

ENR 3.6 EN-ROUTE HOLDING

HLDG ID/FIX/WPT Coordinates	INBD TR (°MAG)	Direction of PTN	MAX IAS (KT)	MNM-MAX HLDG Level	TIME (MIN)	Controlling Unit and Frequency
ASODU 003007N 1032704E	091	Right	220*	FL 130-FL 160	1	Singapore APP 124.6 MHz (PRI) 132.15 MHz (SRY)
BOBAG 38.6 DME VTK R-234.7 24.0 DME SJ R-243.2 010230N 1032954E	082	Right	220*	Low Level 6000 FT - FL 140	1	Singapore APP 124.6 MHz (PRI) 132.15 MHz (SRY)
			250*	High Level FL 150 - FL 180	1	Singapore ACC 133.25 MHz (PRI) 135.8 MHz (SRY)
ELALO 041240N 1043329E	174	Left	300*	FL 280 - FL 350	1.5	Singapore ACC 123.7 MHz (PRI) 127.3 MHz (SRY)
HOSBA 34 DME SJ R-079 24 DME VTK R-103 011948N 1042418E	259	Right	230*	Low Level 7000 FT ALT - FL 140	1	Singapore APP 120.3 MHz (PRI) 133.0 MHz (SRY) 132.15 MHz (SRY)
			265*	High Level FL 150 - FL 250	1.5	Singapore ACC 134.4 MHz (PRI) 128.1 MHz (SRY) 255.4 MHz
KARTO 93.5 DME VTK R-098.3 102.6 DME SJ R-091.1 011124N 1053343E	268	Left	250*	FL 170 - FL 310	1.5	Singapore ACC 134.2 MHz (PRI) 133.35 MHz (SRY)
KEXAS 49.2 DME VTK R-107.2 011019N 1044818E	268	Left	220*	11000 FT ALT - FL 160	1	Singapore APP 124.05 MHz (PRI) 132.15 MHz (SRY)
KILOT 030217N 1044023E	227	Left	250*	FL 220 - FL 270	1.5	Singapore ACC 134.7 MHz (PRI) 134.15 MHz (SRY)
LAMA 7 DME PU R-024 013150N 1035850E	204	Right	230*	2500 FT ALT - FL140	1	Singapore APP 126.025 MHz (PRI) 132.15 MHz (SRY)
MABAL 142.1 DME VTK R-030.1 157.2 DME SJ R-031.2 032826N 1051236E	231	Left	300*	FL 280- FL 350	1.5	Singapore ACC 123.7 MHz (PRI) 127.3 MHz (SRY)
NYLON 13 DME VTK R-023 013657N 1040624E	203	Left	220*	Low Level 3000 FT ALT - FL 140	1	Singapore APP 124.05 MHz (PRI) 132.15 MHz (SRY)
			265*	High Level FL 150 - FL 250	1.5	Singapore ACC 124.6 MHz (PRI) 132.15 MHz (SRY)
REMES 30 DME SJ R-168 004342N 1035735E	348	Left	220*	6000 FT ALT - FL140	1	Singapore APP 124.6 MHz (PRI) 132.15 MHz *SRY)
REPOV 68.2 DME VTK R-178.6 77.9 DME SJ R-168.3 001623N 1040300E	348	Left	250*	FL 150 - FL 250	1.5	Singapore ACC 134.4 MHz (PRI) 128.1 MHz (SRY)
SAMKO 8 DME SJ R-168 21 DME VTKR-203.5 010530N 1035255E	348	Left	220*	Low Level 4000 FT ALT - FL 140	1	Singapore APP 120.3 MHz (PRI) 124.6 MHz (SRY)
			265*	High Level FL 150 - FL 250	1.5	Singapore ACC 133.25 MHz (PRI) 135.8 MHz (SRY)

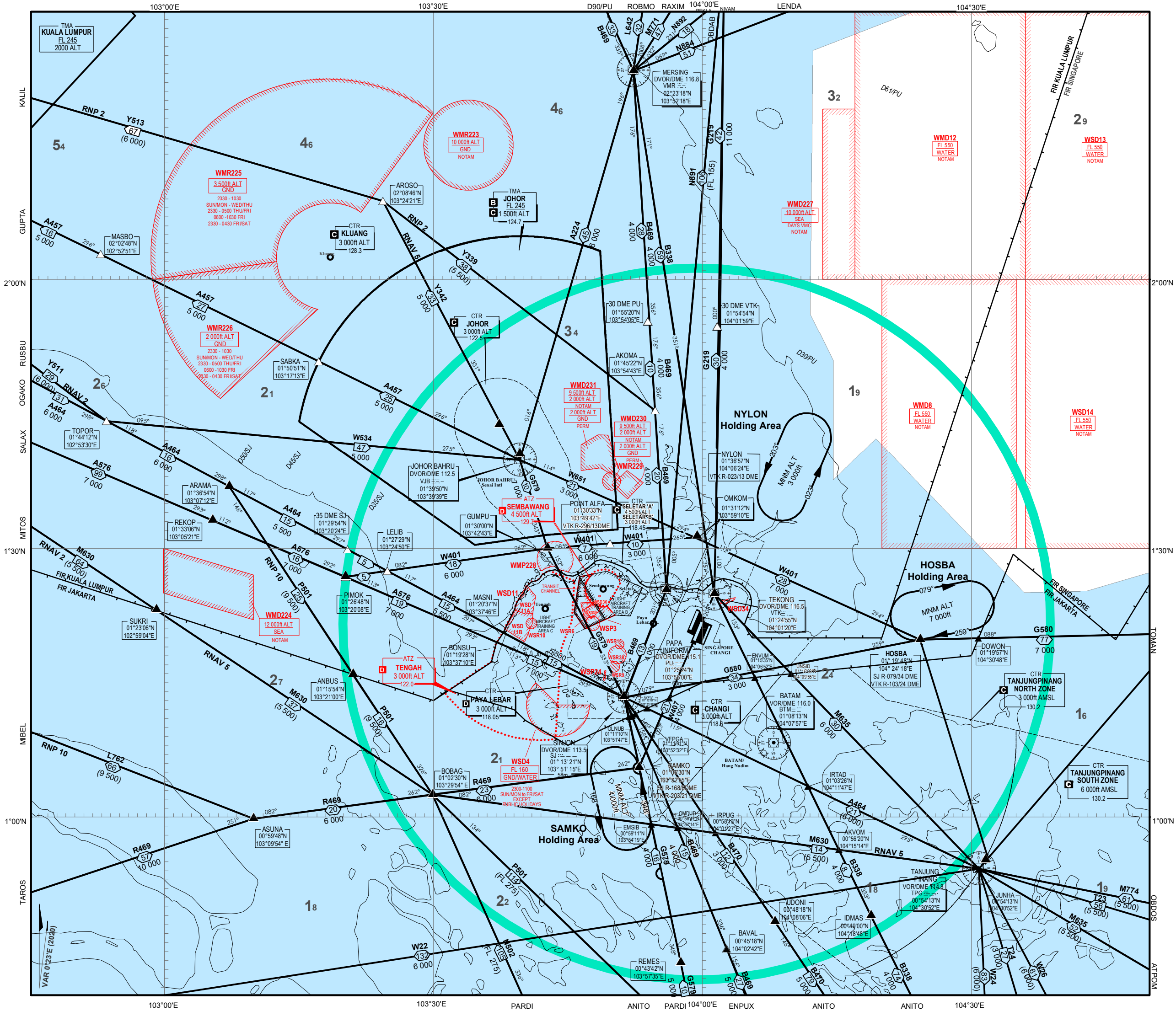
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SINJON SJ DVOR/DME 011321N 1035115E	348	Right	230*	4500 FT ALT - FL 140	1	Singapore APP 120.3 MHZ (PRI) 124.6 MHZ (SRY)
TUSPI 003301N 1040959E	350	Right	220*	4000 FT ALT - 10000 FT ALT	1	Singapore APP 124.6 MHZ (PRI) 132.15 MHZ (SRY)
UGEBO 003813N 1052432E	310	Left	250*	FL 170 - FL 310	1.5	Singapore ACC 134.2 MHZ (PRI) 133.35 MHZ (SRY)
UPSAN 004536N 1045439E	238	Left	220*	150 FL - 11000 FT	1	Singapore APP 124.05 MHZ (PRI) 132.15 MHZ (SRY)
VAMPO 44.5 DME VTK R233.9 005833N 1032525E	149	Right	220*	6000 FT ALT - FL 180	1	Singapore APP 124.6 MHZ (PRI) 132.15 MHZ SRY)

*Maximum speed of 280kt in conditions of turbulence subject to ATC clearance.

ENR 3.6 - Area Chart ICAO - Low level holding areas
ENR 3.6 - Area Chart ICAO - High level holding areas

AREA CHART - ICAO

LOW LEVEL HOLDING AREAS



LEGEND	
Terminal Control Area (TMA)	Name of TMA Airspace Classification Upper Limit Lower Limit Radio frequency(ies) TMA JOHOR FL 145 1 500ft 124.7
Control Zone (CTR)	Name of CTR Airspace Classification Upper Limit Radio frequency(ies) CTR CHANGI 3 000ft 118.6m
Aerodrome Traffic Zone (ATZ)	Name of ATZ Airspace Classification Upper Limit Radio frequency(ies) ATZ TENGGAH 3 000ft 122.0
ATS Routes	Route designator Distance in nautical miles Minimum flight altitude (ft)/flight level Lower limit (ft)/flight level B469 20 4 000/FL 160 (4 000)/(FL 160)
Reporting Point	Compulsory On request ▲ △
DME distance from SJ Navalid	D35/SJ
Radio Navigation Aid	Name Identification and frequency Geographical Coordinates Elevation of DME site SINJON DME 113.5 SJ 113.5 01°13'27"N 103°51'15"E 58m
Collocated VOR and DME Radio Navigation Aids	Compass rose oriented on the chart to Magnetic North
Restricted Airspace (P - Prohibited, R - Restricted, D - Danger)	Identification of area Nationality letter Vertical limits Activation by NOTAM WSD13 FL 400 WATER NOTAM
NOTE :- See flip side for details of designated areas	

Area Minimum Altitude (AMA)

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

Example : 3 400 feet **34**

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

Speed Control Procedures

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

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

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

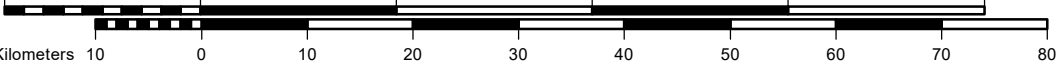
AIRSPACE CLASSIFICATION IN THE SINGAPORE FIR		
Airspace	Levels	Classification
Controlled airspace	FL150 to FL460	A
	Surface to FL150	B
Controlled airspace more than 100 nm seaward from the shoreline	Lower limit to FL460	A
Control Zone (CTRs)	Changi CTR	C
	Paya Lebar CTR	D
	Seletar CTR	C
ATZs	Surface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

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

SINGAPORE	D-ATIS	DEP	128.6
	ARR		128.025
APP	DEP		120.3
	ARR		119.3
	APP		124.05
TWR			118.6
			118.25

Note :

FOR DEPARTURE AND ARRIVAL ROUTES
REFER TO AD-2-WSSS-SID-1 TO AD-2-WSSS-SID-64 AND
AD-2-WSSS-STAR-1 TO AD-2-WSSS-STAR-19



PROHIBITED, RESTRICTED AND DANGER AREAS

	ACTIVITY	UPPER LIMIT LOWER LIMIT	REMARKS
WSP3	-	750ft ALT GND	Permanently Active as in ENR 5
WSD4	A/G and G/G Firing Range	FL 160 GND/WATER	Permanently Active as in ENR 5
WMD8	Naval Air/Air Firing Range	FL 550 WATER	Activation by NOTAM
WSD11	Small Arm Firing	1 300ft ALT GND	Permanently Active as in ENR 5
WSD11A	Artillery Firing	FL 125 GND	Activation by NOTAM
WSD11B	Artillery Firing	FL 125 GND	Activation by NOTAM
WMD12	Naval Anti-aircraft Firing	FL 550 WATER	Activation by NOTAM
WSD13	Naval Anti-aircraft Firing	FL 550 WATER	Activation by NOTAM
WSD14	Naval Anti-aircraft Firing & Live Air/Air Firing	FL 550 WATER	Activation by NOTAM
WSP24	-	800ft ALT GND/WATER	Permanently Active as in ENR 5
WSR6	Helicopter Operations	200ft ALT GND	Permanently Active as in ENR 5
WSR9	Helicopter Operations	400ft ALT GND	Permanently Active as in ENR 5
WSR16	Helicopter Operations	400ft ALT GND	Permanently Active as in ENR 5
WSD34	Rifle Range	500ft ALT GND	Permanently Active as in ENR 5
WSD35	Rifle Range	900ft ALT GND	Permanently Active as in ENR 5
WSD36	Rifle Range	750ft ALT GND	Permanently Active as in ENR 5
WSR10	-	5 500ft ALT GND	Permanently Active as in ENR 5
WSR38	-	10 000ft ALT GND	Permanently Active as in ENR 5
	Transit Channel	2 000ft ALT GND	Activated only for Military acft crossing
*	Light Aircraft Training Area A	4 500ft ALT GND/72 000ft	Training & Local Flts in VMC only
*	Light Aircraft Training Area B	10 500ft ALT 4 500ft ALT	High Flying Training Ops in VMC only
*	Light Aircraft Training Area C	10 500ft ALT 4 500ft ALT	High Flying Training Ops in VMC only
WMR223	Parachute Dropping	10 000ft ALT GND	Permanently Active as in ENR 5
WMD224	Firing Range	12 000ft ALT SEA	Activation by NOTAM
WMR225	RMAF Helicopter Training Area	3 500ft ALT GND	Permanently Active as in ENR 5
WMR226	RMAF Helicopter Training Area	2 000ft ALT GND	Permanently Active as in ENR 5
WMD227	Radar Bombing Range	10 000ft ALT SEA	Activation by NOTAM
WMP228	Sultan's Palace	5 000ft ALT GND	Permanently Active as in ENR 5
WMR229	Helicopter Operations	1 500ft ALT GND	Permanently Active as in ENR 5
WMD230	Artillery Firing Range	2 000ft ALT GND	Permanently Active as in ENR 5
WMD231	Artillery Firing Range	2 000ft ALT GND	Permanently Active as in ENR 5

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

SPECIAL NOTE :-

1. WEATHER BALLOONS

BALLOONS WILL BE RELEASED FOR MET OBSERVATION AT THE CENTRE FOR CLIMATE RESEARCH SINGAPORE, UPPER AIR OBSERVATORY (012025N 1035317E), BEARING 244° MAG AND DISTANCE 1.5NM FROM SOUTHERN END OF PAYA LEBAR RWY 02.

(I) BALLOONS WILL BE RELEASED DAILY AT 2330UTC AND 1040UTC. CUT-OFF TIMINGS FOR THE RELEASE ARE AT 0030UTC AND 1230UTC RESPECTIVLEY. RATE OF ASCENT IS 320M PER MIN. MAX HGT OF BALLOON 115 000FT (35 000M). THE BALLOON, UNCOLOURED AND 162CM IN DIAMETER, IS ATTACHED WITH RADIOSONDE EQUIPMENT. IT WILL BURST 1.5 TO 2HRS AFTER RELEASE AND RADIOSONDE EQUIPMENT WILL DECSEND WITHIN 60NM RADIUS.

(II) A BALLOON WILL BE RELEASED BETWEEN 2330UTC AND 0030UTC ON EITHER THE 3rd OR 4th WEEK OF THE MONTH. RATE OF ASCENT IS 320M PER MIN. MAX HGT OF BALLOONS IS 115 000FT (35 000M). THE BALLOON, UNCOLOURED AND 191CM IN DIAMETER, IS ATTACHED WITH OZONESONDE/RADIOSONDE EQUIPMENT AND PARACHUTE. IT WILL BURST 1.5 TO 2HR AFTER RELEASE.

2. AEROMODELLING AND KITE FLYING

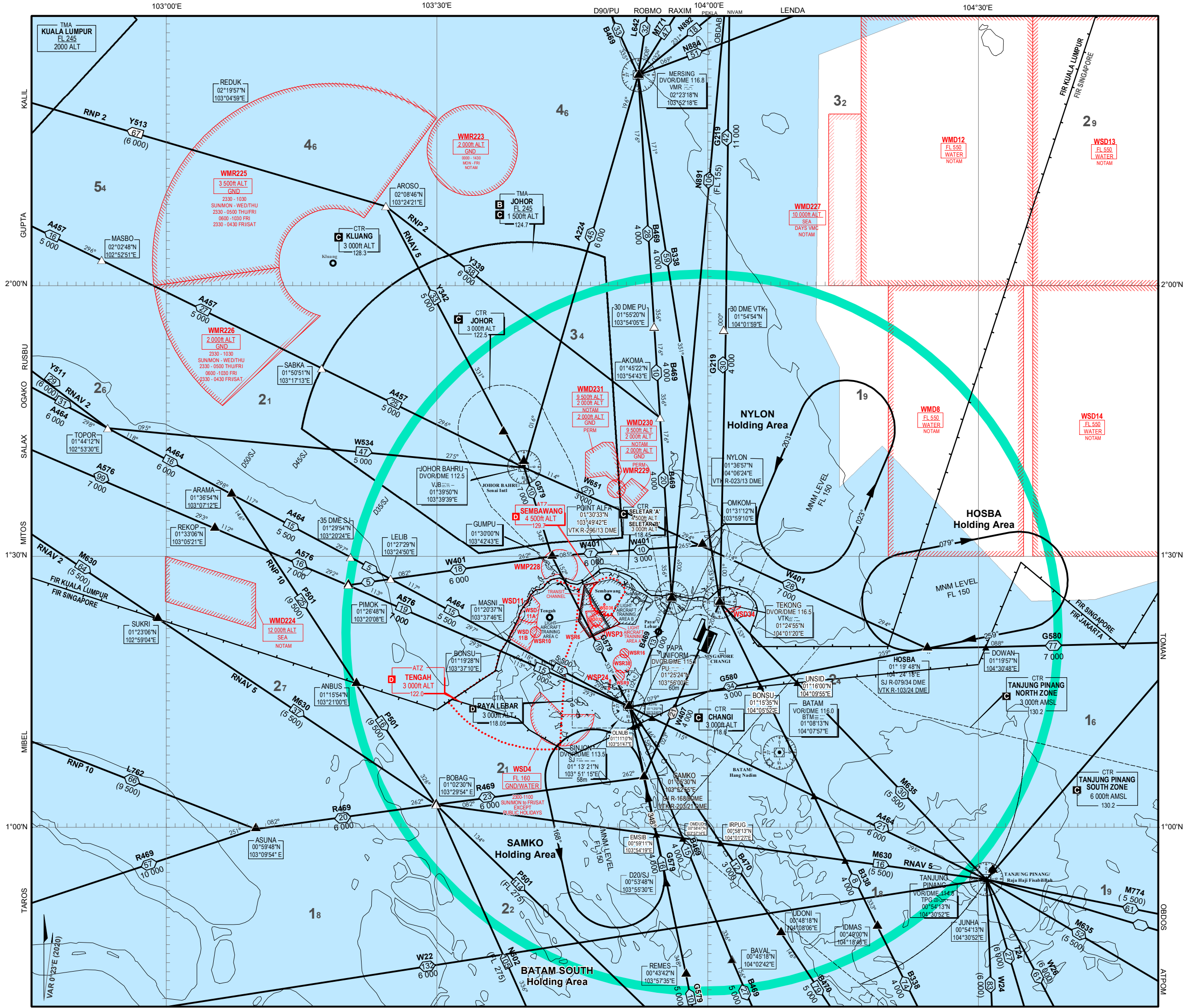
(A) GENERAL WARNING

- i) PILOTS FLYING AT LOW ALTITUDES SHOULD WATCH OUT FOR POSSIBLE HAZARDS SUCH AS MODEL AIRCRAFT AND KITES, ESPECIALLY WHEN FLYING NEAR PARKS AND OPEN GROUND.
- ii) THE LOCATION OF SOME OF THE PARKS IN SINGAPORE WHERE KITE AND AERO MODEL FLYING MAY OCCUR ARE SHOWN ON ENR 3.4-5. PILOTS SHOULD NOTE THAT THE CHART AT ENR 3.4-5 DOES NOT SHOW ALL THE PARKS IN SINGAPORE AND THAT HAZARDS SUCH AS KITE FLYING AND AERO MODEL FLYING MAY TAKE PLACE AT PARKS AND OPEN GROUND NOT INDICATED IN ENR 3.4-5.
- iii) ACCORDING TO THE SINGAPORE AIR NAVIGATION ORDER, 1985, KITE FLYING AND AERO MODEL FLYING ARE NOT PERMITTED ABOVE 200ft OR WITHIN 5km OF AN AERODROME. HOWEVER, PILOTS ARE ADVISED TO LOOK OUT FOR SUCH HAZARDS AT ALL TIMES AS MEMBERS OF THE PUBLIC MAY INADVERTENTLY FLY KITES OR AERO MODELS ABOVE THE HGT OF 200ft OR WITHIN 5km OF AN AERODROME.

* In Transit Channel

AREA CHART - ICAO

HIGH LEVEL HOLDING AREAS



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Oceanic Control Area (OCA)	
Reporting Point	Compulsory On request ▲ △
DME distance from SJ Navalid	D35/SJ
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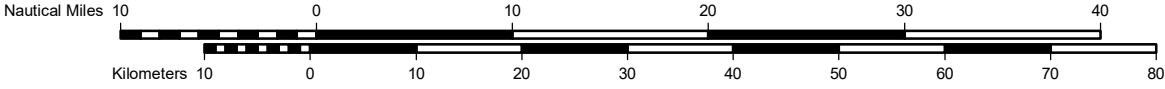
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