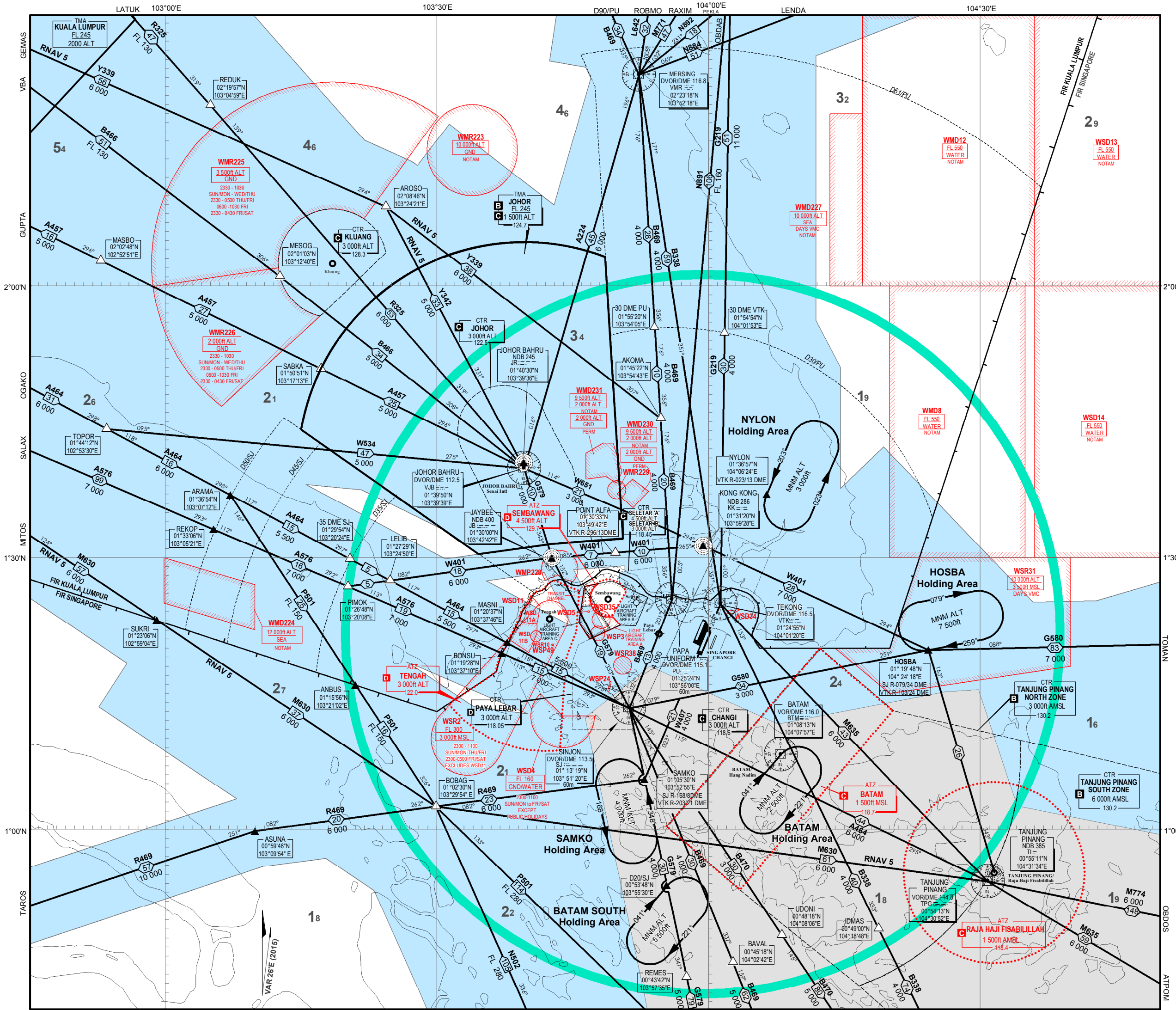


AREA CHART - ICAO

SINGAPORE/JOHOR AIRSPACE COMPLEX
LOW LEVEL HOLDING AREAS



| LEGEND | | | | | | | | | | | |
|---|--|------------------------|-----------------------|------------------------------|--------------|---|------------------------|-----------------------|-------|----------------------|--|
| Terminal Control Area (TMA) | <table border="1"> <tr><td>Name of TMA</td><td>TMA JOHOR</td></tr> <tr><td>Airspace Classification</td><td>FL 145</td></tr> <tr><td>Upper Limit</td><td>1 500ft</td></tr> <tr><td>Lower Limit</td><td>124.7</td></tr> <tr><td>Radio frequency(ies)</td><td></td></tr> </table> | Name of TMA | TMA JOHOR | Airspace Classification | FL 145 | Upper Limit | 1 500ft | Lower Limit | 124.7 | Radio frequency(ies) | |
| Name of TMA | TMA JOHOR | | | | | | | | | | |
| Airspace Classification | FL 145 | | | | | | | | | | |
| Upper Limit | 1 500ft | | | | | | | | | | |
| Lower Limit | 124.7 | | | | | | | | | | |
| Radio frequency(ies) | | | | | | | | | | | |
| Control Zone (CTR) | <table border="1"> <tr><td>Name of CTR</td><td>CTR CHANGI</td></tr> <tr><td>Airspace Classification</td><td>3 000ft</td></tr> <tr><td>Upper Limit</td><td>118.6m</td></tr> <tr><td>Radio frequency(ies)</td><td></td></tr> </table> | Name of CTR | CTR CHANGI | Airspace Classification | 3 000ft | Upper Limit | 118.6m | Radio frequency(ies) | | | |
| Name of CTR | CTR CHANGI | | | | | | | | | | |
| Airspace Classification | 3 000ft | | | | | | | | | | |
| Upper Limit | 118.6m | | | | | | | | | | |
| Radio frequency(ies) | | | | | | | | | | | |
| Aerodrome Traffic Zone (ATZ) | <table border="1"> <tr><td>Name of ATZ</td><td>ATZ TENGAH</td></tr> <tr><td>Airspace Classification</td><td>3 000ft</td></tr> <tr><td>Upper Limit</td><td>122.0</td></tr> <tr><td>Radio frequency(ies)</td><td></td></tr> </table> | Name of ATZ | ATZ TENGAH | Airspace Classification | 3 000ft | Upper Limit | 122.0 | Radio frequency(ies) | | | |
| Name of ATZ | ATZ TENGAH | | | | | | | | | | |
| Airspace Classification | 3 000ft | | | | | | | | | | |
| Upper Limit | 122.0 | | | | | | | | | | |
| Radio frequency(ies) | | | | | | | | | | | |
| ATS Routes | <table border="1"> <tr><td>Route designator</td><td>B469</td></tr> <tr><td>Distance in nautical miles</td><td>4 000/FL 160</td></tr> <tr><td>Minimum flight altitude (ft)/flight level</td><td></td></tr> </table> | Route designator | B469 | Distance in nautical miles | 4 000/FL 160 | Minimum flight altitude (ft)/flight level | | | | | |
| Route designator | B469 | | | | | | | | | | |
| Distance in nautical miles | 4 000/FL 160 | | | | | | | | | | |
| Minimum flight altitude (ft)/flight level | | | | | | | | | | | |
| Oceanic Control Area (OCA) | | | | | | | | | | | |
| Reporting Point | <table border="1"> <tr><td>Compulsory</td><td>▲</td></tr> <tr><td>On request</td><td>▲</td></tr> </table> | Compulsory | ▲ | On request | ▲ | | | | | | |
| Compulsory | ▲ | | | | | | | | | | |
| On request | ▲ | | | | | | | | | | |
| DME distance from SJ Navaid | D35/SJ | | | | | | | | | | |
| Radio Navigation Aid | <table border="1"> <tr><td>Name</td><td>SINJON DVOR/DME 113.5</td></tr> <tr><td>Identification and frequency</td><td>SJ 113.5</td></tr> <tr><td>Geographical Coordinates</td><td>01°19'21"N 103°51'19"E</td></tr> <tr><td>Elevation of DME site</td><td>60m</td></tr> </table> | Name | SINJON DVOR/DME 113.5 | Identification and frequency | SJ 113.5 | Geographical Coordinates | 01°19'21"N 103°51'19"E | Elevation of DME site | 60m | | |
| Name | SINJON DVOR/DME 113.5 | | | | | | | | | | |
| Identification and frequency | SJ 113.5 | | | | | | | | | | |
| Geographical Coordinates | 01°19'21"N 103°51'19"E | | | | | | | | | | |
| Elevation of DME site | 60m | | | | | | | | | | |
| Collocated VOR and DME Radio Navigation Aids | Compass rose oriented on the chart to Magnetic North | | | | | | | | | | |
| Restricted Airspace (P - Prohibited, R - Restricted, D - Danger) | <table border="1"> <tr><td>Identification of area</td><td>WSD13</td></tr> <tr><td>Nationality letter</td><td>FL 550</td></tr> <tr><td>Vertical limits</td><td>WATER</td></tr> <tr><td>Activation by NOTAM</td><td>NOTAM</td></tr> </table> | Identification of area | WSD13 | Nationality letter | FL 550 | Vertical limits | WATER | Activation by NOTAM | NOTAM | | |
| Identification of area | WSD13 | | | | | | | | | | |
| Nationality letter | FL 550 | | | | | | | | | | |
| Vertical limits | WATER | | | | | | | | | | |
| Activation by NOTAM | NOTAM | | | | | | | | | | |

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.

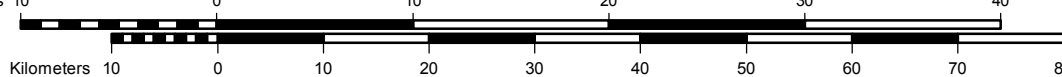
Pilots who may not be able to comply with the speed limits specified above for reasons of flight safety and/or weather should inform ATC and state the speed(s) acceptable.

| 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 | 128.6 |
| | APP | 120.3 |
| | | 119.3 |
| | TWR | 118.6 |
| | | 118.25 |

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



PROHIBITED, RESTRICTED AND DANGER AREAS

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

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

SPECIAL NOTE :-

1. GLIDER FLYING

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

2. WEATHER BALLOONS

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

(A) AT UPPER AIR OBSERVATORY,

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

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

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

3. AEROMODELLING AND KITE FLYING

(A) GENERAL WARNING

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

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

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

(B) AERO MODELLING AT SEMBAWANG ATZ

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

* In Transit Channel