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eAIP

AMDT
03/2016
Effective date
26 MAY 2016
Publication date
26 MAY 2016

wp-AMDT-2016-03

1. SIGNIFICANT INFORMATION AND CHANGES

1.1 Singapore FIR

a. Changes to the vertical Limits for Seletar Control Zone 'A', Sembawang Aerodrome Traffic Zone and Light Aircraft Training Area B and C.

1.2 Singapore Changi Airport (WSSS)

a. Inclusion of aircraft types that can be parked at aircraft stands 510, 511, 512, 513, 514, 515 and 605

b. Inclusion of pushback procedures for aircraft departing from aircraft stands 510, 511, 512, 513, 514, 515 and 605

1.3 Seletar Airport (WSSL)

a. Inclusion of chart showing the overflight height restriction areas west and south of Seletar Control Zone

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 THIS AMENDMENT INCORPORATES INFORMATION CONTAINED IN THE FOLLOWING WHICH ARE HEREBY SUPERSEDED:

AIP SUPPLEMENT:
042/16 dated 30/3/16
043/16 dated 13/4/16

NOTAMs:
A0860/16 dated 18/4/16
A0863/16 dated 19/4/16

Amended Pages

GEN 0.2-1:	*: replace.*
GEN 0.3-1/2:	*: replace.*
GEN 0.3-3/4:	*: replace.*
GEN 0.3-5/6:	*: replace.*
GEN 0.4-1/2:	*: replace.*
GEN 0.4-3:	*: replace.*
GEN 3.2-3/4:	*: replace.*
ENR 5.2-1/2:	*: replace.*
ERC-6-1 EN-ROUTE CHART:	*: replace.*
AD 0.6-1/2:	*: replace.*
AD 0.6-3/4:	*: replace.*
AD 0.6-5/6:	*: replace.*
AD 2.WSSS-15/16:	*: replace.*
AD 2.WSSS-21/22:	*: replace.*

AD 2.WSSS-23/24: *: replace.*
AD 2.WSSS-25/26: *: 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-35/36: *: replace.*
AD 2.WSSS-37/38: *: replace.*
AD 2.WSSS-39/40: *: replace.*
AD 2.WSSS-41/42: *: replace.*
AD 2.WSSS-43/44: *: replace.*
AD 2.WSSS-45/46: *: replace.*
AD 2.WSSS-47/48: *: replace.*
AD 2.WSSS-49/50: *: replace.*
AD 2.WSSS-51/52: *: replace.*
AD 2.WSSS-53/54: *: replace.*
AD 2.WSSS-55: *: insert.*
AD-2-WSSS-ADC-2: *: replace.*
AD 2.WSSL-15/16: *: replace.*
AD 2.WSSL-17/18: *: replace.*
AD 2.WSSL-19/20: *: replace.*

GEN 0.2 RECORD OF AIP AMENDMENTS

AIP AMENDMENT

NR/Year	*Publication date*	*Date inserted*	*Inserted by*
5/2014	18 SEP 2014	18 SEP 2014	
6/2014	13 NOV 2014	13 NOV 2014	
1/2015	08 JAN 2015	08 JAN 2015	
2/2015	05 MAR 2015	05 MAR 2015	
3/2015	30 APR 2015	30 APR 2015	
4/2015	25 JUN 2015	25 JUN 2015	
5/2015	20 AUG 2015	20 AUG 2015	
6/2015	15 OCT 2015	15 OCT 2015	
07/2015	10 DEC 2015	10 DEC 2015	
01/2016	04 FEB 2016	04 FEB 2016	
02/2016	31 MAR 2016	31 MAR 2016	
03/2016	26 MAY 2016	26 MAY 2016	

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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*
1/2014	Paya Lebar AP - Luffer Cranes	AD	*03 JAN 2014 / 31 DEC 2016*	
2/2014	Paya Lebar AP - Luffer Cranes	AD	*03 JAN 2014 / 31 DEC 2016*	
3/2014	Paya Lebar AP - Luffer Cranes	AD	*03 JAN 2014 / 31 DEC 2016*	
4/2014	Paya Lebar AP - Topless Cranes	AD	*03 JAN 2014 / 31 DEC 2016*	
5/2014	Paya Lebar AP - Topless Cranes	AD	*03 JAN 2014 / 31 DEC 2016*	
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*	
223/2014	Paya Lebar AP - Luffer Cranes	AD	*01 AUG 2014 / 01 JUN 2016*	
224/2014	Paya Lebar AP - Mobile Crane	AD	*01 AUG 2014 / 01 JUN 2016*	
225/2014	Paya Lebar AP - Crane	AD	*01 AUG 2014 / 14 JUN 2016*	
226/2014	Paya Lebar AP - Luffer Cranes	AD	*01 AUG 2014 / 30 JUN 2016*	
227/2014	Paya Lebar AP - Luffer Cranes	AD	*01 AUG 2014 / 30 JUN 2016*	
238/2014	Paya Lebar AP - Luffer Cranes	AD	*01 AUG 2014 / 01 DEC 2016*	
239/2014	Paya Lebar AP - Topless Cranes	AD	*01 AUG 2014 / 31 DEC 2016*	
240/2014	Paya Lebar AP - Topless Cranes	AD	*01 AUG 2014 / 31 DEC 2016*	
241/2014	Paya Lebar AP - Luffer Cranes	AD	*01 AUG 2014 / 31 DEC 2016*	
242/2014	Paya Lebar AP - Topless Cranes	AD	*01 AUG 2014 / 31 DEC 2016*	
380/2014	Paya Lebar AP - Hammerhead and Topless Cranes	AD	*01 DEC 2014 / 31 DEC 2016*	
381/2014	Paya Lebar AP - Topless Cranes / A Frames	AD	*01 DEC 2014 / 31 DEC 2016*	
382/2014	Paya Lebar AP - Topless Cranes	AD	*01 DEC 2014 / 31 DEC 2016*	
383/2014	Paya Lebar AP - Luffer and Hammerhead Canes	AD	*01 DEC 2014 / 31 DEC 2016*	
384/2014	Paya Lebar AP - Topless and Hammerhead Cranes	AD	*01 DEC 2014 / 31 DEC 2016*	
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*	

NR/Year	*Subject*	*AIP section(s) affected*	*Period of validity (from/to)*	*Cancellation record*
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*	
27/2015	Singapore Changi AP - Work activities due to construction of new aircraft stands and modification of engine run-up bays at East Cargo Area	AD	*12 JAN 2015 / 31 MAR 2017*	
29/2015	Paya Lebar AP - Mobile Cranes	AD	*02 FEB 2015 / 01 JAN 2017*	
30/2015	Paya Lebar AP - Luffer Cranes	AD	*02 FEB 2015 / 02 JAN 2017*	
31/2015	Paya Lebar AP - Topless Cranes	AD	*02 FEB 2015 / 03 JAN 2017*	
32/2015	Paya Lebar AP - Luffer Crane	AD	*02 FEB 2015 / 31 JAN 2017*	
33/2015	Paya Lebar AP - Luffer Crane and Topless Cranes	AD	*02 FEB 2015 / 31 JAN 2017*	
39/2015	Paya Lebar AP - Luffer Crane	AD	*02 FEB 2015 / 22 JUN 2016*	
40/2015	Paya Lebar AP - Mobile Crane	AD	*02 FEB 2015 / 29 JUN 2016*	
41/2015	Paya Lebar AP - Luffer Crane	AD	*02 FEB 2015 / 30 JUN 2016*	
42/2015	Paya Lebar AP - Tower Crane	AD	*02 FEB 2015 / 30 JUN 2016*	
58/2015	Paya Lebar AP - Luffer Crane	AD	*16 APR 2015 / 30 MAY 2016*	
59/2015	Paya Lebar AP - Luffer Cranes	AD	*16 APR 2015 / 10 SEP 2016*	
60/2015	Paya Lebar AP - Luffer Crane	AD	*16 APR 2015 / 30 SEP 2016*	
61/2015	Paya Lebar AP - Topless Cranes	AD	*16 APR 2015 / 30 SEP 2016*	
62/2015	Paya Lebar AP - Topless Cranes	AD	*16 APR 2015 / 31 DEC 2016*	
63/2015	Paya Lebar AP - Luffer Crane	AD	*16 APR 2015 / 31 AUG 2016*	
64/2015	Paya Lebar AP - Luffer Cranes	AD	*16 APR 2015 / 30 AUG 2016*	
65/2015	Paya Lebar AP - Luffer Cranes	AD	*16 APR 2015 / 31 AUG 2016*	
66/2015	Paya Lebar AP - Saddle Cranes and Luffer Crane	AD	*16 APR 2015 / 31 AUG 2016*	
67/2015	Paya Lebar AP - Saddle Cranes	AD	*16 APR 2015 / 01 SEP 2016*	
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*	

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
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*	
78/2015	Paya Lebar AP - Tower Cranes	AD	*16 APR 2015 / 01 MAR 2017*	
79/2015	Paya Lebar AP - Hammerhead Cranes	AD	*16 APR 2015 / 04 MAR 2017*	
80/2015	Paya Lebar AP - Topless Cranes	AD	*16 APR 2015 / 01 APR 2017*	
81/2015	Paya Lebar AP - Hammerhead Cranes	AD	*16 APR 2015 / 29 APR 2017*	
82/2015	Paya Lebar AP - Topless Cranes	AD	*16 APR 2015 / 10 MAY 2017*	
83/2015	Paya Lebar AP - Luffer Cranes	AD	*16 APR 2015 / 01 FEB 2017*	
84/2015	Paya Lebar AP - Hammerhead Cranes	AD	*16 APR 2015 / 28 FEB 2017*	
85/2015	Paya Lebar AP - Crane	AD	*16 APR 2015 / 28 FEB 2017*	
86/2015	Paya Lebar AP - Luffer Crane	AD	*16 APR 2015 / 28 FEB 2017*	
87/2015	Sembawang AP -Hammerhead Cranes	AD	*16 APR 2015 / 01 FEB 2017*	
108/2015	Singapore Changi AP - Revised work activities area due to construction of new aircraft stands and new taxiways at W Cargo Area	AD	*30 OCT 2014 / 02 AUG 2016*	
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*	
116/2015	Paya Lebar AP - Luffer Crane	AD	*01 JUL 2015 / 14 NOV 2016*	
117/2015	Paya Lebar AP - Crane	AD	*01 JUL 2015 / 30 NOV 2016*	
118/2015	Paya Lebar AP - Tower Cranes	AD	*01 JUL 2015 / 31 DEC 2016*	
119/2015	Paya Lebar AP - Luffer Cranes	AD	*01 JUL 2015 / 31 DEC 2016*	
120/2015	Paya Lebar AP - Topless Tower Cranes	AD	*01 JUL 2015 / 01 APR 2017*	
121/2015	Paya Lebar AP - Luffer Crane	AD	*01 JUL 2015 / 01 JUN 2017*	
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*	
128/2015	Tengah AD - Topless Cranes	AD	*01 SEP 2015 / 31 AUG 2017*	

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
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*	
152/2015	Paya Lebar AP - Topless Cranes	AD	*21 SEP 2015 / 31 MAY 2016*	
153/2015	Paya Lebar AP - Topless Crane	AD	*21 SEP 2015 / 30 SEP 2016*	
154/2015	Paya Lebar AP - Crawler Crane and Mobile Crane	AD	*21 SEP 2015 / 13 OCT 2016*	
155/2015	Paya Lebar AP - Luffer Crane	AD	*21 SEP 2015 / 31 MAY 2017*	
156/2015	Paya Lebar AP - Topless Cranes	AD	*21 SEP 2015 / 01 JUN 2017*	
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*	
167/2015	Singapore Changi AP - Introduction of Airport Collaborative Decision Making (A-CDM) Operational	AD	*22 FEB 2016* UFN	
001/2016	Singapore FIR - RSAF Aerial Flypast Prior to and on Singapore's National Day, 9TH August 2016	AD/FIR	*07 JUN 2016 / 13 AUG 2016*	
002/2016	Singapore Changi AP - Works Schedule and Movement Area Restrictions Pertaining to Runway Resurfacing Works, Diversion of Airside Services and Soil Improvement Works at Singapore Changi Airport	AD	*26 MAR 2016 / 29 OCT 2016*	
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*	

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
005/2016	Paya Lebar AP - Tower Cranes	AD	*04 MAR 2016 / 30 JUN 2016*	
006/2016	Paya Lebar AP - Mobile Cranes	AD	*04 MAR 2016 / 30 JUN 2016*	
007/2016	Paya Lebar AP - Luffer Crane	AD	*04 MAR 2016 / 30 JUN 2016*	
008/2016	Paya Lebar AP - Mobile Cranes	AD	*04 MAR 2016 / 31 JUL 2016*	
009/2016	Paya Lebar AP - Luffer Crane	AD	*04 MAR 2016 / 30 SEP 2016*	
010/2016	Paya Lebar AP - Crawler Tower Crane	AD	*04 MAR 2016 / 30 SEP 2016*	
011/2016	Paya Lebar AP - Crawler Crane	AD	*04 MAR 2016 / 30 SEP 2016*	
012/2016	Paya Lebar AP - Crawler Luffer Crane	AD	*04 MAR 2016 / 26 OCT 2016*	
013/2016	Paya Lebar AP - Luffer Cranes	AD	*04 MAR 2016 / 31 OCT 2016*	
014/2016	Paya Lebar AP - Luffer Crane	AD	*04 MAR 2016 / 31 OCT 2016*	
015/2016	Paya Lebar AP - Mobile Crane	AD	*04 MAR 2016 / 23 NOV 2016*	
016/2016	Paya Lebar AP - Crawler Crane	AD	*04 MAR 2016 / 30 NOV 2016*	
017/2016	Paya Lebar AP - Topless Cranes	AD	*04 MAR 2016 / 31 JAN 2017*	
018/2016	Paya Lebar AP - Luffer Crane	AD	*04 MAR 2016 / 31 DEC 2016*	
019/2016	Sembawang AD - Luffer and Topless Cranes	AD	*04 MAR 2016 / 31 DEC 2016*	
020/2016	Paya Lebar AP - Topless Crane	AD	*04 MAR 2016 / 31 DEC 2016*	
021/2016	Paya Lebar AP - Crawler Cranes	AD	*04 MAR 2016 / 31 DEC 2016*	
022/2016	Sembawang AD - Tower Cranes and Piling Rigs	AD	*04 MAR 2016 / 20 JAN 2017*	
023/2016	Paya Lebar AP - Topless Cranes and Luffer Cranes	AD	*04 MAR 2016 / 31 JAN 2017*	
024/2016	Paya Lebar AP - Luffer Crane	AD	*04 MAR 2016 / 31 JAN 2017*	
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*	
034/2016	Paya Lebar AP - Saddle Cranes	AD	*04 MAR 2016 / 31 DEC 2018*	

NR/Year	*Subject*	*AIP section(s) affected*	*Period of validity (from/to)*	*Cancellation record*
035/2016	Paya Lebar AP - Cranes	AD	*04 MAR 2016 / 31 MAY 2016*	
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*	
038/2016	Paya Lebar AP - Saddle Cranes	AD	*04 MAR 2016 / 31 DEC 2018*	
039/2016	Paya Lebar AP - Topless Cranes	AD	*04 MAR 2016 / 31 JAN 2019*	
044/2016	Singapore Changi Airport -Construction of New Aircraft Stands 605 and 600 at East Cargo Area	AD	*03 MAY 2016 / 31 OCT 2016*	

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 DEC 2015
GEN-0.1-3	12 NOV 2015
GEN 0.2-1	26 MAY 2016
GEN 0.3-1	31 MAR 2016
GEN 0.3-2	26 MAY 2016
GEN 0.3-3	26 MAY 2016
GEN 0.3-4	26 MAY 2016
GEN 0.3-5	26 MAY 2016
GEN 0.3-6	26 MAY 2016
GEN 0.4-1	26 MAY 2016
GEN 0.4-2	26 MAY 2016
GEN 0.4-3	26 MAY 2016
GEN 0.5-1	12 NOV 2015
GEN 0.6-1	12 NOV 2015
GEN 0.6-2	04 FEB 2016
GEN 0.6-3	12 NOV 2015

GEN 1

GEN 1.1-1	12 NOV 2015
GEN 1.1-2	12 NOV 2015
GEN 1.2-1	12 NOV 2015
GEN 1.2-2	12 NOV 2015
GEN 1.2-3	12 NOV 2015
GEN 1.2-4	12 NOV 2015
GEN 1.2-5	12 NOV 2015
GEN 1.2-6	12 NOV 2015
GEN 1.3-1	12 NOV 2015
GEN 1.3-2	12 NOV 2015
GEN 1.3-3	12 NOV 2015
GEN-1.3-WSSS-pax-flow-arr	12 NOV 2015
GEN-1.3-WSSS-pax-flow-dep	12 NOV 2015
GEN 1.4-1	12 NOV 2015
GEN 1.4-2	12 NOV 2015
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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	12 NOV 2015
GEN 1.7-2	12 NOV 2015
GEN 1.7-3	12 NOV 2015
GEN 1.7-4	12 NOV 2015
GEN 1.7-5	12 NOV 2015

GEN 2

GEN 2.1-1	12 NOV 2015
GEN 2.1-2	12 NOV 2015
GEN 2.2-1	12 NOV 2015
GEN 2.2-2	12 NOV 2015
GEN 2.2-3	12 NOV 2015
GEN 2.2-4	12 NOV 2015
GEN 2.2-5	12 NOV 2015
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	12 NOV 2015
GEN-2.5-radio-index	12 NOV 2015
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	12 NOV 2015
GEN 3.1-2	12 NOV 2015
GEN 3.1-3	10 DEC 2015
GEN 3.1-4	10 DEC 2015
GEN 3.2-1	31 MAR 2016
GEN 3.2-2	31 MAR 2016
GEN 3.2-3	31 MAR 2016
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GEN 3.2-6	31 MAR 2016
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GEN-3.4-telegraph	12 NOV 2015
GEN-3.4-telephone	12 NOV 2015
GEN 3.5-1	12 NOV 2015
GEN 3.5-2	12 NOV 2015
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GEN 4.2-6	12 NOV 2015

Part 2 – EN-ROUTE (ENR)

ENR 0

ENR 0.6-1	12 NOV 2015
ENR 0.6-2	12 NOV 2015
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ENR 1.1-4	12 NOV 2015
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ENR 1.1-7	12 NOV 2015
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ENR 1.1-12	12 NOV 2015
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ENR-1.6-radio-failure-A	12 NOV 2015
ENR-1.6-radio-failure-B	12 NOV 2015
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ENR 1.8-9	12 NOV 2015
ENR 1.8-10	12 NOV 2015
ENR 1.8-11	12 NOV 2015
ENR 1.8-12	12 NOV 2015
ENR 1.8-13	12 NOV 2015
ENR 1.8-14	12 NOV 2015
ENR 1.8-15	12 NOV 2015
ENR 1.8-16	12 NOV 2015
ENR 1.8-17	12 NOV 2015
ENR 1.8-18	12 NOV 2015
ENR 1.8-19	12 NOV 2015
ENR 1.8-20	12 NOV 2015
ENR 1.8-21	12 NOV 2015
ENR 1.8-22	12 NOV 2015
ENR 1.8-23	12 NOV 2015
ENR 1.8-24	12 NOV 2015
ENR 1.8-25	12 NOV 2015
ENR 1.9-1	12 NOV 2015
ENR 1.9-2	12 NOV 2015
ENR 1.9-3	12 NOV 2015
ENR 1.9-4	12 NOV 2015
ENR 1.9-5	12 NOV 2015
ENR 1.10-1	12 NOV 2015
ENR 1.10-2	12 NOV 2015
ENR 1.10-3	12 NOV 2015
ENR 1.11-1	12 NOV 2015
ENR 1.12-1	12 NOV 2015
ENR 1.12-2	12 NOV 2015
ENR 1.12-3	12 NOV 2015
ENR 1.12-4	12 NOV 2015
ENR 1.13-1	12 NOV 2015
ENR 1.14-1	10 DEC 2015
ENR 1.14-2	12 NOV 2015
ENR 1.14-3and4	10 DEC 2015
ENR 1.14-5and6	10 DEC 2015
ENR-1.15-OTHER-1	12 NOV 2015
ENR-1.15-OTHER-2	12 NOV 2015

ENR 2

ENR 2.1-1	12 NOV 2015
ENR 2.1-2	12 NOV 2015
ENR 2.1-3	12 NOV 2015
ENR 2.1-4	12 NOV 2015
ENR-2.1-FIRs	12 NOV 2015
ENR-2.1-ACCs	12 NOV 2015
ENR-2.1-sector-1	10 DEC 2015
ENR-2.1-G579	12 NOV 2015
ENR-2.1-sector-2	10 DEC 2015
ENR-2.1-ATS-routes	04 FEB 2016

ENR 3

ENR 3.1-1	12 NOV 2015
ENR 3.1-2	12 NOV 2015
ENR 3.1-3	12 NOV 2015
ENR 3.1-4	12 NOV 2015
ENR 3.1-5	12 NOV 2015
ENR 3.1-6	12 NOV 2015
ENR 3.1-7	12 NOV 2015
ENR 3.1-8	12 NOV 2015
ENR 3.1-9	12 NOV 2015
ENR 3.1-10	12 NOV 2015
ENR 3.1-11	12 NOV 2015
ENR 3.1-12	12 NOV 2015

AD 2.WSSL-8	12 NOV 2015
AD 2.WSSL-9	12 NOV 2015
AD 2.WSSL-10	31 MAR 2016
AD 2.WSSL-11	31 MAR 2016
AD 2.WSSL-12	12 NOV 2015
AD 2.WSSL-13	12 NOV 2015
AD 2.WSSL-14	12 NOV 2015
AD 2.WSSL-15	26 MAY 2016
AD 2.WSSL-16	26 MAY 2016
AD 2.WSSL-17	26 MAY 2016
AD 2.WSSL-18	26 MAY 2016
AD 2.WSSL-19	26 MAY 2016
AD 2.WSSL-20	26 MAY 2016
AD-2-WSSL-ADC-1	12 NOV 2015
AD-2-WSSL-ADC-2	12 NOV 2015
AD-2-WSSL-AOC-1	12 NOV 2015
AD-2-WSSL-AOC-2	12 NOV 2015
AD-2-WSSL-VAC-1	31 MAR 2016
AD-2-WSSL-VAC-2	31 MAR 2016
AD-2-WSSL-VAC-3	31 MAR 2016
AD-2-WSSL-VAC-4	31 MAR 2016
AD-2-WSSL-VDC-1	12 NOV 2015
AD-2-WSSL-VDC-2	12 NOV 2015
AD-2-WSSL-VFR-1	12 NOV 2015
AD-2-WSSL-IFR-1	12 NOV 2015
AD-2-WSSL-IFR-2	12 NOV 2015
AD 2.WSAP-1	12 NOV 2015
AD 2.WSAP-2	12 NOV 2015
AD 2.WSAP-3	31 MAR 2016
AD 2.WSAP-4	31 MAR 2016
AD 2.WSAP-5	31 MAR 2016
AD 2.WSAP-6	31 MAR 2016
AD 2.WSAP-7	31 MAR 2016
AD 2.WSAP-8	31 MAR 2016
AD 2.WSAP-9	31 MAR 2016
AD 2.WSAP-10	31 MAR 2016
AD 2.WSAP-11	31 MAR 2016
AD-2-WSAP-ADC-1	12 NOV 2015
AD-2-WSAP-ADC-2	12 NOV 2015
AD-2-WSAP-AOC-1	12 NOV 2015
AD-2-WSAP-IAC-1	31 MAR 2016
AD-2-WSAP-IAC-2	31 MAR 2016
AD-2-WSAP-IAC-3	31 MAR 2016
AD-2-WSAP-IAC-4	31 MAR 2016
AD-2-WSAP-IFR-1	12 NOV 2015
AD-2-WSAP-IFR-2	12 NOV 2015
AD-2-WSAP-VFR-1	12 NOV 2015
AD 2.WSAT-1	12 NOV 2015
AD 2.WSAT-2	12 NOV 2015
AD 2.WSAT-3	12 NOV 2015
AD 2.WSAT-4	12 NOV 2015
AD 2.WSAT-5	31 MAR 2016
AD 2.WSAT-6	31 MAR 2016
AD 2.WSAT-7	12 NOV 2015
AD 2.WSAT-8	12 NOV 2015
AD-2-WSAT-ADC-1	12 NOV 2015
AD 2.WSAG-1	12 NOV 2015
AD 2.WSAG-2	31 MAR 2016
AD 2.WSAG-3	12 NOV 2015
AD 2.WMKJ-1	12 NOV 2015
AD 2.WIDD-1	12 NOV 2015
AD 2.WIDD-2	12 NOV 2015
AD-2-WIDD-SID-1	12 NOV 2015
AD-2-WIDD-SID-2	12 NOV 2015
AD-2-WIDD-SID-3	12 NOV 2015
AD-2-WIDD-SID-4	12 NOV 2015
AD-2-WIDD-STAR-1	12 NOV 2015
AD-2-WIDD-STAR-2	12 NOV 2015
AD-2-WIDD-STAR-3	12 NOV 2015
AD-2-WIDD-STAR-4	12 NOV 2015
AD 2.WIDN-1	12 NOV 2015
AD-2-WIDN-SID-1	12 NOV 2015
AD-2-WIDN-SID-2	12 NOV 2015
AD-2-WIDN-SID-3	12 NOV 2015
AD-2-WIDN-SID-4	12 NOV 2015
AD-2-WIDN-STAR-1	12 NOV 2015
AD-2-WIDN-STAR-2	12 NOV 2015
AD-2-WIDN-STAR-3	12 NOV 2015
AD-2-WIDN-STAR-4	12 NOV 2015

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k. ***Visual Approach Chart - ICAO***

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

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

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

5 LIST OF AERONAUTICAL CHARTS AVAILABLE

GEN 3.2.5 LIST OF AERONAUTICAL CHARTS AVAILABLE					
Title of Chart Series	*Scale*	*Name and/or number*		*Price ($)*	*Date*
World Aeronautical Chart ICAO (WAC)	1:1 000 000		WAC 2860	In AIP	12 NOV 15
← **Enroute Chart** ICAO (ENRC)			ERC 6-1	In AIP	26 MAY 16
Instrument Approach Chart ICAO (IAC)		***Singapore Changi***			
	1:400 000	RWY 02L - ICW ILS/DME	AD-2-WSSS-IAC-1	In AIP	31 MAR 16
	1:400 000	RWY 02C - ICE ILS/DME	AD-2-WSSS-IAC-2	In AIP	31 MAR 16
	1:400 000	RWY 02C - VTK DVOR/DME	AD-2-WSSS-IAC-3	In AIP	31 MAR 16
	1:400 000	RWY 20R - ICH ILS/DME	AD-2-WSSS-IAC-5	In AIP	31 MAR 16
	1:400 000	RWY 20C - ICC ILS/DME	AD-2-WSSS-IAC-6	In AIP	31 MAR 16
	1:400 000	RWY 20C - VTK DVOR/DME	AD-2-WSSS-IAC-7	In AIP	31 MAR 16
	1:400 000	RWY 02L - RNAV(GNSS)	AD-2-WSSS-IAC-9	In AIP	31 MAR 16
	1:400 000	RWY 02C - RNAV(GNSS)	AD-2-WSSS-IAC-10	In AIP	31 MAR 16
	1:400 000	RWY 20R - RNAV(GNSS)	AD-2-WSSS-IAC-11	In AIP	31 MAR 16
	1:400 000	RWY 20C - RNAV(GNSS)	AD-2-WSSS-IAC-12	In AIP	31 MAR 16
		Paya Lebar			
	1:400 000	RWY 20 - PU DVOR/DME	AD -2-WSAP IAC-1	In AIP	31 MAR 16
	1:400 000	RWY 02 - PU DVOR/DME	AD -2-WSAP IAC-2	In AIP	31 MAR 16
	1:400 000	RWY 20 - IPS ILS/DME	AD -2-WSAP IAC-3	In AIP	31 MAR 16
	1:400 000	RWY 02 - IPN ILS/DME	AD -2-WSAP IAC-4	In AIP	31 MAR 16
Visual Approach Chart ICAO (VAC)	1:400 000	***Singapore Changi***	AD-2-WSSS-VAC-1	In AIP	31 MAR 16
		Seletar			
	1:100 000	RWY 03	AD-2-WSSL-VAC-1	In AIP	31 MAR 16
	1:100 000	RWY 21	AD-2-WSSL-VAC-2	In AIP	31 MAR 16
	1:100 000	RWY 03	AD-2-WSSL-VAC-3	In AIP	31 MAR 16
	1:100 000	RWY 21	AD-2-WSSL-VAC-4	In AIP	31 MAR 16
Visual Departure Chart		***Seletar***			
	1:100 000	RWY 03	AD-2-WSSL-VDC-1	In AIP	31 MAR 16
	1:100 000	RWY 21	AD-2-WSSL-VDC-2	In AIP	31 MAR 16
← **Aerodrome Chart** ICAO (AC)		***Singapore Changi***	AD-2-WSSS-ADC-2	In AIP	26 MAY 16
		Seletar	AD-2-WSSL-ADC-1	In AIP	12 NOV 15
		Paya Lebar	AD-2-WSAP-ADC-1	In AIP	12 NOV 15
Aerodrome Obstacle Chart ICAO TYPE A (AOC)		***Singapore Changi***			
	1:10 000	RWY 20R/02L	AD-2-WSSS-AOC-1	In AIP	12 NOV 15
	1:10 000	RWY 20C/02C	AD-2-WSSS-AOC-2	In AIP	10 DEC 15
		Seletar			
	1:10 000	RWY 03/21	AD-2-WSSL-AOC-1	In AIP	12 NOV 15
		Paya Lebar			
	1:20 000	RWY 20/02	AD-2-WSAP-AOC-1	In AIP	12 NOV 15
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	12 NOV 15
Precision Approach Terrain Chart ICAO (PATC)		***Singapore Changi***			
	1:2 500	RWY 02L	AD-2-WSSS-PATC-1	In AIP	12 NOV 15
	1:2 500	RWY 20C	AD-2-WSSS-PATC-2	In AIP	12 NOV 15

ENR 5.2 MILITARY EXERCISE AND TRAINING AREAS

Name and Lateral limits	*Upper Limit* *Lower Limit*	Remarks Time of Act
1	2	3
LIGHT AIRCRAFT TRAINING AREA A		
(Training and Local Flying) All the airspace contained within the boundaries bounded by the following: 012650N 1034619E @ (Woodlands Customs Checkpoint) (a) 012249N 1034540E @ (cross-road junction of Upper Bukit Timah Road and Bukit Panjang Road/Choa Chu Kang Road) (b) 012100N 1034654E @ (Bukit Timah) (c) 012232N 1035016E @ (Mayflower Garden) (d) 012327N 1034922E @ (Sembawang ATZ bdry) and along the bdry of Sembawang ATZ (e) 012714N 1034752E @ (Admiralty Road West/Attap Valley Road) (f) 012650N 1034619E @ (Woodlands Customs Checkpoint) (a)	4 500ft ALT GND 3 500ft ALT 2 000ft ALT# Maximum Usable ALT: 4 000ft	1. The airspaces designated as Light Aircraft Training Areas are for Local Flying and Training purposes. Flt are to be conducted drg DAYLIGHT hr and in VMC ONLY. The Training Areas are uncontrolled airspaces. It will be the responsibility of pilots to maintain adequate separation with other acft including those opr in the Seletar and Sembawang Ad circuits. All acft are to opr strictly wi the designated areas and not to stray out of the areas or intrude into adjacent controlled airspaces. 2. Aerobatics and test flights are prohibited in Light Aircraft Training Areas A, B and C. 3. The provision of FIS is the responsibility of Paya Lebar APP. However, due to the nature of training ops carried out, psn and alt of acft will not be made avbl. The only info that can be provided to pilots will be the number of REPORTED acft within the areas concerned. 4. On receipt of the relevant info, it shall be the responsibility of the pilot to decide whether his intended flt can be carried out safely in view of the prevailing air traffic. 5. To enable Paya Lebar APP to maintain an accurate record of acft opr in the areas and to disseminate up-to-date info, all pilots must report entering and leaving the Training Areas to Paya Lebar APP. 6. Pilots of all acft opr wi the areas are required to keep a listening watch on the appropriate Paya Lebar APP VHF/RT control freq 127.7 MHz. 7. All flt in the Training Areas are to be conducted on Singapore QNH. This value can be obtained from Paya Lebar APP. 8. In the interest of flight safety, aircraft operating in Light Aircraft Training Area A are advised to make a broadcast on the controlling frequency specifying their callsign and position when climbing or descending through 2,000ft. # Above Transit Channel (see chart ENR 3.5-3) @ Closest Visual Reference Point (see chart ENR 5.1-9)
LIGHT AIRCRAFT TRAINING AREA B		
(High Flying Training Ops) The area includes the airspace above Seletar CTR A, Sembawang ATZ, parts of Paya Lebar CTR and Light Acft Trng Area A and is contained within the following: 012650N 1034619E @ (Woodlands Customs Checkpoint) (a) 012205N 1034910E @ (Eastern Edge of Pierce Reservoir) (j) 012232N 1035016E @ (Mayflower Garden) (d) 012227N 1035158E @ (Seletar Hill Estate) (i) 012537N 1035319E @ (East of Seletar Airfield) (h) 012727N 1034921E @ (Canberra/Admiralty Rd) (g) 012650N 1034619E @ (Woodlands Customs Checkpoint) (a)	10 500ft ALT 4 500ft ALT Maximum Usable ALT: 10 000ft Minimum Usable ALT: 5 000ft	

Name and Lateral limits	*Upper Limit* *Lower Limit*	Remarks Time of Act
1	2	3
LIGHT AIRCRAFT TRAINING AREA C		
012650N 1034619E ← 012249N 1034540E 012100N 1034654E 012205N 1034910E 012650N 1034619E	10 500ft 4 500ft Maximum Usable ALT: 10 000ft Minimum Usable ALT: 5 000ft	The minimum flight altitude over Light Aircraft Training Area C is 11,000ft.
LOW FLYING OPERATIONS		
Helicopter Operations Extensive low flying operations mainly by helicopter operate during daylight hours within the Natuna/Anambas Groups of Islands in the area of the South China Sea Corridor between the longitude 105°E and 110°E and the Indonesian Mainland.	5 000ft ALT GND/SEA	All aircraft intending to operate within this area are to contact Natuna Radio on 9025KHz, 122.1MHz or 118.1MHz for traffic information.

ENROUTE CHART - ICAO

LEGEND

Aerodrome

Flight Information Region (FIR)
Name of FIR — FIR SINGAPORE
Upper Limit — UNL
Lower Limit — GND/WATER
Unit providing service — ACC SINGAPORE

Terminal Control Area (TMA)
Name of TMA — TMA KUCHING
Airspace Classification — A
Upper Limit — FL 250
Lower Limit — 3 000ft
Radio Frequency (ies) — 134.5 120.2

Control Zone (CTR)
Name of CTR — CTR KUCHING
Airspace Classification — C
Upper Limit — 3 000ft
Radio Frequency (ies) — 120.2

ATS route
Route designator — L642
Magnetic track — 032° — 122
Distance in nautical miles
Minimum flight altitude (ft)/flight level — 7 000/FL 140 — RNP 10
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 — W5D8
Nationality letter
Vertical limits — FL 400 — WATER

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 — SINJON
NAVAID, frequency, identification or call sign — DVOR/DME 113.5
Geographical coordinates in WGS-84 — 01°13'21"N 103°51'13"E
Elevation of DME site (to the nearest 30m) — 60ft

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 — **3 5**

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	
TAXIL	**MANIM**
03 50.35N	03 14.31N
103 40.37E	104 05.53E
BUVAL	**KETOD**
03 36.22N	03.10.44N
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 S127.3 133.8 (0000-1430)		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 R325 (all northbound) and R469
	P134.2 255.4	S133.35 S128.1	For Awy B348, G580, L644 & M767. For Awy A464, A576, G579 (all southbound), B470, L644, N875 and in area in the immediate vicinity of Singapore.
SINGAPORE RADIO	6 556, 11 297 5 655, 8 942, 11 396 4 556.		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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AD 0.6 TABLE OF CONTENTS TO PART 3

Note: The following sections in this chapter are intentionally left blank:
AD 0.1, AD 0.2, AD 0.3, AD 0.4, AD 0.5.

2.7 CARGO STANDS

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

Stands	502	503	504	505	506	507	508	509	510	511	512	513	514	515	601	602	603	604	605	611	612
A300	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈			
A306																				✈	✈
A310	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		✈	✈
A319																			✈		
A320																			✈		
A321																			✈		
A330															✈	✈	✈	✈		✈	✈
A332	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈			
A333	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈			
A342	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		✈	✈
A343	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		✈	✈
A345	✈							✈	✈	✈	✈	✈	✈	✈							
A346	✈							✈	✈	✈	✈	✈	✈	✈							
A359	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈			
A380	✈							✈													
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	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		✈	✈

2.8 REMOTE STANDS

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

Stands	1	2	3	4	5	6	7	8	9	10	11	12	13	14
AT72	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A319	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A320	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A321											✈	✈	✈	✈
B737	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
DHC7	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈

Stands	15	16	17	701	702
A318	✈	✈	✈	✈	✈
A319	✈	✈	✈	✈	✈
A320	✈	✈	✈	✈	✈
A321	✈	✈	✈	✈	✈
ATR72-500	✈	✈	✈	✈	✈
B733	✈	✈	✈	✈	✈
B734	✈	✈	✈	✈	✈
B735	✈	✈	✈	✈	✈
B736	✈	✈	✈	✈	✈
B737	✈	✈	✈	✈	✈
B738	✈	✈	✈	✈	✈
B739	✈	✈	✈	✈	✈
DHC7	✈	✈	✈	✈	✈

APRON/ ACFT STANDS	PUSHBACK PROCEDURES	PHRASEOLOGY USED BY SINGAPORE GROUND
B5, B6	The aircraft (on idle thrust) shall be pushed back: • onto TWY WA to face North until the nose of the aircraft is behind the stopbar behind aircraft stand B4. The aircraft may breakaway from there. OR • onto TWY U1 to face South such that the pushback line is always kept midway between the aircraft main gear until the nose of the aircraft is behind the stopbar behind aircraft stand B7. The aircraft may breakaway from there.	Pushback approved, to face North. Pushback approved, to face South.
B7	The aircraft (on idle thrust) shall be pushed back: • onto TWY U1 to face South until the nose of the aircraft is behind the stopbar behind aircraft stand B7. The aircraft may breakaway from there. OR • onto TWY WA to face North until the nose of the aircraft is behind the stopbar behind aircraft stand B4. The aircraft may breakaway from there.	 Pushback approved, to face North.
B8	The aircraft (on idle thrust) shall be pushed back: • onto TWY U1 to face South until its nosewheel is at the intersection of the aircraft stand lead-in line and TWY U1 centreline. The aircraft may breakaway from there. OR • onto TWY U1 to face North until its nosewheel is at the intersection of the lead-in line and TWY U1 centreline. The aircraft shall then be towed forward until its nosewheel is at the intersection of the aircraft stand B9 lead-in line and TWY U1 centreline. The aircraft may breakaway from there.	 Pushback approved, to face South. Pushback approved, to face North.
B9, B10	The aircraft (on idle thrust) shall be pushed back onto TWY U1 until its nosewheel is at the intersection of the aircraft stand lead-in line and TWY U1 centreline. The aircraft may breakaway from there.	Pushback approved, to face North (or South).
MARS REMOTE		
101, 101R	The aircraft (on idle thrust) shall be pushed back to face East until its nosewheel is at the “END OF PUSH” position. The aircraft shall then be towed forward until its nosewheel is at the “END OF TOW (EOT)” position on TWY L4 centreline. The aircraft may breakaway from there.	Standard pushback approved.
101L	The aircraft (on idle thrust) shall be pushed back onto TWY L4 centreline to face East. The aircraft shall then be towed forward along the centreline of TWY L4 until its nosewheel is at the “END OF TOW (EOT)” position. The aircraft may breakaway from there.	Standard pushback approved.
102, 102R, 102L	The aircraft (on idle thrust) shall be pushed back onto TWY L4 centreline to face East. The aircraft shall then be towed forward along the centreline of TWY L4 until the nose of the aircraft is behind the stopbar behind aircraft stand 102. The aircraft may breakaway from there.	Standard pushback approved.

APRON/ ACFT STANDS	PUSHBACK PROCEDURES	PHRASEOLOGY USED BY SINGAPORE GROUND
EAST REMOTE		
200, 201, 202, 203	The aircraft (on idle thrust) shall be pushed back onto TWY C6 to face North (or South).	Pushback approved, to face North (or South).
200L	The aircraft (on idle thrust) shall be pushed back: • onto Taxilane C6 centreline to face North until its nosewheel is on the end of push behind aircraft stand 200L. The aircraft may breakaway from there. OR • onto Taxilane C6 centreline to face South.	Pushback approved, to face North. Pushback approved, to face South.
200R, 202L 202R	The aircraft (on idle thrust) shall be pushed back onto Taxilane C6 centreline to face North (or South).	Pushback approved, to face North (or South).
SOUTH-EAST REMOTE		
103, 104	The aircraft (on idle thrust) shall be pushed back onto Taxilane L4 centreline to face East until the nose of the aircraft is behind the stopbar behind aircraft stand 102. The aircraft may breakaway from there.	Standard pushback approved.
205, 206 207, 208	The aircraft (on idle thrust) shall be pushed back onto TWY C7 to face North (or South).	Pushback approved, to face North (or South).
209	The aircraft (on idle thrust) shall be pushed back to face North (or South) until its nosewheel is at the intersection of the lead-in line and TWY C7 centreline.	Pushback approved, to face North (or South).
NORTH REMOTE		
300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310	The aircraft (on idle thrust) shall be pushed back: • facing West until its nosewheel is at the intersection of the lead-in line and taxiway NC2 centreline. OR • facing East until its nosewheel is at the intersection of the lead-in line and taxiway NC2 centreline.	Pushback approved, to face West. Pushback approved, to face East.
NORTH-EAST REMOTE		
400, 401, 402 403, 404	The aircraft (on idle thrust) shall be pushed back to face North (or South) until its nosewheel is at the intersection of the lead-in line and TWY A6 centreline.	Pushback approved, to face North (or South).
WEST CARGO		
502	The aircraft (on idle thrust) shall be pushed back to face North (or South). The aircraft may breakaway from here. There shall be no simultaneous pushback of aircraft unless with two aircraft stands separation.	Pushback approved, to face North (or South).
503, 504 505, 506	The aircraft (on idle thrust) shall be pushed back to face North (or South).	Pushback approved, to face North (or South).
507, 508, 509	The aircraft (on idle thrust) shall be pushed back to face North (or South). The aircraft may breakaway from there. There shall be no simultaneous pushback of aircraft unless with two aircraft stands separation.	Pushback approved, to face North (or South).
← 510	The aircraft (on idle thrust) shall be pushed back to face North (or South) until the nosewheel of the aircraft is at the intersection of the aircraft stand lead-in line and Taxiway WC centreline. The aircraft may breakaway from there. There shall be no simultaneous pushback of aircraft unless with two aircraft stands separation.	Pushback approved, to face North (or South).

APRON/ ACFT STANDS	PUSHBACK PROCEDURES	PHRASEOLOGY USED BY SINGAPORE GROUND
← 511	The aircraft (on idle thrust) shall be pushed back - onto Twy WC to face North until the nosewheel of the aircraft is at the intersection of the aircraft stand lead-in line and Taxiway WC centreline. The aircraft may breakaway from there. OR - onto TWY WC to face South until the nosewheel of the aircraft is at the intersection of the aircraft stand lead-in line and Taxiway WC centreline. The aircraft shall then be towed forward until the nosewheel is at the "EOT" position behind aircraft stand 510. The aircraft may breakaway from there.	Pushback approved, to face North. Pushback approved, to face South.
512	The aircraft (on idle thrust) shall be pushed back - onto Twy WC to face North until the nose of the aircraft is behind the stop bar behind aircraft stand 511. The aircraft may breakaway from there. OR - onto TWY WC to face South until the nosewheel of the aircraft is at the intersection of the aircraft stand lead-in line and Taxiway WC centreline. The aircraft shall then be towed forward until the nosewheel is at the "EOT" position behind aircraft stand 510. The aircraft may breakaway from there.	Pushback approved, to face North. Pushback approved, to face South.
513	The aircraft (on idle thrust) shall be pushed back - onto Twy WC to face North until the nosewheel of the aircraft is at the intersection of the aircraft stand lead-in line and Taxiway WC centreline. The aircraft may breakaway from there. OR - onto TWY WC to face South until the nose of the aircraft is behind the stop bar behind aircraft aircraft stand 515 on Taxilane WD. The aircraft may breakaway from there.	Pushback approved, to face North. Pushback approved, to face South.
514	The aircraft (on idle thrust) shall be pushed back - onto TWY WC to face North until the nose of the aircraft is behind the stop bar behind aircraft aircraft stand 513. The aircraft may breakaway from there. OR - onto TWY WC to face South until the nose of the aircraft is behind the stop bar behind aircraft aircraft stand 515 on Taxilane WD. The aircraft may breakaway from there.	Pushback approved, to face North. Pushback approved, to face South.
515	The aircraft (on idle thrust) shall be pushed back onto Taxilane WD to face South until the nose of the aircraft is behind the stop bar. The aircraft may breakaway from there.	Standard pushback approved.
516, 517	The aircraft (on idle thrust) shall be pushed back onto Taxilane WD to face South until the nose of the aircraft is at the intersection of the aircraft stand lead-in line and Taxilane WD centreline. The aircraft shall then be towed forward until the nose of the aircraft is behind the stop bar behind aircraft stand 515. The aircraft may breakaway from there.	Standard pushback approved.
516L, 516R, 517L, 517R	The aircraft (on idle thrust) shall be pushed back to face South until its body is aligned with Taxilane WD centreline. The aircraft shall then be towed forward until the nose of the aircraft is behind the stop bar behind aircraft stand 515. The aircraft may breakaway from there.	Standard pushback approved..

APRON/ ACFT STANDS	PUSHBACK PROCEDURES	PHRASEOLOGY USED BY SINGAPORE GROUND
EAST CARGO		
601, 602	The aircraft (on idle thrust) shall be pushed back to face South until its nosewheel is at the intersection of the lead-in line and taxilane EA centreline.	Standard pushback approved
603	The aircraft (on idle thrust) shall be pushed back to face South until its nosewheel is at the intersection of the lead-in line and taxilane EA centreline. The aircraft shall then be towed forward along the centreline of taxilane EA till its nosewheel is on the “END OF TOW” marking behind aircraft stand 602.	Standard pushback approved
604	The aircraft (on idle thrust) shall be pushed back to face South until its nosewheel is at the position of “END OF PUSH”. The aircraft shall then be towed forward along the centreline of taxilane EA till its nosewheel is on the “END OF TOW” marking behind aircraft stand 602.	Standard pushback approved
← 605	The aircraft (on idle thrust) shall be pushed back to face West until its nosewheel of the aircraft is at the position of “EOP"on Taxilane EC. The aircraft shall then be towed forward along the centreline of taxilane EA till its nosewheel is on the “END OF TOW” marking behind aircraft stand 602. The aircraft may breakaway from there.	Standard pushback approved
611, 612	The aircraft shall be pushed back to face North until its nosewheel is at the “END OF PUSH” position. The aircraft shall then be towed forward along the centreline of taxilane EC and turn left onto the centreline of taxilane EA until its nosewheel is at the “END OF TOW” marking behind aircraft stand 602. The aircraft may breakaway from there. Engine start-up is not permitted during standard pushback. Alternate Pushback Procedure The aircraft (on idle thrust) shall be pushed back to face North until its nosewheel is at the “END OF PUSH” position. Engine start-up is permitted only on the port engine. The aircraft shall then be towed forward along the centreline of taxilane EC and turn left onto the centreline of taxilane EA until its nosewheel is at the “END OF TOW” position (marking behind aircraft stand 602). The aircraft may breakaway from there. This alternate pushback procedure can only be exercised if the auxiliary power unit of the aircraft is unserviceable.	Standard pushback approved Alternate pushback approved
T1 WEST		
C1, C20, C22, C23, C24, C25	The aircraft (on idle thrust) shall be pushed back onto TWY U1 to face North (or South).	Pushback approved, to face North (or South).
C26	The aircraft (on idle thrust) shall be pushed back: • onto TWY WA to face North. The aircraft may breakaway from there. OR • onto TWY WA to face South until its nosewheel is at the intersection of the aircraft stand lead-in line and TWY WA centreline. The aircraft shall then be towed forward until its nosewheel is on the “END OF TOW’ position. This is marked as “EOT” on the ground. The aircraft may breakaway from there.	Pushback approved, to face North. Pushback approved, to face South.
T1 CENTRAL		
C11	The aircraft (on idle thrust) shall be pushed back such that the pushback line is always kept midway between the aircraft main gear until the nosewheel of aircraft is at the “EOP 21” position. The aircraft shall then be towed forward until its nosewheel is at the “EOT 22A” position.	Standard pushback approved

APRON/ ACFT STANDS	PUSHBACK PROCEDURES	PHRASEOLOGY USED BY SINGAPORE GROUND
C13	The aircraft (on idle thrust) shall push back to face North such that the pushback line is always kept midway between the aircraft main gear until its nosewheel is at the “EOP 22” position. The aircraft shall be towed forward until its nosewheel is at the “EOT 22A” position. Alternate Pushback Procedure The aircraft (on idle thrust) shall push back onto TWY N2 to face South followed by TWY N3 until the nose of the aircraft is behind the stopbar line behind aircraft stand D35. The aircraft may breakaway from there. Alternate Pushback Procedure The aircraft (on idle thrust) shall push back onto TWY N2 to face South followed by TWY N1 until the nose of the aircraft is behind the stopbar line behind aircraft stand C16. The aircraft may breakaway from there.	Standard pushback approved Pushback approved, onto TWY N3 to face South. Pushback approved, onto TWY N1 to face South.
C15	The aircraft (on idle thrust) shall push back facing North until its nosewheel is at the intersection of the lead-in line and TWY N2 centreline. Alternate Pushback Procedure The aircraft (on idle thrust) shall push back onto TWY N2 to face South followed by TWY N3 until the nose of the aircraft is behind the stopbar line behind aircraft stand D35. The aircraft may breakaway from there. Alternate Pushback Procedure The aircraft (on idle thrust) shall push back onto TWY N2 to face South followed by TWY N1 until the nose of the aircraft is behind the stopbar line behind aircraft stand C16. The aircraft may breakaway from there.	Standard pushback approved Pushback approved, onto TWY N3 to face South. Pushback approved, onto TWY N1 to face South.
C16	The aircraft (on idle thrust) shall be pushed back to face North (or South) until its nosewheel is at the intersection of the leadin line and TWY N1 centreline.	Pushback approved, to face North (or South).
C17	The aircraft (on idle thrust) shall be pushed back to face North (or South) until its nosewheel is at the intersection of the leadin line and TWY N1 centreline.	Pushback approved, to face North (or South).
C18	The aircraft (on idle thrust) shall be pushed back to face North until its nosewheel is at the intersection of the lead-in line and TWY N1 centreline.	Standard pushback approved
C19	The aircraft (on idle thrust) shall be pushed back to face North along TWY N1 until the “END OF PUSH” position.	Standard pushback approved
D30	The aircraft (on idle thrust) shall be pushed back such that the pushback line is always kept midway between the aircraft main gear until the nosewheel of the aircraft is at the “EOP 20” position. The aircraft shall then be towed forward until its nosewheel is at the “EOT” 22A” position.	Standard pushback approved

APRON/ ACFT STANDS	PUSHBACK PROCEDURES	PHRASEOLOGY USED BY SINGAPORE GROUND
D32	The aircraft (on idle thrust) shall push back to face North such that the pushback line is always kept midway between the aircraft main gear until its nosewheel is at the "EOP 22" position. The aircraft shall then be towed forward until its nosewheel is at the "EOT 22A" position. Alternate Pushback Procedure The aircraft (on idle thrust) shall push back onto TWY N2 to face South followed by TWY N3 until the nose of the aircraft is behind the stopbar line behind aircraft stand D35. The aircraft may breakaway from there. Alternate Pushback Procedure The aircraft (on idle thrust) shall push back onto TWY N2 to face South followed by TWY N1 until the nose of the aircraft is behind the stopbar line behind aircraft stand C16. The aircraft may breakaway from there.	Standard pushback approved Pushback approved, onto TWY N3 to face South. Pushback approved, onto TWY N1 to face South.
D34	The aircraft (on idle thrust) shall push back to face North until its nosewheel is at the intersection of the lead-in line and TWY N2 centreline. Alternate Pushback Procedure The aircraft (on idle thrust) shall push back onto TWY N2 to face South followed by TWY N3 until the nose of the aircraft is behind the stopbar line behind aircraft stand D35. The aircraft may breakaway from there. Alternate Pushback Procedure The aircraft (on idle thrust) shall push back onto TWY N2 to face South followed by TWY N1 until the nose of the aircraft is behind the stopbar line behind aircraft stand C16. The aircraft may breakaway from there.	Standard pushback approved Pushback approved, onto TWY N3 to face South. Pushback approved, onto TWY N1 to face South.
D35, D36	The aircraft (on idle thrust) shall be pushed back to face North (or South) until its nosewheel is at the intersection of the leadin line and TWY N3 centreline.	Pushback approved, to face North (or South).
D37	The aircraft (on idle thrust) shall be pushed back to face North until its nosewheel is at the intersection of the lead-in line and TWY N3 centreline.	Standard pushback approved
D38	The aircraft (on idle thrust) shall be pushed back to face North along TWY N3 until the "END OF PUSH" position.	Standard pushback approved
T1 EAST		
D40, D41, D42, D44, D46, D47, D48, D49	The aircraft (on idle thrust) shall be pushed back to face North (or South) until its nosewheel is at the intersection of the leadin line and TWY A6 centreline.	Pushback approved, to face North (or South).
T2 CENTRAL		
E1	The aircraft (on idle thrust) shall be pushed back such that the pushback line is always kept midway between the aircraft main gear until its nosewheel is at Stopbar 12. This is marked as "END OF PUSH" on the ground. The aircraft shall then be towed forward to Stopbar 9. This is marked as "END OF TOW" on the ground.	Standard pushback approved
E2	The aircraft (on idle thrust) shall be pushed back until its nosewheel is at the intersection of the lead-in line and TWY B2 centreline. The aircraft shall then be towed forward to Stopbar 9. This is marked as "END OF TOW" on the ground.	Standard pushback approved
E3	The aircraft (on idle thrust) shall be pushed back until its nosewheel is at Stopbar 9. This is marked as "END OF TOW" on the ground.	Standard pushback approved

APRON/ ACFT STANDS	PUSHBACK PROCEDURES	PHRASEOLOGY USED BY SINGAPORE GROUND
E4	The aircraft (on idle thrust) shall be pushed back: • until its nosewheel is at the “END OF PUSH” 8 position OR • onto TWY B1 until its nosewheel is at the “END OF PUSH” 13A position OR • onto TWY B3 until its nosewheel is at the “END OF PUSH” 7A position.	Standard pushback approved Pushback approved, to pushback onto TWY B1 Pushback approved, to pushback onto TWY B3.
E5, E6	The aircraft (on idle thrust) shall be pushed back until its nosewheel is at the intersection of the lead-in line and TWY B1 centreline. The aircraft shall then be towed forward to Stopbar 13. This is marked as “END OF TOW” on the ground.	Standard pushback approved
E7	The aircraft (on idle thrust) shall be pushed back until its nosewheel is at Stopbar 13. This is marked as “END OF TOW” on the ground.	Standard pushback approved
F30	The aircraft (on idle thrust) shall be pushed back such that the pushback line is always kept midway between the aircraft main gear until its nosewheel is at Stopbar 11. This is marked as “END OF PUSH” on the ground. The aircraft shall then be towed forward to Stopbar 9. This is marked as “END OF TOW” on the ground.	Standard pushback approved
F31	The aircraft (on idle thrust) shall be pushed back until its nosewheel is at Stopbar 10. This is marked as “END OF PUSH” on the ground. The aircraft shall then be towed forward to Stopbar 9. This is marked as “END OF TOW” on the ground.	Standard pushback approved
F32	The aircraft (on idle thrust) shall be pushed back until its nosewheel is at Stopbar 9. This is marked as “END OF TOW” on the ground.	Standard pushback approved
F33	The aircraft (on idle thrust) shall be pushed back: • until its nosewheel is at “END OF PUSH” 8 position. OR • onto TWY B1 until its nosewheel is at the “END OF PUSH” 13A position. OR • onto TWY B3 until its nosewheel is at the “END OF PUSH” 7A position.	Standard pushback approved Pushback approved, to pushback onto TWY B1 Pushback approved, to pushback onto TWY B3.
F34, F35	The aircraft (on idle thrust) shall be pushed back until its nosewheel is at the intersection of the lead-in line and TWY B3 centreline. The aircraft shall then be towed forward to Stopbar 7. This is marked as “END OF TOW” on the ground.	Standard pushback approved
F36	The aircraft (on idle thrust) shall be pushed back until its nosewheel is at Stopbar 7. This is marked as “END OF TOW” on the ground.	Standard pushback approved

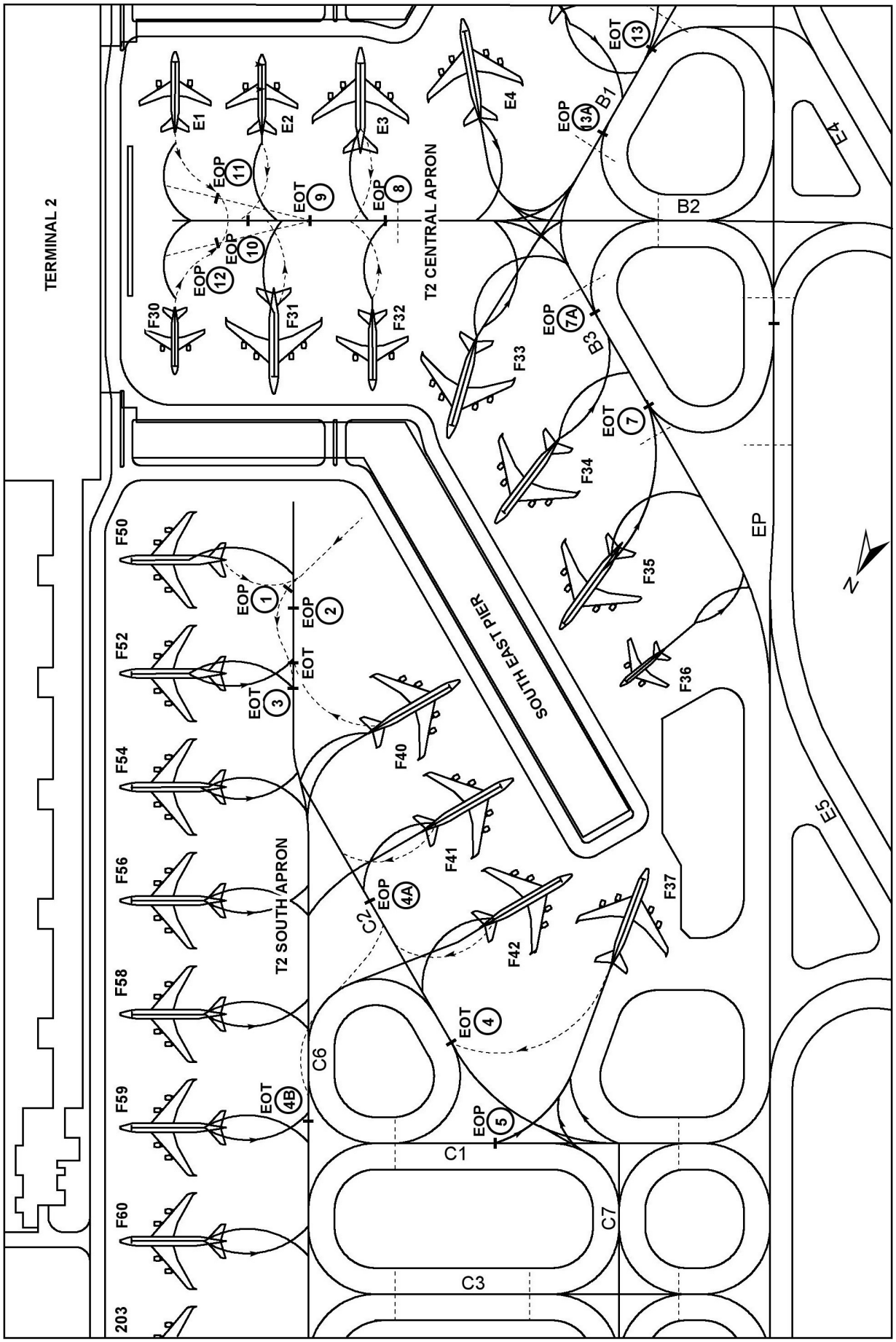
APRON/ ACFT STANDS	PUSHBACK PROCEDURES	PHRASEOLOGY USED BY SINGAPORE GROUND
T2 NORTH		
E8	The aircraft (on idle thrust) shall be pushed back until its nosewheel is at Stopbar 14. This is marked as “END OF PUSH” on the ground. The aircraft shall then be towed forward to Stopbar 15. This is marked as “END OF TOW” on the ground.	Standard pushback approved
E10	The aircraft (on idle thrust) shall be pushed back with the main gear mid-point following the pushback line until its nosewheel is at position EOP 19.	Standard pushback approved
E11	Main pushback procedure (for all aircraft wingspan) The aircraft (on idle thrust) shall be pushed back with the main gear mid-point following the main gear pushback line onto TWY A6 centreline. The aircraft shall then be towed forward to Stopbar 16 on TWY A5. This is marked as “END OF TOW” on the ground. Alternate pushback procedure (for aircraft with wingspan of less than 65m) The aircraft (on idle thrust) shall be pushed back with the main gear mid-point following the main gear pushback line until its body is aligned with TWY A6 centreline. Alternate pushback procedure (for aircraft with wingspan of more than 65m) The aircraft (on idle thrust) shall be pushed back with the main gear mid-point following the main gear pushback line until its nosewheel is at the ‘EOP 19A’ position behind aircraft stand E24. The aircraft shall then be towed forward to ‘EOT 18B’ behind aircraft stand E26.	Standard pushback approved Pushback approved, to pusback onto TWY A6. Pushback approved, to pushback onto TWY A6.
E12	The aircraft (on idle thrust) shall be pushed back: • until its nosewheel is at the intersection of the lead-in line and TWY A5 centreline. The aircraft shall then be towed forward to Stopbar 16. This is marked as “END OF TOW” on the ground. OR • onto TWY A6 until its nosewheel is at the intersection of TWY A5 and A6 centrelines.	Standard pushback approved Pushback approved, to pusback onto TWY A6.
E20	The aircraft (on idle thrust) shall be pushed back with the main gear mid-point following the main gear pushback line until its nosewheel is at Stopbar 17. The aircraft shall then be towed forward to “END OF TOW” Stopbar 18A. Aircraft may breakaway from there.	Standard pushback approved
E22	The aircraft (on idle thrust) shall be pushed back with the main gear mid-point following the main gear pushback line until its nosewheel is at Stopbar 19. This is marked as “END OF PUSH” on the ground. The aircraft shall then be towed forward to Stopbar 18. This is marked as “END OF TOW” on the ground.	Standard pushback approved
E24	The aircraft (on idle thrust) shall be pushed back facing North until its body is aligned with TWY A6 centreline. Aircraft may breakaway from there.	Standard pushback approved
E24L, E24R	The aircraft (on idle thrust) shall be pushed back facing North until its body is aligned with TWY A6 centreline. Aircraft may breakaway from there.	Standard pushback approved
E26	The aircraft (on idle thrust) shall be pushed back to face North until its body is aligned with TWY A6 centreline.	Standard pushback approved
E27, E28	The aircraft (on idle thrust) shall be pushed back to face North (or South) until its body is aligned with TWY A6 centreline.	Pushback approved, to face North (or South).

APRON/ ACFT STANDS	PUSHBACK PROCEDURES	PHRASEOLOGY USED BY SINGAPORE GROUND
T2 SOUTH		
F37	The aircraft (on idle thrust) shall be pushed back: • with the main gear following the main gear pushback line, until its nosewheel is behind aircraft stand F42. The aircraft shall then be towed forward to Stopbar 4. This is marked as "EOT 4" on the ground. OR • with the main gear following the main gear pushback line, until its nosewheel is on the "END OF PUSH (EOP)" Stopbar 5 on TWY C1.	Standard pushback approved Pushback approved, to face East on TWY C1.
F40, F52	The aircraft (on idle thrust) shall be pushed back until its nosewheel is at Stopbar 2. This is marked as "END OF PUSH" on the ground. The aircraft shall then be towed forward to Stopbar 3. This is marked as "END OF TOW" on the ground.	Standard pushback approved
F41	The aircraft (on idle thrust) shall be pushed back: • until its nosewheel is at the intersection of the lead-in line and the TWY C2 centreline. The aircraft shall then be towed forward to Stopbar 4. This is marked as "EOT 4" on the ground. OR • onto TWY C6 until its nosewheel is at the intersection of TWY C2 and TWY C6 centreline.	Standard pushback approved Pushback approved, to pushback onto TWY C6.
F42	Main pushback procedure (for all aircraft wingspan) The aircraft (on idle thrust) shall be pushed back until its nosewheel is at the intersection of the lead-in line and the TWY C2 centreline. The aircraft shall then be towed forward to Stopbar 4. This is marked as "EOT 4" on the ground. Alternate pushback procedure (for aircraft with wingspan of less than 65m) The aircraft (on idle thrust) shall be pushed onto TWY C6 until its nosewheel is at the intersection of TWY C2 and TWY C6 centreline. Alternate pushback procedure (for aircraft with wingspan of more than 65m) The aircraft (on idle thrust) shall be pushed back until its nosewheel is at the 'EOP 4A' position. The aircraft shall then be towed forward with its nosewheel following the towed forward line until its nosewheel is on the 'EOT 4B' position, behind aircraft stand F59.	Standard pushback approved Pushback approved, to pushback onto TWY C6. Pushback approved, to pushback onto TWY C6.
F50	The aircraft (on idle thrust) shall be pushed back with the main gear following the main gear pushback line, facing south until its nosewheel is on the "END OF PUSH" Stopbar 1 marking painted on the ground behind aircraft stand F50. The aircraft shall then be towed forward with the nosewheel following the tow-forward line until its nosewheel is on the "END OF TOW" Stopbar 3 marking painted on the ground behind aircraft stand F52.	Standard pushback approved
F52L	The aircraft (on idle thrust) shall be pushed back to face south until its nosewheel is at the intersection of the aircraft pushback line and taxilane C6.	Standard pushback approved
F52R	The aircraft (on idle thrust) shall be pushed back to face south until its nosewheel is at the intersection of the aircraft pushback line and taxilane C6. The aircraft shall then be towed forward until its nosewheel is on the "END OF TOW" position.	Standard pushback approved
F54	The aircraft (on idle thrust) shall be pushed back until its nosewheel is at a point on TWY C6 in line with the mid-point of aircraft stands F52 and F54. It shall breakaway from this position.	Standard pushback approved

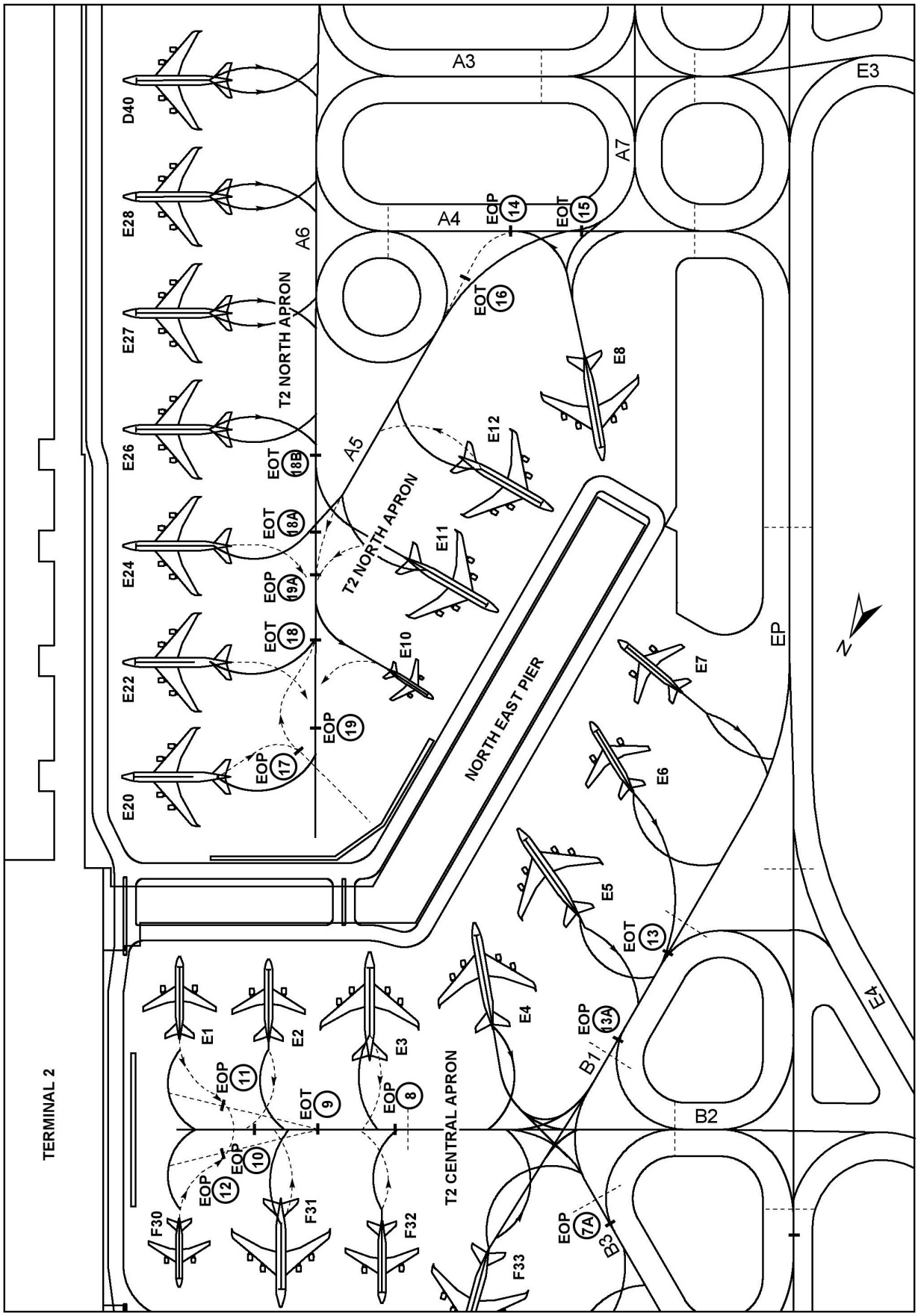
APRON/ ACFT STANDS	PUSHBACK PROCEDURES	PHRASEOLOGY USED BY SINGAPORE GROUND
F56	The aircraft (on idle thrust) shall be pushed back to face South until its nosewheel is at the intersection of the aircraft pushback line and taxilane C6.The aircraft shall then be towed forward until its nosewheel is abeam aircraft stand F56.	Standard pushback approved
F56L, 56R	The aircraft (on idle thrust) shall be pushed back to face North (or South), on TWY C6 centreline.	Pushback approved, to face North (or South).
F58	The aircraft (on idle thrust) shall be pushed back until its nosewheel is at a point on TWY C6 in line with the mid-point of aircraft stands F52 and F54. It shall breakaway from this position.	Standard pushback approved
F59	The aircraft (on idle thrust) shall be pushed back to face North on TWY C6 centreline until its nosewheel is abeam aircraft stand F60. OR The aircraft (on idle thrust) shall be pushed back to face South on TWY C6.	Standard pushback approved Pushback approved, to face South.
F59L, F59R	The aircraft (on idle thrust) shall be pushed back to face North on taxilane C6 centreline until its nosewheel is abeam aircraft stand F60. OR The aircraft (on idle thrust) shall be pushed back to face South on taxilane C6 centreline.	Pushback approved, to face North. Pushback approved, to face South.
F60	The aircraft (on idle thrust) shall be pushed back to face North (or South), on TWY C6 centreline.	Pushback approved, to face North (or South).

APRON/ ACFT STANDS	PUSHBACK PROCEDURES	PHRASEOLOGY USED BY SINGAPORE GROUND
1, 2	The aircraft (on idle thrust) shall be pushed back: • to face West onto TWY L7 until its nosewheel is at the stopbar marked "END OF PUSH" behind aircraft stand 2. The aircraft may breakaway from there. Simultaneous pushback is not permitted for aircraft stands 1, 2 and 3. OR • onto TWY L5 to face North until its nosewheel is behind the stopbar behind aircraft stand 3. The aircraft may breakaway from there. Simultaneous pushback is not permitted for aircraft stands 1, 2 and 3. Pushback from aircraft stands 1 and 2 to face South is not permitted.	Pushback approved, to face West. Pushback approved, to face North.
3, 4, 5, 6, 7, 8, 9, 10	The aircraft (on idle thrust) shall be pushed back onto TWY L5 to face North or South until its nosewheel is at the intersection of the aircraft stand lead-in line and the centreline of TWY L5. The aircraft may breakaway from there. There shall be no simultaneous pushback of aircraft unless there is at least one aircraft stand separation. Simultaneous pushback is not permitted for aircraft stands 1, 2 and 3.	Pushback approved, to face North or South.
11, 12, 13	The aircraft (on idle thrust) shall be pushed back onto TWY L5 to face North or South until its nosewheel is at the "END OF PUSH (EOP)" position and the centreline of TWY L5. The aircraft may breakaway from there. There shall be no simultaneous pushback of aircraft unless there is at least one aircraft stand separation.	Pushback approved, to face North or South.
14	The aircraft (on idle thrust) shall be pushed back onto TWY L5 to face North until its nosewheel is at the "END OF PUSH (EOP)" position and the centreline of TWY L5. The aircraft may breakaway from there. There shall be no simultaneous pushback of aircraft unless there is at least one aircraft stand separation.	Pushback approved, to face North.
15, 16, 701, 702	The aircraft (on idle thrust) shall be pushed back onto TWY L5 centreline to face North. The aircraft shall then be towed forward until its nosewheel is at the position between aircraft stands 12 and 13. The aircraft may breakaway from there.	Pushback approved, to face North.
17	The aircraft (on idle thrust) shall be pushed back to face West until its nosewheel is at the "END OF PUSH (EOP)" position. The aircraft shall then be towed forward onto TWY L5 to face North until its nosewheel is at the position between aircraft stands 12 and 13. The aircraft may breakaway from there.	Standard pushback approved.

PUSHBACK PROCEDURES FOR AIRCRAFT



PUSHBACK PROCEDURES FOR AIRCRAFT



4 ADVANCED MULTILATERATION SYSTEM

4.1 INTRODUCTION

4.1.1 The Multilateration System is a new surveillance system which is able to detect and identify all Mode S equipped aircraft and vehicles moving on the airport surface even during bad weather conditions such as heavy rain. It will integrate with the current radar-based ground surveillance system as part of the Advanced-Surface Movement Guidance and Control System (A-SMGCS) at Singapore Changi Airport. This will enhance the efficiency and safety at the airport.

4.2 CARRIAGE OF MODE-S SSR TRANSPONDER

4.2.1 Carriage and operation of Mode-S transponder is required for all civil aircraft operating at Singapore Changi Airport. The Mode-S transponder shall comply, at least, to the requirements of Level 2 as prescribed in ICAO Annex 10 Volume IV (Amendment 77 or later) Standards and Recommended Practices.

4.3 MULTILATERATION SYSTEM OUTLINE

4.3.1 The Multilateration System uses multiple receivers to pick up “squitters” transmitted by aircraft or vehicle Mode S transponders. It calculates the position of an aircraft or a vehicle by comparing the time its “squitter” arrives at each receiver.

4.3.2 The System will derive the identity of an aircraft by selectively interrogating its transponder to receive its assigned Mode A code or extracting its aircraft identification [that is, the ICAO callsign used in flight and inserted in the Flight Management System (FMS) or the Transponder Control Panel], if available, from its squitter. For transponder equipped vehicles, the system will derive their respective identities from the unique Mode S addresses contained in their squitters.

4.4 AIRCRAFT REQUIREMENTS

4.4.1 The Multilateration System is essentially passive. It relies on aircraft transponders squittering at all times when moving on the airfield. At present, some aircraft checklist procedures instruct pilots to turn off the transponder shortly after leaving the runway on arrival and, not to switch it on until reaching the runway holding point for departure. This is in line with the requirement that Mode A/C transponders should not transmit on the ground, which does not apply to Mode S transmissions.

4.4.2 For the Multilateration System to work effectively, all aircraft Mode S transponders need to transmit Mode S squitters at all times when moving on the airfield, starting immediately prior to pushback, and for arrival aircraft until they are stationary at the aircraft stands. The Mode S transponders should not respond to All-Call interrogations, but should respond to addressed interrogations.

4.5 PROCEDURES/ACTIONS REQUIRED BY PILOTS

4.5.1 The Multilateration System needs to receive squitters and to acquire the Mode A code of a Mode S equipped aircraft at all times when it is on the ground. This is to enable detection and identification of the aircraft (from its Mode A code or ICAO callsign) as soon as it pushes back. Hence, the following actions from pilots are required.

4.5.2 Pre-Pushback / Taxi

a. Pilots will be required to enter an assigned Mode A code at start-up. This code will be either a discrete or non-discrete code (a conspicuity code, e.g. 1000).

b. Pilots shall ensure that the aircraft transponder is operating (that is, XPNDR or the equivalent according to specific installation, AUTO if available, not OFF or STBY) and the assigned Mode A code is selected prior to the request for pushback or taxi, whichever is earlier.

c. Whenever the aircraft is capable of reporting aircraft identification, the aircraft identification must also be entered prior to the request for pushback or taxi, whichever is earlier, through the FMS or the Transponder Control Panel. Flight crew must use the 3-letter ICAO designator of the operator, followed by flight identification number (for example, BAW123, SIA002).

4.5.3 After Landing

a. Pilots shall ensure that the aircraft transponder is operating (that is, XPNDR or the equivalent according to specific installation, AUTO if available, not OFF or STBY) after landing, and continuously until the aircraft is stationary at the aircraft stand.

b. Pilots shall ensure that the assigned Mode A code is not changed until the aircraft is stationary at the aircraft stand. (The system requires it for identification of the aircraft).

5 AIRFIELD GROUND LIGHTING CONTROL AND MONITORING SYSTEM (AGLCMS) AND MARKINGS

5.1 INTRODUCTION

5.1.1 The taxiing guidance system at Singapore Changi Airport consists of stop bars and selectable segments of green taxiway centreline lights. The system is designed to provide pilots with visual guidance while taxiing during night operations and during periods of low visibility. It is controlled by the Ground Movement Controller (GMC) at Changi Control Tower using the Airfield Ground Lighting Control and Monitoring System (AGLCMS).

5.2 ROUTE SELECTION AND PRIORITY

5.2.1 When a taxiing route is selected on the AGLCMS, corresponding segments of taxiway centreline lights on the manoeuvring area are switched on automatically. When two or more routes are selected, the system will give priority to the first route and activate red stopbar lights across conflicting routes, as necessary. A segment of the centreline lights of the conflicting routes that cut across the first route will also be suppressed. The GMC has the option of over-riding the taxiing route priority by selecting or deselecting the appropriate stopbar lights.

5.2.2 All taxiing guidance lights on taxiways leading to the runways terminate at the runway holding positions where, by default, red stopbar lights remain on unless deselected by the runway controller. When deselected, these stopbar lights will re-activate automatically after 50 seconds. Pilots shall not cross any lighted red stopbar lights.

5.2.3 Pilots shall enter / cross the runway or taxiway only when both the following conditions are met:
The crew have

a. received positive ATC clearance to enter / cross the runway or taxiway, and
b. observed that the red stop-bar lights are turned off.

5.3 INFORMATION AND MANDATORY SIGNS/MARKINGS

5.3.1 When following the directional guidance provided by the green taxiway centreline lights and red stop bar lights, pilots are advised to also navigate their taxi route with reference to information and mandatory signs/markings provided at the airport so as to maintain situational awareness of their whereabouts at all times.

5.4 TAXI INSTRUCTIONS USING THE GREEN TAXIWAY CENTRELINE LIGHTS

5.4.1 ATC will use the phraseology “Taxi on the greens .....” when issuing a clearance to pilots to taxi along the directional guidance provided by the green taxiway centreline lights.

WSSS AD 2.10 AERODROME OBSTACLES

IN APPROACH / TKOF AREAS					***IN CIRCLING AREA AND AT AD***		
RWY/Area affected		*OBST type, ELEV, Markings/LGT*	*Coordinates*		*OBST type, ELEV, Markings/LGT*		*Coordinates*
1		2	3		1		2
a)	RWY 20R APCH RWY 02L TKOF	Mast HGT ranging fm 98ft AMSL and above.	Shipping channel aprx1290m from THR RWY 20R.		a)	Surface wind direction sleeves	LOC at each end of RWY adjacent to GP hut
b)	RWY 20C APCH RWY 02C TKOF	Mast HGT ranging fm 98ft AMSL and above.	Shipping channel aprx 2630m from THR RWY 20C.		b)	PAR hut	Besides RWY 02L/20R, opposite the PTB
c)	RWY 02L/20R APCH RWY 02L/20R TKOF RWY 02C/20C APCH RWY 02C/20C TKOF	ILS LLZ co-located with LLZ antennas.	Within the RWY strip.		c)	Frangible PAR reflectors	Located at ends of RWY 02L/20R
d)	RWY 20R APCH	Two antennae, HGT 72ft AMSL, marked and LGTD	012311N 1035928E		d)	GP huts co-located with GP antennas	Within the RWY strip
e)	RWY 20R APCH	Antenna, HGT 88ft AMSL, marked and LGTD	012315N 1035931E		e)	Antenna, HGT 82ft AMSL, marked and LGTD	012036N 1035819E
f)	RWY 02L APCH	Antenna, HGT 82ft AMSL, marked and LGTD	012051N 1035827E		f)	Antenna, HGT 85ft AMSL, marked and LGTD	012039N 1035821E

IN APPROACH / TKOF AREAS					*IN CIRCLING AREA AND AT AD*		
RWY/Area affected		*OBST type, ELEV, Markings/LGT*	*Coordinates*		*OBST type, ELEV, Markings/LGT*		*Coordinates*
1		2	3		1		2
g)	RWY 02L APCH	Pole, HGT 128ft AMSL, marked and LGTD	011859N 1035748E		g)	Antenna, HGT 78ft AMSL, marked and LGTD	012042N 1035823E
h)	RWY 02L APCH	Pole, HGT 160ft AMSL, marked and LGTD	012058N 1035814E		h)	Antenna, HGT 82ft AMSL, marked and LGTD	012053N 1035827E
i)	RWY 02L APCH	Pole, HGT 131ft AMSL, marked and LGTD	012038N 1035848E		i)	Antenna, HGT 78ft AMSL, marked and LGTD	012049N 1035826E
j)	RWY 20L APCH	Shipping channel	Aprx1600m from THR RWY 20L.		j)	Frangible poles, HGT 9ft AMSL	Installed APRX 200m from centre of RET to identify 58m away from TWY WP CL towards RWY 02L/20R
Obstacles in the APCH/TKOF areas, circling area and at the aerodrome are shown on the AOC, IAC and VAC.							

WSSS AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

1	*Associated MET Office*	Singapore Changi (WSSS)
2	*Hours of service*	H24
3	*Office responsible for TAF preparation* *Periods of validity*	Singapore Changi (WSSS) 12, 30
4	*Type of landing forecast, Interval of issuance*	TREND
5	*Briefing/consultation provided*	P
6	*Flight documentation, Language used*	Charts or Tabular forms, English
7	*Charts and other information available for briefing or consultation*	S, U, P
8	*Supplementary equipment available for providing information*	HRPT: High Resolution Picture Transmission APT: Automatic Picture Transmission MDWR: MET Doppler Weather Radar MAINT: Second WED of every month BTN 0200-0900 ALTN period: THU following the second WED.
9	*ATS units provided with information*	Singapore ACC, Singapore RCC
10	*Additional information*	Tel: 65422837 (MET Office)

WSSS AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

Designations RWY NR	**TRUE BRG**	**Dimensions of RWY**	**Strength (PCN) and surface of RWY and SWY**	**THR coordinates (THR Geoid Undulation)**	**THR elevation and highest elevation of TDZ of precision APCH RWY**
1	**2**	**3**	**4**	**5**	**6**
02L	023.02°	4000 M x 60 M	72/F/B/W/U Bituminous concrete	012056.26N 1035838.83E (10.29 M)	6.66 M 6.23 M
20R(Threshold displaced by 740m southwards)	203.02°	4000 M x 60 M	72/F/B/W/U Bituminous concrete	012233.95N 1035920.06E (10.29 M)	4.01 M 4.31 M
02C	023.03°	4000 M x 60 M	72/F/B/W/U Bituminous concrete	011943.51N 1035905.86E (10.28 M)	4.32 M 4.52 M
20C	203.03°	4000 M x 60 M	72/F/B/W/U Bituminous concrete	012143.37N 1035956.46E (10.28 M)	4.58 M 4.56 M

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 0.76 / 0.24%	60 X 60	270 X 150	4240 X 300	Yes	Scheduled closure of runways (see below)
RWY 20R 1.45 / 0.25%	60 X 60	270 X 150	4240 X 300		
RWY 02C 1.50 / 0.03%	60 X 60	60 X 150	4240 X 300		
RWY 20C 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*). 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*). 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*). 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*). 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

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 High Intensity consisting of extended centreline and Red row barrettes, 2 crossbars, 2 approach beacons and sequenced flashing lights.	Green supplemented by green wing bar and 2 thr ident lights.	PAPI 003° loc either side of rwy, 422m behind rwy thr, 2 White lgt and 2 Red lgt (20.6m), 3 White lgt and 1 Red lgt (23.1m), 4 White lgt (25.6m). Acft with eye-to-wheel hgt greater than 8m are adz to fly with 2 White and 2 Red lgt visible so as to achieve sufficient wheel clearance.	White	Inset High Intensity centreline lights as flw: From thr to 900m fm rwy end: White, 300m to 900m fm rwy end: Altn Red/ White, 300m to rwy end: Red.	Bi-directional raised White/Amber edge lights.	Red	Elevated Red
20R	CAT I High Intensity distance coded centreline lgts 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 fm thr. 2 White lgt and 2 Red lgt (20.0m), 3 white lgt and 1 Red lgt (22.6m), 4 White lgt (25.0m). Acft with eye-to-wheel hgt greater than 8m are adz to fly with 2 White and 2 Red lgt visible so as to achieve sufficient wheel clearance.	Nil	Inset High Intensity centreline lights as flw: From thr to 900m fm rwy end: White, 300m to 900m fm rwy end: Altn Red/ White, 300m to rwy end: Red.	Red rwy edge lgts in the direction of Rwy 20R before the displaced thr. Bi-directional raised White/Amber edge lights after the displaced thr.	Red	Elevated Red
02C	CAT I High Intensity consisting of centreline barrettes showing variable white, 1 crossbar, 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 fm thr. 2 White lgt and 2 Red lgt (20.4m), 3 White lgt and 1 Red lgt (23.1m), 4 White lgt (25.5m). Acft with eye-to-wheel hgt greater than 8m are adz to fly with 2 White and 2 Red lgt visible so as to achieve sufficient wheel clearance.	Nil	Inset High Intensity centreline lights as flw: From thr to 900m fm rwy end: White, 300m to 900m fm rwy end: Altn red/ white, 300m to rwy end: Red.	Bi-directional raised White/Amber edge lights.	Red	Elevated Red

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
20C	CAT II High Intensity consisting of extended centreline and red row barrettes, 2 crossbars, 2 approach beacons and sequenced flashing lights.	Green supplemented by green wing-bar and 2 THR ident lights.	PAPI 003° located left side of RWY, 418m fm THR. 2 White lgt and 2 Red lgt (19.8m), 3 White lgt and 1 Red lgt (23.7m), 4 White lgt (26.2m). Acft with eye-to-wheel hgt greater than 8m are adz to fly with 2 White and 2 Red lgt visible so as to achieve sufficient wheel clearance.	White	Inset High Intensity centreline lights as flw: From THR to 900m fm RWY end: White, 300m to 900m fm RWY end: Altn Red/White, 300m to RWY end: Red.	Bi-directional raised White/Amber edge lights.	Red	Elevated Red

WSSS AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

1	*ABN/IBN location, characteristics and hours of operation*	ABN: 012209.22N 1035858.47E (western side of RWY 02L/20R) ALTN FLG W G EV 2.3 SEC, OPR hours HN + IMC IBN: 012301.28N 1035959.52E (top of building N of SIA hangar) FLG G 'CH' EV 7 SEC, OPR hours HN + IMC
2	*LDI location and LGT* *Anemometer location and LGT*	Pressure tube anemometer and wind vane situated 345m west of middle of RWY 02L/20R. Cup anemometers and wind vanes at ends and middle of both runways. Windsocks at ends of both runways. Transmissometers at both ends and in the middle of both runways
3	*TWY Edge and Centreline Lighting*	RWY 02L/20R and RWY 02C/20C: Blue lights on TWY curved edges and apron TWY edges and Green centreline lights on all TWY.
4	*Secondary power supply/switch-over time*	Automatic standby generator power supply AVBL for airfield lighting with switchover time of 1 second during Category II low visibility operations.
5	*Remarks*	Vehicles painted yellow or displaying chequered red/white or orange/white flag at highest point of vehicle

WSSS AD 2.16 HELICOPTER LANDING AREA

Refer to ENR 3.4

WSSS AD 2.17 ATS AIRSPACE

1	*Designation and Lateral Limits*	**CHANGI CTR** 013300N 1040149E 013042N 1040654E 012542N 1040448E thence along Kuala Lumpur/Singapore FIR bdry to 012000N 1041218E 010018N 1035524E 011100N 1035134E 013300N 1040149E
2	*Vertical Limits*	SFC to 3,000ft ALT
3	*Airspace Classification*	C
4	*ATS Unit Callsign* *Language(s)*	Singapore Tower English
5	*Transition Altitude*	11000 FT (3,350m)
6	*Remarks*	A helicopter shall not be operated within the Changi CTR unless prior permission has been obtained from the Director-General of Civil Aviation, CAAS. Email to caas_ats_ansp@caas.gov.sg

WSSS AD 2.18 ATS COMMUNICATION FACILITIES

Service Designation	*Call sign*	*Frequency (P-Pri, S-Sec)*	*Hours of operation*	*Remarks*
ACC	Singapore Radar	P123.7 MHz S127.3 MHz	H24	for ATS Routes B469, G219, G334, R208, L625, L629, L635, L642, L644, M751, M753, M758, M761, M763, M771, N884, N891 and N892.
		133.8 MHz	0000-1430	
		P133.25 MHz S135.8 MHz	H24	for ATS Routes A457, A464, A576, B466, R325 (all northbound) and R469.
		P134.2 MHz S133.35 MHz		for ATS Routes , G580, L644, M646 and M767
		P134.4 MHz S128.1 MHz 255.4 MHz		for ATS Routes A464, A576, G579 (all southbound), B470, L644, N875 and in area in the immediate vicinity of Singapore.
		124.05 MHz	0000-1530	Flow control service provided for ARR/DEP ACFT
		MAINT Period: Monthly - EV third SAT 1601-2359		
	Singapore Radio	6556 kHz 11297 kHz	H24	SEA 1, Emission: A3AJ. SSB suppressed carrier, SATCOM service available
		5655 kHz 8942 kHz 11396 kHz		SEA 2, Emission: A3AJ. SSB suppressed carrier, SATCOM service available
		6556 kHz		SEA 3, Emission: A3AJ. SSB suppressed carrier, SATCOM service available
APP	Singapore Approach	P120.3 MHz S124.6 MHz	H24	TAR - Intermediate approach to Singapore Changi AP and other airports in Singapore. DEP from all airports in Singapore.
	Singapore Arrival	119.3 MHz		TAR - Intermediate and final approach to Singapore Changi Airport.
	ASR I MAINT Period: Monthly, EV first SAT 1601-2359 ASR II MAINT Period: Monthly, EV fourth SAT 1601-2359			

Service Designation	*Call sign*	*Frequency (P-Pri, S-Sec)*	*Hours of operation*	*Remarks*
TWR	Singapore Tower	118.6 MHz	H24 0000-1600	for TKOF/LDG. for ACFT OPR on RWY 02L/20R
		118.25 MHz	0000-1600	for ACFT OPR on RWY 02C/20C
	Singapore Ground	124.3 MHz	1600-0000 0000-1600	for start-up / push-back / taxiing of all aircraft for ground movement of aircraft west of Terminal 3
		121.725 MHz	0000-1700 2100-0000	for ground movement of aircraft east of Terminal 2
		121.85 MHz	0000-1800 2300-0000	for ground movement of aircraft north of Terminal 1
		129.95 MHz	H24	for ground emergency
	Singapore Delivery	121.65 MHz	H24	for Pre-flight check/ATC clearance
	Changi Tower / Changi Apron	121.9 MHz	H24	for vehicular movements on taxiways and runways. Towing of all aircraft and requests for engine runs on apron and taxiways, excluding runways, will be regulated by Changi Apron.
D-ATIS	Singapore Changi Airport Information	128.6 MHz	H24	Data Link Service available. AP IDENT WSSS Messages comply with ARINC 623 Standards. Updating of data: H+00 to H+10 and H+30 to H+40

WSSS AD 2.19 RADIO NAVIGATION AND LANDING AIDS

Type of aid and Variation	*Ident*	*Frequency*	*OPR Hr*	*Position of Transmitting Antenna Coordinates*	*DME Transmitting Antenna Elevation / Remarks*
1	2	3	4	5	6 & 7
SINJON DVOR/DME	SJ	113.5 MHz CH82X	H24	011321.54N 1035115.74E	201° MAG 14.5km from THR RWY 02 (Paya Lebar). Antenna Hgt: 194ft AMSL. Coverage 200NM. EM: F1. Maint Period: 3rd THU of EV month BTN 0200-0600
TEKONG DVOR/DME	VTK	116.5 MHz CH112X	H24	012455.36N 1040120.17E	023° MAG 6.4km from THR RWY 20C (Singapore Changi). Antenna Hgt: 150ft AMSL. Coverage 200NM. EM: F1 Maint Period: 3rd FRI of EV month BTN 0200-0600
RWY 20C ILS LLZ	ICC	109.7MHz	H24	011935.97N 1035902.64E	LOC 250m (820ft) from THR RWY 02C, along RWY centreline. Course width 3°. EM: A0/A2. Maint Period: MAY-OCT - 2nd FRI of EV month BTN 1600-2300 NOV-APR - 2nd FRI of EV month BTN 0200-0900
RWY 20C ILS GP	-	333.2MHz	H24	012131.32N 1035956.57E	LOC 338m (1109ft) from THR RWY 20C on left side of RWY, 148m (486ft) from RWY centreline. GP angle 3°. HGT of ILS reference datum: 18m (58ft) EM: A0/A2
RWY 20C ILS DME	ICC	CH34X	H24	012131.32N 1035956.57E	DME co-located with GP. EM: P9
RWY 20C ILS MM	-	75MHz	H24	012211.94N 1040008.52E	LOC 955m (3133ft) from THR RWY 20C along extended centreline of RWY. No back beam.
RWY 02C ILS LLZ	ICE	108.3MHz	H24	012150.84N 1035959.58E	LOC 250m (820ft) from THR RWY 20C, along RWY centreline. Course width 3°. EM: A0/A2. Maint Period: MAY-OCT - 2nd FRI of EV month BTN 0200-0900 NOV-APR - 2nd SAT of EV month BTN 0200-0900

Type of aid and Variation	*Ident*	*Frequency*	*OPR Hr*	*Position of Transmitting Antenna Coordinates*	*DME Transmitting Antenna Elevation / Remarks*
1	2	3	4	5	6 & 7
RWY 02C ILS GP	-	334.1MHz	H24	011951.64N 1035914.70E	LOC 338m (1109ft) from THR RWY 02C on right side of RWY, 154m (505ft) from RWY centreline. GP angle 3°. HGT of ILS reference datum: 18m (58ft) EM: A0/A2
RWY 02C ILS DME	ICE	CH20X	H24	011951.64N 1035914.70E	DME co-located with GP. EM: P9
RWY 02C ILS MM	-	75MHz	H24	011915.15N 1035853.88E	LOC 945m (3100ft) from THR RWY 02C along extended centreline of RWY. No back beam.
RWY 20R ILS LLZ	ICH	108.9MHz	H24	012045.23N 1035834.17E	Located 368m (1207ft) from THR RWY 02L, along centreline of the RWY. Course width 3.38°. EM: A0/A2. MAINT Period: MAY-OCT - First SAT of EV month BTN 0200-0900 NOV-APR - First FRI of EV month BTN 0200-0900
RWY 20R ILS GP	-	329.3MHz	H24	012225.54N 1035912.29E	Located 330m (1083ft) from displaced THR RWY 20R on right side of the RWY, 120m (394ft) from RWY centreline. GP angle 3° . HGT of ILS REF datum: 17m (56ft) EM: A0/A2
RWY 20R ILS DME	ICH	CH26X	H24	012225.54N 1035912.29E	DME co-located with GP. Rwy 20R ILS DME not available beyond 15 degrees west of RWY 20R centreline below 2500ft. EM: P9
RWY 20R ILS MM	-	75MHz	H24	012307.50N 1035934.23E	Located 1122m (3681ft) from displaced THR RWY 20R, along centreline of the RWY.
RWY 02L ILS LLZ	ICW	110.9MHz	H24	012307.03N 1035934.03E	Loc 1105m (3625ft) fm displaced THR RWY 20R, along centreline of RWY. Course width 2.81° EM:A0/A2 Maint Period: May-Oct - First Fri of ev month btn 0200-0900 Nov-Apr - First Sat of ev month btn 0200-0900
RWY 02L ILS GP	-	330.8MHz	H24	012108.34N 1035838.94E	Loc 343m (1125ft) fm THR RWY 02L on left side of RWY, 143m (469ft) fm RWY centreline. GP angle 3° Hgt of ILS Reference datum: 18m (58ft) EM:A0/A2
RWY 02L ILS DME	ICW	CH46X	H24	012108.34N 1035838.94E	DME co-located with GP EM:P9
RWY 02L ILS MM	-	75MHz	H24	012027.53N 1035826.70E	Loc 957m (3140ft) fm THR RWY 02L along extended centreline of RWY. No back beam.

WSSS AD 2.20 LOCAL TRAFFIC REGULATIONS

1 DESIGNATION OF PAYA LEBAR AIRPORT AS AN ALTERNATE AERODROME FOR SINGAPORE CHANGI AIRPORT

Please refer to pages WSAP AD 2-5 to WSAP AD 2-7 for details.

2 WRONG APPROACHES AND LANDINGS OF AIRCRAFT BOUND FOR SINGAPORE CHANGI AND PAYA LEBAR AIRPORTS

2.1 INTRODUCTION

2.1.1 The attention of all pilots is drawn to the existence of Paya Lebar Airport close to Singapore Changi Airport. The runway at Singapore Changi Airport is orientated in the same true bearing as the runway at Paya Lebar Airport i.e. 023°/203°. Due to the close proximity of these two runways, pilots are cautioned against mistaking Paya Lebar Airport for the runway of Singapore Changi Airport and thus making an inadvertent visual landing or approach to land at Paya Lebar.

2.1.2 Erroneous approaches or landings usually occurred during the hours of darkness. In almost every instance, the weather prevailing at the time of the incident was generally good or fair.

2.1.3 There is intensive local flying at Paya Lebar and Seletar during the day and night. Thus, the risk of collision is very great if a wrong approach is made to any of the above two airports. Likewise, wrong approaches into Singapore Changi Airport can also be disastrous.

2.2 POINTS TO BEAR IN MIND WHEN APPROACHING SINGAPORE CHANGI AIRPORT OR PAYA LEBAR

2.2.1 The following points are highlighted to serve as a guide to assist pilots in making a correct approach into Singapore Changi Airport or Paya Lebar Airport and should be remembered and followed:

a. The runways at Singapore Changi Airport and Paya Lebar Airport are identically aligned on 02/ 20. Therefore exercise extreme vigilance when leaving NYLON or SAMKO Holding Areas inbound and maintain correct tracks to the respective runways as listed below.

b. Adhere strictly to IFR procedures even in VMC which calls for a procedure turn over NYLON Holding Area or SAMKO Holding Area as prescribed.

c. Make full use of all available navigational and landing aids available and positively identify every aid used.

d. Switch to the correct ILS localizer frequency at Singapore Changi Airport under all conditions.

2.3 AERODROME CHARACTERISTICS OF SINGAPORE CHANGI AND PAYA LEBAR AIRPORTS

2.3.1 Tabulated below are details of aerodrome characteristics of Singapore Changi Airport and Paya Lebar Airport which indicate the similarities and significant differences for ease of identification by pilots operating into these two airports.

Aeronautical Service	PAYA LEBAR Airport	SINGAPORE CHANGI Airport	Significant Differences and Remarks
Magnetic heading of RWY	02/20	02L/20R 02C/20C	Exercise caution due to similar RWY alignment
Approach Lights	RWY 02 Modified Calvert High INTST with centreline and 3 crossbars. High INTST white LGT with brilliancy control and sequenced flashing lights.	RWY 02L Precision APCH LGT CAT II. Extended centreline with red side row barettes, 2 crossbars, 2 APCH beacons and sequenced flashing lights.	
	RWY 20 Modified Calvert High INTST with centreline and 3 crossbars. High INTST white LGT with brilliancy control and sequenced flashing lights.	RWY 20R Precision APCH LGT CAT I. Centreline barettes flashing white, 2 APCH beacons and sequenced flashing lights. (refer to chart AD-2-WSSS-ADC-2)	

Aeronautical Service	PAYA LEBAR Airport	SINGAPORE CHANGI Airport	Significant Differences and Remarks
ILS	RWY 20 - Nil	RWY 20R IDENT ICH No back beam LLZ 108.9 MHz GP 329.3 MHz	
	RWY 02 - Nil	RWY 02L IDENT ICW No back beam LLZ 110.9 MHz GP 330.8 MHz	
IBN	Flashing R 'PL' HN and IMC	Flashing G 'CH' HN and IMC	
ABN	Nil	ALTN Flashing W G every 2.3 SEC	

WSSS AD 2.21 NOISE ABATEMENT PROCEDURES

1.1 To alleviate the problem of noise, all aircraft on AWY G579 between SINJON (SJ) and JAYBEE (JB) shall operate at/above 5,000ft.

1.2 The Standard Instrument Departure routes for aircraft departing on RWY 20R/20C are for the purpose of noise abatement in addition to being used for air traffic control.

1.3 Departures on RWY 20R are restricted between 1600-2200UTC. This restriction is not applicable when RWY 20C/02C is unavailable because of maintenance works or for other reasons.

1.4 Unless it is necessary for operational or safety reasons, when using engine reverse, arrivals on RWY 02L/20R between 1600-2200UTC may not exceed idle reverse thrust.

WSSS AD 2.22 FLIGHT AND GROUND PROCEDURES

1 LOW VISIBILITY PROCEDURES (LVP) FOR CATEGORY II ILS OPERATIONS

1.1 Introduction

1.1.1 Category II ILS approaches will be made available at Singapore Changi Airport to authorised flights during prolonged periods of low visibility, except during thunderstorms. RVR minima for CAT II ILS operations is limited to 350m due to runway and taxiway light spacing requirements on the airfield.

1.2 Authorisation for Category II ILS Approaches

1.2.1 Operators who wish to conduct Category II ILS operations at Singapore Changi Airport must have obtained operational approval from the relevant State of Operator and be authorised by the Civil Aviation Authority of Singapore.

1.3 Category II ILS Runways

1.3.1 At Singapore Changi Airport, Category II ILS approaches are available only on RWY 02L and RWY 20C, which are also equipped with precision approach Category II lighting system. When required, pilots making Category II ILS approaches to Singapore Changi Airport should refer to the procedures in the Instrument Approach Charts AD-2-WSSS-IAC-1 to AD-2-WSSS-IAC-11 and the Precision Approach Terrain Charts for RWY 02L and RWY 20C at AD-2-WSSS-PATC-1 and AD-2-WSSS-PATC-2 respectively.

1.4 Initiation of Category II ILS Operations

1.4.1 Preparations will be made to implement LVP for Category II ILS operations at Singapore Changi Airport during prolonged period of low visibility, except during thunderstorms, when the RVR drops below 800 metres.

1.4.2 Availability of the Category II ILS approaches will be made known through NOTAM and ATIS broadcasts as well as air traffic control radio communications.

1.4.3 During LVP operations, aircraft will not be cleared for Category II ILS approach if any of the ILS or approach/runway lights fall below Category II requirements. Aircraft will not be cleared for landing if the Touchdown Zone RVR is unserviceable.

1.5 ILS Sensitive Areas

1.5.1 Upon landing, pilots shall report to Changi Tower once the aircraft has cleared the runway and has passed the ILS sensitive areas demarcated by alternate yellow and green lights along the centrelines of Rapid Exit Taxiways and Cross Taxiways.

1.6 Termination of LVP for Category II ILS Operations

1.6.1 LVP for Category II ILS operations will be terminated when RVR has improved above 800 metres. Termination of LVP for Category II ILS operations will be made known through NOTAM and ATIS broadcasts as well as air traffic control radio communications.

1.7 Operations of flights Not Authorised for Category II ILS Operations

1.7.1 During Category II ILS operations, if the RVR is 550 metres or above, flights not authorised for Category II ILS operations may continue to make approaches and land. Airlines planning to operate flights not authorised for Category II ILS operations into Changi shall monitor the METAR to ascertain the RVR values when launching their flights and be prepared to divert if the RVR is below 550 metres.

2 RUNWAY UTILISATION

2.1 Runway-in-use

2.1.1 The runway-in-use (Departure/Arrival) is selected by Aerodrome Control as the optimum for general purposes and to maximise runway utilisation. If the assigned runway is unsuitable for a particular operation, the pilot can obtain permission from ATC to use another runway but should anticipate delay.

2.2 Departures

2.2.1 Pilots should arrange their taxi such that they are ready to depart without delay on reaching the runway holding point. As standard ICAO wake turbulence separation is being applied, pilots are to advise ATC early if more time is needed for the aircraft to be ready for departure. When informed, ATC will be able to make changes in the departure sequence, if necessary, to minimise delays to other succeeding departures.

2.2.2 Pilots should complete cockpit checks prior to line-up for departure and keep any checks on the runway to a minimum.

2.2.3 Conditional line-up clearance may be used by ATC to facilitate an expeditious flow of traffic. On receipt of line-up clearance, pilots should taxi into position promptly without delay. Unless given instructions to line-up and wait, pilots should be ready and prepared to depart without stopping. On receipt of take-off clearance, pilots to commence take-off roll without delay.

2.3 Clearance for Immediate Take-Off

2.3.1 A pilot receiving the ATC instruction ‘cleared for immediate take-off’ is required to act as follows:

a. if waiting clear of the runway, taxi immediately on to it and begin take-off run immediately without stopping the aircraft;
b. if already lined-up on the runway, take-off without delay;
c. if unable to comply with the instruction, inform ATC immediately.

2.4 Arrivals - Minimum Runway Occupancy Time (ROT)

2.4.1 Arriving aircraft upon landing are reminded that it is imperative to vacate the runway as quickly as practicable to enable ATC to apply minimum spacing on final approach and minimise the occurrence of “go-arounds”.

2.4.2 To achieve minimum ROT and reduce missed approaches due to occupied runway, pilots should vacate the runway via the first available exit taxiway corresponding to operational requirements, or as instructed by ATC. If an exit taxiway other than the first available exit taxiway is required, pilots shall advise the Tower Controller on first contact.

2.4.3 To enhance planning, pilots can make reference to the Landing Exit Distance (LED), the distance from threshold to the furthest edge of the exit taxiway:

RWY	Exit Taxiway (LED in metres)	Remarks
20R	**W6*(1655)**, **W7*(2123)** and W8 (3061)	Note 1: Recommended exit taxiways are bold and underlined. Note 2: * Indicates Rapid Exit Taxiway (RET) and maximum design ground speed for the exit taxiway is 50kts.
20C	**E6*(1948)**, **E7*(2391)** and E8 (3152)	
02L	**W5*(1966)**, **W4*(2491)** and W3* (2876)	
02C	**E5*(2055)**, **E4*(2565)** and E3* (3267)	

2.4.4 Pilots can expect initial taxi instructions from the Runway Controller before clearing the exit taxiway. Aircraft vacating the runway-in-use should not stop on the exit taxiway until the entire aircraft has passed the runway holding point.

2.4.5 BTN 0830-1030 daily estimated delays of about 15 minutes can be expected for arrivals into Singapore Changi Airport.

2.5 Land after Procedures

2.5.1 Normally, only one aircraft is permitted to land or take-off on the runway-in-use at any one time. However, when the traffic sequence is two successive landing aircraft, the second aircraft may be allowed to land before the first aircraft has cleared the runway-in-use provided:

a. the runway is long enough;
b. during daylight hours;
c. the second aircraft will be able to see the first aircraft clearly and continuously until it is clear of the runway;
d. the second aircraft has been warned.

2.5.2 ATC will provide this warning in the landing clearance as shown in para 2.7.

2.5.3 Responsibility for ensuring adequate separation between the two aircraft rests with the pilot of the second aircraft.

2.6 Special Landing Procedures

2.6.1 Special landing procedures may be in force at Singapore Changi Airport in conditions shown as follows:

a. When the runway-in-use is temporarily occupied by other traffic, landing clearance may be issued to an arriving aircraft provided that at the time the aircraft crosses the threshold of the runway-in- use the following separation distances will exist:

   i. Landing following landing - The preceding landing aircraft will be clear of the runway-in-use or will be at least 2,500m from the threshold of the runway-in-use.
   ii. Landing following departure - The departing aircraft will be airborne and at least 2,500m from the threshold of the runway-in-use, or if not airborne, will be at least 2,500m from the threshold of the runway-in-use.

2.6.2 These procedures will be used only under the following conditions:

a. during daylight hours;
b. visibility of at least 5km;
c. cloud ceiling of 1,500ft in the departure/missed approach area;
d. ATC is satisfied that the pilot of the next arriving aircraft will be able to observe continuously the relevant traffic;
e. no unfavourable surface wind conditions (including significant tailwind, windshear, turbulence, etc);
f. when the runway is dry and free of all precipitants such that there is no evidence that the braking action may be adversely affected.

2.7 Phraseology

2.7.1 When issuing a landing clearance following the application of these procedures, ATC will issue the second aircraft with the following instructions:

.... (call sign) .... after the landing / departing .... (Aircraft Type) Runway .....(Designator) cleared to land.

3 PROCEDURES FOR PUSH BACK AND ASSIGNMENT OF FLIGHT LEVELS TO AIRCRAFT DEPARTING FROM SINGAPORE CHANGI AIRPORT

3.1 Aircraft departing Singapore Changi Airport shall adhere to the procedures for push back and assignment of flight levels.

3.2 Assignment of flight levels to departing aircraft is made on a first-come-first-served basis. Aircraft will normally be assigned the level requested unless an alternate level is offered after coordination with the adjacent ATC centres.

3.3 Departing flights from Singapore requesting FL280 or FL320 on L759, M770, N571, N571/N877 or P628 will be cleared as follows:

a. aircraft departing Singapore will be cleared to FL280;
b. succeeding aircraft on the same route will be cleared to FL280 with 10 min longitudinal separation provided there is no closing speed with the preceding aircraft;
c. additional longitudinal separation as appropriate shall be provided by ATC for the faster aircraft following a slower aircraft on the same route;
d. the first aircraft from either Singapore or Kuala Lumpur to be over GUNIP on N571 or N571/N877, the Kuala Lumpur/Bangkok FIR boundary on M770 or L759 and VPL on P628 can expect its requested flight level.

3.4 To avoid confusion, pilots shall use the correct phraseology as detailed in para 3.5 when ready for push back.

3.5 The pilot shall notify ATC when the aircraft is ready to push back within 5 min using the following phraseology:

- callsign
- destination
- proposed flight level and alternate level, if any
- parking position

3.6 On receipt of the “ready to push back” call, ATC will advise the pilot whether the proposed flight level or other alternate flight level is available and an ATC clearance will be issued accordingly. If pre-departure coordination with an adjacent unit or centre is required, the pilot will be instructed to standby.

3.7 Once the flight level is accepted by the pilot and an ATC clearance issued, the aircraft must be pushed back within 5 minutes from the time the ATC clearance is accepted unless other ATC restrictions are imposed. The ATC clearance will be cancelled on expiry of the 5 minutes grace period.

3.8 At the end of the push back, the departing aircraft must have all engines started and be ready to taxi immediately, unless otherwise instructed by ATC.

Note: The first aircraft to taxi may not necessarily be the first aircraft to take-off as distances between aircraft stands and the departure runway vary.

4 GATE HOLD PROCEDURES FOR DEPARTING AIRCRAFT

4.1 Whenever there are about five to seven departing aircraft at the RWY holding point, subsequent push-backs of departures will be regulated such that the Ground Movement Planner (GMP) on VHF frequency 121.65MHz will start to issue pilots with Expected Push back Time (EPT). The determination of EPT will take into account an aircraft’s parking stand as well as taxi time to the RWY-in-use holding point.

4.2 When an EPT is issued, pilots will be instructed to either remain on GMP frequency or to monitor Singapore Ground Control (frequencies 124.3MHz, 121.725MHz or 121.85MHz). It should be noted that when instructed to monitor Singapore Ground frequencies, pilots shall not establish contact with the Singapore Ground Control, rather, pilots shall maintain a listening watch on the assigned Singapore Ground Control frequency and wait for push back instruction. This is to prevent unnecessary frequency congestion.

4.3 A flight issued with an EPT but chooses to commence push back before the assigned time will be allowed to do so. However, the flight should not expect an earlier departure time as the planned departure sequences will be maintained.

4.4 In a situation when a departing aircraft is occupying a gate that has been assigned to an arriving aircraft, the departing aircraft will be instructed by the GMP to contact Singapore Ground for push back for the purpose of better gate utilization.

4.5 To maximize runway utilization, departure sequence will be planned on the basis of increasing runway throughput so as to enhance overall efficiency.

5 DELAY IN PUSH BACK AND/OR TAXIING DUE TO OTHER AIRCRAFT

5.1 Delays may be expected for the second aircraft to push back and to taxi when two or more aircraft are parked either adjacent to one another or close together. However, it will retain its ATC clearance even if the 5 minutes grace period allowed for under para 3.7 is exceeded.

6 DELAY IN TAKE-OFF DUE TO RESTRICTIONS IN THE ATC CLEARANCE

6.1 The ATC clearance may require an aircraft to arrive at a reporting point at a specified time and level or to depart a number of minutes behind a preceding traffic to establish longitudinal separation. Such a delay will not deprive a departing aircraft of its ATC clearance even though the 5 minutes grace period would have been exceeded.

7 DELAY DUE TO OVERFLIGHTS

7.1 These are flights operating through Singapore FIR without landing at Singapore Changi Airport. Depending on their positions, a departing aircraft requesting the same level may have to accept an alternate level or may have to delay its departure in order to establish the prescribed separation.

8 FLIGHTS EXEMPTED

8.1 The above procedures are not applicable to VIP, CASEVAC, SAR and other special tasks aircraft. ATC shall have full discretion in the conduct of such operations.

9 CANCELLATION OF ATC CLEARANCE / OBTAINING A FRESH CLEARANCE

9.1 A departing aircraft may have its ATC clearance cancelled under the following circumstances:

a. on expiry of the 5 minutes grace period under para 3.7, it is still unable to push back; or
b. after pushing back, the pilot advises that it is returning to blocks; or
c. it develops a technical problem and is unable to continue taxiing.

9.2 ATC will inform the aircraft when a clearance is cancelled using the phraseology;
"(Callsign of aircraft) your ATC clearance is cancelled (reason)"

9.3 Pilots who are ready to depart following the cancellation of an ATC clearance will adopt the normal procedures as if it is the first time they are ready to depart.

10 GROUND MOVEMENT PLANNER ON VHF 121.65MHz

10.1 The frequency shall be used for aircraft pre-flight checks and ATC clearances. Pilot-in-command to make his initial call from the parked position on this frequency.

11 GROUND MOVEMENT CONTROL ON VHF 124.3MHz, 121.85MHz AND 121.725MHz

11.1 This frequency shall be used for aircraft start-up/push-back clearance.

11.2 Unless otherwise instructed by ATC, the pilot-in-command shall prior to starting engines listen out on the Ground Movement Control frequency on 124.3MHz, 121.85MHz or 121.725MHz.

11.3 The pilot-in-command shall:

a. Request and obtain taxi instructions prior to taxiing;
Note: ATC clearance, including the assigned SSR code will normally be issued prior to push back. Pilot shall squawk the SSR code immediately when airborne.

b. Change from Ground Movement Control frequency to the Runway Control frequency when instructed (118.6MHz or 118.25MHz). It should be noted that when instructed to monitor Singapore Tower frequencies, pilots shall not establish contact with Singapore Tower; rather, pilots shall maintain a listening watch on the assigned Singapore Tower frequency and wait for instruction. This is to prevent unnecessary frequency congestion.

11.4 Departing aircraft will be instructed when to change from 118.6MHz or 118.25MHz to Singapore Departure frequency 120.3MHz.

11.5 In the case of the aircraft having landed, the pilot-in-command shall change from 118.6MHz or 118.25MHz to 124.3MHz, 121.85MHz or 121.725MHz immediately upon instructed by ATC after clearing the runway. He shall maintain watch on 124.3MHz, 121.85MHz or 121.725MHz for taxiing and parking instructions until he arrives at his aircraft stand.

12 TAXIING

12.1 Taxi clearance given by Ground Movement Control will relate to movement on the manoeuvring area, but excluding the marshalling area.

12.2 Aircraft taxiing on the manoeuvring area will be regulated by ATC to avoid or reduce possible conflict and will be provided with traffic information and alerting service. ATC shall apply taxiing clearance limits whenever necessary.

12.3 The taxiway routes to be used by aircraft after landing or when taxiing for departure will be specified by ATC. The issuance by ATC of a taxi route to an aircraft does not relieve the pilot-in-command of the responsibility to maintain separation with other aircraft on the manoeuvring area or to comply with ATC directions intended to regulate aircraft on the manoeuvring area.

12.4 Pilots are reminded to always use minimum power when starting engines, when manoeuvring within the apron area or when manoeuvring from apron taxiways to other parts of the aerodrome. It is especially critical when commencing to taxi that break-away thrusts are kept to an absolute minimum and then be reduced to idle thrusts as soon as possible.

13 TAKE-OFF AND LANDING

13.1 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

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

13.3 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.

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

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

14 $RNAV_{(GNSS)}$ SIDs and STARs

14.1 INTRODUCTION

14.1.1 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.

14.1.2 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).

14.1.3 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.

14.1.4 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.

14.2 ARRIVALS

14.2.1 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.

14.2.2 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.

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

ATS Route	Transition	Transition Route	RNAV STAR
B469 (southbound to Singapore) L642 N892	BIKTA VEPLI MABAL	BIKTA-PIBAP-PASPU VEPLI-VINIL-PIBAP-PASPU MABAL-KILOT-VINIL-PIBAP-PASPU	PASPU ARRIVAL
A464 (southbound to Singapore) A576 (southbound to Singapore) R469	ARAMA REKOP no transition	ARAMABOBAG REKOP-BOBAG no transition	BOBAG ARRIVAL
G579	no transition	no transition	REMES ARRIVAL
L504 M635 M774	OBDOS SURGA OBDOS	OBDOS-IKAGO-IKIMA-IBULA-LAVAX SURGA-IKAGO-IKIMA-IBULA-LAVAX OBDOS-IKAGO-IKIMA-IBULA-LAVAX	LAVAX ARRIVAL
M767 / G580 M646 / G580 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			

14.2.4 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.

14.2.5 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.

14.2.6 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.

14.3 DEPARTURES

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

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

There will be 3 Transitions as shown below:

ATS Route	Transition	Transition Route	RNAV SID
L504	BAVUS	VENPA-ATKAX-BAVUS	VENPA DEPARTURE
M635	SURGA	VENPA-VENIX-SURGA	
M774	KADAR	VENPA-ATKAX-KADAR	

14.3.3 A Transition will be issued by ATC in conjunction with the $RNAV_{(GNSS)}$SID, for example a departure from Singapore to Brisbane via airway M774 will read as follows:

Example:

<Callsign> cleared to Brisbane via VENPA 1A departure Transition KADAR, airway M774, flight plan route, maintain FL330, squawk alfa 2234 on departure.

14.4 TRANSITION

14.4.1 Aircraft may be radar vectored off a Transition / RNAV SID / RNAV STAR. Such aircraft will subsequently be given an instruction to intercept the appropriate Transition / RNAV SID / RNAV STAR.

14.5 VERTICAL AND SPEED RESTRICTIONS

14.5.1 Pilots shall comply with an ATC assigned level. Pilots shall also adhere to the vertical and speed restrictions depicted on the cleared Transition and $RNAV_{(GNSS)}$SIDs / STARs. ATC clearance will take precedence when the ATC clearance does not allow the pilots to adhere to the vertical and speed restrictions depicted on the Transition and $RNAV_{(GNSS)}$SIDs / STARs.

14.6 OPERATORS' PROCEDURES

14.6.1 The operator shall ensure that in-flight procedures, crew manuals and training programmes are established in accordance with RNAV requirements.

14.6.2 Pilots shall inform ATC when on-board equipment does not meet the requirements of RNAV. Pilots can then expect radar vector from ATC.

15 COORDINATES OF SID/STAR WAYPOINTS (WGS84 DATUM)

Name	Latitude	Longitude	Radius/Distance from VTK	Radius/DIstance from SJ
AKOMA	014522N	1035443E	VTK R-342.0 / D21.4	SJ R-006.2 / D32.0
ALFA	013033N	1034942E	VTK R-295.7 / D12.9	SJ R-354.8 / D 17.2

Name	Latitude	Longitude	Radius/Distance from VTK	Radius/DIstance from SJ
ANITO	001700S	1045200E	VTK R-153.4 / D113.4	SJ R-146.0 / D108.6
ARAMA	013654N	1030712E	VTK R-282.4 / D55.5	SJ R-298.0 / D50.0
ASUNA	005948N	1030954E	VTK R-244.1 / D57.3	SJ R-252.0 / D43.6
ATKAX	000512N	1065946E	VTK R-113.9 /D 195.5	SJ R-109.7 / D200.6
ATVIX	000224N	1061453E	VTK R-121.5 / D157.0	SJ R-116.1 / D160.3
BIDUS	013554N	1035755E	VTK R-326.0 / D13.2	SJ R-006.9 / D22.6
BIKTA	024337N	1034308E	VTK R-346.9 / D80.4	SJ R-355.0 / D90.2
BIPOP	013122N	1041018E	VTK R-054.5 / D11.0	SJ R-046.8 / D26.2
BOBAG	010230N	1032954E	VTK R-234.7 / D38.6	SJ R-243.2 / D24.0
BOKIP	010421N	1034353E	VTK R-220.5 / D27.0	SJ R-219.5 / D11.6
BTM	010813N	1040758E	VTK R-158.2 / D17.9	SJ R-107.0 / D17.5
DOBLU	010347N	1041315E	VTK R-150.4 / D24.2	SJ R-113.4 / D24.0
DOKTA	012606N	1041040E	VTK R-083.0 / D9.4	SJ R-057.0 / D23.2
DOSNO	004757N	1041409E	VTK R-160.8 / D39.0	SJ R-137.8 / D34.1
DOVAN	011938N	1041249E	VTK R-114.6 / D12.7	SJ R-073.9 / D22.5
DUNAL	010138N	1035808E	VTK R-187.9 / D23.4	SJ R-149.4 / D13.5
HOSBA	011948N	1042418E	VTK R-102.5 / D23.6	SJ R-079.0 / D33.7
IBULA	005036N	1043600E	VTK R-134.5 / D48.7	SJ R-116.8 / D50.2
IGNON	010847N	1041257E	VTK R-144.1 / D19.8	SJ R-101.8 / D22.2
IKAGO	003816N	1052931E	VTK R-117.7 / D99.8	SJ R-109.5 / D104.4
IKIMA	004314N	1045500E	VTK R-127.6 / D67.9	SJ R-115.1 / D70.5
JB (JAYBEE)	013000N	1034242E	VTK R-285.1 / D19.3	SJ R-332.6 / D18.6
KARTO	011124N	1053343E	VTK R-098.3 / D93.5	SJ R-091.1 / D102.6
KEXAS	011019N	1044818E	VTK R-107.2 / D49.2	SJ R-093.0 / D57.2
KIBOL	025229N	1042805E	VTK R-017.1 / D91.2	SJ R-020.5 / D105.3
KILOT	030217N	1044023E	VTK R-022.0 / D104.5	SJ R-024.4 / D119.0
KK (KONG KONG)	013118N	1035924E	VTK R-343.1 / D6.6	SJ R-024.6 / D19.6
LAVAX	010950N	1042714E	VTK R-120.1 / D30.0	SJ R-095.5 / D36.2
LELIB	012729N	1032450E	VTK R-274.0 / D36.6	SJ R-298.0 / D30.0
MABAL	032826N	1051236E	VTK R-030.1 / D142.1	SJ R-031.2 / D157.2
NITAD	013257N	1040154E	VTK R-004.1 / D8.0	SJ R-028.7 / D22.2
NYLON	013657N	1040624E	VTK R-023.0 / D13.0	SJ R-032.9 / D30.0
PASPU	015915N	1040618E	VTK R-008.3 / D34.5	SJ R-018.3 / D48.1
PIBAP	023023N	1040618E	VTK R-004.4 / D65.3	SJ R-011.1 / D78.1
PIMOK	012648N	1032008E	VTK R-272.6 / D41.3	SJ R-293.2 / D33.9
POSUB	012725N	1040748E	VTK R-069.0 / D6.9	SJ R-049.8 / D21.7
REKOP	013306N	1030521E	VTK R-278.3 / D56.6	SJ R-293.1 / D50.0
REMES	004342N	1035735E	VTK R-185.2 / D41.2	SJ R-167.9 / D30.2
REPOV	001623N	1040300E	VTK R-178.6 / D68.2	SJ R-168.3 / D57.9
RUTOT	011453N	1041948E	VTK R-118.4 / D21.0	SJ R-087.0 / D28.6
RWY 02C DER	012152N	1040000E	VTK R-203.5 / D3.3	SJ R-046.0 / D12.2
RWY 02L DER	012305N	1035933E	VTK R-224.1 / D2.5	SJ R-040.6 / D12.8
RWY 20C DER	011935N	1035902E	VTK R-203.3 / D5.8	SJ R-051.5 / D10.0
RWY 20R DER	012047N	1035835E	VTK R-213.7 / D4.9	SJ R-044.8 / D10.4
SABUG	011554N	1040312E	VTK R-168.2 / D9.2	SJ R-078.1 / D12.2
SAMKO	010530N	1035255E	VTK R-203.0 / D21.1	SJ R-168.0 / D8.0
SANAT	010749N	1035930E	VTK R-186.1 / D17.1	SJ R-123.7 / D9.9
SJ (SINJON)	011322N	1035116E	-	-
SUDPO	011731N	1035808E	VTK R-203.4 / D8.0	SJ R-059.0 / D8.0
SUNVA	011756N	1035722E	VTK R-209.7 / D8.0	SJ R-053.3 / D7.6
SUSIN	011229N	1035808E	VTK R-194.5 / D12.8	SJ R-097.2 / D6.9
TOKIM	012933N	1040315E	VTK R-022.7 / D5.0	SJ R-036.7 / D20.1
TOMAN	012147N	1054717E	VTK R-091.7 / D106.2	SJ R-085.9 / D116.5
TOPOM	012955N	1040227E	VTK R-012.8 / D5.1	SJ R-034.2 / D20.0
VENIX	002156S	1060521E	VTK R-130.6 / D163.5 NM	SJ R-125.3 / D164.3
VENPA	002141N	1044955E	VTK R-142.3 / D79.6	SJ R-131.2 / D78.1

Name	Latitude	Longitude	Radius/Distance from VTK	Radius/DIstance from SJ
VEPLI	035223N	1040542E	VTK R-001.7 / D146.8	SJ R-005.2 / D158.9
VINIL	025500N	1040618E	VTK R-003.2 / D89.8	SJ R-008.5 / D102.3
VJB	013950.4N	1033939.2E	-	-
VMR	022318N	1035218E	VTK R-351.2 / D58.8	SJ R-000.9 / D69.6
VPK	032259N	1032524E	VTK R-343.0 / D122.9	SJ R-348.7 / D131.6
VTK (TEKONG)	012455N	1040120E	-	-

16 ARRIVING AIRCRAFT

16.1 The pilot-in-command of an arriving aircraft shall contact the appropriate Approach Control Unit 10 minutes before entering the CTR or ATZ.

17 LIGHT AIRCRAFT OPERATIONS

17.1 Light aircraft operations into and out of Singapore Changi Airport may be approved subject to the following conditions:

a. Prior permission has been granted;
b. Aircraft is suitably equipped;
c. Pilot is appropriately rated;
d. Subject to ATC.

17.2 Flight notification shall be given by filing a flight plan.

17.3 All such operations will be regulated in accordance with IFR procedures.

WSSS AD 2.23 ADDITIONAL INFORMATION

1 BIRD CONCENTRATION IN THE VICINITY OF THE AIRPORT

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

- cattle egrets (weighing approximately 300g each)
- grey herons (weighing approximately 500g each)
- brahminy kites (weighing approximately 600g each)

1.2 There could be an increase in bird activities during the migratory months of September to April. During this period, migratory birds may use the airport as their feeding ground. Handheld laser device, long range acoustic device and alternating amplified bird cries of distress are used for bird dispersal within Singapore Changi Airport.

WSSS AD 2.24 CHARTS RELATED TO AN AERODROME

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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

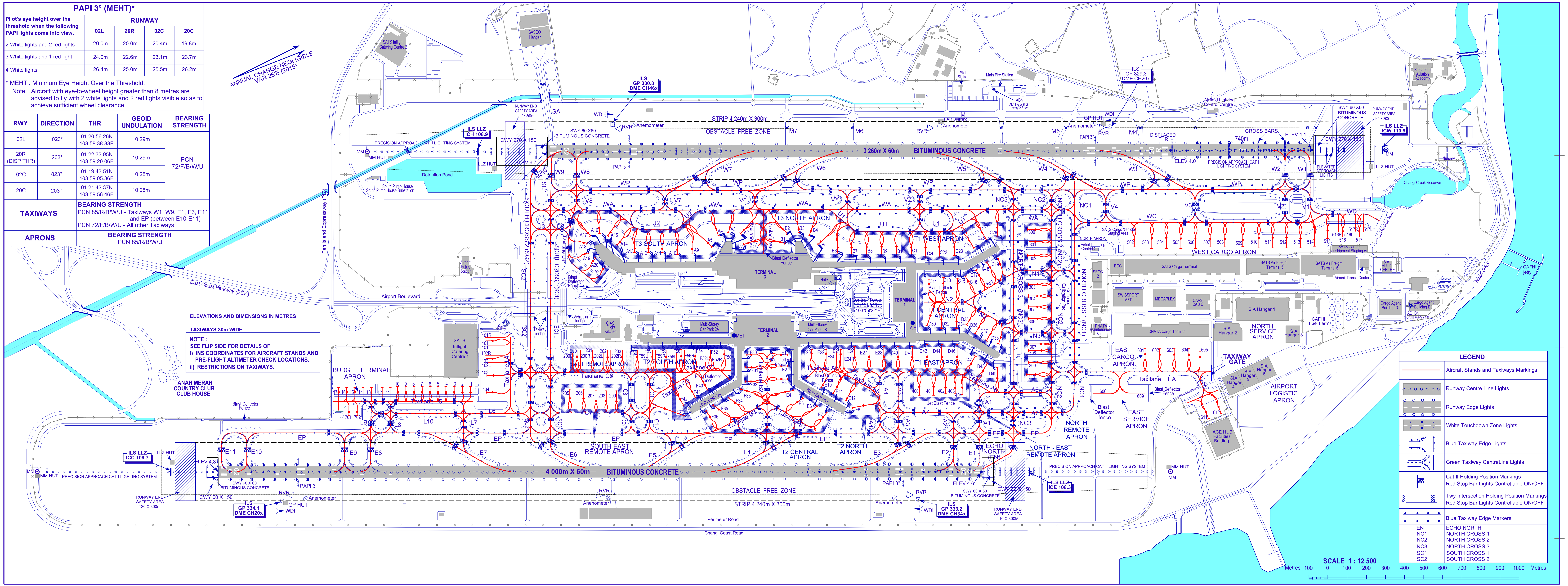
PAPI 3° (MEHT)*				
Pilot's eye height over the threshold when the following PAPI lights come into view.	RUNWAY			
	02L	20R	02C	20C
2 White lights and 2 red lights	20.0m	20.0m	20.4m	19.8m
3 White lights and 1 red light	24.0m	22.6m	23.1m	23.7m
4 White lights	26.4m	25.0m	25.5m	26.2m

* 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



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 Red Stop Bar Lights Controllable ON/OFF
	Twy Intersection Holding Position Markings 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

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

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION
T3 SOUTH APRON	A1	01 21 21.52	103 59 06.25	4.75m (15.58ft)
	A2	01 21 21.75	103 59 04.00	4.65m (15.26ft)
	A3	01 21 19.86	103 59 02.79	4.66m (15.29ft)
	A4	01 21 17.61	103 59 02.54	4.79m (15.72ft)
	A5	01 21 15.50	103 59 03.62	4.86m (15.94ft)
	A9	01 21 12.56	103 59 03.65	5.02m (16.47ft)
	A10	01 21 10.34	103 59 02.40	5.04m (16.54ft)
	A11	01 21 07.93	103 59 01.41	5.25m (17.22ft)
	A12	01 21 05.76	103 59 00.49	5.38m (17.65ft)
	A13	01 21 03.59	103 58 59.58	5.48m (17.98ft)
	A14	01 21 01.66	103 58 57.59	5.57m (18.27ft)
	A15	01 21 00.77	103 58 55.41	5.46m (17.91ft)
	A16	01 20 59.27	103 58 54.20	5.51m (18.08ft)
	A17	01 20 57.25	103 58 54.06	5.23m (17.16ft)
	A18	01 20 55.87	103 58 55.25	5.37m (17.62ft)
	A19	01 20 55.26	103 58 57.13	5.40m (17.72ft)
	A20	01 20 56.09	103 58 58.83	5.45m (17.88ft)
	A21	01 20 57.10	103 59 00.80	5.49m (18.01ft)
T3 NORTH APRON	B1	01 21 26.86	103 59 08.37	4.82m (15.81ft)
	B2	01 21 28.18	103 59 06.82	4.68m (15.35ft)
	B3	01 21 30.33	103 59 07.30	4.65m (15.26ft)
	B4	01 21 32.03	103 59 08.60	4.75m (15.58ft)
	B5	01 21 32.98	103 59 10.89	4.80m (15.75ft)
	B6	01 21 35.15	103 59 13.16	4.96m (16.27ft)
	B7	01 21 37.65	103 59 13.93	4.97m (16.31ft)
	B8	01 21 39.94	103 59 15.20	5.09m (16.70ft)
	B9	01 21 42.19	103 59 16.16	5.13m (16.83ft)
	B10	01 21 44.47	103 59 17.12	5.10m (16.73ft)
T1 WEST APRON	C1	01 21 46.75	103 59 18.08	5.09m (16.70ft)
	C20	01 21 48.83	103 59 19.23	5.08m (16.67ft)
	C22	01 21 51.00	103 59 20.13	5.15m (16.90ft)
	C23	01 21 53.56	103 59 20.77	5.08m (16.67ft)
	C24	01 21 56.54	103 59 20.97	4.89m (16.04ft)
	C25	01 21 59.12	103 59 20.59	4.99m (16.37ft)
	C26	01 22 01.48	103 59 20.76	5.01m (16.44ft)
T1 CENTRAL APRON	C11	01 21 47.42	103 59 23.82	5.07m (16.63ft)
	C13	01 21 49.64	103 59 24.75	5.05m (16.57ft)
	C15	01 21 51.90	103 59 25.71	5.05m (16.57ft)
	C16	01 21 53.63	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 42.70	103 59 34.48	5.11m (16.77ft)
	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 33.46	103 59 30.93	5.03m (16.50ft)
	E28	01 21 35.74	103 59 31.89	5.08m (16.67ft)
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 06.28	103 59 29.29	4.90m (16.08ft)
	F36	01 21 04.34	103 59 29.67	4.82m (15.81ft)

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

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION
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	101	01 20 34.88	103 59 04.05	4.49m (14.73ft)
	101L	01 20 34.60	103 59 04.70	4.60m (15.09ft)
	101R	01 20 35.11	103 59 03.50	4.53m (14.86ft)
	102	01 20 33.76	103 59 06.65	4.48m (14.73ft)
	102L	01 20 33.53	103 59 07.33	4.62m (15.16ft)
	102R	01 20 34.00	103 59 06.10	4.60m (15.09ft)
	103	01 20 32.88	103 59 09.35	4.67m (15.32ft)
	104	01 20 31.77	103 59 11.96	4.39m (14.40ft)
	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)
EAST CARGO APRON	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 25.18	103 59 52.75	4.27m (14.01ft)
EAST SERVICE APRON	606	01 22 09.09	103 59 53.22	2.70m (8.86ft)
	609	01 22 12.19	103 59 54.57	3.01m (9.88ft)
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)

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

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION
BUDGET TERMINAL APRON	1	01 20 28.69	103 59 10.05	3.97m (13.02ft)
	2	01 20 27.39	103 59 09.51	4.04m (13.25ft)
	3	01 20 26.09	103 59 08.96	3.90m (12.80ft)
	4	01 20 24.80	103 59 08.41	3.86m (12.66ft)
	5	01 20 23.50	103 59 07.86	3.85m (12.63ft)
	6	01 20 22.20	103 59 07.32	3.86m (12.66ft)
	7	01 20 20.90	103 59 06.77	3.83m (12.57ft)
	8	01 20 19.60	103 59 06.22	3.84m (12.60ft)
	9	01 20 18.31	103 59 05.67	3.83m (12.57ft)
	10	01 20 17.03	103 59 05.07	3.85m (12.63ft)
	11	01 20 15.77	103 59 04.43	3.90m (12.80ft)
	12	01 20 14.50	103 59 03.89	3.94m (12.93ft)
	13	01 20 12.78	103 59 03.16	3.99m (13.09ft)
	14	01 20 11.48	103 59 02.62	4.01m (13.16ft)
	15	01 20 10.33	103 59 01.72	4.60m (15.09ft)
	16	01 20 09.03	103 59 01.17	4.60m (15.09ft)
	17	01 20 07.74	103 59 00.62	4.60m (15.09ft)
	701	01 20 07.51	103 59 05.69	5.03m (16.50ft)
	702	01 20 08.81	103 59 06.24	5.03m (16.50ft)

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) Pilots operating aircraft with wheelbase longer than B747 or 26m shall take note that judgemental oversteering may be required when manoeuvring round taxiway turns.

4) TWY NC3 (between TWY WA and TWY A6) is a TWY with reduced minimum separation distances between the TWY centreline and object. Due to the reduced minimum separation distances, pilots are advised to adhere strictly to the TWY centreline and to slow down the taxi speed accordingly. TWY NC3 (between TWY WA and TWY A6) can only be used by aircraft with maximum wingspan 65m.

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

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

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

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

9) 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).

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

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

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

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

14) 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.

→ 15) TWY M, M4, M5, M6 and M7 are solely for use by Republic of Singapore Air Force (RSAF) aircraft.

→ 16) 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.

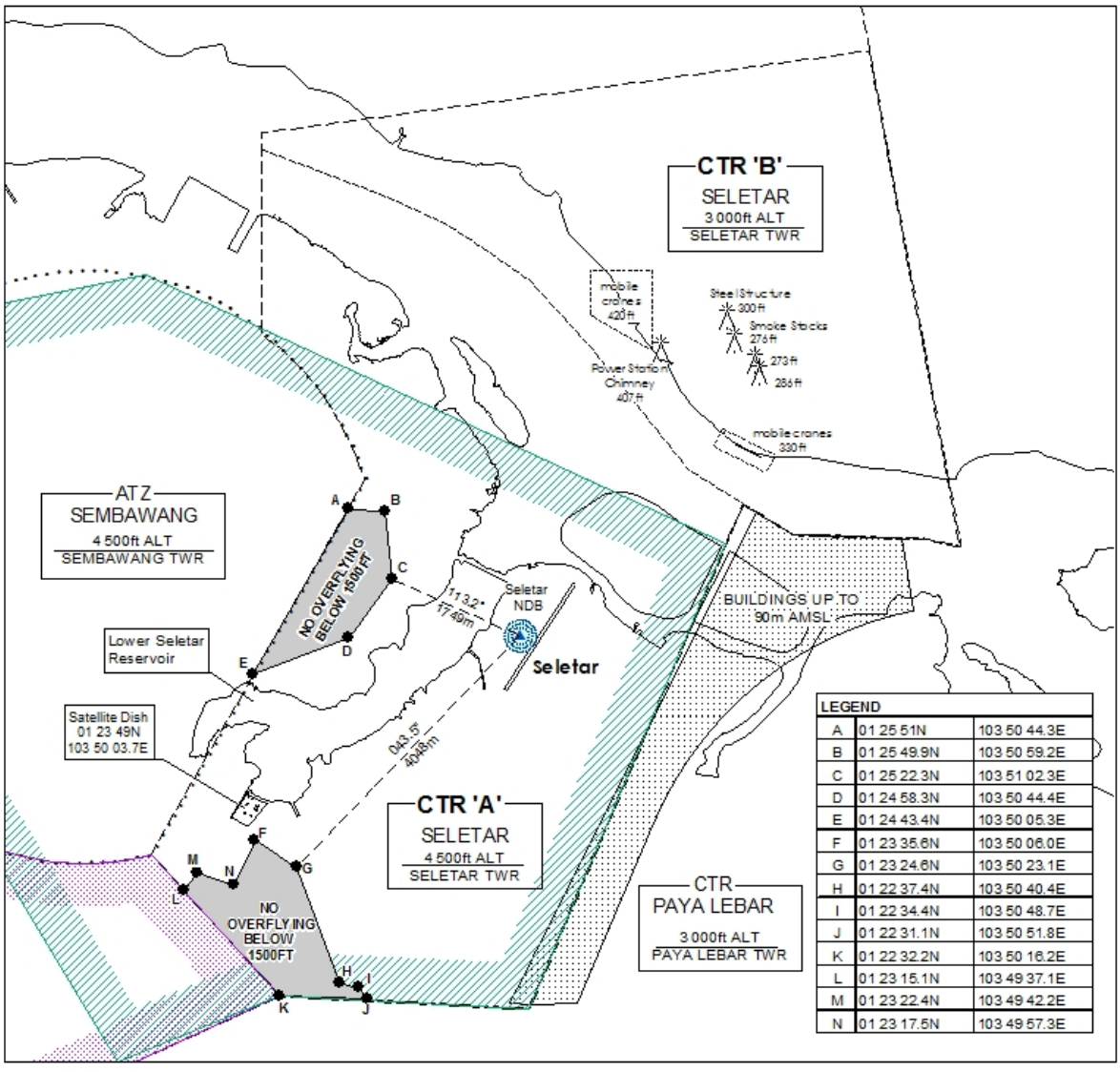
AIRCRAFT STANDS WITH SAFEGATE AIRCRAFT DOCKING GUIDANCE SYSTEM.

→ TOTAL AIRCRAFT PARKING POSITIONS : 180

← 1.2 Aircraft are restricted from overflying the built-up residential areas around Seletar Airport that are bounded by the following points, at any altitude below 1,500ft (see Charts AD-2-WSSL-VAC-1, AD-2-WSSL-VAC-2, AD-2-WSSL-VAC-3 AND AD-2-WSSL-VAC-4):

POINT	COORDINATES
A	012551.0N 1035044.3E
B	012549.9N 1035059.2E
C	012522.3N 1035102.3E
D	012458.3N 1035044.4E
E	012443.4N 1035005.3E
F	012335.6N 1035006.0E
G	012324.6N 1035023.1E
H	012237.4N 1035040.4E
I	012234.4N 1035048.7E
J	012231.1N 1035051.8E
K	012232.2N 1035016.2E
L	012315.1N 1034937.1E
M	012322.4N 1034942.2E
N	012317.5N 1034957.3E

← 1.3 The map below shows the location of the satellite dishes as well as the overflight restriction areas west and south of Seletar Control Zone.



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1.4 Aircraft types which are unable to safely manoeuvre clear of the built-up residential areas are not allowed to operate at Seletar Airport. As a visual reference, pilots may wish to use the satellite dish located south of 012349.0N 1035003.7E (Lower Seletar Reservoir) as a guide when making approaches for Runway 03.

1.5 Freighter flights are not permitted between 1400-2300.

1.6 No engine run up shall be permitted between 1400-2300.

WSSL AD 2.22 FLIGHT PROCEDURES

1 PROCEDURES FOR ARRIVALS INTO SELETAR AERODROME

1.1 Introduction

1.1.1 Aircraft on VFR flight plan, routing via Tebrau City Mall (013259N1034748E) to Seletar shall follow the joining procedures as described in paragraph 1.2 and illustrated in charts AD-2-WSSL-VAC-1, AD-2-WSSL-VAC-2 and AD-2-WSSL-VFR-1.

1.1.2 Aircraft returning from Light Aircraft Training Areas shall follow the joining procedures as described in paragraph 1.3 and illustrated in charts AD-2-WSSL-VAC-1 and AD-2-WSSL-VAC-2.

1.1.3 Aircraft on IFR flight plan, routing via JB or KK to Seletar shall be vectored under radar for a visual approach. Paya Lebar Approach shall provide the radar service. When Paya Lebar Approach is closed, Singapore Approach shall provide the service. Unless authorised by ATC, pilots shall follow the joining procedures as described in paragraph 1.4 and 1.5. The joining procedures are illustrated in charts AD-2-WSSL-VAC-3 , AD-2-WSSL-VAC-4, AD-2-WSSL-IFR-1 and AD-2-WSSL-IFR-2.

1.1.4 When within 5km of the aerodrome reference point, aircraft are to fly; at a manoeuvring speed of not more than 170kt unless otherwise authorised by ATC. All aircraft are required to keep well clear of Sembawang ATZ and Paya Lebar CTR.

1.1.5 Circuit traffic already downwind shall have priority. Arriving aircraft shall position and sequence itself accordingly, unless directed otherwise by ATC.

1.1.6 Pilots shall not fly east of the runway. This is due to tall buildings up to 90m (296ft) AMSL to the east of Seletar CTR (the location is depicted in charts AD-2-WSSL-VAC-1 to AD-2-WSSL-VAC-4.

1.2 Joining Procedures for VFR flights from Tebrau City Mall (013259N1034748E)

1.2.1 Aircraft on VFR flight plan joining Seletar CTR from East of JB Town are to descend to altitude cleared by ATC. From Tebrau City Mall (013259N1034748E) descend in VMC to altitude cleared by ATC and proceed to POINT 'X' (located 012830N 1034954E or radial 297/7DME from PU DVOR/DME) keeping clear of WMP228 and then direct to overhead the airfield.

1.2.2 When overhead the airfield, the joining aircraft shall make a turn overflying the runway and after passing abeam the Control Tower, commence descent as cleared to cross the upwind end of the runway at 1,500ft. Passing over the end of the runway, descend to circuit altitude as cleared by ATC. Pilots shall ensure to keep clear of Sembawang ATZ and Paya Lebar CTR and not to fly east of the runway. This is to keep clear of tall buildings up to 90m AMSL to the east of Seletar CTR. The area where the tall buildings are located is indicated in the Seletar Visual Approach Charts AD-2-WSSL-VAC-1 to AD-2-WSSL-VAC-4. Procedures are illustrated in the following charts:

i. AD-2-WSSL-VAC-1 : Visual Approach Chart - RWY 03
ii. AD-2-WSSL-VAC-2 : Visual Approach Chart - RWY 21

1.2.3 Traffic permitting and in good visibility, joining aircraft may be cleared to join directly for right base when landing on RWY 21 or turn downwind for RWY 03 from Position 'A'.

1.3 Joining Procedures from Light Aircraft Training Areas

1.3.1 Unless otherwise authorised by ATC, aircraft are to join overhead the airfield at 2,000ft keeping clear of Sembawang ATZ and Paya Lebar CTR.

1.3.2 When overhead the airfield, the joining aircraft shall make a turn to the eastern side of the runway and after passing abeam the Control Tower, commence descent as cleared to cross the upwind end of the runway at 1,500ft. Passing over the end of the runway, descend to circuit altitude as cleared by ATC. Pilots shall ensure to keep clear of Sembawang ATZ and Paya Lebar CTR and not to fly east of the runway. This is to keep clear of tall buildings up to 90m AMSL to the east of Seletar CTR. The area where the tall buildings are located is

indicated in the Seletar Approach Charts AD-2-WSSL-VAC-1 to AD-2-WSSL-VAC-4. Procedures are illustrated in the following charts:

i. AD-2-WSSL-VAC-1: Visual Approach Chart - RWY 03
ii. AD-2-WSSL-VAC-2: Visual Approach Chart - RWY 21

1.3.3 Traffic permitting and in good visibility, joining aircraft may be cleared to join directly for right base when landing on RWY 21 or turn downwind for RWY 03 from Position 'A'.

1.4 Joining Procedures for IFR flights from KK or JB - RWY 03

1.4.1 From KK
Cross KK at or above 3,000ft. On passing KK descend in VMC to 2,000ft or altitude cleared by ATC and join downwind RWY 03.

i. Straight-in-Approach
Join downwind RWY 03 at 2,000ft (keeping clear of Sembawang ATZ). When downwind descend from 2,000ft for visual approach RWY 03, or as cleared by ATC. Pilots should have the runway in sight.

ii. Circling Approach
Join downwind RWY 03 at 2,000ft (keeping clear of Sembawang ATZ). At end of downwind turn left and overfly the runway. When passing over Position A (north end of the runway), descend from 2,000ft to 1,500ft and turn left for downwind RWY 03. At downwind descend for a visual approach RWY 03 or as cleared by ATC. Pilots should have the runway in sight.

1.4.2 From JB
Cross JB at or above 6,000ft enroute to Point ALFA. On passing Point ALFA, descend in VMC to 2,000ft or altitude cleared by ATC. (Point ALFA is located at 013033N 1034942E or Radial 296/7 DME VTK)

i. Straight-in-approach
On passing Point ALFA, turn right for downwind RWY 03 (keeping clear of Sembawang ATZ). At downwind descend from 2,000ft for a visual approach RWY 03, or as cleared by ATC. Pilots should have the runway in sight.

ii. Circling Approach
On passing Point ALFA, turn right for downwind RWY 03 (keeping clear of Sembawang ATZ). At end of downwind, turn left and overfly the runway. Passing over Position A (north end of the runway), descend from 2,000ft to 1,500ft and turn left for downwind RWY 03. At downwind descend for a visual approach RWY 03 or as cleared by ATC. Pilots should have the runway in sight. Procedures are illustrated in the following charts:

* AD-2-WSSL-VAC-3 : Visual Approach Chart - RWY 03

* AD-2-WSSL-IFR-1 : Seletar Aerodrome joining Procedures (IFR flights) from JB and KK - RWY 03

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1.5 Joining Procedures for IFR flights from KK or JB - RWY 21

1.5.1 From KK
Cross KK at or above 3,000ft. On passing KK descend in VMC to 2,000ft or altitude cleared by ATC.

i. Straight-in-Approach
Join direct for a straight-in visual approach Rwy 21 descending from 2,000ft, or as cleared by ATC. Pilots should have the runway in sight.

ii. Circling Approach
Overfly the runway at 2,000ft, or as cleared by ATC. Passing over Position A (the south-end of the runway), descend from 2,000ft to 1,500ft and turn right for downwind RWY 21 (keeping clear of Light Aircraft Training Area A and Sembawang ATZ). At downwind descend for a visual approach RWY 21 or as cleared by ATC. Pilots should have the runway in sight.

1.5.2 From JB

Cross JB at or above 6,000ft enroute to Point ALFA. On passing Point ALFA, descend in VMC to 2,000ft or altitude cleared by ATC. (Point ALFA is loc at 013033N 1034942E or Radial 296 VTK)

i. Straight-in-approach
On passing Point ALFA, join direct for a straight-in visual approach RWY 21 descending from 2,000ft, or as cleared by ATC (keeping clear of Sembawang ATZ).

ii. Circling Approach
On passing Point ALFA, overfly the runway at 2,000ft. When passing over Position A (the south end of the RWY), descend from 2,000ft to 1,500ft and turn right for downwind RWY 21 (keeping clear of Light Aircraft Training Area A and Sembawang ATZ). At downwind descend for a visual approach RWY 21 or as cleared by ATC. Pilots should have the runway in sight. Procedures are illustrated in the following charts:

* AD-2-WSSL-VAC-4 : Visual Approach Chart - RWY 21
* AD-2-WSSL-IFR-2 : Seletar Aerodrome Joining Procedures (IFR flights) from JB and KK - RWY 21

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1.6 Holding Procedure

1.6.1 A low level holding procedure is established at SJ DVOR/DME. Suitably equipped aircraft bound for Seletar which may wish to hold for weather improvement may use this procedure (ENR 3.6-3 refers)

1.7 Approaches to Seletar Aerodrome

1.7.1 A deep-water shipping channel approximately 1525m from the northern threshold cuts across the extended centreline of Seletar RWY 21.

1.7.2 Information on the mast heights of tall vessels is relayed to ATC by Maritime and Port Authority of Singapore. ATC shall inform pilots of landing and departing aircraft of such information if the reported mast height of the vessel is above 30m.

1.7.3 At night ATC shall not permit landing on RWY 21 when vessels of mast height above 30m are reported.

1.7.4 Aircraft making approaches into Seletar are required to keep clear of Sembawang ATZ.

1.7.5 Aircraft are restricted from overflying built-up residential areas around Seletar Airport (charts AD-2-WSSL-VAC-1 to AD-2-WSSL-VAC-4 refer) at an altitude of below 1,500ft. Aircraft types which are unable to safely manoeuvre clear of the built-up residential areas are not allowed to operate at Seletar Airport.

2 DEPARTURES FROM SELETAR AERODROME

2.1 Aircraft departing Seletar on RWY 21 are required to keep clear of Sembawang ATZ.

2.2 The pilot-in-command or the operator of IFR flight operating out of Seletar is required to file via KK under Item 15 of the flight plan.

WSSL AD 2.23 ADDITIONAL INFORMATION

1 BIRD ACTIVITY

1.1 Bird activities can be expected north of the runway throughout the year. In addition, there could be an increase in bird activities during the bird migratory months from September to April. During this period, migratory birds may use the airport as their resting/feeding ground. Pilots to exercise caution during landing and take-off.

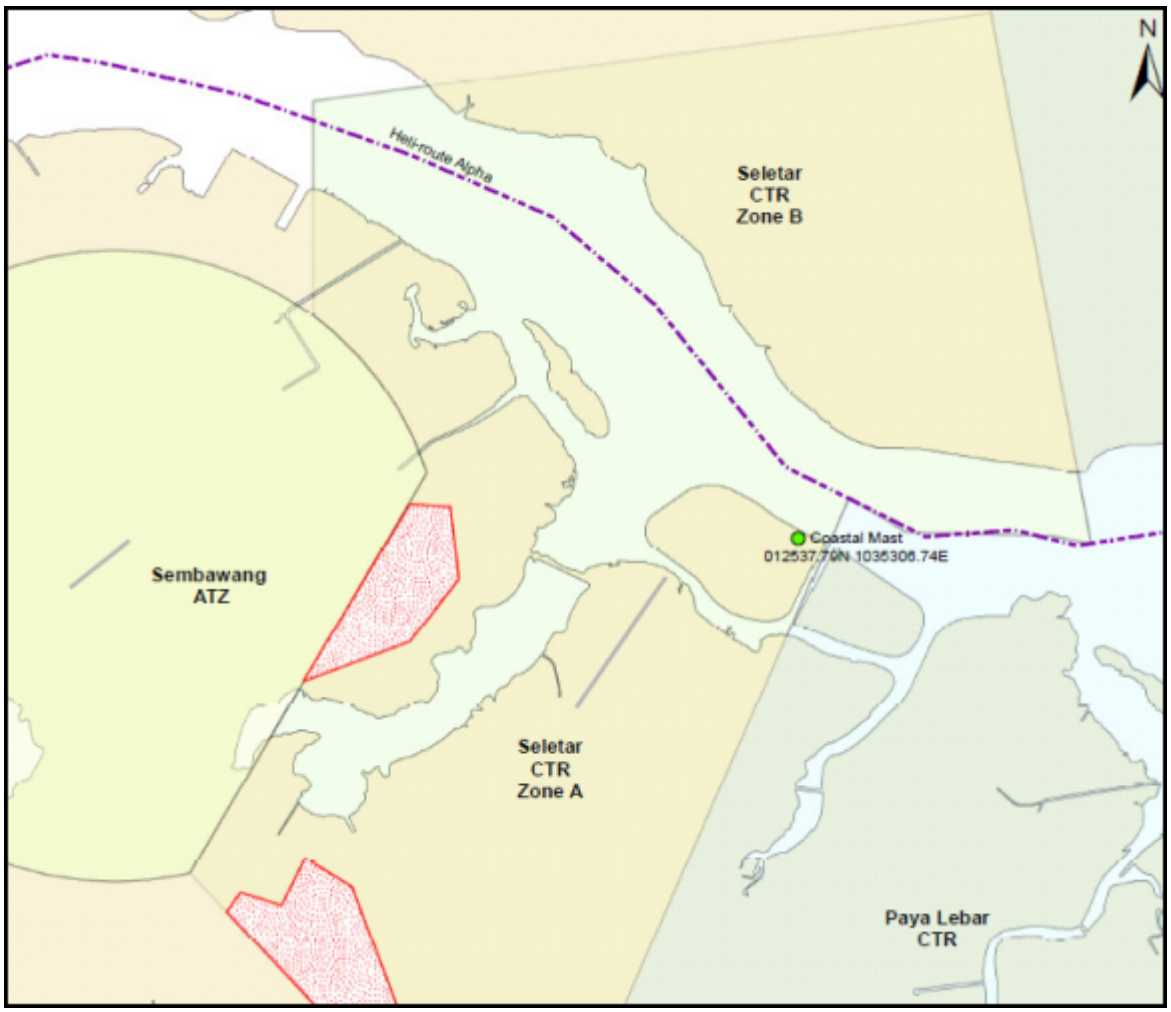
2 HELICOPTER CROSSING SELETAR NORTHERN EXTENDED CENTRELINE

2.1 Due to flying activities in Seletar Control Zone, all helicopters flying on Heli-route Alpha and intending to cross the northern extended centreline of Seletar Aerodrome shall obtain a positive clearance from Seletar Tower on 118.45MHz prior to crossing (see chart below).

2.2 For eastbound crossing, all helicopters are to hold over the western tip of Seletar Island until a clearance has been issued by Seletar Tower.

2.3 For westbound crossing, all helicopters are to hold on Heli-route Alpha abeam the coastal mast until a clearance has been issued by Seletar Tower.

2.4 The holding altitude is 200 feet or otherwise instructed by ATC.



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WSSL AD 2.24 CHARTS RELATED TO SELETAR AIRPORT