***Contact***

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***eAIP***

**AMDT**
**04/2017**
***Effective date***
**22 JUN 2017**
***Publication date***
**22 JUN 2017**

# wp-AMDT-04-2017

## 1. SIGNIFICANT INFORMATION AND CHANGES

### 1.1 Singapore Changi Airport

a. Vessel's closest distance to runway threshold used in the design of instrument approach procedure revised.

b. Minimum Eye Height over the threshold (MEHT) for Runway 02L Precision Approach Path Indicator (PAPI) revised.

c. IDSEL ONE APLHA/ ONE BRAVO DEPARTURES and IDSEL ONE ECHO/ ONE FOXTROT DEPARTURES withdrawn.

d. BELVA ONE ALPHA ARRIVAL and BELVA ONE BRAVO ARRIVAL withdrawn.

**2. THIS AMENDMENT INCORPORATES INFORMATION CONTAINED IN THE FOLLOWING WHICH ARE HEREBY SUPERSEDED:**

NOTAMS:
A1111/17 dated 13/04/17,
A1112/17 dated 13/04/17,
A1134/17 dated 17/04/17,
A1267/17 dated 27/04/17,
A1315/17 dated 02/05/17,
A1370/17 dated 08/05/17,
A1426/17 dated 15/05/17,
A1432/17 dated 15/05/17,
A1470/17 dated 18/05/17,
A1509/17 dated 22/05/17,
A1589/17 dated 29/05/17,
A1590/17 dated 29/05/17,
A1593/17 dated 29/05/17,
A1605/17 dated 30/05/17,
A1777/17 dated 12/06/17,
A1778/17 dated 12/06/17,
A1800/17 dated 14/06/17

AIP Supplements:
036/2017 dated 17 MAR 2017,
038/2017 dated 27 MAR 2017

# Amended Pages

GEN 0.2-1: *: replace.*
GEN 0.3-1/2: *: replace.*
GEN 0.3-3/4: *: replace.*
GEN 0.3-5: *: replace.*
GEN 0.4-1/2: *: replace.*

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| | |
|---|---|
| GEN 0.4-3: | *: replace.* |
| GEN 0.6-3: | *: replace.* |
| GEN 3.2-3/4: | *: replace.* |
| GEN 3.5-7/8: | *: replace.* |
| GEN 3.5-9: | *: insert.* |
| ENR 1.5-1/2: | *: replace.* |
| ENR 1.5-3/4: | *: replace.* |
| ENR-2.1-15: | *: replace.* |
| ENR-3.1/ATS Chart: | *: replace.* |
| ENR 3.3-5/6: | *: replace.* |
| ENR 3.3-27/28: | *: replace.* |
| ENR 3.3-31/32: | *: replace.* |
| ENR-3.4-5: | *: replace.* |
| ENR-3.5-3: | *: replace.* |
| ENR-3.6-7: | *: replace.* |
| ENR-3.6-9: | *: replace.* |
| ENR 4.4-1/2: | *: replace.* |
| ENR 5.1-3/4: | *: replace.* |
| ENR-5.1-7: | *: replace.* |
| ENR-5.1-9: | *: replace.* |
| ERC-6-1 En-Route Chart: | *: replace.* |
| AD 2.WSSS-11/12: | *: replace.* |
| AD 2.WSSS-13/14: | *: replace.* |
| AD 2.WSSS-15/16: | *: replace.* |
| AD 2.WSSS-17/18: | *: replace.* |
| AD 2.WSSS-27/28: | *: replace.* |
| AD 2.WSSS-29/30: | *: replace.* |
| AD 2.WSSS-31/32: | *: replace.* |
| AD 2.WSSS-33/34: | *: replace.* |
| AD 2.WSSS-43/44: | *: replace.* |
| AD 2.WSSS-59/60: | *: replace.* |
| AD 2.WSSS-65: | *: replace.* |
| AD-2-WSSS-ADC-2: | *: replace.* |
| AD-2-WSSS-AOC-1: | *: replace.* |
| AD-2-WSSS-SID-19 to 19.1: | *: remove.* |
| AD-2-WSSS-SID-20 to 20.1: | *: remove.* |
| AD-2-WSSS-STAR-10 to 10.1: | *: remove.* |
| AD-2-WSSS-STAR-12 to 12.1: | *: remove.* |
| AD 2.WSSL-1/2: | *: replace.* |
| AD 2.WSSL-3/4: | *: replace.* |
| AD-2-WSSL-ADC-3: | *: replace.* |
| AD-2-WSSL-VAC-1: | *: replace.* |
| AD-2-WSSL-VAC-2: | *: replace.* |
| AD-2-WSAP-IAC-2: | *: replace.* |
| AD-2-WSAP-IAC-4: | *: replace.* |


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# 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 | |
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# GEN 0.3 RECORD OF CURRENT AIP SUPPLEMENTS

| *NR/Year* | *Subject* | *AIP section(s) affected* | *Period of validity (from/to)* | *Cancellation record* |
|---|---|---|---|---|
| 218/2014 | Paya Lebar AP - Luffer Cranes | AD | *01 AUG 2014 / 30 DEC 2017* | |
| 219/2014 | Paya Lebar AP - Luffer Cranes | AD | *01 AUG 2014 / 31 DEC 2017* | |
| 220/2014 | Paya Lebar AP - Hammerhead and Luffer Cranes | AD | *01 AUG 2014 / 31 DEC 2017* | |
| 221/2014 | Paya Lebar AP - Luffer Crane | AD | *01 AUG 2014 / 31 DEC 2017* | |
| 222/2014 | Paya Lebar AP - Luffer Cranes | AD | *01 AUG 2014 / 31 DEC 2017* | |
| 21/2015 | Paya Lebar AP - Saddle Crane | AD | *02 JAN 2015 / 04 DEC 2017* | |
| 22/2015 | Paya Lebar AP - Luffer Cranes | AD | *02 JAN 2015 / 09 DEC 2017* | |
| 23/2015 | Paya Lebar AP - Topless Cranes | AD | *02 JAN 2015 / 31 DEC 2017* | |
| 24/2015 | Paya Lebar AP - Luffer Crane | AD | *02 JAN 2015 / 31 DEC 2017* | |
| 25/2015 | Paya Lebar AP - Hammerhead Cranes | AD | *02 JAN 2015 / 31 DEC 2017* | |
| 68/2015 | Paya Lebar AP - Luffer Crane | AD | *16 APR 2015 / 07 JUL 2017* | |
| 69/2015 | Paya Lebar AP - Tower Cranes | AD | *16 APR 2015 / 31 JUL 2017* | |
| 70/2015 | Paya Lebar AP - Luffer Cranes and Saddle Cranes | AD | *16 APR 2015 / 19 AUG 2017* | |
| 71/2015 | Paya Lebar AP - Tower Cranes | AD | *16 APR 2015 / 10 SEP 2017* | |
| 72/2015 | Paya Lebar AP - Tower Cranes | AD | *16 APR 2015 / 10 SEP 2017* | |
| 73/2015 | Paya Lebar AP - Saddle Cranes | AD | *16 APR 2015 / 09 OCT 2017* | |
| 74/2015 | Paya Lebar AP - Topless Cranes and Luffer Crane | AD | *16 APR 2015 / 31 DEC 2017* | |
| 75/2015 | Paya Lebar AP - Hydraulic Crawler Cranes | AD | *16 APR 2015 / 07 JAN 2018* | |
| 76/2015 | Paya Lebar AP - Tower Cranes | AD | *16 APR 2015 / 31 MAR 2018* | |
| 77/2015 | Paya Lebar AP - Saddle Cranes | AD | *16 APR 2015 / 01 MAY 2018* | |
| 109/2015 | Singapore Changi AP - Shortening of Runway 20C approach lighting to 720m to facilitate the construction of the northern end-around-taxiway | AD | *02 OCT 2015 / 31 OCT 2018* | |
| 122/2015 | Paya Lebar AP - Topless Cranes | AD | *01 JUL 2015 / 30 JUN 2017* | |
| 123/2015 | Paya Lebar AP - Topless Cranes | AD | *01 JUL 2015 / 30 JUN 2017* | |
| 124/2015 | Paya Lebar AP - Luffer Cranes | AD | *01 JUL 2015 / 30 JUN 2017* | |
| 125/2015 | Paya Lebar AP - Luffer Crane | AD | *01 JUL 2015 / 01 JUL 2017* | |
| 126/2015 | Paya Lebar AP - Luffer Crane | AD | *01 JUL 2015 / 30 DEC 2017* | |
| 127/2015 | Tengah AD - Topless Cranes and Luffer Crane | AD | *01 SEP 2015 / 31 AUG 2017* | |

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| NR/Year | Subject | AIP section(s) affected | Period of validity (from/to) | Cancellation record |
|---|---|---|---|---|
| 128/2015 | Tengah AD - Topless Cranes | AD | *01 SEP 2015 / 31 AUG 2017* | |
| 129/2015 | Tengah AD - Luffer Crane | AD | *01 JUL 2015 / 31 DEC 2017* | |
| 130/2015 | Sembawang AD - Luffer Cranes | AD | *01 JUL 2015 / 31 DEC 2017* | |
| 131/2015 | Paya Lebar AP - Topless Cranes | AD | *01 JUL 2015 / 31 DEC 2017* | |
| 132/2015 | Paya Lebar AP - Cranes | AD | *01 JUL 2015 / 12 APR 2018* | |
| 133/2015 | Paya Lebar AP - Luffer Crane and Topless Crane | AD | *01 JUL 2015 / 30 JUN 2018* | |
| 134/2015 | Paya Lebar AP - Luffer Cranes | AD | *01 JUL 2015 / 30 JUN 2018* | |
| 135/2015 | Tengah AD - Luffer Cranes | AD | *01 JUL 2015 / 30 JUN 2018* | |
| 138/2015 | Paya Lebar AP- Luffer Crane | AD | *03 AUG 2015 / 30 JUN 2017* | |
| 139/2015 | Paya Lebar AP- Topless Cranes and Luffer Crane | AD | *03 AUG 2015 / 30 JUN 2017* | |
| 140/2015 | Paya Lebar AP - Luffer Cranes | AD | *03 AUG 2015 / 30 DEC 2017* | |
| 141/2015 | Paya Lebar AP - Saddle Crane | AD | *03 AUG 2015 / 30 DEC 2017* | |
| 142/2015 | Paya Lebar AP - Topless Cranes | AD | *03 AUG 2015 / 31 AUG 2018* | |
| 157/2015 | Paya Lebar AP- Luffer Crane | AD | *21 SEP 2015 / 14 AUG 2017* | |
| 158/2015 | Paya Lebar AP - Hammerhead and Luffer Cranes | AD | *21 SEP 2015 / 30 JUN 2017* | |
| 159/2015 | Paya Lebar AP - Luffer Cranes | AD | *21 SEP 2015 / 31 JUL 2017* | |
| 160/2015 | Paya Lebar AP - Luffer Cranes | AD | *21 SEP 2015 / 15 AUG 2018* | |
| 161/2015 | Paya Lebar AP - Luffer Cranes | AD | *21 SEP 2015 / 01 SEP 2018* | |
| 162/2015 | Sembawang AD - Topless Cranes | AD | *31 OCT 2015 / 31 OCT 2018* | |
| 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* | |
| 025/2016 | Paya Lebar AP - Luffer Cranes | AD | *04 MAR 2016 / 31 DEC 2017* | |
| 026/2016 | Paya Lebar AP - Topless Cranes | AD | *04 MAR 2016 / 31 DEC 2017* | |
| 027/2016 | Paya Lebar AP - Topless Cranes and Luffer Cranes | AD | *04 MAR 2016 / 31 DEC 2017* | |
| 028/2016 | Paya Lebar AP - Tower Cranes | AD | *04 MAR 2016 / 26 MAR 2018* | |
| 029/2016 | Paya Lebar AP - Luffer Cranes | AD | *04 MAR 2016 / 01 JUN 2018* | |
| 030/2016 | Paya Lebar AP - Saddle Cranes | AD | *04 MAR 2016 / 17 JUN 2018* | |
| 031/2016 | Paya Lebar AP - Saddle Cranes | AD | *04 MAR 2016 / 31 DEC 2018* | |
| 032/2016 | Paya Lebar AP - Luffer Crane | AD | *04 MAR 2016 / 31 DEC 2018* | |
| 033/2016 | Paya Lebar AP - Luffer Crane | AD | *04 MAR 2016 / 31 DEC 2018* | |


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| NR/Year | Subject | AIP section(s) affected | Period of validity (from/to) | Cancellation record |
|---|---|---|---|---|
| 034/2016 | Paya Lebar AP - Saddle Cranes | AD | *04 MAR 2016 / 31 DEC 2018* | |
| 036/2016 | Paya Lebar AP - Luffer Crane | AD | *04 MAR 2016 / 01 AUG 2017* | |
| 037/2016 | Paya Lebar AP - Mobile Cranes and Crawler Cranes | AD | *04 MAR 2016 / 07 JAN 2018* | |
| 039/2016 | Paya Lebar AP - Topless Cranes | AD | *04 MAR 2016 / 31 JAN 2019* | |
| 047/2016 | Seletar Airport - Construction of New Sunken Glide Path Building, Service Road and Associated Works at Northeast Apron | AD | *14 JUL 2016 / 01 JUL 2017* | |
| 055/2016 | Paya Lebar AP - Mobile Crane and Crawler Crane | AD | *04 AUG 2016 / 30 JUN 2017* | |
| 056/2016 | Paya Lebar AP - Mobile Crane and Crawler Cranes | AD | *04 AUG 2016 / 30 JUL 2017* | |
| 057/2016 | Paya Lebar AP - Mobile Crane | AD | *04 AUG 2016 / 31 JUL 2017* | |
| 058/2016 | Paya Lebar AP - Saddle Cranes | AD | *04 AUG 2016 / 15 NOV 2017* | |
| 059/2016 | Paya Lebar AP - Luffer Crane | AD | *04 AUG 2016 / 31 DEC 2017* | |
| 060/2016 | Paya Lebar AP - Luffer Crane | AD | *04 AUG 2016 / 31 MAY 2018* | |
| 061/2016 | Paya Lebar AP - Luffer Crane and Topless Crane | AD | *04 AUG 2016 / 29 JUN 2018* | |
| 062/2016 | Paya Lebar AP - Luffer Cranes | AD | *04 AUG 2016 / 31 JUL 2018* | |
| 063/2016 | Paya Lebar AP - Topless Cranes | AD | *04 AUG 2016 / 31 DEC 2018* | |
| 064/2016 | Paya Lebar AP - Topless Cranes | AD | *04 AUG 2016 / 31 DEC 2018* | |
| 065/2016 | Paya Lebar AP - Luffer Crane | AD | *04 AUG 2016 / 31 DEC 2018* | |
| 066/2016 | Paya Lebar AP - Piling Rig and Crawler Crane | AD | *04 AUG 2016 / 01 AUG 2018* | |
| 067/2016 | Paya Lebar AP - Topless Cranes and Luffer Crane | AD | *04 AUG 2016 / 31 MAR 2019* | |
| 068/2016 | Paya Lebar AP - Topless Cranes and Luffer Cranes | AD | *04 AUG 2016 / 01 JUN 2019* | |
| 069/2016 | Paya Lebar AP - Saddle Cranes | AD | *04 AUG 2016 / 30 JUN 2019* | |
| 070/2016 | Paya Lebar AP - Luffer Cranes and Topless Cranes | AD | *04 AUG 2016 / 31 DEC 2019* | |
| 074/2016 | Paya Lebar AP - Luffer Cranes | AD | *04 AUG 2016 / 04 JUL 2017* | |
| 075/2016 | Paya Lebar AP - Topless Cranes | AD | *04 AUG 2016 / 31 OCT 2017* | |
| 089/2016 | Seletar AP- Partial closure of Taxiway EC and Taxiway EC2 due to new aircraft stands and service road construction and associated works | AD | *01 NOV 2016 / 31 MAR 2018* | |
| 009/2017 | Paya Lebar Airport - Mobile Cranes and Topless Cranes | AD | *10 JAN 2017 / 30 JUN 2017* | |
| 010/2017 | Sembawang Aerodrome - Mobile Crane | AD | *10 JAN 2017 / 30 JUN 2017* | |
| 011/2017 | Paya Lebar Airport - Mobile Cranes and Piling Rigs | AD | *10 JAN 2017 / 30 JUN 2017* | |
| 012/2017 | Paya Lebar Airport - Luffer Cranes | AD | *10 JAN 2017 / 31 JUL 2017* | |

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| NR/Year | Subject | AIP section(s) affected | Period of validity (from/to) | Cancellation record |
|---|---|---|---|---|
| 013/2017 | Paya Lebar Airport - Crawler Crane | AD | *10 JAN 2017 / 01 AUG 2017* | |
| 014/2017 | Paya Lebar Airport - Crawler Cranes | AD | *10 JAN 2017 / 27 SEP 2017* | |
| 015/2017 | Paya Lebar Airport - Mobile Crane | AD | *10 JAN 2017 / 30 NOV 2017* | |
| 016/2017 | Paya Lebar Airport - Topless Cranes | AD | *10 JAN 2017 / 31 JAN 2018* | |
| 017/2017 | Sembawang Aerodrome - Crawler Crane | AD | *10 JAN 2017 / 28 FEB 2018* | |
| 018/2017 | Paya Lebar Airport - Piling Machine | AD | *10 JAN 2017 / 06 JUN 2018* | |
| 019/2017 | Paya Lebar Airport - Topless Cranes | AD | *10 JAN 2017 / 06 DEC 2018* | |
| 022/2017 | Paya Lebar Airport - Topless Cranes | AD | *10 JAN 2017 / 31 DEC 2018* | |
| 023/2017 | Paya Lebar Airport - Luffer Crane | AD | *10 JAN 2017 / 31 DEC 2018* | |
| 024/2017 | Paya Lebar Airport - Topless Cranes and Luffer Cranes | AD | *10 JAN 2017 / 31 DEC 2018* | |
| 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* | |
| 032/2017 | RSAF Aerial Flypast prior to and on Singapore's National Day, 09th August 2017 | AD/FIR | *03 JUN 2017 / 12 AUG 2017* | |
| 034/2017 | Singapore Changi Airport - Works schedule and movement area restrictions pertaining to diversion of airside services and soil improvement works | AD | *24 MAR 2017 / 28 OCT 2017* | |
| 041/2017 | Paya Lebar Airport - Luffer Crane | AD | *13 APR 2017 / 31 DEC 2017* | |
| 042/2017 | Sembawang Aerodrome - Crawler Cranes | AD | *13 APR 2017 / 31 DEC 2017* | |
| 043/2017 | Singapore Changi Airport - Crawler Cranes | AD | *13 APR 2017 / 31 DEC 2017* | |
| 044/2017 | Paya Lebar Airport - Mobile Cranes and Crawler Cranes | AD | *13 APR 2017 / 07 JAN 2018* | |
| 045/2017 | Sembawang Aerodrome - Topless Crane | AD | *13 APR 2017 / 28 FEB 2018* | |
| 046/2017 | Sembawang Aerodrome - Mobile Cranes | AD | *13 APR 2017 / 15 MAR 2018* | |
| 047/2017 | Paya Lebar Airport - Luffer Cranes and Topless Cranes | AD | *13 APR 2017 / 31 AUG 2018* | |
| 048/2017 | Paya Lebar Airport - Luffer Crane | AD | *13 APR 2017 / 31 DEC 2018* | |
| 049/2017 | Paya Lebar Airport - Mobile Cranes | AD | *13 APR 2017 / 31 DEC 2018* | |
| 050/2017 | Paya Lebar Airport - Luffer Crane | AD | *13 APR 2017 / 31 DEC 2018* | |
| 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* | |


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| *NR/Year* | *Subject* | *AIP section(s) affected* | *Period of validity (from/to)* | *Cancellation record* |
|---|---|---|---|---|
| 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* | |
| 059/2017 | Paya Lebar Airport - Mobile Crane | AD | *13 APR 2017 / 30 JUN 2017* | |
| 060/2017 | Paya Lebar Airport - Mobile Cranes | AD | *13 APR 2017 / 30 JUN 2017* | |
| 061/2017 | Tengah Aerodrome - Mobile Cranes and Topless Cranes | AD | *13 APR 2017 / 02 JUL 2017* | |
| 062/2017 | Tengah Aerodrome - Topless Crane and Luffer Crane | AD | *13 APR 2017 / 31 MAR 2018* | |
| 063/2017 | Paya Lebar Airport - Topless Cranes and Luffer Crane | AD | *13 APR 2017 / 15 APR 2019* | |
| 064/2017 | Paya Lebar Airport - Mobile Crane | AD | *27 APR 2017 / 31 AUG 2017* | |
| 065/2017 | Paya Lebar Airport - Topless Cranes | AD | *27 APR 2017 / 20 DEC 2017* | |
| 066/2017 | Paya Lebar Airport - Luffer Cranes | AD | *27 APR 2017 / 31 DEC 2017* | |
| 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* | |
| 069/2017 | Singapore Changi Airport - Reconfiguration of taxiway centreline light colours to denote proximity to runway | AD | *30 JUN 2017 / 25 JUL 2017* | |
| 070/2017 | Singapore Changi Airport - Revision to aircraft stand D40 and opening of new multiple aircraft receiving stands (MARS) D40L and D40R at terminal 1 | AD | *11 JUL 2017* UFN | |

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# GEN 0.4 CHECKLIST OF AIP PAGES

## Part 1 – General (GEN)

### GEN 0

| | |
|---|---|
| GEN 0.1-1 | 12 NOV 2015 |
| GEN 0.1-2 | 10 NOV 2016 |
| GEN-0.1-3 | 21 JUL 2016 |
| GEN 0.2-1 | 22 JUN 2017 |
| GEN 0.3-1 | 22 JUN 2017 |
| GEN 0.3-2 | 22 JUN 2017 |
| GEN 0.3-3 | 22 JUN 2017 |
| GEN 0.3-4 | 22 JUN 2017 |
| GEN 0.3-5 | 22 JUN 2017 |
| GEN 0.4-1 | 22 JUN 2017 |
| GEN 0.4-2 | 22 JUN 2017 |
| GEN 0.4-3 | 22 JUN 2017 |
| GEN 0.5-1 | 05 JAN 2017 |
| GEN 0.6-1 | 27 APR 2017 |
| GEN 0.6-2 | 15 SEP 2016 |
| GEN 0.6-3 | 22 JUN 2017 |

### GEN 1

| | |
|---|---|
| GEN 1.1-1 | 10 NOV 2016 |
| GEN 1.1-2 | 05 JAN 2017 |
| GEN 1.2-1 | 15 SEP 2016 |
| GEN 1.2-2 | 15 SEP 2016 |
| GEN 1.2-3 | 27 APR 2017 |
| GEN 1.2-4 | 27 APR 2017 |
| GEN 1.2-5 | 27 APR 2017 |
| GEN 1.2-6 | 27 APR 2017 |
| GEN 1.3-1 | 21 JUL 2016 |
| GEN 1.3-2 | 12 NOV 2015 |
| GEN 1.3-3 | 12 NOV 2015 |
| 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 | 12 NOV 2015 |
| GEN 1.6-2 | 12 NOV 2015 |
| GEN 1.6-3 | 12 NOV 2015 |
| GEN 1.7-1 | 10 NOV 2016 |
| GEN 1.7-2 | 12 NOV 2015 |
| GEN 1.7-3 | 10 NOV 2016 |
| GEN 1.7-4 | 10 NOV 2016 |
| GEN 1.7-5 | 10 NOV 2016 |

### GEN 2

| | |
|---|---|
| GEN 2.1-1 | 12 NOV 2015 |
| GEN 2.1-2 | 05 JAN 2017 |
| 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 | 21 JUL 2016 |
| 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 | 21 JUL 2016 |
| GEN 3.1-2 | 21 JUL 2016 |
| GEN 3.1-3 | 10 NOV 2016 |
| GEN 3.1-4 | 21 JUL 2016 |
| 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 | 22 JUN 2017 |
| GEN 3.2-5 | 31 MAR 2016 |
| 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 | 21 JUL 2016 |
| GEN 3.5-3 | 12 NOV 2015 |
| GEN 3.5-4 | 12 NOV 2015 |
| GEN 3.5-5 | 15 SEP 2016 |
| 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 | 22 JUN 2017 |
| 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 |
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| GEN 4.2-2 | 12 NOV 2015 |
| GEN 4.2-3 | 12 NOV 2015 |
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## Part 2 – EN-ROUTE (ENR)

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| ENR 0.6-1 | 05 JAN 2017 |
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| 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 | 10 NOV 2016 |
| ENR 1.1-11 | 12 NOV 2015 |
| ENR 1.1-12 | 12 NOV 2015 |
| ENR 1.1-13 | 02 MAR 2017 |
| ENR 1.1-14 | 02 MAR 2017 |
| ENR 1.1-15 | 12 NOV 2015 |
| ENR 1.1-16 | 12 NOV 2015 |
| 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 | 22 JUN 2017 |
| ENR 1.5-3 | 31 MAR 2016 |
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| 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 | 02 MAR 2017 |
| ENR 1.6-5 | 02 MAR 2017 |
| ENR 1.6-6 | 02 MAR 2017 |
| ENR 1.6-7 | 02 MAR 2017 |
| ENR 1.6-8 | 02 MAR 2017 |
| ENR 1.6-9 | 02 MAR 2017 |
| ENR-1.6-9 | 21 JUL 2016 |
| ENR-1.6-11 | 21 JUL 2016 |
| ENR 1.7-1 | 12 NOV 2015 |
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| ENR 1.7-3 | 12 NOV 2015 |
| ENR 1.7-4 | 12 NOV 2015 |
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| ENR 1.8-1 | 12 NOV 2015 |
| ENR 1.8-2 | 02 MAR 2017 |
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| ENR 1.8-4 | 12 NOV 2015 |
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| ENR 1.12-4 | 12 NOV 2015 |
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| ENR 1.14-1 | 10 DEC 2015 |
| ENR 1.14-2 | 15 SEP 2016 |
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| ENR-1.14-5 to ENR-1.14-6 | 15 SEP 2016 |
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| ENR 2.1-1 | 02 MAR 2017 |
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| ENR 2.1-3 | 02 MAR 2017 |
| ENR 2.1-4 | 12 NOV 2015 |
| ENR-2.1-7 | 21 JUL 2016 |
| ENR-2.1-9 | 02 MAR 2017 |
| ENR-2.1-11A | 21 JUL 2016 |
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| ENR 3.1-1 | 02 MAR 2017 |
| ENR 3.1-2 | 02 MAR 2017 |
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| ENR 3.1-4 | 10 NOV 2016 |
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| ENR 3.1-8 | 10 NOV 2016 |
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| ENR 3.3-1 | 02 MAR 2017 |
| ENR 3.3-2 | 02 MAR 2017 |
| ENR 3.3-3 | 02 MAR 2017 |
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| ENR 3.3-19 | 02 MAR 2017 |
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| ENR 3.3-22 | 02 MAR 2017 |
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| ENR 3.3-31 | 22 JUN 2017 |
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| ENR 3.3-33 | 02 MAR 2017 |
| ENR 3.3-34 | 02 MAR 2017 |
| ENR 3.3-35 | 02 MAR 2017 |
| ENR 3.3-36 | 02 MAR 2017 |
| ENR 3.3-37 | 02 MAR 2017 |
| ENR 3.3-38 | 02 MAR 2017 |
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| ENR 3.3-41 | 02 MAR 2017 |
| ENR 3.3-42 | 02 MAR 2017 |
| ENR 3.4-1 | 12 NOV 2015 |
| ENR 3.4-2 | 12 NOV 2015 |
| ENR 3.4-3 | 12 NOV 2015 |
| ENR 3.4-4 | 12 NOV 2015 |
| ENR-3.4-5 | 22 JUN 2017 |
| ENR-3.4-7 | 21 JUL 2016 |
| ENR 3.5-1 | 02 MAR 2017 |
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| ENR-3.5-3 | 22 JUN 2017 |
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| ENR 3.6-2 | 27 APR 2017 |
| ENR-3.6-3 | 05 JAN 2017 |
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| ENR-3.6-7 | 22 JUN 2017 |
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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 | 02 MAR 2017 |
| ENR 4.4-2 | 22 JUN 2017 |
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| ENR 4.4-6 | 02 MAR 2017 |
| ENR 4.5-1 | 12 NOV 2015 |

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|---|---|
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| ENR 5.1-2 | 12 NOV 2015 |
| ENR 5.1-3 | 22 JUN 2017 |
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| AD 0.6-4 | 27 APR 2017 |
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| AD 1.2-1 | 12 NOV 2015 |
| AD 1.3-1 | 12 NOV 2015 |
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| AD 1.5-1 | 12 NOV 2015 |

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| AD 2.WSSS-2 | 27 APR 2017 |
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| AD 2.WSSS-8 | 02 MAR 2017 |
| AD 2.WSSS-9 | 02 MAR 2017 |
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| AD 2.WSSS-12 | 22 JUN 2017 |
| AD 2.WSSS-13 | 22 JUN 2017 |
| AD 2.WSSS-14 | 02 MAR 2017 |
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| AD 2.WSSS-18 | 27 APR 2017 |
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| AD 2.WSSS-23 | 27 APR 2017 |
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| AD 2.WSSS-28 | 22 JUN 2017 |
| AD 2.WSSS-29 | 22 JUN 2017 |
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| AD 2.WSSS-31 | 27 APR 2017 |
| AD 2.WSSS-32 | 22 JUN 2017 |
| AD 2.WSSS-33 | 22 JUN 2017 |
| AD 2.WSSS-34 | 27 APR 2017 |
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| AD 2.WSSS-36 | 27 APR 2017 |
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| AD-2-WIDN-SID-1 | 12 NOV 2015 |
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| AD-2-WIDN-SID-4 | 12 NOV 2015 |
| AD-2-WIDN-STAR-1 | 12 NOV 2015 |
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| 5 | CONDITIONS OF AVAILABILITY | GEN 3.6-2 |
| 6 | PROCEDURES AND SIGNALS USED | GEN 3.6-2 |
| **GEN 4** | **CHARGES FOR AERODROMES/HELIPORT AND AIR NAVIGATION SERVICES** | |
| GEN 4.1 | AERODROME CHARGES | GEN 4.1-1 |
| 1 | AIRPORT FEES AND CHARGES APPLICABLE AT SINGAPORE CHANGI AIRPORT | GEN 4.1-1 |
| 2 | AIRPORT FEES AND CHARGES APPLICABLE AT SELETAR AIRPORT | GEN 4.1-1 |
| 3 | HANGAR FEES | GEN 4.1-1 |
| 4 | NOISE RELATED ITEMS | GEN 4.1-1 |
| 5 | GROUND HANDLING SERVICE CHARGES | GEN 4.1-1 |
| GEN 4.2 | AIR NAVIGATION SERVICES CHARGES | GEN 4.2-1 |
| 1 | GENERAL | GEN 4.2-1 |
| 2 | RANS CHARGES | GEN 4.2-1 |
| 3 | EXEMPTION FROM RANS CHARGES | GEN 4.2-1 |
| 4 | COLLECTION OF RANS CHARGES | GEN 4.2-1 |
| 5 | PERSON LIABLE TO PAY RANS CHARGES | GEN 4.2-2 |
| 6 | QUERIES ON LEVYING/BILLING OF RANS CHARGES | GEN 4.2-2 |

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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.

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# 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 | 21 JUL 16 |
| ← **Enroute Chart** ICAO (ENRC) | | | ERC 6-1 | In AIP | 22 JUN 17 |
| **Instrument Approach Chart** ICAO (IAC) | | ***Singapore Changi*** | | | |
| | 1:400 000 | RWY 02L - ICW ILS/DME | AD-2-WSSS-IAC-1 | In AIP | 05 JAN 17 |
| | 1:400 000 | RWY 02C - ICE ILS/DME | AD-2-WSSS-IAC-2 | In AIP | 05 JAN 17 |
| | 1:400 000 | RWY 20R - ICH ILS/DME | AD-2-WSSS-IAC-5 | In AIP | 05 JAN 17 |
| | 1:400 000 | RWY 20C - ICC ILS/DME | AD-2-WSSS-IAC-6 | In AIP | 05 JAN 17 |
| | 1:400 000 | RWY 20C - VTK DVOR/DME | AD-2-WSSS-IAC-7 | In AIP | 05 JAN 17 |
| | 1:400 000 | RWY 02L - RNAV(GNSS) | AD-2-WSSS-IAC-9 | In AIP | 05 JAN 17 |
| | 1:400 000 | RWY 02C - RNAV(GNSS) | AD-2-WSSS-IAC-10 | In AIP | 05 JAN 17 |
| | 1:400 000 | RWY 20R - RNAV(GNSS) | AD-2-WSSS-IAC-11 | In AIP | 05 JAN 17 |
| | 1:400 000 | RWY 20C - RNAV(GNSS) | AD-2-WSSS-IAC-12 | In AIP | 05 JAN 17 |
| | | ***Paya Lebar*** | | | |
| | 1:400 000 | RWY 20 - PU DVOR/DME | AD-2-WSAP IAC-1 | In AIP | 05 JAN 17 |
| ← | 1:400 000 | RWY 02 - PU DVOR/DME | AD-2-WSAP IAC-2 | In AIP | 22 JUN 17 |
| | 1:400 000 | RWY 20 - IPS ILS/DME | AD-2-WSAP IAC-3 | In AIP | 05 JAN 17 |
| ← | 1:400 000 | RWY 02 - IPN ILS/DME | AD-2-WSAP IAC-4 | In AIP | 22 JUN 17 |
| | 1:400 000 | RWY 02 - RNAV(GNSS) | AD-2-WSAP-IAC-5 | In AIP | 05 JAN 17 |
| | 1:400 000 | RWY 20 - RNAV(GNSS) | AD-2-WSAP-IAC-6 | In AIP | 27 APR 17 |
| **Visual Approach Chart** ICAO (VAC) | 1:400 000 | ***Singapore Changi*** | AD-2-WSSS-VAC-1 | In AIP | 10 NOV 16 |
| | | ***Seletar*** | | | |
| ← | 1:100 000 | RWY 03 | AD-2-WSSL-VAC-1 | In AIP | 22 JUN 17 |
| ← | 1:100 000 | RWY 21 | AD-2-WSSL-VAC-2 | In AIP | 22 JUN 17 |
| | 1:100 000 | RWY 03 | AD-2-WSSL-VAC-3 | In AIP | 02 MAR 17 |
| | 1:100 000 | RWY 21 | AD-2-WSSL-VAC-4 | In AIP | 02 MAR 17 |
| **Visual Departure Chart** | | ***Seletar*** | | | |
| | 1:100 000 | RWY 03 | AD-2-WSSL-VDC-1 | In AIP | 02 MAR 17 |
| | 1:100 000 | RWY 21 | AD-2-WSSL-VDC-2 | In AIP | 02 MAR 17 |
| ← **Aerodrome Chart** ICAO (AC) | | ***Singapore Changi*** | AD-2-WSSS-ADC-2 | In AIP | 22 JUN 17 |
| | | ***Seletar*** | AD-2-WSSL-ADC-1 | In AIP | 02 MAR 17 |
| | | ***Paya Lebar*** | AD-2-WSAP-ADC-1 | In AIP | 12 NOV 15 |
| **Aerodrome Obstacle Chart** | | ***Singapore Changi*** | | | |
| ← ICAO TYPE A (AOC) | 1:10 000 | RWY 20R/02L | AD-2-WSSS-AOC-1 | In AIP | 22 JUN 17 |
| | 1:10 000 | RWY 20C/02C | AD-2-WSSS-AOC-2 | In AIP | 21 JUL 16 |
| | | ***Seletar*** | | | |
| | 1:10 000 | RWY 03/21 | AD-2-WSSL-AOC-1 | In AIP | 27 APR 17 |
| | | ***Paya Lebar*** | | | |
| | 1:20 000 | RWY 20/02 | AD-2-WSAP-AOC-1 | In AIP | 10 NOV 16 |
| **Aerodrome Obstacle Chart** ICAO TYPE B (AOC) | | ***Singapore Changi*** | | | |
| | 1:25 000 | RWY 02L/20R and 02C/20C | AD-2-WSSS-AOC-3 | In AIP | 31 MAR 16 |
| | | ***Seletar*** | | | |
| | 1:12 500 | RWY 03/21 | AD-2-WSSL-AOC-2 | In AIP | 05 JAN 17 |
| **Precision Approach Terrain Chart** ICAO (PATC) | | ***Singapore Changi*** | | | |
| | 1:2 500 | RWY 02L | AD-2-WSSS-PATC-1 | In AIP | 02 MAR 17 |
| | 1:2 500 | RWY 20C | AD-2-WSSS-PATC-2 | In AIP | 02 MAR 17 |


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| TABLE GEN 3.5.7 VOLMET SERVICE | | | | | | |
|---|---|---|---|---|---|---|
| *Name of station* | *CALLSIGN IDENT (EM)* | *Frequency* | *Broadcast period* | *HR of SER* | *Aerodromes included* | *Contents and format of REP and FCST* |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| SINGAPORE | SINGAPORE VOLMET | D-VOLMET | as required | H24 | SINGAPORE<br>KUALA LUMPUR<br>SOEKARNO-HATTA<br>SINGAPORE<br>KUALA LUMPUR<br>SUBANG AIRPORT<br>SOEKARNO-HATTA<br>KUCHING<br>BRUNEI<br>KOTA KINABALU<br>DEN PASAR<br>PENANG<br>SINGAPORE<br>KUALA lUMPUR<br>SOEKARNO-HATTA | SIGMET<br>SIGMET<br>SIGMET<br>METAR<br>METAR<br>METAR<br>METAR<br>METAR<br>METAR<br>METAR<br>METAR<br>METAR<br>TAF<br>TAF<br>TAF |
| | Data Link VOLMET (D-VOLMET) service available H24. AP Ident WSSS. Messages comply with ARINC 623 standards. | | | | | |

## 8 SIGMET SERVICE

| TABLE GEN 3.5.8 SIGMET SERVICE | | | | | | |
|---|---|---|---|---|---|---|
| *Name of MWO/ location indicators* | *Hours of Operation* | *FIR or CTA served* | *Type of SIGMET / validity* | *Specific procedures* | *ATS unit served* | *Additional Information* |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| SINGAPORE | H24 | Singapore FIR | SIGMET / 4-6HR | Nil | Singapore ACC | Nil |

### *8.1 General*

8.1.1 For the safety of air traffic, the Meteorological Authority maintains an area meteorological watch and warning service. This service consists partly of a continuous weather watch within the lower and upper FIR and issuance of appropriate information (SIGMET) by Meteorological Watch Office and partly of the issuing of warnings for Changi Airport.

### *8.2 Area Meteorological Watch Service*

8.2.1 The area meteorological watch service is performed by the Meteorological Office, Singapore.

8.2.2 The Meteorological Office, Singapore issues information in the form of SIGMET messages about the occurrence or expected occurrence of one or several of the following significant meteorological phenomena:

- thunderstorms *
- severe turbulence
- severe icing
- severe mountain waves
- heavy sand storm/dust storm
- volcanic ash cloud
- tropical cyclone

* Area of widespread cumulonimbus clouds or cumulonimbus along a line (squall line) with little or no space between individual clouds, or cumulonimbus embedded in cloud layers or obscured by haze.

8.2.3 The SIGMETs are issued in abbreviated plain language using ICAO abbreviations and are respectively numbered consecutively for each day commencing at 0001. Their period of validity is generally not more than 4 hours and less than 6 hours from the time of transmission.

8.2.4 SIGMETs issued by the Meteorological Office, Singapore are transmitted to adjacent MWOs in accordance with regional air navigation agreements and inserted in the MET page of LORADS (Long Range Radar and Display System) for use by the Singapore Air Traffic Control Centre.

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## *8.3 Warning Service*

8.3.1 Aerodrome warnings for Changi Airport are issued by Meteorological Office, Singapore if one or several of the following phenomena are expected to occur at the airport:

- squall
- thunderstorm
- hail
- tornado
- horizontal visibility and/or RVR of 800 metres or less
- mean surface wind speed of 25 knots or more
- wind gusts of 35 knots or more
- cloud of BKN or OVC amount with base 500 ft or less

8.3.2 The warnings are:

- for the protection of parked and moored aircraft,
- for the protection of equipment at the airport, and
- for the safety of arriving and departing aircraft.

8.3.3 The warnings are issued in English and are distributed in accordance with a distribution list which has to be agreed upon locally. In order to guarantee rapid dissemination of the warnings, the distribution list to be used shall, as far as possible, contain only one recipient for an interested group; this recipient will be responsible for the further dissemination of the warning within the group.

8.3.4 SIGMET is disseminated by directed transmissions to aircraft through general calls by the Area Control Centre, Singapore for Singapore FIR.


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# 9 OTHER AUTOMATED METEOROLOGICAL SERVICES

9.1 Besides VOLMET and ATIS broadcasts, airline operators can obtain access to various operational meteorological information through our Aviation Weather Services Portal and automated faxing service.

9.2 The Aviation Weather Services Portal is free to airlines and flight operators with flights departing from Singapore Changi or Seletar Airports. It is accessible via the "Login" link at URL http://www.weather.gov.sg/. A registered user account is required for the access. For registration, please email to MSS_Aviation_Enquiries@nea.gov.sg

**TABLE 3.5.9 AVIATION WEATHER SERVICES PORTAL**

| *Service Name* | *Information Available* | *Area, Route and Aerodrome Coverage* | *Telephone and Telefax numbers Remarks* |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| Aviation Weather Services Portal | METAR, SPECI, TAF, AD Warning, Wind Shear Warning, SIGMET, Tropical Cyclone Warnings/Advisories, Volcanic Ash, Radioactive Fallout and Haze Information Advisories | All METAR, SPECI, TAF, SIGMET, Tropical Cyclone Warnings/Advisories, Volcanic Ash, Radioactive Fallout Advisories received from designated major centres around the world. AD Warning and Wind Shear Warning for WSSS and WSSL. Haze Information/Advisories for Southeast Asia Region | |
| | Latest Himawari-8 composite and true colour satellite images every 20 minutes | Southeast Asia and full globe | |
| | Latest Himawari-8 IR and hourly cloud top height satellite images every 10-minutes | Asia Pacific | |
| | Latest images from other satellites such as EUMETSAT, NOAA and Feng-Yun weather satellites | Europe, US Polar, America and Asia Pacific | |
| | Mid-Level Significant Weather charts | Medium level (FL100-FL450) covering 30E -180E; 45N - 45S | |
| | WAFS (World Area Forecast System) SIGWX charts | Medium-High level covering Asia, Middle East, Africa, America and Europe | |
| | Prognostic Wind-Temperature charts | Standard levels covering Europe, America and the Asia-Pacific Regions | |
| | Weather Radar images | Latest Singapore Changi Airport 70km, 240km and 480km range rain intensity radar plots. | |
| | WAFC Washington model gridded data | Full globe forecast of winds, temperature, turbulence potential, icing potential and horizontal extent of cumulonimbus clouds | |
| | Take-off conditions | Singapore Changi Airport | |
| | Climb and Descent winds forecast | Selected airports over Asia Pacific, Europe, Africa and North America | |

*Note: Details of meteorological briefing at aerodromes are given in the individual aerodrome sections, i.e. AD 2*

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# ENR 1.5 HOLDING, APPROACH AND DEPARTURE PROCEDURES

## 1 GENERAL

1.1 The holding, approach and departure procedures in use throughout the Singapore FIR are developed in accordance with the criteria contained in ICAO DOC 8168-OPS/611: Procedures for Air Navigation Services - Operations (PANS-OPS).

1.1.1 To ensure conformity with associated procedures, this section should be read in conjunction with section ENR 1.

1.1.2 An aircraft approaching an aerodrome under IFR for the purpose of making a landing shall conform to the holding and instrument approach procedures for the radio navigational aid employed as prescribed in the appropriate Instrument Approach charts AD-2-WSSS-IAC-1 to AD-2-WSSS-IAC-11.

1.1.3 Pilots will be expected to know the correct holding, approach and departure procedures.

*Note: Due to military operations above, below and adjacent to controlled airspace within the Singapore/Johor Airspace Complex, pilots unable to remain within 500ft of the vertical limits, or within the lateral limits of the controlled airspace are required to advise ATC immediately.*

### *1.2 HOLDING PROCEDURES*

1.2.1 Initial approach tracks and holding patterns associated with Singapore Airports are detailed in charts ENR 3.6-5, ENR 3.6-7 and ENR 3.6-9. Holding patterns for other airfields are indicated on the applicable approach charts.

### *1.3 LOW LEVEL HOLDING AREAS*

1.3.1 The holding areas for procedural traffic landing at Singapore Changi Airport or Seletar Airport depend on the runway in use at Singapore Changi Airport and are as follows:

a. RWY 02L/02C - SAMKO Holding Area (SHA) - Lower/Upper limits - 3,500ft / FL140.
b. RWY 20R/20C - NYLON Holding Area (NHA) - Lower/Upper limits - 2,500ft / FL140.

1.3.2 Details of these holding areas and those mentioned in paras 1.3.3 and 1.3.4 are given in sub-section ENR 3.6. They are also shown in charts ENR 3.6-7 and ENR 3.6-9.

1.3.3 An intermediate holding area - HOSBA Holding Area (HHA) - is also established. The lower/upper limits are 7,000ft/FL140.

1.3.4 A bad weather holding area - SINJON Holding Area - is established for Seletar bound commercial traffic. The lower/upper limits are 4 500ft/FL140.

### *1.4 HIGH LEVEL HOLDING AREAS*

1.4.1 High Level Holding Areas are also established at NHA, SHA and HHA. The lower/upper limits are FL150/FL250. Details of these areas are given in sub-section ENR 3.6.

### *1.5 HOLDING SPEEDS*

1.5.1 The maximum holding speed for all low level holding areas is 230kt.

1.5.2 The maximum holding speed for all high level holding areas is 265kt.

1.5.3 During conditions of turbulence, pilots could request ATC clearance to hold at speeds up to 280kt for both high and low level holding areas.

### *1.6 STANDARD INSTRUMENT DEPARTURE (SID) AND STANDARD INSTRUMENT ARRIVAL (STAR)*

Pilots departing from and landing at Singapore Changi Airport should refer to the procedures in charts AD-2-WSSS-SID-1 to AD-2-WSSS-STAR-21.

## 2 ARRIVING FLIGHTS

### *2.1 INSTRUMENT APPROACH PROCEDURES*

2.1.1 Pilots making instrument approaches to Singapore Changi Airport should refer to the procedures in charts AD-2-WSSS-IAC-1 to AD-2-WSSS-IAC-11.

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## *2.2 CATEGORY I ILS APPROACHES*

2.2.1 Category I ILS approaches are generally available on RWY 02L/20R and RWY 02C/20C at Singapore Changi Airport. Pilots making Category I ILS approaches to Singapore Changi Airport should refer to the procedures in charts AD-2-WSSS-IAC-1 to AD-2-WSSS-IAC-11.

## *2.3 CATEGORY II ILS APPROACHES*

(refer to WSSS AD 2-22 for details)

## *2.4 VISUAL APPROACH PROCEDURES*

2.4.1 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 20 and 3,000ft or more for landing on RWY 02; and

e. the visibility at the aerodrome is 5km or more.

2.4.2 Notwithstanding para 2.4.1(d) and 2.4.1(e), 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.

2.4.3 Pilots may expect radar vectoring for separation and sequencing with other traffic prior to being cleared for a visual approach.

## *2.5 INSTRUMENT APPROACHES TO SINGAPORE CHANGI AIRPORT - MAXIMUM VESSEL HEIGHT*

2.5.1 There are possible tall vessel movements in waters around Singapore Changi Airport. As these mobile vessels vary in height and location, they are only indicated as “possible vessel" obstacles in the instrument approach charts.

2.5.2 Information on the heights of these tall vessels are relayed to ATC by the Maritime and Port Authority of Singapore for ATC to decide on whether it should allow a particular instrument approach to Singapore Changi Airport.

## *2.6 MAXIMUM VESSEL HEIGHT*

2.6.1 The vessel’s maximum height allowed for each instrument approach procedure and its closest distance to runway threshold used in the design of the procedure are given in the following table:

| Instrument Approach | North of Singapore Changi Airport | | South of Singapore Changi Airport | |
|---|---|---|---|---|
| | MAX HGT AMSL | DIST from THR | MAX HGT AMSL | DIST from THR |
| a) RWY 02L - ICW ILS/DME | 131m | 5 370m | 300m | 13 100m |
| b) RWY 02L - ICW GP INOPERATIVE | 131m | 5 370m | 300m | 13 100m |
| c) RWY 02C - ICE ILS/DME | 131m | 6 650m | 270m | 9 730m |
| d) RWY 02C - ICE GP INOPERATIVE | 131m | 6 650m | 270m | 9 730m |
| e) RWY 20R - ICH ILS/DME | 50m | 2 110m | 390m | 16 360m |
| f) RWY 20R - ICH GP INOPERATIVE | 50m | 2 110m | 390m | 16 360m |
| g) RWY 20C - ICC ILS/DME | 70m | 2 650m | 320m | 13 730m |
| h) RWY 20C - ICC GP INOPERATIVE | 50m | 2 650m | 320m | 13 730m |
| i) RWY 20C - VTK DVOR/DME | 50m | 2 650m | 350m | 13 730m |


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# 3 DEPARTING FLIGHTS

## *3.1 INTRODUCTION*

a. The Instrument Departure Procedures are only applicable for aircraft with all engines operating. It remains the responsibility of the operator to develop contingency procedures for the individual type of aeroplane and to conduct the necessary examination of obstacles throughout the areas concerned in relation to the certificated performance of the individual aeroplane type. It is also the responsibility of the operator to ensure that contingency procedures comply fully with the aeroplane performance requirements of ICAO Annex 6.

b. The specific routes to be followed are depicted in SID charts AD-2-WSSS-SID-1 to AD-2-WSSS-SID-18. Altitude restrictions at fixes and/or DME specify ATC/airspace requirements.

c. Minimum net climb gradient specifies obstacle clearance requirements.

d. In the event that the minimum net climb gradient cannot be achieved pilots shall inform ATC. ATC shall hold departures if pilots indicate that they are unable to meet the required net climb gradient.

## *3.2 RUNWAY 02L*

a. When there are no reports of vessel movement along the northern shipping channel or where the reported vessel height is less than 35m AMSL, the aircraft minimum net climb gradient shall be at 3.3%.

b. Where the reported vessel height is 35m or higher, ATC shall advise departing pilots of the vessel height. Pilots on receipt of this information shall apply the minimum net climb gradient in accordance with the following table:

| HGT OF VESSEL (metres AMSL) | Gradient (%) | MINIMUM CROSSING ALTITUDE OVER VESSEL | |
|---|---|---|---|
| | | (metres) | (feet) |
| 35 | 3.4 | 44 | 142 |
| 40 | 3.9 | 49 | 158 |
| 50 | 4.8 | 59 | 191 |
| 60 | 5.8 | 69 | 224 |
| 70 | 6.8 | 79 | 257 |
| 80 | 7.8 | 89 | 290 |
| 90 | 8.8 | 99 | 322 |
| 100 | 9.7 | 109 | 355 |
| 110 | 10.7 | 119 | 388 |
| 120 | 11.7 | 129 | 421 |
| 130 | 12.7 | 139 | 454 |
| 140 | 13.7 | 149 | 486 |

c. After the aircraft has reached or passed the minimum crossing altitude over vessel, the minimum net climb gradient shall be 3.3%.

## *3.3 RUNWAY 02C*

a. When there are no reports of vessel movement along the northern shipping channel or where the reported vessel height is less than 70m AMSL, the aircraft minimum net climb gradient shall be at 3.3%.

b. Where the reported vessel height is 70m or higher, ATC shall advise departing pilots of the vessel height. Pilots on receipt of this information shall apply the minimum net climb gradient in accordance with the following table:

| HGT OF VESSEL (metres AMSL) | Gradient (%) | MINIMUM CROSSING ALTITUDE OVER VESSEL | |
|---|---|---|---|
| | | (metres) | (feet) |
| 70 | 3.4 | 89 | 292 |
| 80 | 3.8 | 99 | 325 |
| 90 | 4.3 | 109 | 358 |
| 100 | 4.7 | 119 | 390 |

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| HGT OF VESSEL (metres AMSL) | Gradient (%) | MINIMUM CROSSING ALTITUDE OVER VESSEL | |
|---|---|---|---|
| | | (metres) | (feet) |
| 110 | 5.1 | 129 | 423 |
| 120 | 5.5 | 139 | 456 |
| 130 | 6.0 | 149 | 489 |
| 140 | 6.4 | 159 | 522 |

c. After the aircraft has reached or passed the minimum crossing altitude over vessel, the minimum net climb gradient shall be 3.3%.

## *3.4 RUNWAYS 20C AND 20R*

3.4.1 All departures on Runway 20C shall be on a minimum net climb gradient of 7% until reaching or passing 2,500ft. Thereafter, the minimum net climb gradient shall be 3.3%.

3.4.2 All departures on Runway 20R shall be on a minimum net climb gradient of 6% until reaching or passing 2,500ft. Thereafter, the minimum net climb gradient shall be 3.3%.

(Please also refer to charts AD-2-WSSS-SID-1 to AD-2-WSSS-SID-18: Standard Instrument Departures for Runway 20C and Runway 20R).

## *3.5 DETERMINATION OF CLIMB GRADIENT BY OPERATORS*

3.5.1 The minimum net climb gradients specified above need not apply to operators who wish to calculate their own climb gradients based on actual lift-off point, provided the calculation ensures the following:

i. The most penalising obstacle is taken into account under both all engines operating procedures as well as one engine out procedures; and

ii. The required minimum obstacle clearance (MOC) is met under all engines operating procedures.

3.5.2 For the above calculations, operators shall use the following information:

a. The most penalising obstacle is a tall vessel which is on the extended centre line of the runway. (ATC shall advise pilots of the height of the tall vessel).

b. The required MOC in 3.5.1 (ii) is 0.8% of the distance **d** from the departure end of runway (DER) to the obstacle, in accordance with Vol II of ICAO Doc 8168: Procedures for Air Navigation Services Operations (PANS-OPS) where, in the case of Singapore Changi Airport, the DER is defined as the end of the clearway.

c. The distance **d** for departure Runways 02L and 02C is measured from the DER to the shipping channel north of Changi. The distance **d** for departure Runways 20C and 20R is measured from the DER to the boundary of the restricted waters south of Changi wherein tall vessels of height above 49m AMSL are not permitted. The distance **d** for the various departure runways is as follows:

| DEP RWY | 02L | 02C | 20C | 20R |
|---|---|---|---|---|
| Distance **d** | 1 100m | 2 590m | 9 670m | 12 830m |


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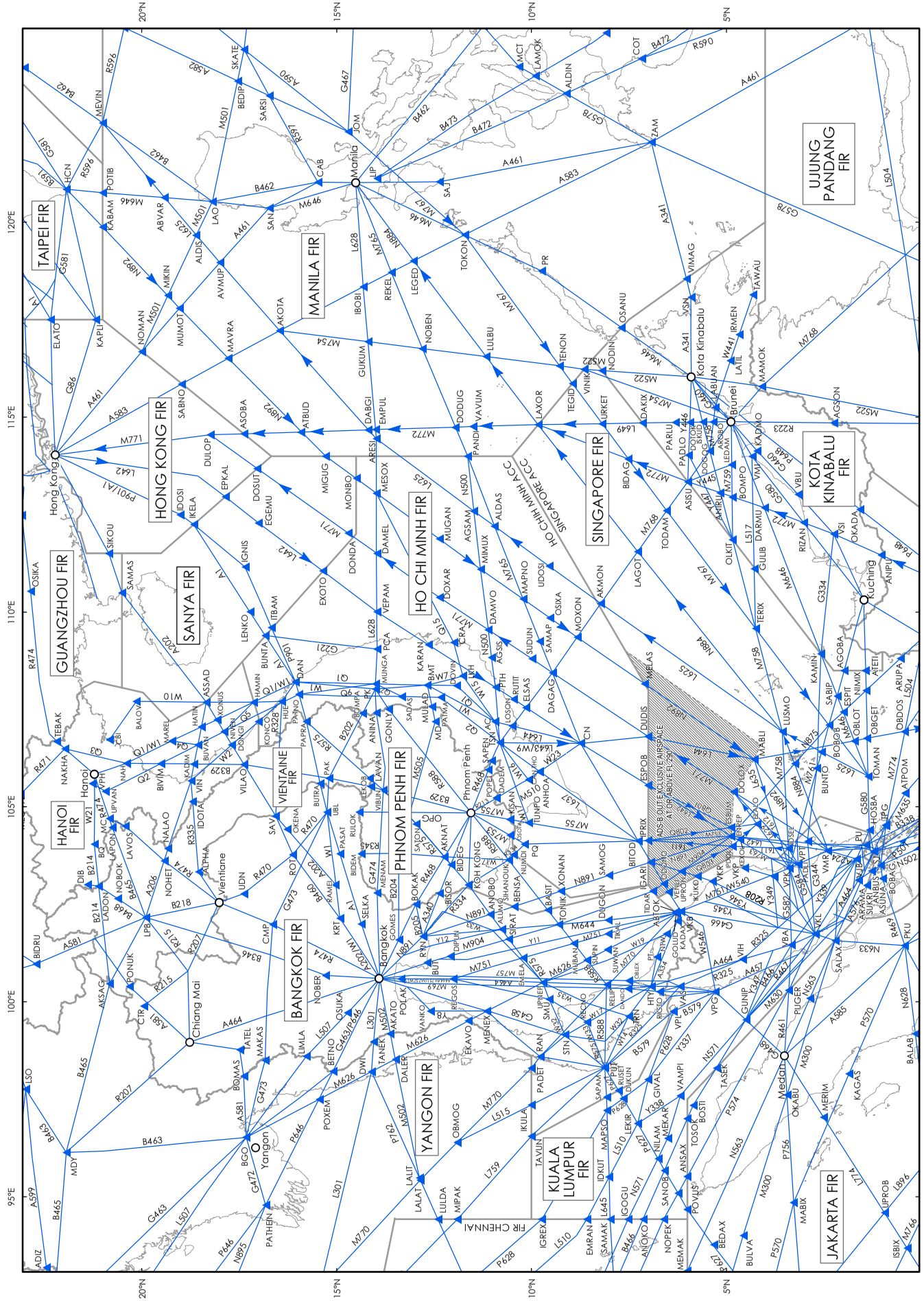
# ATS ROUTE STRUCTURE WITHIN SINGAPORE & ADJACENT FIRs

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***CHANGES :*** New route W546 added to replace ATS route B219.

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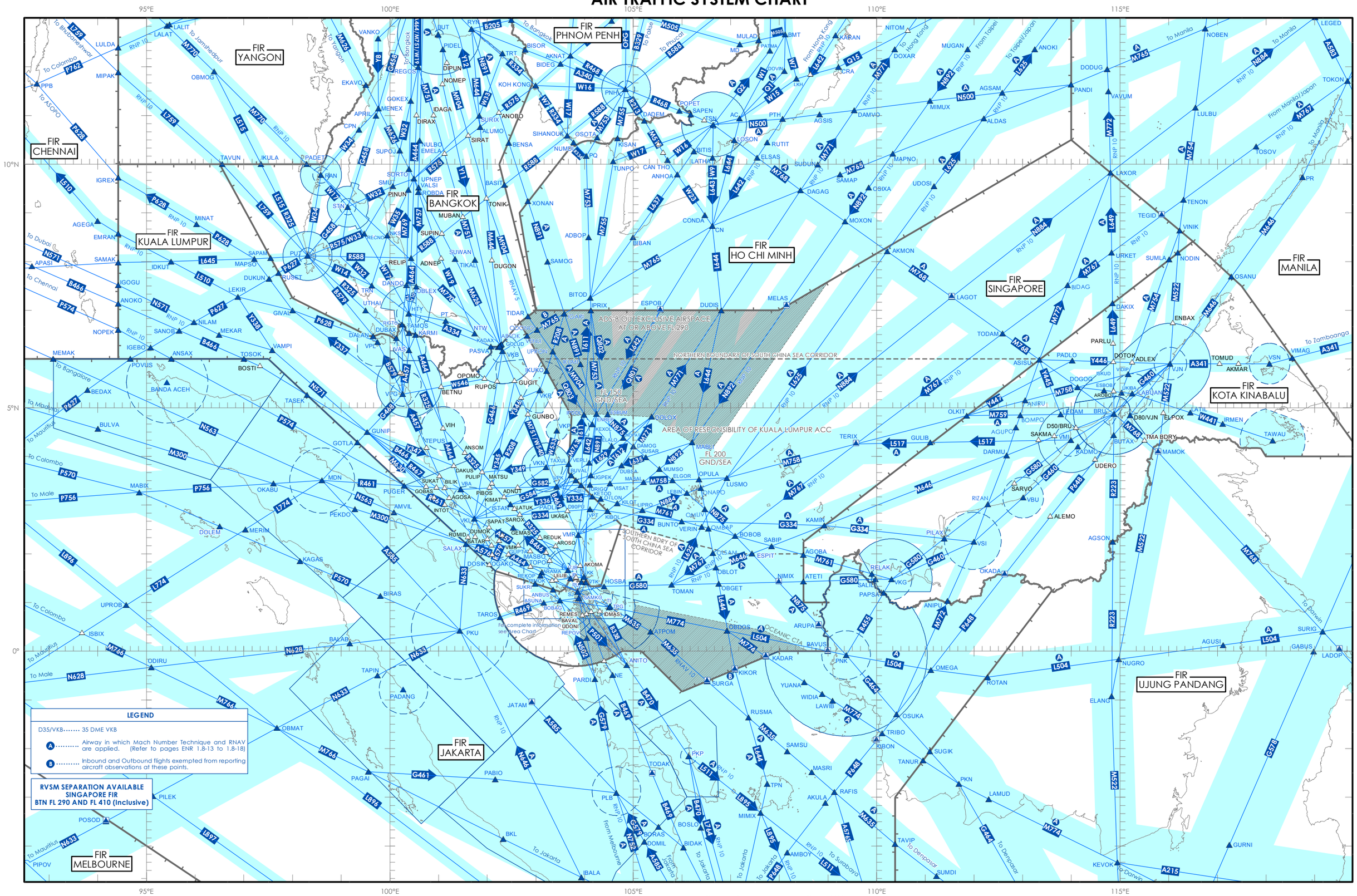
# AIR TRAFFIC SYSTEM CHART

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***CHANGES :*** New ATS route W546 added to replace ATS route B219.
ATS route B579 revised.

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| *Route Designator {RNP Type}* | *[Route Usage Notes]* | | | | | |
|---|---|---|---|---|---|---|
| *Significant Point Name* | *Significant Point Coordinates* | | | | | *Remarks* |
| *{RNP Type}* | *Initial Track MAG* ↓ ↑ | *Great Circle Dist NM* | *Upper limit* / *Lower limit* | *FL series* ↓ | *FL series* ↑ | *Controlling unit Frequency {Airspace class} Remarks* |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **L635** | *Route availability:* (1) H24 | | | | | |
| ▲ MABLI | 041717N 1061247E | | | | | |
| | | 59.9NM | FL 460 / FL 240 | Even(1) | | [Class A] (2) |
| ▲ SUSAR | 035848N 1051547E | | | | | |
| | | 31.6NM | FL 460 / FL 240 | Even(1) | | [Class A] (2) |
| ▲ DUBSA | 034901N 1044540E | | | | | |
| | | 39.7NM | FL 460 / FL 240 | Even(1) | | [Class A] (2) |
| ▲ UGPEK | 033647N 1040752E | | | | | |
| | | 19.4NM | FL 460 / FL 240 | Even(1) | | [Class A] (2) |
| ▲ DOVOL (WSJC/WMFC FIR BDRY) | 033047N 1034923E | | | | | |
| | | 25.2NM | FL 460 / FL 240 | Even(1) | | [Class A] (2) |
| ▲ PEKAN DVOR/DME (VPK) | 032259N 1032524E | | | | | |

*Route Remarks:*
**Lateral Limits:**
10NM either side of line joining VPK DVOR/DME to DOVOL and 25NM either side of the line joining DOVOL to MABLI

Singapore ACC FREQ:
P123.7 MHz
S127.3 MHz

*Point/Segment Remarks:*
(2) NIL

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| Route Designator {RNP Type} / Significant Point Name | [Route Usage Notes] Significant Point Coordinates | | | | | Remarks |
|---|---|---|---|---|---|---|
| {RNP Type} | Initial Track MAG ↓ ↑ | Great Circle Dist NM | Upper limit / Lower limit | FL series ↓ | FL series ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **L642** | *Route availability:* (1) H24 | | | | | |
| ESPOB (VVTS/WSJC FIR BDRY) | 070000N 1053318E | | | | | *(7)* |
| (10) | | 149.2NM | FL 460 / FL 135 | | | [Class A] *(2) (3) (4)* |
| ▲ ENREP | 045223N 1041442E | | | | | *(8)* |
| (10) | | 60.4NM | FL 460 / FL 135 | Odd*(1)* | Even*(1)* | [Class A] *(5)* |
| ▲ VEPLI | 035223N 1040542E | | | | | *(9)* |
| (10) | | 33.0NM | FL 460 / FL 135 | Odd*(1)* | Even*(1)* | [Class A] *(5)* |
| ▲ EGOLO (WSJC/WMFC FIR BDRY) | 031934N 1040047E | | | | | *(10)* |
| (10) | | 25.1NM | FL 460 / FL 135 | Odd*(1)* | Even*(1)* | [Class A] *(6)* |
| ▲ ROBMO | 025440N 1035700E | | | | | *(11)* |
| (10) | | 31.6NM | FL 460 / FL 135 | Odd*(1)* | Even*(1)* | [Class A] *(6)* |
| ▲ MERSING DVOR/DME (VMR) | 022318N 1035218E | | | | | |

*Route Remarks:*
**Lateral Limits:**
10NM either side of line joining VMR DVOR/DME to EGOLO and 25NM either side of line joining EGOLO to ESPOB.

Bi-directional between VMR and ENREP.

*Point/Segment Remarks:*
(2) ADS-C service is available to suitably equipped aircraft operating outside radar cover (between ESPOB and ENREP) and not in the exclusive ADS-B airspace within Singapore FIR.
(3) Uni-directional for southbound flights from ESPOB to ENREP. No PDC Flight Levels FL310, FL320, FL350, FL360, FL390, FL400 applicable. Other levels available with prior approval.
(4) Segment from ESPOB to ENREP use:
P134.35MHz
S133.6MHz
(5) Segment from ENREP to EGOLO use:
P123.7 MHz
S127.3 MHz
(6) Segment from EGOLO to VMR use:
P133.8 MHz
S127.3 MHz
(7) NIL
(8) VMR 008°
150.0NM
(9) VMR 008°
89.7NM
(10) VMR 008°
56.6NM
(11) VMR 008°
31.6NM


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| Route Designator {RNP Type} / Significant Point Name | [Route Usage Notes] Significant Point Coordinates | | | | | Remarks |
|---|---|---|---|---|---|---|
| {RNP Type} | Initial Track MAG ↓ ↑ | Great Circle Dist NM | Upper limit / Lower limit | FL series ↓ | FL series ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **N884** | *Route availability:* (1) H24 | | | | | |
| ▲ LAXOR (WSJC/RPHI FIR BDRY) | 094937N 1144829E | | | | | *(5)* |
| (10) | | 246.6NM | FL 460 / 6500 FT ALT | | | [Class A] *(2)* |
| ▲ LAGOT | 071632N 1113243E | | | | | *(5)* |
| (10) | | 354.3NM | FL 460 / 6500 FT ALT | | | [Class A] *(2)* |
| ▲ LUSMO | 033341N 1065534E | | | | | *(6)* |
| (10) | | 53.0NM | FL 460 / 6500 FT ALT | | | [Class A] *(3)* |
| ▲ LEBIN | 031438N 1060604E | | | | | *(7)* |
| (10) | | 58.5NM | FL 460 / 6500 FT ALT | | | [Class A] *(3)* |
| ▲ LIPRO | 025342N 1051128E | | | | | *(8)* |
| (10) | | 34.2NM | FL 460 / 6500 FT ALT | | | [Class A] *(3)* |
| ▲ LENDA (WSJC/WMFC FIR BDRY) | 024124N 1043932E | | | | | *(9)* |
| (10) | | 50.6NM | FL 460 / 6500 FT ALT | | | [Class A] *(4)* |
| ▲ MERSING DVOR/DME (VMR) | 022318N 1035218E | | | | | |

*Route Remarks:*

**Lateral Limits:**

5NM either side of line joining VMR DVOR/DME to LUSMO funnelling out at an angle of 5° from VMR to 25NM of either side of track. It then continues at this width until LAXOR.

Uni-directional for east bound flights from VMR to LAXOR. No PDC Flight Levels FL310, FL320, FL350, FL360, FL390, FL400 applicable. Other levels available with prior approval.

Not available for flight planning between VMR and LUSMO. Flight Plan via TOMAN L625 LUSMO.

*Point/Segment Remarks:*

(2) ADS-C and CPDLC services are available to suitably equipped aircraft operating outside radar cover (between LUSMO and LAXOR) within the Singapore FIR.
(3) Segment from LUSMO to LENDA use:
P134.7 MHz
S134.15 MHz
(4) Segment from LENDA to VMR use:
P133.8 MHz
S127.3 MHz
(5) NIL
(6) VMR 069°
196.3NM
(7) VMR 069°
143.3NM
(8) VMR069°
84.8NM
(9) VMR 069°
50.6NM

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| *Route Designator {RNP Type}* | *[Route Usage Notes]* | | | | | |
|---|---|---|---|---|---|---|
| *Significant Point Name* | *Significant Point Coordinates* | | | | | *Remarks* |
| *{RNP Type}* | *Initial Track MAG* ↓ ↑ | *Great Circle Dist NM* | *Upper limit* / *Lower limit* | *FL series* ↓ | *FL series* ↑ | *Controlling unit Frequency {Airspace class} Remarks* |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **N891** | *Route availability:* (1) H24 | | | | | |
| ▲ IGARI | 065610N 1033506E | | | | | *(6)* |
| | | 65.4NM | FL 460 / FL 155 | Odd*(1)* | Even*(1)* | [Class A] *(2)* |
| ▲ IKUMI | 055338N 1035509E | | | | | *(6)* |
| | | 64.0NM | FL 460 / FL 155 | Odd*(1)* | Even*(1)* | [Class A] *(2)* |
| ▲ ENREP | 045223N 1041442E | | | | | *(7)* |
| | | 75.5NM | FL 460 / FL 155 | Odd*(1)* | Even*(1)* | [Class A] *(3)* |
| ▲ UGPEK | 033647N 1040752E | | | | | *(8)* |
| | | 11.7NM | FL 460 / FL 155 | Even*(1)* | Odd*(1)* | [Class A] *(3)* |
| ▲ URIGO | 032505N 1040647E | | | | | *(9)* |
| | | 10.6NM | FL 460 / FL 155 | Even*(1)* | Odd*(1)* | [Class A] *(3)* |
| ▲ MANIM (WMFC/WSJC FIR BDRY) | 031431N 1040553E | | | | | *(10)* |
| | | 2.6NM | FL 460 / FL 155 | Even*(1)* | Odd*(1)* | [Class A] *(4)* |
| ▲ OBDAB | 031153N 1040538E | | | | | *(11)* |
| | | 106.4NM | FL 460 / FL 155 | Even*(1)* | Odd*(1)* | [Class A] *(4)* |
| ▲ PAPA UNIFORM DVOR/DME (PU) | 012523.99N 1035559.74E | | | | | *(5)* |

*Route Remarks:*
ADS-C service is available to suitably equipped aircraft operating outside radar cover and not in the exclusive ADS-B airspace within the Singapore FIR

**Lateral Limits:**
5NM either side of line joining PU DVOR/DME to ENREP funnelling out at an angle of 5° from PU to 25NM of either side of track. It then continues at this width until WSJC/VVTS FIR BDRY.

*Point/Segment Remarks:*
(2) Segment from IGARI to ENREP use:
P134.35 MHz
S133.6 MHz
(3) Segment from ENREP to MANIM use:
P123.7 MHz
S127.3 MHz
(4) Segment from MANIM to PU use:
P133.8 MHz
S127.3 MHz
(5) WSJC/WMFC FIR boundary approximately 0.4NM North of PU.
(6) NIL
(7) PU 005°
206.8NM
(8) PU 005°
131.3NM
(9) PU 005°
119.6NM
(10) PU 005°
109.0NM
(11) PU 005°
106.4NM


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| *Route Designator {RNP Type}* | *[Route Usage Notes]* | | | | | |
|---|---|---|---|---|---|---|
| *Significant Point Name* | *Significant Point Coordinates* | | | | | *Remarks* |
| *{RNP Type}* | *Initial Track MAG* ↓ ↑ | *Great Circle Dist NM* | *Upper limit* / *Lower limit* | *FL series* ↓ | *FL series* ↑ | *Controlling unit Frequency {Airspace class} Remarks* |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **Q801** | *Route availability:* (1) H24 | | | | | |
| ▲ ESPOB (VVTS/WSJC FIR BDRY) | 070000N 1053318E | | | | | |
| | | 143.0NM | FL 460 / FL 200 | | | [Class A] |
| ▲ ESBUM | 045210N 1042830E | | | | | |

*Route Remarks:*

**Lateral Limits:**

15NM either side of line joining ESPOB TO ESBUM.

Uni-directional for southbound flights from ESPOB to ESBUM. No PDC Flight Levels FL310, F320, F350, FL360, FL390, FL400 applicable. Other levels available with prior approval.

Singapore ACC FREQ:
P134.35 MHz
S133.6 MHz

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| *Route Designator {RNP Type}* | *[Route Usage Notes]* | | | | | |
|---|---|---|---|---|---|---|
| *Significant Point Name* | *Significant Point Coordinates* | | | | | *Remarks* |
| *{RNP Type}* | *Initial Track MAG* ↓ ↑ | *Great Circle Dist NM* | *Upper limit* / *Lower limit* | *FL series* ↓ | *FL series* ↑ | *Controlling unit Frequency {Airspace class} Remarks* |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| **Q802** | *Route availability:* (1) H24 | | | | | |
| ▲ IPRIX (VVTS/WSJC FIR BDRY) | 070000N 1040755E | | | | | |
| | | 130.0NM | FL 460 / FL 200 | Odd(1) | | [Class A] |
| ▲ ESBUM | 045210N 1042830E | | | | | |
| | | 39.0NM | FL 460 / FL 200 | Odd(1) | | [Class A] |
| ▲ ELALO | 041240N 1043329E | | | | | |

*Route Remarks:*
**Lateral Limit**s:
15NM either side of line joining IPRIX to ELALO

Singapore ACC FREQ:
P134.35 MHz
S133.6 MHz


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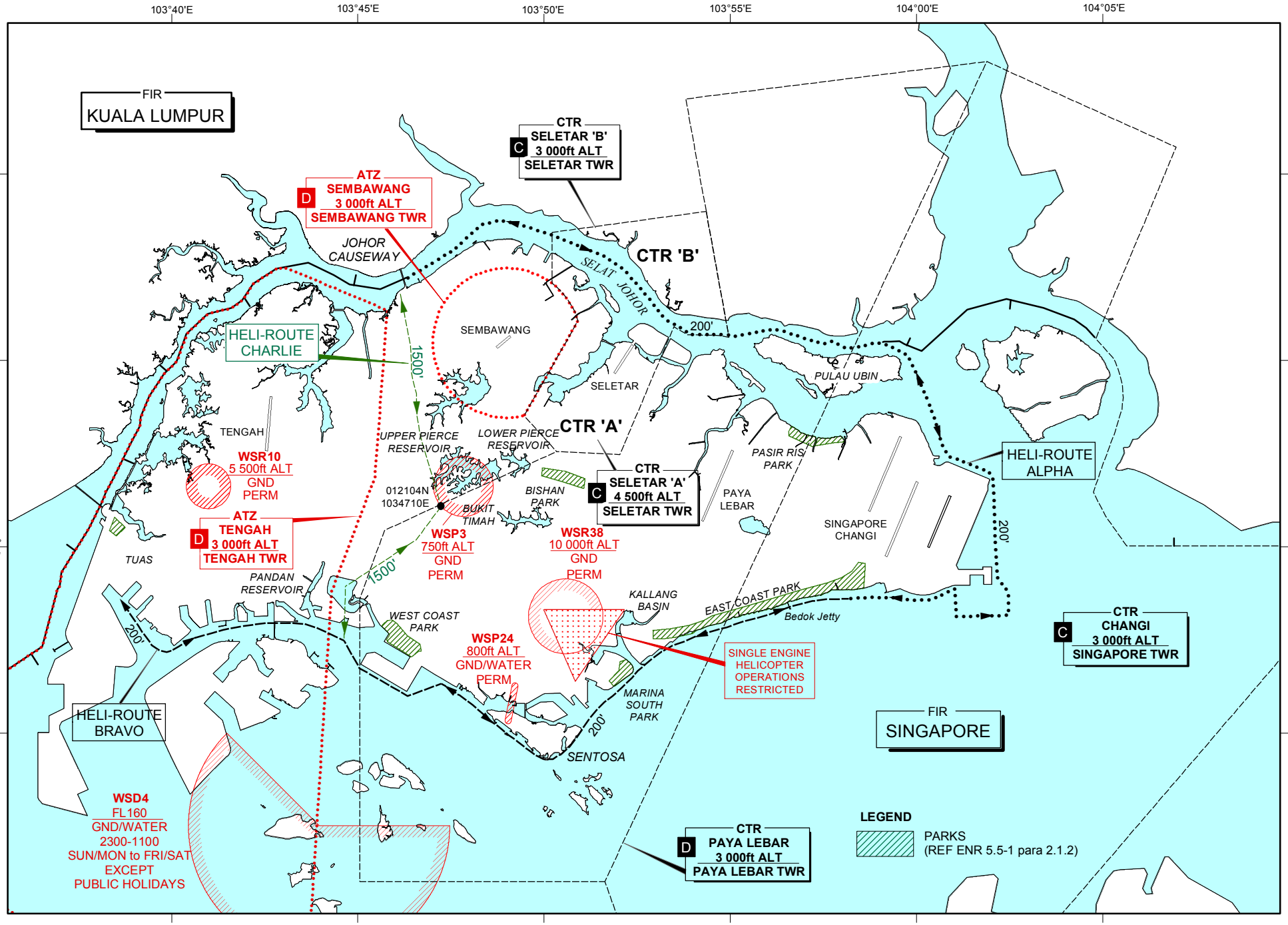
# HELICOPTER ROUTES IN VMC

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CHANGES: Position of WSR10 updated.

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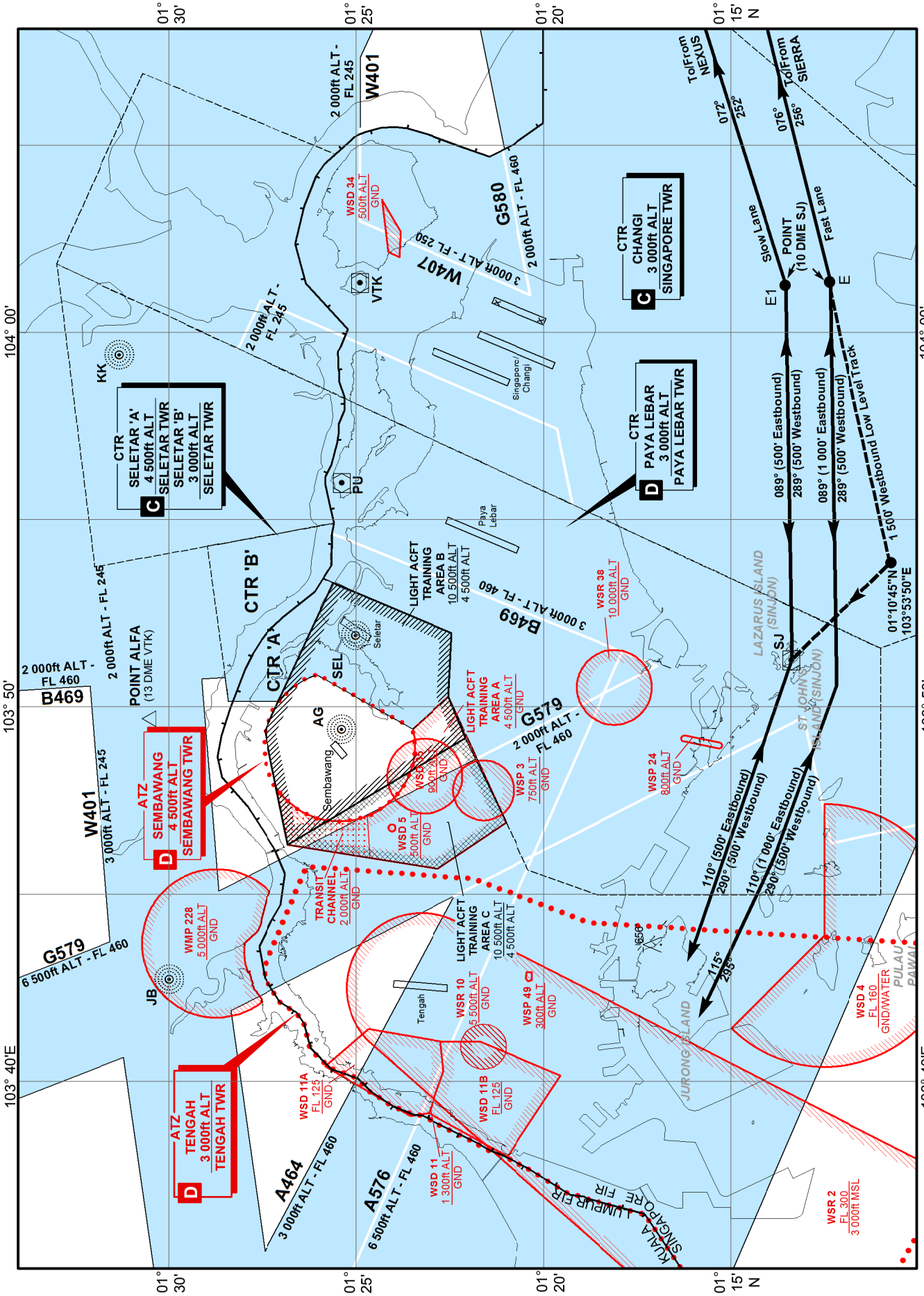
# VMC CROSSING BY MILITARY AIRCRAFT

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***CHANGES :*** Position of WSR10 updated.

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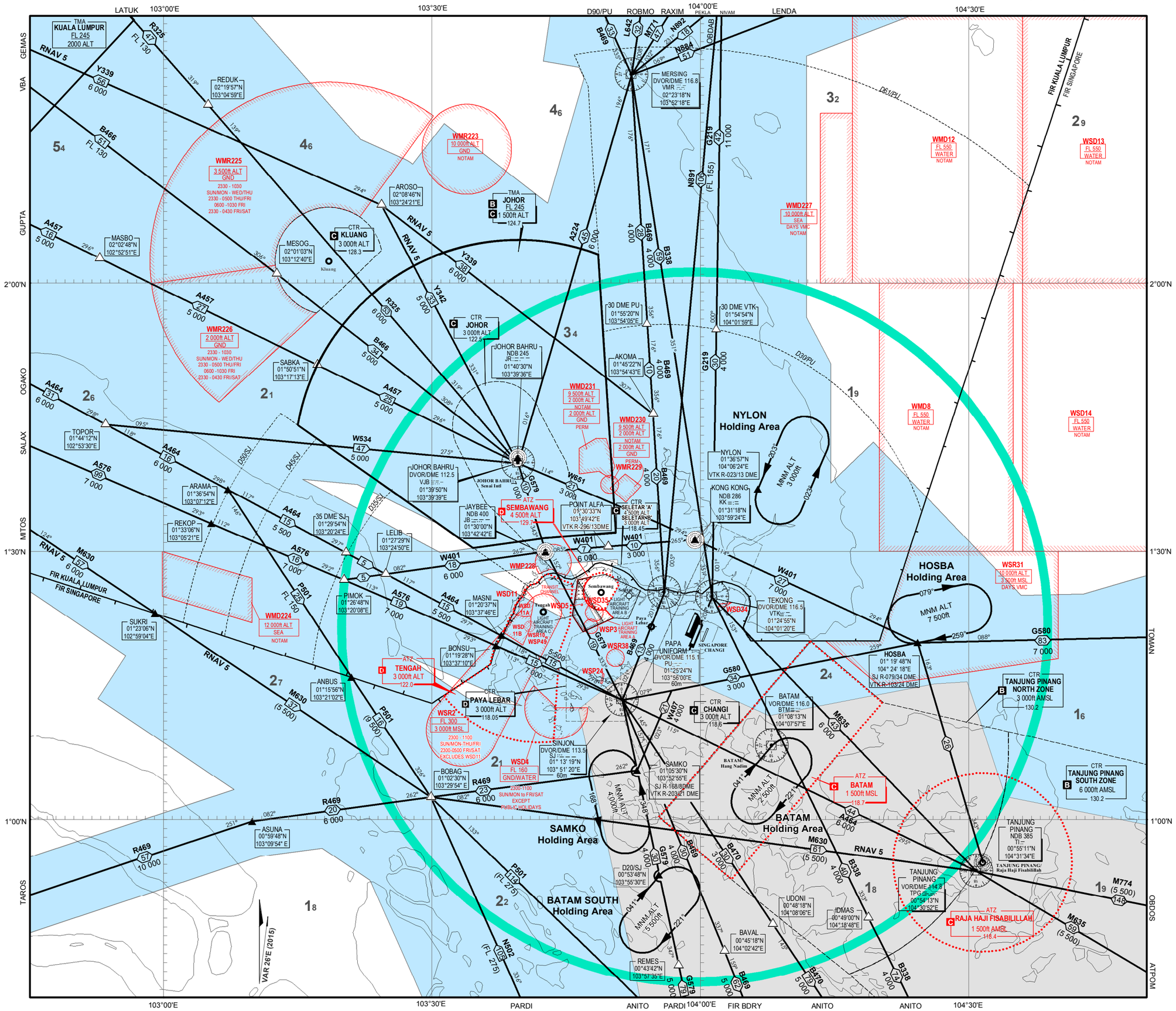
# AREA CHART - ICAO

**SINGAPORE/JOHOR AIRSPACE COMPLEX**
**LOW LEVEL HOLDING AREAS**




## LEGEND

**Terminal Control Area (TMA)**
Name of TMA
Airspace Classification
Upper Limit
Lower Limit
Radio frequency(ies)
Example: TMA JOHOR B FL 145 C 1 500ft 124.7

**Control Zone (CTR)**
Name of CTR
Airspace Classification
Upper Limit
Radio frequency(ies)
Example: CTR C CHANGI 3 000ft 118.6m

**Aerodrome Traffic Zone (ATZ)**
Name of ATZ
Airspace Classification
Upper Limit
Radio frequency(ies)
Example: ATZ D TENGAH 3 000ft 122.0

**ATS Routes**
Route designator
Distance in nautical miles
Minimum flight altitude (ft)/flight level
Lower limit (ft)/flight level
Example: B469 20 4 000/FL 160 (4 000)/(FL 160)

**Oceanic Control Area (OCA)**

**Reporting Point**
Compulsory
On request

**DME distance from SJ Navaid** *D35/SJ*

**Radio Navigation Aid**
Name
Identification and frequency
Geographical Coordinates
Elevation of DME site
Example: SINJON DVOR/DME 113.5 SJ 01° 13' 21"N 103° 51' 15"E 60m

**Collocated VOR and DME Radio Navigation Aids**
Compass rose orientated on the chart to Magnetic North

**Restricted Airspace**
(P - Prohibited, R - Restricted, D - Danger)
Identification of area
Nationality letter
Vertical limits
Activation by NOTAM
Example: WSD13 FL 400 WATER NOTAM
*NOTE :- See flip side for details of designated areas*

### Area Minimum Altitude (AMA)

Each quadrilateral contains an area minimum altitude (AMA) which represents the lowest altitude which may be used under instrument meteorological conditions (IMC). The AMA provides a minimum clearance of 1 000 feet (300m) above all terrains and obstacles in the quadrilateral. It is represented in thousands and hundreds of feet above mean sea level.

Example : 3 400 feet **3 4**

*NOTE :- In computing the area minimum altitude, a margin of 200 feet (60m) for vegetation has been added for spot elevations.*

### Speed Control Procedures

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

All arriving turbo-propeller and turbo-jet aircraft are to fly at not faster than indicated air speed 250 knots when within 40nm from Singapore Changi Airport or when at or below 10,000ft except all arriving aircraft into Singapore Changi Airport shall comply with the speed restrictions depicted on the transitions and RNAV STARS. Further speed reductions will be regulated by ATC as necessary.

Pilots who may not be able to comply with the speed limits specified above for reasons of flight safety and/or weather should inform ATC and state the speed(s) acceptable.

### AIRSPACE CLASSIFICATION IN THE SINGAPORE FIR

| Airspace | | Levels | Classification |
|---|---|---|---|
| Controlled airspace | | FL150 to FL460 | A |
| | | Surface to FL150 | B |
| Controlled airspace more than 100 nm seaward from the shoreline | | Lower limit to FL460 | A |
| Control Zone (CTRs) | Changi CTR | Surface to upper limit | C |
| | Paya Lebar CTR | | D |
| | Seletar CTR | | C |
| ATZs | | Surface to upper limit | D |
| Uncontrolled airspace | | | G* |

* Aircraft operating in the Light Aircraft Training Areas A, B and C (please refer to page ENR 5.2-1) are required to have continuous two-way communications with the appropriate ATS authority.

| | | |
|---|---|---|
| SINGAPORE | D-ATIS | 128.6 |
| | APP | 120.3 |
| | | 119.3 |
| | TWR | 118.6 |
| | | 118.25 |

***Note :***
*FOR DEPARTURE AND ARRIVAL ROUTES*
*REFER TO WSSS AD 2-51 TO WSSS AD 2-100*

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***CHANGES :*** Position of WSR10 updated.

AMDT 04/2017

## PROHIBITED, RESTRICTED AND DANGER AREAS

| | ACTIVITY | UPPER LIMIT / LOWER LIMIT | REMARKS |
|---|---|---|---|
| WSD1 | Rifle Range | 500ft ALT / GND | Permanently Active as in ENR 5 |
| WSR2 | Jet Let-down Sector | FL 300 / 3 000ft MSL | Permanently Active as in ENR 5 |
| WSP3 | - | 750ft ALT / GND | Permanently Active as in ENR 5 |
| WSD4 | A/G and G/G Firing Range | FL 160 / GND/WATER | Permanently Active as in ENR 5 |
| WSD5 | Rifle Range | 500ft ALT / GND | Permanently Active as in ENR 5 |
| WMD8 | Naval Air/Air Firing Range | FL 550 / WATER | Activation by NOTAM |
| WSD11 | Small Arm Firing | 1 300ft ALT / GND | Permanently Active as in ENR 5 |
| WSD11A | Artillery Firing | FL 125 / GND | Activation by NOTAM |
| WSD11B | Artillery Firing | FL 125 / GND | Activation by NOTAM |
| WMD12 | Naval Anti-aircraft Firing | FL 550 / WATER | Activation by NOTAM |
| WSD13 | Naval Anti-aircraft Firing | FL 550 / WATER | Activation by NOTAM |
| WSD14 | Naval Anti-aircraft Firing & Live Air/Air Firing | FL 550 / WATER | Activation by NOTAM |
| WSP24 | - | 800ft ALT / GND/WATER | Permanently Active as in ENR 5 |
| WSR31 | Training Area | 10 000ft ALT / 3 500ft MSL | Permanently Active as in ENR 5 |
| WSD33 | Rifle Range | 500ft ALT / GND | Permanently Active as in ENR 5 |
| WSD34 | Rifle Range | 500ft ALT / GND | Permanently Active as in ENR 5 |
| WSD35 | Rifle Range | 900ft ALT / GND | Permanently Active as in ENR 5 |
| WSR10 | - | 5 500ft ALT / GND | Permanently Active as in ENR 5 |
| WSR38 | - | 10 000ft ALT / GND | Permanently Active as in ENR 5 |
| WSP49 | - | 300ft ALT / GND | Permanently Active as in ENR 5 |
| | Transit Channel | 2 000ft ALT / GND | Activated only for Military acft crossing |
| * | Light Aircraft Training Area A | 4 500ft ALT / GND/*2 000ft | Training & Local Flts in VMC only |
| * | Light Aircraft Training Area B | 10 500ft ALT / 4 500ft ALT | High Flying Training Ops in VMC only |
| * | Light Aircraft Training Area C | 10 500ft ALT / 4 500ft ALT | High Flying Training Ops in VMC only |
| WMR223 | Parachute Dropping | 10 000ft ALT / GND | Permanently Active as in ENR 5 |
| WMD224 | Firing Range | 12 000ft ALT / SEA | Activation by NOTAM |
| WMR225 | RMAF Helicopter Training Area | 3 500ft ALT / GND | Permanently Active as in ENR 5 |
| WMR226 | RMAF Helicopter Training Area | 2 000ft ALT / GND | Permanently Active as in ENR 5 |
| WMD227 | Radar Bombing Range | 10 000ft ALT / SEA | Activation by NOTAM |
| WMP228 | Sultan's Palace | 5 000ft ALT / GND | Permanently Active as in ENR 5 |
| WMR229 | Helicopter Operations | 1 500ft ALT / GND | Permanently Active as in ENR 5 |
| WMD230 | Artillery Firing Range | 2 000ft ALT / GND | Permanently Active as in ENR 5 |
| WMD231 | Artillery Firing Range | 2 000ft ALT / GND | Permanently Active as in ENR 5 |

* In Transit Channel

* **AEROBATICS IS PROHIBITED IN LIGHT AIRCRAFT TRAINING AREAS A, B and C.**

## SPECIAL NOTE :-

### 1. GLIDER FLYING

GLIDER FLYING MAY TAKE PLACE WITHIN TENGAH ATZ
BTN 0100/1000 ON SUNDAYS AND PUBLIC HOLIDAYS.
VERTICAL LIMIT 3 000ft.
DURING ABOVE ACTIVITY NO ATC WILL BE PROVIDED.

### 2. WEATHER BALLOONS

BALLOONS WILL BE RELEASED FOR MET OBS AT 0120N 10353E (UPPER AIR OBSERVATORY), BRG 244° MAG AND DIST 1.5NM FROM SOUTHERN END OF PAYA LEBAR RWY 02 AND AT 0122N 10359E (CHANGI MET STATION), BRG 014° MAG AND DIST 1.1NM FROM SOUTHERN END OF RWY 02L (SINGAPORE CHANGI).

(A) AT UPPER AIR OBSERVATORY,

(i) BALLOONS WILL BE RELEASED DAILY AT 2330 AND 1000 PLUS OR MINUS 30 MIN. RATE OF ASCENT IS 1 000ft (305m) PER MIN. MAX HGT OF BALLOON 110 000ft (33 500m). THE BALLOON, WHITE IN COLOUR AND 6ft (2m) DIAMETER, IS ATTACHED WITH RADIOSONDE EQUIPMENT. IT WILL BURST 1.5 TO 2 HR AFTER RELEASE AND RADIOSONDE EQUIPMENT WILL DESCEND WITHIN 60NM RADIUS.

(ii) A BALLOON WILL BE RELEASED BETWEEN 0130 - 0230 ON THE SECOND THU OF EVERY MONTH. RATE OF ASCENT IS 1 000ft (305m) PER MIN. MAX HGT OF BALLOON IS 115 000ft (35 000m). THE BALLOON, WHITE IN COLOUR AND 6ft (2m) DIAMETER, IS ATTACHED WITH OZONESONDE/RADIOSONDE EQUIPMENT AND PARACHUTE. IT WILL BURST 1.5 TO 2 HR AFTER RELEASE.

(B) AT CHANGI MET STATION, BALLOONS WILL BE RELEASED DAILY AT 0530 AND 1800 PLUS OR MINUS 15 MIN. RATE OF ASCENT IS 500ft (150m) PER MIN. MAX HGT OF BALLOON IS ABOUT 40 000ft (12 200m). THE BALLOON IS RED IN COLOUR AND 2.1ft (0.7m) IN DIAMETER. AT NIGHT, A SMALL PAPER LANTERN LIGHTED UP WITH A CANDLE IS ATTACHED. THE BALLOON WILL BURST 1 TO 1.5 HR AFTER RELEASE.

### 3. AEROMODELLING AND KITE FLYING

#### (A) GENERAL WARNING

i) PILOTS FLYING AT LOW ALTITUDES SHOULD WATCH OUT FOR POSSIBLE HAZARDS SUCH AS MODEL AIRCRAFT AND KITES, ESPECIALLY WHEN FLYING NEAR PARKS AND OPEN GROUND.

ii) THE LOCATION OF SOME OF THE PARKS IN SINGAPORE WHERE KITE AND AERO MODEL FLYING MAY OCCUR ARE SHOWN ON ENR 3.4-5. PILOTS SHOULD NOTE THAT THE CHART AT ENR 3.4-5 DOES NOT SHOW ALL THE PARKS IN SINGAPORE AND THAT HAZARDS SUCH AS KITE FLYING AND AERO MODEL FLYING MAY TAKE PLACE AT PARKS AND OPEN GROUND NOT INDICATED IN ENR 3.4-5.

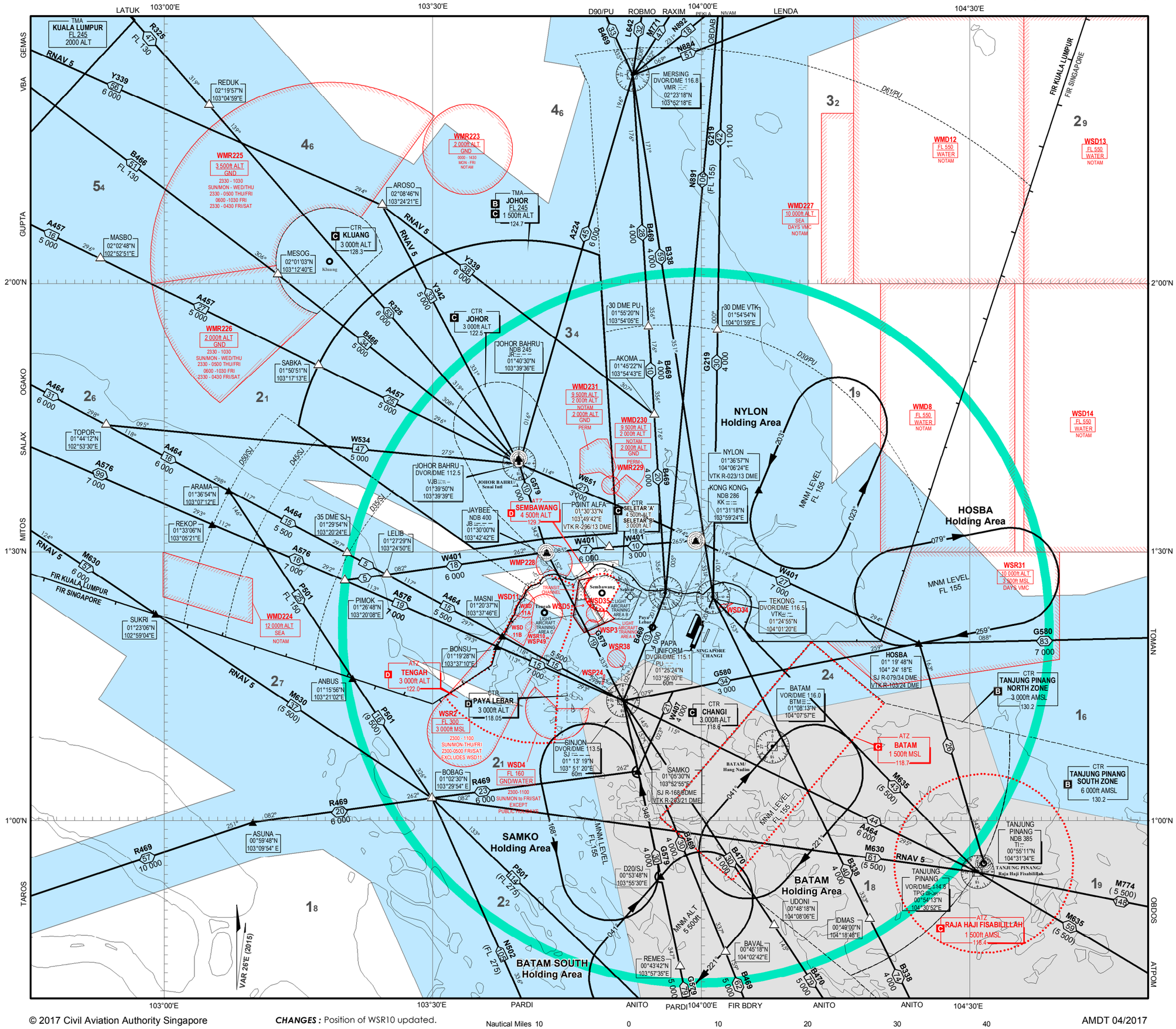
iii) ACCORDING TO THE SINGAPORE AIR NAVIGATION ORDER, 1985, KITE FLYING AND AERO MODEL FLYING ARE NOT PERMITTED ABOVE 200ft OR WITHIN 5km OF AN AERODROME. HOWEVER, PILOTS ARE ADVISED TO LOOK OUT FOR SUCH HAZARDS AT ALL TIMES AS MEMBERS OF THE PUBLIC MAY INADVERTENTLY FLY KITES OR AERO MODELS ABOVE THE HGT OF 200ft OR WITHIN 5km OF AN AERODROME.

#### (B) AERO MODELLING AT SEMBAWANG ATZ

AERO MODELLING MAY TAKE PLACE WITHIN SEMBAWANG ATZ
BTN 0200/0700 ON SUNDAYS AND PUBLIC HOLIDAYS.
DURING THE ABOVE ACTIVITY, SEMBAWANG ATZ WILL BE CLOSED TO ALL AIRCRAFT.

# AREA CHART - ICAO

**SINGAPORE/JOHOR AIRSPACE COMPLEX**
**HIGH LEVEL HOLDING AREAS**




## LEGEND

| | |
|---|---|
| **Terminal Control Area (TMA)** | Name of TMA; Airspace Classification; Upper Limit; Lower Limit; Radio frequency(ies) — e.g. TMA JOHOR, B, FL 145, C, 1 500ft, 124.7 |
| **Control Zone (CTR)** | Name of CTR; Airspace Classification; Upper Limit; Radio frequency(ies) — e.g. CTR CHANGI, C, 3 000ft, 118.6m |
| **Aerodrome Traffic Zone (ATZ)** | Name of ATZ; Airspace Classification; Upper Limit; Radio frequency(ies) — e.g. ATZ TENGAH, D, 3 000ft, 122.0 |
| **ATS Routes** | Route designator; Distance in nautical miles; Minimum flight altitude (ft)/flight level; Lower limit (ft)/flight level — e.g. B469, 20, 4 000/FL 160, (4 000)/(FL 160) |
| **Oceanic Control Area (OCA)** | |
| **Reporting Point** | Compulsory; On request |
| **DME distance from SJ Navaid** | *D35/SJ* |
| **Radio Navigation Aid** | Name; Identification and frequency; Geographical Coordinates; Elevation of DME site — e.g. SINJON DVOR/DME 113.5, SJ 01° 13' 21"N 103° 51' 15"E, 60m |
| **Collocated VOR and DME Radio Navigation Aids** | Compass rose orientated on the chart to Magnetic North |
| **Restricted Airspace** (P - Prohibited, R - Restricted, D - Danger) | Identification of area; Nationality letter; Vertical limits; Activation by NOTAM — e.g. WSD13, FL 400, WATER, NOTAM |

*NOTE :- See flip side for details of designated areas*

### Area Minimum Altitude (AMA)

Each quadrilateral contains an area minimum altitude (AMA) which represents the lowest altitude which may be used under instrument meteorological conditions (IMC). The AMA provides a minimum clearance of 1 000 feet (300m) above all terrains and obstacles in the quadrilateral. It is represented in thousands and hundreds of feet above mean sea level.

Example : 3 400 feet **34**

*NOTE :- In computing the area minimum altitude, a margin of 200 feet (60m) for vegetation has been added for spot elevations.*

### Speed Control Procedures

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

All arriving turbo-propeller and turbo-jet aircraft are to fly at not faster than indicated air speed 250 knots when within 40nm from Singapore Changi Airport or when at or below 10,000ft except all arriving aircraft into Singapore Changi Airport shall comply with the speed restrictions depicted on the transitions and RNAV STARS. Further speed reductions will be regulated by ATC as necessary.

Pilots who may not be able to comply with the speed limits specified above for reasons of flight safety and/or weather should inform ATC and state the speed(s) acceptable.

### AIRSPACE CLASSIFICATION IN THE SINGAPORE FIR

| Airspace | | Levels | Classification |
|---|---|---|---|
| Controlled airspace | | FL150 to FL460 | A |
| | | Surface to FL150 | B |
| Controlled airspace more than 100 nm seaward from the shoreline | | Lower limit to FL460 | A |
| Control Zone (CTRs) | Changi CTR | Surface to upper limit | C |
| | Paya Lebar CTR | | D |
| | Seletar CTR | | C |
| ATZs | | Surface to upper limit | D |
| Uncontrolled airspace | | | G* |

* Aircraft operating in the Light Aircraft Training Areas A, B and C (please refer to page ENR 5.2-1) are required to have continuous two-way communications with the appropriate ATS authority.

| | | |
|---|---|---|
| SINGAPORE | D-ATIS | 128.6 |
| | APP | 120.3<br>119.3 |
| | TWR | 118.6<br>118.25 |

***Note :***
*FOR DEPARTURE AND ARRIVAL ROUTES*
*REFER TO WSSS AD 2-51 TO WSSS AD 2-100*

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***CHANGES :*** Position of WSR10 updated.

Nautical Miles 10 0 10 20 30 40

Kilometers 10 0 10 20 30 40 50 60 70 80

AMDT 04/2017

## PROHIBITED, RESTRICTED AND DANGER AREAS

| | ACTIVITY | UPPER LIMIT / LOWER LIMIT | REMARKS |
|---|---|---|---|
| WSD1 | Rifle Range | 500ft ALT / GND | Permanently Active as in ENR 5 |
| WSR2 | Jet Let-down Sector | FL 300 / 3 000ft MSL | Permanently Active as in ENR 5 |
| WSP3 | - | 750ft ALT / GND | Permanently Active as in ENR 5 |
| WSD4 | A/G and G/G Firing Range | FL 160 / GND/WATER | Permanently Active as in ENR 5 |
| WSD5 | Rifle Range | 500ft ALT / GND | Permanently Active as in ENR 5 |
| WMD8 | Naval Air/Air Firing Range | FL 550 / WATER | Activation by NOTAM |
| WSD11 | Small Arm Firing | 1 300ft ALT / GND | Permanently Active as in ENR 5 |
| WSD11A | Artillery Firing | FL 125 / GND | Activation by NOTAM |
| WSD11B | Artillery Firing | FL 125 / GND | Activation by NOTAM |
| WMD12 | Naval Anti-aircraft Firing | FL 550 / WATER | Activation by NOTAM |
| WSD13 | Naval Anti-aircraft Firing | FL 550 / WATER | Activation by NOTAM |
| WSD14 | Naval Anti-aircraft Firing & Live Air/Air Firing | FL 550 / WATER | Activation by NOTAM |
| WSP24 | - | 800ft ALT / GND/WATER | Permanently Active as in ENR 5 |
| WSR31 | Training Area | 10 000ft ALT / 3 500ft MSL | Permanently Active as in ENR 5 |
| WSD33 | Rifle Range | 500ft ALT / GND | Permanently Active as in ENR 5 |
| WSD34 | Rifle Range | 500ft ALT / GND | Permanently Active as in ENR 5 |
| WSD35 | Rifle Range | 900ft ALT / GND | Permanently Active as in ENR 5 |
| WSR10 | - | 5 500ft ALT / GND | Permanently Active as in ENR 5 |
| WSR38 | - | 10 000ft ALT / GND | Permanently Active as in ENR 5 |
| WSP49 | - | 300ft ALT / GND | Permanently Active as in ENR 5 |
| | Transit Channel | 2 000ft ALT / GND | Activated only for Military acft crossing |
| * | Light Aircraft Training Area A | 4 500ft ALT / GND/*2 000ft | Training & Local Flts in VMC only |
| * | Light Aircraft Training Area B | 10 500ft ALT / 4 500ft ALT | High Flying Training Ops in VMC only |
| * | Light Aircraft Training Area C | 10 500ft ALT / 4 500ft ALT | High Flying Training Ops in VMC only |
| WMR223 | Parachute Dropping | 10 000ft ALT / GND | Permanently Active as in ENR 5 |
| WMD224 | Firing Range | 12 000ft ALT / SEA | Activation by NOTAM |
| WMR225 | RMAF Helicopter Training Area | 3 500ft ALT / GND | Permanently Active as in ENR 5 |
| WMR226 | RMAF Helicopter Training Area | 2 000ft ALT / GND | Permanently Active as in ENR 5 |
| WMD227 | Radar Bombing Range | 10 000ft ALT / SEA | Activation by NOTAM |
| WMP228 | Sultan's Palace | 5 000ft ALT / GND | Permanently Active as in ENR 5 |
| WMR229 | Helicopter Operations | 1 500ft ALT / GND | Permanently Active as in ENR 5 |
| WMD230 | Artillery Firing Range | 2 000ft ALT / GND | Permanently Active as in ENR 5 |
| WMD231 | Artillery Firing Range | 2 000ft ALT / GND | Permanently Active as in ENR 5 |

* In Transit Channel

* **AEROBATICS IS PROHIBITED IN LIGHT AIRCRAFT TRAINING AREAS A, B and C.**

## SPECIAL NOTE :-

### 1. GLIDER FLYING

GLIDER FLYING MAY TAKE PLACE WITHIN TENGAH ATZ
BTN 0100/1000 ON SUNDAYS AND PUBLIC HOLIDAYS.
VERTICAL LIMIT 3 000ft.
DURING ABOVE ACTIVITY NO ATC WILL BE PROVIDED.

### 2. WEATHER BALLOONS

BALLOONS WILL BE RELEASED FOR MET OBS AT 0120N 10353E (UPPER AIR OBSERVATORY), BRG 244° MAG AND DIST 1.5NM FROM SOUTHERN END OF PAYA LEBAR RWY 02 AND AT 0122N 10359E (CHANGI MET STATION), BRG 014° MAG AND DIST 1.1NM FROM SOUTHERN END OF RWY 02L (SINGAPORE CHANGI).

(A) AT UPPER AIR OBSERVATORY,

(i) BALLOONS WILL BE RELEASED DAILY AT 2330 AND 1000 PLUS OR MINUS 30 MIN. RATE OF ASCENT IS 1 000ft (305m) PER MIN. MAX HGT OF BALLOON 110 000ft (33 500m). THE BALLOON, WHITE IN COLOUR AND 6ft (2m) DIAMETER, IS ATTACHED WITH RADIOSONDE EQUIPMENT. IT WILL BURST 1.5 TO 2 HR AFTER RELEASE AND RADIOSONDE EQUIPMENT WILL DESCEND WITHIN 60NM RADIUS.

(ii) A BALLOON WILL BE RELEASED BETWEEN 0130 - 0230 ON THE SECOND THU OF EVERY MONTH. RATE OF ASCENT IS 1 000ft (305m) PER MIN. MAX HGT OF BALLOON IS 115 000ft (35 000m). THE BALLOON, WHITE IN COLOUR AND 6ft (2m) DIAMETER, IS ATTACHED WITH OZONESONDE/RADIOSONDE EQUIPMENT AND PARACHUTE. IT WILL BURST 1.5 TO 2 HR AFTER RELEASE.

(B) AT CHANGI MET STATION, BALLOONS WILL BE RELEASED DAILY AT 0530 AND 1800 PLUS OR MINUS 15 MIN. RATE OF ASCENT IS 500ft (150m) PER MIN. MAX HGT OF BALLOON IS ABOUT 40 000ft (12 200m). THE BALLOON IS RED IN COLOUR AND 2.1ft (0.7m) IN DIAMETER. AT NIGHT, A SMALL PAPER LANTERN LIGHTED UP WITH A CANDLE IS ATTACHED. THE BALLOON WILL BURST 1 TO 1.5 HR AFTER RELEASE.

### 3. AEROMODELLING AND KITE FLYING

#### (A) GENERAL WARNING

i) PILOTS FLYING AT LOW ALTITUDES SHOULD WATCH OUT FOR POSSIBLE HAZARDS SUCH AS MODEL AIRCRAFT AND KITES, ESPECIALLY WHEN FLYING NEAR PARKS AND OPEN GROUND.

ii) THE LOCATION OF SOME OF THE PARKS IN SINGAPORE WHERE KITE AND AERO MODEL FLYING MAY OCCUR ARE SHOWN ON ENR 3.4-5. PILOTS SHOULD NOTE THAT THE CHART AT ENR 3.4-5 DOES NOT SHOW ALL THE PARKS IN SINGAPORE AND THAT HAZARDS SUCH AS KITE FLYING AND AERO MODEL FLYING MAY TAKE PLACE AT PARKS AND OPEN GROUND NOT INDICATED IN ENR 3.4-5.

iii) ACCORDING TO THE SINGAPORE AIR NAVIGATION ORDER, 1985, KITE FLYING AND AERO MODEL FLYING ARE NOT PERMITTED ABOVE 200ft OR WITHIN 5km OF AN AERODROME. HOWEVER, PILOTS ARE ADVISED TO LOOK OUT FOR SUCH HAZARDS AT ALL TIMES AS MEMBERS OF THE PUBLIC MAY INADVERTENTLY FLY KITES OR AERO MODELS ABOVE THE HGT OF 200ft OR WITHIN 5km OF AN AERODROME.

#### (B) AERO MODELLING AT SEMBAWANG ATZ

AERO MODELLING MAY TAKE PLACE WITHIN SEMBAWANG ATZ
BTN 0200/0700 ON SUNDAYS AND PUBLIC HOLIDAYS.
DURING THE ABOVE ACTIVITY, SEMBAWANG ATZ WILL BE CLOSED TO ALL AIRCRAFT.

# ENR 4.4 NAME-CODE DESIGNATIONS FOR SIGNIFICANT POINTS

| *Name-code designator* | *Co-ordinates* | *ATS route or other route* | *Terminal Area* |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| ABVIP | 010008N<br>1035032E | | SID-WSSS |
| ABVON | 012028.18N<br>1035827.03E | | IAC-WSSS |
| ADMIM | 005733N<br>1033033E | | SID-WSSS |
| ADNIK | 011651.19N<br>1035655.43E | | IAC-WSSS |
| AGOBA | 015840N<br>1083000E | M761 | |
| AGROT | 010108N<br>1035808E | | SID-WSSS |
| AGVAR | 014719N<br>1034145E | | SID-WSSS |
| AKIPO | 011356.27N<br>1035541.59E | | IAC-WSSS |
| AKMET | 015355N<br>1034339E | | SID-WSSS |
| AKMON | 081256N<br>1101308E | L625, M768 | |
| AKOMA | 014522N<br>1035443E | B469, Y339 | SID-WSSS, IAC-WSSS |
| ANBUS | 011556N<br>1032102E | P501 | |
| ANITO | 001700S<br>1045200E | B338, B470, P501 | SID-WSSS |
| ANUMA | 011053.11N<br>1035424.35E | | IAC-WSSS |
| APIPA | 010618.43N<br>1035228.35E | | IAC-WSSS |
| ARAMA | 013654N<br>1030712E | A464, P501 | STAR-WSSS |
| AROSO | 020846N<br>1032421E | Y339, Y342 | SID-WSSS |
| ARUPA | 003140N<br>1084846E | N875 | |
| ASISU | 055906N<br>1132046E | M768, M772 | |
| ASUNA | 005948N<br>1030954E | R469 | STAR-WSSS |
| ATETI | 012540N<br>1083000E | G580 | |
| ATKAX | 000512N<br>1065946E | | SID-WSSS |
| ATPOM | 002425N<br>1052114E | M635 | |
| ATRUM | 013256N<br>1040057E | | SID-WSSS |
| BAVAL | 004518N<br>1040242E | B469 | |
| BAVUS | 000000N<br>1090000E | L504 | |
| BELVA | 025341N<br>1033836E | | STAR-WSSS |
| BETBA | 013302N<br>1035331E | | STAR-WSSS |
| BIBVI | 024336N<br>1040618E | | STAR-WSSS |
| BIDAG | 073101N<br>1135544E | M772 | |
| BIDUS | 013554.05N<br>1035754.86E | | IAC-WSSS, STAR-WSSS |
| BIKTA | 024337N<br>1034308E | B469 | |
| BIPOP | 013122N<br>1041018E | | IAC-WSSS, STAR-WSSS |
| BOBAG | 010230N<br>1032954E | R469, M630, N502, P501 | HLDG ID, SID-WSSS, STAR-WSSS |
| BOBOB | 022206N<br>1070558E | M761, M767, N875 | |

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| Name-code designator | Co-ordinates | ATS route or other route | Terminal Area |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| BOKIP | 010421N<br>1034353E | | SID-WSSS, STAR-WSSS |
| BONSU | 011928N<br>1033710E | A576 | |
| BUNTO | 024008N<br>1055953E | G334 | |
| BUVAL | 033622N<br>1034341E | L629, Y333 | |
| DAKIX | 070854N<br>1145054E | L649 | |
| DAMOG | 041225N<br>1050014E | M771, N875 | |
| DIVSA | 011105N<br>1040303E | | SID-WSSS |
| DOGRA | 010525N<br>1041423E | | SID-WSSS |
| DOKTA | 012606N<br>1041040E | | SID-WSSS |
| DOLOX | 044841N<br>1052247E | L629, M771, T612 | |
| DONDI | 011252N<br>1035855E | | SID-WSSS |
| DOSNO | 004757N<br>1041409E | | SID-WSSS |
| DOSPA | 011459N<br>1040441E | | SID-WSSS |
| DOVAN | 011938N<br>1041249E | | STAR-WSSS |
| DOVOL | 033047N<br>1034923E | L635, Y334 | |
| DUBSA | 034901N<br>1044540E | L635, M771 | |
| DUDIS | 070000N<br>1064834E | L644, M771 | |
| EGOLO | 031934N<br>1040047E | L642 | |
| EGORA | 013621.37N<br>1040607.23E | | IAC-WSSS |
| ELALO | 041240N<br>1043329E | Q802, Q803 | HLDG ID, STAR-WSSS |
| ELALU | 013439.87N<br>1040524.21E | | IAC-WSSS |
| ELBEB | 012844.66N<br>1040254.38E | | IAC-WSSS |
| ELBEX | 013148.96N<br>1040314.18E | | IAC-WSSS |
| ELGAP | 012820.28N<br>1040146.15E | | IAC-WSSS |
| ELGOR | 033014N<br>1054818E | M758, N875 | |
| ELMIN | 012549.68N<br>1040140.51E | | IAC-WSSS |
| EMTAP | 011655.88N<br>1035657.47E | | IAC-WSSS |
| ENLES | 010931.51N<br>1035349.83E | | IAC-WSSS |
| ENREP | 045223N<br>1041442E | L642, M753, M763, M904, N875, N891 | |
| ENSUN | 012602.56N<br>1040048.10E | | IAC-WSSS |
| ERVOT | 011120.09N<br>1035435.85E | | IAC-WSSS |
| ESBIT | 012212.07N<br>1040008.64E | | IAC-WSSS |
| ESBUM | 045210N<br>1042830E | Q801, Q802 | |
| ESLUX | 011844.31N<br>1035840.44E | | IAC-WSSS |
| ESPIT | 020011N<br>1072624E | M646, N875 | |
| ESPOB | 070000N<br>1053318E | L642, Q801 | |
| EXOMO | 010425.49N<br>1040933.17E | | IAC-WSSS |


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| *Identification, Name and Lateral Limits* | *Upper limit*<br>*Lower limit* | *Remarks*<br>*(time of activity, type of restriction, nature of hazard, risk of interception)* |
|---|---|---|
| 1 | 2 | 3 |
| **PROHIBITED AREAS** | | |
| **WSP3**<br>A circle, 0.8NM radius centred at 012136N 1034746E | 750 FT<br>GND | Active: Permanent.<br>Under no circumstances shall a forced landing be permitted within the area. Rotary wing aircraft shall avoid overflying the area. |
| **WSP24**<br>Area within two circles, 150m radius, centred at Mt. Faber (011615N 1034909E) and Sentosa Island (011519N 1034858E) and the tangential lines joining these circles. | 800 FT ALT<br>GND/WATER | Active: Permanent. |
| **WSP49**<br>012025N 1034236E 012028N 1034239E<br>012027N 1034249E 012018N 1034249E<br>012018N 1034236E. | 300 FT ALT<br>GND | Active: Permanent. |
| **WMP228** BUKIT SERENE<br>Area within 2NM centred at 012845N 1034334E with the southern border of the Prohibited Area coinciding with the coastline of South Johor. | 5000 FT ALT<br>GND | Sultan's Palace.<br>Active: Permanent.<br>(refer to AIP Malaysia) |
| **RESTRICTED AREAS** | | |
| **WSR2** TENGAH CORRIDOR<br>Area within two circles, 2NM radius, centred at Tengah and 4NM radius, centred at 011000N 1033324E and the tangents joining these circles but excluding WSD11 (Pasir Laba Range) when notified as active. | FL 300<br>3000 FT MSL | Jet Let-Down Sector.<br>Active: BTN 2300-1100 SUN-MON to THU-FRI and BTN 2300-0500 FRI-SAT.<br>Controlling Authority : Tengah APP on 130.0 or 263.4 MHz DRG AD OPR HR and SATCC (RSAF element) on 123.4 MHz and 288.2MHz after AD OPR HR. |
| **WSR10**<br>← A circle, 0.6NM radius, centred at 012136.2197N 1034055.3795E. | 5500 FT ALT<br>GND | Active: Permanent. |
| **WSR31**<br>012000N 1041400E 012000N 1042000E<br>013000N 1042300E 013000N 1044000E<br>011800N 1044000E 011500N 1042000E. | 10000 FT ALT<br>3500 FT MSL | Training Area.<br>Active daily during daylight hours in VMC only when radar unit in operations. |
| **WSR38**<br>← A circle, 1NM radius centred at 011807N 1035031E | 10000 FT ALT<br>GND | Istana.<br>Active: Permanent.<br>All FLT BTN SJ/JB on AWY G579 are to avoid at all times the area which overlaps the eastern edge of G579 . |
| **WMR104**<br>032859N 1030254E 023959N 1023454E<br>022300N 1025954E 022300N 1034554E<br>032059N 1032054E 031859N 1031554E<br>032559N 1031254E 032859N 1030254E. | 10000 FT ALT<br>3000 FT ALT | Training.<br>Active: 2230-1030 SUN-MON to FRI-SAT<br>(refer to AIP Malaysia) |

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| *Identification, Name and Lateral Limits* | *Upper limit*<br>*Lower limit* | *Remarks*<br>*(time of activity, type of restriction, nature of hazard, risk of interception)* |
|---|---|---|
| 1 | 2 | 3 |
| **RESTRICTED AREAS** | | |
| **WMR223** KANGAR KAHANG<br>A circle, 5NM radius, centred at 021500N 1033354E | 10000 FT ALT<br>GND | Parachute Dropping.<br>Active: by NOTAM.<br>Controlling Authority: Kluang Tower 128.3 MHz/122.4 MHz.<br>(refer to AIP Malaysia) |
| **WMR225** NORTH-KLUANG<br>An arc of a circle, radius 20NM, centred at 020230N 1031824E (Kluang Control Tower) from 020000N 1025839E to 021830N 1032954E; then an arc of a circle, radius 6NM, centred at 020230N 1031824E (Kluang Control Tower) from 020200N 1031224E to 020730N 1032154E; then straight lines joining 020000N 1025839E to 020200N 1031224E and 021830N 1032954E to 020730N 1032224E. | 3500 FT ALT<br>GND | Army Airwing Helicopter Training Area<br>Active:<br>2330-1030 SUN-MON TO WED-THU;<br>2330-0500 THU-FRI; 0600-1030 FRI; and<br>2330-0430 FRI-SAT;<br>SUN and PH closed.<br><br>Controlling Authority:<br>Kluang Tower 128.3 MHz and 122.4 MHz<br><br>PPR for all non-Malaysian Army aircraft. During hours of operations, request through Kluang Army Airwing Operations (48 hours prior notice).<br>No refuelling for civil aircraft.<br>(refer to AIP Malaysia) |
| **WMR226** WEST-KLUANG<br>An arc of a circle, radius 20NM, centred at 020230N 1031824E (Kluang Control Tower) from 020000N 1025839E to 014630N 1030554E; then an arc of a circle, radius 6NM, centred at 020230N 1031824E (Kluang Control Tower) from 020200N 1031224E to 015650N 1031709E. | 2000 FT ALT<br>GND | |
| **WMR229**<br>A circle, 1NM radius, centred at 013730N 1034952E. | 1500 FT ALT<br>GND | Helicopter Operations.<br>Active: 0100-0830 MON-FRI.<br>Visiting military aircraft are required to give advance notice of movements to Jungle Warfare School.<br>(refer to AIP Malaysia) |
| **DANGER AREAS** | | |
| **WSD4** SOUTHERN ISLAND LIVE FIRING RANGE<br>An arc, 3.5NM radius, centred at 011230N 1034354E with eastern extremity at 011230N 1034724E and western extremity at 011459N 1034125E. | FL 160<br>GND/WATER | Air to GND and GND to GND Firing Range.<br>Active: 2300-1100 SUN-MON to FRI-SAT except PH. Activity outside these hours will be notified by NOTAM. |
| **WSD5** MANDAI CAMP<br>A circle, radius 175M, centred at 012403N 1034646E. | 500 FT ALT<br>GND | Rifle Range.<br>Active: Permanent |


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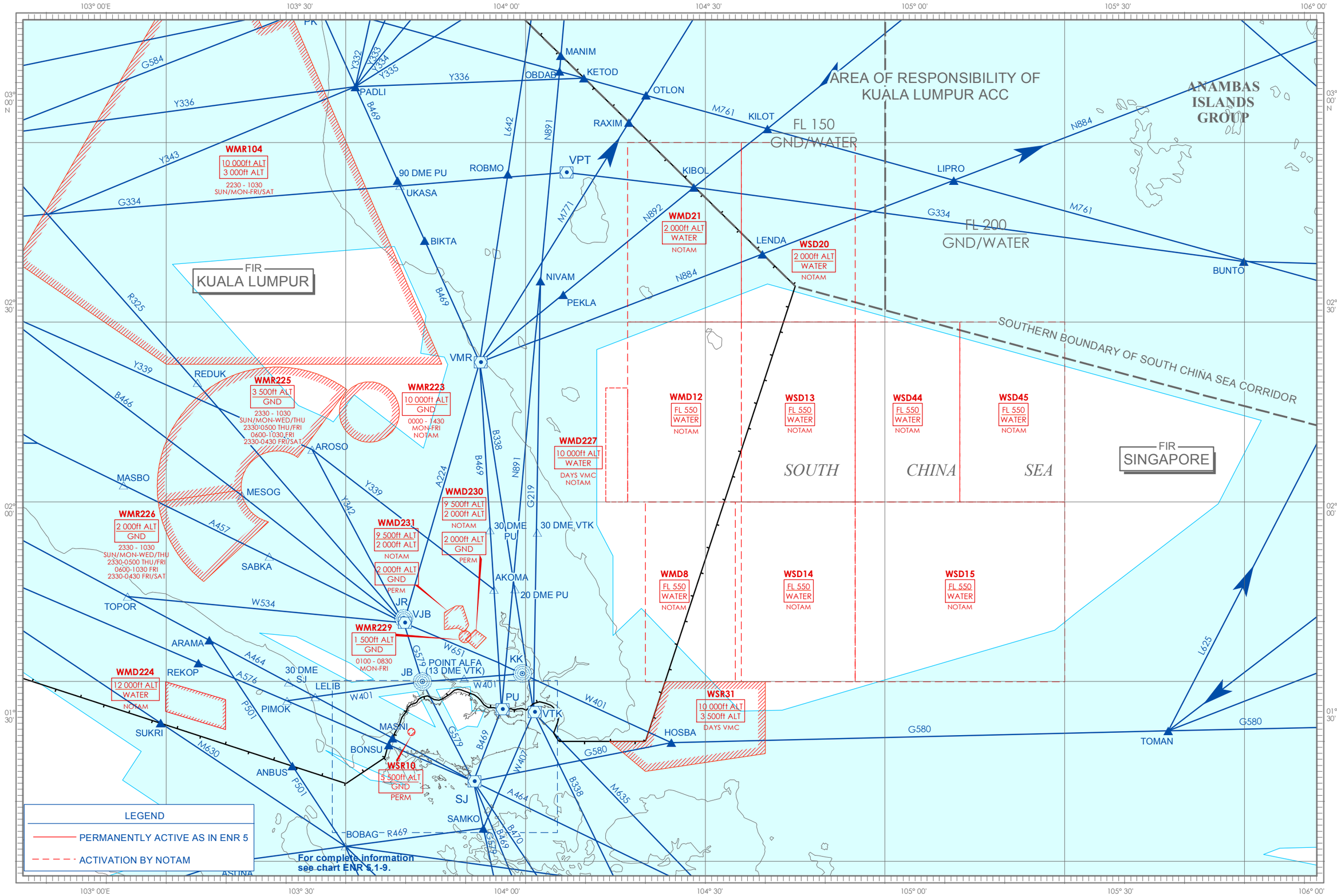
# PROHIBITED, RESTRICTED AND DANGER AREAS - CHART 1

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***CHANGES :*** Position of WSR10 updated.

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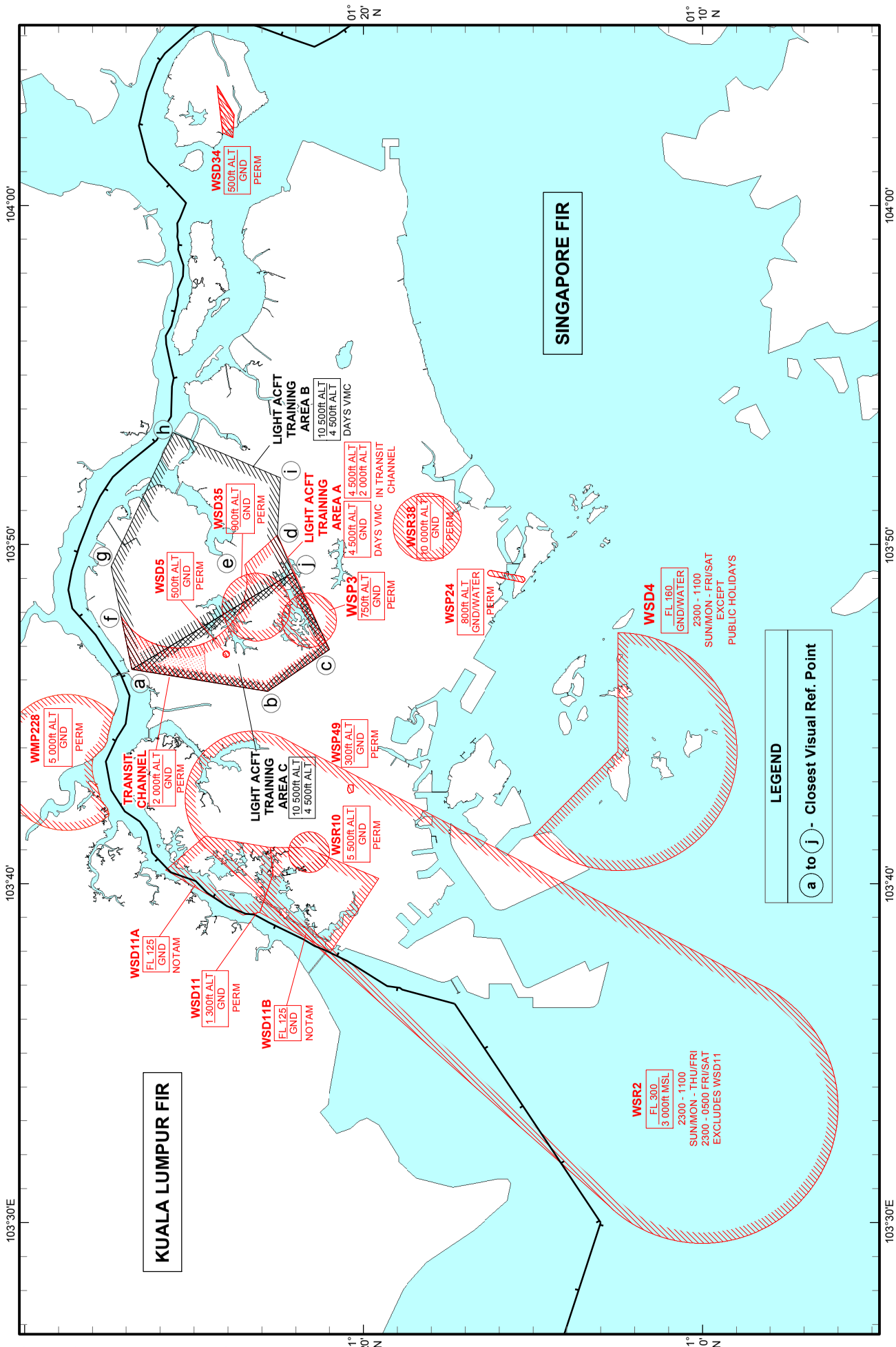
# PROHIBITED, RESTRICTED AND DANGER AREAS - CHART 2

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***CHANGES :*** Position of WSR10 updated.

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# ENROUTE CHART - ICAO

## LEGEND

- **Aerodrome**
- **Flight Information Region (FIR)** — Name of FIR; Upper Limit; Lower Limit; Unit providing service
- **Terminal Control Area (TMA)** — Name of TMA; Airspace Classification; Upper Limit; Lower Limit; Radio Frequency (ies)
- **Control Zone (CTR)** — Name of CTR; Airspace Classification; Upper Limit; Radio Frequency (ies)
- **ATS route** — Route designator; Magnetic track; Distance in nautical miles; Minimum flight altitude (ft)/flight level; Lower limit (ft)/flight level; Required navigation performance
- **ATS route reporting point by-pass** (No report is required on this route)
- **Reporting Point (REP)** — Compulsory; On Request
- **ATS/MET reporting point (MRP)** — Compulsory; On Request
- **Restricted Airspace** (P-Prohibited, R-Restricted, D-Danger) — Identification of area; Nationality letter; Vertical limits

Note : Restricted airspace outside Singapore FIR are not shown

- **Collocated VOR and DME navigation aids (VOR/DME)** — Compass rose orientated on the chart to Magnetic North
- **Identification for radio navigation aids (NAVAID)** — Name; NAVAID, frequency, identification or call sign; Geographical coordinates in WGS-84 version; Elevation of DME site (to the nearest 30m)

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

### Area Minimum Altitude (AMA)

Each 2° quadrilateral contains an area minimum altitude (AMA) which represents the lowest altitude which may be used under instrument meteorological conditions (IMC). The AMA provides a minimum clearance of 1 000 feet (300m) above all terrains and obstacles in the quadrilateral. It is represented in thousands and hundreds of feet above mean sea level.

Example : 3 500 feet **35**

- **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.

| WSJC/WMFC FIR BDRY REPORTING POINTS | |
|---|---|
| **TAXUL** | **MANIM** |
| 03 50.35N | 03 14.31N |
| 103 40.37E | 104 05.53E |
| **BUVAL** | **KETOD** |
| 03 36.22N | 03 10.42N |
| 103 43.41E | 104 09.42E |
| **DOVOL** | **RAXIM** |
| 03 30.47N | 03 03.18N |
| 103 49.23E | 104 17.13E |
| **IDSEL** | **KIBOL** |
| 03 24.32N | 02 52.29N |
| 103 55.44E | 104 28.05E |
| **EGOLO** | **LENDA** |
| 03 19.34N | 02 41.24N |
| 104 00.47E | 104 39.32E |

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

**AIRSPACE CLASSIFICATION IN THE SINGAPORE FIR**

| Airspace | | Levels | Classification |
|---|---|---|---|
| Controlled airspace | | FL 150 to FL 460 | A |
| | | Surface to FL 150 | B |
| Controlled airspace more than 100 nm seaward from the shoreline | | Lower limit to FL 460 | A |
| Control Zones (CTRs) | Changi CTR | Surface to upper limit | C |
| | Paya Lebar CTR | | D |
| | Seletar CTR | | C |
| ATZs | | Surface to upper limit | D |
| Uncontrolled airspace | | | G* |

* Aircraft operating in Light Aircraft Training Areas A, B and C (please refer to AIP Singapore page ENR 5.2-1) are required to have continuous two-way communications with the appropriate ATS authority.

**CAUTION**

Consult respective NOTAMs and AIPs of States concerned for the latest information and the Civil Aviation Authority of Singapore does not accept responsibility for any errors or omissions in the information shown outside of Singapore FIR

MAGNETIC INFORMATION FOR THE YEAR 2015

| COMMUNICATION FACILITIES | | | |
|---|---|---|---|
| **SINGAPORE (ACC)** SINGAPORE RADAR | P123.7 133.8 (0000-1430) | S127.3 | For Awy B469, G219, G334, L629, L635, L642, M751, M758, M761, M763, M771, N884, N891 & N892 in the vicinity of VMR and VPK. |
| | P133.25 | S135.8 | For Awy A457, A464, A576, B466 B325 (all northbound) and R469 |
| | P134.2 | S133.35 | For Awy B348, G580, L644 & M767. |
| | P134.4 255.4 | S128.1 | For Awy A464, A576, G579 (all southbound), B470, L644, N875 and area in the immediate vicinity of Singapore. |
| SINGAPORE RADIO | 6 556, 11 297 5 655, 8 942, 11 396 6 556. | | SEA 1 SEA 2 SEA 3 |
| **SINGAPORE APPROACH** | APP | P120.3 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-ATIS TWR | 128.6 118.6 | Data Link Service available H24. For Take-off/Landing |

P - Primary ; S - Secondary

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

CONICAL CONFORMAL PROJECTION

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**CHANGES :** Minimum flight altitude of ATS routes L642, M765, M768 and M771 revised. New ATS route W546 added to replace ATS route B219. The longitude for designated point ESPOB revised.

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## *2.2 TERMINAL 1 AIRCRAFT STANDS*

Aircraft types that can be parked at stands (✈) are as follows:

| Stands | D30 | D32 | D34 | D35 | D36 | D37 | D38 | D40 | D41 | D42 | D42L & D42R | D44 | D46 | D47 | D48 | D49 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A300** | | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A310** | | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A319** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A320** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A321** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A332** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A333** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A342** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A343** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A345** | | ✈ | ✈ | | | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A346** | | ✈ | ✈ | | | | | | | | | | ✈ | | | ✈ |
| **A359** | | ✈ | ✈ | | | | | | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A380** | | | | | | | | | | | | | ✈ | | | ✈ |
| **B707** | | ✈ | | | | | | | ✈ | | | ✈ | | | | |
| **B717** | | ✈ | | ✈ | ✈ | ✈ | ✈ | | ✈ | | | ✈ | ✈ | ✈ | ✈ | |
| **B727** | | ✈ | | | | | | | ✈ | | | ✈ | | | | |
| **B737** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| ← **B747** | | ✈ | ✈ | | | | | ✈ | ✈ | | | | ✈ | ✈ | ✈ | ✈ |
| ← **B74S** | | ✈ | | | | | | | ✈ | | | | ✈ | ✈ | ✈ | ✈ |
| **B757** | | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B762** | | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B763** | | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B772** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B773** | | ✈ | ✈ | | | | | | ✈ | ✈ | | ✈ | | | | ✈ |
| **B773ER** | | ✈ | ✈ | | | | | | ✈ | ✈ | | ✈ | | | | ✈ |
| **B788** | | ✈ | ✈ | | | | | ✈ | ✈ | ✈ | | ✈ | ✈ | | | ✈ |
| **B789** | | ✈ | ✈ | | | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| **BA146** | | ✈ | | | | | | | | | | | | | | |
| **DC10** | | | | | ✈ | ✈ | | | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **DC9** | | ✈ | | | | | | | | | | | | | | |
| **F100** | | ✈ | | ✈ | ✈ | ✈ | ✈ | | ✈ | | | ✈ | | ✈ | ✈ | |
| **IL62** | | ✈ | | ✈ | ✈ | ✈ | | | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **IL86** | | ✈ | | ✈ | ✈ | ✈ | | | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **IL96** | | ✈ | | ✈ | ✈ | ✈ | | | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **L101** | | | | | ✈ | ✈ | | | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **MD11** | | | | | ✈ | ✈ | | | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **MD80** | | ✈ | | ✈ | ✈ | ✈ | ✈ | | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **MD82** | | ✈ | | ✈ | ✈ | ✈ | ✈ | | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **MD83** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **MD88** | | ✈ | | ✈ | ✈ | ✈ | ✈ | | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |

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## *2.3 TERMINAL 2 AIRCRAFT STANDS*

Aircraft types that can be parked at stands (✈) are as follows:

| Stands | E1 | E2 | E3 | E4 | E5 | E6 | E7 | E8 | E10 | E11 | E12 | E20 | E22 | E24 | E24L | E24R | E26 | E27 | E27L E27R | E28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A300** | | | | ✈ | ✈ | ✈ | | ✈ | | ✈ | ✈ | | | ✈ | | | ✈ | | | |
| **A310** | | | | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | | | ✈ | | | ✈ | | | |
| **A319** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **A320** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **A321** | | | ✈ | | ✈ | | | | | | | | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **A332** | | | ✈ | ✈ | ✈ | | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | | ✈ |
| **A333** | | | ✈ | ✈ | ✈ | | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | | ✈ |
| **A342** | | | ✈ | ✈ | ✈ | | | ✈ | | ✈ | ✈ | | | ✈ | | | ✈ | | | |
| **A343** | | | ✈ | ✈ | ✈ | | | ✈ | | ✈ | ✈ | | ✈ | ✈ | | | ✈ | ✈ | | ✈ |
| **A345** | | | ✈ | ✈ | ✈ | | | ✈ | | ✈ | ✈ | | | ✈ | | | ✈ | | | |
| **A346** | | | | ✈ | ✈ | | | ✈ | | | | | | | | | | | | |
| **A359** | | | ✈ | ✈ | ✈ | | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | | ✈ |
| **A380** | | | | | ✈ | | | ✈ | | ✈ | | | | | | | | | | |
| **B707** | | | | | | | | | | | | | | | | | ✈ | | | |
| **B727** | | | | ✈ | ✈ | ✈ | | ✈ | | ✈ | ✈ | | | ✈ | | | ✈ | | | |
| **B737** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **B747** | | | ✈ | ✈ | ✈ | | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | | | ✈ |
| **B748** | | | | | ✈ | | | ✈ | | ✈ | | | | | | | | | | |
| **B74S** | | | | ✈ | ✈ | | | ✈ | | ✈ | ✈ | | | ✈ | | | ✈ | | | |
| **B757** | | | | ✈ | ✈ | ✈ | | ✈ | | ✈ | ✈ | | | ✈ | | | ✈ | | | |
| **B762** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | | ✈ |
| **B763** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | | ✈ |
| **B772** | | | ✈ | ✈ | ✈ | | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | | ✈ |
| **B772LR** | | | ✈ | | | | | | | ✈ | | | | | | | | | | |
| **B773** | | | | ✈ | ✈ | ✈ | | ✈ | | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | | ✈ |
| **B773ER** | | | | ✈ | ✈ | | | ✈ | | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | | ✈ |
| **B788** | | | ✈ | ✈ | ✈ | | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | | ✈ |
| **B789** | | | ✈ | ✈ | ✈ | | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | | ✈ |
| **DC10** | | | | ✈ | ✈ | ✈ | | ✈ | | ✈ | ✈ | | | | | | ✈ | | | |
| **DC9** | | | | | | | | | | | | | | | | | | | | |
| **F70** | | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | | | | | | |
| **F100** | | | | | | | | | | | | | | | | | ✈ | | | |
| **IL62** | | | | | | | | | | | | | | | | | ✈ | | | |
| **IL86** | | | | | | | | | | | | | | | | | ✈ | | | |
| **IL96** | | | | | | | | | | | | | | | | | ✈ | | | |
| **L101** | | | | ✈ | ✈ | ✈ | | ✈ | | ✈ | ✈ | | | | | | ✈ | | | |
| **MD11** | | | | ✈ | ✈ | ✈ | | ✈ | | ✈ | ✈ | | | | | | ✈ | | | |
| **MD80** | | | | | | | | | | | | | | | | | ✈ | | | |
| **MD82** | | | | | | | | | | | | | | | | | ✈ | | | |
| **MD83** | | | | | | | | | | | | | | | ✈ | ✈ | | | | |
| **MD88** | | | | | | | | | | | | | | | | | ✈ | | | |


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## *2.4 TERMINAL 2 AIRCRAFT STANDS*

Aircraft types that can be parked at stands (✈) are as follows:

| Stands | F30 | F31 | F32 | F33 | F34 | F35 | F36 | F37 | F40 | F41 | F42 | F50 | F52 | F54 | F56 | F58 | F59 | F60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ← **A300** | | ✈ | | | ✈ | | | | ✈ | ✈ | | ✈ | | ✈ | ✈ | ✈ | ✈ | |
| ← **A310** | | ✈ | | | ✈ | | | | ✈ | ✈ | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A319** | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | | ✈ | | ✈ |
| **A320** | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | | ✈ | | ✈ |
| **A332** | | ✈ | | | ✈ | | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A333** | | ✈ | | | ✈ | | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| ← **A342** | | ✈ | | | ✈ | | | | ✈ | ✈ | | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A343** | | ✈ | | | ✈ | | | | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| ← **A345** | | ✈ | | | ✈ | | | | ✈ | ✈ | | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A346** | | | | | | | | | | | ✈ | | | | | | | ✈ |
| **A359** | | ✈ | | | | ✈ | | | | | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A380** | | ✈ | | | | | | | | | ✈ | | | | | | | ✈ |
| **B707** | | | | | | | | | | | | ✈ | | ✈ | | | ✈ | ✈ |
| ← **B727** | | ✈ | | | ✈ | | | ✈ | ✈ | ✈ | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B737** | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | | ✈ | | ✈ |
| **B747** | | ✈ | | | ✈ | | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B748** | | ✈ | | | | | | | | | ✈ | | | | | | | ✈ |
| **B74S** | | ✈ | | | ✈ | | | | ✈ | ✈ | | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| ← **B757** | | ✈ | | | ✈ | | | | ✈ | ✈ | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| ← **B762** | | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| ← **B763** | | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B772** | | ✈ | | ✈ | ✈ | | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B772LR** | | | | | | | | | | | | | | ✈ | | ✈ | | ✈ |
| **B773** | | | | | | | | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B773ER** | | | | | | | | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B788** | | ✈ | | ✈ | ✈ | ✈ | | | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B789** | | ✈ | | ✈ | ✈ | ✈ | | | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **DC10** | | | | | ✈ | | | | | ✈ | | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **DC9** | | | | | | | | | | | | ✈ | | ✈ | ✈ | ✈ | | |
| ← **F70** | | ✈ | | | ✈ | | | | ✈ | ✈ | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **L101** | | | | | ✈ | | | | | ✈ | | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **MD11** | | | | | ✈ | | | | | ✈ | | | | ✈ | ✈ | ✈ | ✈ | ✈ |
| **MD87** | | | | | | | | | | | | ✈ | | ✈ | | | | |

| Stands | F35L | F35R | F52L | F52R | F56L | F56R | F59L | F59R |
|---|---|---|---|---|---|---|---|---|
| **A319** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A320** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A321** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B737** | ✈ | ✈ | | | | | | |
| **B737(100-500)** | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B737(600-900)** | | | ✈ | ✈ | ✈ | ✈ | | ✈ |
| **MD83** | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |

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## *2.5 TERMINAL 3 AIRCRAFT STANDS*

Aircraft types that can be parked at stands (✈) are as follows:

| Stands | A1 | A2 | A3 | A4 | A5 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 | A18 | A19 | A20 | A21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A300** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | |
| **A310** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | |
| **A319** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | |
| **A320** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | |
| **A321** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | |
| **A332** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ |
| **A333** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A343** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A345** | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | | | | |
| **A346** | | ✈ | | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | | | | | | |
| **A359** | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | | | | |
| **A380** | | ✈ | | ✈ | ✈ | | ✈ | | | | | | | | | | | |
| **B737** | | | ✈ | | | ✈ | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | | |
| **B744** | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | | | | |
| **B788** | | ✈ | | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B789** | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B757** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | |
| **B767** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | |
| **B772** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B772LR** | | | | | | | | | | | ✈ | | | ✈ | | | | |
| **B773** | | ✈ | | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | | | | | | |
| **B773ER** | | ✈ | | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | | | | | | | |

| Stands | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 | B10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **A300** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A310** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A319** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A320** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A321** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A332** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A333** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A343** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A345** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A359** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A346** | | ✈ | | ✈ | ✈ | | ✈ | | | |
| **A380** | | ✈ | | ✈ | ✈ | | ✈ | | | |
| **B707** | | | | | | | | | ✈ | ✈ |
| **B737** | | | ✈ | | | ✈ | | | | |
| **B744** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B788** | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ |
| **B789** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B757** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B767** | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B772** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B773** | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B773ER** | | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |


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## *2.6 TERMINAL 4 AIRCRAFT STANDS*

Aircraft types that can be parked at stands (✈) are as follows:

| Stands | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 | G12 | G13 | G14 | G15 | G16 | G17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ATR72-500** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A318** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A319** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A320** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A321** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B733** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B734** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B735** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B736** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B737** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B738** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B739** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **DHC7** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |

| ← | **Stands** | **G18** | **G18L** | **G18R** | **G19** | **G19L** | **G19R** | **G20** | **G20L** | **G20R** | **G21** | **G21L** | **G21R** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ← | **ATR72-500** | | | | | | | | | | | | |
| ← | **A306** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **A318** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| ← | **A319** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| ← | **A320** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| ← | **A321** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| ← | **A332** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **A333** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **A343** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **A345** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **A346** | ✈ | | | ✈ | | | ✈ | | | | | |
| ← | **A359** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **A388** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **B733** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| ← | **B734** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| ← | **B735** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| ← | **B736** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| ← | **B737** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| ← | **B738** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| ← | **B739** | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| ← | **B744** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **B748** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **B752** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **B762** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **B763** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **B772** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **B773** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **B773ER** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **B788** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **B789** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |
| ← | **DHC7** | | | | | | | | | | | | |
| ← | **MD11** | ✈ | | | ✈ | | | ✈ | | | ✈ | | |

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## *2.7 SOUTH APRON*

Aircraft types that can be parked at stands (✈) are as follow:

| Stands | **461** | **462** | **462L** | **462R** | **463** | **463L** | **463R** |
|---|---|---|---|---|---|---|---|
| **A306** | ✈ | ✈ | | | ✈ | | |
| **A310** | ✈ | ✈ | | | ✈ | | |
| **A318** | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| **A319** | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| **A320** | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| **A321** | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| **A332** | ✈ | ✈ | | | ✈ | | |
| **A333** | ✈ | ✈ | | | ✈ | | |
| **A342** | ✈ | ✈ | | | ✈ | | |
| **A343** | ✈ | ✈ | | | ✈ | | |
| **A345** | ✈ | ✈ | | | ✈ | | |
| **A346** | ✈ | ✈ | | | ✈ | | |
| **A359** | ✈ | ✈ | | | ✈ | | |
| **A380** | | ✈ | | | ✈ | | |
| **B733** | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| **B734** | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| **B735** | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| **B736** | | | ✈ | ✈ | | ✈ | ✈ |
| **B737** | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| **B738** | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| **B739** | ✈ | | ✈ | ✈ | | ✈ | ✈ |
| **B744** | ✈ | ✈ | | | ✈ | | |
| **B752** | ✈ | ✈ | | | ✈ | | |
| **B753** | | ✈ | | | ✈ | | |
| **B762** | ✈ | ✈ | | | ✈ | | |
| **B763** | ✈ | ✈ | | | ✈ | | |
| **B764** | ✈ | ✈ | | | ✈ | | |
| **B772** | ✈ | ✈ | | | ✈ | | |
| **B773** | ✈ | ✈ | | | ✈ | | |
| **B773ER** | ✈ | ✈ | | | ✈ | | |
| **B788** | ✈ | ✈ | | | ✈ | | |
| **B789** | ✈ | ✈ | | | ✈ | | |


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## *2.8 REMOTE STANDS*

Aircraft types that can be parked at stands (✈) are as follows:

| Stands | 200 | 200L | 200R | 201 | 202 | 202L | 202R | 203 | 205 | 206 | 207 | 208 | 209 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A300, A310** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A319, A320** | | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **A321** | | ✈ | ✈ | | | ✈ | ✈ | | | | | | |
| **A330, A342** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | | | |
| **A343, A345** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | | | |
| **A359** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | | | |
| **A380** | | | | | | | | | | | | | |
| **AT72** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B707, B727** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B737** | | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B747, B74S, B788** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | | | |
| **B748** | | | | | | | | | | | | | |
| **B757** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B767, B772, B773** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | | | |
| **B773ER** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | | | |
| **B789** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | | | |
| **DC8** | | | | | | | | | | | | | |
| **DC10** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | | | |
| **DHC7** | | | | | | | | | | | ✈ | ✈ | ✈ |
| **F70** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **IL62** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | | | |
| **L101** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | | | |
| **MD11** | ✈ | | | ✈ | ✈ | | | ✈ | ✈ | ✈ | | | |
| **MD83** | | | | ✈ | | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |

| Stands | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 400 | 401 | 402 | 403 | 404 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A300, A310** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | | |
| **A319, A320** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | |
| **A330, A342** | ✈ | | ✈ | | | | | | | | ✈ | ✈ | ✈ | | | |
| **A343, A345** | ✈ | | ✈ | | | | | | | | ✈ | ✈ | ✈ | | | |
| **A359** | ✈ | | ✈ | | | | | | | | ✈ | ✈ | ✈ | | | |
| **AT72** | | | | ✈ | ✈ | ✈ | ✈ | | | | | | | | | |
| **B707** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | | |
| **B727** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | |
| **B737 (100-500)** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B737 (600-900)** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | |
| **B747** | ✈ | | ✈ | | | | | | | | ✈ | ✈ | ✈ | | | |
| **B74S, B788** | ✈ | | ✈ | | | | | | | | ✈ | ✈ | ✈ | | | |
| **B757, B767** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | ✈ | | |
| **B772, B773** | ✈ | | ✈ | | | | | | | | ✈ | ✈ | ✈ | | | |
| **B773ER** | ✈ | | ✈ | | | | | | | | ✈ | ✈ | ✈ | | | |
| **B789** | ✈ | | ✈ | | | | | | | | ✈ | ✈ | ✈ | | | |
| **DC10** | ✈ | | ✈ | | | | ✈ | | | | ✈ | ✈ | ✈ | | | |
| **DC8** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | | | | | |
| **F70** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | |
| **L101** | ✈ | | ✈ | | | | ✈ | | | | ✈ | ✈ | ✈ | | | |
| **MD11** | ✈ | | ✈ | | | | ✈ | | | | ✈ | ✈ | ✈ | | | |
| **MD83** | | | | | | | | | | | | ✈ | ✈ | ✈ | ✈ | |

## *2.9 CARGO STANDS*

Aircraft types that can be parked at stands (✈) are as follows:

| Stands | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 to 515 | 600 | 600L | 600R | 601 | 602 | 603 | 604 | 605 | 611 | 612 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A300** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | | |
| **A306** | | | | | | | | | | | | | | | | | | ✈ | ✈ |
| **A310** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **A319** | | | | | | | | | | | ✈ | ✈ | | | | | ✈ | | |
| **A320** | | | | | | | | | | | ✈ | ✈ | | | | | ✈ | | |
| **A321** | | | | | | | | | | | ✈ | ✈ | | | | | ✈ | | |
| **A330** | | | | | | | | | | | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **A332** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | | |
| **A333** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | | |
| **A342** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **A343** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **A345** | ✈ | | | | | | | ✈ | ✈ | ✈ | | | | | | | | | |
| **A346** | ✈ | | | | | | | ✈ | ✈ | ✈ | | | | | | | | | |
| **A359** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | | |
| **A380** | ✈ | | | | | | | ✈ | | | | | | | | | | | |
| **AN24** | ✈ | | | | | | | ✈ | | | | | | | | | | | |
| **B707** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | | | ✈ | ✈ | ✈ | ✈ | | | |
| **B727** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **B737** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ |
| **B744** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | ✈ | | | ✈ | ✈ | | | | | |
| **B747** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | | ✈ | ✈ | ✈ | ✈ | | | |
| **B748** | | | | | | ✈ | ✈ | ✈ | | | | | | | ✈ | ✈ | | | |
| **B74S** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | | | ✈ | ✈ | ✈ | ✈ | | | |
| **B752** | | | | | | | | | | | | | | | | | | ✈ | ✈ |
| **B753** | | | | | | | | | | | | | | | | | | ✈ | ✈ |
| **B757** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | | |
| **B762** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **B763** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **B764** | ✈ | ✈ | ✈ | | | | | ✈ | ✈ | ✈ | | | | | ✈ | ✈ | | | |
| **B772** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **B772LR** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **B773** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | | |
| **B773ER** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | | |
| **B777F** | | | | | | | | | | | | | | | | | | ✈ | ✈ |
| **B788** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **B789** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **DC8** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **DC10** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **IL62** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **IL86** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **L101** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |
| **MD11** | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | ✈ | | | ✈ | ✈ | ✈ | ✈ | | ✈ | ✈ |


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| APRON/ ACFT STANDS | PUSHBACK PROCEDURES | PHRASEOLOGY USED BY SINGAPORE GROUND |
|---|---|---|
| D37 | The aircraft (on idle thrust) shall be pushed back onto Taxilane N3 to face North until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane N3 centreline. The aircraft may breakaway from there.<br><br>Alternate Pushback Procedure<br><br>The aircraft (on idle thrust) shall be pushed back onto Taxilane N3 to face North until the nose of the aircraft is behind the stopbar behind aircraft stand D34 on Taxilane N2. The aircraft may breakaway from there. | Standard pushback approved.<br><br>Pushback approved, to face North on Taxilane N2. |
| D38 | The aircraft (on idle thrust) shall be pushed back ontoTaxilane N3 to face North until the nose of the aircraft is behind the stopbar behind aircraft stand D37. The aircraft may breakaway from there. | Standard pushback approved. |
| **T1 EAST** | | |
| D40, D41 | The aircraft (on idle thrust) shall be pushed back onto Taxilane A6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane A6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |
| D42 | The aircraft (on idle thrust) shall be pushed back onto Taxilane A6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane A6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |
| D42L, D42R | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane A6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane A6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |
| ← D44, D46, D47 | The aircraft (on idle thrust) shall be pushed back onto Taxilane A6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane A6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |
| D48 | The aircraft (on idle thrust) shall be pushed back:<br><br>• onto Taxilane A6 to face North until the nose of the aircraft is behind the stopbar line behind aircraft stand D48. The aircraft may breakaway from there.<br><br>OR<br><br>• onto Taxilane A6 to face South until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane A6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North.<br><br>Pushback approved, to face South. |
| D49 | The aircraft (on idle thrust) shall be pushed back:<br><br>• onto Taxilane A6 to face North until its nosewheel is at the "EOP D49" position. The aircraft may breakaway from there.<br><br>OR<br><br>• onto Taxilane A6 to face South until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane A6 centreline. The aircraft shall then be towed forward until its nosewheel is on the "EOT D49" position behind aircraft stand D49. The aircraft may breakaway from there. | Pushback approved, to face North.<br><br>Pushback approved, to face South. |
| ← **T2 NORTH** | | |
| E8 | The aircraft (on idle thrust) shall be pushed back onto TWY A4 to face East until its nosewheel is at "EOP 14" position. The aircraft shall then be towed forward to "EOT 15" position. The aircraft may breakaway from there. | Standard pushback approved. |

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|---|---|---|
| E10 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane A6 to face North until its nosewheel is at the "EOP 19" position. The aircraft may breakaway from there. | Standard pushback approved. |
| E11 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane A6 to face North until its nosewheel is at the intersection of Taxilane A6 and Taxilane A5 centreline. The aircraft shall then be towed forward following Taxilane A5 centreline to "EOT 16" position. The aircraft may breakaway from there.<br><br>Alternate Pushback Procedure<br><br>The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane A6 to face North until its nosewheel is at the "EOP 19A" position behind aircraft stand E24. The aircraft shall then be towed forward to "EOT 18B" position behind aircraft stand E26. The aircraft may breakaway from there. | Standard pushback approved.<br><br>Pushback approved, to face North on Taxilane A6. |
| E12 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane A5 to face North until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane A5 centreline. The aircraft shall then be towed forward until its nosewheel is at the "EOT 16" position. The aircraft may breakaway from there.<br><br>Alternate Pushback Procedure<br><br>The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane A5 followed by Taxilane A6 to face North until its nosewheel is at the intersection of Taxilane A6 and Taxilane A5 centreline. The aircraft may breakaway from there. | Standard pushback approved.<br><br>Pushback approved, to face North on Taxilane A6. |
| E20 | The aircraft (on idle thrust) shall be pushed back following the pushback line until its nosewheel is at the "EOP 17" position. The aircraft shall then be towed forward following the tow line onto Taxilane A6 to face North until its nosewheel is at the "EOT 18A" position. The aircraft may breakaway from there. | Standard pushback approved. |
| E22 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane A6 to face North until its nosewheel is at "EOP 19" position. The aircraft shall then be towed forward until its nosewheel is at the "EOT 18" position. The aircraft may breakaway from there. | Standard pushback approved. |
| E24 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane A6 to face North until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane A6 centreline. The aircraft may breakaway from there. | Standard pushback approved. |
| E24L, E24R | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane A6 to face North until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane A6 centreline. The aircraft may breakaway from there. | Standard pushback approved. |
| E26 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane A6 to face North until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane A6 centreline. The aircraft may breakaway from there. | Standard pushback approved. |
| E27 | The aircraft (on idle thrust) shall be pushed back onto Taxilane A6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane A6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |
| E27L, E27R | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane A6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane A6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |


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|---|---|---|
| ← E28 | The aircraft (on idle thrust) shall be pushed back onto Taxilane A6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane A6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |
| **T2 CENTRAL** | | |
| E1 | The aircraft (on idle thrust) shall be pushed back following the pushback line to face East until its nosewheel is at the "EOP 12" position. The aircraft shall then be towed forward onto Taxilane B2 until its nosewheel is at the "EOT 9" position. The aircraft may breakaway from there. | Standard pushback approved. |
| E2 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane B2 to face East until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane B2 centreline. The aircraft shall then be towed forward to "EOT 9" position. The aircraft may breakaway from there. | Standard pushback approved. |
| E3 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane B2 to face East until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane B2 centreline. The aircraft may breakaway from there. | Standard pushback approved. |
| E4 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane B2 to face East until its nosewheel is at the “EOP 8” position. The aircraft may breakaway from there.<br><br>Alternate Pushback Procedure<br><br>The aircraft (on idle thrust) shall be pushed back onto Taxilane B1 to face South until its nosewheel is at the “EOP 13A” position. The aircraft may breakaway from there.<br><br>Alternate Pushback Procedure<br><br>The aircraft (on idle thrust) shall be pushed back onto Taxilane B3 to face North until its nosewheel is at the “EOP 7A” position. The aircraft may breakaway from there. | Standard pushback approved.<br><br>Pushback approved, to face South on Taxilane B1.<br><br>Pushback approved, to face North on Taxilane B3. |
| E5, E6 | The aircraft (on idle thrust) shall be pushed back onto Taxilane B1 to face North until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane B1 centreline. The aircraft shall then be towed forward until the nose of the aircraft is behind the stopbar behind aircraft stand E6. The aircraft may breakaway from there. | Standard pushback approved. |
| E7 | The aircraft (on idle thrust) shall be pushed back onto Taxilane B1 to face North until the nose of the aircraft is behind the stopbar behind aircraft stand E6. The aircraft may breakaway from there. | Standard pushback approved. |
| F30 | The aircraft (on idle thrust) shall be pushed back following the pushback line to face East until its nosewheel is at the "EOP 11" position. The aircraft shall then be towed forward onto Taxilane B2 until its nosewheel is at the "EOT 9" position. The aircraft may breakaway from there. | Standard pushback approved. |
| F31 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane B2 to face East until its nosewheel is at "EOP 10" position. The aircraft shall then be towed forward to "EOT 9" position. The aircraft may breakaway from there. | Standard pushback approved. |
| F32 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane B2 to face East until its nosewheel is at "EOT 9" position. The aircraft may breakaway from there. | Standard pushback approved. |

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|---|---|---|
| F33 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane B2 to face East until its nosewheel is at the “EOP 8” position. The aircraft may breakaway from there.<br><br>Alternate Pushback Procedure<br><br>The aircraft (on idle thrust) shall be pushed back onto Taxilane B1 to face South until its nosewheel is at the “EOP 13A” position. The aircraft may breakaway from there.<br><br>Alternate Pushback Procedure<br><br>The aircraft (on idle thrust) shall be pushed back onto Taxilane B3 to face North until its nosewheel is at the “EOP 7A” position. The aircraft may breakaway from there. | Standard pushback approved.<br><br>Pushback approved, to face South on Taxilane B1.<br><br>Pushback approved, to face North on Taxilane B3. |
| F34 | The aircraft (on idle thrust) shall be pushed back onto Taxilane B3 to face South until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane B3 centreline. The aircraft shall then be towed forward until the nose of the aircraft is behind the stopbar behind aircraft stand F35. The aircraft may breakaway from there. | Standard pushback approved. |
| F35, F35R | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane B3 to face South until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane B3 centreline. The aircraft may breakaway from there. | Standard pushback approved. |
| F35L | The aircraft (on idle thrust) shall be pushed back onto Taxilane B3 to face South until the nose of the aircraft is behind the stopbar behind aircraft stand F35. The aircraft may breakaway from there. | Standard pushback approved. |
| F36 | The aircraft (on idle thrust) shall be pushed back onto Taxilane B3 to face South until the nose of the aircraft is behind the stopbar behind aircraft stand F35. The aircraft may breakaway from there. | Standard pushback approved. |
| **T2 SOUTH** | | |
| F37 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C2 to face South until its nosewheel is at the "EOT 4" position. The aircraft may breakaway from there.<br><br>Alternate Pushback Procedure<br><br>The aircraft (on idle thrust) shall be pushed back onto TWY C1 to face East until its nosewheel is at the "EOP 5" position. The aircraft may breakaway from there. | Standard pushback approved.<br><br>Pushback approved, to face East on TWY C1. |
| F40 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C6 to face South until its nosewheel is at the "EOP 2" position. The aircraft shall then be towed forward until its nosewheel is at the "EOT 3" position. The aircraft may breakaway from there. | Standard pushback approved. |
| F41 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C2 to face South until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane C2 centreline. The aircraft shall then be towed forward until its nosewheel is at the "EOT 4" position. The aircraft may breakaway from there.<br><br>Alternate Pushback Procedure<br><br>The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C2 to face South, following Taxilane C2 centreline onto Taxilane C6 until its nosewheel is at the intersection of Taxilane C2 and Taxilane C6 centreline. The aircraft may breakaway from there. | Standard pushback approved.<br><br>Pushback approved, to pushback onto Taxilane C6. |


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| APRON/ ACFT STANDS | PUSHBACK PROCEDURES | PHRASEOLOGY USED BY SINGAPORE GROUND |
|---|---|---|
| F42 | Main pushback procedure (for all aircraft wingspan)<br><br>The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C2 to face South until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane C2 centreline. The aircraft shall then be towed forward until its nosewheel is at the "EOT 4" position. The aircraft may breakaway from there.<br><br>Alternate pushback procedure (for all aircraft types except A380)<br><br>The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C2 to face South, following Taxilane C2 centreline onto Taxilane C6 until its nosewheel is at the intersection of Taxilane C2 and Taxilane C6 centreline. The aircraft may breakaway from there.<br><br>Alternate pushback procedure (for A380 aircraft)<br><br>The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C2 to face South until its nosewheel is at the "EOP 4A" position. The aircraft shall then be towed forward following the tow line until its nosewheel is at the "EOT 4B" position on Taxilane C6, behind aircraft stand F59. The aircraft may breakaway from there. | Standard pushback approved.<br><br>Pushback approved, to pushback onto Taxilane C6.<br><br>Pushback approved, to pushback onto Taxilane C6. |
| F50 | The aircraft (on idle thrust) shall be pushed back following the pushback line until its nosewheel is at the "EOP 1" position. The aircraft shall then be towed forward following the tow line onto Taxilane C6 to face South until its nosewheel is at the "EOT 3" position. The aircraft may breakaway from there. | Standard pushback approved. |
| F52 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C6 to face South until its nosewheel is at the "EOP 2" position. The aircraft shall then be towed forward until its nosewheel is at the "EOT 3" position. The aircraft may breakaway from there. | Standard pushback approved. |
| F52L | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C6 to face South until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane C6 centreline. The aircraft may breakaway from there. | Standard pushback approved. |
| F52R | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C6 to face South until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane C6 centreline. The aircraft shall then be towed forward until its nosewheel is at the "EOT" position. The aircraft may breakaway from there. | Standard pushback approved. |
| F54 | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C6 to face South until its nosewheel is at the intersection of Taxilane C2 and Taxilane C6 centreline. The aircraft may breakaway from there. | Standard pushback approved. |
| F56 | The aircraft (on idle thrust) shall be pushed back onto Taxilane C6 to face South until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane C6 centreline. The aircraft may breakaway from there. | Standard pushback approved. |
| F56L, F56R | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C6 to face South until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane C6 centreline. The aircraft may breakaway from there. | Standard pushback approved. |
| F58 | The aircraft (on idle thrust) shall be pushed back onto Taxilane C6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane C6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |
| F59 | The aircraft (on idle thrust) shall be pushed back onto Taxilane C6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane C6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |

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|---|---|---|
| F59L, F59R | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane C6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |
| F60 | The aircraft (on idle thrust) shall be pushed back onto Taxilane C6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane C6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |
| **T4 APRON** | | |
| ← G1 | The aircraft (on idle thrust) shall be pushed back onto Taxilane L5 to face South until the nose of the aircraft is behind the stopbar behind aircraft stand G6 on Taxilane L5. The aircraft may breakaway from there. | Pushback approved, to face South. |
| G2 | The aircraft (on idle thrust) shall be pushed back onto Taxilane L5 to face North until its nosewheel is at the "EOP-G2" position. The aircraft may breakaway from there. | Pushback approved, to face North on Taxilane L5. |
| G3, G4 | The aircraft (on idle thrust) shall be pushed back onto Taxilane L5 to face North until its nosewheel is at the intersection of the pushback line and centreline of Taxilane L5. The aircraft may breakaway from there. | Pushback approved, to face North on Taxilane L5. |
| G5, G6, G7, G8, G9, G10, G11, G12, G13 | The aircraft (on idle thrust) shall be pushed back onto Taxilane L5 to face North or South until its nosewheel is at the intersection of the pushback line and centreline of Taxilane L5. The aircraft may breakaway from there. | Pushback approved, to face North or South on Taxilane L5. |
| G14, G15 | The aircraft (on idle thrust) shall be pushed back onto Taxilane L5 to<br>• face North until its nosewheel is at the intersection of the pushback line and centreline of Taxilane L5. The aircraft may breakaway from there.<br>OR<br>• face South until its nosewheel is at the intersection of the pushback line and centreline of Taxilane L5. The aircraft shall then be towed forward along the centreline of Taxilane L5 until its nosewheel is at the "EOT-G14, G15" position behind aircraft stand G14. The aircraft may breakaway from there. | Pushback approved, to face North on Taxilane L5.<br>Pushback approved, to face South on Taxilane L5. |
| G16, G17 | The aircraft (on idle thrust) shall be pushed back onto Taxilane L5 to face North until its nose is behind the stopbar behind aircraft stand G15. The aircraft may breakaway from there. | Pushback approved, to face North on Taxilane L5. |
| G18, G18L, G18R, G19, G19L, G19R | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane L4 centreline to face East until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane L4 centreline. The aircraft may breakaway from there. | Standard pushback approved. |
| G20, G20L, G20R | The aircraft (on idle thrust) shall be pushed back onto Taxilane L4 centreline to face East until its nosewheel is at the intersection of the aircraft stand pushback line and centreline of Taxilane L4. The aircraft may breakaway from there. | Pushback approved, to face East on Taxilane L4. |
| G21, G21R | The aircraft (on idle thrust) shall be pushed back to face East until its nosewheel is at the "EOP" position. The aircraft shall then be towed forward until its nosewheel is at the "EOT" position on Taxilane L4 centreline. The aircraft may breakaway from there. | Standard pushback approved. |


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|---|---|---|
| G21L | The aircraft (on idle thrust) shall be pushed back onto Taxilane L4 centreline to face East until its nosewheel is at the intersection of the aircraft stand pushback line and centreline of Taxilane L4. The aircraft shall then be towed forward along the centreline of Taxilane L4 until its nosewheel is at the "EOT" position. The aircraft may breakaway from there. | Pushback approved, to face East on Taxilane L4. |
| ← **EAST REMOTE** | | |
| 200 | The aircraft (on idle thrust) shall be pushed back:<br>• onto Taxilane C6 to face North until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane C6 centreline. The aircraft shall then be towed forward until its nosewheel is at the intersection of aircraft stand 201 lead-in line and Taxilane C6 centreline. The aircraft may breakaway from there.<br>OR<br>• onto Taxilane C6 to face South until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane C6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North.<br>Pushback approved, to face South. |
| 200L | The aircraft (on idle thrust) shall be pushed back:<br>• following the pushback line onto Taxilane C6 to face North until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane C6 centreline. The aircraft shall then be towed forward until its nosewheel is abeam aircraft stand 200. The aircraft may breakaway from there.<br>OR<br>• following the pushback line onto Taxilane C6 to face South until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane C6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North.<br>Pushback approved, to face South. |
| 200R | The aircraft (on idle thrust) shall be pushed back following the pushback line onto Taxilane C6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane C6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |
| 201 | The aircraft (on idle thrust) shall be pushed back onto Taxilane C6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane C6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |
| 202 | The aircraft (on idle thrust) shall be pushed back:<br>• onto Taxilane C6 to face North until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane C6 centreline. The aircraft may breakaway from there.<br>OR<br>• onto Taxilane C6 to face South until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane C6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North.<br>Pushback approved, to face South. |
| 202L, 202R | The aircraft (on idle thrust) shall be pushed back onto Taxilane C6 to face North (or South) until its nosewheel is at the intersection of the aircraft stand pushback line and Taxilane C6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |

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| APRON/ ACFT STANDS | PUSHBACK PROCEDURES | PHRASEOLOGY USED BY SINGAPORE GROUND |
|---|---|---|
| 203 | The aircraft (on idle thrust) shall be pushed back:<br>• onto Taxilane C6 to face North until the nose of the aircraft is behind the stopbar behind aircraft stand 203. The aircraft may breakaway from there.<br>OR<br>• onto Taxilane C6 to face South until its nosewheel is at the intersection of the aircraft stand lead-in line and Taxilane C6 centreline. The aircraft may breakaway from there. | Pushback approved, to face North.<br><br>Pushback approved, to face South. |
| **SOUTH-EAST REMOTE** | | |
| 205 | The aircraft (on idle thrust) shall be pushed back:<br>• onto TWY C7 to face North until its nosewheel is at the intersection of the aircraft stand lead-in line and TWY C7 centreline. The aircraft shall then be towed forward until its nosewheel is at the intersection of aircraft stand 206 lead-in line and TWY C7 centreline. The aircraft may breakaway from there.<br>OR<br>• onto TWY C7 to face South until its nosewheel is at the intersection of the aircraft stand lead-in line and TWY C7 centreline. The aircraft may breakaway from there. | Pushback approved, to face North.<br><br>Pushback approved, to face South. |
| 206, 207, 208 | The aircraft (on idle thrust) shall be pushed back onto TWY C7 to face North (or South) until its nosewheel is at the intersection of the aircraft stand lead-in line and TWY C7 centreline. The aircraft may breakaway from there. | Pushback approved, to face North (or South). |
| 209 | The aircraft (on idle thrust) shall be pushed back:<br>• onto TWY C7 to face North until its nosewheel is at the intersection of the aircraft stand lead-in line and TWY C7 centreline. The aircraft may breakaway from there.<br>OR<br>• onto TWY C7 to face South until its nosewheel is at the intersection of the aircraft stand lead-in line and TWY C7 centreline. The aircraft shall then be towed forward until its nosewheel is at the intersection of aircraft stand 208 lead-in line and TWY C7 centreline. The aircraft may breakaway from there. | Pushback approved, to face North.<br><br>Pushback approved, to face South. |
| **NORTH REMOTE** | | |
| 300 | The aircraft (on idle thrust) shall be pushed back:<br>• onto TWY NC2 to face East until its nosewheel is at the intersection of the aircraft stand lead-in line and TWY NC2 centreline. The aircraft shall then be towed forward until its nosewheel is at the intersection of aircraft stand 301 lead-in line and TWY NC2 centreline. The aircraft may breakaway from there.<br>OR<br>• onto TWY NC2 to face West until its nosewheel is at the intersection of the aircraft stand lead-in line and TWY NC2 centreline. The aircraft may breakaway from there. | Pushback approved, to face East.<br><br>Pushback approved, to face West. |
| 301 | The aircraft (on idle thrust) shall be pushed back onto TWY NC2 to face East (or West) until its nosewheel is at the intersection of the aircraft stand lead-in line and TWY NC2 centreline. The aircraft may breakaway from there. | Pushback approved, to face East (or West). |


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| Slope of RWY-SWY Transverse / Longitudinal | SWY Dimensions (m) | CWY Dimensions (m) | STRIP dimensions (m) | OFZ | Remarks |
|---|---|---|---|---|---|
| 7 | 8 | 9 | 10 | 11 | 12 |
| RWY 02L<br>0.76 / 0.24% | 60 X 60 | 270 X 150 | 4240 X 300 | Yes | Scheduled closure of runways (see below) |
| RWY 20R<br>1.45 / 0.25% | 60 X 60 | 270 X 150 | 4240 X 300 | | |
| RWY 02C<br>1.50 / 0.03% | 60 X 60 | 60 X 150 | 4240 X 300 | | |
| RWY 20C<br>1.38 / 0.07% | 60 X 60 | 60 X 150 | 4240 X 300 | | |

| Remarks (continued from above) | |
|---|---|
| **Scheduled Closure of RWY 02L/20R** | |
| 1a) | BTN 1630-2200 on every MON and THU of the month (*preventive maintenance work*).<br>In the event of an emergency, RWY will be re-opened within 30 minutes. |
| 1b) | BTN 0225-0240 0630-0635 1000-1005 2300-2305 daily (*inspection*).<br>In the event of an emergency, RWY will be re-opened within 5 minutes. |
| **Scheduled Closure of RWY 02C/20C** | |
| 2a) | BTN 1630-2200 on every first, second and fourth WED of the month (*preventive maintenance work*).<br>In the event of an emergency, RWY will be re-opened within 30 minutes. |
| 2b) | BTN 0300-0315 0650-0655 1020-1025 2320-2325 daily (*inspection*).<br>In the event of emergency, RWY will be re-opened within 5 minutes. |

## WSSS AD 2.13 DECLARED DISTANCES

| RWY Designator | Intersection Departures | TORA (m) | TODA (m) | ASDA (m) | LDA (m) | Remarks |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20R | Not applicable | 4000 | 4270 | 4060 | 3260 | Thr displaced by 740m southwards |
| | W2 | 3850 | 4120 | 3910 | Not applicable | |
| | W3 | 3050 | 3320 | 3110 | Not applicable | |
| | W4 | 2600 | 2870 | 2660 | Not applicable | |
| | W5 | 2150 | 2420 | 2210 | Not applicable | |
| 02L | Not applicable | 4000 | 4270 | 4060 | 4000 | Nil |
| | W8 | 3850 | 4120 | 3910 | Not applicable | |
| | W7 | 3050 | 3320 | 3110 | Not applicable | |
| | W6 | 2600 | 2870 | 2660 | Not applicable | |
| 20C | Not applicable | 4000 | 4060 | 4060 | 4000 | Nil |
| | E2 | 3850 | 3910 | 3910 | Not applicable | |
| | E3 | 3425 | 3485 | 3485 | Not applicable | |
| | E4 | 2750 | 2810 | 2810 | Not applicable | |
| | E5 | 2250 | 2310 | 2310 | Not applicable | |
| 02C | Not applicable | 4000 | 4060 | 4060 | 4000 | Nil |
| | E10 | 3850 | 3910 | 3910 | Not applicable | |
| | E9 | 3345 | 3405 | 3405 | Not applicable | |
| | E8 | 3205 | 3265 | 3265 | Not applicable | |
| | E7 | 2555 | 2615 | 2615 | Not applicable | |
| | E6 | 2105 | 2165 | 2165 | Not applicable | |

Note: Intersection departures are allowed subject to the following:

a. initiated by pilot and approved by ATC, traffic permitting.
b. ATC is able to keep aircraft visual at all times

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# WSSS AD 2.14 APPROACH AND RUNWAY LIGHTING

| *RWY* | *APCH LGT Type, LEN, Intensity* | *THR LGT colour WBAR* | *PAPI (MEHT)* | *TDZ LGT LEN* | *RWY Centreline LGT, LEN, spacing, colour, INTST* | *RWY Edge LGT, LEN, spacing, colour, INTST* | *RWY End LGT colour* | *SWY LGT colour* |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| **02L** | CAT II<br>High Intensity approach lighting (900m) consisting of extended centreline and Red row barrettes,<br>2 crossbars,<br>2 approach beacons and sequenced flashing lights. | Green supplemented by Green wing-bar and 2 THR ident lights. | PAPI 003° located either side of RWY, 422m behind RWY THR.<br>2 White LGT and 2 Red LGT (20.0m),<br>3 White LGT and 1 Red LGT (24.0m),<br>4 White LGT (26.4m).<br>ACFT with eye-to-wheel height greater than 8m are advised to fly with 2 White and 2 Red LGT visible so as to achieve sufficient wheel clearance. | White | Inset High Intensity centreline lights as follow:<br>From THR to 900m from RWY end: White,<br>300m to 900m from RWY end: ALTN Red/ White,<br>300m to RWY end: Red. | Bi-directional raised White/Amber edge lights. | Red | Elevated Red |
| **20R** | CAT I<br>High Intensity approach lighting (900m) distance coded centreline lights showing variable White and crossbars at 150m, 300m, 450m, 600m and 750m. | Green supplemented by Green wing-bar and 2 THR ident lights. | PAPI 003° located either side of RWY, 410m from THR.<br>2 White LGT and 2 Red LGT (20.0m),<br>3 White LGT and 1 Red LGT (22.6m),<br>4 White LGT (25.0m).<br>ACFT with eye-to-wheel height greater than 8m are advised to fly with 2 White and 2 Red LGT visible so as to achieve sufficient wheel clearance. | Nil | Inset High Intensity centreline lights as follow:<br>From THR to 900m from RWY end: White,<br>300m to 900m from RWY end: ALTN Red/ White,<br>300m to RWY end: Red. | Red RWY edge lights in the direction of Rwy 20R before the displaced THR.<br>Bi-directional raised White/Amber edge lights after the displaced THR. | Red | Elevated Red |
| **02C** | CAT I<br>High Intensity reduced approach lighting (810m) consisting of centreline barrettes showing variable White,<br>1 crossbar,<br>2 approach beacons and sequenced flashing lights. | Green supplemented by Green wing-bar and 2 THR ident lights. | PAPI 003° located either side of RWY, 418m from THR.<br>2 White LGT and 2 Red LGT (19.8m),<br>3 White LGT and 1 Red LGT (23.7m),<br>4 White LGT (26.2m).<br>ACFT with eye-to-wheel height greater than 8m are advised to fly with 2 White and 2 Red LGT visible so as to achieve sufficient wheel clearance. | Nil | Inset High Intensity centreline lights as follow:<br>From THR to 900m from RWY end: White,<br>300m to 900m from RWY end: ALTN Red/ White,<br>300m to RWY end: Red. | Bi-directional raised White/Amber edge lights. | Red | Elevated Red |


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## 17 TAKE-OFF AND LANDING

17.1 Departing aircraft will normally be directed by ATC to use the full length of the runway for take-off. On obtaining an ATC clearance the aircraft shall enter the runway via designated taxiways:

RWY 02C - TWY E10 or E11

RWY 02L - TWY W8, W9 or W10

RWY 20C - TWY E1, E2

RWY 20R - TWY W1, W2

17.2 The pilot-in-command shall not take-off or land without a clearance from Aerodrome Control.

17.3 The pilot-in-command shall not run-up on the runway in use unless authorised by Aerodrome Control. Engine run-ups in the holding pan or taxiway holding point clear of the runway in use may be carried out subject to approval by Aerodrome Control.

17.4 After landing, the pilot-in-command shall vacate the runway by the shortest suitable route and to contact Singapore Ground Movement Control who will issue specific taxi route instructions to its assigned aircraft stand.

17.5 Aircraft with radio communication failure shall vacate the runway and stop on the taxiway and watch for light signals from Aerodrome Control.

## 18 $RNAV_{(GNSS)}$ SIDs and STARs

### *18.1 INTRODUCTION*

18.1.1 The $RNAV_{(GNSS)}$ SIDs and STARs are designed in accordance with the ICAO $RNAV_{(GNSS)}$ Departure and Arrival criteria as stipulated in the ICAO PANS-OPS (Doc 8168) Volume II.

18.1.2 For $RNAV_{(GNSS)}$ SIDs and STARs operations, the aircraft shall be GNSS-equipped and the navigation systems shall meet ICAO RNP-1 standard of accuracy, or equivalent, such as JAA TGL 10 or FAA AC 90-96A Appendix 2 - Precision Area Navigation (P-RNAV).

18.1.3 To avoid proliferation of SIDs and STARs, the basic RNAV SIDs and STARs have been modified to follow similar tracks as the $RNAV_{(GNSS)}$ SIDs and STARs using the same set of SIDs and STARs identification.

18.1.4 Operators/pilots who are not approved to fly the $RNAV_{(GNSS)}$ SIDs and STARs shall fly the alternate basic RNAV SIDs and STARs or expect radar vectors from ATC.

### *18.2 ARRIVALS*

18.2.1 STARs are presented in diagrammatic and textual format on a chart which comprises two main elements:

a. A TRANSITION route; and
b. An ARRIVAL route.

18.2.2 A TRANSITION starts at a waypoint on the ATS route and then requires VOR/DME or RNAV tracking to position the aircraft for the ARRIVAL route.

18.2.3 All arriving aircraft are required to follow the appropriate TRANSITION and ARRIVAL routes. The TRANSITION routes are as follows:

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| ATS Route | Transition | Transition Route | RNAV STAR |
|---|---|---|---|
| A464 (southbound to Singapore) | ARAMA | ARAMA-BOBAG | BOBAG ARRIVAL |
| A576(southbound to Singapore) | REKOP | REKOP - BOBAG | |
| R469 | No transition | No transition | |
| B469 (southbound to Singapore) | BIKTA | BIKTA - PIBAP - PASPU | PASPU ARRIVAL |
| L642 | VEPLI | VEPLI - VINIL - PIBAP - PASPU | |
| N892 | MABAL | MABAL - KILOT - VINIL - PIBAP - PASPU | |
| G579 | No transition | No transition | REMES ARRIVAL |
| L504 | OBDOS | OBDOS-IKAGO-IKIMA-IBULA-LAVAX | LAVAX ARRIVAL |
| M635 | SURGA | SURGA-IKAGO-IKIMA-IBULA-LAVAX | |
| M774 | OBDOS | OBDOS-IKAGO-IKIMA-IBULA-LAVAX | |
| M767 / G580<br>M646 / G580<br>G580 | TOMAN | TOMAN-KARTO-KEXAS-LAVAX | |
| Note: Aircraft landing at Singapore Changi Airport operating on N891, M753 and L642 shall flight plan only on L642 after ENREP | | | |

18.2.4 Additional elements on the STAR chart include the following:

a. *Vertical restrictions*, designed to contain aircraft in controlled airspace and to separate aircraft from obstacles and to avoid, to the degree possible, conflict with departing traffic.
b. *Speed restrictions*, designed for flow control purposes.
c. *Minimum safe altitude (MSA)* within 25NM of VTK and SJ DVOR/DME. The MSA provides a minimum of 1000ft vertical clearance within 5NM of any obstacle.

18.2.5 Arrivals to Singapore Changi Airport can expect radar vectors to intercept the localizer for an ILS approach after the initial approach fix on the RNAV STARs.

18.2.6 STARs shall be issued by ATC in the following order:

a. ARRIVAL identifier;
b. TRANSITION identifier;
c. Runway-in-use;
d. An assigned level

Example:

<Callsign>cleared to Singapore via PASPU 1A ARRIVAL, VEPLI TRANSITION, Runway 02, maintain / descend to flight level one five zero.

## *18.3 DEPARTURES*

18.3.1 All departing aircraft will be cleared on the appropriate $RNAV_{(GNSS)}$ SID and shall climb initially to 3,000ft.

18.3.2 Operators are to note that $RNAV_{(GNSS)}$ SIDs VENPA 1A and VENPA 1B will be assigned to departures from Singapore Changi Airport that flight plan to destinations south of Singapore on ATS routes L504, M635 and M774.

The TRANSITION routes are:

| ATS Route | Transition | Transition Route | RNAV SID |
|---|---|---|---|
| L504 | BAVUS | VENPA - ATKAX - BAVUS | VENPA DEPARTURE |
| M635 | SURGA | VENPA - VENIX - SURGA | VENPA DEPARTURE |
| ← M753 | No transition | - | MERSING DEPARTURE |
| ← M771 | No transition | - | MERSING DEPARTURE |
| M774 | KADAR | VENPA - ATKAX -KADAR | VENPA DEPARTURE |
| N884 | Not available for flight planning between VMR and LUSMO. Flight plan via TOMAN L625 LUSMO | | TOMAN DEPARTURE |


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# 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 6F ..... AD-2-WSSS-SID-1 to 1.1
RNAV$_{(GNSS)}$ SID - RWY 02C/20C - ANITO 6A / ANITO 6B ..... AD-2-WSSS-SID-2 to 2.1
RNAV$_{(GNSS)}$ SID - RWY 02L/20R - ADMIM 1E / ADMIM 2F ..... AD-2-WSSS-SID-3 to 3.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - ADMIM 1A / ADMIM 2B ..... AD-2-WSSS-SID-4 to 4.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - TOMAN 2E / TOMAN 3F ..... AD-2-WSSS-SID-5 to 5.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - TOMAN 2A / TOMAN 3B ..... AD-2-WSSS-SID-6 to 6.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - BAVUS 1E / BAVUS 2F ..... AD-2-WSSS-SID-7 to 7.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - BAVUS 1A / BAVUS 2B ..... AD-2-WSSS-SID-8 to 8.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - AROSO 2E / AROSO 3F ..... AD-2-WSSS-SID-9 to 9.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - MASBO 2E / MASBO 3F ..... AD-2-WSSS-SID-10 to 10.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - AROSO 2A / AROSO 3B ..... AD-2-WSSS-SID-11 to 11.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - MASBO 2A / MASBO 3B ..... AD-2-WSSS-SID-12 to 12.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - MERSING 5E / MERSING 7F ..... AD-2-WSSS-SID-13 to 13.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - MERSING 5A / MERSING 7B ..... AD-2-WSSS-SID-14 to 14.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - VENIX 1A / VENIX 2B ..... AD-2-WSSS-SID-15 to 15.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - VENIX 1E / VENIX 2F ..... AD-2-WSSS-SID-16 to 16.1
RNAV $_{(GNSS)}$ SID - RWY 02C/20C - KADAR 1A / KADAR 2B ..... AD-2-WSSS-SID-17 to 17.1
RNAV $_{(GNSS)}$ SID - RWY 02L/20R - KADAR 1E / KADAR 2F ..... 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

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# 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 |

# 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 56.26N 103 58 38.83E | 10.29m | PCN 72/F/B/W/U |
| 20R (DISP THR) | 203° | 01 22 33.95N 103 59 20.06E | 10.29m | |
| 02C | 023° | 01 19 43.51N 103 59 05.86E | 10.28m | |
| 20C | 203° | 01 21 43.37N 103 59 56.46E | 10.28m | |

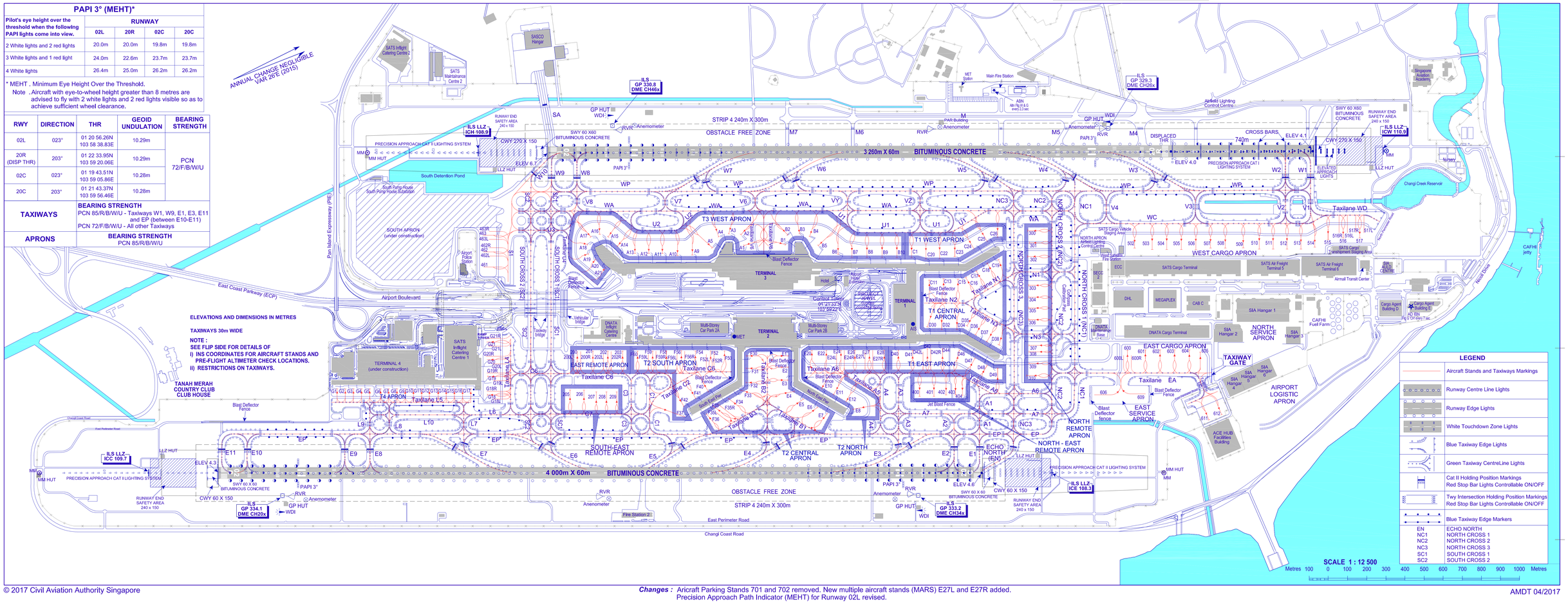
| | |
|---|---|
| TAXIWAYS | BEARING STRENGTH PCN 85/R/B/W/U - Taxiways W1, W9, E1, E3, E11 and EP (between E10-E11) PCN 72/F/B/W/U - All other Taxiways |
| APRONS | BEARING STRENGTH PCN 85/R/B/W/U |

ANNUAL CHANGE NEGLIGIBLE VAR 26°E (2015)

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.**




**LEGEND**

| | |
|---|---|
| | Aircraft Stands and Taxiways Markings |
| | Runway Centre Line Lights |
| | Runway Edge Lights |
| | White Touchdown Zone Lights |
| | Blue Taxiway Edge Lights |
| | Green Taxiway CentreLine Lights |
| | Cat II Holding Position Markings<br>Red Stop Bar Lights Controllable ON/OFF |
| | Twy Intersection Holding Position Markings<br>Red Stop Bar Lights Controllable ON/OFF |
| | Blue Taxiway Edge Markers |

| | |
|---|---|
| EN | ECHO NORTH |
| NC1 | NORTH CROSS 1 |
| NC2 | NORTH CROSS 2 |
| NC3 | NORTH CROSS 3 |
| SC1 | SOUTH CROSS 1 |
| SC2 | SOUTH CROSS 2 |

SCALE 1 : 12 500

Metres 100 0 100 200 300 400 500 600 700 800 900 1000 Metres

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***Changes :*** Aricraft Parking Stands 701 and 702 removed. New multiple aircraft stands (MARS) E27L and E27R added.
Precision Approach Path Indicator (MEHT) for Runway 02L revised.

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

| LOCATION | STAND NR | NORTH LAT | EAST LONG | ELEVATION |
|---|---|---|---|---|
| T3 WEST 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 53.63 | 103 59 26.42 | 4.91m (16.11ft) |
| | 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 | 5.07m (16.63ft) |
| | 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 | 5.08m (16.67ft) |
| | E26 | 01 21 31.19 | 103 59 29.96 | 5.08m (16.67ft) |
| → | E27 | 01 21 33.56 | 103 59 30.96 | 5.07m (16.62ft) |
| → | E27L | 01 21 32.79 | 103 59 30.86 | 5.03m (16.48ft) |
| → | E27R | 01 21 34.20 | 103 59 30.91 | 5.12m (16.80ft) |
| | E28 | 01 21 35.74 | 103 59 31.89 | 5.08m (16.67ft) |

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

| LOCATION | STAND NR | NORTH LAT | EAST LONG | ELEVATION |
|---|---|---|---|---|
| T2 CENTRAL APRON | 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 | 5.92m (19.42ft) |
| | 462 | 01 20 40.89 | 103 58 50.37 | 5.92m (19.42ft) |
| | 462L | 01 20 40.41 | 103 58 51.02 | 5.92m (19.42ft) |
| | 462R | 01 20 40.97 | 103 58 49.71 | 5.92m (19.42ft) |
| | 463 | 01 20 41.80 | 103 58 47.76 | 5.92m (19.42ft) |
| | 463L | 01 20 41.52 | 103 58 48.42 | 5.92m (19.42ft) |
| | 463R | 01 20 42.06 | 103 58 47.17 | 5.92m (19.42ft) |
| 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) |

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## 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.

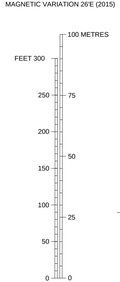
TOTAL AIRCRAFT PARKING POSITIONS : 203

DIMENSIONS AND ELEVATIONS IN METRES

# AERODROME OBSTACLE CHART - ICAO
# TYPE A (OPERATING LIMITATIONS)

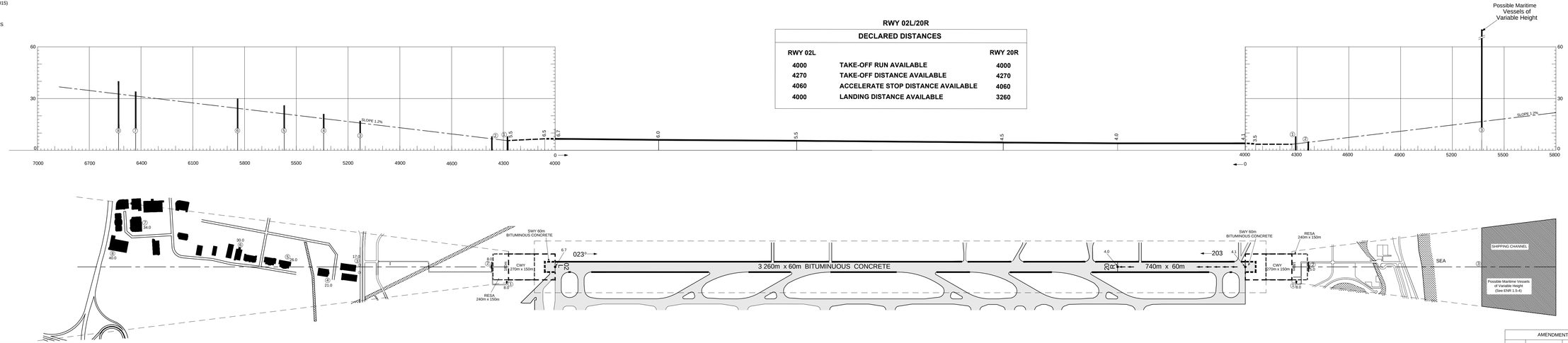
SINGAPORE/Singapore Changi

MAGNETIC VARIATION 26°E (2015)




## RWY 02L/20R

| DECLARED DISTANCES | | |
|---|---|---|
| RWY 02L | | RWY 20R |
| 4000 | TAKE-OFF RUN AVAILABLE | 4000 |
| 4270 | TAKE-OFF DISTANCE AVAILABLE | 4270 |
| 4060 | ACCELERATE STOP DISTANCE AVAILABLE | 4060 |
| 4000 | LANDING DISTANCE AVAILABLE | 3260 |




## LEGEND

| | |
|---|---|
| LOCALISER ANTENNA | |
| BUILDING | |
| IDENTIFICATION NUMBER | ① |
| LAMP POST | ☼ |
| ROAD | |

HORIZONTAL SCALE 1:10,000

ORDER OF ACCURACY
HORIZONTAL : ±1m
VERTICAL : ±1m

| AMENDMENT RECORD | | |
|---|---|---|
| NO. | DATE | ENTERED BY |
| | | |

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CHANGES : Runway End Safety Areas at end of RWY 02L/20R revised.
Distance for departure RWY 02L to the shipping channel north of Changi revised.

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# 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:<br>CHANGI AIRPORTGROUP (S) PTE LTD SELETAR AIRPORT<br>BUILDING 556, WEST CAMP<br>SINGAPORE 797794<br><br>TEL: (65)64810017, Fax: (65)64811190 (Airport Manager)<br>TEL: (65)64812909, Fax: (65)64833044 (AIS)<br>TEL: (65)64812893, Fax: (65)64831656 (Control Tower)<br>TEL: (65)64815077, 97533361<br>FAX: (65)64831754 (Airside Operations Unit)<br><br>AFS: WSSLYDYX |
| 7 | *Types of Traffic Permitted* | IFR and VFR |
| 8 | *Remarks* | a. Scheduled Closure Periods for RWY 03/21: see AIP page WSSL AD 2-5.<br><br>b. PPR for aircraft not equipped with RTF.<br><br>c. 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.<br><br>d. Direct transit area. Overnight transit in Singapore city.<br><br>e. 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 |

## 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 |

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## 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;<br>SAT, SUN and Public holidays BTN 0030-0930<br>Contact during operating hours:<br>TEL: (65)68538320 (Operations Room)<br>Contact after operating hours:<br>TEL: (65)91130816 (H24 Operations Mobile)<br>FAX: (65)64839246<br>Group email:<br>GX-SAV-Seletar-Operations24by7@shell.com<br>PPP link:<br>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* | Nil |
| 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* | Nil |

## 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.<br>Contact Seletar Airside Operations at:<br>+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 |


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# WSSL AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA

| | | |
|---|---|---|
| 1 | *Apron surface and strength* | Surface: Bituminous concrete (aircraft stand C7)<br>Strength: PCN44/F/C/X/T<br>Surface: Concrete (all other aircraft stands)<br>Strength: PCN41/R/C/W/T |
| 2 | *Taxiway width, surface and strength* | Width: 23 M (75.5ft), 18 M (59.1ft)TWY EC4, EC5 AND EC6<br>8 M (26.2ft) TWY WS1 and WS2<br>Surface: Bituminous concrete<br>Strength: PCN44/F/C/X/T |
| 3 | *Remarks : Nil* | |

# WSSL AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

| | | |
|---|---|---|
| | **SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS** | |
| 1 | *Use of aircraft stand ID signs, TWY guidelines and visual docking/parking guidance system of aircraft stands* | Taxiing guidance signs at all intersections with TWY and RWY at all holding positions. Guidelines at apron. Nose-in guidance at aircraft stands. |
| 2 | *RWY and TWY markings and LGT* | RWY LGT:<br>refer to page WSSL AD 2-5 for details.<br>RWY Turn Pad LGT / Markings: Only AVBL at THR RWY 03.<br>Yellow turnpad centreline.<br><br>TWY LGT:<br>TWY Edge LGT: Blue LGT, inset, elevated and omni-directional.<br>TWY markings: Yellow TWY centreline.<br><br>MARKING AIDS:<br>Threshold, touchdown zone, centreline stripes and RWY designation.<br>RWY width outline from bituminous concrete surface by white lines.<br><br>AIMING POINT MARKINGS:<br>RWY 03: coincident with PAPI origin located 311.6m from THR respectively.<br>RWY 21: coincident with PAPI origin located 232.8m from THR respectively. |
| 3 | *Stop Bars* | Stop Bars: Red LGT across taxiways W1, W2, W3, E2, E3 and E4, flushed with TWY surface.<br>By default, red stop bar lights remain on unless deselected by the runway controller. When deselected, these stop bar lights will re-activate automatically after 45 seconds. Pilots shall not cross any lighted red stop bar lights.<br>Pilots and drivers shall enter / cross the runway only when **both** the following conditions are met:<br>The crew have<br>a) received positive ATC clearance to enter / cross the runway or taxiway, and<br>b) observed that the red stop bar lights are turned off.<br>Crash Alarm Stop Bars: Red LGT across junctions of EP, EC4 and EH2 TWY, flushed with TWY surface.<br>(Note to pilots and tow-crew: Slow down when taxiing / towing on TWY EP between TWY EC4 and abeam the Control Tower. Keep a lookout for emergency vehicles that may cross the taxiway to respond to emergency on the RWY.) |

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| SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS | | |
|---|---|---|
| 4 | Remarks | a. Aircraft operators/ground handlers shall be responsible for the safe and smooth operations of aircraft at the aircraft stands.<br><br>b. To enhance airside safety, all aircraft larger than Code A (i.e. up to but not including 15m wingspan) shall be marshalled into the aircraft stands.<br><br>c. Arriving aircraft will be assigned an aircraft stand. A ground handler shall marshall the aircraft into the aircraft stand.<br><br>d. A ground handler shall be at the aircraft stand when the aircraft is ready to depart. When the pilot signals that he is ready to taxi, the ground handler shall ensure that the area around the aircraft is clear before marshalling the aircraft out of the aircraft stand.<br><br>e. Only Code A aircraft, Code B aircraft, aircraft type Global Express, Global 5000, Global Express XRS, Fokker 50, Fokker 70, Fokker 100, Gulfstream 500, Gulfstream 550, ATR 42-500, ATR 42-600, ATR 72-500, DASH 7 and Falcon 7X are allowed to self-power out from aircraft stands C1, C2, C3, C4, C5 and C6.<br><br>f. Aircraft at stand C1 shall self-power out towards the north only.<br><br>g. Aircraft at stand C6 shall self-power towards the south only.<br><br>h. Aircraft at stands C2, C3, C4 and C5 are allowed to self-power out towards the south or the north.<br><br>i. Aircraft can self-power in from the north as well as the south via TWY WA.<br><br>j. All personnel, tow tugs and equipment shall be cleared from the aircraft stand and red chevron markings on the adjacent aircraft stands before self-power out can commence.<br><br>k. Aircraft with wingspan larger than 28.35m are not allowed to park at aircraft stand C7. Refuelling will not be allowed at aircraft stand C7.<br><br>l. Aircraft stands D50, D51, D52, D53 and D54 will be used for tow operations only. |


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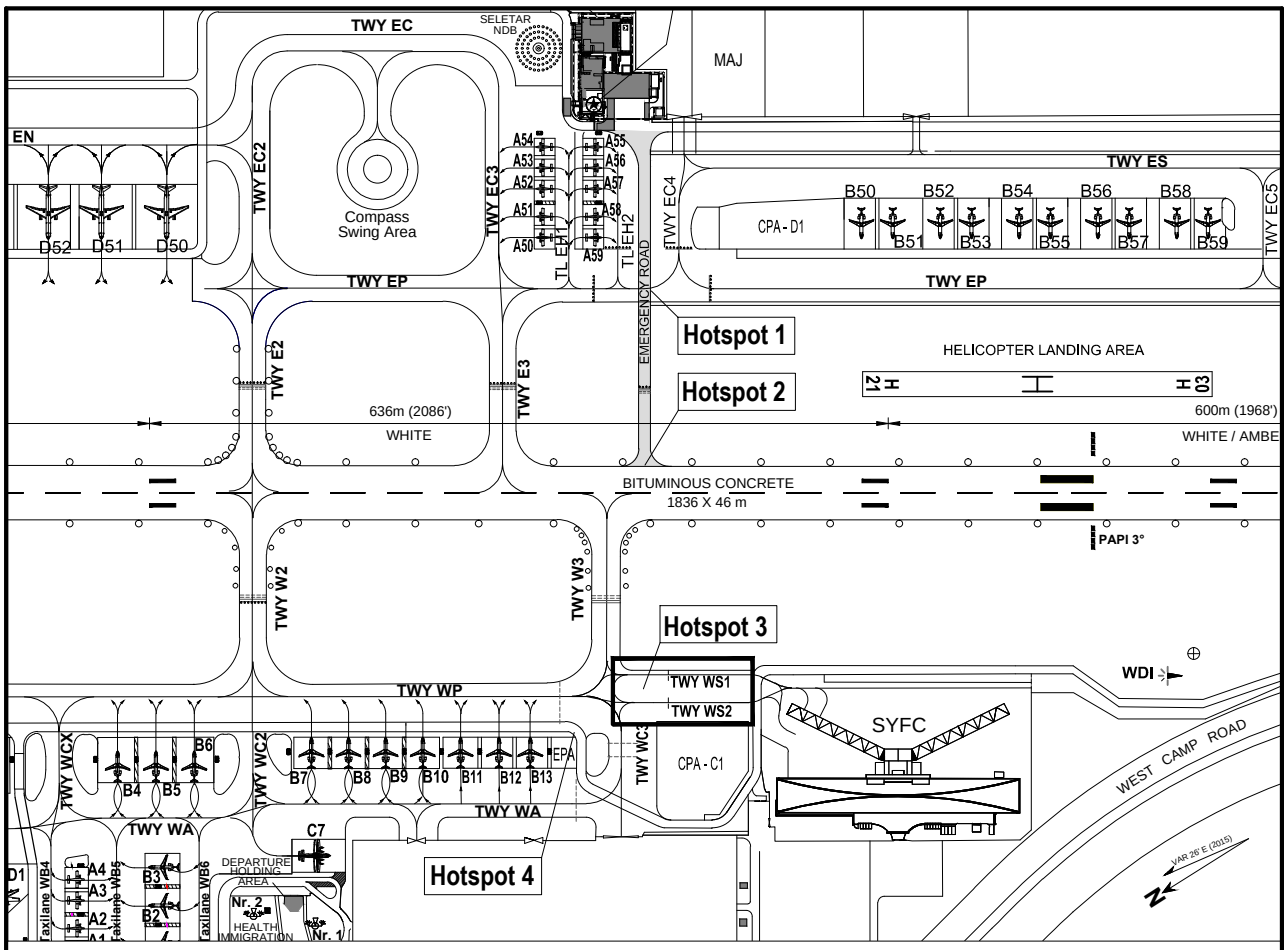
# AERODROME HOTSPOTS




## Hotspots

1) Emergency access road crossing TWY EP parallel to TWY EC4.
   Pilots and tow tug drivers to exercise caution. Stop Bar on both sides of emergency road will be lighted during emergency.

2) Emergency roadway South of TWY E3.
   Pilots on RWY to exercise caution and observe NO ENTRY marking. This is not a taxiway.

3) TWY WS1 & WS2.
   Available for Code A aircraft accessing SYFC Dispersal only.

4) Roadway R3A bends to the right after aircraft stand B13.
   Drivers travelling South to exercise caution. TWY WC3 ahead.

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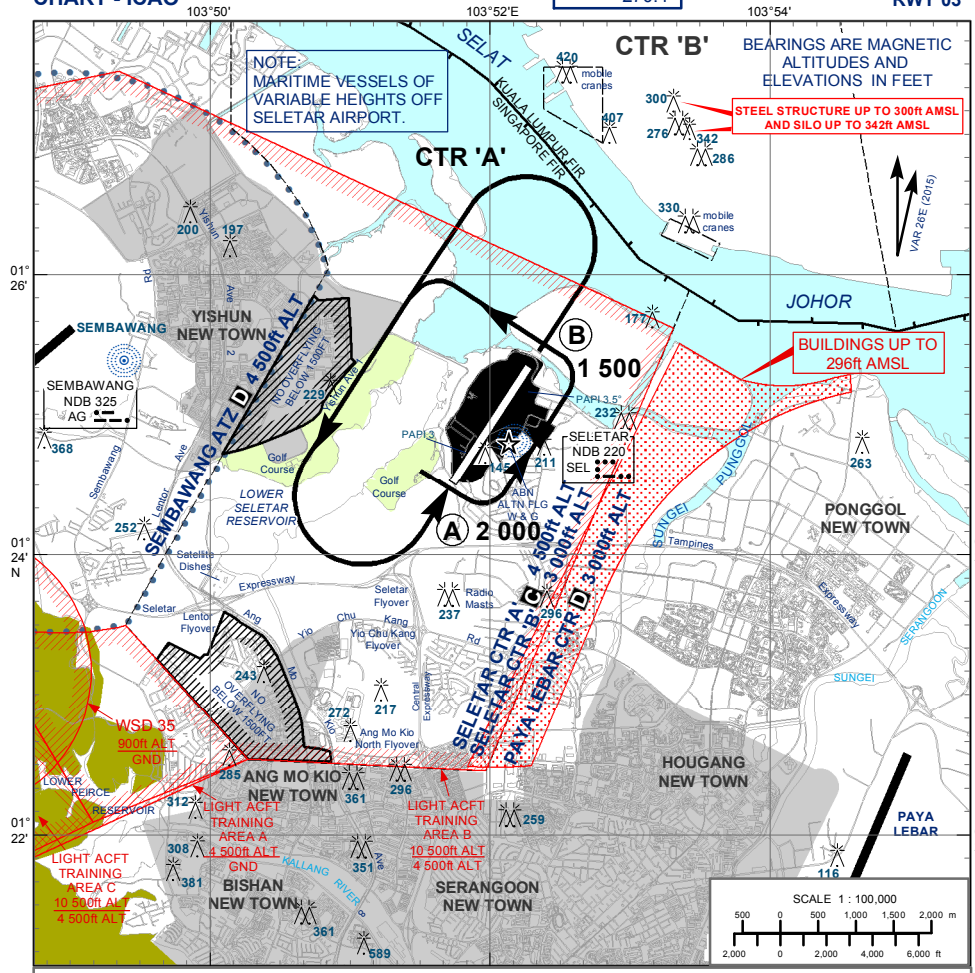
# VISUAL APPROACH CHART - ICAO

**AD ELEV 46 ft**

| | |
|---|---|
| APP | 120.3 |
| TWR | 118.45 |
| | 270.4 |

## SINGAPORE/SELETAR

**RWY 03**




### JOINING PROCEDURE - RWY 03

1) Join overhead at 2 000ft ALT or as cleared by ATC and at a speed of not more than 170kt.

2) When over Position A, join the circuit crossing the upwind end of the runway (Position B) at 1 500ft ALT or above or at the altitude cleared by ATC.

3) Joining aircraft shall give way to circuit traffic already on downwind.

**CAUTION**

a) Pilots are required to keep clear of Sembawang ATZ.

b) Pilots should not fly to the east of the runway.
This is to keep clear of tall buildings up to 296ft AMSL to the east of Seletar CTR.
(See area shaded in red).

Built-up residential areas - No overflying below 1 500ft.
Aircraft types which are unable to safely manoeuvre clear of the restricted areas are not allowed to operate at Seletar Airport.

| PAPI 3° | | |
|---|---|---|
| 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 (MEHT)* | 15.2m | 15.3m |
| 3 white lights and 1 red light | 17.1m | 16.6m |
| 4 white lights | 18.8m | 18.0m |

*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 and 2 red lights visible so as to achieve sufficient wheel clearance.

Note:
1) Pilots are to be advised of the steel structure 300ft AMSL and the Silo 342ft AMSL 2nm north of the airfield.
2) Pilots are required to keep their turns within Seletar Control Zone.
3) Pilots are required to keep clear of Sembawang CTR and Paya Lebar CTR.

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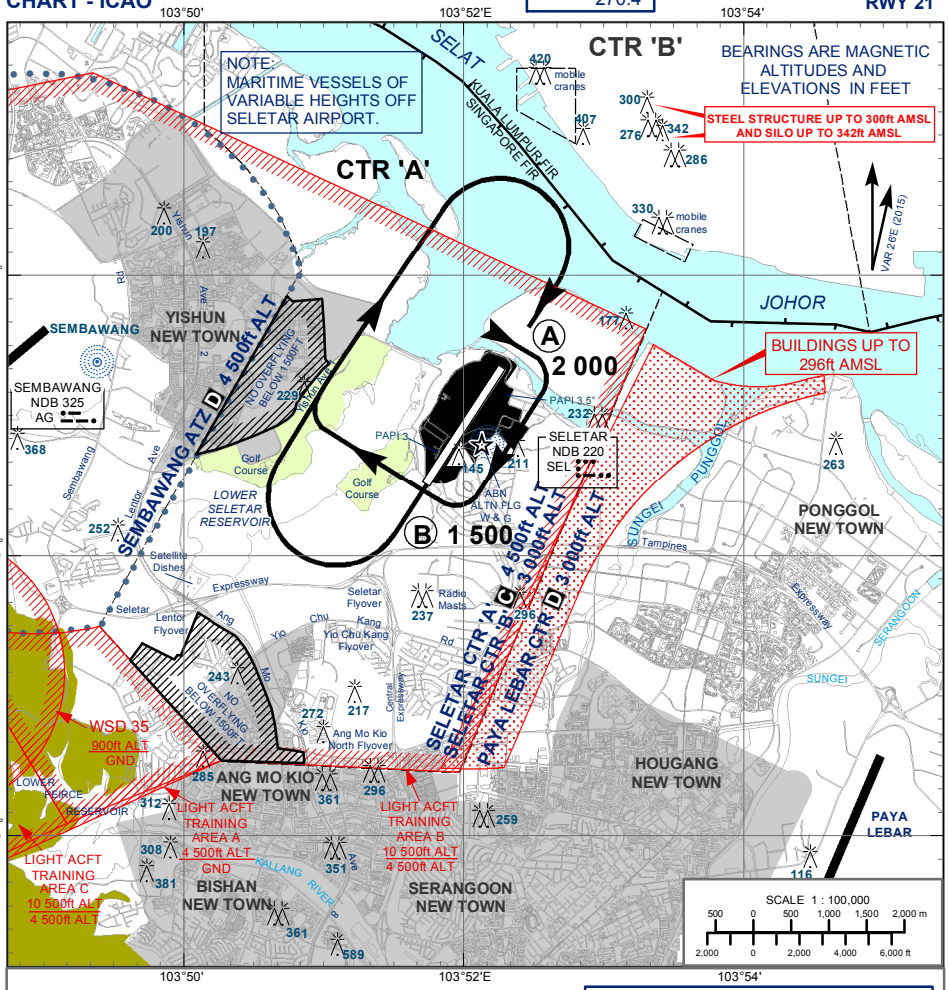
# VISUAL APPROACH CHART - ICAO

AD ELEV 46 ft

| | |
|---|---|
| APP | 120.3 |
| TWR | 118.45 |
| | 270.4 |

## SINGAPORE/SELETAR

RWY 21




## JOINING PROCEDURE - RWY 21

1) Join overhead at 2 000ft ALT or as cleared by ATC and at a speed of not more than 170kt.

2) When over Position A, join the circuit crossing the upwind end of the runway (Position B) at 1 500ft ALT or above or at the altitude cleared by ATC.

3) Joining aircraft shall give way to circuit traffic already on downwind.

**CAUTION**

a) Pilots are required to keep clear of Sembawang ATZ.

b) Pilots should not fly to the east of the runway.
This is to keep clear of tall buildings up to 296ft AMSL to the east of Seletar CTR.
(See area shaded in red).

Built-up residential areas - No overflying below 1 500ft.
Aircraft types which are unable to safely manoeuvre clear of the restricted areas are not allowed to operate at Seletar Airport.

| PAPI 3.5° | RUNWAY | |
|---|---|---|
| Pilot's eye height over the threshold when the following PAPI lights come into view | 03 | 21 |
| 2 white lights and 2 red lights (MEHT)* | 15.2m | 15.3m |
| 3 white lights and 1 red light | 17.1m | 16.6m |
| 4 white lights | 18.8m | 18.0m |

*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 and 2 red lights visible so as to achieve sufficient wheel clearance.

Note:
1) Pilots are to be advised of the steel structure 300ft AMSL and the Silo 342ft AMSL 2nm north of the airfield.
2) Pilots are required to keep their turns within Seletar Control Zone.
3) Pilots are required to keep clear of Sembawang CTR and Paya Lebar CTR.

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**INSTRUMENT APPROACH CHART**

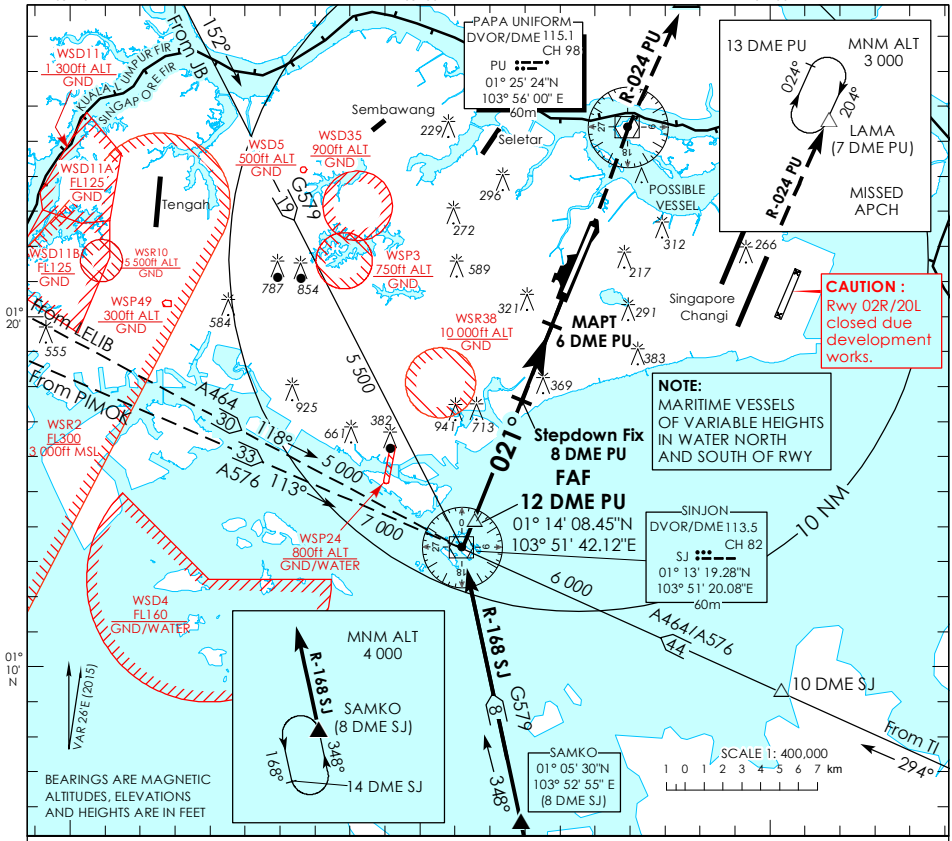
AERODROME ELEV 65ft
HEIGHT RELATED TO
THR RWY 02 - ELEV 43ft

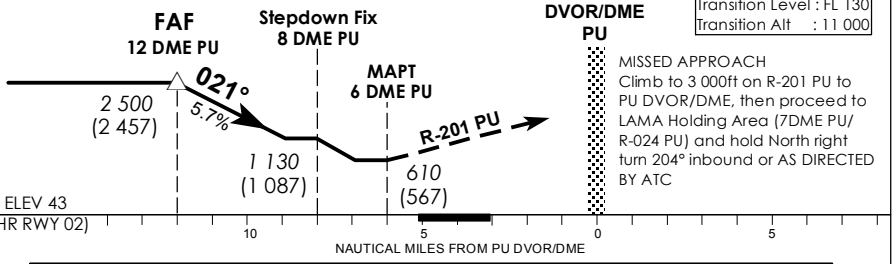
MSA 25 NM from SINJON DVOR

| | |
|---|---|
| APP | 120.3 |
| | 119.9 |
| TWR | 118.05 |

SINGAPORE/ PAYA LEBAR

**PU DVOR/DME RWY 02**




Transition Level : FL 130
Transition Alt : 11 000

MISSED APPROACH
Climb to 3 000ft on R-201 PU to PU DVOR/DME, then proceed to LAMA Holding Area (7DME PU/ R-024 PU) and hold North right turn 204° inbound or AS DIRECTED BY ATC

| OCA (OCH) | | | | |
|---|---|---|---|---|
| Category of Aircraft | A | B | C | D |
| Straight-in (with stepdown fix) | **610 (567)** | | | |
| Straight-in (without stepdown fix) | **1 130 (1 087)** | | | |

| Distance | 11 DME | 10 DME | 9 DME | 8 DME | 7 DME |
|---|---|---|---|---|---|
| Altitude (Height) | **2170 (2127)** | **1820 (1777)** | **1470 (1427)** | **1130 (1087)** | **780 (737)** |
| Speed | knots | 70 | 120 | 150 | 185 |
| FAF - MAPT 6nm | min : s | **5 : 09** | **3 : 00** | **2 : 24** | **1 : 57** |
| Rate of descent/GS | ft/min | **370** | **635** | **795** | **980** |

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***CHANGES :*** Position of WSR10 updated.

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**INSTRUMENT APPROACH CHART**

AERODROME ELEV 65ft
HEIGHT RELATED TO THR RWY 02 - ELEV 43ft
MSA 25 NM from PAPA UNIFORM DVOR

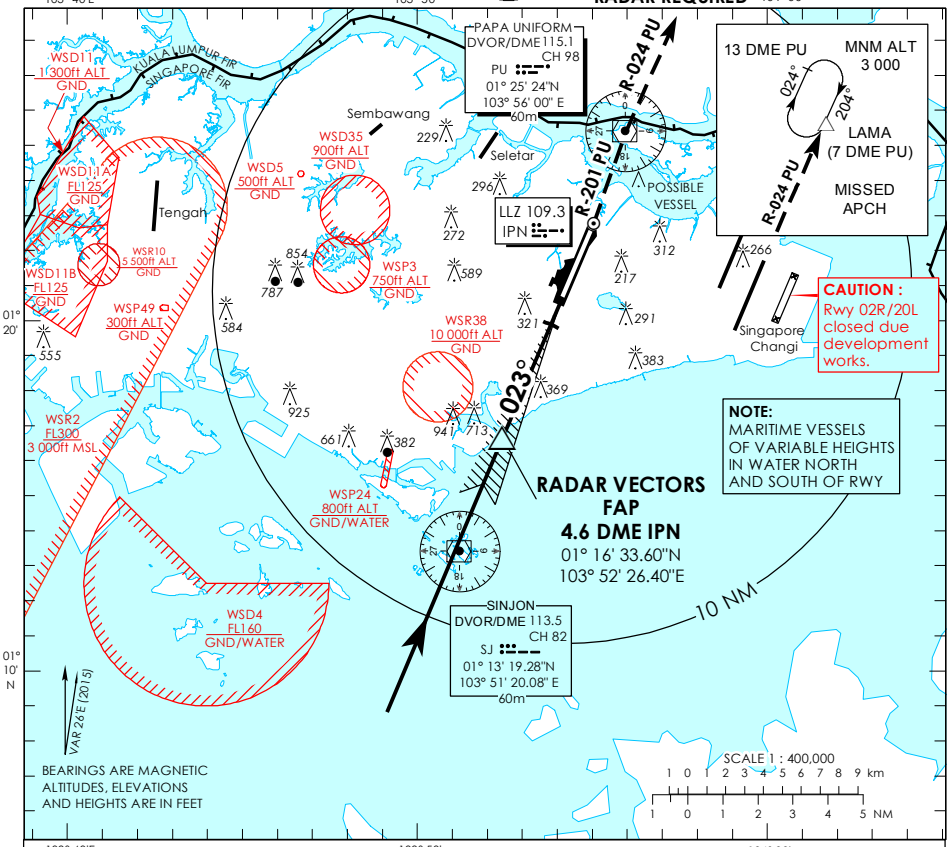
3400' 2900' 090°→ ←270° 2100'

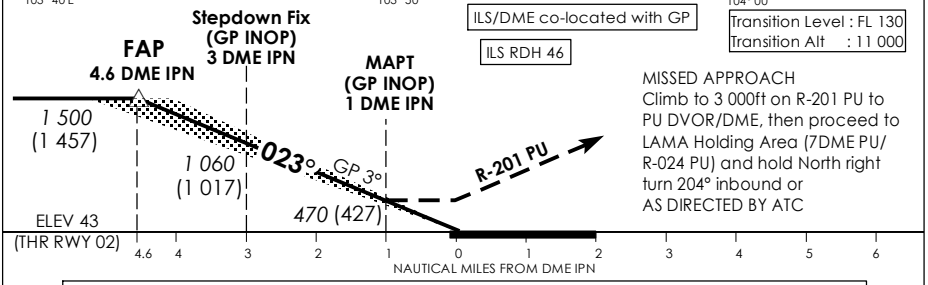
| | | |
|---|---|---|
| ATIS Paya Lebar | 148.9 | |
| Singapore APP | 120.3 | |
| Paya Lebar APP | 119.9 | 298.0 |
| Paya Lebar TWR | 118.05 | 263.1 |
| GND CON | 121.7 | 296.0 |

SINGAPORE/ PAYA LEBAR

**IPN ILS/DME RWY 02**

**RADAR REQUIRED**




ILS/DME co-located with GP

ILS RDH 46

Transition Level : FL 130
Transition Alt : 11 000

MISSED APPROACH
Climb to 3 000ft on R-201 PU to PU DVOR/DME, then proceed to LAMA Holding Area (7DME PU/ R-024 PU) and hold North right turn 204° inbound or AS DIRECTED BY ATC

| OCA (OCH) | | | | | |
|---|---|---|---|---|---|
| Category of Aircraft | | A | B | C | D |
| Straight-in | CAT I ILS | **178 (135)** | **188 (145)** | **198 (155)** | **208 (165)** |
| | GP INOP | **470 (427)** | | | |

| Distance | | 4 DME | 3 DME | 2 DME |
|---|---|---|---|---|
| Altitude (Height) | | **1300 (1257)** | **1060 (1017)** | **740 (697)** |
| Speed | knots | 70 | 120 | 150 | 185 |
| FAF - MAPT 3.6nm | min : s | **3 : 06** | **1 : 48** | **1 : 27** | **1 : 11** |
| Rate of descent/GS | ft/min | **370** | **635** | **795** | **980** |

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***CHANGES :*** Position of WSR10 updated.

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