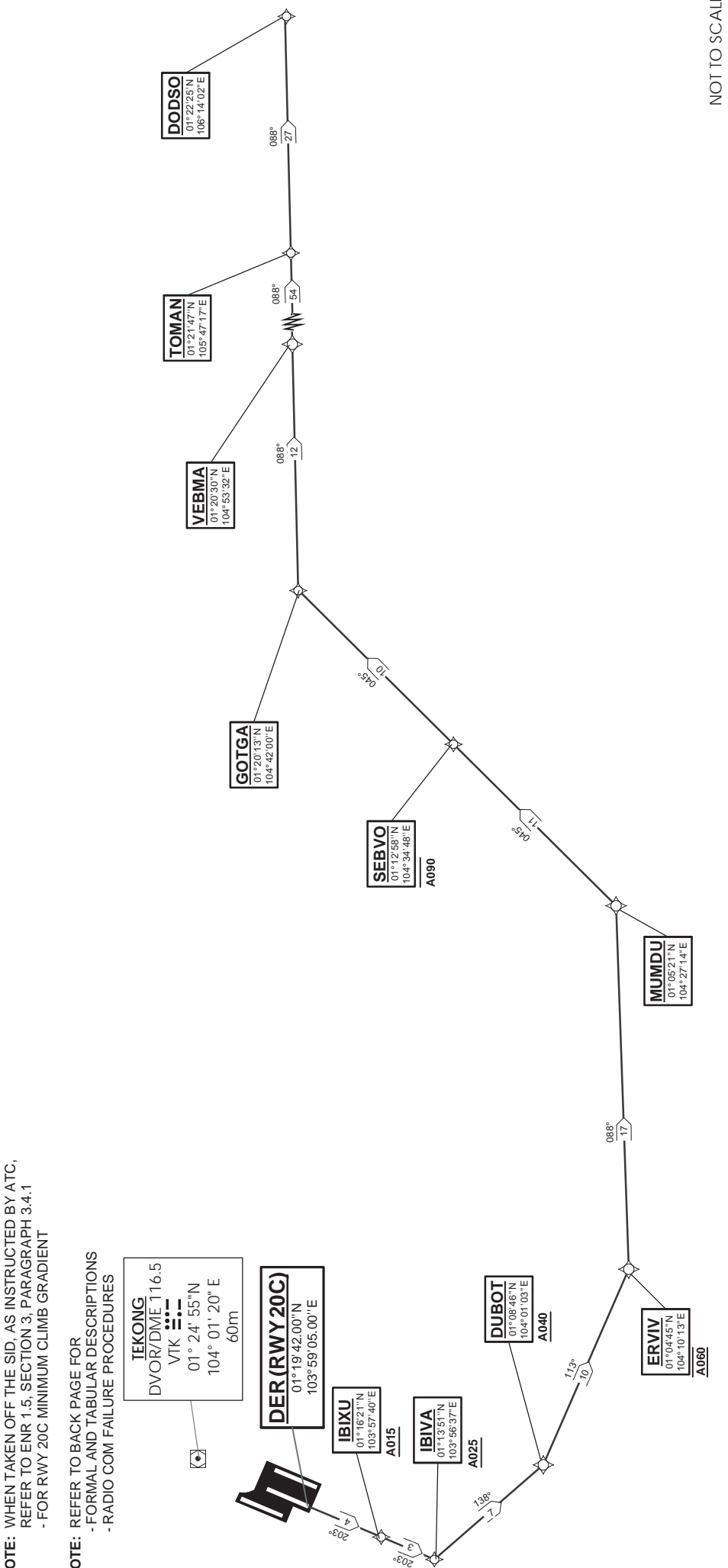
**VEBMA**  
01° 20' 30"N  
104° 53' 32"E

**GOTGA**  
01° 20' 13"N  
104° 42' 00"E

**SEBVO**  
01° 12' 58"N  
104° 34' 48"E  
A090

**MUMDU**  
01° 05' 21"N  
104° 27' 14"E

**DODSO**  
01° 22' 25"N  
106° 14' 02"E



NOT TO SCALE

## DODSO 1B (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.	IBIXU [M203; A015+] -	CF	N
To IBIVA at or above 2500ft, turn left.	IBIVA [A025+; L] -	TF	N
To DUBOT at or above 4000ft, turn left.	DUBOT [A040+; L] -	TF	N
To ERVIV at 6000ft, turn left.	ERVIV [@A060; L] -	TF	N
To MUMDU, turn left.	MUMDU [L] -	TF	N
To SEBVO at or below 9000ft.	SEBVO [A090-] -	TF	N
To GOTGA, turn right.	GOTGA [R] -	TF	N
To VEBMA.	VEBMA -	TF	N
To TOMAN.	TOMAN -	TF	N
To DODSO.	DODSO	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(203.4)	4.0	-	A015+	-	RNAV1
TF	IBIVA	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	DUBOT	-	138(138.4)	7.0	L	A040+	-	RNAV1
TF	ERVIV	-	113(113.4)	10.0	L	@A060	-	RNAV1
TF	MUMDU	-	088(088.4)	17.0	L	-	-	RNAV1
TF	SEBVO	-	045(045.4)	11.0	-	A090-	-	RNAV1
TF	GOTGA	-	045(045.4)	10.0	R	-	-	RNAV1
TF	VEBMA	-	088(088.4)	12.0	-	-	-	RNAV1
TF	TOMAN	-	088(088.4)	54.0	-	-	-	RNAV1
TF	DODSO	-	088(088.4)	27.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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



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

**SINGAPORE/Singapore Changi**  
**RWY 02R**  
**DODSO DEPARTURES (RADAR)**  
**DODSO 1C**


TWR 118.6 / 118.25	D-ATIS AP ID-WSSS 128.6
APP 120.3	TRANSITION ALTITUDE 11 000ft
ACC 124.05	
ACC 134.2	

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

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

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

- 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 EXPECT RADAR VECTORING IF NECESSARY

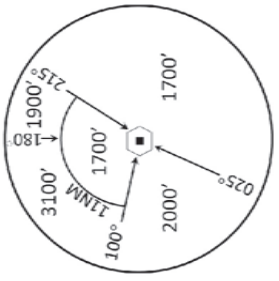
**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.5  
- FOR RWY 02R MINIMUM CLIMB GRADIENT

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

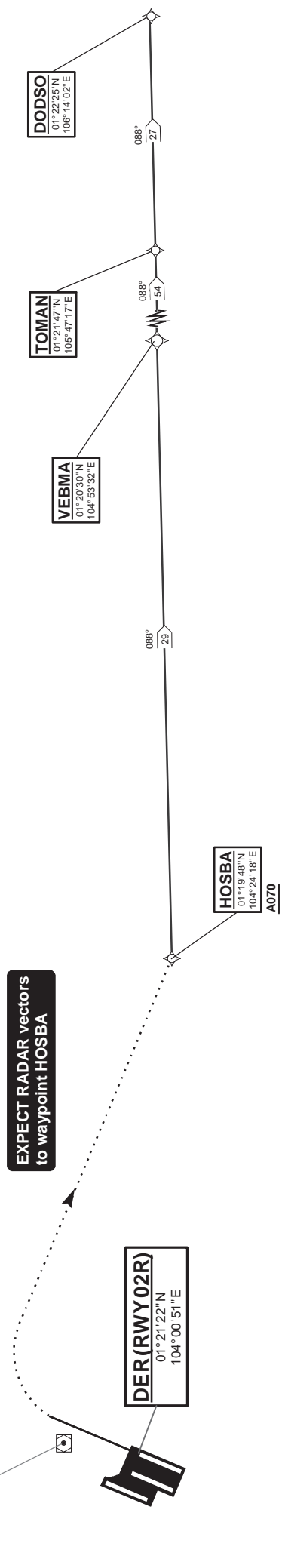
**ELEV, ALT IN FEET**

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

DISTANCES IN NM



MSA 25 NM  
from TEKONG DVOR



31 OCT 2024

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

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
Climb heading 023°, Gradient 5% to 2500ft, thence 3.3%. Expect radar vectors to waypoint HOSBA.	-	VA	N
To HOSBA at or above 7000ft.	HOSBA [A070+] -	DF	N
To VEBMA.	VEBMA -	TF	N
To TOMAN.	TOMAN -	TF	N
To DODSO.	DODSO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
VA	-	-	023(023.4)	-	-	A030	-	RNAV1
DF	HOSBA	-	-	-	-	A070+	-	RNAV1
TF	VEBMA	-	088(088.4)	29.0	-	-	-	RNAV1
TF	TOMAN	-	088(088.4)	54.0	-	-	-	RNAV1
TF	DODSO	-	088(088.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

**SINGAPORE/Singapore Changi**  
**RWY 20L**  
**DODSO DEPARTURES**  
**DODSO 1D**

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.2

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.3 - FOR RWY 20L MINIMUM CLIMB GRADIENT

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

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

**DER (RWY 20L)**  
01° 19' 19"N  
103° 59' 59"E

**UKIBO**  
01° 17' 58"N  
103° 59' 24"E

**DUBOT**  
01° 08' 46"N  
104° 01' 03"E  
A040

**ERVIV**  
01° 04' 45"N  
104° 10' 13"E  
A060

**PROCEDURE INFORMATION**

SID 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.

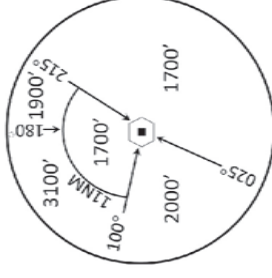
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 9% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
9% V/V (fpm)	684	911	1367	1823	2279	2734
3.3% V/V (fpm)	251	334	501	668	835	1003

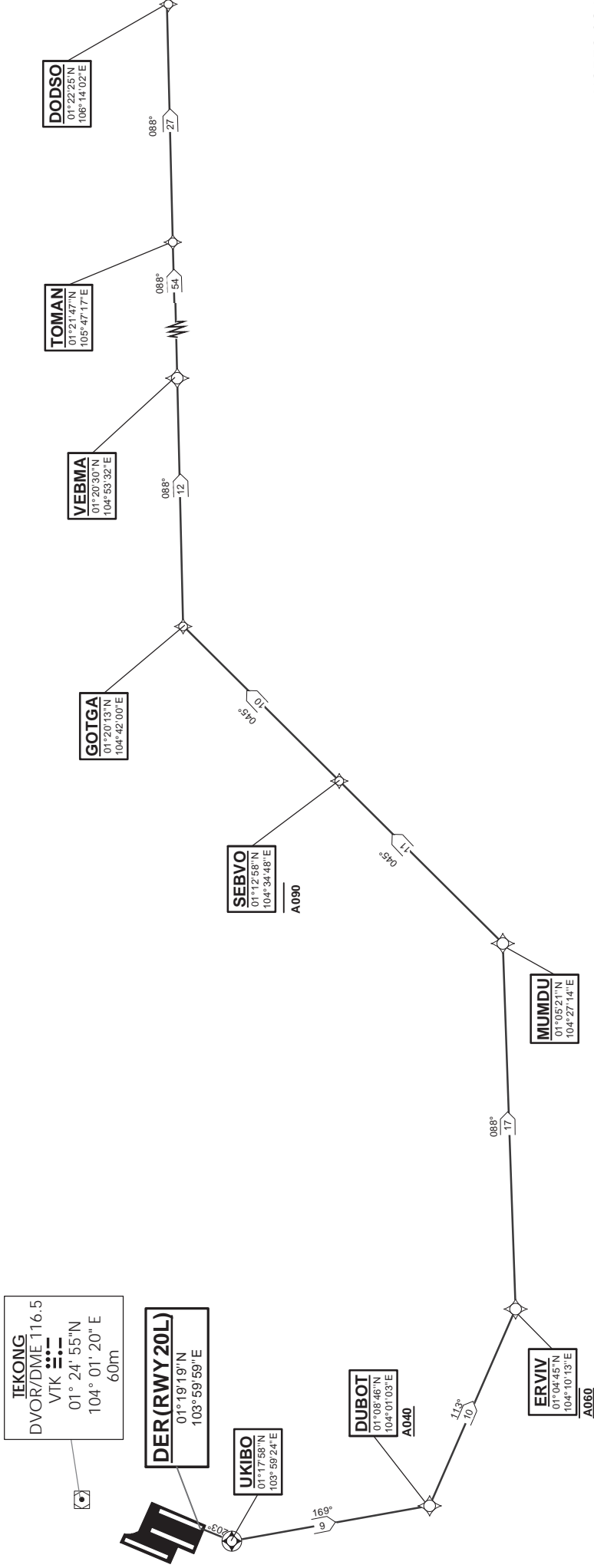
**ELEV, ALT IN FEET**

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

DISTANCES IN NM



MSA 25 NM  
from TEKONG DVOR



NOT TO SCALE

31 OCT 2024

**DODSO 1D (SID) RNAV GNSS RWY 20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To UKIBO on course 203°, turn left.	UKIBO [M203; L] -	CF	N
To DUBOT at or above 4000ft, turn left.	DUBOT [A040+; L] -	TF	N
To ERVIV at 6000ft, turn left.	ERVIV [@A060; L] -	TF	N
To MUMDU, turn left.	MUMDU [L] -	TF	N
To SEBVO at or below 9000ft.	SEBVO [A090-] -	TF	N
To GOTGA, turn right.	GOTGA [R] -	TF	N
To VEBMA.	VEBMA -	TF	N
To TOMAN.	TOMAN -	TF	N
To DODSO.	DODSO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	UKIBO	Y	203(203.4)	1.5	L	-	-	RNAV1
TF	DUBOT	-	169(169.4)	9.0	L	A040+	-	RNAV1
TF	ERVIV	-	113(113.4)	10.0	L	@A060	-	RNAV1
TF	MUMDU	-	088(088.4)	17.0	L	-	-	RNAV1
TF	SEBVO	-	045(045.4)	11.0	-	A090-	-	RNAV1
TF	GOTGA	-	045(045.4)	10.0	R	-	-	RNAV1
TF	VEBMA	-	088(088.4)	12.0	-	-	-	RNAV1
TF	TOMAN	-	088(088.4)	54.0	-	-	-	RNAV1
TF	DODSO	-	088(088.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

**SINGAPORE/Singapore Changi**  
**RWY 02L**  
**DODSO DEPARTURES**  
**DODSO 1E**

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.2

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSSS  
128.6

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

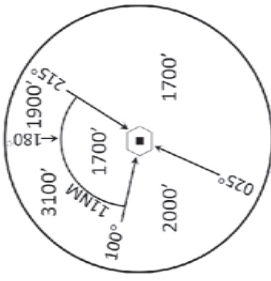
**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

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

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



**MSA 25 NM**  
**from TEKONG DVOR**

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

**MOLVO**  
01° 29' 55" N  
104° 02' 27" E  
A020

**DER (RWY 02L)**  
01° 23' 05.00" N  
103° 59' 33.00" E

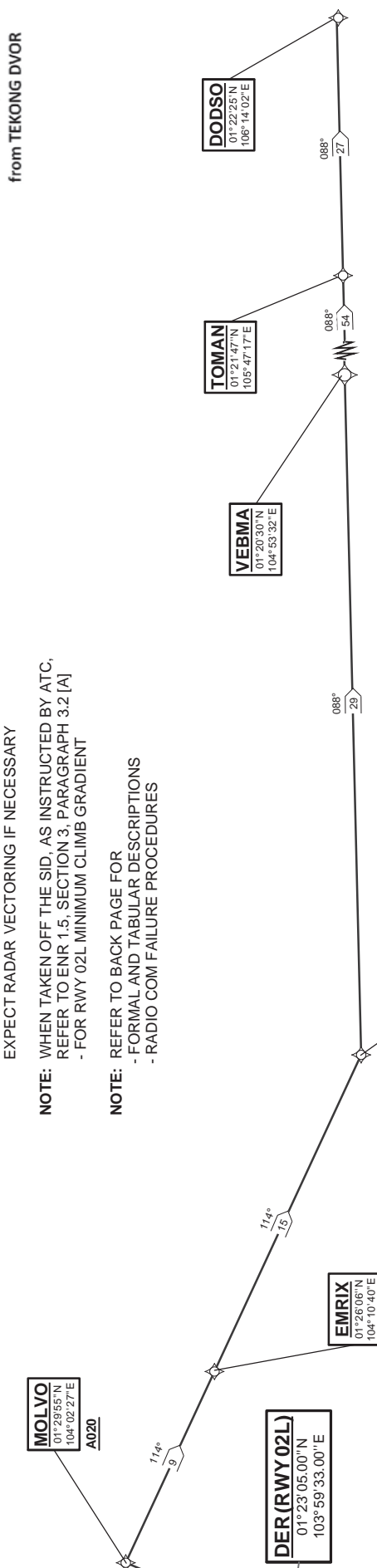
**EMRIX**  
01° 26' 06" N  
104° 10' 40" E  
A040

**HOSBA**  
01° 19' 48" N  
104° 24' 18" E  
A070

**VEBMA**  
01° 20' 30" N  
104° 53' 32" E

**TOMAN**  
01° 21' 47" N  
105° 47' 17" E

**DODSO**  
01° 22' 25" N  
106° 14' 02" E



NOT TO SCALE

**DODSO 1E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS**

**Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOLVO on course 023° at or above 2000ft, turn right.	MOLVO [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn left.	HOSBA [A070+; L] -	TF	N
To VEBMA.	VEBMA -	TF	N
To TOMAN.	TOMAN -	TF	N
To DODSO.	DODSO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOLVO	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	9.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	L	A070+	-	RNAV1
TF	VEBMA	-	088(088.4)	29.0	-	-	-	RNAV1
TF	TOMAN	-	088(088.4)	54.0	-	-	-	RNAV1
TF	DODSO	-	088(088.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

**SINGAPORE/Singapore Changi**  
**RWY 20R**  
**DODSO DEPARTURES**  
**DODSO 1F**

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.2

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSSS  
128.6

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

- 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 EXPECT RADAR VECTORED IF NECESSARY
- NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT
- NOTE:** REFER TO BACK PAGE FOR
  - FORMAL AND TABULAR DESCRIPTIONS
  - RADIO COM FAILURE PROCEDURES

**PROCEDURE INFORMATION**

SID 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.

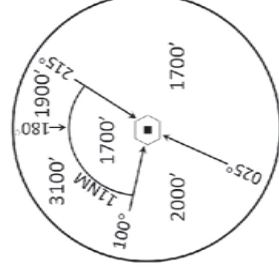
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 6% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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

**ELEV, ALT IN FEET**

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

DISTANCES IN NM



MSA 25 NM  
from TEKONG DVOR

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

**DER (RWY 20R)**  
01° 20' 47.00"N  
103° 58' 35.00"E

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

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

**DUBOT**  
01° 08' 46"N  
104° 01' 03"E  
A040

**ERVIV**  
01° 04' 45"N  
104° 10' 13"E  
A060

**TOMAN**  
01° 21' 47"N  
105° 47' 17"E

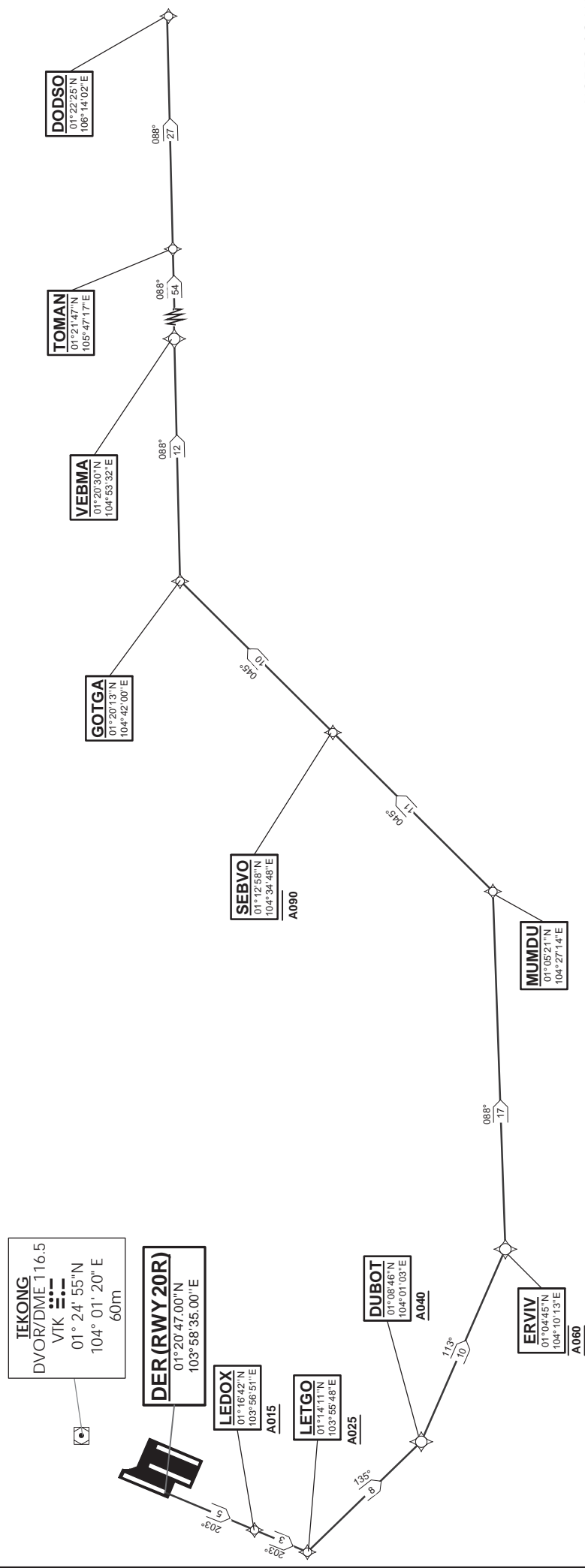
**VEBMA**  
01° 20' 30"N  
104° 53' 32"E

**GOTGA**  
01° 20' 13"N  
104° 42' 00"E

**SEBVO**  
01° 12' 58"N  
104° 34' 48"E  
A090

**MUMDU**  
01° 05' 21"N  
104° 27' 14"E

**DODSO**  
01° 22' 25"N  
106° 14' 02"E



NOT TO SCALE

31 OCT 2024

**DODSO 1F (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.	LEDOX [M203; A015+] -	CF	N
To LETGO at or above 2500ft, turn left.	LETGO [A025+; L] -	TF	N
To DUBOT at or above 4000ft, turn left.	DUBOT [A040+; L] -	TF	N
To ERVIV at 6000ft, turn left.	ERVIV [@A060; L] -	TF	N
To MUMDU, turn left.	MUMDU [L] -	TF	N
To SEBVO at or below 9000ft.	SEBVO [A090-] -	TF	N
To GOTGA, turn right.	GOTGA [R] -	TF	N
To VEBMA.	VEBMA -	TF	N
To TOMAN.	TOMAN -	TF	N
To DODSO.	DODSO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(203.4)	5.0	-	A015+	-	RNAV1
TF	LETGO	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	DUBOT	-	135(135.4)	8.0	L	A040+	-	RNAV1
TF	ERVIV	-	113(113.4)	10.0	L	@A060	-	RNAV1
TF	MUMDU	-	088(088.4)	17.0	L	-	-	RNAV1
TF	SEBVO	-	045(045.4)	11.0	-	A090-	-	RNAV1
TF	GOTGA	-	045(045.4)	10.0	R	-	-	RNAV1
TF	VEBMA	-	088(088.4)	12.0	-	-	-	RNAV1
TF	TOMAN	-	088(088.4)	54.0	-	-	-	RNAV1
TF	DODSO	-	088(088.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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




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

TWR 118.6 / 118.25 APP 120.3 124.05 ACC 134.4	TRANSITION ALTITUDE 11 000ft
	D-ATIS AP ID-WSSS 128.6

**SINGAPORE/Singapore Changi**  
**RWY 02C**  
**IDBUD DEPARTURES**  
**IDBUD 1A**

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

DISTANCES IN NM

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

**DER (RWY 02C)**  
01°21'45.00"N  
103°59'57.00"E

**MOXIB**  
01°29'33"N  
104°03'15"E  
**A020**

**EMRIX**  
01°26'06"N  
104°10'40"E  
**A040**

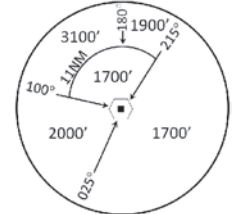
**HOSBA**  
01°19'48"N  
104°24'18"E  
**A070**

**VANBU**  
01°06'43"N  
104°27'40"E  
**A090**

**VIRET**  
00°39'40"N  
104°35'11"E  
**FL160**

**GURES**  
00°28'14"N  
104°38'35"E

**IDBUD**  
00°14'54"N  
105°01'39"E



MSA 25 NM  
from TEKONG DVOR

**GENERAL INFORMATION**

**INITIAL CLIMB**  
3000FT

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 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

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

## IDBUD 1A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOXIB on course 023° at or above 2000ft, turn right.	MOXIB [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn right.	HOSBA [A070+; R] -	TF	N
To VANBU at or below 9000ft, turn left.	VANBU [A090-; L] -	TF	N
To VIRET at or above FL160, turn left.	VIRET [FL160+; L] -	TF	N
To GURES, turn left	GURES [L] -	TF	N
To IDBUD.	IDBUD	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOXIB	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	8.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	R	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	L	A090-	-	RNAV1
TF	VIRET	-	164(164.4)	28.0	L	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	L	-	-	RNAV1
TF	IDBUD	-	119(119.4)	27.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

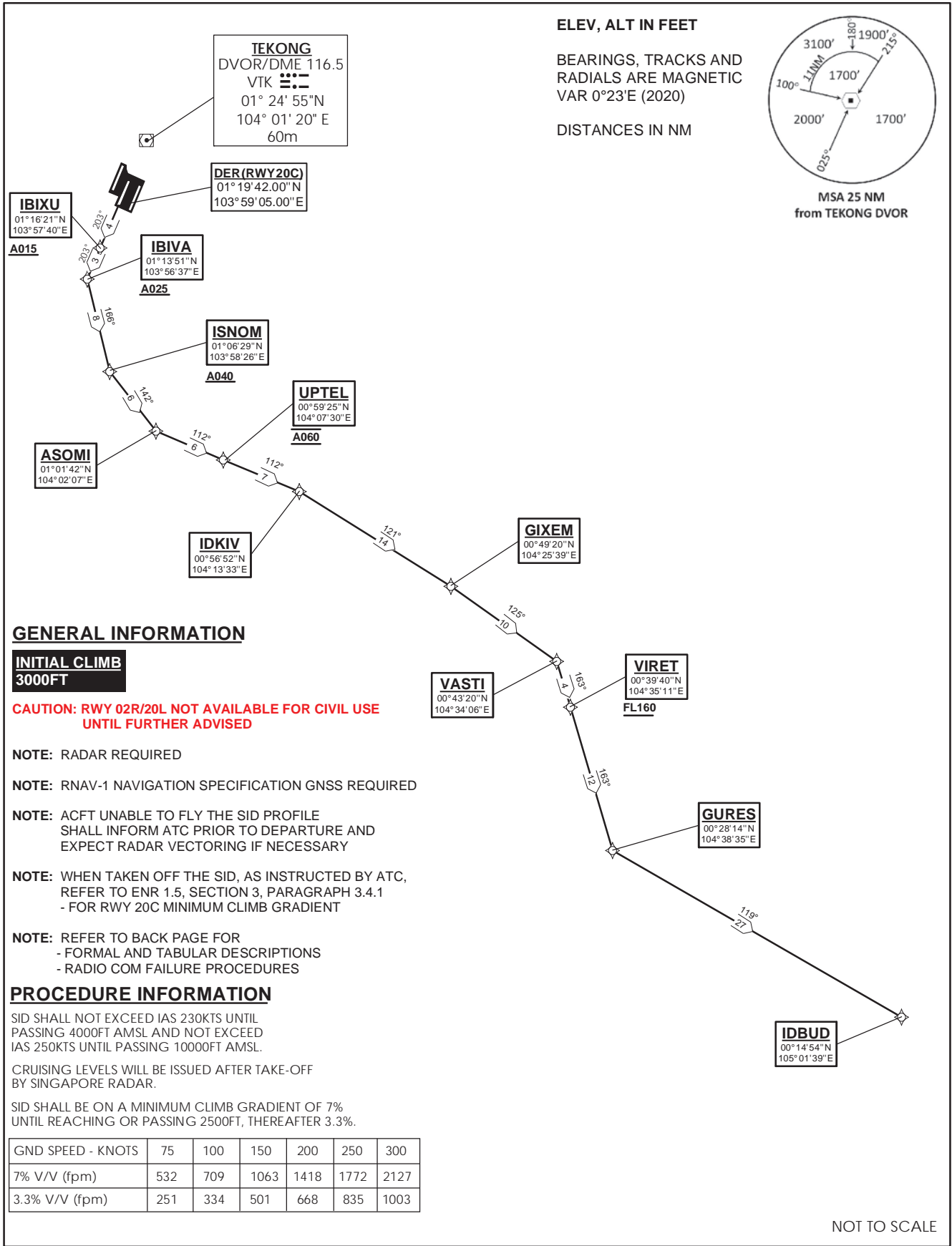
**STANDARD DEPARTURE CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (SID)**

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.4

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20C**  
**IDBUD DEPARTURES**  
**IDBUD 1B**



## IDBUD 1B (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.	IBIXU [M203; A015+] -	CF	N
To IBIVA at or above 2500ft, turn left.	IBIVA [A025+; L] -	TF	N
To ISNOM at or above 4000ft, turn left.	ISNOM [A040+; L] -	TF	N
To ASOMI, turn left.	ASOMI [L] -	TF	N
To UPTTEL at 6000ft.	UPTTEL [@A060] -	TF	N
To IDKIV, turn right.	IDKIV [R] -	TF	N
To GIXEM, turn right.	GIXEM [R] -	TF	N
To VASTI, turn right.	VASTI [R] -	TF	N
To VIRET at or above FL160.	VIRET [FL160+] -	TF	N
To GURES, turn left.	GURES [L] -	TF	N
To IDBUD.	IDBUD	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(203.4)	4.0	-	A015+	-	RNAV1
TF	IBIVA	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	ISNOM	-	166(166.4)	8.0	L	A040+	-	RNAV1
TF	ASOMI	-	142(142.4)	6.0	L	-	-	RNAV1
TF	UPTTEL	-	112(112.4)	6.0	-	@A060	-	RNAV1
TF	IDKIV	-	112(112.4)	7.0	R	-	-	RNAV1
TF	GIXEM	-	121(121.4)	14.0	R	-	-	RNAV1
TF	VASTI	-	125(125.4)	10.0	R	-	-	RNAV1
TF	VIRET	-	163(163.4)	4.0	-	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	L	-	-	RNAV1
TF	IDBUD	-	119(119.4)	27.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.4


TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02R**  
**IDBUD DEPARTURES (RADAR)**  
**IDBUD 1C**

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

DISTANCES IN NM

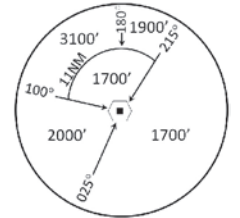
**TEKONG**  
DVOR/DME 116.5  
VTK   
01°24'55"N  
104°01'20"E  
60M

**DER (RWY02R)**  
01°21'22"N  
104°00'51"E

**EXPECT RADAR vectors  
to waypoint HOSBA**

**HOSBA**  
01°19'48"N  
104°24'18"E  
**A070**

**VANBU**  
01°06'43"N  
104°27'40"E  
**A090**



MSA 25 NM  
from TEKONG DVOR

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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  
EXPECT RADAR VECTORED IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.5  
- FOR RWY 02R MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

SID 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 5%  
UNTIL REACHING OR PASSING 2500FT, 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

**GRES**  
00°28'14"N  
104°38'35"E

**VIRET**  
00°39'40"N  
104°35'11"E  
**FL160**

**IDBUD**  
00°14'54"N  
105°01'39"E

NOT TO SCALE

**IDBUD 1C (SID) RNAV GNSS RWY 02R - DESCRIPTIONS**

**Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
Climb heading 023°, Gradient 5% to 2500ft, thence 3.3%. Expect radar vectors to waypoint HOSBA.	-	VA	N
To HOSBA at or above 7000ft.	HOSBA [A070+] -	DF	N
To VANBU at or below 9000ft, turn left.	VANBU [A090-; L] -	TF	N
To VIRET at or above FL160, turn left.	VIRET [FL160+; L] -	TF	N
To GURES, turn left.	GURES [L] -	TF	N
To IDBUD.	IDBUD	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
VA	-	-	023(023.4)	-	-	A030	-	-
DF	HOSBA	-	-	-	-	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	L	A090-	-	RNAV1
TF	VIRET	-	164(164.4)	28.0	L	FL160+	-	RNAV1
TF	GURES	-	163(163.3)	12.0	L	-	-	RNAV1
TF	IDBUD	-	119(119.3)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

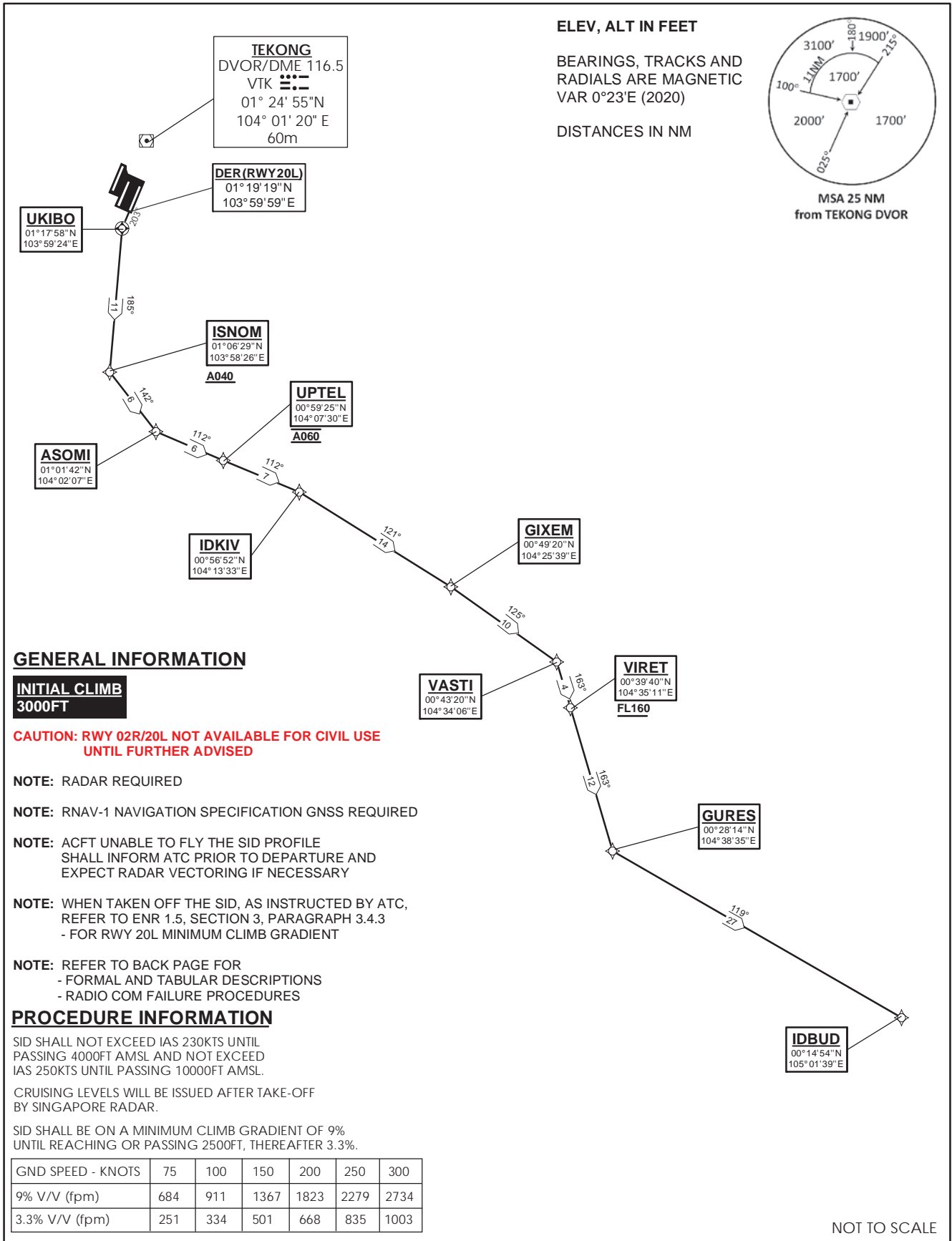
**STANDARD DEPARTURE CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (SID)**

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.4

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20L**  
**IDBUD DEPARTURES**  
**IDBUD 1D**



31 OCT 2024

**IDBUD 1D (SID) RNAV GNSS RWY 20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To UKIBO on course 203°, turn left.	UKIBO [M203; L] -	CF	N
To ISNOM at or above 4000ft, turn left.	ISNOM [A040+; L] -	TF	N
To ASOMI, turn left.	ASOMI [L] -	TF	N
To UPTTEL at 6000ft.	UPTTEL [@A060] -	TF	N
To IDKIV, turn right.	IDKIV [R] -	TF	N
To GIXEM, turn right.	GIXEM [R] -	TF	N
To VASTI, turn right.	VASTI [R] -	TF	N
To VIRET at or above FL160.	VIRET [FL160+] -	TF	N
To GURES, turn left.	GURES [L] -	TF	N
To IDBUD.	IDBUD	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	UKIBO	Y	203(203.4)	1.5	L	-	-	RNAV1
TF	ISNOM	-	185(185.4)	11.0	L	A040+	-	RNAV1
TF	ASOMI	-	142(142.4)	6.0	L	-	-	RNAV1
TF	UPTTEL	-	112(112.4)	6.0	-	@A060	-	RNAV1
TF	IDKIV	-	112(112.4)	7.0	R	-	-	RNAV1
TF	GIXEM	-	121(121.4)	14.0	R	-	-	RNAV1
TF	VASTI	-	125(125.4)	10.0	R	-	-	RNAV1
TF	VIRET	-	163(163.4)	4.0	-	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	L	-	-	RNAV1
TF	IDBUD	-	119(119.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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



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

TWR 118.6 / 118.25 APP 120.3 124.05 ACC 134.4	TRANSITION ALTITUDE 11 000ft
D-ATIS AP ID-WSSS 128.6	

**SINGAPORE/Singapore Changi**  
**RWY 02L**  
**IDBUD DEPARTURES**  
**IDBUD 1E**

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

DISTANCES IN NM

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

**DER (RWY 02L)**  
01°23'05.00"N  
103°59'33.00"E

**MOLVO**  
01°29'55"N  
104°02'27"E

**A020**

**EMRIX**  
01°26'06"N  
104°10'40"E

**A040**

**HOSBA**  
01°19'48"N  
104°24'18"E

**A070**

**VANBU**  
01°06'43"N  
104°27'40"E

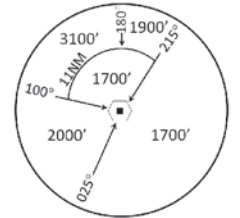
**A090**

**VIRET**  
00°39'40"N  
104°35'11"E

**FL160**

**GURES**  
00°28'14"N  
104°38'35"E

**IDBUD**  
00°14'54"N  
105°01'39"E



MSA 25 NM  
from TEKONG DVOR

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORED 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**

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

**IDBUD 1E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS**

**Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOLVO on course 023° at or above 2000ft, turn right.	MOLVO [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn right.	HOSBA [A070+; R] -	TF	N
To VANBU at or below 9000ft, turn left.	VANBU [A090-; L] -	TF	N
To VIRET at or above FL160, turn left.	VIRET [FL160+; L] -	TF	N
To GURES, turn left	GURES [L] -	TF	N
To IDBUD.	IDBUD	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOLVO	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	9.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	R	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	L	A090-	-	RNAV1
TF	VIRET	-	164(164.4)	28.0	L	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	L	-	-	RNAV1
TF	IDBUD	-	119(119.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

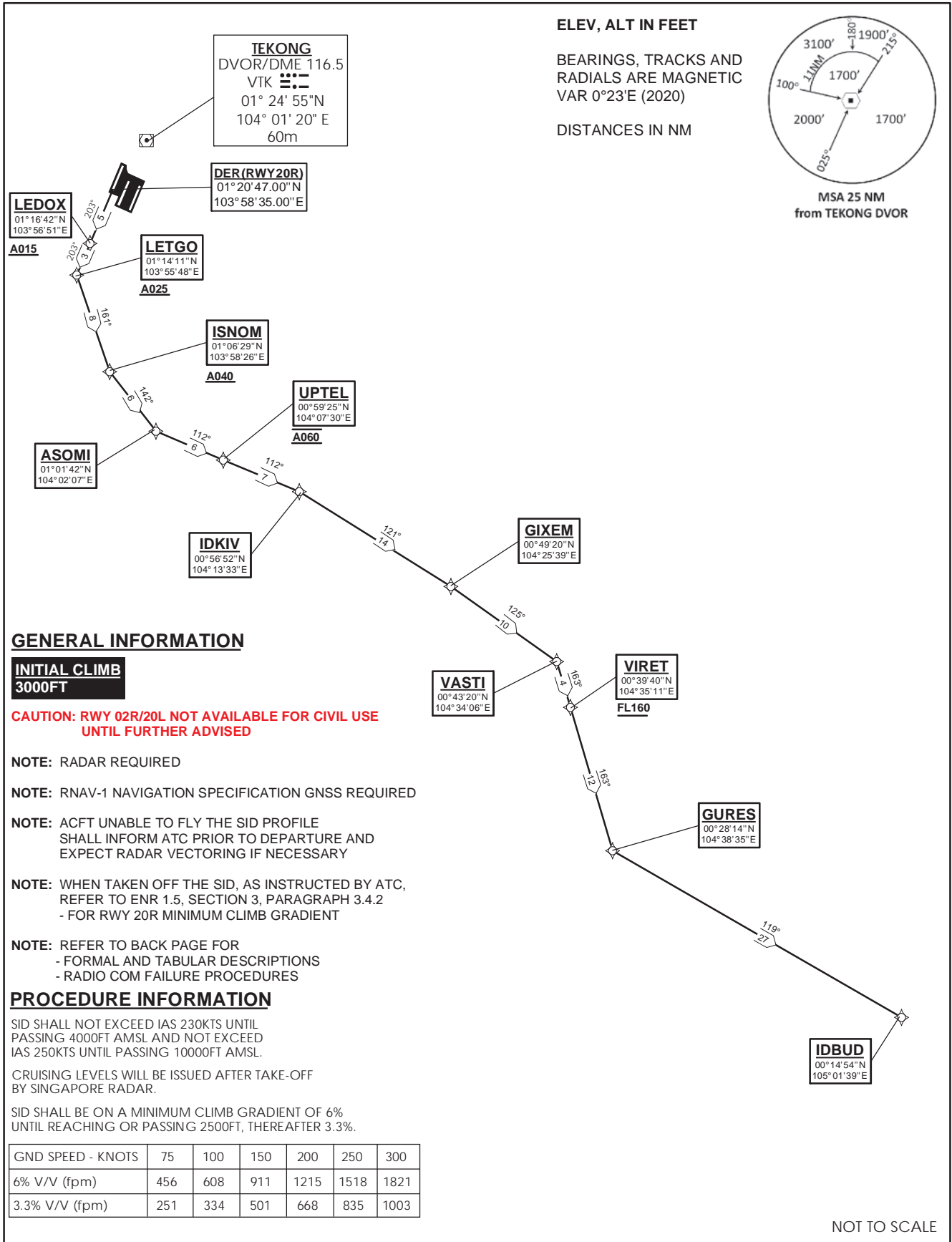
**STANDARD DEPARTURE CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (SID)**

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.4

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20R**  
**IDBUD DEPARTURES**  
**IDBUD 1F**



## IDBUD 1F (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.	LEDOX [M203; A015+] -	CF	N
To LETGO at or above 2500ft, turn left.	LETGO [A025+; L] -	TF	N
To ISNOM at or above 4000ft, turn left.	ISNOM [A040+; L] -	TF	N
To ASOMI, turn left.	ASOMI [L] -	TF	N
To UPTTEL at 6000ft.	UPTTEL [@A060] -	TF	N
To IDKIV, turn right.	IDKIV [R] -	TF	N
To GIXEM, turn right.	GIXEM [R] -	TF	N
To VASTI, turn right.	VASTI [R] -	TF	N
To VIRET at or above FL160.	VIRET [FL160+] -	TF	N
To GURES, turn left.	GURES [L] -	TF	N
To IDBUD.	IDBUD	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(203.4)	5.0	-	A015+	-	RNAV1
TF	LETGO	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	ISNOM	-	161(161.4)	8.0	L	A040+	-	RNAV1
TF	ASOMI	-	142(142.4)	6.0	L	-	-	RNAV1
TF	UPTTEL	-	112(112.4)	6.0	-	@A060	-	RNAV1
TF	IDKIV	-	112(112.4)	7.0	R	-	-	RNAV1
TF	GIXEM	-	121(121.4)	14.0	R	-	-	RNAV1
TF	VASTI	-	125(125.4)	10.0	R	-	-	RNAV1
TF	VIRET	-	163(163.4)	4.0	-	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	L	-	-	RNAV1
TF	IDBUD	-	119(119.4)	27.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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


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

TWR 118.6 / 118.25 APP 120.3 124.05 ACC 134.4	TRANSITION ALTITUDE 11 000ft
	D-ATIS AP ID-WSSS 128.6

**SINGAPORE/Singapore Changi**  
**RWY 02C**  
**KIRDA DEPARTURES**  
**KIRDA 1A**

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

DISTANCES IN NM

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

**DER (RWY 02C)**  
01°21'45.00"N  
103°59'57.00"E

**MOXIB**  
01°29'33"N  
104°03'15"E

**A020**

**EMRIX**  
01°26'06"N  
104°10'40"E

**A040**

**HOSBA**  
01°19'48"N  
104°24'18"E

**A070**

**VANBU**  
01°06'43"N  
104°27'40"E

**A090**

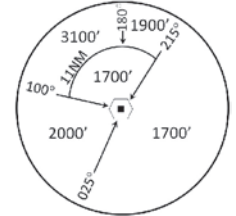
**VIRET**  
00°39'40"N  
104°35'11"E

**FL160**

**GURES**  
00°28'14"N  
104°38'35"E

**IKIRO**  
00°08'49"N  
104°44'20"E

**KIRDA**  
00°00'09"N  
104°59'34"E



**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORIZING 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**

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

## KIRDA 1A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOXIB on course 023° at or above 2000ft, turn right.	MOXIB [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn right.	HOSBA [A070+; R] -	TF	N
To VANBU at or below 9000ft, turn left.	VANBU [A090-; L] -	TF	N
To VIRET at or above FL160, turn left.	VIRET [FL160+; L] -	TF	N
To GURES.	GURES -	TF	N
To IKIRO, turn left.	IKIRO [L] -	TF	N
To KIRDA.	KIRDA	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOXIB	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	8.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	R	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	L	A090-	-	RNAV1
TF	VIRET	-	164(164.4)	28.0	L	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	-	-	-	RNAV1
TF	IKIRO	-	163(163.4)	20.0	L	-	-	RNAV1
TF	KIRDA	-	119(119.4)	18.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

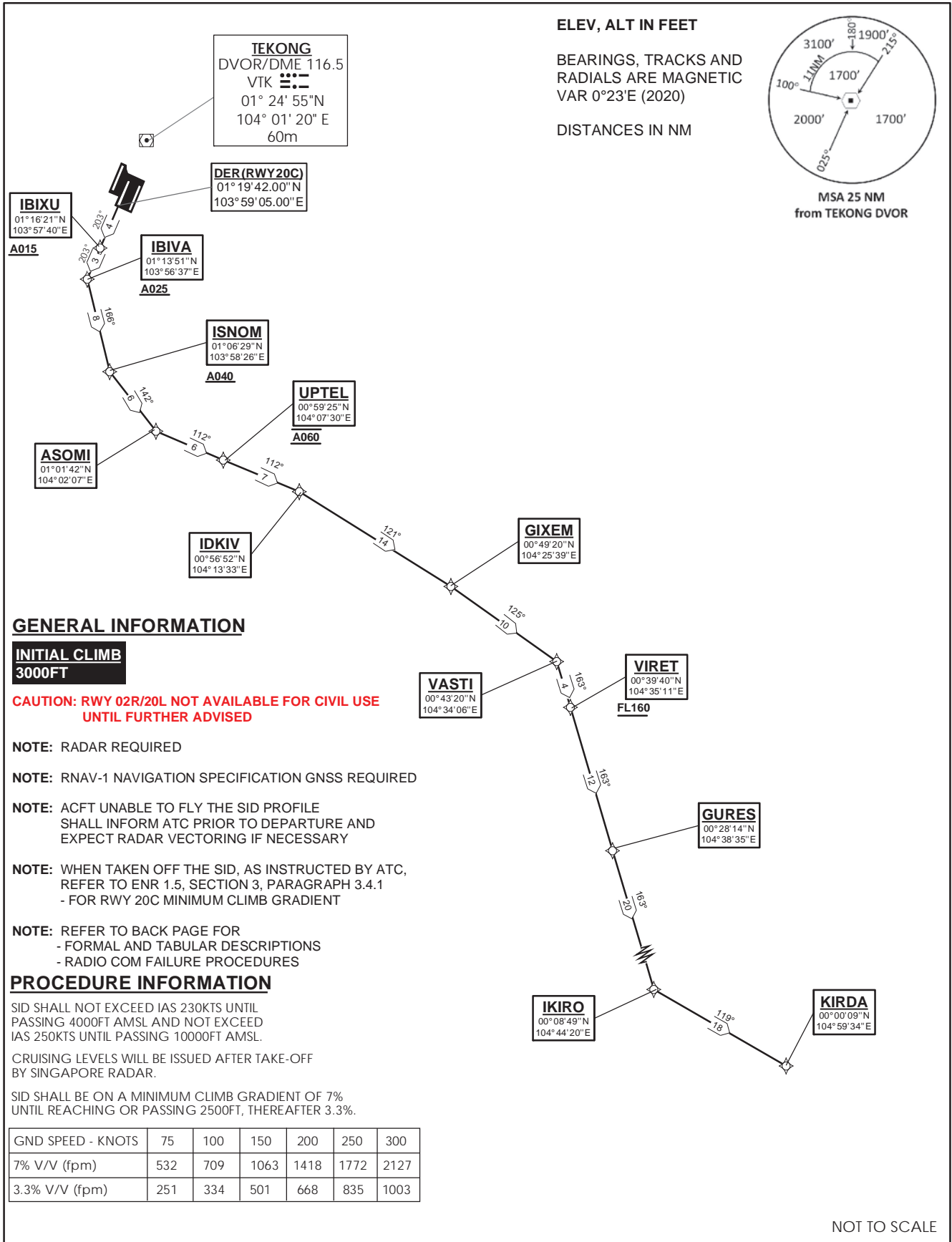
**STANDARD DEPARTURE CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (SID)**

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.4

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20C**  
**KIRDA DEPARTURES**  
**KIRDA 1B**



## KIRDA 1B (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.	IBIXU [M203; A015+] -	CF	N
To IBIVA at or above 2500ft, turn left.	IBIVA [A025+; L] -	TF	N
To ISNOM at or above 4000ft, turn left.	ISNOM [A040+; L] -	TF	N
To ASOMI, turn left.	ASOMI [L] -	TF	N
To UPTTEL at 6000ft.	UPTTEL [@A060] -	TF	N
To IDKIV, turn right.	IDKIV [R] -	TF	N
To GIXEM, turn right.	GIXEM [R] -	TF	N
To VASTI, turn right.	VASTI [R] -	TF	N
To VIRET at or above FL160.	VIRET [FL160+] -	TF	N
To GURES.	GURES -	TF	N
To IKIRO, turn left.	IKIRO [L] -	TF	N
To KIRDA.	KIRDA	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(203.4)	4.0	-	A015+	-	RNAV1
TF	IBIVA	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	ISNOM	-	166(166.4)	8.0	L	A040+	-	RNAV1
TF	ASOMI	-	142(142.4)	6.0	L	-	-	RNAV1
TF	UPTTEL	-	112(112.4)	6.0	-	@A060	-	RNAV1
TF	IDKIV	-	112(112.4)	7.0	R	-	-	RNAV1
TF	GIXEM	-	121(121.4)	14.0	R	-	-	RNAV1
TF	VASTI	-	125(125.4)	10.0	R	-	-	RNAV1
TF	VIRET	-	163(163.4)	4.0	-	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	-	-	-	RNAV1
TF	IKIRO	-	163(163.4)	20.0	L	-	-	RNAV1
TF	KIRDA	-	119(119.4)	18.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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



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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.4

TRANSITION ALTITUDE  
11 000ft

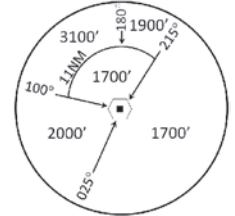
D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02R**  
**KIRDA DEPARTURES (RADAR)**  
**KIRDA 1C**

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

DISTANCES IN NM

**EXPECT RADAR vectors  
to waypoint HOSBA**



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

**DER(RWY02R)**  
01°21'22"N  
104°00'51"E

**HOSBA**  
01°19'48"N  
104°24'18"E  
**A070**

**VANBU**  
01°06'43"N  
104°27'40"E  
**A090**

**VIRET**  
00°39'40"N  
104°35'11"E  
**FL160**

**GURES**  
00°28'14"N  
104°38'35"E

**IKIRO**  
00°08'49"N  
104°44'20"E

**KIRDA**  
00°00'09"N  
104°59'34"E

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORED IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.5 - FOR RWY 02R MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

## KIRDA 1C (SID) RNAV GNSS RWY 02R - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
Climb heading 023°, Gradient 5% to 2500ft, thence 3.3%. Expect radar vectors to waypoint HOSBA.	-	VA	N
To HOSBA at or above 7000ft.	HOSBA [A070+] -	DF	N
To VANBU at or below 9000ft, turn left.	VANBU [A090-; L] -	TF	N
To VIRET at or above FL160, turn left.	VIRET [FL160+; L] -	TF	N
To GURES.	GURES -	TF	N
To IKIRO, turn left.	IKIRO [L] -	TF	N
To KIRDA.	KIRDA	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
VA	-	-	023(023.4)	-	-	A030	-	-
DF	HOSBA	-	-	-	-	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	L	A090-	-	RNAV1
TF	VIRET	-	164(164.4)	28.0	L	FL160+	-	RNAV1
TF	GURES	-	163(163.3)	12.0	-	-	-	RNAV1
TF	IKIRO	-	163(163.3)	20.0	L	-	-	RNAV1
TF	KIRDA	-	119(119.3)	18.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

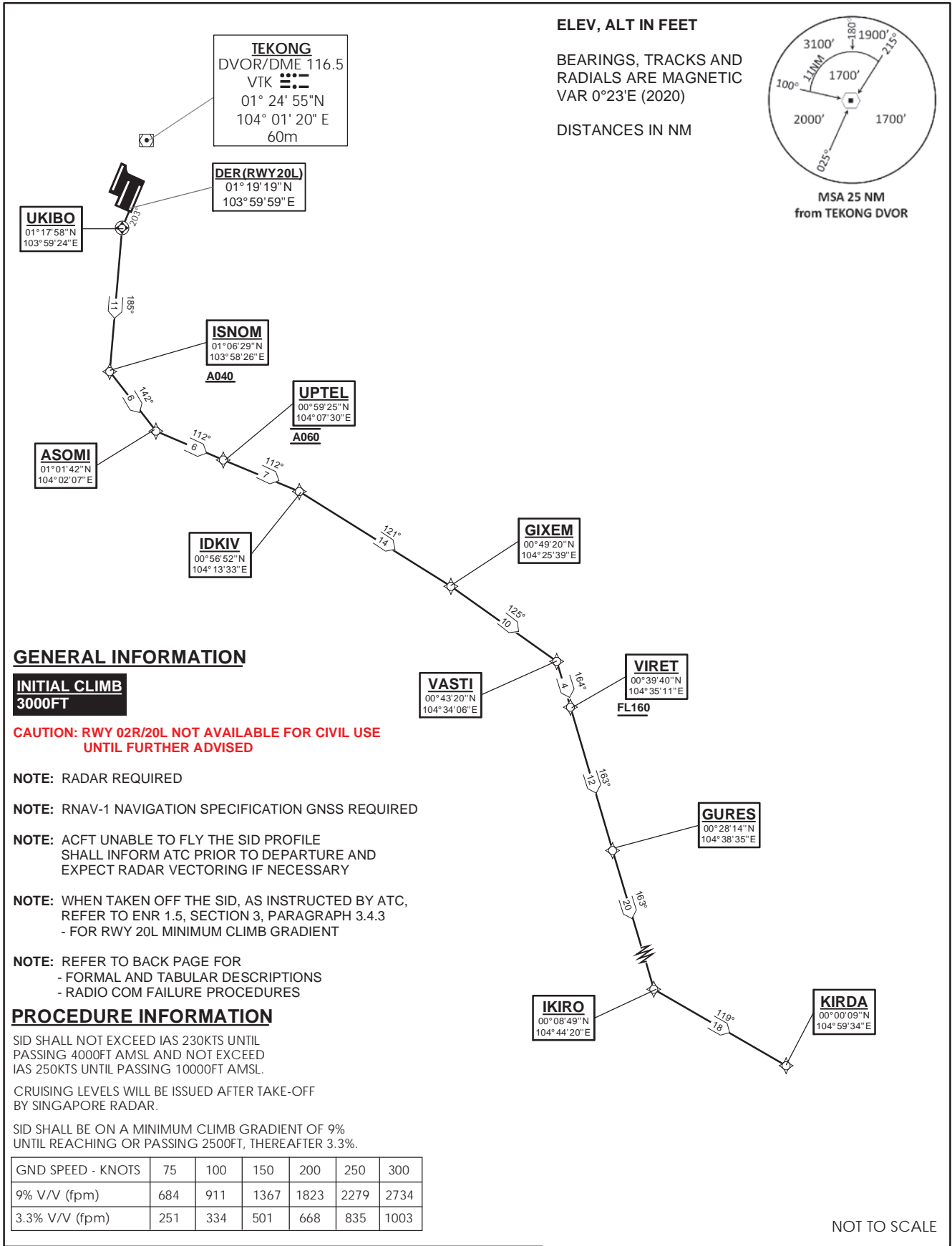
**STANDARD DEPARTURE CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (SID)**

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.4

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20L**  
**KIRDA DEPARTURES**  
**KIRDA 1D**



## KIRDA 1D (SID) RNAV GNSS RWY 20L - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To UKIBO on course 203°, turn left.	UKIBO [M203; L] -	CF	N
To ISNOM at or above 4000ft, turn left.	ISNOM [A040+; L] -	TF	N
To ASOMI, turn left.	ASOMI [L] -	TF	N
To UPTTEL at 6000ft.	UPTTEL [@A060] -	TF	N
To IDKIV, turn right.	IDKIV [R] -	TF	N
To GIXEM, turn right.	GIXEM [R] -	TF	N
To VASTI, turn right.	VASTI [R] -	TF	N
To VIRET at or above FL160, turn left.	VIRET [FL160+; L] -	TF	N
To GURES.	GURES -	TF	N
To IKIRO, turn left.	IKIRO [L] -	TF	N
To KIRDA.	KIRDA	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	UKIBO	Y	203(203.4)	1.5	L	-	-	RNAV1
TF	ISNOM	-	185(185.4)	11.0	L	A040+	-	RNAV1
TF	ASOMI	-	142(142.4)	6.0	L	-	-	RNAV1
TF	UPTTEL	-	112(112.4)	6.0	-	@A060	-	RNAV1
TF	IDKIV	-	112(112.4)	7.0	R	-	-	RNAV1
TF	GIXEM	-	121(121.4)	14.0	R	-	-	RNAV1
TF	VASTI	-	125(125.4)	10.0	R	-	-	RNAV1
TF	VIRET	-	164(164.4)	4.0	L	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	-	-	-	RNAV1
TF	IKIRO	-	163(163.4)	20.0	L	-	-	RNAV1
TF	KIRDA	-	119(119.4)	18.0	-	-	-	RNAV1

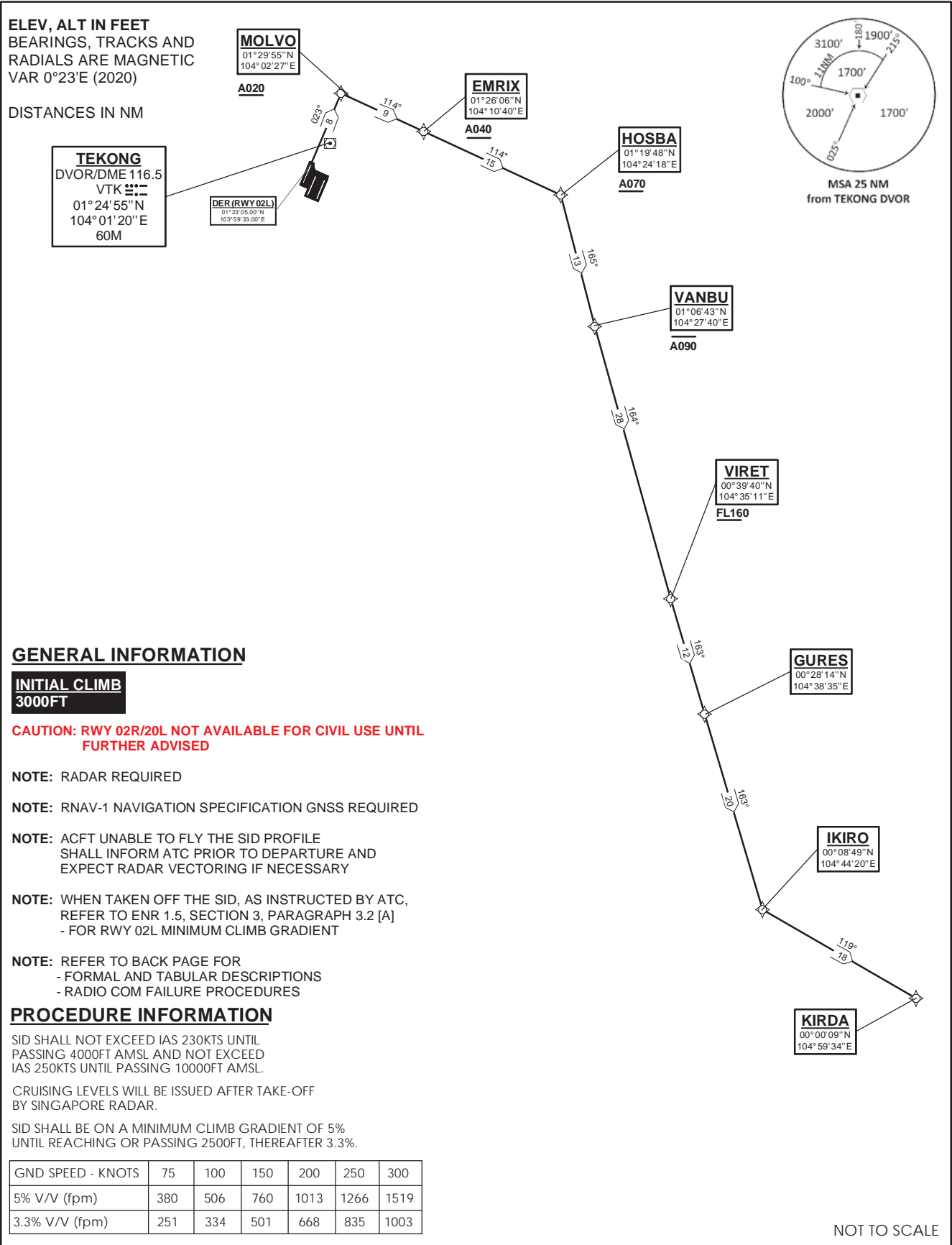
### Radio Communications Failure Procedure

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

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

TWR 118.6 / 118.25 APP 120.3 124.05 ACC 134.4	TRANSITION ALTITUDE 11 000ft
D-ATIS AP ID-WSSS 128.6	

**SINGAPORE/Singapore Changi**  
**RWY 02L**  
**KIRDA DEPARTURES**  
**KIRDA 1E**



## KIRDA 1E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOLVO on course 023° at or above 2000ft, turn right.	MOLVO [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn right.	HOSBA [A070+; R] -	TF	N
To VANBU at or below 9000ft, turn left.	VANBU [A090-; L] -	TF	N
To VIRET at or above FL160, turn left.	VIRET [FL160+; L] -	TF	N
To GURES.	GURES -	TF	N
To IKIRO, turn left.	IKIRO [L] -	TF	N
To KIRDA.	KIRDA	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOLVO	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	9.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	R	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	L	A090-	-	RNAV1
TF	VIRET	-	164(164.4)	28.0	L	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	-	-	-	RNAV1
TF	IKIRO	-	163(163.4)	20.0	L	-	-	RNAV1
TF	KIRDA	-	119(119.4)	18.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

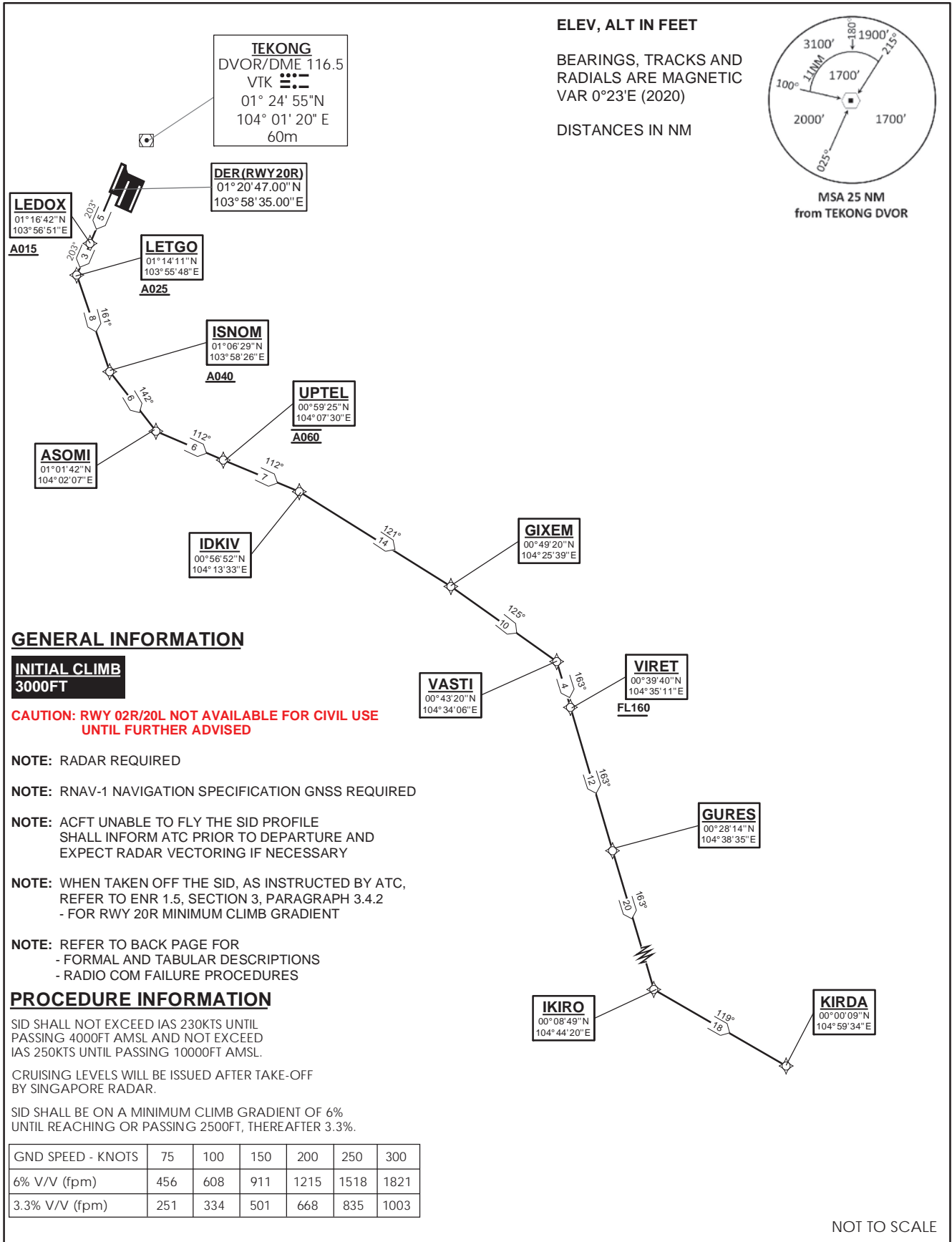
**STANDARD DEPARTURE CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (SID)**

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.4

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20R**  
**KIRDA DEPARTURES**  
**KIRDA 1F**



## KIRDA 1F (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.	LEDOX [M203; A015+] -	CF	N
To LETGO at or above 2500ft, turn left.	LETGO [A025+; L] -	TF	N
To ISNOM at or above 4000ft, turn left.	ISNOM [A040+; L] -	TF	N
To ASOMI, turn left.	ASOMI [L] -	TF	N
To UPTTEL at 6000ft.	UPTTEL [@A060] -	TF	N
To IDKIV, turn right.	IDKIV [R] -	TF	N
To GIXEM, turn right.	GIXEM [R] -	TF	N
To VASTI, turn right.	VASTI [R] -	TF	N
To VIRET at or above FL160.	VIRET [FL160+] -	TF	N
To GURES.	GURES -	TF	N
To IKIRO, turn left.	IKIRO [L] -	TF	N
To KIRDA.	KIRDA	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(203.4)	5.0	-	A015+	-	RNAV1
TF	LETGO	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	ISNOM	-	161(161.4)	8.0	L	A040+	-	RNAV1
TF	ASOMI	-	142(142.4)	6.0	L	-	-	RNAV1
TF	UPTTEL	-	112(112.4)	6.0	-	@A060	-	RNAV1
TF	IDKIV	-	112(112.4)	7.0	R	-	-	RNAV1
TF	GIXEM	-	121(121.4)	14.0	R	-	-	RNAV1
TF	VASTI	-	125(125.4)	10.0	R	-	-	RNAV1
TF	VIRET	-	163(163.4)	4.0	-	FL160+	-	RNAV1
TF	GURES	-	163(163.4)	12.0	-	-	-	RNAV1
TF	IKIRO	-	163(163.4)	20.0	L	-	-	RNAV1
TF	KIRDA	-	119(119.4)	18.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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



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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

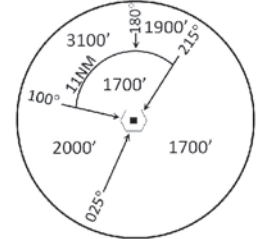
TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02C**  
**MASBO DEPARTURES**  
**MASBO 3A**

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

DISTANCES IN NM



MSA 25 NM  
from TEKONG DVOR

**MASBO**  
02° 02' 48" N  
102° 52' 51" E

296°  
27

**SABKA**  
01° 50' 51" N  
103° 17' 13" E

278°  
25

**AGVAR**  
01° 47' 19" N  
103° 41' 45" E  
**A110**

278°  
13

**AKOMA**  
01° 45' 22" N  
103° 54' 43" E  
**A070**

331°  
18

**MOXIB**  
01° 29' 33" N  
104° 03' 15" E  
**A020**

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

**DER (RWY 02C)**  
01° 21' 45" N  
103° 59' 57" E

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL  
USE UNTIL FURTHER ADVISED**

**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 VECTURING,  
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**

**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**

SID 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 5%  
UNTIL REACHING OR PASSING 2500FT, 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

31 OCT 2024

**MASBO 3A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOXIB on course 023° at or above 2000ft, turn left.	MOXIB [M023; A020+; L] -	CF	N
To AKOMA at or above 7000ft, turn left.	AKOMA [A070+; L] -	TF	N
To AGVAR at or above 11000ft.	AGVAR [A110+] -	TF	N
To SABKA, turn right.	SABKA [R] -	TF	N
To MASBO.	MASBO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOXIB	-	023(023.4)	8.0	L	A020+	-	RNAV1
TF	AKOMA	-	331(331.4)	18.0	L	A070+	-	RNAV1
TF	AGVAR	-	278(278.4)	13.0	-	A110+	-	RNAV1
TF	SABKA	-	278(278.4)	25.0	R	-	-	RNAV1
TF	MASBO	-	296(296.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

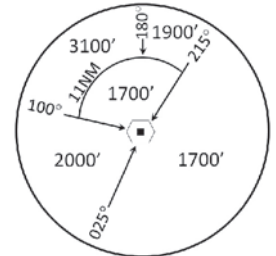
D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20C**  
**MASBO DEPARTURES**  
**MASBO 5B**

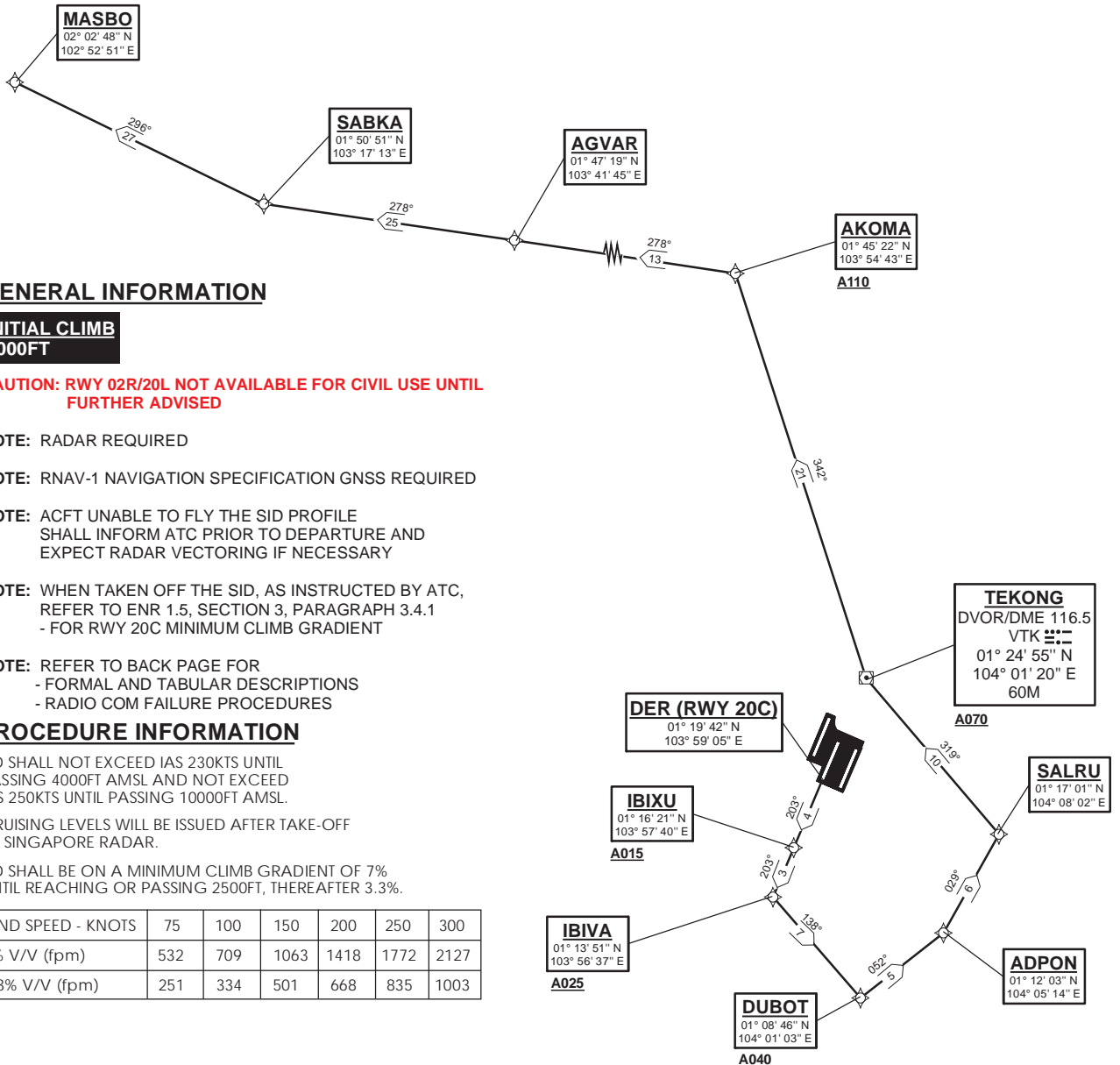
**ELEV, ALT IN FEET**  
**BEARINGS, TRACKS AND**  
**RADIALS ARE MAGNETIC**  
**VAR 0°23'E (2022)**

NOT TO SCALE

DISTANCES IN NM



MSA 25 NM  
from TEKONG DVOR



**GENERAL INFORMATION**

**INITIAL CLIMB**  
3000FT

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORED IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.1 - FOR RWY 20C MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

SID 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	1063	1418	1772	2127
3.3% V/V (fpm)	251	334	501	668	835	1003

31 OCT 2024

**MASBO 5B (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.	IBIXU [M203; A015+] -	CF	N
To IBIVA at or above 2500ft, turn left.	IBIVA [A025+; L] -	TF	N
To DUBOT at or above 4000ft, turn left.	DUBOT [A040+; L] -	TF	N
To ADPON, turn left.	ADPON [L] -	TF	N
To SALRU, turn left.	SALRU [L] -	TF	N
To VTK at or above 7000ft, turn right.	VTK [A070+; R] -	TF	N
To AKOMA at or above 11000ft, turn left.	AKOMA [A110+; L] -	TF	N
To AGVAR.	AGVAR -	TF	N
To SABKA, turn right.	SABKA [R] -	TF	N
To MASBO.	MASBO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(203.4)	4.0	-	A015+	-	RNAV1
TF	IBIVA	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	DUBOT	-	138(138.4)	7.0	L	A040+	-	RNAV1
TF	ADPON	-	052(052.4)	5.0	L	-	-	RNAV1
TF	SALRU	-	029(029.4)	6.0	L	-	-	RNAV1
TF	VTK	-	319(319.4)	10.0	R	A070+	-	RNAV1
TF	AKOMA	-	342(342.4)	21.0	L	A110+	-	RNAV1
TF	AGVAR	-	278(278.4)	13.0	-	-	-	RNAV1
TF	SABKA	-	278(278.4)	25.0	R	-	-	RNAV1
TF	MASBO	-	296(296.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

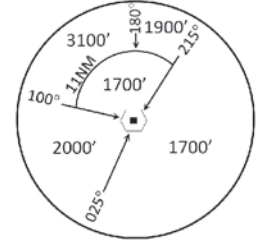
TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02R**  
**MASBO DEPARTURES (RADAR)**  
**MASBO 1C**

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

DISTANCES IN NM



**MASBO**  
02°02'48"N  
102°52'51"E

296°  
27

**SABKA**  
01°50'51"N  
103°17'13"E

278°  
25

**AGVAR**  
01°47'19"N  
103°41'45"E

A110

278°  
13

**AKOMA**  
01°45'22"N  
103°54'43"E

A070

**GENERAL INFORMATION**

**INITIAL CLIMB**  
3000FT

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORING IF NECESSARY**

**NOTE: WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.5 - FOR RWY 02R MINIMUM CLIMB GRADIENT**

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

**EXPECT RADAR vectors to waypoint AKOMA**

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

**DER (RWY 02R)**  
01°21'22"N  
104°00'51"E

NOT TO SCALE

## MASBO 1C (SID) RNAV GNSS RWY 02R - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
Climb heading 023°, Gradient 5% to 2500ft, thence 3.3%. Expect radar vectors to waypoint AKOMA.	-	VA	N
To AKOMA at or above 7000ft.	AKOMA [A070+] -	DF	N
To AGVAR at or above 11000ft.	AGVAR [A110+] -	TF	N
To SABKA, turn right.	SABKA [R] -	TF	N
To MASBO.	MASBO	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
VA	-	-	023(023.4)	-	-	A030	-	-
DF	AKOMA	-	-	-	-	A070+	-	RNAV1
TF	AGVAR	-	278(278.4)	13.0	-	A110+	-	RNAV1
TF	SABKA	-	278(278.4)	25.0	R	-	-	RNAV1
TF	MASBO	-	296(296.4)	27.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

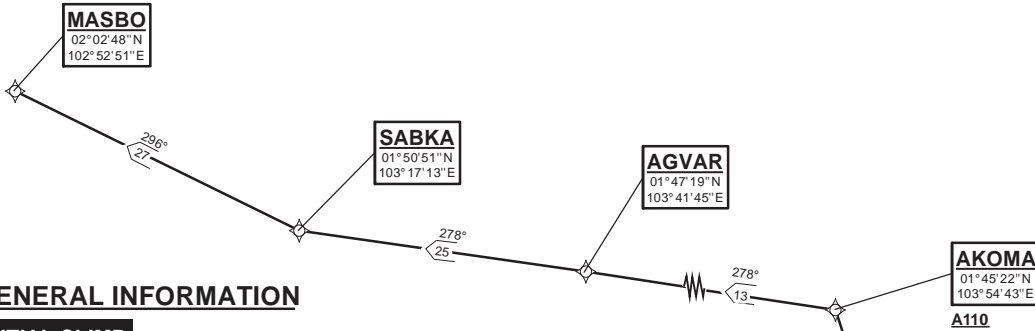
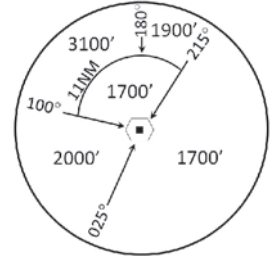
D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20L**  
**MASBO DEPARTURES**  
**MASBO 1D**

ELEV, ALT IN FEET  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2022)

NOT TO SCALE

DISTANCES IN NM



**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORING IF NECESSARY**

**NOTE: WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.3 - FOR RWY 20L MINIMUM CLIMB GRADIENT**

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

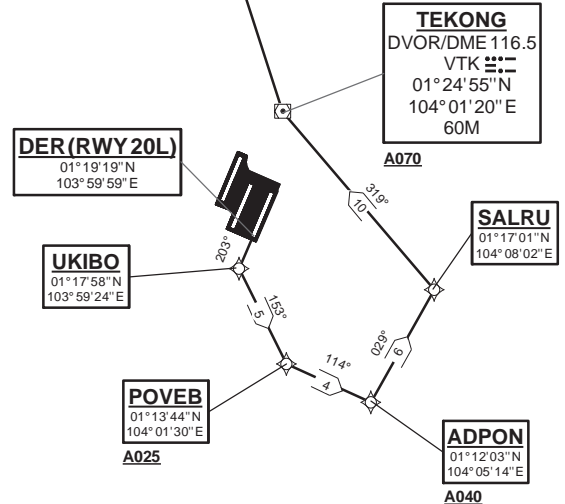
**PROCEDURE INFORMATION**

SID 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 9% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
9% V/V (fpm)	684	911	1367	1823	2279	2734
3.3% V/V (fpm)	251	334	501	668	835	1003



## MASBO 1D (SID) RNAV GNSS RWY 20L - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To UKIBO on course 203°, turn left.	UKIBO [M203; L] -	CF	N
To POVEB at or above 2500ft, turn left.	POVEB [A025+; L] -	TF	N
To ADPON at or above 4000ft, turn left.	ADPON [A040+; L] -	TF	N
To SALRU, turn left.	SALRU [L] -	TF	N
To VTK at or above 7000ft, turn right.	VTK [A070+; R] -	TF	N
To AKOMA at or above 11000ft, turn left.	AKOMA [A110+; L] -	TF	N
To AGVAR.	AGVAR -	TF	N
To SABKA, turn right.	SABKA [R] -	TF	N
To MASBO.	MASBO	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	UKIBO	-	203(203.4)	1.5	L	-	-	RNAV1
TF	POVEB	-	153(153.4)	5.0	L	A025+	-	RNAV1
TF	ADPON	-	114(114.4)	4.0	L	A040+	-	RNAV1
TF	SALRU	-	029(029.4)	6.0	L	-	-	RNAV1
TF	VTK	-	319(319.4)	10.0	R	A070+	-	RNAV1
TF	AKOMA	-	342(342.4)	21.0	L	A110+	-	RNAV1
TF	AGVAR	-	278(278.4)	13.0	-	-	-	RNAV1
TF	SABKA	-	278(278.4)	25.0	R	-	-	RNAV1
TF	MASBO	-	296(296.4)	27.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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



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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

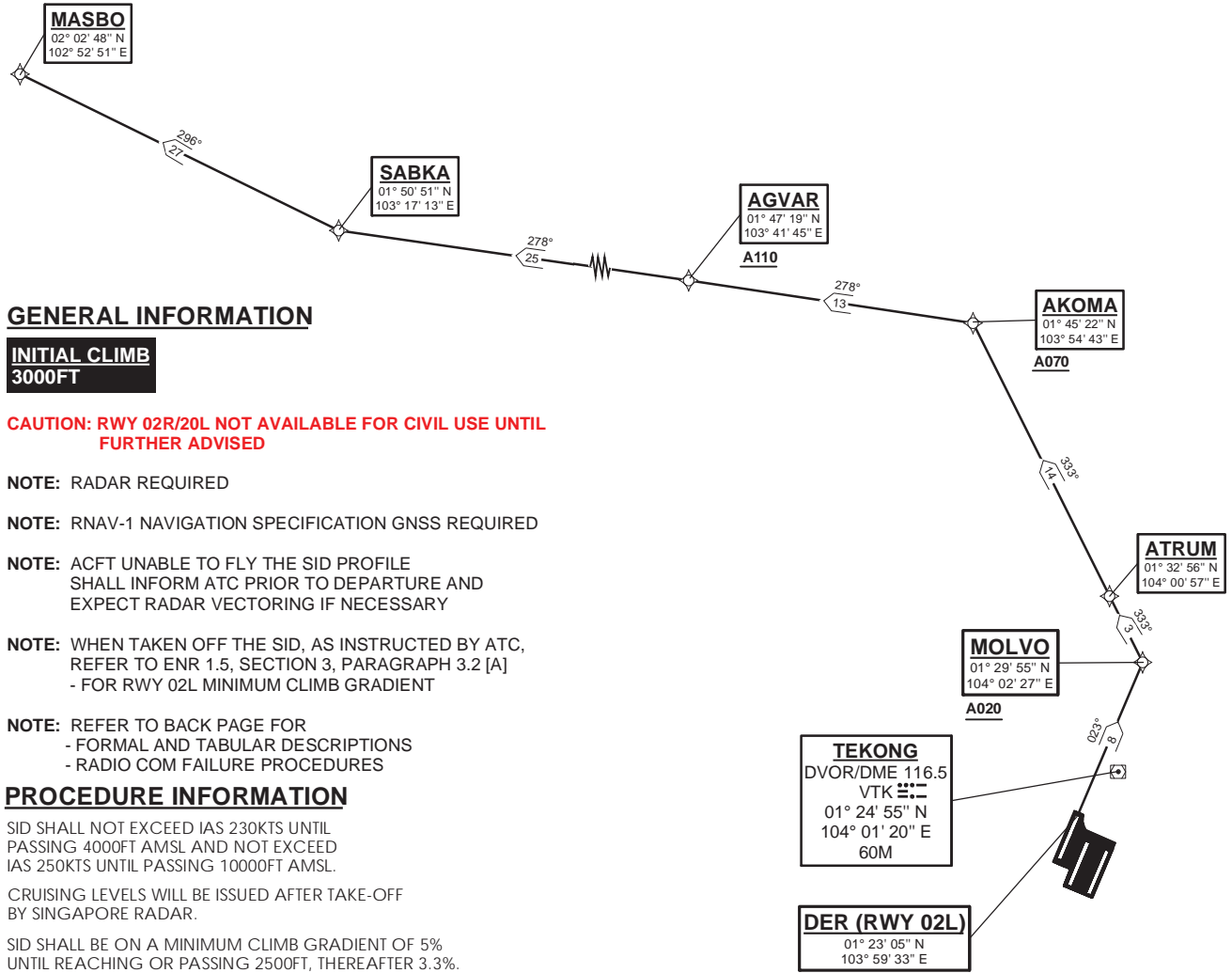
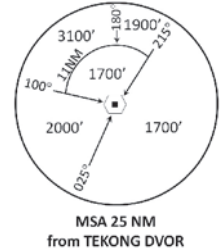
TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02L**  
**MASBO DEPARTURES**  
**MASBO 3E**

**ELEV, ALT IN FEET**  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2022)

DISTANCES IN NM



**GENERAL INFORMATION**

**INITIAL CLIMB**  
3000FT

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

31 OCT 2024

**MASBO 3E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

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

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOLVO	-	023(023.4)	8.0	L	A020+	-	RNAV1
TF	ATRUM	-	333(333.4)	3.0	-	-	-	RNAV1
TF	AKOMA	-	333(333.4)	14.0	L	A070+	-	RNAV1
TF	AGVAR	-	278(278.4)	13.0	-	A110+	-	RNAV1
TF	SABKA	-	278(278.4)	25.0	R	-	-	RNAV1
TF	MASBO	-	296(296.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

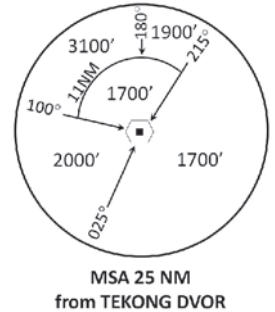
D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20R**  
**MASBO DEPARTURES**  
**MASBO 5F**

**ELEV, ALT IN FEET**  
**BEARINGS, TRACKS AND**  
**RADIALS ARE MAGNETIC**  
**VAR 0°23'E (2022)**

NOT TO SCALE

DISTANCES IN NM



**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

**AKOMA**  
01° 45' 22" N  
103° 54' 43" E  
**A110**

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORED IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

SID 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 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

**DER (RWY 20R)**  
01° 20' 47" N  
103° 58' 35" E

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

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

**DUBOT**  
01° 08' 46" N  
104° 01' 03" E  
**A040**

**TEKONG**  
DVOR/DME 116.5  
VTK  
01° 24' 55" N  
104° 01' 20" E  
60M  
**A070**

**SALRU**  
01° 17' 01" N  
104° 08' 02" E

**ADPON**  
01° 12' 03" N  
104° 05' 14" E

31 OCT 2024

**MASBO 5F (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.	LEDOX [M203; A015+] -	CF	N
To LETGO at or above 2500ft, turn left.	LETGO [A025+; L] -	TF	N
To DUBOT at or above 4000ft, turn left.	DUBOT [A040+; L] -	TF	N
To ADPON, turn left.	ADPON [L] -	TF	N
To SALRU, turn left.	SALRU [L] -	TF	N
To VTK at or above 7000ft, turn right.	VTK [A070+; R] -	TF	N
To AKOMA at or above 11000ft, turn left.	AKOMA [A110+; L] -	TF	N
To AGVAR.	AGVAR -	TF	N
To SABKA, turn right.	SABKA [R] -	TF	N
To MASBO.	MASBO	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(203.4)	5.0	-	A015+	-	RNAV1
TF	LETGO	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	DUBOT	-	135(135.4)	8.0	L	A040+	-	RNAV1
TF	ADPON	-	052(052.4)	5.0	L	-	-	RNAV1
TF	SALRU	-	029(029.4)	6.0	L	-	-	RNAV1
TF	VTK	-	319(319.4)	10.0	R	A070+	-	RNAV1
TF	AKOMA	-	342(342.4)	21.0	L	A110+	-	RNAV1
TF	AGVAR	-	278(278.4)	13.0	-	-	-	RNAV1
TF	SABKA	-	278(278.4)	25.0	R	-	-	RNAV1
TF	MASBO	-	296(296.4)	27.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.8

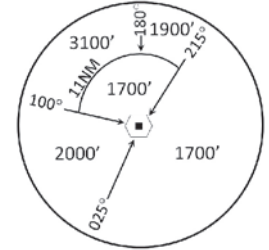
TRANSITION ALTITUDE  
11 000ft  
  
D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02C**  
**MERSING DEPARTURES**  
**VMR 6A**

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

DISTANCES IN NM

**VMR**  
02° 23' 18" N  
103° 52' 18" E



MSA 25 NM  
from TEKONG DVOR

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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

**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.

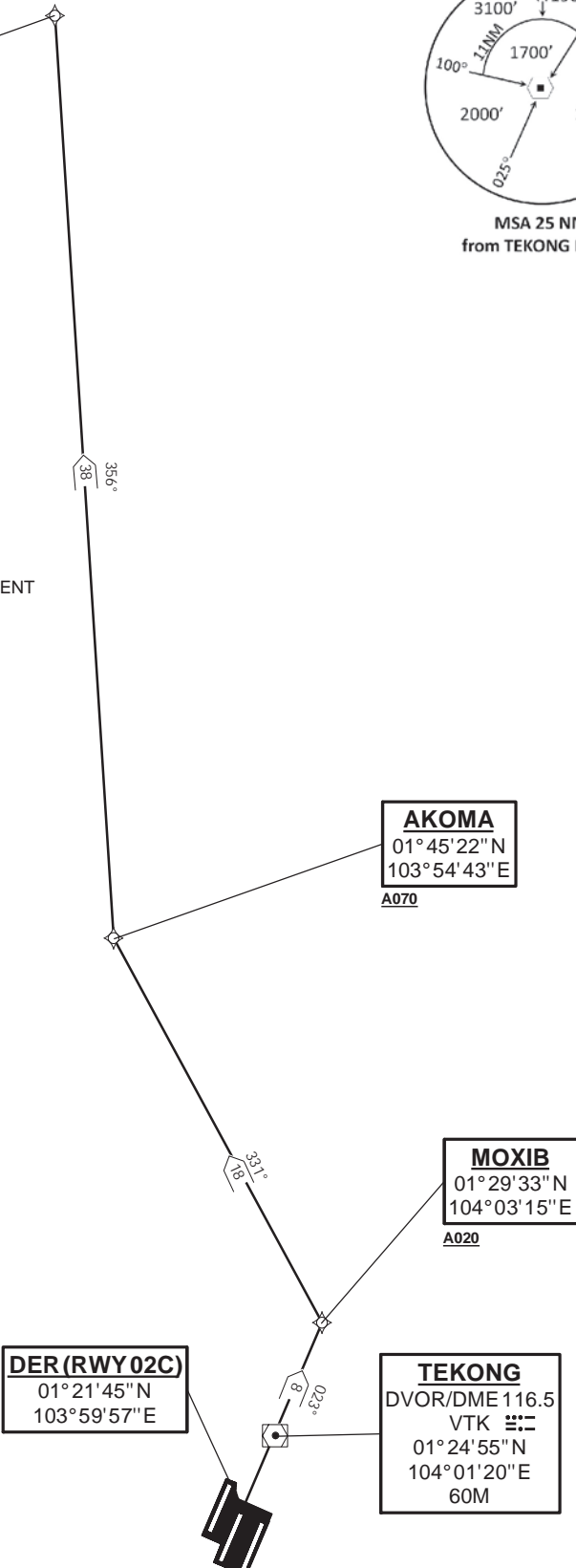
**RWY 02C**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

31 OCT 2024

**VMR 6A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOXIB on course 023° at or above 2000ft, turn left.	MOXIB [M023; A020+; L] -	CF	N
To AKOMA at or above 7000ft, turn right.	AKOMA [A070+; R] -	TF	N
To VMR.	VMR	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOXIB	-	023(023.4)	8.0	L	A020+	-	RNAV1
TF	AKOMA	-	331(331.4)	18.0	R	A070+	-	RNAV1
TF	VMR	-	356(356.4)	38.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25 APP 120.3 124.05 ACC 133.8	TRANSITION ALTITUDE 11 000ft
	D-ATIS AP ID-WSSS 128.6

**SINGAPORE/Singapore Changi**  
**RWY 20C**  
**MERSING DEPARTURES**  
**VMR 9B**

**ELEV, ALT IN FEET**  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2022)

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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  
EXPECT RADAR VECTORING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.1  
- FOR RWY 20C MINIMUM CLIMB GRADIENT

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

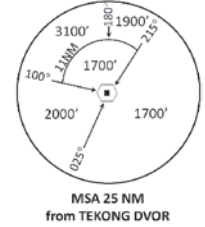
**PROCEDURE INFORMATION**

SID 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	1063	1418	1772	2127
3.3% V/V (fpm)	251	334	501	668	835	1003



**VMR**  
02° 23' 18" N  
103° 52' 18" E

**AKOMA**  
01° 45' 22" N  
103° 54' 43" E  
**A110**

**TEKONG**  
DVOR/DME 116.5  
VTK   
01° 24' 55" N  
104° 01' 20" E  
60M  
**A070**

**DER (RWY 20C)**  
01° 19' 42" N  
103° 59' 05" E

**IBIXU**  
01° 16' 21" N  
103° 57' 40" E  
**A015**

**SALRU**  
01° 17' 01" N  
104° 08' 02" E

**IBIVA**  
01° 13' 51" N  
103° 56' 37" E  
**A025**

**DUBOT**  
01° 08' 46" N  
104° 01' 03" E  
**A040**

**ADPON**  
01° 12' 03" N  
104° 05' 14" E

NOT TO SCALE

## VMR 9B (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.	IBIXU [M203; A015+] -	CF	N
To IBIVA at or above 2500ft, turn left.	IBIVA [A025+; L] -	TF	N
To DUBOT at or above 4000ft, turn left.	DUBOT [A040+; L] -	TF	N
To ADPON, turn left.	ADPON [L] -	TF	N
To SALRU, turn left.	SALRU [L] -	TF	N
To VTK at or above 7000ft, turn right.	VTK [A070+; R] -	TF	N
To AKOMA at or above 11000ft, turn right.	AKOMA [A110+; R] -	TF	N
To VMR.	VMR	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(203.4)	4.0	-	A015+	-	RNAV1
TF	IBIVA	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	DUBOT	-	138(138.4)	7.0	L	A040+	-	RNAV1
TF	ADPON	-	052(052.4)	5.0	L	-	-	RNAV1
TF	SALRU	-	029(029.4)	6.0	L	-	-	RNAV1
TF	VTK	-	319(319.4)	10.0	R	A070+	-	RNAV1
TF	AKOMA	-	342(342.4)	21.0	R	A110+	-	RNAV1
TF	VMR	-	356(356.4)	38.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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



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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.8

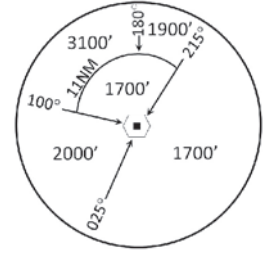
TRANSITION ALTITUDE  
11 000ft  
  
D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02R**  
**MERSING DEPARTURES (RADAR)**  
**VMR 1C**

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

DISTANCES IN NM

**VMR**  
02°23'18"N  
103°52'18"E



**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.5 - FOR RWY 02R MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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



**AKOMA**  
01°45'22"N  
103°54'43"E  
**A070**

**EXPECT RADAR vectors to waypoint AKOMA**

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

**DER (RWY 02R)**  
01°21'22"N  
104°00'51"E

NOT TO SCALE

31 OCT 2024

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

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
Climb heading 023°, Gradient 5% to 2500ft, thence 3.3%. Expect radar vectors to waypoint AKOMA.	-	VA	N
To AKOMA at or above 7000ft.	AKOMA [A070+] -	DF	N
To VMR.	VMR	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
VA	-	-	023(023.4)	-	-	A030	-	-
DF	AKOMA	-	-	-	-	A070+	-	RNAV1
TF	VMR	-	356(356.4)	38.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.8

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20L**  
**MERSING DEPARTURES**  
**VMR 1D**

**ELEV, ALT IN FEET**  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2022)

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORED IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.3 - FOR RWY 20L MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

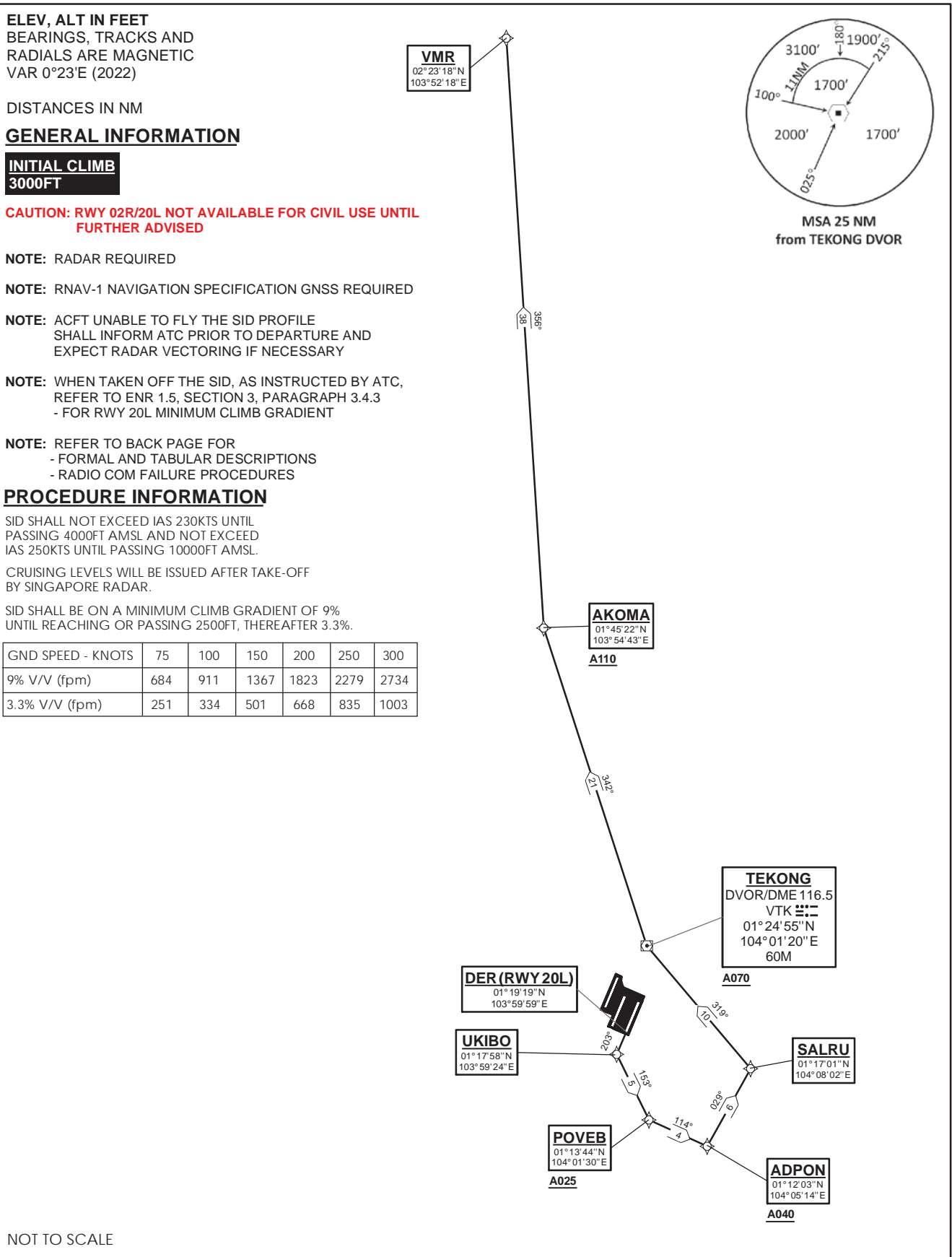
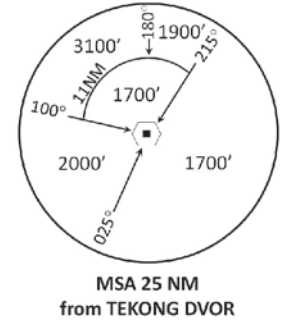
SID SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.

CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.

SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 9% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
9% V/V (fpm)	684	911	1367	1823	2279	2734
3.3% V/V (fpm)	251	334	501	668	835	1003

**VMR**  
02°23'18"N  
103°52'18"E



NOT TO SCALE

31 OCT 2024

**VMR 1D (SID) RNAV GNSS RWY 20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To UKIBO on course 203°, turn left.	UKIBO [M203; L] -	CF	N
To POVEB at or above 2500ft, turn left.	POVEB [A025+; L] -	TF	N
To ADPON at or above 4000ft, turn left.	ADPON [A040+; L] -	TF	N
To SALRU, turn left.	SALRU [L] -	TF	N
To VTK at or above 7000ft, turn right.	VTK [A070+; R] -	TF	N
To AKOMA at or above 11000ft, turn right.	AKOMA [A110+; R] -	TF	N
To VMR.	VMR	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	UKIBO	-	203(203.4)	1.5	L	-	-	RNAV1
TF	POVEB	-	153(153.4)	5.0	L	A025+	-	RNAV1
TF	ADPON	-	114(114.4)	4.0	L	A040+	-	RNAV1
TF	SALRU	-	029(029.4)	6.0	L	-	-	RNAV1
TF	VTK	-	319(319.4)	10.0	R	A070+	-	RNAV1
TF	AKOMA	-	342(342.4)	21.0	R	A110+	-	RNAV1
TF	VMR	-	356(356.4)	38.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.8

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02L**  
**MERSING DEPARTURES**  
**VMR 6E**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORED 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

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

**PROCEDURE INFORMATION**

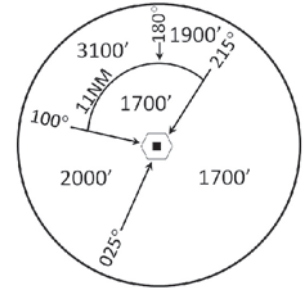
SID SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.

CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.

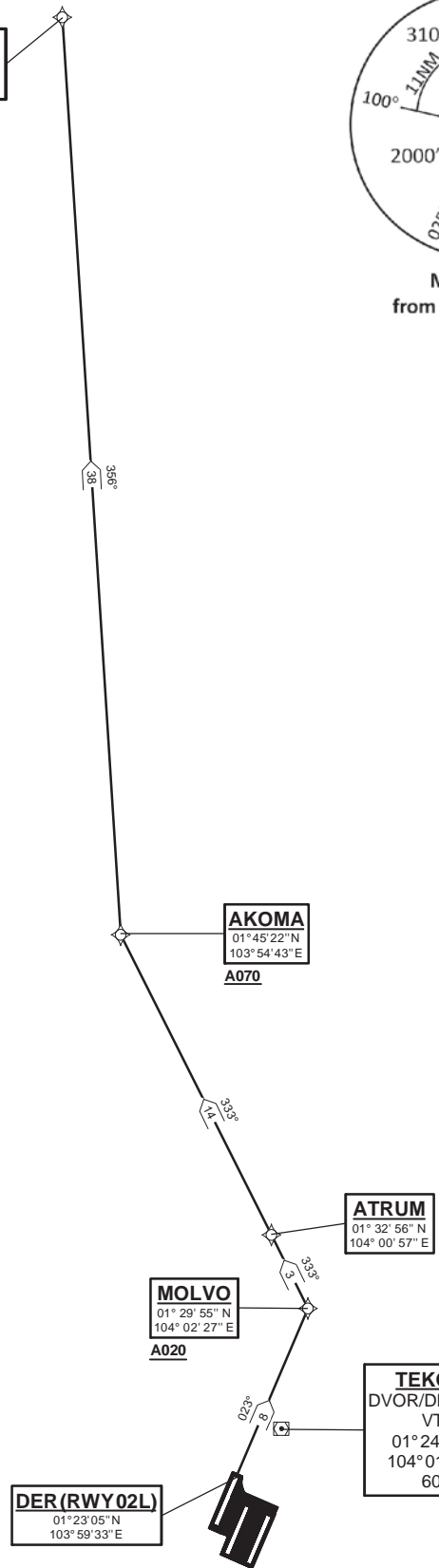
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 5% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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

**VMR**  
02° 23' 18" N  
103° 52' 18" E



**MSA 25 NM**  
**from TEKONG DVOR**



**DER (RWY02L)**  
01° 23' 05" N  
103° 59' 33" E

**AKOMA**  
01° 45' 22" N  
103° 54' 43" E  
**A070**

**ATRUM**  
01° 32' 56" N  
104° 00' 57" E

**MOLVO**  
01° 29' 55" N  
104° 02' 27" E  
**A020**

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

NOT TO SCALE

31 OCT 2024

**VMR 6E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

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

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOLVO	-	023(023.4)	8.0	L	A020+	-	RNAV1
TF	ATRUM	-	333(333.4)	3.0	-	-	-	RNAV1
TF	AKOMA	-	333(333.4)	14.0	R	A070+	-	RNAV1
TF	VMR	-	356(356.4)	38.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.8

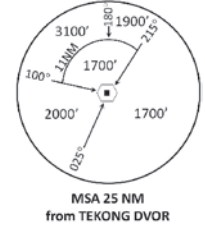
TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20R**  
**MERSING DEPARTURES**  
**VMR 9F**

**ELEV, ALT IN FEET**  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2022)

DISTANCES IN NM



**GENERAL INFORMATION**

**INITIAL CLIMB**  
3000FT

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

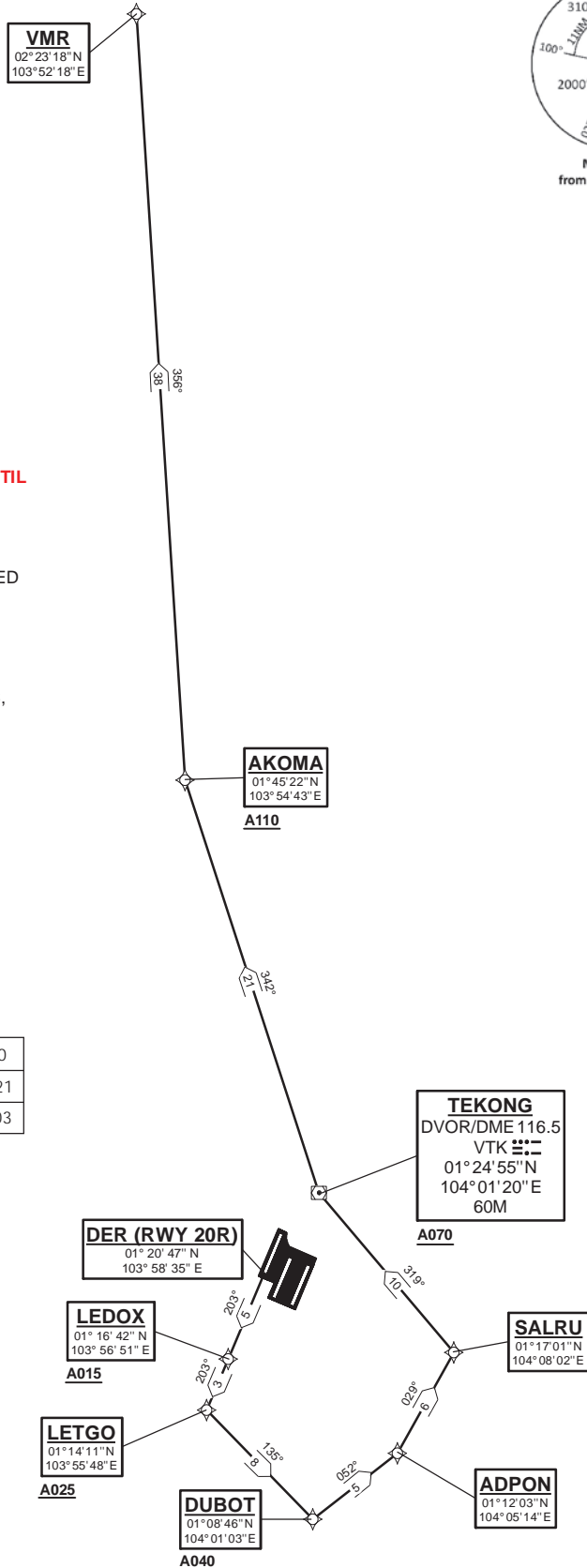
SID SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.

CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.

SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 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



31 OCT 2024

**VMR 9F (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.	LEDOX [M203; A015+] -	CF	N
To LETGO at or above 2500ft, turn left.	LETGO [A025+; L] -	TF	N
To DUBOT at or above 4000ft, turn left.	DUBOT [A040+; L] -	TF	N
To ADPON, turn left.	ADPON [L] -	TF	N
To SALRU, turn left.	SALRU [L] -	TF	N
To VTK at or above 7000ft, turn right.	VTK [A070+; R] -	TF	N
To AKOMA at or above 11000ft, turn right.	AKOMA [A110+; R] -	TF	N
To VMR.	VMR	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(203.4)	5.0	-	A015+	-	RNAV1
TF	LETGO	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	DUBOT	-	135(135.4)	8.0	L	A040+	-	RNAV1
TF	ADPON	-	052(052.4)	5.0	L	-	-	RNAV1
TF	SALRU	-	029(029.4)	6.0	L	-	-	RNAV1
TF	VTK	-	319(319.4)	10.0	R	A070+	-	RNAV1
TF	AKOMA	-	342(342.4)	21.0	R	A110+	-	RNAV1
TF	VMR	-	356(356.4)	38.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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



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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02C**  
**MIBEL DEPARTURES**  
**MIBEL 1A**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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

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

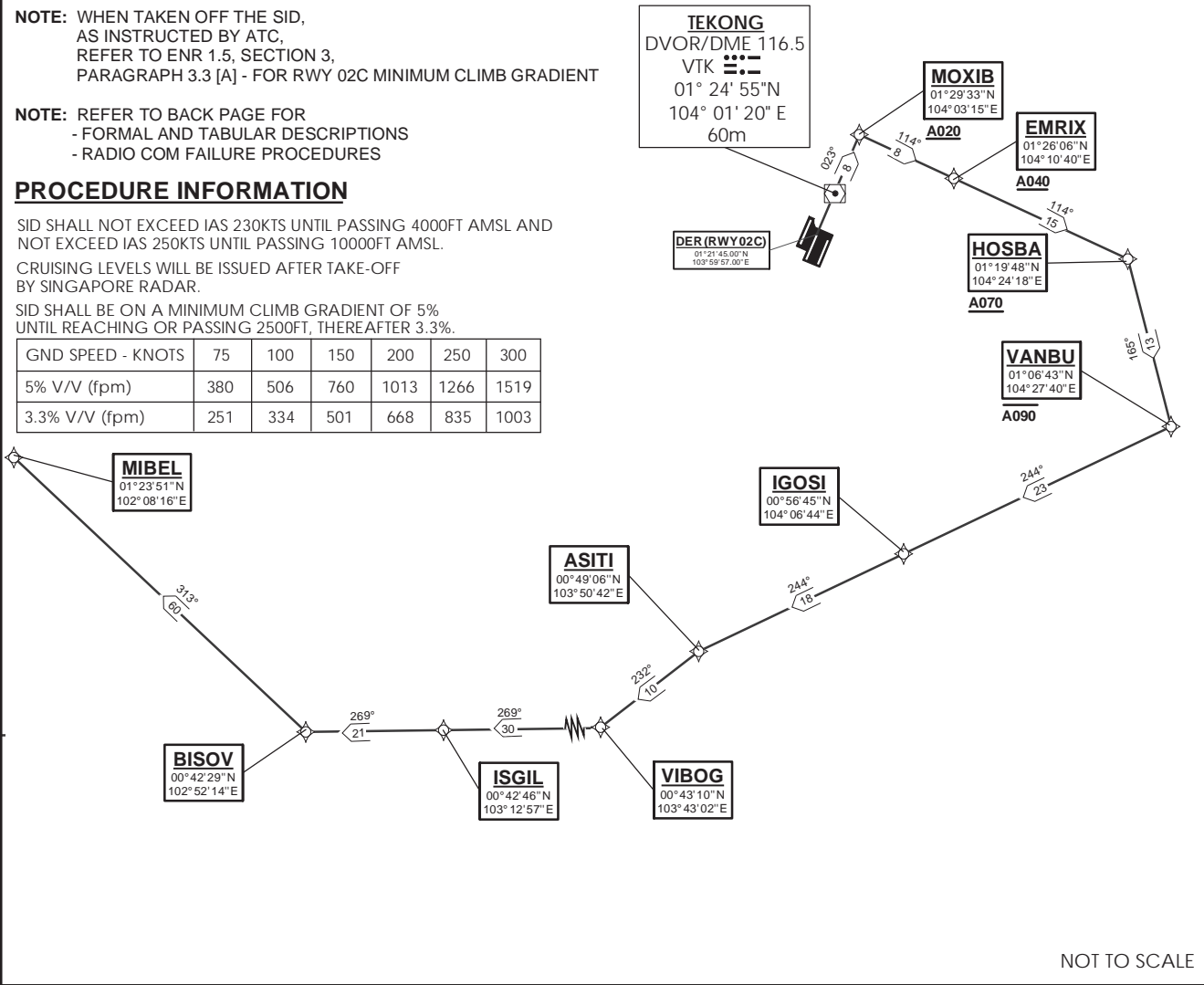
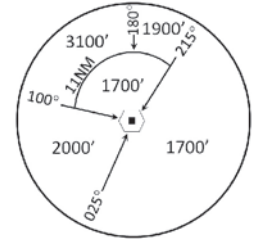
**PROCEDURE INFORMATION**

SID 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 5%  
UNTIL REACHING OR PASSING 2500FT, 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

31 OCT 2024

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

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOXIB on course 023° at or above 2000ft, turn right.	MOXIB [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn right.	HOSBA [A070+; R] -	TF	N
To VANBU at or below 9000ft, turn right.	VANBU [A090-; R] -	TF	N
To IGOSI.	IGOSI -	TF	N
To ASITI, turn left.	ASITI [L] -	TF	N
To VIBOG, turn right.	VIBOG [R] -	TF	N
To ISGIL.	ISGIL -	TF	N
To BISOV, turn right.	BISOV [R] -	TF	N
To MIBEL.	MIBEL	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOXIB	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	8.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	R	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	R	A090-	-	RNAV1
TF	IGOSI	-	244(244.4)	23.0	-	-	-	RNAV1
TF	ASITI	-	244(244.4)	18.0	L	-	-	RNAV1
TF	VIBOG	-	232(232.4)	10.0	R	-	-	RNAV1
TF	ISGIL	-	269(269.4)	30.0	-	-	-	RNAV1
TF	BISOV	-	269(269.4)	21.0	R	-	-	RNAV1
TF	MIBEL	-	313(313.4)	60.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20C**  
**MIBEL DEPARTURES**  
**MIBEL 1B**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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  
EXPECT RADAR VECTORED IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.1  
- FOR RWY 20C MINIMUM CLIMB GRADIENT

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

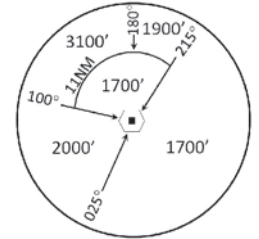
**PROCEDURE INFORMATION**

SID 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	1063	1418	1772	2127
3.3% V/V (fpm)	251	334	501	668	835	1003



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

**DER (RWY 20C)**  
01° 19' 42.00"N  
103° 59' 05.00"E

**IBIXU**  
01° 16' 21"N  
103° 57' 40"E  
**A015**

**IBIVA**  
01° 13' 51"N  
103° 56' 37"E  
**A025**

**SAMKO**  
01° 05' 30"N  
103° 52' 55"E  
**A040**

**MIBEL**  
01° 23' 51"N  
102° 08' 16"E

**BISOV**  
00° 42' 29"N  
102° 52' 14"E

**ISGIL**  
00° 42' 46"N  
103° 12' 57"E  
**FL160**  
**FL140**

**VIBOG**  
00° 43' 10"N  
103° 43' 02"E

NOT TO SCALE

31 OCT 2024

**MIBEL 1B (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.	IBIXU [M203; A015+] -	CF	N
To IBIVA at or above 2500ft, turn right.	IBIVA [A025+; R] -	TF	N
To SAMKO at or above 4000ft.	SAMKO [A040+] -	TF	N
To VIBOG, turn right.	VIBOG [R] -	TF	N
To ISGIL, between FL140 to FL160.	ISGIL [FL140+; FL160-] -	TF	N
To BISOV, turn right.	BISOV [R] -	TF	N
To MIBEL.	MIBEL	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(203.4)	4.0	-	A015+	-	RNAV1
TF	IBIVA	-	203(203.4)	3.0	R	A025+	-	RNAV1
TF	SAMKO	-	204(204.4)	9.0	-	A040+	-	RNAV1
TF	VIBOG	-	204(204.4)	24.0	R	-	-	RNAV1
TF	ISGIL	-	269(269.4)	30.0	-	FL140+ FL160-	-	RNAV1
TF	BISOV	-	269(269.4)	21.0	R	-	-	RNAV1
TF	MIBEL	-	313(313.4)	60.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

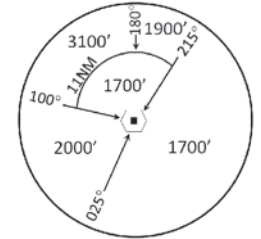
D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02R**  
**MIBEL DEPARTURES (RADAR)**  
**MIBEL 1C**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM



MSA 25 NM  
from TEKONG DVOR

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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  
EXPECT RADAR VECTORING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.5  
- FOR RWY 02R MINIMUM CLIMB GRADIENT

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

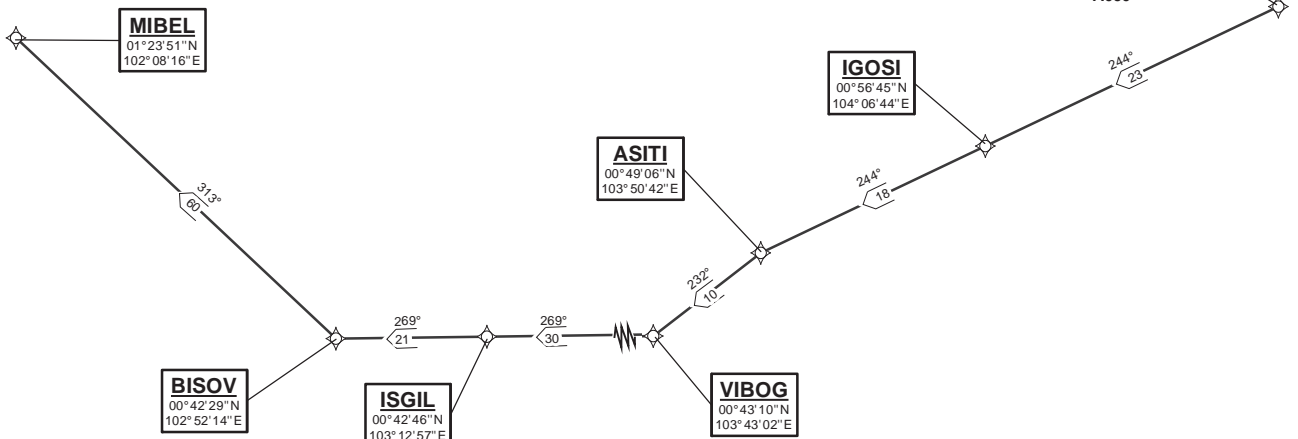
**PROCEDURE INFORMATION**

SID 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 5%  
UNTIL REACHING OR PASSING 2500FT, 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



**EXPECT RADAR vectors to waypoint HOSBA**

NOT TO SCALE

31 OCT 2024

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

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
Climb heading 023°, Gradient 5% to 2500ft, thence 3.3%. Expect radar vectors to waypoint HOSBA.	-	VA	N
To HOSBA at or above 7000ft.	HOSBA [A070+] -	DF	N
To VANBU at or below 9000ft, turn right.	VANBU [A090-; R] -	TF	N
To IGOSI.	IGOSI -	TF	N
To ASITI, turn left.	ASITI [L] -	TF	N
To VIBOG, turn right.	VIBOG [R] -	TF	N
To ISGIL.	ISGIL -	TF	N
To BISOV, turn right.	BISOV [R] -	TF	N
To MIBEL.	MIBEL	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
VA	-	-	023(023.4)	-	-	A030	-	RNAV1
DF	HOSBA	-	-	-	-	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	R	A090-	-	RNAV1
TF	IGOSI	-	244(244.4)	23.0	-	-	-	RNAV1
TF	ASITI	-	244(244.4)	18.0	L	-	-	RNAV1
TF	VIBOG	-	232(232.3)	10.0	R	-	-	RNAV1
TF	ISGIL	-	269(269.4)	30.0	-	-	-	RNAV1
TF	BISOV	-	269(269.4)	21.0	R	-	-	RNAV1
TF	MIBEL	-	313(313.4)	60.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20L**  
**MIBEL DEPARTURES**  
**MIBEL 1D**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORED IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.3 - FOR RWY 20L MINIMUM CLIMB GRADIENT

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

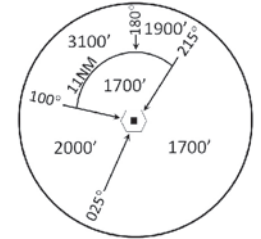
**PROCEDURE INFORMATION**

SID 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 9% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
9% V/V (fpm)	684	911	1367	1823	2279	2734
3.3% V/V (fpm)	251	334	501	668	835	1003



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

**DER (RWY 20L)**  
01° 19' 19"N  
103° 59' 59"E

**UKIBO**  
01° 17' 58"N  
103° 59' 24"E

**VIGUD**  
01° 13' 28"N  
103° 57' 30"E  
**A025**

**SAMKO**  
01° 05' 30"N  
103° 52' 55"E  
**A040**

**MIBEL**  
01° 23' 51"N  
102° 08' 16"E

**BISOV**  
00° 42' 29"N  
102° 52' 14"E

**VIBOG**  
00° 43' 10"N  
103° 43' 02"E

**ISGIL**  
00° 42' 46"N  
103° 12' 57"E  
**FL160**  
**FL140**

NOT TO SCALE

## MIBEL 1D (SID) RNAV GNSS RWY 20L - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To UKIBO on course 203°.	UKIBO [M203] -	CF	N
To VIGUD at or above 2500ft, turn right.	VIGUD [A025+; R] -	TF	N
To SAMKO at or above 4000ft, turn left.	SAMKO [A040+; L] -	TF	N
To VIBOG, turn right.	VIBOG [R] -	TF	N
To ISGIL, between FL140 to FL160.	ISGIL [FL140+; FL160-] -	TF	N
To BISOV, turn right.	BISOV [R] -	TF	N
To MIBEL.	MIBEL	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	UKIBO	Y	203(203.4)	1.5	-	-	-	RNAV1
TF	VIGUD	-	203(203.4)	5.0	R	A025+	-	RNAV1
TF	SAMKO	-	210(210.4)	9.0	L	A040+	-	RNAV1
TF	VIBOG	-	204(204.4)	24.0	R	-	-	RNAV1
TF	ISGIL	-	269(269.4)	30.0	-	FL140+ FL160-	-	RNAV1
TF	BISOV	-	269(269.4)	21.0	R	-	-	RNAV1
TF	MIBEL	-	313(313.4)	60.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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



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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02L**  
**MIBEL DEPARTURES**  
**MIBEL 1E**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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  
EXPECT RADAR VECTORED 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

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

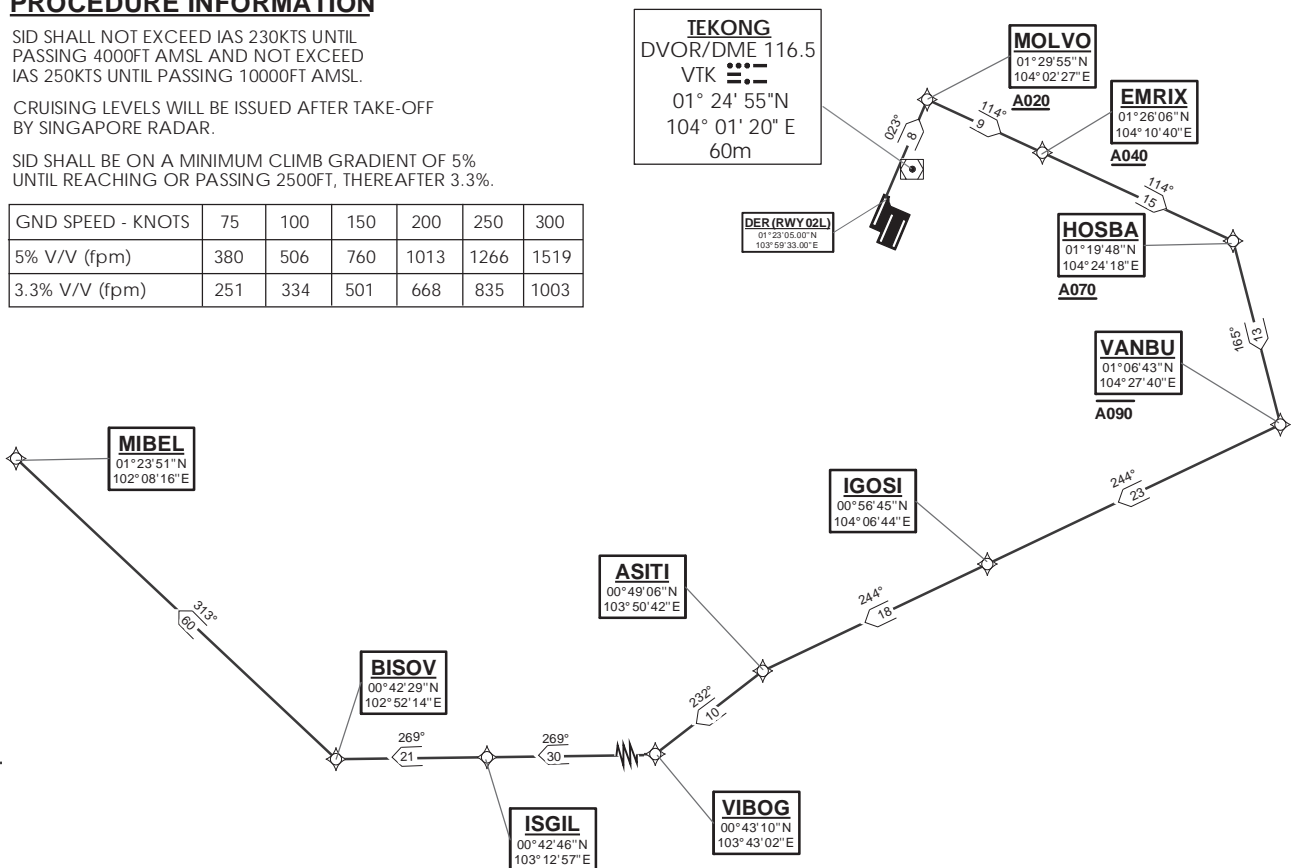
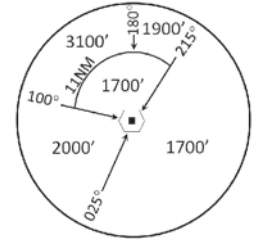
**PROCEDURE INFORMATION**

SID 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 5%  
UNTIL REACHING OR PASSING 2500FT, 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

31 OCT 2024

**MIBEL 1E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOLVO on course 023° at or above 2000ft, turn right.	MOLVO [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn right.	HOSBA [A070+; R] -	TF	N
To VANBU at or below 9000ft, turn right.	VANBU [A090-; R] -	TF	N
To IGOSI.	IGOSI -	TF	N
To ASITI, turn left.	ASITI [L] -	TF	N
To VIBOG, turn right.	VIBOG [R] -	TF	N
To ISGIL.	ISGIL -	TF	N
To BISOV, turn right.	BISOV [R] -	TF	N
To MIBEL.	MIBEL	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOLVO	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	9.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	R	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	R	A090-	-	RNAV1
TF	IGOSI	-	244(244.4)	23.0	-	-	-	RNAV1
TF	ASITI	-	244(244.4)	18.0	L	-	-	RNAV1
TF	VIBOG	-	232(232.3)	10.0	R	-	-	RNAV1
TF	ISGIL	-	269(269.4)	30.0	-	-	-	RNAV1
TF	BISOV	-	269(269.4)	21.0	R	-	-	RNAV1
TF	MIBEL	-	313(313.4)	60.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20R**  
**MIBEL DEPARTURES**  
**MIBEL 1F**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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  
EXPECT RADAR VECTORING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.2  
- FOR RWY 20R MINIMUM CLIMB GRADIENT

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

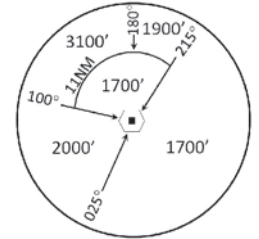
**PROCEDURE INFORMATION**

SID 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 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



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

**DER (RWY 20R)**  
01° 20' 47.00"N  
103° 58' 35.00"E

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

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

**SAMKO**  
01° 05' 30"N  
103° 52' 55"E  
**A040**

**MIBEL**  
01° 23' 51"N  
102° 08' 16"E

**BISOV**  
00° 42' 29"N  
102° 52' 14"E

**ISGIL**  
00° 42' 46"N  
103° 12' 57"E  
**FL160**  
**FL140**

**VIBOG**  
00° 43' 10"N  
103° 43' 02"E

NOT TO SCALE

31 OCT 2024

**MIBEL 1F (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.	LEDOX [M203; A015+] -	CF	N
To LETGO at or above 2500ft, turn left.	LETGO [A025+; L] -	TF	N
To SAMKO at or above 4000ft, turn right.	SAMKO [A040+; R] -	TF	N
To VIBOG, turn right.	VIBOG [R] -	TF	N
To ISGIL, between FL140 to FL160.	ISGIL [FL140+; FL160-] -	TF	N
To BISOV, turn right.	BISOV [R] -	TF	N
To MIBEL.	MIBEL	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(203.4)	5.0	-	A015+	-	RNAV1
TF	LETGO	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	SAMKO	-	198(198.4)	9.0	R	A040+	-	RNAV1
TF	VIBOG	-	204(204.4)	24.0	R	-	-	RNAV1
TF	ISGIL	-	269(269.4)	30.0	-	FL140+ FL160-	-	RNAV1
TF	BISOV	-	269(269.4)	21.0	R	-	-	RNAV1
TF	MIBEL	-	313(313.4)	60.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02C**  
**TAROS DEPARTURES**  
**TAROS 1A**

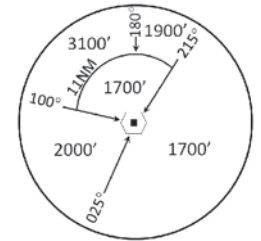
**ELEV, ALT IN FEET**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**



**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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

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

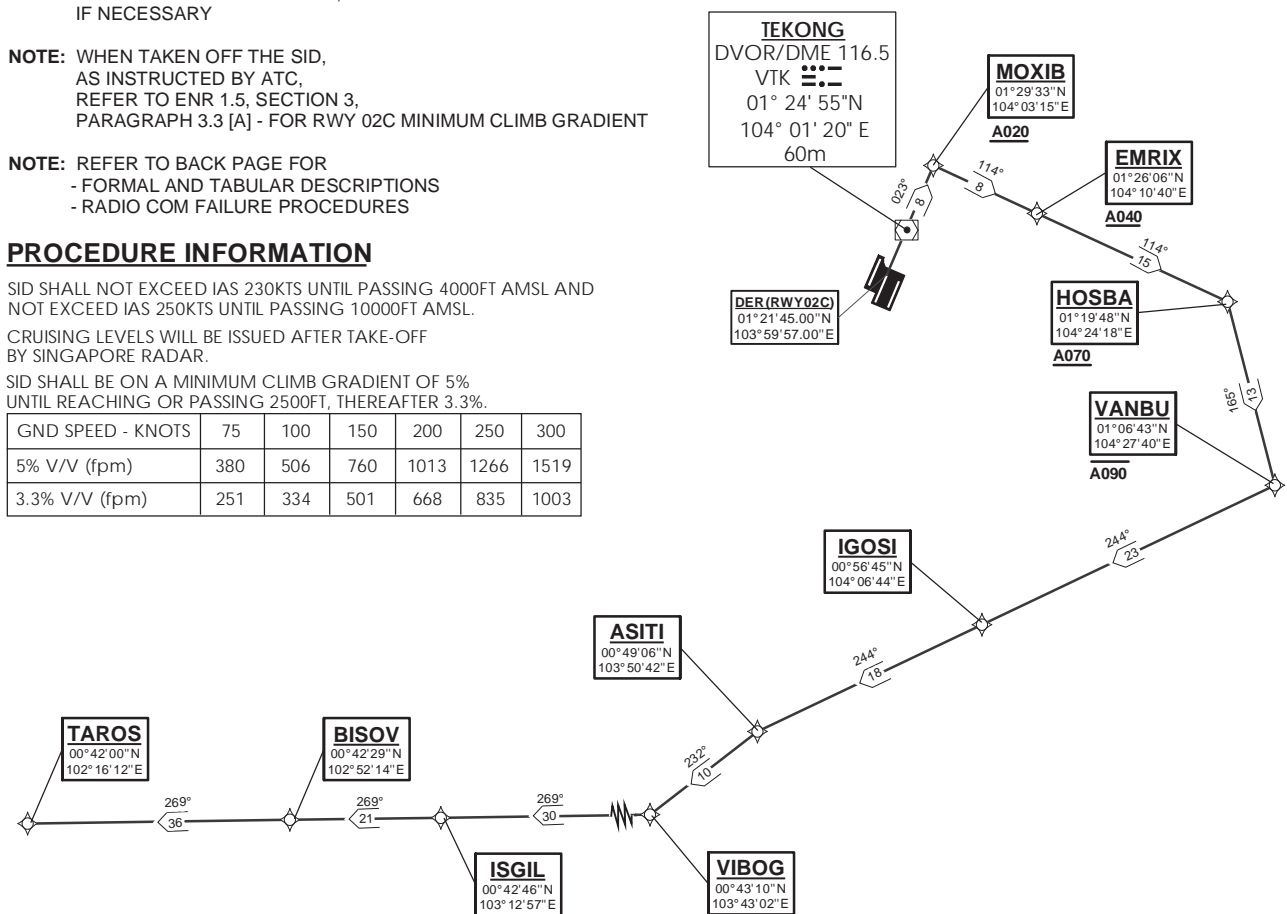
**PROCEDURE INFORMATION**

SID 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 5%  
UNTIL REACHING OR PASSING 2500FT, 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

31 OCT 2024

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

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOXIB on course 023° at or above 2000ft, turn right.	MOXIB [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn right.	HOSBA [A070+; R] -	TF	N
To VANBU at or below 9000ft, turn right.	VANBU [A090-; R] -	TF	N
To IGOSI.	IGOSI -	TF	N
To ASITI, turn left.	ASITI [L] -	TF	N
To VIBOG, turn right.	VIBOG [R] -	TF	N
To ISGIL.	ISGIL -	TF	N
To BISOV.	BISOV -	TF	N
To TAROS.	TAROS	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOXIB	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	8.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	R	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	R	A090-	-	RNAV1
TF	IGOSI	-	244(244.4)	23.0	-	-	-	RNAV1
TF	ASITI	-	244(244.4)	18.0	L	-	-	RNAV1
TF	VIBOG	-	232(232.4)	10.0	R	-	-	RNAV1
TF	ISGIL	-	269(269.4)	30.0	-	-	-	RNAV1
TF	BISOV	-	269(269.4)	21.0	-	-	-	RNAV1
TF	TAROS	-	269(269.4)	36.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20C**  
**TAROS DEPARTURES**  
**TAROS 1B**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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  
EXPECT RADAR VECTORED IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.1  
- FOR RWY 20C MINIMUM CLIMB GRADIENT

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

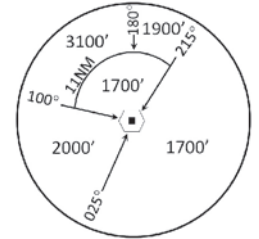
**PROCEDURE INFORMATION**

SID 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	1063	1418	1772	2127
3.3% V/V (fpm)	251	334	501	668	835	1003



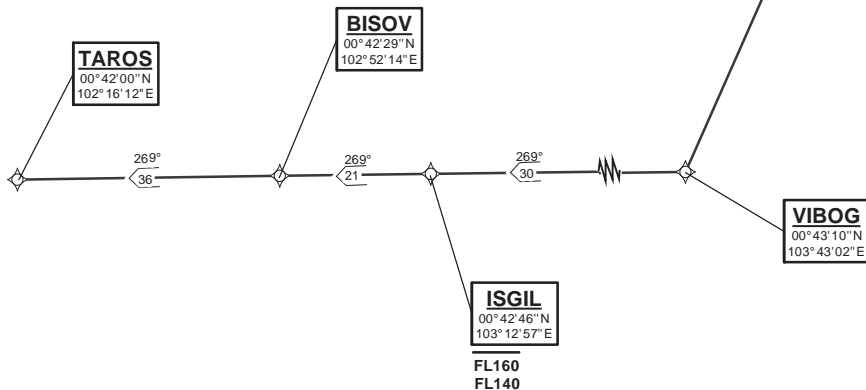
**TEKONG**  
DVOR/DME 116.5  
VTK  
01° 24' 55"N  
104° 01' 20" E  
60m

**DER (RWY 20C)**  
01° 19' 42.00"N  
103° 59' 05.00"E

**IBIXU**  
01° 16' 21"N  
103° 57' 40"E  
**A015**

**IBIVA**  
01° 13' 51"N  
103° 56' 37"E  
**A025**

**SAMKO**  
01° 05' 30"N  
103° 52' 55"E  
**A040**



NOT TO SCALE

**TAROS 1B (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.	IBIXU [M203; A015+] -	CF	N
To IBIVA at or above 2500ft, turn right.	IBIVA [A025+; R] -	TF	N
To SAMKO at or above 4000ft.	SAMKO [A040+] -	TF	N
To VIBOG, turn right.	VIBOG [R] -	TF	N
To ISGIL, between FL140 to FL160.	ISGIL [FL140+; FL160-] -	TF	N
To BISOV.	BISOV -	TF	N
To TAROS.	TAROS	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(203.4)	4.0	-	A015+	-	RNAV1
TF	IBIVA	-	203(203.4)	3.0	R	A025+	-	RNAV1
TF	SAMKO	-	204(204.4)	9.0	-	A040+	-	RNAV1
TF	VIBOG	-	204(204.4)	24.0	R	-	-	RNAV1
TF	ISGIL	-	269(269.4)	30.0	-	FL140+ FL160-	-	RNAV1
TF	BISOV	-	269(269.4)	21.0	-	-	-	RNAV1
TF	TAROS	-	269(269.4)	36.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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



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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

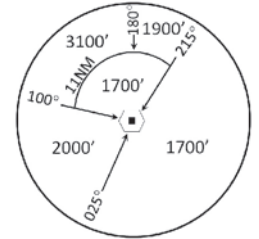
D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02R**  
**TAROS DEPARTURES (RADAR)**  
**TAROS 1C**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM



**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 EXPECT RADAR VECTORING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.5 - FOR RWY 02R MINIMUM CLIMB GRADIENT

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

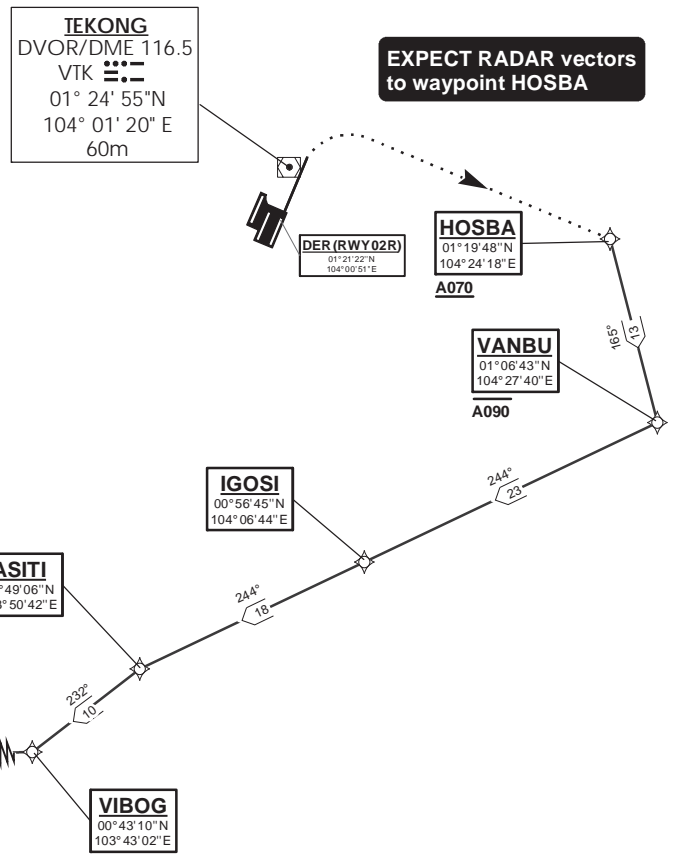
**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

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

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
Climb heading 023°, Gradient 5% to 2500ft, thence 3.3%. Expect radar vectors to waypoint HOSBA.	-	VA	N
To HOSBA at or above 7000ft.	HOSBA [A070+] -	DF	N
To VANBU at or below 9000ft, turn right.	VANBU [A090-; R] -	TF	N
To IGOSI.	IGOSI -	TF	N
To ASITI, turn left.	ASITI [L] -	TF	N
To VIBOG, turn right.	VIBOG [R] -	TF	N
To ISGIL.	ISGIL -	TF	N
To BISOV.	BISOV -	TF	N
To TAROS.	TAROS	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
VA	-	-	023(023.4)	-	-	A030	-	RNAV1
DF	HOSBA	-	-	-	-	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	R	A090-	-	RNAV1
TF	IGOSI	-	244(244.4)	23.0	-	-	-	RNAV1
TF	ASITI	-	244(244.4)	18.0	L	-	-	RNAV1
TF	VIBOG	-	232(232.3)	10.0	R	-	-	RNAV1
TF	ISGIL	-	269(269.4)	30.0	-	-	-	RNAV1
TF	BISOV	-	269(269.4)	21.0	-	-	-	RNAV1
TF	TAROS	-	269(269.4)	36.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

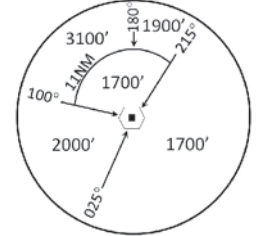
D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20L**  
**TAROS DEPARTURES**  
**TAROS 1D**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM



MSA 25 NM  
from TEKONG DVOR

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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  
EXPECT RADAR VECTORING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.3  
- FOR RWY 20L MINIMUM CLIMB GRADIENT

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

**PROCEDURE INFORMATION**

SID 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 9%  
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
9% V/V (fpm)	684	911	1367	1823	2279	2734
3.3% V/V (fpm)	251	334	501	668	835	1003

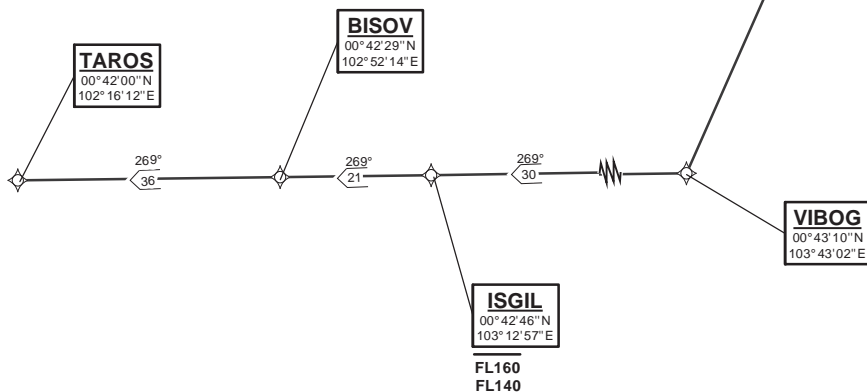
**TEKONG**  
DVOR/DME 116.5  
VTK   
01° 24' 55"N  
104° 01' 20" E  
60m

**DER (RWY 20L)**  
01° 19' 19"N  
103° 59' 59"E

**UKIBO**  
01° 17' 58"N  
103° 59' 24"E

**VIGUD**  
01° 13' 28"N  
103° 57' 30"E  
**A025**

**SAMKO**  
01° 05' 30"N  
103° 52' 55"E  
**A040**



NOT TO SCALE

31 OCT 2024

**TAROS 1D (SID) RNAV GNSS RWY 20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To UKIBO on course 203°.	UKIBO [M203] -	CF	N
To VIGUD at or above 2500ft, turn right.	VIGUD [A025+; R] -	TF	N
To SAMKO at or above 4000ft, turn left.	SAMKO [A040+; L] -	TF	N
To VIBOG, turn right.	VIBOG [R] -	TF	N
To ISGIL, between FL140 to FL160.	ISGIL [FL140+; FL160-] -	TF	N
To BISOV.	BISOV -	TF	N
To TAROS.	TAROS	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	UKIBO	Y	203(203.4)	1.5	-	-	-	RNAV1
TF	VIGUD	-	203(203.4)	5.0	R	A025+	-	RNAV1
TF	SAMKO	-	210(210.4)	9.0	L	A040+	-	RNAV1
TF	VIBOG	-	204(204.4)	24.0	R	-	-	RNAV1
TF	ISGIL	-	269(269.4)	30.0	-	FL140+ FL160-	-	RNAV1
TF	BISOV	-	269(269.4)	21.0	-	-	-	RNAV1
TF	TAROS	-	269(269.4)	36.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 02L**  
**TAROS DEPARTURES**  
**TAROS 1E**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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  
EXPECT RADAR VECTORED 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

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

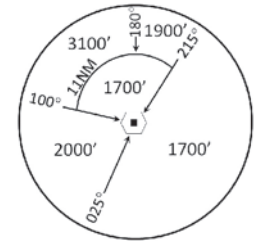
**PROCEDURE INFORMATION**

SID SHALL NOT EXCEED IAS 230KTS UNTIL  
PASSING 4000FT AMSL AND NOT EXCEED  
IAS 250KTS UNTIL PASSING 10000FT AMSL.

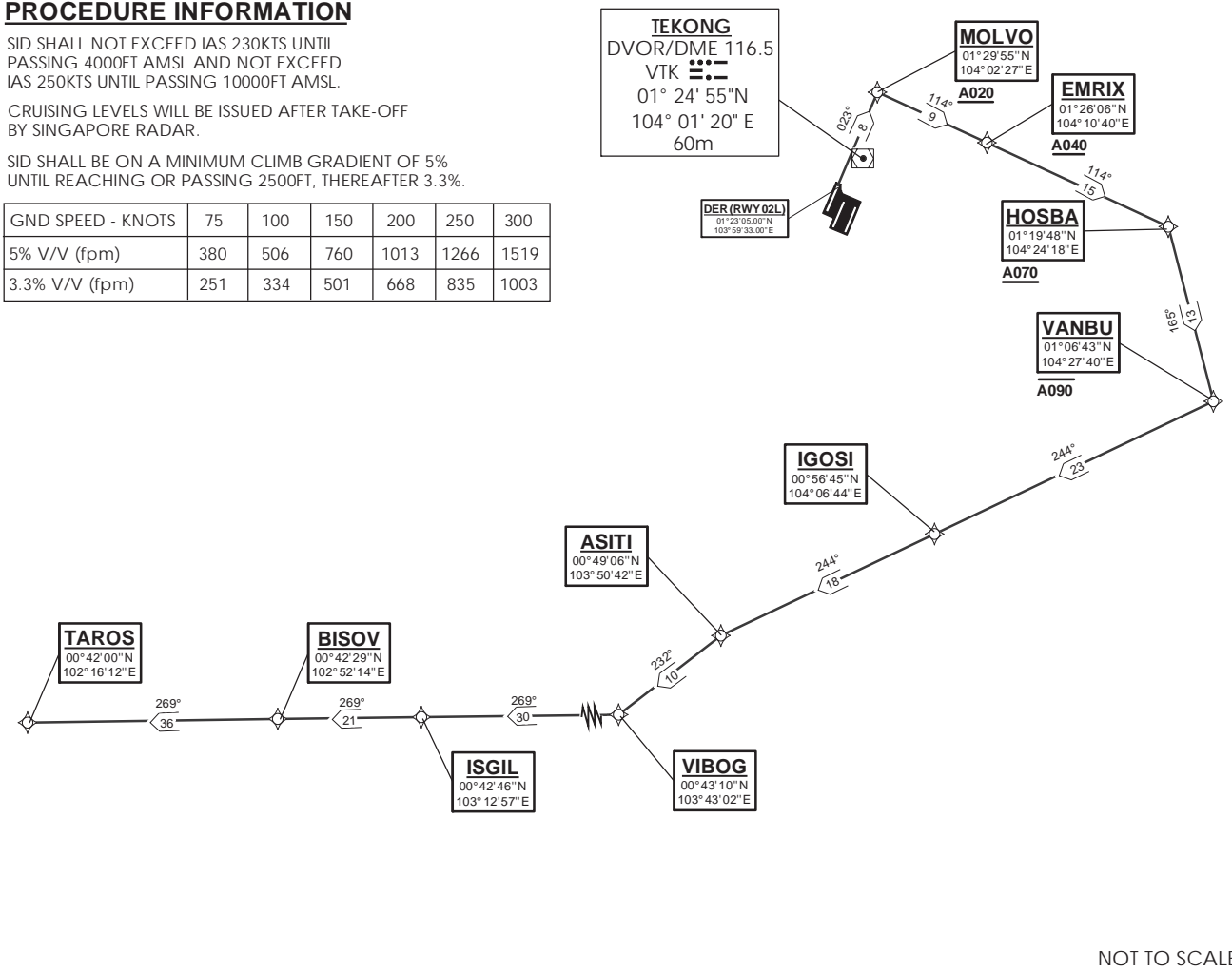
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF  
BY SINGAPORE RADAR.

SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 5%  
UNTIL REACHING OR PASSING 2500FT, 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



MSA 25 NM  
from TEKONG DVOR



NOT TO SCALE

## TAROS 1E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOLVO on course 023° at or above 2000ft, turn right.	MOLVO [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn right.	HOSBA [A070+; R] -	TF	N
To VANBU at or below 9000ft, turn right.	VANBU [A090-; R] -	TF	N
To IGOSI.	IGOSI -	TF	N
To ASITI, turn left.	ASITI [L] -	TF	N
To VIBOG, turn right.	VIBOG [R] -	TF	N
To ISGIL.	ISGIL -	TF	N
To BISOV.	BISOV -	TF	N
To TAROS.	TAROS	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOLVO	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	9.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	R	A070+	-	RNAV1
TF	VANBU	-	165(165.4)	13.0	R	A090-	-	RNAV1
TF	IGOSI	-	244(244.4)	23.0	-	-	-	RNAV1
TF	ASITI	-	244(244.4)	18.0	L	-	-	RNAV1
TF	VIBOG	-	232(232.3)	10.0	R	-	-	RNAV1
TF	ISGIL	-	269(269.4)	30.0	-	-	-	RNAV1
TF	BISOV	-	269(269.4)	21.0	-	-	-	RNAV1
TF	TAROS	-	269(269.4)	36.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20R**  
**TAROS DEPARTURES**  
**TAROS 1F**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL  
FURTHER ADVISED**

**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  
EXPECT RADAR VECTORED IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.2  
- FOR RWY 20R MINIMUM CLIMB GRADIENT

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

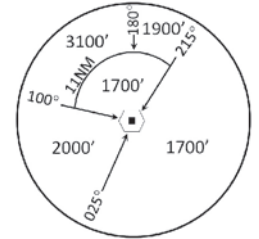
**PROCEDURE INFORMATION**

SID 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 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



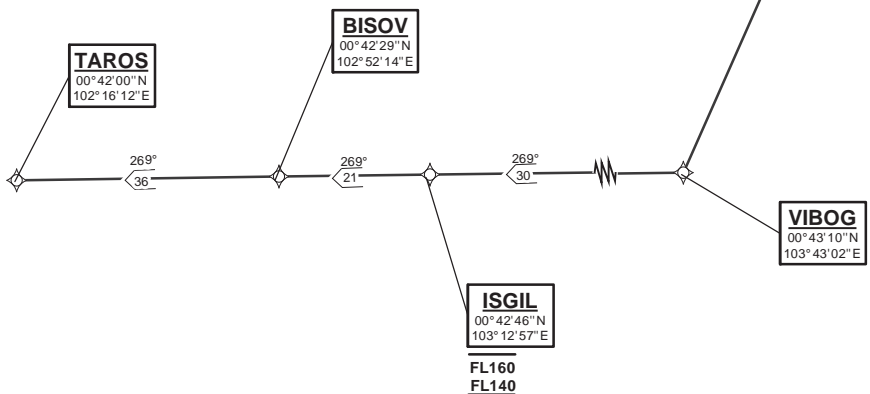
**TEKONG**  
DVOR/DME 116.5  
VTK  
01° 24' 55"N  
104° 01' 20" E  
60m

**DER (RWY 20R)**  
01° 20' 47.00"N  
103° 58' 35.00"E

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

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

**SAMKO**  
01° 05' 30"N  
103° 52' 55"E  
**A040**



NOT TO SCALE

## TAROS 1F (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.	LEDOX [M203; A015+] -	CF	N
To LETGO at or above 2500ft, turn left.	LETGO [A025+; L] -	TF	N
To SAMKO at or above 4000ft, turn right.	SAMKO [A040+; R] -	TF	N
To VIBOG, turn right.	VIBOG [R] -	TF	N
To ISGIL, between FL140 to FL160.	ISGIL [FL140+; FL160-] -	TF	N
To BISOV.	BISOV -	TF	N
To TAROS.	TAROS	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(203.4)	5.0	-	A015+	-	RNAV1
TF	LETGO	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	SAMKO	-	198(198.4)	9.0	R	A040+	-	RNAV1
TF	VIBOG	-	204(204.4)	24.0	R	-	-	RNAV1
TF	ISGIL	-	269(269.4)	30.0	-	FL140+ FL160-	-	RNAV1
TF	BISOV	-	269(269.4)	21.0	-	-	-	RNAV1
TF	TAROS	-	269(269.4)	36.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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



**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**  
**TOMAN DEPARTURES**  
**TOMAN 3A**

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

DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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 VECTORED,  
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

**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.

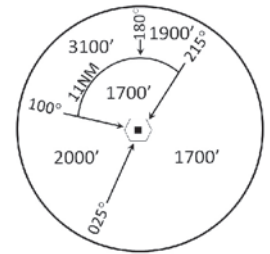
**RWY 02C**

SID SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.

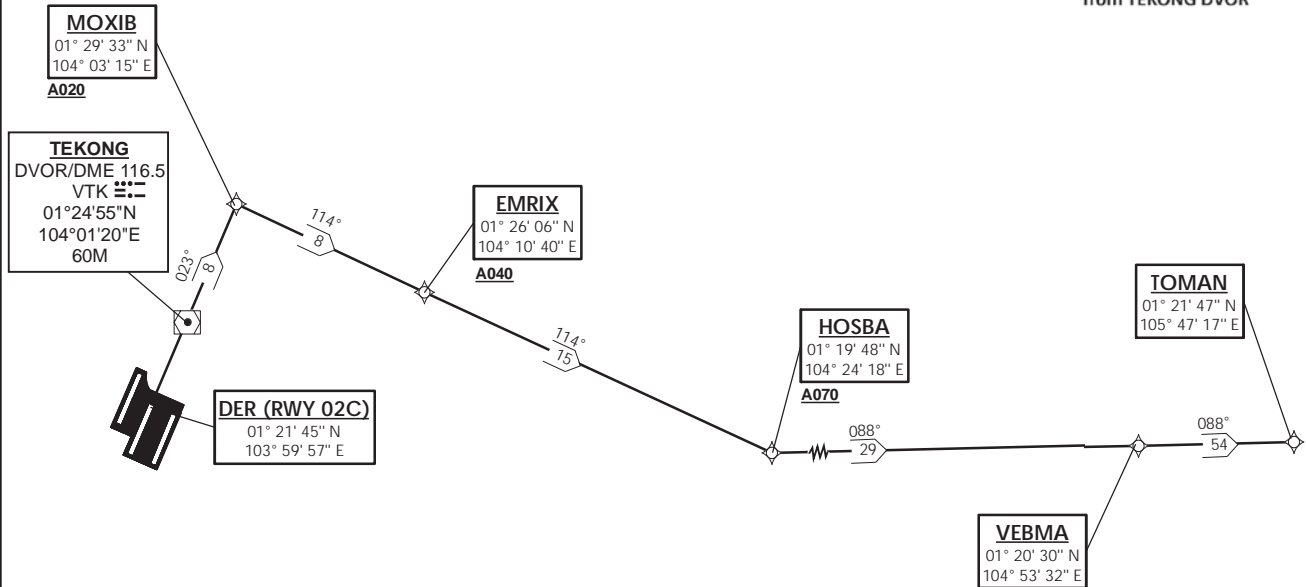
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.

SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 5% UNTIL REACHING OR PASSING 2500FT, 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



**MSA 25 NM**  
**from TEKONG DVOR**



NOT TO SCALE

31 OCT 2024

**TOMAN 3A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOXIB on course 023° at or above 2000ft, turn right.	MOXIB [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn left.	HOSBA [A070+; L] -	TF	N
To VEBMA.	VEBMA -	TF	N
To TOMAN.	TOMAN	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOXIB	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	8.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	L	A070+	-	RNAV1
TF	VEBMA	-	088(088.4)	29.0	-	-	-	RNAV1
TF	TOMAN	-	088(088.4)	54.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

**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 20C  
TOMAN DEPARTURES  
TOMAN 5B**

**ELEV, ALT IN FEET  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2022)**

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB  
3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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  
EXPECT RADAR VECTURING IF NECESSARY

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.1  
- FOR RWY 20C MINIMUM CLIMB GRADIENT

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

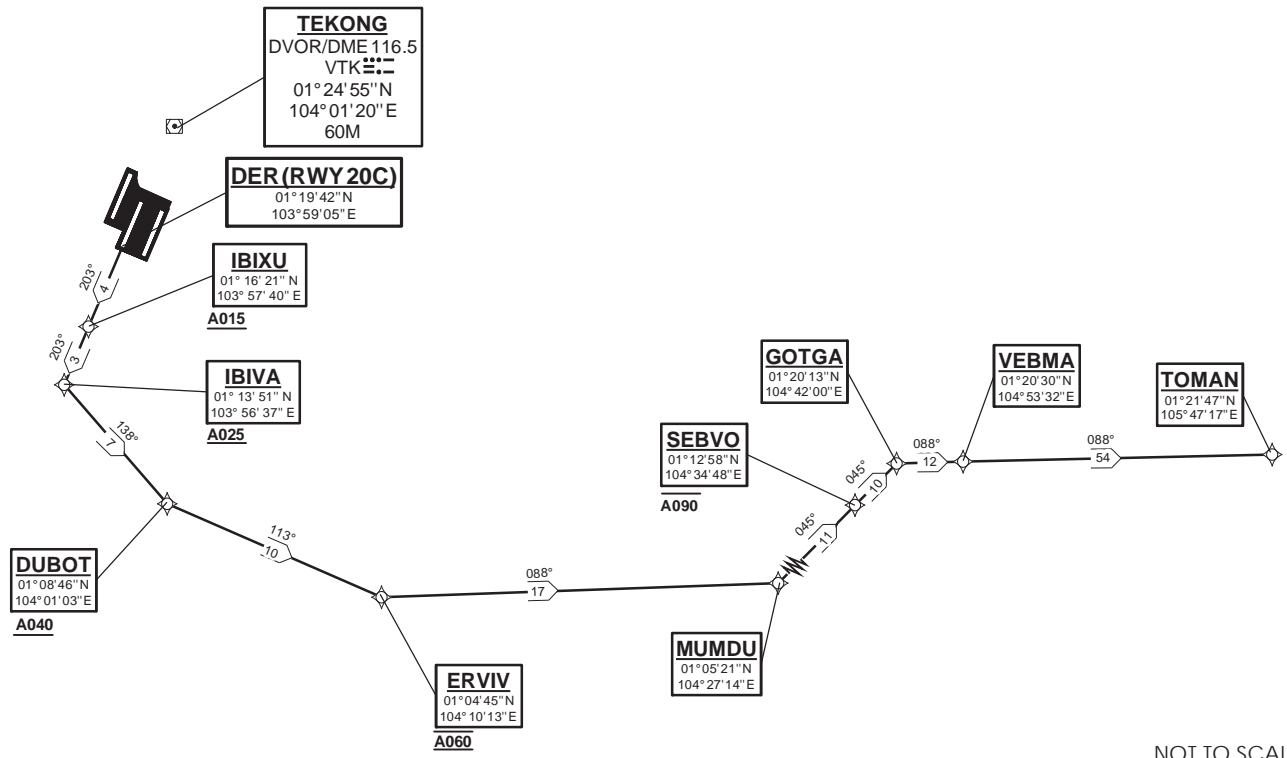
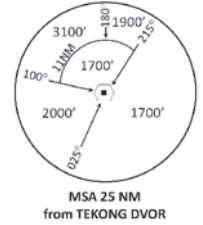
**PROCEDURE INFORMATION**

SID 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	1063	1418	1772	2127
3.3% V/V (fpm)	251	334	501	668	835	1003



NOT TO SCALE

## TOMAN 5B (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.	IBIXU [M203; A015+] -	CF	N
To IBIVA at or above 2500ft, turn left.	IBIVA [A025+; L] -	TF	N
To DUBOT at or above 4000ft, turn left.	DUBOT [A040+; L] -	TF	N
To ERVIV at 6000ft, turn left.	ERVIV [@A060; L] -	TF	N
To MUMDU, turn left.	MUMDU [L] -	TF	N
To SEBVO at or below 9000ft.	SEBVO [A090-] -	TF	N
To GOTGA, turn right.	GOTGA [R] -	TF	N
To VEBMA.	VEBMA -	TF	N
To TOMAN.	TOMAN	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(203.4)	4.0	-	A015+	-	RNAV1
TF	IBIVA	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	DUBOT	-	138(138.4)	7.0	L	A040+	-	RNAV1
TF	ERVIV	-	113(113.4)	10.0	L	@A060	-	RNAV1
TF	MUMDU	-	088(088.4)	17.0	L	-	-	RNAV1
TF	SEBVO	-	045(045.4)	11.0	-	A090-	-	RNAV1
TF	GOTGA	-	045(045.4)	10.0	R	-	-	RNAV1
TF	VEBMA	-	088(088.4)	12.0	-	-	-	RNAV1
TF	TOMAN	-	088(088.4)	54.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

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

**SINGAPORE/Singapore Changi**  
**RWY 02R**  
**TOMAN DEPARTURES (RADAR)**  
**TOMAN 1C**

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.2

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSSS  
128.6

**PROCEDURE INFORMATION**

SID 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 5% UNTIL REACHING OR PASSING 2500FT, 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

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

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

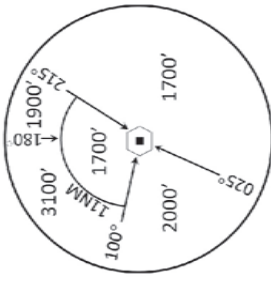
**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

- 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 EXPECT RADAR VECTORED IF NECESSARY
- NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.5  
- FOR RWY 02R MINIMUM CLIMB GRADIENT
- NOTE:** REFER TO BACK PAGE FOR  
- FORMAL AND TABULAR DESCRIPTIONS  
- RADIO COM FAILURE PROCEDURES

**ELEV, ALT IN FEET**

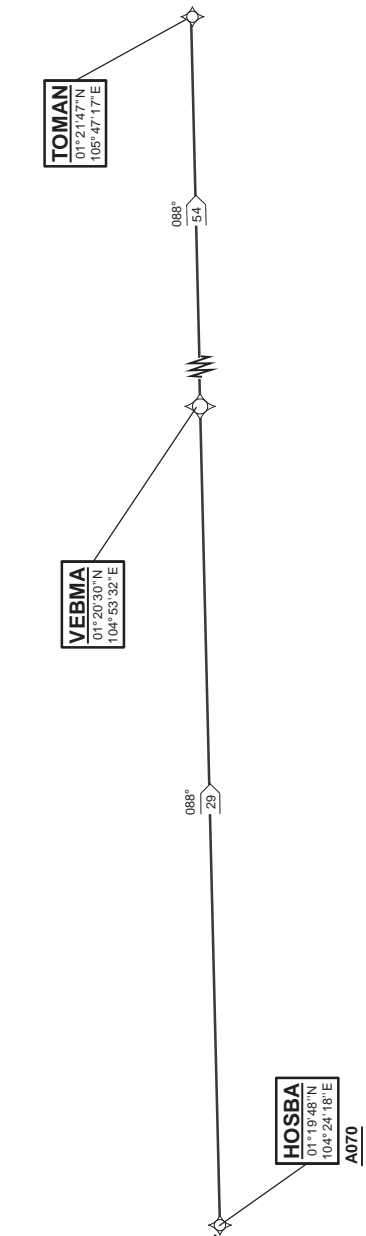
BEARINGS, TRACKS AND RADIALS ARE MAGNETIC  
VAR 0°23'E (2020)

DISTANCES IN NM



**MSA 25 NM**  
from **TEKONG DVOR**

**EXPECT RADAR vectors to waypoint HOSBA**



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

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
Climb heading 023°, Gradient 5% to 2500ft, thence 3.3%. Expect radar vectors to waypoint HOSBA.	-	VA	N
To HOSBA at or above 7000ft.	HOSBA [A070+] -	DF	N
To VEBMA.	VEBMA -	TF	N
To TOMAN.	TOMAN	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
VA	-	-	023(023.4)	-	-	A030	-	RNAV1
DF	HOSBA	-	-	-	-	A070+	-	RNAV1
TF	VEBMA	-	088(088.4)	29.0	-	-	-	RNAV1
TF	TOMAN	-	088(088.4)	54.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

**SINGAPORE/Singapore Changi**  
**RWY 20L**  
**TOMAN DEPARTURES**  
**TOMAN 1D**

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 134.2

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**GENERAL INFORMATION**

**INITIAL CLIMB**  
3000FT

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

- 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 EXPECT RADAR VECTORING IF NECESSARY
- NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.3 - FOR RWY 20L MINIMUM CLIMB GRADIENT
- NOTE:** REFER TO BACK PAGE FOR
  - FORMAL AND TABULAR DESCRIPTIONS
  - RADIO COM FAILURE PROCEDURES

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

**DER (RWY 20L)**  
01° 19' 19"N  
103° 59' 59"E

**UKIBO**  
01° 17' 58"N  
103° 59' 24"E

**DUBOI**  
01° 08' 46"N  
104° 01' 03"E  
A040

**ERVIV**  
01° 04' 45"N  
104° 10' 13"E  
A060

**PROCEDURE INFORMATION**

SID 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.

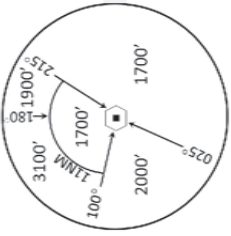
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 9% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
9% V/V (fpm)	684	911	1367	1823	2279	2734
3.3% V/V (fpm)	251	334	501	668	835	1003

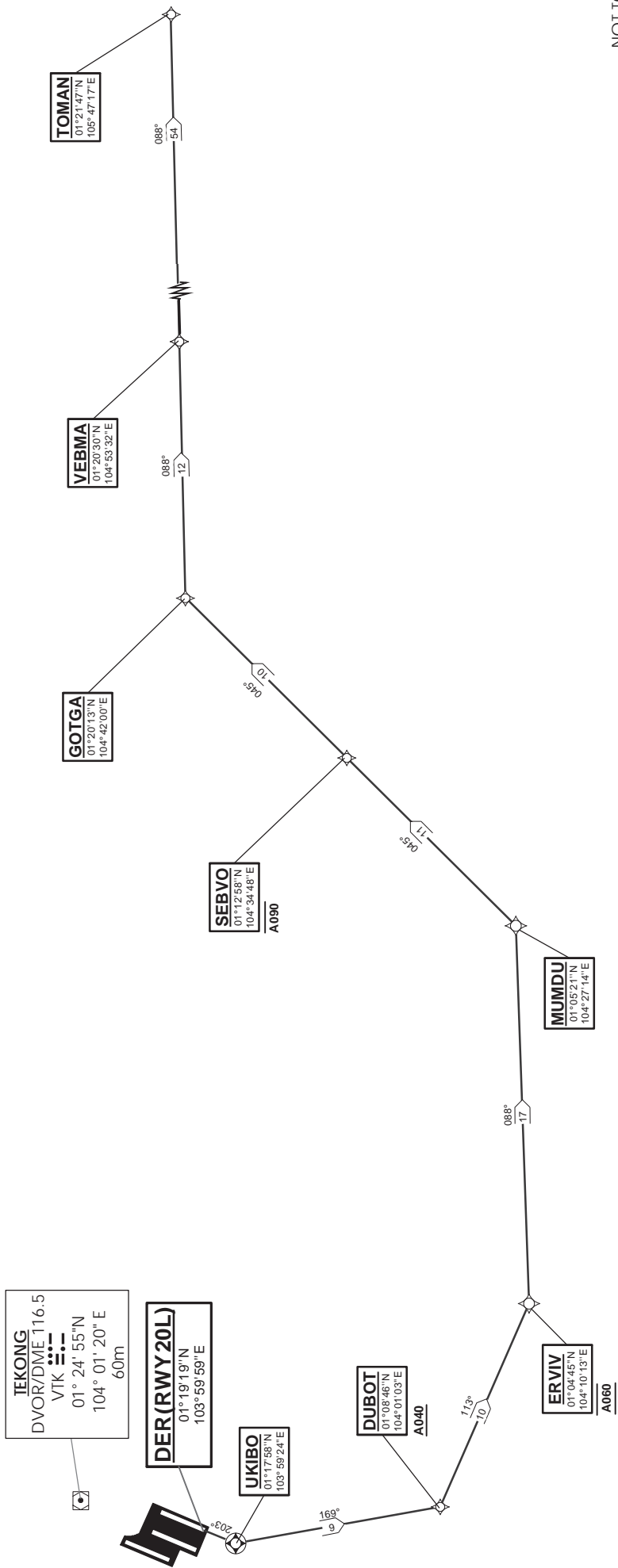
**ELEV, ALT IN FEET**

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

DISTANCES IN NM



MSA 25 NM  
from TEKONG DVOR



NOT TO SCALE

## TOMAN 1D (SID) RNAV GNSS RWY 20L - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To UKIBO on course 203°, turn left.	UKIBO [M203; L] -	CF	N
To DUBOT at or above 4000ft, turn left.	DUBOT [A040+; L] -	TF	N
To ERVIV at 6000ft, turn left.	ERVIV [@A060; L] -	TF	N
To MUMDU, turn left.	MUMDU [L] -	TF	N
To SEBVO at or below 9000ft.	SEBVO [A090-] -	TF	N
To GOTGA, turn right.	GOTGA [R] -	TF	N
To VEBMA.	VEBMA -	TF	N
To TOMAN.	TOMAN	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	UKIBO	Y	203(203.4)	1.5	L	-	-	RNAV1
TF	DUBOT	-	169(169.4)	9.0	L	A040+	-	RNAV1
TF	ERVIV	-	113(113.4)	10.0	L	@A060	-	RNAV1
TF	MUMDU	-	088(088.4)	17.0	L	-	-	RNAV1
TF	SEBVO	-	045(045.4)	11.0	-	A090-	-	RNAV1
TF	GOTGA	-	045(045.4)	10.0	R	-	-	RNAV1
TF	VEBMA	-	088(088.4)	12.0	-	-	-	RNAV1
TF	TOMAN	-	088(088.4)	54.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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



**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 02L**  
**TOMAN DEPARTURES**  
**TOMAN 3E**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**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  
EXPECT RADAR VECTORED 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

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

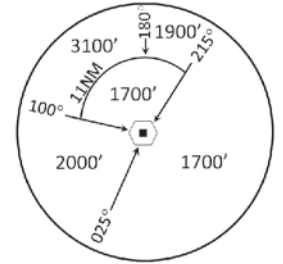
**PROCEDURE INFORMATION**

SID SHALL NOT EXCEED IAS 230KTS UNTIL  
PASSING 4000FT AMSL AND NOT EXCEED  
IAS 250KTS UNTIL PASSING 10000FT AMSL.

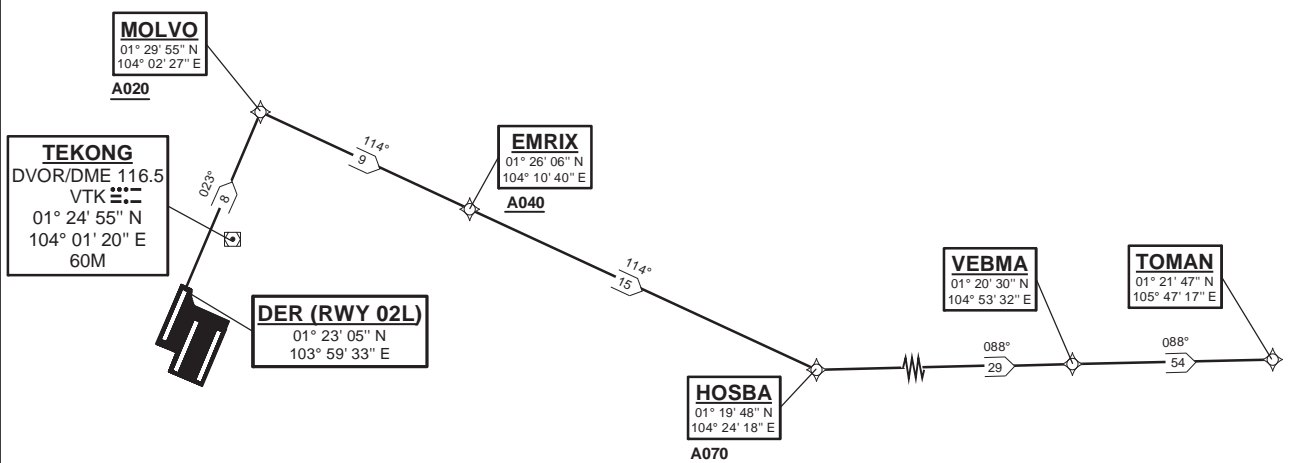
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF  
BY SINGAPORE RADAR.

SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 5%  
UNTIL REACHING OR PASSING 2500FT, 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



MSA 25 NM  
from TEKONG DVOR



NOT TO SCALE

31 OCT 2024

**TOMAN 3E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To MOLVO on course 023° at or above 2000ft, turn right.	MOLVO [M023; A020+; R] -	CF	N
To EMRIX at or above 4000ft.	EMRIX [A040+] -	TF	N
To HOSBA at or above 7000ft, turn left.	HOSBA [A070+; L] -	TF	N
To VEBMA.	VEBMA -	TF	N
To TOMAN.	TOMAN	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	MOLVO	-	023(023.4)	8.0	R	A020+	-	RNAV1
TF	EMRIX	-	114(114.4)	9.0	-	A040+	-	RNAV1
TF	HOSBA	-	114(114.4)	15.0	L	A070+	-	RNAV1
TF	VEBMA	-	088(088.4)	29.0	-	-	-	RNAV1
TF	TOMAN	-	088(088.4)	54.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

**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 20R**  
**TOMAN DEPARTURES**  
**TOMAN 5F**

**ELEV, ALT IN FEET**  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2022)

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

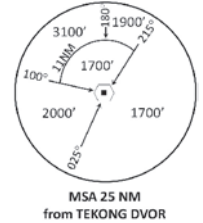
**NOTE:** RADAR REQUIRED

**NOTE:** RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.2  
- FOR RWY 20R MINIMUM CLIMB GRADIENT

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



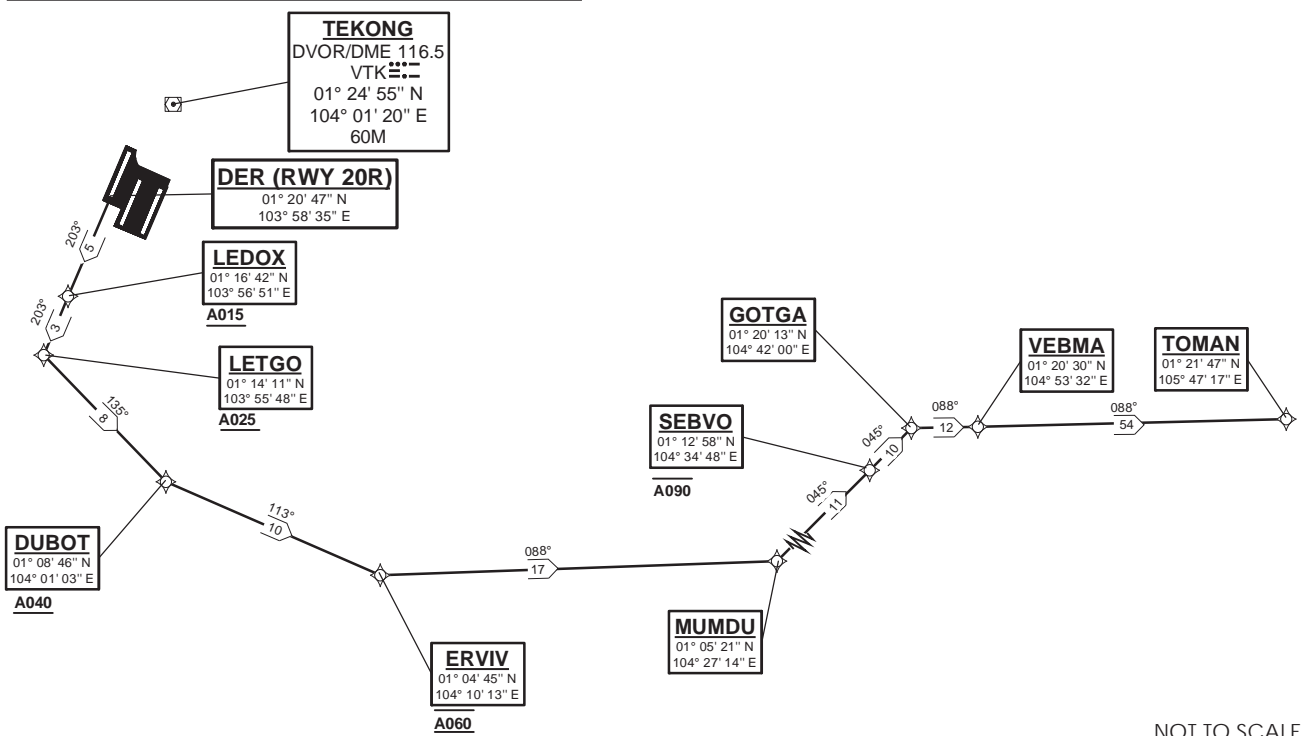
**PROCEDURE INFORMATION**

SID 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 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

## TOMAN 5F (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.	LEDOX [M203; A015+] -	CF	N
To LETGO at or above 2500ft, turn left.	LETGO [A025+; L] -	TF	N
To DUBOT at or above 4000ft, turn left.	DUBOT [A040+; L] -	TF	N
To ERVIV at 6000ft, turn left.	ERVIV [@A060; L] -	TF	N
To MUMDU, turn left.	MUMDU [L] -	TF	N
To SEBVO at or below 9000ft.	SEBVO [A090-] -	TF	N
To GOTGA, turn right.	GOTGA [R] -	TF	N
To VEBMA.	VEBMA -	TF	N
To TOMAN.	TOMAN	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(203.4)	5.0	-	A015+	-	RNAV1
TF	LETGO	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	DUBOT	-	135(135.4)	8.0	L	A040+	-	RNAV1
TF	ERVIV	-	113(113.4)	10.0	L	@A060	-	RNAV1
TF	MUMDU	-	088(088.4)	17.0	L	-	-	RNAV1
TF	SEBVO	-	045(045.4)	11.0	-	A090-	-	RNAV1
TF	GOTGA	-	045(045.4)	10.0	R	-	-	RNAV1
TF	VEBMA	-	088(088.4)	12.0	-	-	-	RNAV1
TF	TOMAN	-	088(088.4)	54.0	-	-	-	RNAV1

### Radio Communications Failure Procedure

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20C**  
**VOVOS DEPARTURES**  
**VOVOS 1B**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE:** RADAR REQUIRED

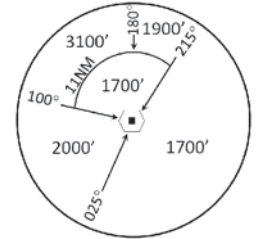
**NOTE:** RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.1  
- FOR RWY 20C MINIMUM CLIMB GRADIENT

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

**NOTE:** VOVOS SID WILL NOT BE AVAILABLE FOR  
FLIGHT PLANNING UNTIL FURTHER ADVISED



MSA 25 NM  
from TEKONG DVOR

**PROCEDURE INFORMATION**

SID 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	1063	1418	1772	2127
3.3% V/V (fpm)	251	334	501	668	835	1003

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

**DER (RWY 20C)**  
01° 19' 42.00" N  
103° 59' 05.00" E

**IBIXU**  
01° 16' 21" N  
103° 57' 40" E  
A015

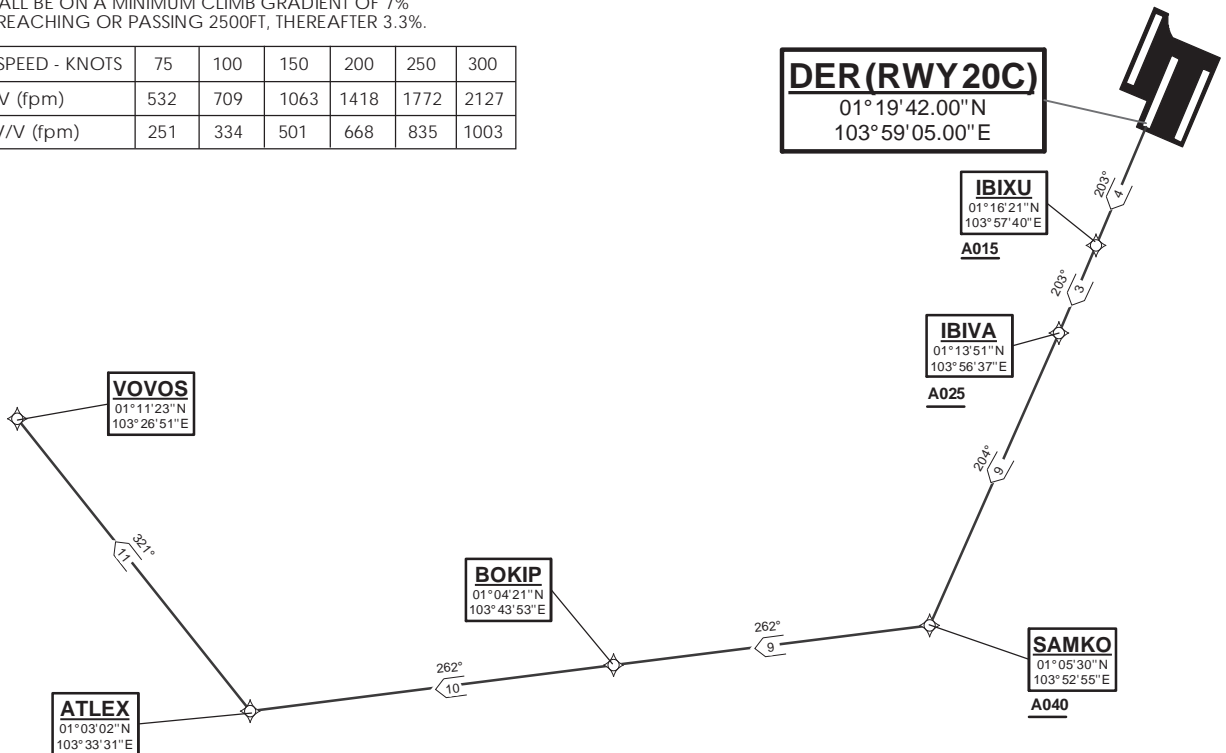
**IBIVA**  
01° 13' 51" N  
103° 56' 37" E  
A025

**SAMKO**  
01° 05' 30" N  
103° 52' 55" E  
A040

**VOVOS**  
01° 11' 23" N  
103° 26' 51" E

**BOKIP**  
01° 04' 21" N  
103° 43' 53" E

**ATLEX**  
01° 03' 02" N  
103° 33' 31" E



NOT TO SCALE

**VOVOS 1B (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.	IBIXU [M203; A015+] -	CF	N
To IBIVA at or above 2500ft, turn right.	IBIVA [A025+; R] -	TF	N
To SAMKO at or above 4000ft, turn right.	SAMKO [A040+; R] -	TF	N
To BOKIP.	BOKIP -	TF	N
To ATLEX, turn right.	ATLEX [R] -	TF	N
To VOVOS.	VOVOS	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(203.4)	4.0	-	A015+	-	RNAV1
TF	IBIVA	-	203(203.4)	3.0	R	A025+	-	RNAV1
TF	SAMKO	-	204(204.4)	9.0	R	A040+	-	RNAV1
TF	BOKIP	-	262(262.4)	9.0	-	-	-	RNAV1
TF	ATLEX	-	262(262.4)	10.0	R	-	-	RNAV1
TF	VOVOS	-	321(321.4)	11.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20L**  
**VOVOS DEPARTURES**  
**VOVOS 1D**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE:** RADAR REQUIRED

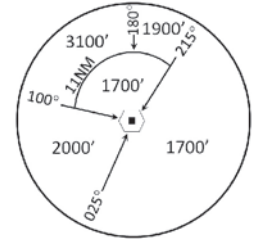
**NOTE:** RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.3  
- FOR RWY 20L MINIMUM CLIMB GRADIENT

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

**NOTE:** VOVOS SID WILL NOT BE AVAILABLE FOR  
FLIGHT PLANNING UNTIL FURTHER ADVISED



MSA 25 NM  
from TEKONG DVOR

**PROCEDURE INFORMATION**

SID 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 9%  
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
9% V/V (fpm)	684	911	1367	1823	2279	2734
3.3% V/V (fpm)	251	334	501	668	835	1003

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

**DER (RWY 20L)**  
01° 19' 19" N  
103° 59' 59" E

**UKIBO**  
01° 17' 58" N  
103° 59' 24" E

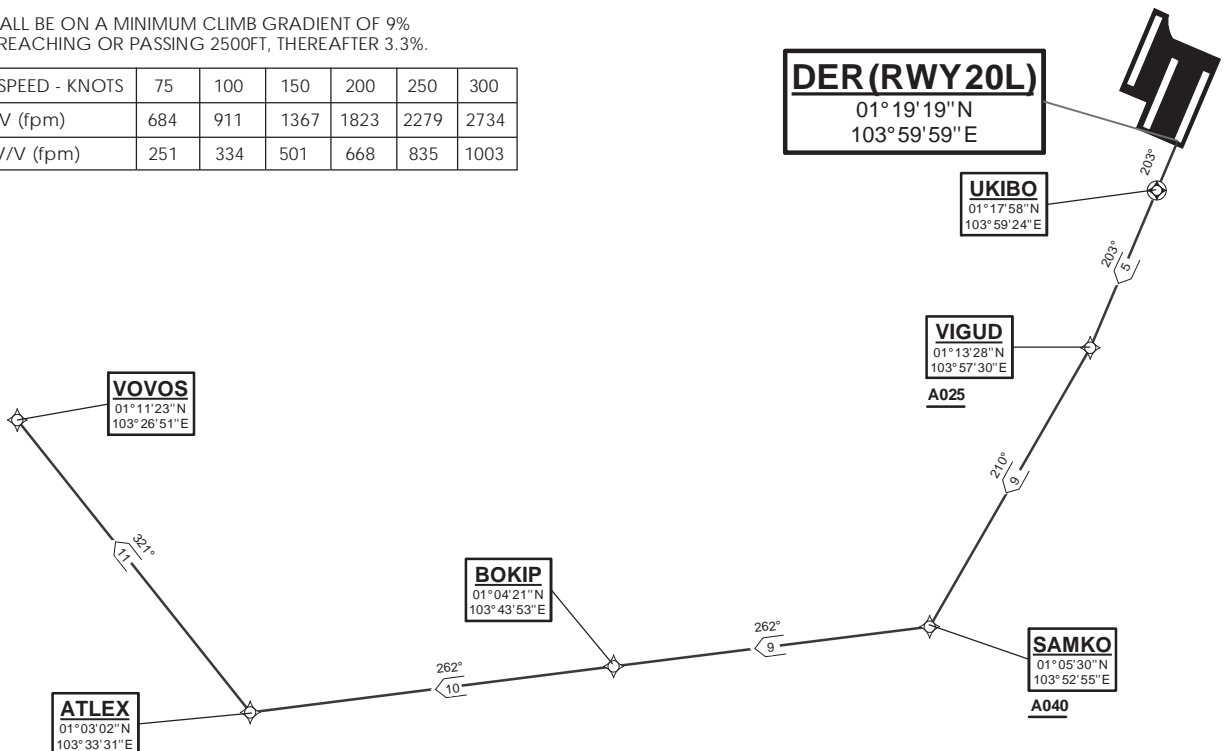
**VIGUD**  
01° 13' 28" N  
103° 57' 30" E  
A025

**SAMKO**  
01° 05' 30" N  
103° 52' 55" E  
A040

**VOVOS**  
01° 11' 23" N  
103° 26' 51" E

**ATLEX**  
01° 03' 02" N  
103° 33' 31" E

**BOKIP**  
01° 04' 21" N  
103° 43' 53" E



NOT TO SCALE

31 OCT 2024

**VOVOS 1D (SID) RNAV GNSS RWY 20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To UKIBO on course 203°.	UKIBO [M203] -	CF	N
To VIGUD at or above 2500ft, turn right.	VIGUD [A025+; R] -	TF	N
To SAMKO at or above 4000ft, turn right.	SAMKO [A040+; R] -	TF	N
To BOKIP.	BOKIP -	TF	N
To ATLEX, turn right.	ATLEX [R] -	TF	N
To VOVOS.	VOVOS	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	UKIBO	Y	203(203.4)	1.5	-	-	-	RNAV1
TF	VIGUD	-	203(203.4)	5.0	R	A025+	-	RNAV1
TF	SAMKO	-	210(210.4)	9.0	R	A040+	-	RNAV1
TF	BOKIP	-	262(262.4)	9.0	-	-	-	RNAV1
TF	ATLEX	-	262(262.4)	10.0	R	-	-	RNAV1
TF	VOVOS	-	321(321.4)	11.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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



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

TWR 118.6 / 118.25  
APP 120.3  
124.05  
ACC 133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi**  
**RWY 20R**  
**VOVOS DEPARTURES**  
**VOVOS 1F**

**ELEV, ALT IN FEET**

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

DISTANCES IN NM

**GENERAL INFORMATION**

**INITIAL CLIMB**  
**3000FT**

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE:** RADAR REQUIRED

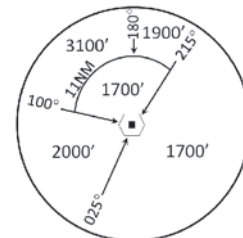
**NOTE:** RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

**NOTE:** WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC, REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

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

**NOTE:** VOVOS SID WILL NOT BE AVAILABLE FOR FLIGHT PLANNING UNTIL FURTHER ADVISED



MSA 25 NM from TEKONG DVOR

**PROCEDURE INFORMATION**

SID 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 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

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

**DER (RWY 20R)**  
01° 20' 47.00"N  
103° 58' 35.00"E

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

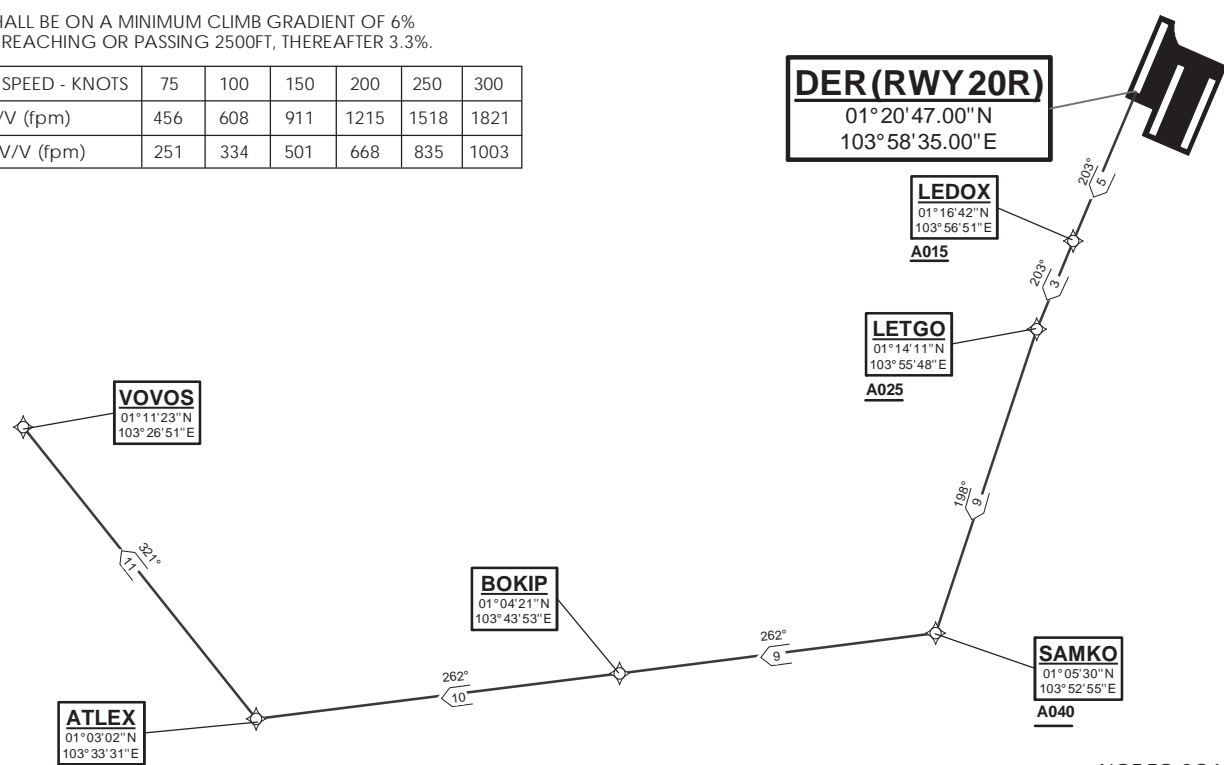
**LETGO**  
01° 14' 11"N  
103° 55' 48"E  
A025

**BOKIP**  
01° 04' 21"N  
103° 43' 53"E

**SAMKO**  
01° 05' 30"N  
103° 52' 55"E  
A040

**VOVOS**  
01° 11' 23"N  
103° 26' 51"E

**ATLEX**  
01° 03' 02"N  
103° 33' 31"E



NOT TO SCALE

**VOVOS 1F (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.	LEDOX [M203; A015+] -	CF	N
To LETGO at or above 2500ft, turn left.	LETGO [A025+; L] -	TF	N
To SAMKO at or above 4000ft, turn right.	SAMKO [A040+; R] -	TF	N
To BOKIP.	BOKIP -	TF	N
To ATLEX, turn right.	ATLEX [R] -	TF	N
To VOVOS.	VOVOS	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(203.4)	5.0	-	A015+	-	RNAV1
TF	LETGO	-	203(203.4)	3.0	L	A025+	-	RNAV1
TF	SAMKO	-	198(198.4)	9.0	R	A040+	-	RNAV1
TF	BOKIP	-	262(262.4)	9.0	-	-	-	RNAV1
TF	ATLEX	-	262(262.4)	10.0	R	-	-	RNAV1
TF	VOVOS	-	321(321.4)	11.0	-	-	-	RNAV1

**Radio Communications Failure Procedure**

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

**STANDARD INSTRUMENT  
DEPARTURES (SID)  
CHART**

TWR	131.4
APP	120.3
ACC	133.8/134.4/133.25/ 134.2

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi  
RWY 02R/20L  
CHANGI DEPARTURE (RADAR)  
CHA 1C (R02R)  
CHA 1D (R20L)**

**ELEV, ALT IN FEET**

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

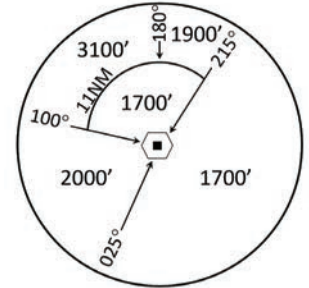
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL  
FURTHER ADVISED**

**NOTE:** RADAR REQUIRED

**NOTE:** ACFT UNABLE TO COMPLY WITH CLIMB GRADIENT  
RESTRICTION SHALL INFORM ATC DURING THE TIME  
ACFT COMMENCES TAXIING TO HOLDING POINT FOR  
DEPARTURE

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



**MSA 25 NM  
from TEKONG DVOR**

**GENERAL INFORMATION**

**INITIAL CLIMB  
3000FT**

ACFT ON DEPARTURE 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.

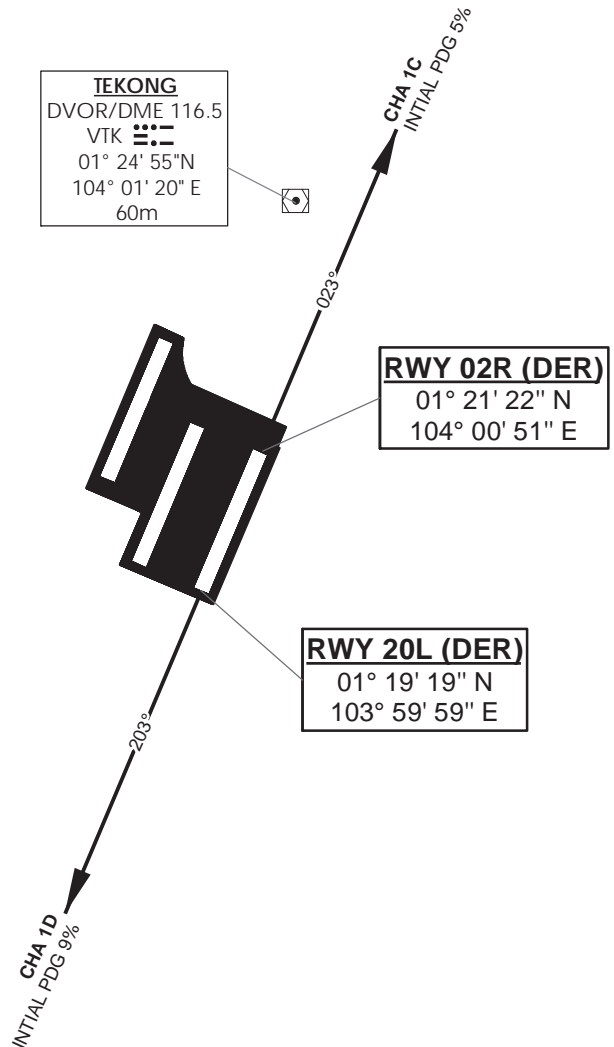
ACFT ON DEPARTURE **02R** SHALL BE ON A MINIMUM CLIMB GRADIENT  
OF 5% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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

ACFT ON DEPARTURE **20L** SHALL BE ON A MINIMUM CLIMB GRADIENT  
OF 9% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
9% V/V (fpm)	684	911	1367	1823	2279	2734
3.3% V/V (fpm)	251	334	501	668	835	1003

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



NOT TO SCALE

31 OCT 2024

**CHA 1C SID (RADAR) RWY 02R - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator
Climb heading 023°, Gradient 5% to 2500ft, thence 3.3%. Expect radar vectors to the planned ATS route or waypoints listed in table A.	-	VA

**Tabular Descriptions**

Path Terminator	Turn Direction	Course °M (°T)	Altitude	Speed Limit
VA	-	023 (023.4)	A030	-

**CHA 1D SID (RADAR) RWY 20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator
Climb heading 203°, Gradient 9% to 2500ft, thence 3.3%. Expect radar vectors to the planned ATS route or waypoints listed in table A.	-	VA

**Tabular Descriptions**

Path Terminator	Turn Direction	Course °M (°T)	Altitude	Speed Limit
VA	-	203 (203.4)	A030	-

**Table A**

Planned ATS Routes	Expect Radar Vectors to the waypoints listed below and thereafter to join the respective planned ATS Route
A457	AKOMA DCT SABKA DCT MASBO
B470	VIRET DCT ANITO
G580 / M646 / L625 / T21 - L504 / T21 - M774	VEBMA DCT TOMAN
L762	VIBOG DCT BISOV DCT MIBEL
B469 / M751 / M771 / L642 / M753	AKOMA DCT VMR
T24 - M635	VIRET DCT GURES DCT IDBUD
W26	VIRET DCT GURES DCT IKIRO DCT KIRDA
R469	VIBOG DCT TAROS
Y513	AKOMA DCT AKMET DCT AROSO

**RADIO COMMUNICATIONS FAILURE PROCEDURE**

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

**STANDARD ARRIVAL CHART  
RNAV (GNSS) -  
INSTRUMENT (STAR)**

ACC 133.25  
APP 124.6  
119.3  
TWR 118.6 / 118.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
ARR 128.025

**SINGAPORE/Singapore Changi  
RWY 02L/C/R  
ARAMA ONE ALPHA ARRIVAL  
ARAMA 1A**

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

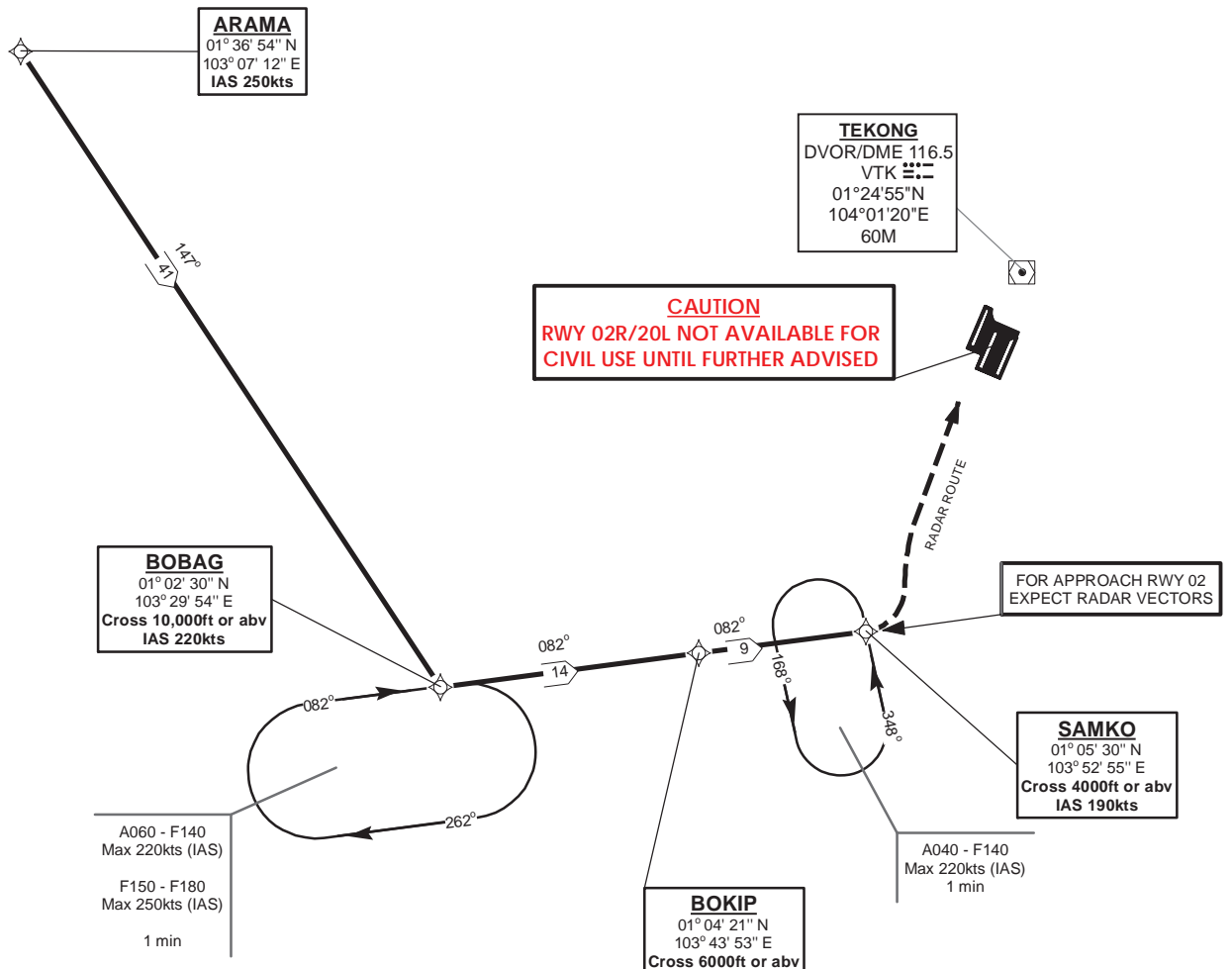
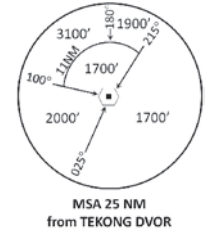
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL  
FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

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



NOT TO SCALE

31 OCT 2024

**ARAMA 1A (STAR) RNAV GNSS RWY 02L/02C/02R - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From ARAMA, speed 250kts.	ARAMA [K250] -	IF	N
To BOBAG at or above 10000ft, speed 220kts, turn left.	BOBAG [A100+; K220; L] -	TF	N
To BOKIP at or above 6000ft.	BOKIP [A060+] -	TF	N
To SAMKO at or above 4000ft, speed 190kts.	SAMKO [A040+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	ARAMA	-	-	-	-	-	K250	RNAV1
TF	BOBAG	-	147(147.4)	41.0	L	A100+	K220	RNAV1
TF	BOKIP	-	082(082.4)	14.0	-	A060+	-	RNAV1
TF	SAMKO	-	082(082.4)	9.0	-	A040+	K190	RNAV1

**Radio Communications Failure Procedure**

<b>1</b>	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
<b>2</b>	<p><b>When cleared via ARAMA 1A by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on ARAMA 1A to SAMKO</p> <p>(b) From SAMKO commence descent and carry out appropriate landing procedure for RWY 02 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
<b>3</b>	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

**STANDARD ARRIVAL CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (STAR)**

ACC 133.25  
APP 124.6  
119.3  
TWR 118.6 / 118.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.025

**SINGAPORE/Singapore Changi**  
**RWY 20R/C/L**  
**ARAMA ONE BRAVO ARRIVAL**  
**ARAMA 1B**

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

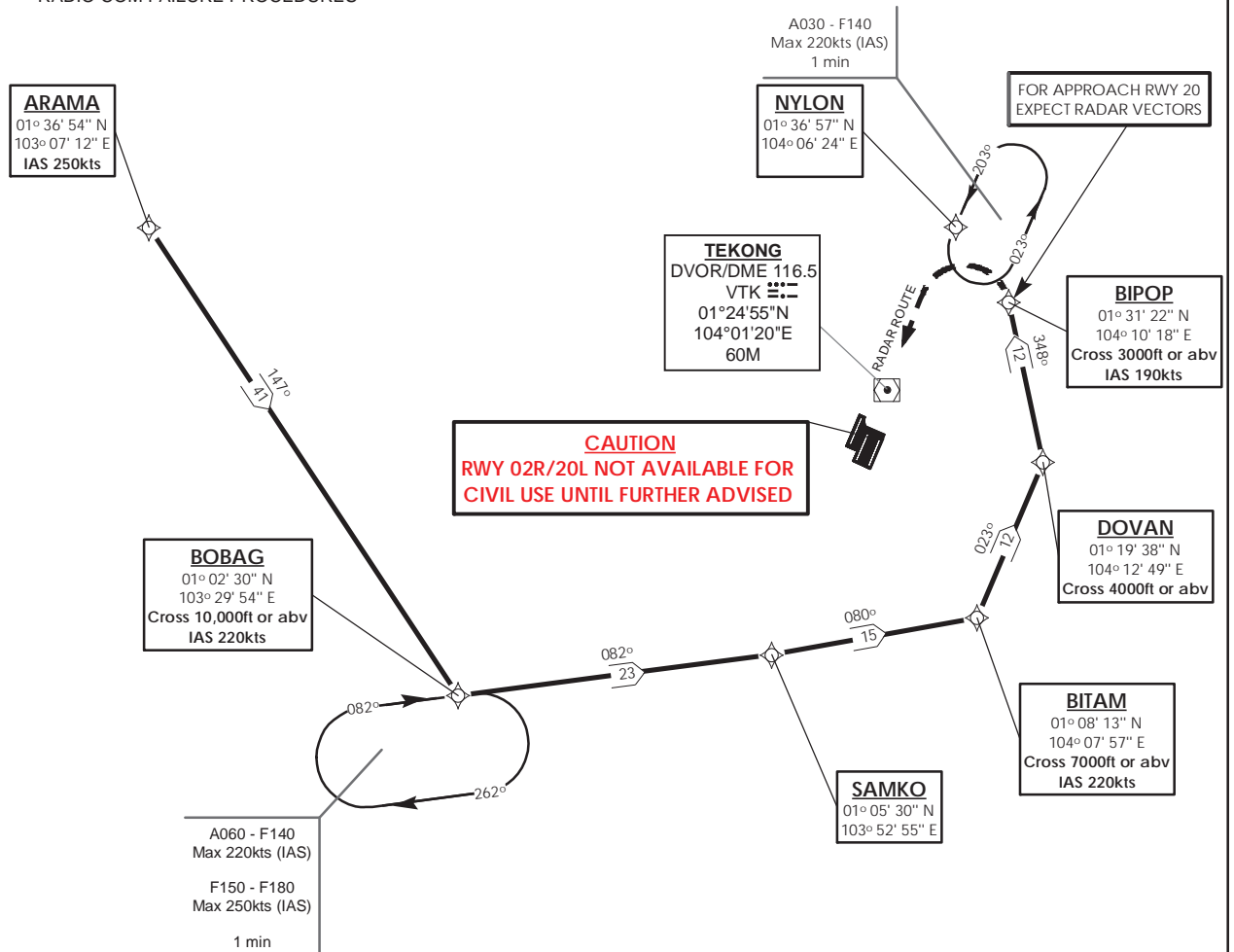
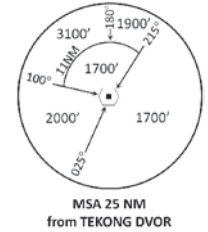
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

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



NOT TO SCALE

31 OCT 2024

**ARAMA 1B (STAR) RNAV GNSS RWY 20R/20C/20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From ARAMA, speed 250kts.	ARAMA [K250] -	IF	N
To BOBAG at or above 10000ft, speed 220kts, turn left.	BOBAG [A100+; K220; L] -	TF	N
To SAMKO, turn left.	SAMKO [L] -	TF	N
To BITAM at or above 7000ft, speed 220kts, turn left.	BITAM [A070+; K220; L] -	TF	N
To DOVAN at or above 4000ft, turn left.	DOVAN [A040+; L] -	TF	N
To BIPOP at or above 3000ft, speed 190kts.	BIPOP [A030+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	ARAMA	-	-	-	-	-	K250	RNAV1
TF	BOBAG	-	147(147.4)	41.0	L	A100+	K220	RNAV1
TF	SAMKO	-	082(082.4)	23.0	L	-	-	RNAV1
TF	BITAM	-	080(080.4)	15.0	L	A070+	K220	RNAV1
TF	DOVAN	-	023(023.4)	12.0	L	A040+	-	RNAV1
TF	BIPOP	-	348(348.4)	12.0	-	A030+	K190	RNAV1

**Radio Communications Failure Procedure**

<b>1</b>	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
<b>2</b>	<p><b>When cleared via ARAMA 1B by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on ARAMA 1B to BIPOP, then direct to NYLON</p> <p>(b) From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
<b>3</b>	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>



**STANDARD ARRIVAL CHART  
RNAV (GNSS) -  
INSTRUMENT (STAR)**

ACC 133.25  
APP 124.6  
119.3  
TWR 118.6 / 118.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
ARR 128.025

**SINGAPORE/Singapore Changi  
RWY 02L/C/R  
ASUNA TWO ALPHA ARRIVAL  
ASUNA 2A**

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

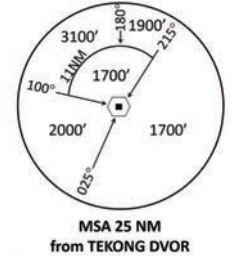
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL  
FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

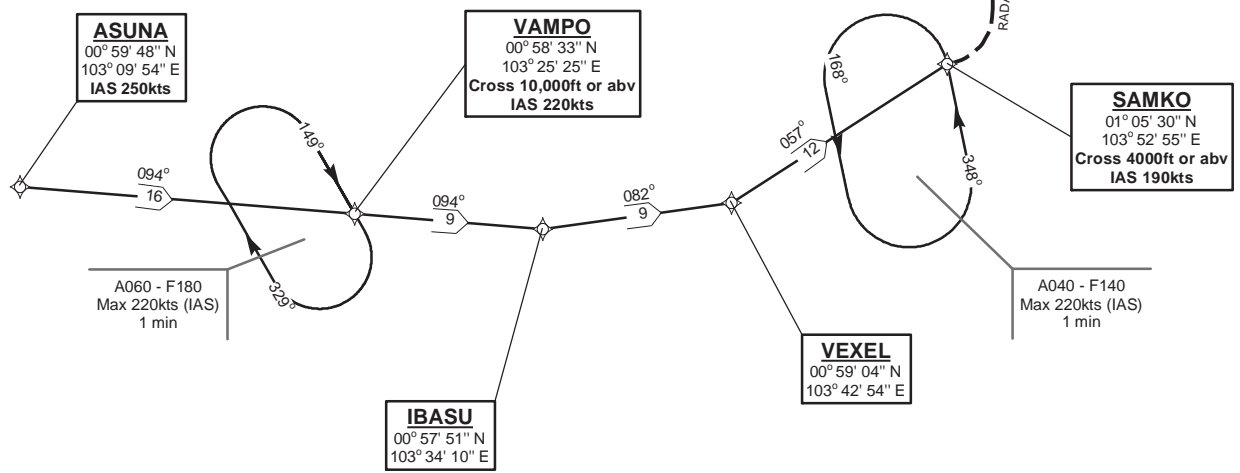
**NOTE: REFER TO BACK PAGE FOR**  
- FORMAL AND TABULAR DESCRIPTIONS  
- RADIO COM FAILURE PROCEDURES



**CAUTION  
RWY 02R/20L NOT AVAILABLE FOR  
CIVIL USE UNTIL FURTHER ADVISED**

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

FOR APPROACH RWY 02  
EXPECT RADAR VECTORS



NOT TO SCALE

31 OCT 2024

**ASUNA 2A (STAR) RNAV GNSS RWY 02L/02C/02R - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From ASUNA, speed 250kts.	ASUNA [K250] -	IF	N
To VAMPO at or above 10000ft, speed 220kts.	VAMPO [A100+; K220] -	TF	N
To IBASU, turn left.	IBASU [L] -	TF	N
To VEXEL, turn left.	VEXEL [L] -	TF	N
To SAMKO at or above 4000ft, speed 190kts.	SAMKO [A040+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	ASUNA	-	-	-	-	-	K250	RNAV1
TF	VAMPO	-	094(094.4)	16.0	-	A100+	K220	RNAV1
TF	IBASU	-	094(094.4)	9.0	L	-	-	RNAV1
TF	VEXEL	-	082(082.4)	9.0	L	-	-	RNAV1
TF	SAMKO	-	057(057.4)	12.0	-	A040+	K190	RNAV1

**Radio Communications Failure Procedure**

1	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
2	<p><b>When cleared via ASUNA 2A by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on ASUNA 2A to SAMKO</p> <p>(b) From SAMKO commence descent and carry out appropriate landing procedure for RWY 02 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
3	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

**STANDARD ARRIVAL CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (STAR)**

ACC 133.25  
APP 124.6  
119.3  
TWR 118.6 / 118.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
ARR 128.025

**SINGAPORE/Singapore Changi**  
**RWY 20R/C/L**  
**ASUNA TWO BRAVO ARRIVAL**  
**ASUNA 2B**

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

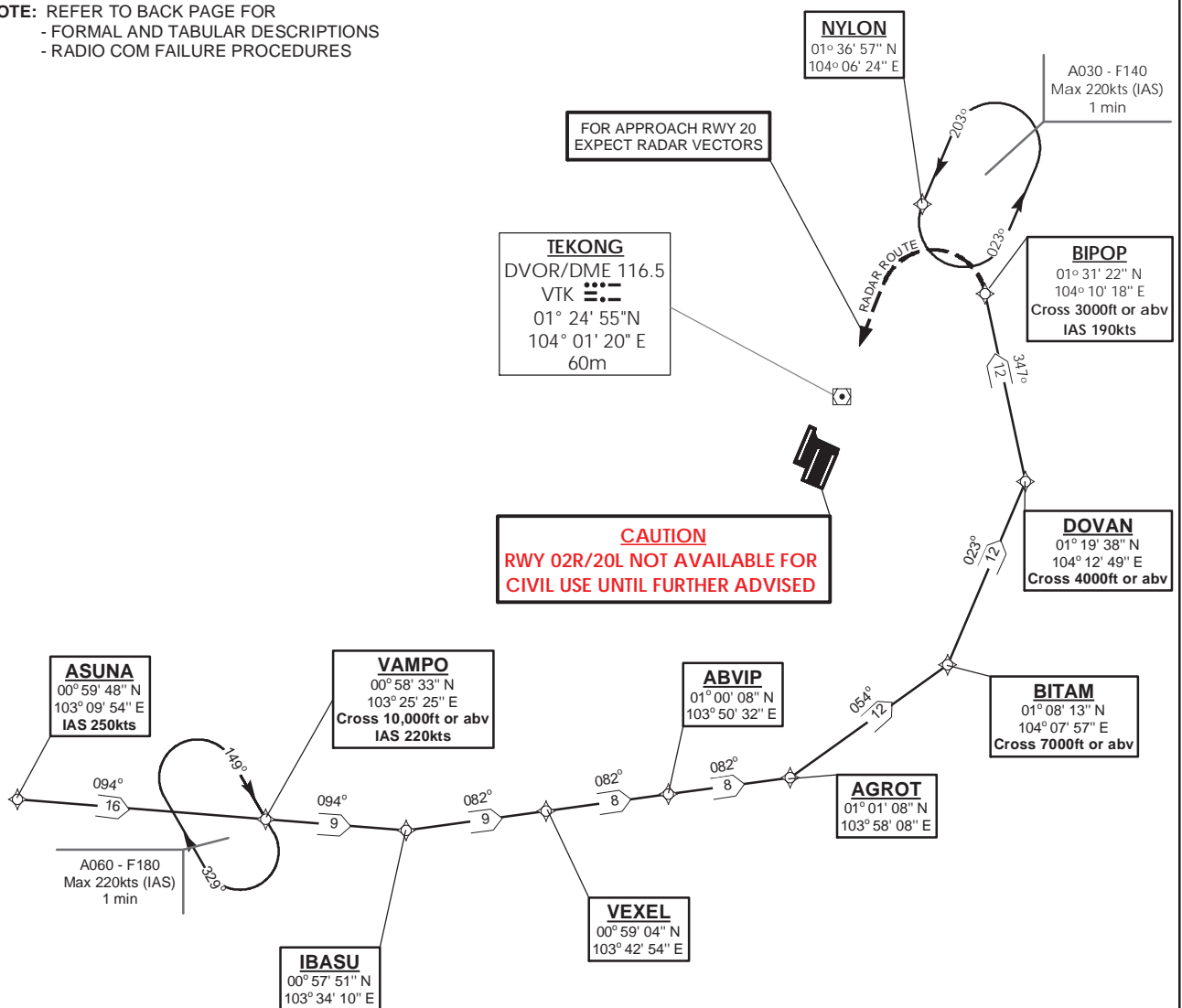
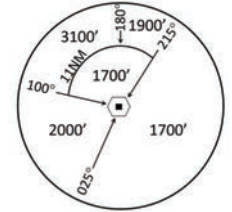
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

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



NOT TO SCALE

31 OCT 2024

**ASUNA 2B (STAR) RNAV GNSS RWY 20R/20C/20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From ASUNA, speed 250kts.	ASUNA [K250] -	IF	N
To VAMPO at or above 10000ft, speed 220kts.	VAMPO [A100+; K220] -	TF	N
To IBASU, turn left.	IBASU [L] -	TF	N
To VEXEL.	VEXEL -	TF	N
To ABVIP.	ABVIP -	TF	N
To AGROT, turn left.	AGROT [L] -	TF	N
To BITAM at or above 7000ft, turn left.	BITAM [A070+; L] -	TF	N
To DOVAN at or above 4000ft, turn left.	DOVAN [A040+; L] -	TF	N
To BIPOP at or above 3000ft, speed 190kts.	BIPOP [A030+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	ASUNA	-	-	-	-	-	K250	RNAV1
TF	VAMPO	-	094(094.4)	16.0	-	A100+	K220	RNAV1
TF	IBASU	-	094(094.4)	9.0	L	-	-	RNAV1
TF	VEXEL	-	082(082.4)	9.0	-	-	-	RNAV1
TF	ABVIP	-	082(082.4)	8.0	-	-	-	RNAV1
TF	AGROT	-	082(082.4)	8.0	L	-	-	RNAV1
TF	BITAM	-	054(054.4)	12.0	L	A070+	-	RNAV1
TF	DOVAN	-	023(023.4)	12.0	L	A040+	-	RNAV1
TF	BIPOP	-	347(347.4)	12.0	-	A030+	K190	RNAV1

**Radio Communications Failure Procedure**

<b>1</b>	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
<b>2</b>	<p><b>When cleared via ASUNA 2B by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on ASUNA 2B to BIPOP, then direct to NYLON</p> <p>(b) From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
<b>3</b>	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

**STANDARD ARRIVAL CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (STAR)**

ACC 133.8
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE 11 000ft
D-ATIS AP ID-WSSS 128.025

**SINGAPORE/Singapore Changi**  
**RWY 02L/C/R**  
**ELALO ONE ALPHA ARRIVAL**  
**ELALO 1A**

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

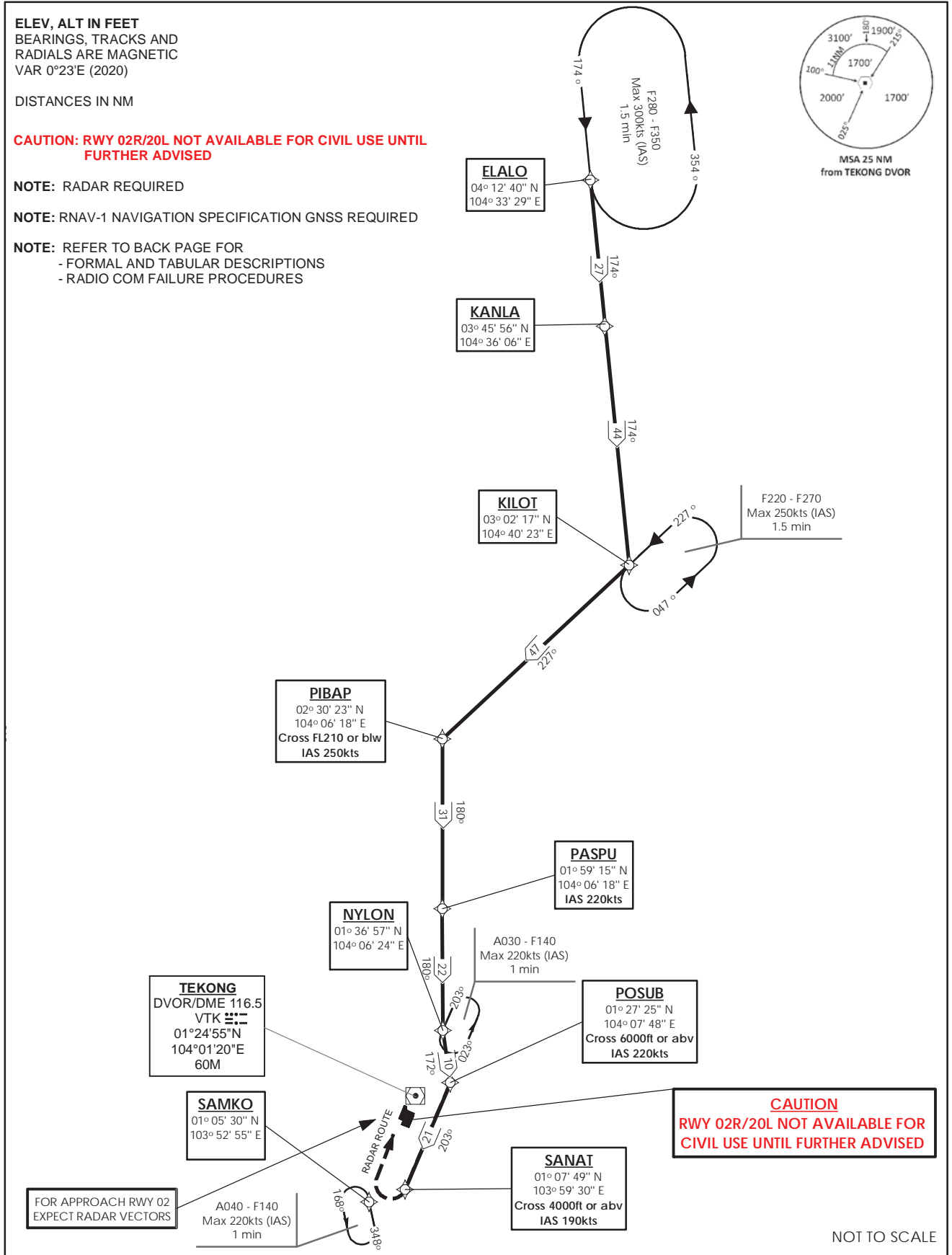
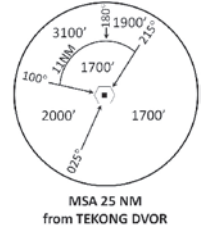
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

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



31 OCT 2024

**ELALO 1A (STAR) RNAV GNSS RWY 02L/02C/02R - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From ELALO.	ELALO -	IF	N
To KANLA.	KANLA -	TF	N
To KILOT, turn right.	KILOT [R] -	TF	N
To PIBAP at or below FL210, speed 250kts, turn left.	PIBAP [FL210-; K250; L] -	TF	N
To PASPU, speed 220kts.	PASPU [K220] -	TF	N
To NYLON, turn left.	NYLON [L] -	TF	N
To POSUB at or above 6000ft, speed 220kts, turn right.	POSUB [A060+; K220; R] -	TF	N
To SANAT at or above 4000ft, speed 190kts.	SANAT [A040+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	ELALO	-	-	-	-	-	-	RNAV1
TF	KANLA	-	174(174.4)	27.0	-	-	-	RNAV1
TF	KILOT	-	174(174.4)	44.0	R	-	-	RNAV1
TF	PIBAP	-	227(227.4)	47.0	L	FL210-	K250	RNAV1
TF	PASPU	-	180(180.4)	31.0	-	-	K220	RNAV1
TF	NYLON	-	180(180.4)	22.0	L	-	-	RNAV1
TF	POSUB	-	172(172.4)	10.0	R	A060+	K220	RNAV1
TF	SANAT	-	203(203.4)	21.0	-	A040+	K190	RNAV1

**Radio Communications Failure Procedure**

<b>1</b>	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
<b>2</b>	<p><b>When cleared via ELALO 1A by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on ELALO 1A to SANAT, then direct to SAMKO</p> <p>(b) From SAMKO commence descent and carry out appropriate landing procedure for RWY 02 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
<b>3</b>	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

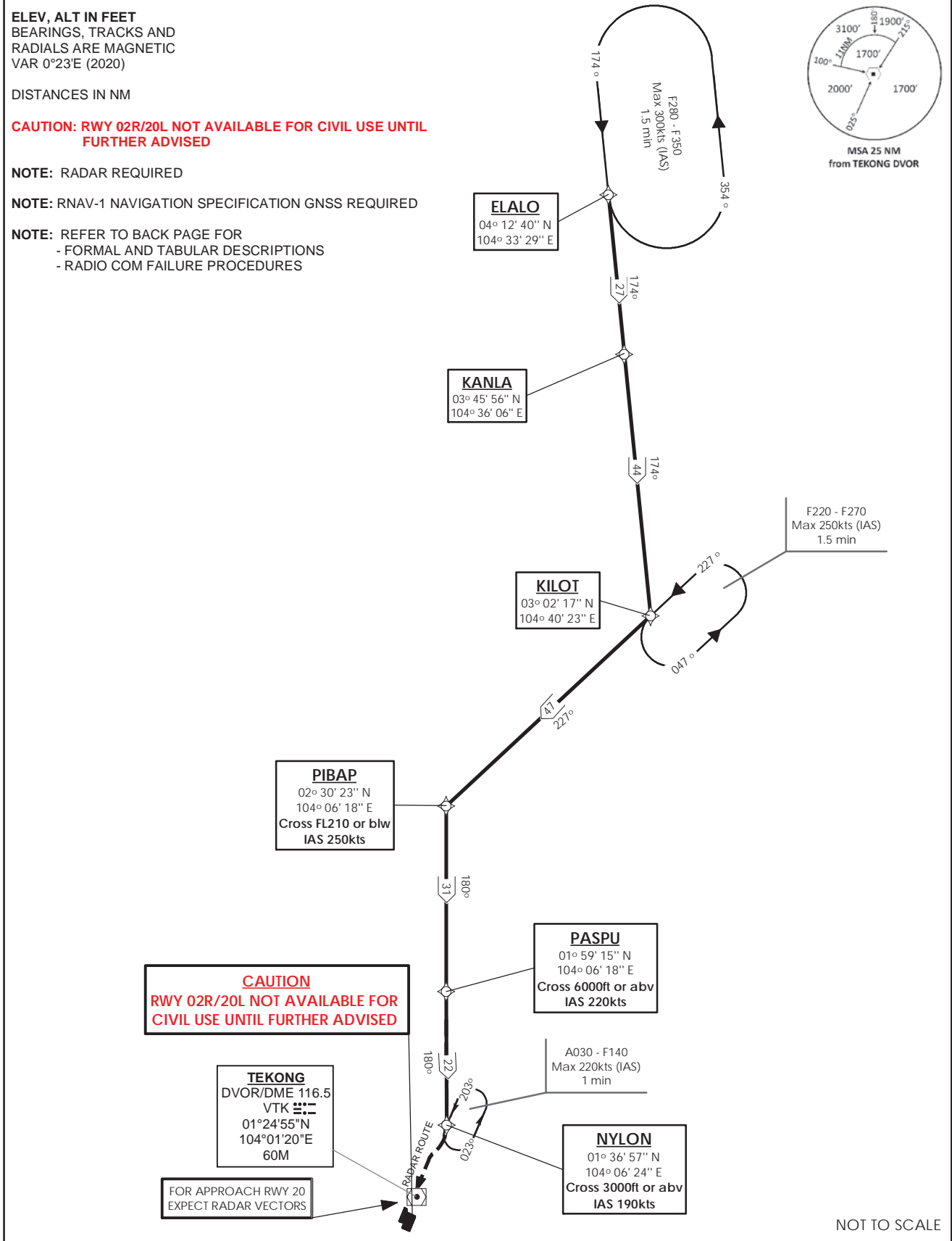
**STANDARD ARRIVAL CHART  
RNAV (GNSS) -  
INSTRUMENT (STAR)**

ACC 133.8
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE 11 000ft
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D-ATIS AP ID-WSSS 128.025
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**SINGAPORE/Singapore Changi  
RWY 20R/C/L  
ELALO ONE BRAVO ARRIVAL  
ELALO 1B**



31 OCT 2024

**ELALO 1B (STAR) RNAV GNSS RWY 20R/20C/20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From ELALO.	ELALO -	IF	N
To KANLA.	KANLA -	TF	N
To KILOT, turn right.	KILOT [R] -	TF	N
To PIBAP at or below FL210, speed 250kts turn left.	PIBAP [FL210-; K250; L] -	TF	N
To PASPU, at or above 6000ft, speed 220kts.	PASPU [A060+; K220] -	TF	N
To NYLON at or above 3000ft, speed 190kts.	NYLON [A030+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	ELALO	-	-	-	-	-	-	RNAV1
TF	KANLA	-	174(174.4)	27.0	-	-	-	RNAV1
TF	KILOT	-	174(174.4)	44.0	R	-	-	RNAV1
TF	PIBAP	-	227(227.4)	47.0	L	FL210-	K250	RNAV1
TF	PASPU	-	180(180.4)	31.0	-	A060+	K220	RNAV1
TF	NYLON	-	180(180.4)	22.0	-	A030+	K190	RNAV1

**Radio Communications Failure Procedure**

1	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
2	<p><b>When cleared via ELALO 1B by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on ELALO 1B to NYLON</p> <p>(b) From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
3	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>



**SINGAPORE/Singapore Changi**  
**RWY 02L/C/R**  
**KARTO TWO ALPHA ARRIVAL**  
**KARTO 2A**

ACC 134.2 APP 124.05 119.3 TWR 118.6 / 118.25	TRANSITION ALTITUDE 11 000ft	D-ATIS AP ID-WSSS 128.025
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**STANDARD ARRIVAL CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (STAR)**

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

DISTANCES IN NM

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

**CAUTION**  
RWY 02R/20L NOT AVAILABLE FOR  
CIVIL USE UNTIL FURTHER ADVISED

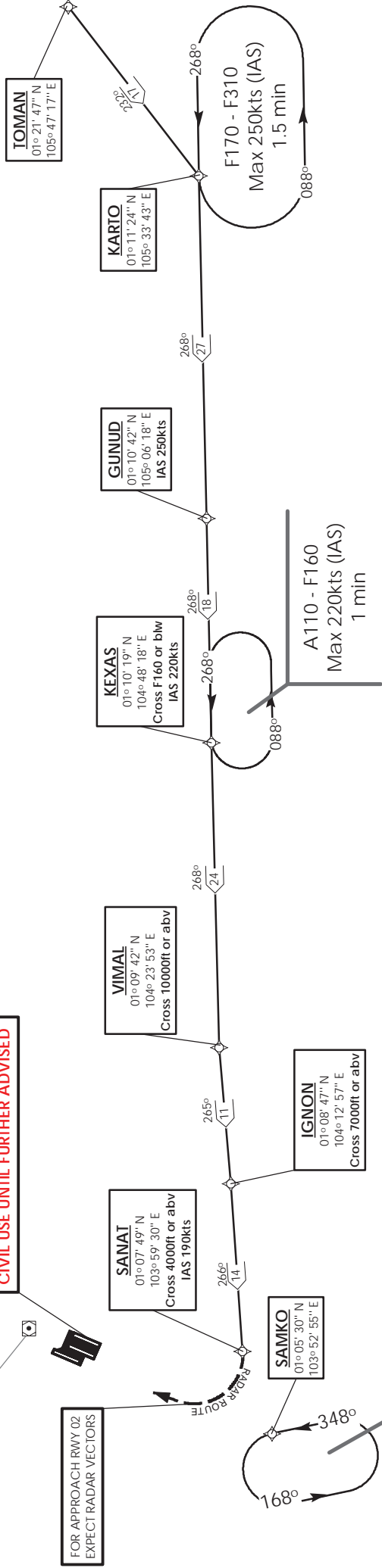
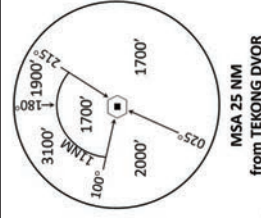
FOR APPROACH RWY 02  
EXPECT RADAR VECTORS

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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



NOT TO SCALE

## KARTO 2A (STAR) RNAV GNSS RWY 02L/02C/02R - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From TOMAN.	TOMAN -	IF	N
To KARTO, turn right.	KARTO [R] -	TF	N
To GUNUD, speed 250kts	GUNUD [K250] -	TF	N
To KEXAS at or below FL160, speed 220kts.	KEXAS [FL160-; K220] -	TF	N
To VIMAL at or above 10000ft, turn left.	VIMAL [A100+; L] -	TF	N
To IGNON at or above 7000ft, turn right.	IGNON [A070+; R] -	TF	N
To SANAT at or above 4000ft, speed 190kts.	SANAT [A040+; K190]	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	TOMAN	-	-	-	-	-	-	RNAV1
TF	KARTO	-	232(232.4)	17.0	R	-	-	RNAV1
TF	GUNUD	-	268(268.4)	27.0	-	-	K250	RNAV1
TF	KEXAS	-	268(268.4)	18.0	-	FL160-	K220	RNAV1
TF	VIMAL	-	268(268.4)	24.0	L	A100+	-	RNAV1
TF	IGNON	-	265(265.4)	11.0	R	A070+	-	RNAV1
TF	SANAT	-	266(266.4)	14.0	-	A040+	K190	RNAV1

### Radio Communications Failure Procedure

<b>1</b>	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
<b>2</b>	<p><b>When cleared via KARTO 2A by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on KARTO 2A to SANAT, then direct to SAMKO</p> <p>(b) From SAMKO commence descent and carry out appropriate landing procedure for RWY 02 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
<b>3</b>	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

SINGAPORE/Singapore Changi  
RWY 20R/C/L  
KARTO TWO BRAVO ARRIVAL  
KARTO 2B

ACC 134.2  
APP 124.05  
119.3  
TWR 118.6 / 118.25

TRANSITION ALTITUDE  
11 000ft  
D-ATIS AP ID-WSSS  
128.025

STANDARD ARRIVAL CHART  
RNAV (GNSS) -  
INSTRUMENT (STAR)

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

DISTANCES IN NM

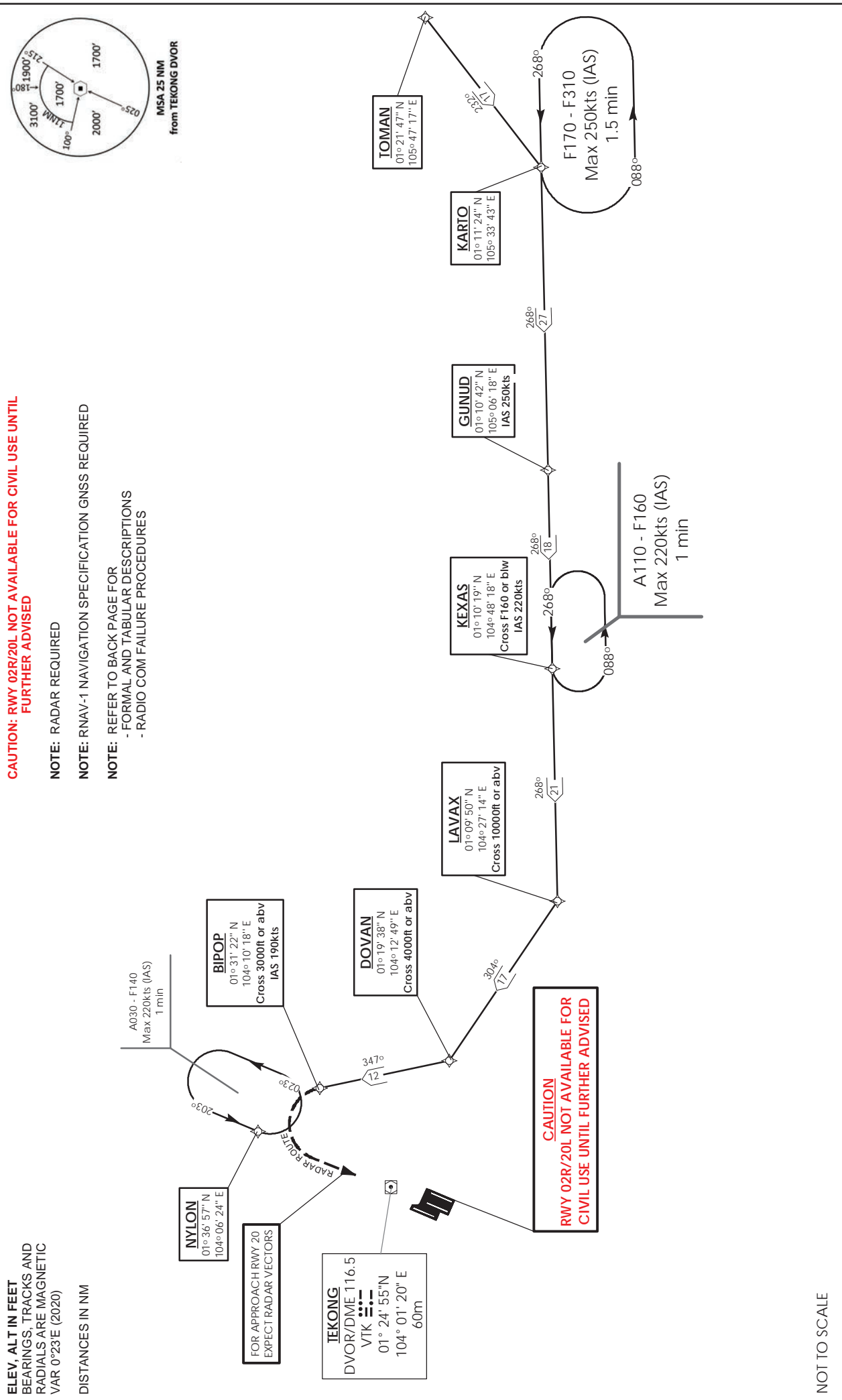
**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

**NOTE: REFER TO BACK PAGE FOR**

- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



NOT TO SCALE

31 OCT 2024

**KARTO 2B (STAR) RNAV GNSS RWY 20R/20C/20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From TOMAN.	TOMAN -	IF	N
To KARTO, turn right.	KARTO [R] -	TF	N
To GUNUD, speed 250kts.	GUNUD [K250] -	TF	N
To KEXAS at or below FL160, speed 220kts.	KEXAS [FL160-; K220] -	TF	N
To LAVAX at or above 10000ft, turn right.	LAVAX [A100+; R] -	TF	N
To DOVAN at or above 4000ft, turn right.	DOVAN [A040+; R] -	TF	N
To BIPOP at or above 3000ft, speed 190kts.	BIPOP [A030+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	TOMAN	-	-	-	-	-	-	RNAV1
TF	KARTO	-	232(232.4)	17.0	R	-	-	RNAV1
TF	GUNUD	-	268(268.4)	27.0	-	-	K250	RNAV1
TF	KEXAS	-	268(268.4)	18.0	-	FL160-	K220	RNAV1
TF	LAVAX	-	268(268.4)	21.0	R	A100+	-	RNAV1
TF	DOVAN	-	304(304.4)	17.0	R	A040+	-	RNAV1
TF	BIPOP	-	347(347.4)	12.0	-	A030+	K190	RNAV1

**Radio Communications Failure Procedure**

1	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
2	<p><b>When cleared via KARTO 2B by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on KARTO 2B to BIPOP, then direct to NYLON</p> <p>(b) From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
3	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

**STANDARD ARRIVAL CHART  
RNAV (GNSS) -  
INSTRUMENT (STAR)**

ACC 133.8  
APP 124.05  
119.3  
TWR 118.6

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.025

**SINGAPORE/Singapore Changi  
RWY 02L/C/R  
LEBAR TWO ALPHA ARRIVAL  
LEBAR 2A**

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

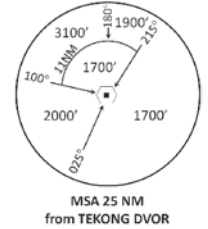
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL  
FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

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



**PASPU**  
01° 59' 15" N  
104° 06' 18" E  
IAS 220kts

**PAPA UNIFORM**  
DVOR/DME 115.1  
PU :---  
01° 25' 24" N  
103° 56' 00" E  
60M  
Cross 7,000ft or abv

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

DEVIATION IS NOT PERMITTED  
BETWEEN SJ AND PU

**CAUTION**  
RWY 02R/20L NOT AVAILABLE FOR  
CIVIL USE UNTIL FURTHER ADVISED

**SINJON**  
DVOR/DME 113.5  
SJ :---  
01° 13' 21.34" N  
103° 51' 15.22" E  
58M  
Cross 7,000ft or abv

WSR38  
10,000ft ALT  
GND

**PALGA**  
01° 10' 59" N  
103° 47' 59" E  
IAS 220kts

**PAMSI**  
01° 04' 59" N  
103° 48' 45" E

**SAMKO**  
01° 05' 30" N  
103° 52' 55" E  
Cross 4,000ft or abv  
IAS 190kts

FOR APPROACH RWY 02  
EXPECT RADAR VECTORS

RADAR ROUTE

NOT TO SCALE

**LEBAR 2A (STAR) RNAV GNSS RWY 02L/02C/02R - DESCRIPTIONS**

**Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From PASPU, speed 220kts.	PASPU [K220] -	IF	N
To PU at or above 7000ft, turn right.	PU [A070+; R] -	TF	N
To SJ at or above 7000ft, turn right.	SJ [A070+; R] -	TF	N
To PALGA, speed 220kts, turn left.	PALGA [K220; L] -	TF	N
To PAMSI, turn left.	PAMSI [L] -	TF	N
To SAMKO at or above 4000ft, speed 190kts.	SAMKO [A040+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	PASPU	-	-	-	-	-	K220	RNAV1
TF	PU	-	197(197.4)	35.0	R	A070+	-	RNAV1
TF	SJ	-	202(202.4)	13.0	R	A070+	-	RNAV1
TF	PALGA	-	234(234.4)	4.0	L	-	K220	RNAV1
TF	PAMSI	-	173(173.4)	6.0	L	-	-	RNAV1
TF	SAMKO	-	082(082.4)	4.0	-	A040+	K190	RNAV1

**Radio Communications Failure Procedure**

<b>1</b>	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
<b>2</b>	<p><b>When cleared via LEBAR 2A by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on LEBAR 2A to SAMKO</p> <p>(b) From SAMKO commence descent and carry out appropriate landing procedure for RWY 02L as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
<b>3</b>	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

**STANDARD ARRIVAL CHART  
RNAV (GNSS) -  
INSTRUMENT (STAR)**

ACC 134.4
APP 124.6
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE 11 000ft
D-ATIS AP ID-WSSS 128.025

**SINGAPORE/Singapore Changi  
RWY 20R/C/L  
LEBAR THREE BRAVO ARRIVAL  
LEBAR 3B**

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

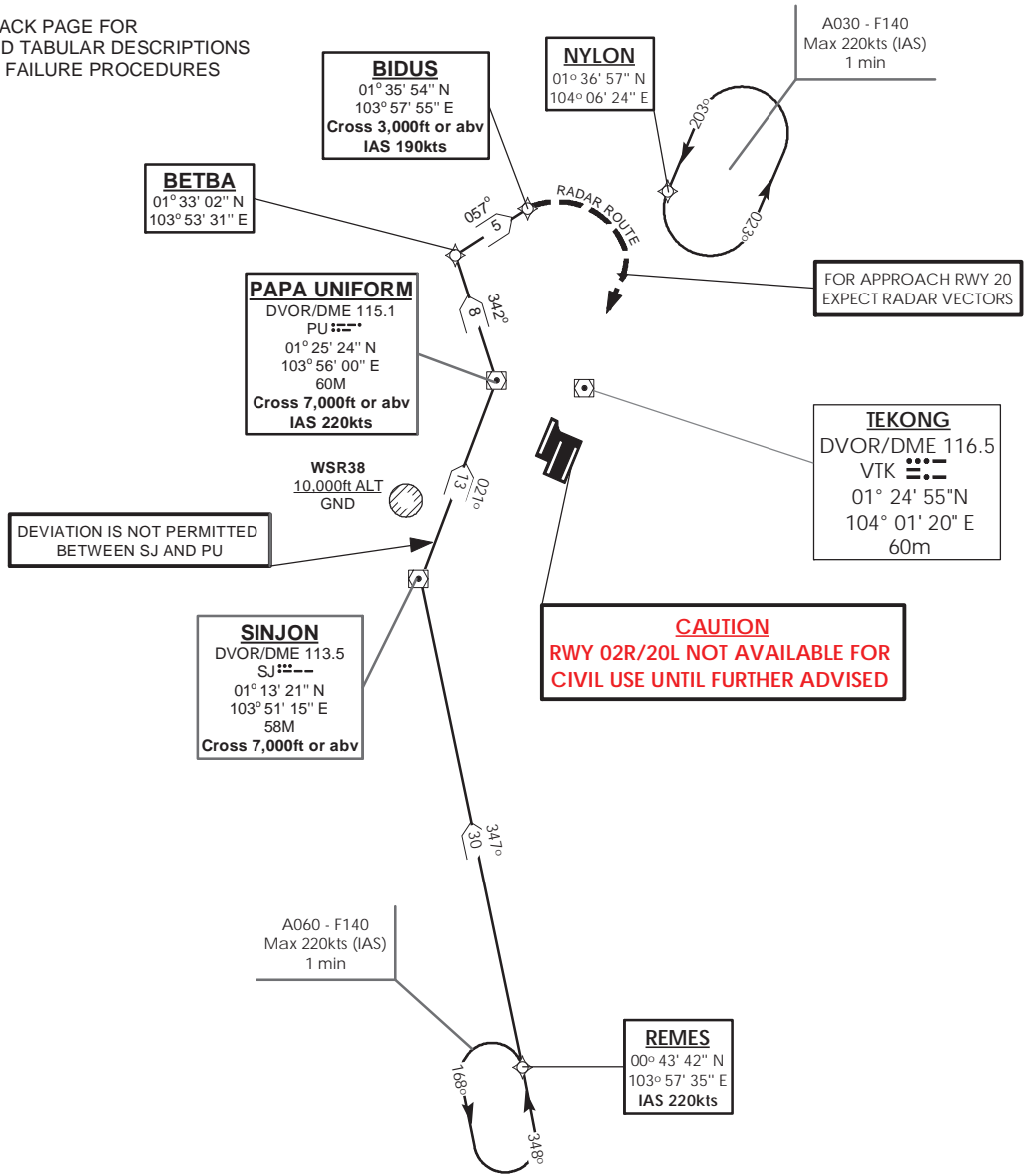
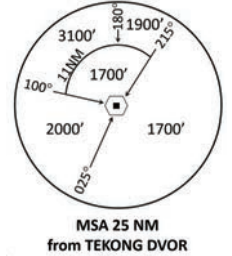
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

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



NOT TO SCALE

31 OCT 2024

**LEBAR 3B (STAR) RNAV GNSS RWY 20R/20C/20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From REMES, speed 220kts.	REMES [K220] -	IF	N
To SJ at or above 7000ft, turn right.	SJ [A070+; R] -	TF	N
To PU at or above 7000ft, speed 220kts, turn left.	PU [A070+; K220; L] -	TF	N
To BETBA, turn right.	BETBA [R] -	TF	N
To BIDUS at or above 3000ft, speed 190kts.	BIDUS [A030+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	REMES	-	-	-	-	-	K220	RNAV1
TF	SJ	-	347(347.4)	30.0	R	A070+	-	RNAV1
TF	PU	-	021(021.4)	13.0	L	A070+	K220	RNAV1
TF	BETBA	-	342(342.4)	8.0	R	-	-	RNAV1
TF	BIDUS	-	057(057.4)	5.0	-	A030+	K190	RNAV1

**Radio Communications Failure Procedure**

<b>1</b>	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
<b>2</b>	<p><b>When cleared via LEBAR 3B by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on LEBAR 3B to BIDUS, then direct to NYLON</p> <p>(b) From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
<b>3</b>	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>



**STANDARD ARRIVAL CHART  
RNAV (GNSS) -  
INSTRUMENT (STAR)**

ACC 133.25  
APP 124.6  
119.3  
TWR 118.6 / 118.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.025

**SINGAPORE/Singapore Changi  
RWY 20R/C/L  
LELIB THREE BRAVO ARRIVAL  
LELIB 3B**

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

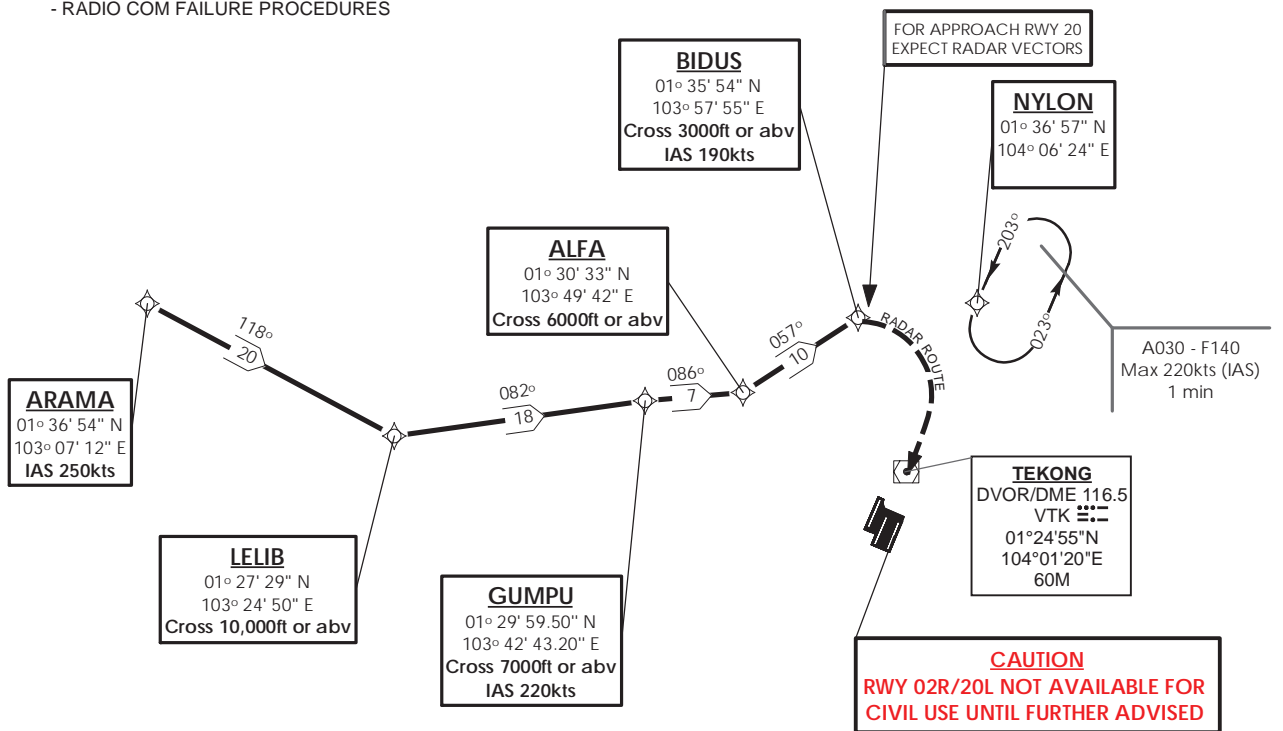
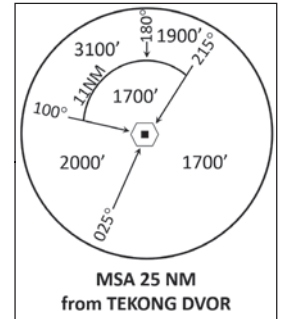
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

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



TEBUN 1B shall be the default STAR for WSSS RWY 20.  
ATC will offer LELIB 3B when traffic permits.

NOT TO SCALE

31 OCT 2024

**LELIB 3B (STAR) RNAV GNSS RWY 20R/20C/20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From ARAMA, speed 250kts.	ARAMA [K250] -	IF	N
To LELIB at or above 10000ft, turn left.	LELIB [A100+; L] -	TF	N
To GUMPU at or above 7000ft, speed 220kts, turn right.	GUMPU [A070+; K220; R] -	TF	N
To ALFA at or above 6000ft, turn left.	ALFA [A060+; L] -	TF	N
To BIDUS at or above 3000ft, speed 190kts.	BIDUS [A030+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	ARAMA	-	-	-	-	-	K250	RNAV1
TF	LELIB	-	118(118.4)	20.0	L	A100+	-	RNAV1
TF	GUMPU	-	082(082.4)	18.0	R	A070+	K220	RNAV1
TF	ALFA	-	086(086.4)	7.0	L	A060+	-	RNAV1
TF	BIDUS	-	057(057.4)	10.0	-	A030+	K190	RNAV1

**Radio Communications Failure Procedure**

<b>1</b>	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
<b>2</b>	<p><b>When cleared via LELIB 3B by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on LELIB 3B to BIDUS, then direct to NYLON</p> <p>(b) From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
<b>3</b>	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

**STANDARD ARRIVAL CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (STAR)**

ACC 133.8
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE 11 000ft
D-ATIS AP ID-WSSS 128.025

**SINGAPORE/Singapore Changi**  
**RWY 02L/C/R**  
**MABAL TWO ALPHA ARRIVAL**  
**MABAL 2A**

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

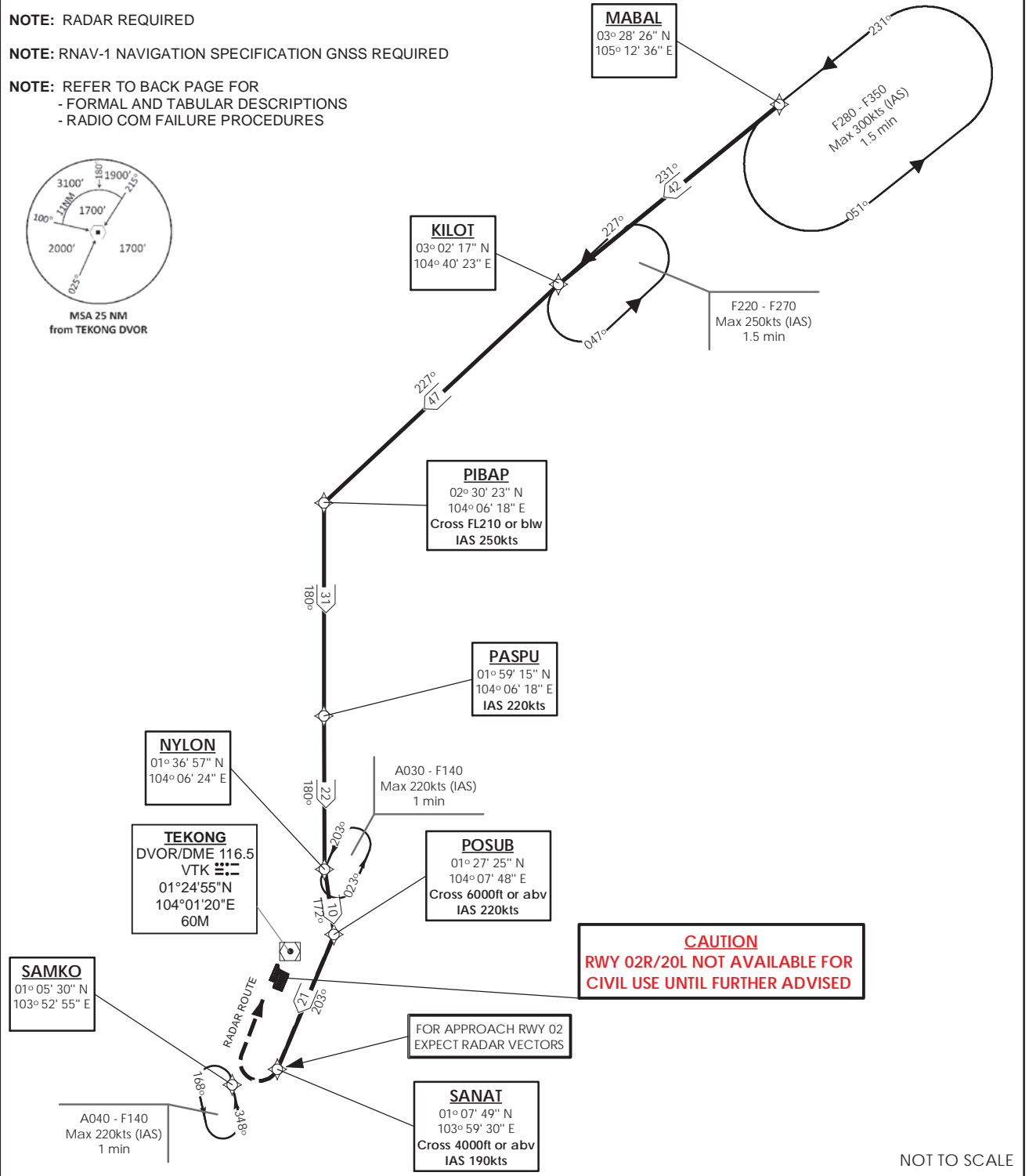
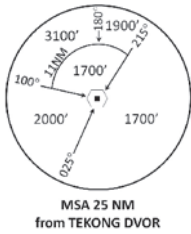
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

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



**MABAL 2A (STAR) RNAV GNSS RWY 02L/02C/02R - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From MABAL.	MABAL -	IF	N
To KILOT, turn left.	KILOT [L] -	TF	N
To PIBAP at or below FL210, speed 250kts, turn left.	MABAL -	TF	N
To PASPU, speed 220kts.	PASPU [K220] -	TF	N
To NYLON, turn left.	NYLON [L] -	TF	N
To POSUB at or above 6000ft, speed 220kts, turn right.	POSUB [A060+; K220; R] -	TF	N
To SANAT at or above 4000ft, speed 190kts.	SANAT [A040+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	MABAL	-	-	-	-	-	-	RNAV1
TF	KILOT	-	231(231.4)	42.0	L	-	-	RNAV1
TF	PIBAP	-	227(227.4)	47.0	L	FL210-	K250	RNAV1
TF	PASPU	-	180(180.4)	31.0	-	-	K220	RNAV1
TF	NYLON	-	180(180.4)	22.0	L	-	-	RNAV1
TF	POSUB	-	172(172.4)	10.0	R	A060+	K220	RNAV1
TF	SANAT	-	203(203.4)	21.0	-	A040+	K190	RNAV1

**Radio Communications Failure Procedure**

1	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
2	<p><b>When cleared via MABAL 2A by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on MABAL 2A to SANAT, then direct to SAMKO</p> <p>(b) From SAMKO commence descent and carry out appropriate landing procedure for RWY 02 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
3	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

**STANDARD ARRIVAL CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (STAR)**

ACC 133.8  
APP 124.05  
119.3  
TWR 118.6 / 118.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.025

**SINGAPORE/Singapore Changi**  
**RWY 20R/C/L**  
**MABAL TWO BRAVO ARRIVAL**  
**MABAL 2B**

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

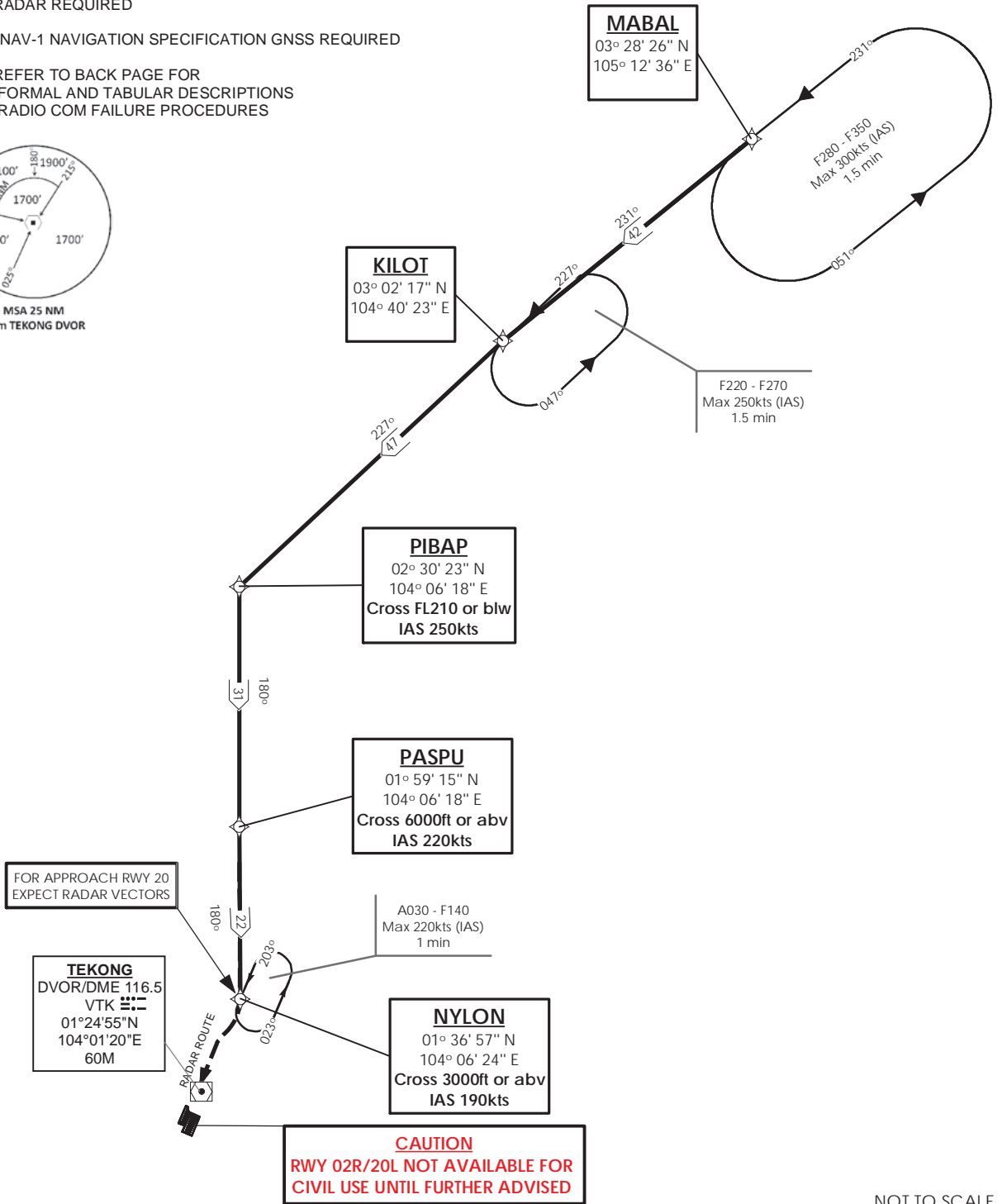
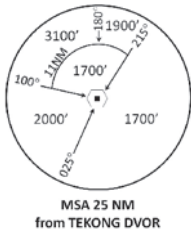
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

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



NOT TO SCALE

31 OCT 2024

**MABAL 2B (STAR) RNAV GNSS RWY 20R/20C/20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From MABAL.	MABAL -	IF	N
To KILOT, turn left.	KILOT [L] -	TF	N
To PIBAP at or below FL210, speed 250kts, turn left.	PIBAP [FL210-; K250; L] -	TF	N
To PASPU, at or above 6000ft, speed 220kts.	PASPU [A060+; K220] -	TF	N
To NYLON at or above 3000ft, speed 190kts.	NYLON [A030+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	MABAL	-	-	-	-	-	-	RNAV1
TF	KILOT	-	231(231.4)	42.0	L	-	-	RNAV1
TF	PIBAP	-	227(227.4)	47.0	L	FL210-	K250	RNAV1
TF	PASPU	-	180(180.4)	31.0	-	A060+	K220	RNAV1
TF	NYLON	-	180(180.4)	22.0	-	A030+	K190	RNAV1

**Radio Communications Failure Procedure**

1	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
2	<p><b>When cleared via MABAL 2B by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on MABAL 2B to NYLON</p> <p>(b) From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
3	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

**STANDARD ARRIVAL CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (STAR)**

ACC 134.4
APP 124.6
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE 11 000ft
D-ATIS AP ID-WSSS 128.025

**SINGAPORE/Singapore Changi**  
**RWY 02L/C/R**  
**REPOV TWO ALPHA ARRIVAL**  
**REPOV 2A**

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

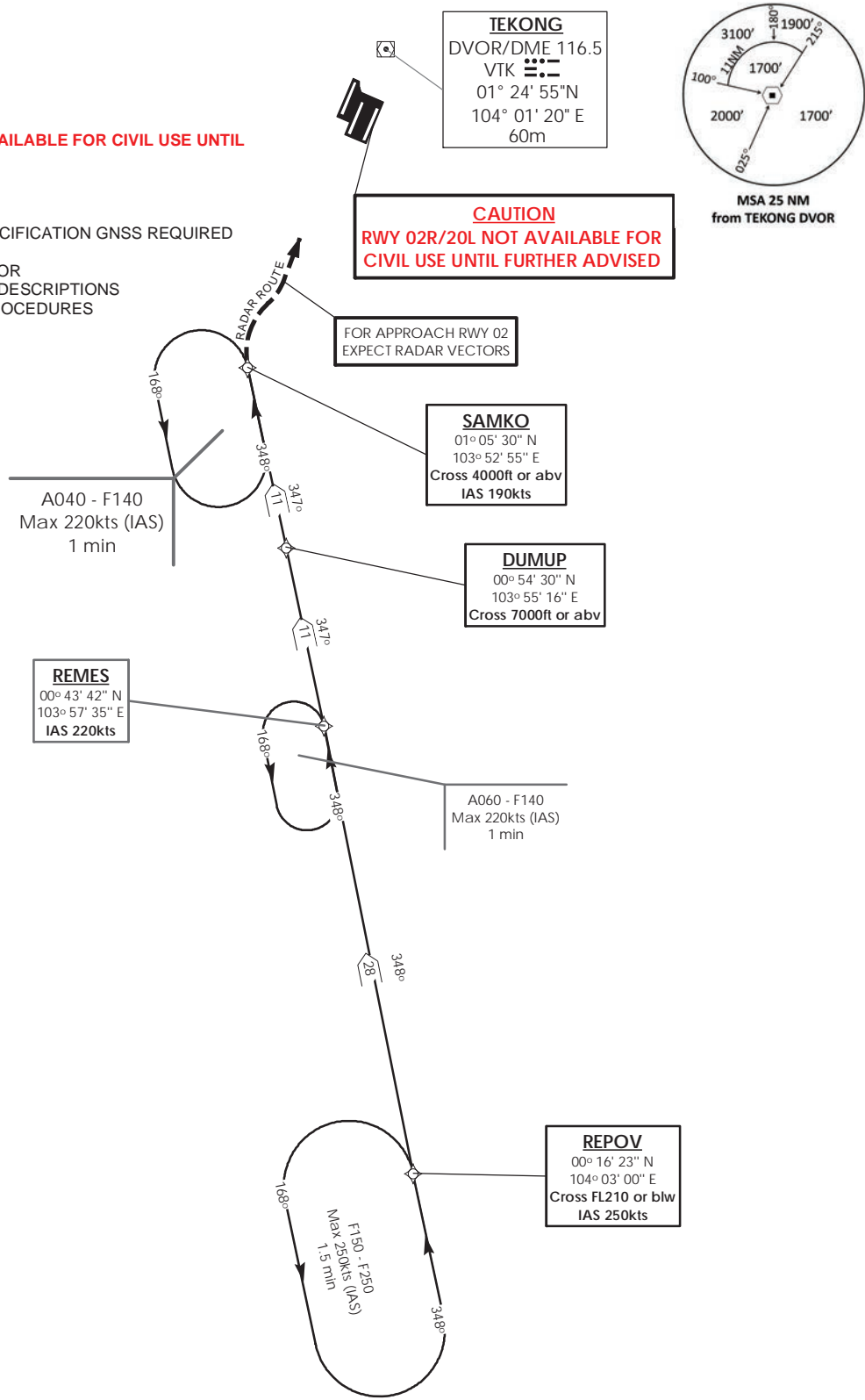
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

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



NOT TO SCALE

31 OCT 2024

**REPOV 2A (STAR) RNAV GNSS RWY 02L/02C/02R - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From REPOV at or below FL210, speed 250kts.	REPOV [FL210-; K250] -	IF	N
To REMES, speed 220kts, turn left.	REMES [K220; L] -	TF	N
To DUMUP at or above 7000ft.	DUMUP [A070+] -	TF	N
To SAMKO at or above 4000ft, speed 190kts.	SAMKO [A040+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	REPOV	-	-	-	-	FL210-	K250	RNAV1
TF	REMES	-	348(348.4)	28.0	L	-	K220	RNAV1
TF	DUMUP	-	347(347.4)	11.0	-	A070+	-	RNAV1
TF	SAMKO	-	347(347.4)	11.0	-	A040+	K190	RNAV1

**Radio Communications Failure Procedure**

<b>1</b>	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
<b>2</b>	<p><b>When cleared via REPOV 2A by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on REPOV 2A to SAMKO</p> <p>(b) From SAMKO commence descent and carry out appropriate landing procedure for RWY 02 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
<b>3</b>	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>



**STANDARD ARRIVAL CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (STAR)**

ACC 134.4  
APP 124.6  
119.3  
TWR 118.6 / 118.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.025

**SINGAPORE/Singapore Changi**  
**RWY 20R/C/L**  
**REPOV TWO BRAVO ARRIVAL**  
**REPOV 2B**

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

DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

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

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

**CAUTION**  
**RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

**NYLON**  
01° 36' 57" N  
104° 06' 24" E

FOR APPROACH RWY 20  
EXPECT RADAR VECTORS

A030 - F140  
Max 220kts (IAS)  
1 min

**BIPOP**  
01° 31' 22" N  
104° 10' 18" E  
Cross 3000ft or abv  
IAS 190kts

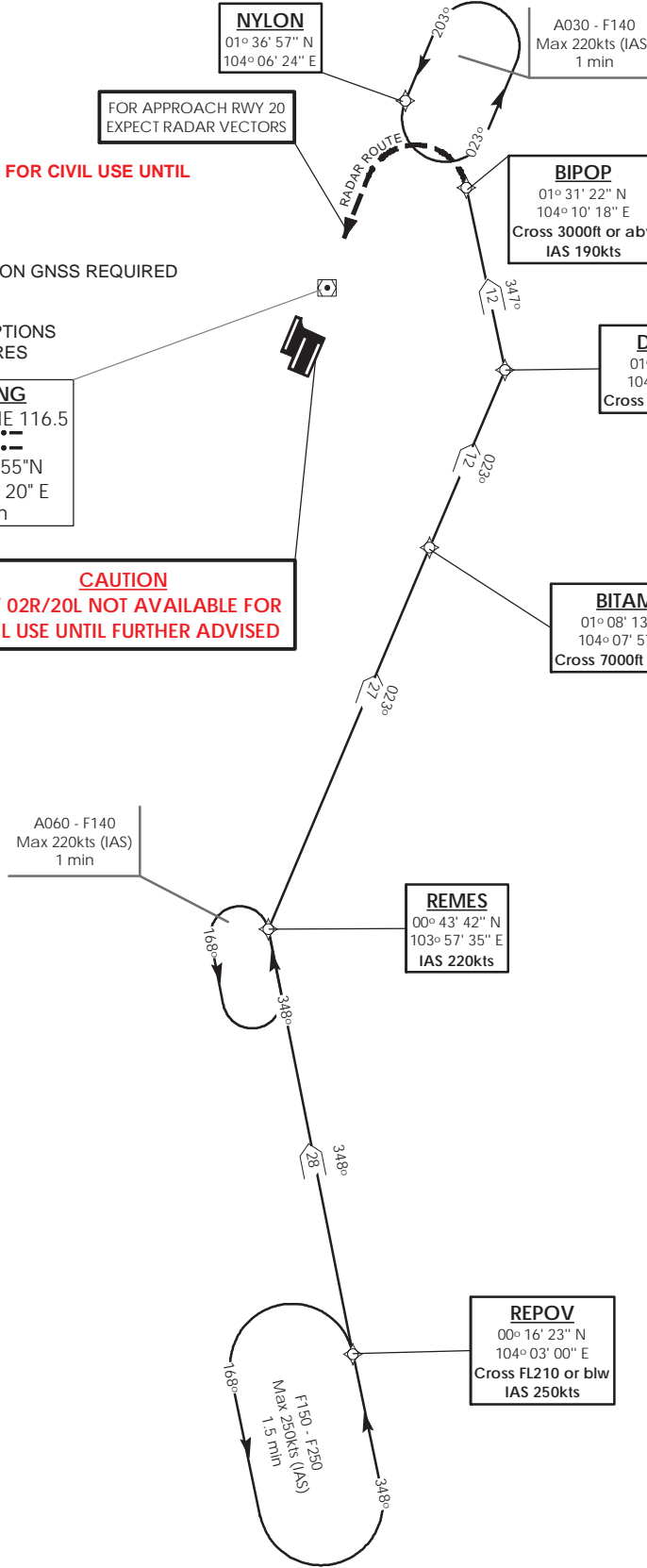
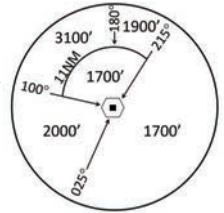
**DOVAN**  
01° 19' 38" N  
104° 12' 49" E  
Cross 4000ft or abv

**BITAM**  
01° 08' 13" N  
104° 07' 57" E  
Cross 7000ft or abv

A060 - F140  
Max 220kts (IAS)  
1 min

**REMES**  
00° 43' 42" N  
103° 57' 35" E  
IAS 220kts

**REPOV**  
00° 16' 23" N  
104° 03' 00" E  
Cross FL210 or blw  
IAS 250kts



NOT TO SCALE

31 OCT 2024

**REPOV 2B (STAR) RNAV GNSS RWY 20R/20C/20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From REPOV at or below FL210, speed 250kts.	REPOV [FL210-; K250] -	IF	N
To REMES, speed 220kts, turn right.	REMES [K220; R] -	TF	N
To BITAM at or above 7000ft.	BITAM [A070+] -	TF	N
To DOVAN at or above 4000ft, turn left.	DOVAN [A040+; L] -	TF	N
To BIPOP at or above 3000ft, speed 190kts.	BIPOP [A030+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	REPOV	-	-	-	-	FL210-	K250	RNAV1
TF	REMES	-	348(348.4)	28.0	R	-	K220	RNAV1
TF	BITAM	-	023(023.4)	27.0	-	A070+	-	RNAV1
TF	DOVAN	-	023(023.4)	12.0	L	A040+	-	RNAV1
TF	BIPOP	-	347(347.4)	12.0		A030+	K190	RNAV1

**Radio Communications Failure Procedure**

<b>1</b>	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
<b>2</b>	<p><b>When cleared via REPOV 2B by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on REPOV 2B to BIPOP, then direct to NYLON</p> <p>(b) From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
<b>3</b>	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

**STANDARD ARRIVAL CHART  
RNAV (GNSS) -  
INSTRUMENT (STAR)**

ACC 133.25  
APP 124.6  
119.3  
TWR 118.6 / 118.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
ARR 128.025

**SINGAPORE/Singapore Changi  
RWY 02L/C/R  
TEBUN ONE ALPHA ARRIVAL  
TEBUN 1A**

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

DISTANCES IN NM

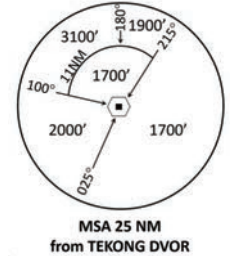
**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL  
FURTHER ADVISED**

**NOTE: RADAR REQUIRED**

**NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED**

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

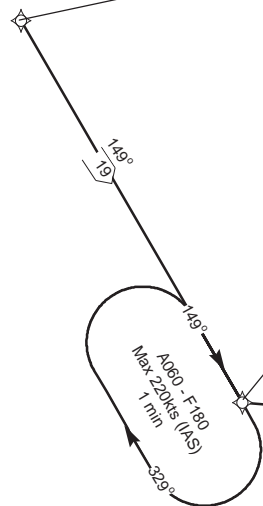
**NOTE: FLIGHT PLANNING INSTRUCTIONS:**  
- AIRCRAFT TO FLY ARAMA DIRECT TO TEBUN  
TO JOIN TEBUN 1A STAR



**CAUTION  
RWY 02R/20L NOT AVAILABLE FOR  
CIVIL USE UNTIL FURTHER ADVISED**

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

**TEBUN**  
01° 14' 55" N  
103° 15' 57" E  
IAS 250kts

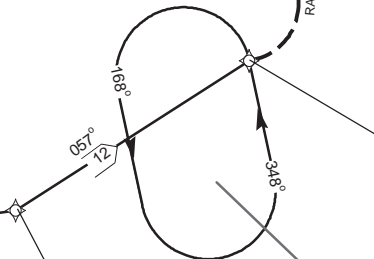


**VAMPO**  
00° 58' 33" N  
103° 25' 25" E  
Cross 10,000ft or abv  
IAS 220kts

FOR APPROACH RWY 02  
EXPECT RADAR VECTORS



**SAMKO**  
01° 05' 30" N  
103° 52' 55" E  
Cross 4000ft or abv  
IAS 190kts



A040 - F140  
Max 220kts (IAS)  
1 min

**VEXEL**  
00° 59' 04" N  
103° 42' 54" E

**IBASU**  
00° 57' 51" N  
103° 34' 10" E

NOT TO SCALE

## TEBUN 1A (STAR) RNAV GNSS RWY 02L/02C/02R - DESCRIPTIONS

### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From TEBUN, Speed 250kts.	TEBUN [K250] -	IF	N
To VAMPO at or above 10000ft, speed 220kts, turn left.	VAMPO [A100+; K220; L] -	TF	N
To IBASU, turn left.	IBASU [L] -	TF	N
To VEXEL, turn left.	VEXEL [L] -	TF	N
To SAMKO at or above 4000ft, speed 190kts.	SAMKO [A040+; K190]	TF	N

### Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	TEBUN	-	-	-	-	-	K250	RNAV1
TF	VAMPO	-	149(149.4)	19.0	L	A100+	K220	RNAV1
TF	IBASU	-	094(094.4)	9.0	L	-	-	RNAV1
TF	VEXEL	-	082(082.4)	9.0	L	-	-	RNAV1
TF	SAMKO	-	057(057.4)	12.0	-	A040+	K190	RNAV1

### Radio Communications Failure Procedure

<b>1</b>	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
<b>2</b>	<p><b>When cleared via TEBUN 1A by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on TEBUN 1A to SAMKO</p> <p>(b) From SAMKO commence descent and carry out appropriate landing procedure for RWY 02 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
<b>3</b>	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

**STANDARD ARRIVAL CHART  
RNAV (GNSS) -  
INSTRUMENT (STAR)**

ACC	133.25
APP	124.6
	119.3
TWR	118.6 / 118.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
ARR 128.025

**SINGAPORE/Singapore Changi  
RWY 20R/C/L  
TEBUN ONE BRAVO ARRIVAL  
TEBUN 1B**

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

DISTANCES IN NM

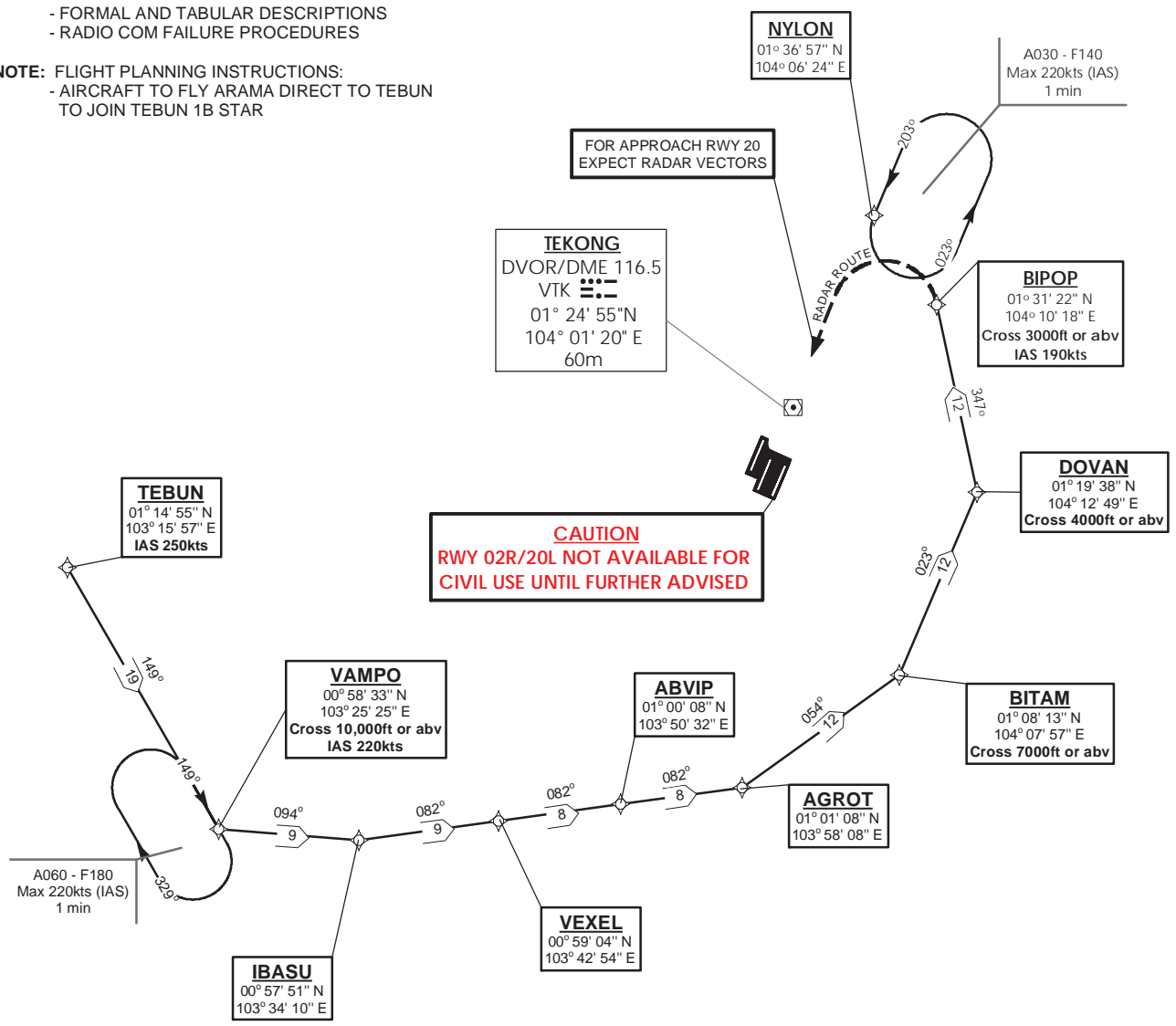
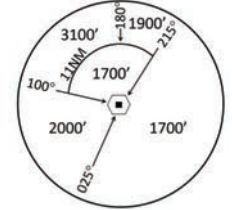
**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL  
FURTHER ADVISED**

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

NOTE: FLIGHT PLANNING INSTRUCTIONS:  
- AIRCRAFT TO FLY ARAMA DIRECT TO TEBUN  
TO JOIN TEBUN 1B STAR



NOT TO SCALE

31 OCT 2024

**TEBUN 1B (STAR) RNAV GNSS RWY 20R/20C/20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From TEBUN, speed 250kts.	TEBUN [K250] -	IF	N
To VAMPO at or above 10000ft, speed 220kts, turn left,	VAMPO [A100+; K220; L] -	TF	N
To IBASU, turn left.	IBASU [L] -	TF	N
To VEXEL.	VEXEL -	TF	N
To ABVIP.	ABVIP -	TF	N
To AGROT, turn left.	AGROT [L] -	TF	N
To BITAM at or above 7000ft, turn left.	BITAM [A070+; L] -	TF	N
To DOVAN at or above 4000ft, turn left.	DOVAN [A040+; L] -	TF	N
To BIPOP at or above 3000ft, speed 190kts.	BIPOP [A030+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	TEBUN	-	-	-	-	-	K250	RNAV1
TF	VAMPO	-	149(149.4)	19.0	L	A100+	K220	RNAV1
TF	IBASU	-	094(094.4)	9.0	L	-	-	RNAV1
TF	VEXEL	-	082(082.4)	9.0	-	-	-	RNAV1
TF	ABVIP	-	082(082.4)	8.0	-	-	-	RNAV1
TF	AGROT	-	082(082.4)	8.0	L	-	-	RNAV1
TF	BITAM	-	054(054.4)	12.0	L	A070+	-	RNAV1
TF	DOVAN	-	023(023.4)	12.0	L	A040+	-	RNAV1
TF	BIPOP	-	347(347.4)	12.0	-	A030+	K190	RNAV1

**Radio Communications Failure Procedure**

1	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
2	<p><b>When cleared via TEBUN 1B by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on TEBUN 1B to BIPOP, then direct to NYLON</p> <p>(b) From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
3	<b>No clearance or instruction received from Singapore ATC</b>
	- Refer to Singapore AIP for radio communications failure procedure

SINGAPORE/Singapore Changi  
RWY 02L/C/R  
UGEBO ONE ALPHA ARRIVAL  
UGEBO 1A

ACC 134.2  
APP 124.05  
119.3  
TWR 118.6 / 118.25

D-ATIS AP ID-WSSS  
128.025

TRANSITION ALTITUDE  
11 000ft

STANDARD ARRIVAL CHART  
RNAV (GNSS) -  
INSTRUMENT (STAR)

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

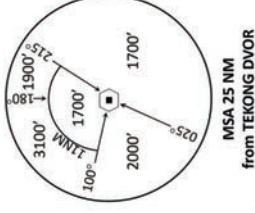
DISTANCES IN NM

**CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL FURTHER ADVISED**

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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



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



FOR APPROACH RWY 02  
EXPECT RADAR VECTORS

**SAMKO**  
01° 05' 30" N  
103° 52' 55" E

**CAUTION**  
RWY 02R/20L NOT AVAILABLE FOR  
CIVIL USE UNTIL FURTHER ADVISED

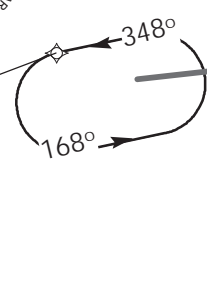
**VIMAL**  
01° 09' 42" N  
104° 23' 53" E  
Cross 10000ft or abv

**KEXAS**  
01° 10' 19" N  
104° 48' 18" E  
Cross F160 or b/w  
IAS 220kts

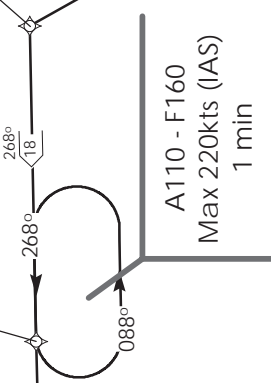
**GUNUD**  
01° 10' 42" N  
105° 06' 18" E  
IAS 250kts

**SAMAT**  
01° 07' 49" N  
103° 59' 30" E  
Cross 4000ft or abv  
IAS 190kts

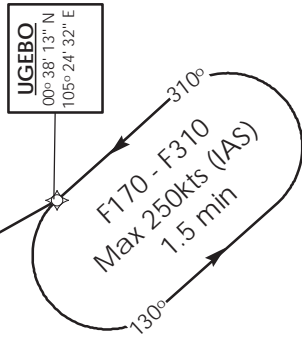
**IGNON**  
01° 08' 47" N  
104° 12' 57" E  
Cross 7000ft or abv



A040 - F140  
Max 220kts (IAS)  
1 min



A110 - F160  
Max 220kts (IAS)  
1 min



**UGEBO**  
00° 38' 13" N  
105° 24' 32" E

F170 - F310  
Max 250kts (IAS)  
1.5 min

NOT TO SCALE

31 OCT 2024

**UGEBO 1A (STAR) RNAV GNSS RWY 02L/02C/02R - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From UGEBO.	UGEBO -	IF	N
To GUNUD, speed 250kts, turn left.	GUNUD [K250; L] -	TF	N
To KEXAS at or below FL160, speed 220kts.	KEXAS [FL160-; K220] -	TF	N
To VIMAL at or above 10000ft, turn left.	VIMAL [A100+; L] -	TF	N
To IGNON at or above 7000ft, turn right.	IGNON [A070+; R] -	TF	N
To SANAT at or above 4000ft, speed 190kts.	SANAT [A040+; K190]	TF	N

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	UGEBO	-	-	-	-	-	-	RNAV1
TF	GUNUD	-	330(330.4)	37.0	L	-	K250	RNAV1
TF	KEXAS	-	268(268.4)	18.0	-	FL160-	K220	RNAV1
TF	VIMAL	-	268(268.4)	24.0	L	A100+	-	RNAV1
TF	IGNON	-	265(265.4)	11.0	R	A070+	-	RNAV1
TF	SANAT	-	266(266.4)	14.0	-	A040+	K190	RNAV1

**Radio Communications Failure Procedure**

1	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
2	<p><b>When cleared via UGEBO 1A by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on UGEBO 1A to SANAT, then direct to SAMKO</p> <p>(b) From SAMKO commence descent and carry out appropriate landing procedure for RWY 02 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
3	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>



**SINGAPORE/Singapore Changi**  
**RWY 20R/C/L**  
**UGEBO ONE BRAVO ARRIVAL**  
**UGEBO 1B**

D-ATIS AP ID-WSSS  
128.025

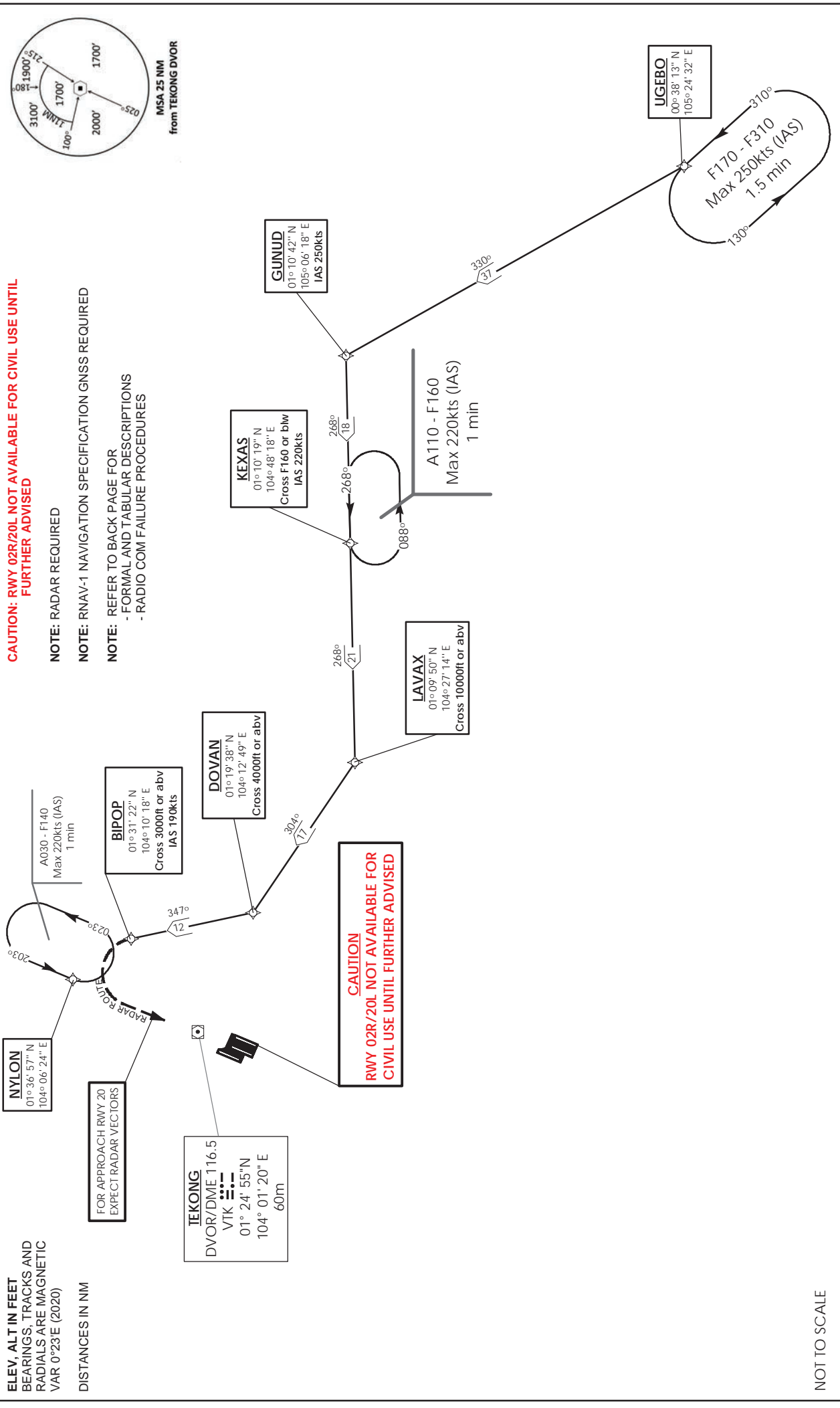
TRANSITION ALTITUDE  
11 000ft

ACC 134.2  
APP 124.05  
119.3  
TWR 118.6 / 118.25

**STANDARD ARRIVAL CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (STAR)**

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

DISTANCES IN NM



31 OCT 2024

**UGEBO 1B (STAR) RNAV GNSS RWY 20R/20C/20L - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From UGEB0.	UGEBO -	IF	N
To GUNUD, speed 250kts, turn left.	GUNUD [K250; L] -	TF	N
To KEXAS at or below FL160, speed 220kts.	KEXAS [FL160-; K220] -	TF	N
To LAVAX at or above 10000ft, turn right.	LAVAX [A100+; R] -	TF	N
To DOVAN at or above 4000ft, turn right.	DOVAN [A040+; R] -	TF	N
To BIPOP at or above 3000ft, speed 190kts.	BIPOP [A030+; K190]	TF	N

**Tabular Descriptions**

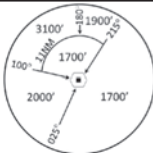
Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Distance (NM)	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	UGEBO	-	-	-	-	-	-	RNAV1
TF	GUNUD	-	330(330.4)	37.0	L	-	K250	RNAV1
TF	KEXAS	-	268(268.4)	18.0	-	FL160-	K220	RNAV1
TF	LAVAX	-	268(268.4)	21.0	R	A100+	-	RNAV1
TF	DOVAN	-	304(304.4)	17.0	R	A040+	-	RNAV1
TF	BIPOP	-	347(347.4)	12.0	-	A030+	K190	RNAV1

**Radio Communications Failure Procedure**

1	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
2	<p><b>When cleared via UGEB0 1B by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on UGEB0 1B to BIPOP, then direct to NYLON</p> <p>(b) From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
3	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>

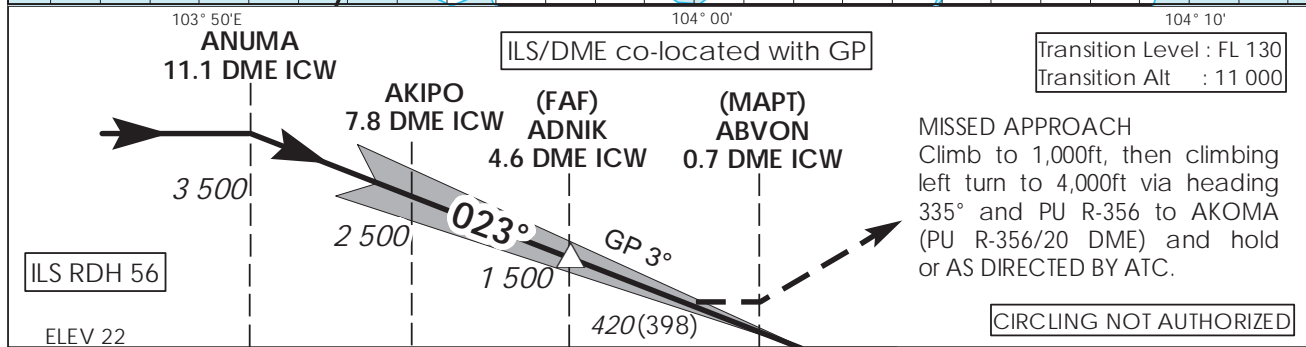
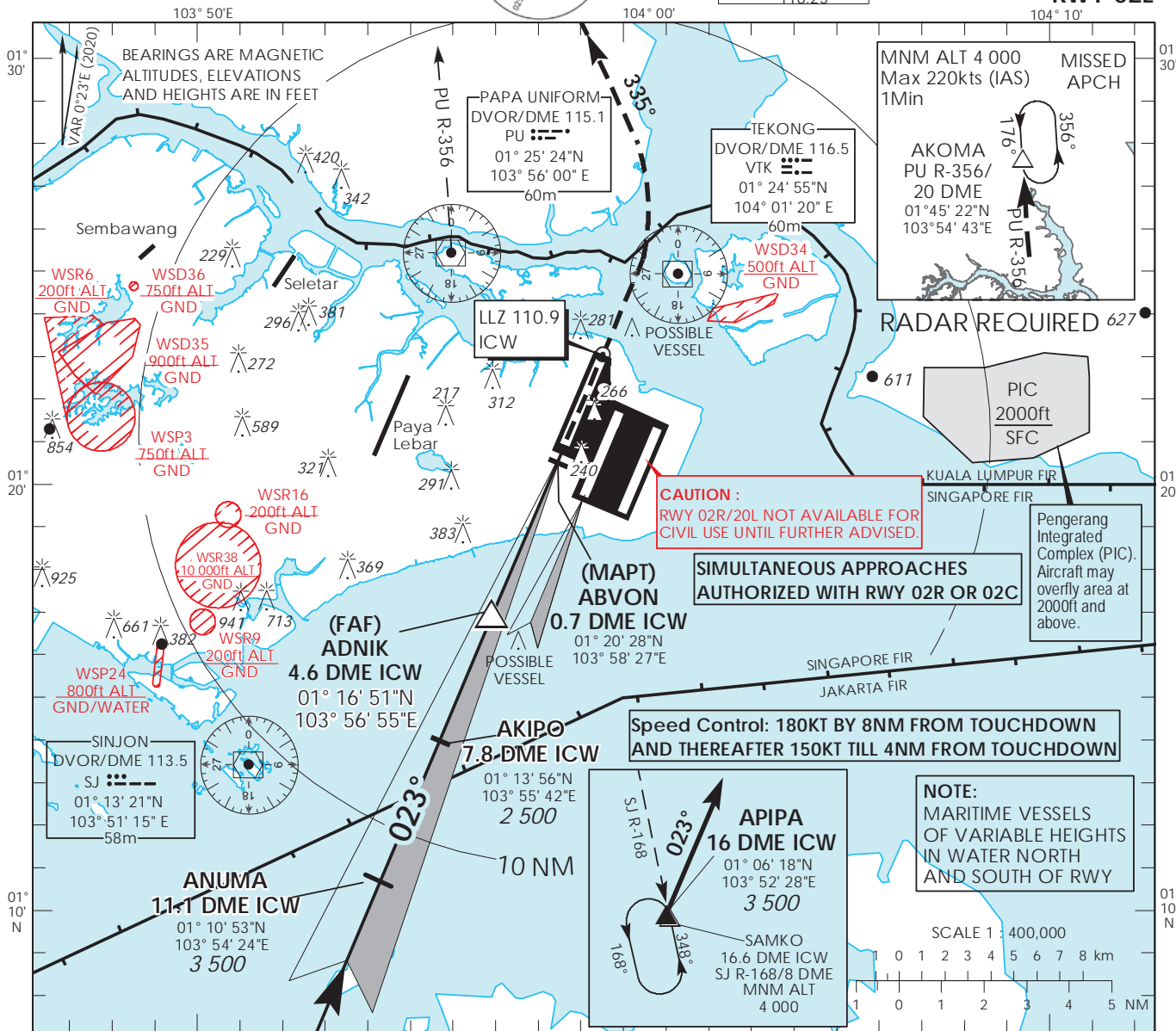
**INSTRUMENT APPROACH CHART - ICAO**

AERODROME ELEV 22ft  
HEIGHT RELATED TO  
THR RWY 02L - ELEV 22ft



D-ATIS AP ID WSSS	128.025
APP	124.05
TWR	119.3
TWR	118.6
TWR	118.25

**SINGAPORE/ SINGAPORE CHANGI ICW ILS/DME RWY 02L**



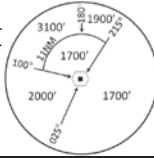
(THR RWY 02L) 10.9 10 7.6 5.4 4.4 0.5 0 NAUTICAL MILES FROM RWY THR 02L

		OCA (OCH)				
Category of Aircraft		A	B	C	D	D <sub>L</sub>
Straight-in	CAT I ILS	173 (151)	187 (165)	203 (181)	216 (194)	219 (197)
	CAT II ILS	88 (66)	98 (76)	108 (86)	127 (105)	127 (105)
	GP INOP	420 (398)				
Distance	4 DME	3 DME		2 DME		
Altitude (Height)	1290 (1268)	970 (948)		660 (638)		
Speed	knots	70	120	150	185	
FAF - MAPT 3.9nm	min : s *	3 : 21	1 : 57	1 : 34	1 : 16	
Rate of descent/GS	ft/min	370	635	795	980	

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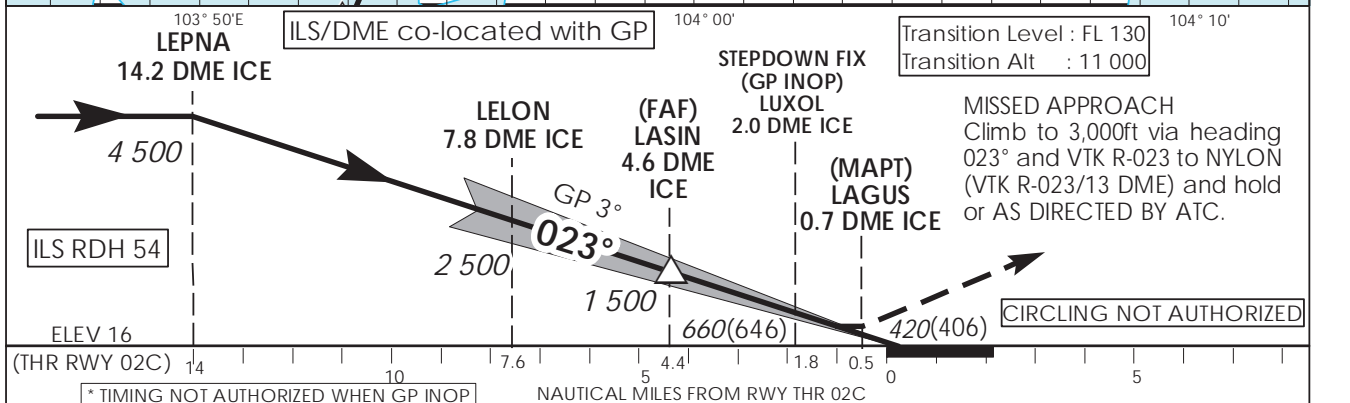
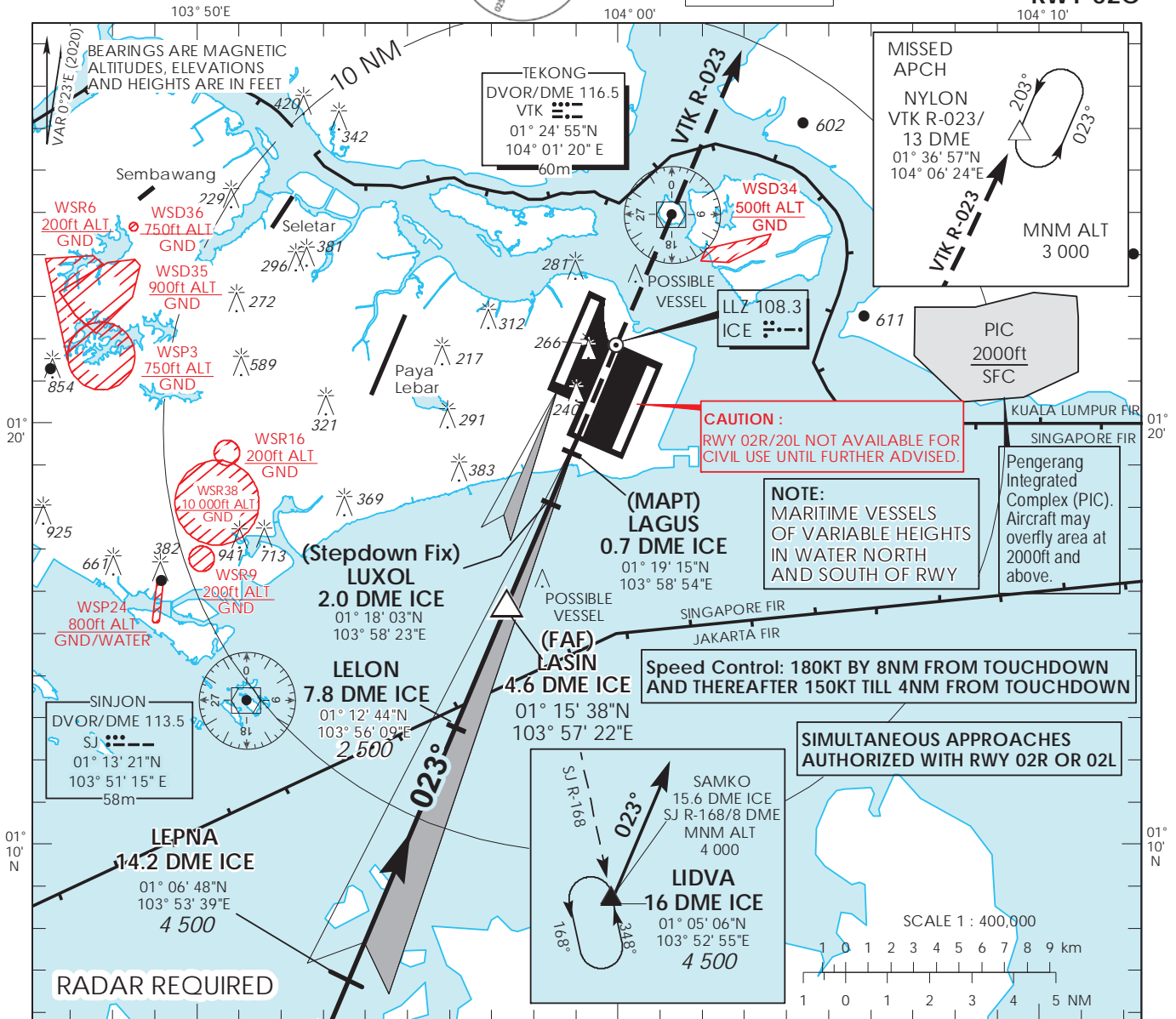
**INSTRUMENT APPROACH CHART - ICAO**

AERODROME ELEV 22ft  
HEIGHT RELATED TO  
THR RWY 02C - ELEV 16ft



D-ATIS	AP ID WSSS
APP	128.025
TWR	124.05
	119.3
	118.6
	118.25

**SINGAPORE/ SINGAPORE CHANGI ICE ILS/DME RWY 02C**

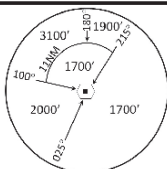


OCA (OCH)						
Category of Aircraft	A	B	C	D	D <sub>L</sub>	
Straight-in	CAT I ILS	170 (156)	180 (166)	196 (182)	209 (195)	212 (198)
	GP INOP (with stepdown fix)	420 (406)				
	GP INOP (without stepdown fix)	660 (646)				
Distance	4 DME			3 DME		
Altitude (Height)	1290 (1276)			970 (956)		
Speed	knots	70	120	150	185	
FAF - MAPT 3.9nm	min : s*	3 : 21	1 : 57	1 : 34	1 : 16	
Rate of descent/GS	ft/min	370	635	795	980	

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**INSTRUMENT APPROACH CHART**

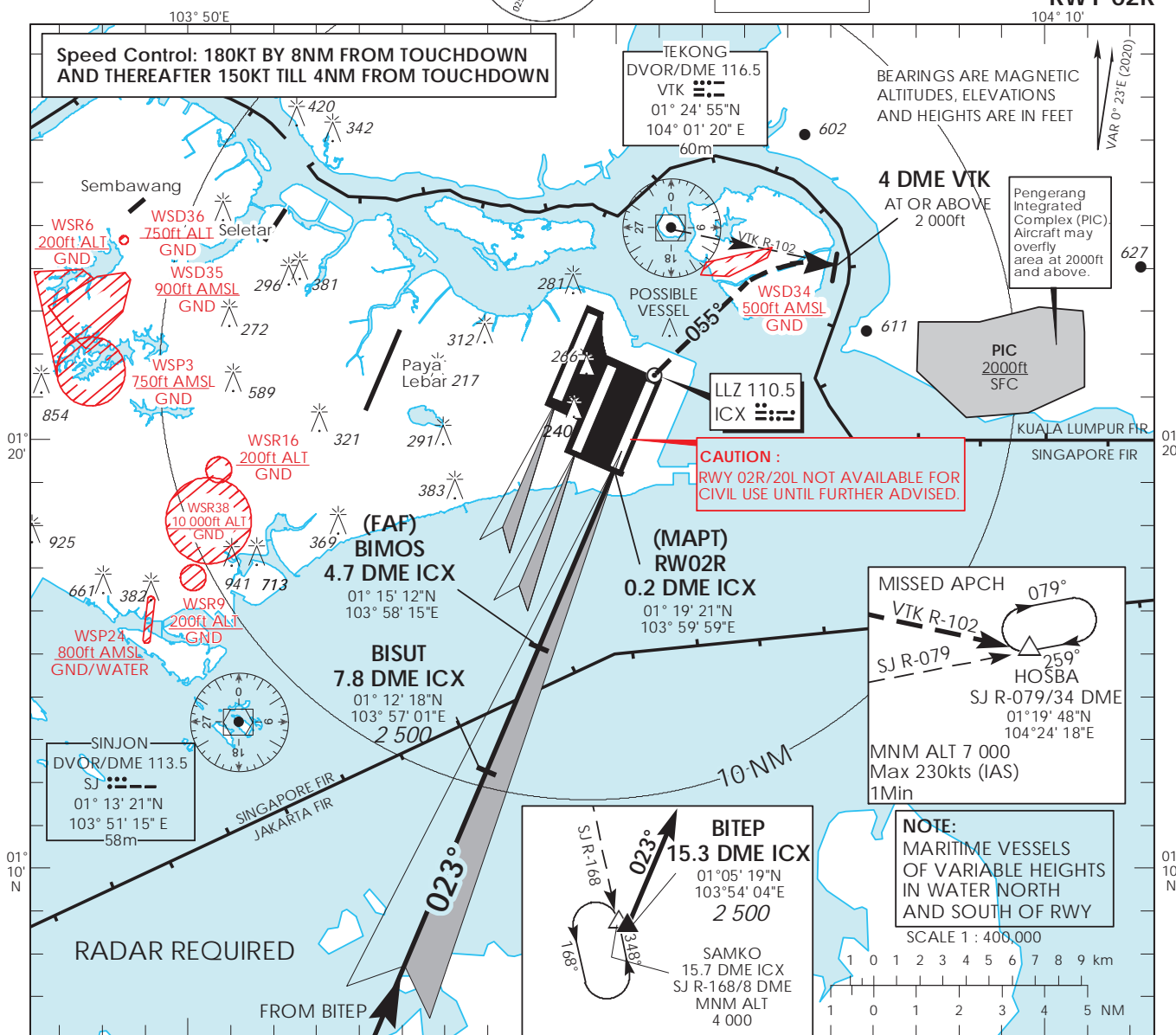
**AERODROME ELEV 22ft**  
HEIGHT RELATED TO  
THR RWY 02R - ELEV 16ft



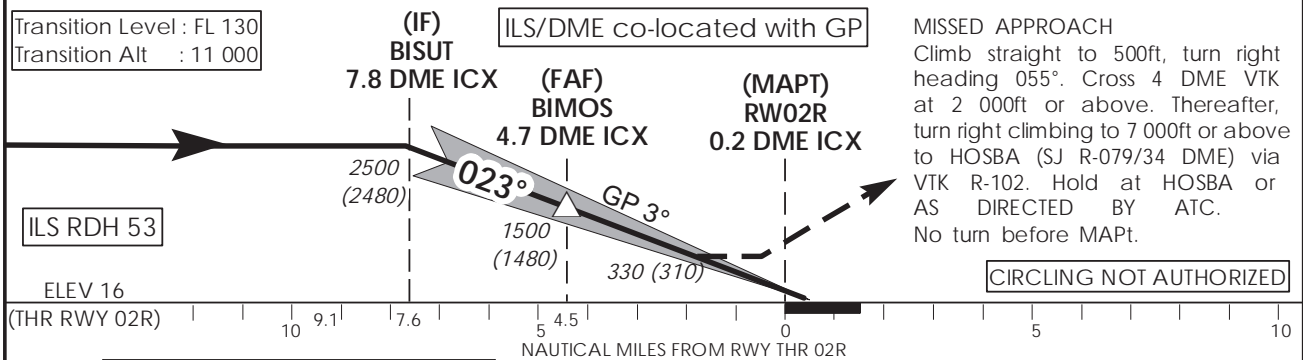
MSA 25 NM  
from TEKONG DVOR

D-ATIS AP ID WSSS  
128.025  
APP 124.05  
119.3  
TWR 131.4

**SINGAPORE/ SINGAPORE CHANGI ICX ILS/DME RWY 02R**



- This procedure requires a missed approach climb gradient of 5% (304 ft/NM) until passing 2,000ft. MAX IAS 185kts during turning missed approach.
- For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the OCA (OCH) is 820ft (800ft) and aircraft shall climb straight to 1200ft before commencing right turn climbing to 7000ft or above to HOSBA.



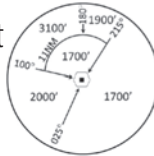
* TIMING NOT AUTHORIZED WHEN GP INOP		OCA (OCH)			
Category of Aircraft		A	B	C	D
Straight-in	CAT I ILS	220 (200)			
	CAT II ILS	120 (100)			
	GP INOP	330 (310)			
Distance	4 DME	3 DME	2 DME		
Altitude (Height)	1300 (1280)	980 (960)	660 (640)		
Speed	knots	70	120	150	185
FAF - MAPT 4.5nm	min : s *	3 : 52	2 : 15	1 : 48	1 : 28
Rate of descent/GS	ft/min	630	1080	1350	1665

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**INSTRUMENT APPROACH CHART - ICAO**

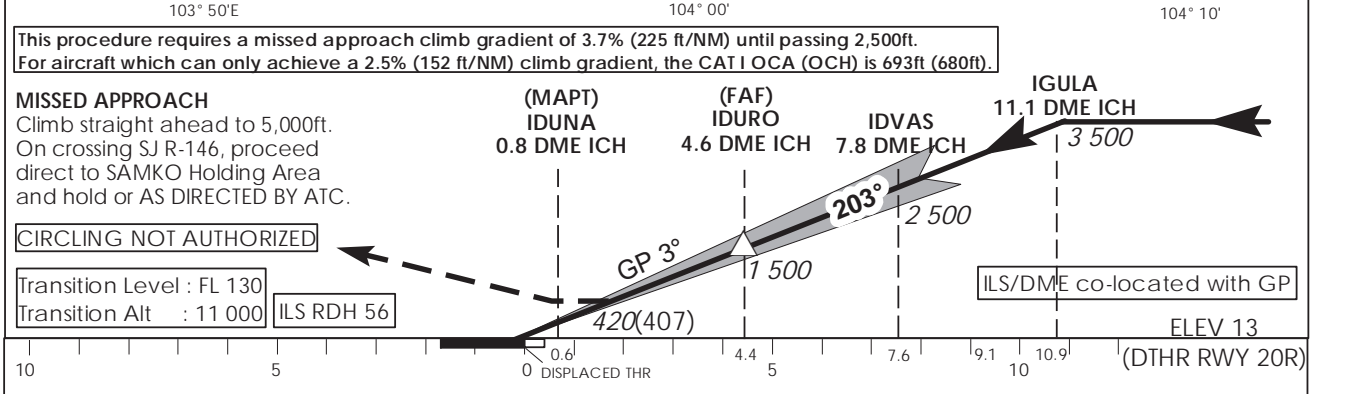
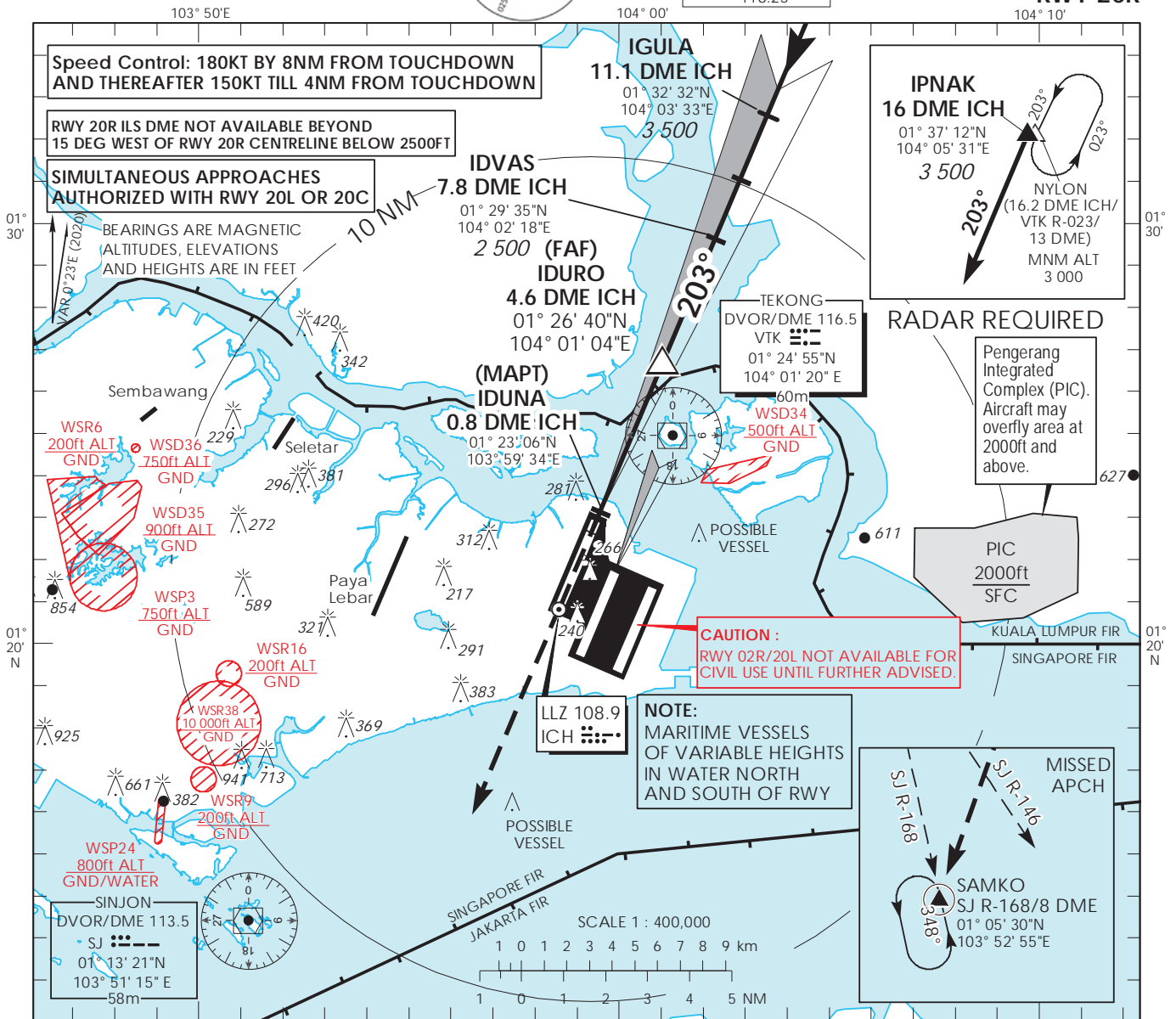
AERODROME ELEV 22ft  
HEIGHT RELATED TO  
DTHR RWY 20R - ELEV 13ft



MSA 25 NM  
from TEKONG DVOR

D-ATIS AP ID WSSS	128.025
APP	124.05
TWR	119.3
	118.6
	118.25

**SINGAPORE/ SINGAPORE CHANGI ICH ILS/DME RWY 20R**



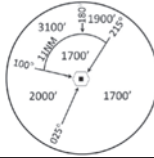
\* TIMING NOT AUTHORIZED WHEN GP INOP

		OCA (OCH)				
Category of Aircraft		A	B	C	D	D <sub>L</sub>
Straight-in	CAT I ILS	152 (139)	159 (146)	179 (166)	192 (179)	195 (182)
	GP INOP	420 (407)				
Distance		4 DME		3 DME		2 DME
Altitude (Height)		1290 (1277)		970 (957)		650 (637)
Speed	knots	70		120	150	185
FAF - MAPT 3.9nm	min : s *	3 : 21		1 : 57	1 : 34	1 : 16
Rate of descent/GS	ft/min	370		635	795	980

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**INSTRUMENT APPROACH CHART - ICAO**

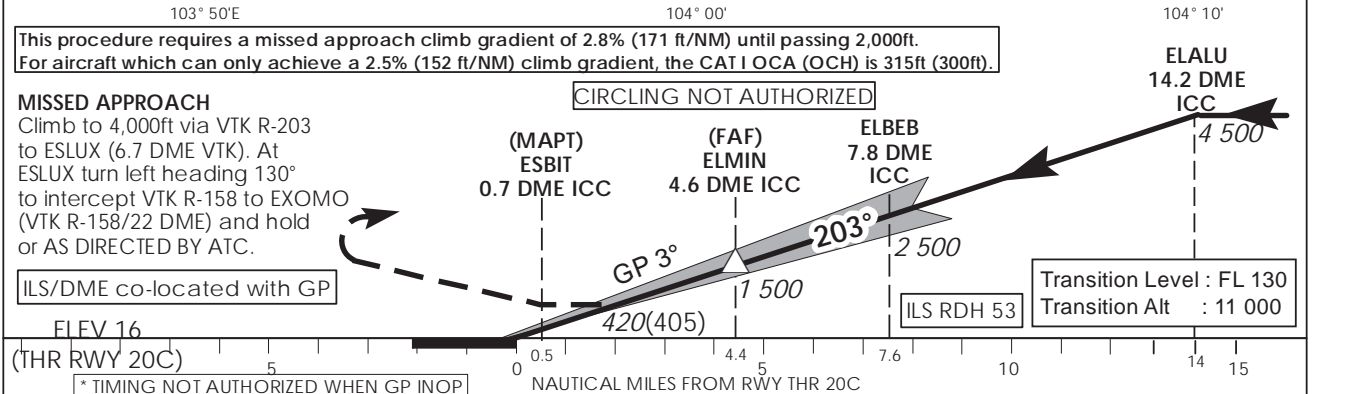
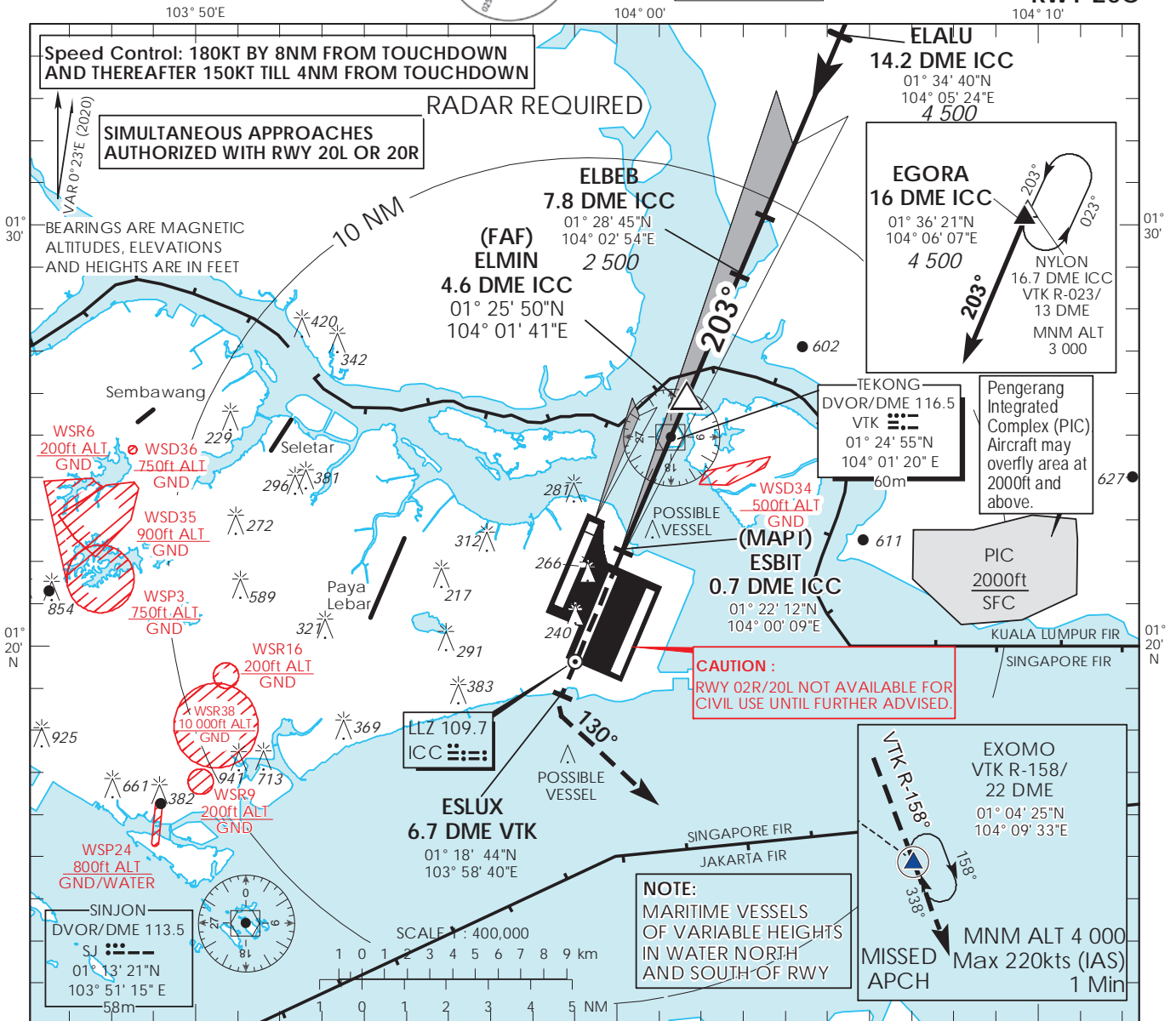
**AERODROME ELEV 22ft**  
HEIGHT RELATED TO  
THR RWY 20C - ELEV 16ft



MSA 25 NM  
from TEKONG DVOR

D-ATIS	AP ID WSSS
APP	128.025
	124.05
	119.3
TWR	118.6
	118.25

**SINGAPORE/ SINGAPORE CHANGI ICC ILS/DME RWY 20C**

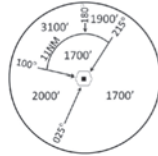


		OCA (OCH)				
Category of Aircraft		A	B	C	D	D <sub>L</sub>
Straight-in	CAT I ILS	166 (151)	180 (165)	196 (181)	209 (194)	212 (197)
	CAT II ILS	71 (56)	78 (63)	91 (76)	101 (86)	107 (92)
	GP INOP	420 (405)				
Distance	4 DME	3 DME		2 DME		
Altitude (Height)	1290 (1275)	980 (965)		660 (645)		
Speed	knots	70	120	150	185	
FAF - MAP1 3.9nm	min : s *	3 : 21	1 : 57	1 : 34	1 : 16	
Rate of descent/GS	ft/min	370	635	795	980	

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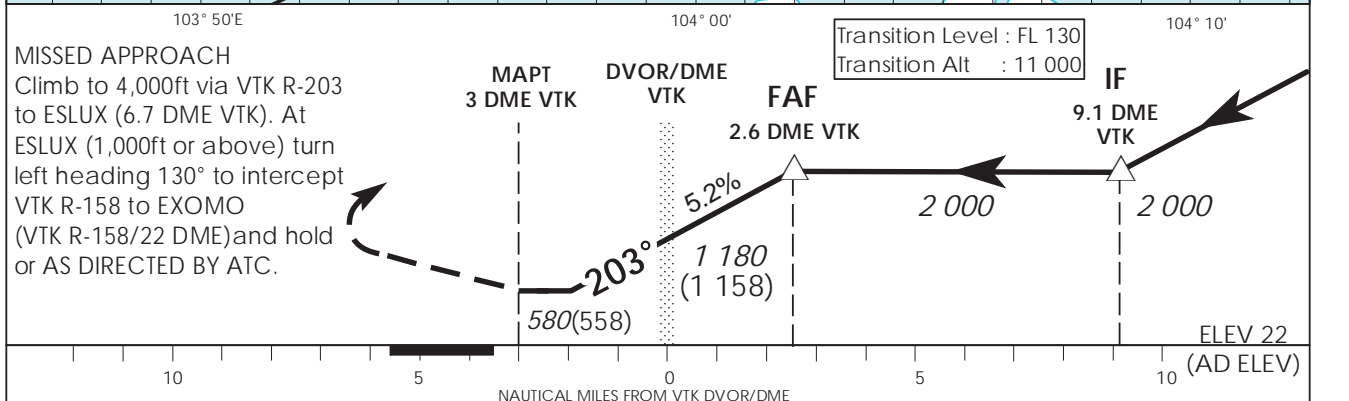
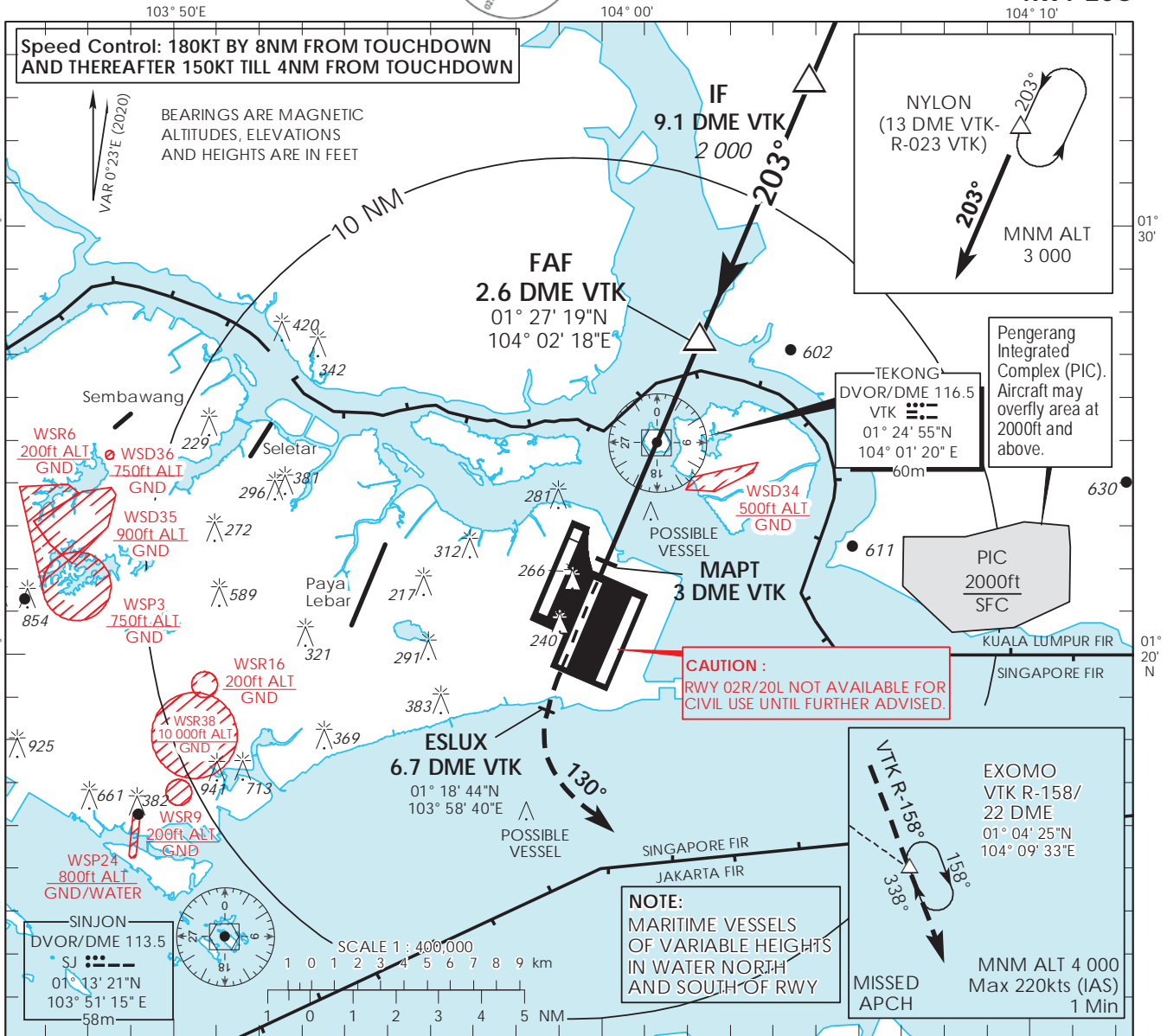
**INSTRUMENT APPROACH CHART - ICAO**

AERODROME ELEV 22ft  
HEIGHT RELATED TO AD ELEV



D-ATIS AP ID WSSS	128.025
APP	124.05
TWR	118.6
	118.25

**SINGAPORE/ SINGAPORE CHANGI VTK DVOR/DME RWY 20C**

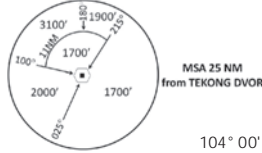


OCA (OCH)				
Category of Aircraft	A	B	C	D
Straight-in	580 (558)			
Distance	2 DME	1 DME	VTK	1 DME
Altitude (Height)	1820 (1798)	1500 (1478)	1180 (1158)	860 (838)
Speed	knots	70	120	150
FAF - MAPT	5.6nm	min : s	4 : 48	2 : 48
Rate of descent/GS	ft/min	370	635	795
			2 : 15	1 : 49
			795	980

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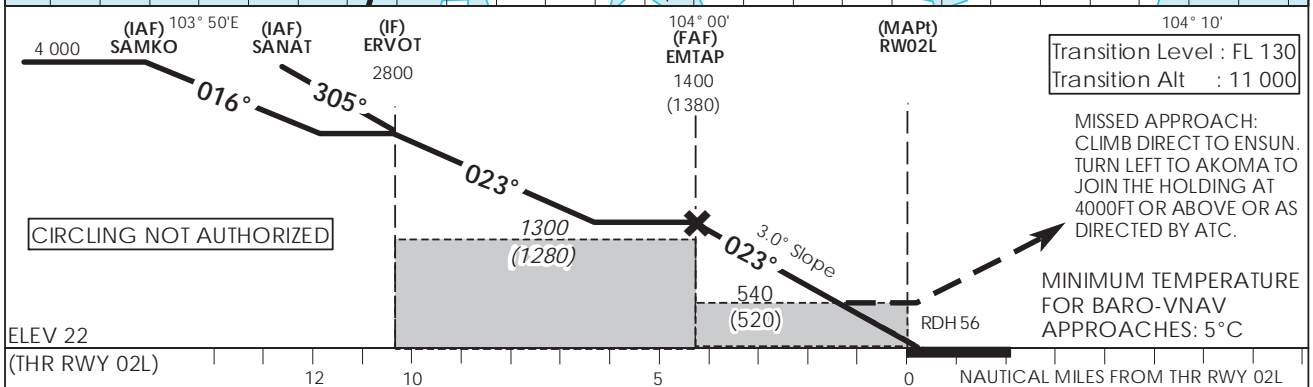
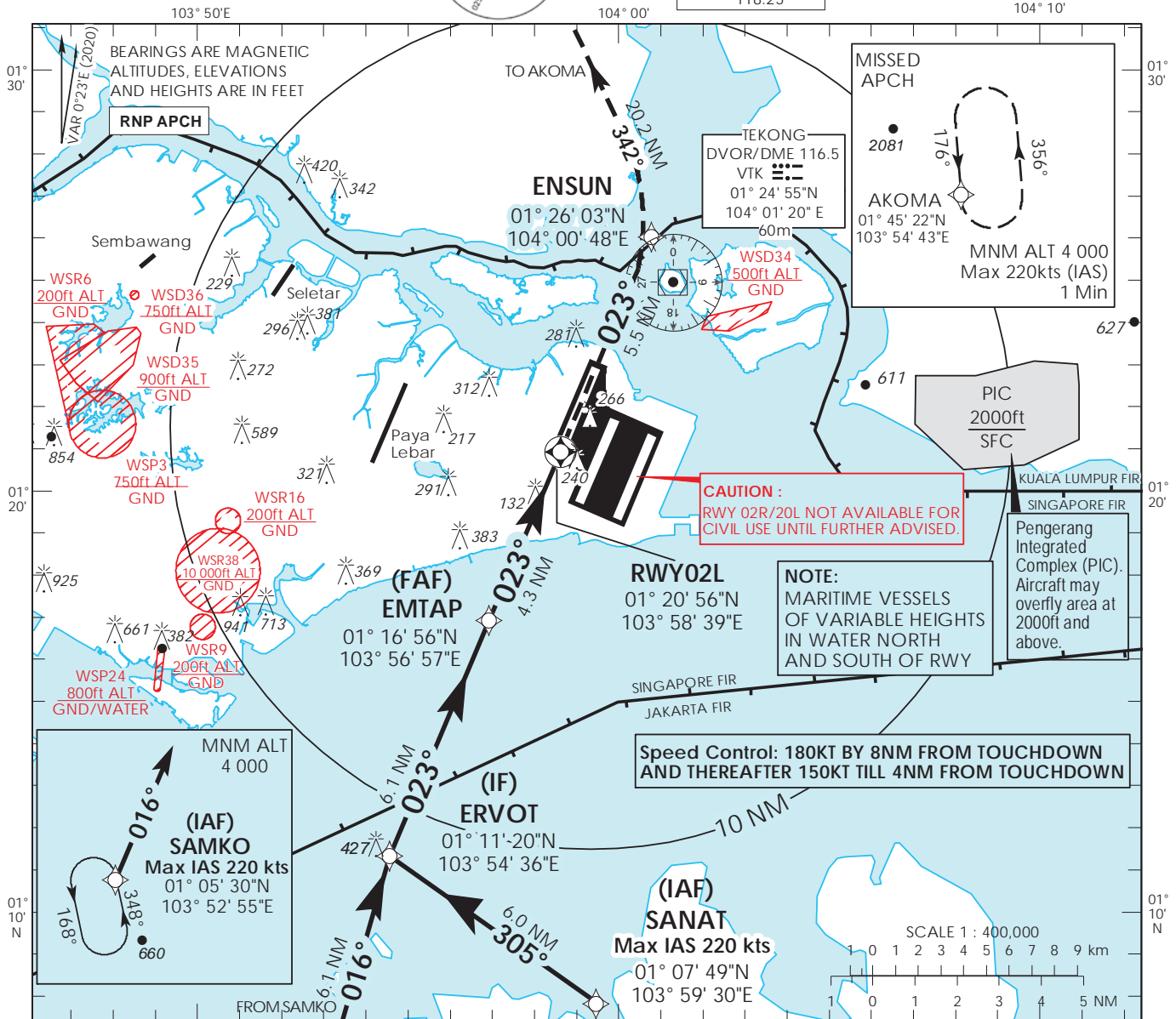
**INSTRUMENT APPROACH CHART - ICAO**

**AERODROME ELEV 22ft**  
HEIGHT RELATED TO  
**THR RWY 02L - ELEV 22ft**



D-ATIS	AP ID WSSS
	128.025
APP	124.05
	119.3
TWR	118.6
	118.25

**SINGAPORE/SINGAPORE CHANGI**  
**RNP RWY 02L**



		OCA (OCH)					
Category of Aircraft		A	B	C	D		
LNAV/VNAV	2.5%		450 (430)				
LNAV	2.5%		540 (520)				
Fix		SAMKO	SANAT	ERVOT	EMTAP	RW02L	ENSUN
Altitude (Height)		4000 (3978)	4000 (3978)	2800 (2778)	1400 (1378)	540 (518)	880 (858)
Speed	knots	80	100	120	140	160	180
FAF - MAPt 4.3nm	min : s	3 : 14	2 : 35	2 : 09	1 : 51	1 : 37	1 : 26
Rate of descent/GS	ft/min	424	530	637	743	849	955

**SINGAPORE CHANGI RNP-APCH RWY 02L – Approach from SAMKO**

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	SAMKO	-	-	-0.4	-	-	A040+	220	-	RNP APCH
TF	ERVOT	-	016 (016.4)	-0.4	6.1	R	A028+	-	-	RNP APCH
TF	EMTAP	-	023 (023.4)	-0.4	6.1	-	A014+	-	-	RNP APCH
TF	RW02L	Y	023 (023.4)	-0.4	4.3	-	-	-	-3.0° / 50	RNP APCH
DF	ENSUN	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	AKOMA	-	342 (342.4)	-0.4	20.2	-	A040+	-	-	RNP APCH

**SINGAPORE CHANGI RNP-APCH RWY 02L – Approach from SANAT**

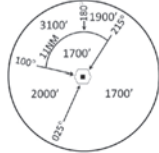
Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	SANAT	-	-	-0.4	-	-	A040+	220	-	RNP APCH
TF	ERVOT	-	305 (305.4)	-0.4	6.0	R	A028+	-	-	RNP APCH
TF	EMTAP	-	023 (023.4)	-0.4	6.1	-	A014+	-	-	RNP APCH
TF	RW02L	Y	023 (023.4)	-0.4	4.3	-	-	-	-3.0° / 50	RNP APCH
DF	ENSUN	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	AKOMA	-	342 (342.4)	-0.4	20.2	-	A040+	-	-	RNP APCH

**Waypoint Coordinates**

Name	Latitude	Longitude
SAMKO (IAF)	01° 05' 30" N	103° 52' 55" E
SANAT (IAF)	01° 07' 49" N	103° 59' 30" E
ERVOT (IF)	01° 11' 20" N	103° 54' 36" E
EMTAP (FAF)	01° 16' 56" N	103° 56' 57" E
RW02L	01° 20' 56" N	103° 58' 39" E
ENSUN	01° 26' 03" N	104° 00' 48" E
AKOMA	01° 45' 22" N	103° 54' 43" E



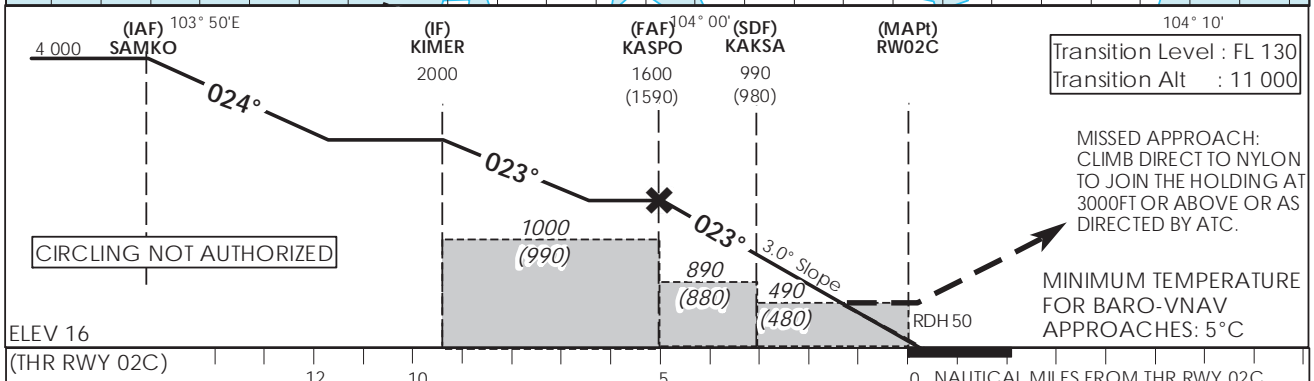
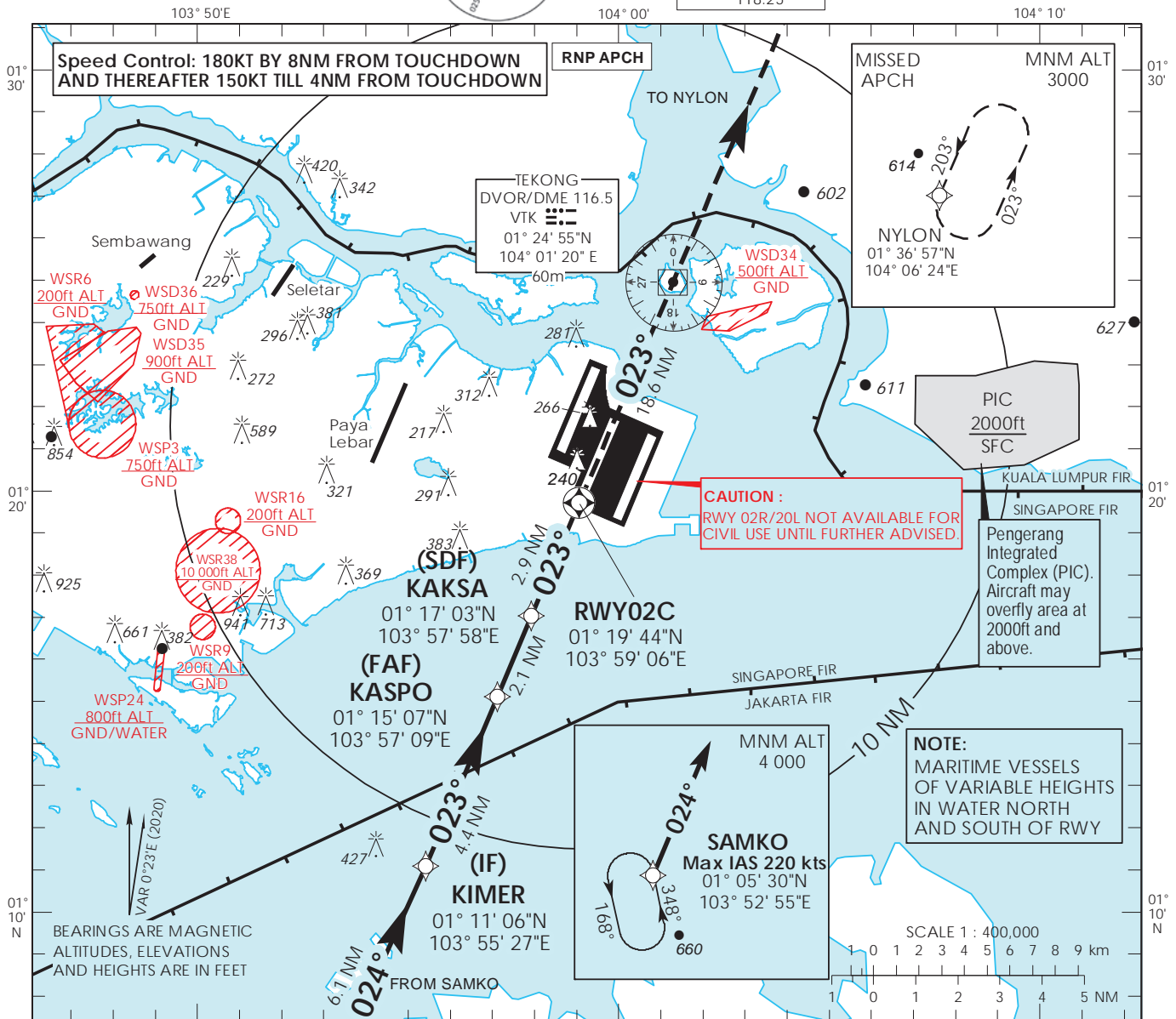
**INSTRUMENT APPROACH CHART - ICAO** AERODROME ELEV 22ft  
HEIGHT RELATED TO THR RWY 02C - ELEV 16ft



MSA 25 NM  
from TEKONG DVOR

D-ATIS AP ID WSSS	128.025
APP	124.05
TWR	119.3
	118.6
	118.25

**SINGAPORE/ SINGAPORE CHANGI RNP RWY 02C**



Category of Aircraft	OCA (OCH)			
	A	B	C	D
LNAV	2.5%	490 (480)		
LNAV without SDF	2.5%	890 (880)		
LNAV/VNAV	2.5%	360 (350)		

Fix	SAMKO	KIMER	KASPO	KAKSA	RW02C	NYLON
Altitude (Height)	4000 (3986)	2000 (1986)	1600 (1586)	990 (976)	490 (476)	3000 (2986)
Speed	knots 80	100	120	140	160	180
FAF - MAPt 5nm	min : s 3 : 45	3 : 00	2 : 30	2 : 09	1 : 53	1 : 40
Rate of descent/GS	ft/min 425	531	637	743	849	955

**SINGAPORE CHANGI RNP-APCH RWY 02C – Approach from SAMKO**

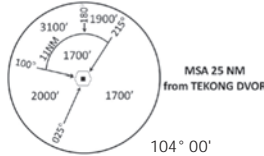
Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	SAMKO	-	-	-0.4	-	-	A040+	220	-	RNP APCH
TF	KIMER	-	024 (024.4)	-0.4	6.1	-	A020+	-	-	RNP APCH
TF	KASPO	-	023 (023.4)	-0.4	4.4	-	A016+	-	-	RNP APCH
TF	KAKSA	-	023 (023.4)	-0.4	2.1	-	990ft+	-	-	RNP APCH
TF	RW02C	Y	023 (023.4)	-0.4	2.9	-	-	-	-3.0° / 50	RNP APCH
DF	NYLON	-	-	-0.4	-	-	A030+	-	-	RNP APCH

**Waypoint Coordinates**

Name	Latitude	Longitude
SAMKO (IAF)	01° 05' 30" N	103° 52' 55" E
KIMER (IF)	01° 11' 06" N	103° 55' 27" E
KASPO (FAF)	01° 15' 07" N	103° 57' 09" E
KAKSA (SDF)	01° 17' 03" N	103° 57' 58" E
RW02C	01° 19' 44" N	103° 59' 06" E
NYLON	01° 36' 57" N	104° 06' 24" E

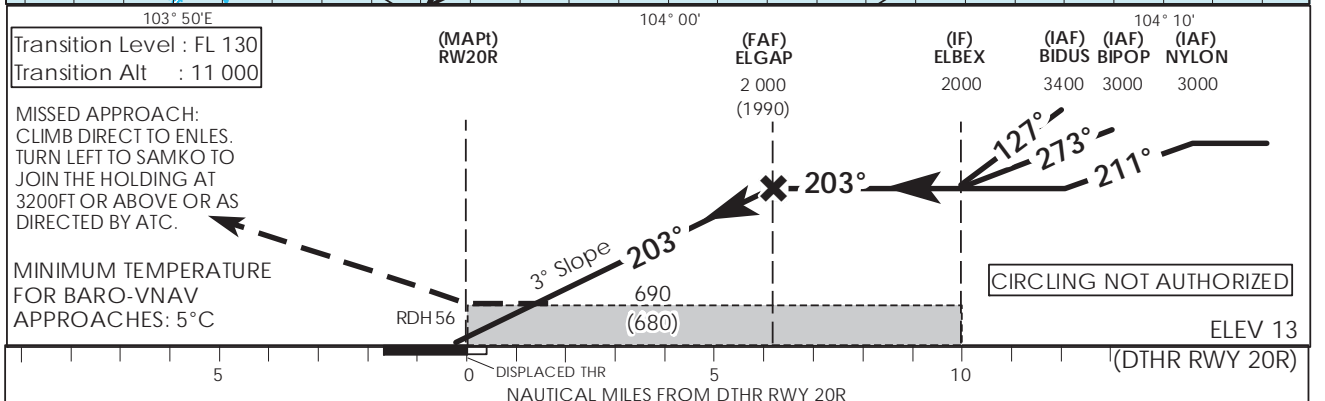
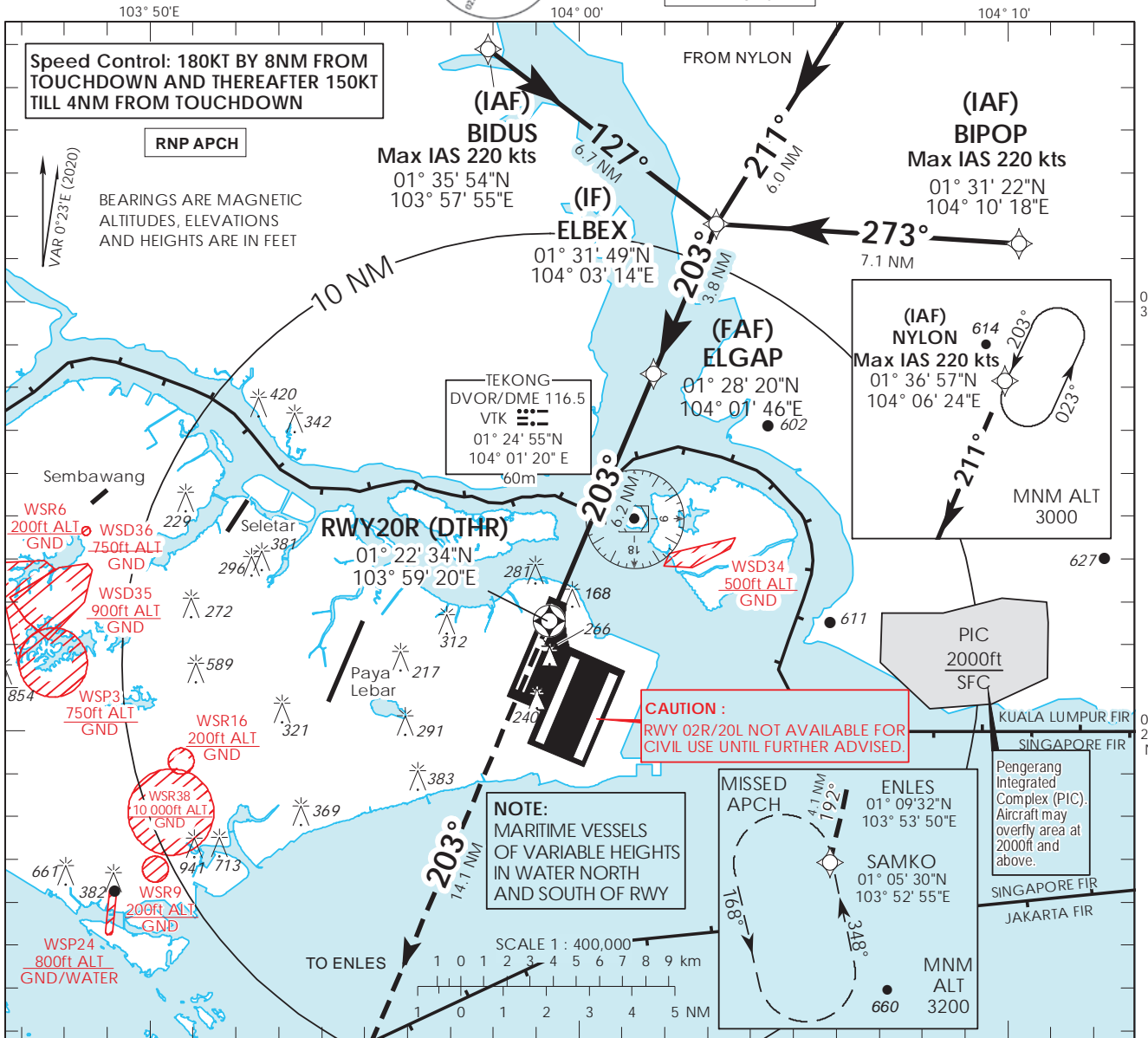
**INSTRUMENT APPROACH CHART - ICAO**

AERODROME ELEV 22ft  
HEIGHT RELATED TO  
DTHR RWY 20R - ELEV 13ft



D-ATIS AP ID WSSS	128.025
APP	124.05
	119.3
TWR	118.6
	118.25

**SINGAPORE/ SINGAPORE CHANGI RNP RWY 20R**



		OCA (OCH)							
Category of Aircraft		A	B	C	D				
LNAV/VNAV	2.5%	690 (680)							
LNAV	2.5%	690 (680)							
Fix		BIDUS	NYLON	BIPOP	ELBEX	ELGAP	RW20R	ENLES	SAMKO
Altitude (Height)		3400 (3387)	3000 (2987)	3000 (2987)	2000 (1987)	2000 (1987)	690 (680)	2180 (2167)	3200 (3187)
Speed	knots	80	100	120	140	160	180		
FAF - MAPt 6.2 nm	min : s	4 : 39	3 : 44	3 : 06	2 : 40	2 : 20	2 : 04		
Rate of descent/GS	ft/min	425	531	637	743	849	955		

**SINGAPORE CHANGI RNP-APCH RWY 20R – Approach from BIDUS**

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	BIDUS	-	-	-0.4	-	-	A034+	220	-	RNP APCH
TF	ELBEX	-	127 (127.4)	-0.4	6.7	R	A020+	-	-	RNP APCH
TF	ELGAP	-	203 (203.4)	-0.4	3.8	-	A020+	-	-	RNP APCH
TF	RW20R	Y	203 (203.4)	-0.4	6.2	-	-	-	-3.0° / 50	RNP APCH
DF	ENLES	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	SAMKO	-	192 (192.4)	-0.4	4.1	-	A032+	-	-	RNP APCH

**SINGAPORE CHANGI RNP-APCH RWY 20R – Approach from NYLON**

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	NYLON	-	-	-0.4	-	-	A030+	220	-	RNP APCH
TF	ELBEX	-	211 (211.4)	-0.4	6.0	L	A020+	-	-	RNP APCH
TF	ELGAP	-	203 (203.4)	-0.4	3.8	-	A020+	-	-	RNP APCH
TF	RW20R	Y	203 (203.4)	-0.4	6.2	-	-	-	-3.0° / 50	RNP APCH
DF	ENLES	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	SAMKO	-	192 (192.4)	-0.4	4.1	-	A032+	-	-	RNP APCH

**SINGAPORE CHANGI RNP-APCH RWY 20R – Approach from BIPOP**

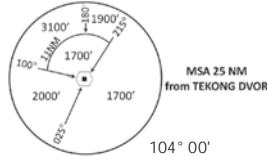
Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	BIPOP	-	-	-0.4	-	-	A030+	220	-	RNP APCH
TF	ELBEX	-	273 (273.4)	-0.4	7.1	L	A020+	-	-	RNP APCH
TF	ELGAP	-	203 (203.4)	-0.4	3.8	-	A020+	-	-	RNP APCH
TF	RW20R	Y	203 (203.4)	-0.4	6.2	-	-	-	-3.0° / 50	RNP APCH
DF	ENLES	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	SAMKO	-	192 (192.4)	-0.4	4.1	-	A032+	-	-	RNP APCH

**Waypoint Coordinates**

Name	Latitude	Longitude
BIDUS (IAF)	01° 35' 54" N	103° 57' 55" E
NYLON (IAF)	01° 36' 57" N	104° 06' 24" E
BIPOP (IAF)	01° 31' 22" N	104° 10' 18" E
ELBEX (IF)	01° 31' 49" N	104° 03' 14" E
ELGAP (FAF)	01° 28' 20" N	104° 01' 46" E
RW20R	01° 22' 34" N	103° 59' 20" E
ENLES	01° 09' 32" N	103° 53' 50" E
SAMKO	01° 05' 30" N	103° 52' 55" E

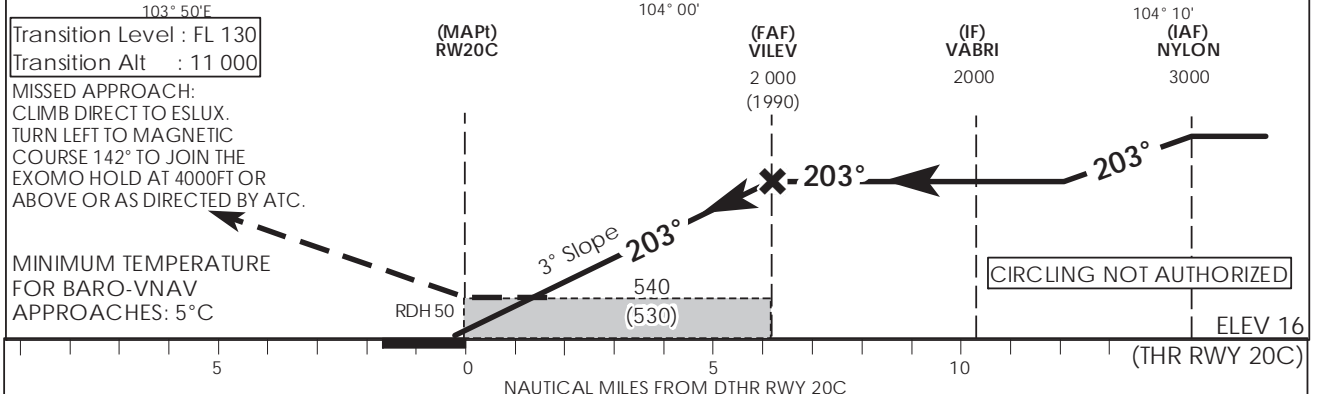
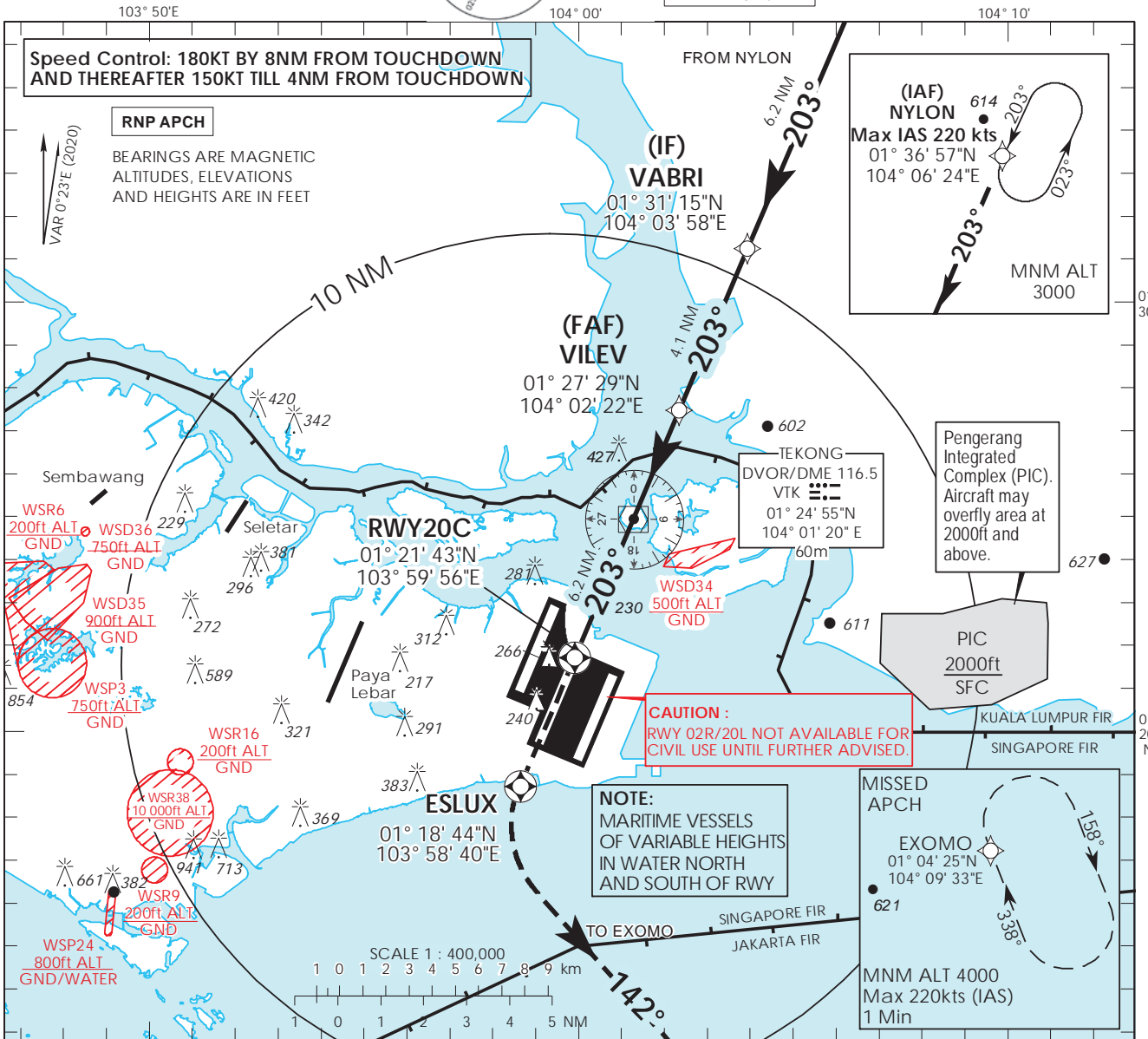
**INSTRUMENT APPROACH CHART - ICAO**

AERODROME ELEV 22ft  
HEIGHT RELATED TO  
THR RWY 20C - ELEV 16ft



D-ATIS	AP ID WSSS
APP	128.025
APP	124.05
TWR	119.3
TWR	118.6
TWR	118.25

**SINGAPORE/ SINGAPORE CHANGI RNP RWY 20C**



		OCA (OCH)					
Category of Aircraft		A	B	C	D		
LNAV/VNAV	2.5%	490 (480)					
LNAV	2.5%	540 (530)					
Fix		NYLON	VABRI	VILEV	RW20C	ESLUX	EXOMO
Altitude (Height)		3000 (2985)	2000 (1985)	2000 (1985)	540 (525)	540 (525)	4000 (3985)
Speed	knots	80	100	120	140	160	180
FAF - MAPt 6.2 nm	min : s	4 : 39	3 : 44	3 : 06	2 : 40	2 : 20	2 : 04
Rate of descent/GS	ft/min	425	531	637	743	849	955

**SINGAPORE CHANGI RNP-APCH RWY 20C – Approach from NYLON**

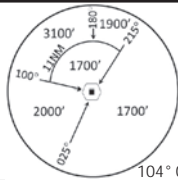
Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	NYLON	-	-	-0.4	-	-	A030+	220	-	RNP APCH
TF	VABRI	-	203 (203.4)	-0.4	6.2	-	A020+	-	-	RNP APCH
TF	VILEV	-	203 (203.4)	-0.4	4.1	-	A020+	-	-	RNP APCH
TF	RW20C	Y	203 (203.4)	-0.4	6.2	-	-	-	-3.0° / 50	RNP APCH
DF	ESLUX	Y	-	-0.4	-	L	-	-	-	RNP APCH
TF	EXOMO	-	142 (142.4)	-0.4	-	-	A040+	-	-	RNP APCH

**Waypoint Coordinates**

Name	Latitude	Longitude
NYLON (IAF)	01° 36' 57" N	104° 06' 24" E
VABRI (IF)	01° 31' 15" N	104° 03' 58" E
VILEV (FAF)	01° 27' 29" N	104° 02' 22" E
RW20C	01° 21' 43" N	103° 59' 56" E
ESLUX	01° 18' 44" N	103° 58' 40" E
EXOMO	01° 04' 25" N	104° 09' 33" E

**INSTRUMENT APPROACH CHART**

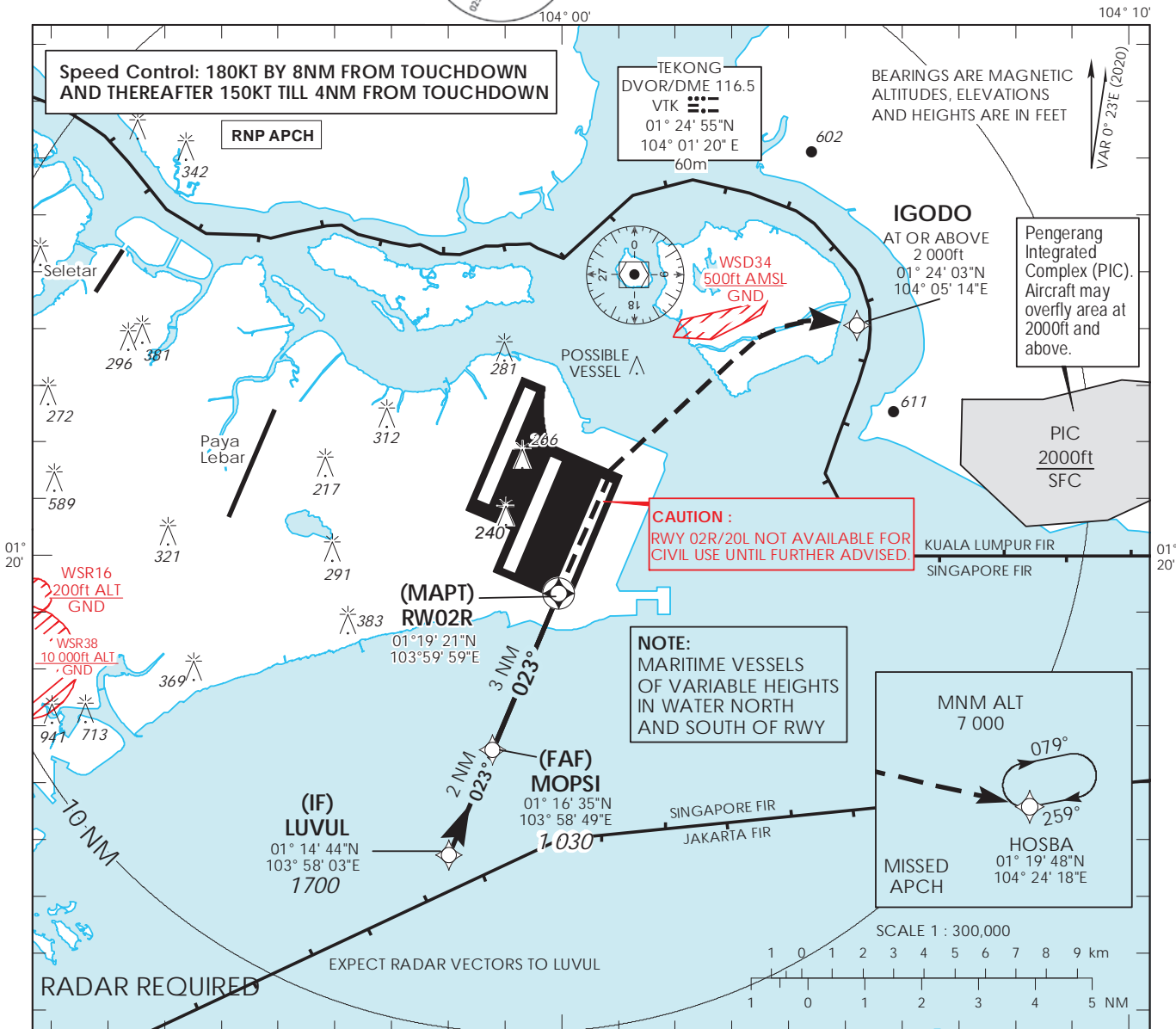
**AERODROME ELEV 22ft**  
HEIGHT RELATED TO  
THR RWY 02R - ELEV 16ft



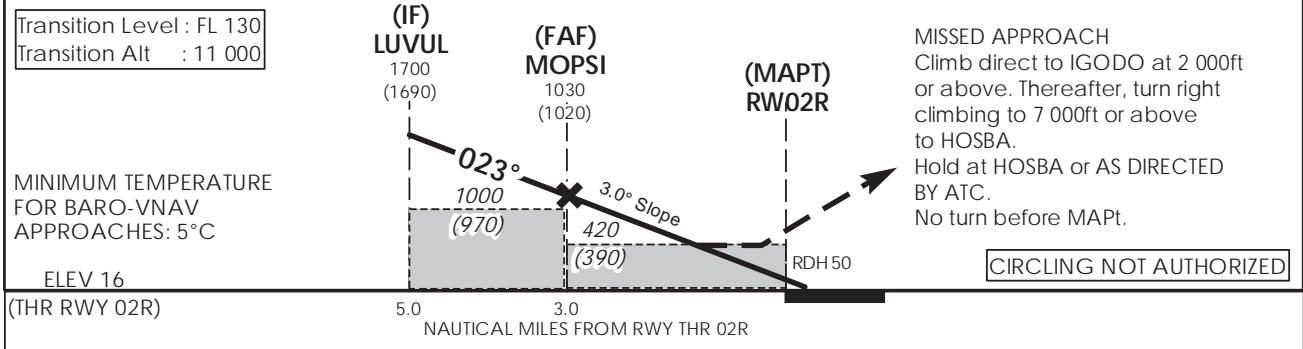
MSA 25 NM  
from TEKONG DVOR

D-ATIS	AP ID WSSS
APP	128.025
	124.05
	119.3
TWR	131.4

**SINGAPORE/  
SINGAPORE CHANGI  
RNP RWY 02R**



- This procedure requires a missed approach climb gradient of 5% (304 ft/NM) until passing 2,000ft. MAX IAS 185kts during turning missed approach.
- For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the OCA (OCH) is 820ft (800ft) and aircraft shall climb straight to 1200ft before commencing right turn climbing to 7000ft or above to HOSBA.



		OCA (OCH)			
Category of Aircraft		A	B	C	D
LNAV/VNAV	5%	330 (310)			
LNAV	5%	420 (390)			

		LUVUL		MOPSI	
Distance		1700 (1690)		1030 (1020)	
Altitude (Height)		1700 (1690)		1030 (1020)	
Speed	knots	70	120	150	185
FAF - MAPt 3.0nm	min : s *	2 : 34	1 : 30	1 : 12	0 : 58
Rate of descent/GS	ft/min	370	635	795	980

**SINGAPORE CHANGI RNP-APCH RWY 02R – Approach from LUVUL**

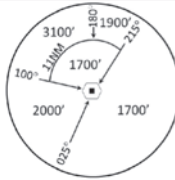
Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	LUVUL	-	023 (023.4)	-0.4	-	-	1700+	180	-	RNP APCH
TF	MOPSI	-	023 (023.4)	-0.4	2.0	-	1030+	150	-	RNP APCH
TF	RW02R	Y	023 (023.4)	-0.4	3.0	R	-	-	-3.0° / 50	RNP APCH
DF	IGODO	-	-	-0.4	-	R	2000+	185	-	RNP APCH
TF	HOSBA	-	103 (103.4)	-0.4	-	-	7000+	-	-	RNP APCH

**Waypoint Coordinates**

Name	Latitude	Longitude
LUVUL (IF)	01° 14' 44" N	103° 58' 03" E
MOPSI (FAF)	01° 16' 35" N	103° 58' 49" E
RW02R	01° 19' 21" N	103° 59' 59" E
IGODO	01° 24' 03" N	104° 05' 14" E
HOSBA	01° 19' 48" N	104° 24' 18" E



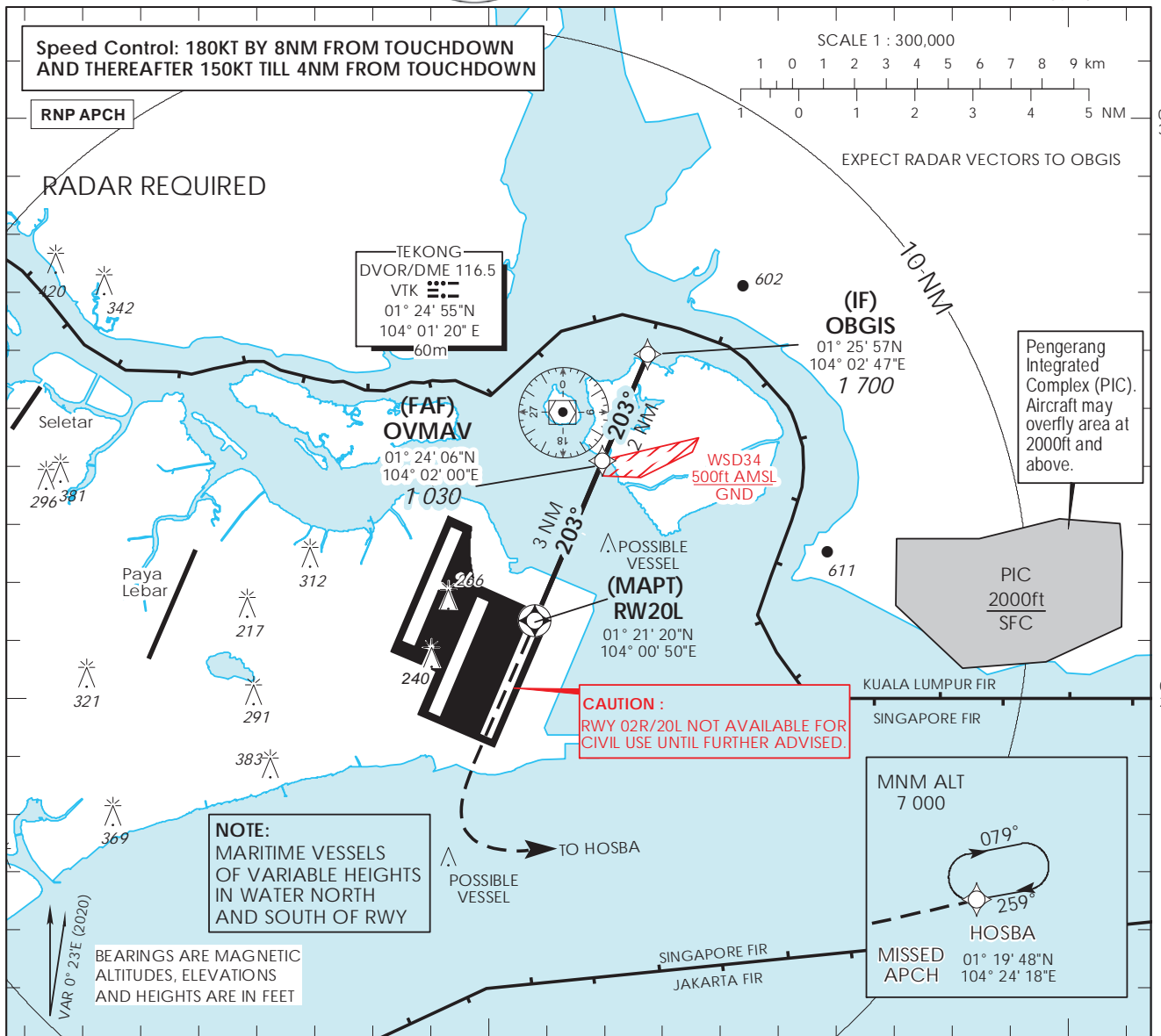
**INSTRUMENT APPROACH CHART**  
AERODROME ELEV 22ft  
HEIGHT RELATED TO  
THR RWY 20L - ELEV 16ft



MSA 25 NM  
from TEKONG DVOR

D-ATIS	AP ID	WSSS
APP	128.6	124.05
TWR	119.3	131.4

**SINGAPORE/  
SINGAPORE CHANGI**  
**RNP RWY 20L**

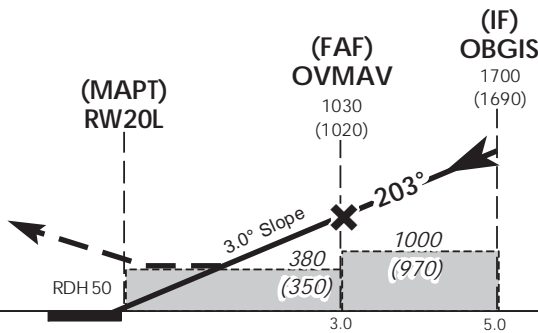


This procedure requires a missed approach climb gradient of 5% (304 ft/NM) until passing 3,000ft.  
For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the OCA (OCH) is 1080ft (1050ft).

Transition Level : FL 130  
Transition Alt : 11 000

**MISSED APPROACH**  
Climb straight to 1 500ft, turn left climbing to 7 000ft or above to HOSBA.  
Hold at HOSBA or AS DIRECTED BY ATC.  
No turn before MAPt.

**CIRCLING NOT AUTHORIZED**



**MINIMUM TEMPERATURE FOR BARO-VNAV APPROACHES: 5°C**

		OCA (OCH)			
Category of Aircraft		A	B	C	D
LNAV/VNAV	5%	280 (260)			
LNAV	5%	380 (350)			
Distance		OBGIS		OVMAV	
Altitude (Height)		1700 (1690)		1030 (1020)	
Speed	knots	70	120	150	185
FAF - MAPt 3.0nm	min : s *	2 : 34	1 : 30	1 : 12	0 : 58
Rate of descent/GS	ft/min	370	635	795	980

**SINGAPORE CHANGI RNP-APCH RWY 20L – Approach from OBGIS**

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	OBGIS	-	203 (203.4)	-0.4	-	-	1700+	180	-	RNP APCH
TF	OVMAN	-	203 (203.4)	-0.4	2.0	-	1030+	150	-	RNP APCH
TF	RW20L	Y	203 (203.4)	-0.4	3.0	-	-	-	-3.0° / 50	RNP APCH
CA	-	-	203 (203.4)	-0.4	-	L	1500+	-	-	RNP APCH
DF	HOSBA	-	-	-	-	-	7000+	-	-	RNP APCH

**Waypoint Coordinates**

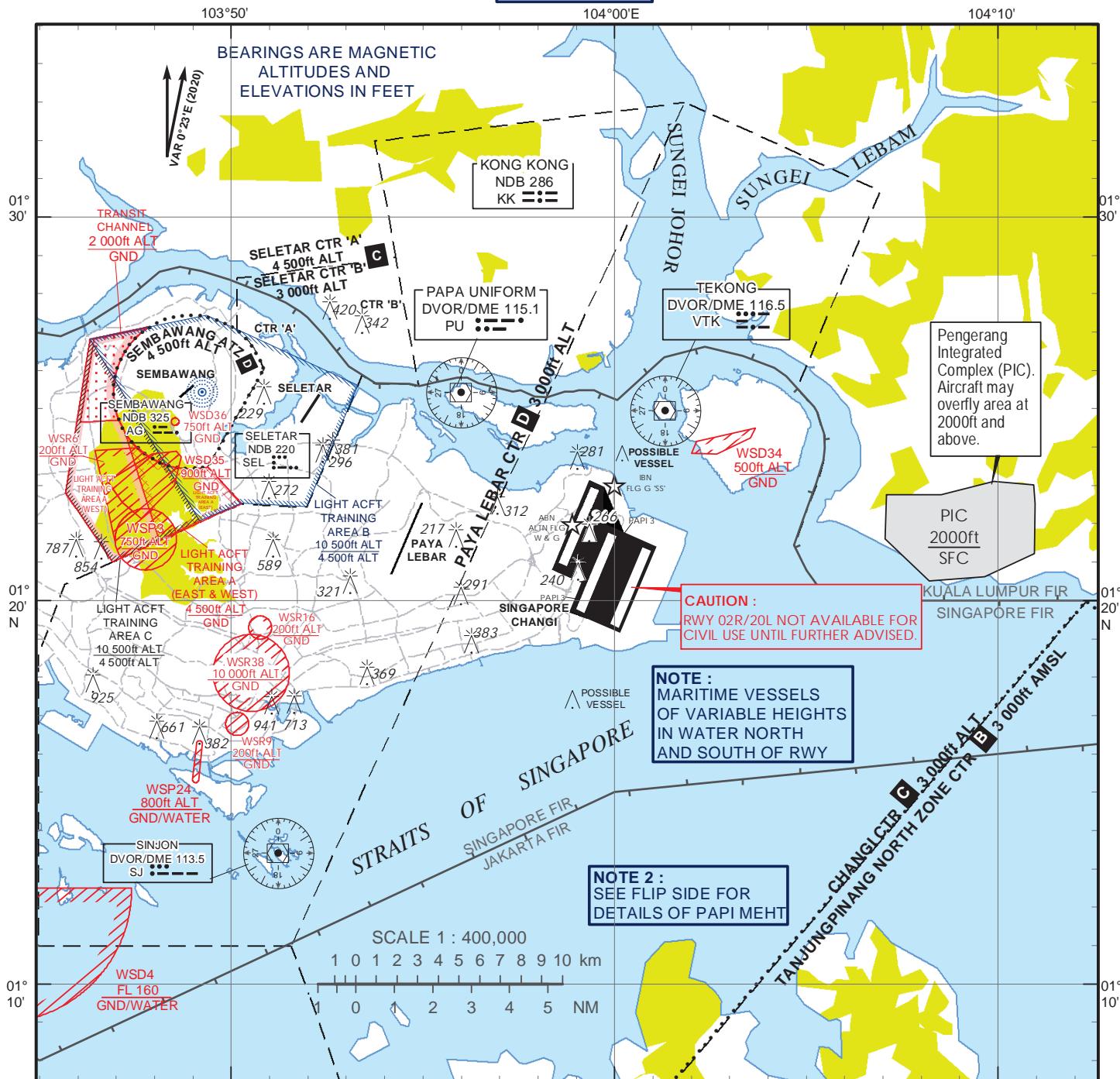
Name	Latitude	Longitude
OBGIS (IF)	01° 25' 57" N	104° 02' 47" E
OVMAN (FAF)	01° 24' 06" N	104° 02' 00" E
RW20L	01° 21' 20" N	104° 00' 50" E
HOSBA	01° 19' 48" N	104° 24' 18" E

**VISUAL  
APPROACH  
CHART - ICAO**

**AERODROME ELEV 22 ft**

D-ATIS	AP ID WSSS
APP	128.025
TWR	124.05
	119.3
	118.6
	118.25

**SINGAPORE/SINGAPORE CHANGI**

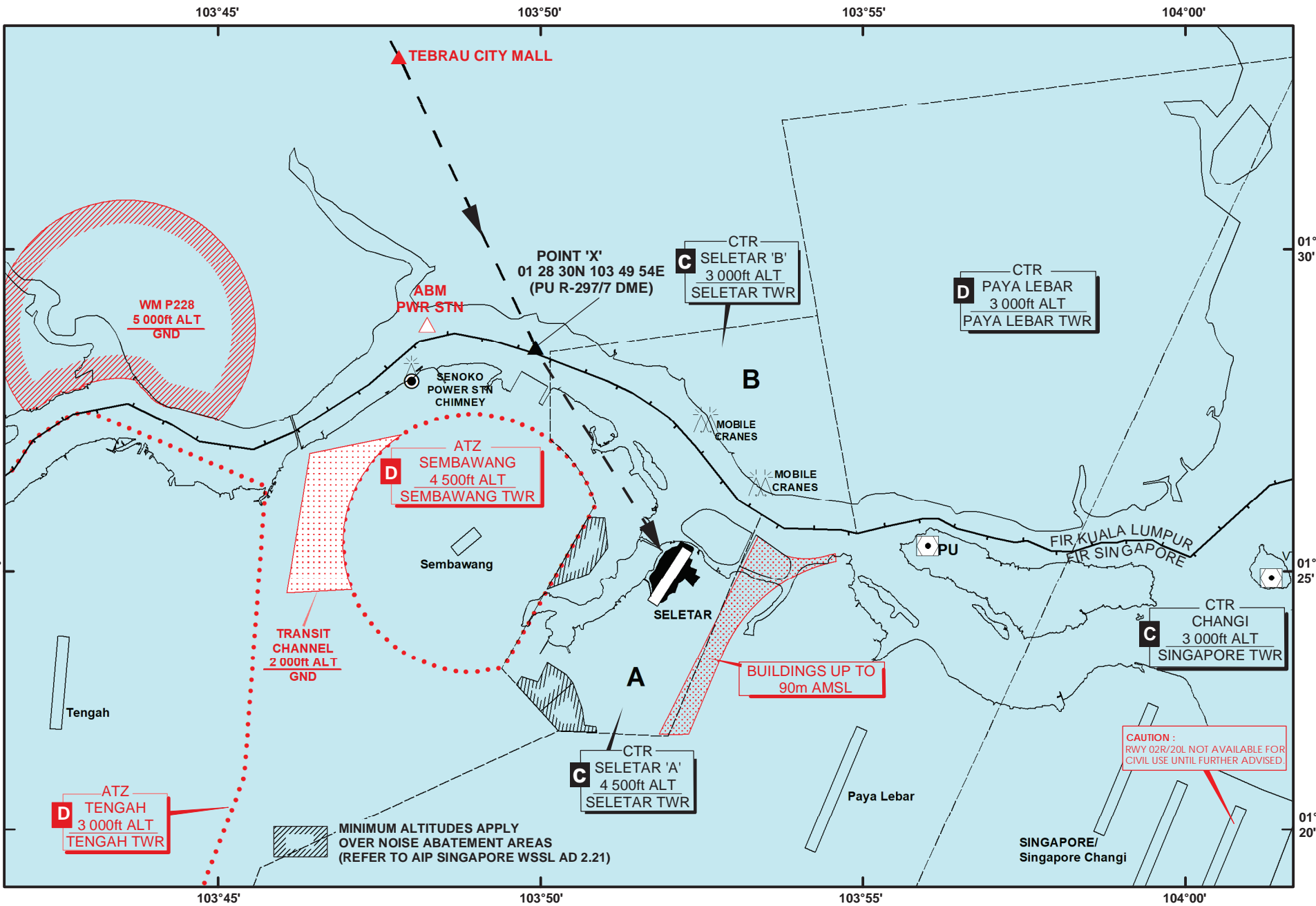


**VISUAL APPROACH PROCEDURE**

- An IFR flight operating into Singapore Changi Airport may be cleared for a visual approach subject to the following conditions :-
  - The pilot has the aerodrome in sight and can conduct his approach with visual reference to terrain;
  - The flight will not cause delay to other traffic;
  - There is no conflicting tall vessel movement;
  - The cloud ceiling at the aerodrome is 4,000ft or more for landing on RWY 20C/R/L and 3,000ft or more for on RWY 02C/L/R ; and
  - The visibility at the aerodrome is 5km or more.
- Notwithstanding para 1d) and 1e), if the pilot reports that he has the aerodrome in sight and can conduct his approach with visual reference to terrain, the flight may be cleared for a visual approach.
- Pilots may expect radar vectoring for separation and sequencing with other traffic prior to being cleared for a visual approach.

<b>PAPI 3° (MEHT)*</b>						
<b>Pilot's eye height over the threshold when the following PAPI lights come in view.</b>	<b>RUNWAY</b>					
	02L	20R	02C	20C	02R	20L
2 White lights and 2 Red lights	20.0m	20.0m	19.8m	19.8m	19.7m	19.7m
3 White lights and 1 Red light	24.0m	22.6m	23.7m	23.7m	23.6m	23.6m
4 White lights	26.4m	25.0m	26.2m	26.2m	26.0m	26.0m
<p>*MEHT : Minimum Eye Height Over the Threshold.</p> <p>Note : Aircraft with eye-to-wheel height greater than 8 metres are advised to fly with 2 white lights and 2 red lights visible so as to achieve sufficient wheel clearance.</p>						

# SELETAR AERODROME JOINING PROCEDURE (VFR FLIGHTS) FROM JOHOR BAHRU

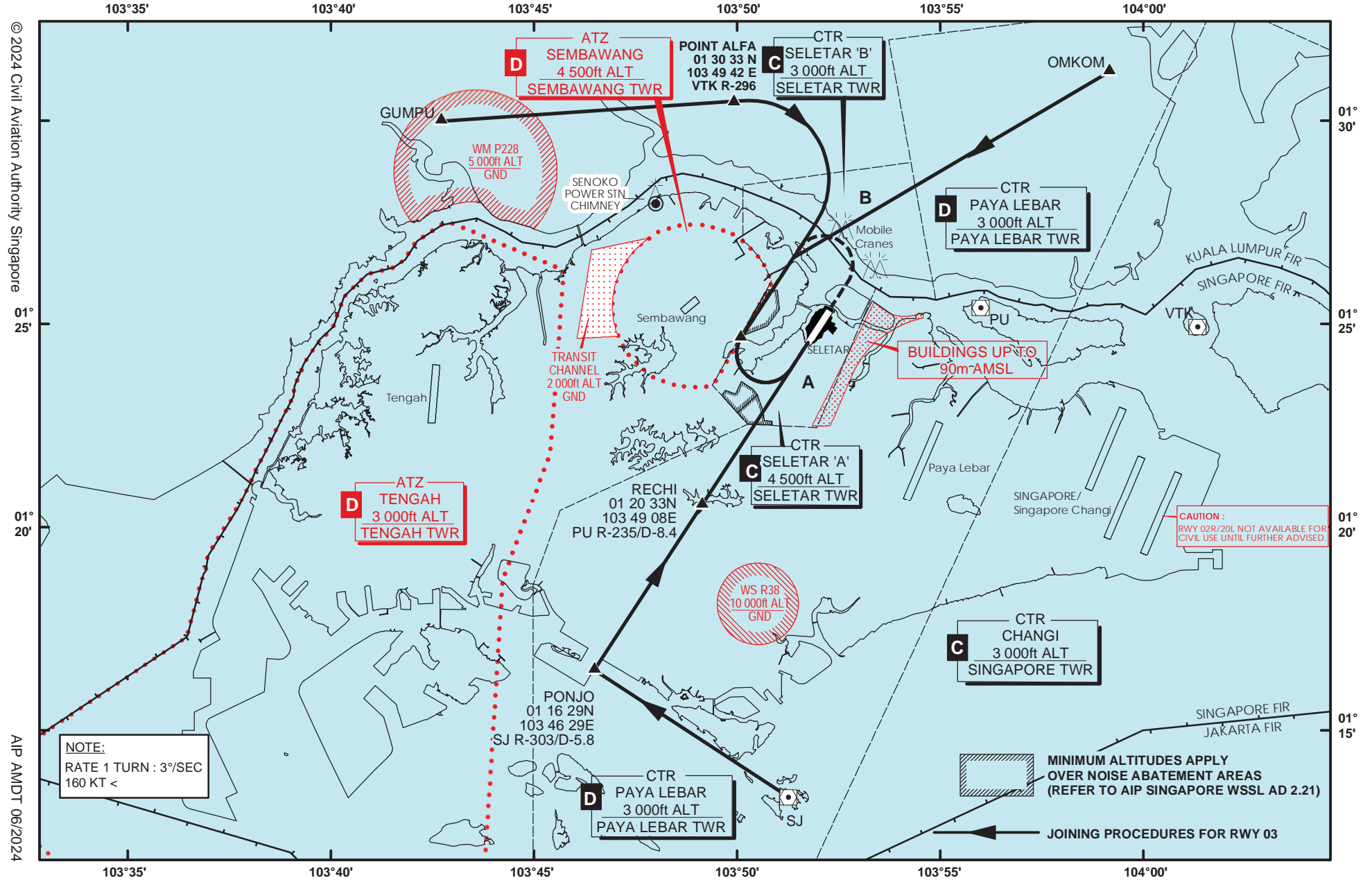


MINIMUM ALTITUDES APPLY  
OVER NOISE ABATEMENT AREAS  
(REFER TO AIP SINGAPORE WSSL AD 2.21)

CAUTION :  
RWY 02R/20L NOT AVAILABLE FOR  
CIVIL USE UNTIL FURTHER ADVISED.

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# SELETAR AERODROME JOINING PROCEDURE (IFR FLIGHTS) FROM GUMPU, OMKOM AND SJ - RUNWAY 03



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CHANGES : 1. Updated caution text  
2. Removal of Runway 3 closure crosses "X"

AIP AMDT 06/2024

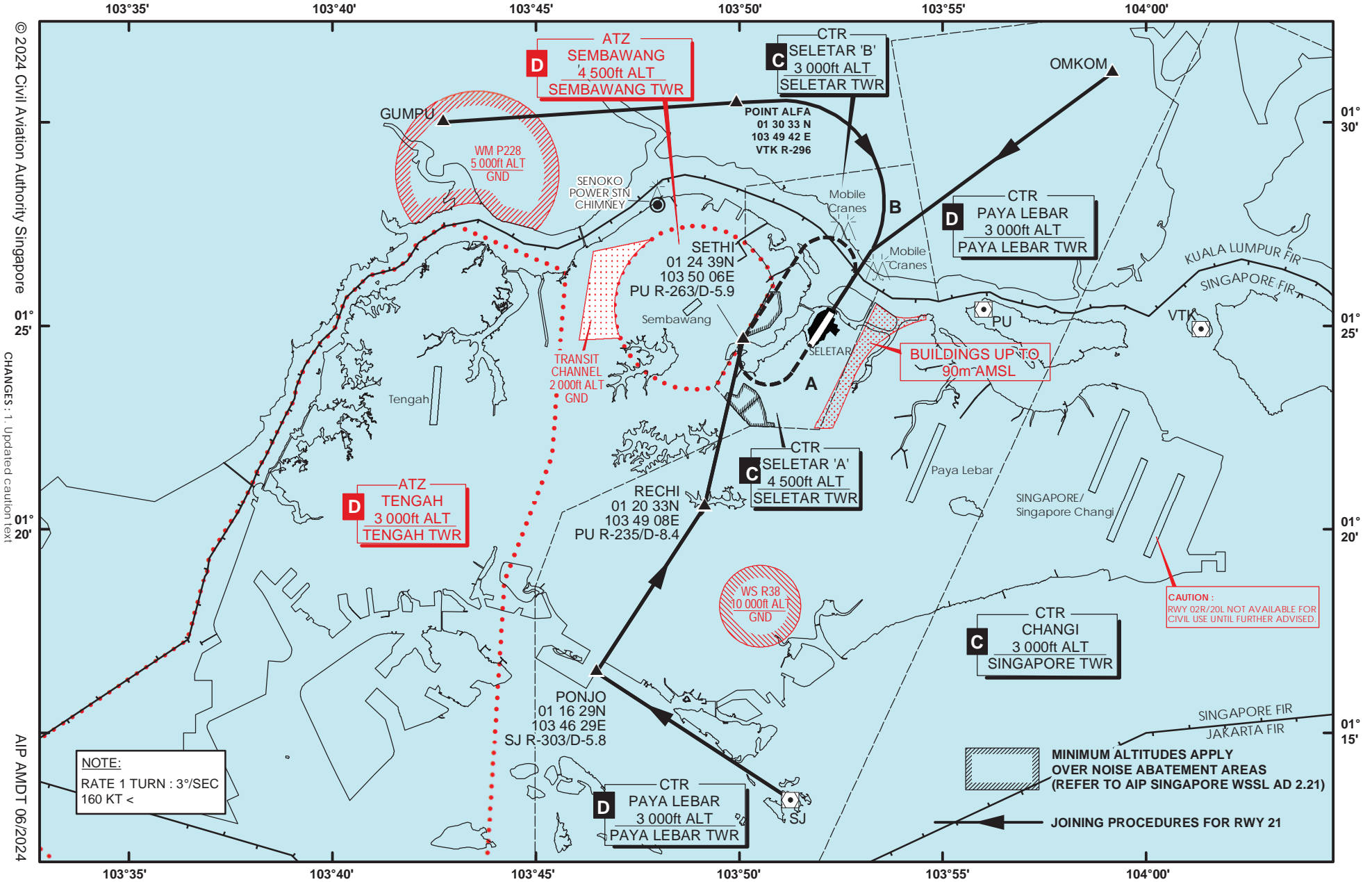
A I P Singapore

AD-2-WSSL-IFR-1  
31 OCT 2024

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# SELETAR AERODROME JOINING PROCEDURE (IFR FLIGHTS) FROM GUMPU, OMKOM AND SJ - RUNWAY 21



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CHANGES : 1. Updated caution text  
 2. Removal of Runway 3 closure crosses "X"

AIP AMDT 06/2024

A I P Singapore

AD-2-WSSL-IFR-2  
 31 OCT 2024

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