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eAIP

AMDT
02/2019
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28 FEB 2019
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wp-AMDT-2019-02

1. Significant information and changes

1.1 Singapore FIR

a. Inclusion of information on ATM contingency plan arrangements between Singapore FIR and Ho Chi Minh FIR

1.2 Singapore Changi Airport

a. Removal of the phrase “or as directed by ATC” from the initial climb clearance in the SID charts to minimise confusion with the flight level provided in the start-up clearance

2. This amendment incorporates information contained in the listed NOTAM which is hereby superseded:

NOTAM:
A0697/19 dated 25/02/19

Amended Pages

GEN 0.2-1/2: *: replace.*
GEN 0.3-1/2: *: replace.*
GEN 0.3-3/4: *: replace.*
GEN 0.4-1/2: *: replace.*
GEN 0.4-3: *: replace.*
GEN 1.1-1/2: *: replace.*
GEN 2.5-1: *: replace.*
GEN 3.2-3/4: *: replace.*
ENR 0.6-3/4: *: replace.*
ENR 1.8-27/28: *: replace.*
ENR 1.8-29/30: *: replace.*
ENR 1.8-31: *: insert.*
ENR-2.1-15: *: replace.*
ENR 3.1-3/4: *: replace.*
ENR-3.1/ATS Chart: *: replace.*
ENR 3.4-3/4: *: replace.*
ENR-3.5-3: *: replace.*
AD 0.6-3/4: *: replace.*
AD 2.WSSS-39/40: *: replace.*
AD-2-WSSS-ADC-2: *: replace.*
AD-2-WSSS-SID-1 to 1.1: *: replace.*
AD-2-WSSS-SID-2 to 2.1: *: replace.*
AD-2-WSSS-SID-3 to 3.1: *: replace.*
AD-2-WSSS-SID-4 to 4.1: *: replace.*
AD-2-WSSS-SID-5 to 5.1: *: replace.*
AD-2-WSSS-SID-6 to 6.1: *: replace.*
AD-2-WSSS-SID-7 to 7.1: *: replace.*

AD-2-WSSS-SID-8 to 8.1: *: replace.*
AD-2-WSSS-SID-9 to 9.1: *: replace.*
AD-2-WSSS-SID-10 to 10.1: *: replace.*
AD-2-WSSS-SID-11 to 11.1: *: replace.*
AD-2-WSSS-SID-12 to 12.1: *: replace.*
AD-2-WSSS-SID-13 to 13.1: *: replace.*
AD-2-WSSS-SID-14 to 14.1: *: replace.*
AD-2-WSSS-SID-15 to 15.1: *: replace.*
AD-2-WSSS-SID-16 to 16.1: *: replace.*
AD-2-WSSS-SID-17 to 17.1: *: replace.*
AD-2-WSSS-SID-18 to 18.1: *: replace.*
AD-2-WSSS-STAR-3 to 3.1: *: replace.*
AD-2-WSSS-STAR-9 to 9.1: *: replace.*
AD-2-WSSS-VAC-1: *: replace.*
AD 2.WSSL-1/2: *: replace.*
AD 2.WSSL-13/14: *: replace.*
AD-2-WSSL-ADC-1: *: replace.*
AD-2-WSSL-IAC-1: *: replace.*

GEN 0.2 RECORD OF AIP AMENDMENTS

AIP AMENDMENT

NR/Year	*Publication date*	*Date inserted*	*Inserted by*
5/2014	18 SEP 2014	18 SEP 2014	
6/2014	13 NOV 2014	13 NOV 2014	
1/2015	08 JAN 2015	08 JAN 2015	
2/2015	05 MAR 2015	05 MAR 2015	
3/2015	30 APR 2015	30 APR 2015	
4/2015	25 JUN 2015	25 JUN 2015	
5/2015	20 AUG 2015	20 AUG 2015	
6/2015	15 OCT 2015	15 OCT 2015	
07/2015	10 DEC 2015	10 DEC 2015	
01/2016	04 FEB 2016	04 FEB 2016	
02/2016	31 MAR 2016	31 MAR 2016	
03/2016	26 MAY 2016	26 MAY 2016	
04/2016	21 JUL 2016	21 JUL 2016	
05/2016	15 SEP 2016	15 SEP 2016	
06/2016	10 NOV 2016	10 NOV 2016	
01/2017	05 JAN 2017	05 JAN 2017	
02/2017	02 MAR 2017	02 MAR 2017	
03/2017	27 APR 2017	27 APR 2017	
04/2017	22 JUN 2017	22 JUN 2017	
05/2017	17 AUG 2017	17 AUG 2017	
06/2017	12 OCT 2017	12 OCT 2017	
07/2017	07 DEC 2017	07 DEC 2017	
01/2018	01 FEB 2018	01 FEB 2018	
02/2018	29 MAR 2018	29 MAR 2018	
03/2018	24 MAY 2018	24 MAY 2018	
04/2018	19 JUL 2018	19 JUL 2018	
05/2018	13 SEP 2018	13 SEP 2018	

AIP AMENDMENT

NR/Year	*Publication date*	*Date inserted*	*Inserted by*
06/2018	08 NOV 2018	08 NOV 2018	
01/2019	03 JAN 2019	03 JAN 2019	
02/2019	28 FEB 2019	28 FEB 2019	

GEN 0.3 RECORD OF CURRENT AIP SUPPLEMENTS

NR/Year	*Subject*	*AIP section(s) affected*	*Period of validity (from/to)*	*Cancellation record*
004/2016	Singapore Changi Airport - Shortening of Runway 02C Approach Lighting System to 810M to Facilitate southern End-Round-Taxiway Construction	AD	*01 JUN 2016 / 30 APR 2020*	
067/2016	Paya Lebar Airport - Topless Cranes and Luffer Crane	AD	*04 AUG 2016 / 31 MAR 2019*	
068/2016	Paya Lebar Airport - Topless Cranes and Luffer Cranes	AD	*04 AUG 2016 / 01 JUN 2019*	
069/2016	Paya Lebar Airport - Saddle Cranes	AD	*04 AUG 2016 / 30 JUN 2019*	
070/2016	Paya Lebar Airport - Luffer Cranes and Topless Cranes	AD	*04 AUG 2016 / 31 DEC 2019*	
025/2017	Paya Lebar Airport - Topless Cranes	AD	*10 JAN 2017 / 21 NOV 2019*	
026/2017	Paya Lebar Airport - Luffer Crane	AD	*10 JAN 2017 / 08 DEC 2019*	
051/2017	Paya Lebar Airport - Mobile Cranes	AD	*13 APR 2017 / 05 MAR 2019*	
052/2017	Paya Lebar Airport - Topless Cranes	AD	*13 APR 2017 / 14 MAR 2019*	
053/2017	Paya Lebar Airport - Luffer Crane	AD	*13 APR 2017 / 14 MAR 2019*	
054/2017	Paya Lebar Airport - Luffer Crane	AD	*13 APR 2017 / 23 MAR 2019*	
055/2017	Paya Lebar Airport - Topless Cranes and Luffer Crane	AD	*13 APR 2017 / 31 MAR 2019*	
056/2017	Paya Lebar Airport - Topless Cranes	AD	*13 APR 2017 / 30 APR 2019*	
057/2017	Paya Lebar Airport - Luffer Cranes	AD	*13 APR 2017 / 14 JAN 2020*	
058/2017	Paya Lebar Airport - Topless Cranes	AD	*13 APR 2017 / 26 OCT 2020*	
063/2017	Paya Lebar Airport - Topless Cranes and Luffer Crane	AD	*13 APR 2017 / 15 APR 2019*	
067/2017	Sembawang Aerodrome - Topless Crane	AD	*27 APR 2017 / 01 FEB 2020*	
068/2017	Paya Lebar Airport - Obstacles	AD	*27 APR 2017 / 26 OCT 2020*	
079/2017	Paya Lebar Airport - Topless Crane	AD	*11 JUL 2017 / 28 APR 2019*	
080/2017	Paya Lebar Airport - Topless Cranes	AD	*11 JUL 2017 / 29 APR 2019*	
081/2017	Paya Lebar Airport - Luffer Crane	AD	*11 JUL 2017 / 01 MAY 2019*	
082/2017	Paya Lebar Airport - Topless Cranes	AD	*11 JUL 2017 / 31 DEC 2019*	
083/2017	Paya Lebar Airport - Topless Cranes	AD	*11 JUL 2017 / 31 DEC 2019*	
084/2017	Paya Lebar Airport - Luffer Cranes	AD	*11 JUL 2017 / 31 DEC 2019*	
085/2017	Paya Lebar Airport - Topless Cranes	AD	*11 JUL 2017 / 01 JUN 2020*	
095/2017	Paya Lebar Airport - Topless Crane and Luffer Cranes	AD	*26 SEP 2017 / 31 DEC 2019*	
098/2017	Paya Lebar Airport - Topless Cranes	AD	*26 SEP 2017 / 31 DEC 2019*	

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
108/2017	Paya Lebar Airport - Topless Crane and Luffer Cranes	AD	*30 SEP 2017 / 06 JUL 2020*	
113/2017	Paya Lebar Airport - Topless Cranes	AD	*24 OCT 2017 / 18 OCT 2019*	
114/2017	Paya Lebar Airport - Luffer Crane	AD	*24 OCT 2017 / 20 OCT 2019*	
115/2017	Paya Lebar Airport - Topless Cranes	AD	*24 OCT 2017 / 24 OCT 2019*	
120/2017	Paya Lebar Airport - Flat Top Cranes	AD	*10 DEC 2017 / 30 JUN 2019*	
121/2017	Paya Lebar Airport - Topless Cranes and Luffer Cranes	AD	*10 DEC 2017 / 30 SEP 2020*	
122/2017	Paya Lebar Airport - Luffer Cranes	AD	*10 DEC 2017 / 31 DEC 2020*	
123/2017	Paya Lebar Airport - Luffer Cranes	AD	*10 DEC 2017 / 31 DEC 2020*	
124/2017	Paya Lebar Airport - Luffer Crane	AD	*10 DEC 2017 / 31 DEC 2020*	
125/2017	Paya Lebar Airport - Topless Cranes	AD	*10 DEC 2017 / 18 DEC 2019*	
126/2017	Paya Lebar Airport - Luffer Cranes	AD	*10 DEC 2017 / 19 DEC 2019*	
003/2018	Paya Lebar Airport - Luffer Crane	AD	*22 JAN 2018 / 31 DEC 2019*	
004/2018	Paya Lebar Airport - Crawler Cranes and Boring Rigs	AD	*22 JAN 2018 / 31 DEC 2019*	
005/2018	Paya Lebar Airport - Topless Cranes	AD	*22 JAN 2018 / 29 FEB 2020*	
006/2018	Paya Lebar Airport - Topless Crane and Luffer Crane	AD	*22 JAN 2018 / 28 FEB 2021*	
015/2018	Paya Lebar Airport - Luffer Crane	AD	*06 APR 2018 / 31 DEC 2019*	
016/2018	Paya Lebar Airport - Luffer Crane and Topless Cranes	AD	*06 APR 2018 / 01 JAN 2020*	
017/2018	Paya Lebar Airport - Luffer Crane	AD	*06 APR 2018 / 15 MAR 2020*	
018/2018	Paya Lebar Airport - Topless Cranes and Luffer Crane	AD	*25 APR 2018 / 27 OCT 2020*	
019/2018	Paya Lebar Airport - Luffer Crane	AD	*06 APR 2018 / 31 DEC 2020*	
020/2018	Paya Lebar Airport - Mobile Crane	AD	*06 APR 2018 / 03 FEB 2021*	
021/2018	Paya Lebar Airport - Luffer Crane and Saddle Cranes	AD	*06 APR 2018 / 31 DEC 2022*	
026/2018	Paya Lebar Airport - Crawler Cranes	AD	*20 JUN 2018 / 30 APR 2020*	
027/2018	Paya Lebar Airport - Mobile Crane	AD	*20 JUN 2018 / 10 MAY 2020*	
028/2018	Paya Lebar Airport - Saddle Cranes	AD	*20 JUN 2018 / 31 DEC 2022*	
029/2018	Paya Lebar Airport - Luffer Cranes	AD	*20 JUN 2018 / 31 DEC 2021*	
030/2018	Paya Lebar Airport - Luffer Crane and Topless Cranes	AD	*20 JUN 2018 / 31 DEC 2021*	
049/2018	Paya Lebar Airport - Mobile Crane	AD	*25 SEP 2018 / 31 MAR 2019*	
050/2018	Tengah Aerodrome - Vessel	AD	*25 SEP 2018 / 30 APR 2019*	
051/2018	Paya Lebar Airport - Crawler Crane	AD	*25 SEP 2018 / 02 MAY 2019*	

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
052/2018	Paya Lebar Airport - Topless Cranes	AD	*25 SEP 2018 / 31 AUG 2019*	
053/2018	Sembawang Aerodrome - Saddle Cranes	AD	*25 SEP 2018 / 31 DEC 2021*	
054/2018	Paya Lebar Airport - Luffer Cranes	AD	*25 SEP 2018 / 31 DEC 2019*	
055/2018	Paya Lebar Airport - Topless Cranes	AD	*25 SEP 2018 / 31 DEC 2019*	
056/2018	Paya Lebar Airport - Obstacles	AD	*25 SEP 2018 / 31 DEC 2019*	
057/2018	Paya Lebar Airport - Luffer Cranes	AD	*25 SEP 2018 / 30 MAR 2020*	
058/2018	Paya Lebar Airport - Luffer Crane	AD	*25 SEP 2018 / 14 AUG 2020*	
059/2018	Paya Lebar Airport - Topless Cranes	AD	*25 SEP 2018 / 31 AUG 2020*	
060/2018	Paya Lebar Airport - Topless Cranes	AD	*25 SEP 2018 / 01 SEP 2020*	
061/2018	Paya Lebar Airport - Luffer Cranes	AD	*25 SEP 2018 / 10 SEP 2020*	
062/2018	Paya Lebar Airport - Topless Cranes and Luffer Cranes	AD	*25 SEP 2018 / 31 DEC 2020*	
067/2018	Paya Lebar Airport - Crawler Crane	AD	*13 NOV 2018 / 30 MAR 2019*	
068/2018	Paya Lebar Airport - Topless Cranes	AD	*13 NOV 2018 / 31 OCT 2019*	
069/2018	Paya Lebar Airport - Mobile Crane	AD	*13 NOV 2018 / 10 MAY 2020*	
070/2018	Paya Lebar Airport - Luffer Cranes and Flat Top Cranes	AD	*13 NOV 2018 / 31 DEC 2020*	
071/2018	Paya Lebar Airport - Saddle Cranes	AD	*13 NOV 2018 / 31 DEC 2023*	
072/2018	Singapore Changi Airport - Works schedule and movement area restrictions pertaining to Changi East development works	AD	*26 NOV 2018 / 27 MAR 2019*	
073/2018	Paya Lebar Airport - Obstacles	AD	*28 NOV 2018 / 30 JUN 2019*	
074/2018	Paya Lebar Airport - Mobile Crane	AD	*28 NOV 2018 / 30 JUN 2019*	
075/2018	Paya Lebar Airport - Luffer Crane	AD	*28 NOV 2018 / 31 MAR 2020*	
076/2018	Paya Lebar Airport - Topless Cranes	AD	*29 NOV 2018 / 30 NOV 2020*	
077/2018	Paya Lebar Airport - Luffer Crane	AD	*28 NOV 2018 / 18 NOV 2021*	
078/2018	Paya Lebar Airport - Luffer Cranes	AD	*28 NOV 2018 / 30 DEC 2022*	
080/2018	Paya Lebar Airport - Topless Cranes and Luffer Cranes	AD	*30 DEC 2018 / 30 JUN 2019*	
081/2018	Paya Lebar Airport - Topless Cranes	AD	*30 DEC 2018 / 31 JUL 2019*	
082/2018	Paya Lebar Airport - Crawler Cranes	AD	*20 DEC 2018 / 30 AUG 2019*	
083/2018	Paya Lebar Airport - Mobile Crane	AD	*20 DEC 2018 / 31 AUG 2019*	
084/2018	Paya Lebar Airport - Hammerhead Cranes	AD	*30 DEC 2018 / 30 SEP 2019*	
085/2018	Paya Lebar Airport - Mobile Crane	AD	*20 DEC 2018 / 31 JAN 2020*	

NR/Year	*Subject*	*AIP section(s) affected*	*Period of validity (from/to)*	*Cancellation record*
001/2019	Paya Lebar Airport - Crawler Cranes	AD	*30 JAN 2019 / 30 APR 2019*	
002/2019	Paya Lebar Airport - Boring Rigs and Crawler Cranes	AD	*30 JAN 2019 / 31 AUG 2019*	
003/2019	Paya Lebar Airport - Mobile Crane	AD	*30 JAN 2019 / 31 AUG 2019*	
004/2019	Paya Lebar Airport - Luffer Crane	AD	*30 JAN 2019 / 30 NOV 2019*	
005/2019	Paya Lebar Airport - Topless Cranes	AD	*14 FEB 2019 / 30 JUN 2020*	
006/2019	Paya Lebar Airport - Topless Cranes and Luffer Crane	AD	*30 JAN 2019 / 09 JAN 2021*	
007/2019	Tengah Aerodrome - Topless Cranes and Luffer Crane	AD	*30 JAN 2019 / 31 JAN 2021*	
008/2019	Paya Lebar Airport - Mobile Crane	AD	*31 JAN 2019 / 31 JAN 2021*	
009/2019	Paya Lebar Airport - Luffer Cranes	AD	*01 JUN 2019 / 31 MAY 2021*	
010/2019	Paya Lebar Airport - Crawler Cranes	AD	*01 FEB 2019 / 15 APR 2019*	
011/2019	Paya Lebar Airport - Mobile Crane	AD	*01 FEB 2019 / 22 DEC 2020*	
012/2019	Sembawang Aerodrome - Mobile Crane	AD	*01 FEB 2019 / 22 DEC 2019*	
013/2019	Paya Lebar Airport - Crawler Crane	AD	*01 FEB 2019 / 30 MAY 2019*	
014/2019	Paya Lebar Airport - Topless Cranes	AD	*01 FEB 2019 / 31 JAN 2021*	
015/2019	Singapore Changi Airport - Revision to aircraft stand C17 and opening of new Multiple Aircraft Receiving Stands (MARS) C17L and C17R at Terminal 1	AD	*11 MAR 2019* PERM	
016/2019	Singapore Changi Airport - Updated information and data for Runway 02R/20L	AD	*15 FEB 2019* PERM	
017/2019	Singapore Changi Airport - Works schedule and movement area restrictions pertaining to Changi East development works	AD	*28 MAR 2019 / 26 OCT 2019*	

GEN 0.4 CHECKLIST OF AIP PAGES

Part 1 – General (GEN)

GEN 0

GEN 0.1-1	08 NOV 2018
GEN 0.1-2	08 NOV 2018
GEN-0.1-3	08 NOV 2018
GEN 0.2-1	13 SEP 2018
GEN 0.2-2	28 FEB 2019
GEN 0.3-1	28 FEB 2019
GEN 0.3-2	28 FEB 2019
GEN 0.3-3	28 FEB 2019
GEN 0.3-4	28 FEB 2019
GEN 0.4-1	28 FEB 2019
GEN 0.4-2	28 FEB 2019
GEN 0.4-3	28 FEB 2019
GEN 0.5-1	05 JAN 2017
GEN 0.6-1	13 SEP 2018
GEN 0.6-2	03 JAN 2019
GEN 0.6-3	22 JUN 2017

GEN 1

GEN 1.1-1	10 NOV 2016
GEN 1.1-2	28 FEB 2019
GEN 1.2-1	15 SEP 2016
GEN 1.2-2	19 JUL 2018
GEN 1.2-3	19 JUL 2018
GEN 1.2-4	19 JUL 2018
GEN 1.2-5	24 MAY 2018
GEN 1.2-6	24 MAY 2018
GEN 1.3-1	21 JUL 2016
GEN 1.3-2	12 NOV 2015
GEN 1.3-3	29 MAR 2018
GEN-1.3-5	21 JUL 2016
GEN-1.3-7	21 JUL 2016
GEN 1.4-1	12 NOV 2015
GEN 1.4-2	12 NOV 2015
GEN 1.4-3	12 NOV 2015
GEN 1.5-1	12 NOV 2015
GEN 1.6-1	03 JAN 2019
GEN 1.6-2	03 JAN 2019
GEN 1.6-3	03 JAN 2019
GEN 1.6-4	03 JAN 2019
GEN 1.6-5	03 JAN 2019
GEN 1.7-1	03 JAN 2019
GEN 1.7-2	03 JAN 2019
GEN 1.7-3	03 JAN 2019
GEN 1.7-4	03 JAN 2019
GEN 1.7-5	03 JAN 2019

GEN 2

GEN 2.1-1	12 NOV 2015
GEN 2.1-2	13 SEP 2018
GEN 2.2-1	02 MAR 2017
GEN 2.2-2	02 MAR 2017
GEN 2.2-3	02 MAR 2017
GEN 2.2-4	05 JAN 2017
GEN 2.2-5	10 NOV 2016
GEN 2.3-1	12 NOV 2015
GEN 2.3-2	12 NOV 2015
GEN 2.3-3	12 NOV 2015
GEN 2.4-1	12 NOV 2015
GEN 2.5-1	28 FEB 2019
GEN-2.5-3	21 JUL 2016
GEN 2.6-1	12 NOV 2015
GEN 2.6-2	12 NOV 2015
GEN 2.7-1	12 NOV 2015

GEN 3

GEN 3.1-1	08 NOV 2018
GEN 3.1-2	08 NOV 2018
GEN 3.1-3	13 SEP 2018
GEN 3.1-4	13 SEP 2018
GEN 3.2-1	21 JUL 2016
GEN 3.2-2	31 MAR 2016
GEN 3.2-3	31 MAR 2016
GEN 3.2-4	28 FEB 2019
GEN 3.2-5	03 JAN 2019
GEN 3.2-6	31 MAR 2016
GEN 3.3-1	12 NOV 2015
GEN 3.3-2	21 JUL 2016
GEN 3.4-1	12 NOV 2015
GEN 3.4-2	02 MAR 2017
GEN 3.4-3	02 MAR 2017
GEN 3.4-4	02 MAR 2017
GEN 3.4-5	12 NOV 2015
GEN-3.4-7	21 JUL 2016
GEN-3.4-9	21 JUL 2016
GEN 3.5-1	12 NOV 2015
GEN 3.5-2	08 NOV 2018
GEN 3.5-3	19 JUL 2018
GEN 3.5-4	08 NOV 2018
GEN 3.5-5	19 JUL 2018
GEN 3.5-6	12 NOV 2015
GEN 3.5-7	12 NOV 2015
GEN 3.5-8	22 JUN 2017
GEN 3.5-9	08 NOV 2018
GEN 3.6-1	12 NOV 2015
GEN 3.6-2	12 NOV 2015
GEN 3.6-3	12 NOV 2015
GEN 3.6-4	12 NOV 2015
GEN-3.6-5	21 JUL 2016

GEN 4

GEN 4.1-1	15 SEP 2016
GEN 4.2-1	24 MAY 2018
GEN 4.2-2	12 NOV 2015
GEN 4.2-3	12 NOV 2015
GEN 4.2-4	12 NOV 2015
GEN 4.2-5	12 NOV 2015
GEN 4.2-6	12 NOV 2015

Part 2 – EN-ROUTE (ENR)

ENR 0

ENR 0.6-1	08 NOV 2018
ENR 0.6-2	29 MAR 2018
ENR 0.6-3	29 MAR 2018
ENR 0.6-4	28 FEB 2019
ENR 0.6-5	29 MAR 2018
ENR 0.6-6	03 JAN 2019

ENR 1

ENR 1.1-1	12 NOV 2015
ENR 1.1-2	12 NOV 2015
ENR 1.1-3	12 NOV 2015
ENR 1.1-4	12 NOV 2015
ENR 1.1-5	12 NOV 2015
ENR 1.1-6	12 NOV 2015
ENR 1.1-7	12 NOV 2015
ENR 1.1-8	12 NOV 2015
ENR 1.1-9	12 NOV 2015
ENR 1.1-10	08 NOV 2018
ENR 1.1-11	08 NOV 2018
ENR 1.1-12	08 NOV 2018
ENR 1.1-13	08 NOV 2018
ENR 1.1-14	08 NOV 2018
ENR 1.1-15	08 NOV 2018
ENR 1.2-1	21 JUL 2016
ENR 1.3-1	12 NOV 2015
ENR 1.4-1	12 NOV 2015
ENR 1.5-1	12 NOV 2015
ENR 1.5-2	17 AUG 2017
ENR 1.5-3	08 NOV 2018
ENR 1.5-4	08 NOV 2018
ENR 1.6-1	12 NOV 2015
ENR 1.6-2	12 NOV 2015
ENR 1.6-3	12 NOV 2015
ENR 1.6-4	17 AUG 2017
ENR 1.6-5	29 MAR 2018
ENR 1.6-6	29 MAR 2018
ENR 1.6-7	29 MAR 2018
ENR 1.6-8	29 MAR 2018
ENR-1.6-9	21 JUL 2016
ENR-1.6-11	21 JUL 2016
ENR 1.7-1	12 NOV 2015
ENR 1.7-2	12 NOV 2015
ENR 1.7-3	12 NOV 2015
ENR 1.7-4	17 AUG 2017
ENR 1.7-5	12 NOV 2015
ENR 1.7-6	07 DEC 2017
ENR 1.7-7	12 NOV 2015
ENR 1.7-8	12 NOV 2015
ENR 1.7-9	12 NOV 2015
ENR 1.8-1	07 DEC 2017
ENR 1.8-2	29 MAR 2018
ENR 1.8-3	29 MAR 2018
ENR 1.8-4	29 MAR 2018
ENR 1.8-5	29 MAR 2018
ENR 1.8-6	29 MAR 2018
ENR 1.8-7	29 MAR 2018
ENR 1.8-8	29 MAR 2018
ENR 1.8-9	29 MAR 2018
ENR 1.8-10	29 MAR 2018
ENR 1.8-11	29 MAR 2018
ENR 1.8-12	29 MAR 2018
ENR 1.8-13	29 MAR 2018
ENR 1.8-14	29 MAR 2018
ENR 1.8-15	29 MAR 2018
ENR 1.8-16	29 MAR 2018
ENR 1.8-17	29 MAR 2018
ENR 1.8-18	29 MAR 2018
ENR 1.8-19	29 MAR 2018
ENR 1.8-20	13 SEP 2018
ENR 1.8-21	29 MAR 2018
ENR 1.8-22	29 MAR 2018
ENR 1.8-23	24 MAY 2018
ENR 1.8-24	29 MAR 2018
ENR 1.8-25	29 MAR 2018
ENR 1.8-26	29 MAR 2018
ENR 1.8-27	28 FEB 2019
ENR 1.8-28	28 FEB 2019
ENR 1.8-29	28 FEB 2019
ENR 1.8-30	28 FEB 2019
ENR 1.8-31	28 FEB 2019
ENR 1.9-1	07 DEC 2017
ENR 1.9-2	01 FEB 2018
ENR 1.9-3	27 APR 2017
ENR 1.9-4	27 APR 2017
ENR 1.9-5	27 APR 2017
ENR 1.10-1	01 FEB 2018
ENR 1.10-2	29 MAR 2018
ENR 1.10-3	29 MAR 2018
ENR 1.11-1	12 NOV 2015
ENR 1.12-1	12 NOV 2015
ENR 1.12-2	12 NOV 2015
ENR 1.12-3	12 NOV 2015
ENR 1.12-4	12 NOV 2015
ENR 1.13-1	12 NOV 2015
ENR 1.14-1	10 DEC 2015
ENR 1.14-2	15 SEP 2016
ENR-1.14-3 to ENR-1.14-4	15 SEP 2016
ENR-1.14-5 to ENR-1.14-6	15 SEP 2016
ENR-1.14-7 to ENR-1.14-8	15 SEP 2016

ENR 2

ENR 2.1-1	03 JAN 2019
ENR 2.1-2	03 JAN 2019
ENR 2.1-3	03 JAN 2019
ENR 2.1-4	03 JAN 2019
ENR-2.1-7	21 JUL 2016
ENR-2.1-9	29 MAR 2018
ENR-2.1-11A	21 JUL 2016
ENR-2.1-11B	21 JUL 2016
ENR-2.1-13	21 JUL 2016
ENR-2.1-15	28 FEB 2019

ENR 3

ENR 3.1-1	02 MAR 2017
ENR 3.1-2	02 MAR 2017
ENR 3.1-3	28 FEB 2019

ENR 3.1-4	10 NOV 2016
ENR 3.1-5	12 NOV 2015
ENR 3.1-6	02 MAR 2017
ENR 3.1-7	19 JUL 2018
ENR 3.1-8	10 NOV 2016
ENR 3.1-9	12 NOV 2015
ENR 3.1-10	02 MAR 2017
ENR 3.1-11	02 MAR 2017
ENR 3.1-12	10 NOV 2016
ENR 3.1-13	19 JUL 2018
ENR 3.1-14	02 MAR 2017
ENR 3.1-15	12 NOV 2015
ENR 3.1-16	02 MAR 2017
ENR 3.1-17	12 NOV 2015
ENR 3.1-18	02 MAR 2017
ENR 3.1-19	02 MAR 2017
ENR 3.1-20	12 NOV 2015
ENR-3.1/ATS Chart	28 FEB 2019
ENR 3.3-1	07 DEC 2017
ENR 3.3-2	02 MAR 2017
ENR 3.3-3	19 JUL 2018
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ENR 3.3-5	12 NOV 2015
ENR 3.3-6	22 JUN 2017
ENR 3.3-7	19 JUL 2018
ENR 3.3-8	02 MAR 2017
ENR 3.3-9	07 DEC 2017
ENR 3.3-10	07 DEC 2017
ENR 3.3-11	29 MAR 2018
ENR 3.3-12	19 JUL 2018
ENR 3.3-13	07 DEC 2017
ENR 3.3-14	07 DEC 2017
ENR 3.3-15	07 DEC 2017
ENR 3.3-16	07 DEC 2017
ENR 3.3-17	07 DEC 2017
ENR 3.3-18	07 DEC 2017
ENR 3.3-19	19 JUL 2018
ENR 3.3-20	07 DEC 2017
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ENR 3.3-22	19 JUL 2018
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ENR 3.3-24	07 DEC 2017
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ENR 3.3-26	07 DEC 2017
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ENR 3.3-28	07 DEC 2017
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ENR 3.3-31	07 DEC 2017
ENR 3.3-32	07 DEC 2017
ENR 3.3-33	07 DEC 2017
ENR 3.3-34	07 DEC 2017
ENR 3.3-35	07 DEC 2017
ENR 3.3-36	07 DEC 2017
ENR 3.3-37	07 DEC 2017
ENR 3.3-38	07 DEC 2017
ENR 3.3-39	07 DEC 2017
ENR 3.3-40	07 DEC 2017
ENR 3.3-41	07 DEC 2017
ENR 3.3-42	07 DEC 2017
ENR 3.3-43	07 DEC 2017
ENR 3.4-1	12 NOV 2015
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ENR 3.4-4	12 NOV 2015
ENR-3.4-5	08 NOV 2018
ENR-3.4-7	21 JUL 2016
ENR 3.5-1	02 MAR 2017
ENR 3.5-2	02 MAR 2017
ENR-3.5-3	28 FEB 2019
ENR 3.6-1	27 APR 2017
ENR 3.6-2	27 APR 2017
ENR-3.6-3	05 JAN 2017
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ENR-3.6-7	03 JAN 2019
ENR-3.6-9	03 JAN 2019

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ENR 4.1-1	02 MAR 2017
ENR 4.1-2	02 MAR 2017
ENR 4.3-1	12 NOV 2015
ENR 4.4-1	19 JUL 2018
ENR 4.4-2	19 JUL 2018
ENR 4.4-3	19 JUL 2018
ENR 4.4-4	07 DEC 2017
ENR 4.4-5	17 AUG 2017
ENR 4.4-6	17 AUG 2017
ENR 4.5-1	12 OCT 2017

ENR 5

ENR 5.1-1	12 NOV 2015
ENR 5.1-2	19 JUL 2018
ENR 5.1-3	19 JUL 2018
ENR 5.1-4	19 JUL 2018
ENR 5.1-5	19 JUL 2018
ENR-5.1-7	22 JUN 2017
ENR-5.1-9	03 JAN 2019
ENR 5.2-1	03 JAN 2019
ENR 5.2-2	03 JAN 2019
ENR 5.2-3	03 JAN 2019
ENR 5.3-1	13 SEP 2018
ENR 5.4-1	12 NOV 2015
ENR 5.5-1	03 JAN 2019
ENR 5.6-1	24 MAY 2018
ENR 5.6-2	12 NOV 2015

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ERC-6-1 En-Route Chart	13 SEP 2018
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AD 0

AD 0.6-1	13 SEP 2018
AD 0.6-2	13 SEP 2018
AD 0.6-3	28 FEB 2019
AD 0.6-4	19 JUL 2018
AD 0.6-5	19 JUL 2018
AD 0.6-6	19 JUL 2018
AD 0.6-7	19 JUL 2018

AD 1

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AD 1.1-2	12 NOV 2015
AD 1.1-3	12 NOV 2015
AD 1.1-4	12 NOV 2015
AD 1.2-1	12 NOV 2015
AD 1.3-1	12 NOV 2015
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AD 2.WSSS-2	17 AUG 2017
AD 2.WSSS-3	27 APR 2017
AD 2.WSSS-4	13 SEP 2018
AD 2.WSSS-5	19 JUL 2018
AD 2.WSSS-6	19 JUL 2018
AD 2.WSSS-7	19 JUL 2018
AD 2.WSSS-8	02 MAR 2017
AD 2.WSSS-9	02 MAR 2017
AD 2.WSSS-10	13 SEP 2018
AD 2.WSSS-11	13 SEP 2018
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AD 2.WSSS-13	13 SEP 2018
AD 2.WSSS-14	03 JAN 2019
AD 2.WSSS-15	13 SEP 2018
AD 2.WSSS-16	13 SEP 2018
AD 2.WSSS-17	13 SEP 2018
AD 2.WSSS-18	08 NOV 2018
AD 2.WSSS-19	03 JAN 2019
AD 2.WSSS-20	03 JAN 2019
AD 2.WSSS-21	13 SEP 2018
AD 2.WSSS-22	13 SEP 2018
AD 2.WSSS-23	13 SEP 2018
AD 2.WSSS-24	13 SEP 2018
AD 2.WSSS-25	13 SEP 2018
AD 2.WSSS-26	13 SEP 2018
AD 2.WSSS-27	13 SEP 2018
AD 2.WSSS-28	13 SEP 2018
AD 2.WSSS-29	13 SEP 2018
AD 2.WSSS-30	13 SEP 2018
AD 2.WSSS-31	13 SEP 2018
AD 2.WSSS-32	13 SEP 2018
AD 2.WSSS-33	13 SEP 2018
AD 2.WSSS-34	13 SEP 2018
AD 2.WSSS-35	13 SEP 2018
AD 2.WSSS-36	13 SEP 2018
AD 2.WSSS-37	13 SEP 2018
AD 2.WSSS-38	13 SEP 2018
AD 2.WSSS-39	28 FEB 2019
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AD-2-WSSS-ADC-1	15 SEP 2016
AD-2-WSSS-ADC-2	28 FEB 2019
AD-2-WSSS-ADC-3	12 OCT 2017
AD-2-WSSS-AOC-1	07 DEC 2017
AD-2-WSSS-AOC-2	29 MAR 2018
AD-2-WSSS-AOC-3	13 SEP 2018
AD-2-WSSS-PATC-1	01 FEB 2018
AD-2-WSSS-PATC-2	01 FEB 2018
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AD-2-WSSS-SID-2 to 2.1	28 FEB 2019
AD-2-WSSS-SID-3 to 3.1	28 FEB 2019
AD-2-WSSS-SID-4 to 4.1	28 FEB 2019
AD-2-WSSS-SID-5 to 5.1	28 FEB 2019
AD-2-WSSS-SID-6 to 6.1	28 FEB 2019
AD-2-WSSS-SID-7 to 7.1	28 FEB 2019
AD-2-WSSS-SID-8 to 8.1	28 FEB 2019
AD-2-WSSS-SID-9 to 9.1	28 FEB 2019
AD-2-WSSS-SID-10 to 10.1	28 FEB 2019
AD-2-WSSS-SID-11 to 11.1	28 FEB 2019
AD-2-WSSS-SID-12 to 12.1	28 FEB 2019
AD-2-WSSS-SID-13 to 13.1	28 FEB 2019
AD-2-WSSS-SID-14 to 14.1	28 FEB 2019
AD-2-WSSS-SID-15 to 15.1	28 FEB 2019
AD-2-WSSS-SID-16 to 16.1	28 FEB 2019
AD-2-WSSS-SID-17 to 17.1	28 FEB 2019
AD-2-WSSS-SID-18 to 18.1	28 FEB 2019
AD-2-WSSS-STAR-1 to 1.1	12 OCT 2017
AD-2-WSSS-STAR-2 to 2.1	12 OCT 2017
AD-2-WSSS-STAR-3 to 3.1	28 FEB 2019
AD-2-WSSS-STAR-4 to 4.1	12 OCT 2017
AD-2-WSSS-STAR-5 to 5.1	12 OCT 2017
AD-2-WSSS-STAR-6 to 6.1	12 OCT 2017
AD-2-WSSS-STAR-7 to 7.1	12 OCT 2017
AD-2-WSSS-STAR-8 to 8.1	12 OCT 2017
AD-2-WSSS-STAR-9 to 9.1	28 FEB 2019
AD-2-WSSS-STAR-11 to 11.1	12 OCT 2017
AD-2-WSSS-STAR-13 to 13.1	12 OCT 2017
AD-2-WSSS-STAR-14 to 14.1	12 OCT 2017
AD-2-WSSS-STAR-15 to 15.1	12 OCT 2017
AD-2-WSSS-STAR-16 to 16.1	12 OCT 2017
AD-2-WSSS-STAR-17 to 17.1	12 OCT 2017
AD-2-WSSS-STAR-18 to 18.1	12 OCT 2017
AD-2-WSSS-STAR-19 to 19.1	12 OCT 2017
AD-2-WSSS-STAR-20 to 20.1	12 OCT 2017
AD-2-WSSS-STAR-21 to 21.1	12 OCT 2017
AD-2-WSSS-IAC-1	13 SEP 2018
AD-2-WSSS-IAC-2	13 SEP 2018
AD-2-WSSS-IAC-5	13 SEP 2018
AD-2-WSSS-IAC-6	13 SEP 2018
AD-2-WSSS-IAC-7	13 SEP 2018
AD-2-WSSS-IAC-9	13 SEP 2018
AD-2-WSSS-IAC-10	13 SEP 2018
AD-2-WSSS-IAC-11	03 JAN 2019
AD-2-WSSS-IAC-12	13 SEP 2018
AD-2-WSSS-VAC-1	28 FEB 2019
AD 2.WSSL-1	28 FEB 2019

AD 2.WSSL-2	28 FEB 2019
AD 2.WSSL-3	07 DEC 2017
AD 2.WSSL-4	03 JAN 2019
AD 2.WSSL-5	12 OCT 2017
AD 2.WSSL-6	03 JAN 2019
AD 2.WSSL-7	03 JAN 2019
AD 2.WSSL-8	03 JAN 2019
AD 2.WSSL-9	03 JAN 2019
AD 2.WSSL-10	03 JAN 2019
AD 2.WSSL-11	03 JAN 2019
AD 2.WSSL-12	03 JAN 2019
AD 2.WSSL-13	03 JAN 2019
AD 2.WSSL-14	28 FEB 2019
AD 2.WSSL-15	03 JAN 2019
AD 2.WSSL-16	03 JAN 2019
AD 2.WSSL-17	03 JAN 2019
AD 2.WSSL-18	03 JAN 2019
AD 2.WSSL-19	03 JAN 2019
AD 2.WSSL-20	03 JAN 2019
AD 2.WSSL-21	03 JAN 2019
AD 2.WSSL-22	03 JAN 2019
AD-2-WSSL-ADC-1	28 FEB 2019
AD-2-WSSL-ADC-2	03 JAN 2019
AD-2-WSSL-ADC-3	08 NOV 2018
AD-2-WSSL-AOC-1	17 AUG 2017
AD-2-WSSL-AOC-2	08 NOV 2018
AD-2-WSSL-IAC-1	28 FEB 2019
AD-2-WSSL-VAC-1	03 JAN 2019
AD-2-WSSL-VAC-2	03 JAN 2019
AD-2-WSSL-VAC-3	03 JAN 2019
AD-2-WSSL-VAC-4	03 JAN 2019
AD-2-WSSL-VDC-1	03 JAN 2019
AD-2-WSSL-VDC-2	03 JAN 2019
AD-2-WSSL-VFR-1	21 JUL 2016
AD-2-WSSL-IFR-1	21 JUL 2016
AD-2-WSSL-IFR-2	21 JUL 2016
AD 2.WSAP-1	19 JUL 2018
AD 2.WSAP-2	19 JUL 2018
AD 2.WSAP-3	19 JUL 2018
AD 2.WSAP-4	19 JUL 2018
AD 2.WSAP-5	19 JUL 2018
AD 2.WSAP-6	12 OCT 2017
AD 2.WSAP-7	19 JUL 2018
AD 2.WSAP-8	19 JUL 2018
AD 2.WSAP-9	19 JUL 2018
AD 2.WSAP-10	19 JUL 2018
AD 2.WSAP-11	12 OCT 2017
AD-2-WSAP-ADC-1	12 NOV 2015
AD-2-WSAP-ADC-2	12 OCT 2017
AD-2-WSAP-AOC-1	10 NOV 2016
AD-2-WSAP-IAC-1	13 SEP 2018
AD-2-WSAP-IAC-2	13 SEP 2018
AD-2-WSAP-IAC-3	13 SEP 2018
AD-2-WSAP-IAC-4	13 SEP 2018
AD-2-WSAP-IAC-5	13 SEP 2018
AD-2-WSAP-IAC-6	13 SEP 2018
AD 2.WSAT-1	12 NOV 2015
AD 2.WSAT-2	12 NOV 2015
AD 2.WSAT-3	12 NOV 2015
AD 2.WSAT-4	17 AUG 2017
AD 2.WSAT-5	07 DEC 2017
AD 2.WSAT-6	17 AUG 2017
AD 2.WSAT-7	12 NOV 2015
AD 2.WSAT-8	12 NOV 2015
AD-2-WSAT-ADC-1	12 NOV 2015
AD 2.WSAG-1	12 NOV 2015
AD 2.WSAG-2	08 NOV 2018
AD 2.WSAG-3	07 DEC 2017
AD 2.WMKJ-1	12 NOV 2015
AD 2.WIDD-1	12 NOV 2015
AD 2.WIDD-2	12 NOV 2015
AD-2-WIDD-SID-1	12 NOV 2015
AD-2-WIDD-SID-2	12 NOV 2015
AD-2-WIDD-SID-3	12 NOV 2015
AD-2-WIDD-SID-4	12 NOV 2015
AD-2-WIDD-STAR-1	12 NOV 2015
AD-2-WIDD-STAR-2	12 NOV 2015
AD-2-WIDD-STAR-3	12 NOV 2015
AD-2-WIDD-STAR-4	12 NOV 2015
AD 2.WIDN-1	03 JAN 2019
AD 2.WIDN-2	03 JAN 2019
AD-2-WIDN-SID-1	12 NOV 2015
AD-2-WIDN-SID-2	12 NOV 2015
AD-2-WIDN-SID-3	12 NOV 2015
AD-2-WIDN-SID-4	12 NOV 2015
AD-2-WIDN-STAR-1	12 NOV 2015
AD-2-WIDN-STAR-2	12 NOV 2015
AD-2-WIDN-STAR-3	21 JUL 2016
AD-2-WIDN-STAR-4	12 NOV 2015

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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

2 METEOROLOGY

Post:
DIRECTOR-GENERAL METEOROLOGICAL SERVICE DIVISION
Singapore Changi Airport, P.O. Box 8
SINGAPORE 918141
Tel: (65) 65457190
Fax: (65) 65457192
AFS: WSSSYMYX
URL: www.weather.gov.sg

3 CUSTOMS

Post:
CUSTOMS AND EXCISE
World Trade Centre, 1 Maritime Square, #03-01 / #10-01
SINGAPORE 099253
Tel: (65) 62728222
Fax: (65) 63752090
URL: www.customs.gov.sg

4 IMMIGRATION

Post:
IMMIGRATION & CHECKPOINTS AUTHORITY
10 Kallang Road, #08-00 ICA Building
SINGAPORE 208718
Tel: (65) 63916100
Fax: (65) 62980837
URL: www.ica.gov.sg

5 HEALTH

Post:
MINISTRY OF ENVIRONMENT
ENVIRONMENTAL PUBLIC HEALTH DIVISION
Environment Building, 40 Scotts Road
SINGAPORE 228231
Tel: (65) 67327733
Fax: (65) 67319456
URL: www.moh.gov.sg

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: IMPORT AND EXPORT DIVISION, AGRI FOOD AND VET AUTHORITY
5 Maxwell Road #02-03 Tower Block, MND Complex
SINGAPORE 069110
Tel: (65) 62270670 or (65) 63257333
Fax: (65) 62276305
URL: www.ava.gov.sg

Post:
CHANGI ANIMAL AND PLANT QUARANTINE STATION
AGRI-FOOD AND VETERINARY AUTHORITY
Gate C7, Airport Cargo Road Changi Airfreight Centre
Changi Animal and Plant Quarantine
SINGAPORE 918104
Tel: (65) 65457522
Fax: (65) 65453023

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) 65412798
Fax: (65) 65422394
URL: www.mot.gov.sg

GEN 2.5 LIST OF RADIO NAVIGATION AIDS

ID	Station Name	Facility	Purpose		Station Name	Facility	ID	Purpose
AG	Sembawang	NDB	AE		Batam/Hang Nadim (Indonesian facility)	NDB	BM	E
BM	Batam/Hang Nadim (Indonesian facility)	NDB	E		Batam/Hang Nadim (Indonesian facility)	VOR/DME	BTM	E
BP	Batu Pahat (Malaysian facility)	NDB	E		Batu Pahat (Malaysian facility)	NDB	BP	E
BTM	Batam/Hang Nadim (Indonesian facility)	VOR/DME	E		Jaybee	NDB	JB	E
ICC	Singapore Changi	ILS/LLZ/DME	A		Johor Bahru (Malaysian facility)	DVOR/DME	VJB	E
ICE	Singapore Changi	ILS/LLZ/DME	A		Kong Kong	NDB	KK	E
ICH	Singapore Changi	ILS/LLZ/DME	A		Mersing (Malaysian facility)	DVOR/DME	VMR	E
ICW	Singapore Changi	ILS/LLZ/DME	A		Papa Uniform	DVOR/DME	PU	AE
JB	Jaybee	NDB	E		Seletar	NDB	SEL	AE
KK	Kong Kong	NDB	E		Sembawang	NDB	AG	AE
PU	Papa Uniform	DVOR/DME	AE		Singapore Changi	ILS/LLZ/DME	ICC	A
SEL	Seletar	NDB	AE		Singapore Changi	ILS/LLZ/DME	ICE	A
SJ	Sinjon	DVOR/DME	E		Singapore Changi	ILS/LLZ/DME	ICH	A
TI	Tanjung Pinang/ Raja Haji Fisabilillah (Indonesian facility)	NDB	E		Singapore Changi	ILS/LLZ/DME	ICW	A
TPG	Tanjung Pinang/ Raja Haji Fisabilillah (Indonesian facility)	VOR/DME	E		Sinjon	DVOR/DME	SJ	E
VJB	Johor Bahru (Malaysian facility)	DVOR/DME	E		Tanjung Pinang/ Raja Haji Fisabilillah (Indonesian facility)	NDB	TI	E
VMR	Mersing (Malaysian facility)	DVOR/DME	E		Tanjung Pinang/ Raja Haji Fisabilillah (Indonesian facility)	VOR/DME	TPG	E
VTK	Tekong	DVOR/DME	AE		Tekong	DVOR/DME	VTK	AE

Note : Purpose (A=Aerodrome, E=Enroute)

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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.

5 LIST OF AERONAUTICAL CHARTS AVAILABLE

GEN 3.2.5 LIST OF AERONAUTICAL CHARTS AVAILABLE					
Title of Chart Series	*Scale*	*Name and/or number*		*Price ($)*	*Date*
World Aeronautical Chart ICAO (WAC)	1:1 000 000		WAC 2860	In AIP	17 AUG 17
Enroute Chart ICAO (ENRC)			ERC 6-1	In AIP	13 SEP 18
Instrument Approach Chart ICAO (IAC)		***Singapore Changi***			
	1:400 000	RWY 02L - ICW ILS/DME	AD-2-WSSS-IAC-1	In AIP	13 SEP 18
	1:400 000	RWY 02C - ICE ILS/DME	AD-2-WSSS-IAC-2	In AIP	13 SEP 18
	1:400 000	RWY 20R - ICH ILS/DME	AD-2-WSSS-IAC-5	In AIP	13 SEP 18
	1:400 000	RWY 20C - ICC ILS/DME	AD-2-WSSS-IAC-6	In AIP	13 SEP 18
	1:400 000	RWY 20C - VTK DVOR/DME	AD-2-WSSS-IAC-7	In AIP	13 SEP 18
	1:400 000	RWY 02L - RNAV(GNSS)	AD-2-WSSS-IAC-9	In AIP	13 SEP 18
	1:400 000	RWY 02C - RNAV(GNSS)	AD-2-WSSS-IAC-10	In AIP	13 SEP 18
	1:400 000	RWY 20R - RNAV(GNSS)	AD-2-WSSS-IAC-11	In AIP	03 JAN 19
	1:400 000	RWY 20C - RNAV(GNSS)	AD-2-WSSS-IAC-12	In AIP	13 SEP 18
		Seletar			
←	1:250 000	RWY 21 - SEL ILS	AD-2-WSSL-IAC-1	In AIP	28 FEB 19
		Paya Lebar			
	1:400 000	RWY 20 - PU DVOR/DME	AD-2-WSAP IAC-1	In AIP	13 SEP 18
	1:400 000	RWY 02 - PU DVOR/DME	AD-2-WSAP IAC-2	In AIP	13 SEP 18
	1:400 000	RWY 20 - IPS ILS/DME	AD-2-WSAP IAC-3	In AIP	13 SEP 18
	1:400 000	RWY 02 - IPN ILS/DME	AD-2-WSAP IAC-4	In AIP	13 SEP 18
	1:400 000	RWY 02 - RNAV(GNSS)	AD-2-WSAP-IAC-5	In AIP	13 SEP 18
	1:400 000	RWY 20 - RNAV(GNSS)	AD-2-WSAP-IAC-6	In AIP	13 SEP 18
← **Visual Approach Chart** ICAO (VAC)	1:400 000	***Singapore Changi***	AD-2-WSSS-VAC-1	In AIP	28 FEB 19
		Seletar			
	1:100 000	RWY 03	AD-2-WSSL-VAC-1	In AIP	03 JAN 19
	1:100 000	RWY 21	AD-2-WSSL-VAC-2	In AIP	03 JAN 19
	1:100 000	RWY 03	AD-2-WSSL-VAC-3	In AIP	03 JAN 19
	1:100 000	RWY 21	AD-2-WSSL-VAC-4	In AIP	03 JAN 19
Visual Departure Chart		***Seletar***			
	1:100 000	RWY 03	AD-2-WSSL-VDC-1	In AIP	03 JAN 19
	1:100 000	RWY 21	AD-2-WSSL-VDC-2	In AIP	03 JAN 19
← **Aerodrome Chart**		***Singapore Changi***	AD-2-WSSS-ADC-2	In AIP	28 FEB 19
← ICAO (AC)		***Seletar***	AD-2-WSSL-ADC-1	In AIP	28 FEB 19
		Paya Lebar	AD-2-WSAP-ADC-1	In AIP	12 NOV 15
Aerodrome Obstacle Chart ICAO TYPE A (AOC)		***Singapore Changi***			
	1:10 000	RWY 20R/02L	AD-2-WSSS-AOC-1	In AIP	07 DEC 17
	1:10 000	RWY 20C/02C	AD-2-WSSS-AOC-2	In AIP	29 MAR 18
		Seletar			
	1:10 000	RWY 03/21	AD-2-WSSL-AOC-1	In AIP	17 AUG 17
		Paya Lebar			
	1:20 000	RWY 20/02	AD-2-WSAP-AOC-1	In AIP	10 NOV 16

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4.11	TRANSFER OF COMMUNICATIONS	ENR 1.7-9
4.12	ALERTING SERVICE	ENR 1.7-9
ENR 1.8	REGIONAL SUPPLEMENTARY PROCEDURES	ENR 1.8-1
1	RVSM PROCEDURES IN THE SINGAPORE FIR	ENR 1.8-1
1.1	IMPLEMENTATION OF REVISED FLOS (FLIGHT LEVEL ORIENTATION SCHEME) AND FLAS (FLIGHT LEVEL ALLOCATION SCHEME) IN THE WESTERN PACIFIC/SOUTH CHINA SEA AREA	ENR 1.8-1
1.2	RVSM OPERATIONAL APPROVAL AND MONITORING	ENR 1.8-2
1.3	ACAS II AND TRANSPONDER EQUIPAGE	ENR 1.8-2
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8.8.4 Interception of civil aircraft

8.8.4.1 Aircraft operators must be familiar with international intercept procedures contained in ICAO Annex 2 - Rules of the Air, paragraph 3.8 and Appendix 2, Sections 2 and 3.

8.8.4.2 Pilots are to comply with instructions given by the pilot of the intercepting aircraft. In such circumstances, the pilot of the aircraft being intercepted shall broadcast information on the situation.

8.8.4.3 If circumstances leading to the closure of the Singapore FIR where no contingency routes are available, aircraft will be required to keep clear of Singapore FIR. As much warning as possible will be provided by the appropriate ATS authorities in the event of the complete closure of airspace.

8.8.4.4 Pilots shall continuously guard the VHF emergency frequency 121.5MHz and shall operate their transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where secondary surveillance radar (SSR) is used for ATS purposes. Transponder should be set on the last discrete code assigned by ATC or select Code 2000 if no code was assigned.

8.9 COMMUNICATION PROCEDURES

8.9.1 Degradation of Communication - Pilot Radio Procedures

8.9.1.1 When operating within the contingency airspace, pilots should use normal radio communication procedures where ATS services are available. Where limited or no ATS is available, communications shall be conducted in accordance with the procedures in this Plan or as otherwise notified by NOTAM.

8.9.1.2 If communications are lost unexpectedly on the normal ATS frequencies, pilots shall try the next applicable frequency, e.g. if en-route contact is lost, pilots shall try the next appropriate frequency (the next normal handover frequency). Pilots should also consider attempting to contact ATC on the last frequency where two-way communication had been established. In the absence of communication with ATC, the pilot shall continue to make routine position reports on the assigned frequency, and also broadcast positions in accordance with the TIBA procedures in paragraph 8.11.

8.9.2 Communication frequencies

8.9.2.1 A list of frequencies to be used for the contingency routes and the ATS units providing FIS and air-ground communication monitoring for the Singapore FIR is detailed in paragraph 8.10.

8.10 CONTINGENCY ROUTES

8.10.1 Between Singapore and Manila FIR

8.10.1.1 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)	Aircraft operators may choose to avoid the Singapore FIR by using alternate ATS routes in other FIRs.
CRM-3	N884 (LAXOR - CAB)	East	FL310 FL350 FL390	Naha ACC	At CAB, contact Tokyo Radio: - HF: 8903 / 4666 - VHF: 123.9 (LEBIX)	Aircraft operators may choose to avoid the Manila FIR by using alternate ATS routes in other FIRs.
CRM-4	M767 (JOM - TEGID)	West	FL320 FL360 FL400	Singapore ACC	At JOM, contact Singapore ATC: - ADS/CPDLC: Logon WSJC - HF: 5655 / 8942	Aircraft operators may choose to avoid the Manila FIR by using alternate ATS routes in other FIRs.
N/A	M772	N/A	N/A	N/A	Not applicable. M772 will be suspended. No flight planning is allowed.	N/A

8.10.2 Between Singapore and Ho Chi Minh FIR

← 8.10.2.1 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 VVTS - VHF: 133.05 / 120.9 - 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 VVTS - 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.
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 VVTS - VHF: 133.05 / 120.7	
CRH-1	N891 (XONAN - IGARI)	North	FL300	Hanoi ACC	At IGARI, 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	FL330	Hanoi ACC	At IGARI, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - VHF: 134.35 - HF: 5655 / 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: 134.35 - HF: 5655 / 8942	

CR	ATS Route	Direction	FLAS	ACC	Transfer of Communication (TOC)	Remarks
CRH-3	R468 / M768 (SAPEN – TSN – AKMON)	East	FL270	Hanoi ACC	At AKMON, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - HF: 5655 / 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 - HF: 5655 / 8942	
CRH-4	L642 (EXOTO – ESPOB)	West	FL310 FL320 FL390 FL400	Hanoi ACC	At ESPOB, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - VHF: 134.35 - HF: 5655 / 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 / 120.7 - HF: 5655 / 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: 134.35 - HF: 5655 / 8942	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
CRH-7	L625 (AKMON – ARESI)	East	FL310 FL320 FL390 FL400	Hanoi ACC	At AKMON, contact Hanoi ACC: - VHF: 133.05 / 120.7 - HF: 5655 / 8942	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.

8.10.3 Between Singapore and Kota Kinabalu FIR

8.10.3.1 To be developed

8.10.4 Between Singapore and Kuala Lumpur FIR

8.10.4.1 To be developed

8.11 TRAFFIC INFORMATION BROADCASTS BY AIRCRAFT (TIBA)

8.11.1 Introduction and applicability of broadcasts

8.11.1.1 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.

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

8.11.1.3 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.

8.11.1.4 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 8.11.1.3 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.

8.11.1.5 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).

8.11.2 Details of broadcasts

VHF RTF frequency to be used

8.11.2.1 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.

8.11.2.2 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

8.11.2.3 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

8.11.2.4 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

8.11.2.5 The broadcasts other than those indicating changes in flight level, i.e. the broadcasts referred to in paragraph 8.11.2.4 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"

8.11.2.6 Before a change in flight level, the broadcast (referred to in paragraph 8.11.2.4 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)

8.11.2.7 Except as provided in paragraph 8.11.2.8, the broadcast at the time of a change in flight level (referred to in paragraph 8.11.2.4 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)

← 8.11.2.8 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

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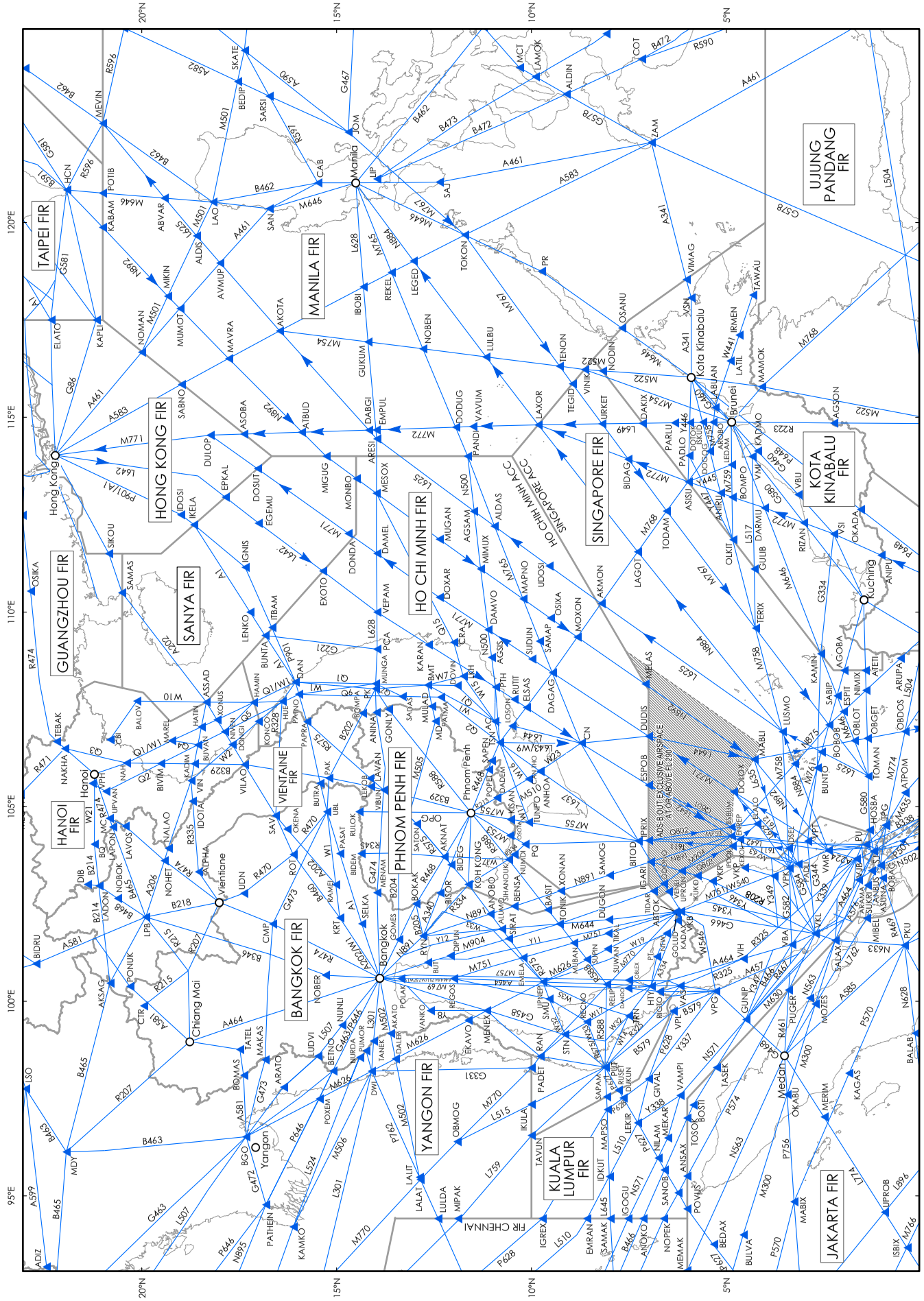
ATS ROUTE STRUCTURE WITHIN SINGAPORE & ADJACENT FIRs



CHANGES : ATS Route L507 revised.
ATS Routes G331, L524 and M506 added.

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Route Designator {RNP Type}	[Route Usage Notes]								
Significant Point Name	Significant Point Coordinates								Remarks
{RNP Type}	Track MAG ↓ ↑	Dist NM	(COP)	Upper limit / Lower limit	MNM FLT ALT	Lateral limits NM	FL series ↓	FL series ↑	Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7	8	9	10
A464	*Route availability:* (1) H24								
▲ ARAMA (50 DME SJ) (Delegated airspace BDRY)	013654N 1030712E								
	117° / 297°	14.9NM		FL 460 / 3500 FT ALT	5500 FT	10	Odd(1)		[Class A –ABV FL150 Class B –BLW FL150] (2)
∆ 35DME	012954N 1032024E								
	118° / 298°	5.0NM		FL 460 / 3000 FT ALT	5500 FT	10	Odd(1)		[Class A –ABV FL150 Class B –BLW FL150] (2)
∆ LELIB	012729N 1032450E								
	117° / 297°	14.6NM		FL 460 / 3000 FT ALT	5500 FT	10	Odd(1)		[Class A –ABV FL150 Class B –BLW FL150] (2)
▲ MASNI (FIR BDRY)	012037N 1033746E								
	118° / 298°	15.3NM		FL 460 / 3000 FT ALT	5500 FT	10	Odd(1)		[Class A –ABV FL150 Class B –BLW FL150] (2)
▲ SINJON DVOR/DME (SJ)	011319N 1035120E								
	114° / 294°	44.0NM		FL 460 / 2000 FT ALT	6000 FT		Odd(1)	Even(1)	[Class A –ABV FL150 Class B –BLW FL150] (3) (4)
▲ TANJUNG PINANG VOR/DME (TPG)	005413N 1043052E								

Route Remarks:
Flight Planning:
Default STAR for FLT landing at WSSS shall be ARAMA 1A or ARAMA 1B. When traffic permits, ATC will offer LELIB 3B for WSSS RWY 20.

Singapore ACC FREQ:
P133.25 MHz S128.1 MHz

Point/Segment Remarks:
(2) 5NM either side of track to SJ Singapore ACC FREQ: P133.25MHz S135.8MHz
(3) within the lateral limits of the OCA. 15min longitudinal separation minima will apply in OCA A464/A576.
(4) Eastbound aircraft to reach 6,000ft ALT when 25NM SE of SJ.

Route Designator {RNP Type} / Significant Point Name	Significant Point Coordinates: Track MAG ↓ / ↑	Dist NM	(COP)	Upper limit / Lower limit	MNM FLT ALT	Lateral limits NM	FL series ↓	FL series ↑	Remarks: Controlling unit Frequency {Airspace class} Remarks
{RNP Type}									
1	2	3	4	5	6	7	8	9	10
A576	*Route availability:* (1) H24								
▲ REKOP (50 DME SJ) (delegated airspace BDRY)	013306N 1030521E								
	112° 292°	16.1NM		FL 460 6500 FT ALT	7000 FT		Odd(1)	Even(1)	[Class A –ABV FL150 Class B –BLW FL150] (2)
∆ PIMOK	012648N 1032008E								
	113° 293°	18.6NM		FL 460 6500 FT ALT	7000 FT		Odd(1)		[Class A –ABV FL150 Class B –BLW FL150] (2)
▲ BONSU (FIR BDRY)	011928N 1033710E								
	113° 293°	15.4NM		FL 460 6500 FT ALT	7000 FT		Odd(1)		[Class A –ABV FL150 Class B –BLW FL150] (2)
▲ SINJON DVOR/DME (SJ)	011319N 1035120E								

Route Remarks:
15 min longitudinal separation.

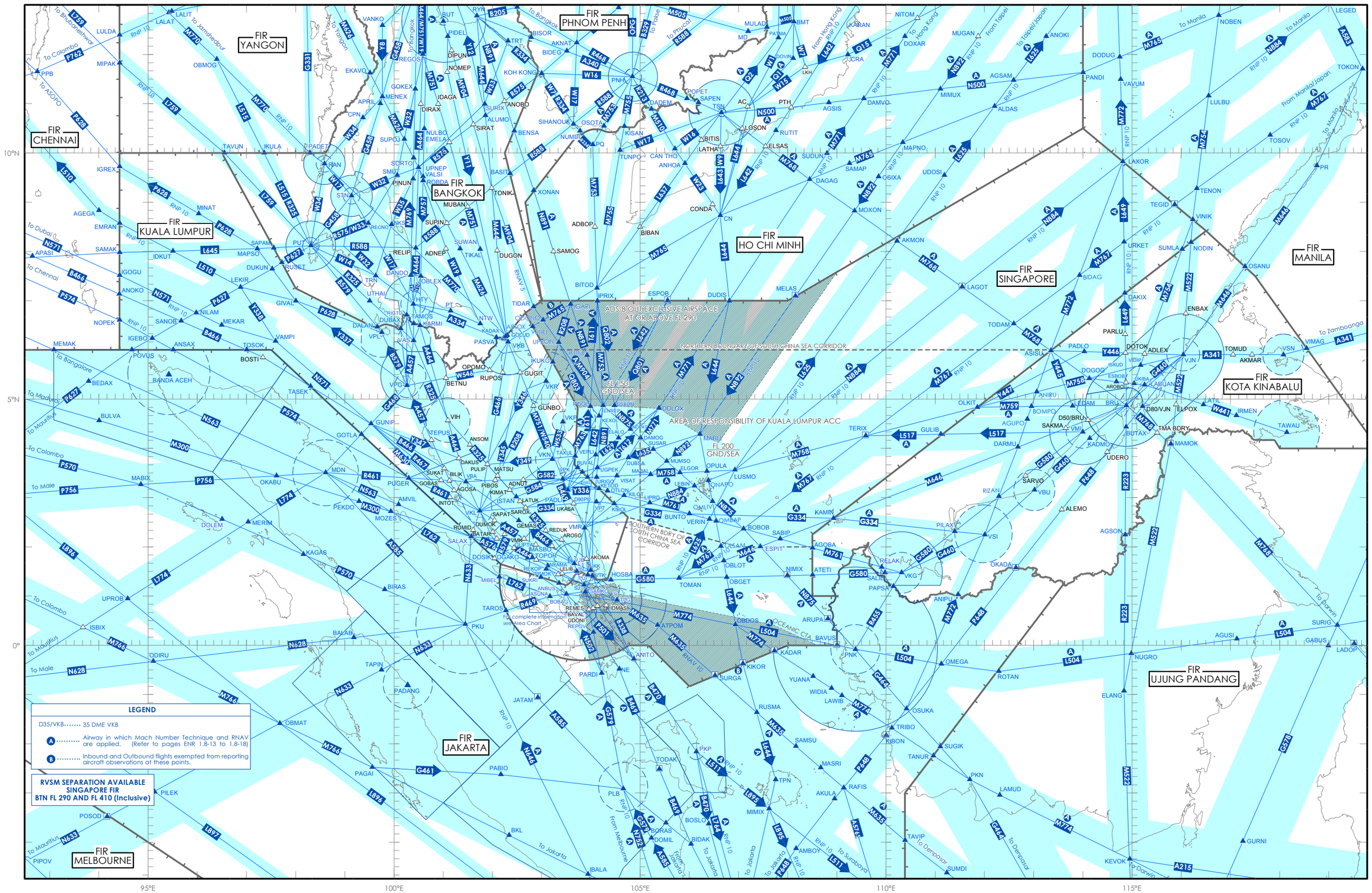
RMK: AVBL for southbound FLT only BTN PIMOK and SJ DVOR/DME.

Southbound FLT landing at WSSS are to flight plan via ATS Route A464.

Singapore ACC FREQ:
P133.25MHz S135.8MHz (westbound)
P134.4MHz S128.1MHz (southbound)

Point/Segment Remarks:
(2) 5NM either side of a rhumb line joining MDN and SJ, funnelling out at 7.5° to a width of 15NM either side of track.

AIR TRAFFIC SYSTEM CHART



CHANGES : ATS Route G331 added.

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1.7 FLIGHTS OPERATING OUTSIDE THE ESTABLISHED ROUTEINGS

1.7.1 With the exception of an emergency situation, at all times, a helicopter shall not be operated within the Changi Control Zone or overland and outside of Heli-Route Charlie, unless prior permission has been obtained from the Director-General, CAAS.

1.7.2 While this requirement is not applicable for helicopter training flights operating within a designated aircraft training area (Light Aircraft Training Areas A, B or C), flight planning requirements per paragraphs 1.1.2 and 1.1.3 in page ENR 1.10-1 remain applicable.

1.7.3 An application for permission can be submitted to caas_ats_ansp@caas.gov.sg. CAAS may ask for a flight inspection of the proposed route and / or areas of operation. The applicant shall provide the means and bear the cost of the flight inspection. Each case would be considered on its own merits and unless CAAS is satisfied that there are very good justifications, approval would normally not be given.

1.8 FLIGHT PLAN REQUIREMENTS

← 1.8.1 For Flight Plan requirements, refer to ENR 1.10 FLIGHT PLANNING.

2 PROCEDURES FOR THE CONTROL OF HELICOPTER OPERATIONS AT SINGAPORE CHANGI AIRPORT

2.1 APPROACH AND DEPARTURE PROCEDURES

2.1.1 Before entering the Changi Control Zone, a helicopter pilot is to advise Singapore Tower of his direction of approach, distance from the airport, altitude and type of helicopter. Singapore Tower will pass to the pilot the runway in use, QNH (QFE on request), surface wind and direction and if necessary the position of the helicopter alighting area:

Example: RWY 20R QNH 1008, Wind 020/7kt, light on the runway, Clear to make an approach or hold clear of the Control Zone until advised.

2.1.2 All alightings and take-offs are to be made in a north/south direction as determined by the prevailing wind. The approach from and the turn after take-off shall be made clear of all airport buildings, aprons and obstructions. Requests for approach into and take-offs from Singapore Changi Airport shall be made to Singapore Tower.

2.1.3 Helicopters intending to cross the Changi Control Zone must cross the runway immediately on receipt of clearance and cross at right angles to the runway. Helicopters would be cleared to cross the runway up to the time when a fixed wing aircraft has reached 4NM final approach and Singapore Tower has the landing aircraft in sight. If the weather condition is such that it is not expected that Singapore Tower can see the landing aircraft at 4NM final approach, crossing will only be cleared up to the time the landing aircraft reports leaving the SAMKO Holding Area or NYLON Holding Area inbound.

2.1.4 After take-off, the helicopter is to make a turn-off right or left as appropriate as soon as possible and proceed until well clear of the Changi Control Zone. On reaching the boundary of the zone, the pilot will report ‘clearing your zone’ and normal clearance will be given.

2.2 GROUND OR AIR TAXIING

2.2.1 After landing, the helicopter is required either to ground or air taxi via the taxiways into its allocated aircraft stand.

2.2.2 For take-offs, the helicopter will either ground or air taxi away from its aircraft stand and move out of the parking area via taxiways to the runway or helicopter area for take-off.

2.3 ALLOCATION OF AIRCRAFT STANDS

2.3.1 The allocation of aircraft stands for helicopters rests with the Apron Control Unit. In allocating aircraft stands the Duty Officer at the Apron Control Unit shall take into consideration the type of helicopter, stand occupancy time and the nature of the flight i.e. passenger carrying, training or for maintenance purposes.

2.3.2 Helicopter ferrying passengers will normally be allocated remote aircraft stands, i.e. stands without aerobridges.

2.4 RADIO FAILURE PROCEDURE

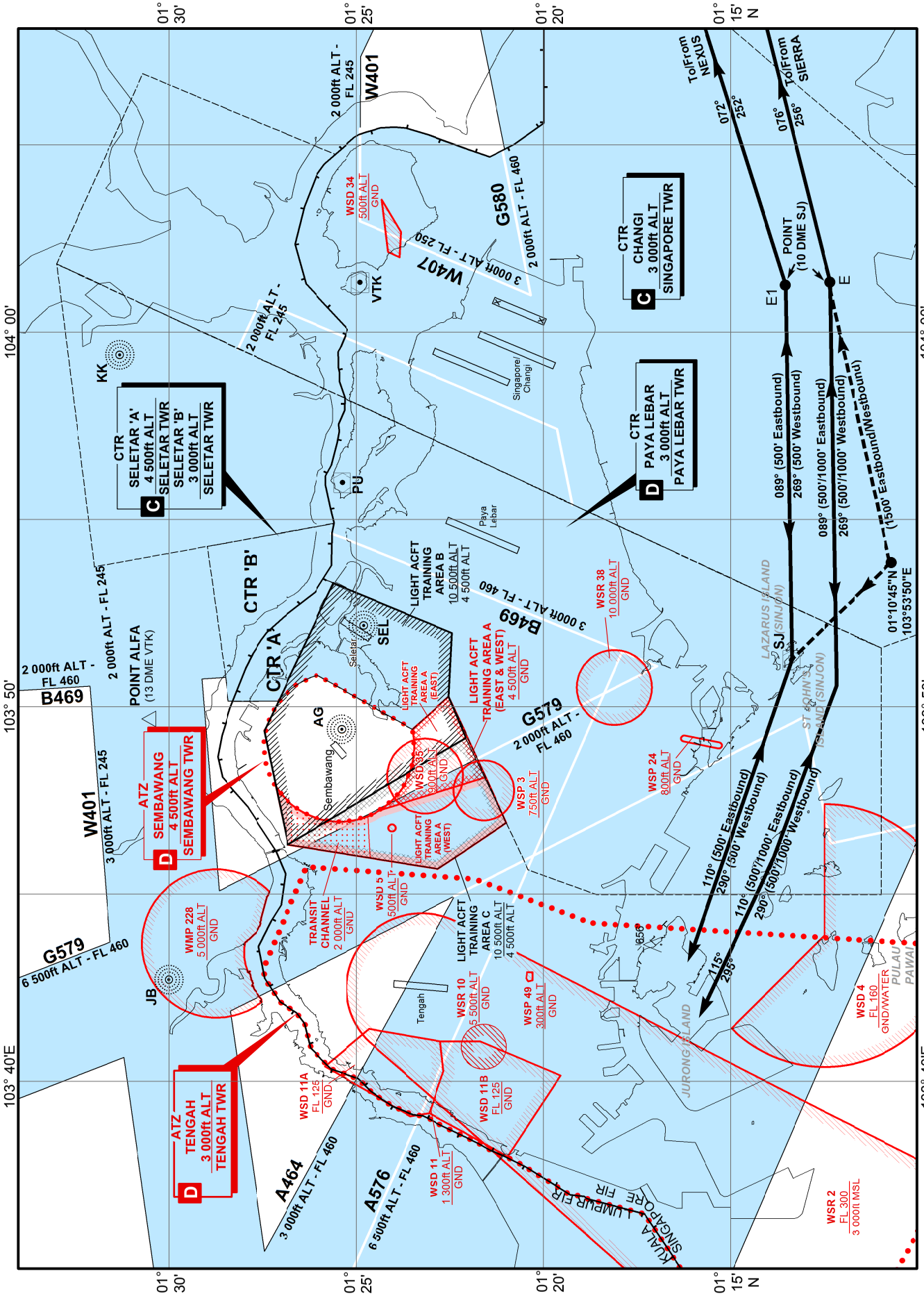
2.4.1 In the event of radio failure, the helicopter affected if on the ground shall not take-off

2.4.2 If radio failure occurs while in the air, alighting and taxiing clearances will be given by the Tower by the use of the appropriate light signals as described in page ENR 1.1-12, Appendix ‘A’.

2.5 NIGHT OPERATIONS BY HELICOPTERS

2.5.1 Helicopters that are required to operate into and out of Singapore Changi Airport at night shall land on the runway and ground taxi into its aircraft stand via the lighted taxiways.

VMC CROSSING BY MILITARY AIRCRAFT



CHANGES : Reprint.

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WSAP AD 2.16	[NIL] HELICOPTER LANDING AREA	NIL
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WSAT AD 2.9	[NIL] SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS	NIL
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WSAT AD 2.16	[NIL] HELICOPTER LANDING AREA	NIL
WSAT AD 2.17	ATS AIRSPACE	AD 2.WSAT-4

WSSS AD 2.23 ADDITIONAL INFORMATION

1 BIRD CONCENTRATION IN THE VICINITY OF THE AIRPORT

1.1 A number of varieties of birds are found in Singapore throughout the year. The larger birds commonly found in Singapore Changi Airport include the following:

- cattle egrets (weighing approximately 400g each)
- intermediate egrets (weighing approximately 500g each)
- brahminy kites (weighing approximately 600g each)
- grey herons (weighing approximately 1500g each)
- white-bellied sea eagle (weighing approximately 2900g each)

1.2 There could be an increase in bird activities during the migratory months of September to April. During this period, migratory birds may use the airport as their feeding ground.

1.3 Various active dispersal devices generating light, sound or cracking effects are used for bird dispersal to mitigate wildlife hazards where necessary within Singapore Changi Airport (such as handheld laser device, long range acoustic device, scarecrow, stock-whip, pyrotechnic, etc.).

WSSS AD 2.24 CHARTS RELATED TO AN AERODROME

Location of RWY 02R/20L in relation to RWY 02L/20/R and RWY 02C/20C AD-2-WSSS-ADC-1
Aerodrome Chart - ICAO AD-2-WSSS-ADC-2
Aerodrome Advisory Chart - ICAO AD-2-WSSS-ADC-3
Aerodrome Obstacle Chart - ICAO - TYPE A - RWY 02L/20R AD-2-WSSS-AOC-1
Aerodrome Obstacle Chart - ICAO - TYPE A - RWY 02C/20C AD-2-WSSS-AOC-2
Aerodrome Obstacle Chart - ICAO - TYPE B AD-2-WSSS-AOC-3
Precision Approach Terrain Chart - ICAO - RWY 02L AD-2-WSSS-PATC-1
Precision Approach Terrain Chart - ICAO - RWY 20C AD-2-WSSS-PATC-2
RNAV$_{(GNSS)}$ SIDs and STARs - Introduction

RNAV $_{(GNSS)}$ SID - RWY 02L/20R - ANITO 6E/ANITO 7F ..... AD-2-WSSS-SID-1 to 1.1
RNAV$_{(GNSS)}$ SID - RWY 02C/20C - ANITO 6A / ANITO 7B ..... AD-2-WSSS-SID-2 to 2.1
RNAV$_{(GNSS)}$ SID - RWY 02L/20R - ADMIM 1E / ADMIM 3F ..... AD-2-WSSS-SID-3 to 3.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - ADMIM 1A / ADMIM 3B ..... AD-2-WSSS-SID-4 to 4.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - TOMAN 2E / TOMAN 4F ..... AD-2-WSSS-SID-5 to 5.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - TOMAN 2A / TOMAN 4B ..... AD-2-WSSS-SID-6 to 6.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - BAVUS 1E / BAVUS 3F ..... AD-2-WSSS-SID-7 to 7.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - BAVUS 1A / BAVUS 3B ..... AD-2-WSSS-SID-8 to 8.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - AROSO 2E / AROSO 4F ..... AD-2-WSSS-SID-9 to 9.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - MASBO 2E / MASBO 4F ..... AD-2-WSSS-SID-10 to 10.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - AROSO 2A / AROSO 4B ..... AD-2-WSSS-SID-11 to 11.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - MASBO 2A / MASBO 4B ..... AD-2-WSSS-SID-12 to 12.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - MERSING 5E / MERSING 8F ..... AD-2-WSSS-SID-13 to 13.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - MERSING 5A / MERSING 8B ..... AD-2-WSSS-SID-14 to 14.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - VENIX 1A / VENIX 3B ..... AD-2-WSSS-SID-15 to 15.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - VENIX 1E / VENIX 3F ..... AD-2-WSSS-SID-16 to 16.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - KADAR 1A / KADAR 3B ..... AD-2-WSSS-SID-17 to 17.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - KADAR 1E / KADAR 3F ..... AD-2-WSSS-SID-18 to 18.1
RNAV$_{(GNSS)}$ STAR - RWY 02L/02C - ARAMA 1A ..... AD-2-WSSS-STAR-1 to 1.1
RNAV$_{(GNSS)}$ STAR - RWY 02L/02C - ASUNA 1A ..... AD-2-WSSS-STAR-2 to 2.1
RNAV$_{(GNSS)}$ STAR - RWY 20R/20C - ARAMA 1B ..... AD-2-WSSS-STAR-3 to 3.1
RNAV$_{(GNSS)}$ STAR - RWY 20R/20C - ASUNA 1B ..... AD-2-WSSS-STAR-4 to 4.1
RNAV$_{(GNSS)}$ STAR - RWY 02L/02C - KARTO 1A ..... AD-2-WSSS-STAR-5 to 5.1
RNAV$_{(GNSS)}$ STAR - RWY 02L/02C - OBDOS 1A ..... AD-2-WSSS-STAR-6 to 6.1
RNAV$_{(GNSS)}$ STAR - RWY 20R/20C - KARTO 1B ..... AD-2-WSSS-STAR-7 to 7.1
RNAV$_{(GNSS)}$ STAR - RWY 20R/20C - OBDOS 1B ..... AD-2-WSSS-STAR-8 to 8.1
RNAV$_{(GNSS)}$ STAR - RWY 20R/20C - LELIB 3B ..... AD-2-WSSS-STAR-9 to 9.1
RNAV$_{(GNSS)}$ STAR - RWY 02L/02C - MABAL 2A ..... AD-2-WSSS-STAR-11 to 11.1
RNAV$_{(GNSS)}$ STAR - RWY 20R/20C - MABAL 2B ..... AD-2-WSSS-STAR-13 to 13.1
RNAV$_{(GNSS)}$ STAR - RWY 02L - LEBAR 2A ..... AD-2-WSSS-STAR-14 to 14.1
RNAV$_{(GNSS)}$ STAR - RWY 20R - LEBAR 2B ..... AD-2-WSSS-STAR-15 to 15.1
RNAV$_{(GNSS)}$ STAR - RWY 02L/02C - REPOV 1A ..... AD-2-WSSS-STAR-16 to 16.1
RNAV$_{(GNSS)}$ STAR - RWY 02L/02C - SURGA 1A ..... AD-2-WSSS-STAR-17 to 17.1
RNAV$_{(GNSS)}$ STAR - RWY 20R/20C - REPOV 1B ..... AD-2-WSSS-STAR-18 to 18.1
RNAV$_{(GNSS)}$ STAR - RWY 20R/20C - SURGA 1B ..... AD-2-WSSS-STAR-19 to 19.1
RNAV$_{(GNSS)}$ STAR - RWY 02L/02C - ELALO 1A ..... AD-2-WSSS-STAR-20 to 20.1
RNAV$_{(GNSS)}$ STAR - RWY 20R/20C - ELALO 1B ..... AD-2-WSSS-STAR-21 to 21.1
Instrument Approach Chart - ICAO - RWY 02L - ICW ILS/DME AD-2-WSSS-IAC-1
Instrument Approach Chart - ICAO - RWY 02C - ICE ILS/DME AD-2-WSSS-IAC-2
Instrument Approach Chart - ICAO - RWY 20R - ICH ILS/DME AD-2-WSSS-IAC-5
Instrument Approach Chart - ICAO - RWY 20C - ICC ILS/DME AD-2-WSSS-IAC-6
Instrument Approach Chart - ICAO - RWY 20C - VTK DVOR/DME AD-2-WSSS-IAC-7
Instrument Approach Chart - ICAO - RWY 02L - RNAV$_{(GNSS)}$ AD-2-WSSS-IAC-9
Instrument Approach Chart - ICAO - RWY 02C - RNAV$_{(GNSS)}$ AD-2-WSSS-IAC-10
Instrument Approach Chart - ICAO - RWY 20R - RNAV$_{(GNSS)}$ AD-2-WSSS-IAC-11
Instrument Approach Chart - ICAO - RWY 20C - RNAV$_{(GNSS)}$ AD-2-WSSS-IAC-12
Visual Approach Chart - ICAO AD-2-WSSS-VAC-1

AERODROME CHART - ICAO

01° 21' 33"N
103°59' 22"E

AERODROME ELEVATION 6.66m

TWR	118.6 / 118.25
GND	124.3 / 121.85 / 121.725
DELIVERY	121.65

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

SINGAPORE/SINGAPORE CHANGI

PAPI 3° (MEHT)*

Pilot's eye height over the threshold when the following PAPI lights come into view.	RUNWAY			
	02L	20R	02C	20C
2 White lights and 2 red lights	20.0m	20.0m	19.8m	19.8m
3 White lights and 1 red light	24.0m	22.6m	23.7m	23.7m
4 White lights	26.4m	25.0m	26.2m	26.2m

* MEHT . Minimum Eye Height Over the Threshold.
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.

RWY	DIRECTION	THR	GEOID UNDULATION	BEARING STRENGTH
02L	023°	01 20 56.27N 103 58 38.82E	10.24m	PCN 72/F/B/W/U
20R (DISP THR)	203°	01 22 33.95N 103 59 20.06E	10.25m	
02C	023°	01 19 43.51N 103 59 05.86E	10.27m	
20C	203°	01 21 43.37N 103 59 56.46E	10.30m	

TAXIWAYS	**BEARING STRENGTH** PCN 85/R/B/W/U - Taxiways W1, W9, E1, E3, E11 and EP (between E10-E11) PCN 72/F/B/W/U - All other Taxiways
APRONS	**BEARING STRENGTH** PCN 85/R/B/W/U

ELEVATIONS AND DIMENSIONS IN METRES

TAXIWAYS 30m WIDE

NOTE :
SEE FLIP SIDE FOR DETAILS OF
i) INS COORDINATES FOR AIRCRAFT STANDS AND PRE-FLIGHT ALTIMETER CHECK LOCATIONS.
ii) RESTRICTIONS ON TAXIWAYS.

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	4.66m (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	5.46m (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 32.03	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	5.09m (16.70ft)
	B9	01 21 42.19	103 59 16.16	5.13m (16.83ft)
	B10	01 21 44.47	103 59 17.12	5.10m (16.73ft)
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	5.08m (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 59.12	103 59 20.59	4.99m (16.37ft)
	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	5.07m (16.63ft)
	C13	01 21 49.64	103 59 24.75	5.05m (16.57ft)
	C15	01 21 51.90	103 59 25.71	5.05m (16.57ft)
	C16	01 21 53.47	103 59 26.62	4.86m (15.94ft)
	C17	01 21 55.63	103 59 26.07	5.03m (16.50ft)
	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	5.09m (16.70ft)
	D32	01 21 46.73	103 59 31.07	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	5.06m (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 24.15	103 59 32.67	4.71m (15.45ft)
	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	5.09m (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	E1	01 21 20.02	103 59 25.58	4.91m (16.11ft)
	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)
	F30	01 21 14.71	103 59 23.33	4.92m (16.14ft)
	F31	01 21 13.87	103 59 25.30	4.91m(16.11ft)
	F32	01 21 13.03	103 59 27.26	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 05.62	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 08.51	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)
	F58	01 21 01.58	103 59 17.47	5.49m (18.01ft)
	F59	01 20 59.41	103 59 16.55	5.64m (18.50ft)
	F59L	01 20 58.72	103 59 16.26	5.67m (18.60ft)
	F59R	01 20 59.93	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	6.29m (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 47.91	103 59 18.88	4.74m (15.55ft)
	208	01 20 49.48	103 59 19.54	4.74m (15.55ft)
	209	01 20 51.06	103 59 20.21	4.75m (15.58ft)
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	5.06m (16.60ft)
	310	01 21 57.42	103 59 44.96	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 41.89	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)
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 43.54	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 43.80	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)

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

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION
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 49.27	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	4.29m (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 52.53	2.43m (7.97ft)
	609	01 22 12.95	103 59 55.04	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 39.67	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 (19.59ft)
	463L	01 20 41.52	103 58 48.42	5.82m (19.10ft)
	463R	01 20 42.06	103 58 47.17	5.82m (19.10ft)
	464	01 20 32.33	103 58 49.39	4.98m (16.34ft)
	465	01 20 33.61	103 58 47.20	5.01m (16.44ft)
	466	01 20 34.53	103 58 45.05	5.01m (16.44ft)
	467	01 20 27.32	103 58 45.73	5.01m (16.44ft)
	468	01 20 28.34	103 58 43.34	5.00m (16.41ft)
	469	01 20 29.36	103 58 40.96	5.02m (16.47ft)
	481	01 20 25.27	103 58 32.56	5.22m (17.13ft)
	482	01 20 26.62	103 58 33.13	5.22m (17.13ft)
	483	01 20 27.96	103 58 33.70	5.22m (17.13ft)
	484	01 20 29.31	103 58 34.27	5.22m (17.13ft)
	485	01 20 30.66	103 58 34.84	5.22m (17.13ft)
	486	01 20 32.01	103 58 35.41	5.22m (17.13ft)
	487	01 20 33.36	103 58 35.98	5.22m (17.13ft)
T4 APRON	G1	01 20 07.58	103 59 00.97	3.95m (12.96ft)
	G2	01 20 08.88	103 59 01.52	3.95m (12.96ft)
	G3	01 20 10.18	103 59 02.07	3.95m (12.96ft)
	G4	01 20 11.48	103 59 02.07	3.94m (12.93ft)
	G5	01 20 12.77	103 59 03.17	3.94m (12.93ft)
	G6	01 20 14.49	103 59 03.89	3.93m (12.89ft)
	G7	01 20 15.70	103 59 04.57	3.89m (12.76ft)
	G8	01 20 17.01	103 59 05.12	3.85m (12.63ft)
	G9	01 20 18.31	103 59 05.67	3.85m (12.63ft)
	G10	01 20 19.60	103 59 06.22	3.86m (12.66ft)
	G11	01 20 20.90	103 59 06.77	3.84m (12.60ft)
	G12	01 20 22.20	103 59 07.31	3.83m (12.57ft)
	G13	01 20 23.50	103 59 07.86	3.82m (12.53ft)
	G14	01 20 24.79	103 59 08.41	3.83m (12.57ft)
	G15	01 20 26.09	103 59 08.96	3.88m (12.73ft)
	G16	01 20 27.39	103 59 09.50	4.05m (13.29ft)
	G17	01 20 28.69	103 59 10.05	4.00m (13.12ft)
	G18	01 20 31.53	103 59 11.86	4.36m (14.30ft)
	G18L	01 20 32.05	103 59 12.85	4.34m (14.24ft)
	G18R	01 20 31.65	103 59 11.26	4.43m (14.53ft)
	G19	01 20 32.64	103 59 09.25	4.56m (14.96ft)
	G19L	01 20 33.17	103 59 11.26	4.47m (14.67ft)
	G19R	01 20 32.77	103 59 08.66	4.56m (14.96ft)
	G20	01 20 33.75	103 59 06.65	4.52m (14.83ft)
	G20L	01 20 34.13	103 59 07.58	4.44m (14.57ft)
	G20R	01 20 33.99	103 59 06.10	4.52m (14.83ft)
	G21	01 20 34.87	103 59 04.04	4.51m (14.80ft)
	G21L	01 20 35.24	103 59 04.98	4.52m (14.83ft)
	G21R	01 20 35.10	103 59 03.49	4.55m (14.93ft)

RESTRICTIONS ON TAXIWAYS

1) Pilots are advised to apply minimum thrust when
   i) turning into TWY A1, A3, A4 and Taxilane A5 while taxiing either northwards or southwards on Taxilane A6, and
   ii) thereafter when taxiing along TWY A1 up to and including the TWY A7/A1 junction.
   This is in view of apron activities at aircraft stands D40, D41, D47, D48, D49, E22, E24, E27 and E28.

2) TWY SA can only be used by aircraft with maximum wingspan 65m. TWY SA is a one-way live TWY for aircraft taxiing into SASCO hangar via RWY 02L. Only tow-out operation is allowed from SASCO hangar into TWY SA and RWY 02L.

3) TWY NC3 (between TWY WA and TWY A6) can only be used by aircraft with maximum wingspan 65m.

4) Taxiway centreline along TWY EP between TWY B1 and B3 offset eastward by 2.5m away from aircraft stands E7 and F36.

5) Pilots are advised to apply minimum thrust when turning into taxiway WA from taxilane V6.

6) Taxilane U4 (behind aircraft stands A18 to A21) can only be used by aircraft with maximum wingspan 61m.

7) Taxilane N1 (behind aircraft stands C16 to C19 and between TWY NC2 and TWY NC3), Taxilane N2 and Taxilane N3 (behind aircraft stands D35 to D38 and between TWY NC2 and TWY NC3) can only be used by aircraft with maximum wingspan 65m.

8) Taxilane A6 (behind aircraft stands E20 to E24) and Taxilane C6 (behind aircraft stands F50 to F54) can only be used by aircraft with maximum wingspan 65m (towing and pushback exempted).

9) Taxilane L5 can only be used by aircraft with maximum wingspan 36m.

10) TWY L8, L9 and L10 can only be used by aircraft with maximum wingspan 65m.

11) Pilots are advised to exercise caution when taxiing near Taxilane L5, L8, L9 and L10.

12) Pilots are advised to apply speed limit of 20 knots when taxiing along TWY SOUTH CROSS 1 and SOUTH CROSS 2.

13) Pilots turning aircraft into aircraft stand A2 or aircraft stand B2 are advised to wait for any aircraft holding at Taxilane V6, at the inner cul-de-sac portion of the terminal building to vacate this portion before turning into aircraft stand A2 or aircraft stand B2.

14) TWY M, M4, M5, M6 and M7 are solely for use by Republic of Singapore Air Force (RSAF) aircraft.

15) TWY located western side of RWY 02L/20R, between TWY M5 and TWY M6 is solely for use by Republic of Singapore Air Force (RSAF) aircraft.

RADIO ALTIMETER OPERATIONS AREA

A radio altimeter operating area is established in the pre-threshold area of Runway 02L/20R and Runway 02C/20C. The size of the radio altimeter operating area is 300m length and 120m width.

AIRCRAFT STANDS WITH SAFEGATE AIRCRAFT DOCKING GUIDANCE SYSTEM.

TOTAL AIRCRAFT PARKING POSITIONS : 218

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

TWR 118.6 / 118.25
APP 120.3
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
ANITO DEPARTURES
ANITO 6E (R02L)
ANITO 7F (R20R)

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

DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ON INITIAL CONTACT WHEN REQUESTING ATC, INFORM ATC OF THE FLIGHT LEVEL AIRCRAFT CAN CROSS ANITO

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

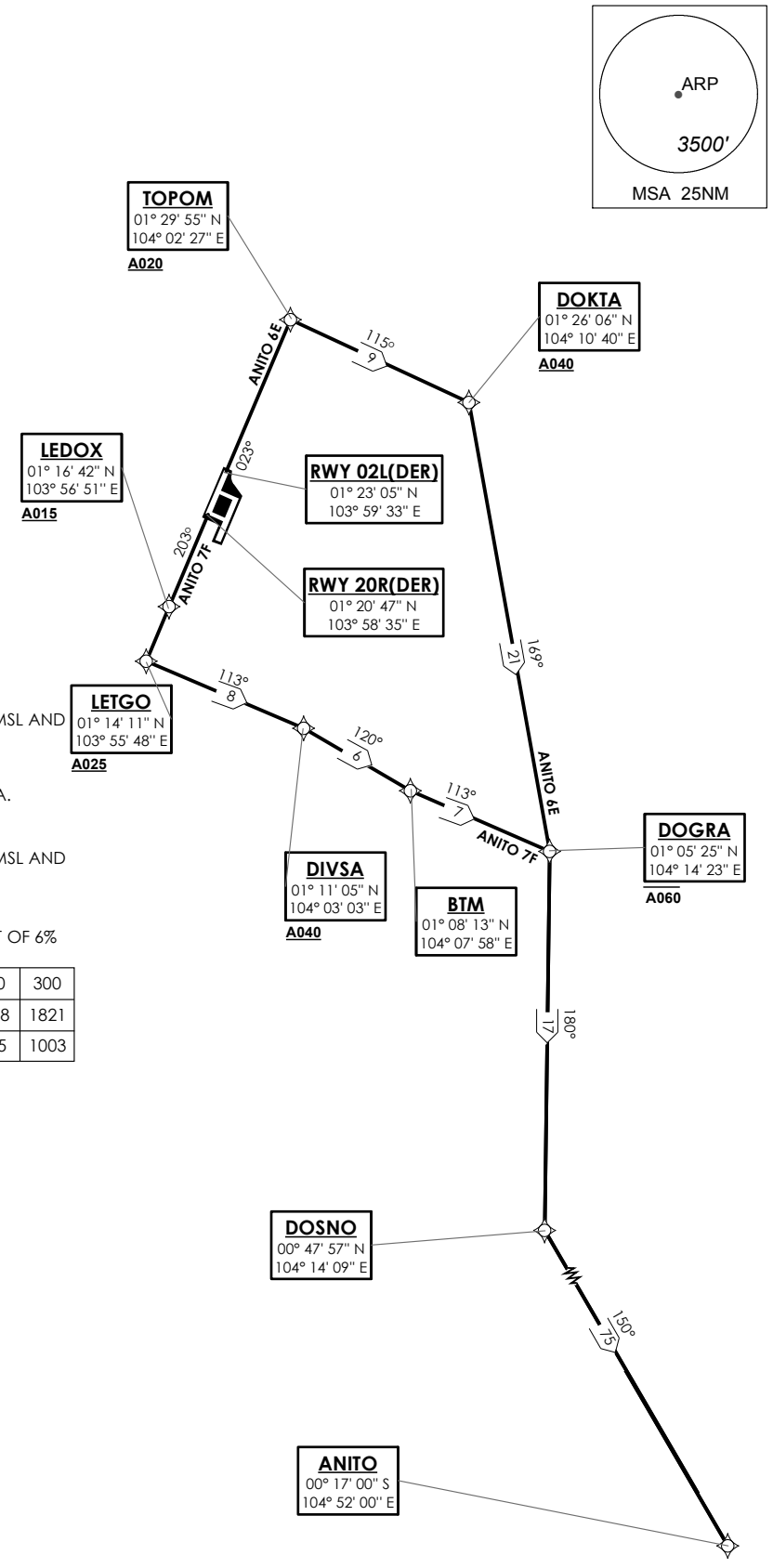
RWY 02L

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

RWY 20R

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

CHANGES : Removed "or as directed by ATC" from initial climb.

ANITO 6E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOPOM	-	023(022.5)	-0.5	R	A020+	-	RNAV1
TF	DOKTA	-	115(114.5)	-0.5	R	A040+	-	RNAV1
TF	DOGRA	-	169(168.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	ANITO	-	150(149.5)	-0.5	-	-	-	RNAV1

ANITO 7F (SID) RNAV GNSS RWY 20R - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	LETGO	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	R	A040+	-	RNAV1
TF	BTM	-	120(119.5)	-0.5	L	-	-	RNAV1
TF	DOGRA	-	113(112.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	ANITO	-	150(149.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE ON:** **RWY 02L -** PROCEED STRAIGHT AHEAD TO NYLON HOLDING AREA (NHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE. **RWY 20R -** PROCEED STRAIGHT AHEAD 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
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02C/20C
ANITO DEPARTURES
ANITO 6A (R02C)
ANITO 7B (R20C)

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

DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ON INITIAL CONTACT WHEN REQUESTING ATC, INFORM ATC OF THE FLIGHT LEVEL AIRCRAFT CAN CROSS ANITO

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

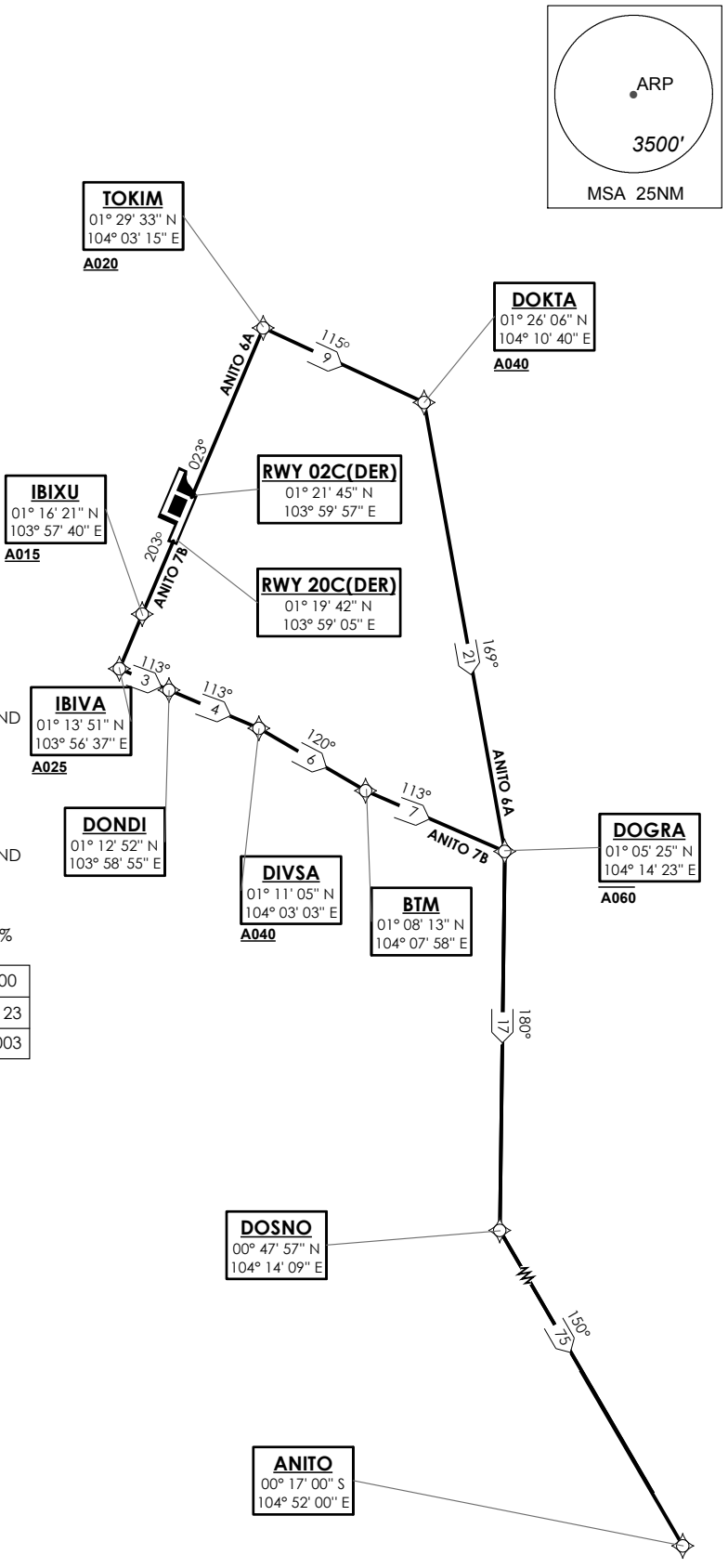
RWY 02C

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

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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



NOT TO SCALE

CHANGES : Removed "or as directed by ATC" from initial climb.

ANITO 6A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOKIM	-	023(022.5)	-0.5	R	A020+	-	RNAV1
TF	DOKTA	-	115(114.5)	-0.5	R	A040+	-	RNAV1
TF	DOGRA	-	169(168.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	ANITO	-	150(149.5)	-0.5	-	-	-	RNAV1

ANITO 7B (SID) RNAV GNSS RWY 20C - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	IBIVA	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DONDI	-	113(112.5)	-0.5	-	-	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	R	A040+	-	RNAV1
TF	BTM	-	120(119.5)	-0.5	L	-	-	RNAV1
TF	DOGRA	-	113(112.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	ANITO	-	150(149.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

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

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

TWR 118.6 / 118.25
APP 120.3
ACC 133.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
ADMIM DEPARTURES
ADMIM 1E (R02L)
ADMIM 3F (R20R)

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

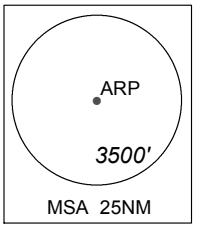
DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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



GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

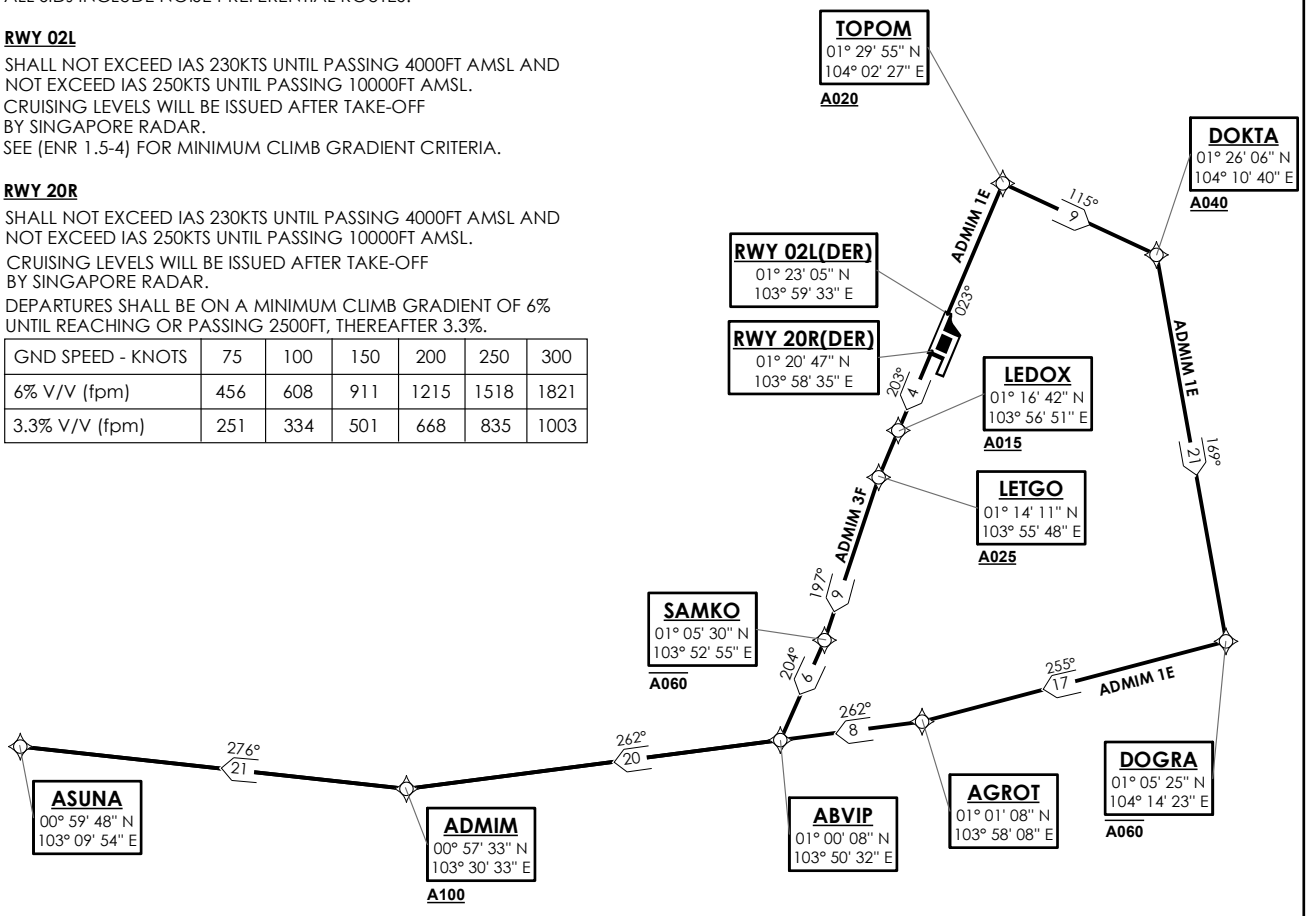
RWY 02L

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

RWY 20R

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

CHANGES : Removed "or as directed by ATC" from initial climb.

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

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To TOPOM on course 023° at or above 2000ft, turn right. To DOKTA at or above 4000ft, turn right. To DOGRA at or below 6000ft, turn right. To AGROT, turn right. To ABVIP. To ADMIM at or above 10000ft, turn right. To ASUNA.	TOPOM [M023; A020+; R] - DOKTA [A040+; R] - DOGRA [A060-; R] - AGROT [R] - ABVIP - ADMIM [A100+; R] - ASUNA	CF TF TF TF TF TF TF	N N N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOPOM	-	023(022.5)	-0.5	R	A020+	-	RNAV1
TF	DOKTA	-	115(114.5)	-0.5	R	A040+	-	RNAV1
TF	DOGRA	-	169(168.5)	-0.5	R	A060-	-	RNAV1
TF	AGROT	-	255(254.5)	-0.5	R	-	-	RNAV1
TF	ABVIP	-	262(261.5)	-0.5	-	-	-	RNAV1
TF	ADMIM	-	262(261.5)	-0.5	R	A100+	-	RNAV1
TF	ASUNA	-	276(275.5)	-0.5	-	-	-	RNAV1

ADMIM 3F (SID) RNAV GNSS RWY 20R - DESCRIPTIONS

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To LEDOX on course 203° at or above 1500ft. To LETGO at or above 2500ft, turn left. To SAMKO at or below 6000ft, turn right. To ABVIP, turn right. To ADMIM at or above 10000ft, turn right. To ASUNA.	LEDOX [M203; A015+] - LETGO [A025+; L] - SAMKO [A060-; R] - ABVIP [R] - ADMIM [A100+; R] - ASUNA	CF TF TF TF TF TF	N N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	LETGO	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	SAMKO	-	197(197.5)	-0.5	R	A060-	-	RNAV1
TF	ABVIP	-	204(203.5)	-0.5	R	-	-	RNAV1
TF	ADMIM	-	262(261.5)	-0.5	R	A100+	-	RNAV1
TF	ASUNA	-	276(275.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE ON:** **RWY 02L -** PROCEED STRAIGHT AHEAD TO NYLON HOLDING AREA (NHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE. **RWY 20R -** PROCEED STRAIGHT AHEAD 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
ACC 133.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

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

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

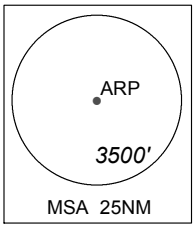
DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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



GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

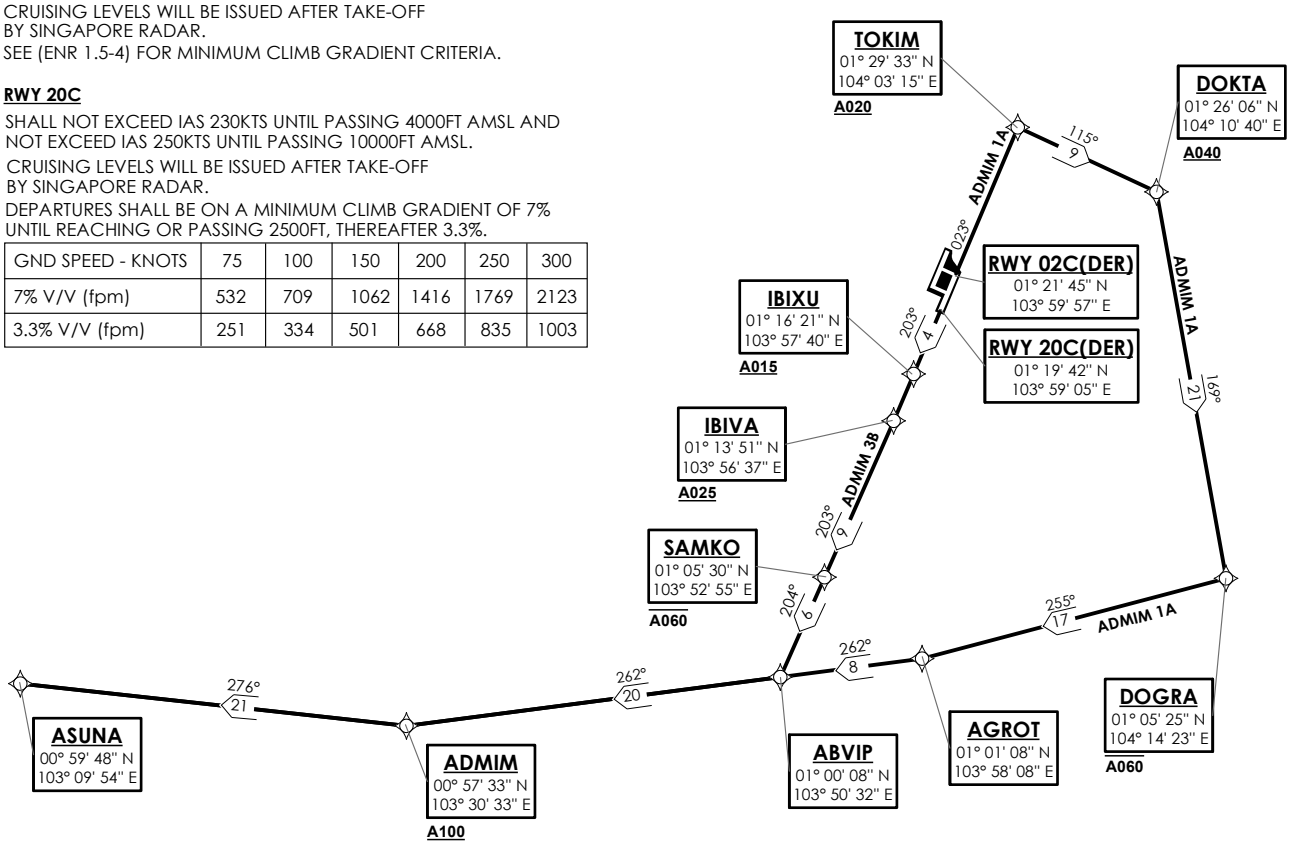
RWY 02C

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

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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



NOT TO SCALE

CHANGES : Removed "or as directed by ATC" from initial climb.

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

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To TOKIM on course 023° at or above 2000ft, turn right. To DOKTA at or above 4000ft, turn right. To DOGRA at or below 6000ft, turn right. To AGROT, turn right. To ABVIP. To ADMIM at or above 10000ft, turn right. To ASUNA.	TOKIM [M023; A020+; R] - DOKTA [A040+; R] - DOGRA [A060-; R] - AGROT [R] - ABVIP - ADMIM [A100+; R] - ASUNA	CF TF TF TF TF TF TF	N N N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOKIM	-	023(022.5)	-0.5	R	A020+	-	RNAV1
TF	DOKTA	-	115(114.5)	-0.5	R	A040+	-	RNAV1
TF	DOGRA	-	169(168.5)	-0.5	R	A060-	-	RNAV1
TF	AGROT	-	255(254.5)	-0.5	R	-	-	RNAV1
TF	ABVIP	-	262(261.5)	-0.5	-	-	-	RNAV1
TF	ADMIM	-	262(261.5)	-0.5	R	A100+	-	RNAV1
TF	ASUNA	-	276(275.5)	-0.5	-	-	-	RNAV1

ADMIM 3B (SID) RNAV GNSS RWY 20C - DESCRIPTIONS

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To IBIXU on course 203° at or above 1500ft. To IBIVA at or above 2500ft. To SAMKO at or below 6000ft, turn right. To ABVIP, turn right. To ADMIM at or above 10000ft, turn right. To ASUNA.	IBIXU [M203; A015+] - IBIVA [A025+] - SAMKO [A060-; R] - ABVIP [R] - ADMIM [A100+; R] - ASUNA	CF TF TF TF TF TF	N N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	IBIVA	-	203(202.5)	-0.5	-	A025+	-	RNAV1
TF	SAMKO	-	203(202.5)	-0.5	R	A060-	-	RNAV1
TF	ABVIP	-	204(203.5)	-0.5	R	-	-	RNAV1
TF	ADMIM	-	262(261.5)	-0.5	R	A100+	-	RNAV1
TF	ASUNA	-	276(275.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

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

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-WSSS
128.6

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

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

DISTANCES IN NM

NOTE: RADAR REQUIRED

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

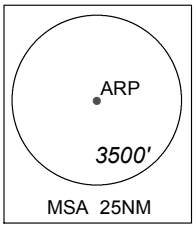
NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.



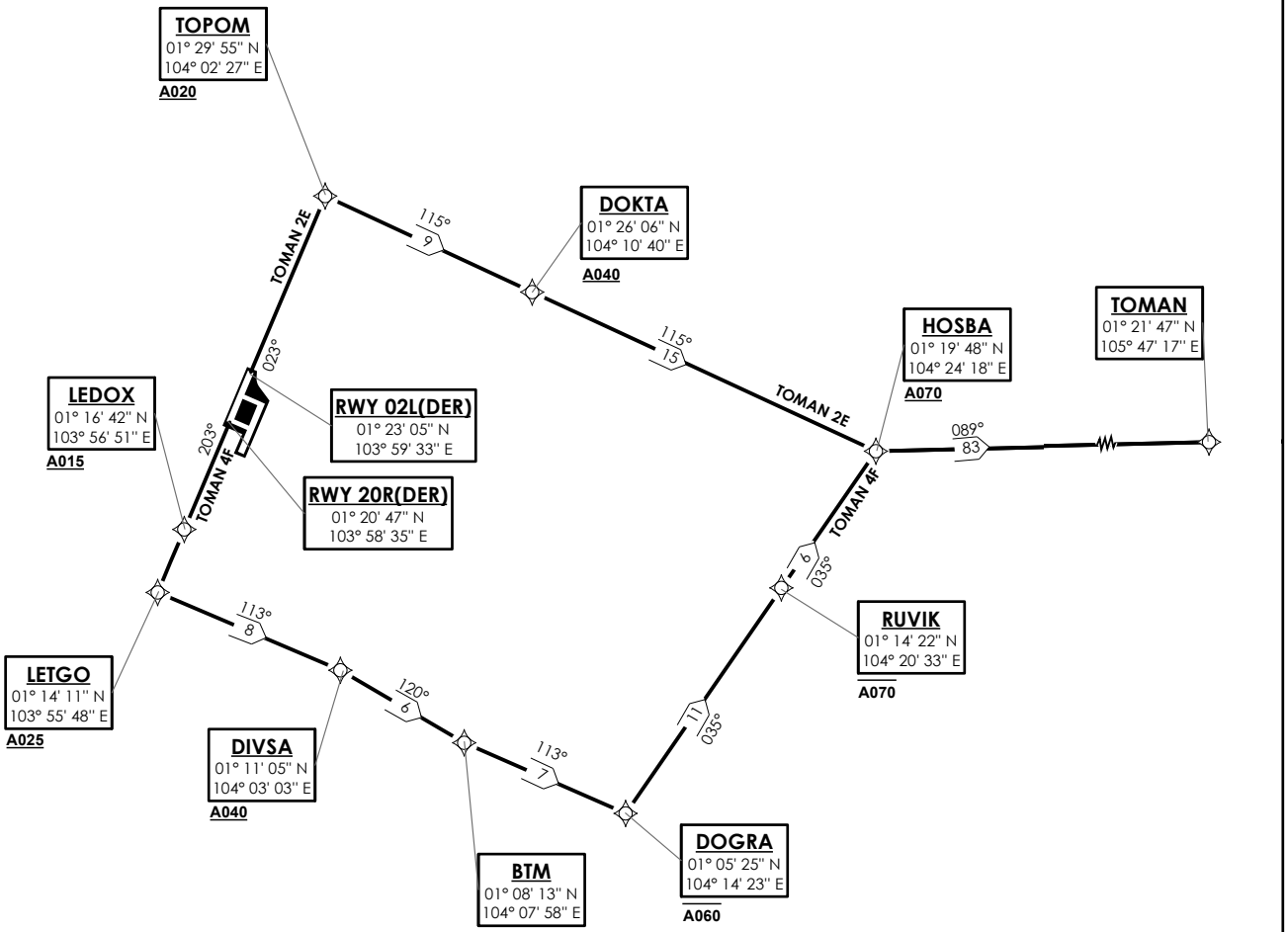
RWY 02L

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

RWY 20R

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

CHANGES : Removed "or as directed by ATC" from initial climb.

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

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOPOM	-	023(022.5)	-0.5	R	A020+	-	RNAV1
TF	DOKTA	-	115(114.5)	-0.5	-	A040+	-	RNAV1
TF	HOSBA	-	115(114.5)	-0.5	L	A070+	-	RNAV1
TF	TOMAN	-	089(088.5)	-0.5	-	-	-	RNAV1

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

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To LEDOX on course 203° at or above 1500ft. To LETGO at or above 2500ft, turn left. To DIVSA at or above 4000ft, turn right. To BTM, turn left. To DOGRA at or below 6000ft, turn left. To RUVIK at or below 7000ft. To HOSBA at or above 7000ft, turn right. To TOMAN.	LEDOX [M203; A015+] - LETGO [A025+; L] - DIVSA [A040+; R] - BTM [L] - DOGRA [A060-; L] - RUVIK [A070-] - HOSBA [A070+; R] - TOMAN	CF TF TF TF TF TF TF TF	N N N N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	LETGO	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	R	A040+	-	RNAV1
TF	BTM	-	120(119.5)	-0.5	L	-	-	RNAV1
TF	DOGRA	-	113(112.5)	-0.5	L	A060-	-	RNAV1
TF	RUVIK	-	035(034.5)	-0.5	-	A070-	-	RNAV1
TF	HOSBA	-	035(034.5)	-0.5	R	A070+	-	RNAV1
TF	TOMAN	-	089(088.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE ON:** **RWY 02L -** PROCEED STRAIGHT AHEAD TO NYLON HOLDING AREA (NHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE. **RWY 20R -** PROCEED STRAIGHT AHEAD 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
ACC 134.2

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

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

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

DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

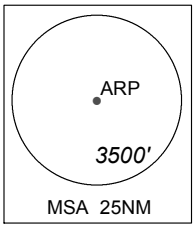
RWY 02C

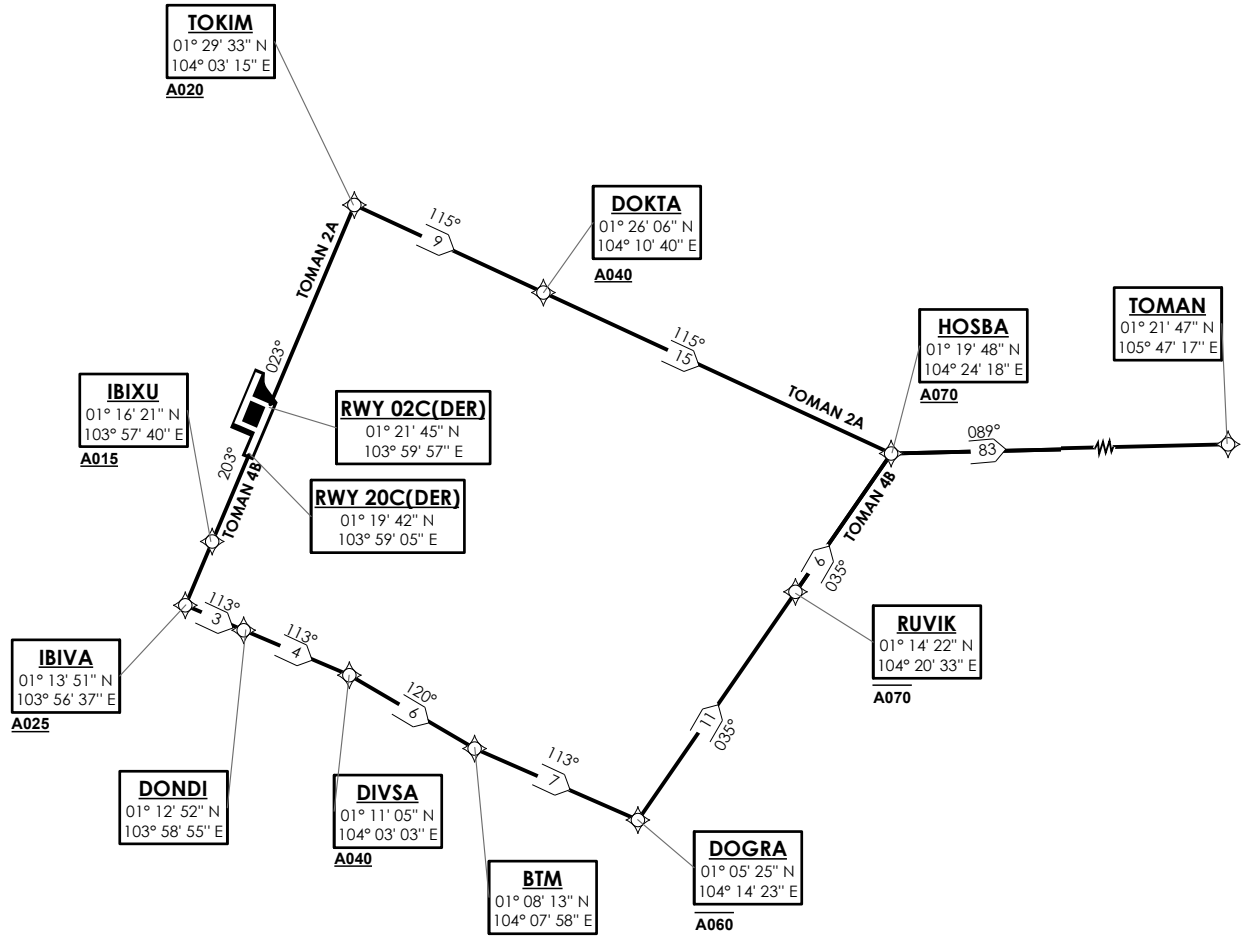
SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
SEE (ENR 1.5-4) FOR MINIMUM CLIMB GRADIENT CRITERIA.

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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





NOT TO SCALE

CHANGES : Removed "or as directed by ATC" from initial climb.

TOMAN 2A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOKIM	-	023(022.5)	-0.5	R	A020+	-	RNAV1
TF	DOKTA	-	115(114.5)	-0.5	-	A040+	-	RNAV1
TF	HOSBA	-	115(114.5)	-0.5	L	A070+	-	RNAV1
TF	TOMAN	-	089(088.5)	-0.5	-	-	-	RNAV1

TOMAN 4B (SID) RNAV GNSS RWY 20C - DESCRIPTIONS

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To IBIXU on course 203° at or above 1500ft. To IBIVA at or above 2500ft, turn left. To DONDI. To DIVSA at or above 4000ft, turn right. To BTM, turn left. To DOGRA at or below 6000ft, turn left. To RUVIK at or below 7000ft. To HOSBA at or above 7000ft, turn right. To TOMAN.	IBIXU [M203; A015+] - IBIVA [A025+; L] - DONDI - DIVSA [A040+; R] - BTM [L] - DOGRA [A060-; L] - RUVIK [A070-] - HOSBA [A070+; R] - TOMAN	CF TF TF TF TF TF TF TF TF	N N N N N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	IBIVA	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DONDI	-	113(112.5)	-0.5	-	-	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	R	A040+	-	RNAV1
TF	BTM	-	120(119.5)	-0.5	L	-	-	RNAV1
TF	DOGRA	-	113(112.5)	-0.5	L	A060-	-	RNAV1
TF	RUVIK	-	035(034.5)	-0.5	-	A070-	-	RNAV1
TF	HOSBA	-	035(034.5)	-0.5	R	A070+	-	RNAV1
TF	TOMAN	-	089(088.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

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

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

TWR 118.6 / 118.25
APP 120.3
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
BAVUS DEPARTURES
BAVUS 1E (R02L)
BAVUS 3F (R20R)

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

DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

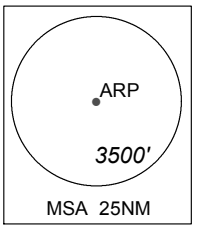
RWY 02L

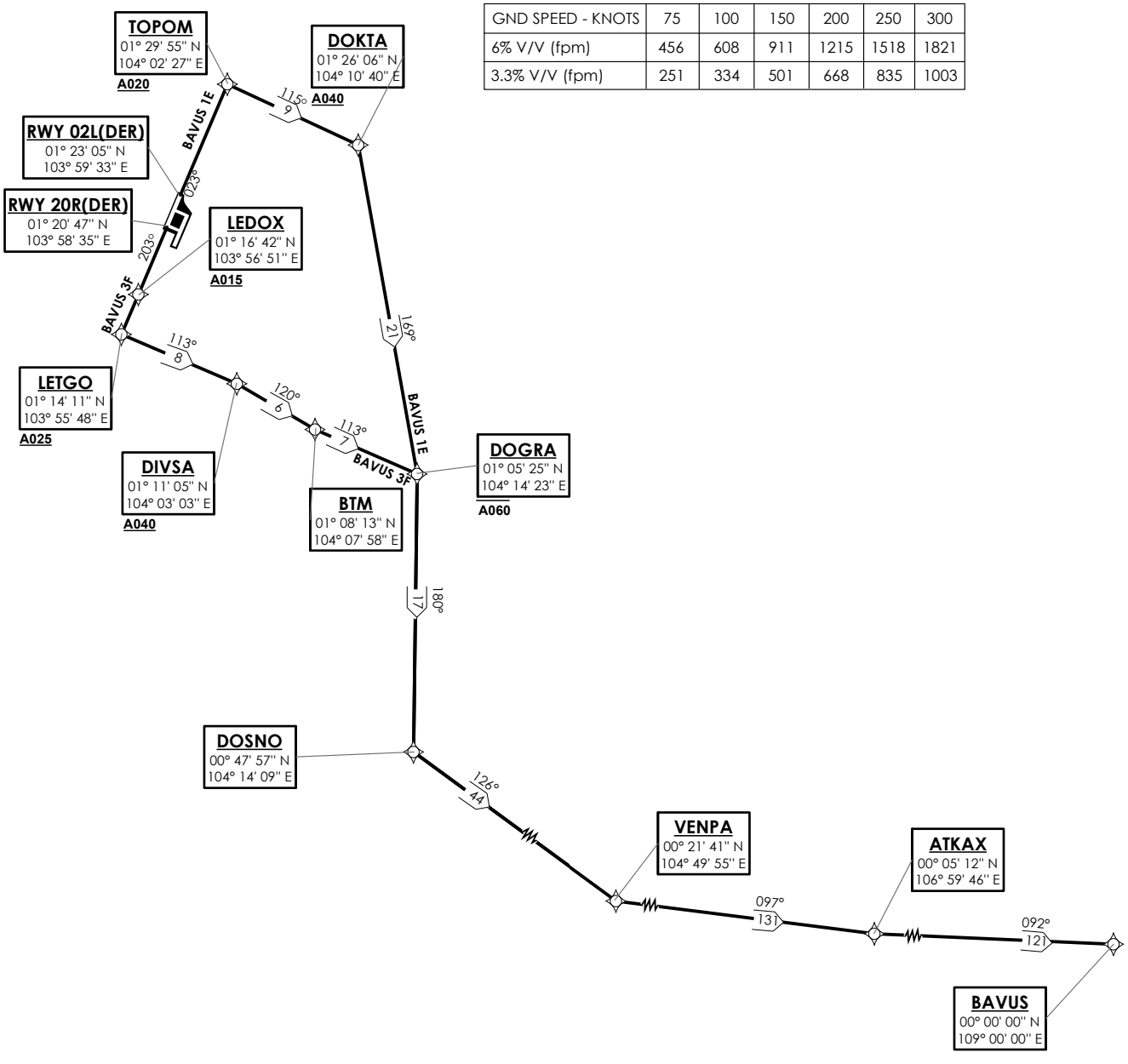
SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
SEE (ENR 1.5-4) FOR MINIMUM CLIMB GRADIENT CRITERIA.

RWY 20R

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

CHANGES : Removed "or as directed by ATC" from initial climb.

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

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOPOM	-	023(022.5)	-0.5	R	A020+	-	RNAV1
TF	DOKTA	-	115(114.5)	-0.5	R	A040+	-	RNAV1
TF	DOGRA	-	169(168.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	VENPA	-	126(125.5)	-0.5	L	-	-	RNAV1
TF	ATKAX	-	097(096.5)	-0.5	L	-	-	RNAV1
TF	BAVUS	-	092(091.5)	-0.5	-	-	-	RNAV1

BAVUS 3F (SID) RNAV GNSS RWY 20R - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	LETGO	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	R	A040+	-	RNAV1
TF	BTM	-	120(119.5)	-0.5	L	-	-	RNAV1
TF	DOGRA	-	113(112.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	VENPA	-	126(125.5)	-0.5	L	-	-	RNAV1
TF	ATKAX	-	097(096.5)	-0.5	L	-	-	RNAV1
TF	BAVUS	-	092(091.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE ON:** **RWY 02L -** PROCEED STRAIGHT AHEAD TO NYLON HOLDING AREA (NHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE. **RWY 20R -** PROCEED STRAIGHT AHEAD 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
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

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

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

DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

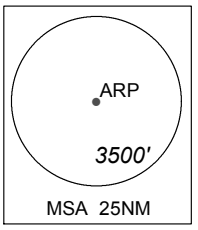
RWY 02C

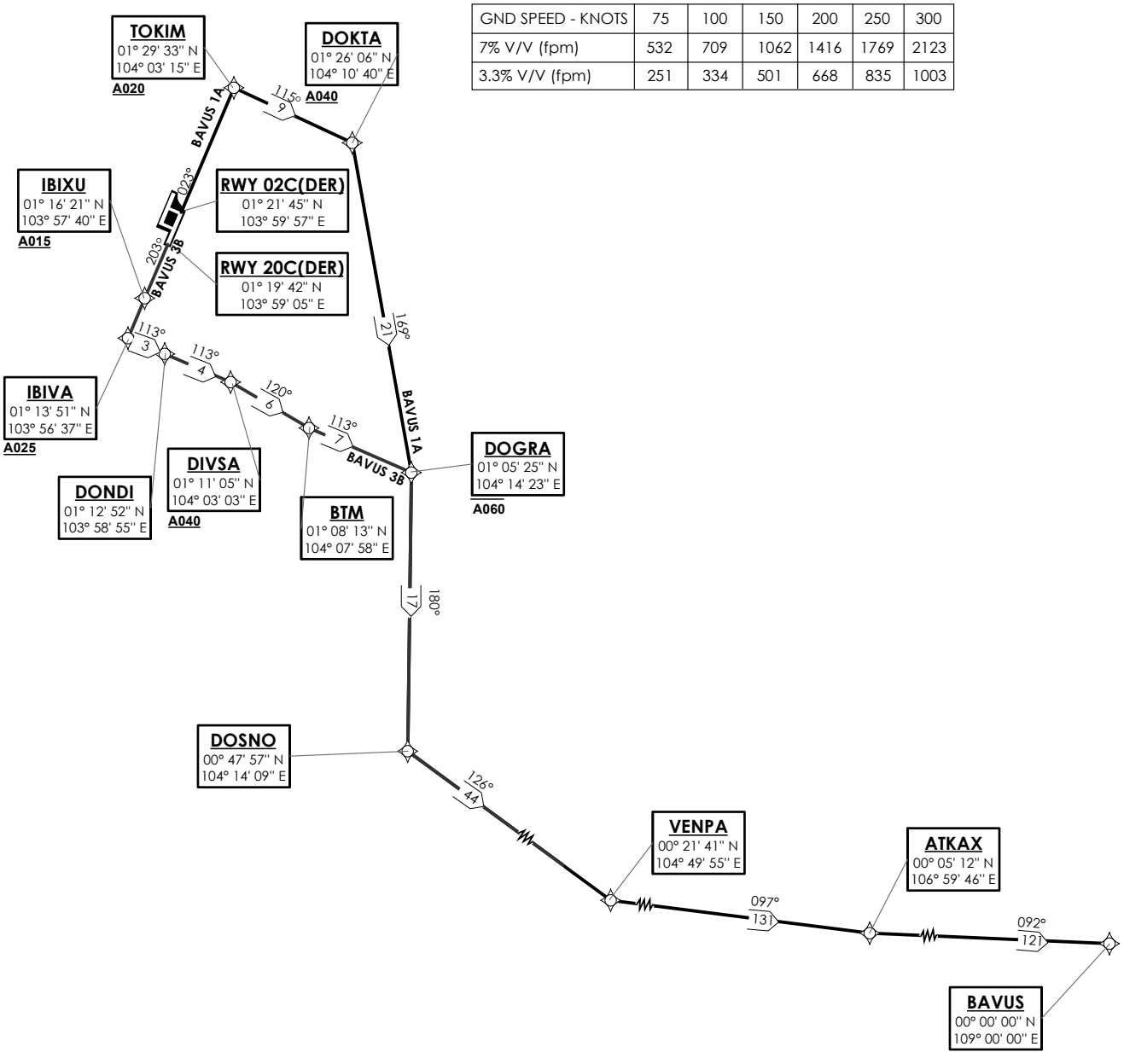
SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
SEE (ENR 1.5-4) FOR MINIMUM CLIMB GRADIENT CRITERIA.

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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





NOT TO SCALE

CHANGES : Removed "or as directed by ATC" from initial climb.

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

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOKIM	-	023(022.5)	-0.5	R	A020+	-	RNAV1
TF	DOKTA	-	115(114.5)	-0.5	R	A040+	-	RNAV1
TF	DOGRA	-	169(168.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	VENPA	-	126(125.5)	-0.5	L	-	-	RNAV1
TF	ATKAX	-	097(096.5)	-0.5	L	-	-	RNAV1
TF	BAVUS	-	092(091.5)	-0.5	-	-	-	RNAV1

BAVUS 3B (SID) RNAV GNSS RWY 20C - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	IBIVA	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DONDI	-	113(112.5)	-0.5	-	-	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	R	A040+	-	RNAV1
TF	BTM	-	120(119.5)	-0.5	L	-	-	RNAV1
TF	DOGRA	-	113(112.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	VENPA	-	126(125.5)	-0.5	L	-	-	RNAV1
TF	ATKAX	-	097(096.5)	-0.5	L	-	-	RNAV1
TF	BAVUS	-	092(091.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

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

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

TWR 118.6 / 118.25
APP 120.3
ACC 133.25

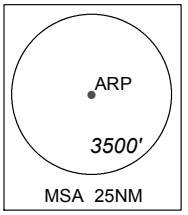
TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

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

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

DISTANCES IN NM

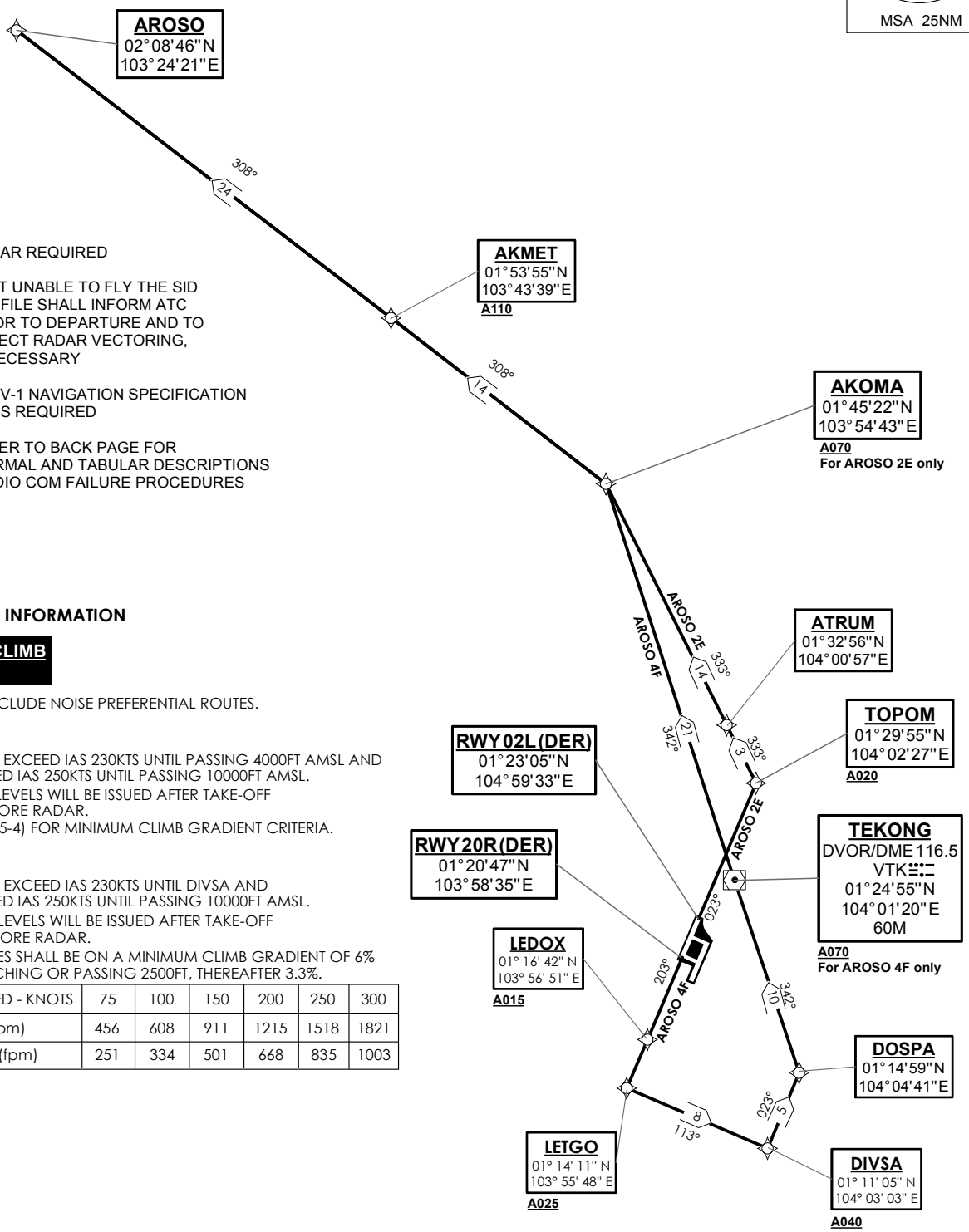


NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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



GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02L

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

RWY 20R

SHALL NOT EXCEED IAS 230KTS UNTIL DIVSA AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES 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

CHANGES : Removed "or as directed by ATC" from initial climb.

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

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOPOM	-	023(022.5)	-0.5	L	A020+	-	RNAV1
TF	ATRUM	-	333(332.5)	-0.5	-	-	-	RNAV1
TF	AKOMA	-	333(332.5)	-0.5	L	A070+	-	RNAV1
TF	AKMET	-	308(307.5)	-0.5	-	A110+	-	RNAV1
TF	AROSO	-	308(307.5)	-0.5	-	-	-	RNAV1

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

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	LETGO	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	L	A040+	K230	RNAV1
TF	DOSPA	-	023(022.5)	-0.5	L	-	-	RNAV1
TF	VTK	-	342(341.5)	-0.5	-	A070+	-	RNAV1
TF	AKOMA	-	342(341.5)	-0.5	L	-	-	RNAV1
TF	AKMET	-	308(307.5)	-0.5	-	A110+	-	RNAV1
TF	AROSO	-	308(307.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE ON:** **RWY 02L -** PROCEED STRAIGHT AHEAD TO NYLON HOLDING AREA (NHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE. **RWY 20R -** PROCEED STRAIGHT AHEAD 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
ACC 133.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

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

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

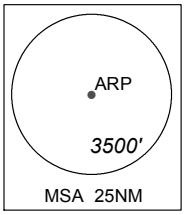
DISTANCES IN NM

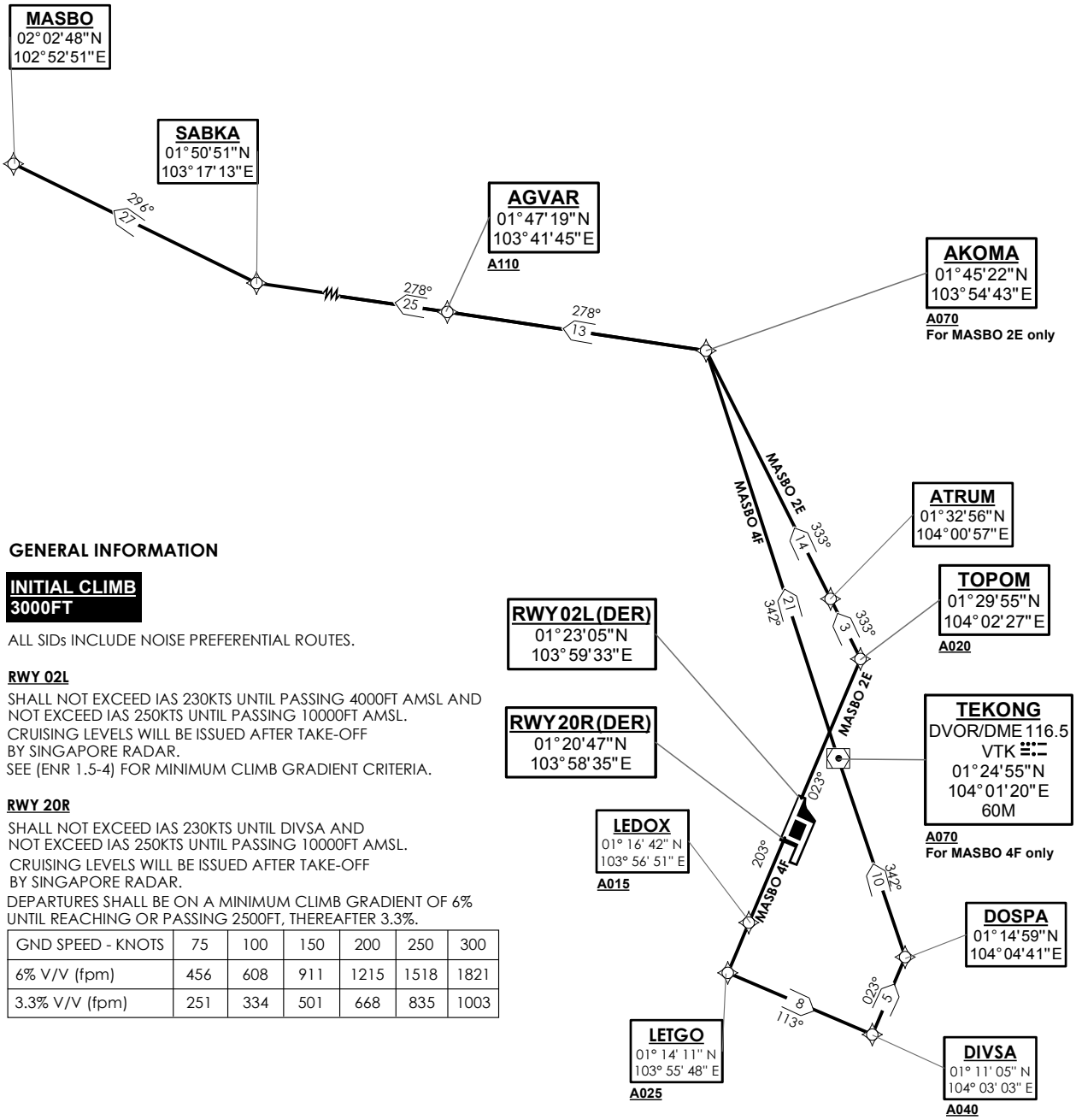
NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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





GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02L

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

RWY 20R

SHALL NOT EXCEED IAS 230KTS UNTIL DIVSA AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES 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

CHANGES : Removed "or as directed by ATC" from initial climb.

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

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOPOM	-	023(022.5)	-0.5	L	A020+	-	RNAV1
TF	ATRUM	-	333(332.5)	-0.5	-	-	-	RNAV1
TF	AKOMA	-	333(332.5)	-0.5	L	A070+	-	RNAV1
TF	AGVAR	-	278(277.5)	-0.5	-	A110+	-	RNAV1
TF	SABKA	-	278(277.5)	-0.5	R	-	-	RNAV1
TF	MASBO	-	296(295.5)	-0.5	-	-	-	RNAV1

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

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	LETGO	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	L	A040+	K230	RNAV1
TF	DOSPA	-	023(022.5)	-0.5	L	-	-	RNAV1
TF	VTK	-	342(341.5)	-0.5	-	A070+	-	RNAV1
TF	AKOMA	-	342(341.5)	-0.5	L	-	-	RNAV1
TF	AGVAR	-	278(277.5)	-0.5	-	A110+	-	RNAV1
TF	SABKA	-	278(277.5)	-0.5	R	-	-	RNAV1
TF	MASBO	-	296(295.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE ON:** **RWY 02L -** PROCEED STRAIGHT AHEAD TO NYLON HOLDING AREA (NHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE. **RWY 20R -** PROCEED STRAIGHT AHEAD 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
ACC 133.25

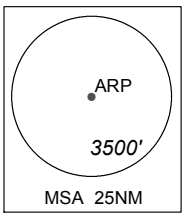
TRANSITION ALTITUDE
11 000ft

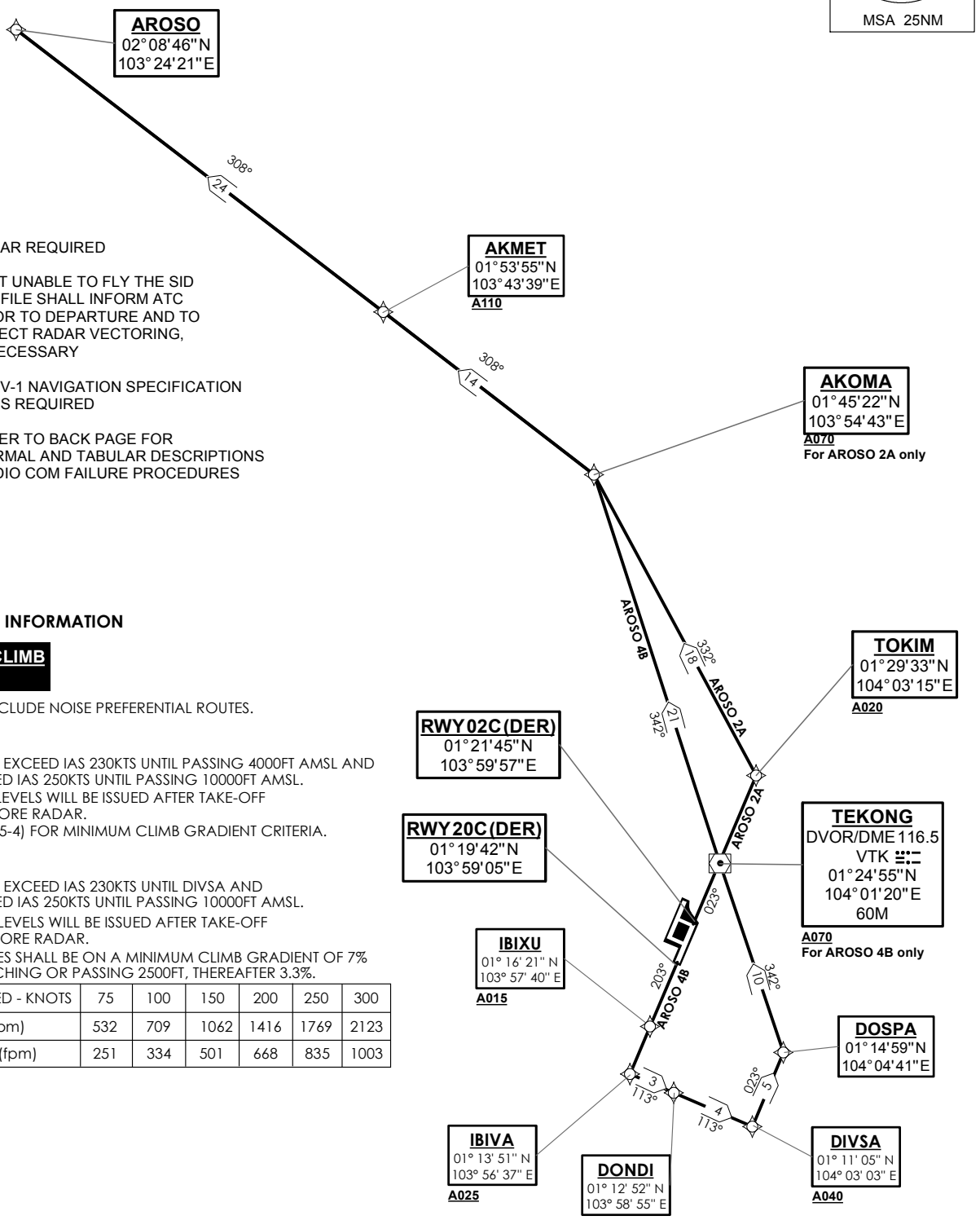
D-ATIS AP ID-WSSS
128.6

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

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

DISTANCES IN NM





NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02C

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

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL DIVSA AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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

NOT TO SCALE

CHANGES : Removed "or as directed by ATC" from initial climb.

AROSO 2A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOKIM	-	023(022.5)	-0.5	L	A020+	-	RNAV1
TF	AKOMA	-	332(331.5)	-0.5	L	A070+	-	RNAV1
TF	AKMET	-	308(307.5)	-0.5	-	A110+	-	RNAV1
TF	AROSO	-	308(307.5)	-0.5	-	-	-	RNAV1

AROSO 4B (SID) RNAV GNSS RWY 20C - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	IBIVA	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DONDI	-	113(113.3)	-0.5	-	-	-	RNAV1
TF	DIVSA	-	113(113.3)	-0.5	L	A040+	K230	RNAV1
TF	DOSPA	-	023(023.6)	-0.5	L	-	-	RNAV1
TF	VTK	-	342(341.5)	-0.5	-	A070+	-	RNAV1
TF	AKOMA	-	342(341.5)	-0.5	L	-	-	RNAV1
TF	AKMET	-	308(307.5)	-0.5	-	A110+	-	RNAV1
TF	AROSO	-	308(307.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

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

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

TWR 118.6 / 118.25
APP 120.3
ACC 133.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

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

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

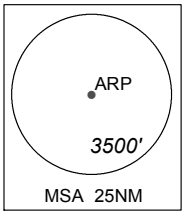
DISTANCES IN NM

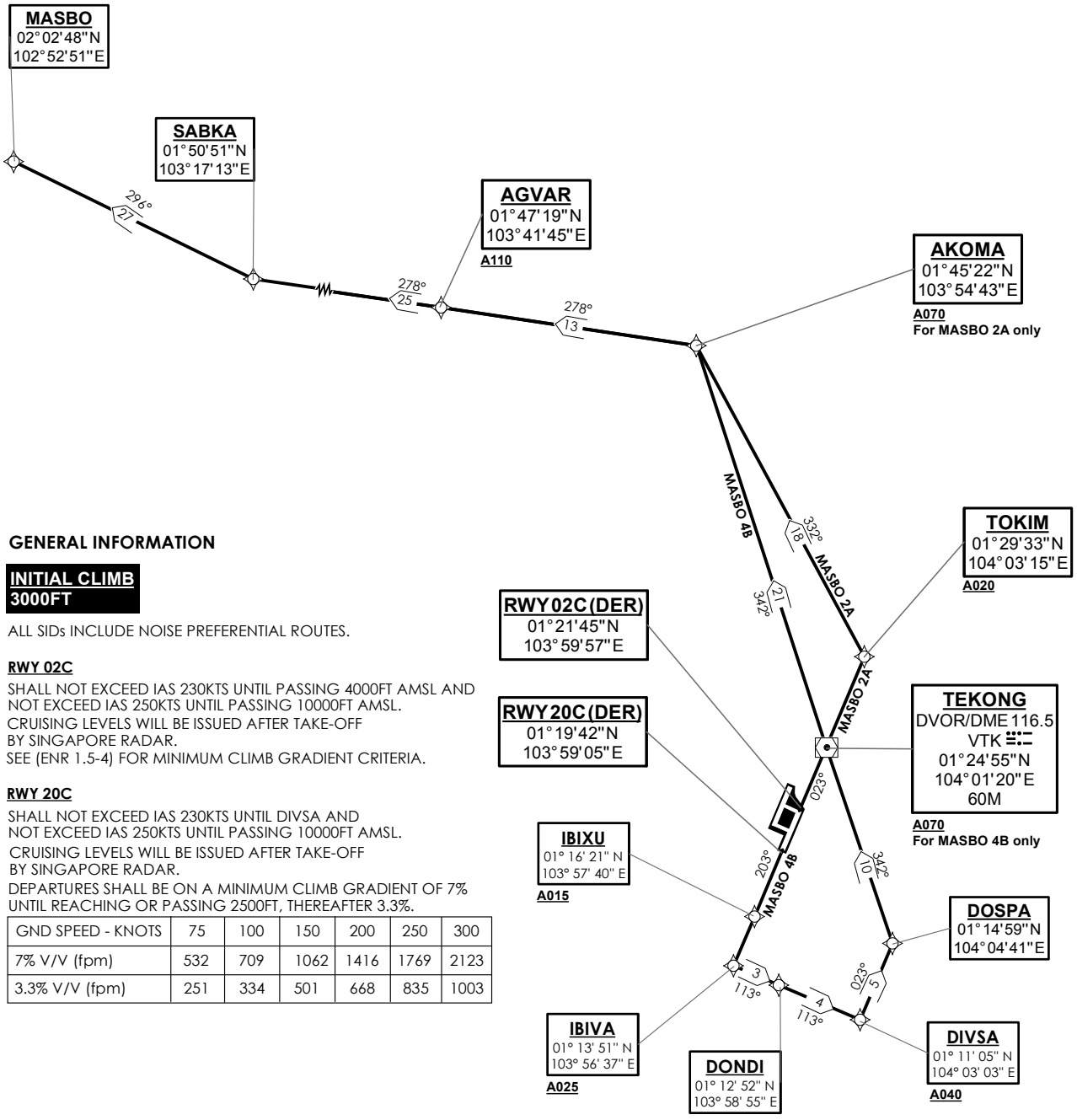
NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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





GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02C

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

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL DIVSA AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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

NOT TO SCALE

CHANGES : Removed "or as directed by ATC" from initial climb.

MASBO 2A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOKIM	-	023(022.5)	-0.5	L	A020+	-	RNAV1
TF	AKOMA	-	332(331.5)	-0.5	L	A070+	-	RNAV1
TF	AGVAR	-	278(277.5)	-0.5	-	A110+	-	RNAV1
TF	SABKA	-	278(277.5)	-0.5	R	-	-	RNAV1
TF	MASBO	-	296(295.5)	-0.5	-	-	-	RNAV1

MASBO 4B (SID) RNAV GNSS RWY 20C - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	IBIVA	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DONDI	-	113(112.5)	-0.5	-	-	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	L	A040+	K230	RNAV1
TF	DOSPA	-	023(022.5)	-0.5	L	-	-	RNAV1
TF	VTK	-	342(341.5)	-0.5	-	A070+	-	RNAV1
TF	AKOMA	-	342(341.5)	-0.5	L	-	-	RNAV1
TF	AGVAR	-	278(277.5)	-0.5	-	A110+	-	RNAV1
TF	SABKA	-	278(277.5)	-0.5	R	-	-	RNAV1
TF	MASBO	-	296(295.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

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

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

TWR 118.6 / 118.25
APP 120.3
ACC 133.8

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
MERSING DEPARTURES
VMR 5E (R02L)
VMR 8F (R20R)

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

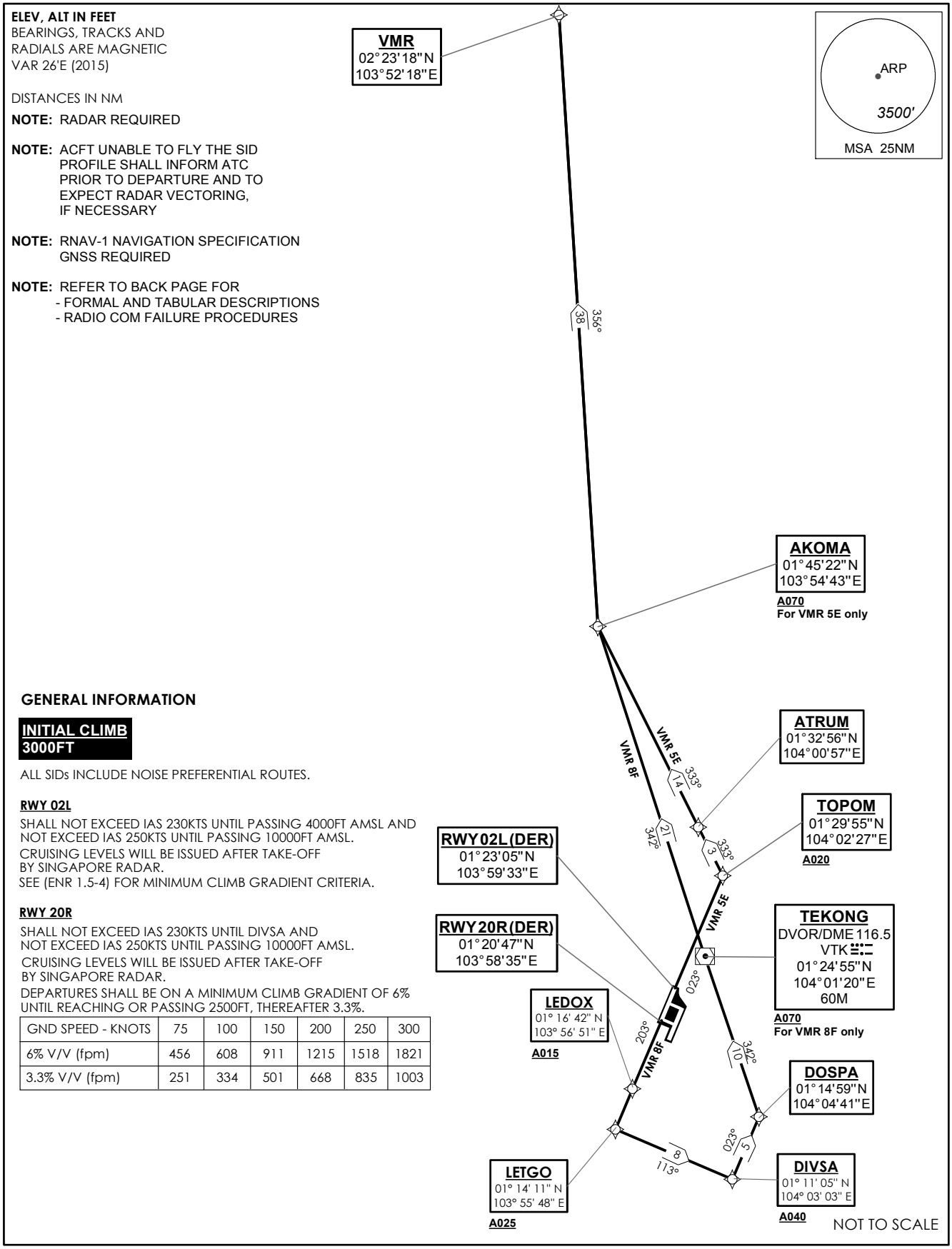
DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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



GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02L

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

RWY 20R

SHALL NOT EXCEED IAS 230KTS UNTIL DIVSA AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES 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

CHANGES : Removed "or as directed by ATC" from initial climb.

VMR 5E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOPOM	-	023(022.5)	-0.5	L	A020+	-	RNAV1
TF	ATRUM	-	333(332.5)	-0.5	-	-	-	RNAV1
TF	AKOMA	-	333(332.5)	-0.5	R	A070+	-	RNAV1
TF	VMR	-	356(355.5)	-0.5	-	-	-	RNAV1

VMR 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. To LETGO at or above 2500ft, turn left. To DIVSA at or above 4000ft, speed 230kts, turn left. To DOSPA, turn left. To VTK at or above 7000ft. To AKOMA, turn right. To VMR.	LEDOX [M203; A015+] - LETGO [A025+; L] - DIVSA [A040+; K230; L] - DOSPA [L] - VTK [A070+] - AKOMA [R] - VMR	CF TF TF TF TF TF TF	N N N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	LETGO	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	L	A040+	K230	RNAV1
TF	DOSPA	-	023(022.5)	-0.5	L	-	-	RNAV1
TF	VTK	-	342(341.5)	-0.5	-	A070+	-	RNAV1
TF	AKOMA	-	342(341.5)	-0.5	R	-	-	RNAV1
TF	VMR	-	356(355.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

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

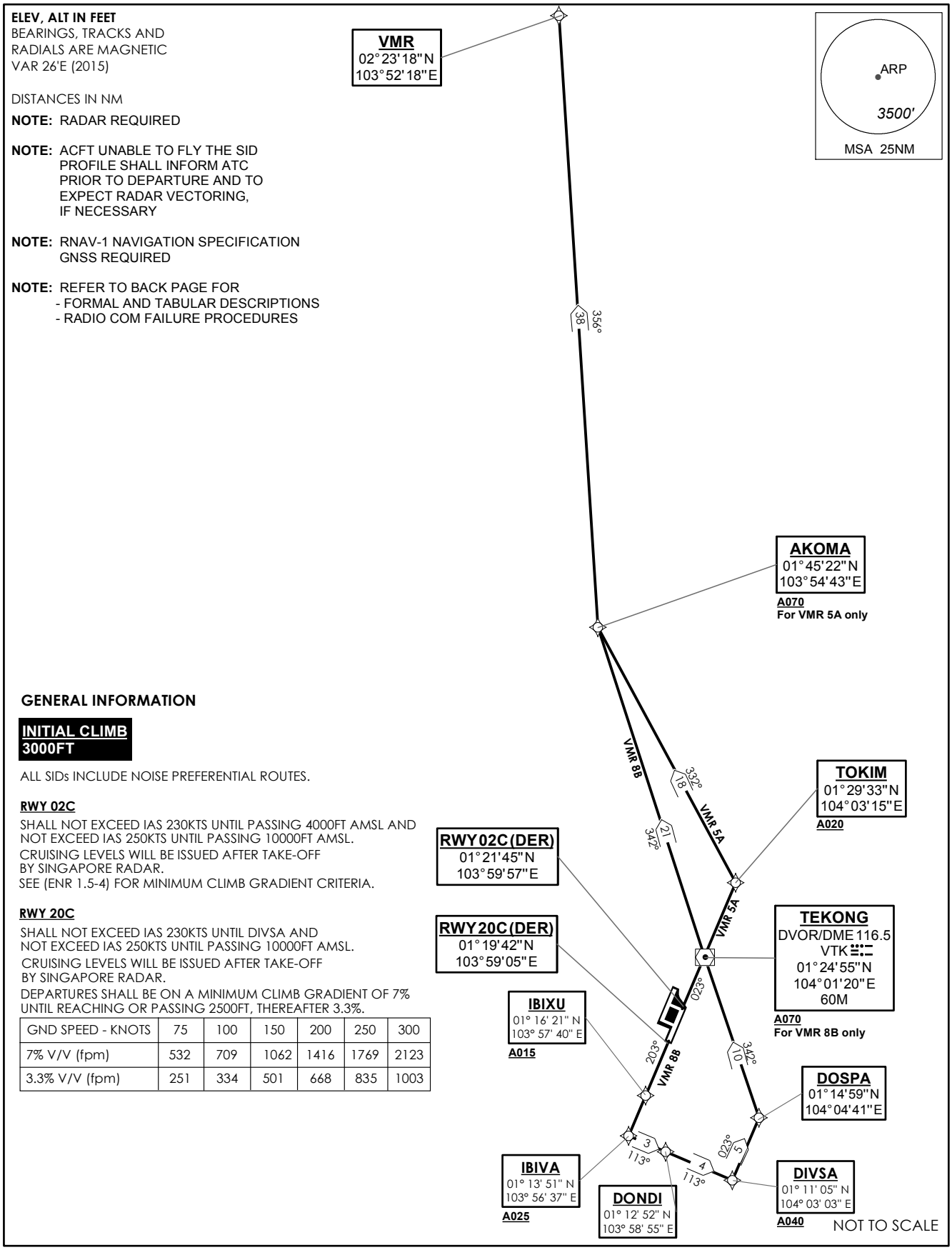
STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6 / 118.25
APP 120.3
ACC 133.8

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02C/20C
MERSING DEPARTURES
VMR 5A (R02C)
VMR 8B (R20C)



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

CHANGES : Removed "or as directed by ATC" from initial climb.

VMR 5A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOKIM	-	023(022.5)	-0.5	L	A020+	-	RNAV1
TF	AKOMA	-	332(331.5)	-0.5	R	A070+	-	RNAV1
TF	VMR	-	356(355.5)	-0.5	-	-	-	RNAV1

VMR 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. To IBIVA at or above 2500ft, turn left. To DONDI. To DIVSA at or above 4000ft, speed 230kts, turn left. To DOSPA, turn left. To VTK at or above 7000ft. To AKOMA, turn right. To VMR.	IBIXU [M203; A015+] - IBIVA [A025+; L] - DONDI - DIVSA [A040+; K230; L] - DOSPA [L] - VTK [A070+] - AKOMA [R] - VMR	CF TF TF TF TF TF TF TF	N N N N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	IBIVA	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DONDI	-	113(112.5)	-0.5	-	-	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	L	A040+	K230	RNAV1
TF	DOSPA	-	023(022.5)	-0.5	L	-	-	RNAV1
TF	VTK	-	342(341.5)	-0.5	-	A070+	-	RNAV1
TF	AKOMA	-	342(341.5)	-0.5	R	-	-	RNAV1
TF	VMR	-	356(355.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

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

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

TWR 118.6 / 118.25
APP 120.3
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

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

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

DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

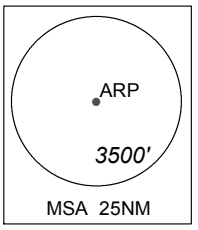
RWY 02C

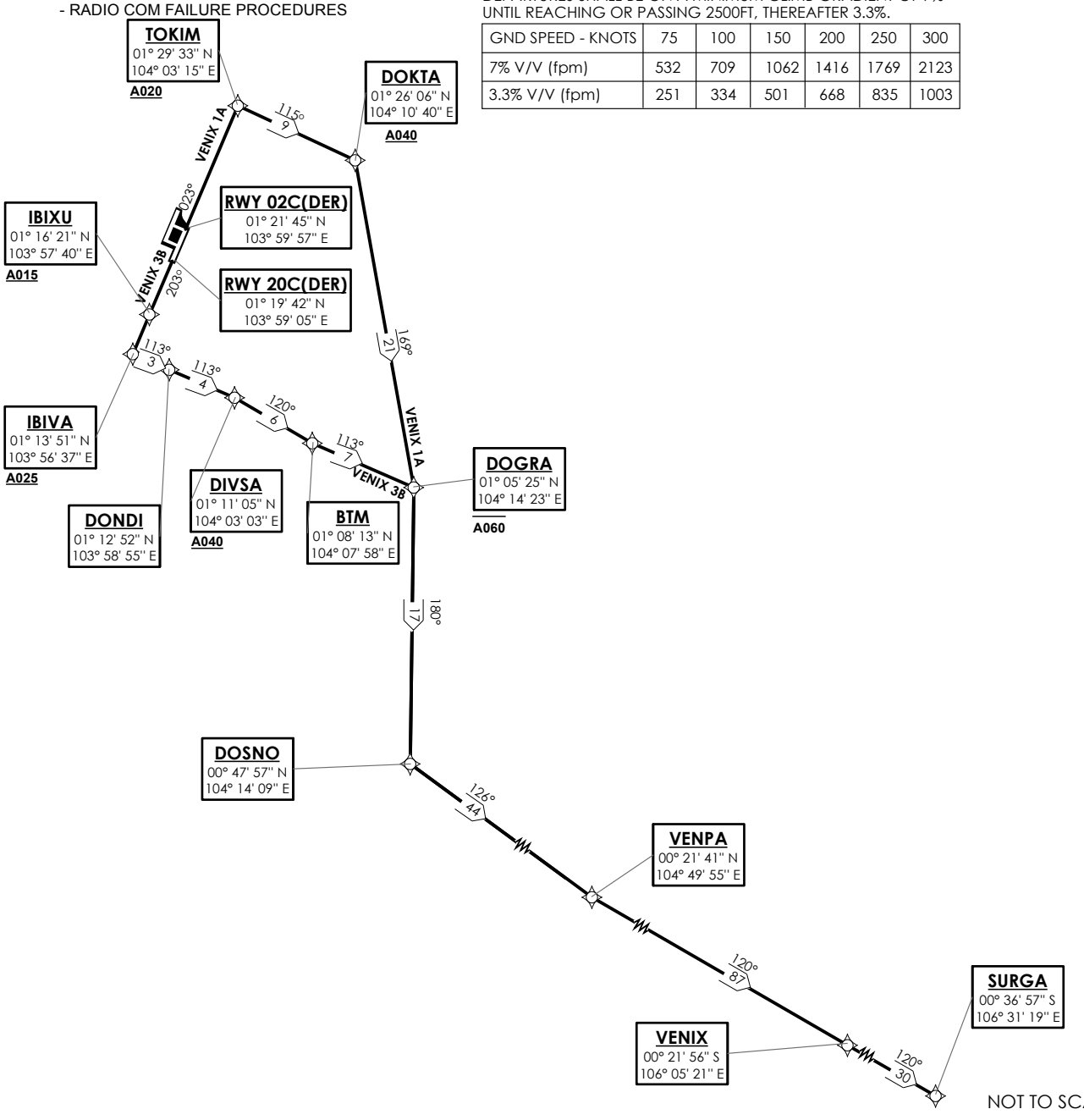
SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
SEE (ENR 1.5-4) FOR MINIMUM CLIMB GRADIENT CRITERIA.

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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





CHANGES : Removed "or as directed by ATC" from initial climb.

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

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOKIM	-	023(022.5)	-0.5	R	A020+	-	RNAV1
TF	DOKTA	-	115(114.5)	-0.5	R	A040+	-	RNAV1
TF	DOGRA	-	169(168.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	VENPA	-	126(125.5)	-0.5	L	-	-	RNAV1
TF	VENIX	-	120(199.5)	-0.5	-	-	-	RNAV1
TF	SURGA	-	120(199.5)	-0.5	-	-	-	RNAV1

VENIX 3B (SID) RNAV GNSS RWY 20C - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	IBIXU	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	IBIVA	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DONDI	-	113(112.5)	-0.5	-	-	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	R	A040+	-	RNAV1
TF	BTM	-	120(119.5)	-0.5	L	-	-	RNAV1
TF	DOGRA	-	113(112.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	VENPA	-	126(125.5)	-0.5	L	-	-	RNAV1
TF	VENIX	-	120(199.5)	-0.5	-	-	-	RNAV1
TF	SURGA	-	120(199.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

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

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

TWR 118.6 / 118.25
APP 120.3
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
VENIX DEPARTURES
VENIX 1E (R02L)
VENIX 3F (R20R)

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

DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

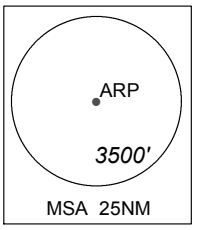
RWY 02L

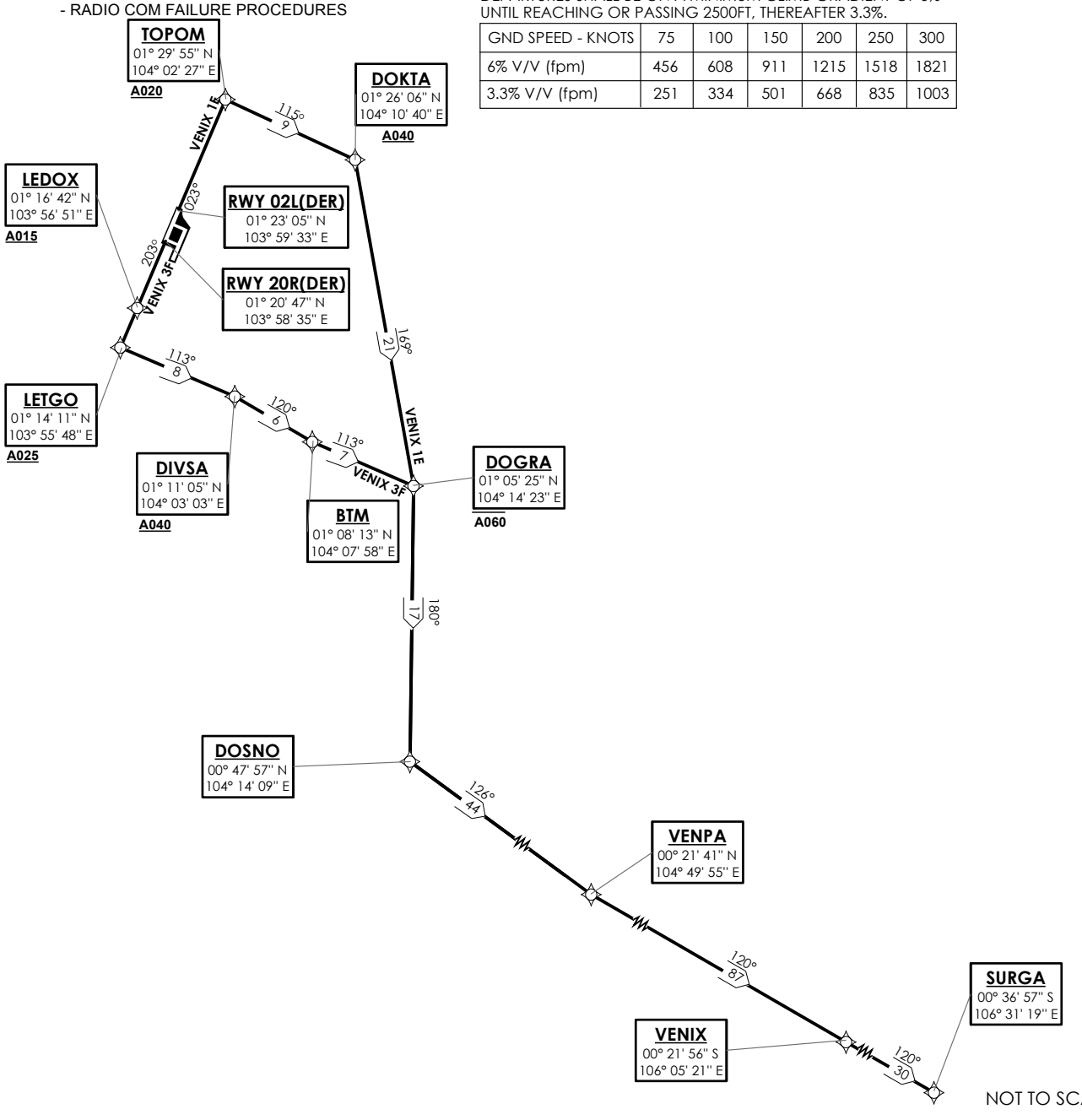
SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
SEE (ENR 1.5-4) FOR MINIMUM CLIMB GRADIENT CRITERIA.

RWY 20R

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





CHANGES : Removed "or as directed by ATC" from initial climb.

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

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOPOM	-	023(022.5)	-0.5	R	A020+	-	RNAV1
TF	DOKTA	-	115(114.5)	-0.5	R	A040+	-	RNAV1
TF	DOGRA	-	169(168.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	VENPA	-	126(125.5)	-0.5	L	-	-	RNAV1
TF	VENIX	-	120(199.5)	-0.5	-	-	-	RNAV1
TF	SURGA	-	120(199.5)	-0.5	-	-	-	RNAV1

VENIX 3F (SID) RNAV GNSS RWY 20R - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	LEDOX	-	203(202.5)	-0.5	-	A015+	-	RNAV1
TF	LETGO	-	203(202.5)	-0.5	L	A025+	-	RNAV1
TF	DIVSA	-	113(112.5)	-0.5	R	A040+	-	RNAV1
TF	BTM	-	120(119.5)	-0.5	L	-	-	RNAV1
TF	DOGRA	-	113(112.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	VENPA	-	126(125.5)	-0.5	L	-	-	RNAV1
TF	VENIX	-	120(199.5)	-0.5	-	-	-	RNAV1
TF	SURGA	-	120(199.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE ON:** **RWY 02L -** PROCEED STRAIGHT AHEAD TO NYLON HOLDING AREA (NHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE. **RWY 20R -** PROCEED STRAIGHT AHEAD 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
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

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

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

DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

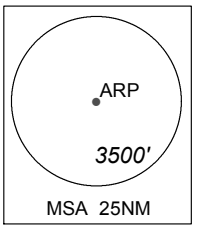
RWY 02C

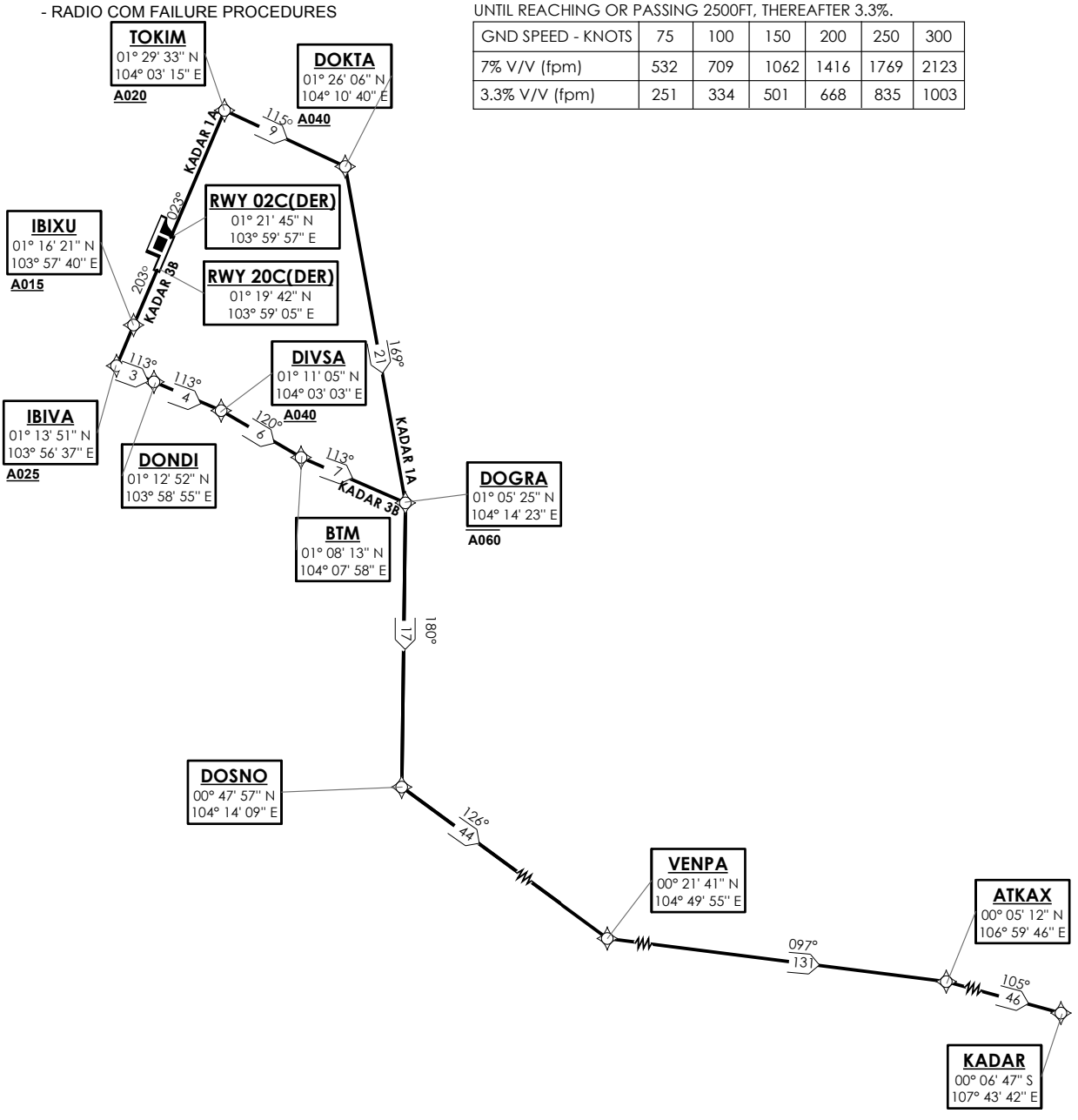
SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
SEE (ENR 1.5-4) FOR MINIMUM CLIMB GRADIENT CRITERIA.

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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





NOT TO SCALE

CHANGES : Removed "or as directed by ATC" from initial climb.

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

Formal & Abbreviated Descriptions

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

Tabular Descriptions

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

KADAR 3B (SID) RNAV GNSS RWY 20C - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

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

RADIO COMMUNICATIONS FAILURE PROCEDURE

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

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

TWR 118.6 / 118.25
APP 120.3
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
KADAR DEPARTURES
KADAR 1E (R02L)
KADAR 3F (R20R)

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

DISTANCES IN NM

NOTE: RADAR REQUIRED

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

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

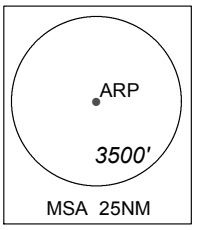
RWY 02L

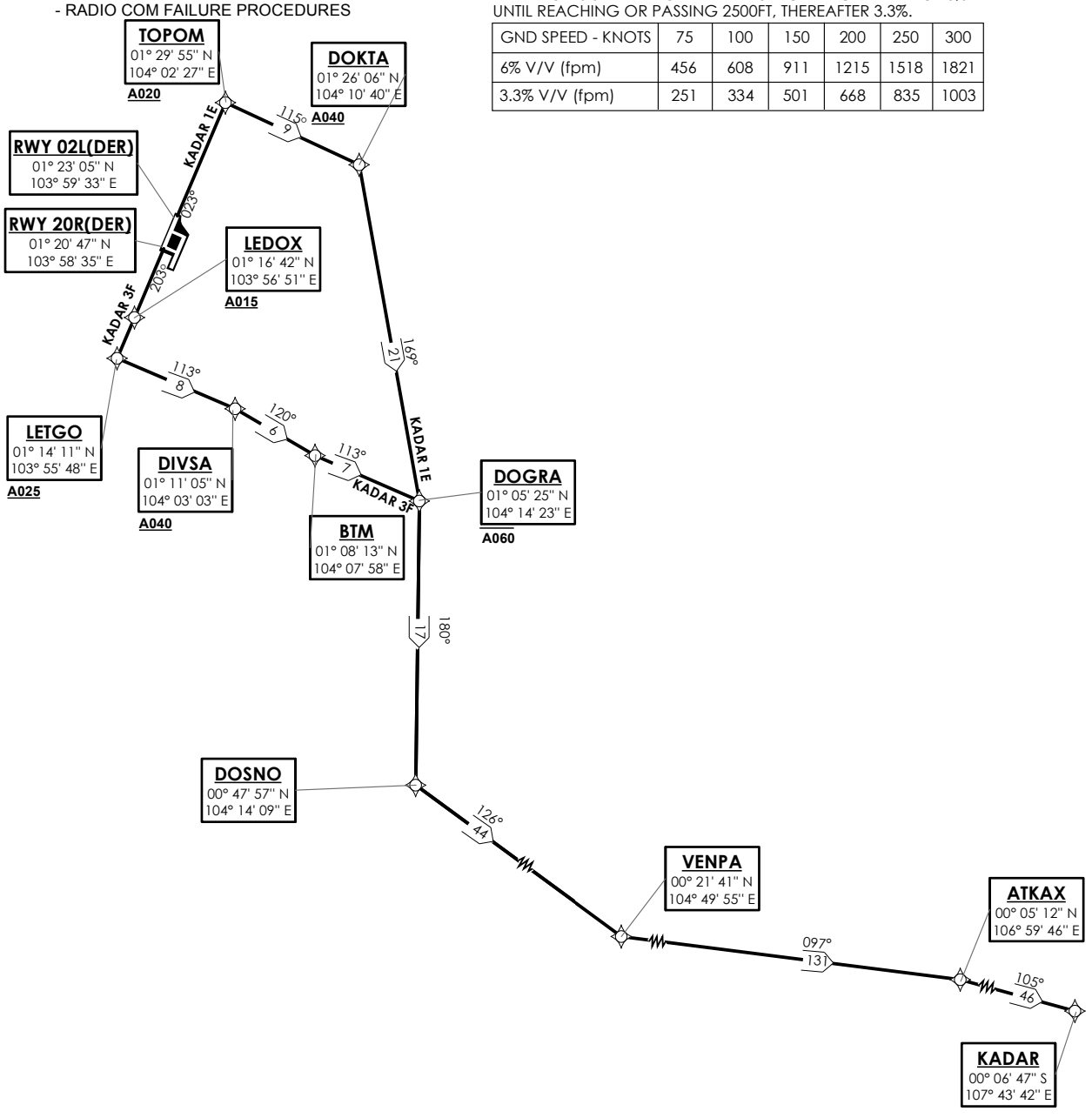
SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
SEE (ENR 1.5-4) FOR MINIMUM CLIMB GRADIENT CRITERIA.

RWY 20R

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

CHANGES : Removed "or as directed by ATC" from initial climb.

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

Formal & Abbreviated Descriptions

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

Tabular Descriptions

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

KADAR 3F (SID) RNAV GNSS RWY 20R - DESCRIPTIONS

Formal & Abbreviated Descriptions

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

Tabular Descriptions

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

RADIO COMMUNICATIONS FAILURE PROCEDURE

1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE ON:** **RWY 02L -** PROCEED STRAIGHT AHEAD TO NYLON HOLDING AREA (NHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE. **RWY 20R -** PROCEED STRAIGHT AHEAD 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 / 120.3
ARR 119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 20R/C
ARAMA ONE BRAVO ARRIVAL
ARAMA 1B

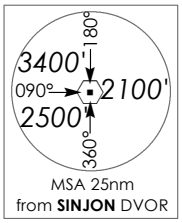
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 26'E (2015)

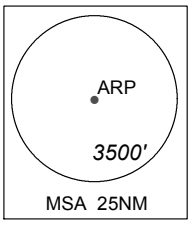
DISTANCES IN NM

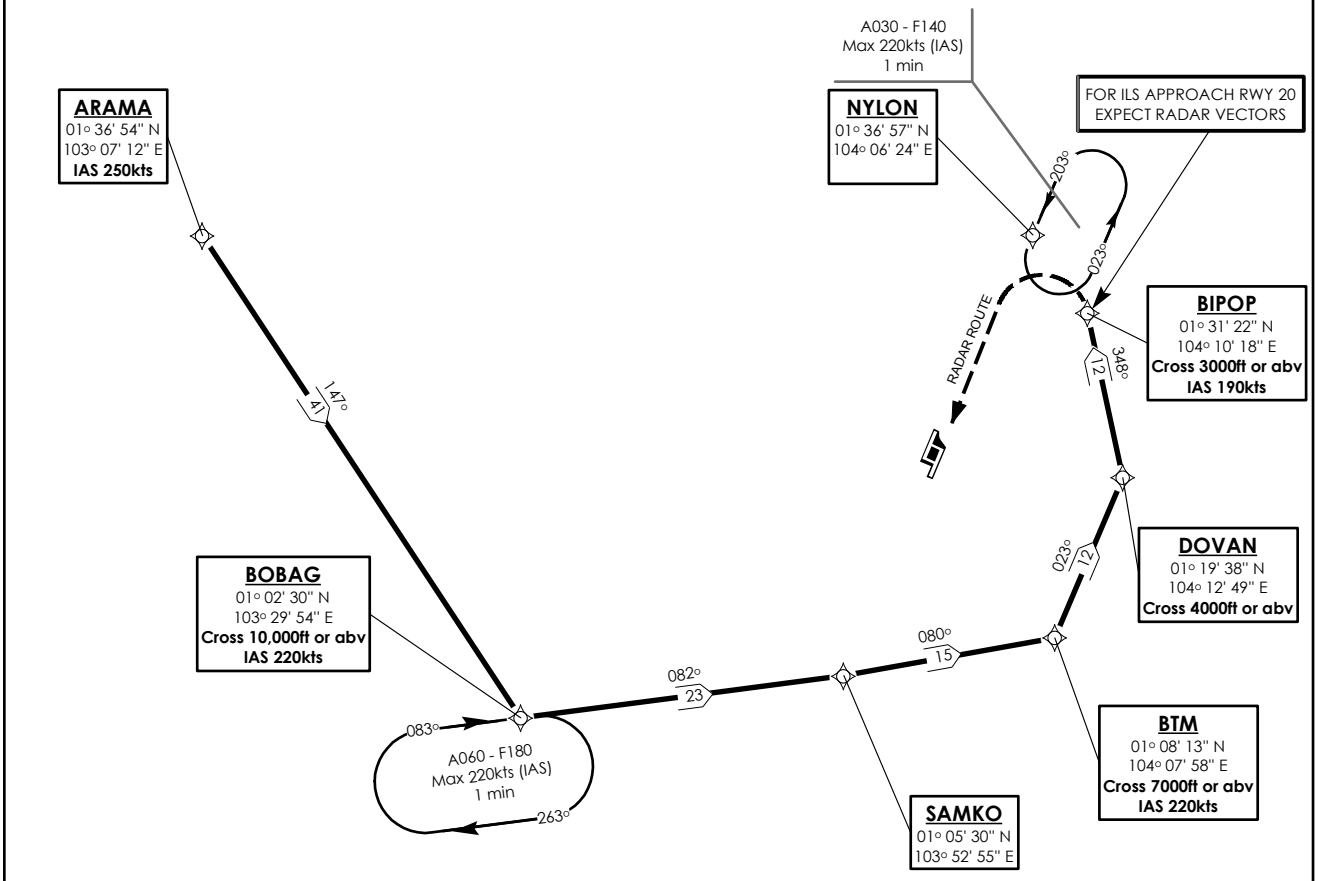
NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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







NOT TO SCALE

CHANGES : Reprint.

ARAMA 1B (STAR) RNAV GNSS RWY 20R/20C - DESCRIPTIONS

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From ARAMA, speed 250kts. To BOBAG at or above 10000ft, speed 220kts, turn left. To SAMKO, turn left. To BTM at or above 7000ft, speed 220kts, turn left. To DOVAN at or above 4000ft, turn left. To BIPOP at or above 3000ft, speed 190kts.	ARAMA [K250] - BOBAG [A100+; K220; L] - SAMKO [L] - BTM [A070+; K220; L] - DOVAN [A040+; L] - BIPOP [A030+; K190]	IF TF TF TF TF TF	N N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	ARAMA	-	-	-0.5	-	-	K250	RNAV1
TF	BOBAG	-	147(147.5)	-0.5	L	A100+	K220	RNAV1
TF	SAMKO	-	082(082.6)	-0.5	L	-	-	RNAV1
TF	BTM	-	080(080.5)	-0.5	L	A070+	K220	RNAV1
TF	DOVAN	-	023(023.1)	-0.5	L	A040+	-	RNAV1
TF	BIPOP	-	348(348.5)	-0.5	-	A030+	K190	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**When cleared via ARAMA 1B by Singapore ATC** **(a)** Maintain last assigned flight level or altitude and proceed on ARAMA 1B to BIPOP, then direct to NYLON **(b)** From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA **(c)** If unable to effect a landing, refer to Singapore AIP for missed approach procedure
3	**No clearance or instruction received from Singapore ATC** - Refer to Singapore AIP for radio communications failure procedure

STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC	133.25
APP	124.6 / 120.3
ARR	119.3
TWR	118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 20R/C
LELIB THREE BRAVO ARRIVAL
LELIB 3B

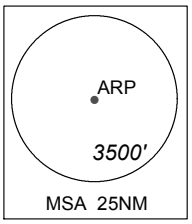
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 26'E (2015)

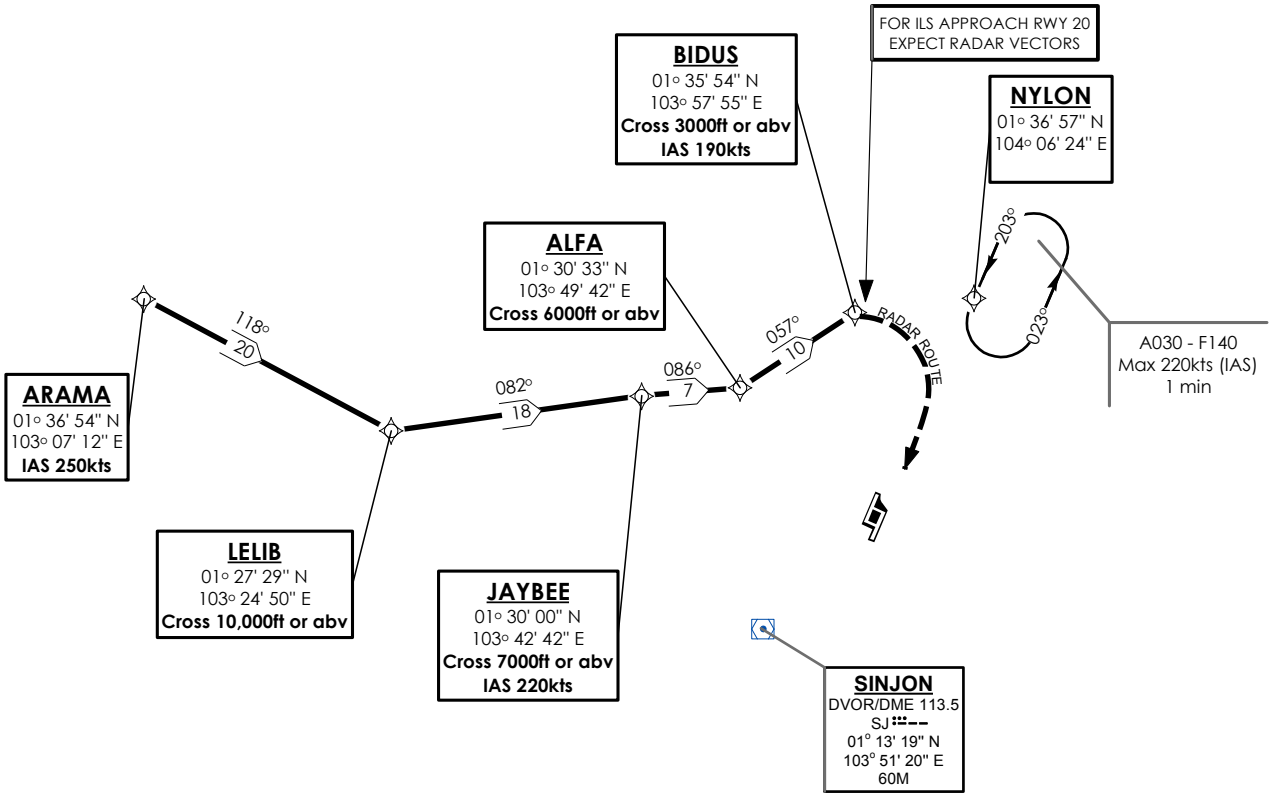
DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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





ARAMA 1B shall be the default STAR for WSSS RWY 20.
ATC will offer LELIB 3B when traffic permits.

NOT TO SCALE

CHANGES : Reprint.

LELIB 3B (STAR) RNAV GNSS RWY 20R/20C - DESCRIPTIONS

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From ARAMA, speed 250kts. To LELIB at or above 10000ft, turn left. To JAYBEE at or above 7000ft, speed 220kts, turn right. To ALFA at or above 6000ft, turn left. To BIDUS at or above 3000ft, speed 190kts.	ARAMA [K250] - LELIB [A100+; L] - JAYBEE [A070+; K220; R] - ALFA [A060+; L] - BIDUS [A030+; K190]	IF TF TF TF TF	N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	ARAMA	-	-	-0.5	-	-	K250	RNAV1
TF	LELIB	-	118(118.5)	-0.5	L	A100+	-	RNAV1
TF	JAYBEE	-	082(082.0)	-0.5	R	A070+	K220	RNAV1
TF	ALFA	-	086(086.5)	-0.5	L	A060+	-	RNAV1
TF	BIDUS	-	057(057.1)	-0.5	-	A030+	K190	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

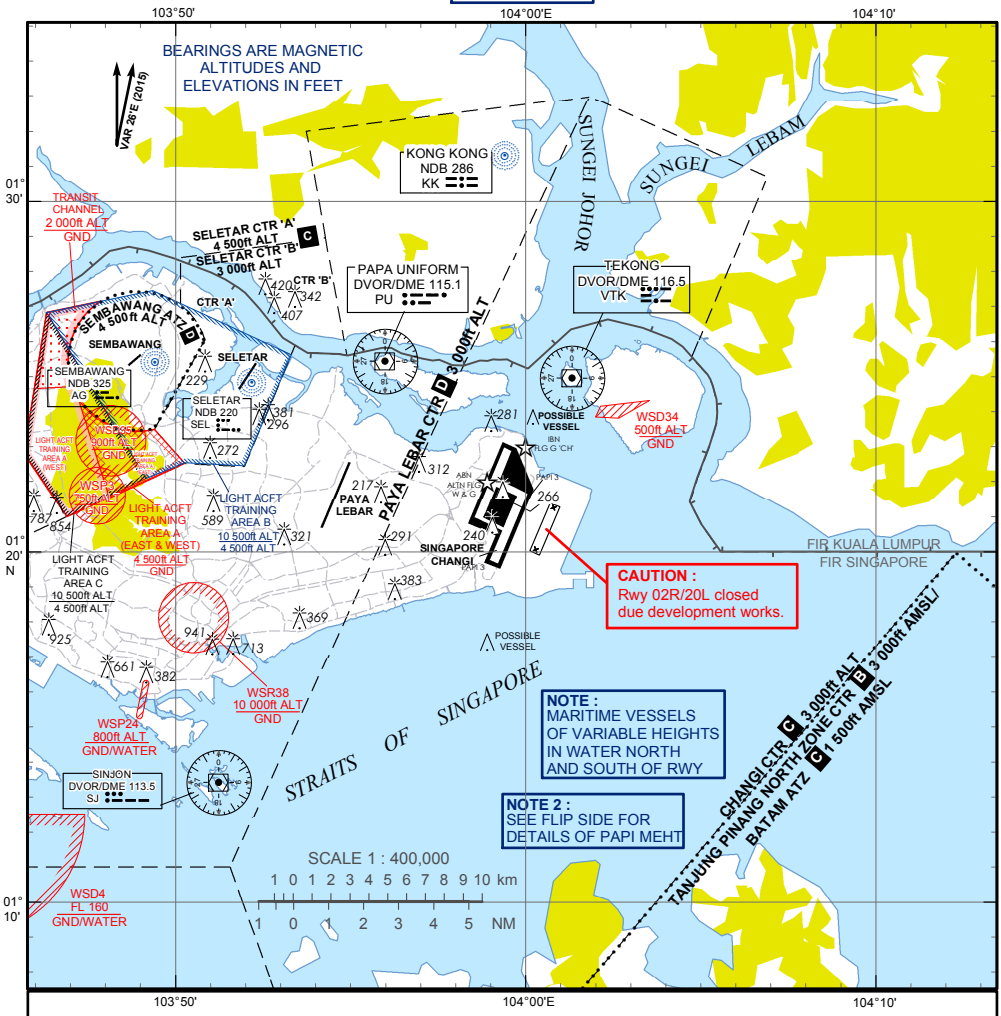
1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**When cleared via LELIB 3B by Singapore ATC** **(a)** Maintain last assigned flight level or altitude and proceed on LELIB 3B to BIDUS, then direct to NYLON **(b)** From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA **(c)** If unable to effect a landing, refer to Singapore AIP for missed approach procedure
3	**No clearance or instruction received from Singapore ATC** - Refer to Singapore AIP for radio communications failure procedure

VISUAL APPROACH CHART - ICAO

AERODROME ELEV 22 ft

D-ATIS	AP ID WSSS
	128.6
APP	120.3
	119.3
TWR	118.6
	118.25

SINGAPORE/SINGAPORE CHANGI



VISUAL APPROACH PROCEDURE

1. **An IFR flight operating into Singapore Changi Airport may be cleared for a visual approach subject to the following conditions :-**
   - a) **The pilot has the aerodrome in sight and can conduct his approach with visual reference to terrain;**
   - b) **The flight will not cause delay to other traffic;**
   - c) **There is no conflicting tall vessel movement;**
   - d) **The cloud ceiling at the aerodrome is 4,000ft or more for landing on RWY 20C/R and 3,000ft or more for on RWY 02C/L ; and**
   - e) **The visibility at the aerodrome is 5km or more.**
2. **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.**
3. **Pilots may expect radar vectoring for separation and sequencing with other traffic prior to being cleared for a visual approach.**

PAPI 3° (MEHT)*				
Pilot's eye height over the threshold when the following PAPI lights come in view.	**RUNWAY**			
	02L	20R	02C	20C
2 White lights and 2 Red lights	20.0m	20.0m	19.8m	19.8m
3 White lights and 1 Red light	24.0m	22.6m	23.7m	23.7m
4 White lights	26.4m	25.0m	26.2m	26.2m

*MEHT : Minimum Eye Height Over the Threshold.

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.

WSSL — SINGAPORE / SELETAR

WSSL AD 2.1 AERODROME LOCATION INDICATOR AND NAME

WSSL — SINGAPORE / SELETAR

WSSL AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

1	*ARP Coordinates and Site at AD*	012501.04N 1035203.52E
2	*Direction and distance from (city)*	006°, 14.6km from city centre (The Fullerton Hotel, Singapore)
3	*Elevation/Reference Temperature*	14 M (46ft) / 33.5°C
4	*Geoid Undulation*	9.78 M
5	MAG VAR	0°26' E (2015)
6	*AD Administration, Address, Telephone, Telefax, AFS*	Address: CHANGI AIRPORT GROUP (S) PTE LTD SELETAR AIRPORT 21 Seletar Aerospace Road 1 Singapore 797405 TEL: (65)64812909, Fax: (65)64833044 (AIS) TEL: (65)64812893, Fax: (65)64831656 (Control Tower) TEL: (65)64815077, 97533361 FAX: (65)64831754 (Airside Operations) AFS: WSSLYDYX
7	*Types of Traffic Permitted*	IFR and VFR
8	*Remarks*	a. Scheduled Closure Periods for RWY 03/21: see AIP section WSSL AD 2.12 item 12 i). b. Night flight restriction for noise abatement purpose (see AIP section WSSL AD 2.21). c. PPR for aircraft not equipped with RTF. d. A subsonic jet aircraft, unless otherwise exempted, is not permitted to operate in Singapore unless it possesses a noise certificate stating that it meets the noise standards of ICAO Annex 16, Volume 1, Chapter 3, or equivalent. The noise certificate may also take the form of a suitable statement contained in another document approved by the State of Registry of the aircraft. e. Direct transit area. Overnight transit in Singapore city. f. All arriving and departing aircraft are required to appoint a licensed Ground Handling Agent (GHA). List of Seletar GHAs can be downloaded from URL - http://www.seletarairport.com/ground-handling-agents-at-seletar-airport.html g. For non-scheduled flights, all passengers and crews are required to clear Customs and Immigration at Seletar Business Aviation Centre (SBAC)

WSSL AD 2.3 OPERATIONAL HOURS

1	*Aerodrome Administration*	H24	5	*ATS Reporting Office*	H24
2	*Customs and Immigration*	H24	6	*MET Briefing Office*	H24
3	*Health and Sanitation*	H24	7	*Air Traffic Services*	H24
4	*AIS Self-Briefing Office*	H24	8	*Apron Control Office*	H24

WSSL AD 2.4 HANDLING SERVICES AND FACILITIES

1	*Cargo Handling Facilities*	Provided by handling agent.
2	*Fuel / Oil Types*	AVGAS 100LL, JET A1
3	*Fuelling Facilities / Capacity*	SUN/MON to THU/FRI BTN 2330-1400; SAT, SUN and Public holidays BTN 0030-0930 Contact during operating hours: TEL: (65)68538320 (Operations Room) Contact after operating hours: TEL: (65)91130816 (H24 Operations Mobile) FAX: (65)64839246 Group email: GX-SAV-Seletar-Operations24by7@shell.com PPP link: http://www.shell.com/business-customers/aviation/ppp.html
4	*Hangar space for visiting aircraft*	By arrangement with handling agent.
5	*Repair facilities for visiting aircraft*	By arrangement with handling agent.
6	*Remarks*	NIL

WSSL AD 2.5 PASSENGER FACILITIES

1	*Hotels*	NIL
2	*Restaurants*	Public area of terminal building
3	*Transportation*	Handling agent provides its own transport service for passengers and crew between airport and city. Public buses and private hired taxis are available at airport terminal.
4	*Medical Facilities*	NIL
5	*Bank and Post Office*	NIL
6	*Tourist Office*	NIL
7	*Remarks*	Internet address : http://www.seletarairport.com / for airport and flight information, facilities and services.

WSSL AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

1	*AD category for fire fighting*	CAT7 (No facilities for foaming of runways).
2	*Rescue equipment*	Adequately provided as recommended by ICAO.
3	*Capability for removal of disabled aircraft*	Up to B757-200. Contact Seletar Airside Operations at: +65 64815077 or +65 97533361
4	*Remarks*	All Airport Emergency Service personnel are trained in rescue and fire-fighting as well as medical first-aid.

WSSL AD 2.7 SEASONAL AVAILABILITY - CLEARING

The aerodrome is available throughout the year

WSSL AD 2.18 ATS COMMUNICATION FACILITIES

Service designation	Call sign	Frequency P-Pri S-Sec	Hours of operation	Remarks
TWR	Seletar Tower	P118.45 MHz S130.2 MHz 270.4 MHz	H24	
	Seletar Ground	121.6 MHz * 122.9 MHz		* for vehicular movements
ACC	Singapore Radar	P123.7 MHz S127.3 MHz		For AWY B469, G334, R208, L625, L629, L635, L642, M751, M753, M758, M761, M763, M771, N884, N891 and N892
		133.8 MHz	0000-1430	
		P133.25 MHz S135.8 MHz	H24	For AWY A457, A464, A576, B466, L762, R325 (all northbound) and R469.
		P134.2 MHz S133.35 MHz		For AWY G580, M646 and M767
		P134.4 MHz S128.1 MHz 255.4 MHz		For AWY A464, A576, G579 (all southbound), B470, G220, N875 and in area in the immediate vicinity of Singapore
				Radar Maintenance Period: Monthly - every third SAT BTN 1601-2359
	Singapore Radio	6556 kHz 11297 kHz		SEA 1. SATCOM SER AVBL SSB suppressed carrier
		5655 kHz 8942 kHz 11396 kHz		SEA 2. SATCOM SER AVBL SSB suppressed carrier
		6556 kHz		SEA 3. SATCOM SER AVBL SSB suppressed carrier
APP	Singapore Approach	P120.3 MHz S124.6 MHz		TAR: a) Intermediate APCH to Singapore Changi AP and other airports in Singapore b) DEP from all airports in Singapore Maintenance Period: Monthly: every first SAT BTN 1601-2359 (ASR I) and every fourth SAT BTN 1601-2359 (ASR II)
	Seletar Approach	126.025 MHz	0000-1500	TAR - Intermediate and final approach to Seletar Airport

WSSL AD 2.19 RADIO NAVIGATION AND LANDING AIDS

Type of Aid and Variation	IDENT	Frequency	OPR Hour	Position of Transmitting Antenna Coordinates	DME Transmitting Antenna Elevation / Remarks
1	2	3	4	5	6 & 7
JAYBEE NDB	JB	400 KHz (80w)	H24	012959.77N 1034241.82E	BRG 298° DIST 19.6km from ARP Seletar. Coverage 50NM. Unusable 285°-060° beyond 20NM. Bearing fluctuations greater than +/- 10° may be observed in sector 138° to 148°. EM: A0/A2
KONG KONG NDB	KK	286 KHz (70w)	H24	013117.76N 1035923.69E	BRG 049° DIST 17.7km from ARP Seletar. Coverage 50NM. Unusable 270°-010° beyond 30NM. Bearing fluctuations greater than +/- 10° may be observed in sector 048° to 052°. EM: A0/A2
SELETAR NDB	SEL	220 KHz	H24	012448.50N 1035210.16E	BRG 152° DIST 0.44km from ARP Seletar. Coverage 50NM. EM: A0/A2
RWY 21 ILS LLZ	SEL	110.3 MHz	H24	012422.38N 1035138.28E	Located 309m (1014ft) from THR RWY 03, along RWY centreline. Course width 5.71°. EM: A0/A2. Maintenance Period: First Friday of every month between 1600-2300 or second Friday if the first Friday is a public holiday.
RWY 21 ILS GP	-	335 MHz	H24	012511.78N 1035214.97E	Located 255m (837ft) from THR RWY 21 on left side of the RWY, 114m (374ft) from RWY centreline. GP angle 3.5°. HGT of ILS Reference Datum: 16.2m (54ft) EM: A0/A2
RWY 21 ILS DME	SEL	CH40X	H24	012511.78N 1035214.97E	DME co-located with GP. EM: P9

AERODROME CHART - ICAO

01° 25' 01.04"N
103° 52' 03.52"E

ELEV 14m

TWR 118.45
121.6

SINGAPORE/SELETAR

RWY	DIRECTION	THR	RUNWAY BEARING STRENGTH
03	033°	01 24 30.846N 103 51 43.791E	PCN 44/F/C/X/T
21	213°	01 25 20.791N 103 52 16.425E	
APRONS		BEARING STRENGTH All Aircraft Stands PCN 41/R/C/W/T except C7 PCN44/F/C/X/T	

ELEVATIONS AND DIMENSIONS IN METRES

VAR 26°E (2015)
ANNUAL CHANGE NEGLIGIBLE

Pulau Ponggol Barrat

PRECISION APPROACH CAT I LIGHTING SYSTEM (BARRETTE CENTRE LINE)

RESA 240 x 150m

CWY 60 x 150m

AP IBN
Flg G 'SL'

SELETAR WEST LINK

PAPI 3.5°

STRIP 1956m X 280m

Paved Shoulder

GP Antenna

ANEMOMETER
RVR
F/S METER

ST AEROSPACE ENGINEERING

SYFC

WEST CAMP ROAD

1836m X 46m BITUMINOUS CONCRETE

Compass Swing Area

NEW SELETAR PASSENGER TERMINAL

SELETAR NDB 220
SEL

ABN
Altn Flg W & G
every 2.5 sec

CONTROL TWR
AIS, MET, FIRE STATION
EAST AFLCC

SELETAR AEROSPACE DRIVE

Helicopter Landing Area
(Restricted to normal landing and take-off operations only. Running landing not allowed due to unsuitable ground condition.)

PAPI 3°

CWY 60 x 150m

RESA 240 x 92m

ELEV 14

LOCALISER

LLZ BDLG

BELL HELICOPTER

ROMBUSRIDER

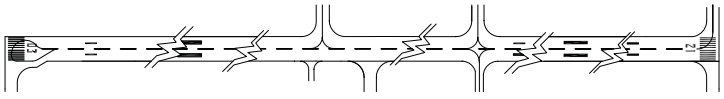
Metres
100 0 100 200 300
400 0 400 800 1200
Feet

PAPI 3°(RWY 03)/3.5°(RWY21) (MEHT) *		
Pilot's eye height over the threshold when the following PAPI lights come into view.	RUNWAY 03	21
2 White lights and 2 Red lights	17.720m	17.720m
3 White lights and 1 Red lights	20.323m	19.286m
4 White lights	22.927m	20.871m

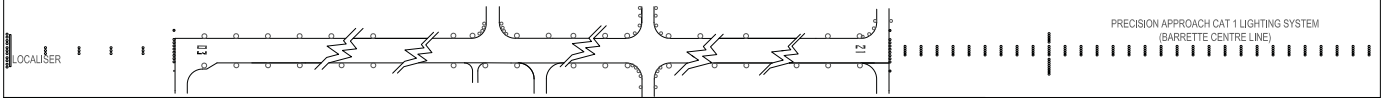
* MEHT : Minimum Eye Height Over the Threshold
Note Aircraft with eye-to-wheel height greater than 6,3 metres are advised to fly with 2 white lights and 2 red lights visible so as to achieve sufficient wheel clearance.

LEGEND	
AIRCRAFT STAND	C8
Taxiway Centre Line Lights	
Runway Edge Lights	
Taxiway Edge Lights	
TAXI HOLDING POSITION	
STOP BAR	•••
MAST FOR WIND MONITORING SYSTEM	⊗
THRESHOLD IDENTIFICATION LIGHTS 15m FROM RUNWAY EDGES	•

MARKING AIDS RWY 03/21 AND EXIT TWY



LIGHTING AIDS RWY 03/21 AND EXIT TWY



CHANGES : Reprint.

INS COORDINATES FOR AIRCRAFT STANDS

STAND NR	NORTH LATITUDE	EAST LONGITUDE	ELEVATION
A1	01 25 13.102	103 51 56.167	6.181m (20.280ft)
A2	01 25 12.779	103 51 56.653	6.338m (20.795ft)
A3	01 25 12.350	103 51 57.301	6.586m (21.609ft)
A4	01 25 12.029	103 51 57.787	6.761m (22.183ft)
A50	01 24 51.431	103 52 05.765	7.807m (25.615ft)
A51	01 24 51.110	103 52 06.251	7.948m (26.077ft)
A52	01 24 50.681	103 52 06.900	8.105m (26.593ft)
A53	01 24 50.358	103 52 07.387	8.211m (26.940ft)
A54	01 24 50.036	103 52 07.874	8.337m (27.354ft)
A55	01 24 48.591	103 52 06.930	8.750m (28.709ft)
A56	01 24 48.913	103 52 06.443	8.587m (28.174ft)
A57	01 24 49.236	103 52 05.957	8.402m (27.567ft)
A58	01 24 49.665	103 52 05.309	8.179m (26.835ft)
A59	01 24 49.987	103 52 04.822	8.014m (26.294ft)
B1	01 25 11.401	103 51 55.231	6.301m (20.674ft)
B2	01 25 10.817	103 51 56.116	6.639m (21.783ft)
B3	01 25 10.221	103 51 57.014	6.967m (22.859ft)
B4	01 25 09.180	103 52 00.361	7.703m (25.274ft)
B5	01 25 08.258	103 51 59.758	7.933m (26.028ft)
B6	01 25 07.348	103 51 59.163	8.163m (26.783ft)
B7	01 25 04.505	103 51 57.519	8.442m (27.698ft)
B8	01 25 03.635	103 51 56.951	8.406m (27.580ft)
B9	01 25 02.765	103 51 56.382	8.396m (27.547ft)
B10	01 25 01.893	103 51 55.814	8.383m (27.505ft)
B11	01 25 01.006	103 51 55.237	8.330m (27.331ft)
B12	01 25 00.109	103 51 54.650	8.449m (27.721ft)
B13	01 24 59.374	103 51 54.170	8.571m (28.121ft)
B50	01 24 43.887	103 52 00.875	8.753m (28.719ft)
B51	01 24 43.153	103 52 00.394	8.847m (29.027ft)
B52	01 24 42.063	103 51 59.681	8.988m (29.490ft)
B53	01 24 41.328	103 51 59.202	9.183m (30.129ft)
B54	01 24 40.154	103 51 58.435	9.358m (30.704ft)
B55	01 24 39.420	103 51 57.954	9.434m (30.953ft)
B56	01 24 38.347	103 51 57.253	9.592m (31.471ft)
B57	01 24 37.614	103 51 56.774	9.679m (31.757ft)
B58	01 24 36.462	103 51 56.021	9.806m (32.172ft)
B59	01 24 35.728	103 51 55.541	9.930m (32.580ft)
B60	01 24 32.416	103 51 53.376	10.094m (33.117ft)
B61	01 24 31.265	103 51 52.624	10.177m (33.389ft)
B62	01 24 30.529	103 51 52.144	10.246m (33.617ft)
B63	01 24 23.858	103 51 47.937	10.639m (34.907ft)
C1	01 25 18.803	103 52 06.627	5.105m (16.750ft)
C2	01 25 17.498	103 52 05.773	5.423m (17.793ft)
C3	01 25 16.192	103 52 04.921	5.759m (18.895ft)
C4	01 25 14.887	103 52 04.067	6.256m (20.526ft)
C5	01 25 13.581	103 52 03.214	6.824m (22.390ft)
C6	01 25 12.275	103 52 02.360	7.304m (23.964ft)
C7	01 25 05.738	103 51 54.466	7.192m (23.596ft)
C50	01 24 29.476	103 51 51.396	10.381m (34.060ft)
C51	01 24 27.626	103 51 50.188	10.589m (34.743ft)
C52	01 24 25.781	103 51 48.979	10.770m (35.335ft)
C60	01 24 54.470	103 52 16.296	6.280m (20.604ft)
C61	01 24 53.483	103 52 15.651	6.301m (20.673ft)
C62	01 24 52.496	103 52 15.006	6.312m (20.709ft)
D1	01 25 14.663	103 51 58.151	6.408m (21.025ft)
D2	01 25 24.033	103 52 04.804	3.471m (11.388ft)
D50	01 25 00.056	103 52 11.563	6.680m (21.916ft)
D51	01 25 01.585	103 52 12.561	6.440m (21.129ft)
D52	01 25 02.828	103 52 13.373	6.280m (20.604ft)
D53	01 25 04.357	103 52 14.372	6.040m (19.816ft)
D54	01 25 05.600	103 52 15.184	5.820m (19.094ft)
D55	01 25 07.129	103 52 16.184	5.550m (18.209ft)
D56	01 25 08.372	103 52 16.997	5.320m (17.454ft)

INSTRUMENT APPROACH CHART - ICAO

AD ELEV 46 ft
HEIGHT RELATED TO THR RWY 21 - ELEV 17 ft

MSA 3500 / ARP / 25 NM

APP	120.3 126.025
TWR	118.45 270.4

SINGAPORE/SELETAR
SEL ILS RWY 21

103°48'5"E 103°52'5"E 103°56'5"E 104°0'5"E

1°32'2"N 1°28'2"N 1°24'2"N

DME REQUIRED
GNSS REQUIRED

BEARINGS ARE MAGNETIC
ALTITUDES, ELEVATIONS
AND HEIGHTS ARE IN FEET

VAR 2.6°E (2015)

JOHOR TMA

MISSED APCH
MNM ALT 5 000
178°
356°
AKOMA
20 DME
01°45' 22.00"N
103°54' 43.00"E

BETBA
7.9 DME
01° 33' 02.00" N
103° 53' 31.00" E

005°
3.3 NM

028°
6.8 NM

(IF)
TODOS
8.3 DME
01° 32' 12.16"N
103° 56' 45.21"E

FROM AKOTI
3.5 NM
213°

EXPECT RADAR VECTOR TO (IAF) AKOTI
(IAF)
AKOTI
11.8 DME
01°35' 07.96"N
103°58' 40.08"E

3 NM
213°

POPOM
2.7 DME
01° 26' 58.95" N
103° 50' 13.80" E

(FAP/FAF)
BATOR
5.3 DME
01° 29' 41.48" N
103° 55' 06.76" E

5.2 NM
213°

(MAPt)
RW21
0.1 DME
01° 25' 20.79" N
103° 52' 16.43" E

WMP228
5000ft ALT
GND

SEMBAWANG
SEMBAWANG ATZ
TENGAH ATZ
LLZ 110.3
SEL
SELETAR C/TR
PAYA LEBAR C/TR
CHANGI C/TR
KUALA LUMPUR FIR
SINGAPORE FIR
MOBILE CRANES
WSD5
500ft ALT
GND
WSD35
700ft ALT
GND
WSP3
750ft ALT
GND
PAYA LEBAR
CHANGI

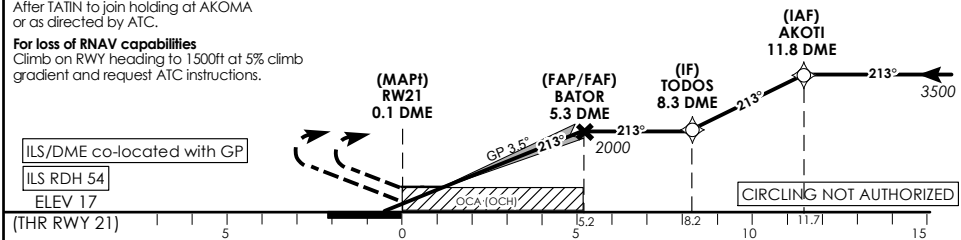
SCALE 1 : 250,000
0 1 2 3 4 Km
0 0.5 1 2 NM

Note 1: This procedure requires a missed approach climb gradient of 5% (304 ft/NM) until passing 5,000ft. Pilot to inform ATC if unable. For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the CAT I OCA (OCH) is 850ft (830ft) and GP INOP OCA (OCH) is 1080ft (1060ft).
Note 2: No turn prior to MAPt.
Note 3: Pilots to maintain 20° bank angle and MAX IAS 160kts during turning missed approach.
Note 4: In VMC, default shall be Visual Approach. ATC will clear aircraft on ILS Approach subject to air traffic and meteorological conditions.

MISSED APPROACH
Climb on RWY heading to 1500ft, then turn right to POPOM to maintain 2000ft.
At POPOM, continue climb to BETBA, then turn left to maintain 5000ft by TATIN.
After TATIN to join holding at AKOMA or as directed by ATC.

For loss of RNAV capabilities
Climb on RWY heading to 1500ft at 5% climb gradient and request ATC instructions.

Transition Level : FL 130
Transition Alt : 11 000



OCA (OCH)				
Category of Aircraft		A	B	C
CAT I ILS	5%	**380 (360)**	**390 (370)**	**400 (380)**
GP INOP	5%	**650 (630)**		

Speed	knots	70	100	130	160
FAF - MAPt 5.2Nm	min : s	**4:27**	**3:07**	**2:24**	**1:57**
Rate of descent	ft/min	**435**	**620**	**805**	**990**

CHANGES : RDH revised.

ILS RWY 21

Designator	Path Term	Waypoint Name	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Dir	Altitude	Speed (IAS)	VPA/ TCH(ft)	Navigation Spec
ILS RWY 21	IF	AKOTI (IAF)	-	-	-	-	-	A035+	-	-	RNP APCH
ILS RWY 21	TF	TODOS (IF)	-	213 (213.5)	-0.5	3.5	-	A020@	-	-	RNP APCH
ILS RWY 21	TF	BATOR (FAP/FAF)	-	213 (213.5)	-0.5	3.0	-	A020@	-	-	RNP APCH
ILS RWY 21	TF	RW21 (MAPt)	Y	213 (213.5)	-0.5	5.2	-	-	-	-3.5°/ 54	RNP APCH
ILS RWY 21	CA	-	-	213 (213.5)	-0.5	-	-	A015	160	-	RNP APCH
ILS RWY 21	DF	POPOM	-	-	-	-	-	A020-	-	-	RNP APCH
ILS RWY 21	TF	BETBA	-	028 (028.5)	-	6.8	L	A040+	-	-	RNP APCH
ILS RWY 21	TF	TATIN	-	005 (005.5)	-0.5	3.3	-	A050+	-	-	RNP APCH
ILS RWY 21	TF	AKOMA	Y	005 (005.5)	-0.5	9.0	-	A050+	-	-	RNP APCH

Waypoint	Coordinates	
	Latitude	Longitude
AKOTI (IAF)	01° 35' 07.96" N	103° 58' 40.08" E
TODOS (IF)	01° 32' 12.16" N	103 ° 56' 45.21" E
BATOR (FAP/FAF)	01° 29' 41.48" N	103° 55' 06.76" E
RW21 (MAPt)	01° 25' 20.79" N	103° 52' 16.43" E
POPOM	01° 26' 58.95" N	103° 50' 13.80" E
BETBA	01° 33' 02.00" N	103° 53' 31.00" E
TATIN	01° 36' 19.53" N	103° 53' 50.48" E
AKOMA	01° 45' 22.00" N	103° 54' 43.00" E