

**Contact**

Post:

AERONAUTICAL  
INFORMATION SERVICES  
Civil Aviation Authority of  
Singapore,  
Singapore Changi Airport,  
P. O. Box 1  
Singapore 918141

Tel: (65) 64227036

Fax: (65) 64410221

Email: [caas\\_singaporeais@caas.gov.sg](mailto:caas_singaporeais@caas.gov.sg)

**AMDT**  
**02/2022**  
**Effective date**  
**24 MAR 2022**  
**Publication date**  
**24 MAR 2022**

## wp-AMDT-2022-02

### 1. Significant information and changes

NIL

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 This amendment incorporates information contained in the listed AIP Supplements and NOTAMs which are hereby superseded:**

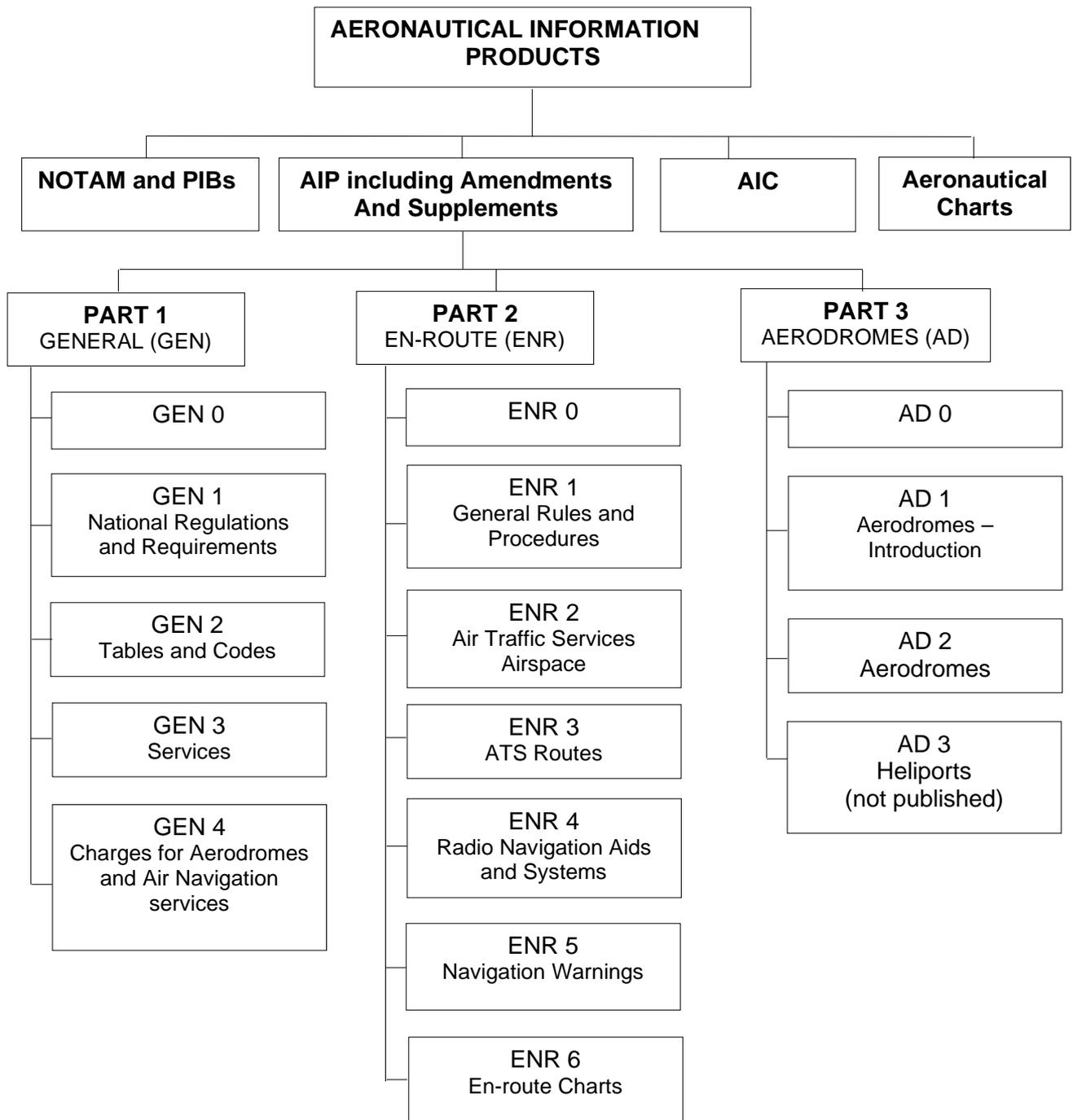
NIL

## Amended Pages

GEN-0.1-3:	: <i>replace.</i>
GEN 0.2-1/2:	: <i>replace.</i>
GEN 0.3-1/2:	: <i>replace.</i>
GEN 0.3-3/4:	: <i>replace.</i>
GEN 0.3-5:	: <i>replace.</i>
GEN 0.4-1/2:	: <i>replace.</i>
GEN 0.4-3:	: <i>replace.</i>
GEN 0.6-1/2:	: <i>replace.</i>
GEN 0.6-3:	: <i>replace.</i>
GEN 1.7-1/2:	: <i>replace.</i>
GEN 2.1-1/2:	: <i>replace.</i>
GEN 3.2-3/4:	: <i>replace.</i>
ENR 1.1-9/10:	: <i>replace.</i>
ENR 1.2-1:	: <i>replace.</i>
ENR 1.7-1/2:	: <i>replace.</i>
ENR-3.1/ATS Chart:	: <i>replace.</i>
ERC-6-1 En-Route Chart:	: <i>replace.</i>
AD-2-WSSS-SID-19 to 19.1:	: <i>replace.</i>
AD-2-WSSS-IAC-1:	: <i>replace.</i>
AD-2-WSSS-IAC-2:	: <i>replace.</i>
AD-2-WSSS-IAC-5:	: <i>replace.</i>
AD-2-WSSS-IAC-6:	: <i>replace.</i>
AD-2-WSSS-IAC-7:	: <i>replace.</i>
AD-2-WSSS-IAC-9 to 9.1:	: <i>replace.</i>
AD-2-WSSS-IAC-10 to 10.1:	: <i>replace.</i>
AD-2-WSSS-IAC-11 to 11.1:	: <i>replace.</i>
AD-2-WSSS-IAC-12 to 12.1:	: <i>replace.</i>
AD-2-WSSS-IAC-13 to 13.1:	: <i>replace.</i>
AD-2-WSSS-IAC-14 to 14.1:	: <i>replace.</i>
AD-2-WSAP-AOC-1:	: <i>replace.</i>

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**GEN 0.1 PREFACE**



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**GEN 0.2 RECORD OF AIP AMENDMENTS****AIP AMENDMENT**

<b>NR/Year</b>	<b>Publication date</b>	<b>Date inserted</b>	<b>Inserted by</b>
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**

<b>NR/Year</b>	<b>Publication date</b>	<b>Date inserted</b>	<b>Inserted by</b>
06/2018	08 NOV 2018	08 NOV 2018	
01/2019	03 JAN 2019	03 JAN 2019	
02/2019	28 FEB 2019	28 FEB 2019	
03/2019	25 APR 2019	25 APR 2019	
04/2019	20 JUN 2019	20 JUN 2019	
05/2019	15 AUG 2019	15 AUG 2019	
06/2019	10 OCT 2019	10 OCT 2019	
07/2019	05 DEC 2019	05 DEC 2019	
01/2020	30 JAN 2020	30 JAN 2020	
02/2020	26 MAR 2020	26 MAR 2020	
03/2020	21 MAY 2020	21 MAY 2020	
04/2020	16 JUL 2020	16 JUL 2020	
05/2020	10 SEP 2020	10 SEP 2020	
06/2020	05 NOV 2020	05 NOV 2020	
07/2020	31 DEC 2020	31 DEC 2020	
01/2021	25 FEB 2021	25 FEB 2021	
02/2021	22 APR 2021	22 APR 2021	
03/2021	17 JUN 2021	17 JUN 2021	
04/2021	12 AUG 2021	12 AUG 2021	
05/2021	07 OCT 2021	07 OCT 2021	
06/2021	02 DEC 2021	02 DEC 2021	
01/2022	27 JAN 2022	27 JAN 2022	
02/2022	24 MAR 2022	24 MAR 2022	

**GEN 0.3 RECORD OF CURRENT AIP SUPPLEMENTS**

<b>NR/Year</b>	<b>Subject</b>	<b>AIP section(s) affected</b>	<b>Period of validity (from/to)</b>	<b>Cancellation record</b>
021/2018	Paya Lebar Airport - Luffer Crane and Saddle Cranes	AD	06 APR 2018 / 31 DEC 2022	
028/2018	Paya Lebar Airport - Saddle Cranes	AD	20 JUN 2018 / 31 DEC 2022	
071/2018	Paya Lebar Airport - Saddle Cranes	AD	13 NOV 2018 / 31 DEC 2023	
078/2018	Paya Lebar Airport - Luffer Cranes	AD	28 NOV 2018 / 30 DEC 2022	
033/2019	Paya Lebar Airport - Luffer Crane	AD	27 MAR 2019 / 31 DEC 2022	
034/2019	Paya Lebar Airport - Saddle Cranes	AD	27 MAR 2019 / 31 DEC 2022	
035/2019	Paya Lebar Airport - Luffer Crane	AD	27 MAR 2019 / 31 DEC 2022	
053/2019	Paya Lebar Airport - Saddle Cranes and Luffer Crane	AD	07 MAY 2019 / 31 DEC 2023	
126/2019	Paya Lebar Airport - Luffer Cranes	AD	12 NOV 2019 / 31 DEC 2022	
021/2020	Singapore Changi Airport - Long term closure of aircraft stand E5 at Terminal 2, Singapore Changi Airport	AD	30 MAR 2020 / 30 DEC 2024	
059/2020	Singapore Changi Airport - Long term closure of aircraft stand E20 at Terminal 2, Singapore Changi Airport	AD	25 AUG 2020 / 30 DEC 2026	
050/2021	Paya Lebar Airport - Mobile Cranes	AD	08 APR 2021 / 21 JUN 2022	
056/2021	Paya Lebar Airport - Tower Cranes	AD	08 APR 2021 / 01 APR 2022	
063/2021	Paya Lebar Airport - Cranes	AD	19 MAY 2021 / 01 APR 2022	
064/2021	Paya Lebar Airport - Topless Cranes	AD	19 MAY 2021 / 01 APR 2022	
066/2021	Paya Lebar Airport - Topless Cranes	AD	19 MAY 2021 / 25 MAY 2022	
067/2021	Paya Lebar Airport - Cranes	AD	19 MAY 2021 / 01 MAY 2022	
068/2021	Paya Lebar Airport - Tower Crane	AD	19 MAY 2021 / 12 APR 2022	
076/2021	Paya Lebar Airport - Cranes	AD	24 JUN 2021 / 11 JUN 2022	
077/2021	Paya Lebar Airport - Cranes	AD	24 JUN 2021 / 01 JUL 2022	
078/2021	Paya Lebar Airport - Luffing Cranes	AD	24 JUN 2021 / 01 JUN 2022	
081/2021	Paya Lebar Airport - Topless Cranes	AD	24 JUN 2021 / 15 MAY 2022	
082/2021	Paya Lebar Airport - Luffer Crane	AD	24 JUN 2021 / 04 MAY 2022	
084/2021	Sembawang Aerodrome - Mobile Crane	AD	24 JUN 2021 / 08 AUG 2022	
086/2021	Release of weather balloon with dual radiosondes	ENR	01 AUG 2021 / 01 AUG 2022	
088/2021	Paya Lebar Airport - Luffer Tower Cranes	AD	08 JUL 2021 / 11 JUN 2022	
089/2021	Paya Lebar Airport - Crawler Crane	AD	08 JUL 2021 / 30 JUN 2022	

<b>NR/Year</b>	<b>Subject</b>	<b>AIP section(s) affected</b>	<b>Period of validity (from/to)</b>	<b>Cancellation record</b>
090/2021	Paya Lebar Airport - Mobile Cranes	AD	08 JUL 2021 / 21 JUL 2022	
091/2021	Paya Lebar Airport - Obstacles	AD	08 JUL 2021 / 21 JUN 2022	
092/2021	Paya Lebar Airport - Luffing Cranes	AD	08 JUL 2021 / 15 JUN 2022	
093/2021	Paya Lebar Airport - Tower Crane	AD	08 JUL 2021 / 15 JUN 2022	
094/2021	Paya Lebar Airport - Tower Crane	AD	08 JUL 2021 / 10 JUN 2022	
096/2021	Paya Lebar Airport - Tower Cranes	AD	19 AUG 2021 / 01 AUG 2022	
097/2021	Paya Lebar Airport - Luffer Crane	AD	19 AUG 2021 / 01 AUG 2022	
098/2021	Paya Lebar Airport - Cranes	AD	19 AUG 2021 / 01 AUG 2022	
099/2021	Paya Lebar Airport - Mobile Cranes	AD	19 AUG 2021 / 01 AUG 2022	
100/2021	Paya Lebar Airport - Luffing Crane	AD	19 AUG 2021 / 01 AUG 2022	
101/2021	Paya Lebar Airport - Luffing Cranes	AD	19 AUG 2021 / 01 OCT 2022	
102/2021	Paya Lebar Airport - Topless Cranes	AD	19 AUG 2021 / 01 AUG 2022	
104/2021	Paya Lebar Airport - Luffing Cranes	AD	19 AUG 2021 / 01 AUG 2022	
106/2021	Singapore Changi Airport - Closure of taxiway N between taxiway N2 and taxilane N4	AD	01 OCT 2021 / 31 MAR 2022	
107/2021	Singapore Changi Airport - Temporary changes to ground markings at aircraft stands 467, 468 and 469 and conversion of the aircraft stands into compact parking area	AD	29 SEP 2021 / 31 MAR 2022	
109/2021	Paya Lebar Airport - Topless Cranes	AD	10 SEP 2021 / 29 AUG 2022	
111/2021	Paya Lebar Airport - Topless Crane	AD	10 SEP 2021 / 01 SEP 2022	
112/2021	Paya Lebar Airport - Luffing Cranes	AD	10 SEP 2021 / 01 SEP 2022	
113/2021	Paya Lebar Airport - Mobile Crane	AD	10 SEP 2021 / 10 AUG 2022	
116/2021	Sembawang Aerodrome - Lorry Crane	AD	10 SEP 2021 / 10 AUG 2022	
119/2021	Singapore Changi Airport - Closure of Runway 02C/20C and Taxiways due to Changi East Development Works	AD	04 NOV 2021 / 20 APR 2022	
120/2021	Seletar Airport - Closure of Helicopter Landing Area	AD	01 OCT 2021 / 30 SEP 2022	
123/2021	Paya Lebar Airport - Topless Cranes	AD	21 OCT 2021 / 26 SEP 2022	
124/2021	Paya Lebar Airport - Topless Cranes	AD	21 OCT 2021 / 22 SEP 2022	
125/2021	Paya Lebar Airport - Tower Crane	AD	21 OCT 2021 / 24 OCT 2022	
126/2021	Paya Lebar Airport - Luffing Cranes	AD	21 OCT 2021 / 21 SEP 2022	
127/2021	Paya Lebar Airport - Luffing Cranes	AD	21 OCT 2021 / 01 OCT 2022	
128/2021	Paya Lebar Airport - Crawler Crane	AD	21 OCT 2021 / 01 NOV 2022	

<b>NR/Year</b>	<b>Subject</b>	<b>AIP section(s) affected</b>	<b>Period of validity (from/to)</b>	<b>Cancellation record</b>
129/2021	Paya Lebar Airport - Topless Cranes	AD	21 OCT 2021 / 01 OCT 2022	
130/2021	Paya Lebar Airport - Mobile Crane	AD	21 OCT 2021 / 20 SEP 2022	
131/2021	Paya Lebar Airport - Tower Cranes	AD	21 OCT 2021 / 23 SEP 2022	
132/2021	Paya Lebar Airport - Tower Cranes	AD	21 OCT 2021 / 20 SEP 2022	
133/2021	Paya Lebar Airport - Tower Crane	AD	21 OCT 2021 / 06 AUG 2022	
134/2021	Paya Lebar Airport - Mobile Cranes	AD	21 OCT 2021 / 01 DEC 2022	
135/2021	Paya Lebar Airport - Topless Cranes	AD	09 NOV 2021 / 01 DEC 2022	
136/2021	Paya Lebar Airport - Cranes	AD	09 NOV 2021 / 01 NOV 2022	
137/2021	Paya Lebar Airport - Cranes	AD	09 NOV 2021 / 01 NOV 2022	
138/2021	Paya Lebar Airport - Topless Tower Cranes	AD	09 NOV 2021 / 11 JUN 2022	
139/2021	Paya Lebar Airport - Luffing Cranes	AD	09 NOV 2021 / 27 SEP 2022	
140/2021	Paya Lebar Airport - Crawler Cranes	AD	09 NOV 2021 / 31 DEC 2022	
141/2021	Paya Lebar Airport - Mobile Crane	AD	09 NOV 2021 / 01 APR 2022	
142/2021	Sembawang Aerodrome - Bore Piling Rigs	AD	09 NOV 2021 / 01 JUL 2022	
143/2021	Singapore Changi Airport - Closure of aircraft stand C1 at Terminal 1	AD	08 DEC 2021 / 22 APR 2022	
144/2021	Paya Lebar Airport - Luffer Cranes	AD	16 DEC 2021 / 01 DEC 2022	
145/2021	Paya Lebar Airport - Cranes	AD	16 DEC 2021 / 01 DEC 2022	
146/2021	Paya Lebar Airport - Cranes	AD	16 DEC 2021 / 01 DEC 2022	
147/2021	Paya Lebar Airport - Cranes	AD	16 DEC 2021 / 31 DEC 2022	
148/2021	Paya Lebar Airport - Flat-Top Cranes	AD	16 DEC 2021 / 31 DEC 2022	
149/2021	Paya Lebar Airport - Topless Cranes	AD	16 DEC 2021 / 31 DEC 2022	
150/2021	Paya Lebar Airport - Cranes	AD	16 DEC 2021 / 31 DEC 2022	
151/2021	Paya Lebar Airport - Luffing Crane	AD	16 DEC 2021 / 01 JUL 2022	
152/2021	Paya Lebar Airport - Mobile Crane	AD	16 DEC 2021 / 26 JUN 2022	
153/2021	Paya Lebar Airport - Luffing Cranes	AD	16 DEC 2021 / 31 DEC 2022	
154/2021	Paya Lebar Airport - Luffing Tower Cranes	AD	16 DEC 2021 / 15 DEC 2022	
156/2021	Paya Lebar Airport - Crawler Cranes	AD	16 DEC 2021 / 31 DEC 2022	
157/2021	Paya Lebar Airport - Cranes	AD	16 DEC 2021 / 01 DEC 2022	
158/2021	Sembawang Aerodrome - Tower Cranes	AD	16 DEC 2021 / 01 DEC 2022	
159/2021	Sembawang Aerodrome - Mobile Crane	AD	16 DEC 2021 / 08 NOV 2022	

<b>NR/Year</b>	<b>Subject</b>	<b>AIP section(s) affected</b>	<b>Period of validity (from/to)</b>	<b>Cancellation record</b>
161/2021	Singapore Changi Airport - Steel Frame	AD	17 JAN 2022 / 17 DEC 2024	
002/2022	Paya Lebar Airport - Luffing Crane	AD	11 JAN 2022 / 31 DEC 2022	
004/2022	Paya Lebar Airport - Tower Cranes	AD	11 JAN 2022 / 31 DEC 2022	
005/2022	Paya Lebar Airport - Tower Cranes	AD	11 JAN 2022 / 31 DEC 2022	
006/2022	Paya Lebar Airport - Luffer Cranes	AD	11 JAN 2022 / 31 DEC 2022	
007/2022	Paya Lebar Airport - Cranes	AD	11 JAN 2022 / 31 DEC 2022	
008/2022	Paya Lebar Airport - Luffing Crane	AD	11 JAN 2022 / 31 DEC 2022	
009/2022	Paya Lebar Airport - Cranes	AD	11 JAN 2022 / 31 DEC 2022	
010/2022	Paya Lebar Airport - Topless Cranes	AD	11 JAN 2022 / 31 DEC 2022	
011/2022	Paya Lebar Airport - Luffing Crane	AD	11 JAN 2022 / 31 DEC 2022	
012/2022	Paya Lebar Airport - Topless Cranes	AD	11 JAN 2022 / 31 DEC 2022	
013/2022	Paya Lebar Airport - Topless Cranes	AD	11 JAN 2022 / 31 DEC 2022	
014/2022	Paya Lebar Airport - Luffing Crane	AD	11 JAN 2022 / 01 NOV 2022	
015/2022	Paya Lebar Airport - Luffing Crane	AD	11 JAN 2022 / 31 DEC 2022	
016/2022	Paya Lebar Airport - Luffing Cranes	AD	11 JAN 2022 / 01 APR 2022	
017/2022	Paya Lebar Airport - Flat-Top Cranes	AD	11 JAN 2022 / 31 DEC 2022	
018/2022	Paya Lebar Airport - Luffing Crane	AD	11 JAN 2022 / 31 DEC 2022	
019/2022	Paya Lebar Airport - Flat-Top Cranes	AD	11 JAN 2022 / 01 OCT 2022	
020/2022	Paya Lebar Airport - Luffing Crane	AD	11 JAN 2022 / 31 DEC 2022	
021/2022	Paya Lebar Airport - Cranes	AD	11 JAN 2022 / 31 DEC 2022	
022/2022	Paya Lebar Airport - Cranes	AD	11 JAN 2022 / 31 DEC 2022	
023/2022	Paya Lebar Airport - Tower Cranes	AD	11 JAN 2022 / 09 DEC 2022	
024/2022	Paya Lebar Airport - Flat-Top Cranes	AD	11 JAN 2022 / 31 DEC 2022	
025/2022	Paya Lebar Airport - Saddle Cranes	AD	11 JAN 2022 / 31 DEC 2022	
028/2022	Paya Lebar Airport - Flat-Top Cranes	AD	12 JAN 2022 / 31 DEC 2023	
029/2022	Airspace Closure Kuala Lumpur and Singapore FIRs Exercise Bersama Shield 2022 240001UTC to 311100UTC March 2022	AD/ENR	24 MAR 2022 / 31 MAR 2022	
030/2022	Singapore FIR - Airspace Closure due to Military Exercise 240001UTC to 311100UTC March 2022	AD/ENR	24 MAR 2022 / 31 MAR 2022	

<b>NR/Year</b>	<b>Subject</b>	<b>AIP section(s) affected</b>	<b>Period of validity (from/to)</b>	<b>Cancellation record</b>
031/2022	Implementation of Wake Turbulence Separation Minima based on Wake Turbulence Groups for Arrivals into Singapore Changi Airport	AD	01 MAR 2022 PERM	
032/2022	Paya Lebar Airport - Cranes	AD	10 FEB 2022 / 31 DEC 2023	
033/2022	Paya Lebar Airport - Topless Cranes	AD	10 FEB 2022 / 01 FEB 2023	
034/2022	Paya Lebar Airport - Crawler Cranes	AD	10 FEB 2022 / 31 JAN 2023	
035/2022	Paya Lebar Airport - Suspended Scaffold	AD	10 FEB 2022 / 31 DEC 2023	
036/2022	Paya Lebar Airport - Mobile Crane	AD	10 FEB 2022 / 31 DEC 2023	
037/2022	Paya Lebar Airport - Crawler Cranes	AD	10 FEB 2022 / 31 DEC 2023	
038/2022	Paya Lebar Airport - Mobile Crane	AD	10 FEB 2022 / 30 JUN 2022	
039/2022	Paya Lebar Airport - Topless Cranes	AD	10 FEB 2022 / 24 DEC 2022	
040/2022	Paya Lebar Airport - Tower Cranes	AD	10 FEB 2022 / 18 JAN 2023	
041/2022	Paya Lebar Airport - Mobile Crane	AD	10 FEB 2022 / 18 SEP 2022	
042/2022	Paya Lebar Airport - Mobile Crane	AD	10 FEB 2022 / 31 DEC 2023	
043/2022	Paya Lebar Airport - Luffing Tower Crane	AD	10 FEB 2022 / 08 JAN 2023	
044/2022	Implementation of RNP 4 Navigation Specification on ATS Route M767 and Segment of N884 within Singapore FIR	ENR	21 APR 2022 PERM	
045/2022	Singapore Changi Airport - Frangible Frames	AD	01 APR 2022 / 31 JAN 2024	
046/2022	Paya Lebar Airport - Crawler Cranes	AD	10 MAR 2022 / 31 DEC 2022	
047/2022	Paya Lebar Airport - Luffing Crane	AD	10 MAR 2022 / 31 DEC 2022	
048/2022	Paya Lebar Airport - Cranes	AD	10 MAR 2022 / 31 DEC 2023	
049/2022	Paya Lebar Airport - Cranes	AD	10 MAR 2022 / 31 JAN 2023	
050/2022	Paya Lebar Airport - Luffing Crane	AD	10 MAR 2022 / 14 SEP 2022	
051/2022	Paya Lebar Airport - Tower Cranes	AD	10 MAR 2022 / 31 DEC 2023	
052/2022	Paya Lebar Airport - Topless Cranes	AD	10 MAR 2022 / 03 FEB 2023	
053/2022	Singapore Changi Airport - Closure of Runway 02C/20C and Taxiways due to Changi East Development Works	AD	21 APR 2022 / 05 OCT 2022	
054/2022	Singapore Changi Airport - Closure of aircraft stand F50 and taxilane R7 behind aircraft stand at Terminal 2	AD	10 MAR 2022 / 31 AUG 2022	
055/2022	Singapore Changi Airport - Additional new lead-in line markings for aircraft stands C19 and D38 at Terminal 1	AD	07 APR 2022 PERM	

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## GEN 0.4 CHECKLIST OF AIP PAGES

Part 1 – General (GEN)							
<b>GEN 0</b>		GEN 3.2-2	31 MAR 2016	ENR 1.6-7	29 MAR 2018		
GEN 0.1-1	26 MAR 2020	GEN 3.2-3	31 MAR 2016	ENR 1.6-8	29 MAR 2018		
GEN 0.1-2	07 OCT 2021	<b>GEN 3.2-4</b>	<b>24 MAR 2022</b>	ENR-1.6-9	21 JUL 2016		
<b>GEN 0.1-3</b>	<b>24 MAR 2022</b>	GEN 3.2-5	12 AUG 2021	ENR-1.6-11	21 JUL 2016		
GEN 0.2-1	13 SEP 2018	GEN 3.2-6	31 MAR 2016	ENR 1.7-1	15 AUG 2019		
GEN 0.2-2	<b>24 MAR 2022</b>	GEN 3.3-1	31 DEC 2020	<b>ENR 1.7-2</b>	<b>24 MAR 2022</b>		
GEN 0.3-1	24 MAR 2022	GEN 3.3-2	05 NOV 2020	ENR 1.7-3	15 AUG 2019		
GEN 0.3-2	24 MAR 2022	GEN 3.4-1	12 NOV 2015	ENR 1.7-4	15 AUG 2019		
GEN 0.3-3	24 MAR 2022	GEN 3.4-2	10 SEP 2020	ENR 1.7-5	15 AUG 2019		
GEN 0.3-4	24 MAR 2022	GEN 3.4-3	10 SEP 2020	ENR 1.7-6	15 AUG 2019		
GEN 0.3-5	24 MAR 2022	GEN 3.4-4	10 SEP 2020	ENR 1.7-7	15 AUG 2019		
GEN 0.4-1	24 MAR 2022	GEN 3.4-5	12 NOV 2015	ENR 1.8-1	10 OCT 2019		
GEN 0.4-2	24 MAR 2022	GEN-3.4-7	10 SEP 2020	ENR 1.8-2	02 DEC 2021		
GEN 0.4-3	24 MAR 2022	GEN-3.4-9	21 JUL 2016	ENR 1.8-3	02 DEC 2021		
GEN 0.5-1	30 JAN 2020	GEN 3.5-1	25 APR 2019	ENR 1.8-4	02 DEC 2021		
GEN 0.6-1	05 NOV 2020	GEN 3.5-2	22 APR 2021	ENR 1.8-5	02 DEC 2021		
<b>GEN 0.6-2</b>	<b>24 MAR 2022</b>	GEN 3.5-3	22 APR 2021	ENR 1.8-6	02 DEC 2021		
<b>GEN 0.6-3</b>	<b>24 MAR 2022</b>	GEN 3.5-4	22 APR 2021	ENR 1.8-7	02 DEC 2021		
<b>GEN 1</b>		GEN 3.5-5	31 DEC 2020	ENR 1.8-8	02 DEC 2021		
GEN 1.1-1	05 DEC 2019	GEN 3.5-6	31 DEC 2020	ENR 1.8-9	02 DEC 2021		
GEN 1.1-2	22 APR 2021	GEN 3.5-7	31 DEC 2020	ENR 1.8-10	02 DEC 2021		
GEN 1.2-1	05 NOV 2020	GEN 3.5-8	31 DEC 2020	ENR 1.8-11	02 DEC 2021		
GEN 1.2-2	30 JAN 2020	GEN 3.5-9	08 NOV 2018	ENR 1.8-12	02 DEC 2021		
GEN 1.2-3	02 DEC 2021	GEN 3.6-1	12 NOV 2015	ENR 1.8-13	02 DEC 2021		
GEN 1.2-4	02 DEC 2021	GEN 3.6-2	12 NOV 2015	ENR 1.8-14	02 DEC 2021		
GEN 1.2-5	02 DEC 2021	GEN 3.6-3	07 OCT 2021	ENR 1.8-15	02 DEC 2021		
GEN 1.2-6	16 JUL 2020	GEN 3.6-4	07 OCT 2021	ENR 1.8-16	02 DEC 2021		
GEN 1.2-7	30 JAN 2020	GEN 3.6-5	21 JUL 2016	ENR 1.8-17	02 DEC 2021		
GEN 1.3-1	25 APR 2019	<b>GEN 4</b>		ENR 1.8-18	02 DEC 2021		
GEN 1.3-2	22 APR 2021	GEN 4.1-1	27 JAN 2022	ENR 1.8-19	02 DEC 2021		
GEN 1.3-3	22 APR 2021	GEN 4.2-1	24 MAY 2018	ENR 1.8-20	02 DEC 2021		
GEN 1.3-4	12 AUG 2021	GEN 4.2-2	12 NOV 2015	ENR 1.8-21	02 DEC 2021		
GEN 1.3-5	22 APR 2021	GEN 4.2-3	12 NOV 2015	ENR 1.8-22	02 DEC 2021		
GEN-1.3/ARR PAX FLOW	25 APR 2019	GEN 4.2-4	12 NOV 2015	ENR 1.8-23	02 DEC 2021		
GEN-1.3/DEP PAX FLOW 1	25 APR 2019	GEN 4.2-5	12 NOV 2015	ENR 1.8-24	02 DEC 2021		
GEN-1.3/DEP PAX FLOW 2	25 APR 2019	GEN 4.2-6	12 NOV 2015	ENR 1.8-25	02 DEC 2021		
GEN 1.4-1	22 APR 2021	<b>Part 2 – EN-ROUTE (ENR)</b>		ENR 1.8-26	02 DEC 2021		
GEN 1.4-2	05 NOV 2020	<b>ENR 0</b>		ENR 1.8-27	02 DEC 2021		
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## GEN 1.7 DIFFERENCES FROM ICAO STANDARDS, RECOMMENDED PRACTICES AND PROCEDURES

### ANNEX 1 Personnel Licensing, 13th Edition

#### Chapter 2

- 2.3.3.1.2 Due to local geographical constraints and boundary, it is not possible to complete one cross-country flight totalling not less than 270km (150NM) in the course of which full- stop landings at two different aerodromes are made. In such cases, a Private Pilot Licence with restriction to fly within Singapore only will be issued.
- 2.8.2.1 Singapore issues two types of ratings for flying instructors: Flying Instructor Rating and Assistant Flying Instructor Rating. Both ratings meet the ICAO standards for flying instructors. Newly qualified instructors are issued with an Assistant Flying Instructor Rating, and may qualify for a Flying Instructor Rating after acquiring additional flying and instructional experience.
- An Assistant Flying Instructor Rating does not entitle the holder to:
- a. give flying instructions unless under the supervision of a person holding a Flying Instructor Rating; or
  - b. give directions in respect of the student pilot's first solo day/night flight and first solo cross-country day/night flight.
- 2.9.1.1 The applicant for a Commercial Pilot Licence (Gliders) shall not be less than 18 years of age.
- 2.10.1.1 The applicant for a Private Pilot Licence (Balloons and Airships) shall not be less than 17 years of age. The applicant for a Commercial Pilot Licence (Balloons and Airships) shall not be less than 18 years of age.

### ANNEX 2 Rules of the Air, 10th Edition

#### Appendix 3

VFR or IFR flights when operating in uncontrolled airspace within certain parts of the Singapore FIR at or above 3,000ft and below FL250 are required to use the cruising levels specified in the quadrantal table of cruising levels (quadrantal rule) as shown in section ENR 1.7 para 4.4.

### DOC 4444 Procedures for Air Navigation Services - Air Traffic Management, 15th Edition (PANS-ATM)

- NIL Difference

### DOC 7030 Regional Supplementary Procedures, 5th Edition

#### MID/ASIA REGIONAL SUPPLEMENTARY PROCEDURES

- 1.2.1 Flights shall be conducted in accordance with the Instrument Flight Rules (even when not operating in instrument meteorological conditions) when operated:
- a. Above FL200.

### ANNEX 3 Meteorological Service for International Air Navigation, 20th Edition

- NIL Difference

### ANNEX 4 Aeronautical Charts, 11th Edition

- NIL Difference

### ANNEX 5 Units of Measurement to be used in Air and Ground Operations, 5th Edition

- NIL Difference

### ANNEX 6 Operation of Aircraft

Part I (International Commercial Air Transport - Aeroplanes) - 11th Edition

Chapter 12

12.4(b) Singapore regulations do not require all cabin crew to be trained on the use of automated external defibrillator (AED). However, the regulations require that at least one senior cabin crew on board every aircraft carrying AED to be trained on the use of AED.

Part II (International General Aviation - Aeroplanes) - 10th Edition

Chapter 6

6.1.1 General aviation aircraft in Singapore are required to be registered in the Public Transport Category.

Part III (International Operations - Helicopters) - 10th Edition

- NIL Difference

**ANNEX 7 Aircraft Nationality and Registration Marks**, 6th Edition

- NIL Difference.

**ANNEX 8 Airworthiness of Aircraft**, 12th Edition

- NIL Difference

**ANNEX 9 Facilitation**, 15th Edition

Chapter 3

3.25 Singapore issues single, double, triple, or multiple journey visas, some with validity of less than six months.

3.26 Singapore adopts an electronic visa system (e-Visa) to retrieve information to verify the identity of the visa holder.

3.27 Singapore requires all travellers, including Singapore Citizens, Permanent Residents, Long-Term Pass holders and foreign visitors, to complete an electronic SG Arrival Card (SGAC) before/upon arrival in Singapore.

3.46 Special Pass may be issued to an inadmissible passenger to enable him to apply for travel documents from the relevant diplomatic mission. In such cases, the aircraft operator shall continue to be responsible for the custody and care of the passenger.

3.66 With effect from 27 Aug 2007, air crew who arrive in Singapore on crew duty and seeking temporary entry into Singapore are required to produce their passports for immigration clearance. However, their passports will not be endorsed. Crew who are nationals of countries that require visa to enter Singapore will continue to be exempted from the visa requirements if they arrive in Singapore as part of their crew duty or to join their assigned flights for the purpose of performing their crew duty.

Chapter 5

5.9.1 Under Singapore's regulations, the cost of custody and care of inadmissible persons pending their removal shall be borne by the aircraft operator.

5.18 The obligations, responsibilities, and costs associated with the removal of deportees are a shared responsibility. Singapore works closely with foreign diplomatic missions to facilitate the removal of deportees.

5.23 A valid travel document is required before any special consideration can be given to the admission of such persons. For Permanent Residents, an entry permit and valid travelling documents are required before entry is granted.

## GEN 2 TABLES AND CODES

### GEN 2.1 MEASURING SYSTEM, AIRCRAFT MARKING, HOLIDAYS

#### 2.1.1 UNITS OF MEASUREMENT

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

#### 2.1.2 TEMPORAL REFERENCE SYSTEM

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

#### 2.1.3 HORIZONTAL REFERENCE SYSTEM

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

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

##### 3.2 *Parameters of the Projection*

Projection is expressed in terms of Conical Conformal Projection.

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

##### 3.3 *Ellipsoid*

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

##### 3.4 *Datum*

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

##### 3.5 *Area of application*

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

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

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

## 2.1.4 **VERTICAL REFERENCE SYSTEM**

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

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

### 4.2 ***Geoid model***

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

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

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

## 2.1.6 **PUBLIC HOLIDAYS IN SINGAPORE**

The following dates are notified as public holidays:

<b>Name of Holiday</b>	<b>Date</b>	<b>Day</b>
New Year's Day	01 January 2022	Saturday
Chinese New Year	01 February 2022	Tuesday
	02 February 2022	Wednesday
Good Friday	15 April 2022	Friday
Labour Day	01 May 2022*	Sunday
Hari Raya Puasa	03 May 2022	Tuesday
Vesak Day	15 May 2022*	Sunday
Hari Raya Haji	10 July 2022*	Sunday
National Day	09 August 2022	Tuesday
Deepavali	24 October 2022	Monday
Christmas Day	25 December 2022*	Sunday

\* The following Monday will be a public holiday.

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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					
<i>Title of Chart Series</i>	<i>Scale</i>	<i>Name and/or number</i>		<i>Price (\$)</i>	<i>Date</i>
<b>World Aeronautical Chart</b> ICAO (WAC)	1:1 000 000	WAC 2860		In AIP	30 JAN 20
<b>Enroute Chart</b> ICAO (ENRC)		ERC 6-1		In AIP	24 MAR 22
<b>Instrument Approach Chart</b> ICAO (IAC)		<b>Singapore Changi</b>			
	1:400 000	RWY 02L - ICW ILS/DME	AD-2-WSSS-IAC-1	In AIP	24 MAR 22
	1:400 000	RWY 02C - ICE ILS/DME	AD-2-WSSS-IAC-2	In AIP	24 MAR 22
	1:400 000	RWY 20R - ICH ILS/DME	AD-2-WSSS-IAC-5	In AIP	24 MAR 22
	1:400 000	RWY 20C - ICC ILS/DME	AD-2-WSSS-IAC-6	In AIP	24 MAR 22
	1:400 000	RWY 20C - VTK DVOR/DME	AD-2-WSSS-IAC-7	In AIP	24 MAR 22
	1:400 000	RWY 02L - RNP	AD-2-WSSS-IAC-9	In AIP	24 MAR 22
	1:400 000	RWY 02C - RNP	AD-2-WSSS-IAC-10	In AIP	24 MAR 22
	1:400 000	RWY 20R - RNP	AD-2-WSSS-IAC-11	In AIP	24 MAR 22
	1:400 000	RWY 20C - RNP	AD-2-WSSS-IAC-12	In AIP	24 MAR 22
	1:400 000	RWY 02R - RNP	AD-2-WSSS-IAC-13	In AIP	24 MAR 22
	1:400 000	RWY 20L - RNP	AD-2-WSSS-IAC-14	In AIP	24 MAR 22
		<b>Paya Lebar</b>			
	1:400 000	RWY 20 - PU DVOR/DME	AD-2-WSAP IAC-1	In AIP	31 DEC 20
	1:400 000	RWY 02 - PU DVOR/DME	AD-2-WSAP IAC-2	In AIP	07 OCT 21
	1:400 000	RWY 20 - IPS ILS/DME	AD-2-WSAP IAC-3	In AIP	07 OCT 21
	1:400 000	RWY 02 - IPN ILS/DME	AD-2-WSAP IAC-4	In AIP	07 OCT 21
	1:400 000	RWY 02 - RNP	AD-2-WSAP-IAC-5	In AIP	31 DEC 20
	1:400 000	RWY 20 - RNP	AD-2-WSAP-IAC-6	In AIP	07 OCT 21
<b>Visual Approach Chart</b> ICAO (VAC)	1:400 000	<b>Singapore Changi</b>		AD-2-WSSS-VAC-1	In AIP 31 DEC 20
		<b>Seletar</b>			
	1:100 000	RWY 03	AD-2-WSSL-VAC-1	In AIP	16 JUL 20
	1:100 000	RWY 21	AD-2-WSSL-VAC-2	In AIP	16 JUL 20
	1:100 000	RWY 03	AD-2-WSSL-VAC-3	In AIP	16 JUL 20
	1:100 000	RWY 21	AD-2-WSSL-VAC-4	In AIP	16 JUL 20
<b>Visual Departure Chart</b>		<b>Seletar</b>			
	1:100 000	RWY 03	AD-2-WSSL-VDC-1	In AIP	16 JUL 20
	1:100 000	RWY 21	AD-2-WSSL-VDC-2	In AIP	25 FEB 21
<b>Aerodrome Chart</b> ICAO (AC)		<b>Singapore Changi</b>		AD-2-WSSS-ADC-2	In AIP 27 JAN 22
		<b>Seletar</b>		AD-2-WSSL-ADC-1	In AIP 12 AUG 21
		<b>Paya Lebar</b>		AD-2-WSAP-ADC-1	In AIP 16 JUL 20
<b>Aerodrome Obstacle Chart</b> ICAO TYPE A (AOC)		<b>Singapore Changi</b>			
	1:10 000	RWY 20R/02L	AD-2-WSSS-AOC-1	In AIP	16 JUL 20
	1:10 000	RWY 20C/02C	AD-2-WSSS-AOC-2	In AIP	31 DEC 20
	1:10 000	RWY 02R/20L	AD-2-WSSS-AOC-4	In AIP	22 APR 21
		<b>Seletar</b>			
	1:10 000	RWY 03/21	AD-2-WSSL-AOC-1	In AIP	16 JUL 20
		<b>Paya Lebar</b>			
	1:20 000	RWY 20/02	AD-2-WSAP-AOC-1	In AIP	24 MAR 22

## **5.6 USE OF RUNWAY**

- 5.6.1 The Aerodrome Controller will nominate the runway direction according to prevailing conditions.
- 5.6.2 Notwithstanding the runway direction nominated by ATC, the pilot-in-command shall ensure that there is sufficient length of run and that the crosswind or downwind component is within the operational limits of each particular operation. If the nominated runway direction is not suitable for these reasons or for any other safety reason, he may request for an alternative runway direction. ATC will grant the use of an alternative runway direction but the flight may be subject to some delay because of other traffic.
- 5.6.3 The decision to undertake a take-off or landing rests solely with the pilot-in-command.
- 5.6.4 Unless prior permission has been obtained from ATC, the pilot-in-command shall not hold on the runway in use.
- 5.6.5 Only one aircraft will be cleared to land on the runway in use at any one time.
- 5.6.6 In VMC, an aircraft may be cleared to continue approach to a runway occupied by a preceding aircraft but clearance to land will not be given until the runway is vacated.

## **5.7 CLOSURE OF AERODROMES**

- 5.7.1 Aircraft will not be refused permission to land or take off from airfields in the Singapore FIR solely because of adverse weather conditions. The pilot-in-command of a public transport aircraft shall be responsible for operation in accordance with applicable company weather minima.
- 5.7.2 Aerodrome will be closed:
- a. When the surface of the landing area is unfit (e.g. soft surface or dangerous obstruction on the manoeuvring area); or
  - b. At such other times and in conditions specified by NOTAM.
- 5.7.3 In an emergency, an aircraft will be permitted to land regardless of the conditions of the aerodrome and aerodrome facilities, but the pilot will be advised of these conditions.

## **5.8 REGULATING OF AIR TRAFFIC MOVEMENTS AFTER CLOSURE OF SINGAPORE CHANGI AIRPORT'S RUNWAY/CONTROL ZONE**

- 5.8.1 In order to prevent unnecessary air traffic congestion which normally occurs following the resumption of air traffic operations after the closure of the Singapore Changi Airport's Runways/Control Zone, due to VIP Movement or Major Air Exercise, slot-times will be introduced to regulate the flow of aircraft which are scheduled to depart for a period of at least one hour after the commencement of operations. Thus, depending on the prevailing traffic conditions all such departures will be spaced at intervals of 5 minutes or more to minimise unnecessary delays on the ground, which may be caused by arriving aircraft.
- 5.8.2 During the one hour period, pilots will be required to give ATC 5 minutes notice prior to starting engines.
- 5.8.3 Slot time is defined as the time during which take-off clearance may be expected.

## **5.9 AIR TRAFFIC CONTROL CLEARANCES**

- 5.9.1 All flights within a CTR, or ATZ, irrespective of weather conditions, require an air traffic control clearance.
- 5.9.2 The pilot-in-command of an aircraft departing from a CTR or an ATZ shall obtain an air traffic control clearance prior to departure.
- 5.9.3 A clearance to enter or cross a CTR or ATZ will include the following information:
- a. A clearance limit and holding instructions, if necessary;
  - b. The route to be flown; and
  - c. The altitude or flight level.

## **5.10 NOISE ABATEMENT PROCEDURE**

5.10.1 To alleviate the problem of noise, all aircraft on Awy G579 between SINJON and JAYBEE shall operate at/above 5,000ft.

## **5.11 SPEED CONTROL PROCEDURES FOR ARRIVALS INTO AIRPORTS IN SINGAPORE**

5.11.1 Speed control procedures are in force unless notified otherwise by ATC or on ATIS.

← 5.11.2 All arriving turboprop and turbo-jet aircraft are to fly not faster than indicated air speed 250 knots when within 40NM from airports in Singapore or when at or below 10,000ft. Aircraft cleared on RNAV STARS must comply with the published speed restrictions and transitions unless otherwise instructed by ATC.

← 5.11.3 All arrivals into Singapore Changi Airport instructed to intercept the final approach course, are to maintain 180 knots by 8NM from touchdown, and thereafter 150 knots till 4NM from touchdown.

← 5.11.4 Pilots who are unable to comply with the speed limits specified above for reasons of flight safety and/or weather must provide timely notifications to ATC and state the acceptable speed(s) which is appropriate.

## **5.12 AUTHORIZATION**

5.12.1 Either an IFR clearance or a Special VFR authorisation shall be issued by Air Traffic Control prior to every movement within a control zone in the following weather conditions:

When the ceiling is less than 1,500ft and/or a visibility less than 5km.

5.12.2 The deciding factors determining whether conditions are such that compliance with IFR or Special VFR authorisation is required will be the official meteorological observations.

5.12.3 When a pilot so requests and traffic conditions permit, Special VFR flight may be authorised within control zones, clear of cloud and in sight of land or water.

5.12.4 When a Special VFR flight has been authorised, ATC will provide it with standard separation from other similar flights and any IFR flight.

5.12.5 Special VFR flights will not normally be given a special level to fly; they will be merely instructed to remain clear of cloud and in sight of land or water. If, however, it is necessary to provide vertical separation from aircraft above, the Special VFR flight will be instructed not to fly above a certain level.

5.12.6 A Special VFR flight may be required to make good a prescribed track. When no track is prescribed, the pilot must fly directly towards his destination or towards the first turning point shown in the flight plan.

5.12.7 Special VFR absolves the pilot from complying with Instrument Flight Rules. Special VFR flight does not, however, absolve the pilot-in-command from the responsibility of maintaining minimum safe levels as prescribed in Part 2, para 5 of the eleventh Schedule of the Air Navigation Order. He must comply with ATC instructions and it will be entirely his responsibility to ensure that his flight conditions i.e. forward visibility and distance from cloud, will enable him to determine his flight path and remain clear of all obstructions.

5.12.8 Authorisation for Special VFR flight will depend not only upon zonal traffic conditions but also whether or not air/ground communications can be maintained and the extent of the flight proposed.

## **5.13 APPLICATION OF GENERAL FLIGHT RULES**

5.13.1 Aircraft flying under Special VFR authorisation are subject to the general flight rules. Compliance with these rules is the responsibility of the pilot.

## **6 REQUIREMENTS FOR AERIAL PHOTOGRAPHY**

6.1 Section 7 of the Air Navigation Act provides that no aerial photography of protected places in Singapore may be undertaken without the written permission of the Director-General of Civil Aviation. Applications for Aerial Photography Permits must be submitted in duplicate, one copy to the Director-General of Civil Aviation and the other copy to the Head, Field Security Branch, MINDEF, at least ten (10) days prior to the date of the photography flight.

## ENR 1.2 VISUAL FLIGHT RULES

1. Except when operating as a special VFR flight, VFR flights within Singapore FIR shall be conducted so that the aircraft is flown in conditions of visibility and distance from clouds equal to or greater than those specified in the table below:

Altitude band	Airspace class	Flight visibility	Distance from cloud
At and above 3 050m (10 000ft) AMSL	B, C, D, G	8Km	1 500m horizontally 300m (1 000ft) vertically
Below 3 050m (10 000ft) AMSL and above 900m (3 000ft) AMSL, or above 300m (1 000ft) above terrain, whichever is higher	B, C, D, G	5Km	1 500m horizontally 300m (1 000ft) vertically
At and below 900m (3 000ft) AMSL, or 300m (1 000ft) above terrain, whichever is the higher	B, C, D	5Km	1 500m horizontally 300m (1 000ft) vertically
	G	5Km	Clear of cloud and with the surface in sight

2. An aircraft operating in Class G airspace flying at speeds of 140kt or less may operate under VFR at or below 3 000ft outside controlled airspace with a flight visibility of at least 1.5km. An aircraft flying at speeds above 140kt IAS may operate under VFR with a flight visibility of at least 5km. In both cases, the aircraft must remain clear of cloud and in sight of ground or water.

3. Except when a clearance is obtained from air traffic control, VFR flights shall not take off or land at an aerodrome within a control zone, or enter the aerodrome traffic zone or traffic pattern:

- a. when the ceiling is less than 450m (1 500ft); or
- b. when the ground visibility is less than 5km.

4. Unless authorized, VFR flights shall not be operated:

- a. above FL200;
- b. at transonic and supersonic speeds.

5. Except when necessary for take-off or landing, or except by permission from the authority, a VFR flight shall not be flown:

- a. over the congested areas of cities, towns or settlements or over an open-air assembly of persons at a height less than 300m (1 000ft) above the highest obstacle within a radius of 600m from the aircraft;
- b. elsewhere than as specified in 5. a, at a height less than 150m (500ft) above the ground or water.

- ← 6. Except where otherwise indicated in air traffic control clearances, VFR flights in level cruising flight when operated above 900m (3 000ft) from the ground or water, shall be conducted at a cruising level appropriate to the track as specified in the tables of cruising levels in section ENR 1.7 para 4.3.

7. VFR flights shall comply with air traffic control instructions

- a. when operated within Classes B, C and D airspace;
- b. when forming part of aerodrome traffic at controlled aerodromes; or
- c. when operated as special VFR flights.

8. A VFR flight operating within or into areas, or along Routes shall maintain continuous air-ground voice communication watch on the appropriate communication channel of, and report its position as necessary, to the air traffic services unit providing flight information service.

9. An aircraft operated in accordance with the visual flight rules which wishes to change to comply with the instrument flight rules shall:

- a. if a flight plan was submitted, communicate the necessary changes to be effected to its current flight plan; or
- b. submit a flight plan to the appropriate air traffic services unit and obtain a clearance prior to proceeding IFR in controlled airspace.

10. Helicopters may be permitted to operate in less than 1.5km flight visibility, if manoeuvred at a speed that will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision.

11. In the case of helicopters, navigation shall be accomplished by visual reference to landmarks at least every 110km (60NM)

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## ENR 1.7 ALTIMETER SETTING PROCEDURES

### 1 INTRODUCTION

- 1.1 A common transition altitude of 11,000ft (3,350 metres) has been established in the Singapore Flight Information Region. This will ensure uniformity in the transition altitudes for aerodromes within the territories of Brunei, Malaysia and Singapore, except for an area of radius 10 nautical miles centred on Mount Kinabalu where the lowest safe altitude will be 15,000ft (4,570 metres) and the lowest usable flight level will be FL170.
- 1.2 The maximum variation in QNH values in the Singapore FIR does not exceed 10hPa either side of the standard setting 1013.2hPa, representing a change of about 300ft on the altimeter from QNH to 1013.2hPa. To simplify ATC procedures, therefore, a transition level of FL130 has been established, thus providing a transition layer of 2,000ft and ensuring at all times the 1,000ft vertical separation between aircraft.
- 1.3 No aircraft should therefore flight plan to cruise at flight levels 115, 120 and 125 when operating in the Singapore Flight Information Region.

#### 1.4 **AREA QNH ZONES (AQZ)**

- 1.4.1 Within the airspace in the Singapore FIR.

#### 1.5 **AREA QNH**

- 1.5.1 AREA QNH is the forecast value of the LOWEST mean sea level pressure within the AQZ, valid for a period of 6 hours. e.g. AREA QNH valid 0600-1200.
- 1.5.2 AREA QNH as defined above, is one of the types of MET data required for the determination of the lowest flight level which will ensure adequate terrain clearance at any location within the AQZ during the period of validity.
- 1.5.3 Amendments are issued by MET when the mean sea level pressure at any location in the AQZ is expected to fall below the current AREA QNH by more than 2hPa, and units responsible for airspace in which aircraft could be operating on AREA QNH shall broadcast the amended value on all air/ground frequencies in use.

### 2 BASIC ALTIMETER SETTING PROCEDURES

#### 2.1 **Altimeter Setting Procedures**

- 2.1.1 For flight at or below the transition altitude, the altimeter reference will be the AREA QNH. Flight will therefore be conducted in altitudes.
- 2.1.2 Change from LOCAL QNH (set for departure) to AREA QNH will be made on leaving the Singapore/Johor Airspace Complex or Aerodrome Traffic Zone after take-off.
- 2.1.3 Change from AREA QNH to LOCAL QNH will be made on entering Terminal Control Area or Aerodrome Traffic Zone or on commencement of final approach to land.
- 2.1.4 For flight at and above the transition level, the standard altimeter setting of 1013.2hPa will be used.
- 2.1.5 Change from AREA QNH to 1013.2hPa will be made on climb through the transition altitude.
- 2.1.6 Change from 1013.2hPa to AREA QNH will be made on descent through the transition level.
- 2.1.7 Cruising within the transition layer is not permitted unless specifically cleared by the ACC of that FIR.
- 2.1.8 Vertical displacement of aircraft when at or below the transition is expressed in terms of altitude whereas such displacement at or above the transition level is expressed in terms of flight level. While passing through the transition layer, vertical displacement is expressed in terms of altitude when descending and in terms of flight level when ascending.
- 2.1.9 Flight Level zero is located at the atmospheric pressure level of 1013.2hPa. Consecutive flight levels are separated by a pressure level corresponding to 500ft in the Standard Atmosphere.

Note:

Example of the relationship between flight levels and altimeter indications are given in the following table, the metric equivalents being approximate:

FLIGHT LEVEL	ALTIMETER INDICATION	
	Number	Feet
10	1 000	300
15	1 500	450
20	2 000	600
50	5 000	1 000
100	10 000	3 050
130	13 000	3 950
150	15 000	4 550
200	20 000	6 100
250	25 000	7 600
300	30 000	9 150
350	35 000	10 650
400	40 000	12 200
450	45 000	13 700
500	50 000	15 250

**2.2 TAKE-OFF AND CLIMB**

- 2.2.1 A QNH altimeter setting shall be made available to aircraft by Approach/Aerodrome Control in the routine take-off and climb instructions.
- 2.2.2 Vertical displacement of aircraft during climb shall be effected by reference to altitude until reaching the transition altitude above which vertical displacement shall be effected by reference to flight level.
- 2.2.3 A QFE altimeter setting will be made available on request but reports to ATC are to be made in altitudes.

**2.3 VERTICAL SEPARATION - ENROUTE**

- 2.3.1 Aircraft en-route in the Singapore FIR (irrespective of whether IFR or VFR) shall be flown at flight levels or altitudes where appropriate.
- 2.3.2 It is the pilots' responsibility to select a flight level which will give adequate terrain clearance using forecast pressure information.
- 2.3.3 For the purpose of en-route vertical separation IFR and VFR flights within controlled airspace and flights in uncontrolled airspace of the Singapore FIR, reference should be made to the following:

- ← a. Semi-circular system of cruising levels within all controlled airspace (IFR flights) (section ENR 1.7 para 4.2);
- ← b. VFR flights cruising levels up to FL150 within controlled airspace (section ENR 1.7 para 4.3);
- ← c. Quadrantal cruising levels in uncontrolled airspace of the Singapore FIR (section ENR 1.7 para 4.4).

**2.4 APPROACH AND LANDING**

- 2.4.1 A QNH altimeter setting shall be made available in the routine approach and landing instructions.
- 2.4.2 A QFE altimeter setting will be made available on request but reports to ATC are to be made in altitude.
- 2.4.3 Vertical displacement of aircraft during approach is effected by reference to flight level until reaching the transition level below which vertical displacement is controlled by reference to altitude.

**2.5 MISSED APPROACH**

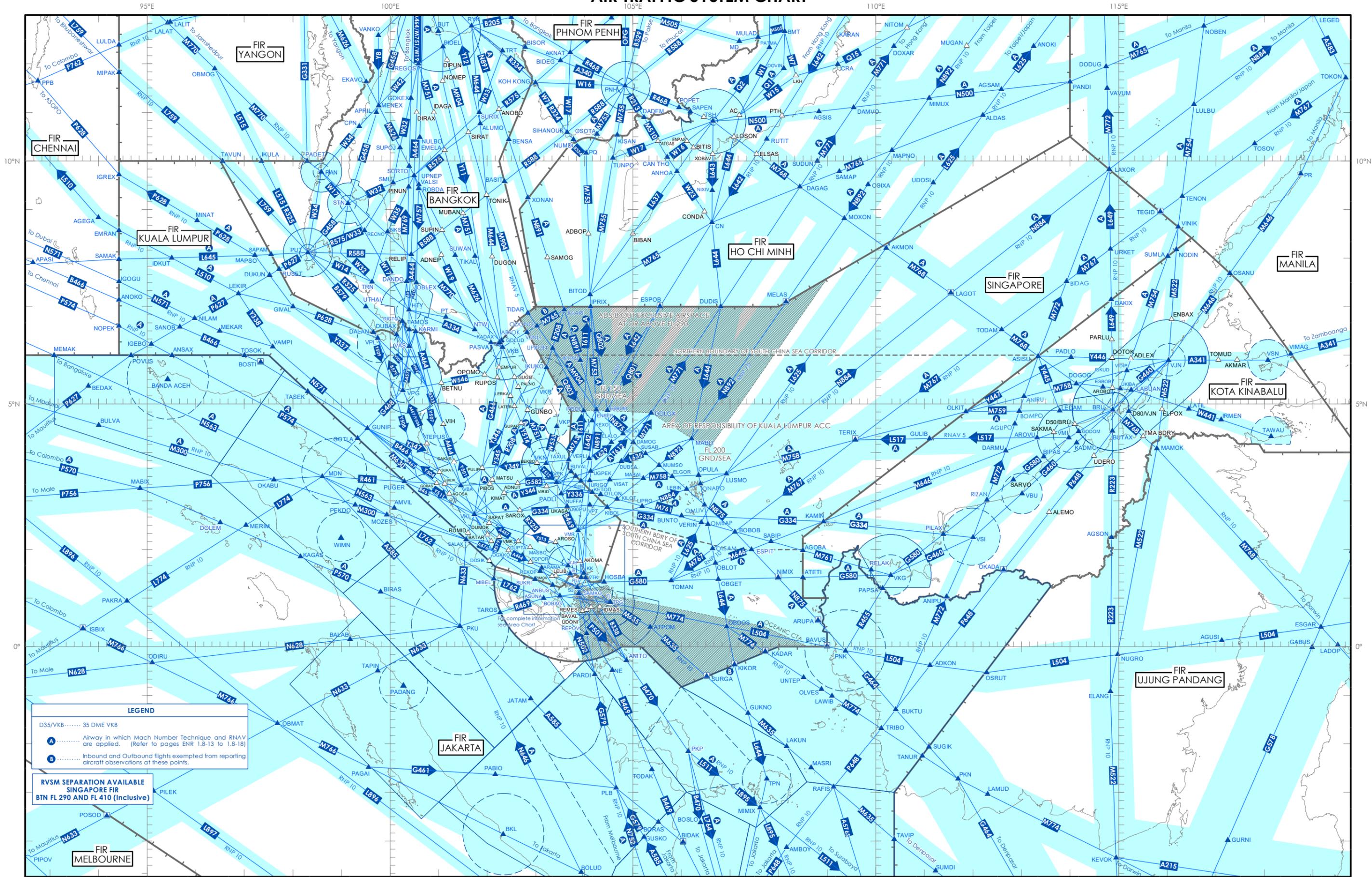
- 2.5.1 The relevant portions of paragraphs 2.1, 2.2, 2.3 and 2.4 shall be applied in case of a missed approach.

**3 PROCEDURES APPLICABLE TO OPERATORS AND PILOTS**

**3.1 Flight Planning**

- 3.1.1 The level(s) at which a flight is to be conducted shall be specified in a flight plan;
  - a. In terms of flight level(s) if the flight is to be conducted at or above the transition level, and

# AIR TRAFFIC SYSTEM CHART



**LEGEND**

D35/VKB ..... 35 DME VKB

A ..... Airway in which Mach Number Technique and RNAV are applied. (Refer to pages ENR 1.8-13 to 1.8-18)

B ..... Inbound and Outbound flights exempted from reporting aircraft observations at these points.

**RVSM SEPARATION AVAILABLE SINGAPORE FIR BTN FL 290 AND FL 410 (Inclusive)**

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ENROUTE CHART - ICAO

**LEGEND**

**Aerodrome**

**Flight Information Region (FIR)**

**Terminal Control Area (TMA)**

**Control Zone (CTR)**

**ATS route**

**ATS route reporting point by-pass**

**Reporting Point (REP)**

**ATS/MET reporting point (MRP)**

**Restricted Airspace**

**Collocated VOR and DME navigation aids (VORDME)**

**Identification for radio navigation aids (NAVAID)**

**COP at mid-point between VOR are not shown**

**Area Minimum Altitude (AMA)**

**Waypoint**

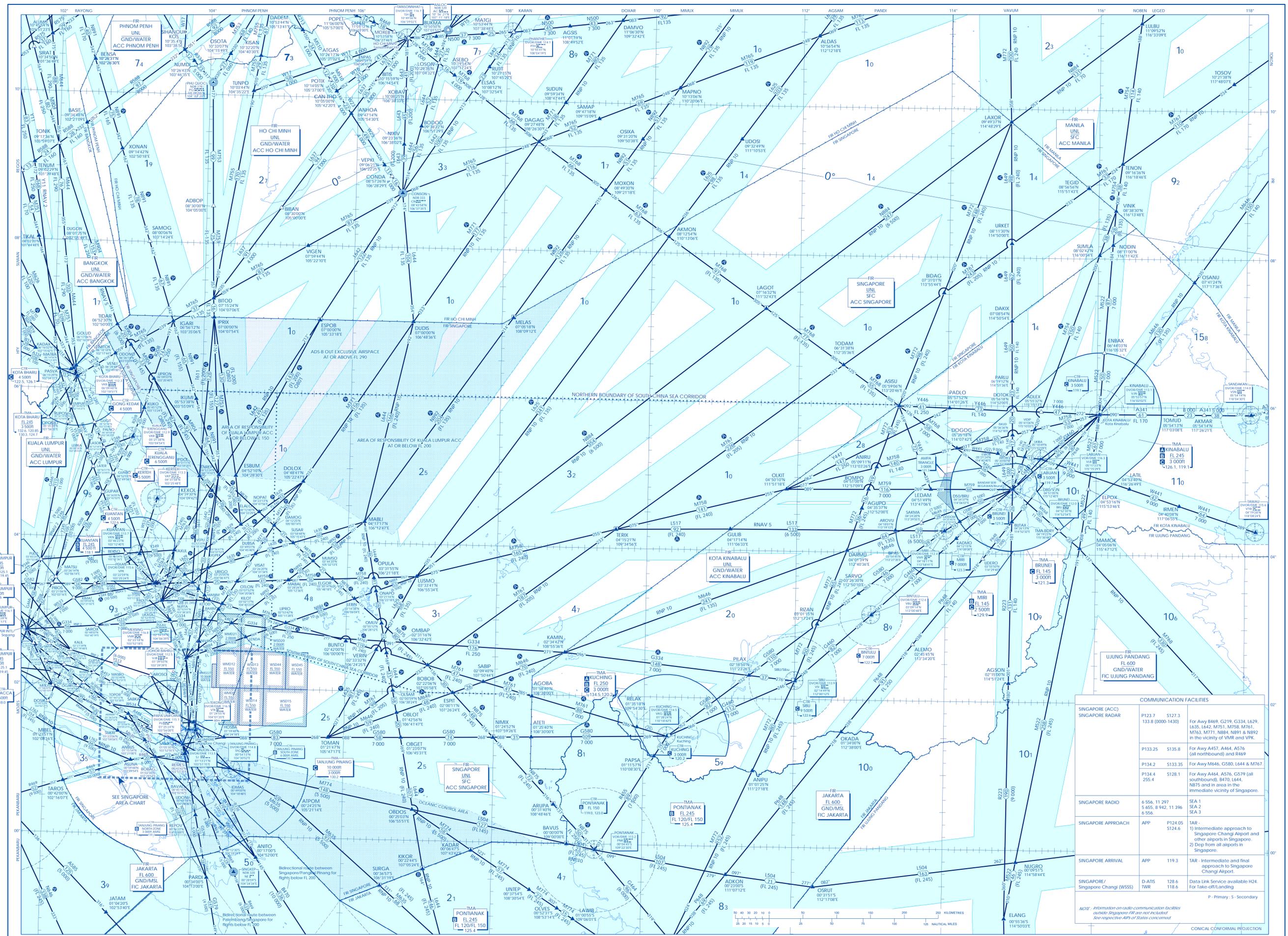
**Always in which Mach Number technique and RNAV are applied**

**RVM Separation Available**

**Airspace Classification in the Singapore FIR**

**CAUTION**

**MAGNETIC INFORMATION FOR THE YEAR 2015**



SINGAPORE RADAR	P123.7 133.8 (000-1430)	S127.3	For Awy B469, G239, G334, L629, L635, L642, M751, M758, M761, M763, M771, N884, N891 & N892 in the vicinity of VMR and VPK.
SINGAPORE RADIO	P133.25 P134.2 P134.4 P255.4	S335.8 S333.35 S328.1	For Awy A457, A464, A576 (all northbound) and R469. For Awy M464, G580, L644 & M767 (all southbound), B470, L644, N875 and in area in the immediate vicinity of Singapore.
SINGAPORE APPROACH	APP	P124.05 S124.6	TAR - 1) Intermediate approach to Singapore Changi Airport and other airports in Singapore. 2) Dep from all airports in Singapore.
SINGAPORE ARRIVAL	APP	119.3	TAR - Intermediate and final approach to Singapore Changi Airport.
SINGAPORE/ Singapore Changi (WSSS)	D-WAY TWR	128.6 118.6	Data Link Service available H24. For Take-off/Landing.

*NOTE: Information on radio communication facilities outside Singapore FIR are not included. See respective AIPs of States concerned.*

P - Primary; S - Secondary

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**STANDARD INSTRUMENT DEPARTURES (SID) CHART**

TWR 131.4  
APP 120.3  
ACC 133.8/134.4/133.25

TRANSITION ALTITUDE  
11 000ft

D-ATIS AP ID-WSSS  
128.6

**SINGAPORE/Singapore Changi RWY 02R/20L CHANGI DEPARTURE (RADAR) CHA 1C (R02R) CHA 1D (R20L)**

**ELEV, ALT IN FEET**

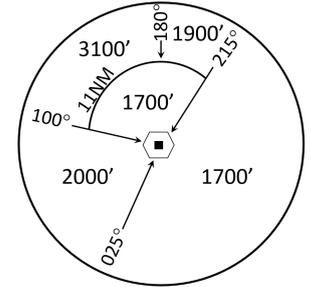
BEARINGS, TRACKS AND RADIALS ARE MAGNETIC  
VAR 0°23'E (2020)

DISTANCES IN NM

**NOTE:** RADAR REQUIRED

**NOTE:** ACFT UNABLE TO COMPLY WITH CLIMB GRADIENT RESTRICTION SHALL INFORM ATC DURING THE TIME ACFT COMMENCES TAXIING TO HOLDING POINT FOR DEPARTURE

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



**MSA 25 NM from TEKONG DVOR**

**GENERAL INFORMATION**

**INITIAL CLIMB 3000FT**

ACFT ON DEPARTURE SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.

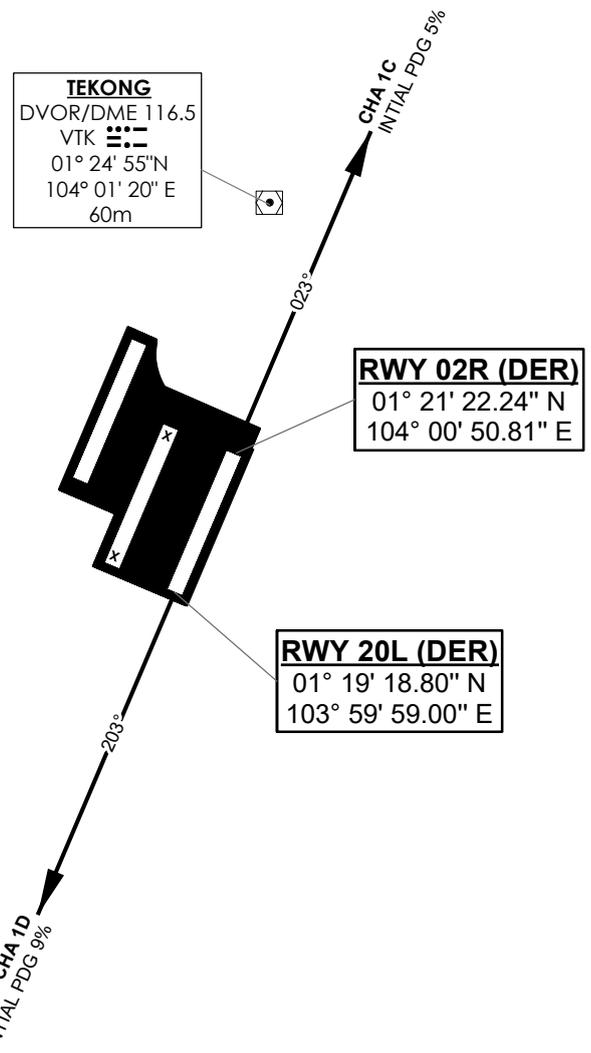
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.

ACFT ON DEPARTURE **02R** SHALL BE ON A MINIMUM CLIMB GRADIENT OF 5% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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

ACFT ON DEPARTURE **20L** SHALL BE ON A MINIMUM CLIMB GRADIENT OF 9% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

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



**RWY 02R (DER)**  
01° 21' 22.24" N  
104° 00' 50.81" E

**RWY 20L (DER)**  
01° 19' 18.80" N  
103° 59' 59.00" E

NOT TO SCALE

### CHA 1C SID (RADAR) RWY 02R - DESCRIPTIONS

#### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator
Climb runway heading 023°, Gradient 5% to 2500ft, thence 3.3%. Expect radar vectors to planned ATS route or depicted waypoints (See table A)	-	VA

#### Tabular Descriptions

Path Terminator	Turn Direction	Course °M (°T)	Altitude	Speed Limit
VA	-	023 (023.4)	A030	-

### CHA 1D SID (RADAR) RWY 20L - DESCRIPTIONS

#### Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator
Climb runway heading 203°, Gradient 9% to 2500ft, thence 3.3%. Expect radar vectors to planned ATS route or depicted waypoints (See table A)	-	VA

#### Tabular Descriptions

Path Terminator	Turn Direction	Course °M (°T)	Altitude	Speed Limit
VA	-	203 (203.4)	A030	-

#### Table A

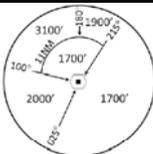
Planned ATS Routes	Expect Radar Vectors to the waypoints listed below and thereafter fly direct between subsequent waypoints to join the respective planned ATS Route
A457	AKOMA DCT SABKA DCT MASBO
B470	DOSNO DCT ANITO
G580 / M646 / L625	HOSBA DCT TOMAN
L504	DOSNO DCT VENPA DCT ATKAX DCT BAVUS
M635	DOSNO DCT VENPA DCT VENIX DCT SURGA
B469 / M751 / M771 / L642 / M753	AKOMA DCT VMR
M774	DOSNO DCT VENPA DCT ATKAX DCT KADAR
L762 / R469	ADMIM DCT ASUNA
Y513	AKOMA DCT AKMET DCT AROSO

### RADIO COMMUNICATIONS FAILURE PROCEDURE

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

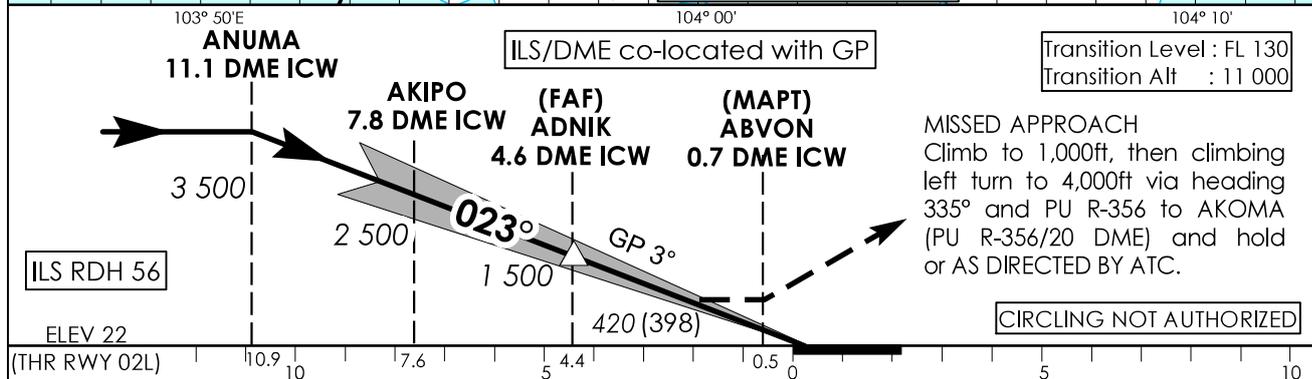
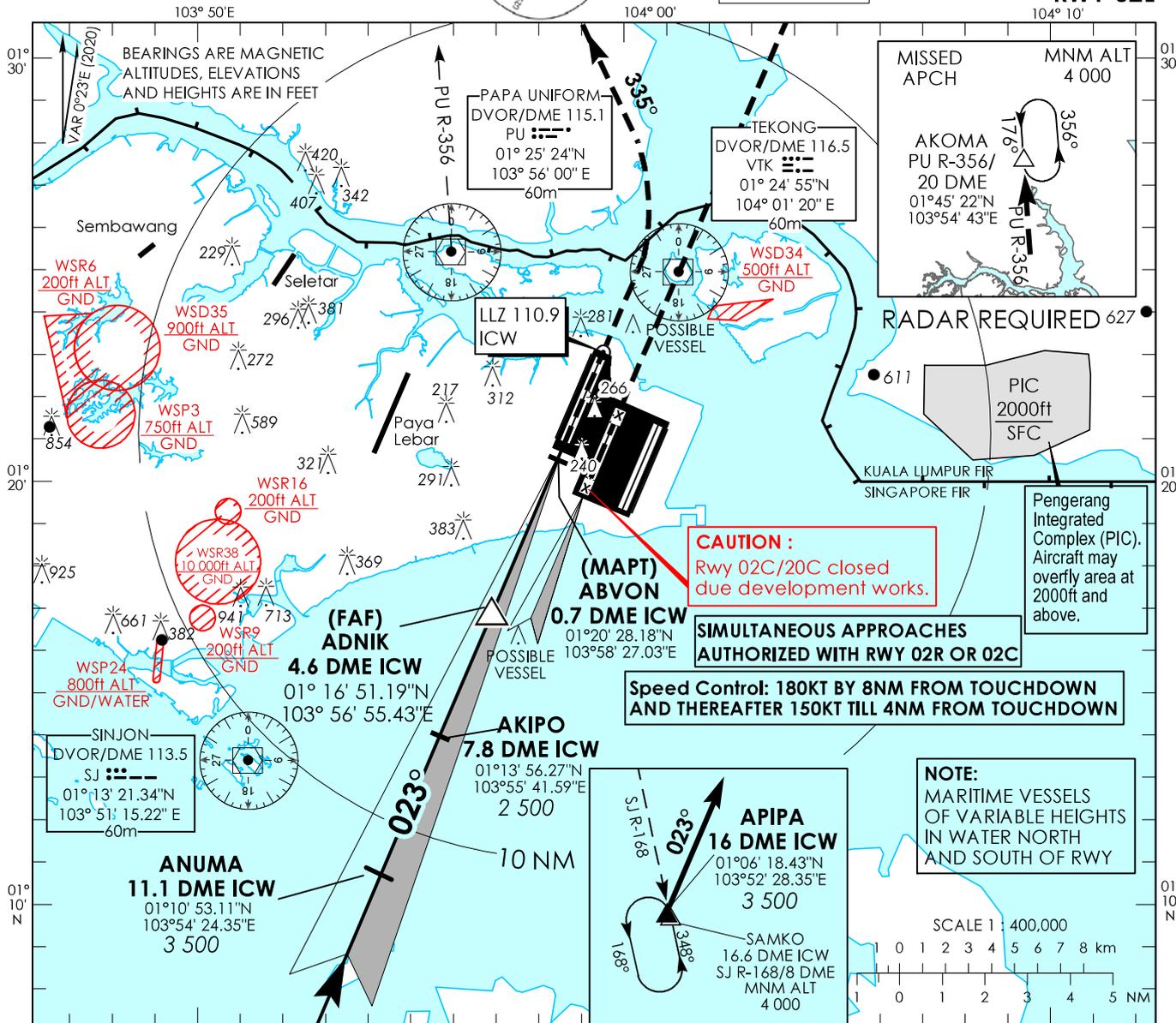
**INSTRUMENT APPROACH CHART - ICAO**

AERODROME ELEV 22ft  
HEIGHT RELATED TO THR RWY 02L - ELEV 22ft



D-ATIS	AP ID WSSS
APP	128.025
TWR	124.05
	119.3
	118.6
	118.25

**SINGAPORE/ SINGAPORE CHANGI ICW ILS/DME RWY 02L**



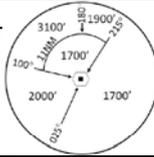
\* TIMING NOT AUTHORIZED WHEN GP INOP

		OCA (OCH)				
Category of Aircraft		A	B	C	D	D <sub>L</sub>
Straight-in	CAT I ILS	173 (151)	187 (165)	203 (181)	216 (194)	219 (197)
	CAT II ILS	88 (66)	98 (76)	108 (86)	127 (105)	127 (105)
	GP INOP	420 (398)				
Distance	4 DME	3 DME		2 DME		
Altitude (Height)	1290 (1268)	970 (948)		660 (638)		
Speed	knots	70	120	150	185	
FAF - MAPT 3.9nm	min : s *	3 : 21	1 : 57	1 : 34	1 : 16	
Rate of descent/GS	ft/min	370	635	795	980	

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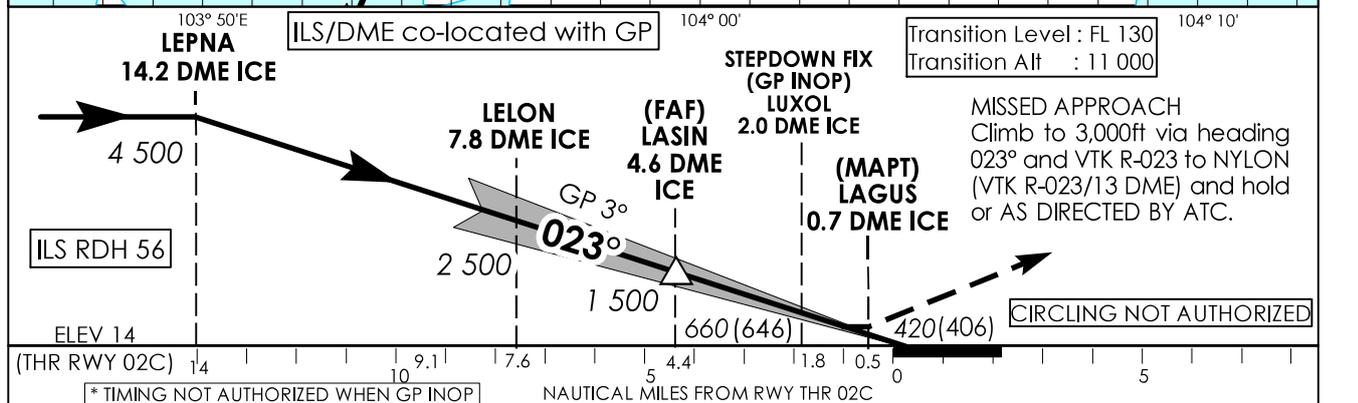
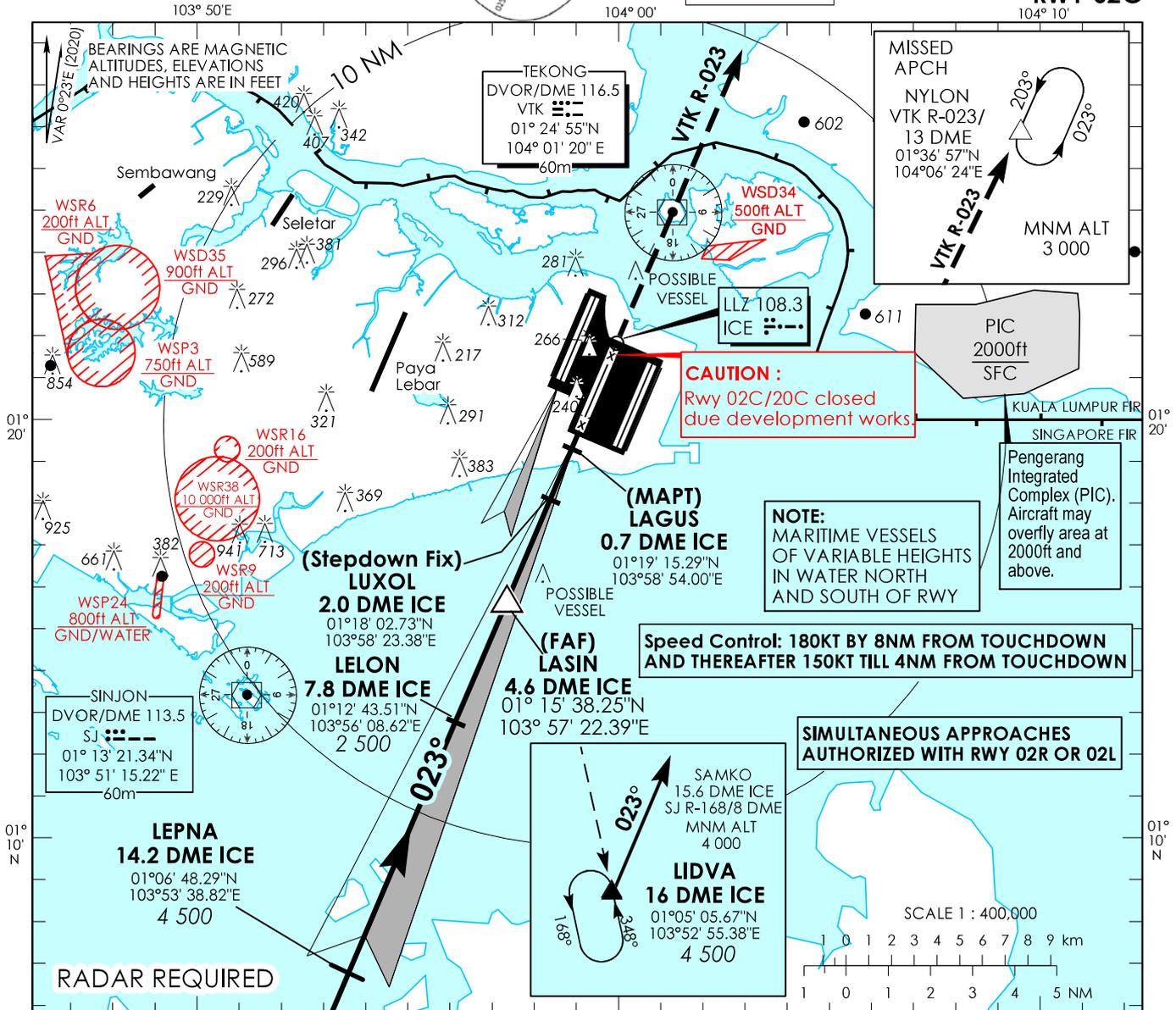
**INSTRUMENT APPROACH CHART - ICAO**

AERODROME ELEV **22ft**  
HEIGHT RELATED TO  
THR RWY 02C - ELEV **14ft**



D-ATIS	AP ID	WSSS
APP	128.025	
TWR	119.3	
	118.6	
	118.25	

**SINGAPORE/ SINGAPORE CHANGI ICE ILS/DME RWY 02C**



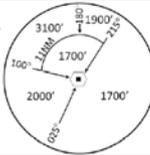
\* TIMING NOT AUTHORIZED WHEN GP INOP

		OCA (OCH)				
Category of Aircraft		A	B	C	D	D <sub>L</sub>
Straight-in	CAT I ILS	170 (156)	180 (166)	196 (182)	209 (195)	212 (198)
	GP INOP (with stepdown fix)	420 (406)				
	GP INOP (without stepdown fix)	660 (646)				
Distance		4 DME			3 DME	
Altitude (Height)		1290 (1276)			970 (956)	
Speed	knots	70	120	150	185	
FAF - MAPT 3.9nm	min : s*	3 : 21	1 : 57	1 : 34	1 : 16	
Rate of descent/GS	ft/min	370	635	795	980	

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**INSTRUMENT APPROACH CHART - ICAO**

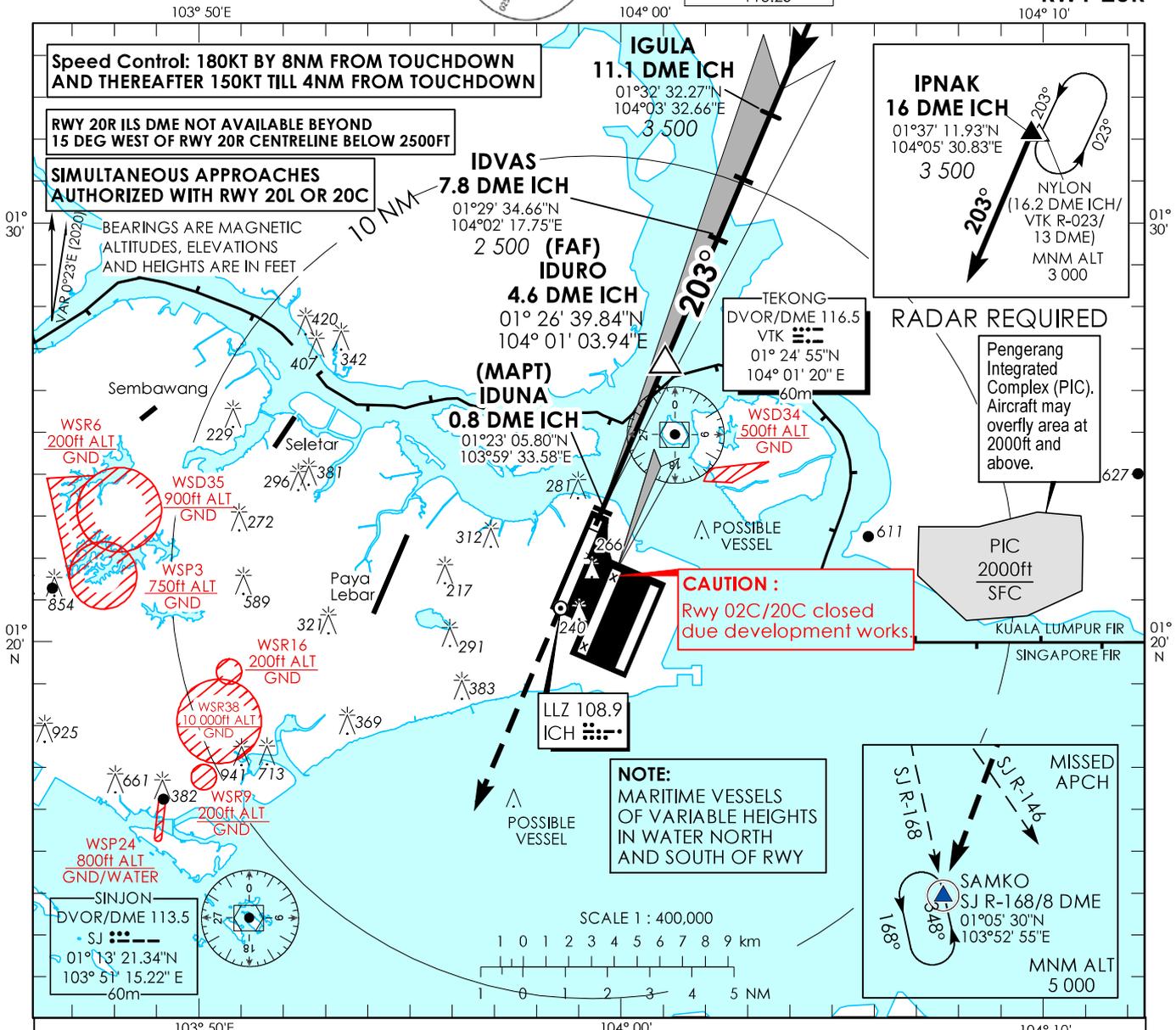
AERODROME ELEV **22ft**  
HEIGHT RELATED TO  
DTHR RWY 20R - ELEV **13ft**



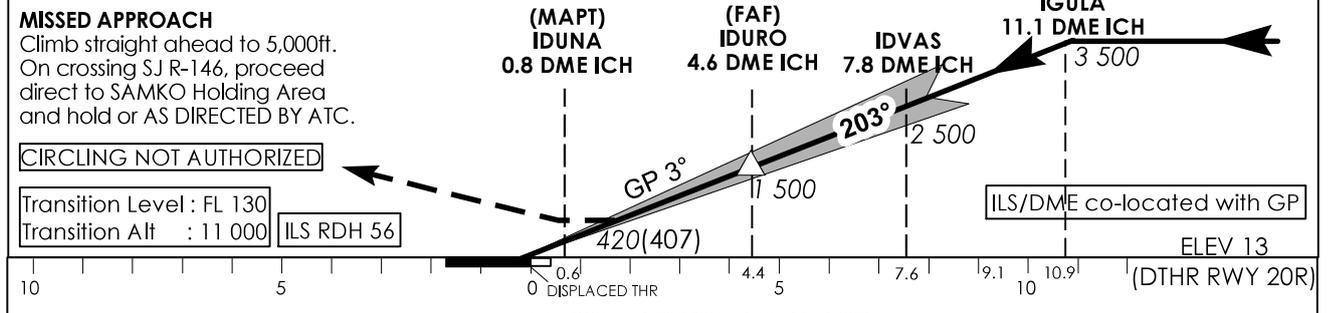
MSA 25 NM  
from TEKONG DVOR

D-ATIS AP ID WSSS	128.025
APP	124.05
TWR	119.3
	118.6
	118.25

**SINGAPORE/ SINGAPORE CHANGI ICH ILS/DME RWY 20R**



This procedure requires a missed approach climb gradient of 3.7% (225 ft/NM) until passing 2,500ft.  
For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the CAT I OCA (OCH) is 693ft (680ft).



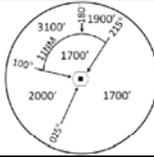
\* TIMING NOT AUTHORIZED WHEN GP INOP

		OCA (OCH)				
Category of Aircraft		A	B	C	D	D <sub>L</sub>
Straight-in	CAT I ILS	152 (139)	159 (146)	179 (166)	192 (179)	195 (182)
	GP INOP	420 (407)				
Distance		4 DME		3 DME		2 DME
Altitude (Height)		1290 (1277)		970 (957)		650 (637)
Speed	knots	70	120	150	185	
FAF - MAPT 3.9nm	min : s *	3 : 21	1 : 57	1 : 34	1 : 16	
Rate of descent/GS	ft/min	370	635	795	980	

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**INSTRUMENT APPROACH CHART - ICAO**

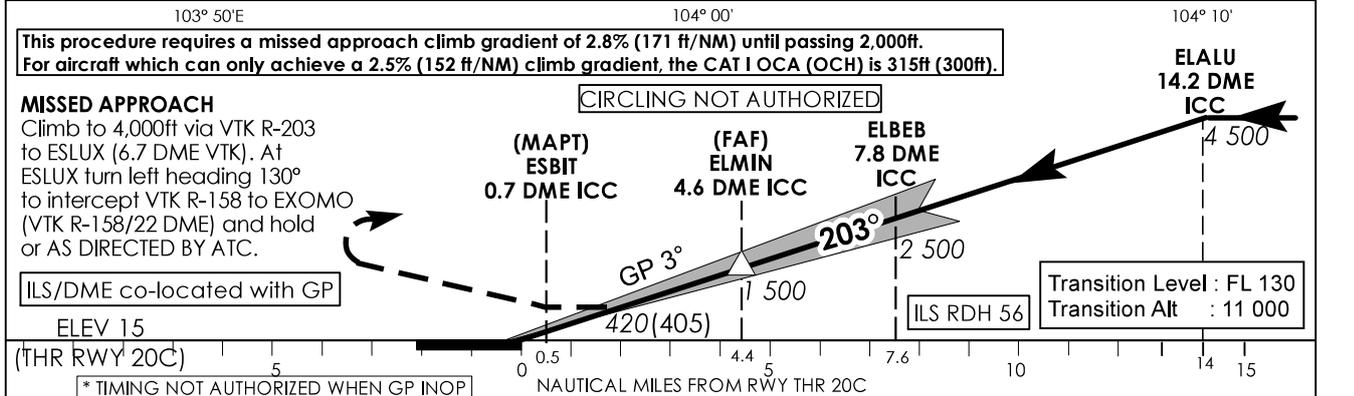
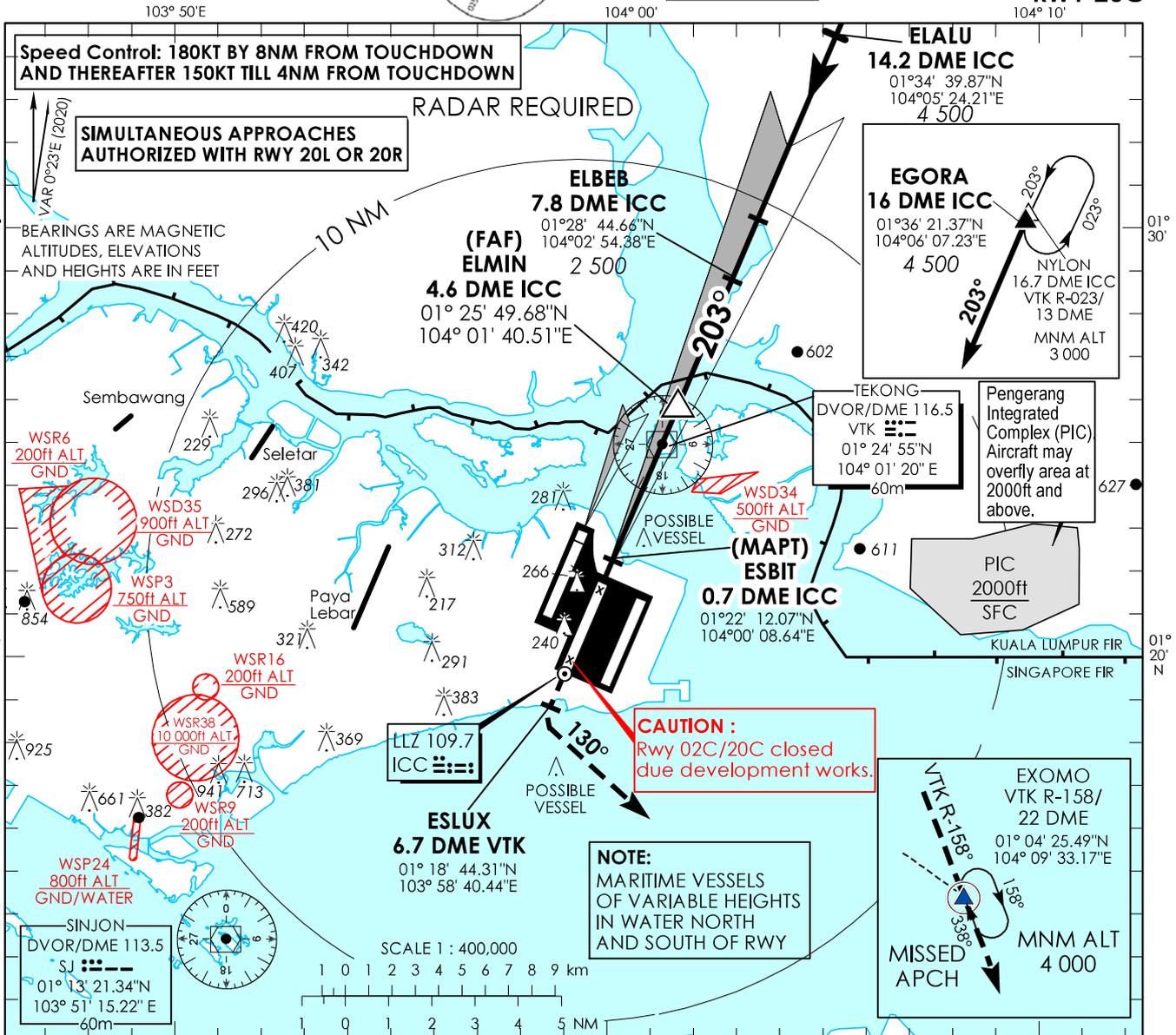
AERODROME ELEV 22ft  
HEIGHT RELATED TO THR RWY 20C - ELEV 15ft



MSA 25 NM from TEKONG DVOR

D-ATIS	AP ID WSSS
APP	128.025
TWR	124.05
	119.3
	118.6
	118.25

**SINGAPORE/ SINGAPORE CHANGI ICC ILS/DME RWY 20C**

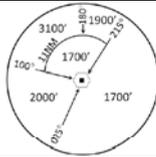


		OCA (OCH)				
Category of Aircraft		A	B	C	D	D <sub>L</sub>
Straight-in	CAT I ILS	166 (151)	180 (165)	196 (181)	209 (194)	212 (197)
	CAT II ILS	71 (56)	78 (63)	91 (76)	101 (86)	107 (92)
	GP INOP	420 (405)				
Distance	4 DME	3 DME		2 DME		
Altitude (Height)	1290 (1275)	980 (965)		660 (645)		
Speed	knots	70	120	150	185	
FAF - MAPT 3.9nm	min : s *	3 : 21	1 : 57	1 : 34	1 : 16	
Rate of descent/GS	ft/min	370	635	795	980	

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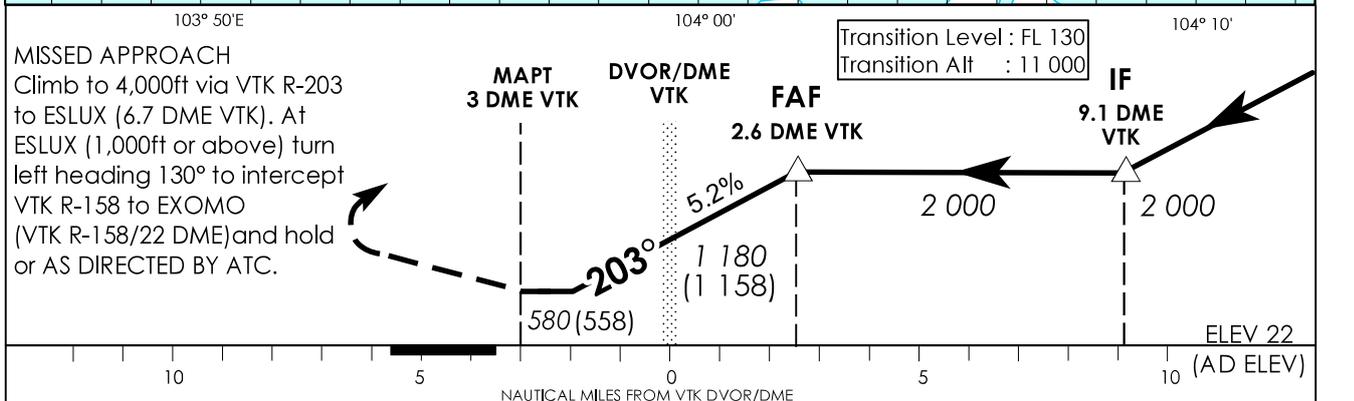
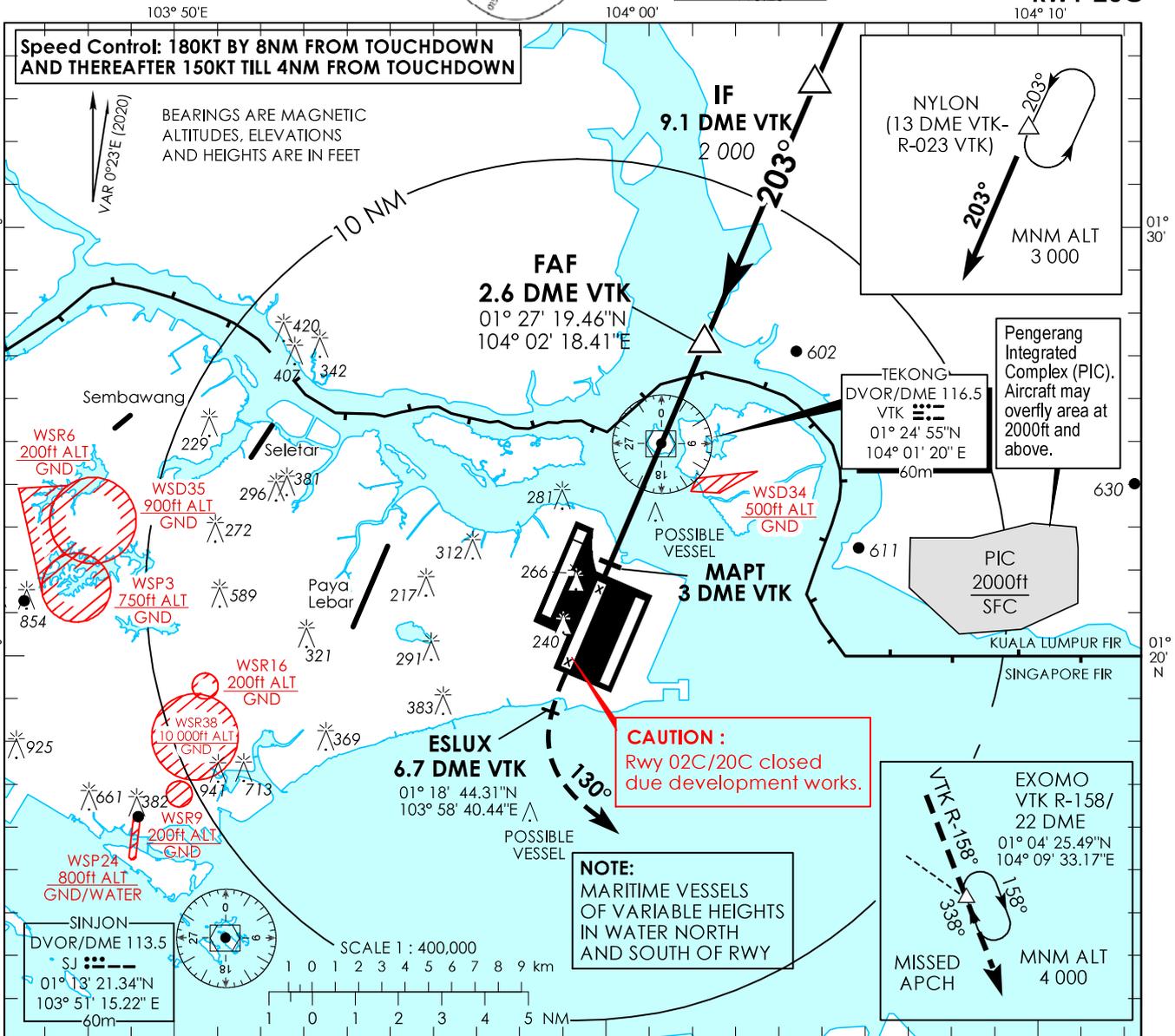
**INSTRUMENT APPROACH CHART - ICAO**

AERODROME ELEV **22ft**  
HEIGHT RELATED TO  
AD ELEV



D-ATIS	AP ID WSSS
APP	128.025
TWR	124.05
	119.3
	118.6
	118.25

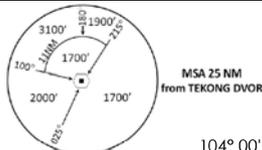
**SINGAPORE/ SINGAPORE CHANGI VTK DVOR/DME RWY 20C**



OCA (OCH)				
Category of Aircraft	A	B	C	D
Straight-in	580 (558)			
Distance	2 DME	1 DME	VTK	1 DME
Altitude (Height)	1820 (1798)	1500 (1478)	1180 (1158)	860 (838)
Speed	knots	70	120	150
FAF - MAPT 5.6nm	min : s	4 : 48	2 : 48	2 : 15
Rate of descent/GS	ft/min	370	635	795

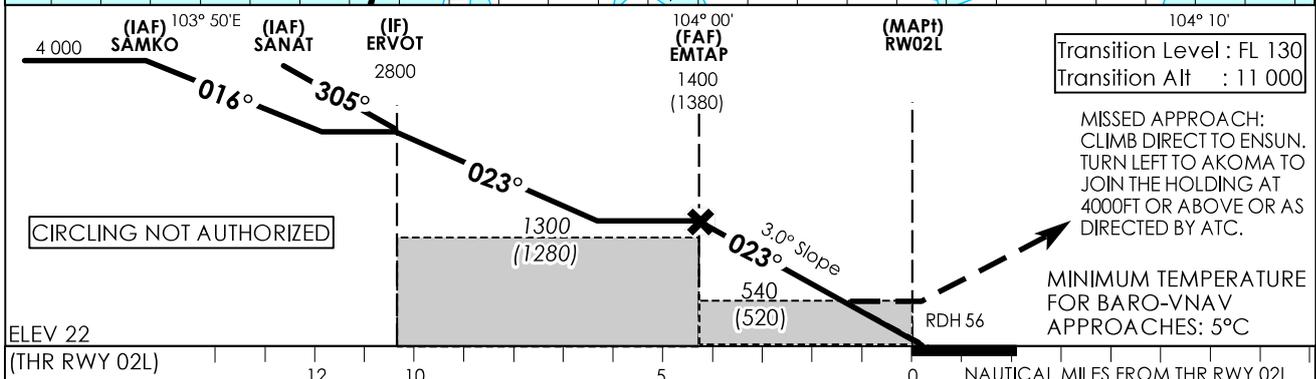
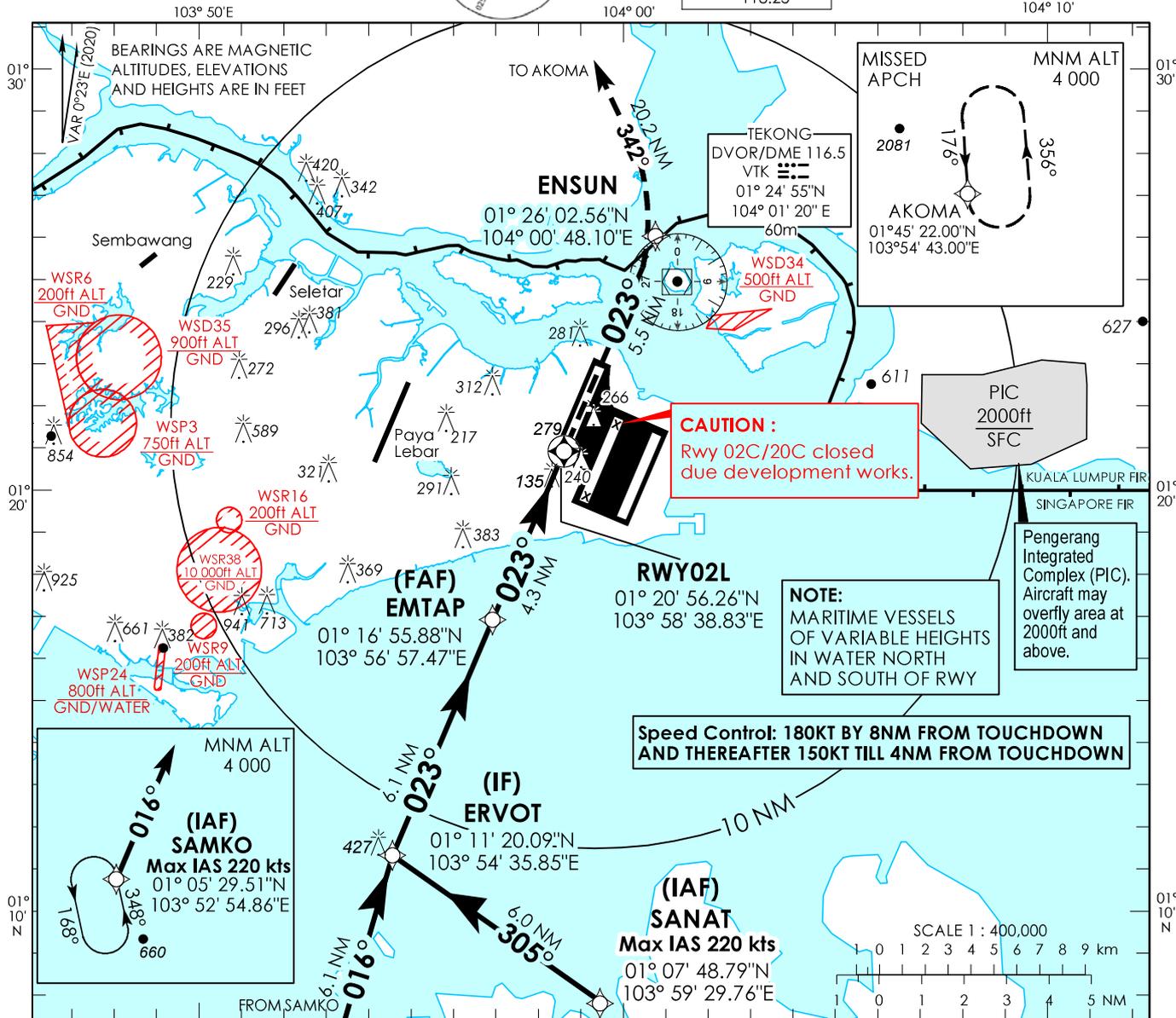
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**INSTRUMENT APPROACH CHART - ICAO**  
AERODROME ELEV 22ft  
HEIGHT RELATED TO THR RWY 02L - ELEV 22ft



D-ATIS AP ID WSSS	128.025
APP	124.05
TWR	119.3
	118.6
	118.25

**SINGAPORE/ SINGAPORE CHANGI**  
**RNP RWY 02L**



		OCA (OCH)					
Category of Aircraft		A	B	C	D		
LNAV/VNAV	2.5%		450 (430)				
LNAV	2.5%		540 (520)				
Fix		SAMKO	SANAT	ERVOT	EMTAP	RW02L	ENSUN
Altitude (Height)		4000 (3978)	4000 (3978)	2800 (2778)	1400 (1378)	540 (518)	880 (858)
Speed	knots	80	100	120	140	160	180
FAF - MAPt	4.3nm	min : s	3 : 14	2 : 35	2 : 09	1 : 51	1 : 37
Rate of descent/GS	ft/min		424	530	637	743	849

**SINGAPORE CHANGI RNP-APCH RWY 02L – Approach from SAMKO**

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	SAMKO	-	-	-0.4	-	-	A040+	220	-	RNP APCH
TF	ERVOT	-	016 (016.4)	-0.4	6.1	R	A028+	-	-	RNP APCH
TF	EMTAP	-	023 (023.4)	-0.4	6.1	-	A014+	-	-	RNP APCH
TF	RW02L	Y	023 (023.4)	-0.4	4.3	-	-	-	-3.0° / 50	RNP APCH
DF	ENSUN	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	AKOMA	-	342 (342.4)	-0.4	20.2	-	A040+	-	-	RNP APCH

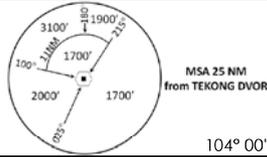
**SINGAPORE CHANGI RNP-APCH RWY 02L – Approach from SANAT**

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	SANAT	-	-	-0.4	-	-	A040+	220	-	RNP APCH
TF	ERVOT	-	305 (305.4)	-0.4	6.0	R	A028+	-	-	RNP APCH
TF	EMTAP	-	023 (023.4)	-0.4	6.1	-	A014+	-	-	RNP APCH
TF	RW02L	Y	023 (023.4)	-0.4	4.3	-	-	-	-3.0° / 50	RNP APCH
DF	ENSUN	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	AKOMA	-	342 (342.4)	-0.4	20.2	-	A040+	-	-	RNP APCH

**Waypoint Coordinates**

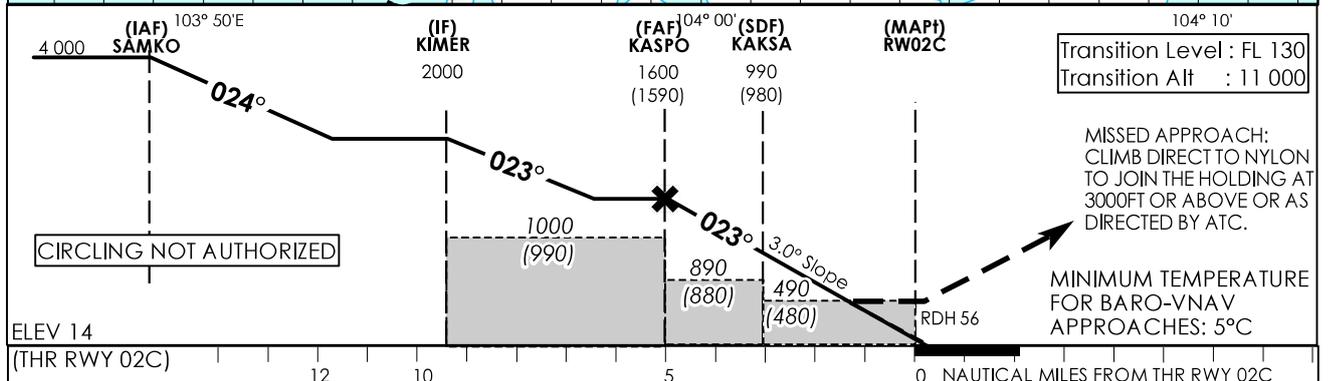
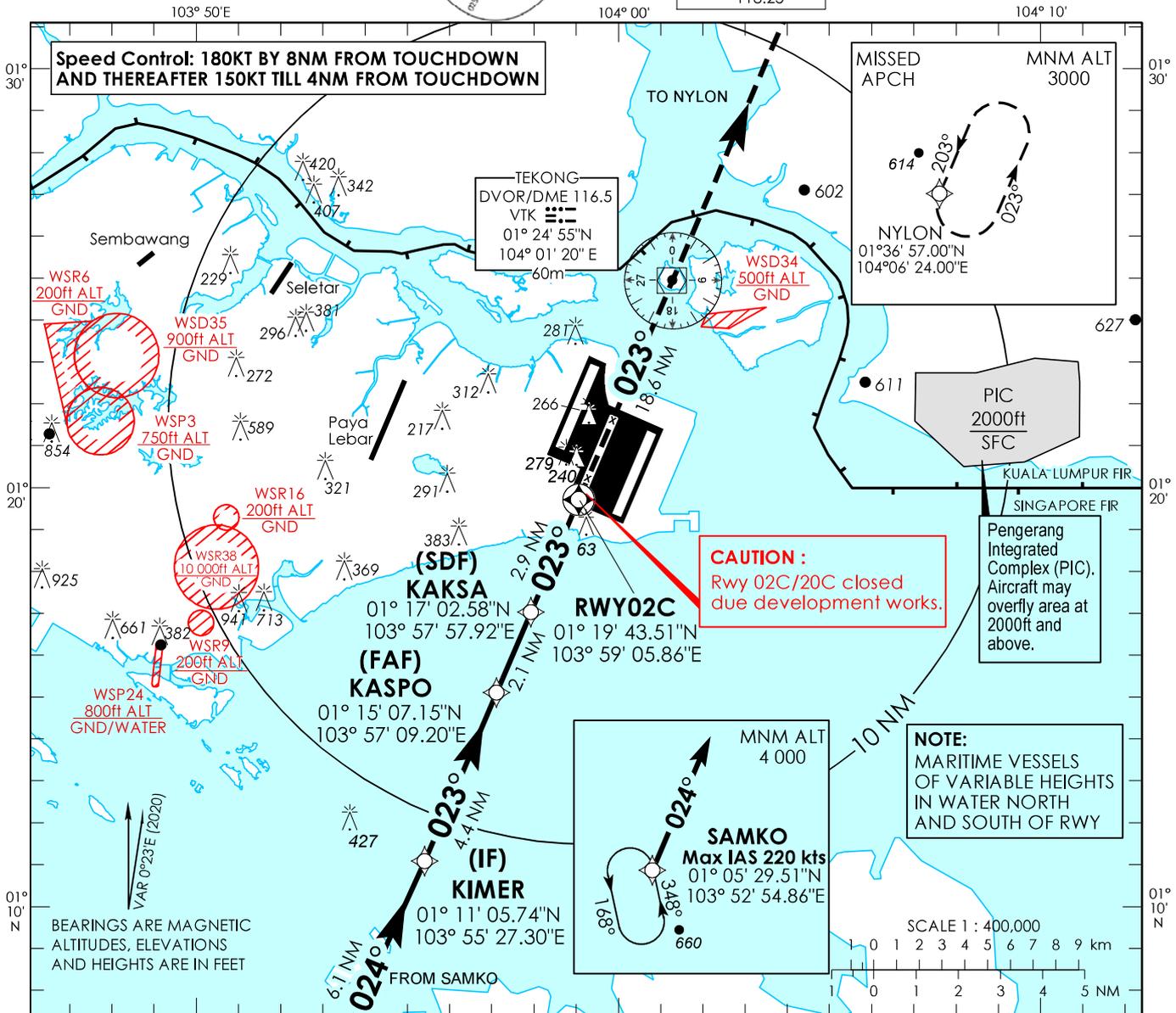
Name	Latitude	Longitude
SAMKO (IAF)	01° 05' 29.51" N	103° 52' 54.86" E
SANAT (IAF)	01° 07' 48.79" N	103° 59' 29.76" E
ERVOT (IF)	01° 11' 20.09" N	103° 54' 35.85" E
EMTAP (FAF)	01° 16' 55.88" N	103° 56' 57.47" E
RW02L	01° 20' 56.26" N	103° 58' 38.83" E
ENSUN	01° 26' 02.56" N	104° 00' 48.10" E
AKOMA	01° 45' 22.00" N	103° 54' 43.00" E

**INSTRUMENT APPROACH CHART - ICAO** AERODROME ELEV 22ft  
HEIGHT RELATED TO THR RWY 02C - ELEV 14ft



D-ATIS AP ID WSSS	128.025
APP	124.05
	119.3
TWR	118.6
	118.25

**SINGAPORE/ SINGAPORE CHANGI RNP RWY 02C**



		OCA (OCH)				
Category of Aircraft		A	B	C	D	
LNAV	2.5%		490 (480)			
LNAV without SDF	2.5%		890 (880)			
LNAV/VNAV	2.5%		360 (350)			
Fix		SAMKO	KIMER	KASPO	KAKSA	RW02C
Altitude (Height)		4000 (3986)	2000 (1986)	1600 (1586)	990 (976)	490 (476)
Speed	knots	80	100	120	140	160
FAF - MAPt 5nm	min : s	3 : 45	3 : 00	2 : 30	2 : 09	1 : 53
Rate of descent/GS	ft/min	425	531	637	743	849

**SINGAPORE CHANGI RNP-APCH RWY 02C – Approach from SAMKO**

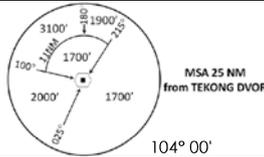
Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	SAMKO	-	-	-0.4	-	-	A040+	220	-	RNP APCH
TF	KIMER	-	024 (024.4)	-0.4	6.1	-	A020+	-	-	RNP APCH
TF	KASPO	-	023 (023.4)	-0.4	4.4	-	A016+	-	-	RNP APCH
TF	KAKSA	-	023 (023.4)	-0.4	2.1	-	990ft+	-	-	RNP APCH
TF	RW02C	Y	023 (023.4)	-0.4	2.9	-	-	-	-3.0° / 50	RNP APCH
DF	NYLON	-	-	-0.4	-	-	A030+	-	-	RNP APCH

**Waypoint Coordinates**

Name	Latitude	Longitude
SAMKO (IAF)	01° 05' 29.51" N	103° 52' 54.86" E
KIMER (IF)	01° 11' 05.74" N	103° 55' 27.30" E
KASPO (FAF)	01° 15' 07.15" N	103° 57' 09.20" E
KAKSA (SDF)	01° 17' 02.58" N	103° 57' 57.92" E
RW02C	01° 19' 43.51" N	103° 59' 05.86" E
NYLON	01° 36' 57.00" N	104° 06' 24.00" E

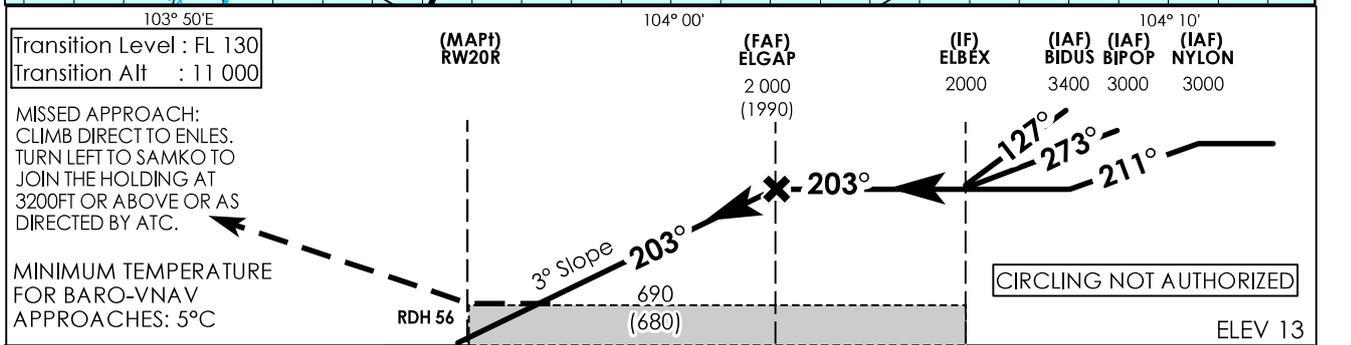
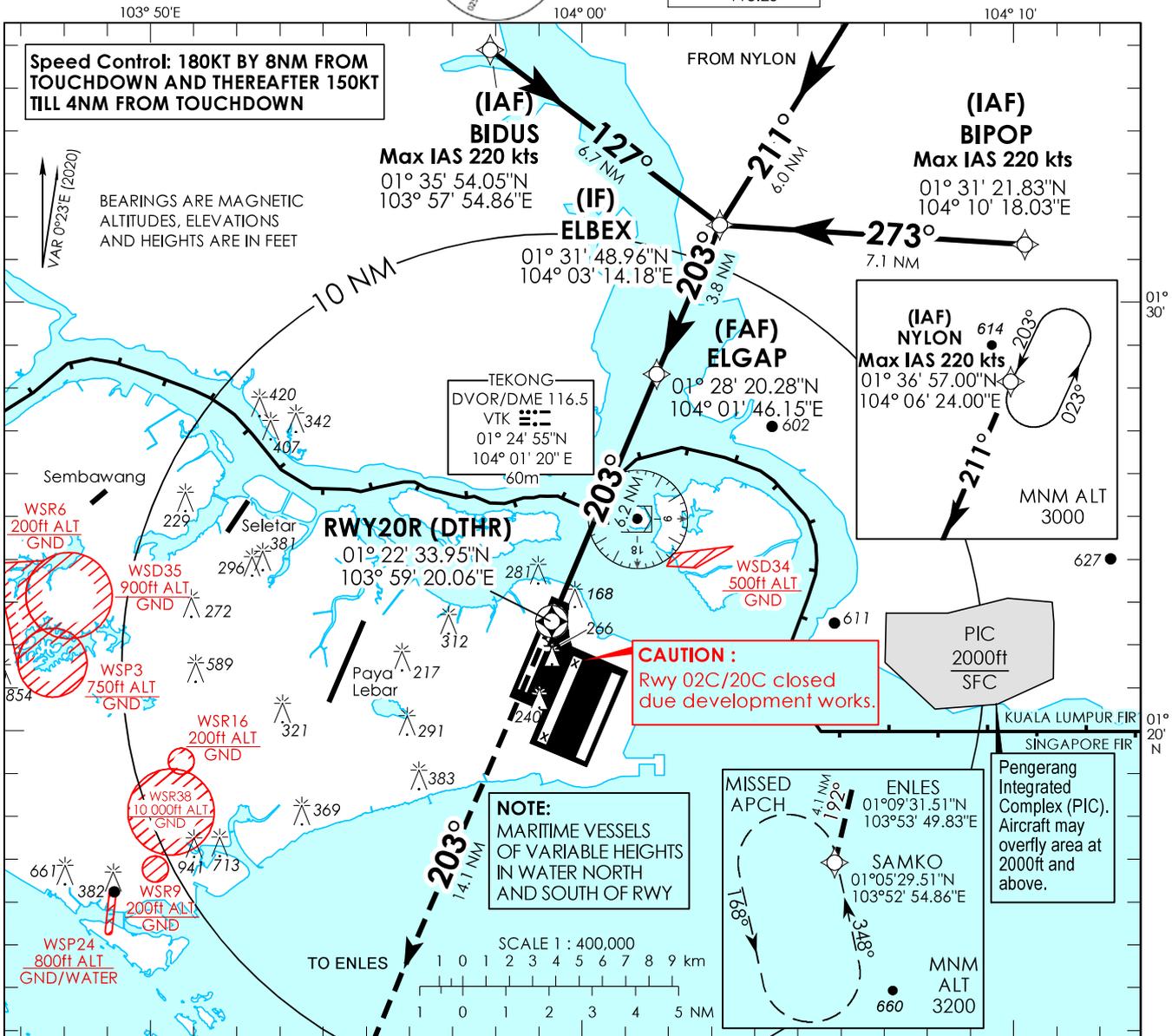
**INSTRUMENT APPROACH CHART - ICAO**

AERODROME ELEV 22ft  
HEIGHT RELATED TO  
DTHR RWY 20R - ELEV 13ft



D-ATIS	AP ID WSSS
APP	128.025
TWR	124.05
	119.3
	118.6
	118.25

**SINGAPORE/ SINGAPORE CHANGI RNP RWY 20R**



		A		B		C		D	
Category of Aircraft		A		B		C		D	
LNAV/VNAV	2.5%	690 (680)							
LNAV	2.5%	690 (680)							
Fix		BIDUS	NYLON	BIPOP	ELBEX	ELGAP	RW20R	ENLES	SAMKO
Altitude (Height)		3400 (3387)	3000 (2987)	3000 (2987)	2000 (1987)	2000 (1987)	690 (680)	2180 (2167)	3200 (3187)
Speed	knots	80	100	120	140	160	180		
FAF - MAPt 6.2 nm	min : s	4 : 39	3 : 44	3 : 06	2 : 40	2 : 20	2 : 04		
Rate of descent/GS	ft/min	425	531	637	743	849	955		

**SINGAPORE CHANGI RNP-APCH RWY 20R – Approach from BIDUS**

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	BIDUS	-	-	-0.4	-	-	A034+	220	-	RNP APCH
TF	ELBEX	-	127 (127.4)	-0.4	6.7	R	A020+	-	-	RNP APCH
TF	ELGAP	-	203 (203.4)	-0.4	3.8	-	A020+	-	-	RNP APCH
TF	RW20R	Y	203 (203.4)	-0.4	6.2	-	-	-	-3.0° / 50	RNP APCH
DF	ENLES	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	SAMKO	-	192 (192.4)	-0.4	4.1	-	A032+	-	-	RNP APCH

**SINGAPORE CHANGI RNP-APCH RWY 20R – Approach from NYLON**

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	NYLON	-	-	-0.4	-	-	A030+	220	-	RNP APCH
TF	ELBEX	-	211 (211.4)	-0.4	6.0	L	A020+	-	-	RNP APCH
TF	ELGAP	-	203 (203.4)	-0.4	3.8	-	A020+	-	-	RNP APCH
TF	RW20R	Y	203 (203.4)	-0.4	6.2	-	-	-	-3.0° / 50	RNP APCH
DF	ENLES	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	SAMKO	-	192 (192.4)	-0.4	4.1	-	A032+	-	-	RNP APCH

**SINGAPORE CHANGI RNP-APCH RWY 20R – Approach from BIPOP**

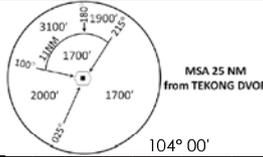
Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	BIPOP	-	-	-0.4	-	-	A030+	220	-	RNP APCH
TF	ELBEX	-	273 (273.4)	-0.4	7.1	L	A020+	-	-	RNP APCH
TF	ELGAP	-	203 (203.4)	-0.4	3.8	-	A020+	-	-	RNP APCH
TF	RW20R	Y	203 (203.4)	-0.4	6.2	-	-	-	-3.0° / 50	RNP APCH
DF	ENLES	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	SAMKO	-	192 (192.4)	-0.4	4.1	-	A032+	-	-	RNP APCH

**Waypoint Coordinates**

Name	Latitude	Longitude
BIDUS (IAF)	01° 35' 54.05" N	103° 57' 54.86" E
NYLON (IAF)	01° 36' 57.00" N	104° 06' 24.00" E
BIPOP (IAF)	01° 31' 21.83" N	104° 10' 18.03" E
ELBEX (IF)	01° 31' 48.96" N	104° 03' 14.18" E
ELGAP (FAF)	01° 28' 20.28" N	104° 01' 46.15" E
RW20R	01° 22' 33.95" N	103° 59' 20.06" E
ENLES	01° 09' 31.51" N	103° 53' 49.83" E
SAMKO	01° 05' 29.51" N	103° 52' 54.86" E

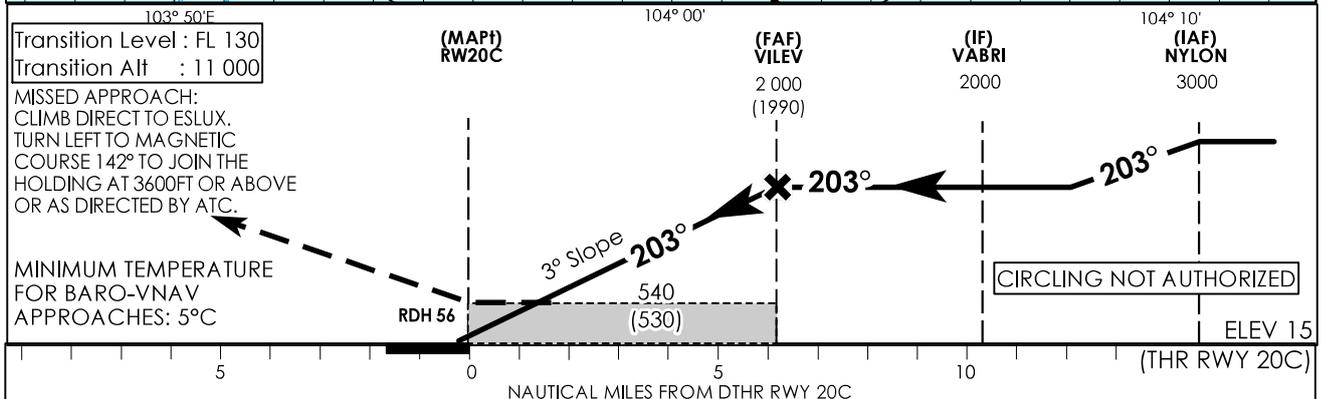
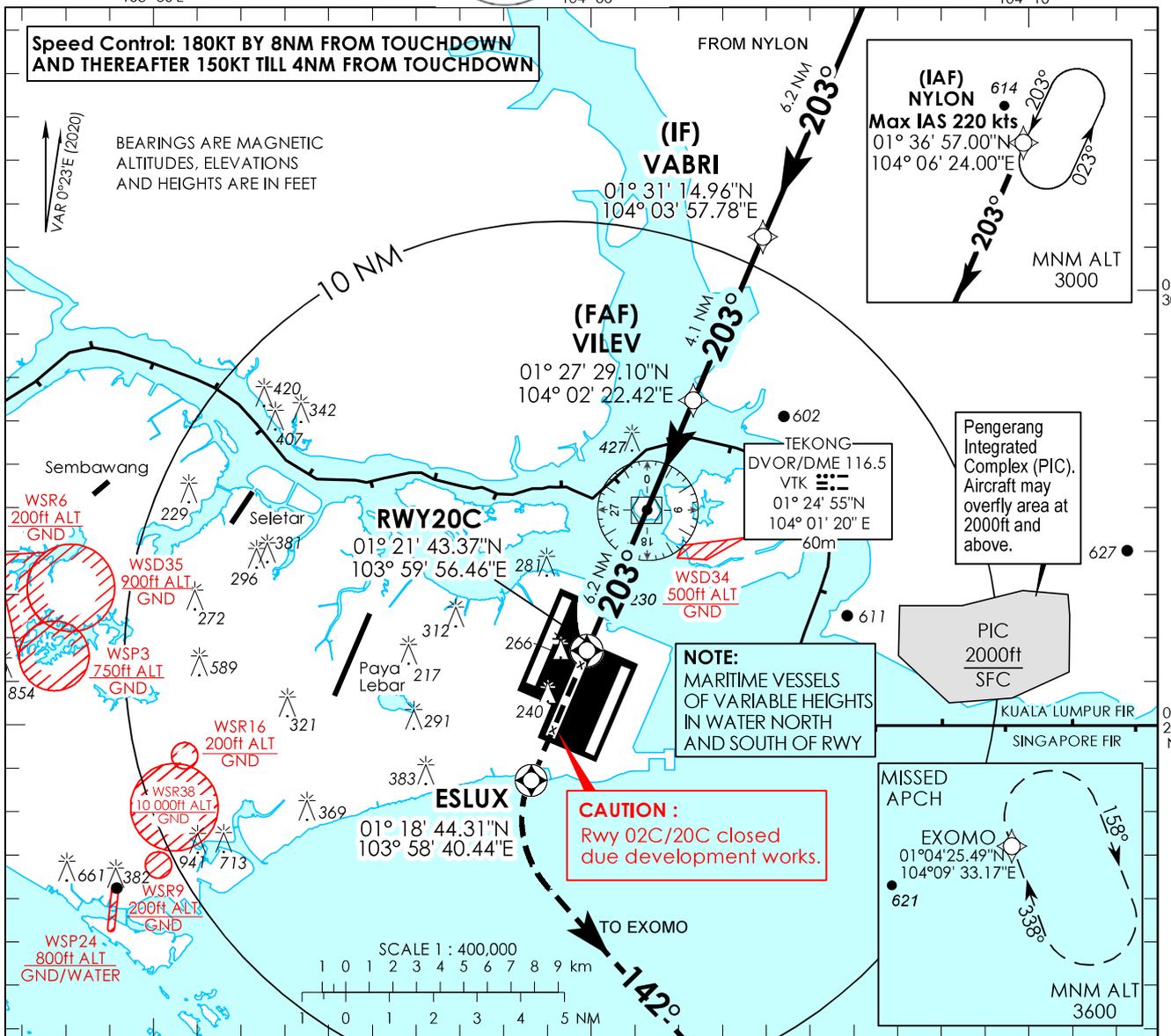
**INSTRUMENT APPROACH CHART - ICAO**

AERODROME ELEV 22ft  
HEIGHT RELATED TO  
THR RWY 20C - ELEV 15ft



D-ATIS	AP ID WSSS
APP	128.025
APP	124.05
TWR	119.3
TWR	118.6
TWR	118.25

**SINGAPORE/ SINGAPORE CHANGI RNP RWY 20C**



		OCA (OCH)					
		A	B	C	D		
Category of Aircraft							
LNAV/VNAV	2.5%	490 (480)					
LNAV	2.5%	540 (530)					
Fix		NYLON	VABRI	VILEV	RW20C	ESLUX	EXOMO
Altitude (Height)		3000 (2985)	2000 (1985)	2000 (1985)	540 (525)	540 (525)	3600 (3585)
Speed	knots	80	100	120	140	160	180
FAF - MAPt 6.2 nm	min : s	4 : 39	3 : 44	3 : 06	2 : 40	2 : 20	2 : 04
Rate of descent/GS	ft/min	425	531	637	743	849	955

**SINGAPORE CHANGI RNP-APCH RWY 20C – Approach from NYLON**

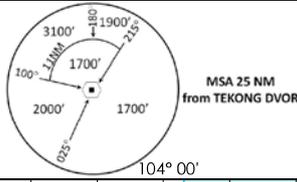
Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	NYLON	-	-	-0.4	-	-	A030+	220	-	RNP APCH
TF	VABRI	-	203 (203.4)	-0.4	6.2	-	A020+	-	-	RNP APCH
TF	VILEV	-	203 (203.4)	-0.4	4.1	-	A020+	-	-	RNP APCH
TF	RW20C	Y	203 (203.4)	-0.4	6.2	-	-	-	-3.0° / 50	RNP APCH
DF	ESLUX	Y	-	-0.4	-	L	-	-	-	RNP APCH
TF	EXOMO	-	142(142.4)	-0.4	-	-	A036+	-	-	RNP APCH

**Waypoint Coordinates**

Name	Latitude	Longitude
NYLON (IAF)	01° 36' 57.00" N	104° 06' 24.00" E
VABRI (IF)	01° 31' 14.96" N	104° 03' 57.78" E
VILEV (FAF)	01° 27' 29.10" N	104° 02' 22.42" E
RW20C	01° 21' 43.37" N	103° 59' 56.46" E
ESLUX	01° 18' 44.31" N	103° 58' 40.44" E
EXOMO	01° 04' 25.49" N	104° 09' 33.17" E

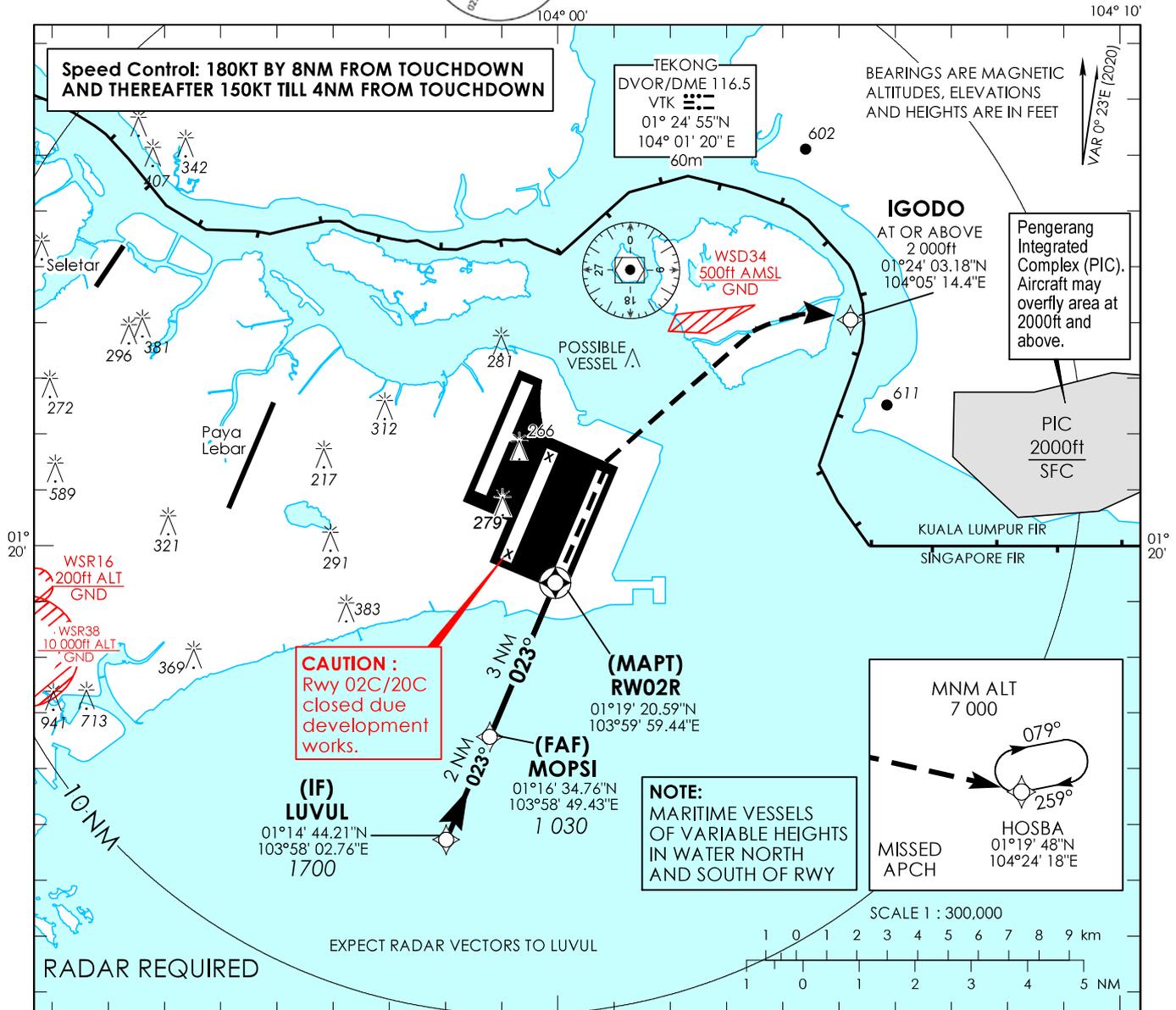
**INSTRUMENT  
APPROACH  
CHART**

AERODROME ELEV 22ft  
HEIGHT RELATED TO  
THR RWY 02R - ELEV 16ft

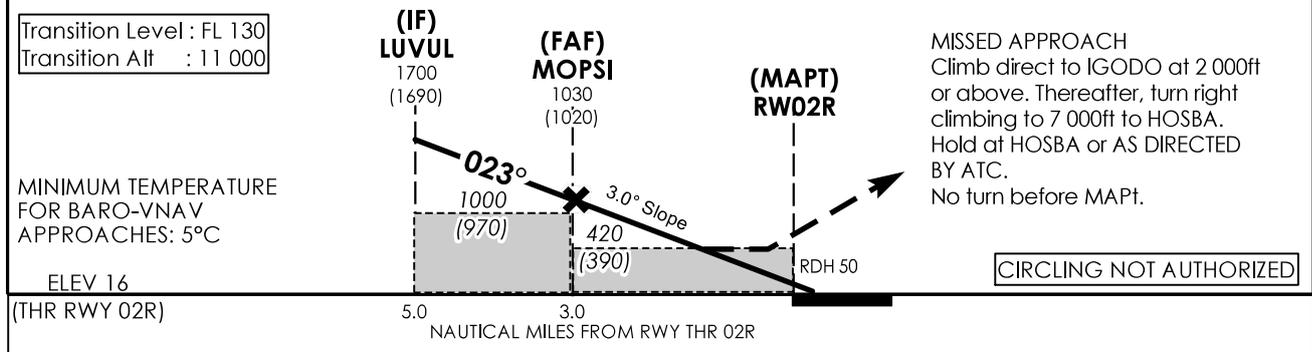


D-ATIS	AP ID	WSSS
APP	128.025	
TWR	124.05	
	124.6	
	131.4	

**SINGAPORE/  
SINGAPORE CHANGI  
RNP RWY 02R**



- This procedure requires a missed approach climb gradient of 5% (304 ft/NM) until passing 2,000ft. MAX IAS 185kts during turning missed approach.
- For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the CAT I OCA (OCH) is 820ft (800ft) and aircraft shall climb straight to 1200ft before commencing right turn climbing to 7000ft to HOSBA.



		OCA (OCH)			
Category of Aircraft		A	B	C	D
LNAV/VNAV	5%	330 (310)			
LNAV	5%	420 (390)			
Distance		LUVUL		MOPSI	
Altitude (Height)		1700 (1690)		1030 (1020)	
Speed	knots	70	120	150	185
FAF - MAPT 3.0nm	min : s *	2 : 34	1 : 30	1 : 12	0 : 58
Rate of descent/GS	ft/min	370	635	795	980

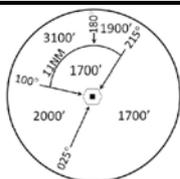
**SINGAPORE CHANGI RNP-APCH RWY 02R – Approach from LUVUL**

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	LUVUL	-	023 (023.4)	-0.4	-	-	1700+	180	-	RNP APCH
TF	MOPSI	-	023 (023.4)	-0.4	2.0	-	1030+	150	-	RNP APCH
TF	RW02R	Y	023 (023.4)	-0.4	3.0	R	-	-	-3.0° / 50	RNP APCH
DF	IGODO	-	-	-0.4	-	R	2000+	185	-	RNP APCH
TF	HOSBA	-	023 (023.4)	-0.4	-	-	7000+	-	-	RNP APCH

**Waypoint Coordinates**

Name	Latitude	Longitude
LUVUL (IF)	01° 14' 44.21" N	103° 58' 02.76" E
MOPSI (FAF)	01° 16' 34.76" N	103° 58' 49.43" E
RW02R	01° 19' 20.59" N	103° 59' 59.44" E
IGODO	01° 24' 03.18" N	104° 05' 14.40" E
HOSBA	01° 19' 48.00" N	104° 24' 18.00" E

**INSTRUMENT APPROACH CHART** AERODROME ELEV 22ft  
HEIGHT RELATED TO  
THR RWY 20L - ELEV 16ft

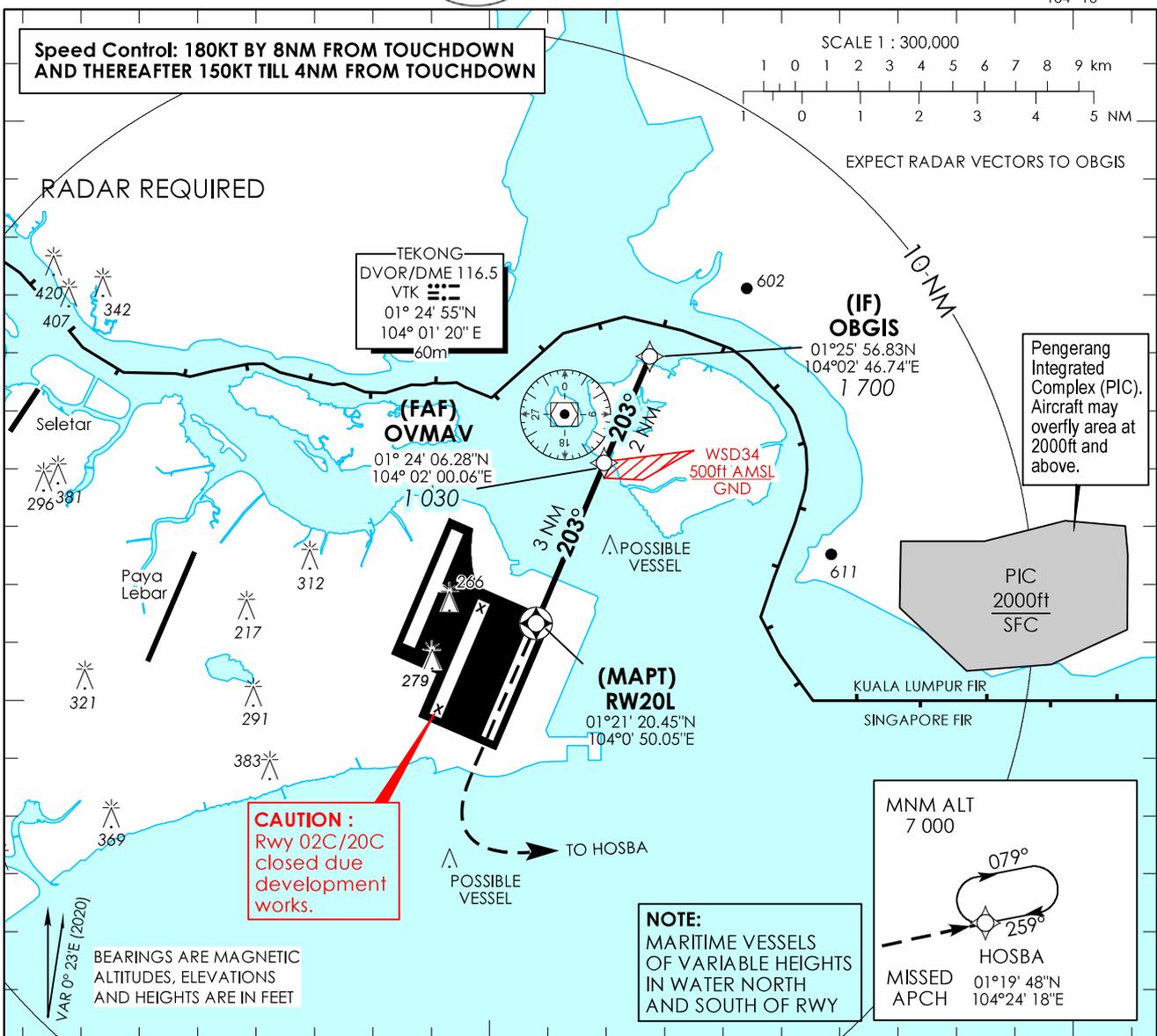


MSA 25 NM  
from TEKONG DVOR

D-ATIS	AP ID WSSS
APP	128.6
TWR	124.05
	124.6
	131.4

**SINGAPORE/  
SINGAPORE CHANGI**  
**RNP RWY 20L**

104° 10'

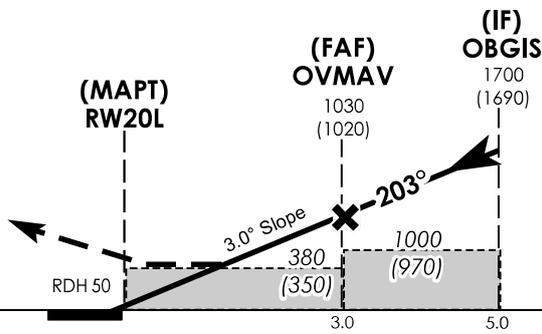


This procedure requires a missed approach climb gradient of 5% (304 ft/NM) until passing 3,000ft.  
For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the CAT I OCA (OCH) is 1080ft (1050ft).

Transition Level : FL 130  
Transition Alt : 11 000

**MISSED APPROACH**  
Climb straight to 1 500ft, turn left climbing to 7 000ft to HOSBA.  
Hold at HOSBA or AS DIRECTED BY ATC.  
No turn before MAPT.

CIRCLING NOT AUTHORIZED



MINIMUM TEMPERATURE FOR BARO-VNAV APPROACHES: 5°C

		OCA (OCH)			
Category of Aircraft		A	B	C	D
LNAV/VNAV	5%	280 (260)			
LNAV	5%	380 (350)			
Distance		OBGIS		OVMAV	
Altitude (Height)		1700 (1690)		1030 (1020)	
Speed	knots	70	120	150	185
FAF - MAPT 3.0nm	min : s *	2 : 34	1 : 30	1 : 12	0 : 58
Rate of descent/GS	ft/min	370	635	795	980

**SINGAPORE CHANGI RNP-APCH RWY 20L – Approach from OBGIS**

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	OBGIS	-	203 (203.4)	-0.4	-	-	1700+	180	-	RNP APCH
TF	OVMAN	-	203 (203.4)	-0.4	2.0	-	1030+	150	-	RNP APCH
TF	RW20L	Y	203 (203.4)	-0.4	3.0	-	-	-	-3.0° / 50	RNP APCH
CA	-	-	203 (203.4)	-0.4	-	L	1500+	-	-	RNP APCH
DF	HOSBA	-	-	-	-	-	7000+	-	-	RNP APCH

**Waypoint Coordinates**

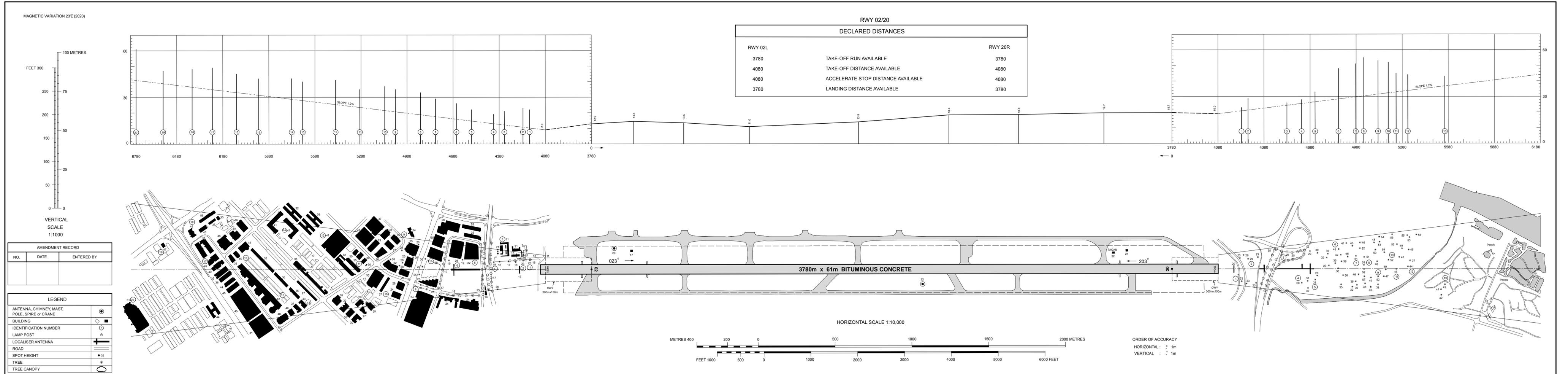
Name	Latitude	Longitude
OBGIS (IF)	01° 25' 56.83" N	104° 02' 46.74" E
OVMAN (FAF)	01° 24' 06.28" N	104° 02' 00.06" E
RW20L	01° 21' 20.45" N	104° 00' 50.05" E
HOSBA	01° 19' 48.00" N	104° 24' 18.00" E

DIMENSIONS AND ELEVATIONS IN METRES

### AERODROME OBSTACLE CHART - ICAO

TYPE A (OPERATING LIMITATIONS)

SINGAPORE/Paya Lebar Airport



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