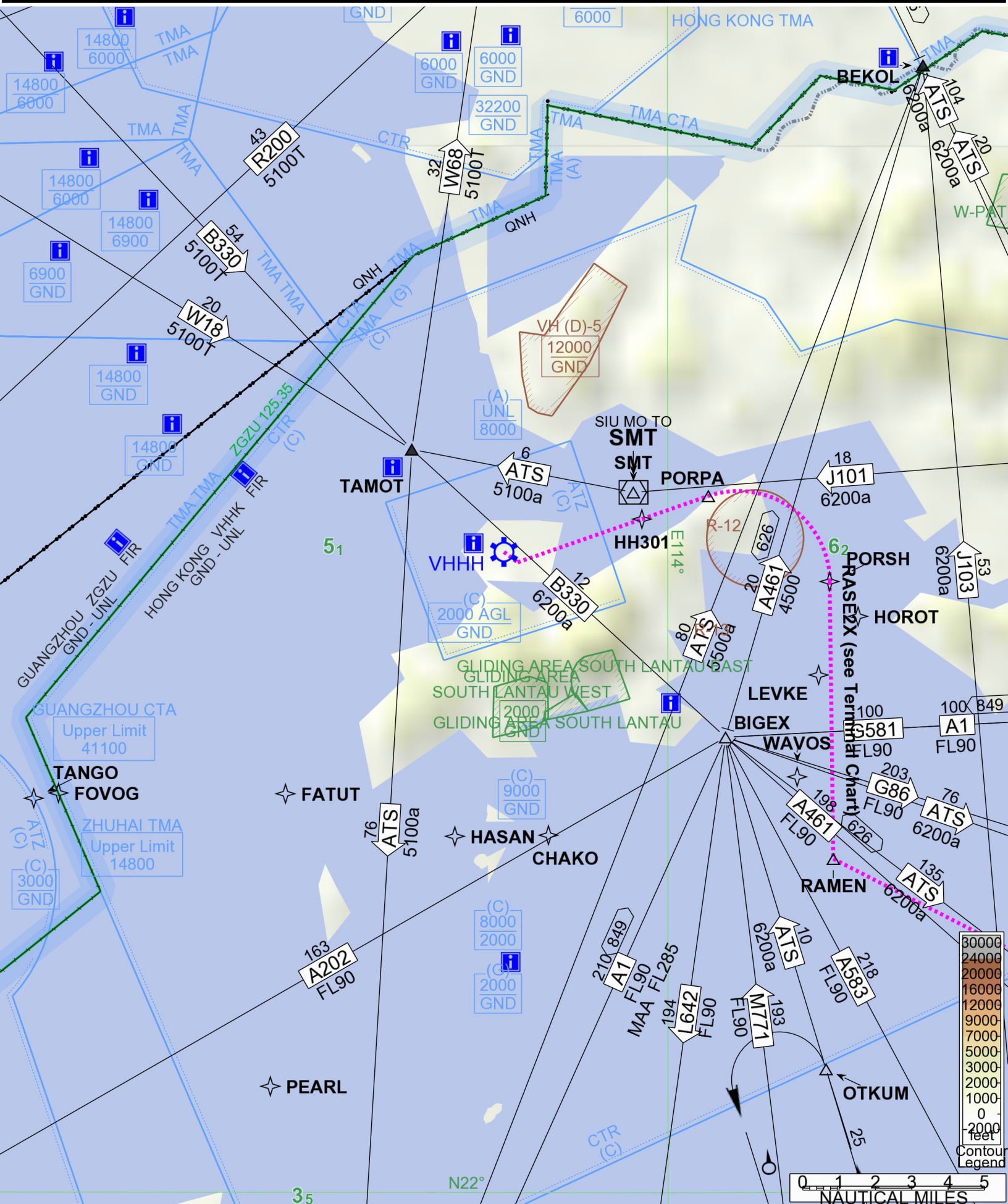
List of pages in this Trip Kit

Enroute Chart - CPA888 Departure
NavData cycle 2024-08 Expired: 14 Aug 2024
Scale: 1:250000 (1 inch = 3.43 naut mi). Printed on 11 Apr 2025

JEPPESEN
JeppView for Windows



Enroute Chart - CPA888 Destination
NavData cycle 2024-08 Expired: 14 Aug 2024
Scale: 1:250000 (1 inch = 3.43 naut mi). Printed on 11 Apr 2025

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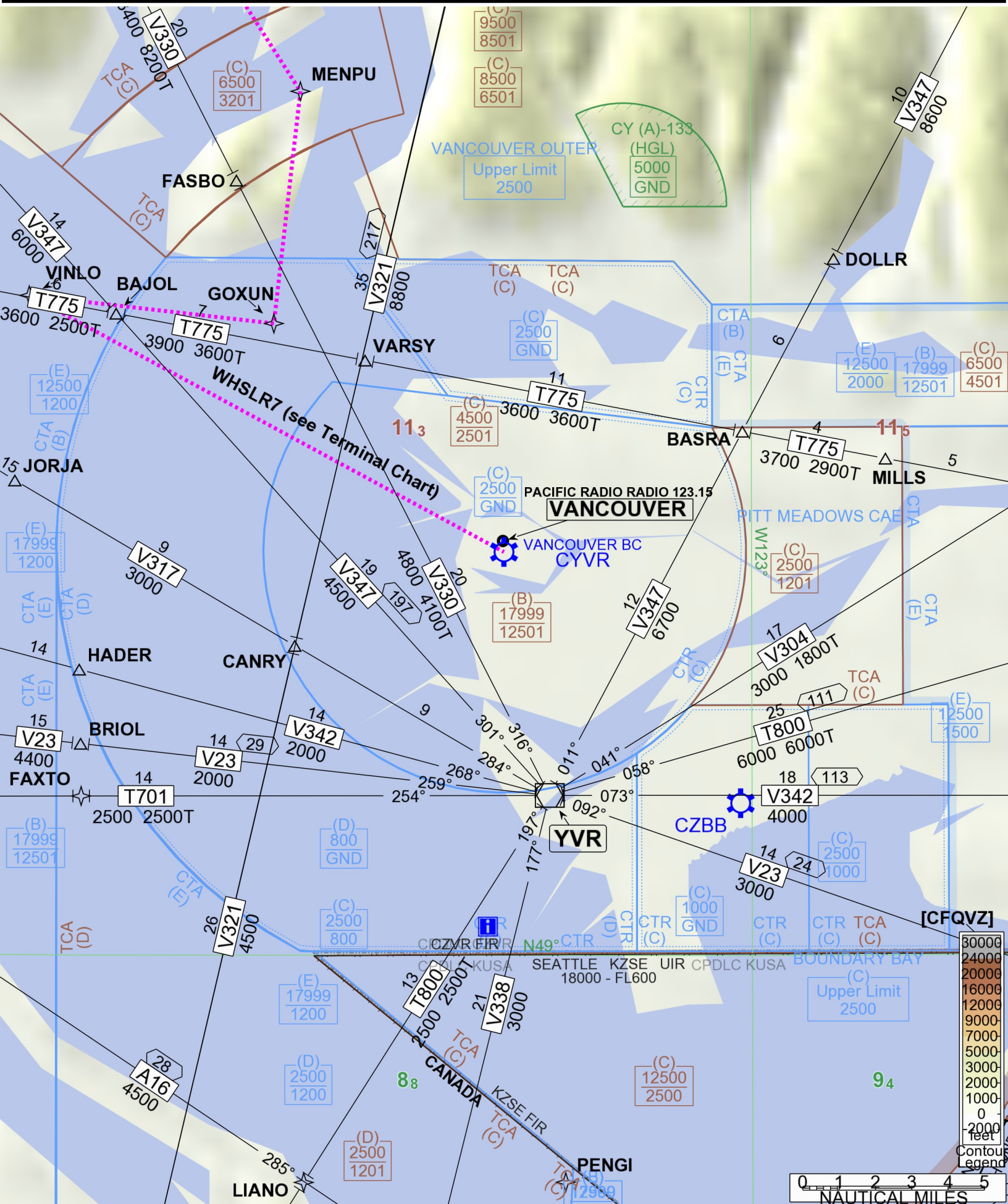

Enroute Chart - CPA888 Full Route
NavData cycle 2024-08 Expired: 14 Aug 2024
Scale: 1:58683739 (1 inch = 804.84 naut mi). Printed on 11 Apr 2025

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30000
24000
20000
16000
12000
9000
7000
5000
3000
2000
1000
0
-2000
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NAUTICAL MILES

Enroute Chart - CPA888 Strip Chart Page 1
NavData cycle 2024-08 Expired: 14 Aug 2024
Scale: 1:4374806 (1 inch = 60.00 naut mi). Printed on 11 Apr 2025

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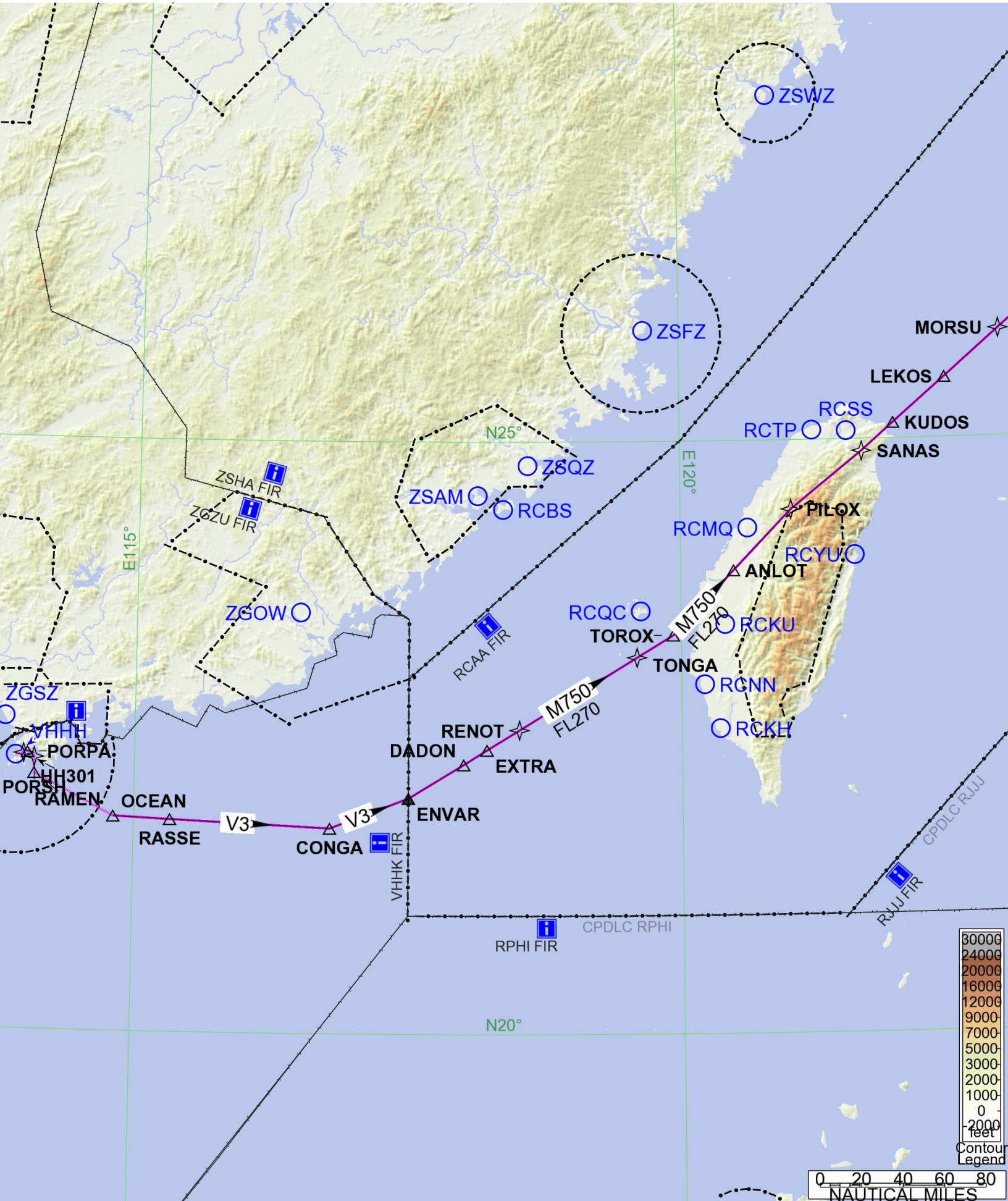

Enroute Chart - CPA888 Strip Chart Page 2
NavData cycle 2024-08 Expired: 14 Aug 2024
Scale: 1:4374806 (1 inch = 60.00 naut mi). Printed on 11 Apr 2025

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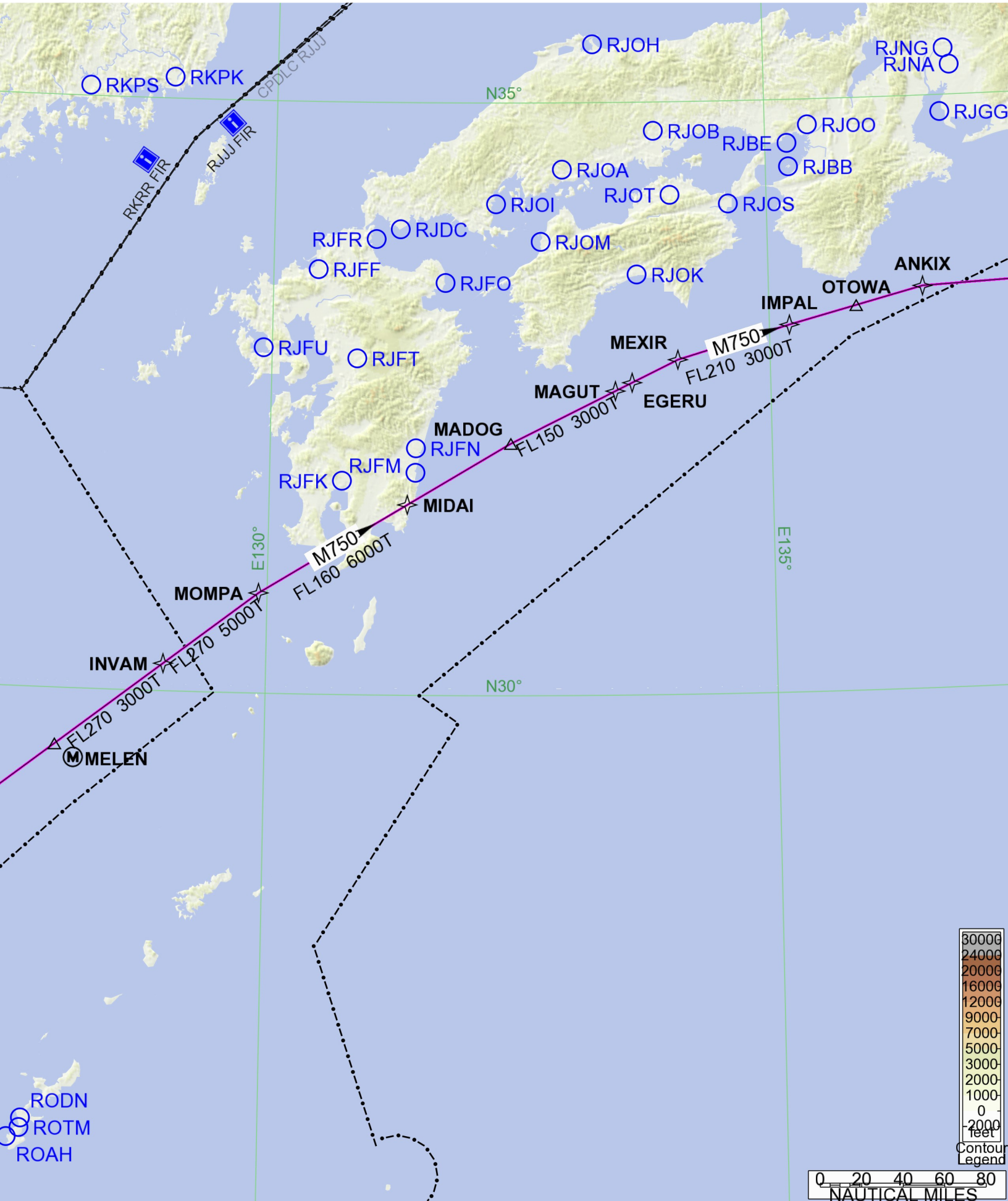

Enroute Chart - CPA888 Strip Chart Page 3
NavData cycle 2024-08 Expired: 14 Aug 2024
Scale: 1:4374806 (1 inch = 60.00 naut mi). Printed on 11 Apr 2025

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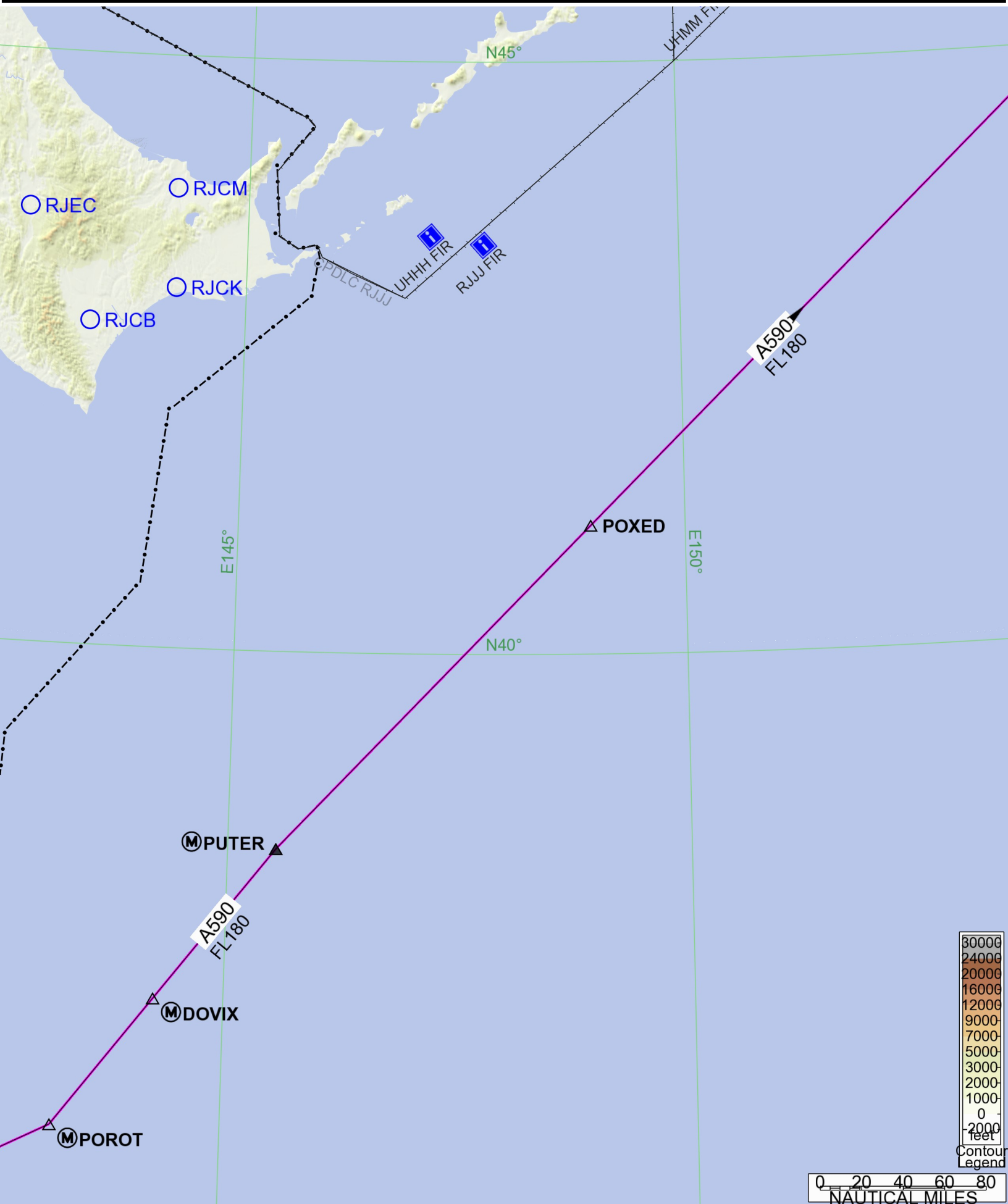

Enroute Chart - CPA888 Strip Chart Page 4
NavData cycle 2024-08 Expired: 14 Aug 2024
Scale: 1:4374806 (1 inch = 60.00 naut mi). Printed on 11 Apr 2025

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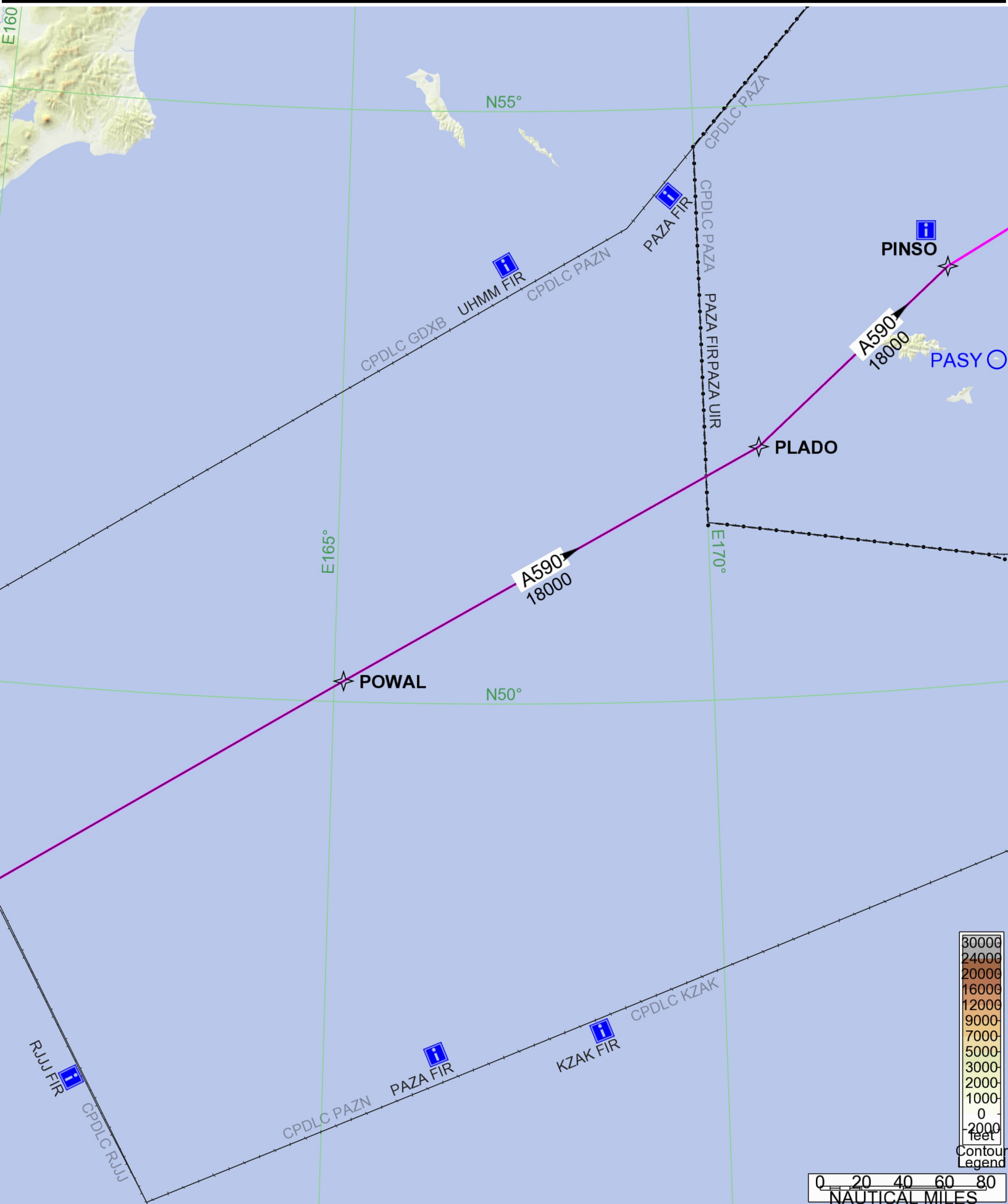

Enroute Chart - CPA888 Strip Chart Page 5
NavData cycle 2024-08 Expired: 14 Aug 2024
Scale: 1:4374806 (1 inch = 60.00 naut mi). Printed on 11 Apr 2025

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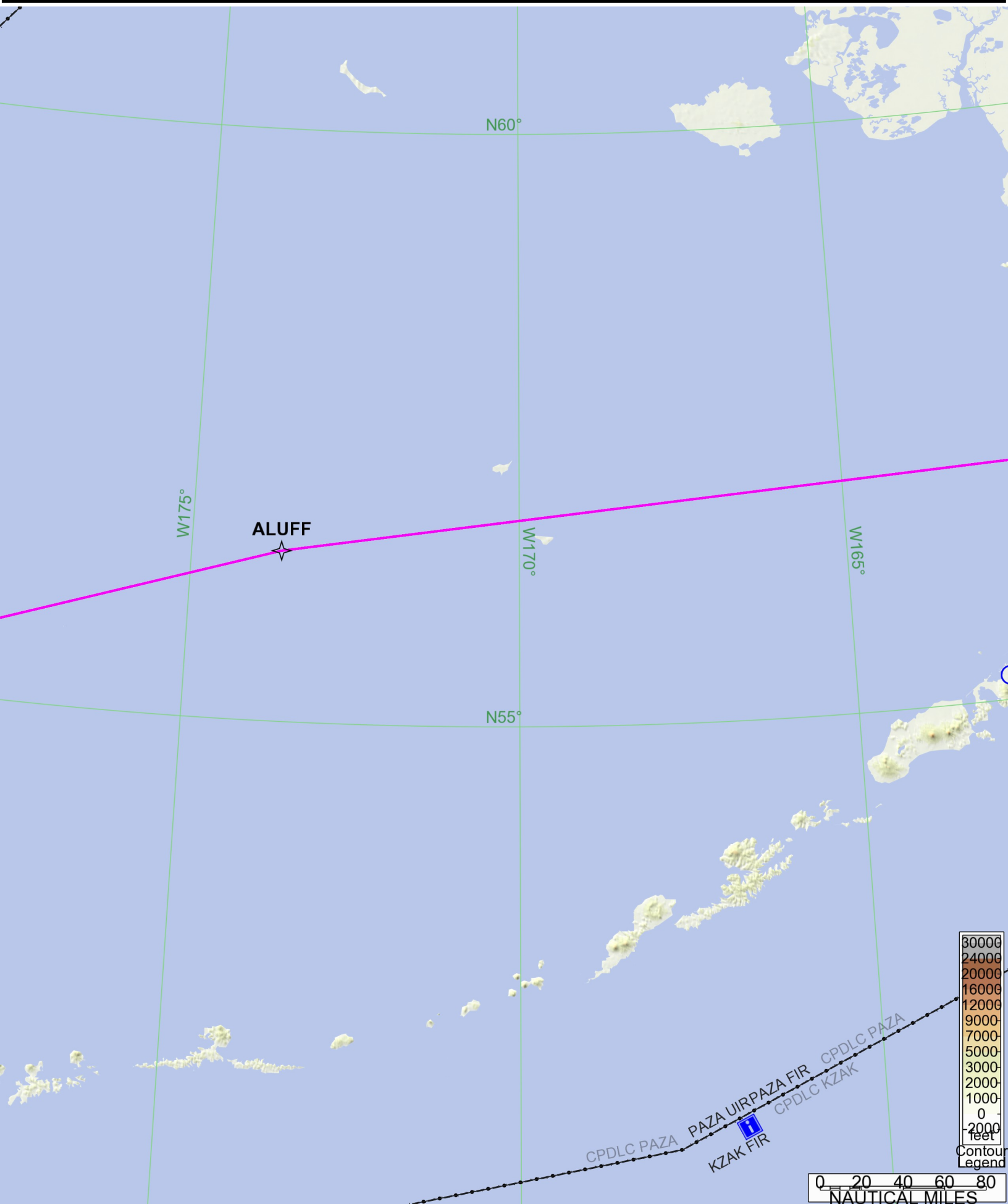

Enroute Chart - CPA888 Strip Chart Page 6
NavData cycle 2024-08 Expired: 14 Aug 2024
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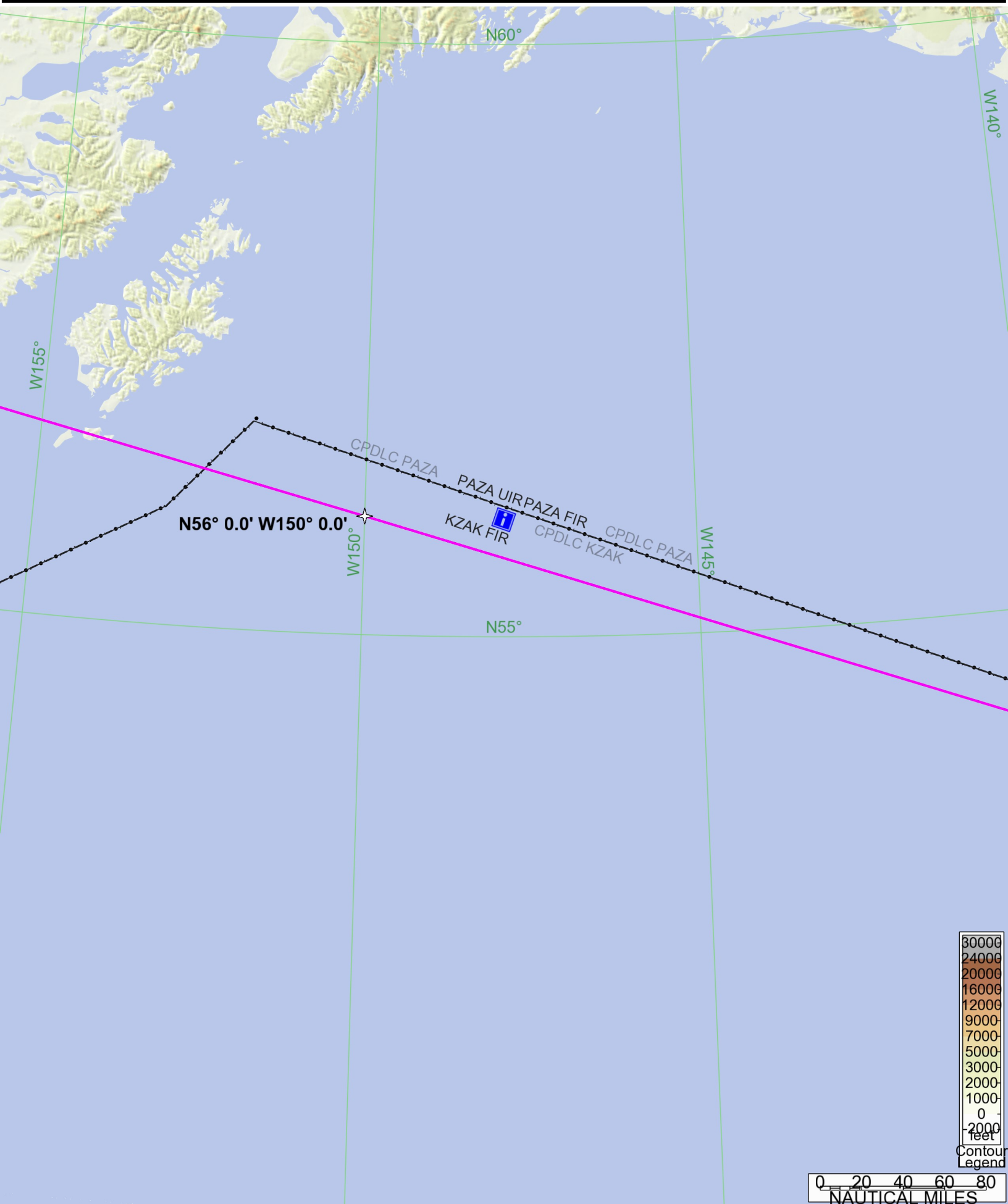

Enroute Chart - CPA888 Strip Chart Page 7
NavData cycle 2024-08 Expired: 14 Aug 2024
Scale: 1:4374806 (1 inch = 60.00 naut mi). Printed on 11 Apr 2025

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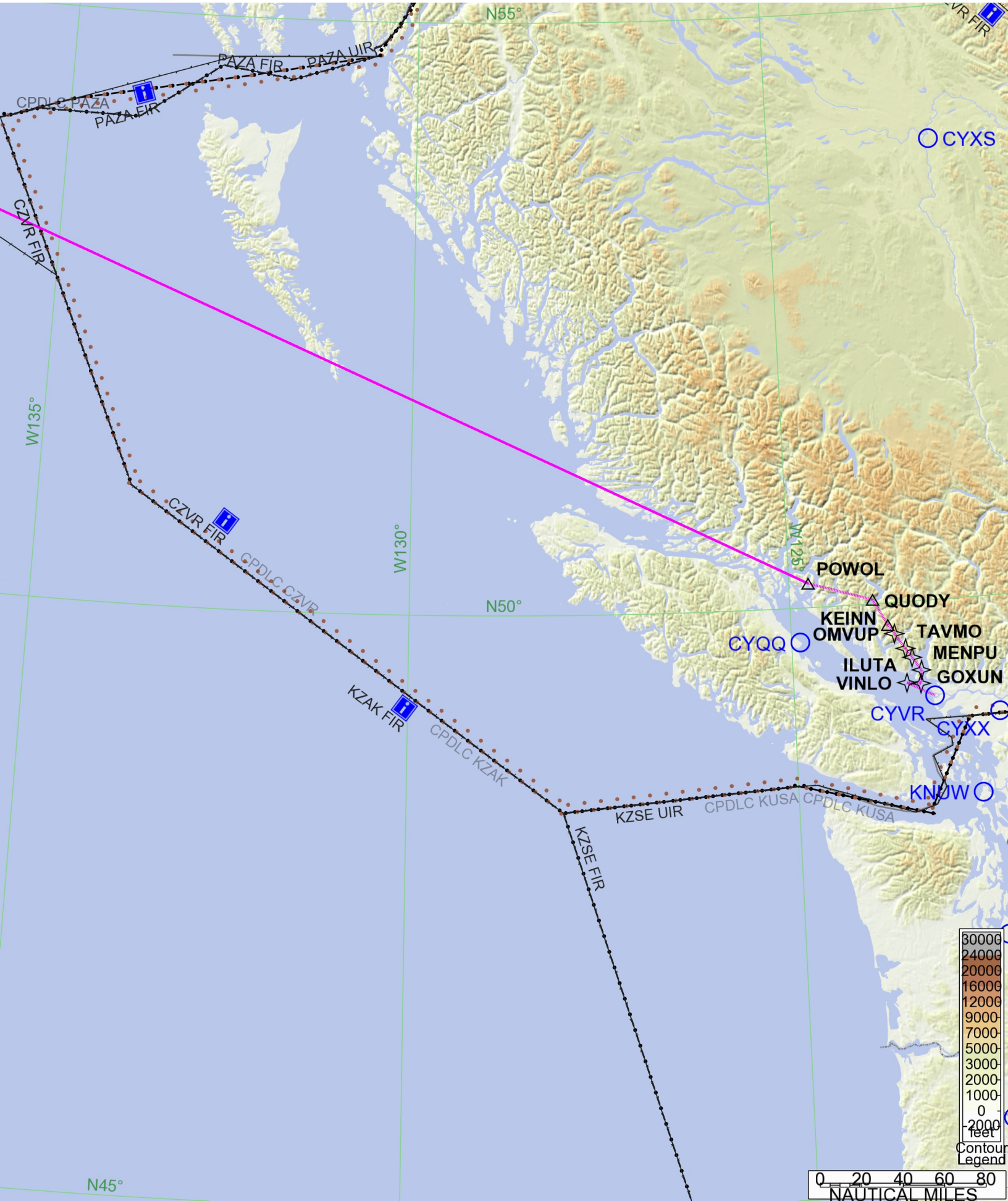


General Information

Location: HONG KONG HKG
ICAO/IATA: VHHH / HKG
Lat/Long: N22° 18.5', E113° 54.9'
Elevation: 28 ft

Airport Use: Public
Daylight Savings: Not Observed
UTC Conversion: -8:00 = UTC
Magnetic Variation: 3.0° W

Fuel Types: Jet A-1
Repair Types: Major Airframe, Major Engine
Customs: Yes
Airport Type: IFR
Landing Fee: Yes
Control Tower: Yes
Jet Start Unit: No
LLWS Alert: Yes
Beacon: No

Sunrise: 2209 Z
Sunset: 1043 Z

Runway Information

Runway: 07L
Length x Width: 12467 ft x 197 ft
Surface Type: asphalt
TDZ-Elev: 23 ft
Lighting: Edge, ALS, Centerline, TDZ
Displaced Threshold: 571 ft

Runway: 07R
Length x Width: 12467 ft x 197 ft
Surface Type: asphalt
TDZ-Elev: 27 ft
Lighting: Edge, ALS, Centerline, TDZ
Displaced Threshold: 525 ft

Runway: 25L
Length x Width: 12467 ft x 197 ft
Surface Type: asphalt
TDZ-Elev: 27 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 25R
Length x Width: 12467 ft x 197 ft
Surface Type: asphalt
TDZ-Elev: 23 ft
Lighting: Edge, ALS, Centerline, TDZ
Displaced Threshold: 571 ft

Communication Information

ATIS: 128.200 Arrival Service
ATIS: 127.050 Departure Service
Hong Kong Tower: 124.650 Secondary
Hong Kong Tower: 118.700
Hong Kong Tower: 118.200
Hong Kong Tower: 118.400
Hong Kong Ground: 121.600
Hong Kong Ground: 121.875
Hong Kong Ground: 121.925 Secondary
Hong Kong Ground: 122.125
Hong Kong Ground: 122.550
Hong Kong Clearance Delivery: 122.150
Hong Kong Clearance Delivery: 121.925 Secondary
Hong Kong Approach: 119.350 Secondary
Hong Kong Approach: 119.100
Hong Kong Departure: 122.000
Hong Kong Departure: 124.050 Secondary
Hong Kong Departure: 123.800
Hong Kong Zone Terminal Area: 122.075 Secondary
Hong Kong Zone Terminal Area: 120.600
Hong Kong Direct (Approach Control Radar): 119.350 Secondary
Hong Kong Direct (Approach Control Radar): 119.500
Hong Kong Information: 121.000 Flight Info Service RCO
Hong Kong Information: 122.075 Flight Info Service Secondary RCO

1. GENERAL

1.1. ATIS

D-ATIS Arrival 128.2
D-ATIS Departure 127.05

1.2. NOISE ABATEMENT PROCEDURES

1.2.1. NOISE MITIGATING MEASURES

The following procedures are implemented daily to reduce ACFT noise levels when operating conditions permit. Noise mitigating procedures are not applicable to calibration flights.

1.2.1.1. PREFERENTIAL USE OF RWYs 07L/R

As a noise mitigating measure between 2300-0700LT, RWYs 07L/R will be selected as the RWY-in-use when the tailwind component is not greater than 5 KT.

During this period, RWYs 25L/R may be used if operationally required, e.g. unserviceability of navigation aids, adverse weather conditions, ACFT performance, traffic situations etc.

1.2.2. RUN-UP TESTS

Engine run-ups are subject to the following conditions:

- An engine ground run is defined as any engine start-up not associated with a planned ACFT departure.
- Engine ground runs at ground idle power of not more than two engines at a time and for a duration not exceeding ten minutes may be carried out on the Passenger apron or Cargo apron.
- Engine runs above ground idle power shall be carried out in the run-up facility and engine ground runs at idle power for a duration in excess of 10 minutes shall only be carried out in approved locations.
- All engine ground runs must be fully supervised by ground staff.
- Maintenance or test running of jet engines not mounted on an ACFT is prohibited unless performed in a test cell of adequate design.

Engine Ground Run Procedures

Initial request for a ground engine run should be made to the APT Authority Apron Control Center (Tel. No.: 2910 1112). The airline, ACFT maintenance agent engineer or mechanic in charge of the engine test is responsible for ensuring that all safety precautions against injury to persons or damage to properties, ACFT, vehicles and equipment in the vicinity are adopted.

When ready to conduct the engine run, the pilot or authorized engineer shall obtain start-up clearance from Apron Control on 121.775 and a listening watch shall be maintained on the frequency throughout the engine run. The ACFT anti-collision beacons must be activated for the entire duration of the ground engine run and Apron Control should be advised on its completion. The ground crew in charge must maintain communication with cockpit personnel and be able to stop the engine run immediately if directed.

1.3. IN CASE OF UNSERVICABILITY OF ACFT OR GROUND EQUIPMENT

1.3.1. ARRIVALS

In case of ACFT equipment u/s, request ATC assistance.

In case of ground equipment u/s, ATC will provide an alternative arrival clearance or assist by vectoring.

1.3.2. DEPARTURES

In case of ACFT equipment u/s, request ATC assistance.

In case of ground equipment u/s, ATC will provide an alternative departure clearance or assist by vectoring.

1. GENERAL

1.4. LOW VISIBILITY PROCEDURES (LVP)

1.4.1. GENERAL

LVP are established for operations in a visibility of less than RVR 550m or a cloudbase of less than 200ft.

Special procedures and safeguards will be applied during CAT II/III operations to protect ACFT operating in low visibility and to avoid interference to the ILS signals.

Pilots shall be informed when:

- Meteorological reports preclude ILS CAT I operations;
- Low Visibility Procedures are in operation;
- There is any unserviceability in a promulgated facility so that they may amend their minima.

Pilots who wish to carry out an ILS CAT III approach shall inform Approach Control on initial contact. Pilots may carry out a practice ILS CAT II/III approach at any time, but the full safeguarding procedures will not be applied and pilots should anticipate the possibility of ILS signal interference.

1.4.2. ARRIVAL

All RWY exit TWYs are available.

All RWY exits have TWY centerline lead-off lights that are colour coded (green/yellow) to indicate that portion of the TWY that is within the ILS sensitive area. Pilots are to delay the 'RWY vacated' call until the ACFT has completely vacated the ILS sensitive area and passed the end of the colour coded TWY centerline lights.

1.4.3. DEPARTURE

ACFT shall normally enter:

- RWY 07L via TWYs C1 or C2;
- RWY 07R via TWYs J1, J2 or K1;
- RWY 25L via TWYs J10, J11 or K7;
- RWY 25R via TWYs C11 or C12.

Holding positions on TWYs J1, J2, J10 and J11 are CAT I/II holding positions.

Separate CAT II holding positions are provided on TWYs K1, K7 and K.

Holding positions on TWYs C1 and C2 are CAT I/II/III holding positions.

1.5. USE OF MODE S TRANSPONDER AFTER LANDING

ACFT equipped with a 'weight on wheel' switch must continue to have its transponder operating on "AUTO" or "XPNDR" until fully parked at a stand.

1.6. RWY OPERATIONS

The North RWY, RWY 07L/25R, is the normal arrival RWY.

The South RWY, RWY 07R/25L, is the normal departure RWY.

1.7. TAXI PROCEDURES

Taxi with extreme CAUTION and MIM required engines power only.

1.8. PARKING INFORMATION

1.8.1. GENERAL

All stands on passenger terminal aprons, except stand W126, are equipped with Safegate Docking System for wide-body ACFT.

ACFT Docking Guidance System (ADGS) is available at most of the frontal and remote stands to enable ACFT to park at the correct main centerline position on the parking stand (except W126 and X459). However, the ADGS is not provided at Main Cargo apron and all off-centerline parking positions of stands.

1. GENERAL

1.8.2. FRONTAL PARKING STANDS

Frontal parking stands are those stands which are served by airbridges with direct access to the passenger terminal building. Frontal parking stands that can accommodate wide-body types of ACFT have continuous yellow nosewheel guidance lines to indicate the correct parking centerline.

Some frontal parking stands can also accommodate narrow-body types of ACFT at a separate parking bay location displaced 30'/9m to the RIGHT of the wide-body centerline and indicated by a dashed yellow guidance line. The narrow-body parking stand is referred to by a "R" suffix, e.g. S23R. The following parking stands can accommodate narrow-body types of ACFT:

- South apron: S1R, S2R, S3R, S25R, S27R, S29R, S31R, S33R, S35R, S41R, S43R, S45R, S47R and S49R.
- North apron: N6R, N7R, N24R, N26R, N28R, N30R, N32R, N34R, N60R, N62R, N64R, N66R, N68R and N70R
- West apron: W40R, W42R, W44R, W46R, W48R, W61R, W63R, W65R, W67R, W69R and W71R.

1.8.3. REMOTE PARKING STANDS

All remote parking stands on the North and South aprons have continuous yellow nosewheel guidance lines.

The remote parking stands on the West apron are configured to accommodate up to 5 wide-body type ACFT or up to 7 narrow-body type ACFT, or a combination of wide and narrow-body type ACFT. The wide-body parking locations have continuous yellow nosewheel guidance lines to indicate the correct parking centerline.

The remote parking stands D301 thru D309 on Midfield apron are configured to accommodate up to 9 wide-body type ACFT or up to 18 narrow-body type ACFT, or a combination of wide and narrow-body type ACFT. The wide-body parking locations have continuous yellow nosewheel guidance lines to indicate the correct parking centerline.

The narrow-body parking locations are displaced to the Left and the Right of the wide-body centerline and are indicated by dashed yellow nosewheel guidance lines. These narrow-body parking stands are referred to by a "L" or "R" suffix, e.g. W121L or W123R.

1.9. OTHER INFORMATION

1.9.1. AVAILABILITY OF RNP 1 AND CONTINGENCY SID/STAR s

RNP 1 SID/STARs have been implemented in Hong Kong TMA. All ACFT departing/arriving, other than those specified below, shall be equipped with appropriate systems and approved by the relevant State of Registry in accordance with ICAO RNP 1 standard. Carriage of a certified GNSS receiver is mandatory.

RNP 1 operational approval or compliance documentation shall be readily available for inspections.

Exempted from RNP 1 requirement and approved for contingency SID/STARs are

- Humanitarian or SAR flights;
- State ACFT;
- Flight check;
- Maintenance or delivery flights;
- Air tests (e.g. post maintenance);
- Flights with specific prior approval by Director-General of Civil Aviation;
- Flights with failure or degradation of RNP 1 system before departure.

In case of failure of RNP 1 when airborne and dependent upon the system failure or degradation reported to ATC, continued operation with current clearance may be possible. If not, ATC assistance would be provided as necessary.

1. GENERAL

1.9.2. LOCAL WIND EFFECTS

1.9.2.1. GENERAL WARNING

Due to the proximity of the hilly terrain of Lantau Island to the South and East of APT, significant low-level wind shear and moderate to severe turbulence can be expected along the approaches to and departures from the RWYs when winds blow off these hills, i.e. from East through Southwest at about 15 KT or more. As the hills to the North are further away, they play a less significant role, but nonetheless can create local wind effects when strong winds blow off these hills, i.e. from Northwest through Northeast, at about 20 KT or more.

The terrain-induced wind disturbances from nearby hills can be of very small scale, sporadic and transient in nature. Whilst these wind disturbances may be small in physical dimension and correspond to only several seconds of flight time, significant headwind changes (i.e. RWY-orientated wind speed losses and/or gains being 15 KT or greater), can be expected as the ACFT flies through them. The sporadic and transient nature of the terrain-induced wind disturbances results in some ACFT experiencing wind shear and/or turbulence, whilst others do not, even though the broad meteorological conditions are the same. Successive ACFT which experience wind shear and/or turbulence may also encounter a different sequence of events.

Surface winds at the APT are generally not good indicators of the wind that may be experienced during the final phase of the approach. Winds at approximately 2000' may be a better representation of the prevailing wind conditions in the region.

Generally, mean wind speed should decrease towards lower altitudes but isolated strong gusts may be expected. Wind direction would also change with altitude due to blocking of the general wind flow by nearby hills or in the presence of low-level temperature inversion which occurs mostly in the cool season (about half of the time or more from November to April). It is possible for the magnitude of wind shear and turbulence to increase towards final approach, resulting in deteriorating rather than improving conditions prior to touchdown.

1.9.2.2. EASTERLY THROUGH SOUTHWESTERLY WINDS

When prevailing winds are from the East through Southwest and with a speed in excess of 15 KT, significant wind shear and moderate turbulence can be expected on the approaches to or on departure from the RWYs. Larger magnitude wind shear and turbulence is possible when the wind speed is in excess of 30 KT. Because of the proximity to the hills of Lantau, wind shear and turbulence are more significant over the South RWY (RWY 07R/25L).

Low-level wind shear and turbulence are expected to be more significant when the wind is from the direction 130-210°, especially in the presence of low-level temperature inversion or when the wind speed is more than 30 KT.

1.9.2.3. NORTHWESTERLY THROUGH NORTHEASTERLY WINDS

Significant low-level wind shear and moderate turbulence can be expected when wind speeds exceed 20 KT, especially for approaches to RWY 25L/R and along the departure and missed approach corridors from RWY 07L/R as these approach/departure corridors are closer to the hills to the North as compared with approaches to RWY 07. Larger magnitude wind shear and turbulence over these approach and departure corridors is possible if the wind speed exceeds 30KT, especially in the vicinity of "LOTUS".

1.9.2.4. LAND-SEA BREEZE

Land-sea breeze is not a strong wind phenomenon but it can create a complex wind field in the vicinity of the APT and it can cause a significant change in wind direction within a distance of a few kilometers along the approach/departure areas. If the sea breeze opposes the prevailing wind flow, it can resu lt in significant wind shear even if fine weather conditions.

1. GENERAL

1.9.2.5. LOW-LEVEL JET IN COOL SEASON

During a surge of the winter monsoon, strong low-level jets of northeasterly wind with speeds up to 50 KT occasionally affect the APT. Under such circumstances significant wind shear along the departure corridors of RWY 07 can be expected.

1.9.2.6. LOW-LEVEL WIND EFFECTS

Pilots should be aware of building-induced turbulence and wind shear effects over the touch down zone when landing on:

- RWY 07R in strong northwesterly/northerly winds with a background speed of about 15 KT or more.

Pilots should be aware of building-induced turbulence and wind shear effects when landing on:

- RWY 25L in strong northwesterly/northerly winds;
- RWY 25R in strong southwesterly/southerly/southeasterly winds.

1.9.3. WIND SHEAR AND TURBULENCE WARNING SYSTEM (WTWS)

1.9.3.1. MICROBURST/WIND SHEAR ALERTS

The Microburst or Wind Shear Alert passed by ATC includes the type of alert (i.e. microburst or wind shear), the magnitude of the RWY-orientated wind speed difference and the location (final approach, departure or RWY area as appropriate).

When more than one occurence of wind shear is detected for a particular RWY corridor, WTWS provides a consolidated Microburst or Wind Shear Alert for that particular RWY corridor based on a priority system which takes into consideration the severity of the alerts and the confidence level of the different data sources which generate the alerts.

E.g., if a microburst with an intensity of minus 30 KT and a wind shear with an intensity of plus 15 KT are detected, only a Microburst Alert will be issued.

Gain and loss events can co-exist within the same RWY corridor, particularly for terrain-induced wind shear. The WTWS is designed to assign a higher priority to a Wind Shear Alert of wind loss than a Wind Shear Alert of wind gain. If the former is issued, pilots are reminded that they may still encounter wind gain events.

1.9.3.2. TURBULENCE ALERTS

The Turbulence Alert passed by ATC includes the intensity and type of alert (i.e. moderate or severe turbulence), and the location (final approach, departure or RWY area as appropriate).

1.9.3.3. MICROBURST/WIND SHEAR ALERT COMBINED WITH TURBULENCE ALERT

When a "Microburst Alert" or a "Wind Shear Alert" is given for a particular RWY and turbulence is also detected for that particular RWY, a "Turbulence Alert" will be passed by ATC together with the "Microburst Alert" or "Wind Shear Alert".

1.9.4. LIGHTNING WARNING SYSTEM

When the system predicts or detects a lightning strike on the APT platform, APT authority will issue a Red Lightning Warning. When airlines and handling agents receive a Red Lightning Warning through SITA they should advise inbound flights of the warning.

If the period of the Red Lightning Warning is forecast to be prolonged, a message will be included on the ATIS broadcast advising of delays to parking and/or push-back.

Because ground crew operations are suspended, the wheels will not be chocked. APU should remain in operation. In the event of an inoperative APU, pilot shall keep one starboard engine running. ACFT unable to comply with this procedure should notify Ground Movement Control on initial contact.

Ground crews will not commence a push-back when a Red Lightning Warning is in force.

1. GENERAL

1.10. LOW LEVEL TCAS ALERTS WITH HONG KONG CONTROL ZONE

IFR flights sometimes experience TCAS alerts, these may be caused by transponder-equipped VFR or Special VFR flights operating on low-level routes in the vicinity of APT.

Even though separation is provided, ATC will, under such circumstances, issue traffic information to the ACFT concerned whenever practicable so that pilots will be aware of the possible TCAS alerts.

1.11. ILS COVERAGE

Pilots are warned that during ILS CAT I operations RWY 07R and RWY 25L GP signals may be liable to interference from ACFT taxiing in the vicinity of the GP aerial. Pilots should therefore closely monitor their ILS approach profile and rate of descent.

Due to terrain and obstacles some of the ILS LOC and GP signals at HONG KONG INTL APT do not have the standard ICAO protected areas. Pilots shall refer to flight procedure charts for service volume restrictions of LOC and GP. Using ILS signals outside of the coverage areas stated on flight procedure charts may lead to false capture or reverse sense indications.

2. ARRIVAL

2.1. NOISE ABATEMENT PROCEDURES

2.1.1 NOISE MITIGATING MEASURES

The following procedures are implemented daily to reduce ACFT noise levels, when operating conditions permit. Noise mitigating procedures are not applicable to calibration flights.

2.1.1.1. CONTINUOUS DESCENT APPROACH (CDA) FOR RWY s 25L/R

As a noise mitigating measure between 2300-0700LT arrivals to RWYs 25L/R via STAR ending at TD may expect instrument approach with a CDA procedure subject to the prevailing traffic situation.

- Pilots may expect to commence a continuous descent profile from altitude of 8000' or higher.
- Subject to ATC clearance, low thrust settings and a relatively clean configuration should be maintained to minimize noise.
- If radar vectors are given, the estimated track miles to touchdown will be passed with descent clearance and further distance information may be given as required.
- Pilots should maintain ACFT's minimum clean configuration speed as far as practicable and are expected to descend in a manner that complies with the published or assigned speed restrictions.
- If ACFT cannot comply with the CDA procedures or speed limitations, the pilot should advise ATC in good time so that alternative arrangements can be made.

2.2. CAT II/III OPERATIONS

RWYs 07R and 25L approved for CAT II, RWY 07L for CAT II/III operations, special aircrew and ACFT certification required.

2. ARRIVAL

2.3. RWY OPERATIONS

2.3.1. RWY UTILIZATION

Vacate RWY as quickly as practicable.

To facilitate minimum RWY occupancy time, each RWY has multiple rapid exit TWYs. Vacate via the first available rapid exit TWY commensurate with operational conditions, or as instructed.

ACFT vacating the RWY should not stop on the exit TWY until the entire ACFT has passed the RWY holding point.

2.3.2. REDUCED RWY SEPARATION MINIMUMS (RRSM)

RRSM may be applied between a departing ACFT and a succeeding landing ACFT or between two successive landing ACFT on the same RWY provided the following conditions exist:

- visibility of at least 5km;
- ceiling in the departure/missed approach area 3000' or more;
- during daylight hours from 30 minutes after local sunrise to 30 minutes before local sunset;
- the second ACFT able to see the first ACFT clearly and continuously until the first is clear of the RWY;
- no unfavorable surface wind conditions (including significant tailwind/turbulence or wind shear, etc.);
- braking action not adversely affected by water or other contaminants (i.e. RRSM will be suspended whenever the RWY is wet or there is pilot report of poor braking action).

When RRSM is applied, the successive landing ACFT may be given clearance to land before the first ACFT has cleared the RWY-in-use after landing or crossed the RWY end on departure provided there is reasonable assurance that the following separation distances will exist when the landing ACFT crosses the THR:

RWY 07L/25R

- Landing following departure:

  The departing ACFT is/will be airborne and has passed a point at least 2400m from THR (ABEAM TWY C8 for RWY 07L or TWY C5 for RWY 25R).

- Landing following landing:

  The preceding ACFT has landed and has passed a point at least 2400m from THR (ABEAM TWY C8 for RWY 07L or TWY C5 for RWY 25R), is in motion and will vacate the RWY without backtracking.

RWY 07R/25L

- Landing following departure:

  The departing ACFT is/will be airborne and has passed a point at least 2900m from THR (ABEAM TWY K6 for RWY 07R or TWY K2 for RWY 25L).

- Landing following landing:

  The preceding ACFT has landed and has passed a point at least 2900m from THR (ABEAM TWY K6 for RWY 07R or TWY K2 for RWY 25L), is in motion and will vacate the RWY without backtracking.

ATC will provide warning to the second ACFT when issuing the landing clearance in line with ICAO standard phraseology, e.g:

- (Callsign....), preceding B737 landing about to vacate the RWY, surface wind 090 degrees/11 KT, cleared to land.
- (Callsign....), departing A320 ahead about to rotate, surface wind 230 degrees/6 KT, cleared to land.

Pilots must notify ATC in advance if they anticipate not being able to comply with any of the above requirements.

2. ARRIVAL

2.4. OTHER INFORMATION

2.4.1. DESCENT RATE

For Terminal Transition Routes, RNAV and contingency STARs, a minimum descent rate of 500' per minute is assumed, if unable inform ATC.

2.4.2. NOTIFICATION OF ARRIVAL DELAY AND DIVERSION PLANNING

ATC will issue a NOTAM to advise operators of extent of holding delays when expected average delay is in excess of 20 minutes in the terminal area.

A delay notification message will be included in the Arrival ATIS when the arrival delay is expected to be 30 minutes or more, e.g. "Expect 30 minutes holding due to traffic/extensive frontal weather conditions in the terminal area".

ATC will supplement this information as required on first contact on radiotelephony should there be a possibility of further delay, e.g. high rate of unsuccessful approaches, forecast weather deteriorations etc. to assist pilots to determine if they have sufficient holding fuel to continue or if a diversion is imminent. ATC will update flights that continue inbound with further revisions to their onward clearance times as traffic situation develops.

Flights that are diverting to VHHH may be subjected to ATFM restrictions imposed at FIR entry points in addition to the prevalent holding requirements.

Unless informed by the pilots, ATC will consider flights that continue inbound to VHHH have the required holding fuel for the notified delay and will provide further updates to onward clearance times as needed.

In case of delay caused by extensive inclement weather conditions, operators should take into account that other APTs in the Pearl River Delta region would likely be affected by the same weather system and the possibility of using these APTs as alternates could be severely reduced. Operators should consider nominating APTs outside the region as a suitable alternate APT under such circumstances.

ATC will only accept diversions on emergency basis when inclement weather conditions have already caused prolonged traffic holding and/or extensive ground delays at VHHH. A NOTAM to this effect will be issued to warn operators when such restrictions apply.

3. DEPARTURE

3.1. APT COLLABORATIVE DECISION-MAKING (A-CDM)

3.1.1. INTRODUCTION

Target Off Block Time (TOBT) is the most important time in the A-CDM turn-around process and this time is essential for calculation of ATC departure release and Target Start-up Approval Time (TSAT).

TOBT submitted to A-CDM system reflects the progress of the turnaround process. Estimated Off Block Time (EOBT) in flight plan filed to ATC shall be revised to maintain overall system integrity when EOBT deviates from TOBT significantly.

The latest version of the A-CDM Operations guidelines is available for download from https://extranet.hongkongairport.com/ (click "Procedure Manual" icon, followed by "A-CDM Operations Guidelines").

3.1.2. VALIDITY OF TOBT AND TSAT

TOBT has a tolerance of ±5 minutes. It is the responsibility of the Airline Operators/Ground Handlers (AO/GH) to assess situation and update TOBT.

Departure flights will not be considered ready if submitted TOBT differs from Actual Ready Time (ARDT) for more than 5 minutes.

ATC will advise flight crew to update TOBT if invalid TOBT is noted. Frequency change and/or start-up clearances would be withheld until a proper TOBT update is observed.

Flight crew shall update TOBT through the AO/GH under normal circumstances. However, flight crew shall report to ATC if they encounter difficulties in updating TOBT through published procedures.

ACFT can expect to start up and push back within 10 minutes of issued TSAT, as displayed in A-CDM system (issued TSAT ±10 minutes). Actual start-up and push-back time may fall outside this TSAT window because of ATC operational conditions.

3.1.3. REQUIREMENTS TO SUBMIT DELAY (DLA) MESSAGES OR RE-FILE FLIGHT PLAN

If TOBT is earlier than EOBT of filed flight plan by 30 minutes or more, the AO/GH is required to inform Aeronautical Information Management Center (AIMC) the updated EOBT by telephone (Tel: +852 2910 6174), so that a Cancellation (CNL) message can be sent by AIMC. The AO/GH shall then re-file a flight plan with an updated EOBT.

If TOBT is later than EOBT of filed flight plan by 15 minutes or more, the AO/GH is required to inform AIMC the updated EOBT by telephone, so that a Delay (DLA) message can be sent by AIMC.

The requirements stated above are exempted when a flight is regulated by Air Traffic Flow Management (ATFM) measures (flow control), i.e. a Calculated Take Off Time (CTOT) has been issued. In that case a new flight plan that aims to revise EOBT should NOT be filed as it might result in a further delayed CTOT.

3.2. START-UP AND PUSH-BACK PROCEDURES

3.2.1. START-UP PROCEDURES

All ACFT other than helicopters and locally light ACFT shall obtain an ATC clearance prior to engine start. Pilots are to inform HONG KONG Ground/Delivery, as appropriate, of callsign, parking stand number/location, identifier of the latest ATIS received unless it has been included in the Request for Departure Clearance Downlink (RCD) message via data link, proposed flight level if it is different from the filed flight plan and when applicable, special requirements (e.g. request for another departure RWY or inability to comply with SID climb profile).

3. DEPARTURE

Additionally, departures for destinations in China routing via BEKOL shall contact HONG KONG Delivery 15 minutes before Estimated Off-Block Time (EOBT) to obtain advance notification of any flow control restriction that may affect the flight.

Radius-to-Fix SIDs ATENA 2X/1Z, PECAN 2X/1Z, RASSE 2X/1Z, SKATE 2X/1Z or VENGO 2X/1Z are issued as default 1500-2300UTC from RWY 07L/R.

If unable to fly Radius-to-Fix SIDs, make voice request to HONG KONG Delivery for non-Radius-to-Fix SID. When using two-way Pre-Departure Clearance (PDC) data-link service, make such voice request prior sending RCD message.

A two-way PDC data link service is available to approved operators. Pilots should send a RCD to ATC not more than 20 minutes prior to EOBT. If the CLD message is not received within 5 minutes or there is any problem with data link exchange, pilot shall inform HONG KONG Delivery.

Pilots not participating in the PDC service shall contact HONG KONG Delivery 5 minutes prior to start to put their ATC clearance on request. Upon receipt of the ATC clearance, the pilot shall read back the following information:

- Callsign,
- Destination,
- Route,
- SID,
- SSR code.

Pilots shall comply with instructions issued by HONG KONG Delivery regarding when to contact the relevant HONG KONG Ground frequency.

Once an ATC clearance has been received, unless there is a specific time restriction included in the clearance, any delay in being ready to push-back, start engines or taxi may result in the clearance being cancelled.

3.2.2. PUSH-BACK PROCEDURES

Pilots shall contact HONG KONG Ground (South) except when notified it is sectorized, in which case pilots shall contact:

- HONG KONG Ground (North) for North and West aprons.
- HONG KONG Ground (South) for South, Cargo and Business Aviation aprons.

Prior to requesting for push-back or taxi from a parking stand, pilots of ACFT equipped with a "weight-on-wheel" switch must ensure the transponder is operating (on "AUTO" or "XPNDR", and not "STDBY" or "OFF") and the assigned Mode A code is selected. ACFT with Mode S transponder capable of reporting ACFT Identification should have its identification in the ICAO flight plan format entered via FMS or Control Panel.

The majority of parking stands have two standard push-back procedures, push-back BLUE and push-back RED. The normal push-back procedure is to the taxilane ABEAM the adjacent parking stand, but where this would result in the ACFT entering a critical area, the push-back is extended to a tug stop point clear of the critical area. Stands N7, N24, N30, N60, N142, N143, S2, S25, S31, S43, S102 thru S104, S108, S110 and W65 have a push-back/tow-forward procedure, push-back GREEN.

Under certain traffic conditions it may be necessary for HONG KONG Ground to issue non-standard push-back instructions to expedite to flow of traffic. Pilots will be issued a "non-standard push-back" to a defined location and direction.

Pilots shall ensure that the push-back colour code or non-standard push-back instructions issued by HONG KONG Ground are accurately relayed to their ground crew before push-back or engine start commences.

There is a restriction to the starting of engines for ACFT in parking stands S103, S108 and W123. If ACFT in these stands are required to push-back through 180°, only one engine shall be started during the push-back, other engines shall only be started when the push-back maneuver has been completed.

3. DEPARTURE

When known conditions exist which necessitate that engine start-up is carried out in the parking stand prior to the commencement of push-back, or greater than idle engine thrust will be required during engine start (e.g. cross-bleed start procedure), the pilot shall advise HONG KONG Ground of the fact when engine start or push-back clearance is requested.

Whilst push-back procedure is being conducted, it is essential for safety reasons that communication contact is maintained between pilot and ground engineer in charge. ATC clearance will not normally be issued to ACFT whilst being pushed back, unless the pilot so requests.

To avoid delay to other traffic using the apron, ACFT should be ready to taxi as soon as the push-back maneuver and engine start procedure are completed. The standard push-back for stands N68 and N70 is into TWY B, therefore to avoid delays to other traffic it is essential that the ACFT should be ready to taxi as soon as the push-back maneuver is complete. If ACFT are unable to comply with this procedure, pilots shall immediately inform HONG KONG Ground in order that alternative taxi instructions may be issued to other traffic.

Pilots are reminded that they should always use minimum power when starting engines or maneuvering within the apron area. It is especially important when commencing to taxi that break-away thrust is kept to an absolute minimum and then reduced to idle thrust as soon as practicable.

3.3. NOISE ABATEMENT PROCEDURES

3.3.1. SPEED REQUIREMENT

To comply with speed requirements at PORPA, ROVER, PRAWN or VEPIK/POVEG at 205 KT or greater it is recommended to use NADP 2 or the manufacturer's recommended procedure.

If unable to comply with SID speed requirements inform ATC prior entering the RWY.

RWY 07L/R

In order to minimize noise on the ground and to ensure safety of flight operations all operators are to adopt either NADP 1 or NADP 2 procedures for all take-offs.

Operators are not required to inform Civilian Aviation Department (CAD) of the adopted procedure.

3.3.2. NOISE MITIGATING MEASURES

The following procedures are implemented daily to reduce ACFT noise levels, when operating conditions permit. Noise mitigating procedures are not applicable to calibration flights.

3.3.2.1. NOISE MITIGATING SIDs RWYs 07L/R

As a noise mitigating measure between 2300-0700LT, all departures from RWYs 07L/R Eastbound (e.g. via ELATO), Northbound (e.g. via BEKOL) or Southeast bound (e.g. via NOMAN) may expect the appropriate ATENA, RASSE, SKATE or VENGO SID routing via RAMEN. These noise mitigating SIDs route over the West Lamma Channel and avoid overflight of densely populated areas.

3.3.2.2. SPECIAL ATC HANDLING PROCEDURES FOR RWY s 25L/R DEPARTURES

As a noise mitigating measure between 2300-0700LT, departures from RWYs 25L/R may expect to remain on the appropriate SID track until passing 9000' or until they are South of Lantau Island, before being provided with radar vectors, as appropriate.

3. DEPARTURE

3.4. RWY OPERATIONS

3.4.1. RWY UTILIZATION

When instructed to enter the RWY, pilots should commence the maneuver without delay.

Pilots should commence take-off roll as soon as take-off clearance is issued by ATC.

To enable efficient handling of departures, all RWYs have a pair of lead-on TWYs at the beginning of the RWY. For application of wake turbulence longitudinal separation, ATC considers ACFT using these two TWYs as departing from a similar position.

RWY	Pair of TWYs
07L	C1 and C2
25R	C11 and C12
07R	J1 and J2
25L	J10 and J11

To provide an expeditious departure sequence, ATC may request a flight to depart from an intersection TWY with a reduced RWY length. In this case and when applicable, the intermediate (intersection) departure wake turbulence longitudinal separation shall be applied.

If pilot is unable to comply, he must inform ATC prior to entering RWY.

3.5. OTHER INFORMATION

3.5.1. GENERAL

Due to the proximity of the FIR boundary to the West, pilots departing RWY 25L or RWY 25R are advised to maintain a careful cross-check of ACFT position after passing PRAWN, VEPIK or POVEG. In the event of any weather avoidance maneuver, permission must be obtained from ATC prior to making any turn away from the prescribed departure track.

3.5.2. CLIMB RATE

For Terminal Transition Routes, RNAV and contingency SIDs, a minimum climb rate of 500' per minute is assumed, if unable inform ATC.

3.5.3. TERRAIN CLEARANCE FOR ARRIVING AND DEPARTING ACFT

3.5.3.1. ADHERENCE TO SID AND IAP/MAP

In general, ATC can only provide limited assistance to pilots whilst ACFT is below Minimum Sector Altitude (MSA).

To ensure ACFT maintain clearance from terrain it is essential that pilots ensure correct SID for correct departure RWY has been programmed prior to departure.

Once airborne, pilots are further reminded to remain on SID track and follow appropriate waypoint until passing MSA, unless otherwise instructed by ATC.

Likewise, pilots should ensure correct IAP for correct arrival RWY has been programmed prior to commencing approach.

In the event a missed approach is initiated, it is equally essential for pilots to closely follow published MAP until passing MSA, unless otherwise instructed by ATC.

3. DEPARTURE

3.5.3.2. ATC INTERVENTION

The Hong Kong Air Traffic Management System (ATMS) is equipped with an Approach/Departure Path Monitor (APM/DPM), which provides ATC with an audio and visual warning when an arrival or departure, as appropriate, deviates off the defined final approach path or SID path.

In the event of receiving an APM/DPM alarm, ATC will provide pilot with a terrain alert, for example:

"(Call sign) TERRAIN ALERT, CLIMB IMMEDIATELY TO (altitude)"; or

"(Call sign) LOW ALTITUDE WARNING, CHECK YOUR ALTITUDE IMMEDIATELY".

Due to proximity of terrain, ATC vectoring is only available at or above the ATC Surveillance Minimum Altitude (also known as Minimum Vectoring Altitude). Relevant information has been published on 10-1R chart.

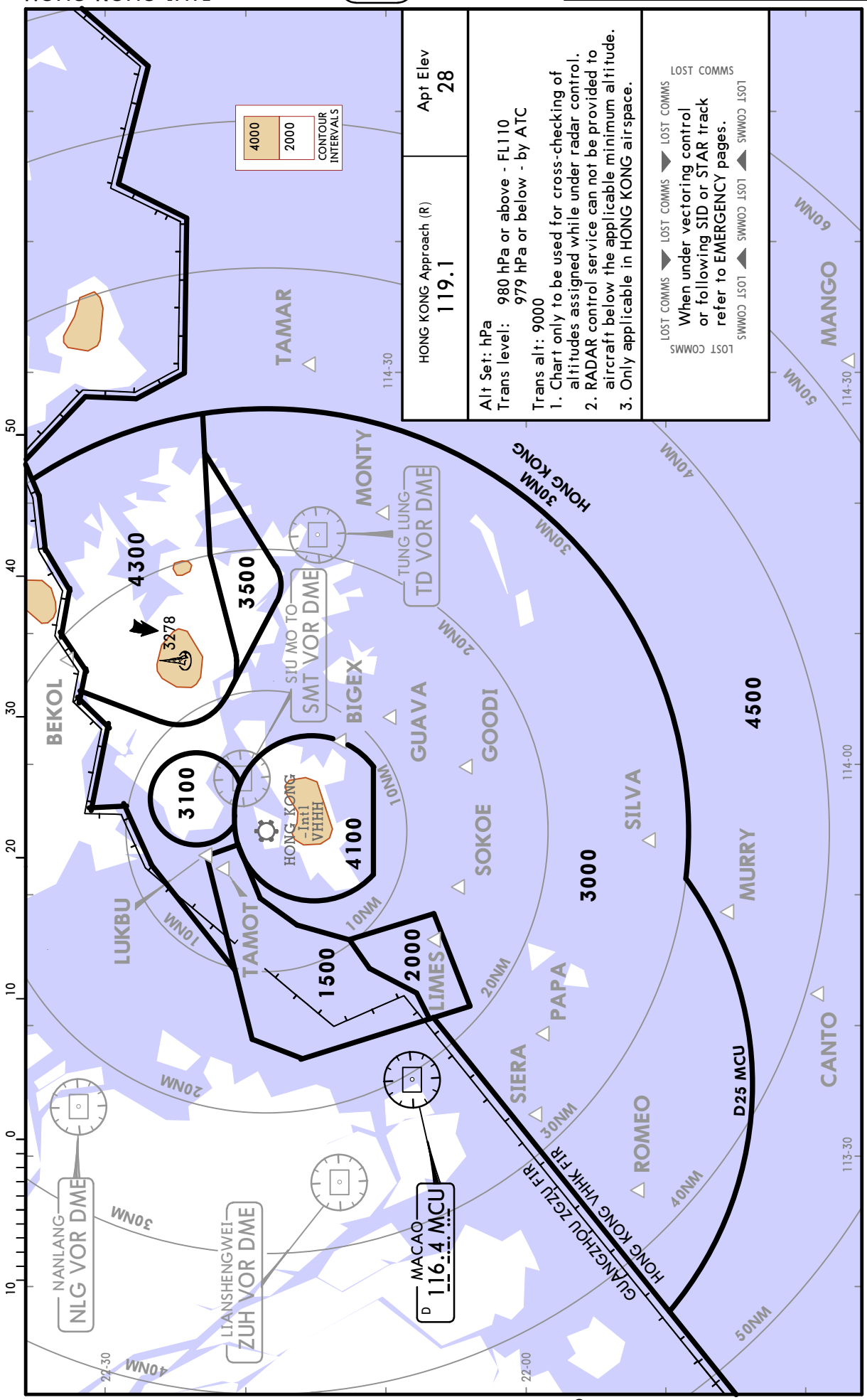
Should a pilot inadvertently deviate from assigned SID or IAP/MAP, they can expect the following warning from ATC:

- When below MSA:
  "(Call sign) TERRAIN ALERT, CLIMB IMMEDIATELY TO (altitude)".
- When above MSA:
  "(Call sign) TURN (left or right) HEADING (heading)".

VHHH/HKG
HONG KONG INTL

JEPPESEN 9 FEB 24 (10-1R) Eff 22 Feb

HONG KONG, PR OF CHINA
RADAR MINIMUM ALTITUDES



CHANGES: LKC decommissioned, LUKBU established.

D-ATIS	Apt Elev	Alt Set: hPa Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC
128.2	28	

❷ DESCENT REQUIREMENTS
Via V-512, V-522 or V-591: Cross ENPET at FL260.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

TERMINAL TRANSITION ROUTES
V512, V522, V591
TO ABBEY
V525, W29
TO BETTY - BY ATC
SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

ABBEY **DAKTO** **FISHA**
MAX 250 KT
Under turbulent conditions, when approved by ATC
280 KT or **MACH 0.8**, whichever is less.

MAX FL250 MHA FL90: 091° 10 NM, 271°
MHA FL260: 271°, 091° 10 NM
MHA FL90: 138°, 318°, 10 NM
MAX FL250 MHA FL90: 091° 10 NM, 271°
MHA FL260: 271°, 091° 10 NM

GUANGZHOU ZGZU FIR
HONG KONG VHHK FIR

DOTMI
220°
31.6
V 512
HONG KONG RADAR 121.3 132.525
V512, V522, V591 up to ENPET

LELIM
M503
20.6
V 591
237°
(CRP for non-jet ACFT)
MALKA
71.0
251°

ELATO
V 522
93.2
272°
212°
NOT TO SCALE
HONG KONG RADAR 121.3 132.525
V522, V525

V 525
51.9
NOT TO SCALE

(CRP for non-jet ACFT)
AKEKU
254°
79.5

271°
7.5
(CRP for non-jet ACFT)
MAGOG

19.7
(CRP for non-jet ACFT)
❷ ENPET

23.0
(CRP for non-jet ACFT)
H FISHA

(CRP for non-jet ACFT)
H ABBEY

HONG KONG RADAR 126.5 132.8
V512, V522, V591

3278
220°
4300
(within Hong Kong FIR)
275°
4100
(within Hong Kong FIR)
ARP

4000
2000
CONTOUR INTERVALS

(CRP for non-jet ACFT)
MEPUT
187°
30.5
W 29
HONG KONG RADAR 132.15 128.75
W29

HONG KONG RADAR 132.15 128.75
V525

(CRP for non-jet ACFT)
BETTY
165°
MAX 250 KT❶
MHA FL90
10 NM
345°
39.5
HONG KONG RADAR 126.3 132.6
V525, W29

MAX 250 KT❶
MHA FL90
10 NM
068°
248°

(CRP for non-jet ACFT)
EATON
248°
32.8

HONG KONG RADAR 132.15 128.75
V525, W29

(CRP for non-jet ACFT)
SONNY
10.6
318°

(CRP for non-jet ACFT)
DAKTO H

❶ Under turbulent conditions, when approved by ATC **280 KT** or **MACH 0.8**, whichever is less.

CHANGES: Reissue.

CHANGES: Reissue.

D-ATIS	Apt Elev	Alt Set: hPa
128.2	28	Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC

TERMINAL TRANSITION ROUTES
V532, V542, V551
TO BETTY

SPEED: MAX 250 KT BELOW 10000
UNLESS OTHERWISE INSTRUCTED

BAKER **BETTY**
MAX 250 KT
Under turbulent conditions, when approved by ATC **280 KT** or **MACH 0.8**, whichever is less.

MHA FL90 — 165° / 345° — 10 NM
MHA FL90 — 165° / 345° — 10 NM

❶ Under turbulent conditions, when approved by ATC **280 KT** or **MACH 0.8**, whichever is less.

❷ **DESCENT REQUIREMENTS**
Via V-542, V-551: cross CYBER at FL 260.
Via V-532: cross SONNY at FL260.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

SHENZHEN Baoan ZGSZ
MACAO Macao Intl VMMC
4138
GUANGZHOU ZGZU FIR
HONG KONG VHHK FIR
4300 (within Hong Kong FIR)
220°
275°
4100 (within Hong Kong FIR)
ARP
6000 / 4000 / 2000 CONTOUR INTERVALS

(CRP for non-jet ACFT) **BETTY**
HONG KONG RADAR 126.3 132.6 V532
HONG KONG RADAR 126.3 132.6 V542, V551
39.5
38.2
003°
(CRP for non-jet ACFT) **BAKER**
(CRP for non-jet ACFT) **SONNY** ❷
10 NM
068°
248°
MAX 250 KT ❶ MHA FL90
(CRP for non-jet ACFT) **EATON**
10.6
138°
MAX 250 KT ❶ MHA FL90
10 NM
(CRP for non-jet ACFT) **DAKTO**
28.4
318°
(CRP for non-jet ACFT) **OSUMO**
(CRP for non-jet ACFT) ❷ **CYBER**
15.0
178°
MAX 250 KT ❶ MHA FL90
10 NM
(CRP for non-jet ACFT) **HOCKY**
V 542
55.2
V 551
HONG KONG RADAR 132.15 128.75 V532
V 532
71.8
301°
NOMAN
(CRP for non-jet ACFT) **SUKER**
HONG KONG RADAR 128.125 128.75 V542
V 542
42.5
304°
(CRP for non-jet ACFT) **TOFEE**
HONG KONG RADAR 128.125 128.75 V551
V 551
40.5
358°
(CRP for non-jet ACFT) **CARSO**
36.7
305°
SABNO
HONG KONG VHHK FIR
MANILA RPHI FIR

21-30 22-30 22-00 21-00 20-30 20-00 19-30 19-00
113-30 114-00 114-30 115-00 115-30 116-00

VHHH/HKG HONG KONG INTL
26 JAN 24 (10-2A)
JEPPESEN
HONG KONG, PR OF CHINA
TERMINAL TRANSITION ROUTE

TERMINAL TRANSITION ROUTES
V532, V542, V551
TO BETTY

D-ATIS	Apt Elev	Alt Set: hPa Trans level:
128.2	28	980 hPa or above - FL110 979 hPa or below - by ATC

TERMINAL TRANSITION ROUTES
V561, V571
TO CANTO

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

CANTO — **COMBI & GAMBA** — **ROCCA**

MAX 250 KT

Under turbulent conditions, when approved by ATC **280 KT** or **MACH 0.8**, whichever is less.

MHA FL90 — 048° / 228° — 10 NM

MHA FL90 — 074° / 254° — 10 NM

MHA FL90 — 074° / 254°

❷ **DESCENT REQUIREMENTS**
Cross MAPLE at FL260.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

SHENZHEN Baoan ZGSZ

MACAO - Intl VMMC

220° / 275° — 3278 — 4300 (within Hong Kong FIR)

4100 (within Hong Kong FIR)

ARP

GUANGZHOU ZGZU FIR / HONG KONG VHHK FIR

(CRP for non-jet ACFT) **CANTO**

(CRP for non-jet ACFT) **COMBI**

048° 10.0

7.0

(CRP for non-jet ACFT) **ROCCA**

(CRP for non-jet ACFT) ❷ **MAPLE**

10.0

21.8

(CRP for non-jet ACFT) **GAMBA**

V561

V571

HONG KONG RADAR 127.55 134.3

4000 / 2000 CONTOUR INTERVALS

074° — V571 — 85.0

SIKOU

HONG KONG RADAR 127.1 123.7 up to MAPLE

68.1

HONG KONG RADAR 127.1 123.7 up to MAPLE

❶ Holding at FL340 or below **280 KT** or **MACH 0.8**, whichever is less. Above FL340 **MACH 0.83.**

MHA FL90 ❶ — 193° — 10 NM

(CRP for non-jet ACFT) **MYWAY**

V561 — 72.6

HONG KONG RADAR 125.325 132.775

013°

(CRP for non-jet ACFT) **IDOSI**

HONG KONG VHHK FIR / SANYA ZJSA FIR

21-30 / 21-00 / 20-30 / 20-00 / 19-30 / 19-00

111-30 / 112-00 / 112-30 / 113-00 / 113-30 / 114-00

VHHH/HKG HONG KONG INTL

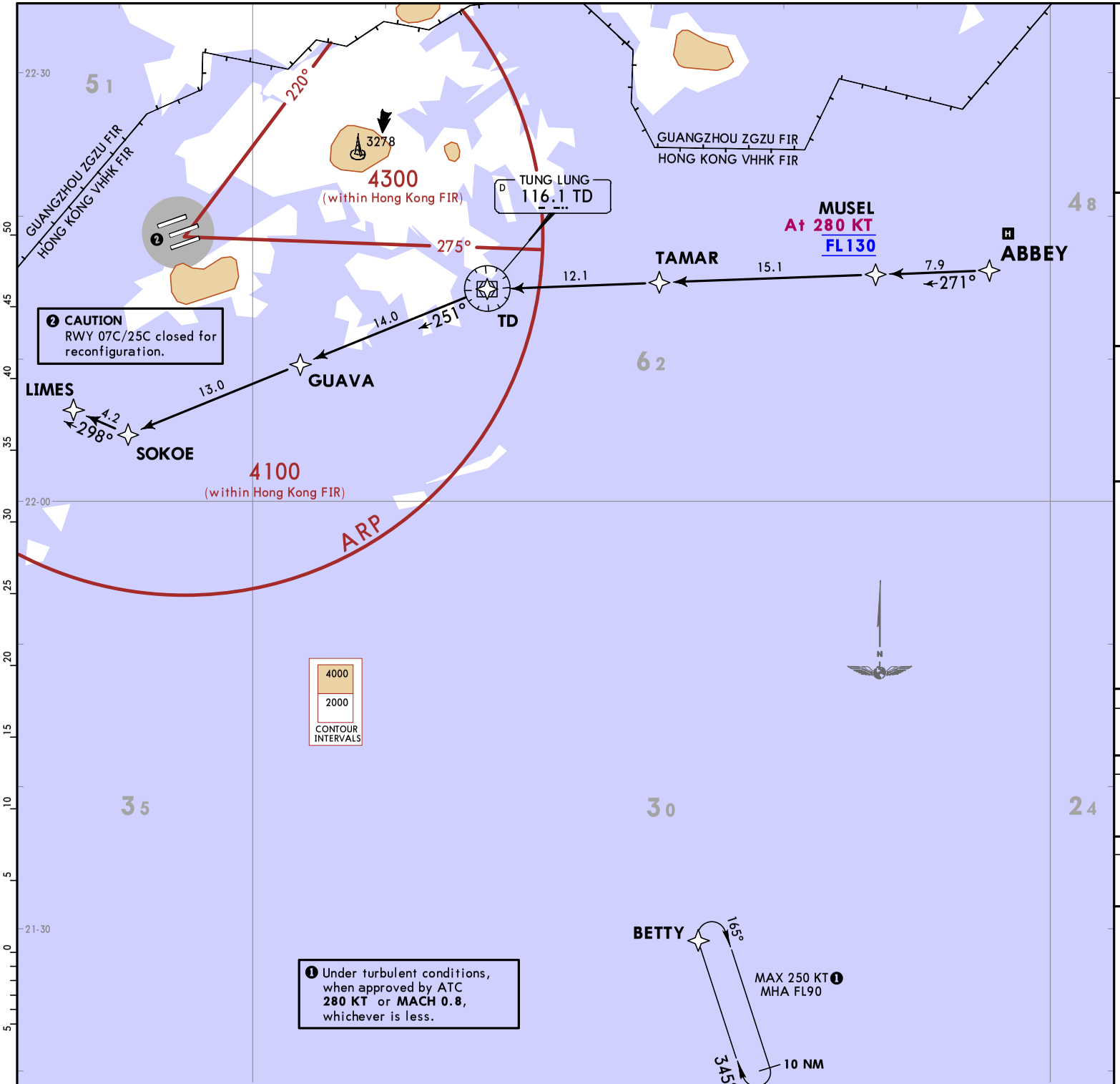
JEPPESEN 26 JAN 24 (10-2B)

HONG KONG, PR OF CHINA

TERMINAL TRANSITION ROUTE

TERMINAL TRANSITION ROUTES V561, V571 TO CANTO

CHANGES: Reissue.



D-ATIS 128.2	Alt Set: hPa Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC
Apt Elev 28	RNP 1 1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory. 2. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.

ABBEY 3A [ABEY3A]
RNAV (GNSS) ARRIVAL
(RWYS 07L/R)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST

Comply with descent requirement and STAR to MAINTAIN FL130 to LIMES, join LIMES holding and descend to 4500, then carry out the appropriate ILS approach procedure.

LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

DESCENT REQUIREMENTS

Cross MUSEL at FL130.
If holding over ABBEY is required, each flight will be instructed individually.
In order to provide traffic management flexibility during peak periods of arrival or adverse weather situation in Hong Kong TMA, traffic may be instructed to hold at BETTY or other holding as by ATC.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

ROUTING

ABBEY - MUSEL (K280; FL130) - TAMAR - TD VOR - GUAVA - SOKOE - LIMES. EXPECT ILS approach. Descend as directed by ATC.

NON-RNP 1 CONTINGENCY PROCEDURE

Direct to MUSEL, then to TAMAR, then to TD VOR, then to GUAVA (TD R251/D14), then direct to SOKOE (TD R251/D27), then to LIMES, EXPECT ILS approach. Descend as directed by ATC.

IF TD VOR NOT AVAILABLE

From MUSEL direct to TAMAR, then to TD INT, then direct to GUAVA, then to SOKOE, then direct to LIMES. Descend as directed by ATC.

H ABBEY
MAX 250 KT
Under turbulent conditions, when approved by ATC **280 KT** or **MACH 0.8**, whichever is less.

MAX FL250
MHA FL90
091° 10 NM
271°

MHA FL260
271°
091° 10 NM

CHANGES: Trans level.

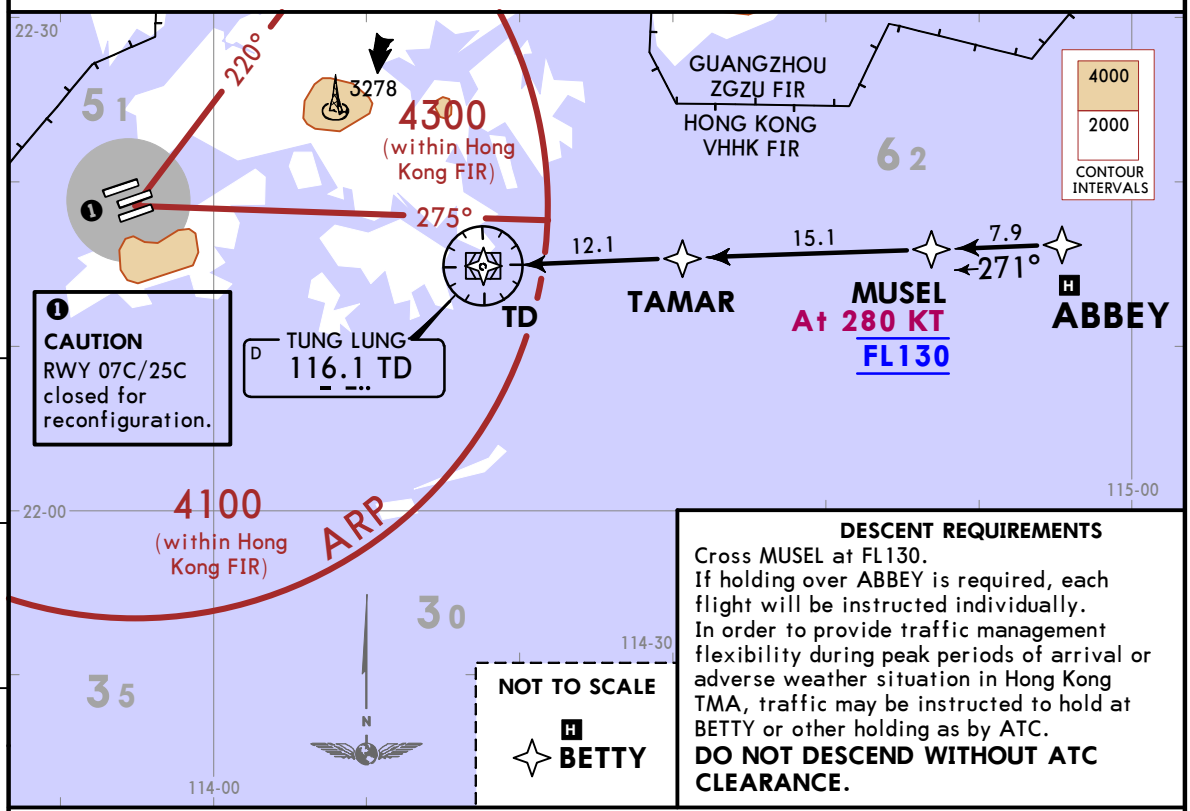
D-ATIS	Apt Elev	
128.2	28	Alt Set: hPa Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.

ABBEY 2B [ABEY2B]
RNAV (GNSS) ARRIVAL
(RWYS 25L/R)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED



DESCENT REQUIREMENTS

Cross MUSEL at FL130.
If holding over ABBEY is required, each flight will be instructed individually.
In order to provide traffic management flexibility during peak periods of arrival or adverse weather situation in Hong Kong TMA, traffic may be instructed to hold at BETTY or other holding as by ATC.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

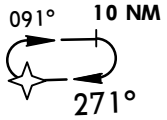
LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST

Comply with descent requirement and STAR to MAINTAIN FL130 to TD, join TD holding and descend to 4500, then carry out the appropriate ILS approach procedure.

LOST ▲ SWMMOC TSOL ▲ SWMMOC TSOL ▲ SWMMOC TSOL ▲ SWMMOC TSOL ▲ SWMMOC TSOL ▲ SWMMOC TSOL ▲ SWMMOC TSOL ▲ SWMMOC TSOL

ABBEY

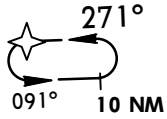
MAX FL250
MHA FL90



BETTY

MAX 250 KT
Under turbulent conditions, when approved by ATC
280 KT or **MACH 0.8**, whichever is less.

MHA FL260



MHA FL90

ROUTING

ABBEY - MUSEL (K280; FL130) - TAMAR - TD VOR. EXPECT ILS approach. Descend as directed by ATC.

NON-RNP 1 CONTINGENCY PROCEDURE

Direct to MUSEL, then to TAMAR, then direct to TD VOR, EXPECT ILS approach for RWY 25L or LOC approach for RWY 25R. Descend as directed by ATC.

IF TD VOR NOT AVAILABLE

From MUSEL direct to TAMAR, then to TD INT. Descend as directed by ATC.

CHANGES: Trans level.

CHANGES: Cross reference in text box changed to RNP AR approach.

D-ATIS	Apt Elev	
128.2	28	Alt Set: hPa Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.

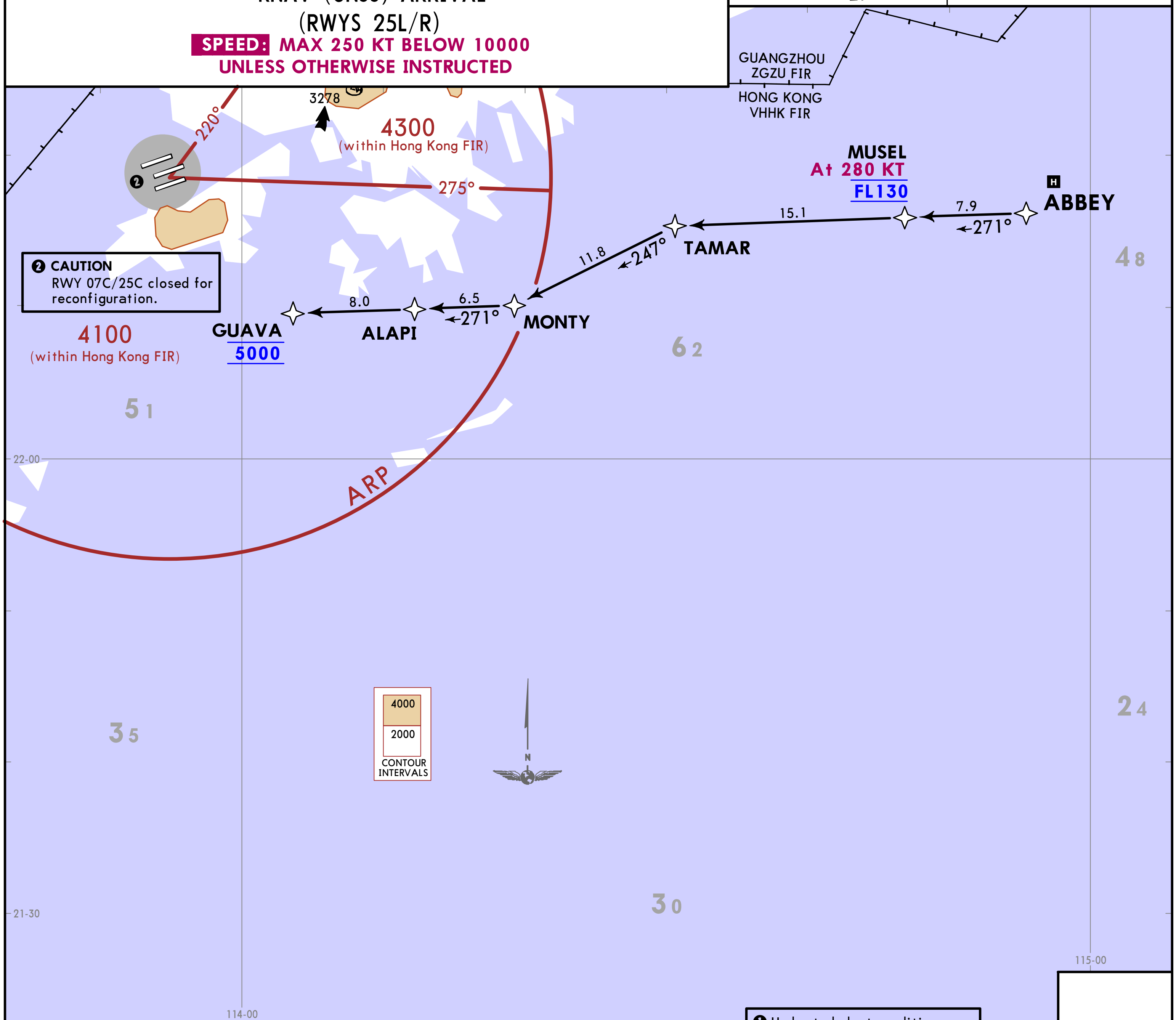
ABBEY
MAX 250 KT
Under turbulent conditions, when approved by ATC **280 KT** or **MACH 0.8**, whichever is less.

MAX FL250
MHA FL90
091° 10 NM 271°

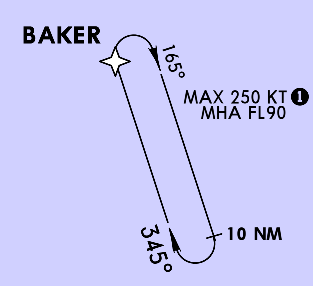
MHA FL260
271° 091° 10 NM

ABBEY 1G [ABEY1G]
RNAV (GNSS) ARRIVAL
(RWYS 25L/R)

SPEED: MAX 250 KT BELOW 10000
UNLESS OTHERWISE INSTRUCTED



Under turbulent conditions, when approved by ATC **280 KT** or **MACH 0.8**, whichever is less.



LOST COMMS

Comply with descent requirements and STAR to MAINTAIN FL130 to GUAVA, join GUAVA holding and descend to 5000, then carry out the appropriate RNP approach procedure.

DESCENT REQUIREMENTS

Cross MUSEL at FL130 and GUAVA at 5000.
If holding over ABBEY is required, each flight will be instructed individually.
In order to provide traffic management flexibility during peak periods of arrival or adverse weather situation in Hong Kong TMA, traffic may be instructed to hold at BAKER or other holding as by ATC.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

ROUTING

ABBEY - MUSEL (K280; FL130) - TAMAR - MONTY - ALAPI - GUAVA (5000).
EXPECT RNP AR approach. Descend as directed by ATC.

CHANGES: None.

D-ATIS	Apt Elev
128.2	28

Alt Set: hPa
Trans level: 980 hPa or above - FL110
979 hPa or below - by ATC

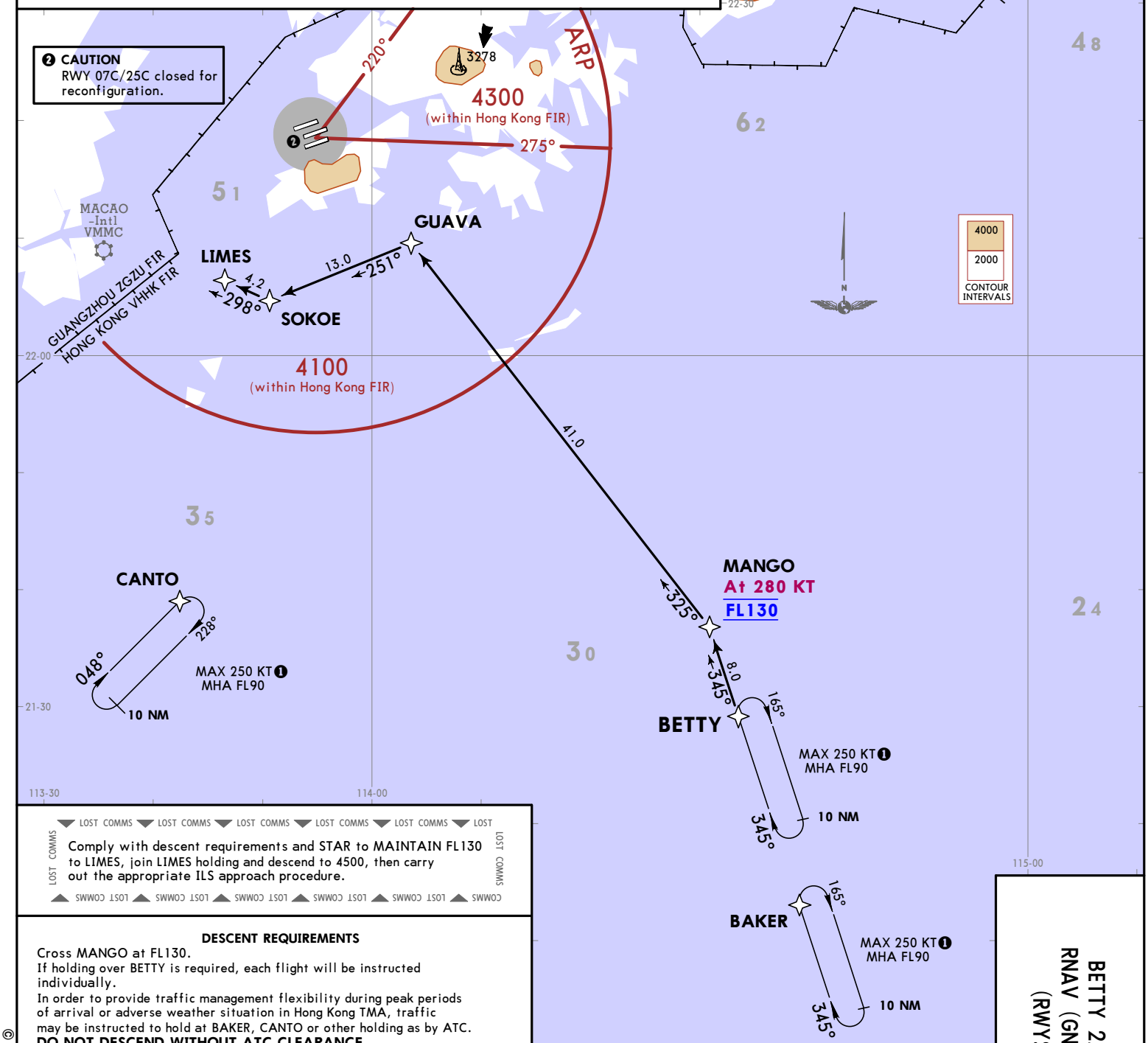
RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.

BETTY 2A [BETY2A]
RNAV (GNSS) ARRIVAL
(RWYS 07L/R)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

❷ **CAUTION**
RWY 07C/25C closed for reconfiguration.



LOST COMMS

Comply with descent requirements and STAR to MAINTAIN FL130 to LIMES, join LIMES holding and descend to 4500, then carry out the appropriate ILS approach procedure.

DESCENT REQUIREMENTS

Cross MANGO at FL130.
If holding over BETTY is required, each flight will be instructed individually.
In order to provide traffic management flexibility during peak periods of arrival or adverse weather situation in Hong Kong TMA, traffic may be instructed to hold at BAKER, CANTO or other holding as by ATC.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

ROUTING

BETTY - MANGO (K280; FL130) - GUAVA - SOKOE - LIMES.
EXPECT ILS approach. Descend as directed by ATC.

NON-RNP 1 CONTINGENCY PROCEDURE

Direct to MANGO, then to GUAVA (TD R251/D14), then direct to SOKOE (TD R251/D27), then to LIMES, EXPECT ILS approach. Descend as directed by ATC.

IF TD VOR NOT AVAILABLE

From MANGO direct to GUAVA, then to SOKOE, then direct to LIMES.
Descend as directed by ATC.

❶ Under turbulent conditions, when approved by ATC **280 KT** or **MACH 0.8**, whichever is less.

VHHH/HKG
HONG KONG INTL

20 JAN 23

JEPPESEN
10-2G

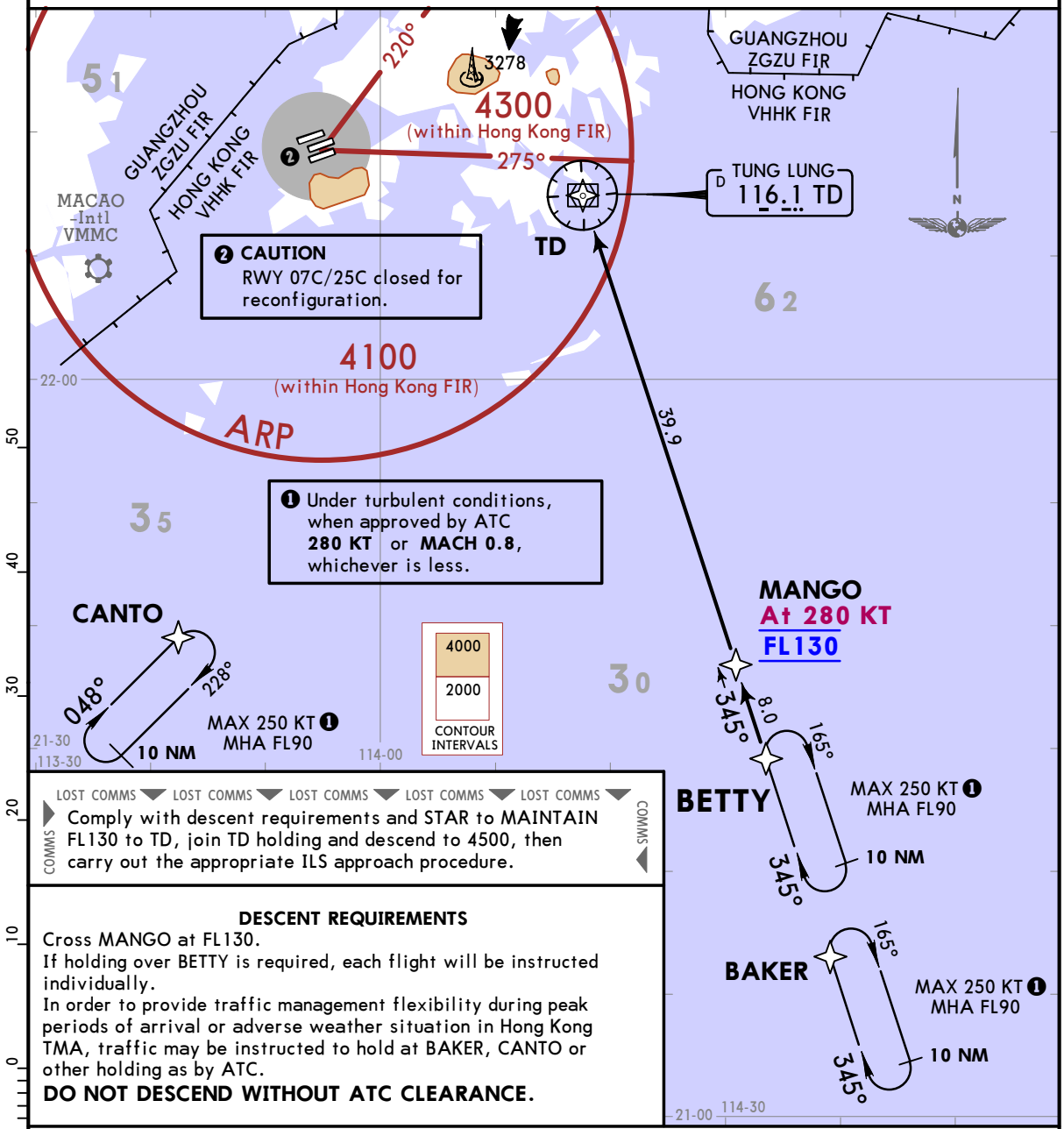
HONG KONG, PR OF CHINA
RNAV STAR

BETTY 2A [BETY2A]
RNAV (GNSS) ARRIVAL
(RWYS 07L/R)

D-ATIS	Apt Elev	
128.2	28	Alt Set: hPa Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC
		RNP 1
		1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory. 2. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.

BETTY 2B [BETY2B]
RNAV (GNSS) ARRIVAL
(RWYS 25L/R)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED



LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS

COMMS ▶ Comply with descent requirements and STAR to MAINTAIN FL130 to TD, join TD holding and descend to 4500, then carry out the appropriate ILS approach procedure. ◀ COMMS

DESCENT REQUIREMENTS

Cross MANGO at FL130.
If holding over BETTY is required, each flight will be instructed individually.
In order to provide traffic management flexibility during peak periods of arrival or adverse weather situation in Hong Kong TMA, traffic may be instructed to hold at BAKER, CANTO or other holding as by ATC.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

ROUTING

BETTY - MANGO (K280; FL130) - TD VOR. EXPECT ILS approach. Descend as directed by ATC.

NON-RNP 1 CONTINGENCY PROCEDURE

Direct to MANGO, then to TD VOR, EXPECT ILS approach for RWY 25L, or LOC approach for RWY 25R. Descend as directed by ATC.

IF TD VOR NOT AVAILABLE

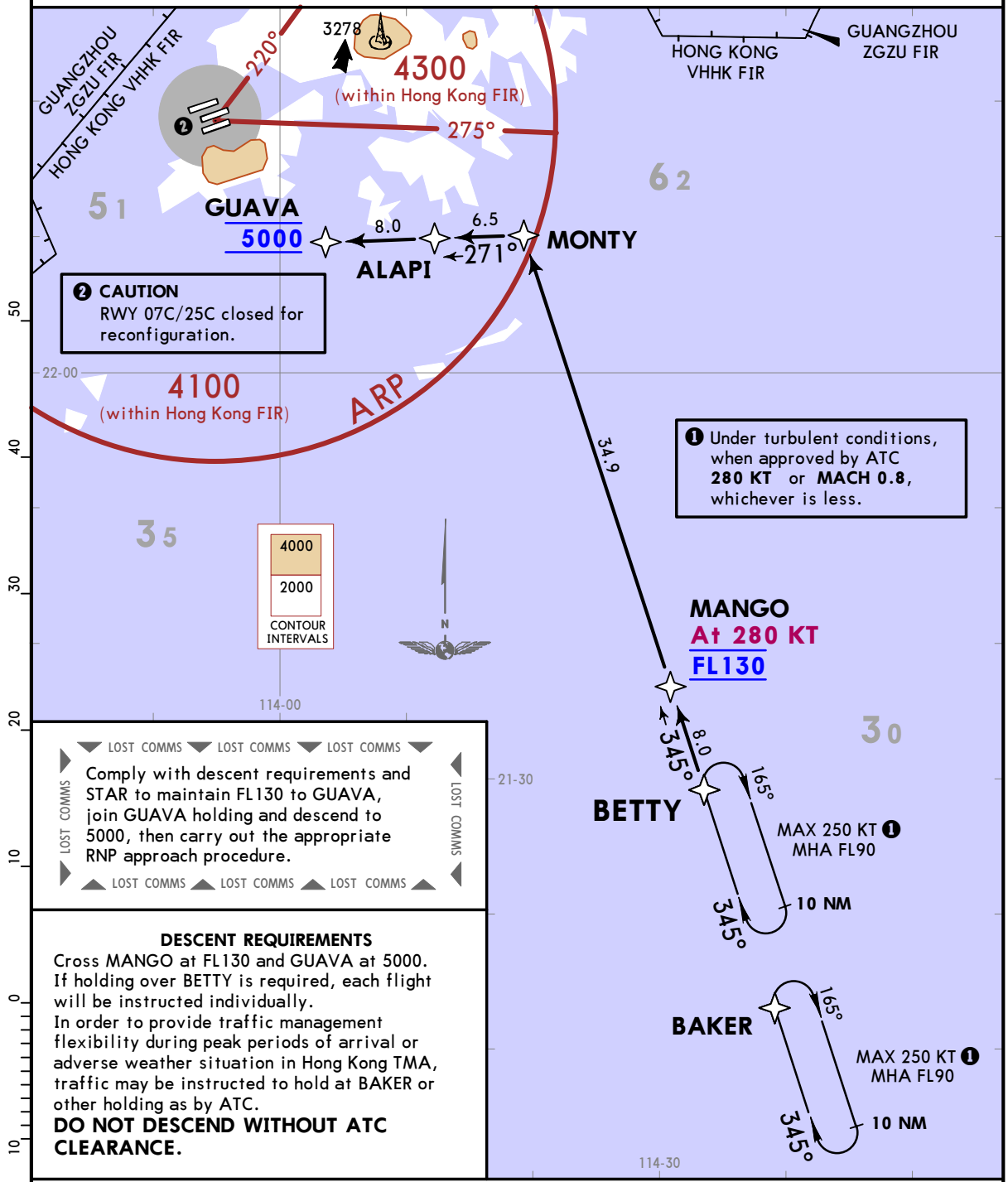
From MANGO direct to TD INT. Descend as directed by ATC.

CHANGES: None.

D-ATIS	Apt Elev	
128.2	28	Alt Set: hPa Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC
		RNP 1
		1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory. 2. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.

BETTY 1G [BETY1G]
RNAV (GNSS) ARRIVAL
(RWYS 25L/R)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED



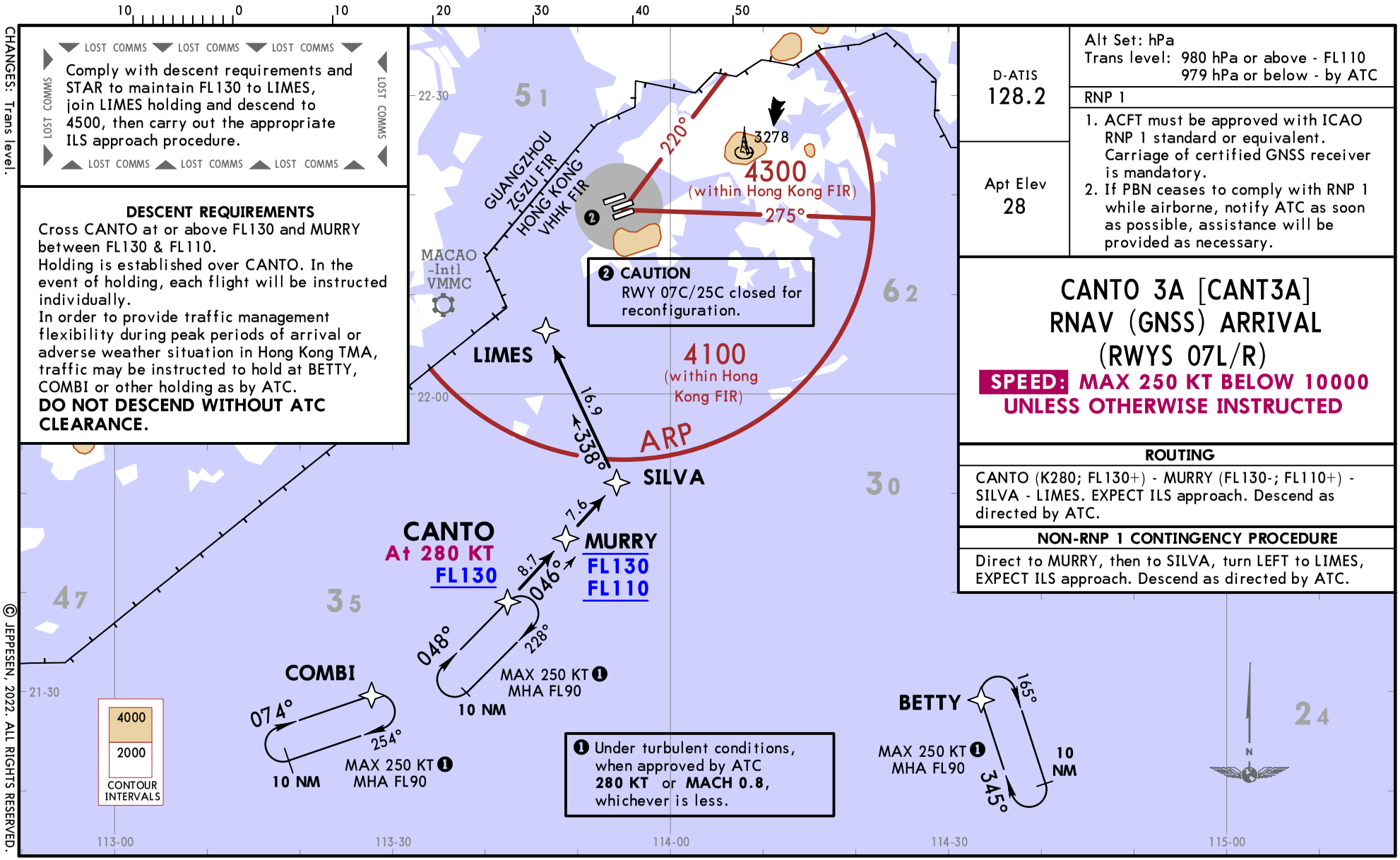
DESCENT REQUIREMENTS

Cross MANGO at FL130 and GUAVA at 5000.
If holding over BETTY is required, each flight will be instructed individually.
In order to provide traffic management flexibility during peak periods of arrival or adverse weather situation in Hong Kong TMA, traffic may be instructed to hold at BAKER or other holding as by ATC.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

ROUTING

BETTY - MANGO (K280; FL130) - MONTY - ALAPI - GUAVA (5000). EXPECT RNP AR approach.
Descend as directed by ATC.

CHANGES: Cross reference in text box changed to RNP AR approach.



D-ATIS 128.2	Alt Set: hPa Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC
Apt Elev 28	RNP 1 1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory. 2. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.

CANTO 3A [CANT3A]
RNAV (GNSS) ARRIVAL
(RWYS 07L/R)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

ROUTING

CANTO (K280; FL130+) - MURRY (FL130-; FL110+) - SILVA - LIMES. EXPECT ILS approach. Descend as directed by ATC.

NON-RNP 1 CONTINGENCY PROCEDURE

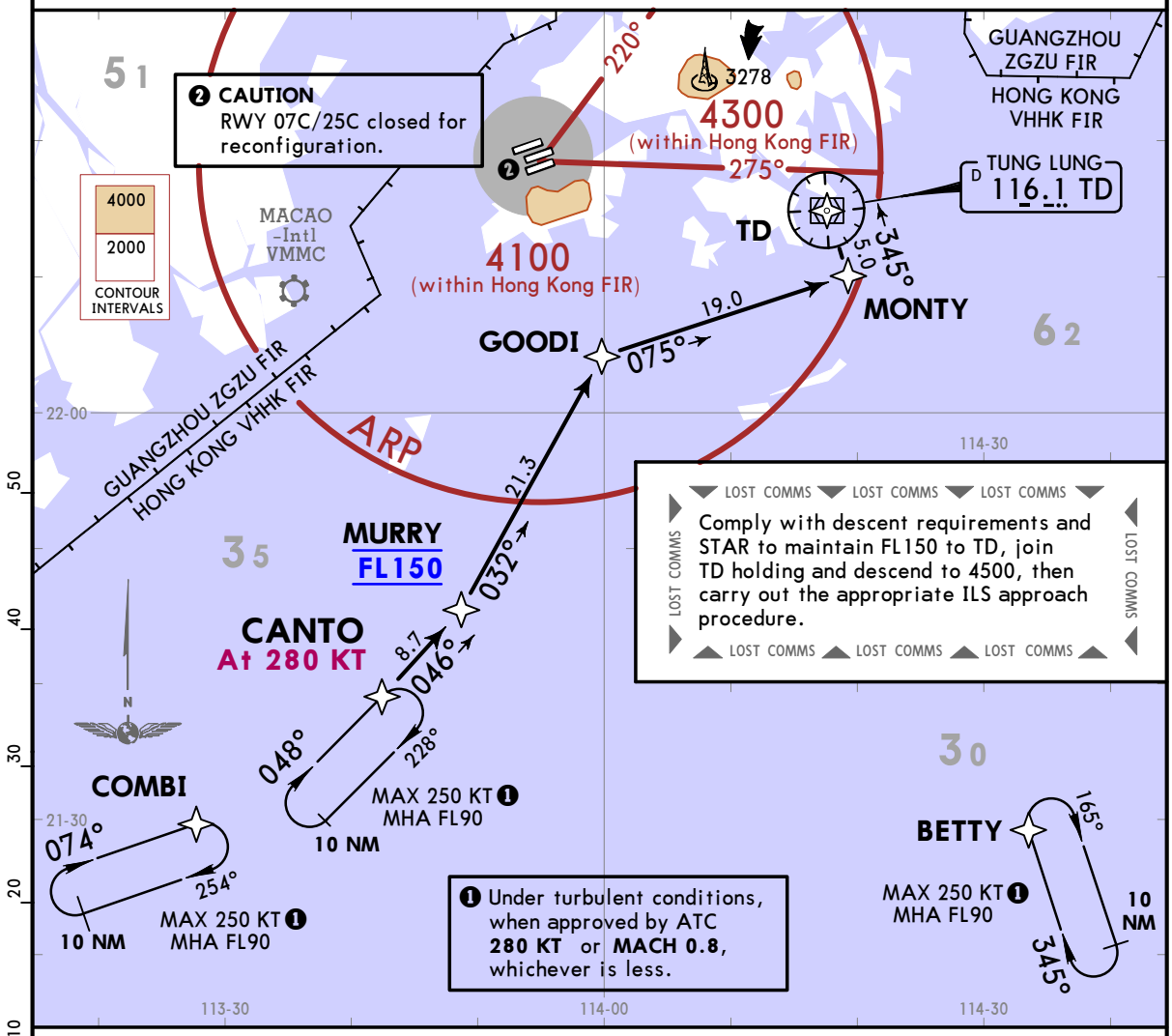
Direct to MURRY, then to SILVA, turn LEFT to LIMES, EXPECT ILS approach. Descend as directed by ATC.

25 NOV 22
10-2K
Eff 1 Dec
JEPPESEN HONG KONG, PR OF CHINA
RNAV STAR

D-ATIS	Apt Elev	
128.2	28	Alt Set: hPa Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC
		RNP 1
		1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory. 2. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.

CANTO 2B [CANT2B]
RNAV (GNSS) ARRIVAL
(RWYS 25L/R)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED



DESCENT REQUIREMENTS

Cross MURRY at FL150.
Holding is established over CANTO. In the event of holding, each flight will be instructed individually. In order to provide traffic management flexibility during peak periods of arrival or adverse weather situation in Hong Kong TMA, traffic may be instructed to hold at BETTY, COMBI or other holding as by ATC.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

ROUTING

CANTO (K280) - MURRY (FL150) - GOODI - MONTY - TD VOR. EXPECT ILS approach. Descend as directed by ATC.

NON-RNP 1 CONTINGENCY PROCEDURE

Direct to MURRY, then to GOODI, then direct to MONTY, turn LEFT to TD VOR, EXPECT ILS approach for RWY 25L or LOC approach for RWY 25R. Descend as directed by ATC.

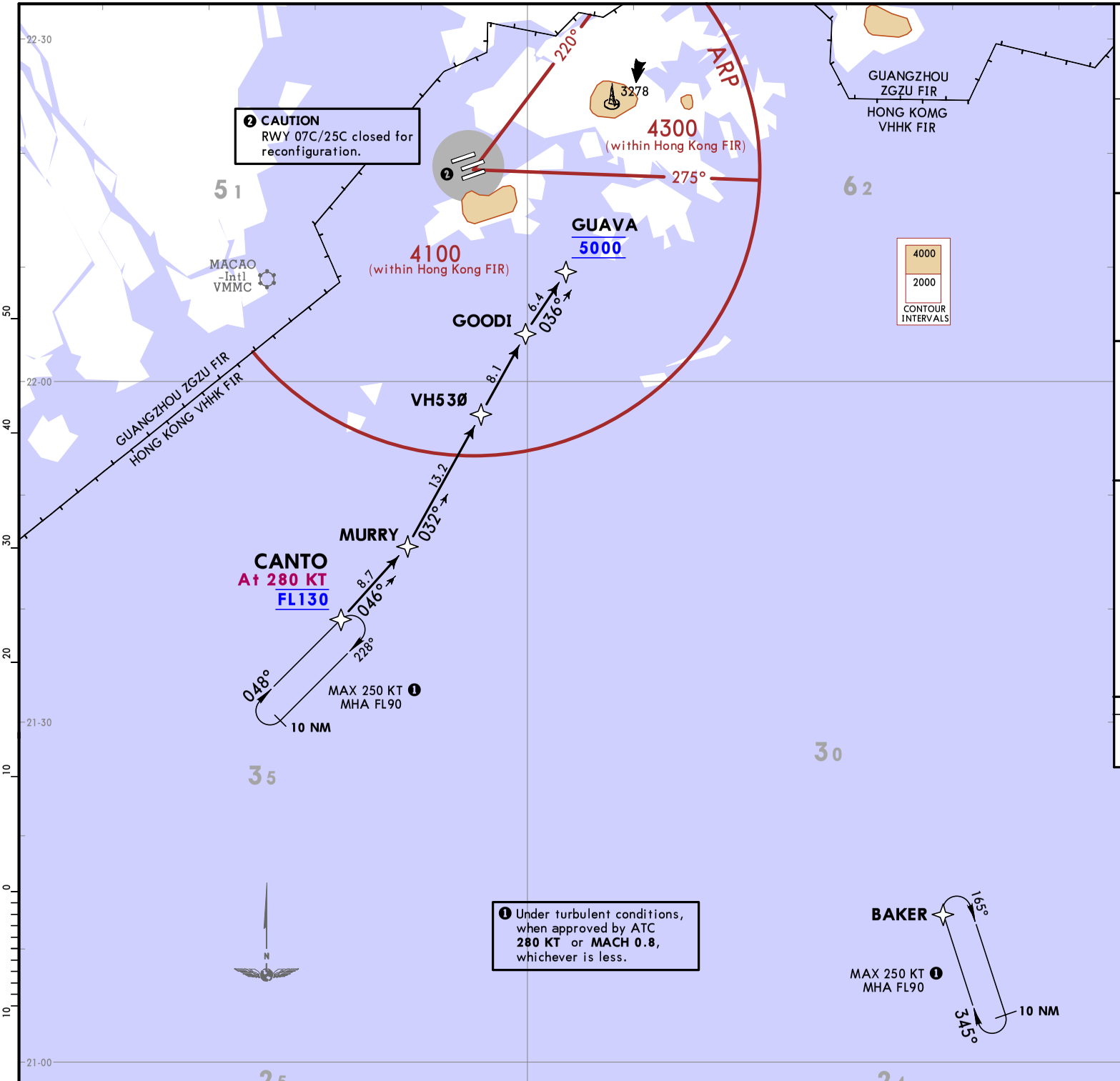
IF TD VOR NOT AVAILABLE

From MONTY turn LEFT direct to TD INT. Descend as directed by ATC.

CHANGES: Trans level.

HONG KONG, PR OF CHINA

RNAV STAR



D-ATIS	Alt Set: hPa Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC
128.2	RNP 1
Apt Elev 28	1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory. 2. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.

CANTO 1G [CANT1G]
RNAV (GNSS) ARRIVAL
(RWYS 25L/R)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS

Comply with descent requirement and STAR to MAINTAIN FL130 to GUAVA, join GUAVA holding and descend to 5000, then carry out the appropriate RNP approach procedure.

LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

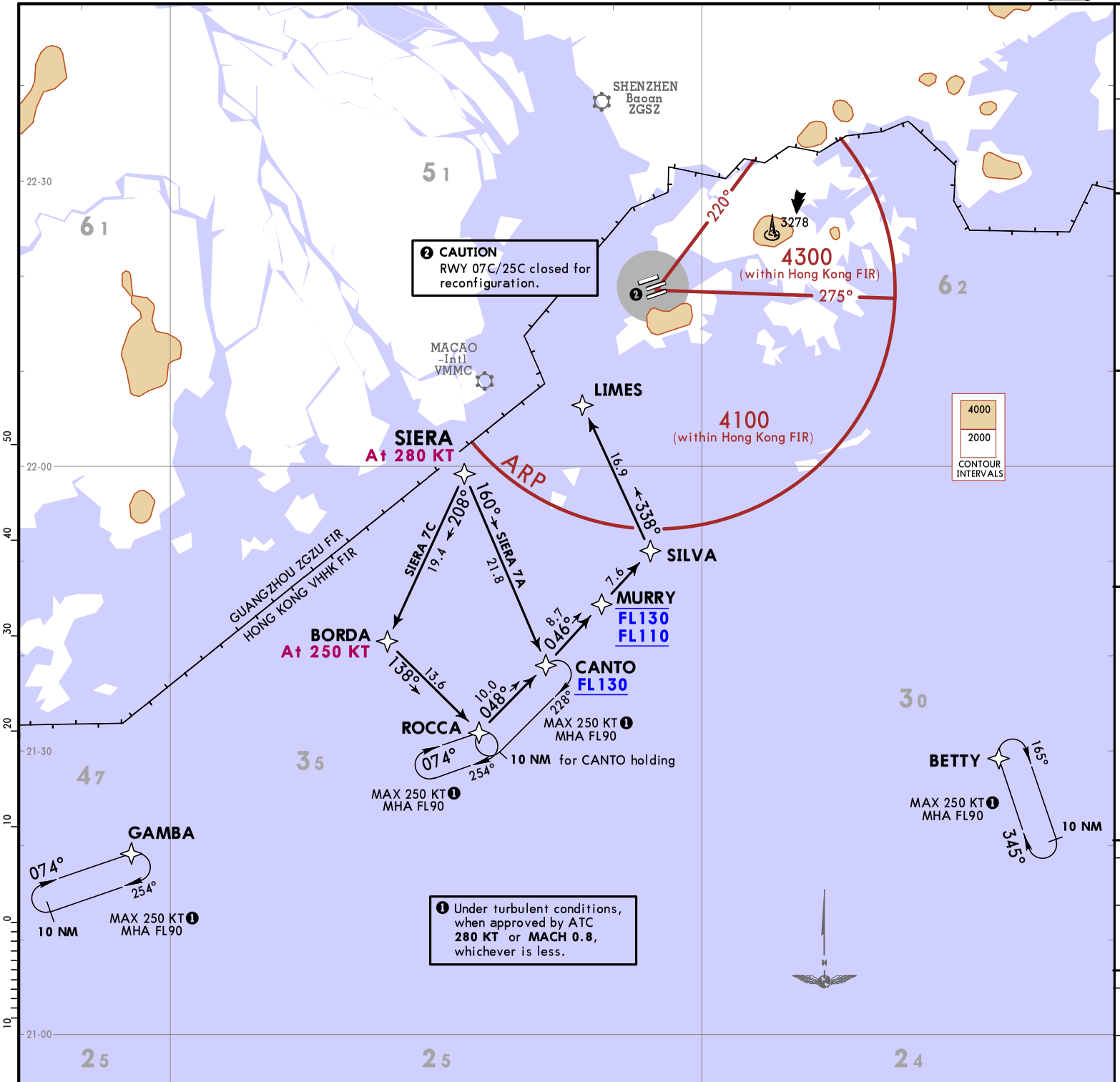
DESCENT REQUIREMENTS

Cross CANTO at FL130 and GUAVA at 5000.
If holding over CANTO is required, each flight will be instructed individually.
In order to provide traffic management flexibility during peak periods of arrival or adverse weather situation in Hong Kong TMA, traffic may be instructed to hold at BAKER or other holding as by ATC.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

ROUTING

CANTO (K280; FL130) - MURRY - VH53Ø - GOODI - GUAVA (5000). EXPECT RNP AR approach. Descend as directed by ATC.

CHANGES: Cross reference in text box changed to RNP AR approach.



D-ATIS	Alt Set: hPa Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC
128.2	RNP 1
Apt Elev 28	1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory. 2. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.

SIERA 7A [SIER7A]
SIERA 7C [SIER7C]
RNAV (GNSS) ARRIVALS
(RWYS 07L/R)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS

Comply with descent requirement and STAR to MAINTAIN FL130 to LIMES, join LIMES holding and descend to 4500, then carry out the appropriate ILS approach procedure.

LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

DESCENT REQUIREMENTS

Cross CANTO at or above FL130 and MURRY between FL130 & FL110.
Holdings are established over CANTO and ROCCA. In the event of holding, each flight will be instructed individually.
In order to provide traffic management flexibility during peak periods of arrival or adverse weather situation in Hong Kong TMA, traffic may be instructed to hold at BETTY, GAMBA or other holding as by ATC.

DO NOT DESCEND WITHOUT ATC CLEARANCE.

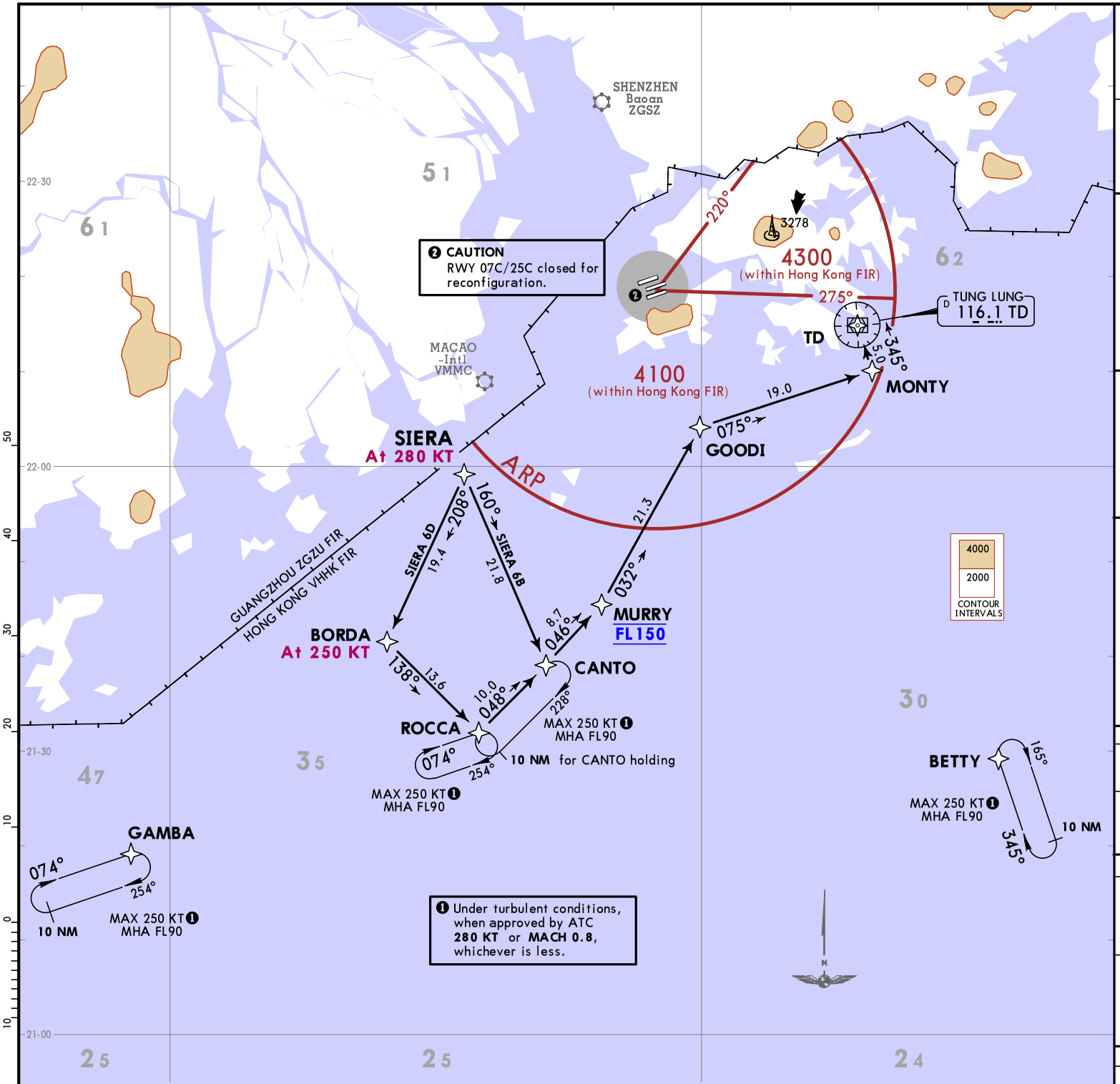
STAR	ROUTING
SIERA 7A	SIERA (K280) - CANTO (FL130+) - MURRY (FL130-; FL110+) - SILVA - LIMES. EXPECT ILS approach. Descend as directed by ATC.
SIERA 7C	SIERA (K280) - BORDA (K250) - ROCCA - CANTO (FL130+) - MURRY (FL130-; FL110+) - SILVA - LIMES. EXPECT ILS approach. Descend as directed by ATC.

STAR	NON-RNP 1 CONTINGENCY PROCEDURE
SIERA 7A	Direct to CANTO, turn LEFT, via MURRY to SILVA, turn LEFT to LIMES, EXPECT ILS approach. Descend as directed by ATC.
SIERA 7C	Direct to BORDA, turn LEFT to ROCCA, then to CANTO, then via MURRY to SILVA, turn LEFT to LIMES, EXPECT ILS approach. Descend as directed by ATC.

CHANGES: None.

HONG KONG, PR OF CHINA

RNAV STAR



D-ATIS	Alt Set: hPa Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC
128.2	RNP 1
Apt Elev 28	1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory. 2. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.

SIERA 6B [SIER6B]
SIERA 6D [SIER6D]
RNAV (GNSS) ARRIVALS
(RWYS 25L/R)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS

Comply with descent requirement and STAR to MAINTAIN FL150 to TD, join TD holding and descend to 4500, then carry out the appropriate ILS approach procedure.

LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

DESCENT REQUIREMENTS

Cross MURRY at FL150. If holding over CANTO or ROCCA is required, each flight will be instructed individually.

In order to provide traffic management flexibility during peak periods of arrival or adverse weather situation in Hong Kong TMA, traffic may be instructed to hold at BETTY, GAMBA or other holding as by ATC.

DO NOT DESCEND WITHOUT ATC CLEARANCE.

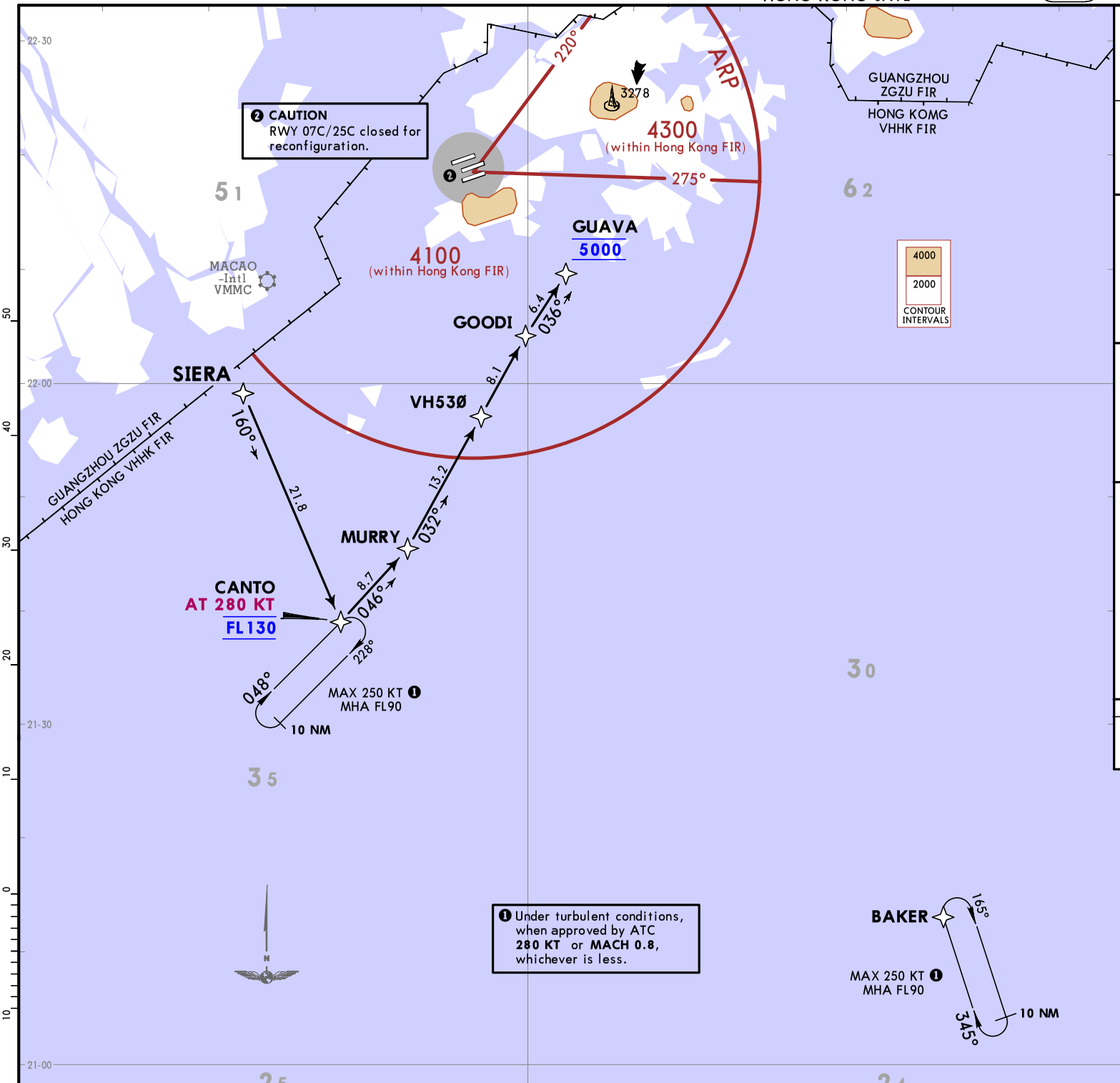
STAR	ROUTING
SIERA 6B	SIERA (K280) - CANTO - MURRY (FL150) - GOODI - MONTY - TD VOR. EXPECT ILS approach. Descend as directed by ATC.
SIERA 6D	SIERA (K280) - BORDA (K250)- ROCCA - CANTO - MURRY (FL150) - GOODI - MONTY - TD VOR. EXPECT ILS approach. Descend as directed by ATC.

STAR	NON-RNP 1 CONTINGENCY PROCEDURE
SIERA 6B	Direct to CANTO, turn LEFT to MURRY, then to GOODI, then direct to MONTY, turn LEFT to TD VOR, EXPECT ILS approach for RWY 25L or LOC approach for RWY 25R. Descend as directed by ATC.
SIERA 6D	Direct to BORDA, turn LEFT to ROCCA, then to CANTO, then to MURRY, then to GOODI, then to MONTY, turn LEFT direct to TD VOR, EXPECT ILS approach for RWY 25L or LOC approach for RWY 25R. Descend as directed by ATC.

IF TD VOR NOT AVAILABLE

From MONTY turn LEFT direct to TD INT. Descend as directed by ATC.

CHANGES: None.



D-ATIS	Alt Set: hPa Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC
128.2	RNP 1
Apt Elev 28	1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory. 2. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.

SIERA 1G [SIER1G]
RNAV (GNSS) ARRIVAL
(RWYS 25L/R)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

LOST COMMS

Comply with descent requirement and STAR to MAINTAIN FL130 to GUAVA, join GUAVA holding and descend to 5000, then carry out the appropriate RNP approach procedure.

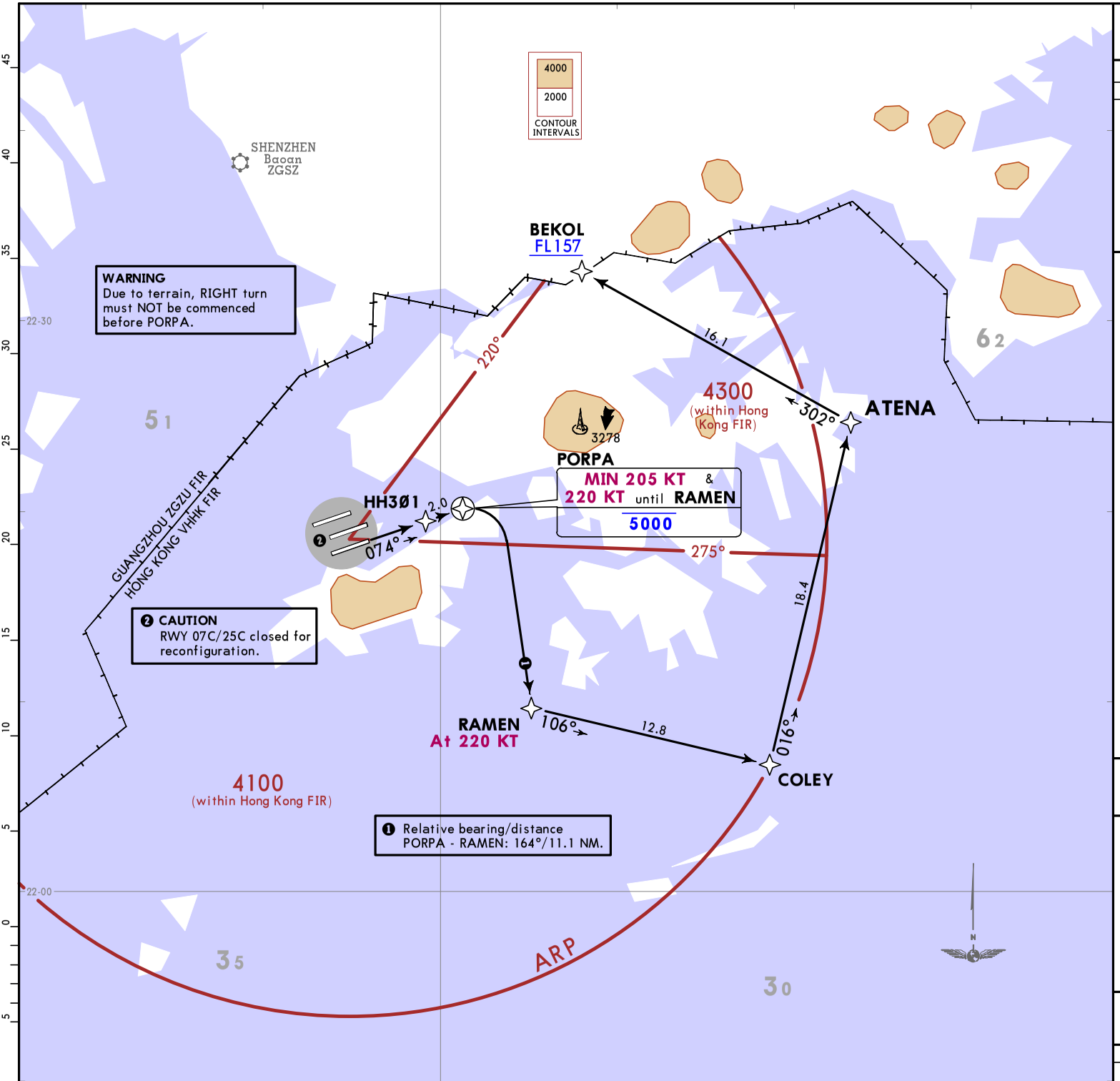
DESCENT REQUIREMENTS

Cross CANTO at FL130 and GUAVA at 5000.
If holding over CANTO is required, each flight will be instructed individually.
In order to provide traffic management flexibility during peak periods of arrival or adverse weather situation in Hong Kong TMA, traffic may be instructed to hold at BAKER or other holding as by ATC.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

ROUTING

SIERA - CANTO (K280; FL130) - MURRY - VH53Ø - GOODI - GUAVA (5000). EXPECT RNP AR approach. Descent as directed by ATC.

CHANGES: Cross reference in text box changed to RNP AR approach.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

ATENA 3A [ATEN3A]
RNAV (GNSS) DEPARTURE
(RWY 07R)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

IF UNABLE TO CROSS BEKOL AT OR ABOVE FL157 ADVISE ATC PRIOR TO DEPARTURE

IF EXEMPT FROM RNP-1 REQUIREMENT REFER TO CONTINGENCY PROCEDURE RAMEN 2A (CHART 10-3W)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

FL CONVERSION
FL157 **FL4800m**

This SID requires a minimum climb gradient of
4.9% (298 per NM) until leaving 1400.

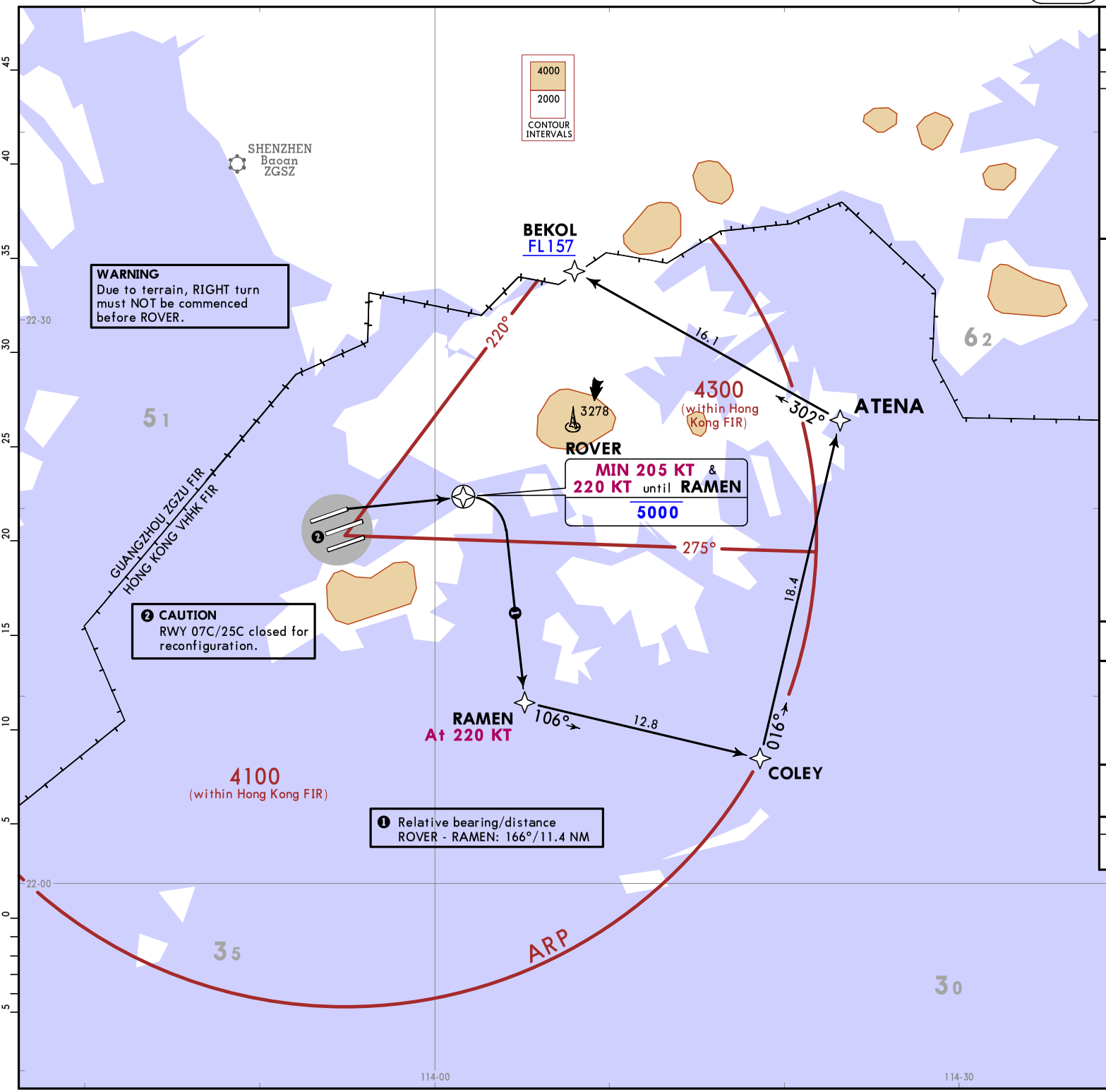
Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

ROUTING

HH3Ø1 - PORPA (K205+; 5000-) - RAMEN (K220) - COLEY - ATENA - BEKOL (FL157+).

CHANGES: SID renumbered, HH3Ø1 added.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

ATENA 2E [ATEN2E]
RNAV (GNSS) DEPARTURE
(RWY 07L)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

IF UNABLE TO CROSS BEKOL AT OR ABOVE FL157 ADVISE ATC PRIOR TO DEPARTURE

IF EXEMPT FROM RNP-1 REQUIREMENT REFER TO CONTINGENCY PROCEDURE RAMEN 1E (CHART 10-3X)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

FL CONVERSION
FL157 FL4800m

This SID requires a minimum climb gradient of
3.4% (207 per NM) until leaving 1400.

Gnd speed-KT	75	100	150	200	250	300
3.4% V/V (fpm)	258	344	516	689	861	1033

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

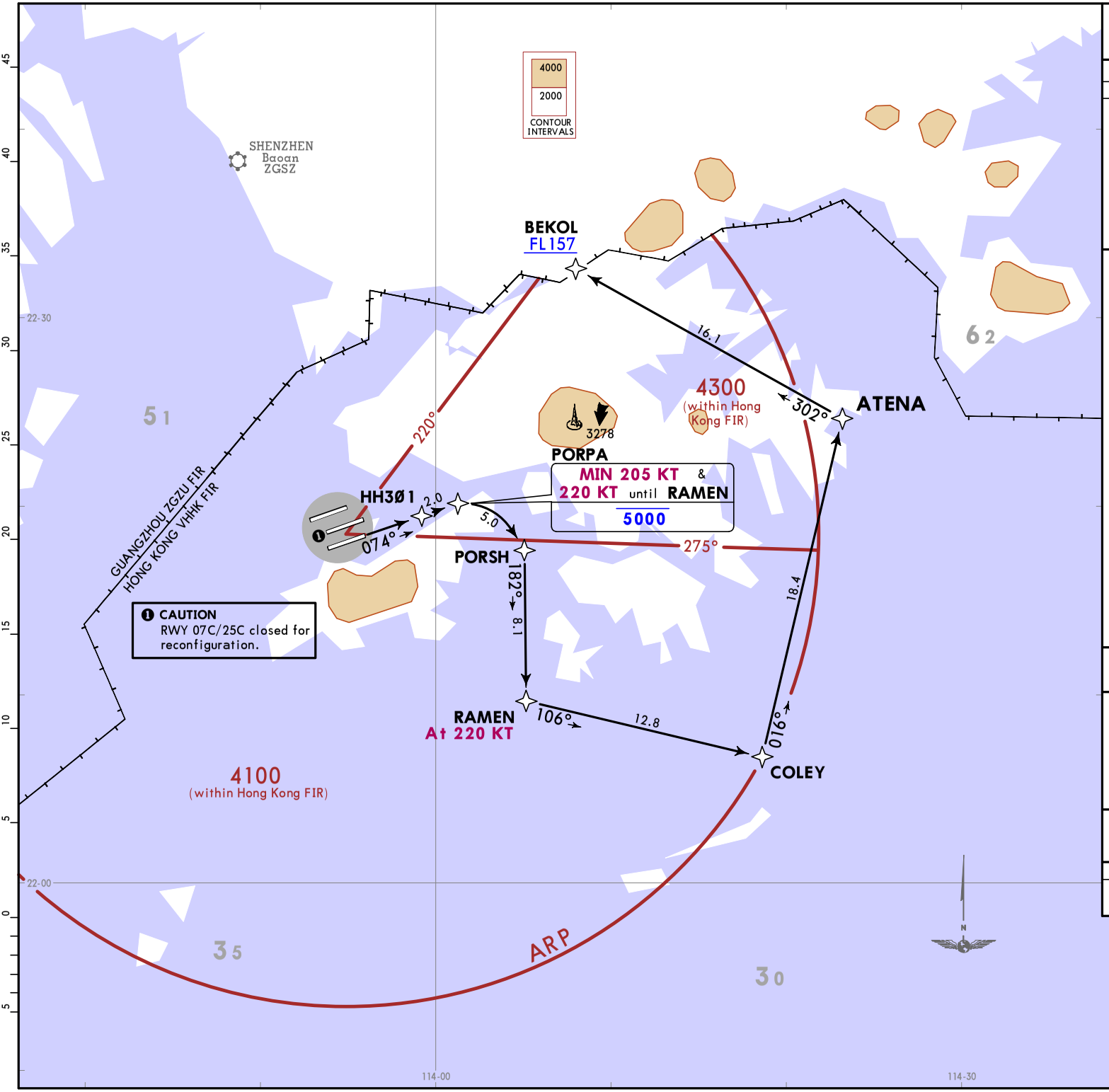
ROUTING

DER - ROVER (K205+; 5000-) - RAMEN (K220) - COLEY - ATENA - BEKOL (FL157+).

CHANGES: None.

HONG KONG, PR OF CHINA

RNAV SID



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1 RF required

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

ATENA 2X [ATEN2X]
RNAV (GNSS) DEPARTURE
(RWY 07R)

RADIUS-TO-FIX (RF) LEG IS REQUIRED & RF CAPABLE ACFT ARE ENCOURAGED TO FLY THIS SID, IF UNABLE REFER TO SID ATENA 3A (CHART 10-3)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

IF UNABLE TO CROSS BEKOL AT OR ABOVE FL157 ADVISE ATC PRIOR TO DEPARTURE

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

FL CONVERSION
FL157 **FL4800m**

This SID requires a minimum climb gradient of
4.9% (298 per NM) until leaving 1400.

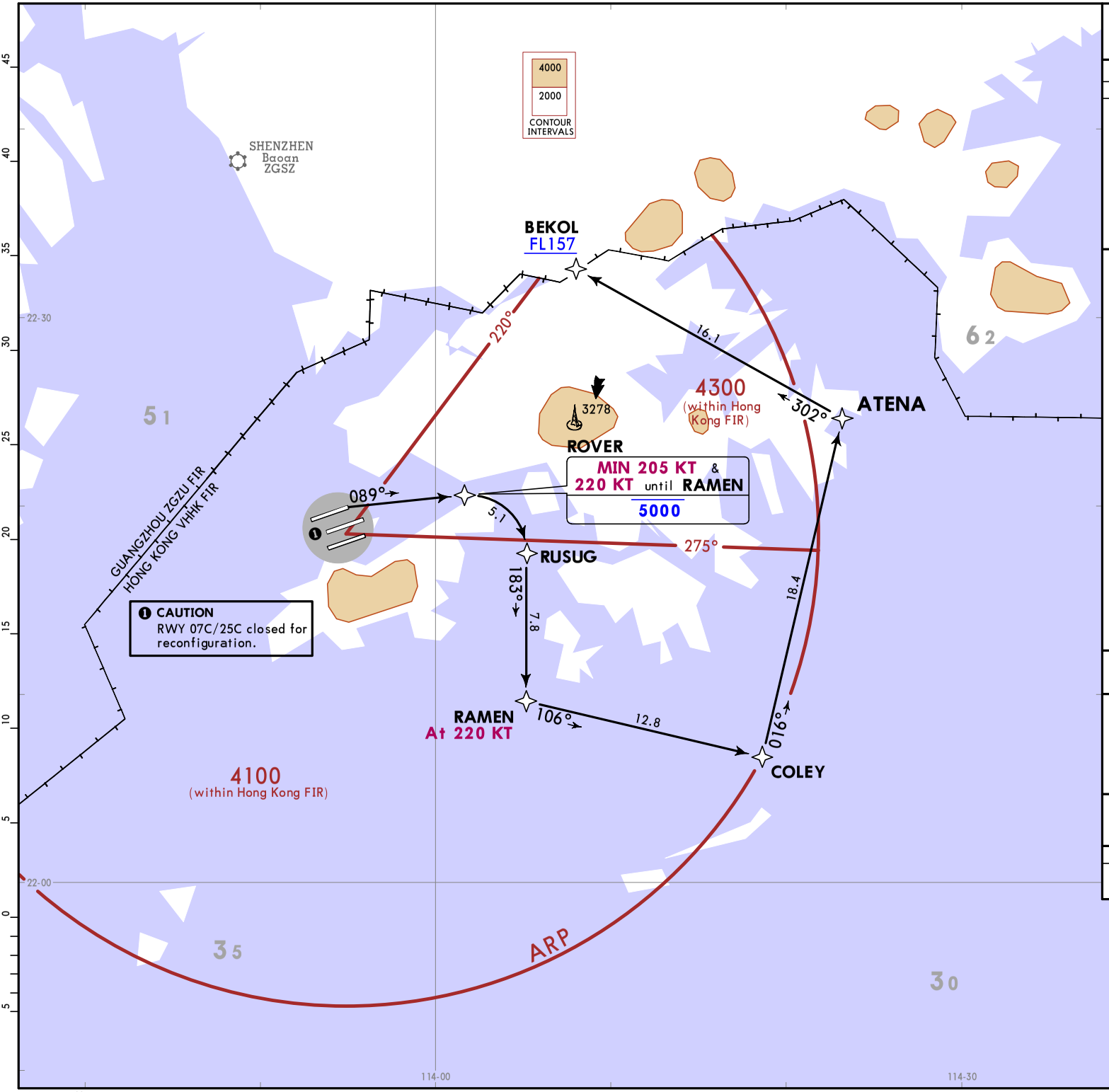
Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

ROUTING

HH3Ø1 - PORPA (K205+; 5000-) - PORSH - RAMEN (K220) - COLEY - ATENA - BEKOL (FL157+).

CHANGES: SID renumbered, HH3Ø1 added.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1 RF required

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

ATENA 1Z [ATEN1Z]
RNAV (GNSS) DEPARTURE
(RWY 07L)

RADIUS-TO-FIX (RF) LEG IS REQUIRED & RF CAPABLE ACFT ARE ENCOURAGED TO FLY THIS SID, IF UNABLE REFER TO SID ATENA 2E (CHART 10-3A)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

IF UNABLE TO CROSS BEKOL AT OR ABOVE FL157 ADVISE ATC PRIOR TO DEPARTURE

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

FL CONVERSION
FL157 FL4800m

This SID requires a minimum climb gradient of 3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

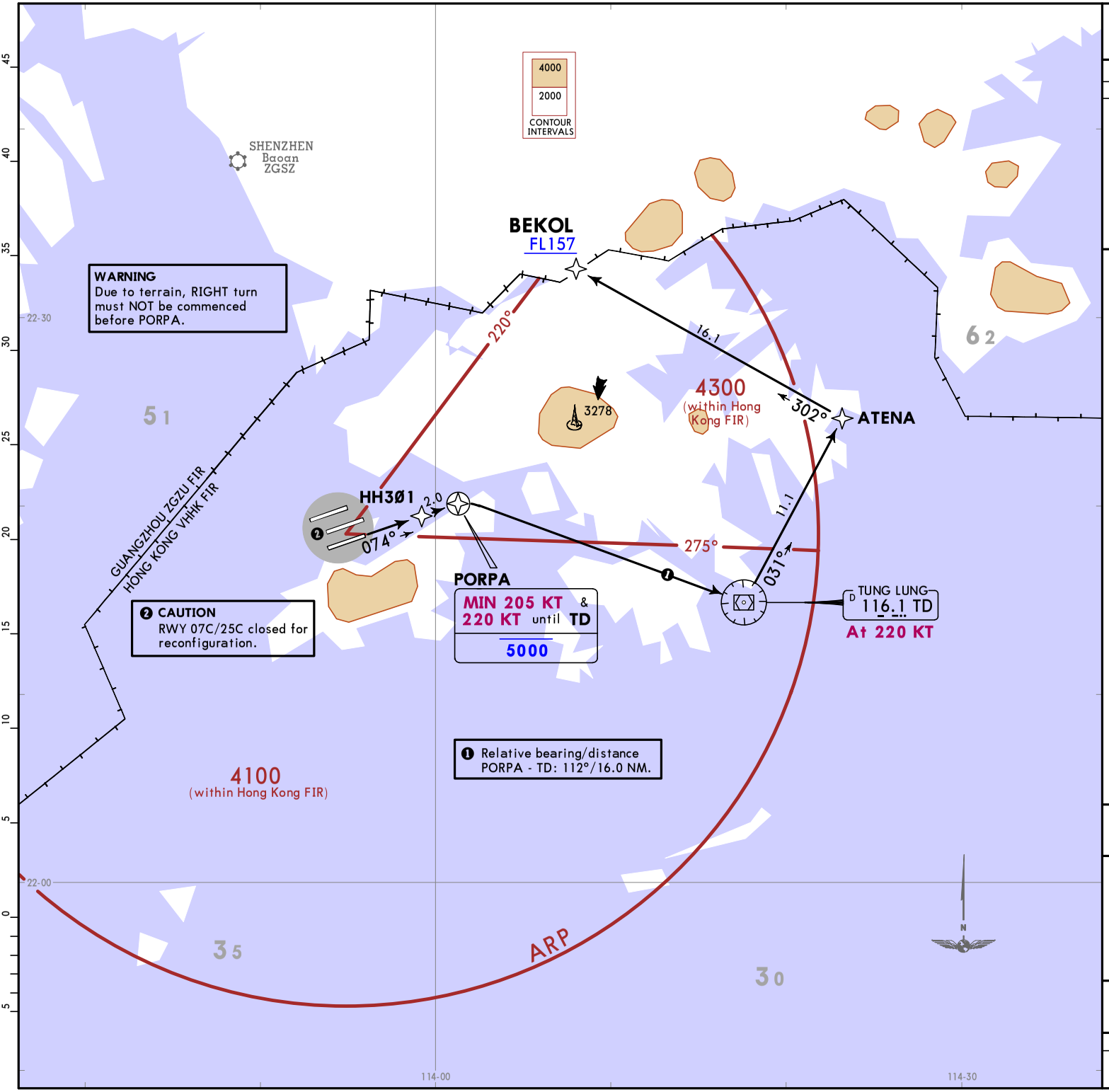
ROUTING

DER - ROVER (K205+; 5000-) - RUSUG - RAMEN (K220) - COLEY - ATENA - BEKOL (FL157+).

CHANGES: None.

HONG KONG, PR OF CHINA

RNAV SID



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

BEKOL 4A [BEKO4A]
RNAV (GNSS) DEPARTURE
(RWY 07R)

IF UNABLE TO CROSS BEKOL AT OR ABOVE FL157 ADVISE ATC PRIOR TO DEPARTURE

BETWEEN 2300-0700LT EXPECT SID ATENA 3A (CHART 10-3)

IF EXEMPT FROM RNP-1 REQUIREMENT REFER TO CONTINGENCY PROCEDURE RAMEN 2A (CHART 10-3W)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

FL CONVERSION
FL157 **FL4800m**

This SID requires a minimum climb gradient of
4.9% (298 per NM) until leaving 1400.

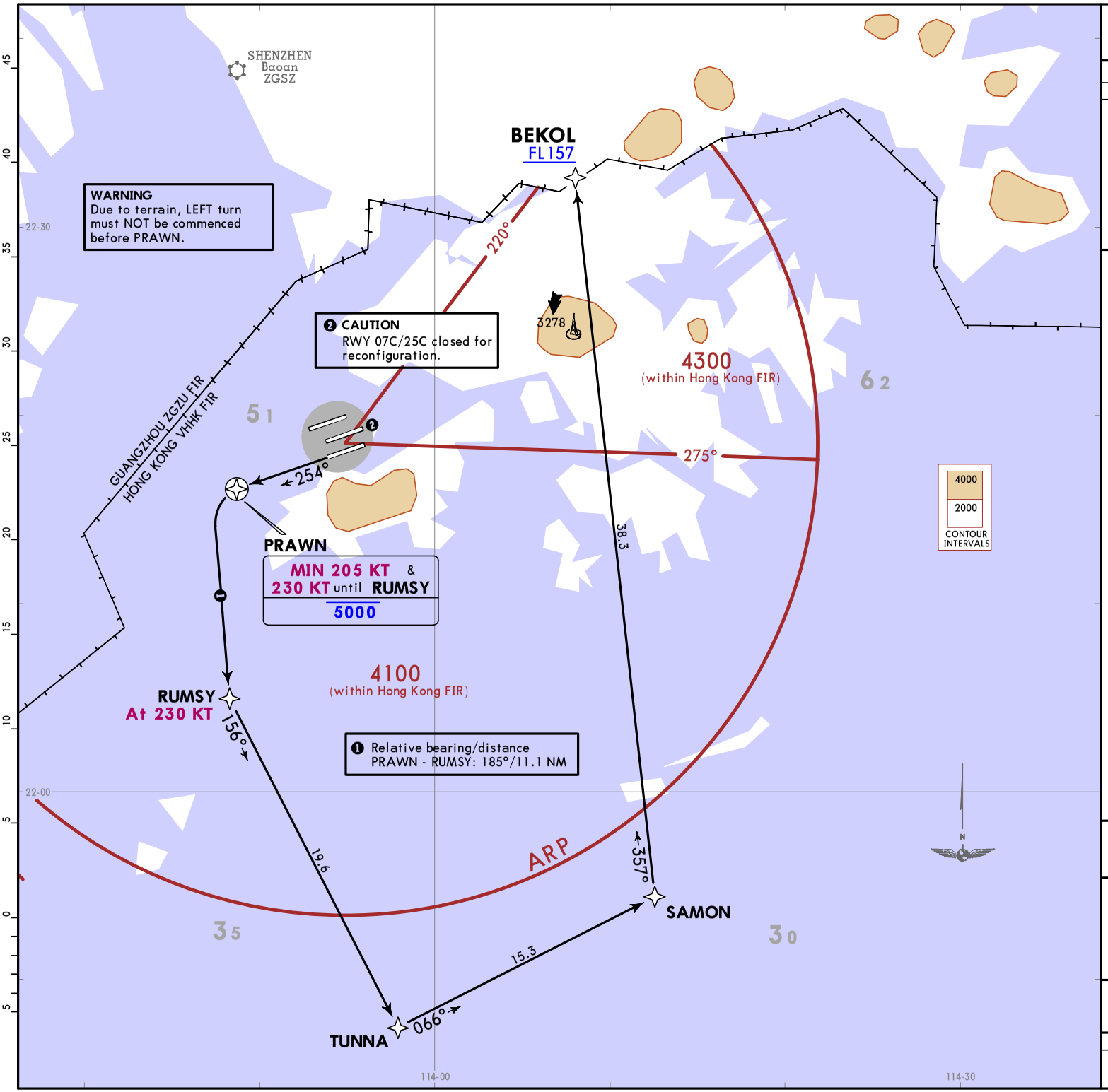
Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

ROUTING

HH3Ø1 - PORPA (K205+; 5000-) - TD (K220) - ATENA - BEKOL (FL157+).

CHANGES: SID renumbered, HH3Ø1 added.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

BEKOL 2B [BEKO2B]
RNAV (GNSS) DEPARTURE
(RWY 25L)

IF UNABLE TO CROSS BEKOL
AT OR ABOVE FL157
ADVISE ATC PRIOR TO DEPARTURE

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RUMSY 2B (CHART 10-3X1)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

FL CONVERSION
FL157 **FL4800m**

This SID requires a minimum climb gradient of
3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

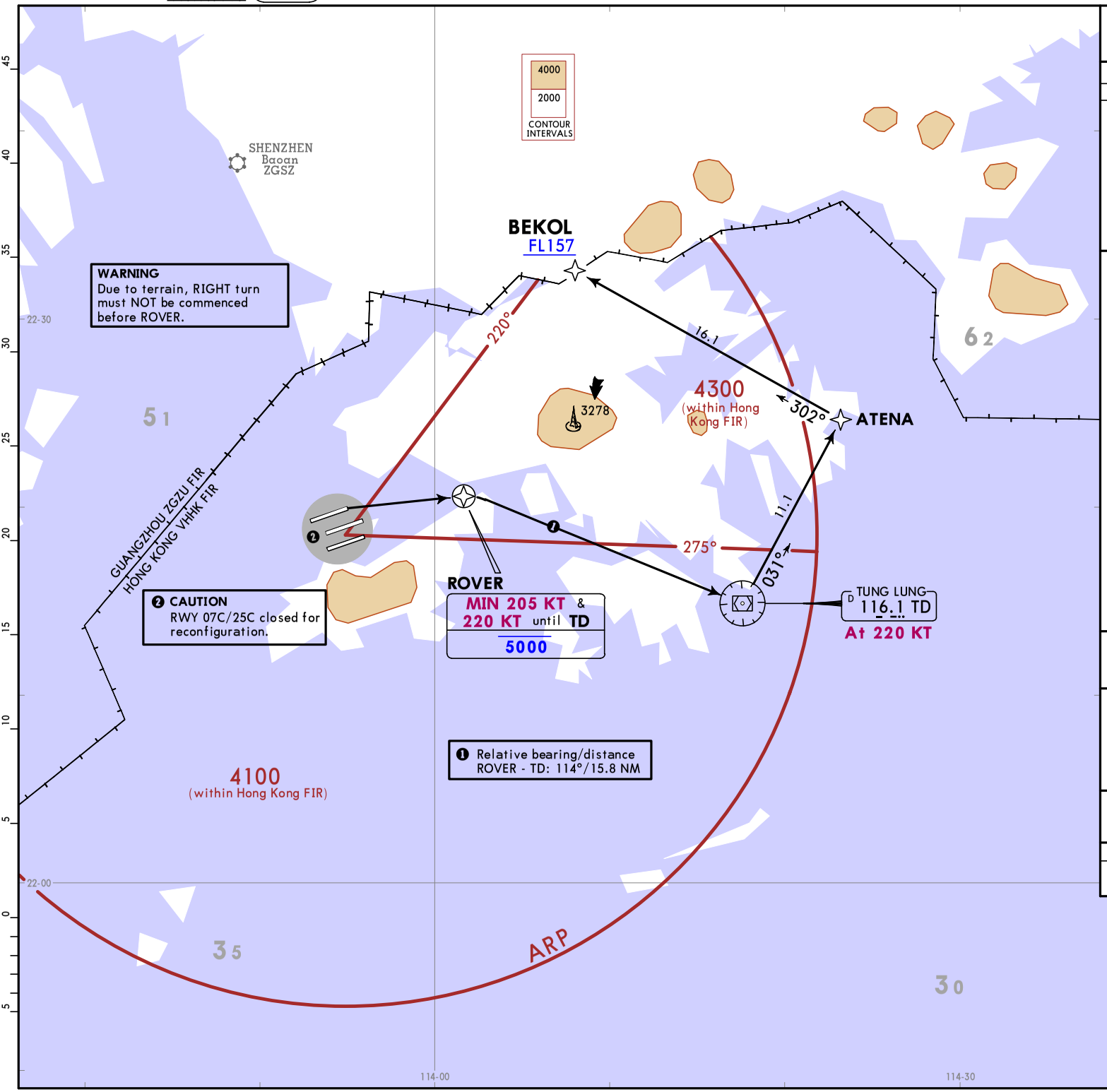
ROUTING

PRAWN (K205+; 5000-) - RUMSY (K230) - TUNNA - SAMON - BEKOL (FL157+).

CHANGES: None.

HONG KONG, PR OF CHINA

RNAV SID



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

BEKOL 1E [BEKO1E]
RNAV (GNSS) DEPARTURE
(RWY 07L)

IF UNABLE TO CROSS BEKOL AT OR ABOVE FL157 ADVISE ATC PRIOR TO DEPARTURE

BETWEEN 2300-0700LT EXPECT SID ATENA 2E (CHART 10-3A)

IF EXEMPT FROM RNP-1 REQUIREMENT REFER TO CONTINGENCY PROCEDURE RAMEN 1E (CHART 10-3X)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

FL CONVERSION
FL157 FL4800m

This SID requires a minimum climb gradient of 3.4% (207 per NM) until leaving 1400.

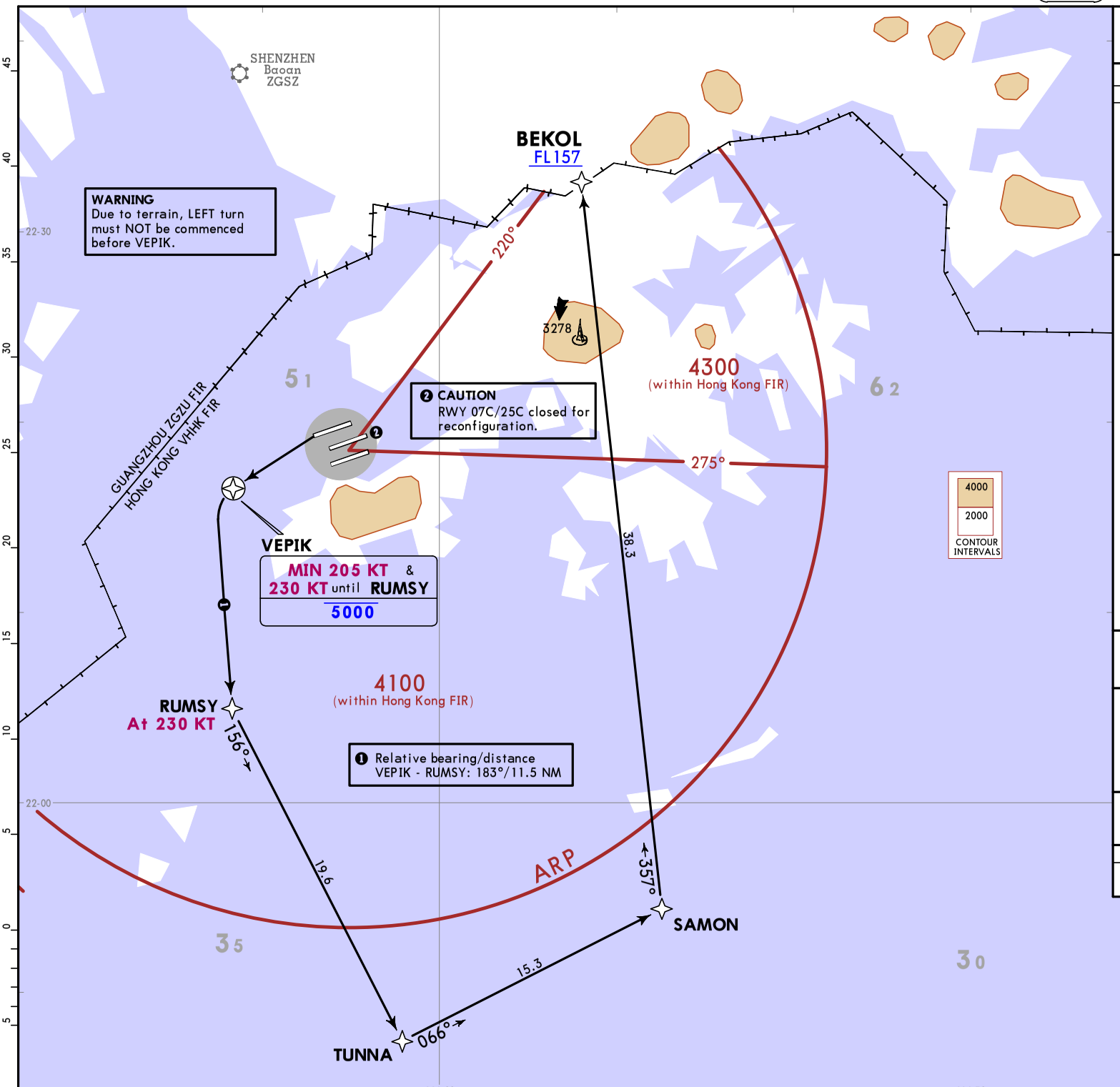
Gnd speed-KT	75	100	150	200	250	300
3.4% V/V (fpm)	258	344	516	689	861	1033

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

ROUTING

DER - ROVER (K205+; 5000-) - TD (K220) - ATENA - BEKOL (FL157+).

CHANGES: Center RWY closed; cross reference to alternate SID & contingency procedure; chart reindexed.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

BEKOL 1F [BEKO1F]
RNAV (GNSS) DEPARTURE
(RWY 25R)

IF UNABLE TO CROSS BEKOL
AT OR ABOVE FL157
ADVISE ATC PRIOR TO DEPARTURE

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RUMSY 1F (CHART 10-3X2)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

FL CONVERSION
FL157 FL4800m

This SID requires a minimum climb gradient of
3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

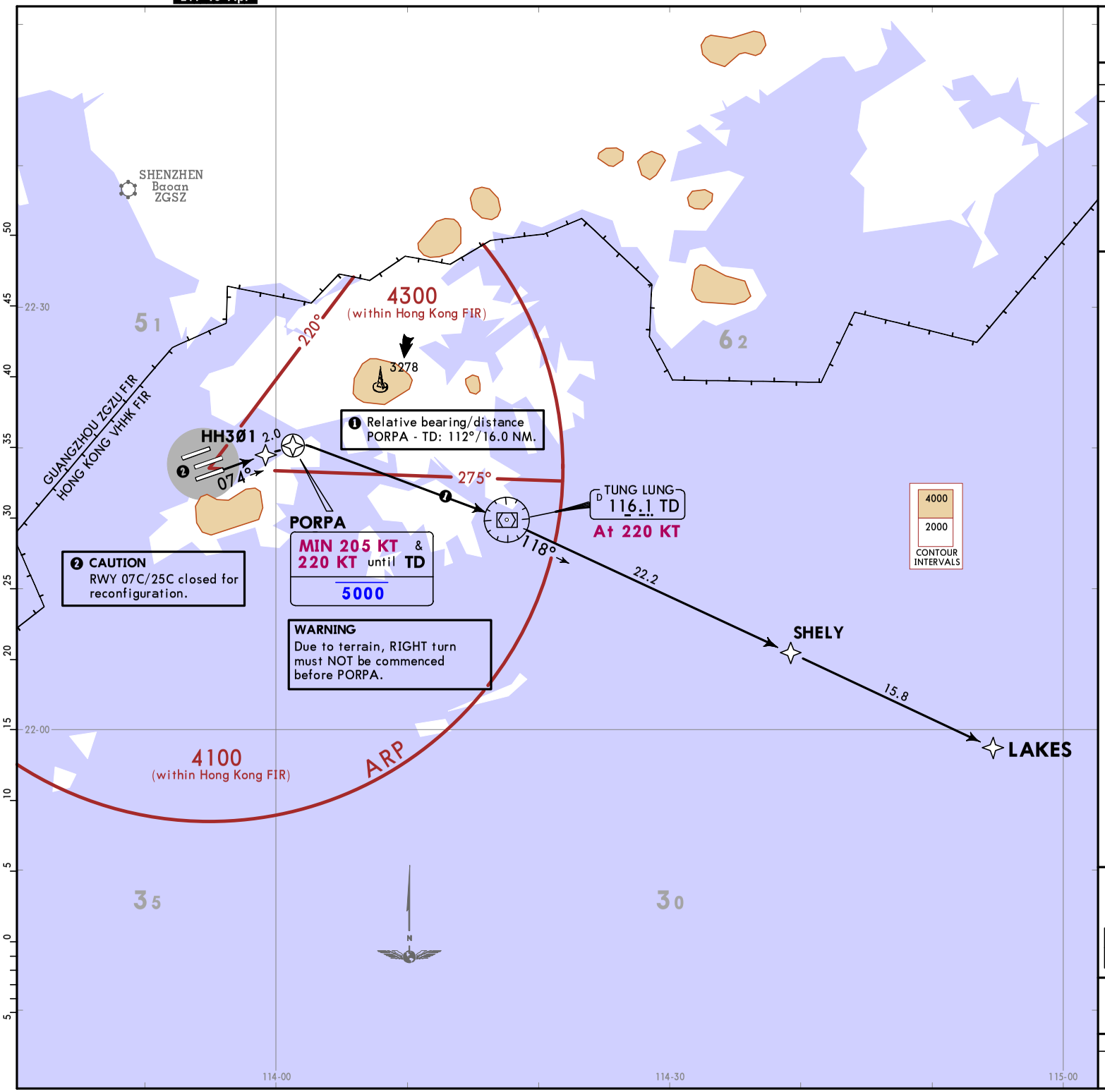
ROUTING

DER - VEPIK (K205+; 5000-) - RUMSY (K230) - TUNNA - SAMON - BEKOL (FL157+).

CHANGES: Center RWY closed; cross reference to contingency procedure; chart reindexed.

HONG KONG, PR OF CHINA

RNAV SID



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

LAKES 4A [LAKE4A]
RNAV (GNSS) DEPARTURE
(RWY 07R)

BETWEEN 2300-0700LT EXPECT
SID VENGO 2A (CHART 10-3U)

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 2A (CHART 10-3W)

FOR TERMINAL TRANSITION ROUTES V1 & V13
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of
4.9% (298 per NM) until leaving 1400.

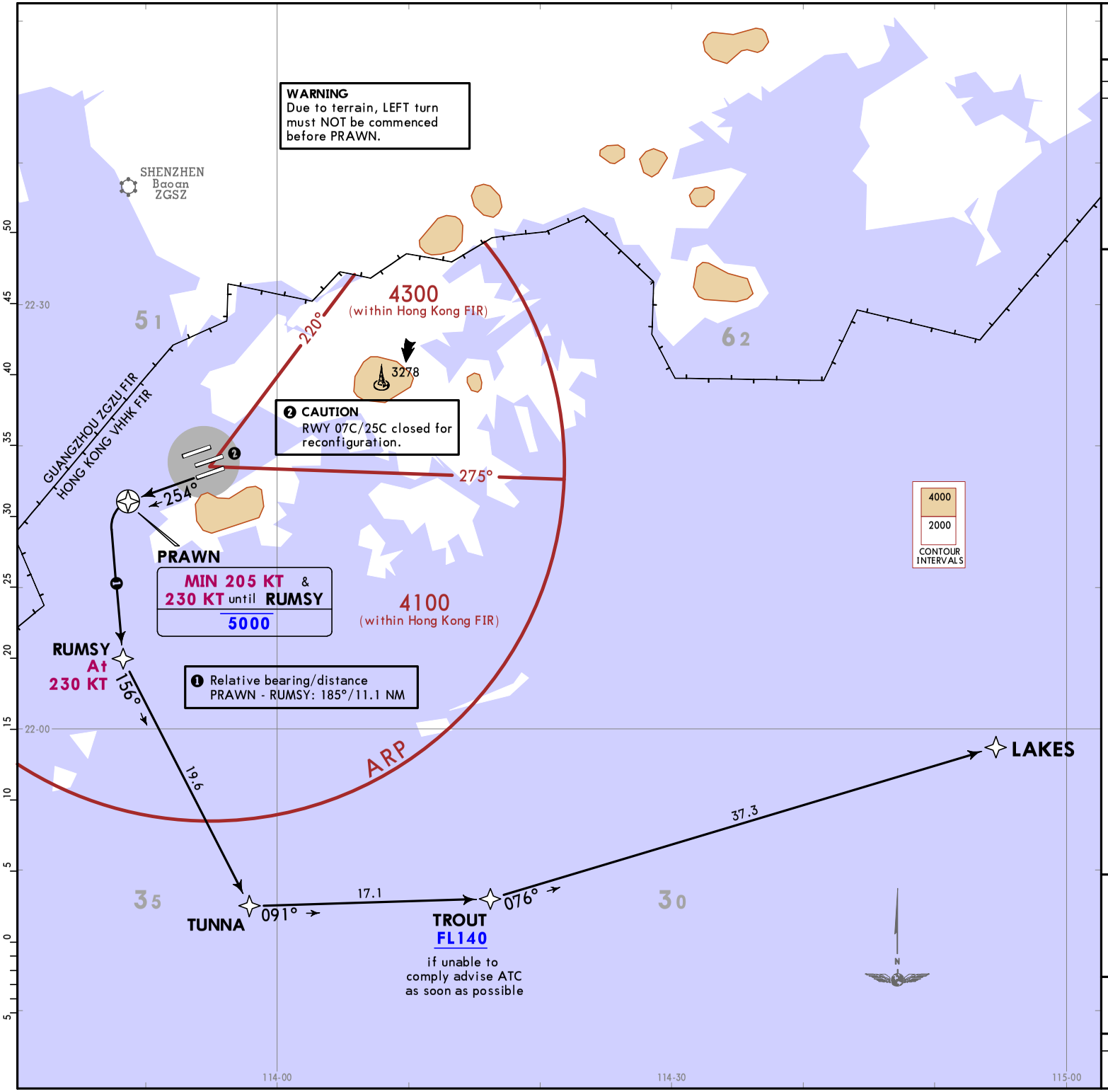
Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

ROUTING

HH30 1 - PORPA (K205+; 5000-) - TD (K220) - SHELY - LAKES.

CHANGES: SID renumbered, HH30 1 added.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

LAKES 2B [LAKE2B]
RNAV (GNSS) DEPARTURE
(RWY 25L)

IF EXEMPT FROM RNP-1 REQUIREMENT REFER TO CONTINGENCY PROCEDURE RUMSY 2B (CHART 10-3X1)

FOR TERMINAL TRANSITION ROUTES V1 & V13 REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

ROUTING

PRAWN (K205+; 5000-) - RUMSY (K230) - TUNNA - TROUT (FL140+) - LAKES.

CHANGES: None.

HONG KONG, PR OF CHINA

RNAV SID

HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

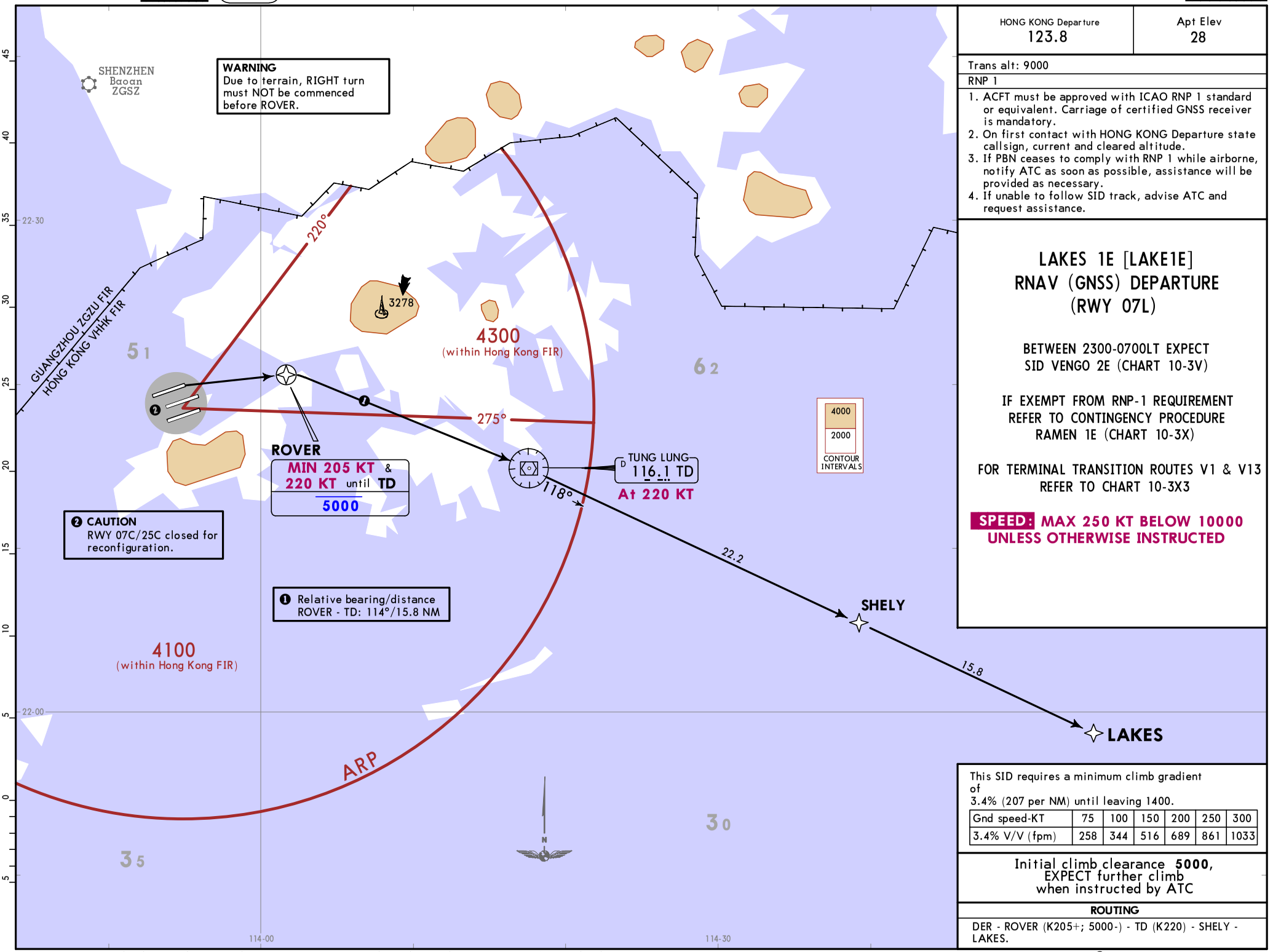
LAKES 1E [LAKE1E]
RNAV (GNSS) DEPARTURE
(RWY 07L)

BETWEEN 2300-0700LT EXPECT
SID VENGO 2E (CHART 10-3V)

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 1E (CHART 10-3X)

FOR TERMINAL TRANSITION ROUTES V1 & V13
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED



This SID requires a minimum climb gradient of
3.4% (207 per NM) until leaving 1400.

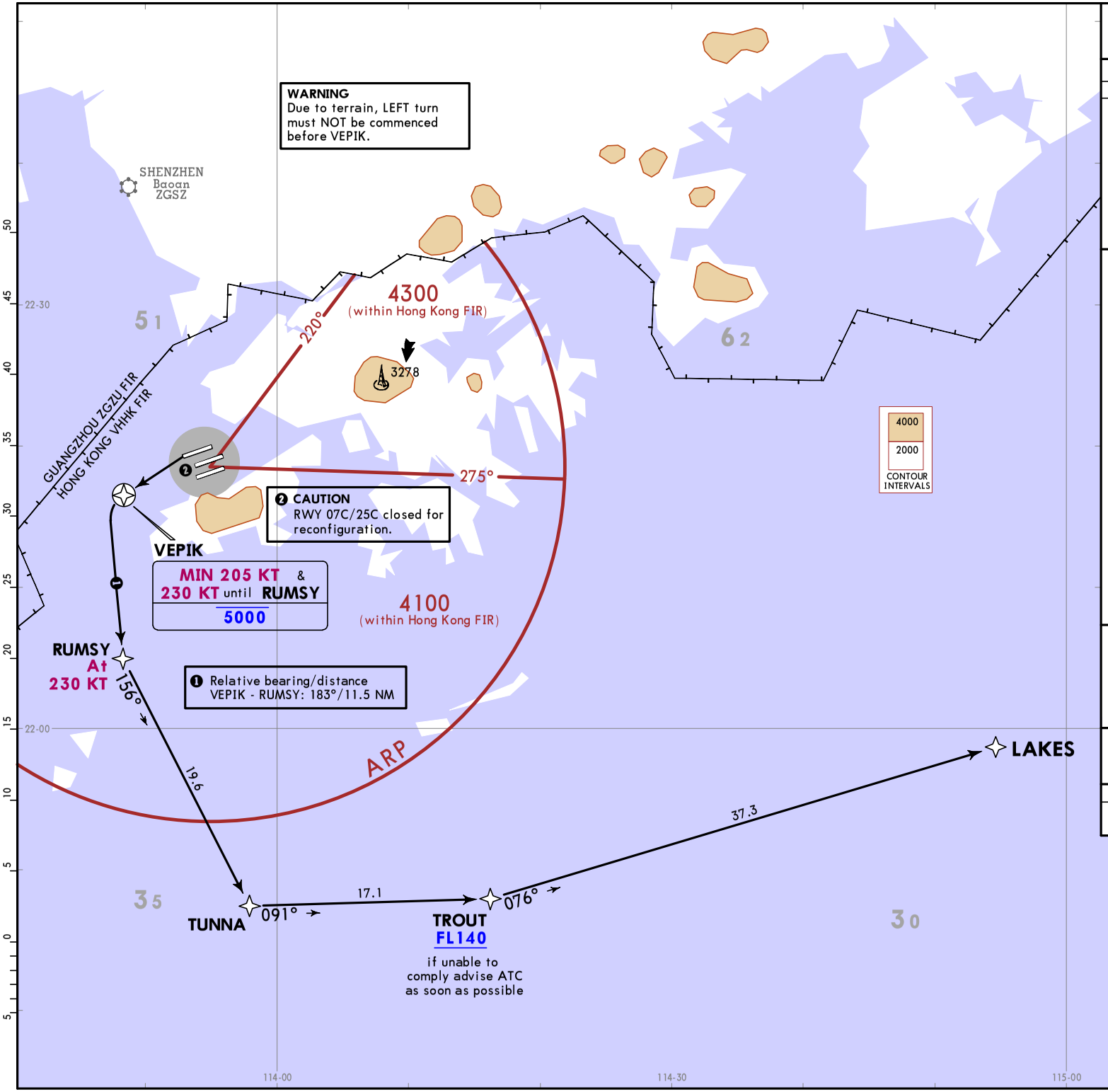
Gnd speed-KT	75	100	150	200	250	300
3.4% V/V (fpm)	258	344	516	689	861	1033

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

ROUTING

DER - ROVER (K205+; 5000-) - TD (K220) - SHELY - LAKES.

CHANGES: Center RWY closed; cross references to alternate SID, contingency procedure and Terminal Transition Routes; chart reindexed.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

LAKES 1F [LAKE1F]
RNAV (GNSS) DEPARTURE
(RWY 25R)

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RUMSY 1F (CHART 10-3X2)

FOR TERMINAL TRANSITION ROUTES V1 & V13
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

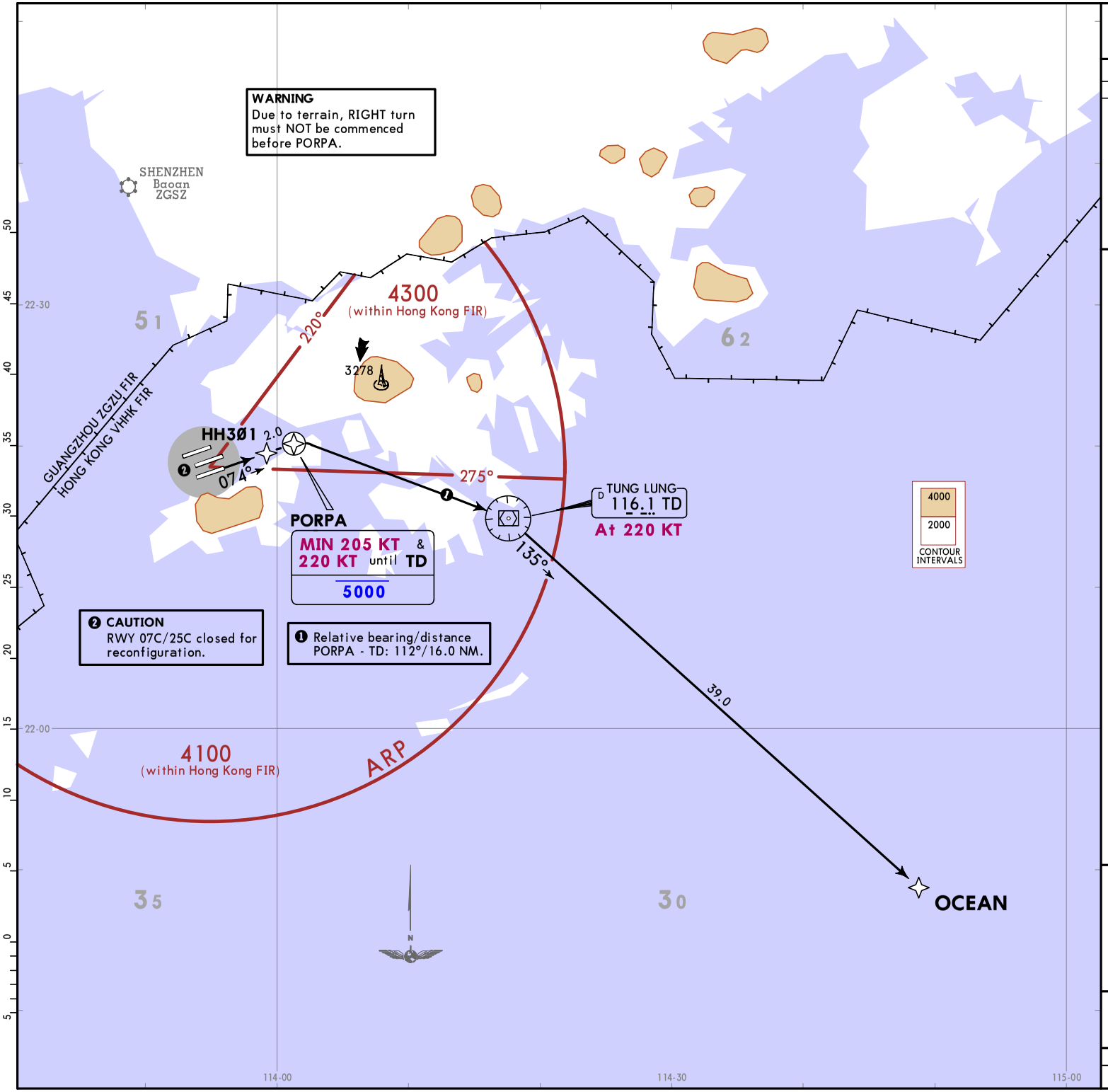
ROUTING

DER - VEPIK (K205+; 5000-) - RUMSY (K230) - TUNNA - TROUT (FL140+) - LAKES.

CHANGES: Center RWY closed; cross references to contingency procedure and Terminal Transition Routes; chart reindexed.

HONG KONG, PR OF CHINA

RNAV SID



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

OCEAN 3A [OCEA3A]
RNAV (GNSS) DEPARTURE
(RWY 07R)

BETWEEN 2300-0700LT EXPECT
SID RASSE 4A (CHART 10-3S) OR
SID SKATE 4A (CHART 10-3T3)

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 2A (CHART 10-3W)

FOR TERMINAL TRANSITION ROUTES
V2, V3, V4 & V5
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of
4.9% (298 per NM) until leaving 1400.

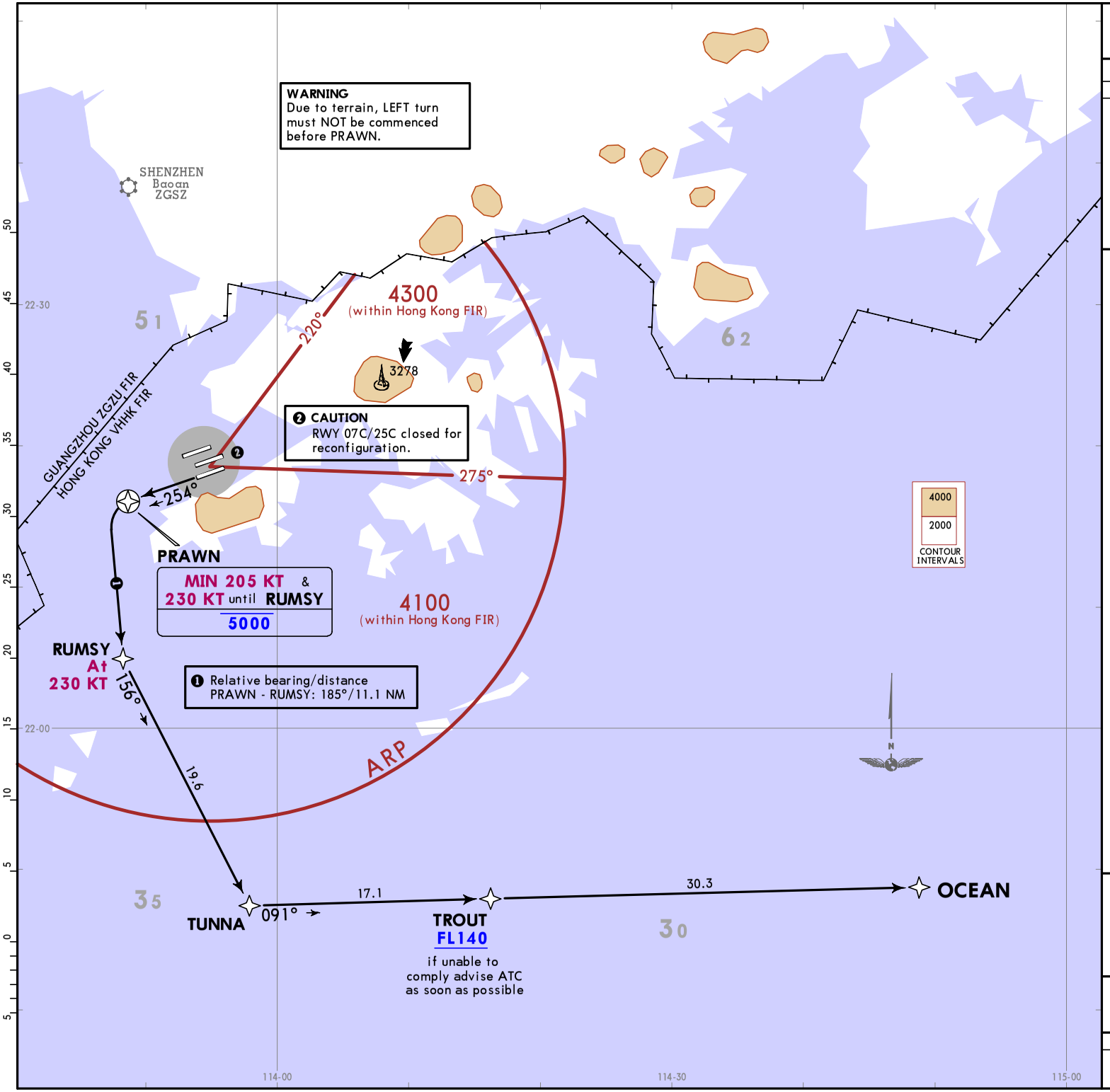
Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

ROUTING

HH30 1 - PORPA (K205+; 5000-) - TD (K220) - OCEAN.

CHANGES: SID renumbered, HH30 1 added.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

OCEAN 2B [OCEA2B]
RNAV (GNSS) DEPARTURE
(RWY 25L)

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RUMSY 2B (CHART 10-3X1)

FOR TERMINAL TRANSITION ROUTES
V2, V3, V4 & V5
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requirea a minimum climb gradient of
3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

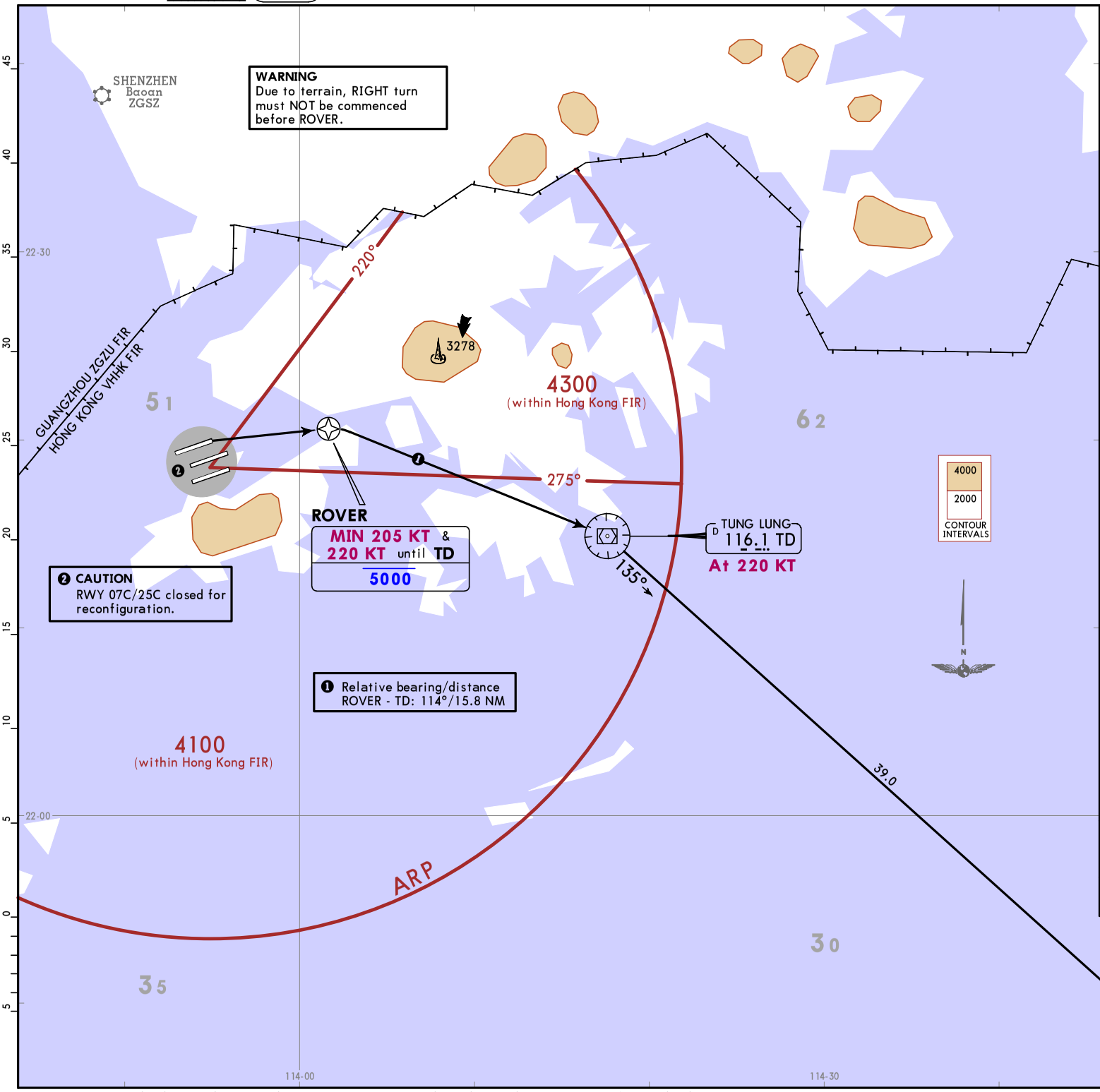
ROUTING

PRAWN (K205+; 5000-) - RUMSY (K230) - TUNNA - TROUT (FL140+) - OCEAN.

CHANGES: None.

HONG KONG, PR OF CHINA

RNAV SID



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

OCEAN 1E [OCEA1E]
RNAV (GNSS) DEPARTURE
(RWY 07L)

BETWEEN 2300-0700LT EXPECT
SID RASSE 2E (CHART 10-3T) OR
SID SKATE 2E (CHART 10-3T4)

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 1E (CHART 10-3X)

FOR TERMINAL TRANSITION ROUTES
V2, V3, V4 & V5
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradients of
3.4% (207 per NM) until leaving 1400.

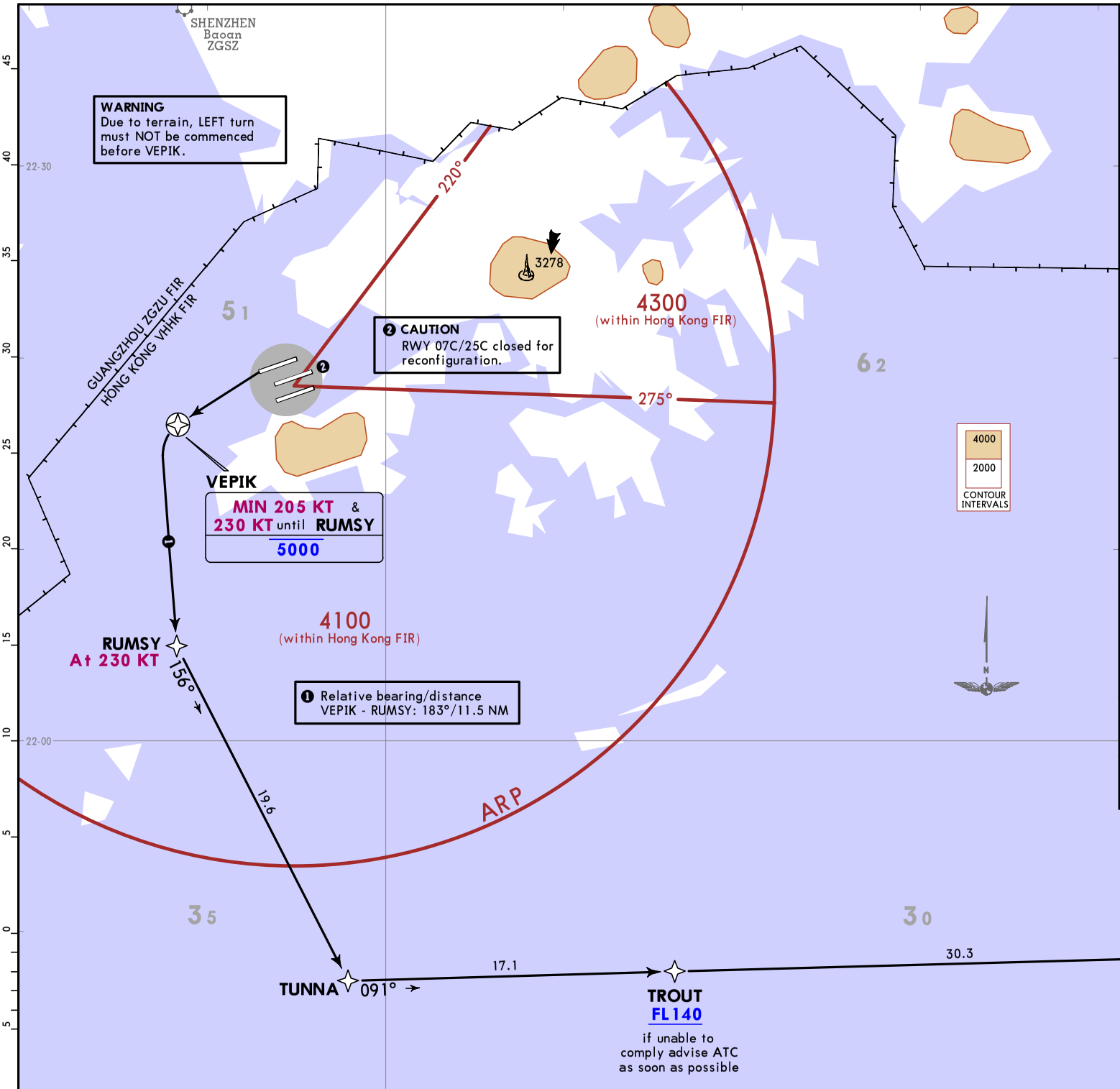
Gnd speed-KT	75	100	150	200	250	300
3.4% V/V (fpm)	258	344	516	689	861	1033

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

ROUTING

DER - ROVER (K205+; 5000-) - TD (K220) - OCEAN.

CHANGES: Center RWY closed; cross references to alternate SID, contingency procedure and Terminal Transition Routes; chart reindexed.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

OCEAN 1F [OCEA1F]
RNAV (GNSS) DEPARTURE
(RWY 25R)

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RUMSY 1F (CHART 10-3X2)

FOR TERMINAL TRANSITION ROUTES
V2, V3, V4 & V5
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of
3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

ROUTING

DER - VEPIK (K205+; 5000-) - RUMSY (K230) - TUNNA - TROUT (FL140+) - OCEAN.

CHANGES: Center RWY closed; cross references to contingency procedure and Terminal Transition Routes; chart reindexed.

HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

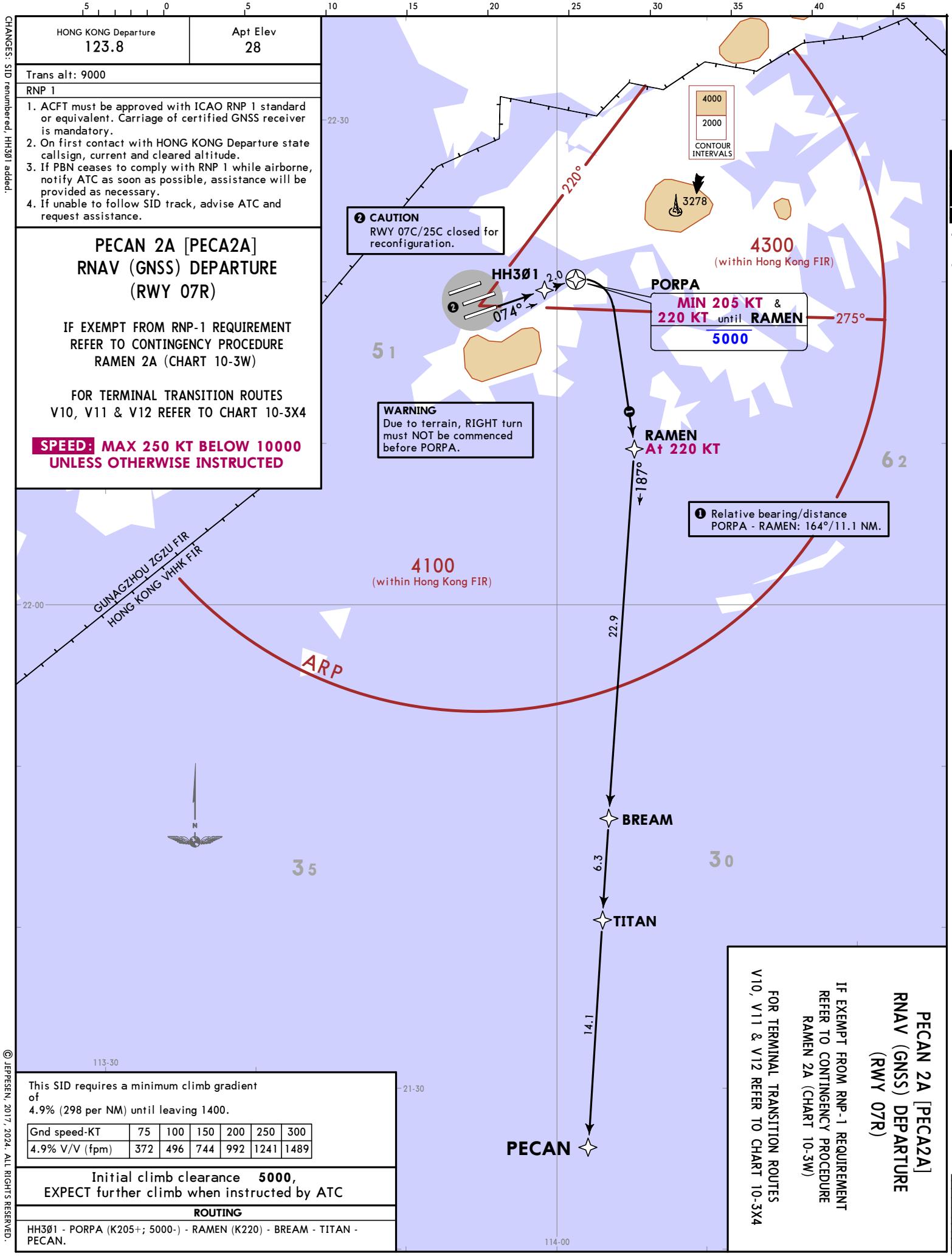
PECAN 2A [PECA2A]
RNAV (GNSS) DEPARTURE
(RWY 07R)

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 2A (CHART 10-3W)

FOR TERMINAL TRANSITION ROUTES
V10, V11 & V12 REFER TO CHART 10-3X4

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

CHANGES: SID renumbered, HH301 added.



This SID requires a minimum climb gradient of 4.9% (298 per NM) until leaving 1400.

Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**,
EXPECT further climb when instructed by ATC

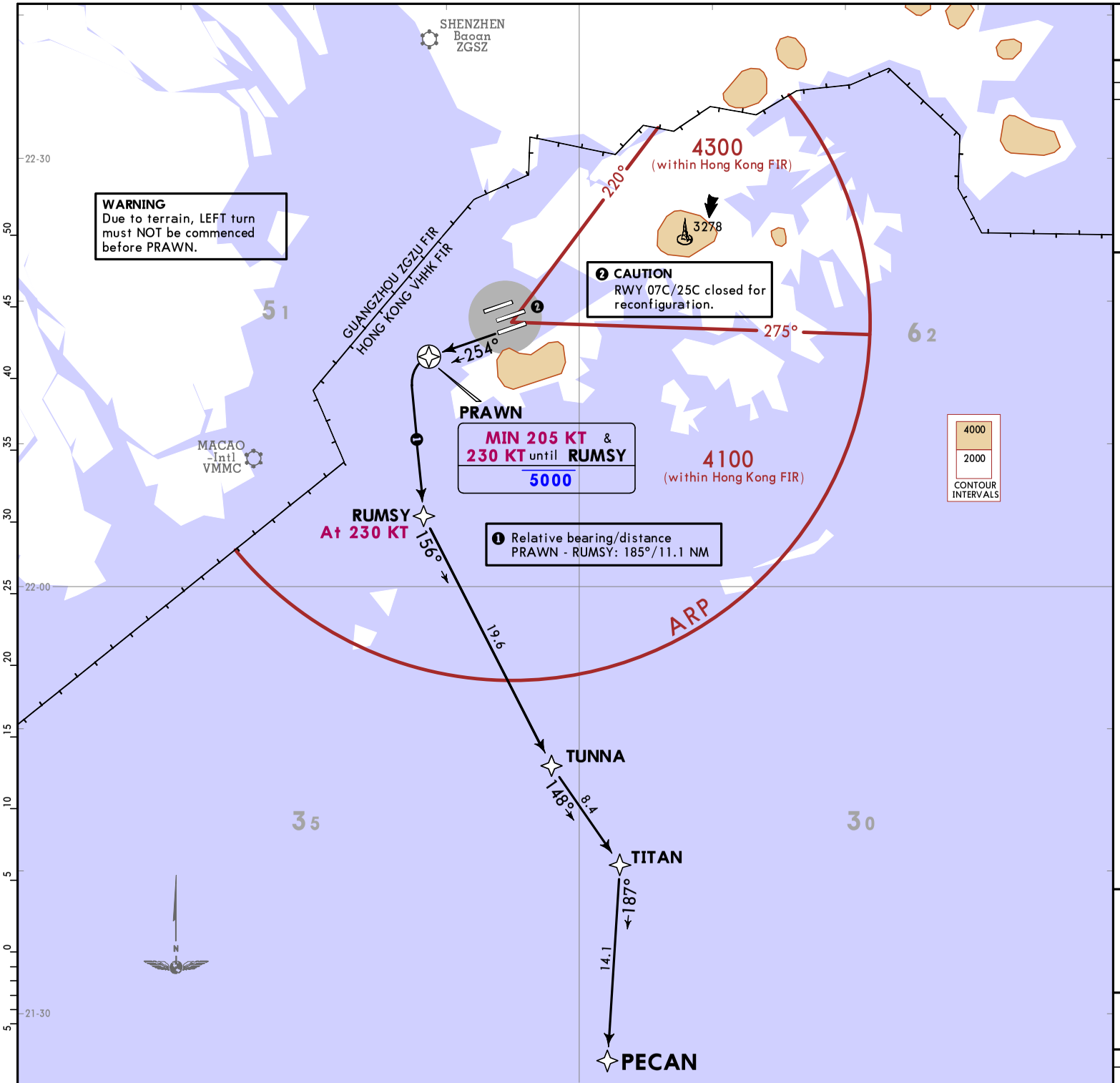
ROUTING

HH3Ø1 - PORPA (K205+; 5000-) - RAMEN (K220) - BREAM - TITAN - PECAN.

PECAN 2A [PECA2A]
RNAV (GNSS) DEPARTURE
(RWY 07R)

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 2A (CHART 10-3W)

FOR TERMINAL TRANSITION ROUTES
V10, V11 & V12 REFER TO CHART 10-3X4



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

PECAN 1B [PECA1B]
RNAV (GNSS) DEPARTURE
(RWY 25L)

IF EXEMPT FROM RNP-1 REQUIREMENT REFER TO CONTINGENCY PROCEDURE RUMSY 2B (CHART 10-3X1)

FOR TERMINAL TRANSITION ROUTES V10, V11 & V12 REFER TO CHART 10-3X4

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

ROUTING

PRAWN (K205+; 5000-) - RUMSY (K230) - TUNNA - TITAN - PECAN.

CHANGES: None.

HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

PECAN 1E [PECA1E]
RNAV (GNSS) DEPARTURE
(RWY 07L)

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 1E (CHART 10-3X)

FOR TERMINAL TRANSITION ROUTES
V10, V11 & V12 REFER TO CHART 10-3X4

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

❷ **CAUTION**
RWY 07C/25C closed for reconfiguration.

WARNING
Due to terrain, RIGHT turn must NOT be commenced before ROVER.

❶ Relative bearing/distance
ROVER - RAMEN: 166°/11.4 NM

4300
(within Hong Kong FIR)

4100
(within Hong Kong FIR)

220°

275°

187°

3278

ROVER

MIN 205 KT & 220 KT until RAMEN
5000

RAMEN
At 220 KT

BREAM

TITAN

PECAN

22.9

6.3

14.1

GUNAGZHOU ZGZU FIR
HONG KONG VHHK FIR

ARP

4000
2000
CONTOUR INTERVALS

5 1
6 2
3 0
3 5

22-30
22-00
21-30
113-30
114-00

This SID requires a minimum climb gradient of
3.4% (207 per NM) until leaving 1400.

Gnd speed-KT	75	100	150	200	250	300
3.4% V/V (fpm)	258	344	516	689	861	1033

Initial climb clearance **5000**,
EXPECT further climb when instructed by ATC

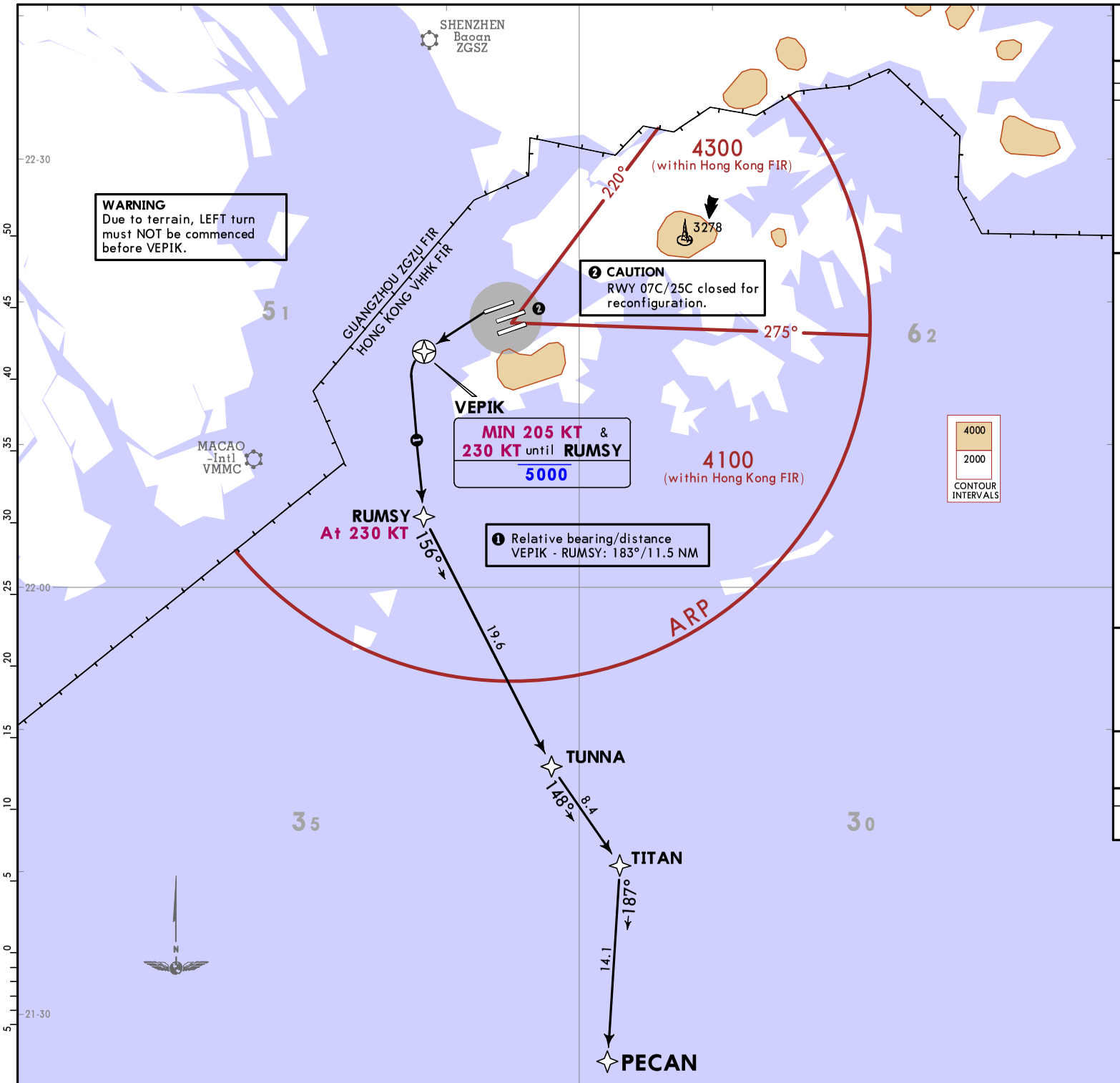
ROUTING

DER - ROVER (K205+; 5000-) - RAMEN (K220) - BREAM - TITAN - PECAN.

PECAN 1E [PECA1E]
RNAV (GNSS) DEPARTURE
(RWY 07L)

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 1E (CHART 10-3X)

FOR TERMINAL TRANSITION ROUTES
V10, V11 & V12 REFER TO CHART 10-3X4



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

PECAN 1F [PECA1F]
RNAV (GNSS) DEPARTURE
(RWY 25R)

IF EXEMPT FROM RNP-1 REQUIREMENT REFER TO CONTINGENCY PROCEDURE RUMSY 1F (CHART 10-3X2)

FOR TERMINAL TRANSITION ROUTES V10, V11 & V12 REFER TO CHART 10-3X4

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

ROUTING

DER - VEPIK (K205+; 5000-) - RUMSY (K230) - TUNNA - TITAN - PECAN.

CHANGES: Center RWY closed; cross references to contingency procedure and Terminal Transition Routes; chart reindexed.

CHANGES: SID renumbered, HH301 added.

HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1 RF required

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

PECAN 2X [PECA2X]
RNAV (GNSS) DEPARTURE
(RWY 07R)

RADIUS-TO-FIX (RF) LEG IS REQUIRED & RF CAPABLE ACFT ARE ENCOURAGED TO FLY THIS SID, IF UNABLE REFER TO SID PECAN 2A (CHART 10-3P)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

FOR TERMINAL TRANSITION ROUTES V10, V11 & V12 REFER TO CHART 10-3X4

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

CAUTION RWY 07C/25C closed for reconfiguration.

4300
(within Hong Kong FIR)

4100
(within Hong Kong FIR)

GUNAGZHOU ZGZU FIR
HONG KONG VHHK FIR

ARP

HH301
074°
2.0
5.0
220°
275°
PORPA
3278
MIN 205 KT &
220 KT until RAMEN
5000
PORSH
182°
8.1
RAMEN
At 220 KT
187°
22.9
BREAM
6.3
TITAN
14.1
PECAN

4000
2000
CONTOUR INTERVALS

22-30
22-00
21-30
113-30
114-00

This SID requires a minimum climb gradient of 4.9% (298 per NM) until leaving 1400.

Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**,
EXPECT further climb when instructed by ATC

ROUTING

HH301 - PORPA (K205+; 5000-) - PORSH - RAMEN (K220) - BREAM - TITAN - PECAN.

PECAN 2X [PECA2X]
RNAV (GNSS) DEPARTURE
(RWY 07R)

RADIUS-TO-FIX (RF) LEG IS REQUIRED & RF CAPABLE ACFT ARE ENCOURAGED TO FLY THIS SID, IF UNABLE REFER TO SID PECAN 2A (CHART 10-3P)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

FOR TERMINAL TRANSITION ROUTES V10, V11 & V12 REFER TO CHART 10-3X4

HONG KONG Departure 123.8	Apt Elev 28

Trans alt: 9000

RNP 1 RF required

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

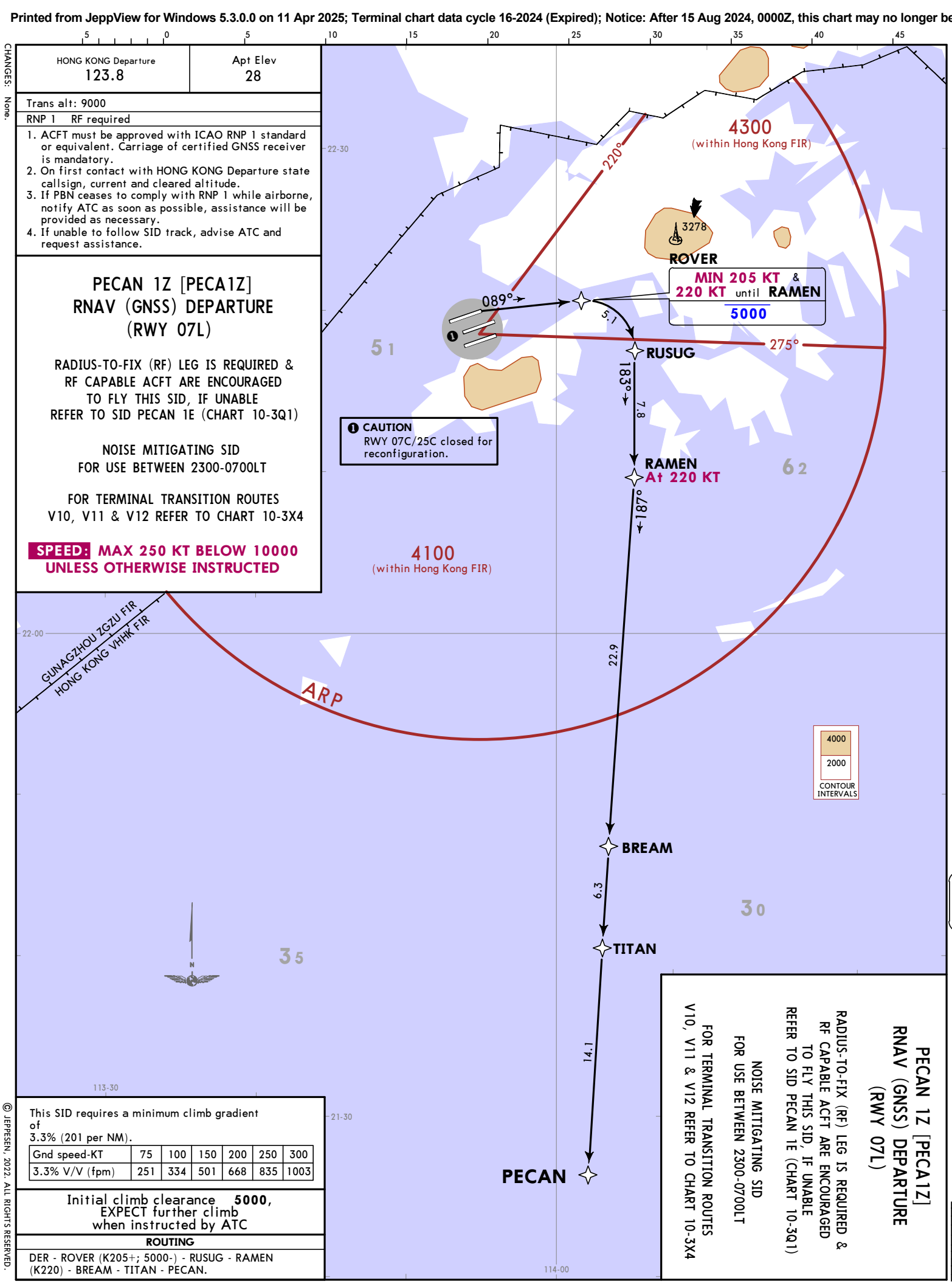
PECAN 1Z [PECA1Z]
RNAV (GNSS) DEPARTURE
(RWY 07L)

RADIUS-TO-FIX (RF) LEG IS REQUIRED & RF CAPABLE ACFT ARE ENCOURAGED TO FLY THIS SID, IF UNABLE REFER TO SID PECAN 1E (CHART 10-3Q1)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

FOR TERMINAL TRANSITION ROUTES V10, V11 & V12 REFER TO CHART 10-3X4

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED



This SID requires a minimum climb gradient of 3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

ROUTING

DER - ROVER (K205+; 5000-) - RUSUG - RAMEN (K220) - BREAM - TITAN - PECAN.

PECAN 1Z [PECA1Z]
RNAV (GNSS) DEPARTURE
(RWY 07L)

RADIUS-TO-FIX (RF) LEG IS REQUIRED & RF CAPABLE ACFT ARE ENCOURAGED TO FLY THIS SID, IF UNABLE REFER TO SID PECAN 1E (CHART 10-3Q1)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

FOR TERMINAL TRANSITION ROUTES
V10, V11 & V12 REFER TO CHART 10-3X4

VHHH/HKG
HONG KONG INTL
JEPPESEN
5 APR 24
10-3Q4
Eff 18 Apr
HONG KONG, PR OF CHINA
RNAV SID

HONG KONG, PR OF CHINA

RNAV SID

HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

RASSE 4A [RASE4A]
RNAV (GNSS) DEPARTURE
(RWY 07R)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 2A (CHART 10-3W)

FOR TERMINAL TRANSITION ROUTES V2 & V3
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 4.9% (298 per NM) until leaving 1400.

Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

ROUTING

HH3Ø1 - PORPA (K205+; 5000-) - RAMEN (K220) - OCEAN - RASSE.

WARNING
Due to terrain, RIGHT turn must NOT be commenced before PORPA.

SHENZHEN
Baoan
ZGSZ

GUANGZHOU ZGZU FIR
HONG KONG VHHK FIR

6000
4000
2000
CONTOUR INTERVALS

HH3Ø1
2.0
074°
220°
275°
4300
(within Hong Kong FIR)

PORPA
MIN 205 KT &
220 KT until RAMEN
5000

RAMEN
At 220 KT
120°

❷ CAUTION
RWY 07C/25C closed for reconfiguration.

❶ Relative bearing/distance
PORPA - RAMEN: 164°/11.1 NM.

4100
(within Hong Kong FIR)

ARP

45.6

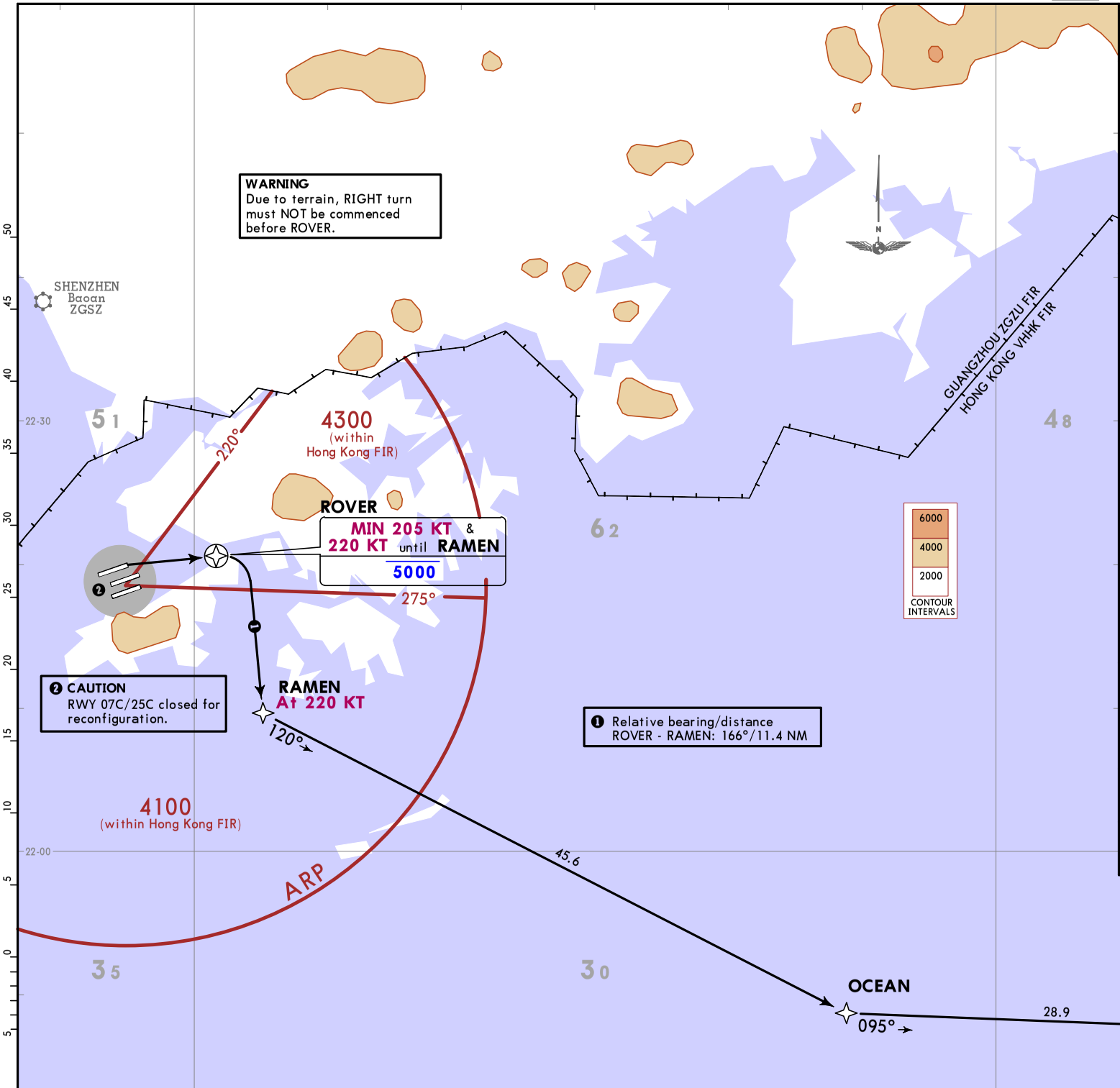
OCEAN
095°
28.9
RASSE

5 1
6 2
4 8
3 5
3 0
2 4

22-30
22-00

114-00
114-30
115-00
115-30

CHANGES: SID renumbered, HH3Ø1 added.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

RASSE 2E [RASE2E]
RNAV (GNSS) DEPARTURE
(RWY 07L)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 1E (CHART 10-3X)

FOR TERMINAL TRANSITION ROUTES V2 & V3
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 3.4% (207 per NM) until leaving 1400.

Gnd speed-KT	75	100	150	200	250	300
3.4% V/V (fpm)	258	344	516	689	861	1033

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

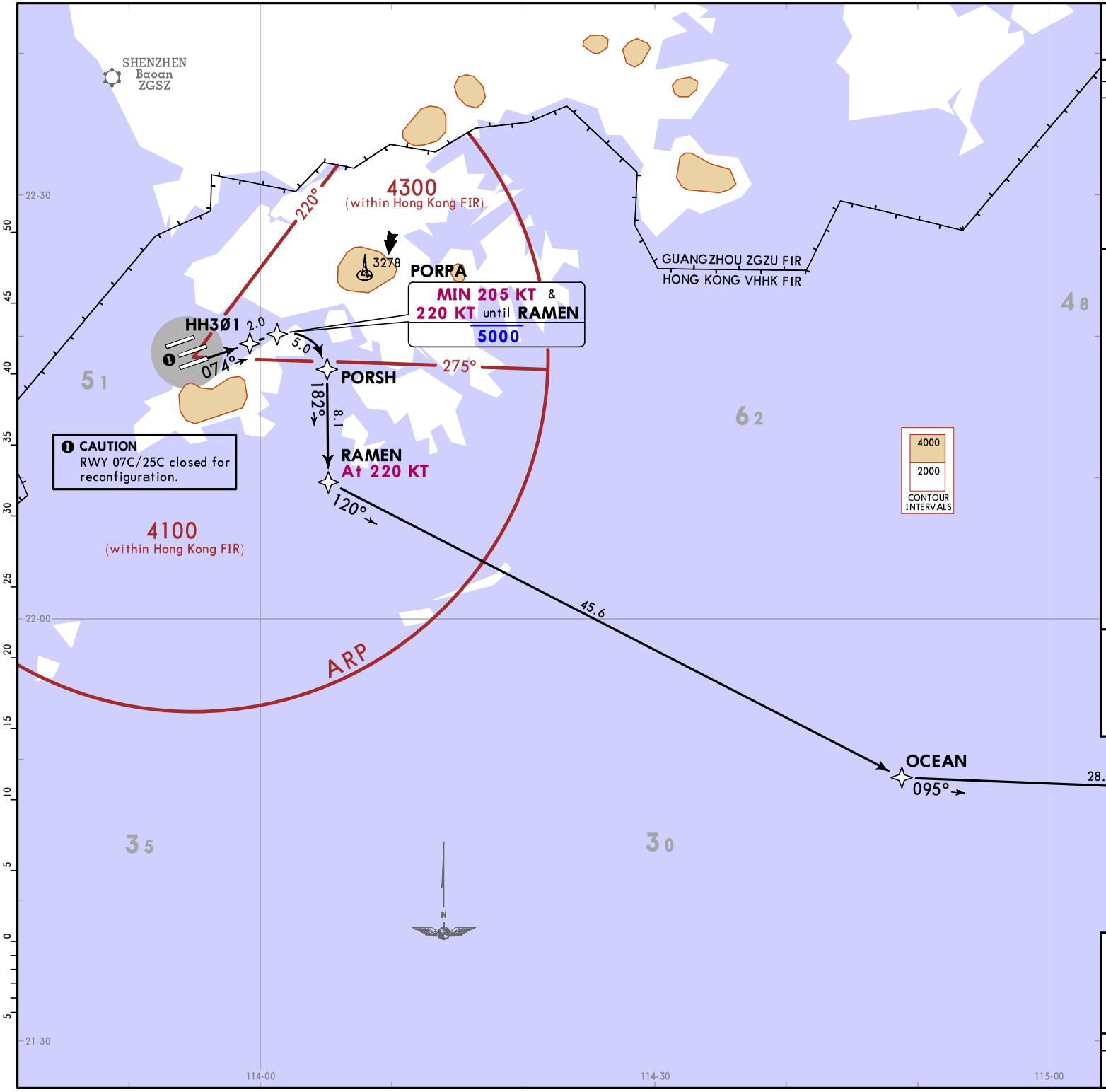
ROUTING

DER - ROVER (K205+; 5000-) - RAMEN (K220) - OCEAN - RASSE.

CHANGES: None.

HONG KONG, PR OF CHINA

RNAV SID



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1 RF required

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

RASSE 2X [RASE2X]
RNAV (GNSS) DEPARTURE
(RWY 07R)

RADIUS-TO-FIX (RF) LEG IS REQUIRED & RF CAPABLE ACFT ARE ENCOURAGED TO FLY THIS SID, IF UNABLE REFER TO SID RASSE 4A (CHART 10-3S)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

FOR TERMINAL TRANSITION ROUTES V2 & V3 REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 4.9% (298 per NM) until leaving 1400.

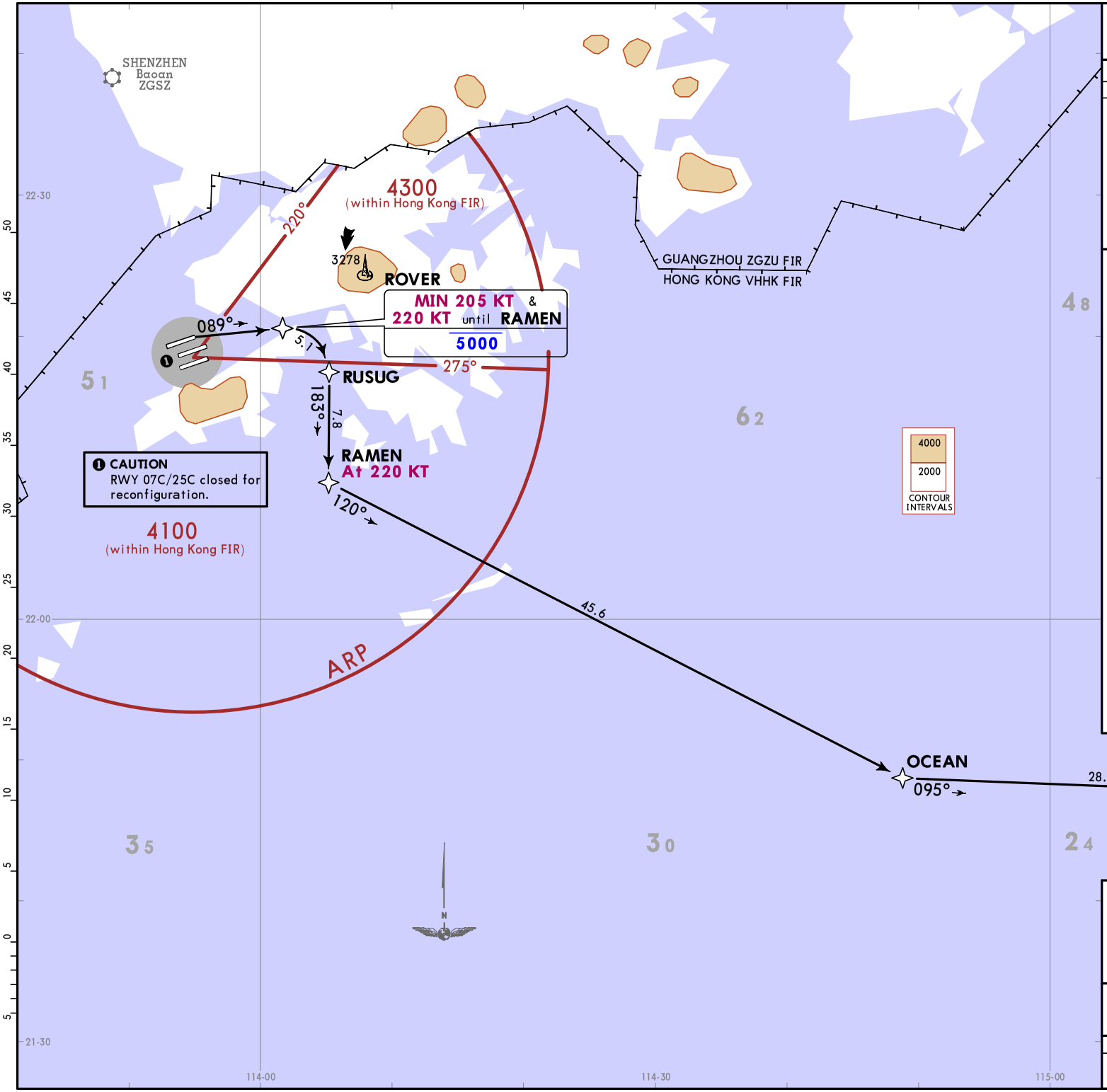
Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

ROUTING

HH3Ø1 - PORPA (K205+; 5000-) - PORSH - RAMEN (K220) - OCEAN - RASSE.

CHANGES: SID renumbered, HH3Ø1 added.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1 RF required

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

RASSE 1Z [RASE1Z]
RNAV (GNSS) DEPARTURE
(RWY 07L)

RADIUS-TO-FIX (RF) LEG IS REQUIRED & RF CAPABLE ACFT ARE ENCOURAGED TO FLY THIS SID, IF UNABLE REFER TO SID RASSE 2E (CHART 10-3T)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

FOR TERMINAL TRANSITION ROUTES V2 & V3 REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

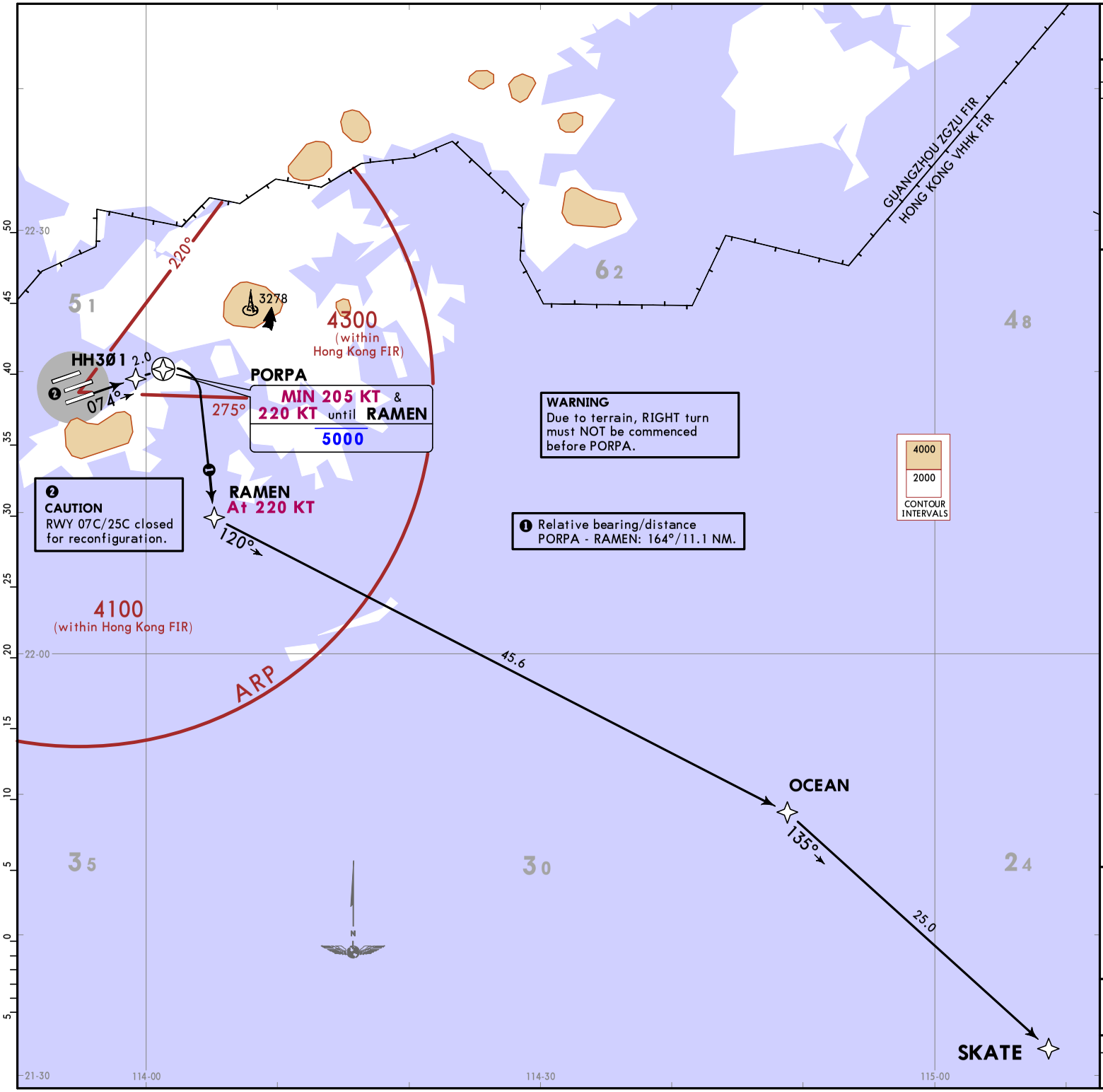
ROUTING

DER - ROVER (K205+; 5000-) - RUSUG - RAMEN (K220) - OCEAN - RASSE.

CHANGES: None.

HONG KONG, PR OF CHINA

RNAV SID



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

SKATE 4A [SKAT4A]
RNAV (GNSS) DEPARTURE
(RWY 07R)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 2A (CHART 10-3W)

FOR TERMINAL TRANSITION ROUTES V4 & V5
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of
4.9% (298 per NM) until leaving 1400.

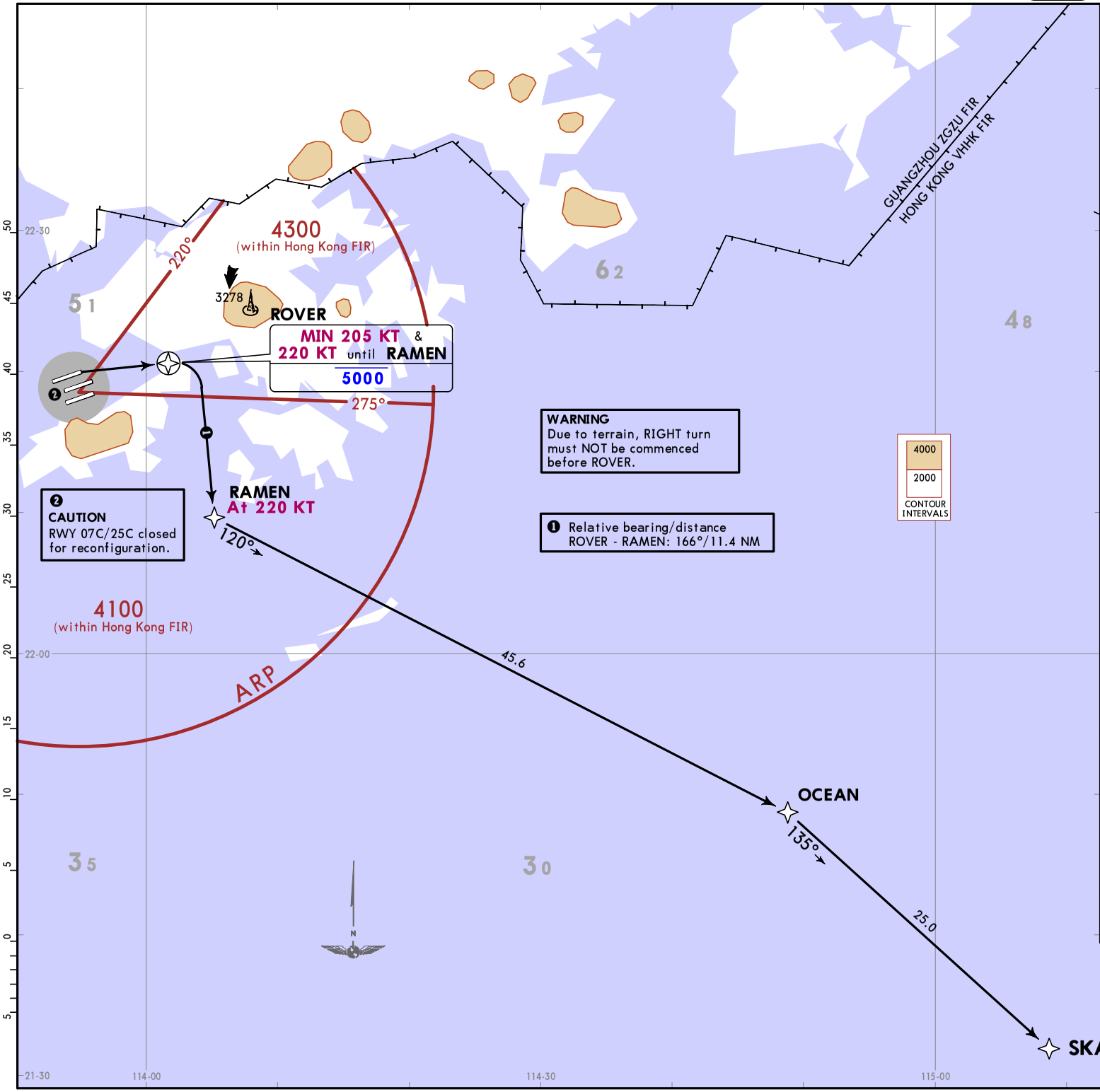
Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

ROUTING

HH30 1 - PORPA (K205+; 5000-) - RAMEN (K220) - OCEAN - SKATE.

CHANGES: SID renumbered, HH30 1 added.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

SKATE 2E [SKAT2E]
RNAV (GNSS) DEPARTURE
(RWY 07L)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 1E (CHART 10-3X)

FOR TERMINAL TRANSITION ROUTES V4 & V5
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 3.4% (207 per NM) until leaving 1400.

Gnd speed-KT	75	100	150	200	250	300
3.4% V/V (fpm)	258	344	516	689	861	1033

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

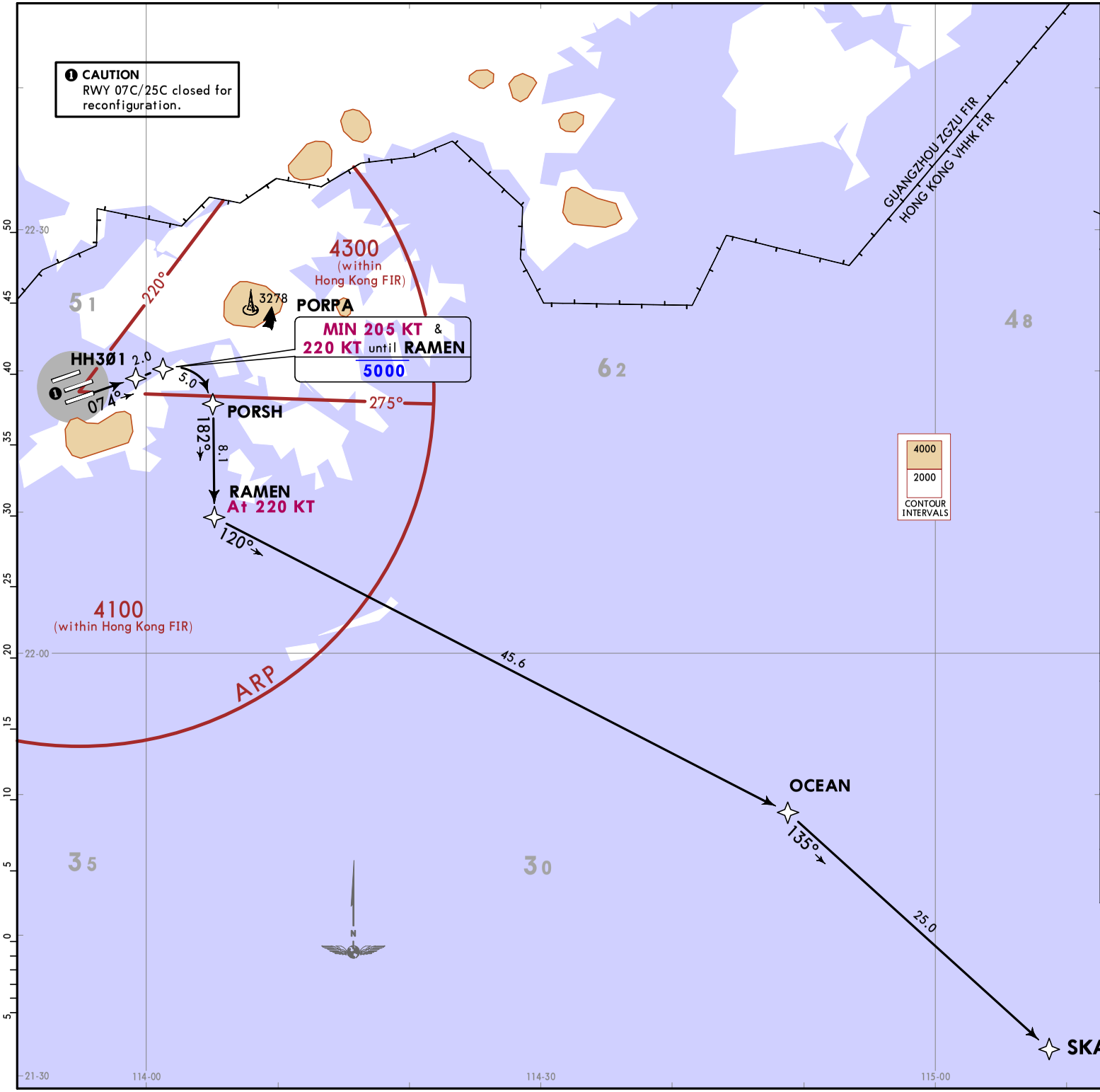
ROUTING

DER - ROVER (K205+; 5000-) - RAMEN (K220) - OCEAN - SKATE.

CHANGES: None.

HONG KONG, PR OF CHINA

RNAV SID



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1 RF required

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

SKATE 2X [SKAT2X]
RNAV (GNSS) DEPARTURE
(RWY 07R)

RADIUS-TO-FIX (RF) LEG IS REQUIRED & RF CAPABLE ACFT ARE ENCOURAGED TO FLY THIS SID, IF UNABLE REFER TO SID SKATE 4A (CHART 10-3T3)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

FOR TERMINAL TRANSITION ROUTES V4 & V5 REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 4.9% (298 per NM) until leaving 1400.

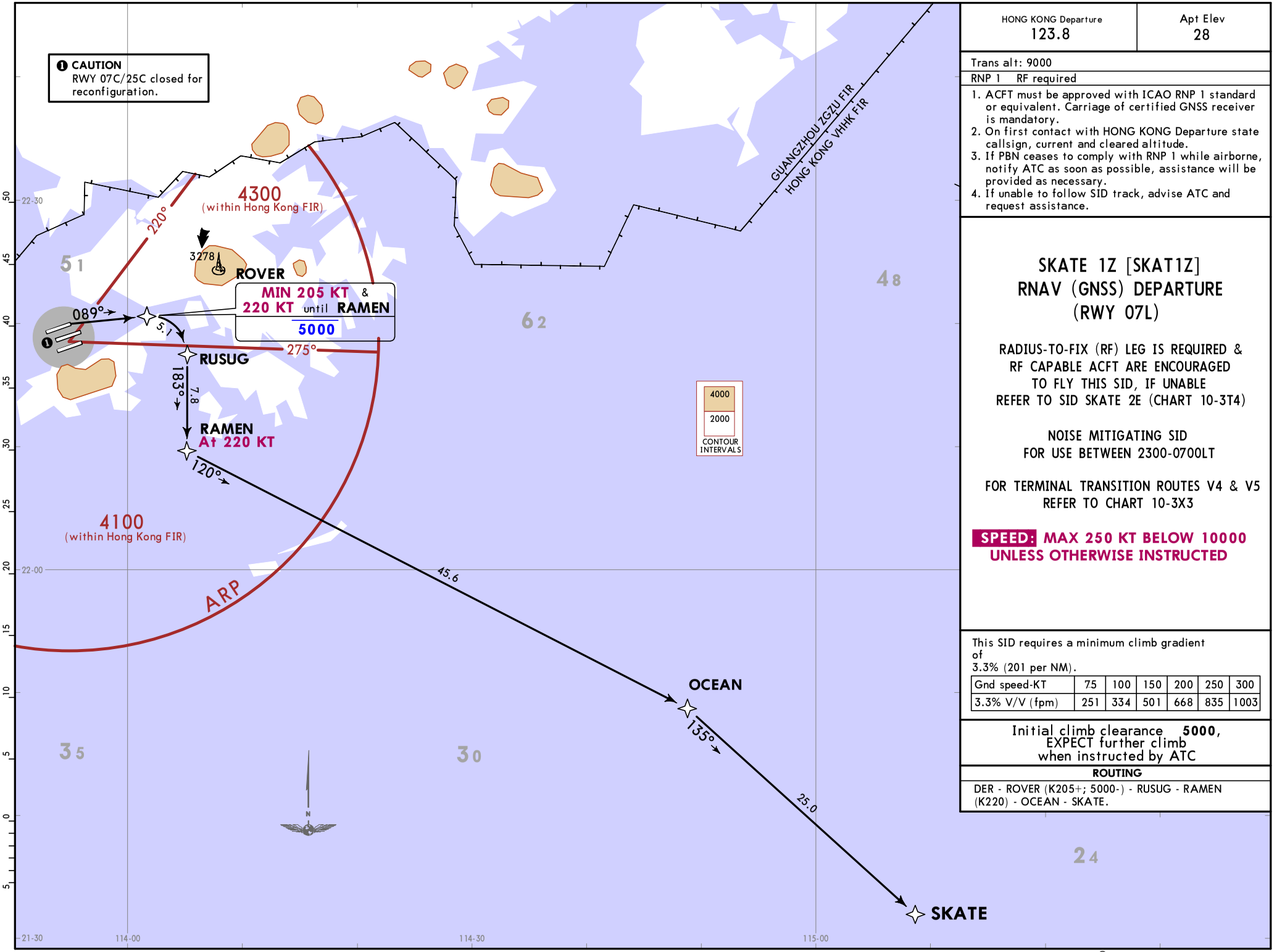
Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

ROUTING

HH30I - PORPA (K205+; 5000-) - PORSH - RAMEN (K220) - OCEAN - SKATE.

CHANGES: SID renumbered, HH30I added.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1 RF required

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

SKATE 1Z [SKAT1Z]
RNAV (GNSS) DEPARTURE
(RWY 07L)

RADIUS-TO-FIX (RF) LEG IS REQUIRED & RF CAPABLE ACFT ARE ENCOURAGED TO FLY THIS SID, IF UNABLE REFER TO SID SKATE 2E (CHART 10-3T4)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

FOR TERMINAL TRANSITION ROUTES V4 & V5 REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

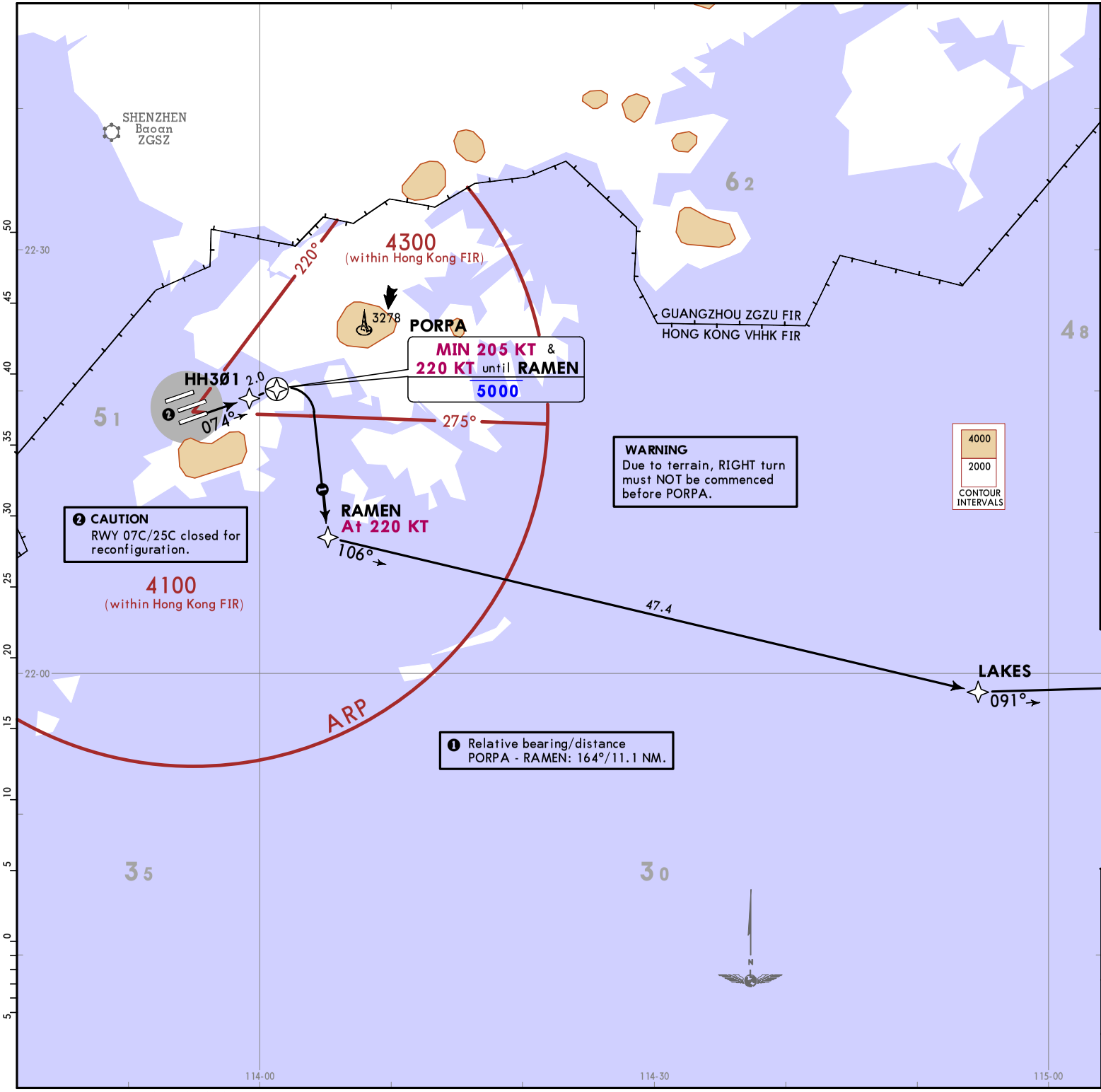
ROUTING

DER - ROVER (K205+; 5000-) - RUSUG - RAMEN (K220) - OCEAN - SKATE.

CHANGES: None.

HONG KONG, PR OF CHINA

RNAV SID



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

VENGO 2A [VENG2A]
RNAV (GNSS) DEPARTURE
(RWY 07R)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 2A (CHART 10-3W)

FOR TERMINAL TRANSITION ROUTES V1 & V13
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 4.9% (298 per NM) until leaving 1400.

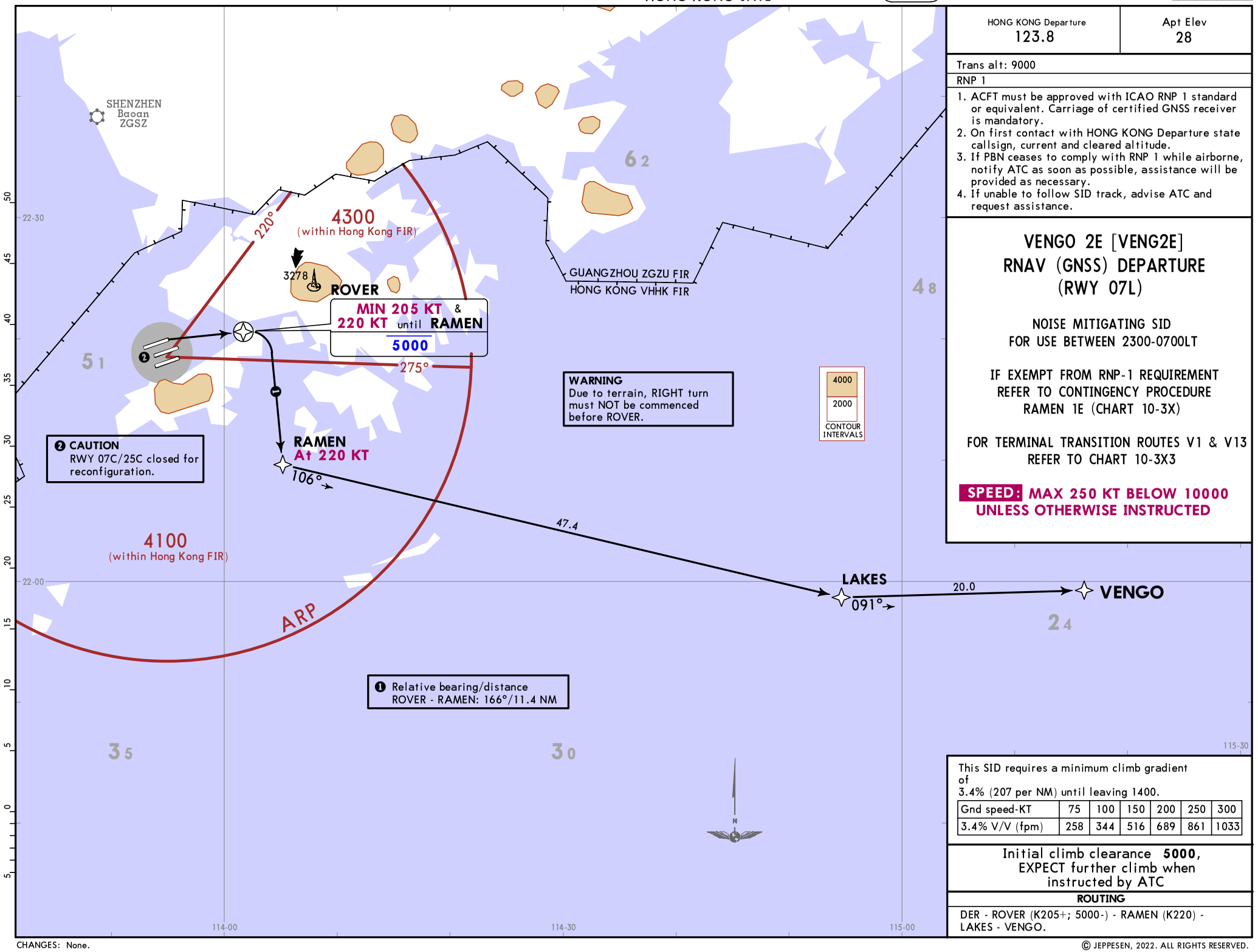
Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

ROUTING

HH30Ø1 - PORPA (K205+; 5000-) - RAMEN (K220) - LAKES - VENGO.

CHANGES: SID renumbered, HH30Ø1 added.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

VENGO 2E [VENG2E]
RNAV (GNSS) DEPARTURE
(RWY 07L)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

IF EXEMPT FROM RNP-1 REQUIREMENT
REFER TO CONTINGENCY PROCEDURE
RAMEN 1E (CHART 10-3X)

FOR TERMINAL TRANSITION ROUTES V1 & V13
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of
3.4% (207 per NM) until leaving 1400.

Gnd speed-KT	75	100	150	200	250	300
3.4% V/V (fpm)	258	344	516	689	861	1033

Initial climb clearance **5000**,
EXPECT further climb when
instructed by ATC

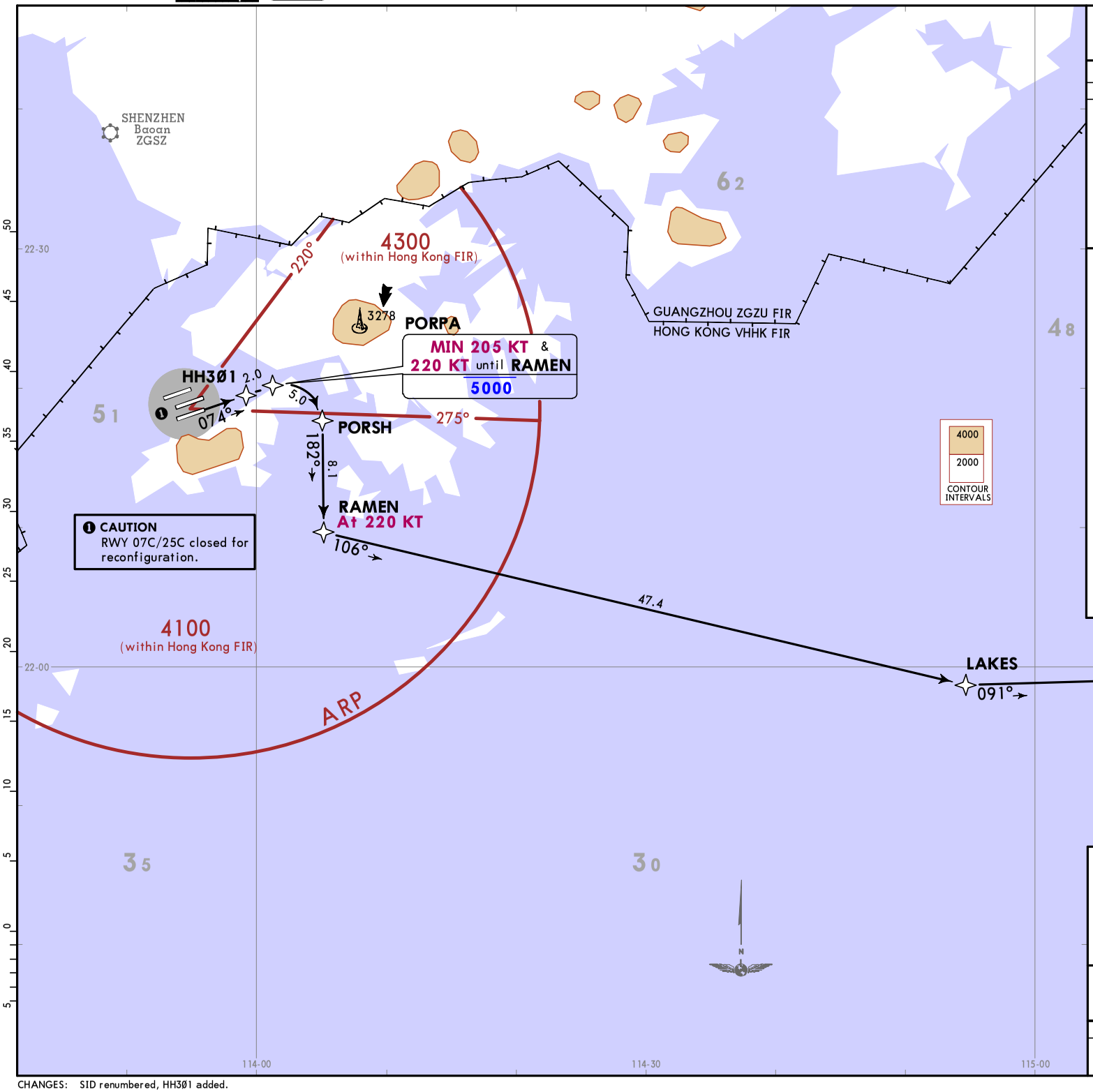
ROUTING

DER - ROVER (K205+; 5000-) - RAMEN (K220) - LAKES - VENGO.

CHANGES: None.

HONG KONG, PR OF CHINA

RNAV SID



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1 RF required

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

VENGO 2X [VENG2X]
RNAV (GNSS) DEPARTURE
(RWY 07R)

RADIUS-TO-FIX (RF) LEG IS REQUIRED & RF CAPABLE ACFT ARE ENCOURAGED TO FLY THIS SID, IF UNABLE REFER TO SID VENGO 2A (CHART 10-3U)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

FOR TERMINAL TRANSITION ROUTES V1 & V13 REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 4.9% (298 per NM) until leaving 1400.

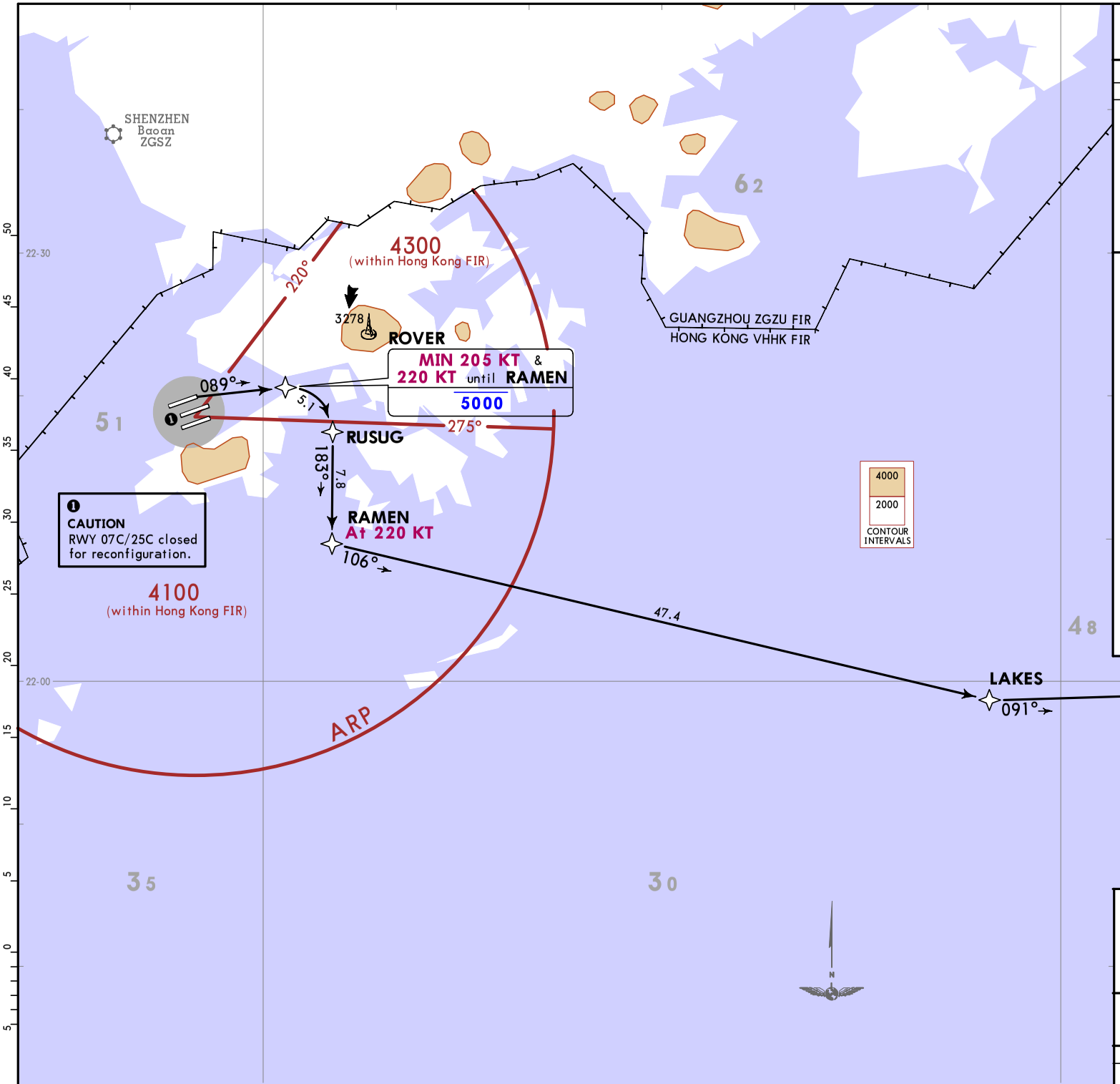
Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**, EXPECT further climb when instructed by ATC

ROUTING

HH3Ø1 - PORPA (K205+; 5000-) - PORSH - RAMEN (K220) - LAKES - VENGO.

CHANGES: SID renumbered, HH3Ø1 added.



HONG KONG Departure	Apt Elev
123.8	28

Trans alt: 9000

RNP 1 RF required

1. ACFT must be approved with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
2. On first contact with HONG KONG Departure state callsign, current and cleared altitude.
3. If PBN ceases to comply with RNP 1 while airborne, notify ATC as soon as possible, assistance will be provided as necessary.
4. If unable to follow SID track, advise ATC and request assistance.

VENGO 1Z [VENG1Z]
RNAV (GNSS) DEPARTURE
(RWY 07L)

RADIUS-TO-FIX (RF) LEG IS REQUIRED &
RF CAPABLE ACFT ARE ENCOURAGED
TO FLY THIS SID, IF UNABLE
REFER TO SID VENGO 2E (CHART 10-3V)

NOISE MITIGATING SID
FOR USE BETWEEN 2300-0700LT

FOR TERMINAL TRANSITION ROUTES V1 & V13
REFER TO CHART 10-3X3

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

This SID requires a minimum climb gradient of 3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**,
EXPECT further climb
when instructed by ATC

ROUTING

DER - ROVER (K205+; 5000-) - RUSUG - RAMEN (K220) - LAKES - VENGO.

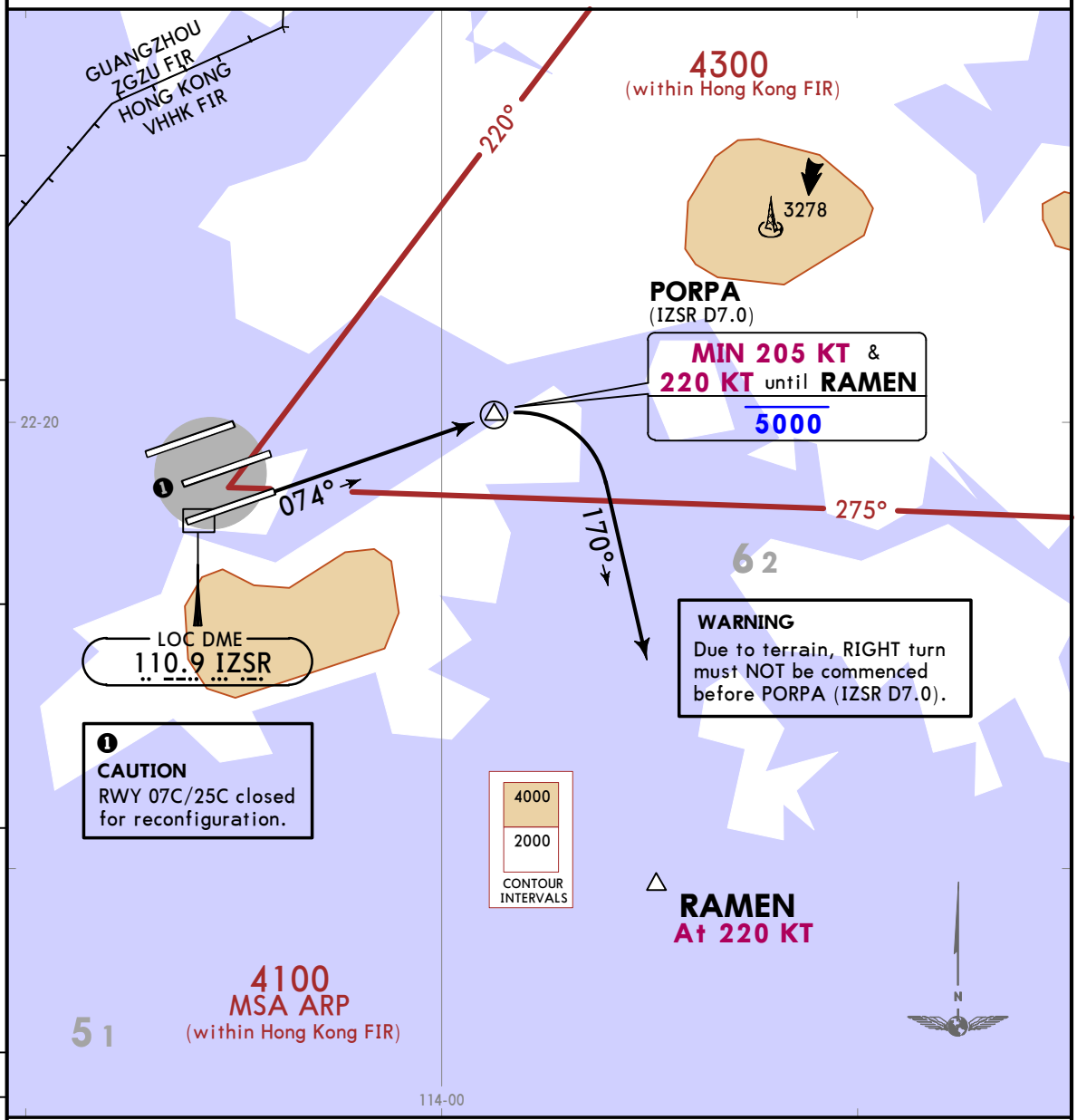
CHANGES: None.

HONG KONG Departure 123.8	Apt Elev 28	Trans alt: 9000
		DME required
		1. On first contact with HONG KONG Departure state callsign, current and cleared altitude. 2. If unable to follow SID track, advise ATC and request assistance. 3. EXPECT vectors to join flight plan route.

RAMEN 2A DEPARTURE [RAME2A]
(RWY 07R)

THIS CONTINGENCY PROCEDURE IS EXCLUSIVE FOR FLIGHTS EXEMPT FROM RNP 1 REQUIREMENT (REFER TO 10-1P2)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED



This SID requires a minimum climb gradient of 4.9% (298 per NM) until leaving 1400.

Gnd speed-KT	75	100	150	200	250	300
4.9% V/V (fpm)	372	496	744	992	1241	1489

Initial climb clearance **5000**,
EXPECT further climb when instructed by ATC

ROUTING

074° track to PORPA (IZSR D7.0), turn RIGHT, 170° track, request RADAR vectors to RAMEN.

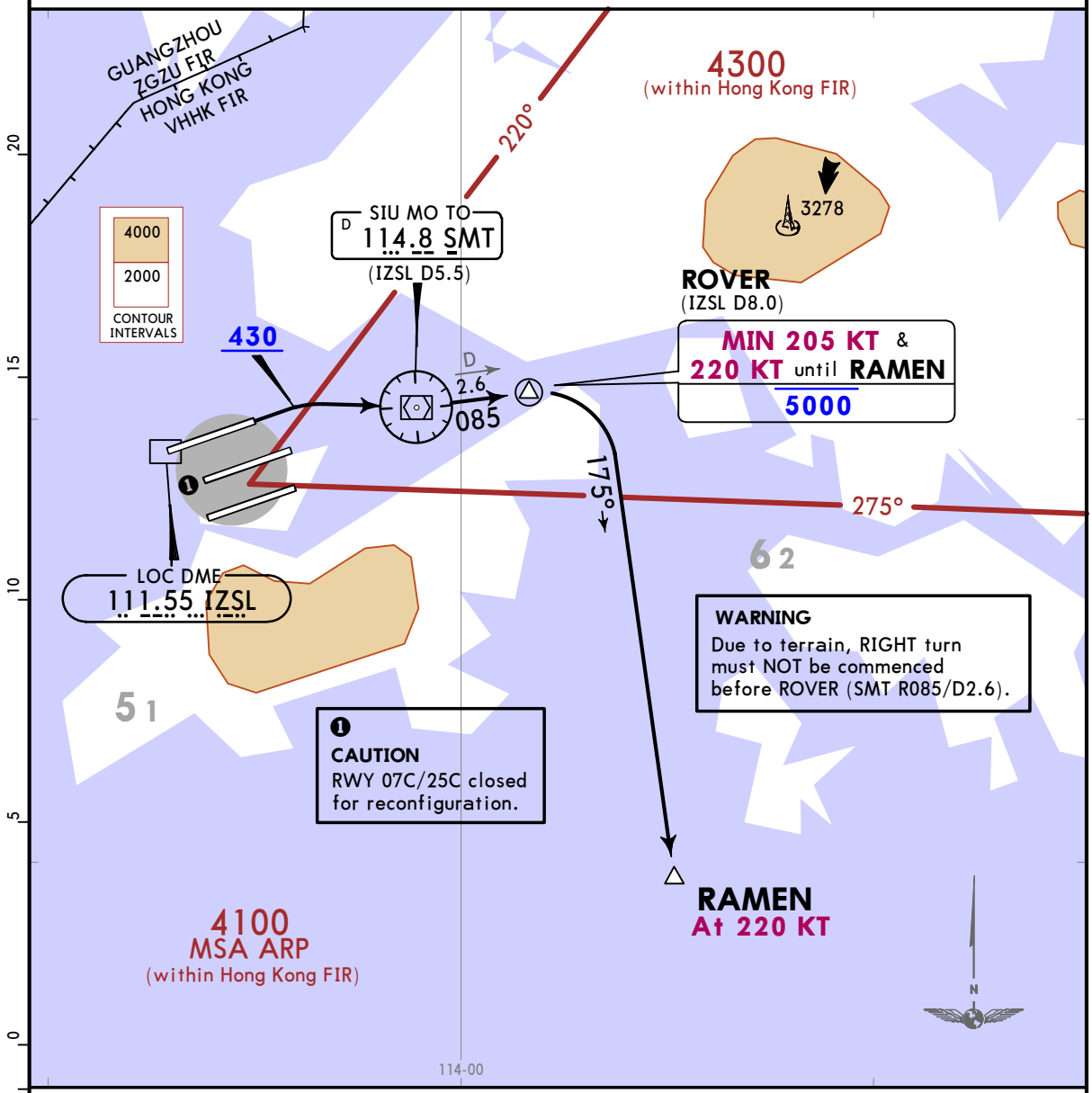
CHANGES: LKC decommissioned.

HONG KONG Departure	Apt Elev	
123.8	28	Trans alt: 9000 DME required 1. On first contact with HONG KONG Departure state callsign, current and cleared altitude. 2. If unable to follow SID track, advise ATC and request assistance. 3. EXPECT vectors to join flight plan route.

RAMEN 1E DEPARTURE [RAME1E]
(RWY 07L)

THIS CONTINGENCY PROCEDURE IS EXCLUSIVE FOR FLIGHTS EXEMPT FROM RNP 1 REQUIREMENT (REFER TO 10-1P2)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED



This SID requires a minimum climb gradient of 3.4% (207 per NM) until leaving 1400.

Gnd speed-KT	75	100	150	200	250	300
3.4% V/V (fpm)	258	344	516	689	861	1033

Initial climb clearance **5000**,
EXPECT further climb when instructed by ATC

ROUTING

Climb straight ahead to 430, turn RIGHT direct to SMT, turn LEFT, 085° track to ROVER, turn RIGHT, 175° track, request RADAR vectors to RAMEN.

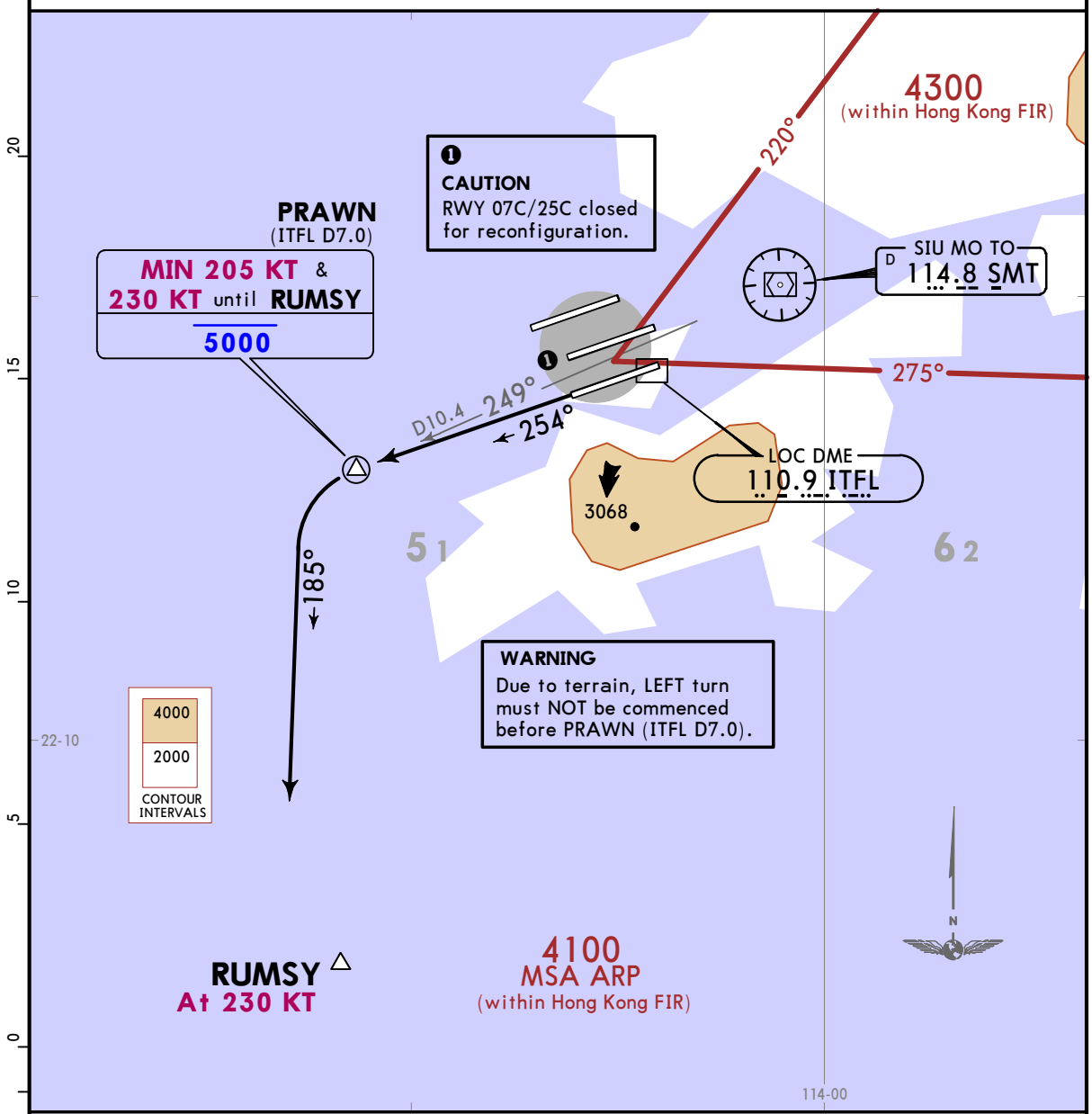
CHANGES: None.

HONG KONG Departure 123.8	Apt Elev 28	Trans alt: 9000
		DME required
		1. On first contact with HONG KONG Departure state callsign, current and cleared altitude. 2. If unable to follow SID track, advise ATC and request assistance. 3. EXPECT vectors to join flight plan route.

RUMSY 2B DEPARTURE [RUMS2B]
(RWY 25L)

THIS CONTINGENCY PROCEDURE IS EXCLUSIVE FOR FLIGHTS EXEMPT FROM RNP 1 REQUIREMENT (REFER TO 10-1P2)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED



This SID requires a minimum climb gradient of 3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**,
EXPECT further climb when instructed by ATC

ROUTING

254° track to PRAWN (ITFL D7.0), turn LEFT, 185° track, request RADAR vectors to RUMSY.

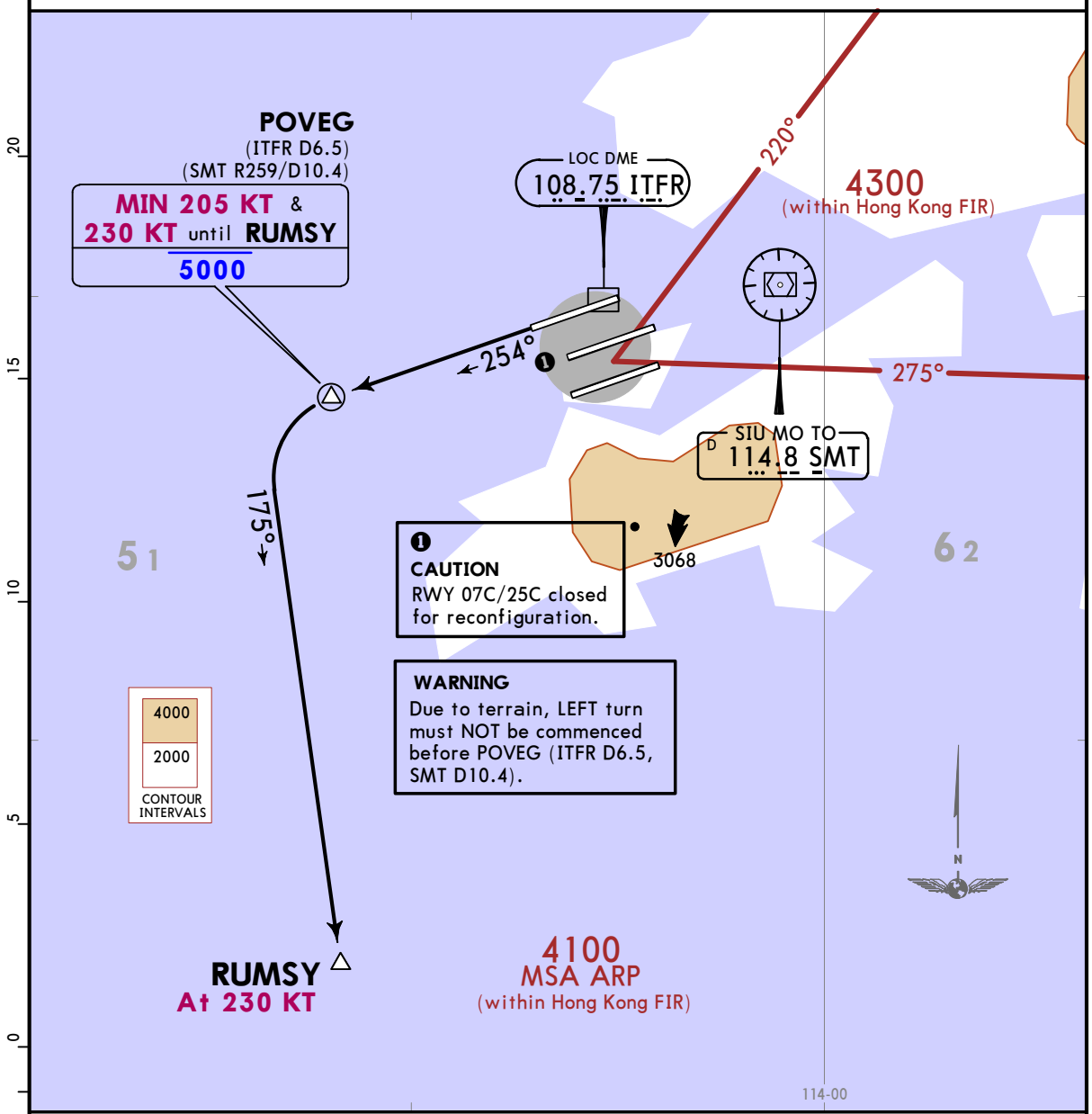
CHANGES: Procedure renumbered & revised.

HONG KONG Departure 123.8	Apt Elev 28	Trans alt: 9000
		DME required
		1. On first contact with HONG KONG Departure state callsign, current and cleared altitude. 2. If unable to follow SID track, advise ATC and request assistance. 3. EXPECT vectors to join flight plan route.

RUMSY 1F DEPARTURE [RUMS1F]
(RWY 25R)

THIS CONTINGENCY PROCEDURE IS EXCLUSIVE FOR FLIGHTS EXEMPT FROM RNP 1 REQUIREMENT (REFER TO 10-1P2)

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED



This SID requires a minimum climb gradient of 3.3% (201 per NM).

Gnd speed-KT	75	100	150	200	250	300
3.3% V/V (fpm)	251	334	501	668	835	1003

Initial climb clearance **5000**,
EXPECT further climb when instructed by ATC

ROUTING

Climb straight ahead to POVEG, turn LEFT, 175° track, request RADAR vectors to RUMSY.

CHANGES: None.

HONG KONG Departure	Apt Elev	Trans alt: 9000
123.8	28	

TERMINAL TRANSITION ROUTES
V1, V2, V3, V4, V5, V13

SPEED: MAX 250 KT BELOW 10000 UNLESS OTHERWISE INSTRUCTED

6000 / 4000 / 2000 CONTOUR INTERVALS

VHHH/HKG
HONG KONG INTL
28 OCT 22
Eff 3 Nov
10-3X3
JEPPESEN

CHANGES: Chart reindexed.

4138

4300 (within Hong Kong FIR) 220° 275°
4100 (within Hong Kong FIR)
ARP

GUANGZHOU ZGZU FIR
HONG KONG VHHK FIR
HONG KONG VHHK FIR
TAIPEI RCAA FIR

DOTMI
LELIM
(CRP for non-jet ACFT) LIMSU
13.6
48.1
ELATO
ENVAR
KAPLI
NOMAN
SABNO

(CRP for non-jet ACFT) LAKES
20
091°
(CRP for non-jet ACFT) VENGO
51.4
V1, V13
(CRP for non-jet ACFT) SOUSA
41.8
V1
001°
32.8
V13
(CRP for non-jet ACFT) BESDA
032°
53.6
V2
42.8
V3
051°
072°
(CRP for non-jet ACFT) OCEAN
28.9
095°
135°
25
(CRP for non-jet ACFT) RASSE
81.3
V2
V3
(CRP for non-jet ACFT) CONGA
(CRP for non-jet ACFT) SKATE
V4
61
V5
(CRP for non-jet ACFT) GRUPA
186°
144°
64.9
V4
111.4
V5

HONG KONG RADAR
118.925
132.525
V1, V2, V3, V13

HONG KONG RADAR
132.15
128.75
V4, V5

Final cruising level will be issued by HONG KONG Radar not later than 10 minutes prior to TMA boundary. Aircraft are required to reach assigned cruising level at or before TMA boundary as indicated below:

TMA Exit Point	Specified Location
DOTMI	SOUSA (42 NM before DOTMI)
ELATO	20 NM before ELATO
ENVAR	ENVAR
KAPLI	20 NM before KAPLI
LELIM	BESDA (62 NM before LELIM)
NOMAN	20 NM before NOMAN
SABNO	20 NM before SABNO

TERMINAL TRANSITION ROUTES
V1, V2, V3, V4, V5, V13

HONG KONG, PR OF CHINA
TERMINAL TRANSITION ROUTE

HONG KONG Departure	Apt Elev	Trans alt: 9000
123.8	28	

TERMINAL TRANSITION ROUTES
V10, V11, V12

SPEED: MAX 250 KT BELOW 10000
UNLESS OTHERWISE INSTRUCTED

CHANGES: Chart reindexed.

SHENZHEN Baoan ZGSZ

MACAO -Intl VMMC

4300 (within Hong Kong FIR)
220°
275°
4100 (within Hong Kong FIR)
ARP

6000
4000
2000
CONTOUR INTERVALS

4285

GUANGZHOU ZGZU FIR
HONG KONG VHHK FIR

HONG KONG RADAR
123.475
132.6
V10, V11, V12

(CRP for non-jet ACFT)
PECAN

217°
25.3
187°
30.0

(CRP for non-jet ACFT)
ALLEY

254°

(CRP for non-jet ACFT)
LAXET

HONG KONG RADAR
127.1
123.7
V10

SIKOU

97.2
V 10

220°
195°

40.7
299°

(CRP for non-jet ACFT)
DAGBU

120.5
V 11

118.6
V 12

HONG KONG RADAR
125.325
132.775
V11, V12

(CRP for non-jet ACFT)
SURFA

23.1
219°

(CRP for non-jet ACFT)
IDOSI

(CRP for non-jet ACFT)
EPDOS

HONG KONG VHHK FIR
SANYA ZJSA FIR

Final cruising level will be issued by HONG KONG Radar not less than 10 minutes prior to TMA boundary. Aircraft are required to reach assigned cruising level at or before TMA boundary as indicated below:

TMA Exit Point	Specified Location
EPDOS	EPDOS
IDOSI	SURFA (23 NM before IDOSI)
SIKOU	DAGBU (41 NM before SIKOU)

VHHH/HKG
HONG KONG INTL

JEPPESEN
28 OCT 22
10-3X4
Eff 3 Nov

HONG KONG, PR OF CHINA
TERMINAL TRANSITION ROUTE

TERMINAL TRANSITION ROUTES
V10, V11, V12

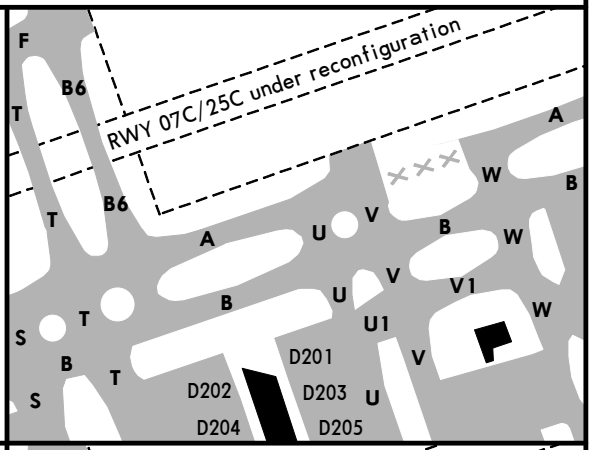
WORKS ON EASTERN AIRFIELD

REFER ALSO TO LATEST NOTAMS

PHASE 3:

- TWY A between TWYs V and W closed.
- TWY B between TWYs V and W downgraded to max code E ACFT.

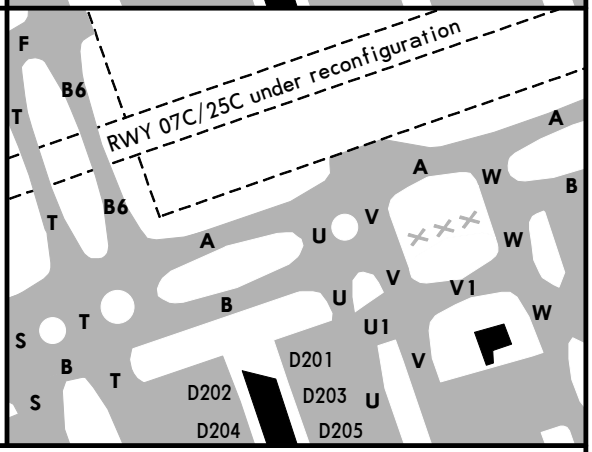
Construction works commenced on 3 June 2023.
Expected to be completed in Q4 2024.



PHASE 4:

- TWY B between TWYs V and W closed.
- TWY V1 downgraded to max code E ACFT.

Construction works will commence after completion of Phase 3, tentatively scheduled to be completed in Q3 2025.



LEGEND

U Taxiway D201 Stand ×× Closed TWY

CHANGES: Construction works phases updated.

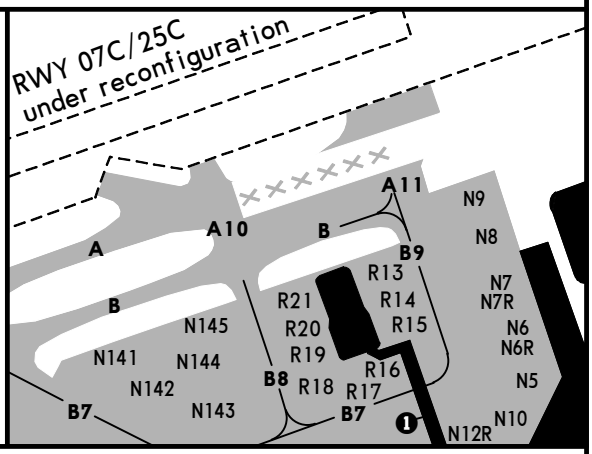
CONSTRUCTION WORKS ON TWY A

REFER ALSO TO LATEST NOTAMS

TWY A east of TWY A10 closed.

Expected to be completed in Q4 2024.

❶ Sky Bridge.
Height clearance:
92'/28m.



LEGEND

A Taxiway R13 Stand ✕✕ Closed TWY

CHANGES: New chart.

WORKS AND FLIGHT CHECK FOR RWY 07C/25C

REFER ALSO TO LATEST NOTAMS

For all construction sites, closed RWYs and TWYs see other AIRPORT, PARKING or WORKS pages. Those are still valid. The non-operational areas, which are shown there are still NOT open for ACFT operations.

This page is just to inform about changes of markings, signs and measures to conduct flight checks in preparation for the commissioning of RWY 07C/25C.

Changes to AD environment in vicinity of Closed Center RWY 07C/25C:

Starting from 31 July 2024, the security fence separating the closed Center RWY 07C/25C and associated TWYs from the operational area will be progressively replaced by marker boards. APT users will thus have a clearer view of the non-operational areas still under construction. Despite these changes to the aerodrome environment, attention of APT users should be drawn that the enclosed area remains non-operational and that the Center RWY 07C/25C and associated TWYs are still NOT open for ACFT operations.

White closed RWY markings have been displayed on the pavement surface at intervals along entire length of RWY and a flashing white-lighted cross has been placed at each end of closed Center RWY 07C/25C. In addition, yellow closed TWY markings will be displayed at each junction of the new TWYs under construction which have interface with the existing operational area.

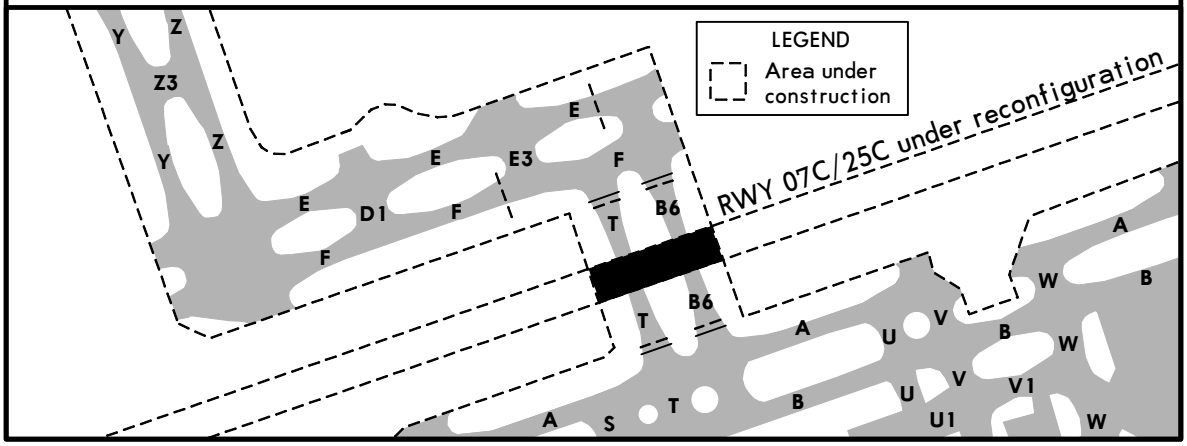
RWY holding position markings and mandatory instruction markings for Center RWY 07C/25C will be painted on the entry and exit points to the RWY on TWY T and TWY B6 as a visual alert. While the Center RWY 07C/25C remains non-operational (except during the flight check period mentioned in next paragraph below, where it will be used by flight check ACFT only), APT users shall closely follow ATC instructions and are reminded to be vigilant when crossing Center RWY 07C/25C.

Temporary Arrangement during Flight Check of Center RWY 07C/25C:

In preparation for commissioning of Center RWY 07C/25C, flight check will be conducted daily from 2200 UTC to 0200 UTC between 4 AUG 2024 and 11 SEP 2024 tentatively.

To facilitate the safe conduct of flight check, the flashing white-lighted crosses, closed RWY markings, closed TWY markings and marker boards within RWY strip of Center RWY 07C/25C will be temporarily removed before flight check and reinstated after completion of flight check daily during this period. APT users are reminded that despite such temporary arrangement, Center RWY 07C/25C and associated TWYs are still NOT open for ACFT operations.

During flight check operations, arrival ACFT from North RWY 07L/25R may be held on TWY E or TWY F before being cleared to cross Center RWY 07C/25C. APT users shall closely follow ATC instructions and are reminded to be vigilant when crossing Center RWY 07C/25C.



CHANGES: New temporary chart.

VHHH/HKG

Apt Elev 28′
N22 18.5 E113 54.9

JEPPESEN
8 DEC 23 (10-9)

HONG KONG, PR OF CHINA
HONG KONG INTL

D-ATIS Departure	ACARS: D-ATIS PDC DCL	HONG KONG Delivery	Ground North	Ground Mid-field	Ground South	Ground West	Tower	Tower	Tower	HONG KONG Departure
127.05		122.15	121.6	121.875	122.55	122.125	118.2	118.4	118.7	122.0 (by ATC) 123.8

LEGEND
Area under construction

❶ Section between Twys C12 and C11 can be used as a starter extension for take-off Rwy 25R.

❷ Sky Bridge. Height clearance: 92′/28m.

Elev 23′

Elev 27′

12,467′ 3800m

25R 254°

25L 254°

07L 074°

07R 074°

RWY 07C/25C under reconfiguration

FOR DETAILS SEE PARKING STANDS

Paved area not in operation

PASSENGER TERMINAL

ARP

Control Tower

MAINTENANCE AREA

BUSINESS AVIATION CENTRE

EXPRESS CARGO TERMINAL

AAT CARGO TERMINAL

CPA CARGO TERMINAL

HACTL CARGO TERMINAL

03°W

113-53 113-54 113-55 113-56

22-20 22-19 22-18

Feet 0 1000 2000 3000 4000
Meters 0 200 400 600 800 1000 1200

CHANGES: Apron North of TWY H adjusted.

ADDITIONAL RUNWAY INFORMATION

RWY						USABLE LENGTHS LANDING BEYOND Threshold	Glide Slope	TAKE-OFF	WIDTH
07L ❶	HIRL (60m)	CL (15m)	HIALS-II	SFL TDZ	❷ RVR	11,896' 3626m	10,863' 3311m	❹	197' 60m
25R	HIRL (60m)	CL (15m)	HIALS-II	SFL TDZ	❸ RVR				

❶ Rwy grooved.

❷ PAPI (3.0°), HST-C7, C8 & C9 (all with HSTIL)

❸ PAPI (3.1°), HST-C4, C5 & C6 (all with HSTIL)

❹ TAKE-OFF RUN AVAILABLE

RWY 07L: From rwy head 12,467' (3800m)
Twy C3 int 10,883' (3317m)

RWY 25R: From twy head 12,467' (3800m)
Twy C10 int 10,591' (3228m)

❺ **Scheduled closure period for Rwy 07L/25R (North runway)**

Period (UTC)	Days of closure (UTC)
1715 - 2314	Every Tuesday, Wednesday, Friday, Saturday and Sunday.

RWY						USABLE LENGTHS LANDING BEYOND Threshold	Glide Slope	TAKE-OFF	WIDTH
07R ❻	HIRL (60m)	CL (30m)	HIALS-II	SFL TDZ	❼ RVR	11,942' 3640m	10,909' 3325m	❾	197' 60m
25L	HIRL (60m)	CL (30m)	HIALS-II	SFL TDZ	❽ RVR		11,434' 3485m		

❻ Rwy grooved.

❼ PAPI (3.0°), HST-J7, K5 (with HSTIL), J8 & K6

❽ PAPI (3.0°), HST-J5, K3 (with HSTIL), J4 & K2

❾ TAKE-OFF RUN AVAILABLE

RWY 07R: From rwy head 12,467' (3800m)
Twy J3 int 10,269' (3130m)
Twy K2 int 8924' (2720m)

RWY 25L: From rwy head 12,467' (3800m)
Twy J9 int 10,499' (3200m)
Twy K6 int 9449' (2880m)

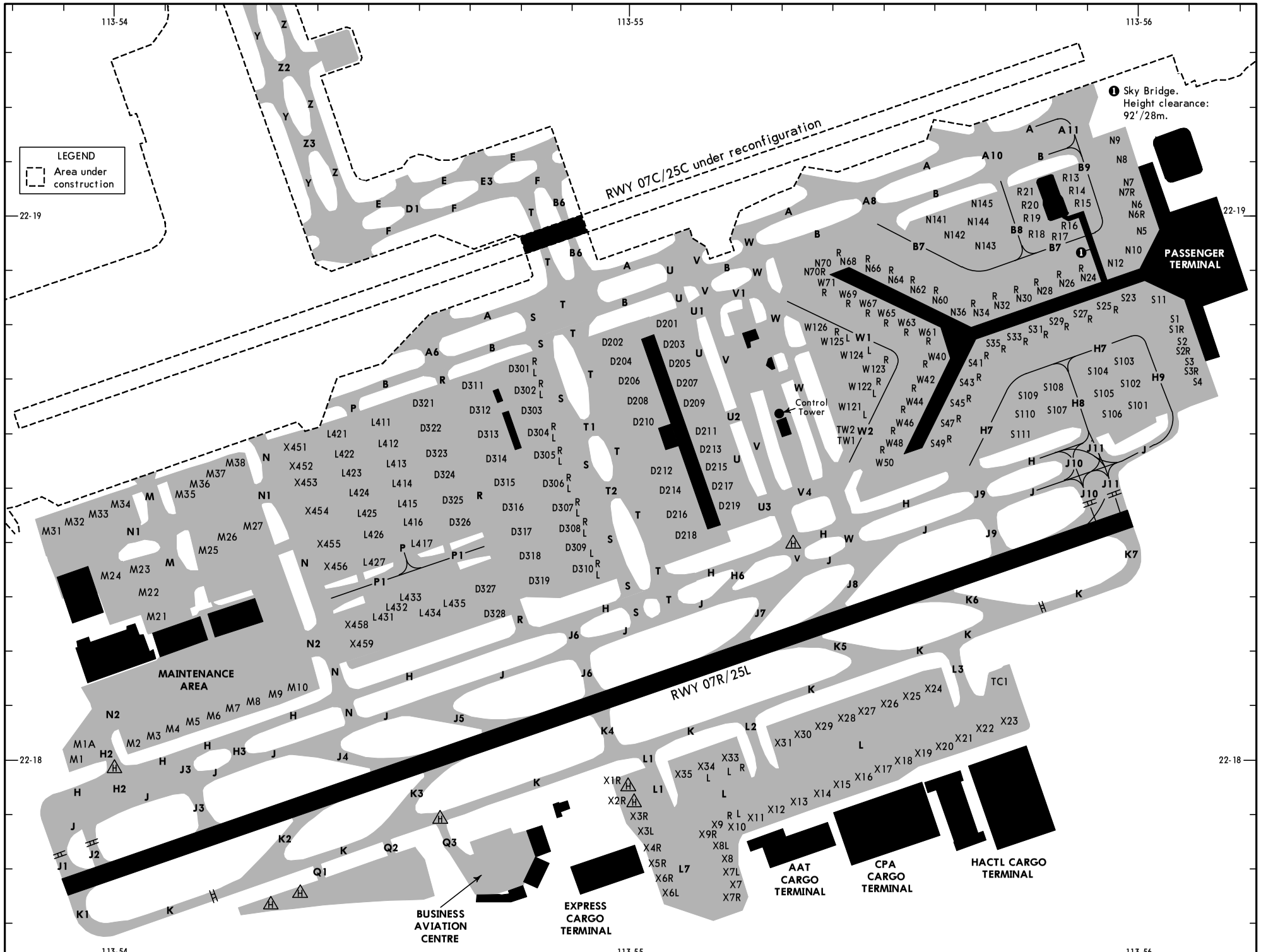
❺ **Scheduled closure period for Rwy 07R/25L (South runway)**

Period (UTC)	Days of closure (UTC)
1715 - 2314	Every Monday and Thursday.

❺ Any revision to the runway closure programme will be promulgated by NOTAM.

State	TAKE-OFF	
	HIRL & CL	HIRL or CL
	R200m	R400m

CHANGES: None.



INS COORDINATES

STAND No.	COORDINATES	STAND No.	COORDINATES
D201 thru D203	N22 18.8 E113 55.0	M8, M9	N22 18.1 E113 54.3
D204	N22 18.7 E113 55.0	M10	N22 18.1 E113 54.4
D205	N22 18.7 E113 55.1	M21, M22	N22 18.3 E113 54.0
D206	N22 18.7 E113 55.0	M23	N22 18.4 E113 54.0
D207	N22 18.7 E113 55.1	M24	N22 18.3 E113 54.0
D208	N22 18.7 E113 55.0	M25 thru M27	N22 18.4 E113 54.2
D209	N22 18.6 E113 55.1	M31, M32	N22 18.4 E113 53.9
D210	N22 18.6 E113 55.0	M33	N22 18.5 E113 53.9
D211	N22 18.6 E113 55.1	M34	N22 18.5 E113 54.0
D212	N22 18.5 E113 55.1	M35, M36	N22 18.5 E113 54.1
D213	N22 18.6 E113 55.1	M37, M38	N22 18.5 E113 54.2
D214, D215	N22 18.5 E113 55.1	N5 thru N6R, N7R	N22 19.0 E113 56.0
D216	N22 18.4 E113 55.1	N7 thru N9	N22 19.1 E113 56.0
D217	N22 18.5 E113 55.1	N10	N22 18.9 E113 56.0
D218	N22 18.4 E113 55.1	N12, N24	N22 18.9 E113 55.9
D219	N22 18.5 E113 55.2	N26, N28	N22 18.9 E113 55.8
D301 thru D302	N22 18.7 E113 54.8	N30	N22 18.8 E113 55.8
D303 thru D305	N22 18.6 E113 54.8	N32, N34	N22 18.8 E113 55.7
D306	N22 18.5 E113 54.8	N36, N60	N22 18.8 E113 55.6
D307L	N22 18.5 E113 54.9	N60R	N22 18.9 E113 55.6
D307	N22 18.5 E113 54.8	N62, N64	N22 18.9 E113 55.5
D307R	N22 18.5 E113 54.9	N66, N68	N22 18.9 E113 55.4
D308 thru D309	N22 18.4 E113 54.9	N70	N22 18.9 E113 55.3
D310L, D310	N22 18.3 E113 54.9	N141, N142	N22 19.0 E113 55.6
D310R	N22 18.4 E113 54.9	N143	N22 18.9 E113 55.7
D311	N22 18.7 E113 54.7	N144, N145	N22 19.0 E113 55.7
D312, D313	N22 18.6 E113 54.7	R13	N22 19.1 E113 55.8
D314	N22 18.6 E113 54.8	R14	N22 19.0 E113 55.8
D315, D316	N22 18.5 E113 54.8	R15	N22 19.0 E113 55.9
D317, D318	N22 18.4 E113 54.8	R16 thru R21	N22 19.0 E113 55.8
D319	N22 18.3 E113 54.8	S1, S2	N22 18.8 E113 56.1
D321 thru D323	N22 18.6 E113 54.6	S3, S4	N22 18.7 E113 56.1
D324, D325	N22 18.5 E113 54.6	S11	N22 18.8 E113 56.0
D326	N22 18.4 E113 54.6	S23	N22 18.9 E113 56.0
D327, D328	N22 18.3 E113 54.7	S25, S27	N22 18.8 E113 55.9
L411, L412	N22 18.6 E113 54.5	S29, S31	N22 18.8 E113 55.8
L413	N22 18.6 E113 54.6	S33, S35	N22 18.8 E113 55.7
L414, L415	N22 18.5 E113 54.6	S41	N22 18.7 E113 55.6
L416, L417	N22 18.4 E113 54.6	S41R	N22 18.7 E113 55.7
L421, L422	N22 18.6 E113 54.4	S43	N22 18.7 E113 55.6
L423, L424	N22 18.5 E113 54.4	S45 thru S49	N22 18.6 E113 55.6
L425	N22 18.4 E113 54.4	S101	N22 18.6 E113 56.0
L426, L427	N22 18.4 E113 54.5	S102	N22 18.7 E113 56.0
L431 thru L433	N22 18.3 E113 54.5	S103 thru S105	N22 18.7 E113 55.9
L434, L435	N22 18.3 E113 54.6	S106	N22 18.6 E113 56.0
M1, M1A	N22 18.0 E113 53.9	S107	N22 18.6 E113 55.8
M2	N22 18.0 E113 54.0	S108, S109	N22 18.7 E113 55.8
M3	N22 18.0 E113 54.1	S110, S111	N22 18.6 E113 55.8
M4, M5	N22 18.1 E113 54.1	TC1	N22 18.2 E113 55.7
M6, M7	N22 18.1 E113 54.2	TW1, TW2	N22 18.6 E113 55.4

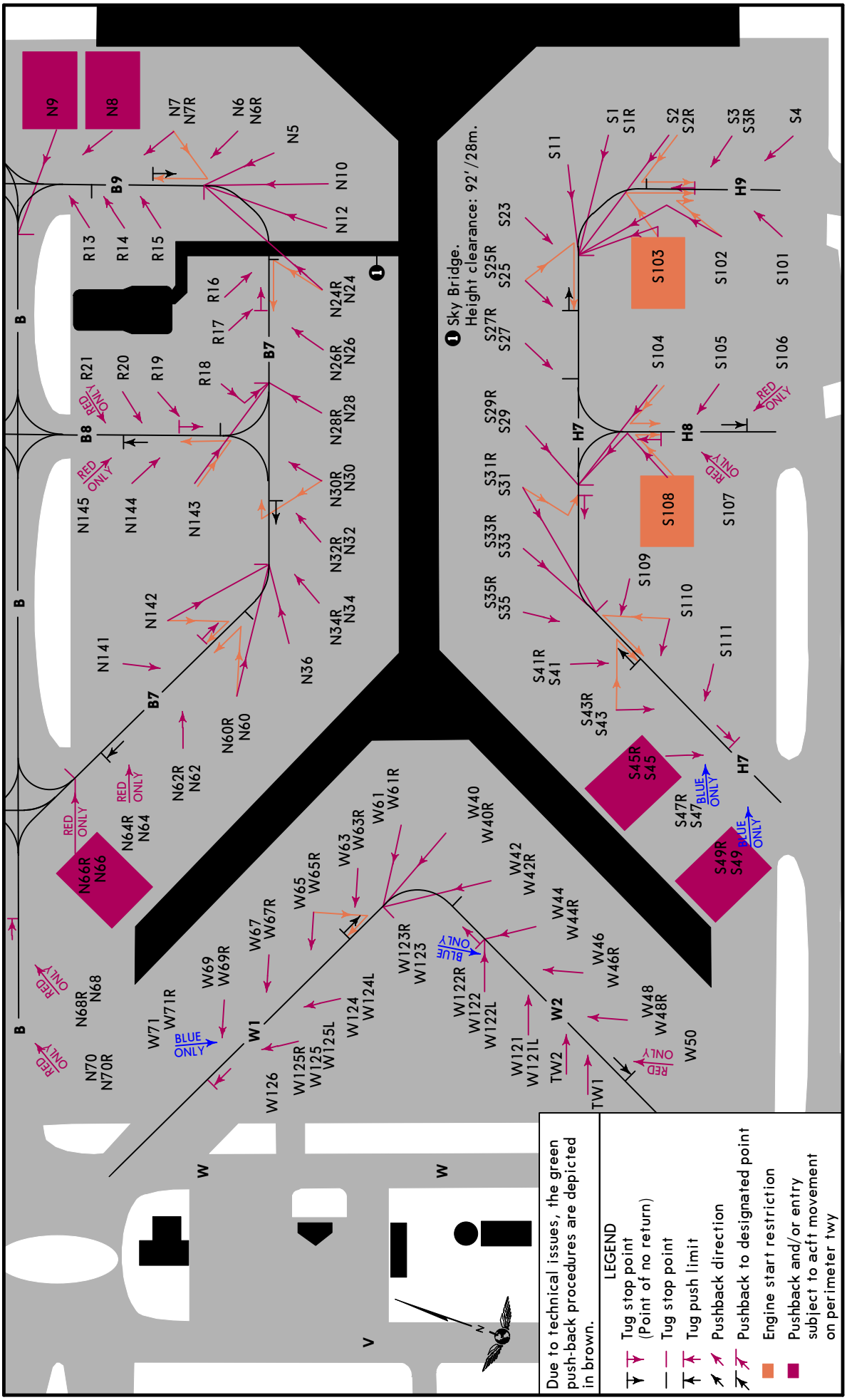
INS COORDINATES

STAND No.	COORDINATES	STAND No.	COORDINATES
W40, W42	N22 18.7 E113 55.6		
W44 thru W48	N22 18.6 E113 55.5		
W50	N22 18.5 E113 55.5		
W61	N22 18.8 E113 55.6		
W63 thru W67	N22 18.8 E113 55.5		
W69, W71	N22 18.9 E113 55.4		
W121L	N22 18.6 E113 55.4		
W121 thru W123	N22 18.7 E113 55.4		
W123R	N22 18.7 E113 55.5		
W124, W125	N22 18.7 E113 55.4		
W125R	N22 18.8 E113 55.4		
W126	N22 18.8 E113 55.3		
X1R	N22 18.0 E113 55.0		
X2R thru X3R	N22 17.9 E113 55.0		
X4R, X5R	N22 17.8 E113 55.0		
X6L	N22 17.7 E113 55.1		
X6R	N22 17.8 E113 55.1		
X7 thru X8L	N22 17.8 E113 55.2		
X9, X9R	N22 17.9 E113 55.1		
X10 thru X11	N22 17.9 E113 55.2		
X12, X13	N22 17.9 E113 55.3		
X14	N22 17.9 E113 55.4		
X15	N22 18.0 E113 55.4		
X16 thru X18	N22 18.0 E113 55.5		
X19, X20	N22 18.0 E113 55.6		
X21, X22	N22 18.0 E113 55.7		
X23	N22 18.1 E113 55.7		
X24	N22 18.2 E113 55.6		
X25 thru X27	N22 18.1 E113 55.5		
X28, X29	N22 18.1 E113 55.4		
X30, X31	N22 18.1 E113 55.3		
X33 thru X33R	N22 18.0 E113 55.2		
X34 thru X35	N22 18.0 E113 55.1		
X451	N22 18.6 E113 54.3		
X452, X453	N22 18.5 E113 54.4		
X454 thru X456	N22 18.4 E113 54.4		
X458	N22 18.3 E113 54.5		
X459	N22 18.2 E113 54.5		

VHHH/HKG

JEPPESEN
19 APR 24 (10-9D)

HONG KONG, PR OF CHINA
HONG KONG INTL



CHANGES: Stand N12R withdrawn.

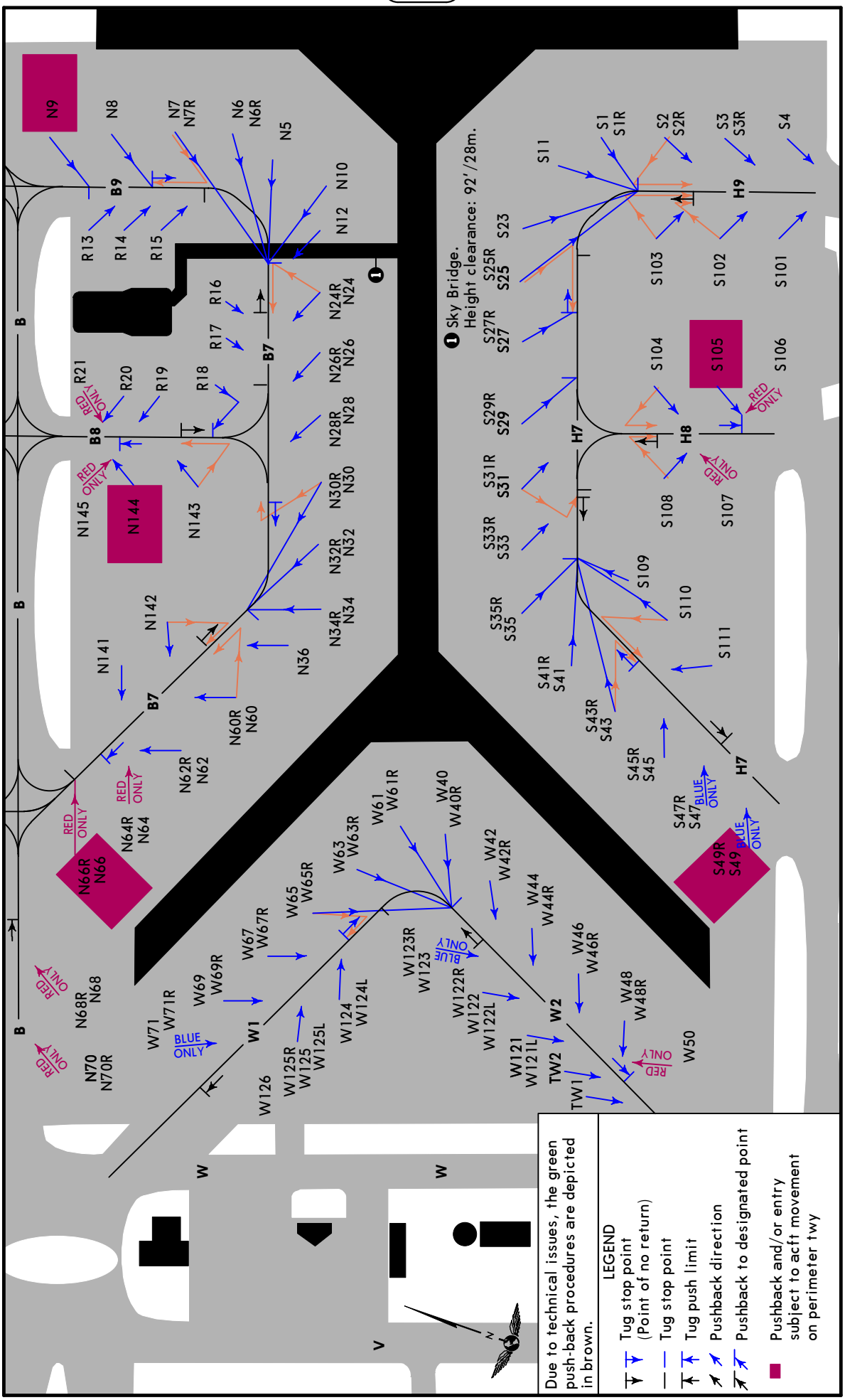
VHHH/HKG

JEPPESEN

19 APR 24 (10-9E)

HONG KONG, PR OF CHINA

HONG KONG INTL



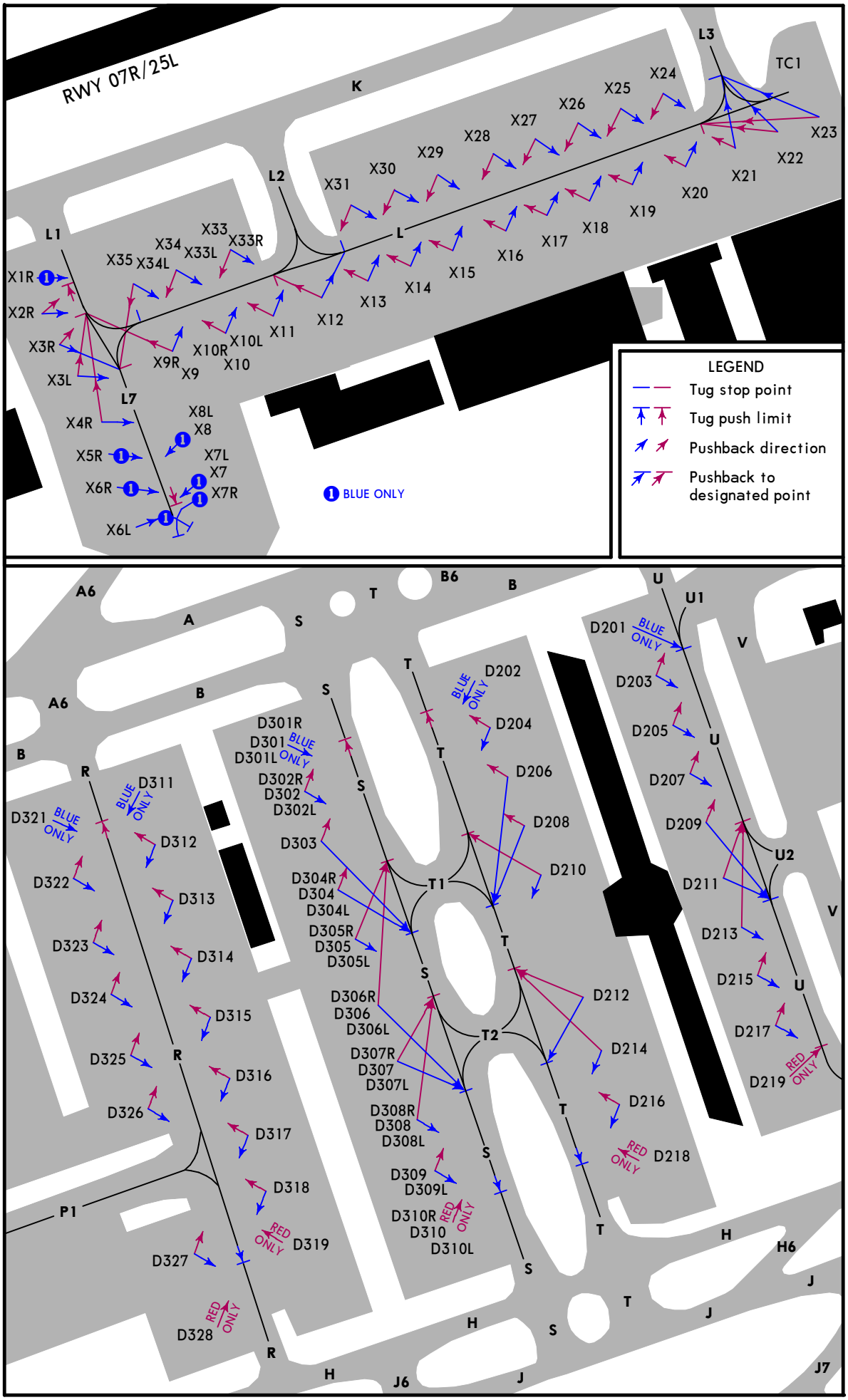
CHANGES: Stand N12R withdrawn.

VHHH/HKG

JEPPESEN HONG KONG, PR OF CHINA

24 NOV 23 (10-9F) Eff 30 Nov

HONG KONG INTL



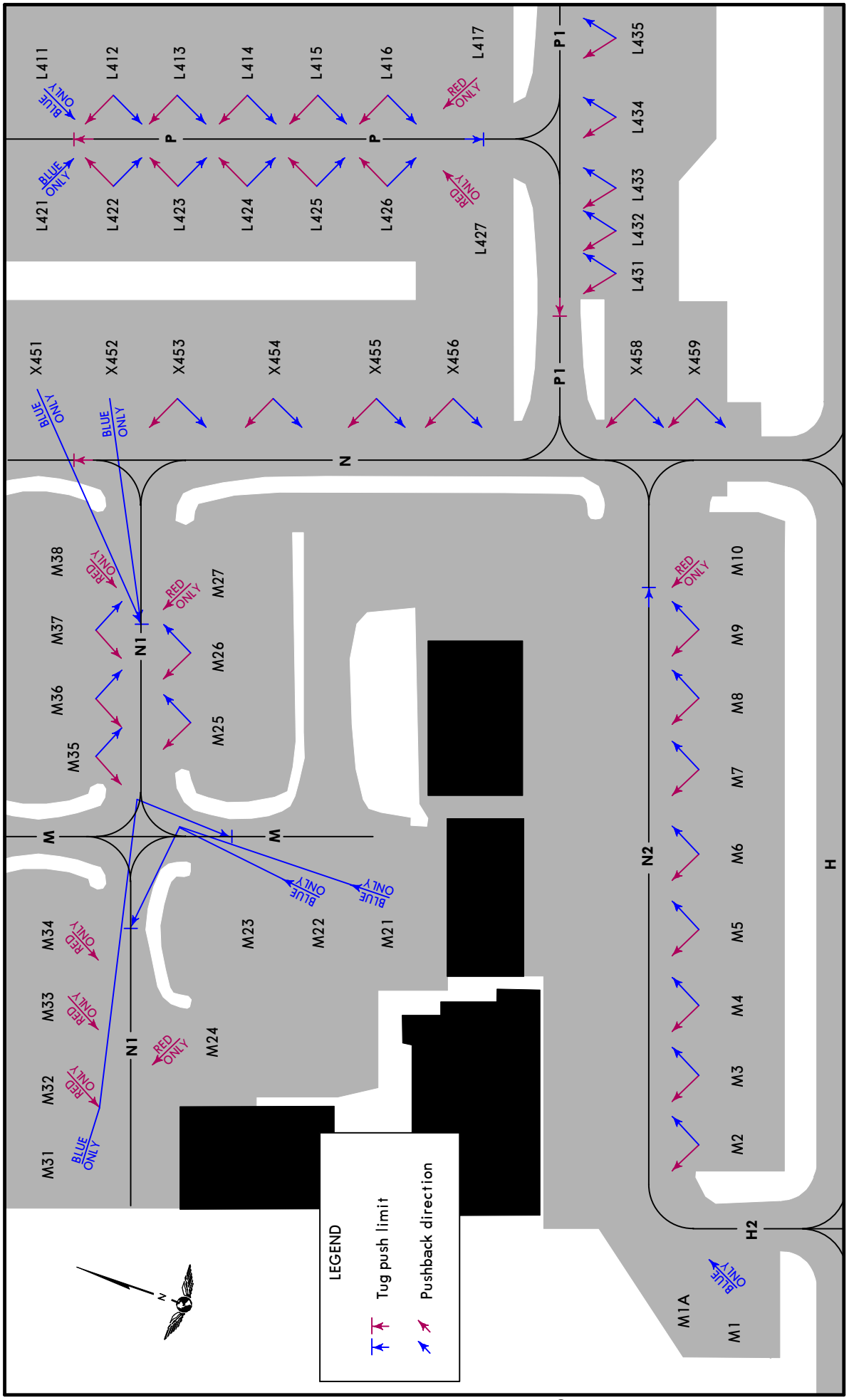
CHANGES: Stand D300 withdrawn.

VHHH/HKG

JEPPESEN HONG KONG, PR OF CHINA

24 NOV 23 (10-9G) Eff 30 Nov

HONG KONG INTL



CHANGES: None.

AIRCRAFT DOCKING GUIDANCE SYSTEM

GENERAL

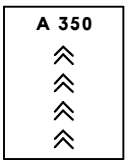
Several stands (named on 10-1P pages) are equipped with a docking guidance system, to enable aircraft to park at the correct main centerline position on the parking bays without the assistance of a marshaller.

The aircraft docking guidance system consists of a LED screen and a laser scanner located at the head of the parking bay to ensure the aircraft stops in the correct location.

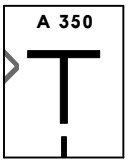
When the system is activated the following information will be displayed on the LED screen :
a. Type of arriving aircraft;
b. Floating arrows to indicate the system is active to search for an approaching aircraft;
c. Lateral guidance with an illuminated "T" when the aircraft is within 262'/80m of the correct parking position;
d. Display of the distance to go when the aircraft is within 66'/20m of the correct parking position;
e. STOP indication when the aircraft is at the correct parking position;
f. OK indication when the aircraft is parked.

TYPE OF AIRCRAFT

The type of aircraft and floating arrows will be displayed on the LED screen which indicates the activation of the system, searching for an approaching aircraft. When the aircraft turns into the parking bay the system starts tracking the aircraft, and the laser scanner identifies the type of aircraft.



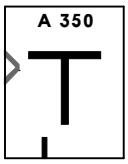
If the laser unit detects that the type of aircraft corresponds to the type entered into the system, the docking system will continue to function normally.



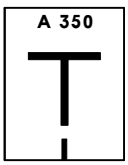
If the laser unit detects a discrepancy in the type of aircraft or cannot identify the aircraft, the message "STOP ID FAIL" will be displayed on the LED screen.

TRACKING MODE

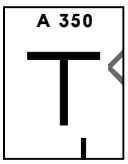
When the system is activated by the marshaller locally or remotely, the laser scanner automatically scans the pre-defined docking area in the parking bay to detect the arriving aircraft.
When the aircraft is approximately 262'/80m from the correct parking position, the aircraft will be tracked and information on its lateral position relative to the parking centerline will be displayed, by a "T" symbol representing the centerline, and an arrow representing the location of the aircraft.



LEFT of centerline



ON centerline

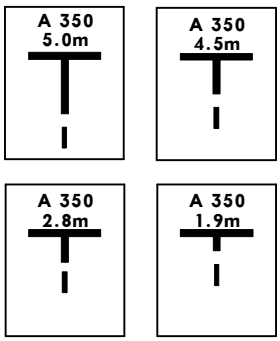


RIGHT of centerline

CHANGES: General and tracking mode updated.

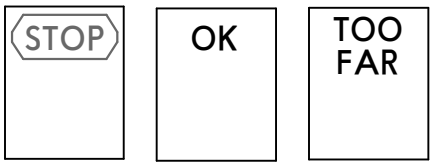
DISTANCE TO GO INDICATOR

Distance to go information is displayed on the LED screen when the aircraft is within 66'/20m of the correct parking position. The distance is displayed above the "T" symbol at 3'/1m intervals between 66'/20m and 16'/5m, then at 1.6'/0.5m intervals between 16'/5m and 10'/3m, further at 0.6'/0.2m intervals between 10'/3m and 0.7'/2m, finally at 0.3'/0.1m intervals up to the STOP position.



STOP POSITION INDICATOR

The correct parking position is displayed on the LED screen by a "STOP" message replacing the azimuth guidance and distance to go information.
The "STOP" message indicates the exact location of the aircraft nose wheel at the correct parking position.
When the system detects the aircraft has stopped, an "OK" message indicates the aircraft is correctly parked . A "TOO FAR" message indicates the aircraft has overshot the correct parking position by at least 3'/1m.



PILOT PROCEDURES

Pilots must follow the parking bay lead-in ground marking as they approach the parking bay to ensure the docking guidance system laser unit starts tracking the aircraft.
Pilots must check that the correct type of aircraft is displayed on the LED screen at the appointed parking bay. If any discrepancy on aircraft type is noticed, pilots shall stop the aircraft immediately.
Pilots must follow the floating arrows displaying on the LED screen to enter the appointed parking bay.
Pilots should maintain a speed of 6 KT whilst using the docking guidance system and slow down to halt when the "STOP" message is displayed.
In case the docking system is not available, or the display panel of the docking system does not show the aircraft type and the floating arrows, guidance from a local marshaller shall be mandatory. Pilots shall not enter the parking bay in the absence of marshalling service.

FURTHER INFORMATION

The aircraft docking guidance system is able to be activated and monitored by a remote marshaller without presence at the parking bay. Such remote marshalling will be implemented in phases and details will be disseminated via NOTAM and Airfield Circular.

CHANGES: Distance to go indicator updated.

HONG KONG, PR OF CHINA
HONG KONG INTL

STRAIGHT-IN RWY		A	B	C	D
07L	CAT 3B ILS	R75m	R75m	R75m	R100m
	CAT 3A ILS	**RA50**′ R200m	**RA50**′ R200m	**RA50**′ R200m	**RA50**′ R200m
	❶ CAT 2 ILS	**123**′(100′) RA100′R300m	**123**′(100′) RA100′R300m	**123**′(100′) RA100′R300m	**123**′(100′) RA100′R300m
	❷ ILS	**223**′(200′)	**223**′(200′)	**223**′(200′)	**223**′(200′)
	FULL	R550m V800m	R550m V800m	R550m V800m	R550m V800m
	TDZ or CL out	❸ R550mV800m	❸ R550mV800m	❸ R550mV800m	❸ R550mV800m
	ALS out	R1200m	R1200m	R1200m	R1200m
	❹ ILS	**1359**′(1336′) R1500m	**1369**′(1346′) R1500m	**1379**′(1356′) R2400m	**1388**′(1365′) R2400m
	❺❻ LOC	**500**′(477′)	**500**′(477′)	**500**′(477′)	**500**′(477′)
	with SDF	R1500m	R1500m	R1500m	R1500m
	ALS out	R1500m	R1500m	R2200m	R2200m
	❺❼ LOC without SDF	**820**′(797′) R1500m	**820**′(797′) R1500m	**820**′(797′) R2400m	**820**′(797′) R2400m
	❽ RNP	**302**′(279′)	**312**′(289′)	**322**′(299′)	**332**′(309′)
	LNAV/VNAV	❾ R750m	❿ R750m	❿ R750m	⓫ R750m
	ALS out	R1300m	R1400m	R1400m	R1400m

❶ Missed apch climb gradient MIN 7.1%.
❷ Missed apch climb gradient MIN 6.9%.
❸ R750m when a Flight Director or Autopilot or HUD to DA is not used.
❹ Missed apch climb gradient MIN 2.5%.
❺ Continuous Descent Final Approach.
❻ Missed apch climb gradient MIN 6.6%.
❼ Missed apch climb gradient MIN 5.3%.
❽ Missed apch climb gradient MIN 6.6% up to 4300′.
❾ With TDZ & CL & HUD: R600m.
❿ With TDZ & CL & HUD: R650m.
⓫ With TDZ & CL & HUD: R700m.

CHANGES: RWY 07C minimums removed.

HONG KONG, PR OF CHINA

HONG KONG INTL

STRAIGHT-IN RWY		A	B	C	D
07R	❶ CAT 2 ILS	**127**′(100′)	**127**′(100′)	**127**′(100′)	**127**′(100′)
		❷ RA99′R350m	❷ RA99′R350m	❷ RA99′R350m	❷ RA99′R350m
	❶ ILS	**227**′(200′)	**227**′(200′)	**227**′(200′)	**227**′(200′)
	FULL	R550m V800m	R550m V800m	R550m V800m	R550m V800m
	TDZ or CL out	❸ R550mV800m	❸ R550mV800m	❸ R550mV800m	❸ R550mV800m
	ALS out	R1200m	R1200m	R1200m	R1200m
	❹ ILS	**594**′(567′)	**606**′(579′)	**615**′(588′)	**625**′(598′)
	FULL	R1500m	R1500m	R2000m	R2000m
	ALS out	R1500m	R1500m	R2400m	R2400m
	❺❻ LOC	**460**′(432′)	**460**′(432′)	**460**′(432′)	**460**′(432′)
		R1300m	R1300m	R1300m	R1300m
	ALS out	R1500m	R1500m	R2000m	R2000m
	❹❺ LOC	**880**′(852′)	**880**′(852′)	**880**′(852′)	**880**′(852′)
		R1500m	R1500m	R2400m	R2400m
	RNP Z or Y (AR)	**437**′(410′)	**437**′(410′)	**437**′(410′)	**437**′(410′)
		R1200m	R1200m	R1200m	R1200m
	ALS out	R1500m	R1500m	R1900m	R1900m
25L	❼ CAT 2 ILS	**127**′(100′)	**127**′(100′)	**127**′(100′)	**127**′(100′)
		❷ RA100′R350m	❷ RA100′R350m	❷ RA100′R350m	❷ RA100′R350m
	❼ ILS	**227**′(200′)	**227**′(200′)	**227**′(200′)	**227**′(200′)
	FULL	R550m V800m	R550m V800m	R550m V800m	R550m V800m
	TDZ or CL out	❸ R550mV800m	❸ R550mV800m	❸ R550mV800m	❸ R550mV800m
	ALS out	R1200m	R1200m	R1200m	R1200m
	❹ ILS	**437**′(410′)	**437**′(410′)	**437**′(410′)	**437**′(410′)
		R1200m	R1200m	R1200m	R1200m
	ALS out	R1500m	R1500m	R1900m	R1900m
	❺ LOC	**420**′(392′)	**420**′(392′)	**420**′(392′)	**420**′(392′)
		R1100m	R1100m	R1100m	R1100m
		R1500m	R1500m	R1800m	R1800m
	RNP Z or Y (AR)	**507**′(480′)	**507**′(480′)	**507**′(480′)	**507**′(480′)
		R1500m	R1500m	R1500m	R1500m
	ALS out	R1500m	R1500m	R2200m	R2200m

❶ Missed apch climb gradient MIN 3.6% up to 1400′.
❷ R300m approved by state.
❸ R750m when a Flight Director or Autopilot or HUD to DA is not used.
❹ Missed apch climb gradient MIN 2.5%.
❺ Continuous Descent Final Approach.
❻ Missed apch climb gradient MIN 4.1%.
❼ Missed apch climb gradient MIN 4.0% up to 1800′.

CHANGES: RWY 25C minimums removed.

HONG KONG, PR OF CHINA

HONG KONG INTL

STRAIGHT-IN RWY		A	B	C	D
25R	❶ ILS	**223**′(200′)	**223**′(200′)	**223**′(200′)	**223**′(200′)
	FULL	R550m V800m	R550m V800m	R550m V800m	R550m V800m
	TDZ or CL out	❷ R550mV800m	❷ R550mV800m	❷ R550mV800m	❷ R550mV800m
	ALS out	R1200m	R1200m	R1200m	R1200m
	❸ ILS	**1425**′(1402′)	**1435**′(1412′)	**1445**′(1422′)	**1455**′(1432′)
		R1500m	R1500m	R2400m	R2400m
	❹❺ LOC	**430**′(402′)	**430**′(402′)	**430**′(402′)	**430**′(402′)
		R1200m	R1200m	R1200m	R1200m
	ALS out	R1500m	R1500m	R1900m	R1900m
	❻ RNP Y (AR)	**485**′(462′)	**495**′(472′)	**505**′(482′)	**515**′(492′)
		R1500m	R1500m	R1500m	R1500m
	ALS out	R1500m	R1500m	R2300m	R2300m
	❼ RNP Z	**485**′(462′)	**495**′(472′)	**505**′(482′)	**515**′(492′)
	LNAV/VNAV	R1500m	R1500m	R1500m	R1500m
	ALS out	R1500m	R1500m	R2300m	R2300m
	❸ RNP Z	**1425**′(1402′)	**1435**′(1412′)	**1445**′(1422′)	**1455**′(1432′)
	LNAV/VNAV	R1500m	R1500m	R2400m	R2400m

❶ Missed apch climb gradient MIN 6.5%.
❷ R750m when a Flight Director or Autopilot or HUD to DA is not used.
❸ Missed apch climb gradient MIN 2.5%.
❹ Continuous Descent Final Approach.
❺ Missed apch climb gradient MIN 5.1% up to 4000′.
❻ Missed apch climb gradient MIN 4.0% up to 4000′.
❼ Missed apch climb gradient MIN 5.6% up to 4000′.

CIRCLE-TO-LAND	A	B	C	D
	PROHIBITED			

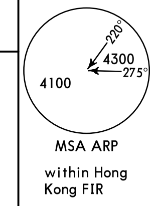
TAKE-OFF

Low Visibility Take-off			HIRL or RCLM	HIRL or CL	Adequate Vis Ref	
HIRL & CL	HIRL & RCLM	HIRL or CL				
	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT
R200m	R400m		R400m		R/V500m	NA

CHANGES: RWY 25C minimums removed.

D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.4	122.55

LOC IZSR	Final Apch Crs	VH721	DA(H)	Apt Elev 28′
110.9	074°	1600′ (1573′)	Refer to Minimums	Rwy 27′



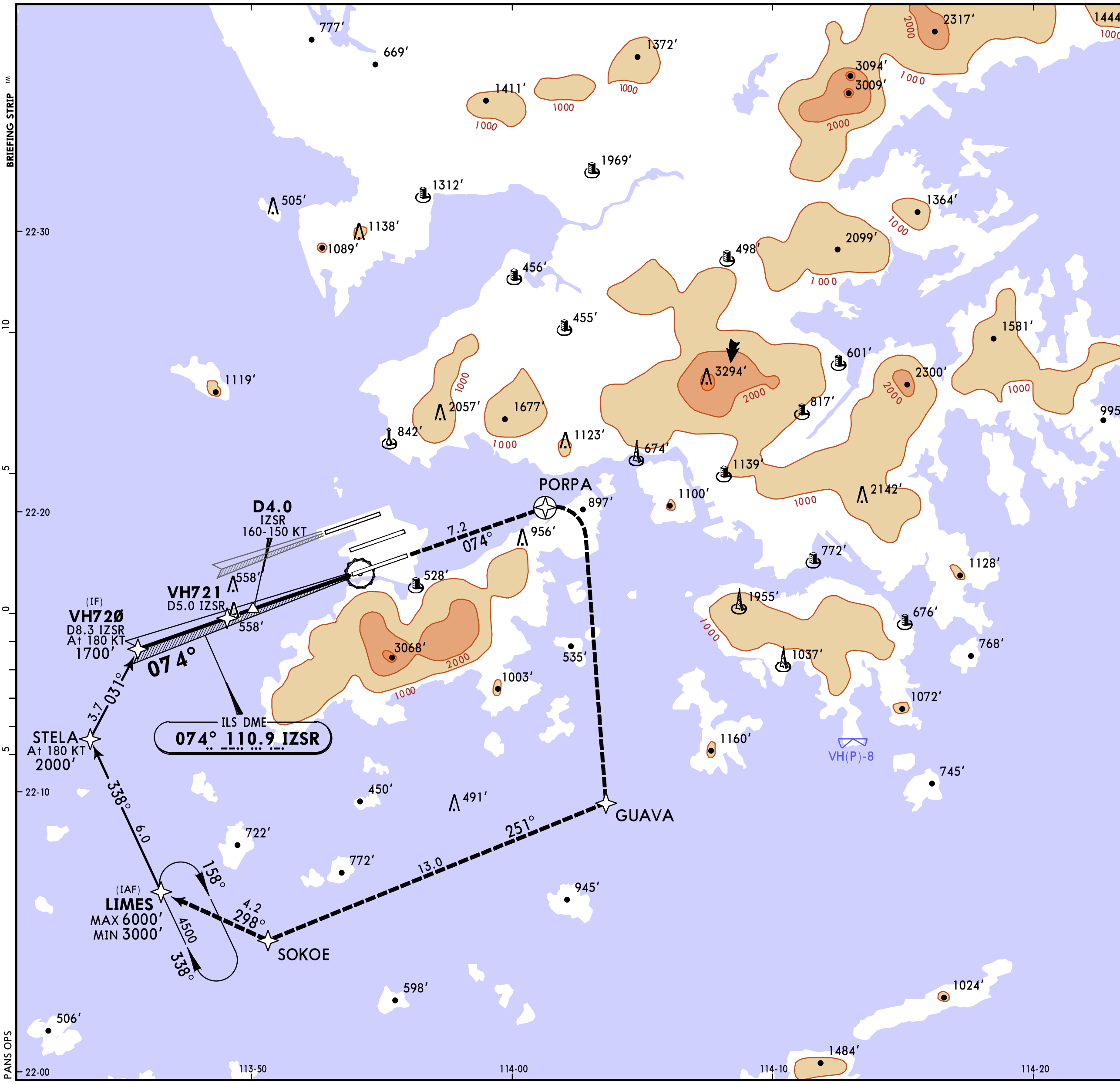
MISSED APCH: Climb to 5000′. Proceed to PORPA at or below 5000′, then turn RIGHT direct to GUAVA, then SOKOE, then LIMES and hold, or as directed.
MAX 210 KT until established on track to GUAVA, cross GUAVA at 210 KT, then maintain 230 KT until LIMES.
Do not turn before PORPA.
If unable RNP, continue on published missed apch track, climb and pass MSA 4300′ as soon as practicable and continue to 5000′.
Refer to minimums for missed apch climb gradients.

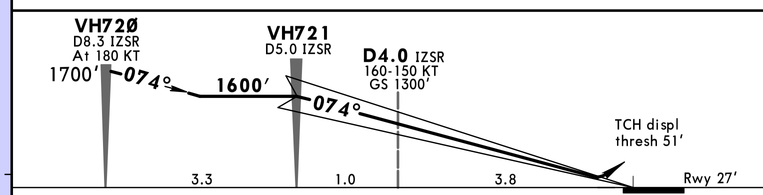
Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000′

RNP1 for initial and missed apch. If unable, inform ATC.

1. DME required. If unable to receive IZSR DME, advise ATC.
2. WARNING: LOC IZSR unusable beyond 19° RIGHT of course.
3. WARNING: GS signal might be interfered by ground traffic.
4. WARNING: Pilots should monitor for false capture of LOC and GS by comparing indications with ACFT position and altitude.
5. Circling prohibited.
6. Simultaneous dependent operation is authorized with RWY 07L.
7. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross STELA at 180 KT and maintain until D7.0 IZSR.
Cross D4.0 IZSR between 160 and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.





Gnd speed-Kts		70	90	100	120	140	160
GS	3.00°	372	478	531	637	743	849

HIALS-II PAPI PAPI | 210 KT MAX | PORPA at or below 5000′

State

STRAIGHT-IN LANDING
ILS

	Missed apch climb grad MIN 3.6% up to 1400′			Missed apch climb grad MIN 2.5%	
	DA(H) 227′ (200′)			DA(H) A: 594′ (567′) B: 606′ (579′) C: 615′ (588′) D: 625′ (598′)	
	FULL	TDZ or CL out	ALS out	FULL/TDZ or CL out	ALS out
A	R550m V800m	[1] R550m V800m	R1200m	R1500m	
B					
C				R2000m	R2400m
D					

[1] R750m when a Flight Director or Autopilot or HUD to DA is not used.

CHANGES: Note.

VHHH/HKG
HONG KONG INTL

JEPPESEN 19 APR 24 (11-3A)

HONG KONG, PR OF CHINA
CAT II ILS Rwy 07R

D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.4	122.55

LOC IZSR	Final Apch Crs	VH721	CAT II ILS	Apt Elev 28′
110.9	074°	1600′ (1573′)	RA 99′ DA(H) 127′ (100′)	Rwy 27′

MISSED APCH: Climb to 5000′. Proceed to PORPA at or below 5000′, then turn RIGHT direct to GUAVA, then SOKOE, then LIMES and hold, or as directed.
MAX 210 KT until established on track to GUAVA, cross GUAVA at 210 KT, then maintain 230 KT until LIMES.
Do not turn before PORPA.
If unable RNP, continue on published missed apch track, climb and pass MSA 4300′ as soon as practicable and continue to 5000′.
Missed apch requires a minimum climb gradient of 3.6% (219′/NM) up to 1400′.

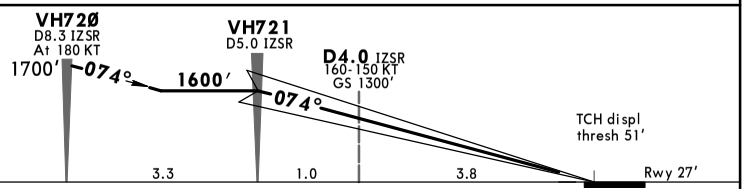
220° 4300 275° 4100
MSA ARP
within Hong Kong FIR

Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000′

RNP1 for initial and missed apch. If unable, inform ATC.

1. Special Aircrew and Acft Certification Required.
2. DME required. If unable to receive IZSR DME, advise ATC.
3. WARNING: LOC IZSR unusable beyond 19° RIGHT of course.
4. WARNING: Pilots should monitor for false capture of LOC and GS by comparing indications with ACFT position and altitude.
5. Simultaneous dependent operation is authorized with RWY 07L.
6. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross STELA at 180 KT and maintain until D7.0 IZSR.
Cross D4.0 IZSR between 160 and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.



Gnd speed-Kts	70	90	100	120	140	160
GS 3.00°	372	478	531	637	743	849

HIALS-II PAPI PAPI

210 KT MAX

PORPA at 5000′ or below

State

STRAIGHT-IN LANDING

CAT II ILS
RA 99′
DA(H) **127′** (100′)

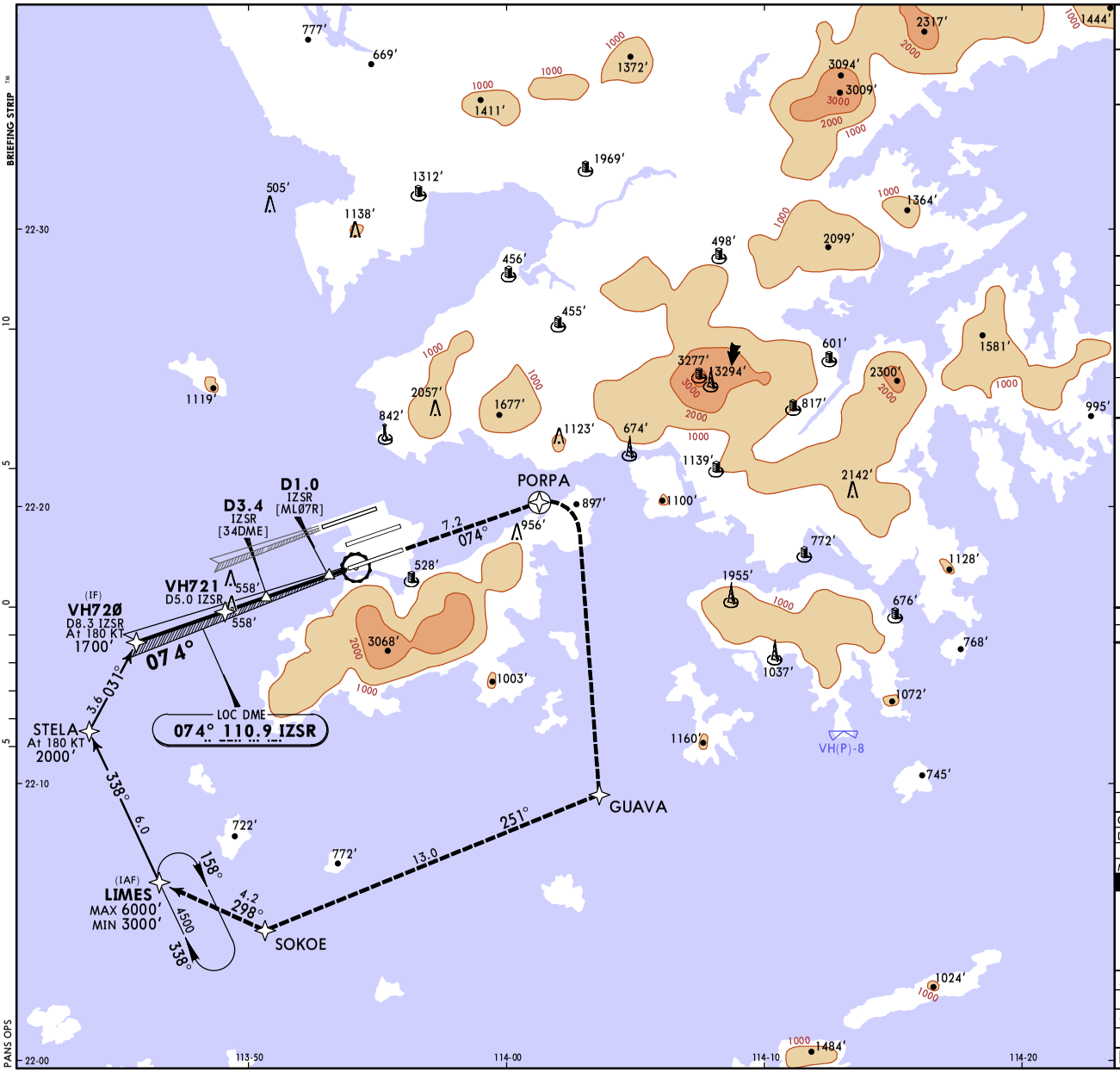
1 R300m

1 CAT D without autoland: R350m.

CHANGES: Note.

VHHH/HKG
HONG KONG INTL

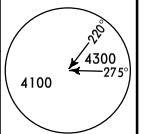
JEPPESEN HONG KONG, PR OF CHINA
24 NOV 23 (11-4) Eff 30 Nov
LOC Rwy 07R



D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.4	122.55

LOC IZSR	Final Apch Crs	VH721	DA/MDA(H)	Apt Elev 28'
110.9	074°	1600' (1572')	Refer to Minimums	

MISSED APCH: Climb to 5000'. Proceed to PORPA at or below 5000', then turn RIGHT direct to GUAVA, then SOKOE, then LIMES and hold, or as directed.
MAX 210 KT until established on track to GUAVA, cross GUAVA at 210 KT, then maintain 230 KT until LIMES.
Do not turn before PORPA.
If unable RNP, continue on published missed apch track, climb and pass MSA 4300' as soon as practicable and continue to 5000'.
Refer to minimums for missed apch climb gradients.



MSA ARP within Hong Kong FIR

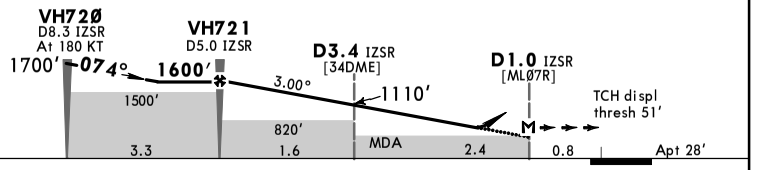
Alt Set: hPa | Apt Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000'

RNP1 for initial and missed apch. If unable, inform ATC.

1. DME required.
2. LOC IZSR unusable beyond 19° RIGHT of course.
3. Circling prohibited.
4. Simultaneous dependent operation is authorized with RWY 07L.
5. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross STELA at 180 KT and maintain until D7.0 IZSR.

IZSR DME	5.0	4.0	3.0	2.0
ALTITUDE	1620'	1300'	980'	660'



Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.00°	372	478	531	637	743	849
MAP at D1.0 IZSR						

HIALS-II PAPI PAPI | 210 KT MAX | PORPA at 5000' or below

State — STRAIGHT-IN LANDING

	Missed apch climb grad MIN 4.1% CDFA	Missed apch climb grad MIN 2.5% CDFA
	1 DA/MDA(H) 460' (432') ALS out	1 DA/MDA(H) 880' (852') ALS out
A	R1300m	R1500m
B		
C		R1500m
D		R2000m

1 VNAV DA(H) in lieu of MDA(H) depends on operator policy.

CHANGES: LOC ILS ident and frequency, TCH.

D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.4	122.55

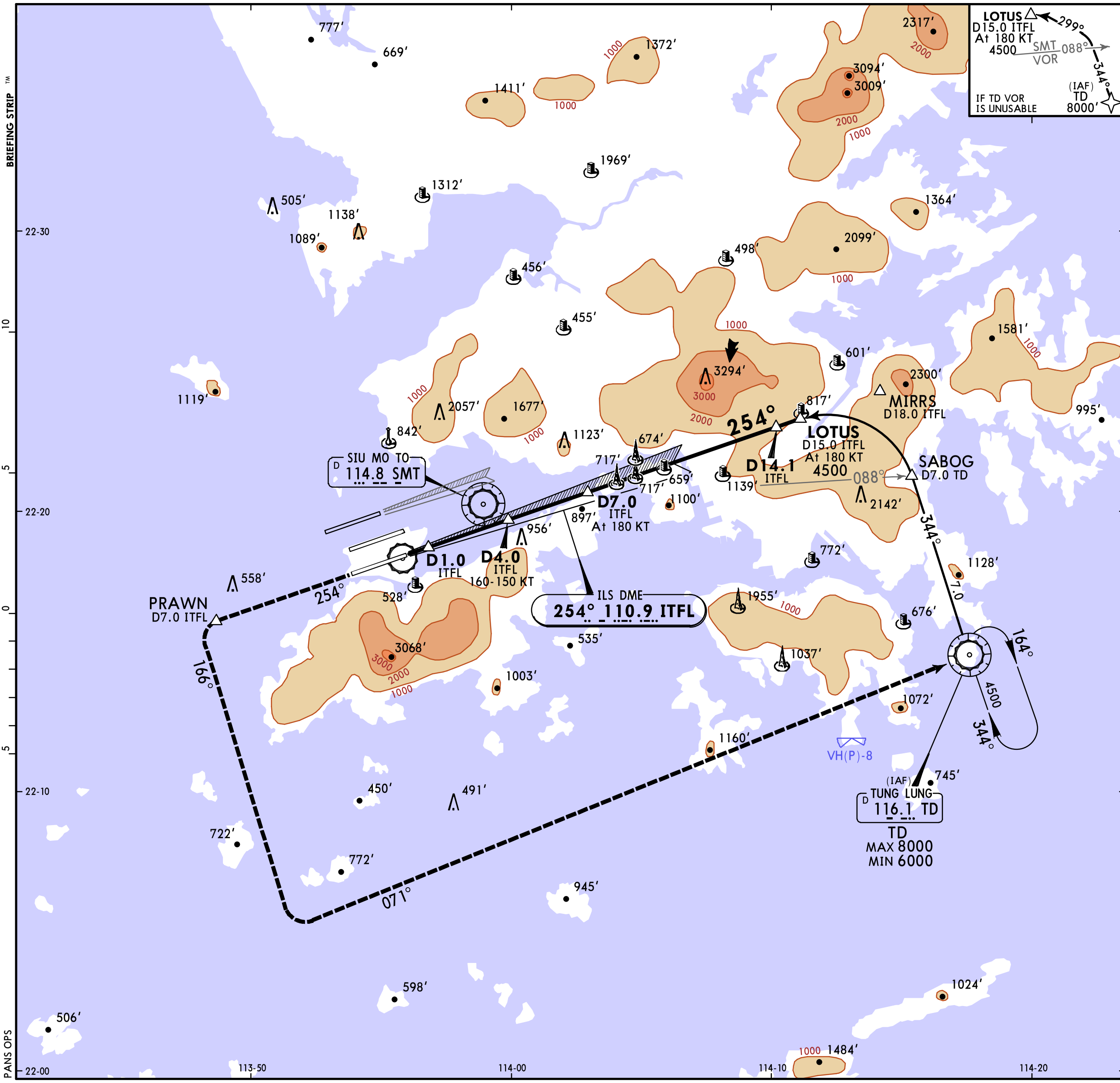
LOC ITFL	Final Apch Crs	No Altitude published	DA(H) Refer to Minimums	Apt Elev 28′ Rwy 27′	MSA ARP
110.9	254°				4100 / 4300; 220°, 275°; within Hong Kong FIR

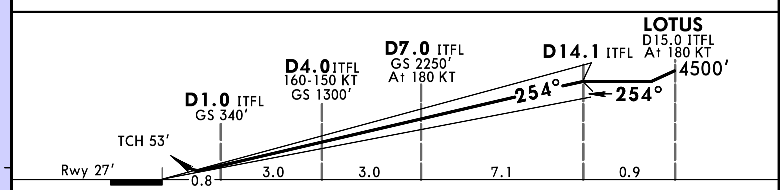
MISSED APCH: Climb to 5000′. Remain on 254°. At PRAWN turn LEFT onto 166° to intercept R-251 inbound to TD VOR and hold, or as directed.
MAX 185 KT until established on 166°, then maintain 230 KT until TD.
Expect radar vectoring to final approach track if TD VOR is u/s.
Refer to minimums for missed apch climb gradients.

Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110, 979 hPa or below - by ATC | Trans alt: 9000′

1. DME required. If unable to receive ITFL DME, advise ATC.
2. WARNING: LOC ITFL unusable beyond 28° LEFT of course, GS unusable beyond 7° LEFT of runway centerline.
3. WARNING: GS signal might be interfered by ground traffic
4. WARNING: Pilots should monitor for false capture of LOC and GS by comparing indications with ACFT position and altitude.
5. Circling prohibited.
6. Simultaneous dependent operation is authorized with RWY 25R.
7. TUNG LUNG Transition usable with TD VOR [TD1] and without TD VOR [TD2].
8. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross D15.0 ITFL at 180 KT and maintain until D7.0 ITFL.
Cross D4.0 ITFL between 160 and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.





Gnd speed-Kts		70	90	100	120	140	160
GS	3.00°	372	478	531	637	743	849

HIALS-II PAPI | 185 KT MAX | PRAWN on 254°

State

STRAIGHT-IN LANDING
ILS

	Missed apch climb grad MIN 4.0% up to 1800′ DA(H) 227′(200′)			Missed apch climb grad MIN 2.5% DA(H) 437′(410′)	
	FULL	TDZ or CL out	ALS out	FULL/TDZ or CL out	ALS out
A	R550m V800m	[1] R550m V800m	R1200m	R1200m	R1500m
B					
C					R1900m
D					

[1] R750m when a Flight Director or Autopilot or HUD to DA is not used.

CHANGES: Note.

D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.4	122.55

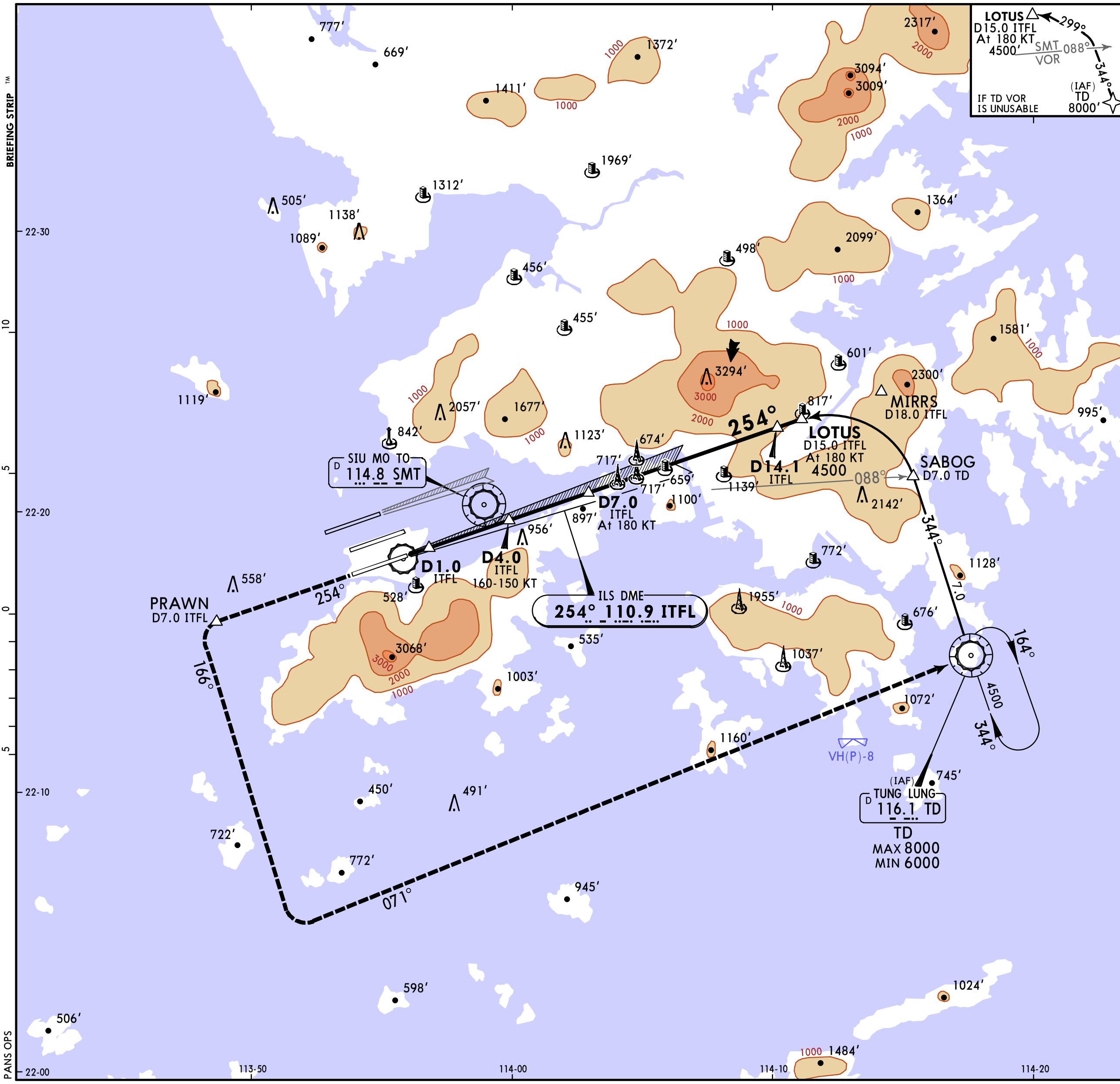
LOC ITFL	Final Apch Crs		CAT II ILS	Apt Elev	MSA ARP
110.9	254°	No Altitude published	RA 100′ DA(H) 127′ (100′)	Apt Elev 28′ Rwy 27′	4100 / 4300 (220°–275°) within Hong Kong FIR

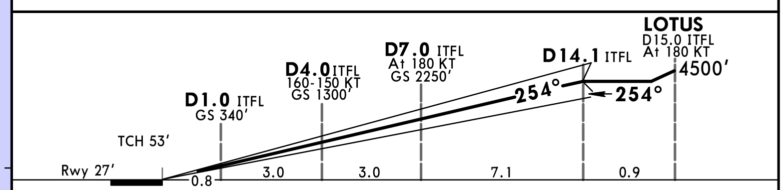
MISSED APCH: Climb to 5000′. Remain on 254°. At PRAWN turn LEFT onto 166° to intercept R-251 inbound to TD VOR and hold, or as directed.
MAX 185 KT until established on 166°, then maintain 230 KT until TD.
Expect radar vectoring to final approach track if TD VOR is u/s.
Missed apch requires a minimum climb gradient of 4.0% (244′/NM) up to 1800′.

Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110, 979 hPa or below - by ATC | Trans alt: 9000′

1. Special Aircrew & Acft Certification Required.
2. DME required. If unable to receive ITFL DME, advise ATC.
3. WARNING: LOC ITFL unusable beyond 28° LEFT of course, GS unusable beyond 7° LEFT of runway centerline.
4. WARNING: Pilots should monitor for false capture of LOC and GS by comparing indications with ACFT position and altitude.
5. Simultaneous dependent operation is authorized with RWY 25R.
6. TUNG LUNG Transition usable with TD VOR [TD1] and without TD VOR [TD2].
7. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross D15.0 ITFL at 180 KT and maintain until D7.0 ITFL.
Cross D4.0 ITFL between 160 and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.





Gnd speed-Kts	70	90	100	120	140	160
GS 3.00°	372	478	531	637	743	849

HIALS-II PAPI PAPI | 185 KT MAX | PRAWN on 254°

State

STRAIGHT-IN LANDING
CAT II ILS

RA 100′
DA(H) 127′ (100′)

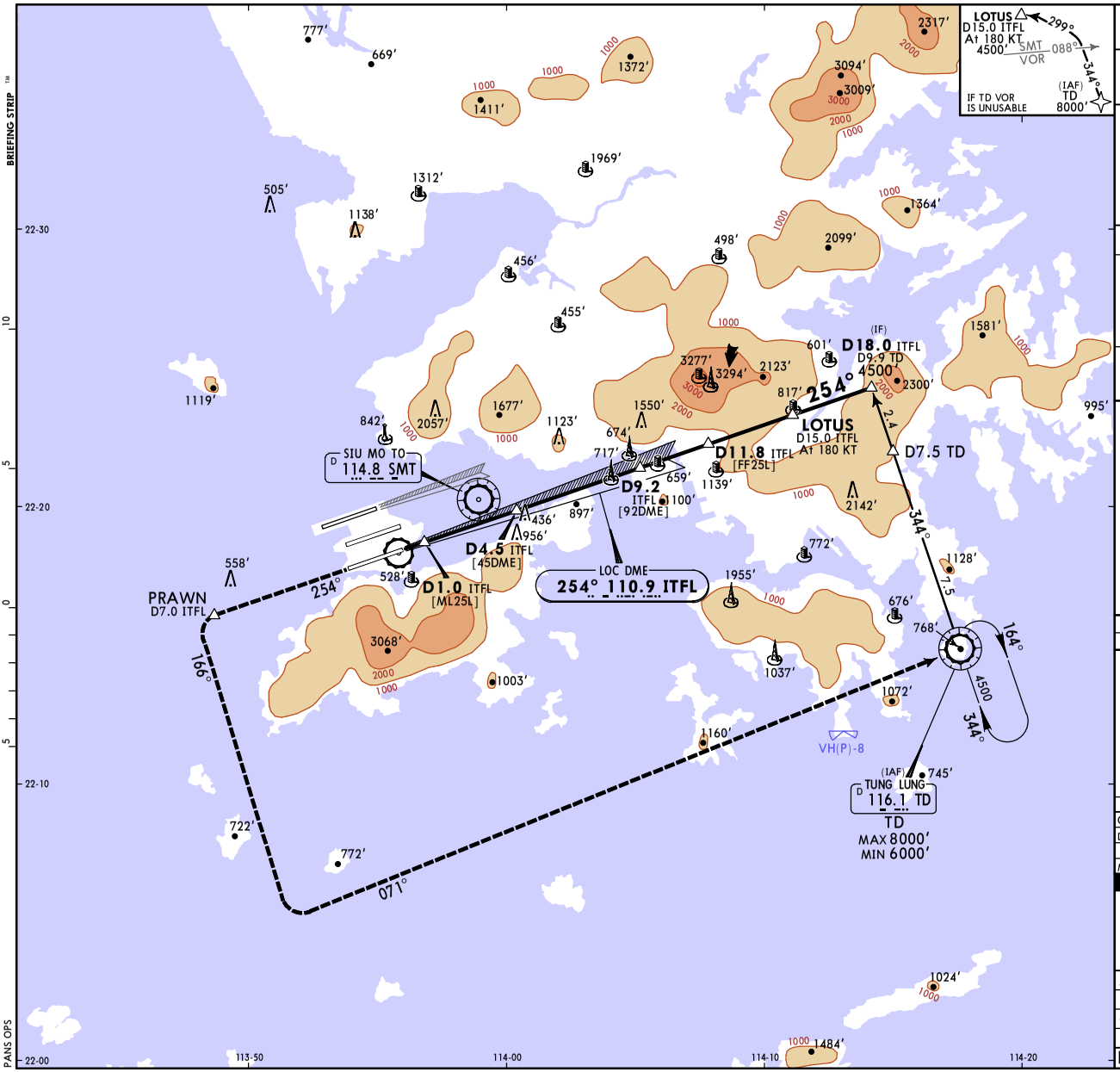
[1] R300m

[1] CAT D without autoland: R350m.

CHANGES: Note.

VHHH/HKG
HONG KONG INTL

JEPPESEN HONG KONG, PR OF CHINA
24 NOV 23 (11-6) Eff 30 Nov
LOC Rwy 25L



D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.4	122.55

LOC ITFL	Final Apch Crs	D11.8 ITFL	DA/MDA(H)	Apt Elev 28'
110.9	254°	3800' (3772')	420' (392')	

MSA ARP
4100 — 220°–4300–275°
within Hong Kong FIR

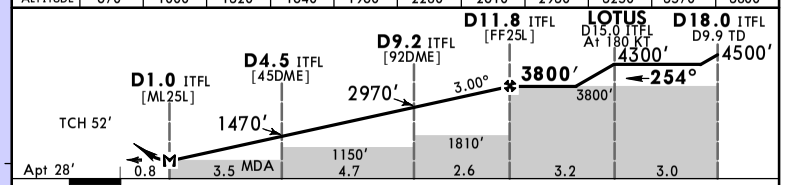
MISSED APCH: Climb to 5000'. Remain on 254°. At PRAWN turn LEFT onto 166° to intercept R-251 inbound to TD VOR and hold, or as directed.
MAX 185 KT until established on 166°, then maintain 230 KT until TD.
Expect radar vectoring to final approach track if TD VOR is u/s.

Alt Set: hPa	Apt Elev: 1 hPa	Trans level: 980 hPa or above - FL110 979 hPa or below - by ATC	Trans alt: 9000'

1. DME required.
2. LOC ITFL unusable beyond 28° LEFT of course.
3. Circling prohibited.
4. Simultaneous dependent operation is authorized with RWY 25R.
5. TUNG LUNG Transition usable with TD VOR [TD1] and without TD VOR [TD2].
6. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross D15.0 ITFL at 180 KT.
Cross D8.0 ITFL at 160 KT.

ITFL DME	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	11.8
ALTITUDE	670'	1000'	1320'	1640'	1960'	2280'	2610'	2930'	3250'	3570'	3800'



Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.00°	372	478	531	637	743	849
MAP at D1.0 ITFL						

HIALS-II
PAPI PAPI
185 KT MAX
PRAWN 6.0 254°

State

STRAIGHT-IN LANDING

CDFA

1 DA/MDA(H) 420' (392')

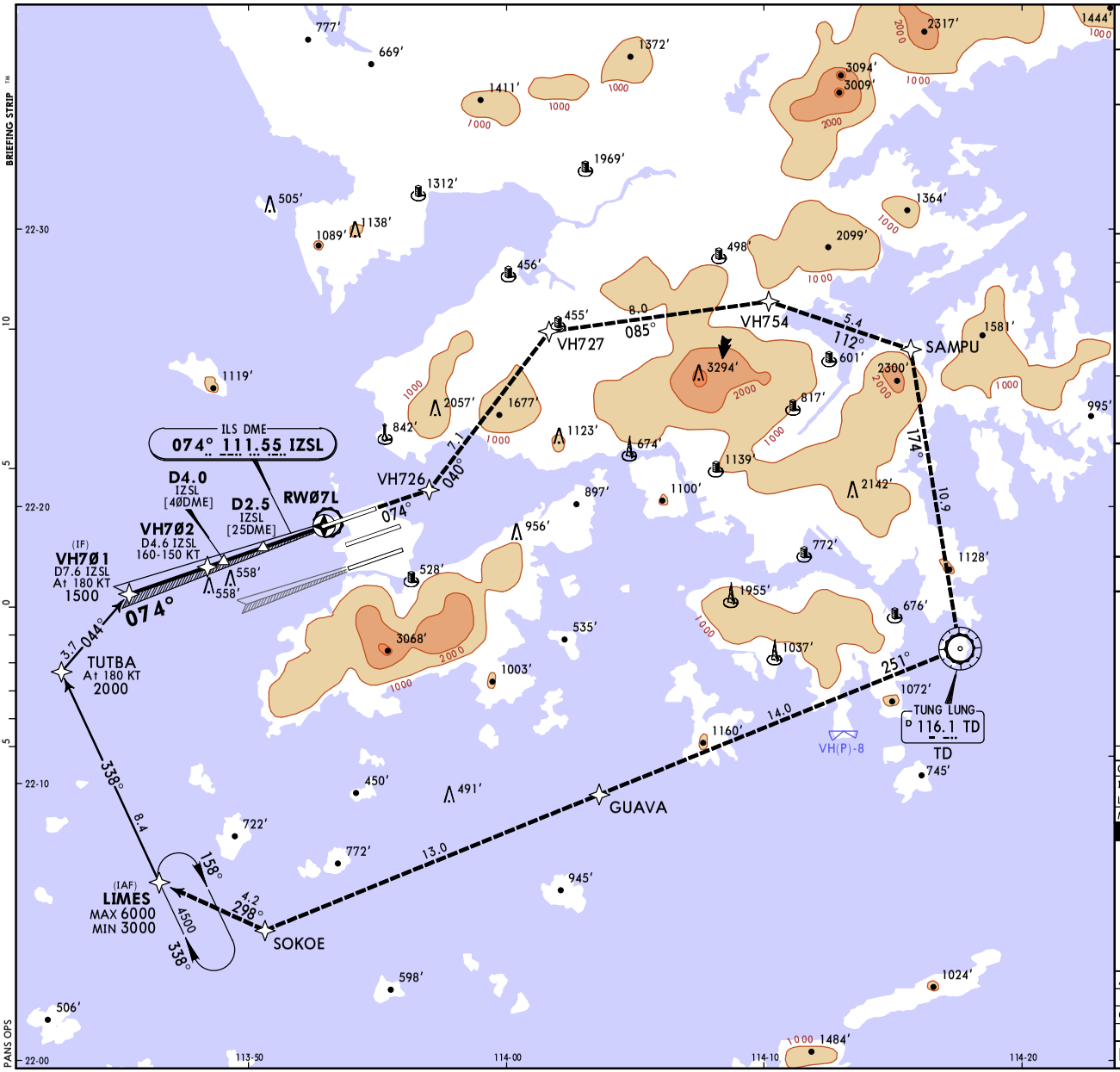
		ALS out
A	R1100m	R1500m
B		
C		R1800m
D		

1 VNAV DA(H) in lieu of MDA(H) depends on operator policy.

CHANGES: LOC ident and frequency, TCH.

VHHH/HKG
HONG KONG INTL

JEPPESEN HONG KONG, PR OF CHINA
19 APR 24 (11-9)
ILS or LOC Rwy 07L



D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.7	121.6

LOC IZSL	Final Apch Crs	VH702	ILS DA(H) Refer to Minimums	Apt Elev 28′ Rwy 23′
111.55	074°	1500′ (1477′)		

MSA ARP within Hong Kong FIR
220° 4300 275° 4100

MISSED APCH: Climb to 5000′. Track 074° to VH726. Then proceed to VH727, VH754, SAMPU at 5000′, TD, GUAVA, SOKOE and LIMES.
MAX 200 KT until VH727, then maintain 230 KT until LIMES.
If unable RNP 1, continue on published missed apch track, climb and pass MSA 4300′ as soon as practicable and continue to 5000′.
Refer to minimums for missed apch climb gradients.

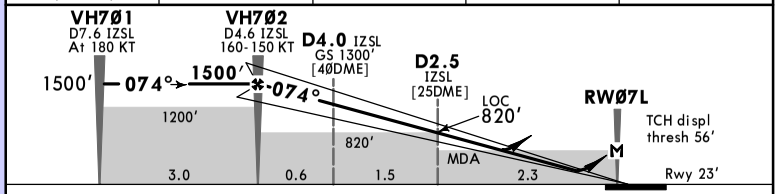
Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000′

RNP1 for initial and missed apch. If unable, inform ATC.

1. WARNING: Pilots should monitor for false capture of LOC and GS by comparing Indications with ACFT position and altitude.
2. DME required.
3. Simultaneous dependent operation is authorized with RWY 07R.
4. Circling prohibited.
5. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross TUTBA and VH701 at 180 KT.
Cross VH702 between 160 and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.

LOC (GS out)	IZSL DME	4.0	3.0	2.0
	ALTITUDE	1300′	970′	650′



Gnd speed-Kts		70	90	100	120	140	160
ILS GS or LOC Descent Angle	3.00°	372	478	531	637	743	849
MAP at RW07L							

HIALS-II PAPI PAPI | 200 KT MAX | VH726 on 074°

State STRAIGHT-IN LANDING

	ILS			LOC (GS out)			
	Missed apch climb grad MIN 6.9% DA(H) 223′ (200′)			MACG MIN 2.5% DA(H) A:1359′ (1336′) B:1369′ (1346′) C:1379′ (1356′) D:1388′ (1365′)		Missed apch climb grad MIN 6.6% with SDF CDFA MDA(H) 500′ (477′)	Missed apch climb grad MIN 5.3% without SDF CDFA MDA(H) 820′ (797′)
	FULL	TDZ/CL out	ALS out	FULL	ALS out	ALS out	ALS out
A	R550m V800m	[1] R550m V800m	R1200m	R1500m	R1500m	R1500m	R1500m
B							
C				R2400m		R2200m	R2400m
D							

[1] R750m when a Flight Director or Autopilot or HUD to DA is not used.

CHANGES: Note.

VHHH/HKG
HONG KONG INTL

JEPPESEN 19 APR 24 (11-9A)

HONG KONG, PR OF CHINA
CAT II/III ILS Rwy 07L

D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.7	121.6

LOC IZSL	Final Apch Crs	VH702	CAT III	CAT II ILS	Apt Elev 28′
111.55	074°	1500′ (1477′)	Refer to Minimums	RA 100′ DA(H) 123′ (100′)	Rwy 23′

MISSED APCH: Climb to 5000′. Track 074° to VH726. Then proceed to VH727, VH754, SAMPU at 5000′, TD, GUAVA, SOKOE and LIMES.

MAX 200 KT until VH727, then maintain 230 KT until LIMES.
If unable RNP 1, continue on published missed apch track, climb and pass MSA 4300′ as soon as practicable and continue to 5000′.
Refer to minimums for missed apch climb gradient.

MSA ARP within Hong Kong FIR
220° 4300 275° 4100

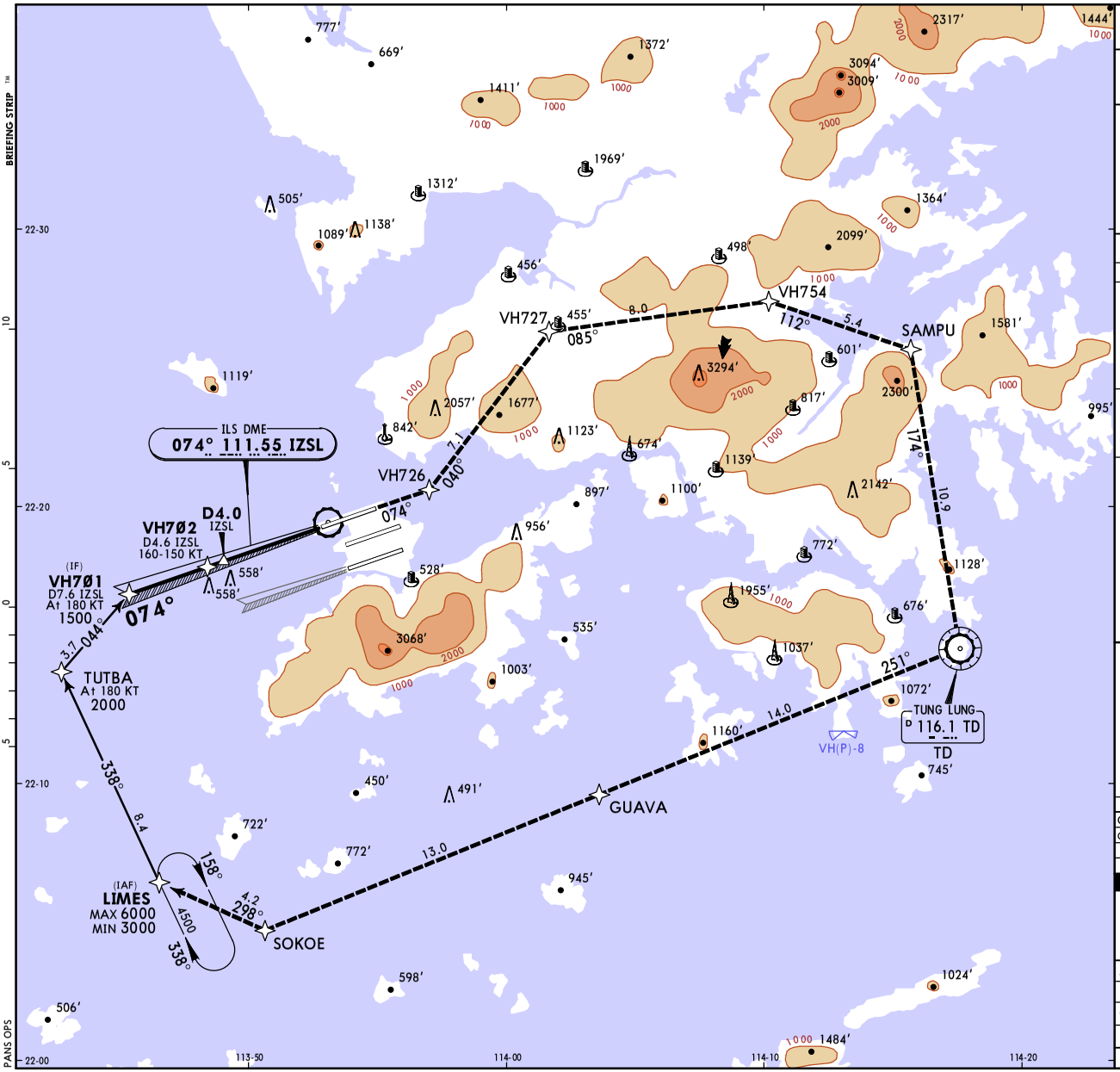
Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000′

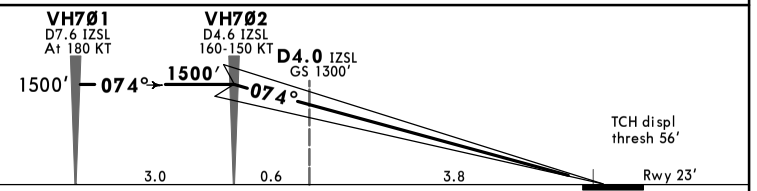
RNP1 for initial and missed apch. If unable, inform ATC.

1. WARNING: Pilots should monitor for false capture of LOC and GS by comparing Indications with ACFT position and altitude.
2. Special Aircrew & Acft Certification Required.
3. DME required.
4. Simultaneous dependent operation is authorized with RWY 07R.
5. Circling prohibited.
6. CAUTION: RWY 07/25C closed for reconfiguration.

SPEED CTL:
Cross TUTBA and VH701 at 180 KT.
Cross VH702 between 160 KT and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.

CAT III MMACG shall normally be determined by operators based on specific CAT III systems/operations and Decision Height/Alert Height authorized. For reference, RWY 07L CAT III MACG is calculated to be at 7.9% assuming the start of missed approach climb is at 1800m after RWY 07L threshold. If the start of missed approach climb is beyond 1800m after RWY 07L threshold or the required MACG of concerned ACFT cannot be achieved, operators shall establish operating procedures to ensure adequate terrain clearance can be maintained in the event of missed approach.





Gnd speed-Kts		70	90	100	120	140	160
GS	3.00°	372	478	531	637	743	849

HIALS-II PAPI PAPI | 200 KT MAX | VH726 | 074°

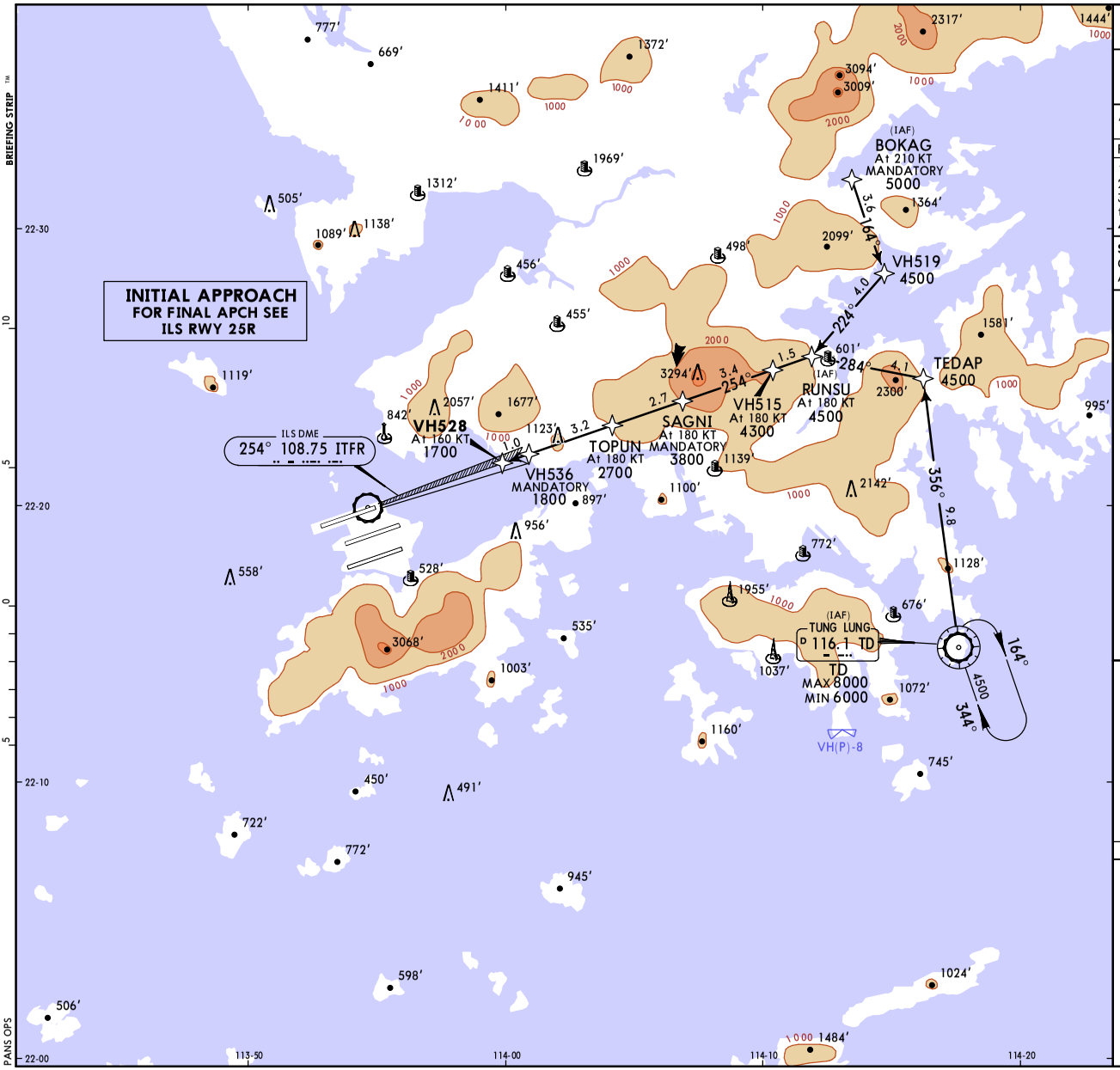
State — STRAIGHT-IN LANDING

	CAT III ILS	CAT II ILS Missed apch climb gradient MIN 7.1% RA 100′ DA(H) 123′ (100′)
A	R75m	R300m
B		
C		
D	R100m	

CHANGES: Note.

VHHH/HKG
HONG KONG INTL

JEPPESEN HONG KONG, PR OF CHINA
19 APR 24 (11-10) RNAV TRANSITION TO ILS Rwy 25R



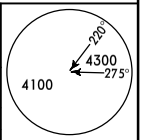
D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.7	121.6

RNAV	Final Apch Crs 254°	Refer to ILS RWY 25R	ILS DA(H) Refer to ILS RWY 25R	Apt Elev 28′ Rwy 23′

Alt Set: hPa Rwy Elev: 1 hPa Trans level: 980 hPa or above - FL110 Trans alt: 9000′
979 hPa or below - by ATC

RNP 1

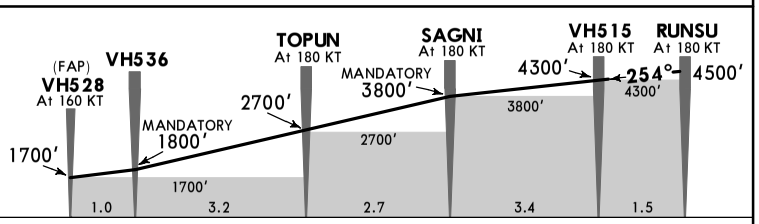
1. WARNING: Do not select ILS approach mode before TOPUN.
2. Do not accept radar vectors inside RUNSU.
3. Strictly comply with all charted altitude restrictions and descend via RNAV transition profile to FAP altitude.
4. CAUTION: RWY 07C/25C closed for reconfiguration.



MSA ARP within Hong Kong FIR

SPEED CTL:
Cross RUNSU at 180 KT, maintain 180 KT until TOPUN.
Advise Apch Control if planned final apch speed is below 125 KT.

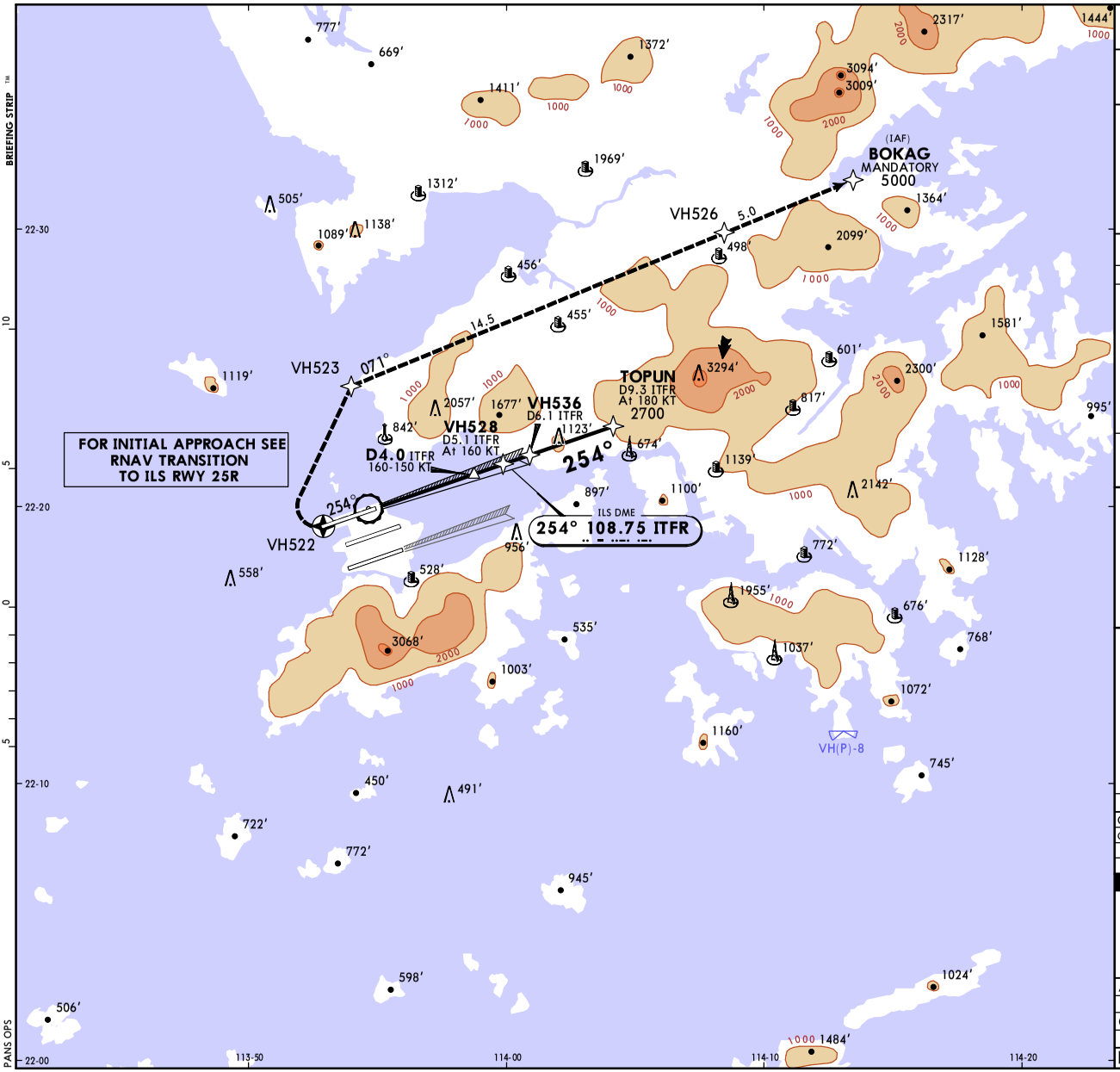
HANDLING:
1. If unable RNP 1, notify ATC as soon as possible. Expect vectors to the ILS approach to an alternative Rwy.
2. Due obstacle clearance constraints, ATC vectors to intercept ILS RWY 25R from headings are not allowed. ATC will only issue ILS approach clearance to Acft correctly following RNAV transition procedure. Non-complient Acft will have their clearance cancelled and will be repositioned.
3. In busy traffic, expect ATC verctors for inter-arrival spacing purposes followed by instruction direct to either TEDAP or RUNSU to re-join RNAV transition.
Resume own navigation from instructed waypoint. Be reminded not to delete RNAV waypoint sequence between TEDAP and TOPUN
4. When instructed "FROM [waypoint] DESCEND VIA RNAV TRANSITION", join the RNAV transition procedure and descend in compliance with the altitude restrictions to the FAP.
Engage the appropriate lateral and vertical modes to ensure compliance with the profile constraints of the RNAV transition. Engagement of the ILS modes (i.e. LOC and G/S) before crossing TOPUN will not conform to the required obstacle clearance.
5. When Acft is on the extended Rwy centerline track, ATC will issue the ILS approach clearance: "FROM TOPUN, CLEARED ILS APPROACH RWY 25R." Engage the ILS mode after passing TOPUN.
6. During hot weather conditions, Acft maintaining the published 3800′ at SAGNI may be above glide path. Descend via the RNAV transition complying with altitude restrictions. The mandatory altitude of 1800′ at VH536 will facilitate Acft to intercept the glide path from below.
After TOPUN, cross VH536 at 1800′ unless established on glide path.
7. Follow the prescribed operating procedures for obstacle clearance and possible ILS signal coverage issues. RNP Z Rwy 25R and LOC Rwy 25R approach procedures are available on request if pilots are unfamiliar with these operating requirements.



CHANGES: None.

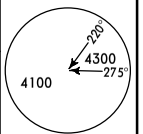
VHHH/HKG
HONG KONG INTL

JEPPESEN HONG KONG, PR OF CHINA
19 APR 24 (11-10AA)
ILS Rwy 25R



D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.7	121.6

LOC ITFR	Final Apch Crs	VH528	DA(H)	Apt Elev 28′
108.75	254°	1700′ (1677′)	Refer to Minimums	Rwy 23′



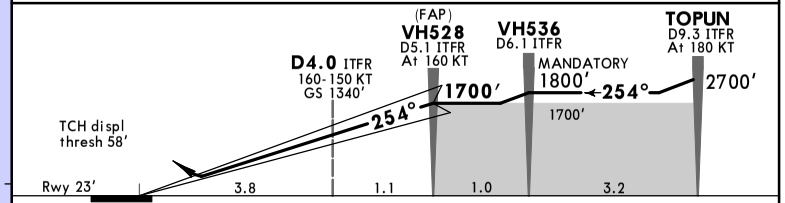
MISSED APCH: Climb initially to 4000′ and track 254° to VH522, then turn RIGHT direct to VH523 and cross between 3000′ and 4000′. Climb to 5000′ and track via VH526 to BOKAG.
MAX 185 KT until VH523, then maintain 230 KT until VH526, then maintain 210 KT until BOKAG.
If unable RNP 1, continue on published missed apch track, climb and pass MSA 4300′ as soon as practicable and continue to 5000′.
Refer to minimums for missed apch climb gradients.

Alt Set: hPa | Apt Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000′

RNP 1 for missed apch.

1. WARNING: GP signal unusable below elevation angle of 1.8°
2. WARNING: Do not select ILS approach mode before TOPUN.
3. WARNING: Pilots should monitor for false capture of LOC and GS by comparing indications with ACFT position and altitude.
4. Connect from RNAV transition only.
5. DME required. If unable to receive ITFR DME, advise ATC.
6. Simultaneous dependent operation is authorized with RWY 25L.
7. Cross VH536 at 1800′ unless established on GS.
8. Circling prohibited.
9. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross D4.0 ITFR between 160 and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.



Gnd speed-Kts	70	90	100	120	140	160
GS 3.10°	384	494	548	658	768	878

HIALS-II | PAPI | PAPI | 185 KT MAX | VH522 | 8° | 254° | VH523 RT

State

STRAIGHT-IN LANDING
ILS

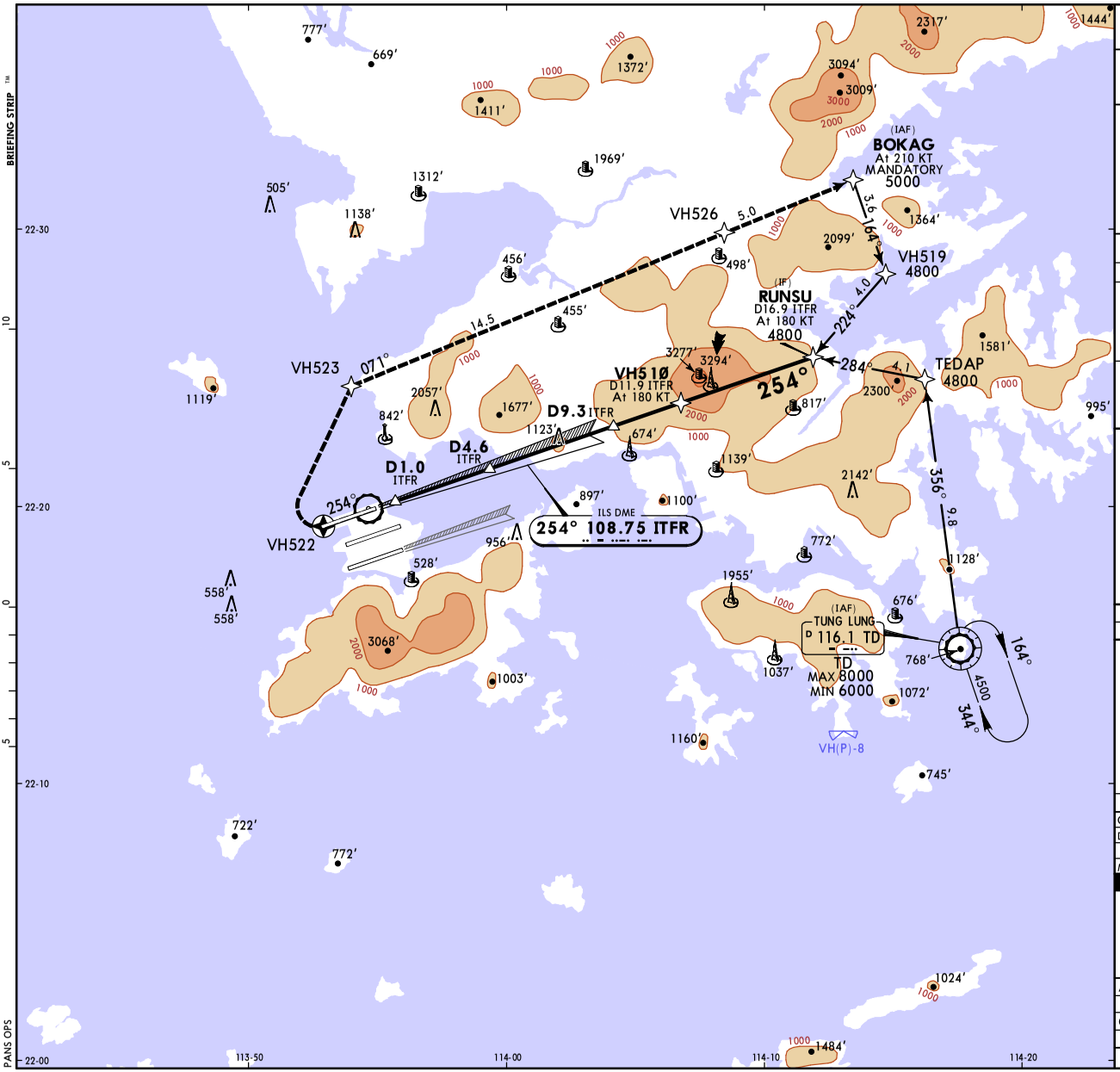
	Missed apch climb grad MIN 6.5%			Missed apch climb grad MIN 2.5%	
	DA(H) 223′ (200′)			DA(H) A:1425′(1402′) C:1445′(1422′) B:1435′(1412′) D:1455′(1432′)	
		TDZ or CL out	ALS out		ALS out
A	R550m V800m	1 R550m V800m	R1200m	R1500m	
B					
C				R2400m	
D					

1 RVR 750m when a Flight Director or Autopilot or HUD to DA is not used.

CHANGES: Note.

VHHH/HKG
HONG KONG INTL

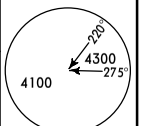
JEPPESEN HONG KONG, PR OF CHINA
24 MAR 23 (11-11)
LOC Rwy 25R



D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.7	121.6

LOC ITFR	Final Apch Crs	VH510	MDA(H)	Apt Elev 28′
108.75	254°	3800′(3772′)	430′(402′)	

MISSED APCH: Climb initially to 4000′ and track 254° to VH522. Then turn RIGHT direct to VH523 and cross between 3000′ and 4000′. Climb to 5000′ and track via VH526 to BOKAG.
MAX 185 KT until VH523, then maintain 230 KT until VH526, then maintain 210 KT until BOKAG.
Missed apch requires a minimum climb gradient of 5.1% up to 4000′.



MSA ARP within Hong Kong FIR

Alt Set: hPa | Apt Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000′

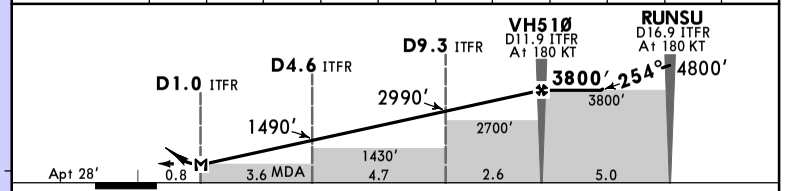
RNP 1 for initial and missed apch.

1. WARNING: LOC ITFR unusable beyond 22° Right of course.
2. DME required.
3. Simultaneous dependent operation is authorized with RWY 25L.
4. Circling prohibited.
5. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross RUNSU and D15.0 ITFR at 180 KT.
Cross D8.0 ITFR at 160 KT.
Advise Apch Control if planned final apch speed is below 125 KT.

❶ **MISSED APCH CLIMB GRAD MIN 5.1% UP TO 4000′.**

ITFR DME	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	11.9
ALTITUDE	650′	970′	1280′	1600′	1920′	2240′	2560′	2880′	3200′	3520′	3800′



Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.00°	372	478	531	637	743	849
MAP at D1.0 ITFR						

HIALS-II PAPI PAPI | 185 KT MAX | VH522 | 6° | 254° | VH523 RT

State

STRAIGHT-IN LANDING

CDFA

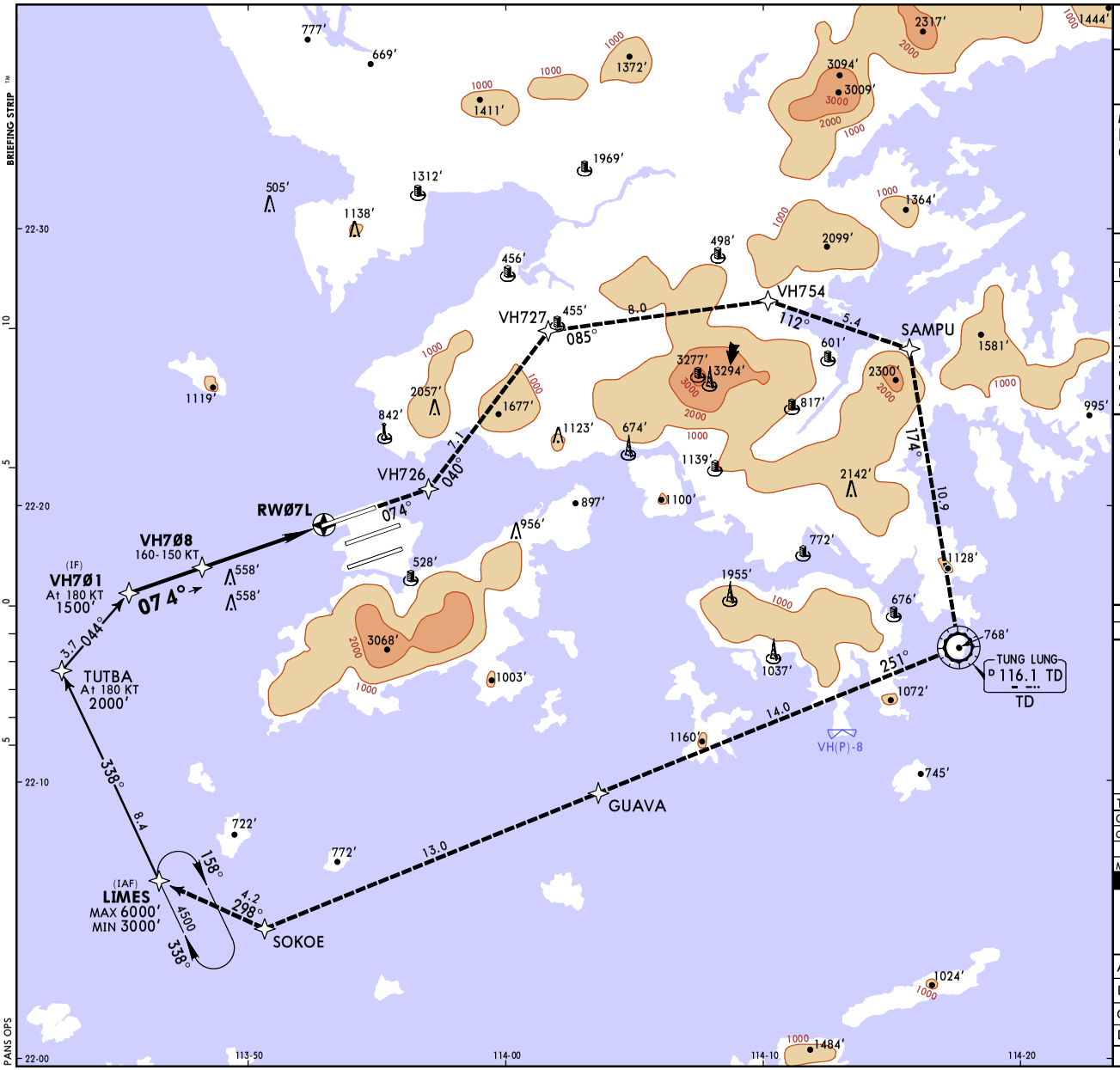
MDA(H) 430′(402′)

		ALS out
A	R1100m	R1900m
B		
C		
D		

CHANGES: Chart reindexed.

VHHH/HKG
HONG KONG INTL

JEPPESEN HONG KONG, PR OF CHINA
30 DEC 22 (12-1) ❶RNP Rwy 07L (LNAV/VNAV only)



D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.7	121.6

RNAV	Final Apch Crs	VH7Ø8 MANDATORY	LNAV/VNAV DA(H) Refer to Minimums	Apt Elev 28′ Rwy 23′
	074°	1500′ (1477′)		

MISSED APCH: Climb to 5000′. From RWØ7L track 074° to VH726. Proceed to VH727, then to VH754, SAMPU at 5000′, TD, GUAVA, SOKOE and LIMES.
MAX 200 KT until VH727, then maintain 230 KT until LIMES.
Missed apch requires a minimum climb gradient of 6.6% up to 4300′.

220° 4300 275° 4100
MSA ARP within Hong Kong FIR

Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000′

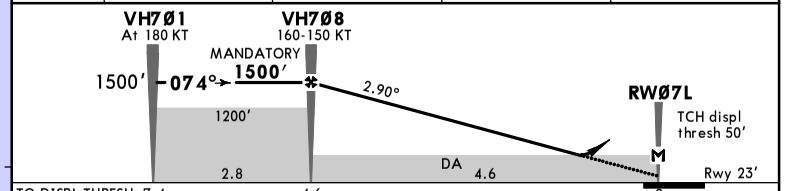
RNP Apch

1. Baro-VNAV not authorized below 0°C.
2. Simultaneous dependent operation is authorized with RWY 07R.
3. Circling prohibited.
4. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross TUTBA and VH7Ø1 at 180 KT.
Cross VH7Ø8 between 160 and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.

❶ **MISSED APCH CLIMB GRAD MIN 6.6% UP TO 4300′.**

DIST to RWØ7L	4.0	3.0	2.0	1.0
ALTITUDE	1300′	1000′	690′	380′



Gnd speed-Kts		70	90	100	120	140	160
Glide Path Angle	2.90°	359	462	513	616	718	821
MAP at RWØ7L							

HIALS-II PAPI PAPI

200 KT MAX

VH726 074°

State STRAIGHT-IN LANDING
LNAV/VNAV

DA(H) A: 302′ (279′) C: 322′ (299′)
B: 312′ (289′) D: 332′ (309′)

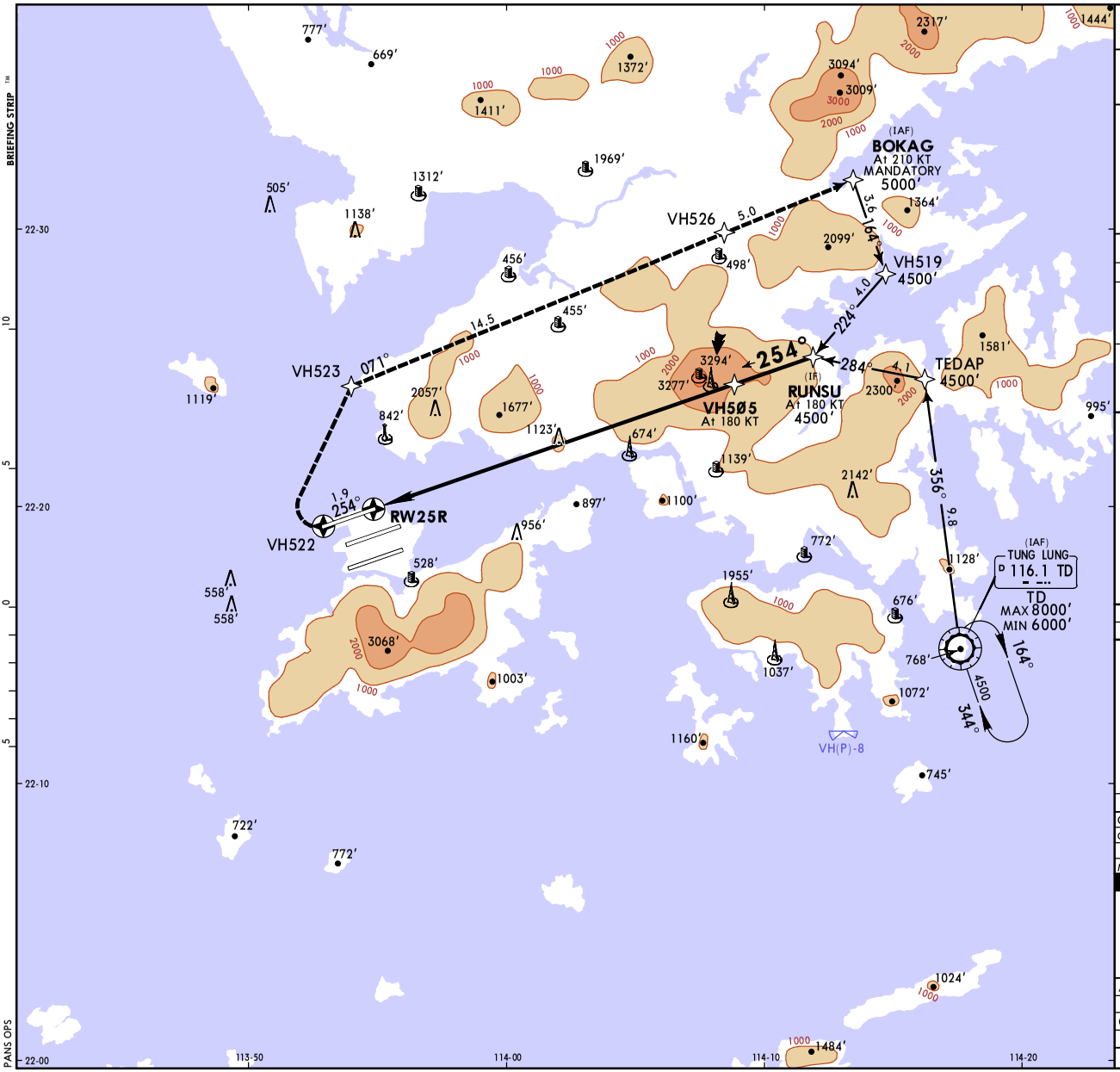
		ALS out
A	R600m	R1300m
B	R650m	R1400m
C		
D	R700m	

CHANGES: None.

VHHH/HKG
HONG KONG INTL

JEPPESEN 30 DEC 22 (12-2)

HONG KONG, PR OF CHINA
RNP Z Rwy 25R (LNAV/VNAV only)



D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.7	121.6

RNAV	Final Apch Crs	VH5Ø5 MANDATORY	LNAV/VNAV DA(H) Refer to Minimums	Apt Elev 28' Rwy 23'
	254°	4300'(4277')		

MISSED APCH: Climb initially to 4000'. From RW25R track 254° to VH522, then turn RIGHT direct to VH523 and cross between 3000' and 4000'. Climb to 5000' and track via VH526 to BOKAG.
MAX 185 KT until VH523, then maintain 230 KT until VH526, then maintain 210 KT until BOKAG.
Refer to minimums for missed apch climb gradient.

MSA ARP within Hong Kong FIR
220° 4300 275° 4100

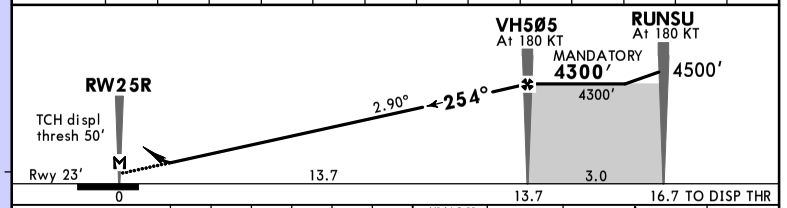
Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000'

RNP Apch

1. Baro-VNAV not authorized below 0°C.
2. Simultaneous dependent operation is authorized with RWY 25L.
3. Circling prohibited.
4. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross RUNSU and VH5Ø5 at 180 KT.
Cross 4.0 NM before threshold between 160 and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.

DIST to RW25R	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	13.7
ALTITUDE	690'	1000'	1300'	1610'	1920'	2230'	2530'	2840'	3150'	3460'	3770'	4070'	4300'



Gnd speed-Kts		70	90	100	120	140	160
Glide Path Angle	2.90°	359	462	513	616	718	821
MAP at RW25R							

HIALS-II PAPI PAPI

185 KT MAX

VH522 — 6° — 254° — VH523 RT

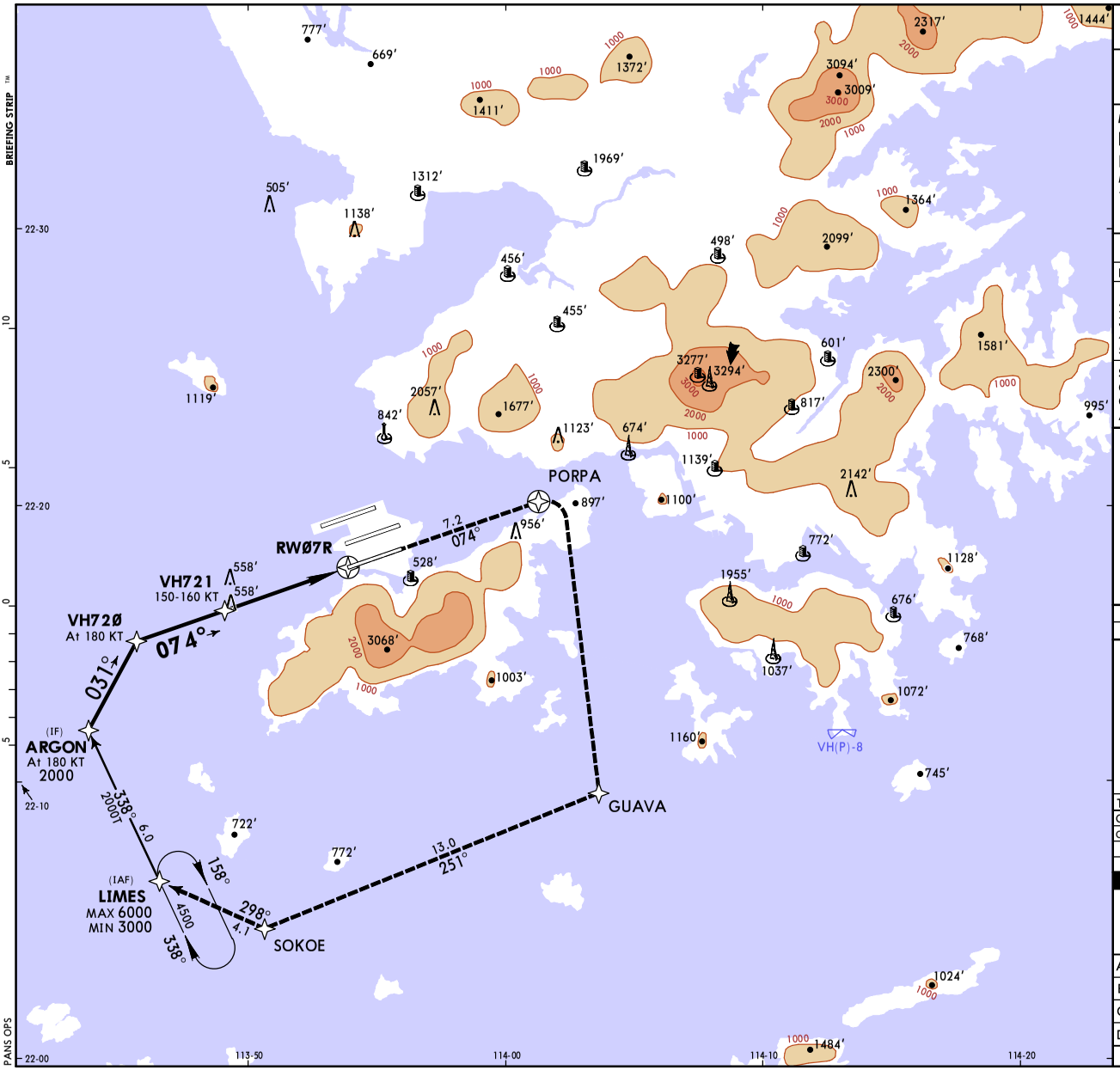
State — STRAIGHT-IN LANDING — LNAV/VNAV

	Missed apch climb grad MIN 5.6% up to 4000'		Missed apch climb grad MIN 2.5%	
DA(H)	A: 485'(462') C: 505'(482') B: 495'(472') D: 515'(492')		A: 1425'(1402') C: 1445'(1422') B: 1435'(1412') D: 1455'(1432')	
	ALS out		ALS out	
A	R1500m	R1500m	R1500m	
B				
C		R2300m	R2400m	
D				

CHANGES: Minimums MACG 5.6%.

VHHH/HKG
HONG KONG INTL

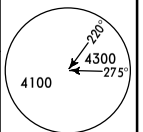
JEPPESEN HONG KONG, PR OF CHINA
13 JAN 23 (12-22) Eff 26 Jan RNP Z Rwy 07R (AR)



D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.4	122.55

RNAV	Final Apch Crs	VH721 MANDATORY	RNP 0.3 DA(H)	Apt Elev 28′
	074°	1600′ (1573′)	437′ (410′)	Rwy 27′

MISSED APCH: Climb to 5000′. Proceed to PORPA at 5000′ or below, then turn RIGHT direct to GUAVA. Then to SOKOE and LIMES or as directed.
MAX 210 KT until established on track to GUAVA, cross GUAVA at 210 KT, then maintain 230 KT until LIMES.



MSA ARP within Hong Kong FIR

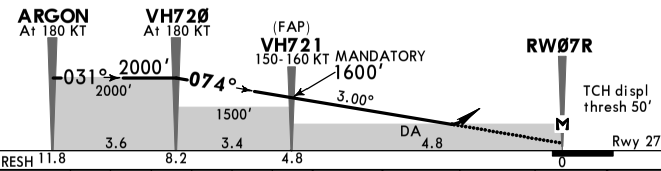
Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000′

RNP AR Apch. RNP 1.0 in initial segment. RNP 0.3 in intermediate, final and missed apch segment.

1. Authorization required.
2. Do not accept radar vectors inside VH72Ø.
3. Baro-VNAV not authorized below 0°C.
4. Simultaneous dependent operation is authorized with RWY 07L.
5. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross ARGON and VH72Ø at 180 KT.
Cross VH721 between 160 and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.

DIST TO RW07R	5.0	4.0	3.0	2.0
ALTITUDE	1670′	1350′	1030′	710′



Gnd speed-Kts		70	90	100	120	140	160
Glide Path Angle	3.00°	372	478	531	637	743	849

HIALS-II
PAPI PAPI

210 KT MAX

PORPA at 5000′ or below

State STRAIGHT-IN LANDING

RNP 0.3

DA(H) **437′** (410′)

		ALS out
A	R1200m	R1500m
B		
C		R1900m
D		

CHANGES: Chart format.

VHHH/HKG
HONG KONG INTL

JEPPESEN HONG KONG, PR OF CHINA
13 JAN 23 (12-23) Eff 26 Jan RNP Y Rwy 07R (AR)

D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.4	122.55

RNAV	Final Apch Crs 074°	VH717 MANDATORY 1100′ (1073′)	RNP 0.3 DA(H) 437′ (410′)	Apt Elev 28′ Rwy 27′

MISSED APCH: Climb to 5000′. Proceed to PORPA at 5000′ or below, then to TD VOR, or as directed.

MAX 220 KT until TD, cross TD at 220 KT.

MSA ARP within Hong Kong FIR

220° 4300 275° 4100

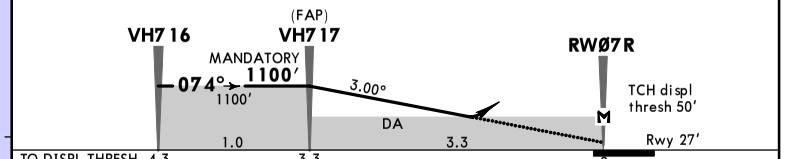
Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000′

RNP AR Apch. RNP 1.0 in initial segment, RNP 0.3 within intermediate, final and missed apch segments.

1. Authorization required.
2. Do not accept radar vectors inside NOLIB.
3. Baro-VNAV not authorized below 0°C.
4. Simultaneous dependent operation is authorized with RWY 07L.
5. CAUTION: RWY 07C/25C closed for reconfiguration.
6. To be used when flight path to Southwest is blocked.
7. Due to close FIR bndy, strict adherence to tracks necessary. If unable, fly missed apch and expect radar vectors.

SPEED CTL:
Cross NOLIB at 220 KT.
Cross VH704 at 180 KT.
Cross VH715 between 160 KT and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.

DIST TO RW07R	5.0	4.0	3.0	2.0
ALTITUDE	1670′	1350′	1030′	710′



Gnd speed-Kts	70	90	100	120	140	160
Glide Path Angle 3.00°	372	478	531	637	743	849

HIALS-II PAPI PAPI

220 KT MAX

PORPA at 5000′ or below

State STRAIGHT-IN LANDING

RNP 0.3

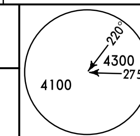
DA(H) 437′ (410′)

		ALS out
A	R1200m	R1500m
B		
C		R1900m
D		

CHANGES: Track distances, course from PORPA, chart format.

D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.4	122.55

RNAV	Final Apch Crs	VH545 MANDATORY	RNP 0.3 DA(H)	Apt Elev 28'
	254°	1400'(1373')	507'(480')	Rwy 27'



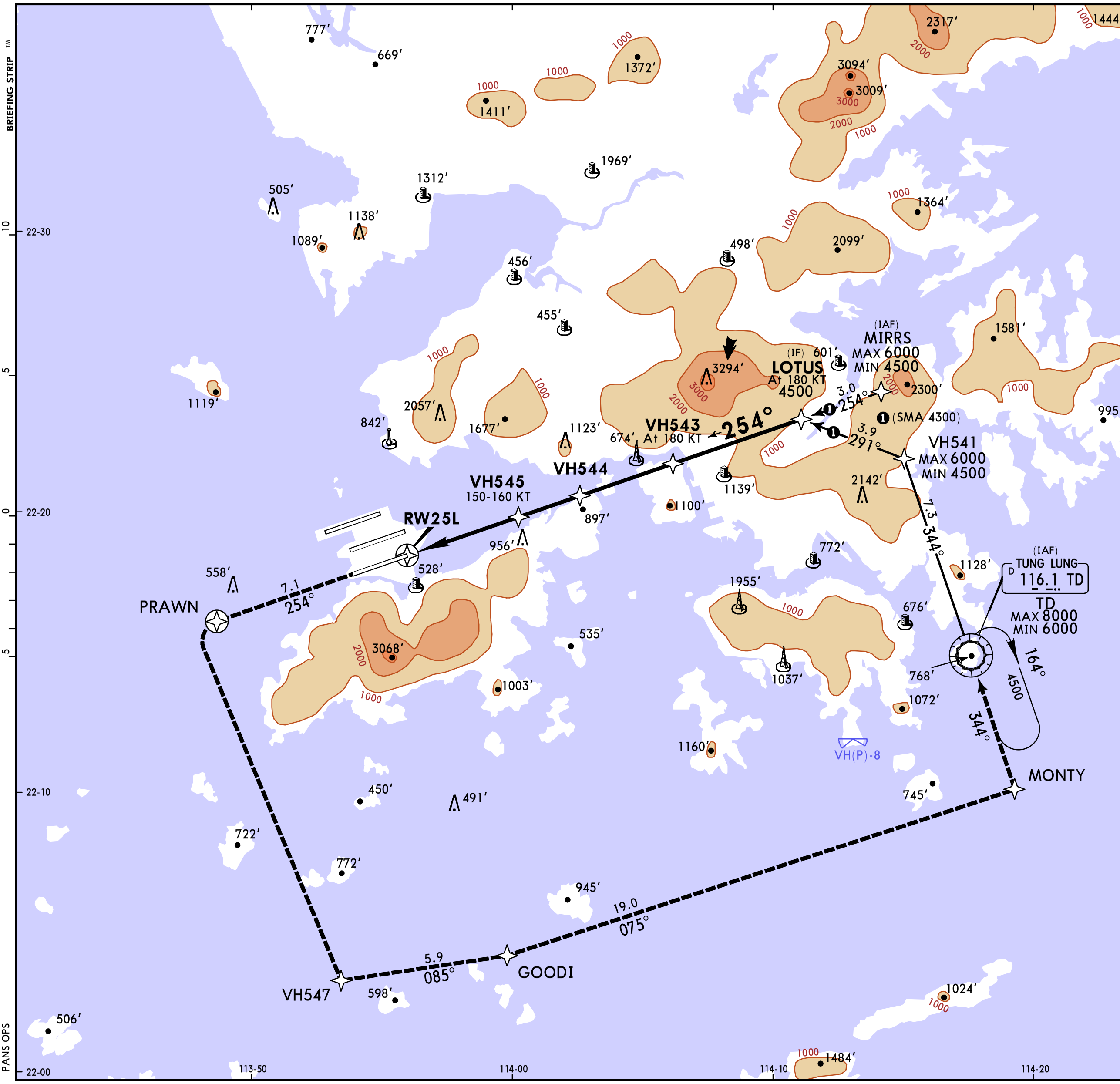
MISSED APCH: Climb to 5000'. Proceed to PRAWN at 5000' or below, then turn LEFT to VH547, then turn LEFT to GOODI, then turn LEFT to MONTY, then TD VOR or as directed.
MAX 185 KT until established on track to VH547, then maintain 230 KT until TD.

Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110, 979 hPa or below - by ATC | Trans alt: 9000'

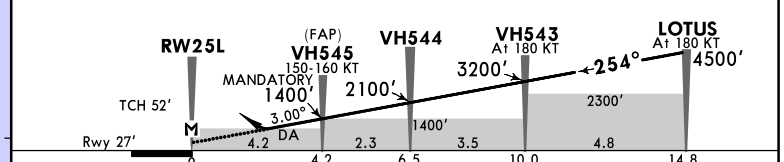
RNP AR Apch. RNP 1.0 in initial segment, RNP 0.3 within intermediate, final and missed apch segments.

1. Authorization required.
2. Do not accept radar vectors inside LOTUS.
3. Baro-VNAV not authorized below 0°C.
4. Simultaneous dependent operation is authorized with RWY 25R.
5. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross LOTUS and VH543 at 180 KT.
Cross VH545 between 160 KT and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.



DIST to RW25L	2.0	3.0	4.0	5.0
ALTITUDE	710'	1030'	1350'	1670'



Gnd speed-Kts		70	90	100	120	140	160
Glide Path Angle	3.00°	372	478	531	637	743	849

HIALS-II PAPI PAPI | 185 KT MAX | PRAWN at 5000' or below

State

STRAIGHT-IN LANDING
RNP 0.3
DA(H) 507'(480')

	ALS out	
A	R1500m	
B	R1500m	
C	R1500m	R2200m
D	R1500m	R2200m

CHANGES: Chart format.

VHHH/HKG
HONG KONG INTL

JEPPESEN 3 MAR 23 (12-25)

HONG KONG, PR OF CHINA
RNP Y Rwy 25L (AR)

D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.4	122.55

RNAV	Final Apch Crs	VH545 MANDATORY	RNP 0.3 DA(H)	Apt Elev 28′
	254°	1400′(1373′)	507′(480′)	Rwy 27′

MISSED APCH: Climb to 5000′. Proceed to PRAWN at 5000′ or below, then turn LEFT to VH547, then turn LEFT to GOODI, then turn LEFT to GUAVA or as directed.
MAX 185 KT until established on track to VH547, then maintain 230 KT until GUAVA.

MSA ARP within Hong Kong FIR
220° 4300 275° 4100

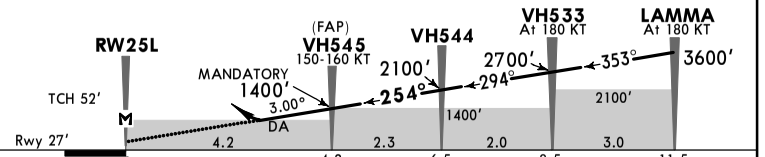
Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000′

RNP AR Apch. RNP 1.0 in initial segment, RNP 0.3 within intermediate, final and missed apch segments.

1. Authorization required.
2. Do not accept radar vectors inside GUAVA.
3. Baro-VNAV not authorized below 0°C.
4. Simultaneous dependent operation is authorized with RWY 25R.
5. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross LAMMA and VH533 at 180 KT.
Cross VH545 between 160 KT and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.

DIST to RW25L	2.0	3.0	4.0	5.0
ALTITUDE	710′	1030′	1350′	1670′



Gnd speed-Kts		70	90	100	120	140	160
Glide Path Angle	3.00°	372	478	531	637	743	849

HIALS-II PAPI PAPI

185 KT MAX

PRAWN at 5000′ or below

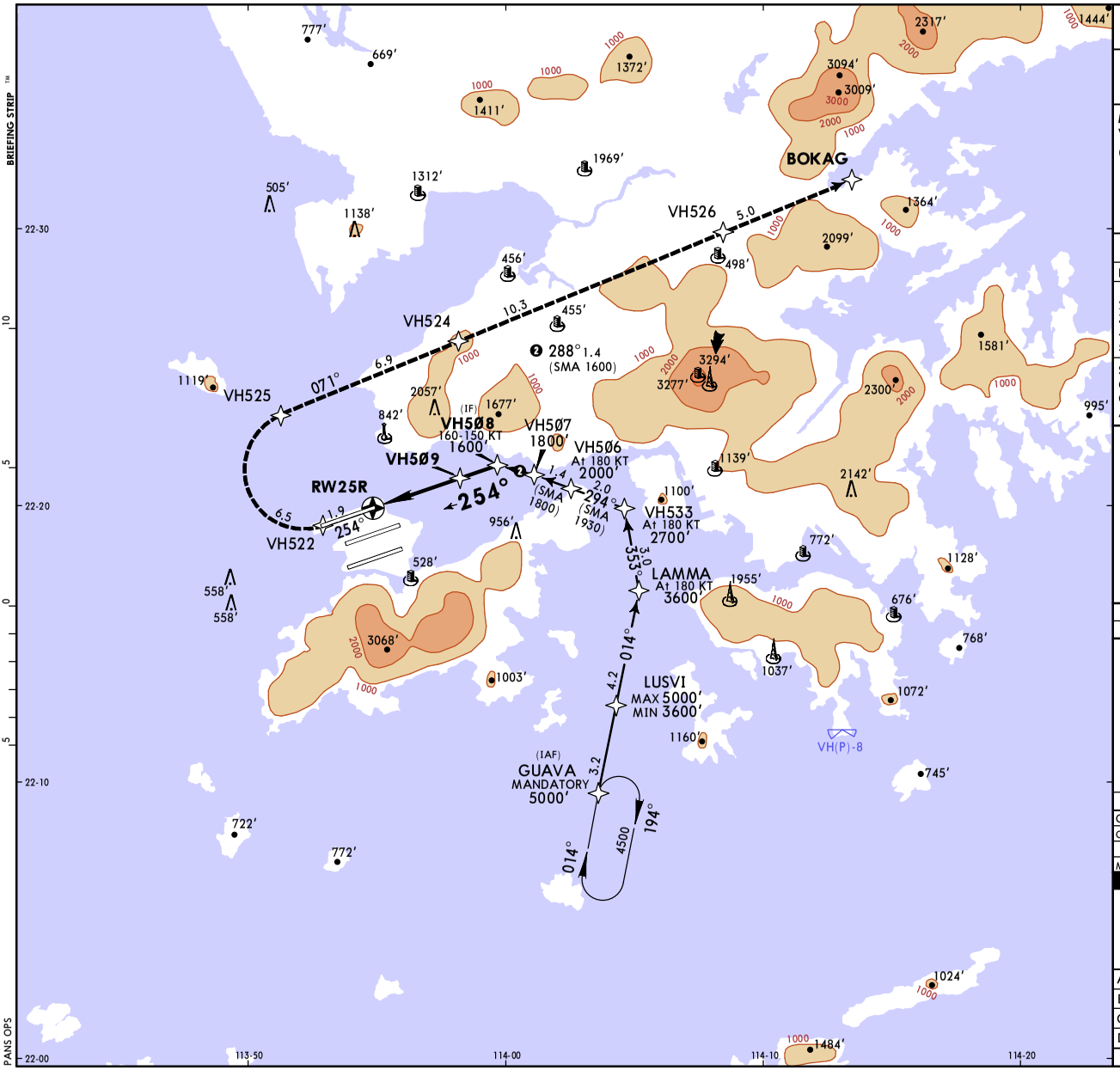
State STRAIGHT-IN LANDING
RNP 0.3
DA(H) 507′(480′)
ALS out

A	R1500m	
B		
C	R1500m	R2200m
D		

CHANGES: Chart format.

VHHH/HKG
HONG KONG INTL

JEPPESEN HONG KONG, PR OF CHINA
30 DEC 22 (12-28) ❶ RNP Y Rwy 25R (AR)



D-ATIS Arrival	HONG KONG Approach (R)	*HONG KONG Director	HONG KONG Tower	Ground
128.2	119.1	119.5	118.7	121.6

RNAV	Final Apch Crs 254°	VH5Ø9 MANDATORY 1100′ (1077′)	RNP 0.3 DA(H) Refer to Minimums	Apt Elev 28′ Rwy 23′

MISSED APCH: Climb initially to 4000′. From RW25R track 254° to VH522, then turn RIGHT direct to VH525, then VH524 at 4000′. Climb to 5000′ and track via VH526 to BOKAG.
MAX 185 KT until VH525, then maintain 230 KT until VH526, then maintain 210 KT until BOKAG.
Missed apch requires a minimum climb gradient of 4.0% up to 4000′.

220° 275° 4300 4100
MSA ARP within Hong Kong FIR

Alt Set: hPa | Rwy Elev: 1 hPa | Trans level: 980 hPa or above - FL110; 979 hPa or below - by ATC | Trans alt: 9000′

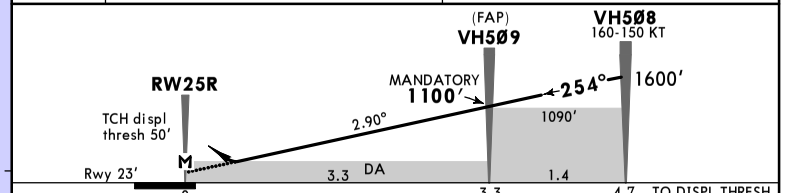
RNP AR Apch. RF required. RNP 0.3 within initial, intermediate and final segments.

1. Authorization required.
2. Do not accept radar vectors inside GUAVA.
3. Baro-VNAV not authorized below 0°C.
4. Simultaneous dependent operation is authorized with RWY 25L.
5. CAUTION: RWY 07C/25C closed for reconfiguration.

SPEED CTL:
Cross LAMMA and VH533 at 180 KT.
Cross VH5Ø8 between 160 and 150 KT.
Advise Apch Control if planned final apch speed is below 125 KT.

❶ MISSED APCH CLIMB GRADIENT MIN 4.0% UP TO 4000′.

DIST to RW25R	2.0	3.0
ALTITUDE	690′	1000′



Gnd speed-Kts	70	90	100	120	140	160
Glide Path Angle 2.90°	359	462	513	616	718	821
MAP at RW25R						

HIALS-II PAPI PAPI | 185 KT MAX | VH522 | 254° | VH525 RT

State

STRAIGHT-IN LANDING
RNP 0.3

DA(H) A: 485′ (462′) C: 505′ (482′)
B: 495′ (472′) D: 515′ (492′)

		ALS out
A	R1500m	R1500m
B		
C		R2300m
D		

CHANGES: Minimums.

General Information

Location: VANCOUVER BC CAN
ICAO/IATA: CYVR / YVR
Lat/Long: N49° 11.7', W123° 11.0'
Elevation: 13 ft

Airport Use: Public
Daylight Savings: Observed
UTC Conversion: +8:00 = UTC
Magnetic Variation: 17.0° E

Fuel Types: 100 Octane (LL), Jet A, Jet A-1
Oxygen Types: High Pressure, Low Pressure
Repair Types: Major Airframe, Major Engine
Customs: Yes
Airport Type: IFR
Landing Fee: Yes
Control Tower: Yes
Jet Start Unit: Yes
LLWS Alert: No
Beacon: No

Sunrise: 1330 Z
Sunset: 0258 Z

Runway Information

Runway: 08L
Length x Width: 9941 ft x 200 ft
Surface Type: concrete
TDZ-Elev: 13 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 08R
Length x Width: 10803 ft x 200 ft
Surface Type: asphalt
TDZ-Elev: 9 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 13
Length x Width: 7300 ft x 200 ft
Surface Type: asphalt
TDZ-Elev: 8 ft
Lighting: Edge, ALS

Runway: 26L
Length x Width: 10803 ft x 200 ft
Surface Type: asphalt
TDZ-Elev: 7 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 26R
Length x Width: 9941 ft x 200 ft
Surface Type: concrete
TDZ-Elev: 9 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 31
Length x Width: 7300 ft x 200 ft
Surface Type: asphalt
TDZ-Elev: 8 ft
Lighting: Edge, ALS

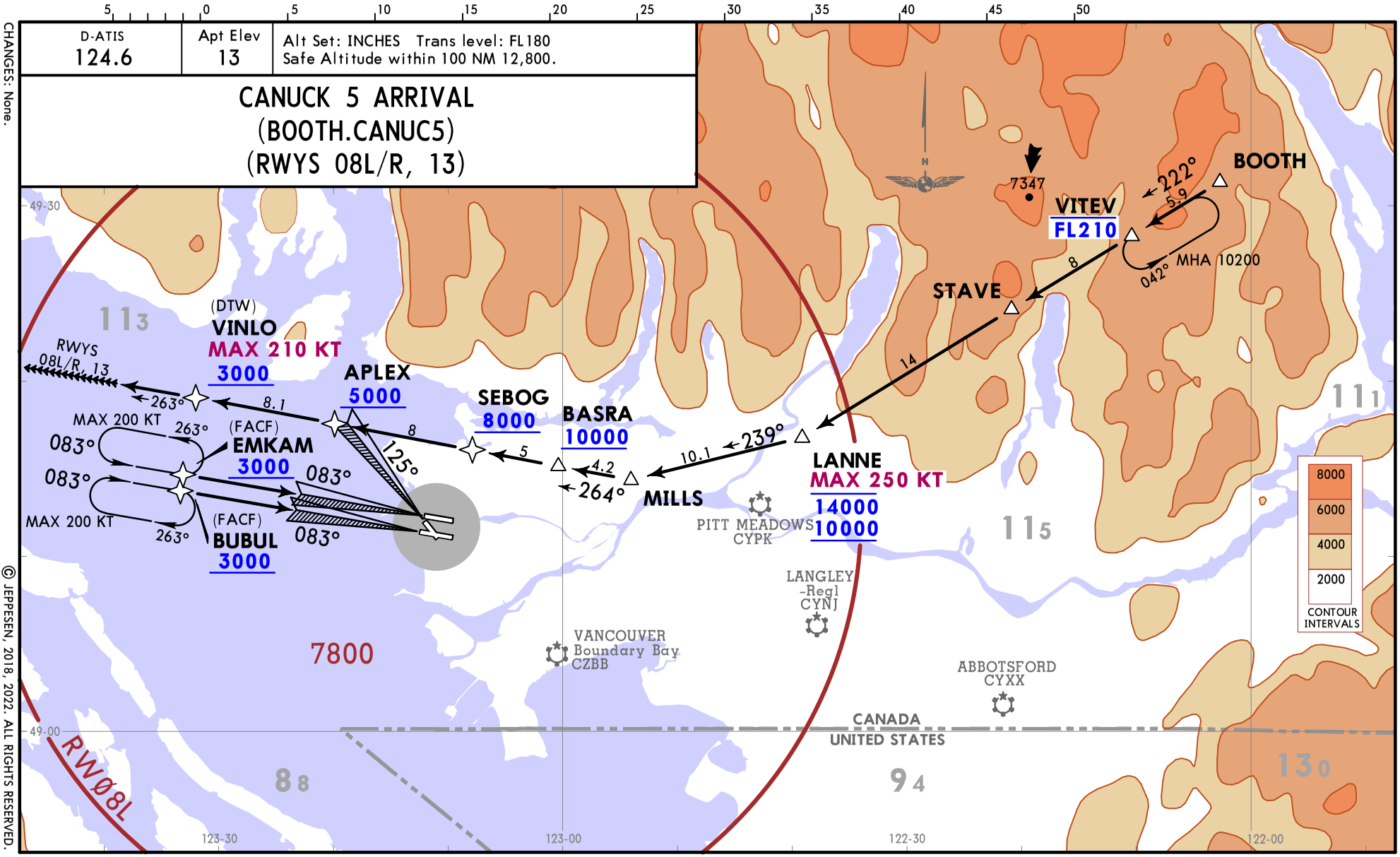
Communication Information

ATIS: 124.600
Vancouver Tower: 125.650
Vancouver Tower: 124.025
Vancouver Tower: 119.550
Vancouver Tower: 118.700
Vancouver Ground: 121.700
Vancouver Ground: 127.150
Vancouver Clearance Delivery: 121.400
Vancouver Arrival: 128.175
Vancouver Arrival: 128.600
Vancouver Arrival: 133.100
Vancouver Arrival: 134.225
Vancouver Departure: 132.300
Vancouver Departure: 126.125
Vancouver De-Ice Operations: 129.950
Iceman Operations: 130.700
Vancouver Terminal Area: 125.200
Iceman Operations: 130.925
Pad Control Operations: 131.975
Pacific Radio Radio: 123.150 Flight Info Service RCO

CHANGES: None.

D-ATIS	Apt Elev	Alt Set: INCHES Trans level: FL180
124.6	13	Safe Altitude within 100 NM 12,800.

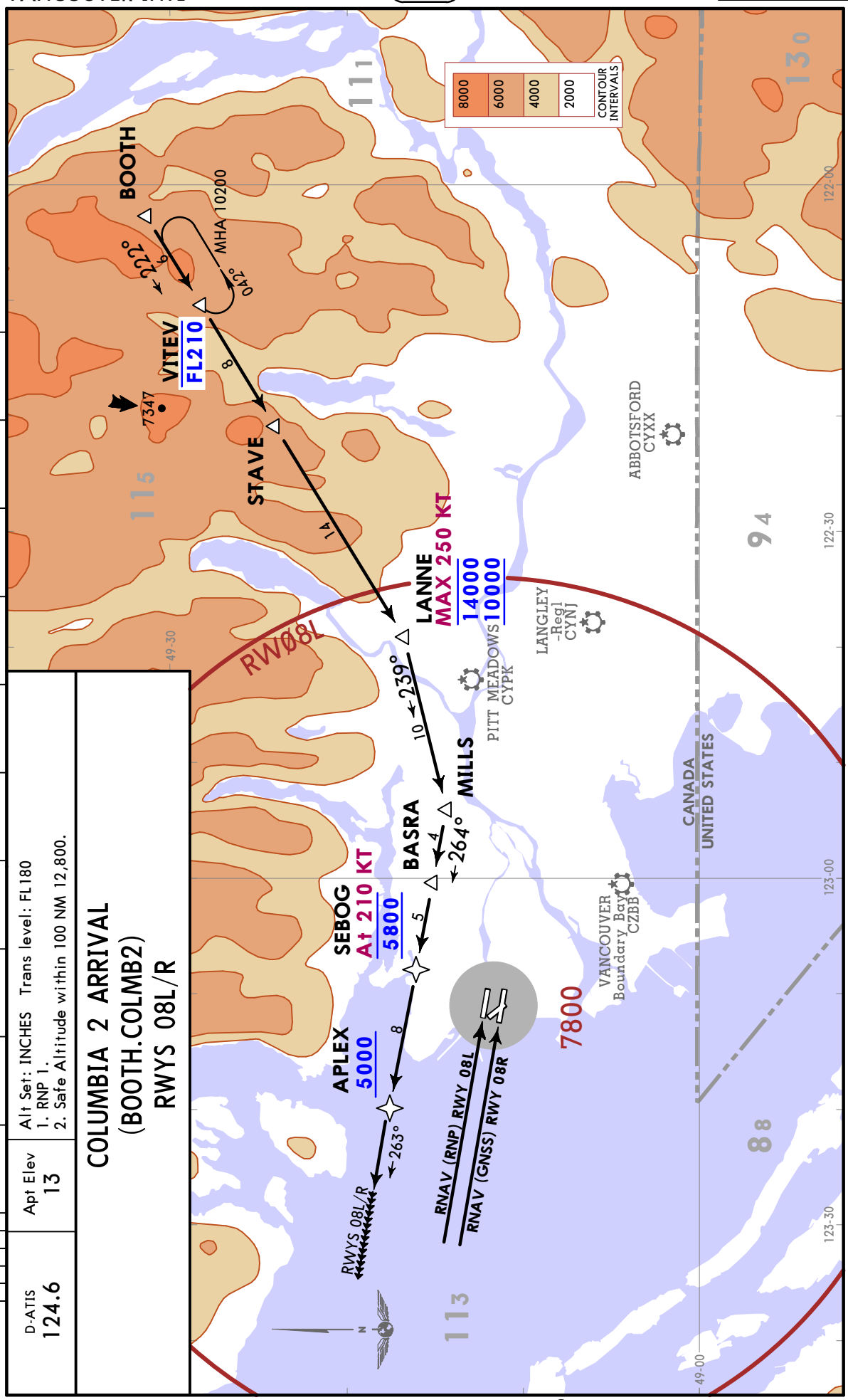
CANUCK 5 ARRIVAL
(BOOTH.CANUC5)
(RWYS 08L/R, 13)



CANUCK 5 ARRIVAL
(BOOTH.CANUC5)
(RWYS 26L/R)

D-ATIS 124.6 | Apt Elev 13 | Alt Set: INCHES Trans level: FL180 Safe Altitude within 100 NM 12,800.

BOOTH
222°
5.9
MHA 10200
040°
VITEV
8
7347
STAVE
MAX 230 KT
12000
9200
212°
6.4
211°
4
GOPAD
9000
MOGUS
7000
1
OBTOT
5000
211°
7.1
MAX 200 KT
263°
263°
225°
5.8
4.9
083°
MAX 200 KT
083°
(FACF)
GOREG
3000
(FACF)
SAVED
3000
263°
263°
7800
RW26L
CONTOUR INTERVALS
8000
6000
4000
2000
111
115
113
ABBOTSFORD
CYXX
PITT MEADOWS
CYPK
LANGLEY
-Regl
CYNJ
VANCOUVER
Boundary Bay
CZBB
CANADA
UNITED STATES
122.00
122.30
123.00
49-00
49-30



COLUMBIA 2 ARRIVAL
(BOOTH.COLMB2)
RWYS 08L/R

Alt Set: INCHES Trans level: FL180
1. RNP 1.
2. Safe Altitude within 100 NM 12,800.

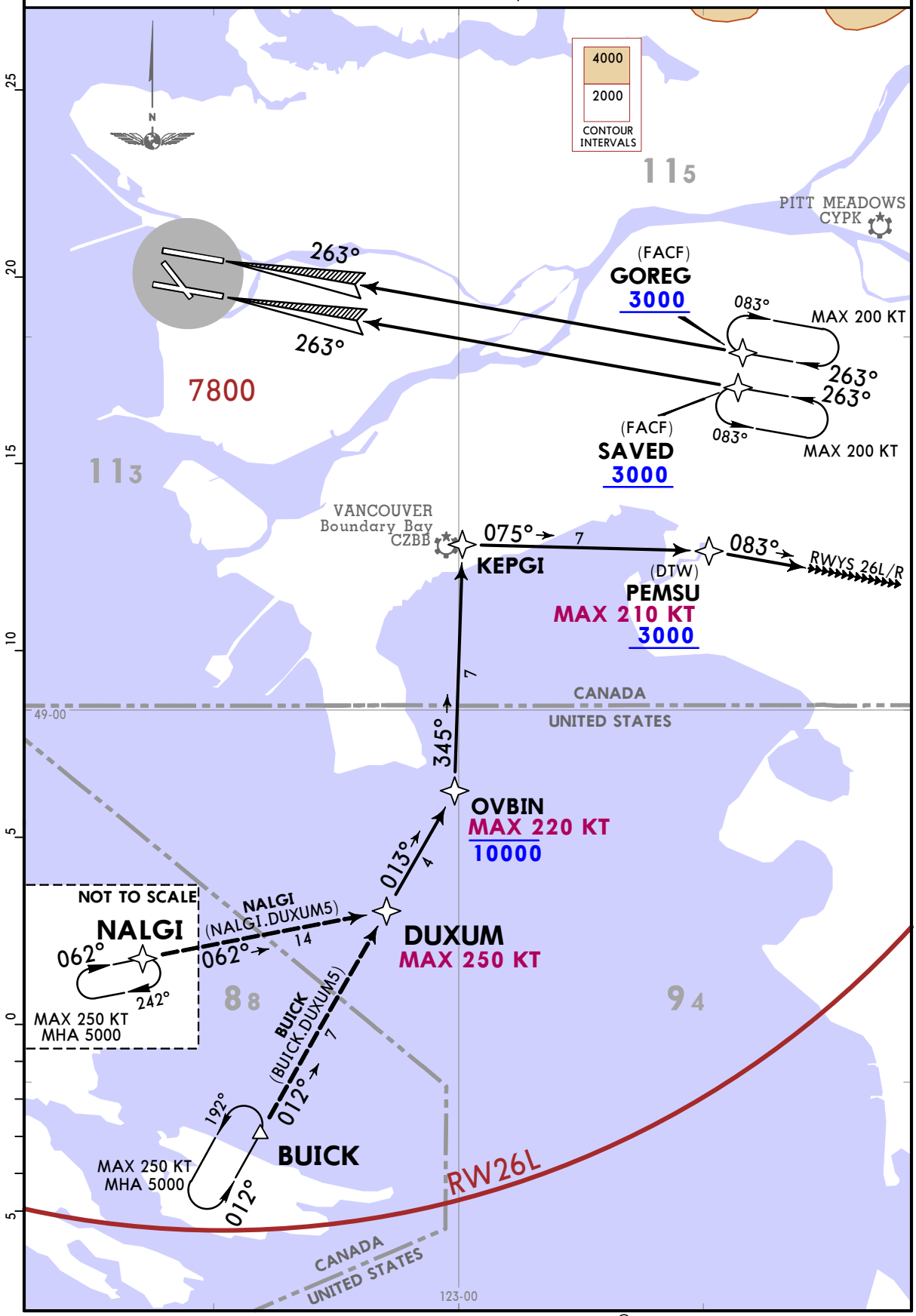
Apt Elev 13

D-ATIS 124.6

CHANGES: None.

D-ATIS	Apt Elev	
124.6	13	Alt Set: INCHES Trans level: FL180 Safe Altitude within 100 NM 12,800.

DUXUM 5 ARRIVAL
(DUXUM.DUXUM5)
RWYS 26L/R



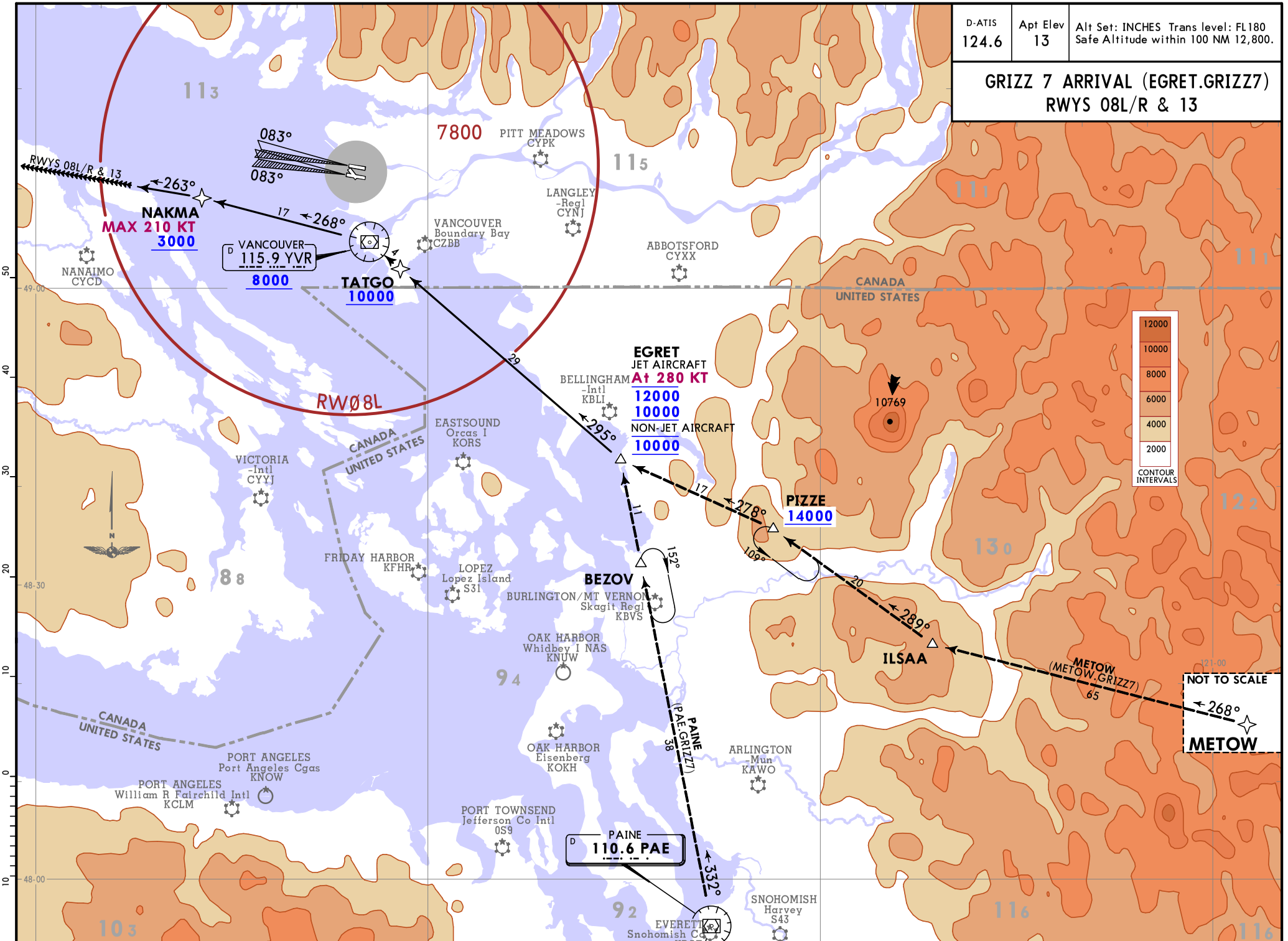
CHANGES: MSA revised.

JEPPESEN
17 FEB 23 (10-2D) Eff 23 Feb

VANCOUVER, BC
RNAV STAR

D-ATIS	Apt Elev	Alt Set: INCHES Trans level: FL180
124.6	13	Safe Altitude within 100 NM 12,800.

GRIZZ 7 ARRIVAL (EGRET.GRIZZ7)
RWYS 08L/R & 13

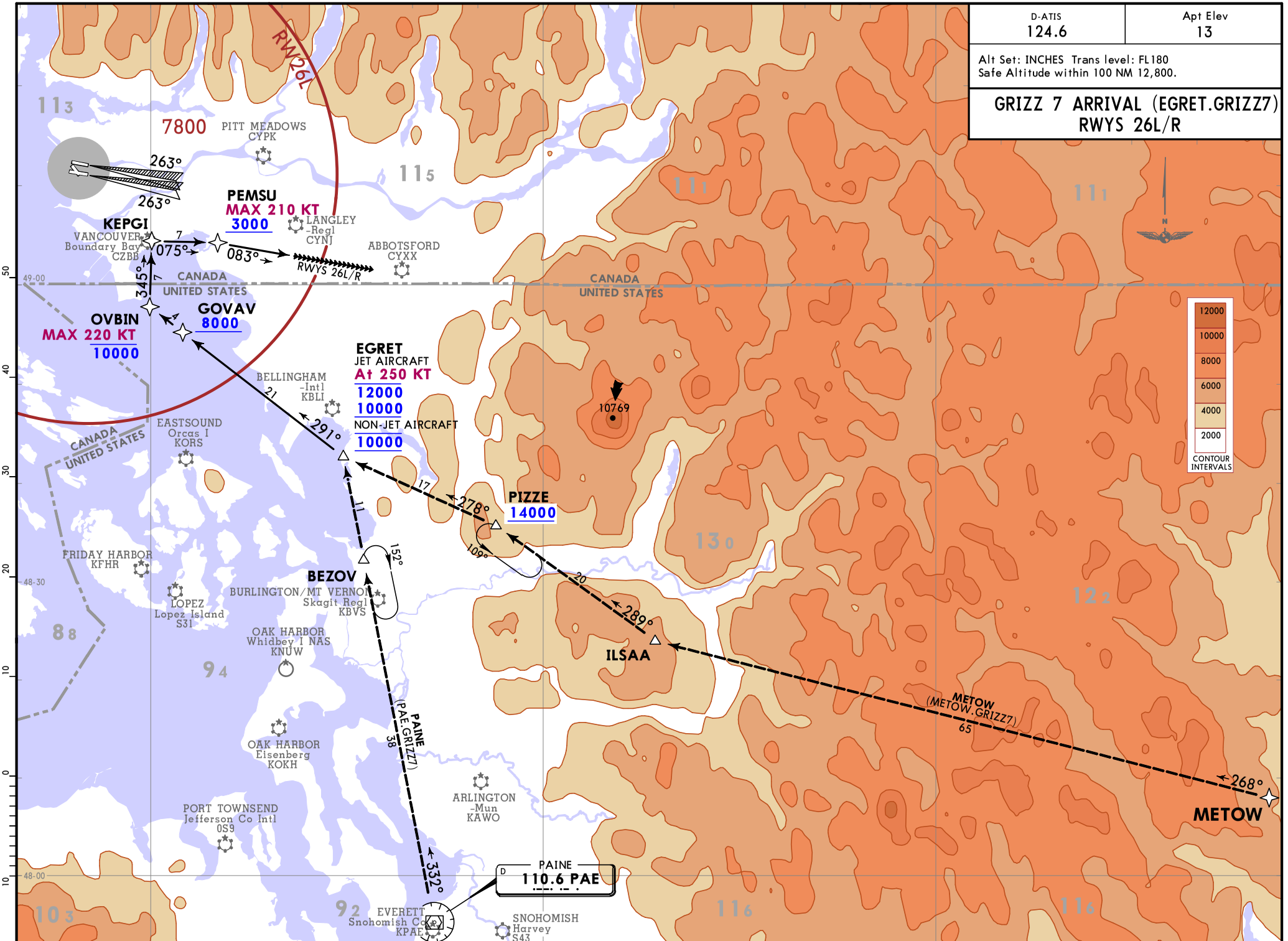


CHANGES: None.

D-ATIS	Apt Elev
124.6	13

Alt Set: INCHES Trans level: FL180
Safe Altitude within 100 NM 12,800.

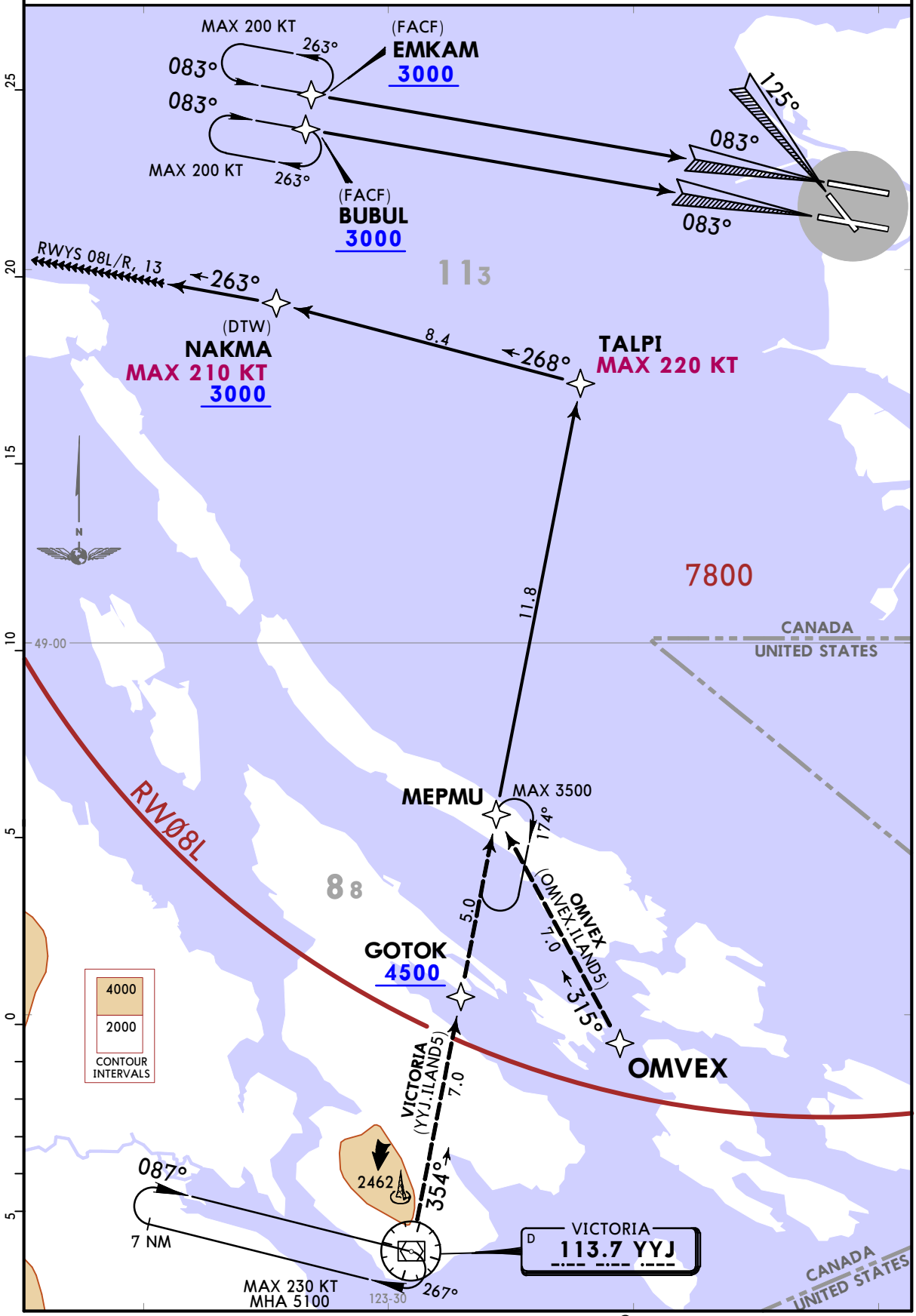
GRIZZ 7 ARRIVAL (EGRET.GRIZZ7)
RWYS 26L/R



CHANGES: MSA revised.

D-ATIS	Apt Elev	
124.6	13	Alt Set: INCHES Trans level: FL180 Safe Altitude within 100 NM 12,800.

ISLAND 5 ARRIVAL (MEPMU.ILAND5)
(RWYS 08L/R, 13)

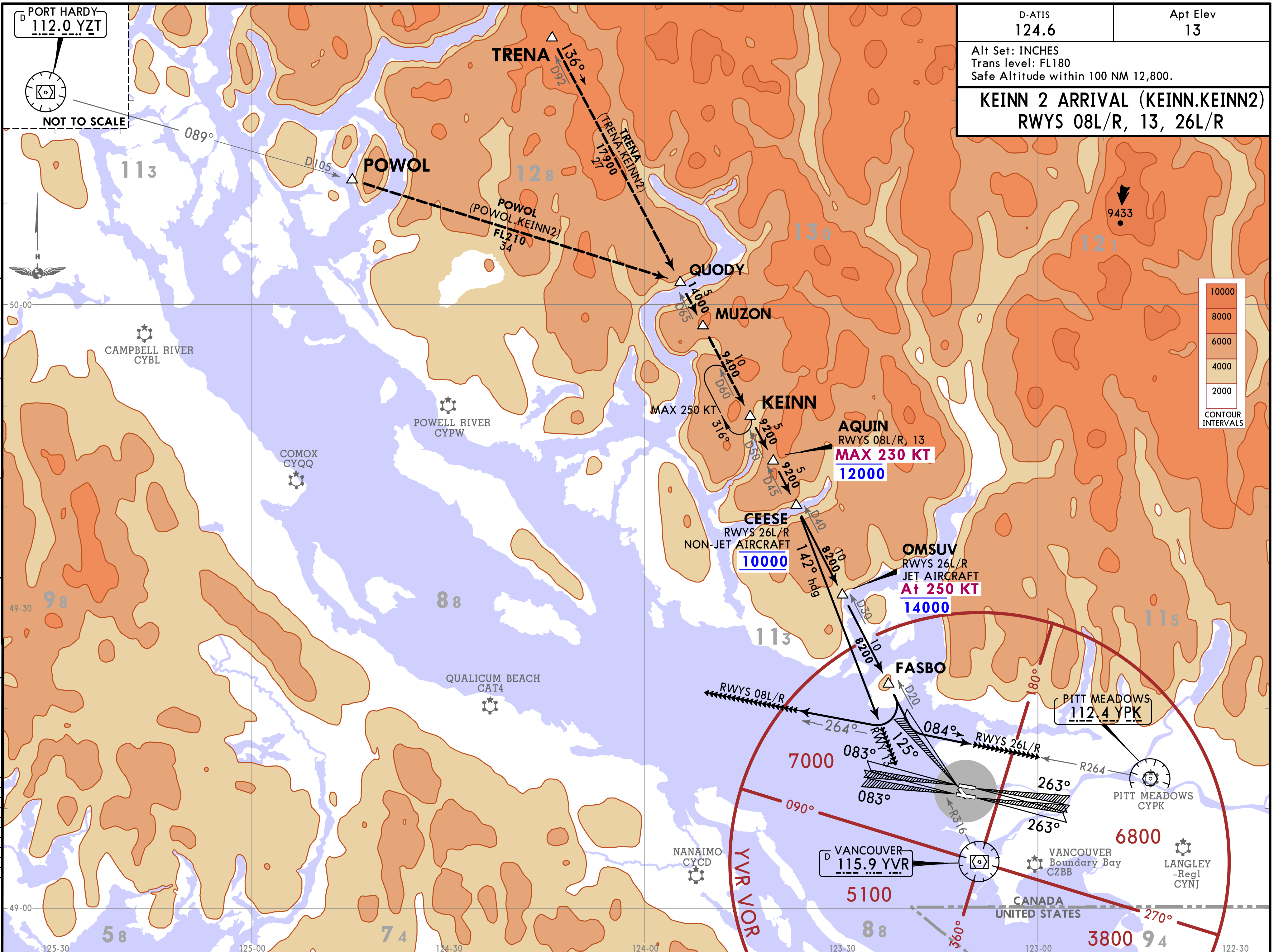


CHANGES: Reissue.

D-ATIS	Apt Elev
124.6	13

Alt Set: INCHES
Trans level: FL180
Safe Altitude within 100 NM 12,800.

KEINN 2 ARRIVAL (KEINN.KEINN2)
RWYS 08L/R, 13, 26L/R



CYVR/YVR
VANCOUVER INTL

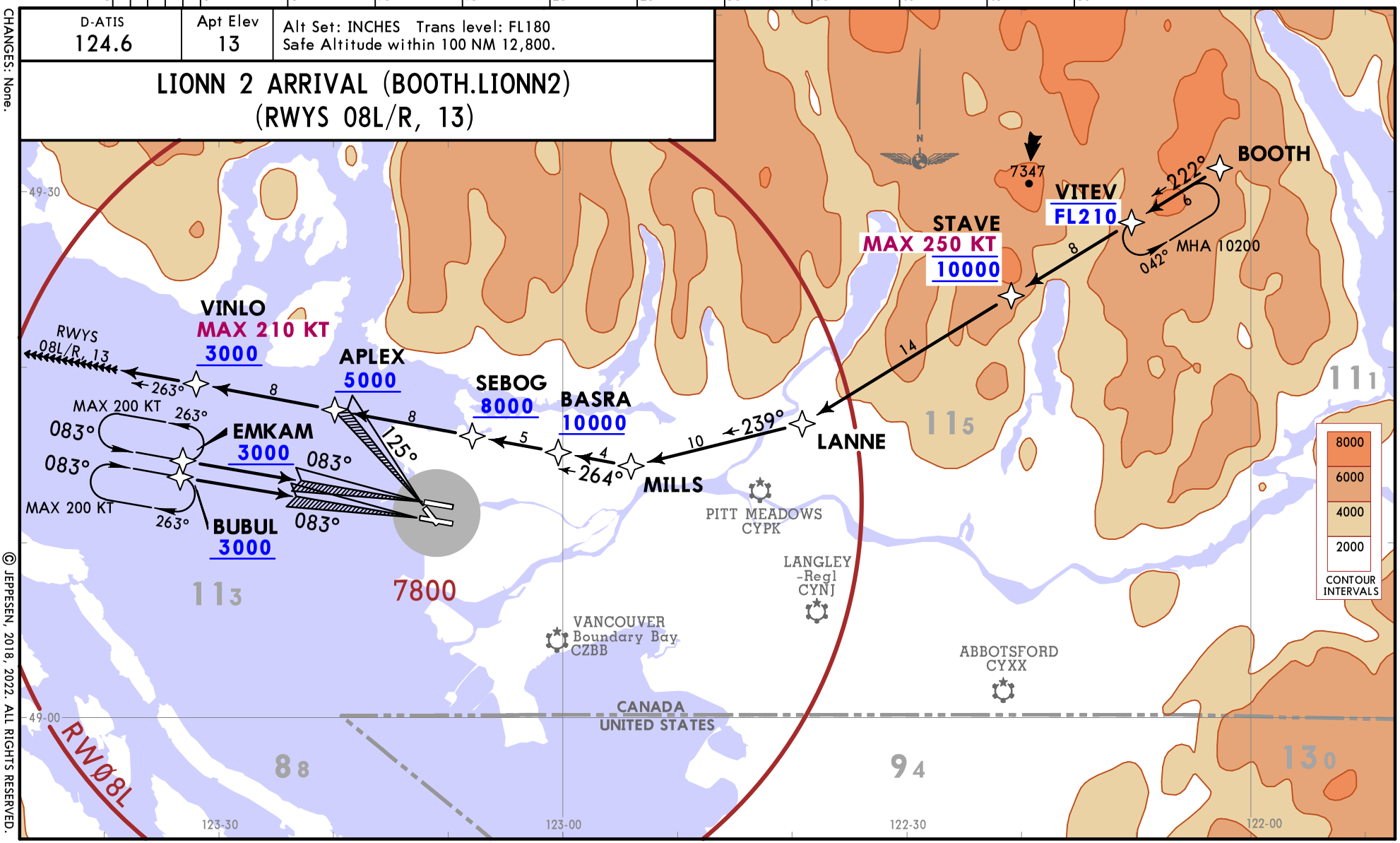
JEPPESEN
2 SEP 22 (10-2J) Eff 8 Sep

VANCOUVER, BC
RNAV STAR

CHANGES: None.

D-ATIS	Apt Elev	Alt Set: INCHES Trans level: FL180
124.6	13	Safe Altitude within 100 NM 12,800.

LIONN 2 ARRIVAL (BOOTH.LIONN2)
(RWYS 08L/R, 13)

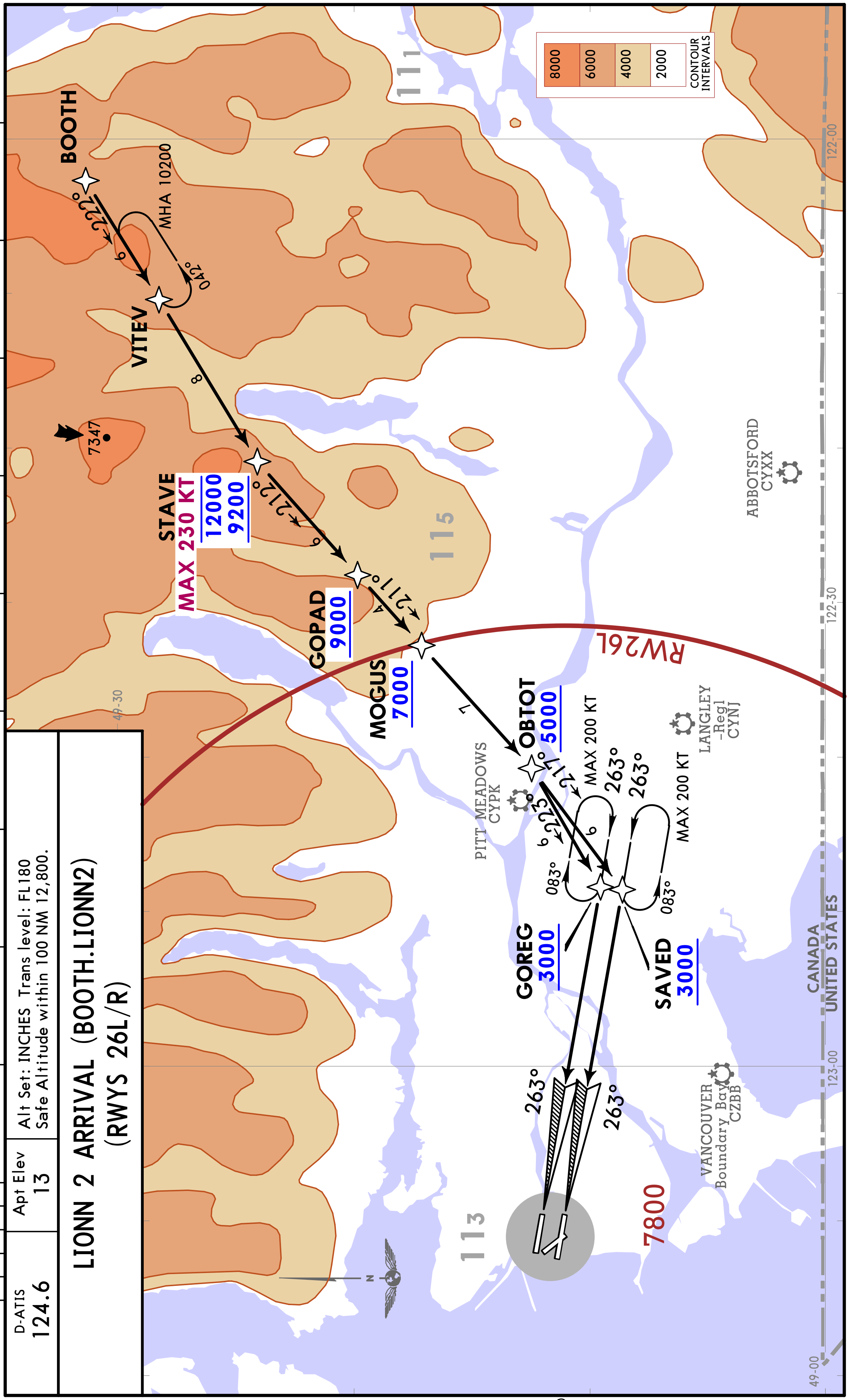


D-ATIS 124.6

Apt Elev 13

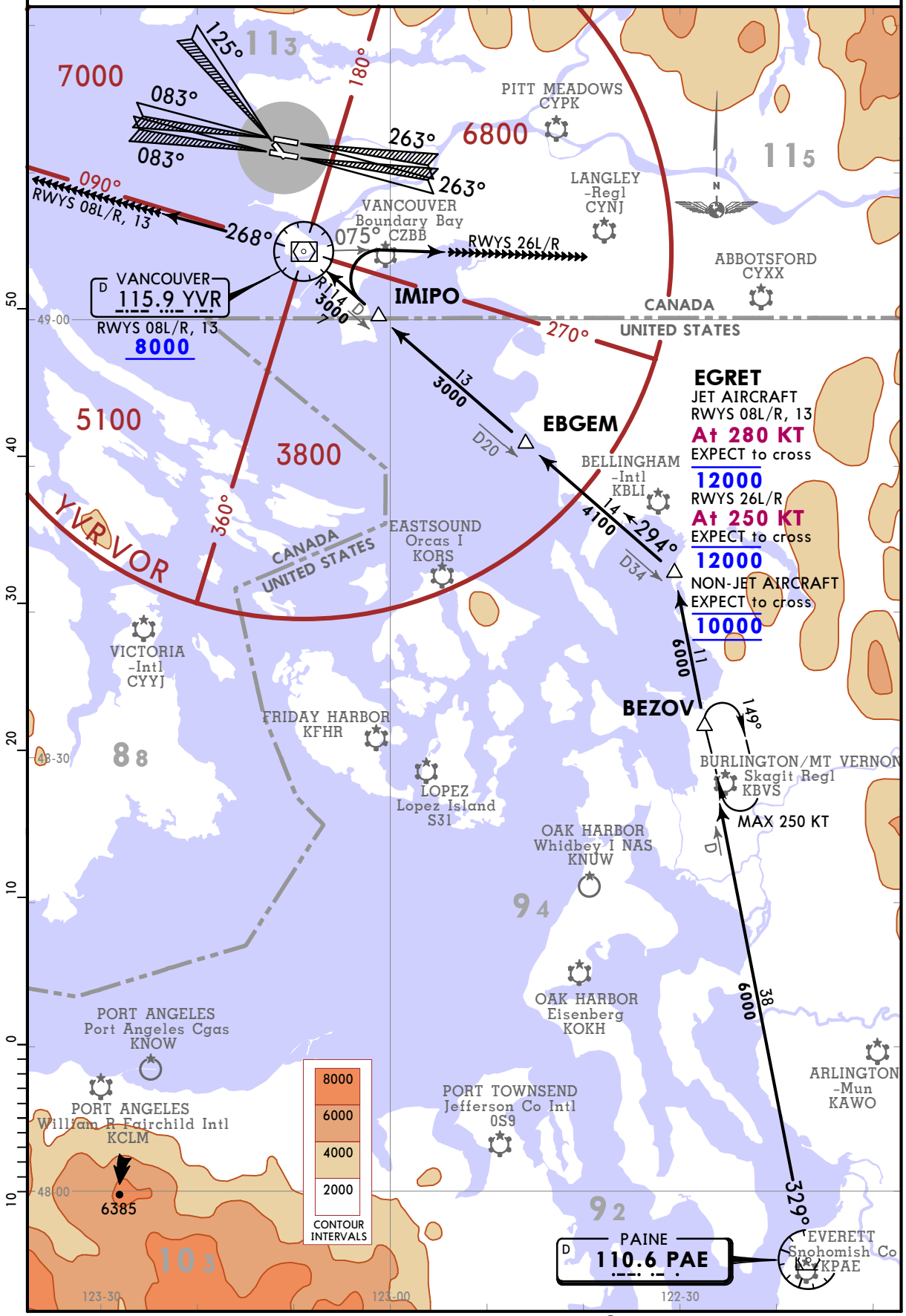
Alt Set: INCHES Trans level: FL180
Safe Altitude within 100 NM 12,800.

LIONN 2 ARRIVAL (BOOTH.LIONN2)
(RWYS 26L/R)



D-ATIS	Apt Elev	
124.6	13	Alt Set: INCHES Trans level: FL180 Safe Altitude within 100 NM 12,800.

PAINE 4 ARRIVAL (PAE.PAINE4)
RWYS 08L/R, 13, 26L/R



CHANGES: None.

CYVR/YVR
VANCOUVER INTL

JEPPESEN VANCOUVER, BC
24 NOV 23 (10-2M) Eff 30 Nov
RNAV STAR

D-ATIS	Apt Elev
124.6	13

Alt Set: INCHES Trans level: FL180
1. Safe Altitude within 100 NM 12,800.
2. RADAR required when CY(R)-107 active above 4000.

RAGIT 7 ARRIVAL
(FOCHE.RAGIT7)
(RWYS 08L/R, 13)

CY(R)-107
Continuous
1000 / SFC
Occasionally by NOTAM
13500 / Above 1000

QUALICUM BEACH CAT4

GOVAD
071°
NOT TO SCALE
GOVAD
(GOVAD.RAGIT7)
36

PEKAA
NOT TO SCALE
040°
PEKAA
(PEKAA.RAGIT7)
69

FOCHE
At 250 KT
17000
11000
049°
17
251°

BISPA
11000
6
MAX 250 KT
MHA 8000
229°

RAGIT
050° 8
050° 8
050° 8
(Rwy 08L, 13)
(Rwy 08R)

DESMA
9000

TIGAS
9000

MIXUS
7000
4
050°
RWY 13
083°
10

LEXEG
7000
2
083°
12

XOLMA
At 210 KT
5000
MAX 210 KT
263°
8

VOLIM
At 210 KT
5000
MAX 210 KT
263°
7

(FACF)
EMKAM
3000
125°
083°

(FACF)
BUBUL
3000
083°

7800

RW08L

NANAIMO CYCD

VANCOUVER Boundary Bay CZBB

VICTORIA -Intl CYYJ

FRIDAY HARBOR KFHR

CANADA
UNITED STATES

CONTOUR INTERVALS
8000
6000
4000
2000

CHANGES: Procedure renumbered, transition GOVAD established.

D-ATIS	Apt Elev	
124.6	13	Alt Set: INCHES Trans level: FL180 Safe Altitude within 100 NM 12,800.

SHARK 3 ARRIVAL
(CASDY.SHARK3)
(RWYS 26L/R)

7150

COMOX
CYQQ

QUALICUM BEACH
CAT4

NANAIMO
CYCD

VANCOUVER
Boundary Bay
CZBB

PITT MEADOWS
CYPK

LANGLEY
-Regl
CYNJ

VICTORIA
-Intl
CYYJ

BELLINGHAM
-Intl
KBLI

EASTSOUND
Orcas I
KORS

FRIDAY HARBOR
KFHR

LOPEZ
Lopez Island
S31

OAK HARBOR
Whidbey I NAS
KNUW

OAK HARBOR
Eisenberg
KOKH

PORT ANGELES
Port Angeles Cgas
KNOW

PORT ANGELES
William R Fairchild Intl
KCLM

CANADA
UNITED STATES

GOVAD
071°
GOVAD
(GOVAD.SHARK3)
36
FOCHE
072°
20
251°
ANVAP
FL220
11000
073°
13
CASDY
073°
12.5
URMIX
MAX 250 KT
12000
10000
13
ATUKI
10000
7
075°
13
(DTW)
PEMSU
MAX 210 KT
3000
083°
MAX 200 KT
RWYS 26L/R

(FACF)
SAVED
3000
263°
263°
083°
MAX 200 KT
263°
263°

(FACF)
GOREG
3000

PEKAA
(PEKAA.SHARK3)
69
040°
PEKAA

NOT TO SCALE

VANCOUVER
115.9 YVR
8000

RW26L

7800

8000
6000
4000
2000
CONTOUR INTERVALS

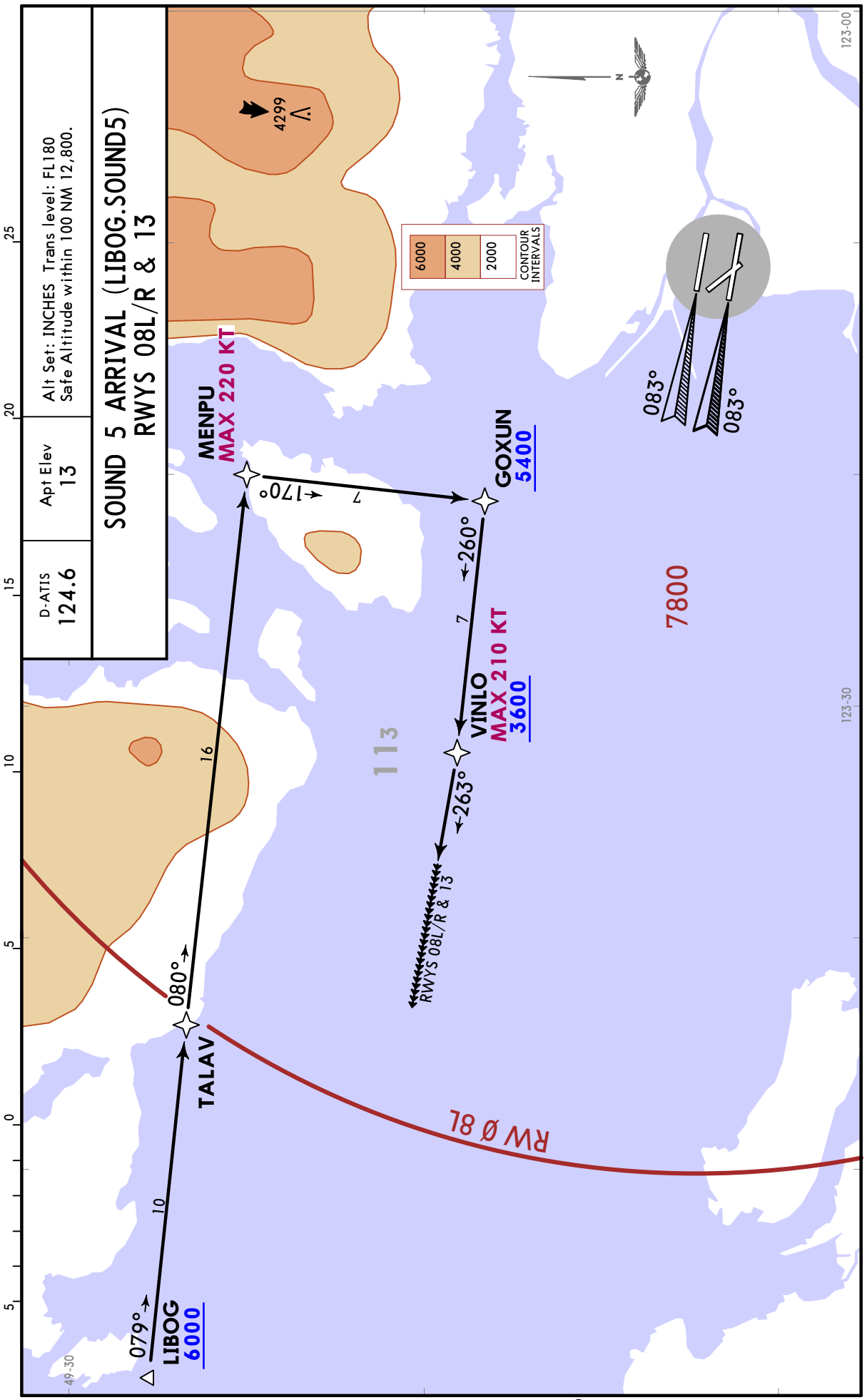
CHANGES: Procedure renumbered, transition GOVAD established.

SOUND 5 ARRIVAL (LIBOG.SOUND5)
RWYS 08L/R & 13

Alt Set: INCHES Trans level: FL180
Safe Altitude within 100 NM 12,800.

Apt Elev 13

D-ATIS 124.6



CYVR/YVR
VANCOUVER INTL

JEPPESEN
17 FEB 23 (10-2Q) Eff 23 Feb

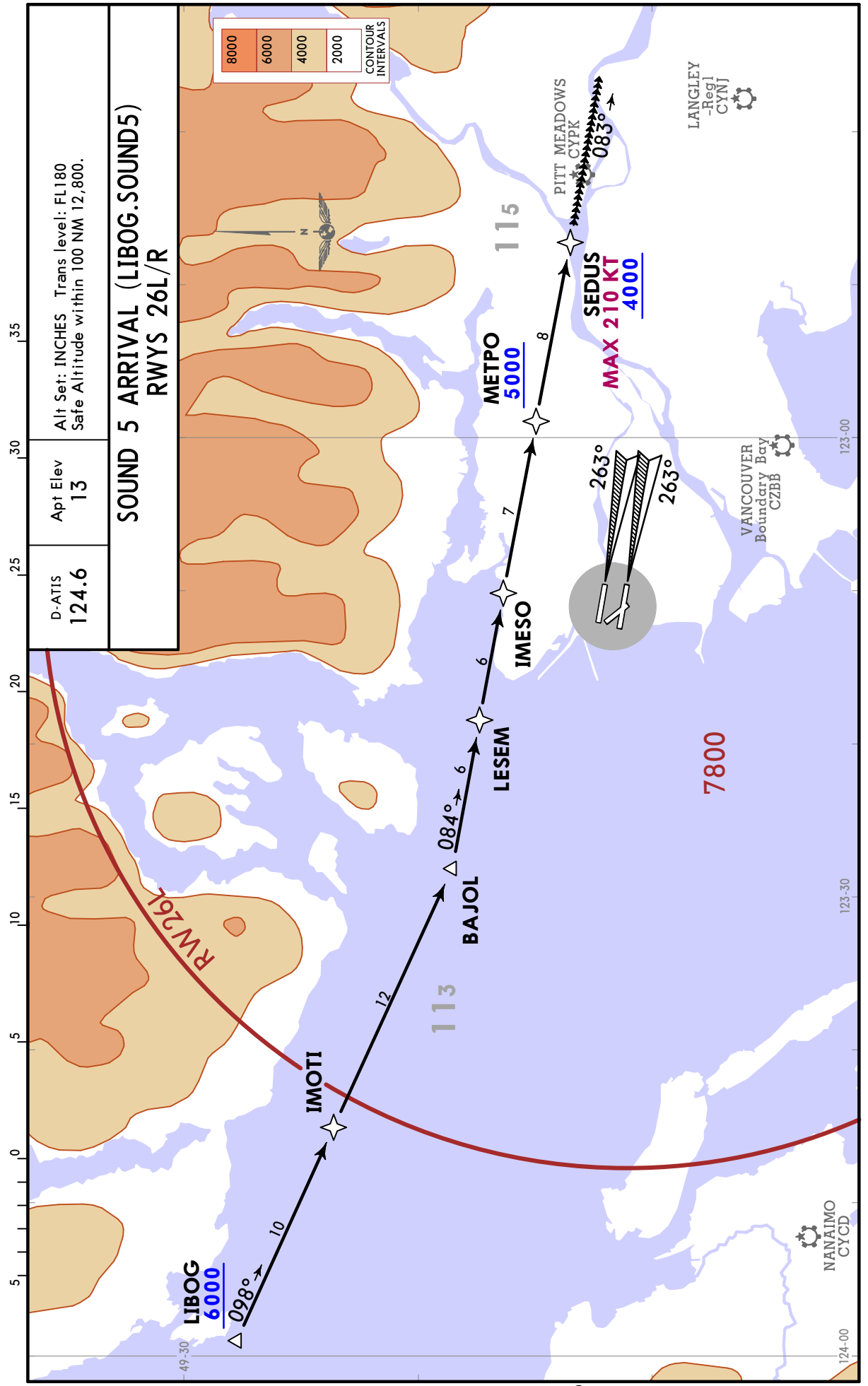
VANCOUVER, BC
RNAV STAR

SOUND 5 ARRIVAL (LIBOG.SOUND5)
RWYS 26L/R

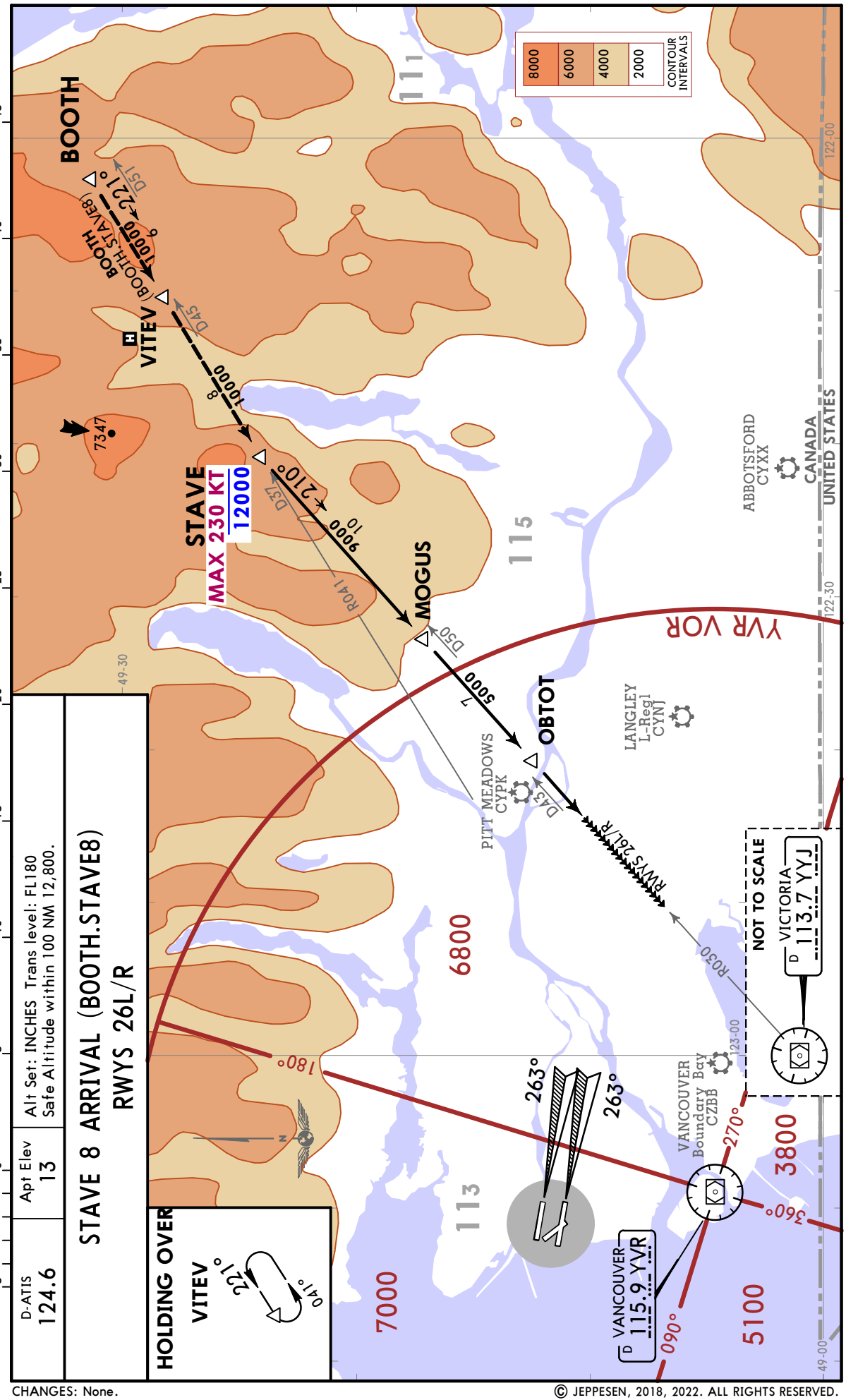
Alt Set: INCHES Trans level: FL180
Safe Altitude within 100 NM 12,800.

Apt Elev 13

D-ATIS 124.6



CHANGES: MSA revised.



VITEV 4 ARRIVAL (BOOTH.VITEV4) RWYS 26L/R

Alt Set: INCHES Trans level: FL180
Safe Altitude within 100 NM 12,800.

Apt Elev 13

D-ATIS 124.6

CONTOUR INTERVALS: 8000 6000 4000 2000

BOOTH
222°
9
047°
VITEV
8
STAVE
At 230 KT
12000
10000
247°
8
GONIR
9500
246°
9
PILGO
9
157°
6
ILUXU
MAX 220 KT
6700
METPO
6100
084°
8
SEDUS
MAX 210 KT
4000
083°
RW26L
RWYS 26L/R
PITT MEADOWS
CYPK
LANGLEY
-Regl
CYNJ
VANCOUVER
Boundary Bay
CZBB
263°
263°
7347
111
115
113
7800
122.00
122-30
123-00
49-30

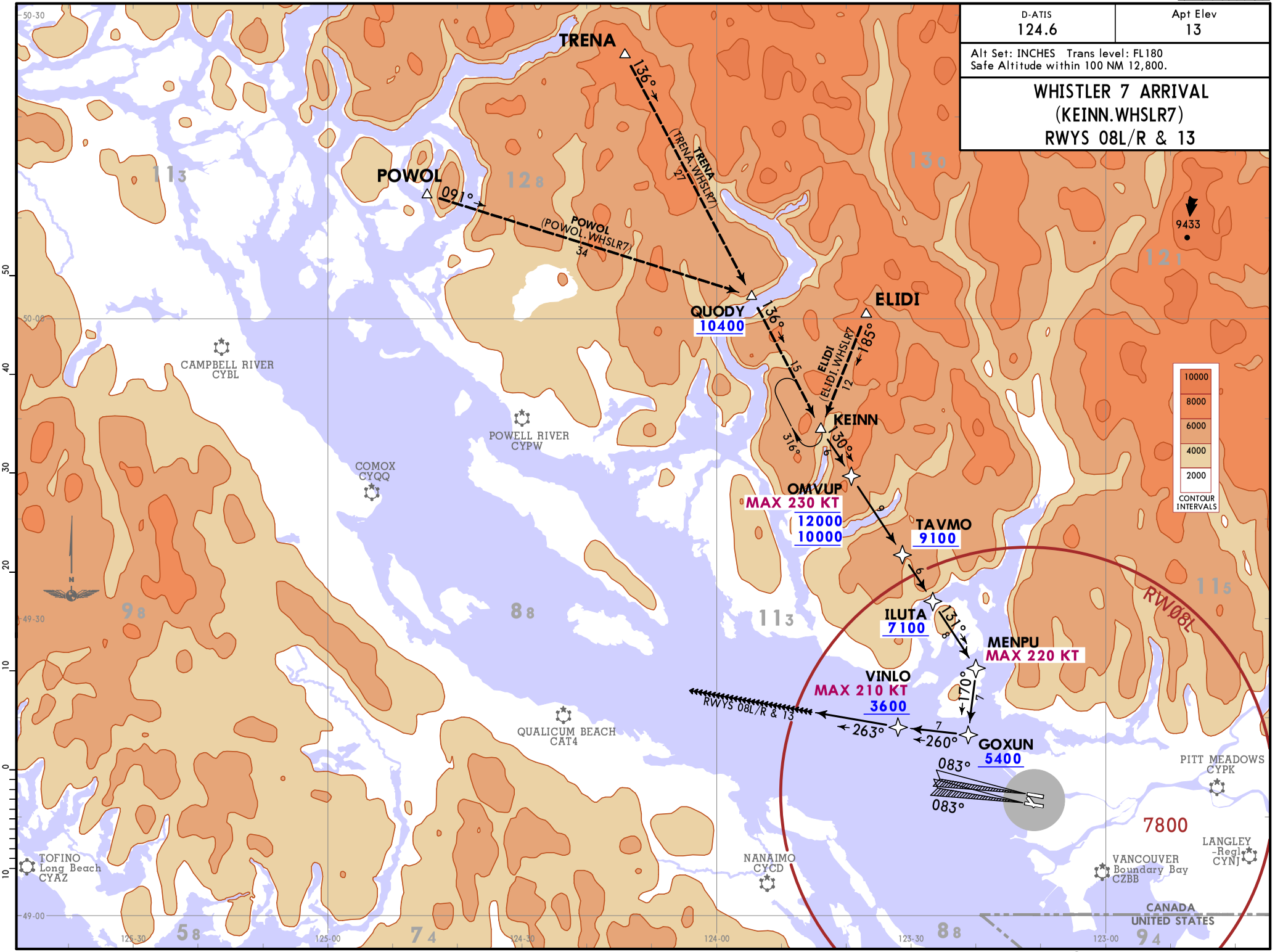
CHANGES: MSA revised.

JEPPESEN VANCOUVER, BC
17 FEB 23 (10-2U) Eff 23 Feb RNAV STAR

D-ATIS	Apt Elev
124.6	13

Alt Set: INCHES Trans level: FL180
Safe Altitude within 100 NM 12,800.

WHISTLER 7 ARRIVAL
(KEINN.WHSLR7)
RWYS 08L/R & 13



CHANGES: None.

JEPPESEN
17 FEB 23 (10-2V) Eff 23 Feb

VANCOUVER, BC
RNAV STAR

D-ATIS	Apt Elev	Alt Set: INCHES Trans level: FL180
124.6	13	Safe Altitude within 100 NM 12,800.

WHISTLER 7 ARRIVAL (KEINN.WHSLR7)
RWYS 26L/R

TRENA
136°
(TRENA.WHSLR7)
27
TRENA.WHSLR7)
POWOL
091°
POWOL
(POWOL.WHSLR7)
34
QUODY
10400
136°
15
ELIDI
185°
ELIDI
(ELIDI.WHSLR7)
12
316°
KEINN
10
CEESE
NON-JET AIRCRAFT
10000
10
RW26L
OMSUV
JET AIRCRAFT
At 250 KT
14000
10000
135°
16
LESEM
10000
084°
6
IMESO
8000
7
METPO
5000
8
SEDUS
MAX 210 KT
4000
PITT MEADOWS
CYPK
083°
RWYS 26L/R
263°
263°
LANGLEY
-Regl
CYNJ
VANCOUVER
Boundary Bay
CZBB
7800
9433

CAMPBELL RIVER
CYBL
POWELL RIVER
CYPW
COMOX
CYQQ
QUALICUM BEACH
CAT4
NANAIMO
CYCD

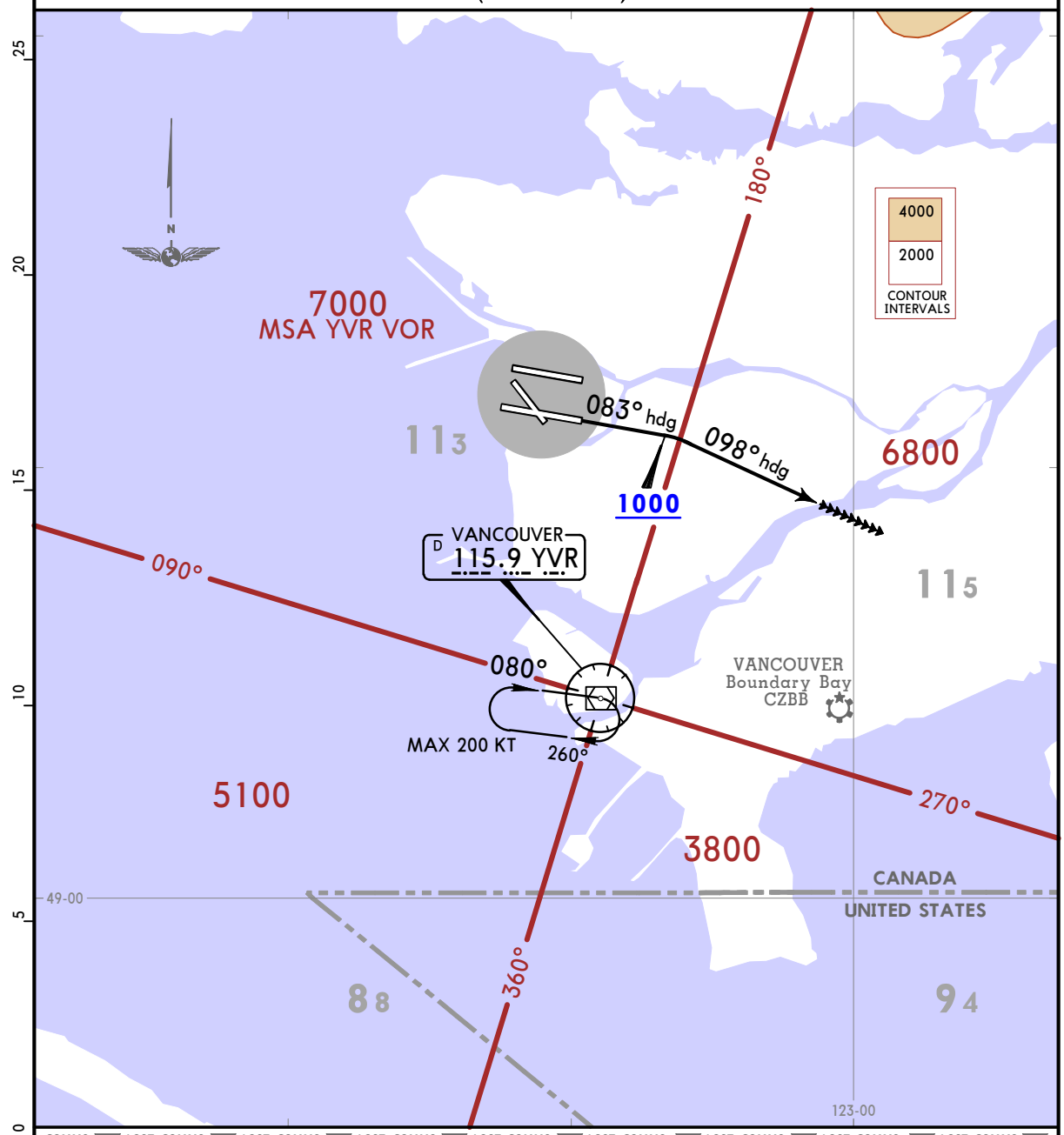
CONTOUR INTERVALS
10000
8000
6000
4000
2000

CANADA
UNITED STATES

CHANGES: MSA revised.

VANCOUVER Departure		Apt Elev	
NORTH	SOUTH	13	Trans alt: 18000 1. Safe Altitude within 100 NM 12,800. 2. Jet aircraft use Noise Abatement Departure Procedure 1 or 2. 3. Refer to 10-4 Noise Abatement Procedures for additional requirements.
126.12	132.3		

FRASER 7 DEPARTURE (FSR7.) (VECTOR)
(RWY 08R)



COMMS LOST COMMS LOST COMMS LOST COMMS LOST COMMS LOST COMMS LOST COMMS LOST COMMS LOST COMMS

On recognition of failure 5 minutes or less after take-off, below 7000 and in IFR weather conditions, proceed as follows:
1. Select transponder code 7600.
2. Beyond D10.0 of YVR MAINTAIN last assigned altitude, RIGHT turn direct to YVR VOR. Hold inbound R-260.
3. Proceed on course 5 minutes after selecting 7600 and climb to flight planned altitude.

If communication failure occurs more than 5 minutes after take-off, comply with the appropriate procedure for communication failure enroute.

LOST COMMS LOST COMMS

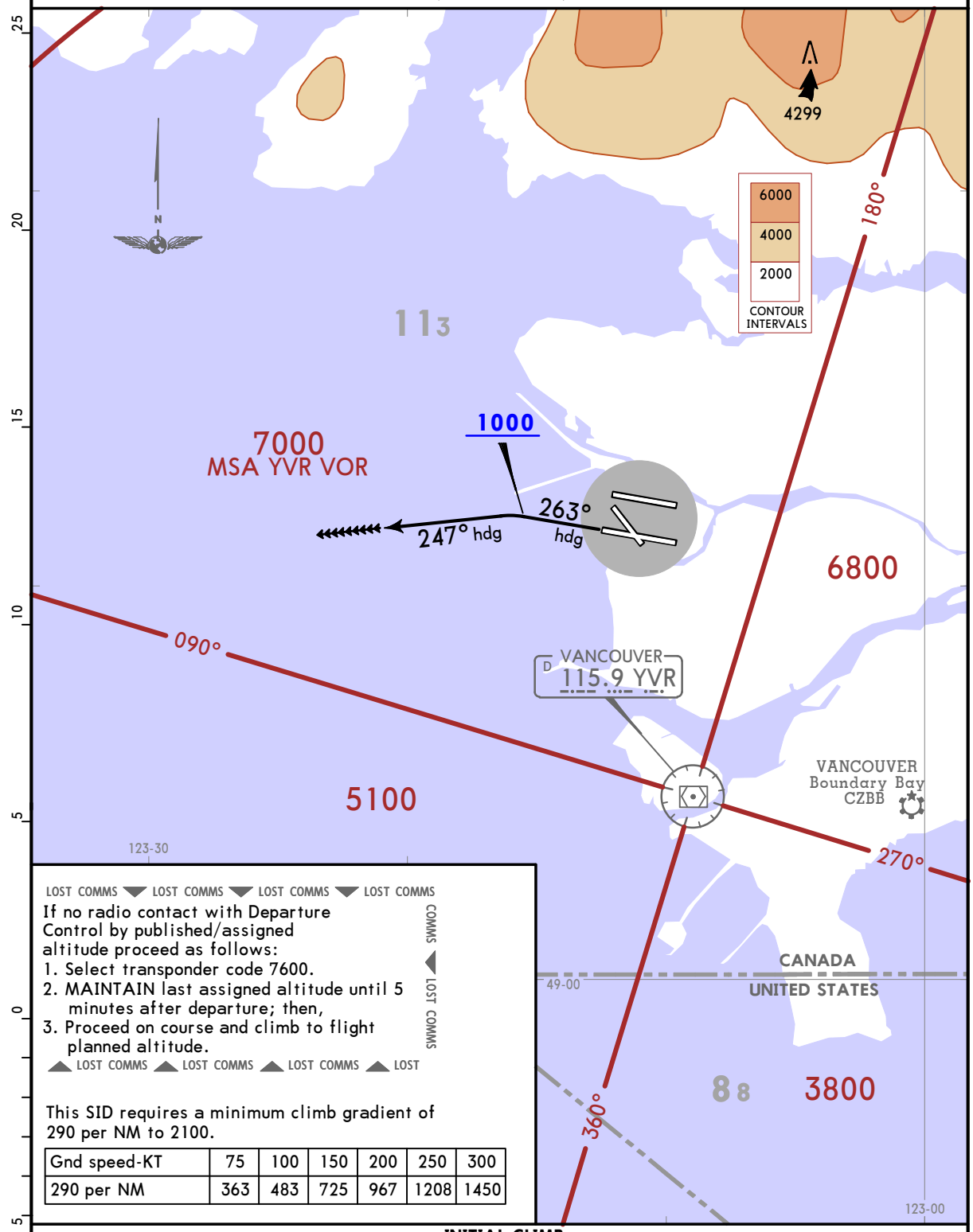
INITIAL CLIMB

Climb heading 083° to 1000. Then climbing RIGHT turn heading 098° or as assigned by ATC. MAINTAIN 7000 or as assigned. EXPECT RADAR vectors to filed/assigned route and clearance to flight planned altitude/flight level 5 minutes after departure.

CHANGES: MSA.

VANCOUVER Departure		Apt Elev	
NORTH	SOUTH	13	Trans alt: 18000 1. CAUTION: Simultaneous parallel departures may be in use. 2. Safe Altitude within 100 NM 12,800. 3. Jet aircraft use Noise Abatement Departure Procedure 1 or 2. 4. Refer to 10-4 Noise Abatement Procedures for additional requirements.
126.12	132.3		

GEORGIA 6 DEPARTURE (GRG6.) (VECTOR)
(RWY 26L)



LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS

If no radio contact with Departure Control by published/assigned altitude proceed as follows:

1. Select transponder code 7600.
2. MAINTAIN last assigned altitude until 5 minutes after departure; then,
3. Proceed on course and climb to flight planned altitude.

COMMS ◀ LOST COMMS

▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST

This SID requires a minimum climb gradient of 290 per NM to 2100.

Gnd speed-KT	75	100	150	200	250	300
290 per NM	363	483	725	967	1208	1450

INITIAL CLIMB

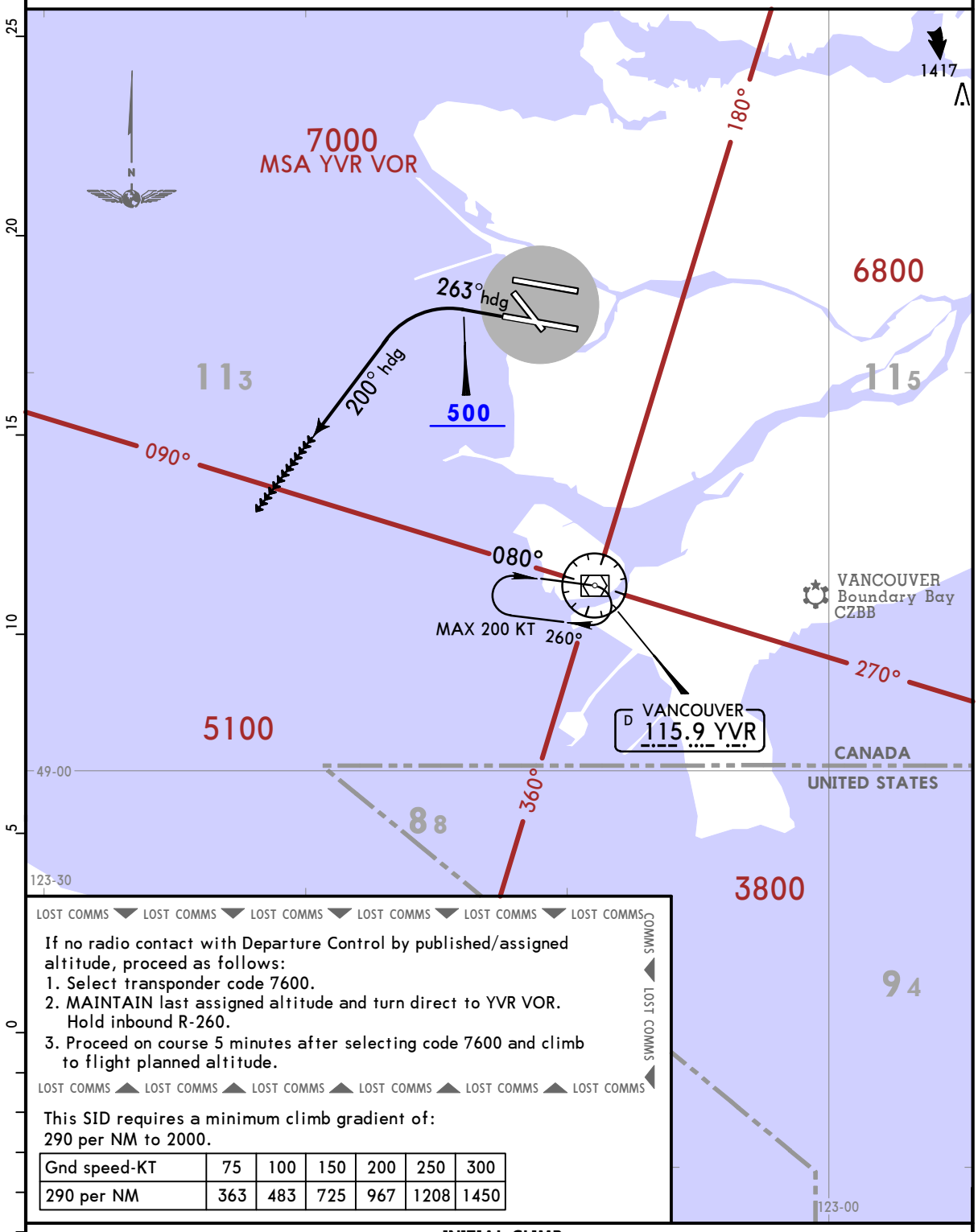
Climb heading 263° to 1000. Then climbing LEFT turn heading 247° or as assigned by ATC. MAINTAIN 7000 or as assigned. EXPECT RADAR vectors to filed/assigned route or depicted fix and clearance to flight planned altitude/flight level 5 minutes after departure.

CHANGES: MSA.

VANCOUVER Departure (SOUTH) 132.3	Apt Elev 13	Trans alt: 18000 1. Safe altitude within 100 NM 12,800. 2. Non-Jet aircraft only. 3. Refer to 10-4 Noise Abatement Procedures for additional requirements.

RICHMOND 7 DEPARTURE (RICHM7.) (VECTOR)
(RWY 26L)

SPEED: DO NOT EXCEED 165 KT IN CLIMB UNTIL IN CONTACT WITH DEPARTURE CONTROL AND PASSING 4000



LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS

If no radio contact with Departure Control by published/assigned altitude, proceed as follows:
1. Select transponder code 7600.
2. MAINTAIN last assigned altitude and turn direct to YVR VOR. Hold inbound R-260.
3. Proceed on course 5 minutes after selecting code 7600 and climb to flight planned altitude.

LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

LOST COMMS ▼ LOST COMMS ▲

This SID requires a minimum climb gradient of:
290 per NM to 2000.

Gnd speed-KT	75	100	150	200	250	300
290 per NM	363	483	725	967	1208	1450

INITIAL CLIMB

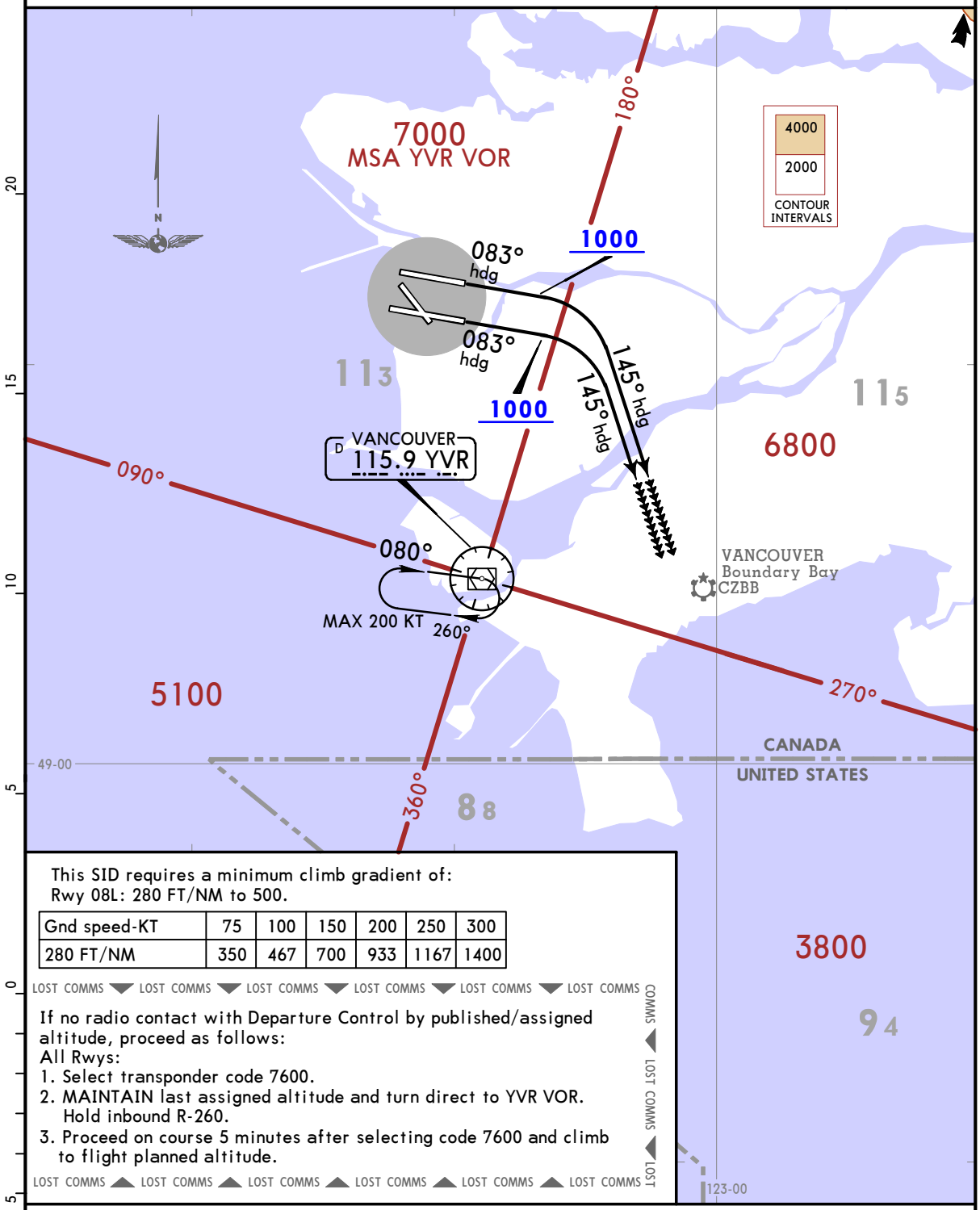
Climb heading 263° to 500. Then climbing LEFT turn heading 200° or as assigned by ATC.
Contact Departure Control after passing 1000 unless instructed otherwise by ATC. MAINTAIN 2000 or as assigned. EXPECT RADAR vectors to filed/assigned route or depicted fix and clearance to flight planned altitude/flight level 10 minutes after departure.

CHANGES: MSA.

VANCOUVER Departure (SOUTH) 132.3	Apt Elev 13	Trans alt: 18000 1. Safe altitude within 100 NM 12,800. 2. Non-Jet aircraft only. 3. Refer to 10-4 Noise Abatement Procedures for additional requirements.

STANLEY 5 DEPARTURE (STNLE5.)
(VECTOR)
(RWYS 08L/R)

SPEED: DO NOT EXCEED 165 KT IN CLIMB UNTIL IN CONTACT WITH DEPARTURE CONTROL AND PASSING 4000



This SID requires a minimum climb gradient of:
Rwy 08L: 280 FT/NM to 500.

Gnd speed-KT	75	100	150	200	250	300
280 FT/NM	350	467	700	933	1167	1400

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS

If no radio contact with Departure Control by published/assigned altitude, proceed as follows:
All Rwys:
1. Select transponder code 7600.
2. MAINTAIN last assigned altitude and turn direct to YVR VOR. Hold inbound R-260.
3. Proceed on course 5 minutes after selecting code 7600 and climb to flight planned altitude.

LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

LOST COMMS ▼ LOST COMMS ▲ LOST COMMS

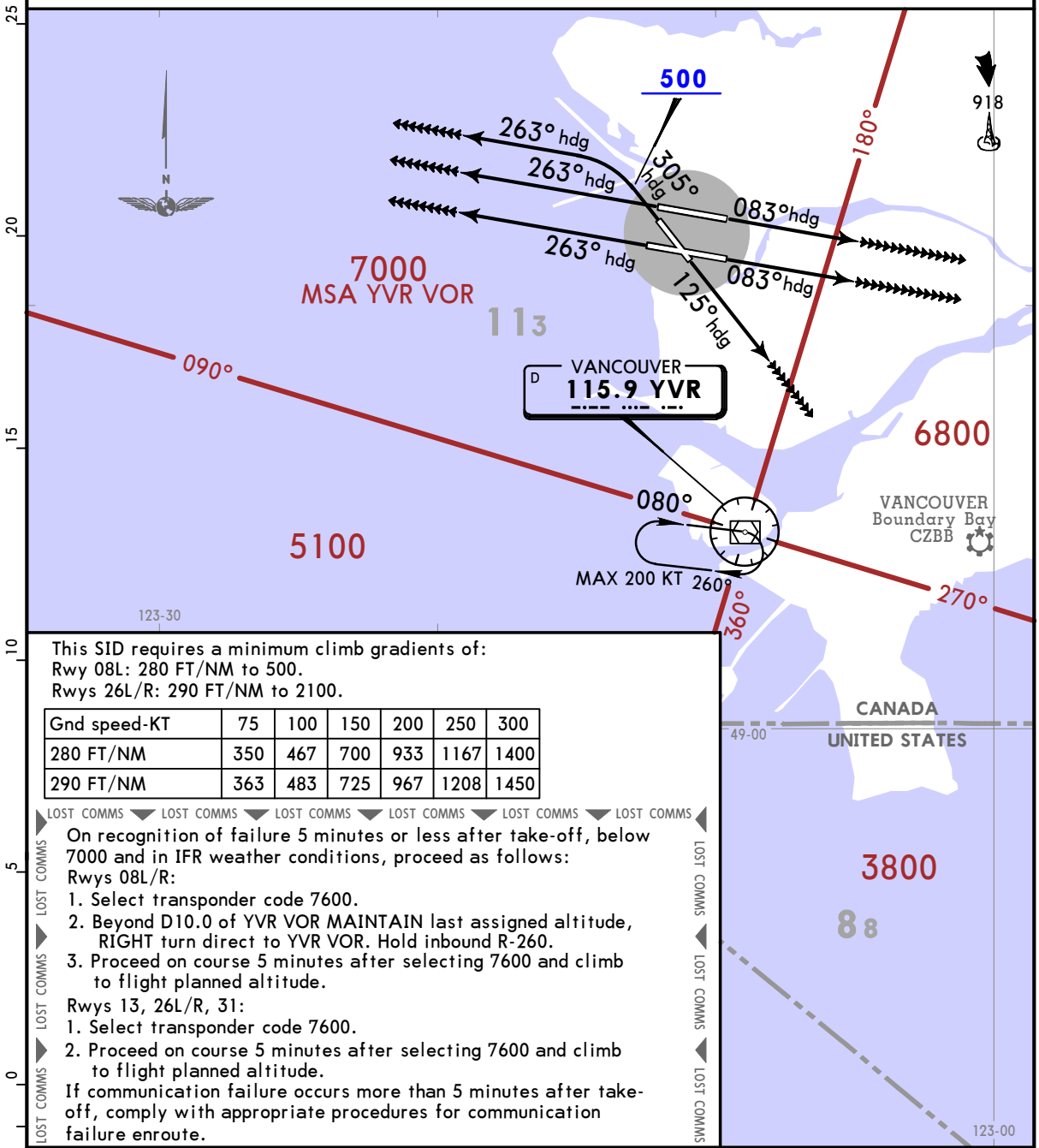
INITIAL CLIMB

Climb heading 083° to 1000. Then climbing RIGHT turn heading 145° or as assigned by ATC. MAINTAIN 2000 or as assigned. EXPECT RADAR vectors to filed/assigned route and clearance to flight planned altitude/flight level 10 minutes after departure.

CHANGES: Procedure renumbered, climb gradient, MSA.

VANCOUVER Departure		Apt Elev	Trans alt: 18000
NORTH	SOUTH	13	1. Safe altitude within 100 NM 12,800.
126.125	132.3		2. Non-Jet aircraft do not exceed 165 KT in climb until in contact with Departure Control and passing 4000.
			3. Jet aircraft use Noise Abatement Departure Procedure 1 or 2.
			4. Refer to 10-4 Noise Abatement Procedures for additional requirements.

VANCOUVER 2 DEPARTURE (YVR2.)
(VECTOR)
(ALL RWYS)



This SID requires a minimum climb gradients of:
Rwy 08L: 280 FT/NM to 500.
Rwys 26L/R: 290 FT/NM to 2100.

Gnd speed-KT	75	100	150	200	250	300
280 FT/NM	350	467	700	933	1167	1400
290 FT/NM	363	483	725	967	1208	1450

LOST COMMS

On recognition of failure 5 minutes or less after take-off, below 7000 and in IFR weather conditions, proceed as follows:

Rwys 08L/R:

1. Select transponder code 7600.
2. Beyond D10.0 of YVR VOR MAINTAIN last assigned altitude, RIGHT turn direct to YVR VOR. Hold inbound R-260.
3. Proceed on course 5 minutes after selecting 7600 and climb to flight planned altitude.

Rwys 13, 26L/R, 31:

1. Select transponder code 7600.
2. Proceed on course 5 minutes after selecting 7600 and climb to flight planned altitude.

If communication failure occurs more than 5 minutes after take-off, comply with appropriate procedures for communication failure enroute.

RWY	INITIAL CLIMB
08L/R	Climb heading 083° or as assigned by ATC.
13	Climb heading 125° or as assigned by ATC. NOTE: Building to 50 approximately 0.15 NM past DER, 685 LEFT of runway centerline. Tower to 50 approximately 0.2 NM past DER, 500 LEFT of runway centerline.
26L/R	Climb heading 263° or as assigned by ATC.
31	Climb heading 305° to 500. Then climbing LEFT turn heading 263° or as assigned by ATC.

ROUTING

MAINTAIN 7000 or as assigned. EXPECT RADAR vectors to filed/assigned route and clearance to flight planned altitude/flight level 5 minutes after departure.

CHANGES: Procedure renumbered, climb gradient, MSA.

NOISE ABATEMENT PROCEDURES

APPLICATION

These procedures apply to JET AIRCRAFT unless noted otherwise.

DEPARTURE PROCEDURES

JET AIRCRAFT

1. Noise Abatement Departure Procedure 1 or 2 required for all runways. See Jeppesen Canada ATC para 7.6. Advise ATC CLNC DEL if using Noise Abatement Departure Procedure 1. Follow SID to 3000′ before proceeding on course.
2. Rwy 08R between 2300-0600 local time; aircraft on westerly routes follow assigned SID to 2000′ before proceeding on course.
3. ICAO Annex 16 Chapter 2 or FAA FAR Part 36 Stage 2 certified aircraft; departures on Rwys 08L and 26R not permitted.

ARRIVAL PROCEDURES

IFR APPROACHES & PUBLISHED VISUAL APPROACHES

Use low power/drag profiles consistent with safe operating procedures, conforming to published visual approaches and as directed by ATC.

VFR APPROACHES

Conform to published VTA routes and as directed by ATC.

REVERSE THRUST - LANDING

All Rwys: Use of reverse thrust is to be avoided or reduced when conditions permit.

NIGHT RESTRICTIONS

LOCAL TIME	Procedure
1. 0001-0600	Departure of ICAO Annex 16 Chapter 2 or FAA FAR Part 36 Stage 2 certified JET AIRCRAFT 34,000 kg (74,957 lbs) and over not permitted.
2. 0001-0600	Departure of JET AIRCRAFT rated over 34,000 kg (74,957 lbs) (MTOW), regardless of actual take-off weight, require prior approval from YVRAA OPERATIONS.
3. 2200-0700	Departure/Arrival of ALL AIRCRAFT on Rwys 08L & 26R not permitted.*
4. 2200-0700	Local training flights not permitted.

* See CONTACT and APPROVALS Section.

ALL AIRCRAFT (PRIORITY FLIGHTS EXEMPT)

LOCAL TIME	Preferencial Runway Usage
1. 0600-2300 One direction flow	Defer to westerly flow. Minimize departures on runway 13 and arrivals on runway 31.
2. 2300-0600 Two direction flow	Westerly flow for departures and easterly flow for arrivals. Minimize departures on runway 13 and arrivals on runway 31.

Subject to limiting factors including: physical condition of surfaces; irregular airfield operations; crosswind and tailwind conditions: and, traffic volume. (MEDEVACS EXEMPT).

IT IS THE PILOT'S RESPONSIBILITY TO ADHERE TO PUBLISHED NOISE ABATEMENT PROCEDURES.

CHANGES: None.

NOISE ABATEMENT PROCEDURES

ENGINE RUN-UP RESTRICTIONS

Maintenance engine run-ups for ALL AIRCRAFT require prior approval from YVRAA OPERATIONS. Guidelines are contained in the Airport Operations Directive, Aircraft Engine Run-ups.

ENGINE START RESTRICTIONS

Prior permission required YVRAA OPERATIONS for all engine airstarts or crossbleed starts on Aprons 1, 2, 3, 4, 5, 6, 8.

ALTITUDE RESTRICTIONS

1. Exclusive of the Departure and Arrival procedures, no departing or arriving aircraft shall operate over the City at less than 5000′ MSL (8000′ between 2300 - 0700 local time- except aircraft operating on published RNAV STAR).

2. The City is defined as that area lying between the South Arm of the Fraser River and the North Shore of Burrard Inlet and from Point Gray to the eastern boundary of the Vancouver Control Zone.

CONTACT and APPROVALS

Night Restrictions #3: YVRAA OPERATIONS may permit exemptions for emergencies and airfield maintenance. For planning purposes, Rwy 08L/26R will be the operational runway whenever Rwy 08R/26L is unavailable due to emergencies or airfield maintenance.
Tel: 604-207-7022; Email: Airport_Operations@yvr.ca

IT IS THE PILOT'S RESPONSIBILITY TO ADHERE TO PUBLISHED NOISE ABATEMENT PROCEDURES.

CHANGES: Contact and approvals.

CODED TAXI ROUTES

READ BACK: "CODE ROUTE (name) AND ASSIGNED RUNWAY"

Monitor tower frequency approaching the hold line of the assigned runway, unless otherwise instructed by ATC.

Rwy 08R/26L - Tower 118.7 Rwy 08L/26R - Tower 119.55

CODE	TAXI ROUTE
Echo	Rwy 08R - E, D, H, hold short L. Rwy 08L - E, D, H, hold short V, contact Ground 127.15 (expect taxi via H, M, M10). Rwy 26R - E, D, H, hold short V, contact Ground 127.15 (expect taxi via V, M, M9). Rwy 26L - E, D.
Golf	Rwy 08R - G, H, hold short L. Rwy 08L - G, H, hold short V, contact Ground 127.15 (expect taxi via H, M, M10). Rwy 26R - G, H, hold short V, contact Ground 127.15 (expect taxi via V, M, M9). Rwy 26L - G, H, D.
❶ Juliet-Alpha	Rwy 08R - JA, J, K, V, hold short H, contact Ground 121.7 (expect taxi via V, L, L6). Rwy 08L - JA, J, M, M10. Rwy 26R - JA, J, M, M9. Rwy 26L - JA, J, K, V, hold short H, contact Ground 121.7 (expect taxi via H, D).
❶ Juliet-Bravo	Rwy 08R - JB, J, K, V, hold short H, contact Ground 121.7 (expect taxi via V, L, L6). Rwy 08L - JB, J, M, M10. Rwy 26R - JB, J, M, M9. Rwy 26L - JB, J, K, V, hold short H, contact Ground 121.7 (expect taxi via H, D).
❶ Juliet-Charlie	Rwy 08R - JC, K, V, hold short H, contact Ground 121.7 (expect taxi via V, L, L6). Rwy 08L - JC, J, M, M10. Rwy 26R - JC, J, M, M9. Rwy 26L - JC, K, V, hold short H, contact Ground 121.7 (expect taxi via H, D).
Lima	Rwy 08L - L, H, hold short V, contact Ground 127.15 (expect taxi via H, M, M10). Rwy 26R - L, H, hold short V, contact Ground 127.15 (expect taxi via V, M, M9). Rwy 26L - L, J, H, D.
❶ Papa	Rwy 08R - P, M, V, hold short H, contact Ground 121.7 (expect taxi via V, L, L6). Rwy 08L - P, M, M10. Rwy 26R - P, M, M9. Rwy 26L - P, M, V, hold short H, contact Ground 121.7 (expect taxi via H, D).
Sierra	Rwy 08R - S, M, V, hold short H, contact Ground 121.7 (expect taxi via V, L, L6). Rwy 08L - S, M, M10. Rwy 26R - S, M, M9. Rwy 26L - S, M, V, hold short H, contact Ground 121.7 (expect taxi via H, D).
❶ Tango	Rwy 08R - T, M, V, hold short H, contact Ground 121.7 (expect taxi via V, L, L6). Rwy 08L - T, M, M10. Rwy 26R - T, M, M9. Rwy 26L - T, M, V, hold short H, contact Ground 121.7 (expect taxi via H, D).

❶ Taxi routes for A340-600, A350-900/-1000, B777-300/-300ER, B787-10.

CYVR/YVR

Apt Elev 13′

N49 11.7 W123 11.0

JEPPESEN VANCOUVER, BC

5 JUL 24 (10-9) Eff 11 Jul VANCOUVER INTL

D-ATIS	Data Comm: D-ATIS PDC	VANCOUVER Clearance	Ground North	Ground South
124.6		121.4	127.15	121.7

Tower North	Tower South			PACIFIC Radio	VANCOUVER Departure North	VANCOUVER Departure South
119.55	118.7	124.0	125.65	123.15	126.125	132.3

123-13 123-12 123-11 123-10 123-09

17°E

RUNWAY INCURSION HOT SPOTS

HS 1

See AIRPORT INFO (CONTD), TAKE-OFF MNMS for description of Hot Spots

For Arrival/Departure and Apron notes see AIRPORT INFO (CONTD), TAKE-OFF MNMS.

Take-off Run Available for Intersection Departures:

RUNWAY	INTERSECTION	RUNWAY REMAINING
08L	M8	9612′ (2930m)
	M6	7828′ (2386m)
	M4	6099′ (1859m)
26R	M7/N7	9612′ (2930m)
	M5	7828′ (2386m)
	M3	6103′ (1860m)
08R	A6	8800′ (2682m)
	L2	8665′ (2641m)
	A4	6801′ (2073m)
	H	5290′ (1612m)
	E	5104′ (1556m)
	L4/A	10,803′ (3293m)
26L	D7	10,803′ (3293m)
	D5/C	10,407′ (3172m)
	D3	7064′ (2153m)
	H	5580′ (1701m)
	E	5775′ (1760m)

MAX WINGSPAN	AVAILABLE TAXIWAYS
262.1′/79.9m	D, D5, D7, D9, DT, H (north of Rwy 08R/26L), J (north of parking position W2), JA, K (west of R), L (west of Rwy 13/31), L4, L6, M ❶, M5, M6, M7, M9, M10, R, V.
213.3′/65.0m	D, D3, D5, D7, D9, DT, DV, E (south of Rwy 08R/26L), H (north of Rwy 08R/26L), J, JA, JB, JC, K, L, L4, L6, M, M4, M5, M6, M7, M8, M9, M10, N7, P, Q, R, T, V.
	Not available for A340-600, A350-900/-1000, B777-300/-300ER, B787-10 only, due aircraft wheelbase: A (west of E), A4, A6, D1, DU, H4, E (north of Rwy 08R/26L), L2, M1, M2, M3.
170.6′/52.0m	A, A4, A6, C (north of F), D, D1, D3, D5, D7, D9, DR, DS, DT, DU, DV, DY, E, F (west of C), G, H, H2, H4, J, JA, JB, JC, K, L, L2, L4, L6, M, M1, M2, M3, M4, M5, M6, M7, M8, M9, M10, N7, P, Q, R, S, T, V.

Not all taxiways are available in conditions of less than RVR 12.

No right turns onto Twy H4 or Twy A from Twy H.

Rwy Dist To Go signs present on runways 08R/26L.

08L 083° Elev 13′

9941′ 3030m

26R 263° Elev 9′

13 125° Elev 8′

A 121′

7300′ 2225m

08R 083° Elev 9′

697′ 212m Runway End Safety Area

10,803′ 3293m

31 305° Elev 7′

697′ 212m Runway End Safety Area

Ground North

Ground South

De-icing Facility

Control Tower

ARP

Lima Holding Bay

HS 2

HS 3

HS 4

HS 5

CAT II HOLD POINT

CAT II/III HOLD POINT

GROUND RUNUP ENCLOSURE

Building Area

FOR PARKING POSITIONS SEE CHART PARKING POSITIONS (APRON 6), COORDS

FOR PARKING POSITIONS SEE CHART PARKING POSITIONS (COMMON USE CARGO), COORDS

FOR PARKING POSITIONS SEE CHART PARKING POSITIONS (SOUTH TERM), COORDS

FEDEX

PUROLATOR

Discretionary oversteer is required at every intersection for all aircraft types.

CAUTION: All jet aircraft turning from Twy F onto Twy C, light aircraft susceptible to jetblast.

TAXIWAYS:

A: Compass Rose: Not available sunset - sunrise.

A2: Available to aircraft with MTOW 50,000lbs (22,680kg) (DHC-8 300/Lear 60) & less.

C (south of F): Available to aircraft with wingspan 118.1′/36.0m (A321/B737) & smaller only. Follow me required below RVR 1200, contact Airport Operations.

D: CAUTION: Aircraft cannot safely taxi via D east or west past aircraft at the D5 or D7 runway holding positions.

D (eastbound): LEFT turns onto H available to aircraft with wingspan 118.1′/36.0m (A321/B737) & smaller only.

D (westbound): No LEFT turns onto H. No left turn onto D7.

D1 (rapid exit): Design speed in wet conditions is 50 KT (93 km/h).

D2: Available to aircraft with MTOW 100,000lbs (45,359kg) (CRJ-900) & less.

D3 (rapid exit): Design speed in wet conditions is 50 KT (93 km/h).

D7: No RIGHT turns onto D.

DW: Available to aircraft with wingspan 134.8′/41.1m (B757) & smaller only.

E: Entry & exit at Apron 6 available to aircraft with wingspan 198.2′/60.4m (A330-300/B787-9) & smaller only.

F (east of C): Available to aircraft with wingspan 81.7′/24.9m (CRJ-900) & smaller only. Follow me required below RVR 1200, contact Airport Operations.

H (southbound): No RIGHT turns onto A, L or H4. RIGHT turns onto D available to aircraft with wingspan 118.1′/36.0m (A321/B737) & smaller only. No LEFT turns onto D1.

H (northbound): No LEFT turns onto V. No RIGHT turns onto D. RIGHT turns onto L available to aircraft with wingspan 118.1′/36.0m (A321/B737) & smaller only.

J (southbound): A340, B747 not authorized south of K due jet blast (available for aircraft under tow). All aircraft use minimum thrust when turning due jet blast.

J (northbound): LEFT turns onto K available to aircraft with wingspan 134.8′/41.1m (B757) & smaller only, due jet blast (available for aircraft under tow).

L: Entry & exit at Apron 6 available to aircraft with wingspan 118.1′/36.0m (A321/B737) & smaller only. No RIGHT turns onto V.

L4 (northbound): Only aircraft with max wingspan 170.6′/52.0m (A310/B767) can hold short of L while exiting/crossing Rwy 08R/26L due to aircraft tail height.

❶M: When A380 is on the taxilane between Gate 66 & P, M between J and T is available to aircraft with wingspan 134.8′/41.1m (B757) & smaller only.

M1-M6 (rapid exit): Design speed in wet conditions is 50 KT (93 km/h).

M4: LEFT and RIGHT turns onto M not available for A340-600, A350-900/-1000, B777-300/-300ER, B787-10 only, due to aircraft wheelbase.

P: RIGHT turns onto M available to aircraft with wingspan 170.6′/52.0m (A310/B767) & smaller only, due jet blast (available for aircraft under tow).

Q: Follow me required below RVR 1200, contact Airport Operations.

V: No LEFT turns onto L.

UNCONTROLLED TAXIWAYS:

C (south of F), F, J (between K and L), Q, DR, DS, DT, DU, DV and DW.

Feet 0 500 1000 1500 2000 2500 3000

Meters 0 200 400 600 800 1000

123-09

CHANGES: Twy D3 max wingspan note removed, Twy D3 restriction removed.

GENERAL

CAUTION: October - April migratory birds in vicinity of airport: Resident snow goose population, significant hazard at and below 400' AGL West of the threshold of Rwy 08R and Rwy 08L out to 1.9 NM.
CAUTION: Frequent VFR float aircraft activity on river south side of airport.

Multilateration: All fixed wing aircraft and rotorcraft must keep their transponder on at all times when taxiing and/or manoeuvring on the airport. For departures, turn on prior to contacting Ground Control for pushback; for arrivals, remain on until final engine shutdown. Pilots that do not have a transponder code issued by Ground Control must squawk 1000 when taxiing.

Procedure, ARRIVALS

Slots: In support of CYVR available arrival slots, IFR aircraft departure from KBLI or from within the Vancouver FIR except CYQQ, CYPW, CAT4, CBS8 or CSR6 destined for CYVR are required to contact TWR, FSS or FIC 30-90 minutes prior to departure for an approved departure time.

IFR aircraft departure CYQQ, CYPW, CAT4, CBS8 and CSR6 destined for CYVR are required to contact CYQQ Terminal 250-339-8115 30-45 minutes prior to departure for an approved departure time.

IFR aircraft departure CYYJ, contact CLNC DEL on frequency 126.4 30-90 minutes prior to departure for an approved departure time.

MEDEVAC IFR aircraft departure from all locations destined for CYVR shall contact the appropriate agency as soon as possible and advise of their proposed departure time.

Rwy Arrivals & Departures:

Rwy 08L arrivals: Use of reverse thrust is to be avoided or reduced when conditions permit. Twys M1, M3, M5 (rapid exit): Design speed in wet conditions is 50 KT (93 km/h).

Rwy 08R arrivals: Aircraft exiting onto Twy D1, turn North on Twy E, do not stop in runway area (See HOT SPOT 4). Twy D1, D3 (rapid exit): Design speed in wet conditions is 50 KT (93 km/h).

Rwy 13 departures: Not available for aircraft with wingspan greater than 213.3'/65m (A380/B747-8/AN124). Not authorized for A340-600, A350-900/-1000, B777-300/-300ER, B787-10.

Rwy 26R arrivals: Use of reverse thrust is to be avoided or reduced when conditions permit. Twys M2, M4, M6 (rapid exit): Design speed in wet conditions is 50 KT (93 km/h).

Rwy 26L arrivals: Turns onto Rwy 31 NOT AUTHORIZED without clearance. Aicraft exiting onto Rwy 13/31: RIGHT turns onto Twy D available to aircraft with wingspan 170.6'/52m (A310/B767) & smaller only. Aircraft exiting onto Twy H, hold short of Twy D, do not stop in rwy area (See HOT SPOT 4).

Rwy 31 arrivals: Not available for aircraft with wingspan greater than 213.3'/65m (A380/B747-8/AN124). Not authorized for A340-600, A350-900/-1000, B777-300/-300ER, B787-10.

UNCONTROLLED VEHICLES CROSSINGS

Twys DS, DT, DU, DV, DY, F, H (north of H4), J, JA, JB, JC, K, N7, P, Q, R, S, T, V.

APU SHUTDOWN PROCEDURE

Aircraft Auxiliary Power Unit (APU) use shall be limited to 15 minutes or less in total between on-block time and departure of aircraft from stands supplied with Ground Power Unit (GPU) and/or preconditioned air, for environmental reasons, if the outside air temperature is between 0 degrees and 20 degrees Celsius.

Aircraft shall not need to comply with the above limitations on stands not equipped with serviceable GPU and/or preconditioned air or if there are overriding health & safety considerations.

APRON

Apron 1, 2, 3, 4, 5, 6, 8: Prior Permission Required Airport Operations is required. Prior Permission Required for all engine airstarts or crossbleed starts. Advise ATC if ground crew not present at gate.
Apron 1, 2, 3: Hover taxi not authorized, helicopters must ground taxi or be towed.
Apron 1: Available to aircraft with wingspan 81.7'/24.9m (CRJ-900) & smaller only.
Apron 2: Available to aircraft with wingspan 170.6'/52m (A310/B767) & smaller only.
Apron 3: Available to aircraft with wingspan 118.1'/36m (A321/B737) & smaller only. Jets tow in & out.
Apron 4: Available to aircraft with wingspan 134.8'/41.1m (B757) & smaller only. Taxilane east of DW available to aircraft with wingspan 105.3'/32.1m (CV-580) & smaller only. Between Taxiway DW & FedEx not authorized for taxi below RVR 1200, follow me required, contact Airport Operations.
Apron 6 (Horseshoe): Taxilanes available to aircraft with wingspan 118.1'/36m (A321/B737) & smaller only.
Apron 6 (South): Taxilane between G & parking position S1 available to aircraft with wingspan 170.6'/52m (A310/B767) & smaller only.
Apron 6 (South): Taxilane east of parking position S1 available to aircraft with wingspan 198.2'/60.4m (A330-300/B787-9) & smaller only.
Apron 6 (North): Travelling eastbound, turns onto P avaiable to aircraft with wingspan 170.6'/52m (A310/B767) & smaller only due jet blast (available for aircraft under tow).
Apron 6 (North): When A380 is on M between J & T, the taxilane between Gate 66 & T is available to aircraft with winspan 134.8'/41.1m (B757) & smaller only.
Apron 6 (East): Bypass taxilane (amber inset lighting) available to aircraft with wingspan 118.1'/36m (A321/B737) & smaller only.
Apron 6 (East): Simultaneous use of dual taxilanes available to aircraft with wingspan 118.1'/36m (A321/B737) & smaller only.
Apron 6 (East): Pushbacks from parking positions E1-E3 to west taxilane. Pushbacks from parking positions E10-E19 to south taxilane.
Apron 8: Available to aircraft with wingspan 170.6'/52m (A310/B767) & smaller only.
Between Purolator & FedEx Aprons: Available to aircraft with wingspan 57.1'/17.4m (Metro III) & smaller only.
Departing A340-600, A350-900/-1000, B777-300/-300ER, B787-10 use the following coded taxi routes ONLY:

- Juliet - Alpha
- Juliet - Bravo
- Juliet - Charlie
- Papa
- Tango

ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS — LANDING BEYOND: Threshold	LANDING BEYOND: Glide Slope	TAKE-OFF	WIDTH
08R 26L	HIRL CL ❷ALSF-II TDZ ❸PAPI-L (angle 3.0°) RVR		9724' 2964m 9640' 2938m	11,500' 3505m	200' 61m
❷ Length 2400'. ❸ For aircraft with eye-to-wheel height up to 45'.					
08L 26R	HIRL CL ❹ALSF-II TDZ ❺PAPI-L (angle 3.0°) RVR		8887' 2709m 8935' 2723m		200' 61m
❹ Length 2400'. ❺ For aircraft with eye-to-wheel height up to 45'.					
13 31	MIRL ❻ODALS ❼PAPI-L (angle 3.0°)		6193' 1888m		200' 61m
❻ Length 1500'. ❼ For aircraft with eye-to-wheel height up to 45'.					

RUNWAY INCURSION HOT SPOTS

For information only, not to be construed as ATC instuctions.

HS 1 Twy D9 commences beyond the runway hold line for Rwy 08R/26L on Twy D and Twy DY. Aircraft cannot safely taxi via Twy D east or west past aircraft at the Twy D5 or Twy D7 hold lines.

HS 2 Twy L6 hold line for Rwy 08R is displaced 545' (166m) from runway edge.

HS 3 Taxiing to Rwy 08R/26L, aircraft fail to hold short and incur on Rwy 13/31 on Twy A. Taxiing across Rwy 08R/26L, aircraft fail to hold short and incur on Rwy 13/31 on Twy E.

HS 4 Aircraft taxiing H, southbound, hold line is located 100' (30m) back from the standard runway hold position. Aircraft exiting onto D1, turn north on E. Do not stop in runway area.

HS 5 Twy N7 hold line for Rwy 26R is displaced at intersection of Twy N7 and Apron 9 702' (214m) from runway edge.

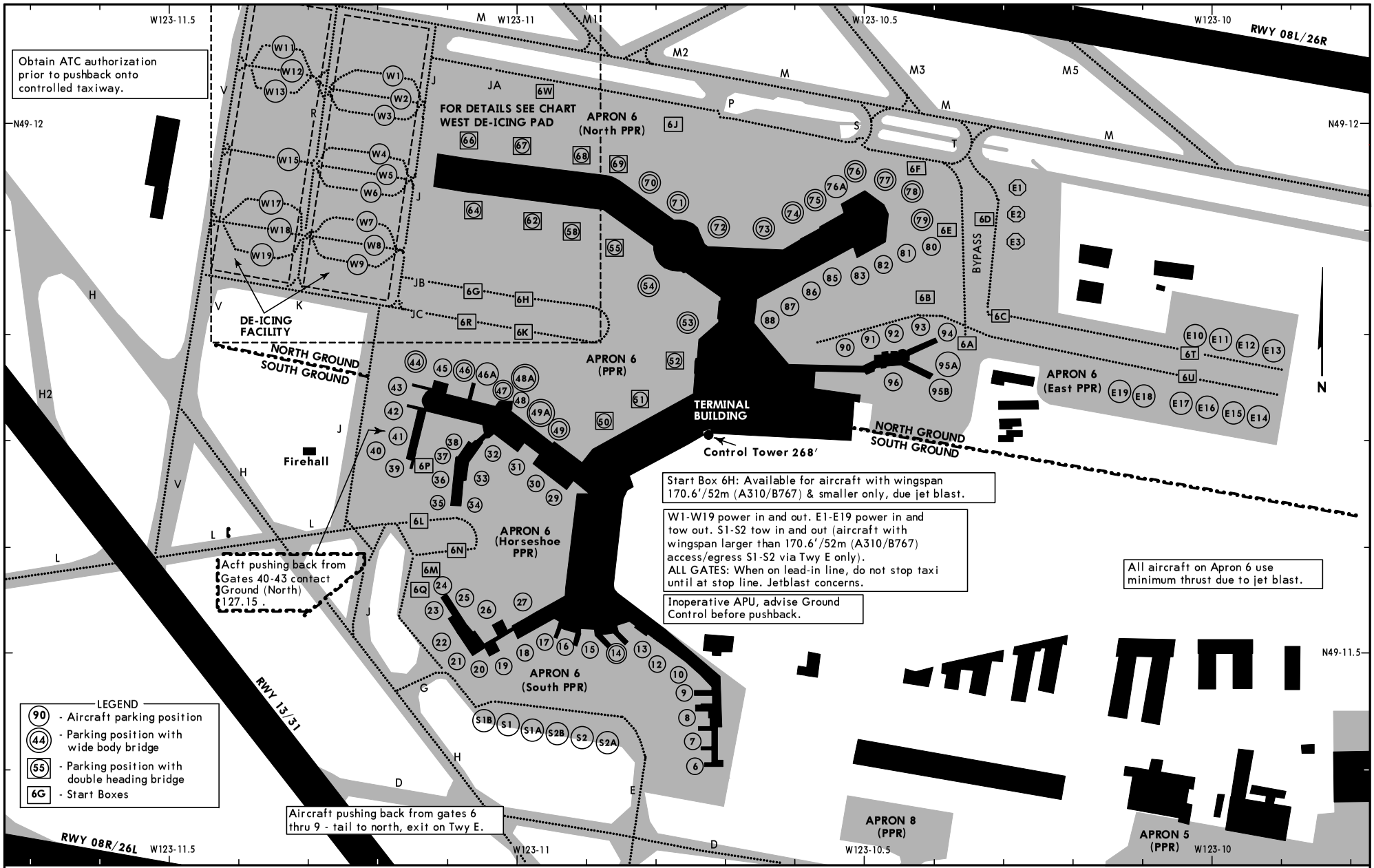
State — TAKE-OFF & DEPARTURE PROCEDURE

For departure procedure see Vancouver SID

	Rwys 08L/R, 26L/R			Rwys 13, 31
	Authorized Air Carriers		All Other Aircraft	
	HIRL & CL & RCLM	HIRL or CL or RCLM		
A B C D	TDZ RVR R6 Rollout or Mid RVR R6	❶ R12 or V1/4	R26 or V1/2	V1/2

❶ RVR 10 required for start.

CHANGES: Apron, Arrival, multilateration notes.

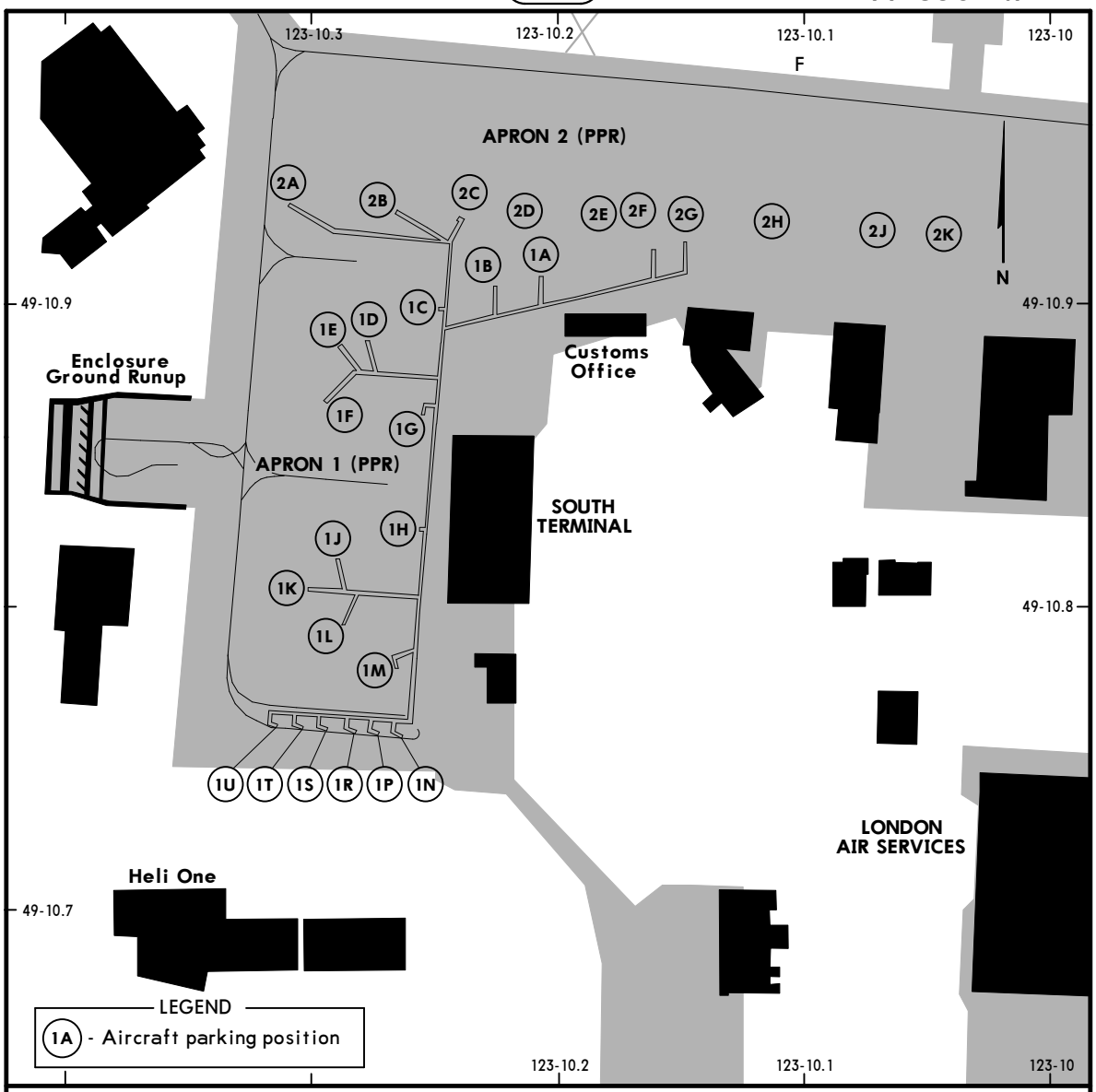


PARKING POSITION COORDINATES

POSITION No.	COORDINATES	POSITION No.	COORDINATES	POSITION No.	COORDINATES	POSITION No.	COORDINATES	POSITION No.	COORDINATES
6 thru 8	N49 11.4 W123 10.7	36 thru 38	N49 11.7 W123 11.1	66, 67	N49 12.0 W123 11.0	93, 94, 95A	N49 11.8 W123 10.4	S1, S1A, S1B	N49 11.4 W123 11.0
9, 10, 12, 13	N49 11.5 W123 10.8	39 thru 43	N49 11.7 W123 11.2	68, 69	N49 11.9 W123 10.9	95B	N49 11.7 W123 10.4	S2, S2A, S2B	N49 11.4 W123 10.9
14 thru 16	N49 11.5 W123 10.9	44 thru 46	N49 11.8 W123 11.1	70, 71	N49 11.9 W123 10.8	96	N49 11.7 W123 10.5	W1	N49 12.1 W123 11.2
17 thru 19	N49 11.5 W123 11.0	47	N49 11.8 W123 11.0	72, 73	N49 11.9 W123 10.7	E1 thru E3	N49 11.9 W123 10.3	W2 thru W4	N49 12.0 W123 11.2
20 thru 22	N49 11.5 W123 11.1	48, 49	N49 11.7 W123 11.0	74, 75	N49 11.9 W123 10.6	E10	N49 11.8 W123 10.0	W5, W6	N49 12.0 W123 11.3
23 thru 25	N49 11.6 W123 11.1	50	N49 11.7 W123 10.9	76, 78	N49 11.9 W123 10.5	E11 thru E13	N49 11.8 W123 09.9		
26, 27	N49 11.5 W123 11.0	51	N49 11.7 W123 10.8	77, 79, 80	N49 11.9 W123 10.4	E14	N49 11.7 W123 09.8	W7 thru W9	N49 11.9 W123 11.3
29	N49 11.7 W123 10.9	52 thru 54	N49 11.8 W123 10.8	81 thru 83	N49 11.8 W123 10.5	E15	N49 11.7 W123 09.9	W11 thru W13	N49 12.0 W123 11.3
30 thru 33	N49 11.7 W123 11.0	55, 58	N49 11.9 W123 10.9	85, 86 thru 88, 90	N49 11.8 W123 10.6	E16 thru E18	N49 11.7 W123 10.0	W15	N49 12.0 W123 11.4
34, 35	N49 11.6 W123 11.1	62, 64	N49 11.9 W123 11.0	91, 92	N49 11.8 W123 10.5	E19	N49 11.7 W123 10.1	W17 thru W19	N49 11.9 W123 11.4

CHANGES: Parking position 77A removed, 77 added.

VANCOUVER, BC
VANCOUVER INTL



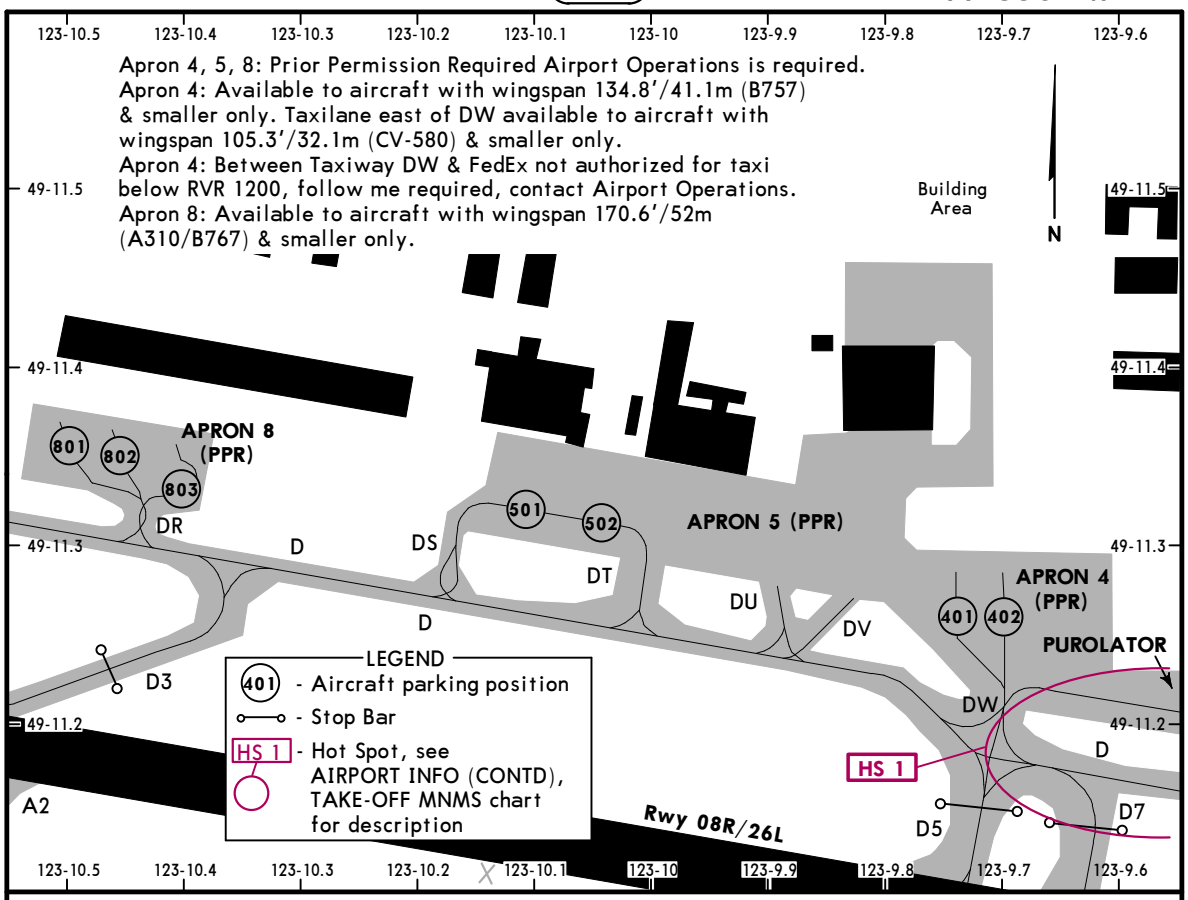
PARKING POSITION COORDINATES

POSITION No.	COORDINATES
1A, 1B, 1C	N49 10.9 W123 10.2
1D, 1E, 1F	N49 10.9 W123 10.3
1G	N49 10.9 W123 10.2
1H	N49 10.8 W123 10.2
1J, 1K, 1L, 1M, 1N	N49 10.8 W123 10.3
1P, 1R, 1S, 1T, 1U	N49 10.8 W123 10.3
2A	N49 10.9 W123 10.3
2B, 2C, 2D, 2E, 2F	N49 10.9 W123 10.2
2G, 2H, 2J	N49 10.9 W123 10.1
2K	N49 10.9 W123 10.0

CHANGES: None.

VANCOUVER, BC

VANCOUVER INTL



PARKING POSITION COORDINATES

POSITION No.	COORDINATES
401, 402	N49 11.3 W123 09.7
501	N49 11.3 W123 10.1
502	N49 11.3 W123 10.0
801, 802	N49 11.4 W123 10.5
803	N49 11.3 W123 10.4

CHANGES: Apron notes.

DE-ICING PROCEDURES

OVERVIEW:

West Pads is the Central De-Icing Facility (CDF) and handles de-icing for all aircraft excluding South Terminal aircraft capable of utilizing the Ground Run-Up Enclosure (GRE) which is the South De-Icing Facility.

WEST PADS (CDF):

1. Thirty (30) minutes prior to pushback or taxi, advise VANCOUVER DE-ICE on 129.95 and advise, "AIRCRAFT DE-ICING REQUIRED".
2. When requesting pushback or taxi clearance, contact Ground Control on assigned frequency and advise, "AIRCRAFT DE-ICING REQUIRED". Ground Control will issue taxi instructions to the West Pads (CDF).
3. Aircraft queuing into CDF is on W12 via Twy V or on Twy R via Twy M/Twy K. When instructed by Ground Control, contact PAD CONTROL 131.975.
4. Follow PAD CONTROL instructions to de-icing bay, stop with nose gear positioned on the yellow STOP BAR with brakes set.
5. Once aircraft is in final stop position, brakes are set and aircraft configured for de-icing, contact ICEMAN on 130.7 and advise, "BRAKES SET, AIRCRAFT CONFIGURED, READY TO DE-ICE". At this time, pass along any specific fluid and/or treatment requirements.
6. After de-icing is completed and the aircraft has been inspected, ICEMAN will provide post-treatment information.
7. When advised by ICEMAN, contact PAD CONTROL on 131.975 for exit instructions.
8. When advised by PAD CONTROL, contact Ground Control on assigned frequency for taxi instructions.

UNDER NO CIRCUMSTANCES MAY THE AIRCRAFT BE MOVED BEFORE PAD CONTROL ADVISES THAT THE AIRCRAFT IS CLEARED TO TAXI OUT OF THE BAY.

West Pads (CDF) De-Icing Bay Capacity:

Bay	Capacity	Inset Lighting	Bay	Capacity	Inset Lighting
W1 & W3	118.1' (36m)	AMBER	W8	213.3' (65m)	GREEN
W2	213.3' (65m)	GREEN	W11 & W13	118.1' (36m)	AMBER
W4	118.1' (36m)	AMBER	W12	262.1' (79.9m)	GREEN
W5	213.3' (65m)	GREEN	W15	213.3' (65m)	GREEN
W6	81.7' (24.9m)	AMBER	W17 & W19	118.1' (36m)	AMBER
W7 & W9	118.1' (36m)	AMBER	W18	262.1' (79.9m)	GREEN

GROUND RUN-UP ENCLOSURE (GRE):

Operators must receive an orientation for the GRE facility prior to use.

Crews may contact the VANCOUVER DE-ICE or call AeroMAG operations at 604-278-1901 to schedule de-icing up to 120 minutes prior to departure. Information required: aircraft type, flight number/call sign, and the type(s) of fluids required. Parking position 2A, on Apron 1, is the only staging position for the facility. Aircraft waiting to use the GRE must remain on their aprons until 2A becomes available.

ICEMAN will advise if engines should be running during de-icing.

ENTRY PROCEDURE:

1. Before contacting Ground Control for taxi, contact ICEMAN 130.925 for position in de-icing queue.
2. When ICEMAN approves access to either the staging position (2A) or GRE, contact Ground Control on assigned frequency for taxi.
3. Proceed as instructed by ICEMAN. CAUTION: DO NOT enter GRE until instructed by ICEMAN.
4. Advise ICEMAN 130.925 when stopped in the GRE.

DE-ICING PROCEDURE:

5. Contact ICEMAN 130.925 to confirm brakes set, aircraft configured, engines idle, and provide fluid requirements.
6. After de-icing is complete and the aircraft has been inspected, ICEMAN will provide posttreatment information.

EXIT PROCEDURE:

7. When ready to taxi contact ICEMAN 130.925 for instructions.
8. When advised by ICEMAN, contact Ground Control on assigned frequency for taxi instructions.

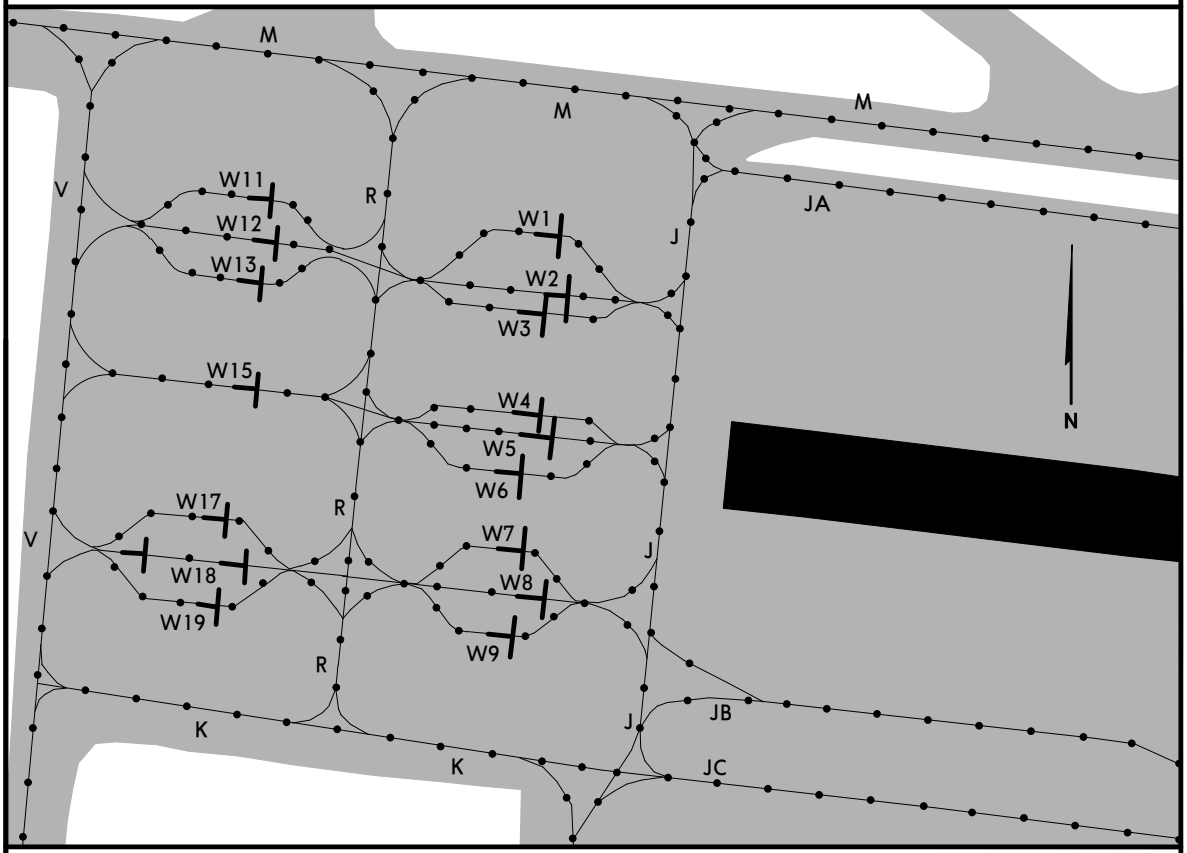
GRE DE-ICING CAPACITY:

The largest aircraft that can access the GRE via taxilane on Apron 2 are:

- Propellers (power in/out): Maximum wingspan: 94.8' (28.9m) (DHC8-Q400 and smaller)
- Jets (power in/out): Maximum wingspan: 70.9' (21.6m) (Dassault Falcon 900 with winglets and smaller)
- Jets (tow in, power out): Maximum wingspan: 94.8' (28.9m) (Global Express)

WEST DE-ICING PAD

Vancouver De-ice	Pad Control	Iceman	South Ground	North Ground
129.95	131.975	130.7	121.7	127.15

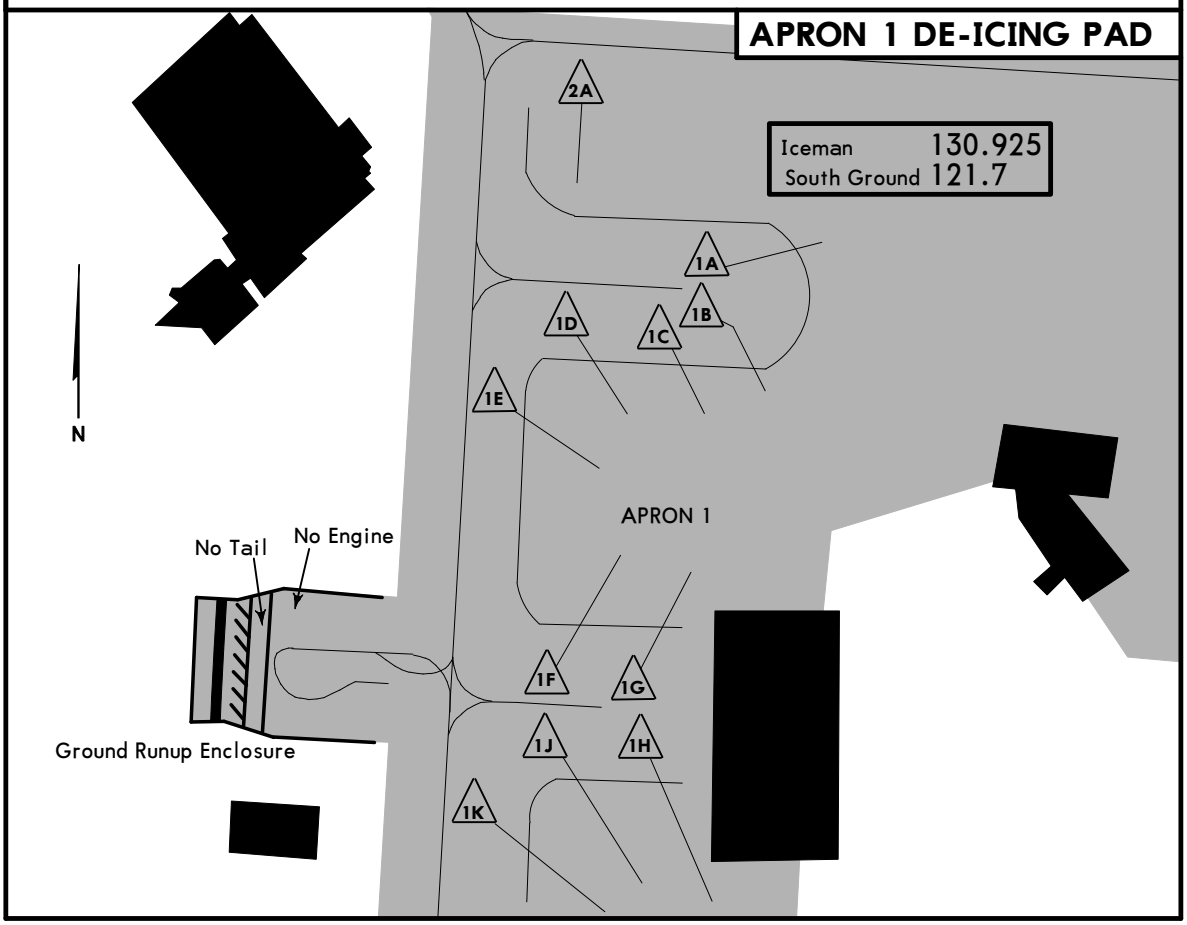


LEGEND

Hold line

Inset Guidance Lights

APRON 1 DE-ICING PAD



CHANGES: None.

LOW VISIBILITY PROCEDURES
(RVR LESS THAN 1200 TO 600 FT)

APPLICATION

These procedures apply to ground movements of aircraft arriving and departing under low visibility conditions. Arrivals and departures below RVR 600 are not authorized. When weather conditions indicate visibility below RVR 1200 is imminent, procedures will be implemented restricting aircraft and vehicle operations on the movement area. The following message will be added to the ATIS broadcast: Low visibility procedures in effect for (name of applicable runway).

GENERAL

Multilateration: All fixed wing aircraft and rotorcraft must keep their transponder on at all times when taxiing and/or manoeuvring on the airport. For departures, turn on prior to contacting Ground Control for pushback; for arrivals, remain on until final engine shutdown. Pilots that do not have a transponder code issued by Ground Control must squawk 1000 when taxiing.

Taxi Routes

Low Visibility Taxi Routes are equipped with green inset centerline lighting. Some taxiway/taxiway intersections have been indentified with three inset yellow centerline lights. Midfield crossings of 08R/26L are not permitted during low visibility operations.

Airport Surface Detection Equipment (ASDE)

Ground radar is used to monitor the position of aircraft operating on the maneuvering area. In the event of an ASDE failure, ATC may suspend, restrict or terminate low visibility operations.

DEPARTURES

The primary runways for departure are 08R/26L. Yellow flashing runway guard lights (wig-wags) and stop bars are installed abeam each hold line. Intersection take-offs are not permitted.

Sequencing of Aircraft Ground Movement for Take-off

Do not request start, push back or call for taxi clearance until the reported RVR is greater than:

Aircraft/Pilot Take-off Minima	Minimum RVR for Start
1200 RVR	1000 RVR
600 RVR	600 RVR

SMGCS Rwy 08L/26R and 08R/26L

Runway/taxiway intersections are equipped with yellow flashing runway guard lights and stop bars consisting of red inset lights and red elevated lights located at the taxi hold position. At runway entry points, M10, M8, M7, M9, N7, L4, L6, D, D5, D7, DY, C and A, when the red stop bar lights are illuminated, green lead-on lights beyond the stop bar are extinguished. When ATC issues a clearance to proceed onto the runway, the red stop bar lights will be extinguished and the green lead-on lights beyond the stop bar will be illuminated. The stop bar is reset automatically as the aircraft moves onto the runway.

"AT NO TIME SHALL A PILOT CROSS AN ILLUMINATED RED STOP BAR"

ARRIVALS

The primary runways for arrival are 08L/26R.

Plan to exit on the centerline lighted rapid exit taxiways and proceed beyond the alternating green and yellow centerline lights to the taxi intersection lights to ensure the aircraft is clear of the runway and the ILS sensitive area.

CHANGES: Multilateration note.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
15 MAR 24
Eff 21 Mar
10-9H

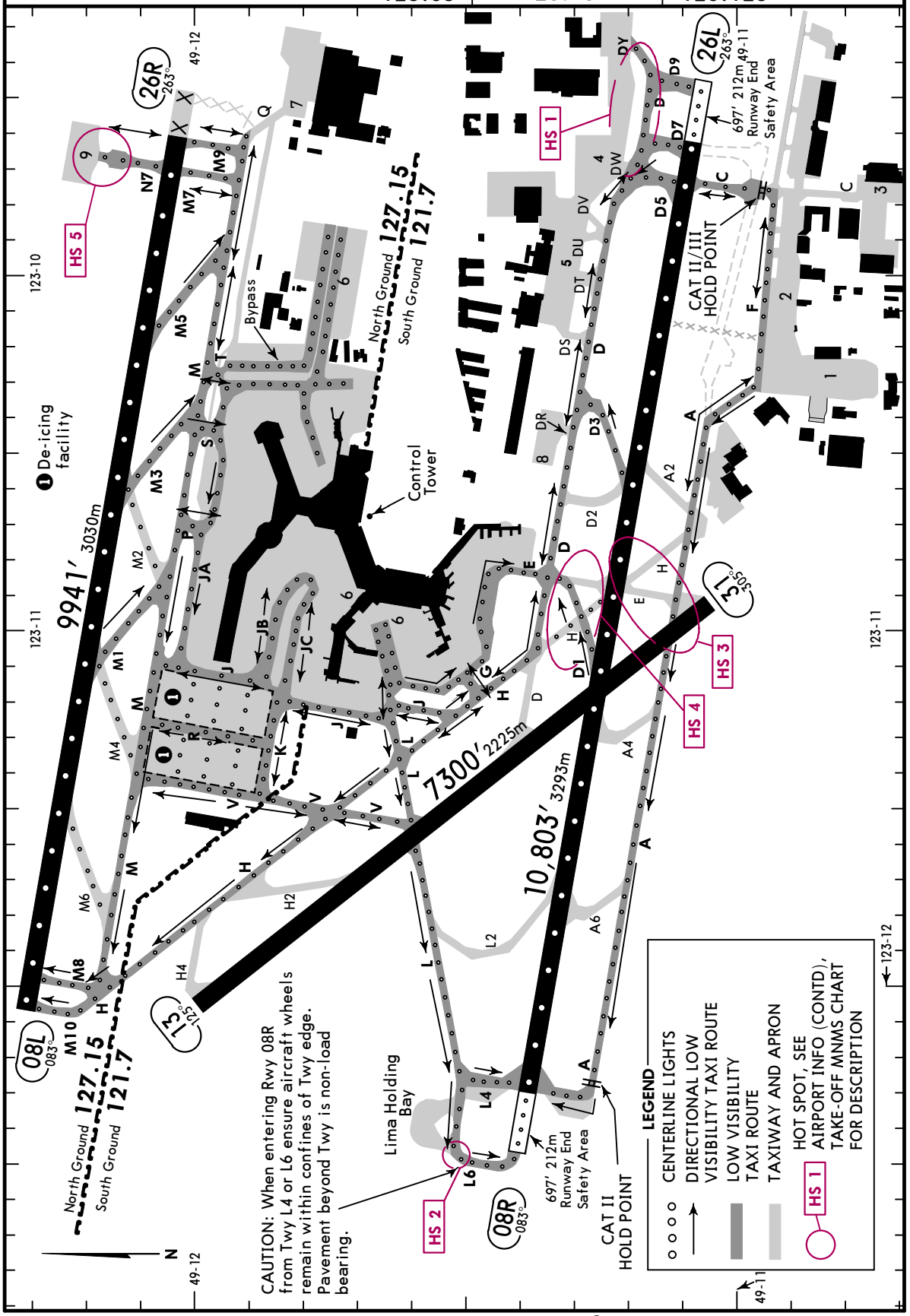
SMGCS

VANCOUVER, BC
LOW VISIBILITY TAXI CHART
LAND Rwy 08L/08R, DEPART Rwy 08L/08R
For Low Visibilty Procedures See 10-9D

LESS THAN RVR 1200 to 600

D-ATIS	Data Comm	VANCOUVER Clearance	Ground	
124.6	D-ATIS PDC	121.4	North 127.15	South 121.7

Tower				PACIFIC Radio	VANCOUVER Departure	
North 119.55	South 118.7	124.0	125.65	123.15	North 126.125	South 132.3



CHANGES: L2 centerline lights removed.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
15 MAR 24
Eff 21 Mar
10-9J

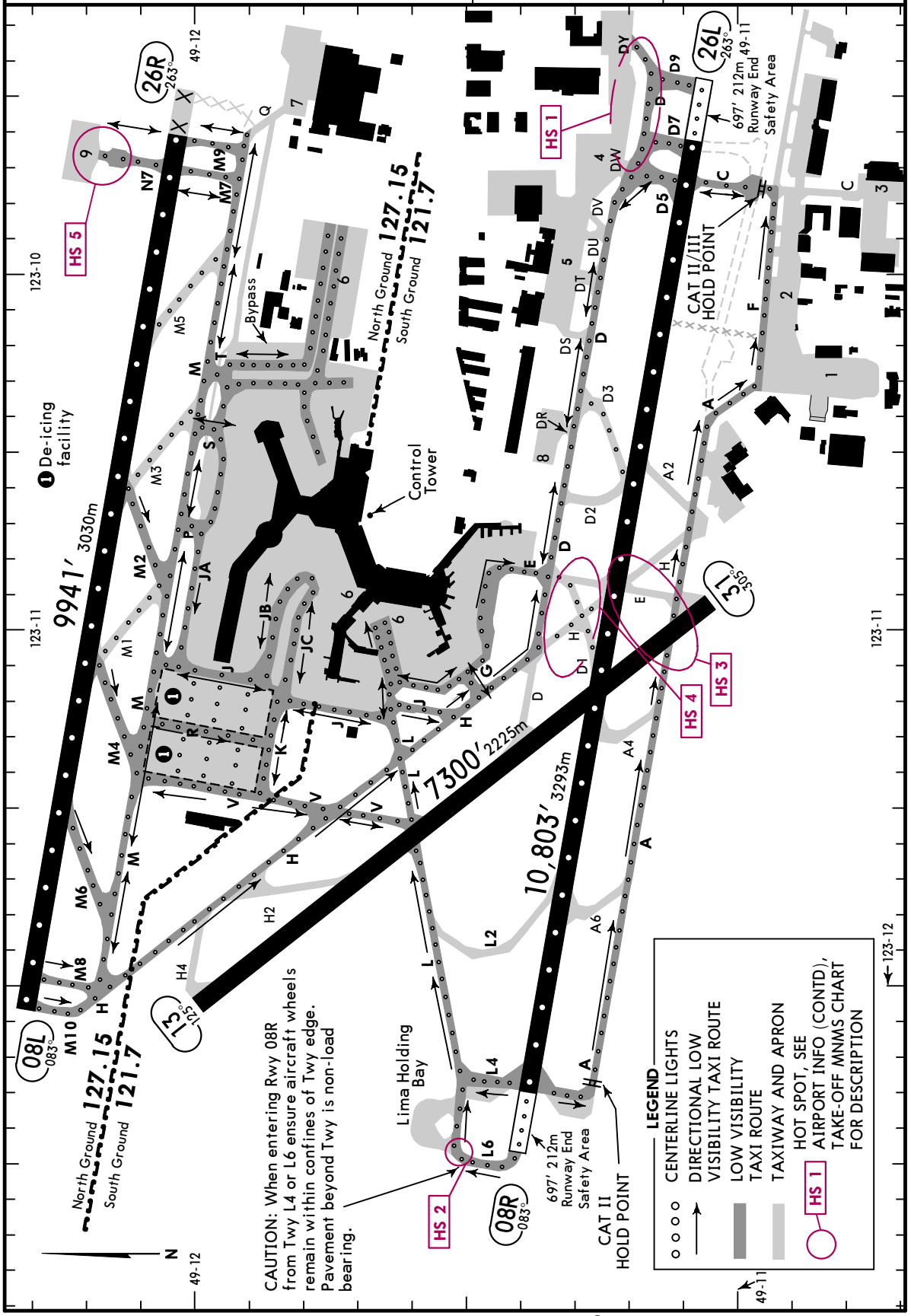
SMGCS

VANCOUVER, BC
LOW VISIBILITY TAXI CHART
LAND Rwy 26L/26R, DEPART Rwy 26L/26R
For Low Visibilty Procedures See 10-9D

LESS THAN RVR 1200 to 600

D-ATIS	Data Comm D-ATIS PDC	VANCOUVER Clearance	Ground	
124.6		121.4	North 127.15	South 121.7

Tower				PACIFIC Radio	VANCOUVER Departure	
North 119.55	South 118.7	124.0	125.65	123.15	North 126.125	South 132.3



CHANGES: L2 centerline lights and low vis taxi route removed.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (11-1)

VANCOUVER, BC
ILS Z Rwy 08L

BRIEFING STRIP ™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival	
124.6	123.15	Outer 128.17 128.6	Inner 133.1 134.225

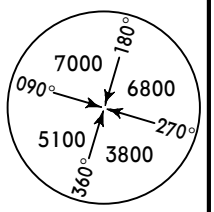
VANCOUVER Tower			Ground	
North		South	North	South
119.55	124.0	118.7	127.15	121.7

LOC ITL	Final Apch Crs	GS	ILS DA(H)	Apt Elev 13′
110.55	083°	OMRAD 2030′ (2017′)	Refer to Minimums	TDZE 13′

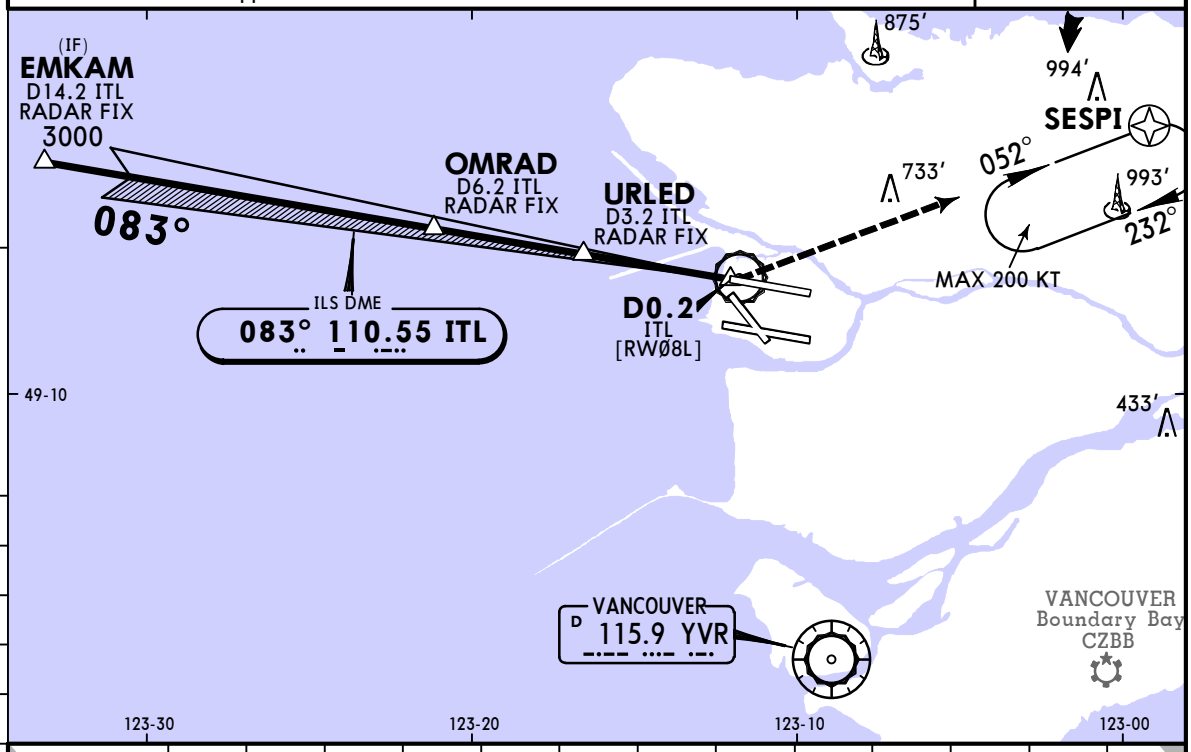
MISSED APCH: Do not exceed 230 KT until SESPI. Climbing LEFT turn to 3000′ direct to SESPI. As required shuttle climb.

Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

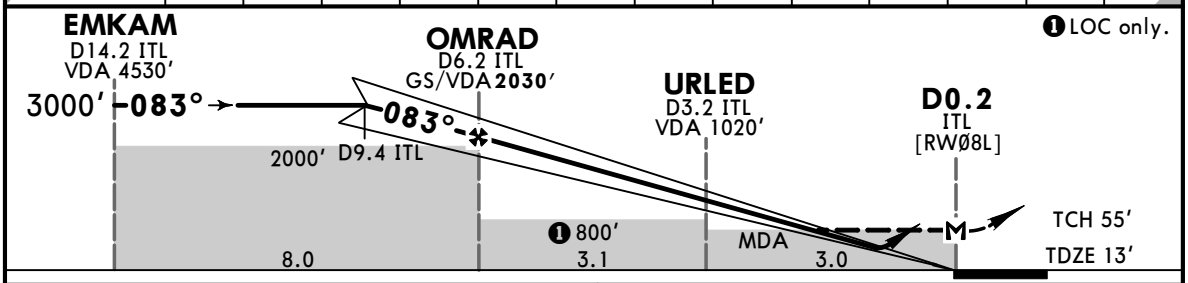
1. Radar or RNAV required. 2. SAFE ALTITUDE WITHIN 100 NM 12,800′. 3. Procedure turn NOT AUTHORIZED. 4. Simultaneous approach AUTHORIZED with Rwy 08R. 5. Localizer reliable only within 10° either side of centerline. 6. Non RNAV aircraft must obtain missed approach instructions from ATC.



MSA YVR VOR



NM to ITL DME	14.2	12.0	11.0	10.0	9.4	8.0	7.0	6.0	5.0	4.0	3.0	2.0	0.9
VDA ALTITUDE	4530′	3830′	3510′	3190′	3000′	2560′	2240′	1920′	1600′	1280′	970′	650′	300′



Gnd speed-Kts		70	90	100	120	140	160
GS/VDA	3.00°	372	478	531	637	743	849
MAP at D0.2 ITL							
OMRAD to MAP	6.1	5:14	4:04	3:40	3:03	2:37	2:17

ALSF-II | PAPI | 230 KT MAX UNTIL SESPI | 3000′ LT | D | SESPI

State — STRAIGHT-IN LANDING

	ILS DME or ILS RADAR		LOC (GS out) DME or LOC (GS out) RADAR	
	DA(H) 213′ (200′)	DA(H) 263′ (250′)	MDA(H) 300′ (287′)	
		HIALS out		HIALS out
A B C D	R26 or V1/2	R50 or V1	R50 or V1	

CHANGES: New AOM layout.

CYVR/YVR VANCOUVER INTL

JEPPESEN

16 FEB 24 (11-1A)

VANCOUVER, BC ILS CAT II or III Y Rwy 08L

BRIEFING STRIP ™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival Outer	VANCOUVER Arrival Inner
124.6	123.15	128.17 128.6	133.1 134.225

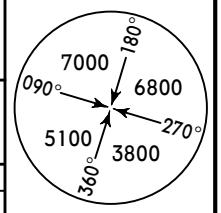
VANCOUVER Tower North	VANCOUVER Tower	VANCOUVER Tower South	Ground North	Ground South
119.55	124.0	118.7	127.15	121.7

LOC ITL	Final Apch Crs	GS	CAT IIIC	CAT IIIB	CAT IIIA	CAT II ILS	Apt Elev
110.55	083°	OMRAD 2030′ (2017′)	NA	NA	Refer to Minimums	RA 113′ DA(H) 113′(100′)	13′ TDZE 13′

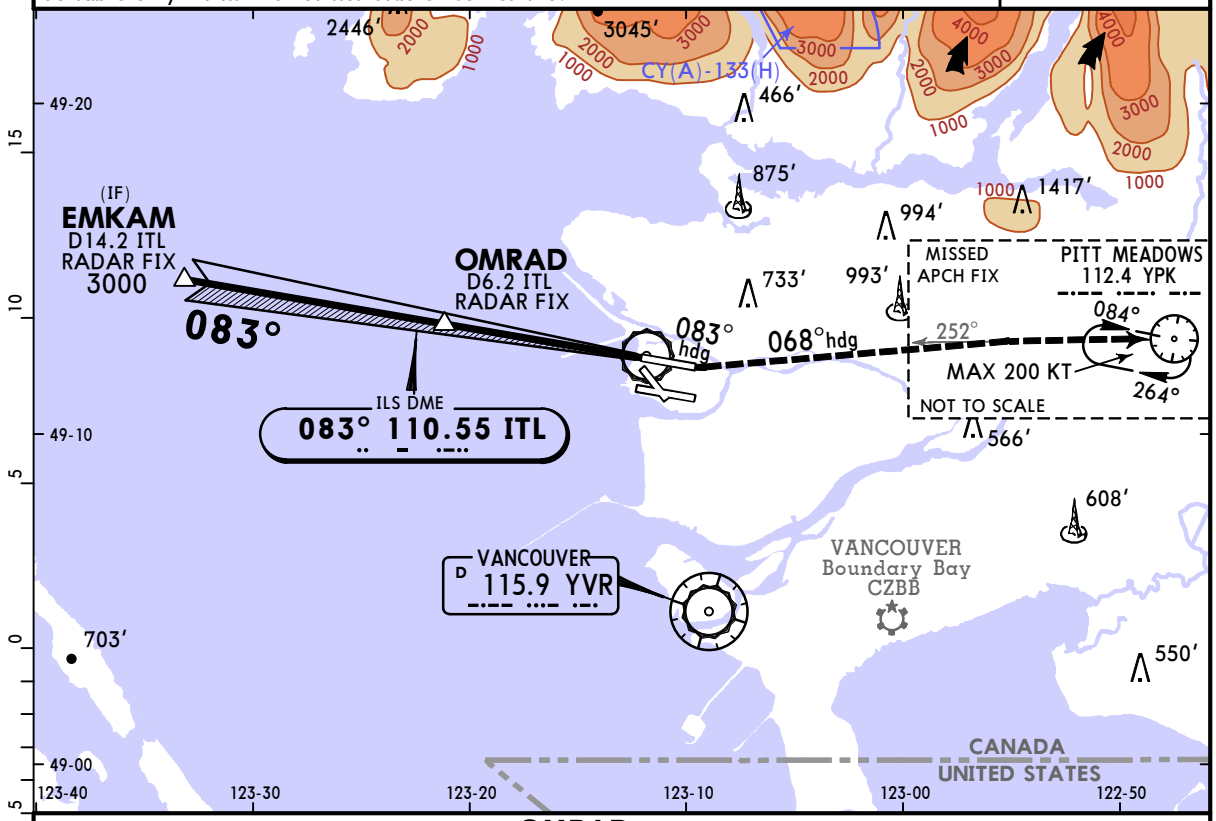
MISSED APCH: Climb to 420′ heading 083°. Then climbing LEFT turn to 3500′ heading 068°. Intercept inbound R-252 YPK to YPK VOR.

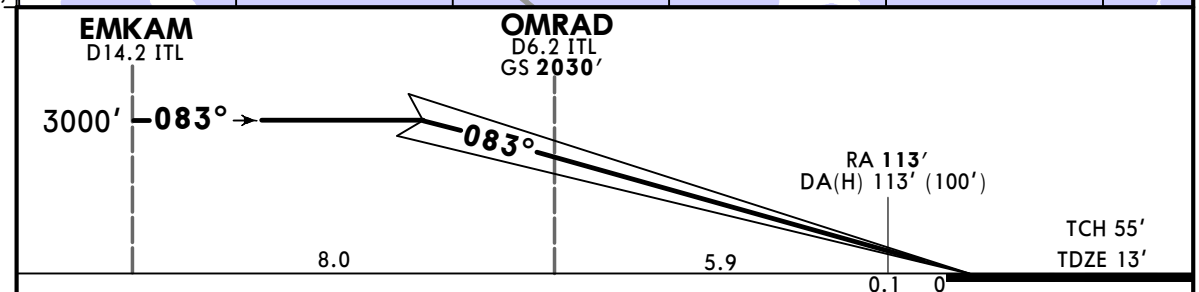
Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

1. Radar or RNAV required. 2. PRIOR AUTHORIZATION REQUIRED FROM TRANSPORT CANADA. 3. SAFE ALTITUDE WITHIN 100 NM 12,800′. 4. Procedure turn NOT AUTHORIZED. 5. Simultaneous approach AUTHORIZED with Rwy 08R. 6. Localizer reliable only within 10° either side of centerline.



MSA YVR VOR





Gnd speed-Kts		70	90	100	120	140	160
GS	3.00°	372	478	531	637	743	849

ALSF-II PAPI | 420′ | 083° hdg | 3500′ LT | 068° hdg

State STRAIGHT-IN LANDING

CAT IIIC ILS	CAT IIIB ILS	CAT IIIA ILS	CAT II ILS RA 113′ DA(H) 113′(100′)
NOT AUTHORIZED	NOT AUTHORIZED	R6	R12

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (11-2)

VANCOUVER, BC
ILS Rwy 08R

BRIEFING STRIP™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival	
124.6	123.15	Outer 128.17 128.6	Inner 133.1 134.225

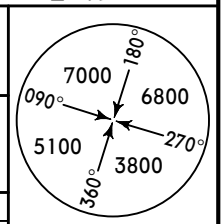
VANCOUVER Tower			Ground	
North 119.55	124.0	South 118.7	North 127.15	South 121.7

LOC IVR	Final Apch Crs	GS	ILS DME DA(H)	Apt Elev 13′
109.5	083°	TAVPI 2030′ (2021′)	Refer to Minimums	TDZE 9′

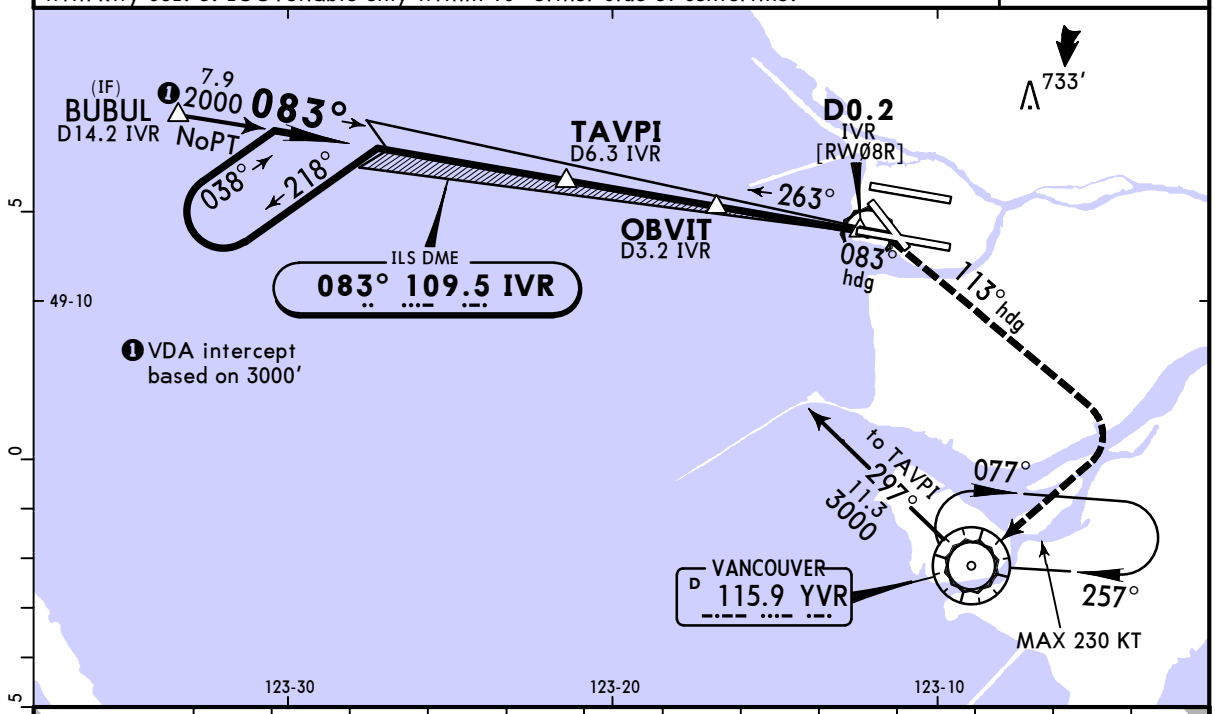
MISSED APCH: Climb to 420′ heading 083°. Then climbing RIGHT turn to 2000′ heading 113°. Then RIGHT turn direct to YVR VOR. Shuttle climb at YVR VOR to 5400′ before proceeding on course.

Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

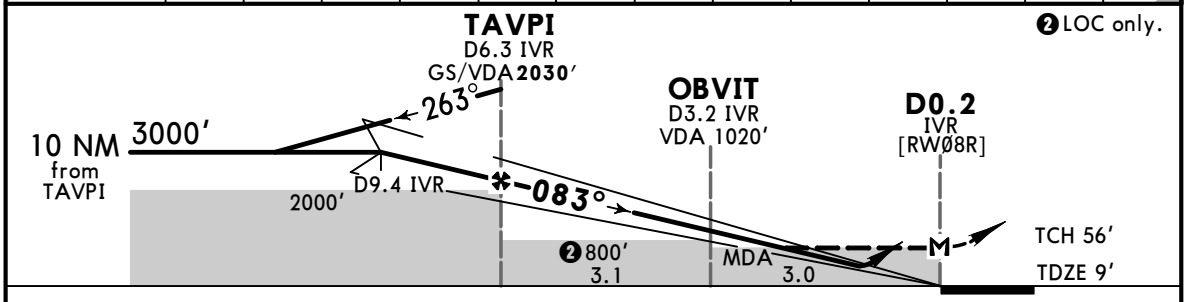
1. SAFE ALTITUDE WITHIN 100 NM 12,800′. 2. Simultaneous approach AUTHORIZED with Rwy 08L. 3. LOC reliable only within 10° either side of centerline.



MSA YVR VOR



NM to IVR DME	14.2	12.0	11.0	10.0	9.4	8.0	7.0	6.0	5.0	4.0	3.0	2.0	0.9
VDA ALTITUDE	4530′	3830′	3510′	3190′	3000′	2550′	2230′	1920′	1600′	1280′	960′	640′	280′



Gnd speed-Kts	70	90	100	120	140	160
GS/VDA 3.00°	372	478	531	637	743	849
MAP at D0.2 IVR						

ALSF-II
PAPI

420′	083° hdg	2000′ RT	113° hdg

State STRAIGHT-IN LANDING

	ILS DME		LOC (GS out) DME	
	DA(H) 209′(200′)	DA(H) 259′(250′)	MDA(H) 280′(271′)	
		HIALS out		HIALS out
A	R26 or V1/2	R50 or V1	R50 or V1	
B				
C				
D				

CHANGES: New AOM layout.

CYVR/YVR VANCOUVER INTL

JEPPESEN 16 FEB 24 (11-2A)

VANCOUVER, BC ILS CAT II or III Rwy 08R

D-ATIS	PACIFIC Radio	VANCOUVER Arrival Outer	VANCOUVER Arrival Inner
124.6	123.15	128.17 128.6	133.1 134.225

VANCOUVER Tower North	VANCOUVER Tower	VANCOUVER Tower South	Ground North	Ground South
119.55	124.0	118.7	127.15	121.7

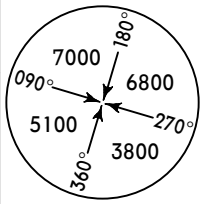
BRIEFING STRIP ™

LOC IVR	Final Apch Crs	GS	CAT IIIC	CAT IIIB	CAT IIIA	CAT II ILS	Apt Elev
109.5	083°	TAVPI 2030′ (2021′)	NA	NA	Refer to Minimums	RA 99′ DA(H) 109′ (100′)	13′ TDZE 9′

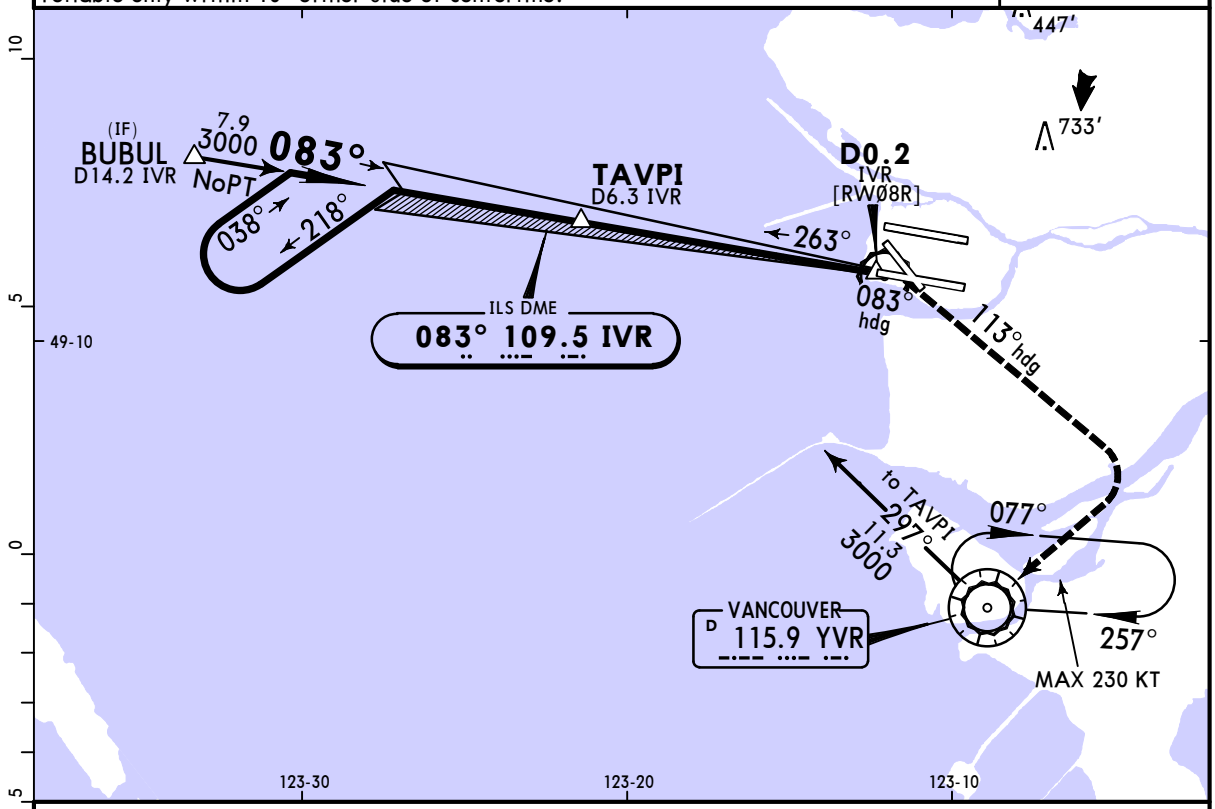
MISSED APCH: Climb to 420′ heading 083°. Then climbing RIGHT turn to 2000′ heading 113°. Then RIGHT turn direct to YVR VOR. Shuttle climb at YVR VOR to 5400′ before proceeding on course.

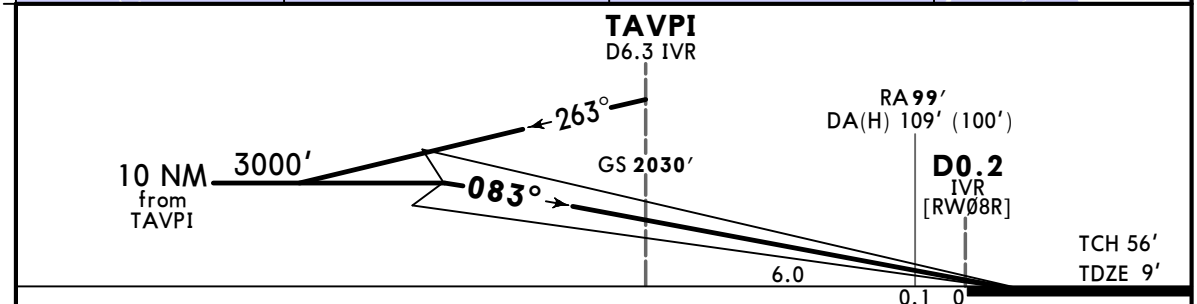
Alt Set: INCHES Trans level: FL180 Trans alt: 18000′

1. PRIOR AUTHORIZATION REQUIRED FROM TRANSPORT CANADA. 2. SAFE ALTITUDE WITHIN 100 NM 12,800′. 3. Simultaneous approach AUTHORIZED with Rwy 08L. 4. LOC reliable only within 10° either side of centerline.



MSA YVR VOR





Gnd speed-Kts	70	90	100	120	140	160
GS 3.00°	372	478	531	637	743	849

ALSF-II PAPI | 420′ | 083° hdg | 2000′ RT | 113° hdg

State STRAIGHT-IN LANDING

CAT IIIC ILS	CAT IIIB ILS	CAT IIIA ILS	CAT II ILS RA 99′ DA(H) 109′ (100′)
NOT AUTHORIZED	NOT AUTHORIZED	R6	R12

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (11-3)

VANCOUVER, BC
ILS Rwy 13

BRIEFING STRIP ™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival	
		Outer	Inner
124.6	123.15	128.17 128.6	133.1 134.225

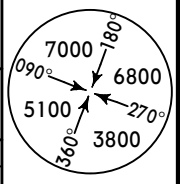
VANCOUVER Tower			Ground	
North		South	North	South
119.55	124.0	118.7	127.15	121.7

LOC IMK	Final Apch Crs	GS DATSI	ILS DME DA(H)	Apt Elev 13′ TDZE 8′
111.1	125°	2340′ (2332′)	258′ (250′)	

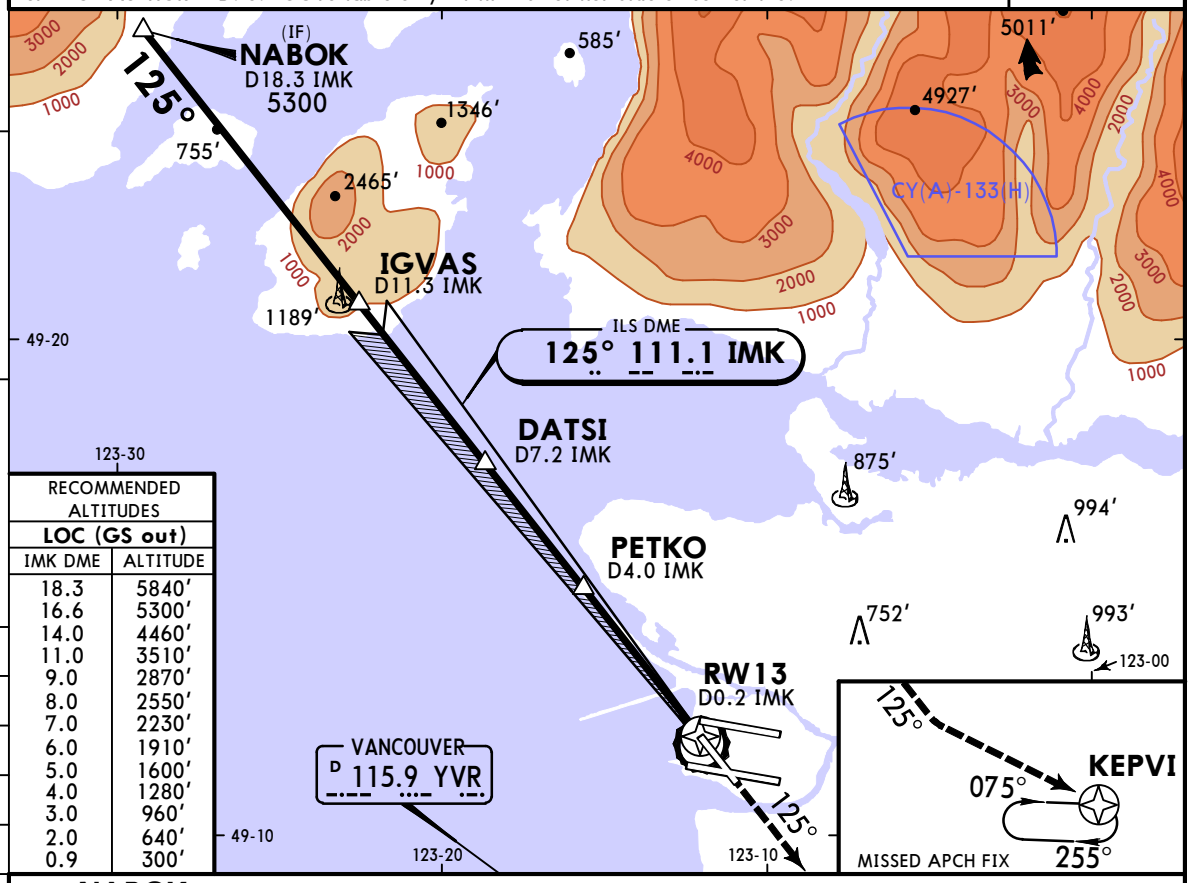
MISSED APCH: Climb to 3000′ track 125°. Then LEFT turn direct to KEPVI. Shuttle to 7600′ before proceeding on course.

Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

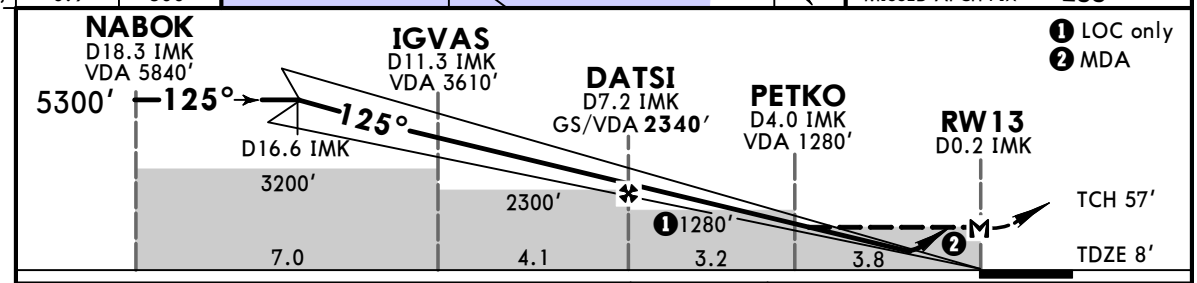
1. RADAR required. 2. GNSS required. 3. SAFE ALTITUDE WITHIN 100 NM 12,800′. 4. Procedure turn NOT AUTHORIZED. 5. LOC reliable only within 10° either side of centerline.



MSA YVR VOR



RECOMMENDED ALTITUDES	
LOC (GS out)	
IMK DME	ALTITUDE
18.3	5840′
16.6	5300′
14.0	4460′
11.0	3510′
9.0	2870′
8.0	2550′
7.0	2230′
6.0	1910′
5.0	1600′
4.0	1280′
3.0	960′
2.0	640′
0.9	300′



Gnd speed-Kts		70	90	100	120	140	160
GS/VDA	3.00°	372	478	531	637	743	849
MAP at RW13							

ODALS
PAPI
3000′
125°
KEPVI
LT

State

STRAIGHT-IN LANDING

ILS DME		LOC (GS out) DME	
DA(H) 258′ (250′)		MDA(H) 300′ (292′)	
ALS out		ALS out	
A			
B			
C	V1	V1	
D			

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (11-4)

VANCOUVER, BC
ILS Rwy 26L

BRIEFING STRIP ™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival	
		Outer	Inner
124.6	123.15	128.17 128.6	133.1 134.225

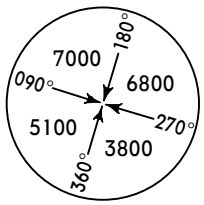
VANCOUVER Tower			Ground	
North		South	North	South
119.55	124.0	118.7	127.15	121.7

LOC IFZ	Final Apch Crs	GS	ILS DA(H)	Apt Elev 13′
110.7	263°	DUTOM 2030′ (2023′)	Refer to Minimums	TDZE 7′

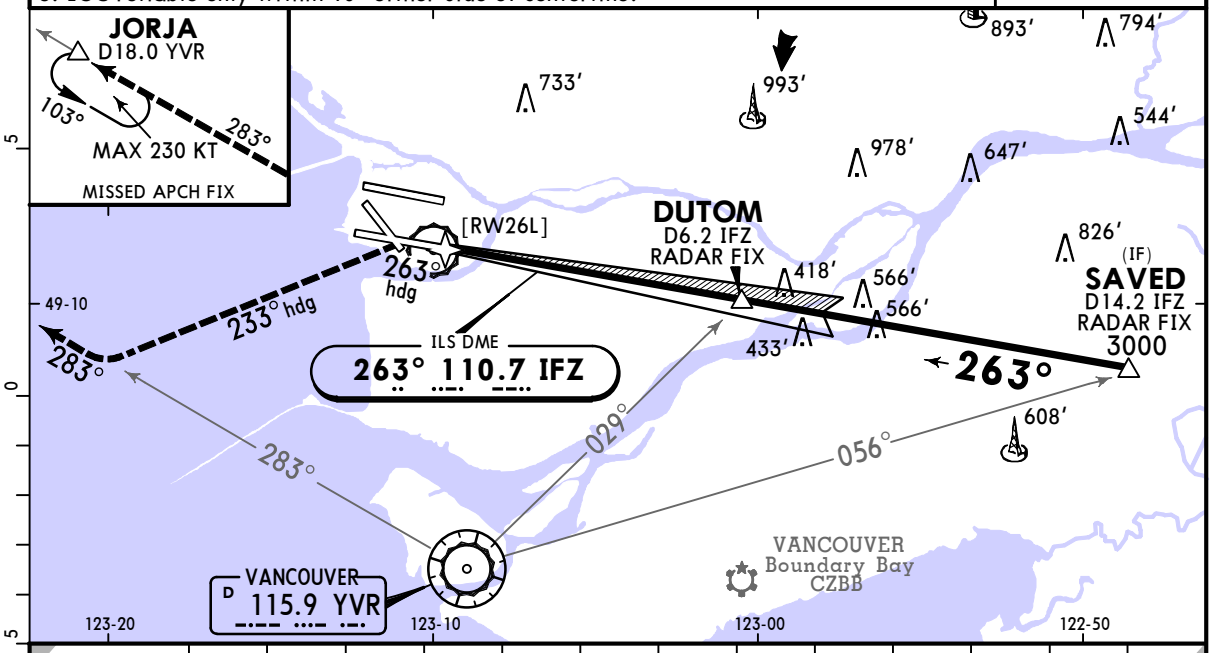
MISSED APCH: Climb to 420′ heading 263°. Then climbing LEFT turn to 2000′ heading 233°. Intercept outbound R-283 YVR VOR. Then climb to 3000′ to JORJA. Shuttle climb at JORJA to 4800′ before proceeding on course.

Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

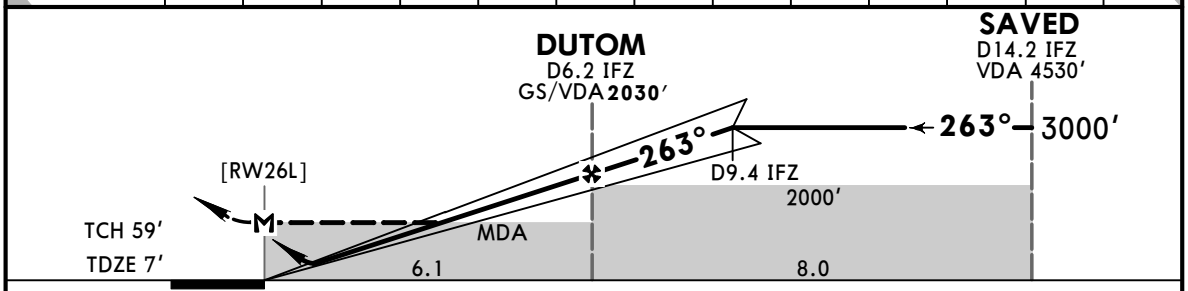
1. Radar or RNAV required. 2. SAFE ALTITUDE WITHIN 100 NM 12,800′. 3. Procedure turn NOT AUTHORIZED. 4. Simultaneous approach AUTHORIZED with Rwy 26R. 5. LOC reliable only within 10° either side of centerline.



MSA YVR VOR



NM to IFZ DME	1.7	3.0	4.0	5.0	6.0	7.0	8.0	9.4	10.0	11.0	12.0	13.0	14.2
VDA ALTITUDE	540′	960′	1280′	1600′	1920′	2230′	2550′	3000′	3190′	3510′	3830′	4140′	4530′



Gnd speed-Kts		70	90	100	120	140	160
GS/VDA	3.00°	372	478	531	637	743	849
DUTOM to MAP	6.1	5:14	4:04	3:40	3:03	2:37	2:17

ALSF-II
PAPI

420′	263° hdg	2000′ LT	233° hdg

State STRAIGHT-IN LANDING

	ILS DME or ILS RADAR		LOC (GS out) DME or LOC (GS out) VOR	
	DA(H) 207′ (200′)	DA(H) 257′ (250′) HIALS out	MDA(H) 540′ (533′)	HIALS out
A	R26 or V1/2	R50 or V1	V1 1/4	V1 3/4
B				
C				
D				

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (11-4A)

VANCOUVER, BC
ILS CAT II or III Rwy 26L

BRIEFING STRIP™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival Outer	VANCOUVER Arrival Inner
124.6	123.15	128.17 128.6	133.1 134.225

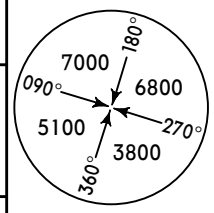
VANCOUVER Tower North	VANCOUVER Tower South	Ground North	Ground South
119.55	124.0	127.15	121.7

LOC IFZ	Final Apch Crs	GS	CAT IIIC	CAT IIIB	CAT IIIA	CAT II ILS	Apt Elev
110.7	263°	DUTOM 2030′ (2023′)	NA	NA	Refer to Minimums	RA 103′ DA(H) 107′(100′)	13′ TDZE 7′

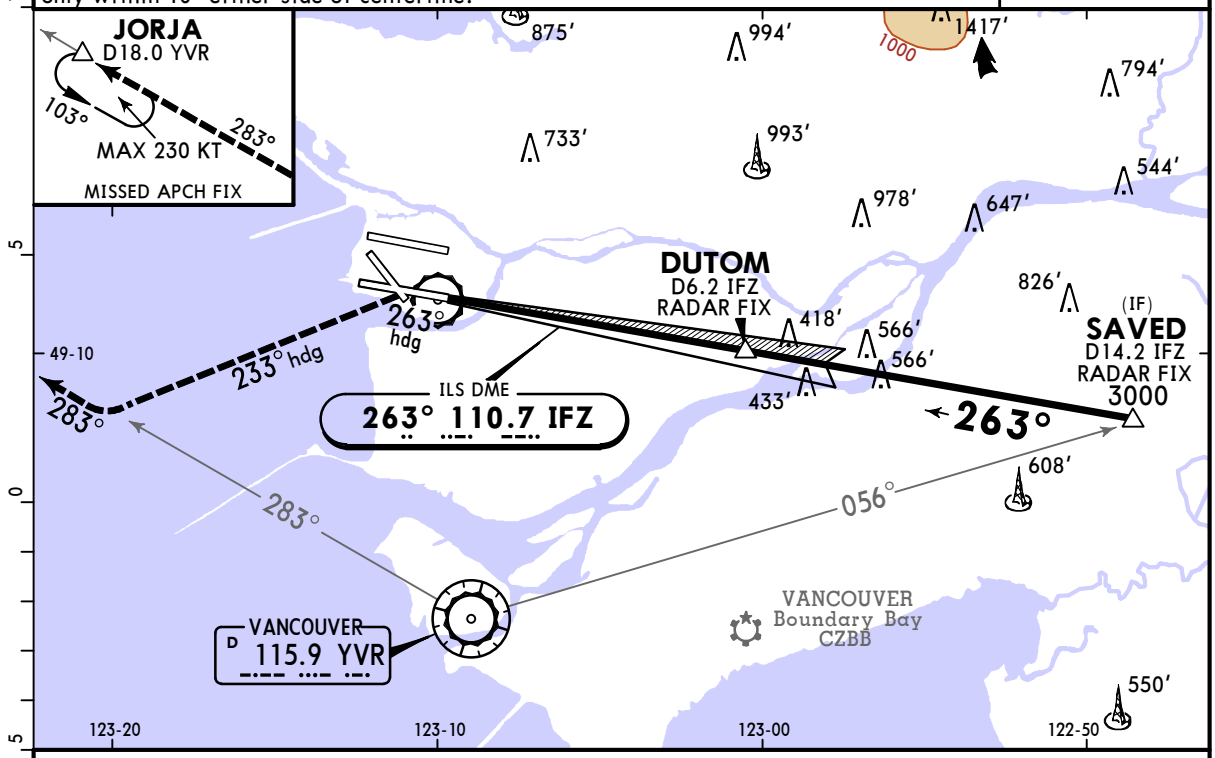
MISSED APCH: Climb to 420′ heading 263°. Then climbing LEFT turn to 2000′ heading 233°. Intercept outbound R-283 YVR VOR. Then climb to 3000′ to JORJA. Shuttle climb at JORJA to 4800′ before proceeding on course.

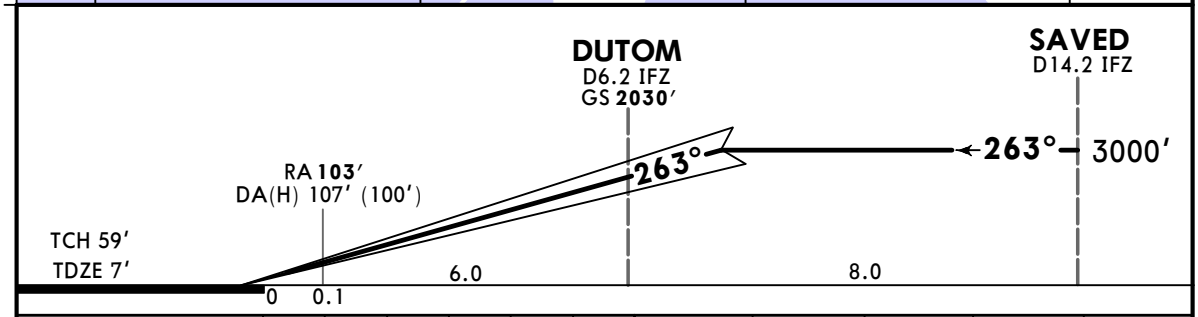
Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

1. Radar or RNAV required. 2. PRIOR AUTHORIZATION REQUIRED FROM TRANSPORT CANADA 3. SAFE ALTITUDE WITHIN 100 NM 12,800′. 4. Procedure turn NOT AUTHORIZED. 5. Simultaneous approach AUTHORIZED with Rwy 26R. 6. LOC reliable only within 10° either side of centerline.



MSA YVR VOR





Gnd speed-Kts		70	90	100	120	140	160
GS	3.00°	372	478	531	637	743	849

ALSF-II
PAPI

420′	263° hdg	2000′ LT	233° hdg

State STRAIGHT-IN LANDING

CAT IIIC ILS	CAT IIIB ILS	CAT IIIA ILS	CAT II ILS RA 103′ DA(H) 107′(100′)
NOT AUTHORIZED	NOT AUTHORIZED	R6	R12

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (11-5)

VANCOUVER, BC
ILS Rwy 26R

BRIEFING STRIP ™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival	
124.6	123.15	Outer 128.175 128.6	Inner 133.1 134.225

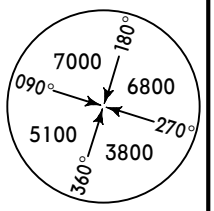
VANCOUVER Tower				Ground	
North			South	North	South
119.55	124.025	125.65	118.7	127.15	121.7

LOC IRD	Final Apch Crs	GS TOTIM	ILS DA(H)	Apt Elev 13′
111.95	263°	2000′ (1991′)	Refer to Minimums	TDZE 9′

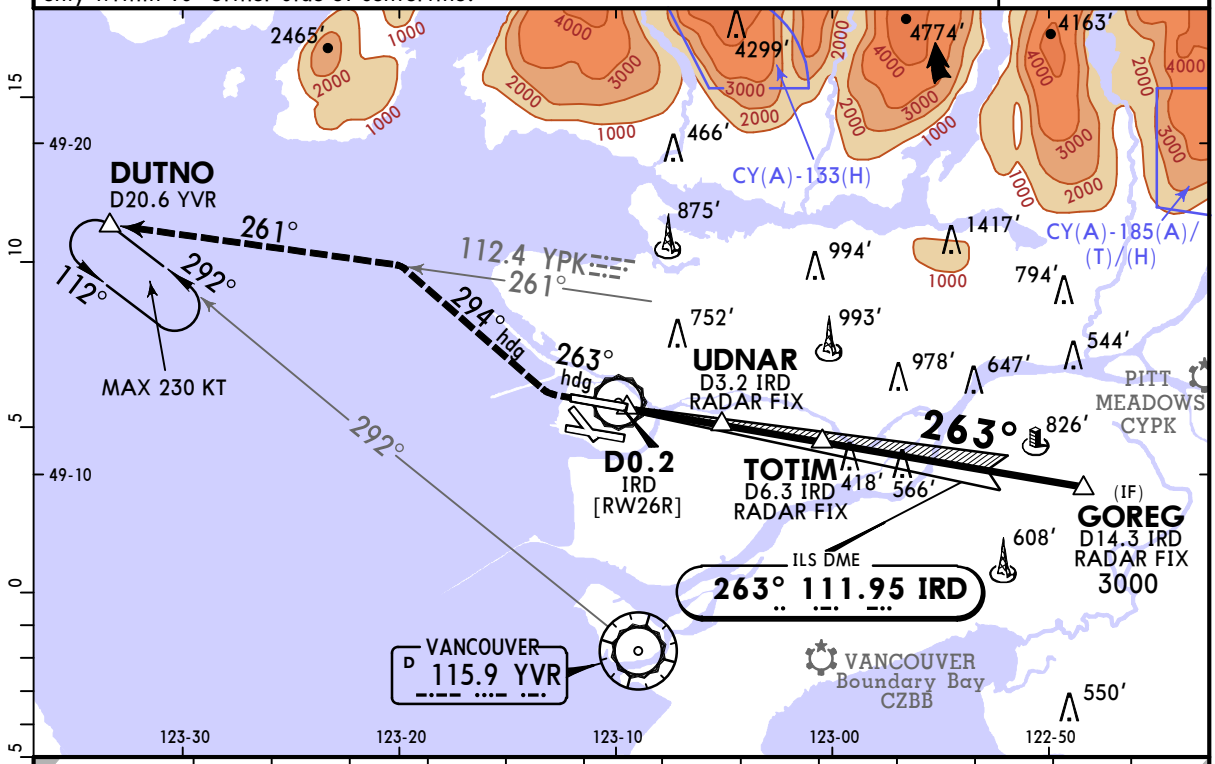
MISSED APCH: Climb to 420′ heading 263°. Then climbing RIGHT turn to 3000′ heading 294°. Intercept outbound YPK VOR R-261 to DUTNO. Shuttle climb at DUTNO to 5300′ before proceeding on course.

Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

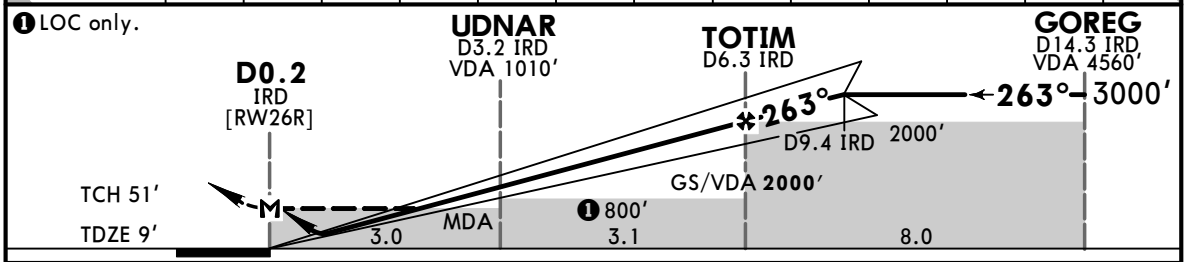
1. Radar or RNAV required. 2. SAFE ALTITUDE WITHIN 100 NM 12,800′. 3. Procedure turn NOT AUTHORIZED. 4. Simultaneous approach AUTHORIZED with Rwy 26L. 5. LOC reliable only within 10° either side of centerline.



MSA YVR VOR



NM to IRD DME	1.9	3.0	4.0	5.0	6.0	7.0	8.0	9.4	10.0	11.0	12.0	13.0	14.3
VDA ALTITUDE	600′	960′	1280′	1600′	1920′	2230′	2550′	3000′	3190′	3510′	3830′	4140′	4560′



Gnd speed-Kts		70	90	100	120	140	160
GS/VDA	3.00°	372	478	531	637	743	849
MAP at D0.2 IRD							
TOTIM to MAP	6.1	5:14	4:04	3:40	3:03	2:37	2:17

ALSF-II
PAPI

420′	263° hdg	3000′ RT	294° hdg

State STRAIGHT-IN LANDING

	ILS DME or ILS RADAR		LOC (GS out) DME or LOC (GS out) RADAR	
	DA(H) 209′ (200′)	DA(H) 259′ (250′)	MDA(H) 600′ (591′)	
		HIALS out		HIALS out
A B C D	R26 or V1/2	R50 or V1	V1 1/4	V1 3/4

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (11-5A)

VANCOUVER, BC
ILS CAT II or III Rwy 26R

BRIEFING STRIP ™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival Outer	VANCOUVER Arrival Inner
124.6	123.15	128.175 128.6	133.1 134.225

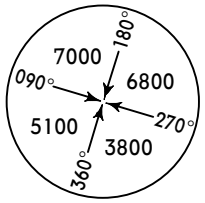
VANCOUVER Tower North	VANCOUVER Tower South	Ground North	Ground South
119.55 124.025 125.65	118.7	127.15	121.7

LOC IRD	Final Apch Crs	GS TOTIM	CAT IIIC	CAT IIIB	CAT IIIA	CAT II ILS	Apt Elev
111.95	263°	2000′ (1991′)	NA	NA	Refer to Minimums	RA 106′ DA(H) 109′(100′)	13′ TDZE 9′

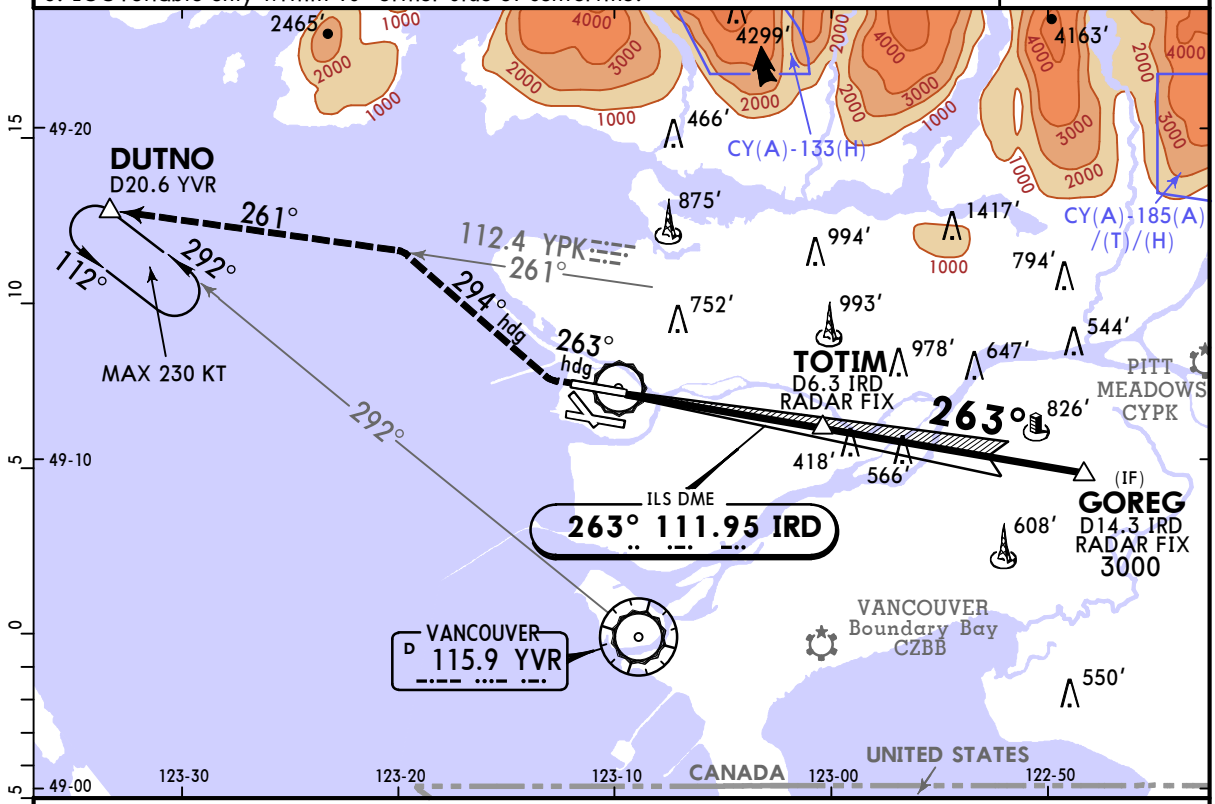
MISSED APCH: Climb to 420′ heading 263°. Then climbing RIGHT turn to 3000′ heading 294°. Intercept outbound R-261 YPK VOR to DUTNO. Shuttle climb at DUTNO to 5300′ before proceeding on course.

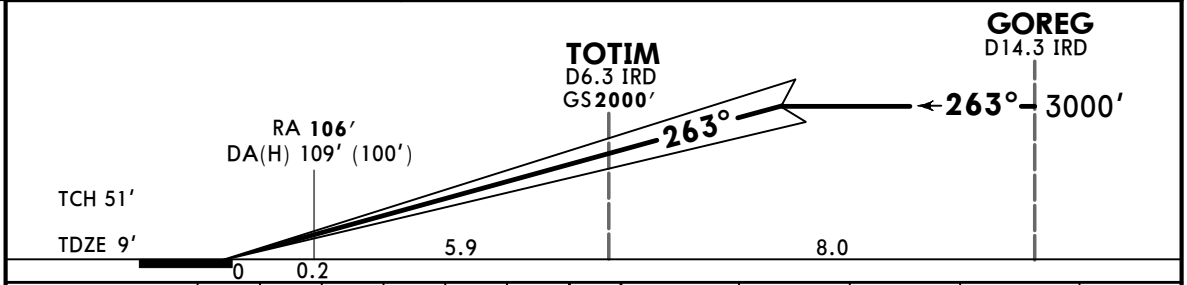
Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

1. Radar or RNAV required. 2. PRIOR AUTHORIZATION REQUIRED FROM TRANSPORT CANADA. 3. SAFE ALTITUDE WITHIN 100 NM 12,800′. 4. Procedure turn NOT AUTHORIZED. 5. Simultaneous approach AUTHORIZED with Rwy 26L. 6. LOC reliable only within 10° either side of centerline.



MSA YVR VOR





Gnd speed-Kts	70	90	100	120	140	160
GS 3.00°	372	478	531	637	743	849

ALSF-II
PAPI
420′
263° hdg
3000′ RT
294° hdg

State

STRAIGHT-IN LANDING

CAT IIIC ILS	CAT IIIB ILS	CAT IIIA ILS	CAT II ILS RA 106′ DA(H) 109′(100′)
NOT AUTHORIZED	NOT AUTHORIZED	R6	R12

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (12-1)

VANCOUVER, BC
RNAV (GNSS) Z Rwy 08L

BRIEFING STRIP ™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival	
124.6	123.15	Outer 128.175 128.6	Inner 133.1 134.225

VANCOUVER Tower				Ground	
North			South	North	South
119.55	124.025	125.65	118.7	127.15	121.7

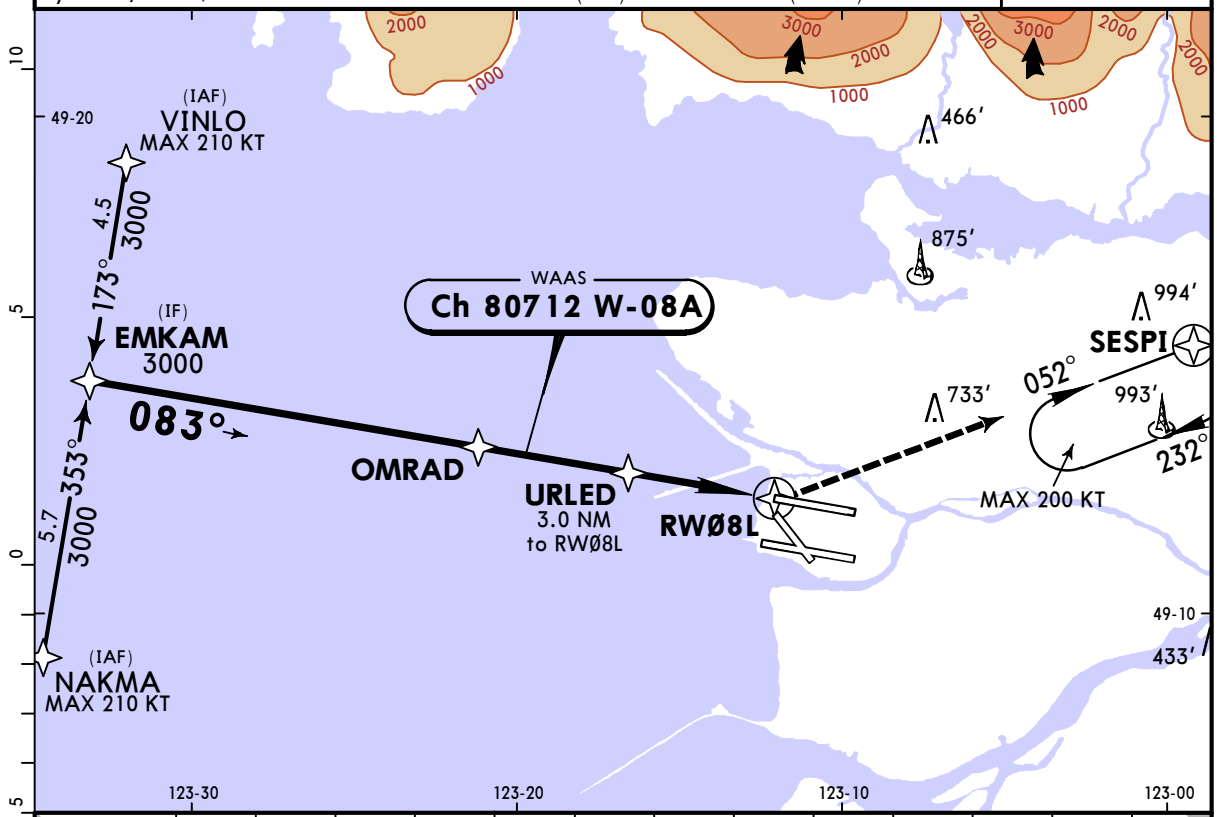
WAAS	Final Apch Crs	GPA	LPV DA(H) Refer to Minimums	Apt Elev 13′ Rwy 13′
Ch 80712 W-08A	083°	OMRAD 2000′ (1987′)		

MISSED APCH: Do not exceed 230 KT until SESPI. Climbing LEFT turn to 3000′ direct to SESPI. As required shuttle climb.

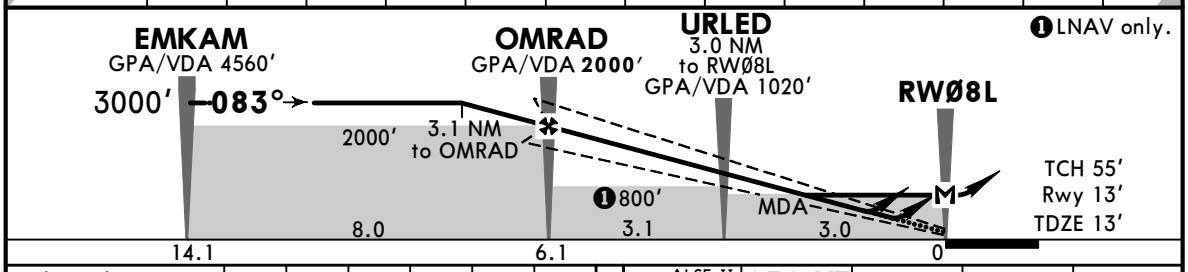
Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

1. SAFE ALTITUDE WITHIN 100 NM 12,800′. 2. Simultaneous approach AUTHORIZED with Rwy 08R. 3. LNAV procedure NOT AUTHORIZED during simultaneous operations. 4. Advise ATC if unable to conduct LPV or LNAV/VNAV approach. 5. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -18°C (0°F) or above 54°C (129°F).

7800
MSA RW08L



NM to RW08L	14.1	12.0	11.0	10.0	9.2	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0
VDA ALTITUDE	4560′	3890′	3570′	3250′	3000′	2620′	2300′	1980′	1660′	1340′	1020′	700′	380′



Gnd speed-Kts		70	90	100	120	140	160
GPA/VDA	3.00°	372	478	531	637	743	849
MAP at RW08L							

PAPI | ALSF-II | 230 KT MAX UNTIL SESPI | 3000′ LT | SESPI

State

STRAIGHT-IN LANDING

	LPV		LNAV/VNAV		LNAV	
	DA(H) 213′(200′)	DA(H) 263′(250′)	DA(H) 329′(316′)		MDA(H) 380′(367′)	
		HIALS out		HIALS out		HIALS out
A B C D	R26 or V1/2	R50 or V1	R50 or V1		R50 or V1	V1 1/4

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (12-2)

VANCOUVER, BC
RNAV (GNSS) Rwy 08R

BRIEFING STRIP ™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival	
124.6	123.15	Outer 128.175 128.6	Inner 133.1 134.225

VANCOUVER Tower				Ground	
North			South	North	South
119.55	124.025	125.65	118.7	127.15	121.7

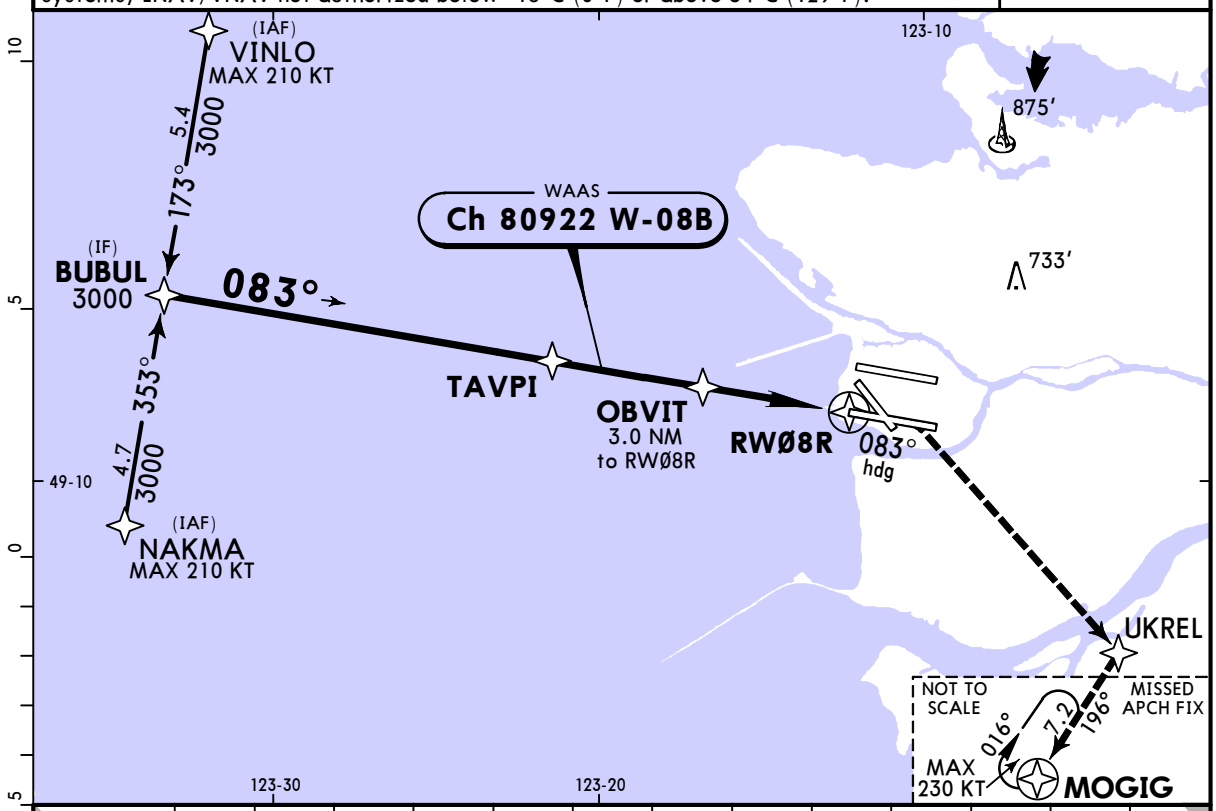
WAAS	Final Apch Crs	GPA	LPV DA(H) Refer to Minimums	Apt Elev 13′ Rwy 9′
Ch 80922 W-08B	083°	TAVPI 2000′ (1991′)		

MISSED APCH: Do not exceed 200 KT until MOGIG. Climb to 600′ heading 083°. Climbing RIGHT turn to 2000′ direct to UKREL. Then track 196° to MOGIG. Shuttle climb at MOGIG to 5200′ before proceeding on course.

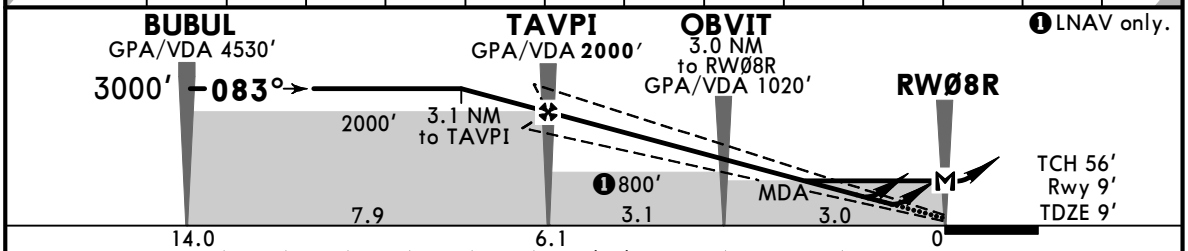
Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

1. SAFE ALTITUDE WITHIN 100 NM 12,800′. 2. Simultaneous approach AUTHORIZED with Rwy 08L. 3. LNAV procedure NOT AUTHORIZED during simultaneous operations. 4. Advise ATC if unable to conduct LPV or LNAV/VNAV approach. 5. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -18°C (0°F) or above 54°C (129°F).

7800
MSA RWØ8R



NM to RWØ8R	14.0	12.0	11.0	10.0	9.2	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0
VDA ALTITUDE	4530′	3890′	3570′	3250′	3000′	2610′	2290′	1980′	1660′	1340′	1020′	700′	380′



Gnd speed-Kts		70	90	100	120	140	160
GPA/VDA	3.00°	372	478	531	637	743	849
MAP at RWØ8R							

ALSF-II PAPI | 200 KT MAX UNTIL MOGIG | 600′ | 083° hdg | 2000′ RT | UKREL

State

STRAIGHT-IN LANDING

	LPV		LNAV/VNAV	LNAV	
	DA(H) 209′ (200′)	DA(H) 259′ (250′)	DA(H) 283′ (274′)	MDA(H) 380′ (371′)	
		HIALS out	HIALS out		HIALS out
A B C D	R26 or V1/2	R50 or V1	R50 or V1	R50 or V1	V1 1/4

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (12-3)

VANCOUVER, BC
RNAV (GNSS) Rwy 13

D-ATIS	PACIFIC Radio	VANCOUVER Arrival	
124.6	123.15	Outer 128.175 128.6	Inner 133.1 134.225

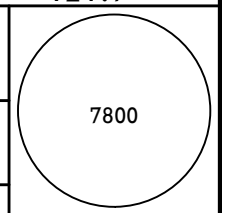
VANCOUVER Tower				Ground	
North			South	North	South
119.55	124.025	125.65	118.7	127.15	121.7

WAAS	Final Apch Crs	GPA	LPV DA(H)	Apt Elev 13′
Ch 80550 W-13A	125°	UDLEM 2300′ (2292′)	258′ (250′)	Rwy 8′

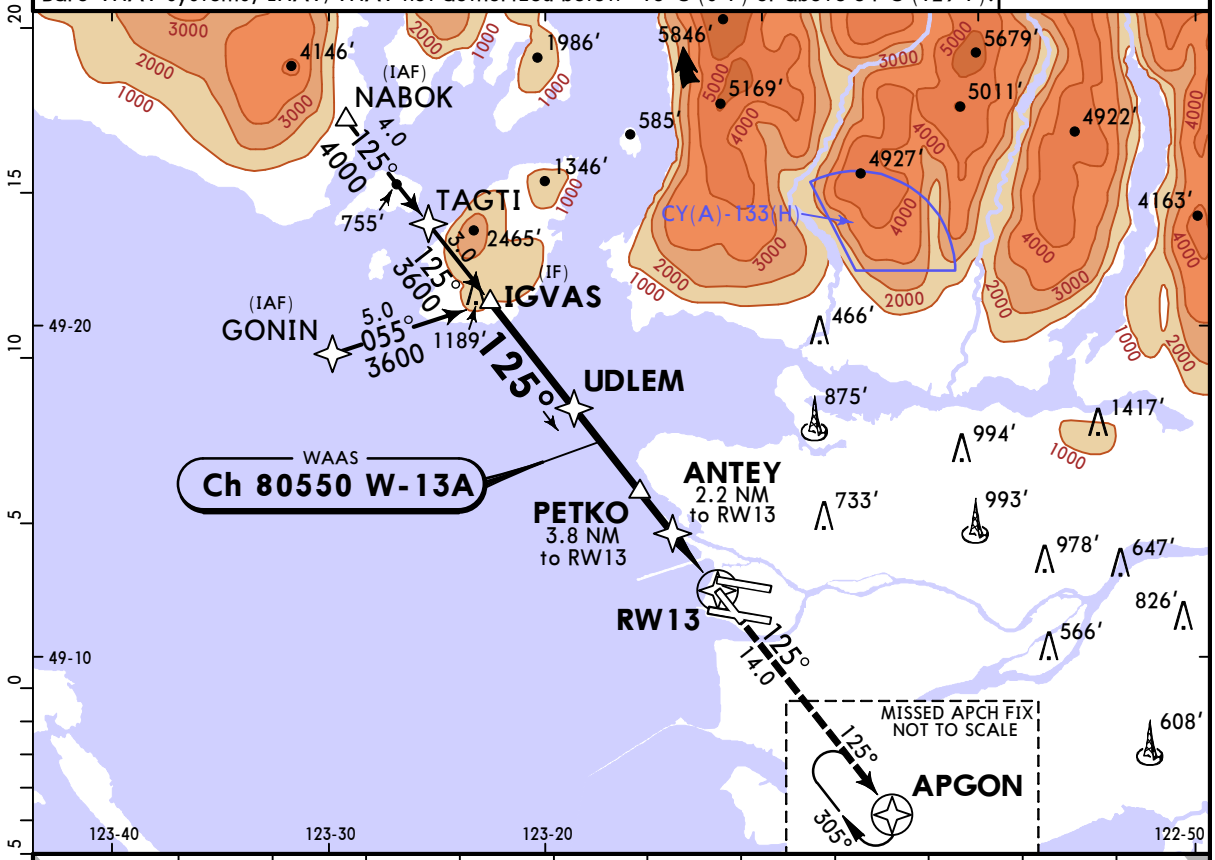
MISSED APCH: Climb to 3000′ track 125° to APGON. Shuttle to 5800′ before proceeding on course.

Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

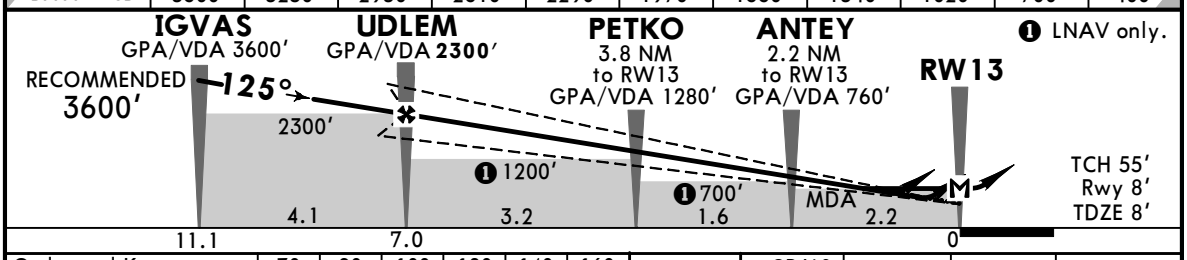
1. SAFE ALTITUDE WITHIN 100 NM 12,800′. 2. RADAR required. 3. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -18°C (0°F) or above 54°C (129°F).



BRIEFING STRIP ™



NM to RW13	11.1	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.1
VDA ALTITUDE	3600′	3250′	2930′	2610′	2290′	1970′	1660′	1340′	1020′	700′	400′



Gnd speed-Kts		70	90	100	120	140	160	ODALS	3000′	125°	APGON
GPA/VDA	3.00°	372	478	531	637	743	849	PAPI			
MAP at RW13											

State

STRAIGHT-IN LANDING

	LPV	LNAV/VNAV	LNAV
	DA(H) 258′ (250′)	DA(H) 330′ (322′)	MDA(H) 400′ (392′)
	ALS out	ALS out	ALS out
A	V1	V1	V1 1/4
B			
C			
D			

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (12-4)

VANCOUVER, BC
RNAV (GNSS) Rwy 26L

BRIEFING STRIP ™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival	
		Outer	Inner
124.6	123.15	128.175 128.6	133.1 134.225

VANCOUVER Tower				Ground	
North			South	North	South
119.55	124.025	125.65	118.7	127.15	121.7

WAAS	Final Apch Crs	GPA	LPV DA(H)	Apt Elev 13′
Ch 81035 W-26B	263°	DUTOM 2000′ (1993′)	Refer to Minimums	Rwy 7′

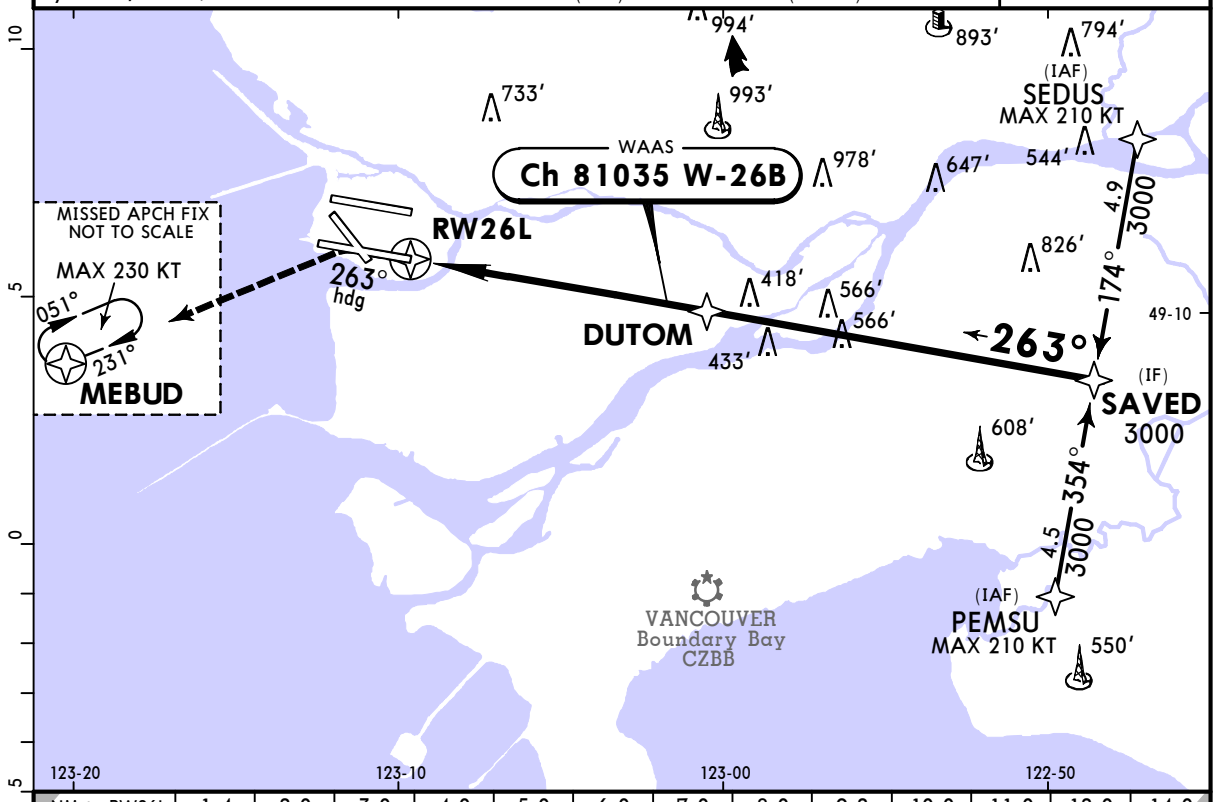
MISSED APCH: Climb to 600′ heading 263°. Then climbing LEFT turn to 2000′ direct to MEBUD. Shuttle climb at MEBUD to 5100′ before proceeding on course.

Alt Set: INCHES	Trans level: FL180	Trans alt: 18000′

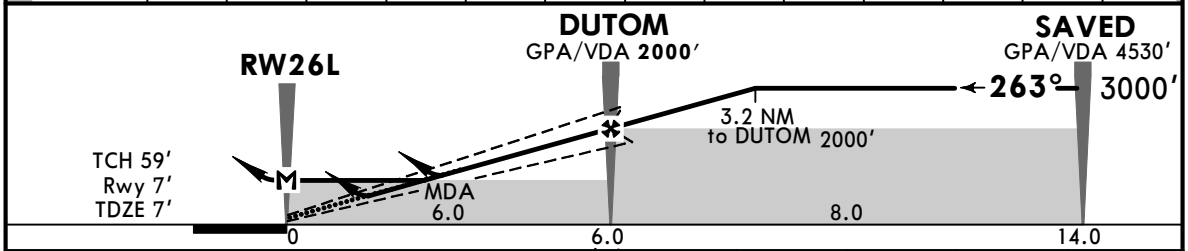
1. SAFE ALTITUDE WITHIN 100 NM 12,800′. 2. Simultaneous approach AUTHORIZED with Rwy 26R. 3. LNAV procedure NOT AUTHORIZED during simultaneous operations. 4. Advise ATC if unable to conduct LPV or LNAV/VNAV approach. 5. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -17°C (1°F) or above 54°C (129°F).

7800

MSA RW26L



NM to RW26L	1.4	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.2	10.0	11.0	12.0	14.0
VDA ALTITUDE	520′	700′	1020′	1340′	1660′	1980′	2300′	2610′	3000′	3250′	3570′	3890′	4530′



Gnd speed-Kts	70	90	100	120	140	160
GPA/VDA 3.00°	372	478	531	637	743	849
MAP at RW26L						

ALSF-II
PAPI
600′
263° hdg
2000′ LT
MEBUD

State

STRAIGHT-IN LANDING

	LPV		LNAV/VNAV		LNAV	
	DA(H) 207′ (200′)	DA(H) 257′ (250′)	DA(H) 566′ (559′)		MDA(H) 520′ (513′)	
		HIALS out		HIALS out		HIALS out
A B C D	R26 or V1/2	R50 or V1	V1 1/2	V1 3/4	R50 or V1	V1 1/2

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (12-5)

VANCOUVER, BC
RNAV (GNSS) Rwy 26R

BRIEFING STRIP™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival	
		Outer	Inner
124.6	123.15	128.175 128.6	133.1 134.225

VANCOUVER Tower				Ground	
North			South	North	South
119.55	124.025	125.65	118.7	127.15	121.7

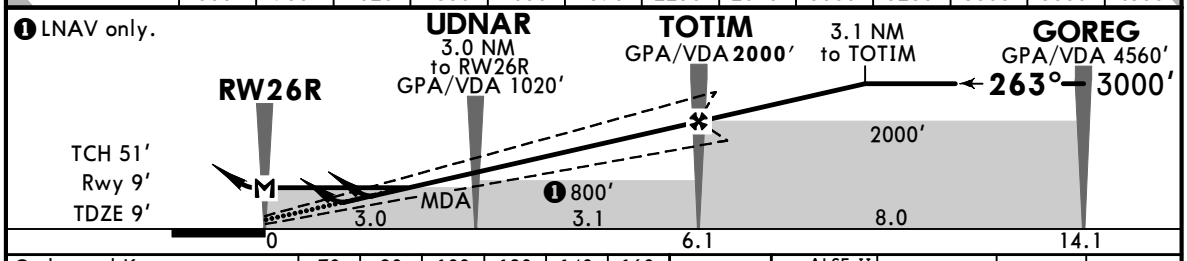
WAAS	Final Apch Crs	GPA	LPV DA(H)	Apt Elev 13′
Ch 80687 W-26A	**263°**	**TOTIM** **2000′** (1991′)	Refer to Minimums	Rwy 9′

MISSED APCH: Do not exceed 230 KT until DUTNO. Climb to 700′ heading 263°. Climbing RIGHT turn to 3000′ direct to KEDGA. Then climb track 245° to DUTNO. Shuttle climb at DUTNO to 5300′ before proceeding on course.

Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

1. SAFE ALTITUDE WITHIN 100 NM 12,800′. 2.Simultaneous approach AUTHORIZED with Rwy 26L. 3. LNAV procedure NOT AUTHORIZED during simultaneous operations. 4. Advise ATC if unable to conduct LPV or LNAV/VNAV approach. 5. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -18°C (0°F) or above 54°C (129°F).

NM to RW26R	1.7	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.2	10.0	11.0	12.0	14.1
VDA ALTITUDE	600′	700′	1020′	1330′	1650′	1970′	2290′	2610′	3000′	3250′	3560′	3880′	4560′



Gnd speed-Kts		70	90	100	120	140	160
GPA/VDA	3.00°	372	478	531	637	743	849
MAP at RW26R							

ALSF-II
PAPI

230 KT MAX UNTIL DUTNO

700′

263° hdg

State

STRAIGHT-IN LANDING

	LPV		LNAV/VNAV		LNAV	
	DA(H) **209′** (200′)	DA(H) **259′** (250′)	DA(H) **567′** (558′)		MDA(H) **600′** (591′)	
		HIALS out		HIALS out		HIALS out
A B C D	R26 or V1/2	R50 or V1	V1 1/2	V1 3/4	V1 1/4	V1 3/4

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (12-6)

VANCOUVER, BC
RNAV (GNSS) Rwy 31

BRIEFING STRIP™

D-ATIS	PACIFIC Radio	VANCOUVER Arrival	
124.6	123.15	Outer 128.175 128.6	Inner 133.1 134.225

VANCOUVER Tower				Ground	
North			South	North	South
119.55	124.025	125.65	118.7	127.15	121.7

WAAS	Final Apch Crs	GPA	LPV DA(H)	Apt Elev 13′
Ch 80139 W-31A	**305°**	**KEKTU** **2000′** (1993′)	**257′** (250′)	Rwy 7′

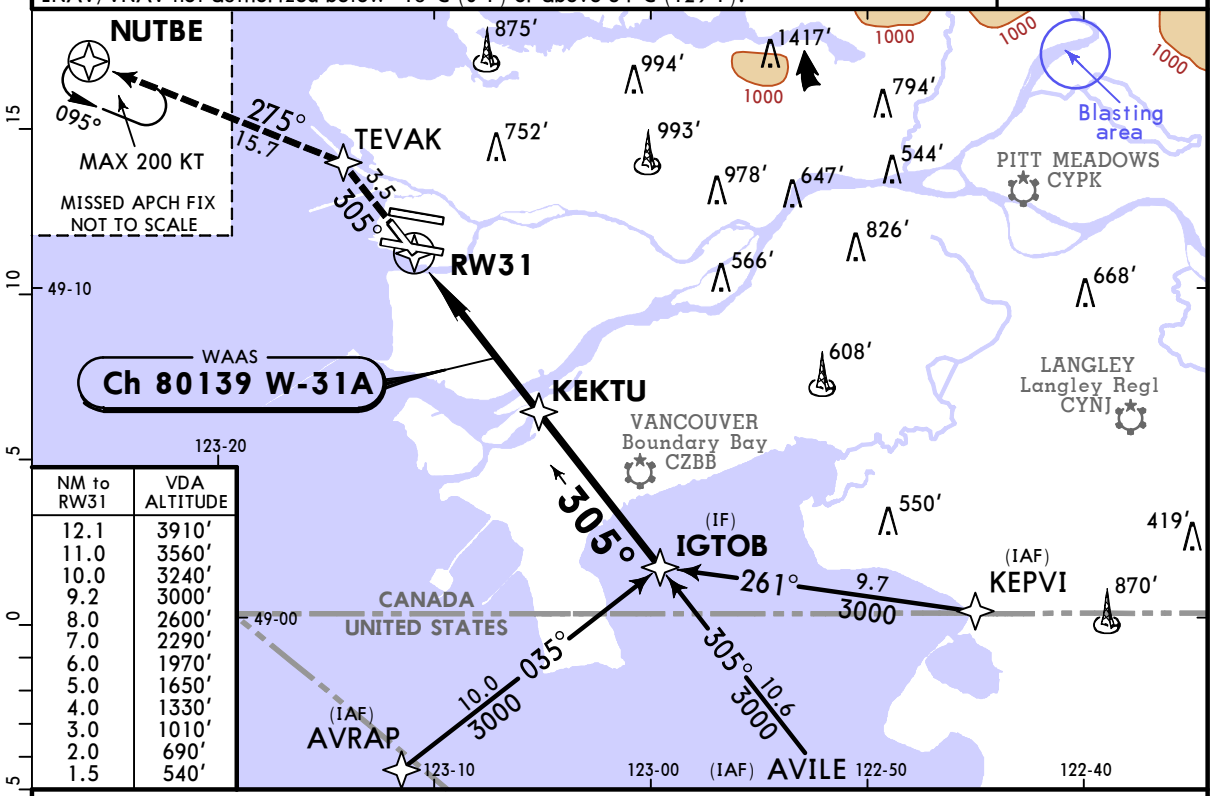
MISSED APCH: Climb track 305° to TEVAK, then climbing LEFT turn to 3000′ track 275° to NUTBE. Shuttle to 5600′ before proceeding on course.

Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

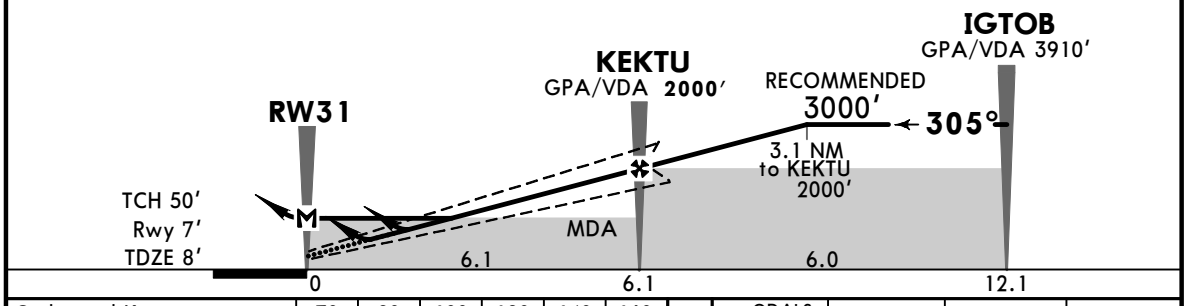
1. SAFE ALTITUDE WITHIN 100 NM 12,800′. 2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -18°C (0°F) or above 54°C (129°F).

7800

MSA RW31



NM to RW31	VDA ALTITUDE
12.1	3910′
11.0	3560′
10.0	3240′
9.2	3000′
8.0	2600′
7.0	2290′
6.0	1970′
5.0	1650′
4.0	1330′
3.0	1010′
2.0	690′
1.5	540′



Gnd speed-Kts		70	90	100	120	140	160
GPA/VDA	3.00°	372	478	531	637	743	849
MAP at RW31							

ODALS
PAPI

305° **TEVAK**

State

STRAIGHT-IN LANDING

	LPV	LNAV/VNAV	LNAV
	DA(H) **257′** (250′)	DA(H) **353′** (346′)	MDA(H) **540′** (533′)
	ALS out	ALS out	ALS out
A	V1	V1 1/4	V1 3/4
B			
C			
D			

CHANGES: New AOM layout.

CYVR/YVR
VANCOUVER INTL

JEPPESEN
16 FEB 24 (12-20)

VANCOUVER, BC
RNAV (RNP) Y Rwy 08L

D-ATIS	PACIFIC Radio	VANCOUVER Arrival	
124.6	123.15	Outer 128.17 128.6	Inner 133.1 134.225

VANCOUVER Tower		Ground	
North	South	North	South
119.55	118.7	127.15	121.7

BRIEFING STRIP ™

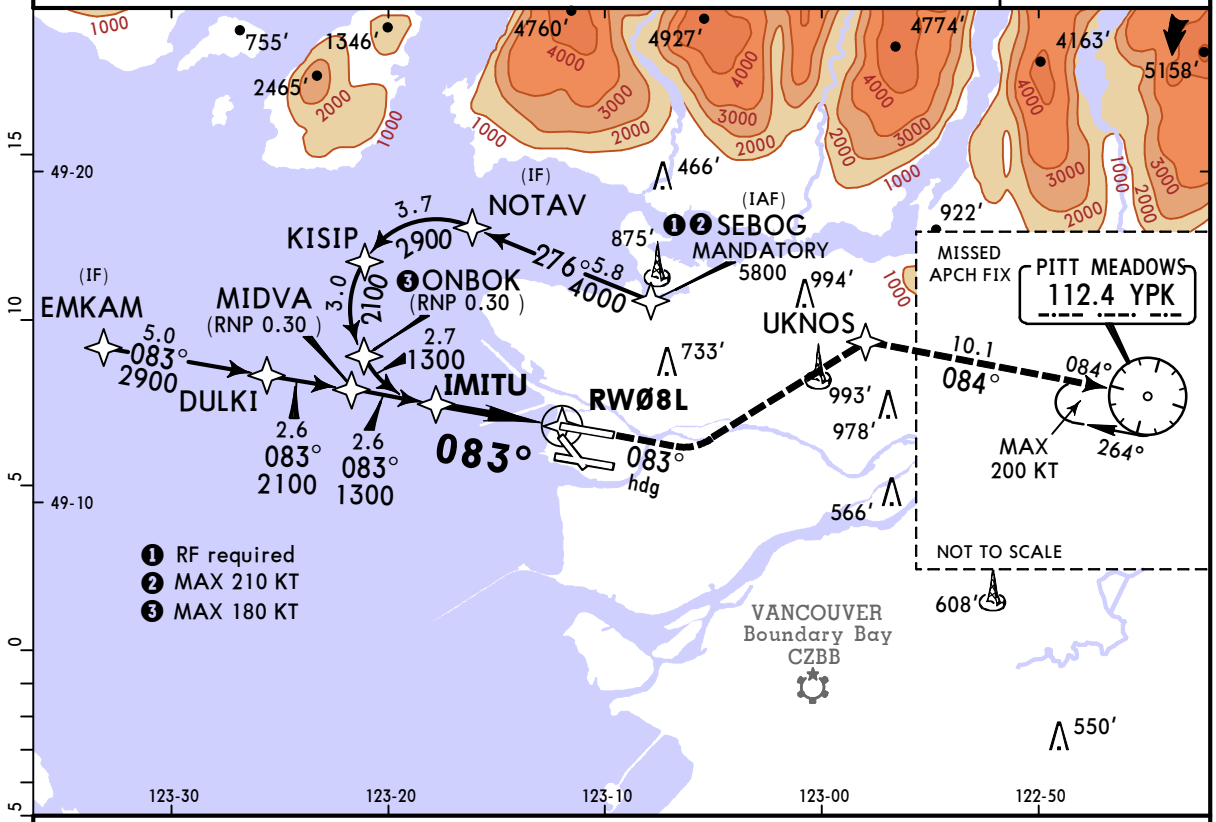
RNAV	Final Apch Crs	Minimum Alt	RNP 0.15 DA(H)	Apt Elev 13′
	083°	IMITU 1300′ (1287′)	302′ (289′)	TDZE 13′

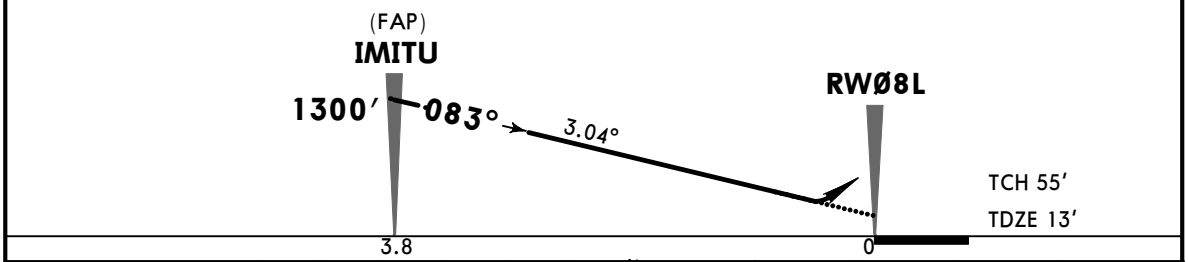
MISSED APCH: Climb to 420′ heading 083°. Then climbing LEFT turn to 3500′ direct to UKNOS.Then climb track 084° to YPK VOR.

Alt Set: INCHES | Trans level: FL180 | Trans alt: 18000′

1. AUTHORIZATION REQUIRED. 2. SAFE ALTITUDE WITHIN 100 NM 12,800′.
3. Simultaneous approach AUTHORIZED with Rwy 08R. 4. For uncompensated Baro-VNAV systems, procedure not authorized below -20°C (-4°F) or above 54°C (129°F).

7800
MSA RWØ8L





Gnd speed-Kts		70	90	100	120	140	160
Descent Angle	3.04°	376	484	538	645	753	861

ALSF-II | PAPI | 420′ | 083° hdg | 3500′ LT | UKNOS

State

STRAIGHT-IN LANDING

	RNP 0.15 DA(H) 302′ (289′)		RNP 0.30 DA(H) 334′ (321′)	
	HIALS out		HIALS out	
A	R50 or V1		R50 or V1	
B				
C				
D				

CHANGES: New AOM layout.

Chart changes since cycle 15-2024

ADD = added chart, REV = revised chart, DEL = deleted chart.

ACT	PROCEDURE IDENT	INDEX	REV DATE	EFF DATE
HONG KONG, (HONG KONG INTL - VHHH)				
ADD	WORKS AND FLIGHT CHECK FO...	10-8B	02 Aug 2024	
REV	PARKING STANDS	10-9B	26 Jul 2024	
REV	PARKING STAND COORDS	10-9C	26 Jul 2024	
VANCOUVER, BC (VANCOUVER INTL - CYVR)				

TERMINAL CHART CHANGE NOTICES

No Chart Change Notices for Airport CYVR

Chart Change Notices for Airport VHHH

Type: Terminal
Effectivity: Temporary
Begin Date: 20240223
End Date: Until Further Notice

For construction works on TWY A (based on SUP A 01-24) refer to temp chart 10-8A and latest NOTAMS.

Type: Terminal
Effectivity: Temporary
Begin Date: 20211202
End Date: Until Further Notice

For construction works on Eastern Airfield (based on SUP A 007-23) refer to temp chart 10-8 and latest NOTAMS. Phase 2 is completed.

Type: Terminal
Effectivity: Temporary
Begin Date: Immediately
End Date: Until Further Notice

Eff 31 JUL 24: CAUTION: Based on SUP A 005-24 center RWY 07C/25C under reconfiguration. Closure markings and boards will be temporarily removed for flight checks, but center RWY 07C/25C and associated TWYs are still NOT open for ACFT operations. For details refer to temporary chart 10-8B and latest NOTAMs.

Type: Terminal
Effectivity: Temporary
Begin Date: Immediately
End Date: Until Further Notice

TWY B (West of TWY R) and TWY P (abeam stands L411 and L412) closed until EST Q4 2024 (based on SUP A 004-24).

Type: Terminal
Effectivity: Temporary
Begin Date: 20240321
End Date: Until Further Notice

(10-3X) During replacement of SMT VORDME, SID RAMEN 1E not permitted; for non-RNP 1 equipped/approved ACFT, EXPECT departure from RWY 07R or 25L/R.

Type: Terminal
Effectivity: Temporary
Begin Date: Immediately
End Date: 20241225

Effective 0000 UTC on 21 MAR 24, SMT VOR DME will be unavailable for an estimated period of 10 months due to replacement works. There are no changes to flight planning requirements. ACFT operators shall continue to file flight plan routing via the co-located RNAV waypoint SMT. Based on SUP A 002-24 AIRAC.

Chart Change Notices for Country CAN

Type: Gen Tmnl

Effectivity: Permanent
Begin Date: Immediately
End Date: No end date

At locations with approach charts depicting the Plan View Ball Flag Note: "Minimum VDA intercept [altitude]" or "Recommended VDA intercept [altitude]", it should read "VDA intercept based on [altitude]".

Communication Information For CZVR ACC

No communication information available

Communication Information For CZVR FIR

CPDLC Service: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF CZVR IN VANCOUVER FIR. FLIGHTS ENTERING CANADIAN DOMESTIC AIRSPACE CPDLC AREA FROM A NON-CPDLC DATA LINK AREA SHOULD PERFORM A LOGON 45 TO 15 MINUTES PRIOR TO ENTERING AIRSPACE.
SATCOM Service: SATCOM VOICE DIRECT DIAL IS 1-604-507-7875 CONTACT VANCOUVER CENTER ON THE NEAREST PERIPHERAL FREQUENCY AT THE TIME OF CROSSING FIR BOUNDARY. TRANSPONDER ADJUSTED TO REPLY ON MODE A-3 CODE 2000.
INMARSAT Service: INMARSAT SECURITY NUMBER IS 431607

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
VANCOUVER CENTRE:	123.87 MHz		
VANCOUVER CENTRE:	124.07 MHz		
VANCOUVER CENTRE:	128.4 MHz		
VANCOUVER CENTRE:	132.2 MHz		
VANCOUVER CENTRE:	132.35 MHz		
VANCOUVER CENTRE:	132.52 MHz		
VANCOUVER CENTRE:	132.9 MHz		
VANCOUVER CENTRE:	133.4 MHz		
VANCOUVER CENTRE:	133.5 MHz		
VANCOUVER CENTRE:	133.6 MHz		
VANCOUVER CENTRE:	133.67 MHz		
VANCOUVER CENTRE:	133.7 MHz		
VANCOUVER CENTRE:	133.77 MHz		
VANCOUVER CENTRE:	133.8 MHz		
VANCOUVER CENTRE:	134.0 MHz		
VANCOUVER CENTRE:	134.2 MHz		
VANCOUVER CENTRE:	134.4 MHz		
VANCOUVER CENTRE:	134.55 MHz		
VANCOUVER CENTRE:	134.6 MHz		
VANCOUVER CENTRE:	134.8 MHz		
VANCOUVER CENTRE:	135.0 MHz		
VANCOUVER CENTRE:	135.05 MHz		
VANCOUVER CENTRE:	135.5 MHz		

Communication Information For KZAK FIR

CPDLC Service: USE LOGON ADDRESS KZAK FOR ALL CPDLC COMMUNICATIONS IN THE OAKLAND OCEANIC FIR. WHEN MAKING HF VOICE CHECK-IN WITH SAN FRANCISCO RADIO UPON TRANSFERRING DATA LINK CONTACT TO SAN FRANCISCO, SFO RADIO REQUESTS YOU INCLUDE; POINT OF DEPARTURE, DESTINATION, A/C REGISTRATION AND SELCAL CODE. FOR AIRCRAFT DEPARTING FROM AIRPORTS ALONG THE WEST COAST OF NORTH AMERICA, GUAM AND HAWAII, OAKLAND OCEANIC CONTROL REQUIRES THAT DATA-LINK AIRCRAFT NOT LOGON TO OAKLAND OCEANIC (KZAK) UNTIL AFTER LEAVING 10,000' MSL. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM NON-CPDLC AIRSPACE: LOG ON TO CPDLC AT LEAST 15 BUT NOT MORE THAN 45 MINUTES PRIOR TO ENTERING. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM ADJACENT CPDLC AIRSPACE: IF KZAK IS THE ACTIVE CENTER CONTACT SAN FRANCISCO RADIO. IF KZAK IS NOT THE ACTIVE CENTER, TERMINATE THE CPDLC CONNECTION WITHIN 5 MINUTES AFTER THE BOUNDARY IS CROSSED, THEN LOG ON TO KZAK AND CONTACT SAN FRANCISCO RADIO. FOR AIRCRAFT OVER-FLYING HONOLULU CERAP: AIRCRAFT WILL RECEIVE AN END SERVICE MESSAGE THAT WILL RESULT IN TERMINATION OF CPDLC. AIRCRAFT SHALL RE-LOG ON TO CPDLC PRIOR TO REENTERING OAKLAND OCEANIC FIR. FOR AIRCRAFT ENTERING GUAM CERAP: CONTACT GUAM CERAP 250 MILES OUT ON 118.7, SQUAWK 2100. FOR AIRCRAFT OVER-FLYING GUAM CERAP: CPDLC CONNECTION WITH OAKLAND MAY BE TERMINATED WITHIN THE GUAM CERAP. IF THE CPDLC CONNECTION WITH KZAK IS NOT TERMINATED, DO NOT USE CPDLC FOR ATC UNTIL GUAM CERAP ADVISES YOU TO TO AGAIN CONTACT ENROUTE COMMUNICATIONS OR SAN FRANCISCO RADIO. IT MAY BE NECESSARY TO LOG BACK ON TO CPDLC WITH KZAK 10-15 MINUTES PRIOR TO EXITING GUAM CERAP IF THE CPDLC CONNECTION WAS TERMINATED.
SATCOM Service: SATCOM VOICE DIRECT DIAL FOR OAKLAND CENTER IS 1-510-745-3415
INMARSAT Service: INMARSAT SECURITY NUMBER FOR OAKLAND CENTER IS 436697 INMARSAT SECURITY NUMBER FOR SAN FRANCISCO RADIO IS 436625

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
OAKLAND OCEANIC:	118.4 MHz	(R)	

OAKLAND OCEANIC:	118.7 MHz	(R)
OAKLAND OCEANIC:	120.5 MHz	(R)

Type: Radio:

SAN FRANCISCO ARINC:	10048 kHz
SAN FRANCISCO ARINC:	10057 kHz
SAN FRANCISCO ARINC:	11282 kHz
SAN FRANCISCO ARINC:	11342 kHz
SAN FRANCISCO ARINC:	11384 kHz
SAN FRANCISCO ARINC:	129.4 MHz
SAN FRANCISCO ARINC:	131.95 MHz
SAN FRANCISCO ARINC:	13261 kHz
SAN FRANCISCO ARINC:	13288 kHz
SAN FRANCISCO ARINC:	13300 kHz
SAN FRANCISCO ARINC:	13339 kHz
SAN FRANCISCO ARINC:	13348 kHz
SAN FRANCISCO ARINC:	17904 kHz
SAN FRANCISCO ARINC:	17925 kHz
SAN FRANCISCO ARINC:	17946 kHz
SAN FRANCISCO ARINC:	21925 kHz
SAN FRANCISCO ARINC:	21964 kHz
SAN FRANCISCO ARINC:	21985 kHz
SAN FRANCISCO ARINC:	2869 kHz
SAN FRANCISCO ARINC:	2998 kHz
SAN FRANCISCO ARINC:	3452 kHz
SAN FRANCISCO ARINC:	3455 kHz
SAN FRANCISCO ARINC:	3467 kHz
SAN FRANCISCO ARINC:	3494 kHz
SAN FRANCISCO ARINC:	4666 kHz
SAN FRANCISCO ARINC:	5547 kHz
SAN FRANCISCO ARINC:	5628 kHz
SAN FRANCISCO ARINC:	5643 kHz
SAN FRANCISCO ARINC:	5652 kHz
SAN FRANCISCO ARINC:	6532 kHz
SAN FRANCISCO ARINC:	6640 kHz
SAN FRANCISCO ARINC:	6655 kHz
SAN FRANCISCO ARINC:	6673 kHz
SAN FRANCISCO ARINC:	8867 kHz
SAN FRANCISCO ARINC:	8870 kHz
SAN FRANCISCO ARINC:	8903 kHz
SAN FRANCISCO ARINC:	8933 kHz
SAN FRANCISCO ARINC:	8951 kHz

Communication Information For KZSE FIR

CPDLC Service: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF KUSA IN SEATTLE FIR.

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
SEATTLE:	119.65 MHz	(R)	
SEATTLE:	120.3 MHz	(R)	
SEATTLE:	123.95 MHz	(R)	
SEATTLE:	124.2 MHz	(R)	
SEATTLE:	124.85 MHz	(R)	
SEATTLE:	125.1 MHz	(R)	
SEATTLE:	125.8 MHz	(R)	
SEATTLE:	126.1 MHz	(R)	
SEATTLE:	126.15 MHz	(R)	
SEATTLE:	126.6 MHz	(R)	
SEATTLE:	127.05 MHz	(R)	
SEATTLE:	127.55 MHz	(R)	
SEATTLE:	127.6 MHz	(R)	
SEATTLE:	128.15 MHz	(R)	
SEATTLE:	128.3 MHz	(R)	
SEATTLE:	132.6 MHz	(R)	
SEATTLE:	134.95 MHz	(R)	
SEATTLE:	306.3 MHz	(R)	MIL

Communication Information For KZSE UIR

CPDLC Service: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF KUSA IN SEATTLE FIR.

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
SEATTLE:	119.22 MHz	(R)	
SEATTLE:	120.3 MHz	(R)	
SEATTLE:	121.35 MHz	(R)	
SEATTLE:	124.75 MHz	(R)	
SEATTLE:	125.1 MHz	(R)	
SEATTLE:	126.6 MHz	(R)	
SEATTLE:	127.05 MHz	(R)	
SEATTLE:	128.3 MHz	(R)	
SEATTLE:	128.45 MHz	(R)	
SEATTLE:	132.07 MHz	(R)	
SEATTLE:	134.9 MHz	(R)	
SEATTLE:	134.95 MHz	(R)	
SEATTLE:	135.15 MHz	(R)	
SEATTLE:	135.35 MHz	(R)	
SEATTLE:	135.45 MHz	(R)	
SEATTLE:	360.7 MHz	(R)	MIL

Communication Information For PAZA ARTCC

No communication information available

Communication Information For PAZA FIR

CPDLC Service: USE LOGON ADDRESS PAZN FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR WEST OF 165W AND SOUTH OF 63N. USE LOGON ADDRESS PAZA FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR SOUTH OF 73N AND EAST OF 165W. AIRCRAFT ENTERING ANCHORAGE FIR AIRSPACE FROM THE MAGADAN, EDMONTON, VANCOUVER, OR OAKLAND FIRS WILL BE PROVIDED AUTOMATIC FANS ADDRESS FORWARDING FROM THE ATC GROUND COMPUTER. AIRCRAFT DEPARTING ALASKAN AIRPORTS SHOULD LOGON AFTER DEPARTURE, BUT BEFORE LEAVING FL180. AFTER LOGON, ANCHORAGE ARTCC AUTOMATION WILL PROVIDE AUTOMATIC FANS ADDRESS FORWARDING FOR FLIGHTS ENTERING THE MAGADAN, EDMONTON, VANCOUVER AND OAKLAND FIRS. NOTE: - THE USE OF CPDLC DOES NOT REMOVE REQUIREMENTS FOR MONITORING VHF/HF FREQUENCIES. - AIRCRAFT WITHIN VHF COVERAGE MAY MAKE POSITION REPORTS VIA CPDLC. - WEST OF 165W, ALL REQUESTS TO ATC MAY BE MADE VIA CPDLC. - EAST OF 165W, REQUESTS TO ATC SHOULD BE MADE VIA VHF IF WITHIN VHF COVERAGE.
SATCOM Service: SATCOM VOICE DIRECT DIAL FOR ANCHORAGE ATC IS 907-269-1103.
INMARSAT Service: INMARSAT SECURITY NUMBER FOR ANCHORAGE ATC IS 436602.

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
ANCHORAGE:	118.0 MHz	(R)	
ANCHORAGE:	118.15 MHz	(R)	
ANCHORAGE:	118.5 MHz	(R)	
ANCHORAGE:	118.8 MHz	(R)	
ANCHORAGE:	119.0 MHz	(R)	
ANCHORAGE:	119.1 MHz	(R)	
ANCHORAGE:	119.2 MHz	(R)	
ANCHORAGE:	119.3 MHz	(R)	
ANCHORAGE:	119.4 MHz	(R)	
ANCHORAGE:	119.5 MHz	(R)	
ANCHORAGE:	119.65 MHz	(R)	
ANCHORAGE:	119.7 MHz	(R)	
ANCHORAGE:	120.6 MHz	(R)	
ANCHORAGE:	120.9 MHz	(R)	
ANCHORAGE:	121.4 MHz	(R)	
ANCHORAGE:	124.0 MHz	(R)	
ANCHORAGE:	124.5 MHz	(R)	
ANCHORAGE:	124.6 MHz	(R)	
ANCHORAGE:	124.8 MHz	(R)	

ANCHORAGE:	125.1 MHz	(R)	
ANCHORAGE:	125.2 MHz	(R)	
ANCHORAGE:	125.55 MHz	(R)	
ANCHORAGE:	125.7 MHz	(R)	
ANCHORAGE:	125.9 MHz	(R)	
ANCHORAGE:	126.1 MHz	(R)	
ANCHORAGE:	126.55 MHz	(R)	
ANCHORAGE:	127.0 MHz	(R)	
ANCHORAGE:	127.9 MHz	(R)	
ANCHORAGE:	128.1 MHz	(R)	
ANCHORAGE:	128.2 MHz	(R)	
ANCHORAGE:	128.5 MHz	(R)	
ANCHORAGE:	132.17 MHz	(R)	
ANCHORAGE:	132.2 MHz	(R)	
ANCHORAGE:	132.9 MHz	(R)	
ANCHORAGE:	133.1 MHz	(R)	
ANCHORAGE:	133.2 MHz	(R)	
ANCHORAGE:	133.3 MHz	(R)	
ANCHORAGE:	133.6 MHz	(R)	
ANCHORAGE:	133.7 MHz	(R)	
ANCHORAGE:	133.9 MHz	(R)	
ANCHORAGE:	134.4 MHz	(R)	
ANCHORAGE:	134.6 MHz	(R)	
ANCHORAGE:	135.3 MHz	(R)	
ANCHORAGE:	135.7 MHz	(R)	
ANCHORAGE:	282.35 MHz	(R)	MIL

Communication Information For PAZA UIR

CPDLC Service: USE LOGON ADDRESS PAZN FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR WEST OF 165W AND SOUTH OF 63N. USE LOGON ADDRESS PAZA FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR SOUTH OF 73N AND EAST OF 165W. AIRCRAFT ENTERING ANCHORAGE FIR AIRSPACE FROM THE MAGADAN, EDMONTON, VANCOUVER, OR OAKLAND FIRS WILL BE PROVIDED AUTOMATIC FANS ADDRESS FORWARDING FROM THE ATC GROUND COMPUTER. AIRCRAFT DEPARTING ALASKAN AIRPORTS SHOULD LOGON AFTER DEPARTURE, BUT BEFORE LEAVING FL180. AFTER LOGON, ANCHORAGE ARTCC AUTOMATION WILL PROVIDE AUTOMATIC FANS ADDRESS FORWARDING FOR FLIGHTS ENTERING THE MAGADAN, EDMONTON, VANCOUVER AND OAKLAND FIRS. NOTE: - THE USE OF CPDLC DOES NOT REMOVE REQUIREMENTS FOR MONITORING VHF/HF FREQUENCIES. - AIRCRAFT WITHIN VHF COVERAGE MAY MAKE POSITION REPORTS VIA CPDLC. - WEST OF 165W, ALL REQUESTS TO ATC MAY BE MADE VIA CPDLC. - EAST OF 165W, REQUESTS TO ATC SHOULD BE MADE VIA VHF IF WITHIN VHF COVERAGE.
SATCOM Service: SATCOM VOICE DIRECT DIAL FOR ANCHORAGE ATC IS 1-907-269-1103.
INMARSAT Service: INMARSAT SECURITY NUMBER FOR ANCHORAGE ATC IS 436602.

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
ANCHORAGE:	118.0 MHz	(R)	
ANCHORAGE:	118.5 MHz	(R)	
ANCHORAGE:	119.1 MHz	(R)	
ANCHORAGE:	119.65 MHz	(R)	
ANCHORAGE:	119.7 MHz	(R)	
ANCHORAGE:	120.55 MHz	(R)	
ANCHORAGE:	120.9 MHz	(R)	
ANCHORAGE:	123.9 MHz	(R)	
ANCHORAGE:	124.05 MHz	(R)	
ANCHORAGE:	124.2 MHz	(R)	
ANCHORAGE:	124.5 MHz	(R)	
ANCHORAGE:	125.35 MHz	(R)	
ANCHORAGE:	125.7 MHz	(R)	
ANCHORAGE:	125.95 MHz	(R)	
ANCHORAGE:	126.4 MHz	(R)	
ANCHORAGE:	127.3 MHz	(R)	
ANCHORAGE:	127.5 MHz	(R)	
ANCHORAGE:	127.6 MHz	(R)	
ANCHORAGE:	128.2 MHz	(R)	
ANCHORAGE:	132.15 MHz	(R)	
ANCHORAGE:	132.17 MHz	(R)	
ANCHORAGE:	132.35 MHz	(R)	
ANCHORAGE:	132.5 MHz	(R)	
ANCHORAGE:	132.65 MHz	(R)	
ANCHORAGE:	132.7 MHz	(R)	

ANCHORAGE:	132.85 MHz	
ANCHORAGE:	133.1 MHz	(R)
ANCHORAGE:	133.7 MHz	(R)
ANCHORAGE:	133.8 MHz	(R)
ANCHORAGE:	133.9 MHz	(R)
ANCHORAGE:	134.3 MHz	(R)
ANCHORAGE:	135.0 MHz	(R)
ANCHORAGE:	135.6 MHz	(R)

Communication Information For RCAA ACC Both (ACC Sector)

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
TAIPEI:	125.5 MHz		

Communication Information For RCAA FIR

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
TAIPEI:	122.65 MHz	(R)	Secondary
TAIPEI:	123.0 MHz	(R)	Secondary
TAIPEI:	123.6 MHz	(R)	
TAIPEI:	125.5 MHz	(R)	
TAIPEI:	125.8 MHz	(R)	Secondary
TAIPEI:	126.5 MHz	(R)	Secondary
TAIPEI:	126.7 MHz	(R)	
TAIPEI:	126.9 MHz	(R)	
TAIPEI:	127.9 MHz	(R)	
TAIPEI:	128.7 MHz	(R)	Secondary
TAIPEI:	129.1 MHz	(R)	
TAIPEI:	130.3 MHz	(R)	
TAIPEI:	130.6 MHz	(R)	
Type: Radio:			
TAIPEI:	127.3 MHz		
TAIPEI:	13300 kHz		
TAIPEI:	6532 kHz		
TAIPEI:	8903 kHz		
Type: VOLMET:			
TAIPEI:	124.4 MHz		

Communication Information For RJJJ ACC Both (ACC Sector)

Callsign:	Frequency	Radar	ServiceIndicators
Type: Radio:			
TOKYO:	10048 kHz		
TOKYO:	11330 kHz		
TOKYO:	11384 kHz		
TOKYO:	13273 kHz		
TOKYO:	13300 kHz		
TOKYO:	17904 kHz		

TOKYO:	17946 kHz
TOKYO:	21925 kHz
TOKYO:	2932 kHz
TOKYO:	2998 kHz
TOKYO:	3455 kHz
TOKYO:	4666 kHz
TOKYO:	5628 kHz
TOKYO:	5667 kHz
TOKYO:	6532 kHz
TOKYO:	6655 kHz
TOKYO:	8903 kHz
TOKYO:	8915 kHz
TOKYO:	8951 kHz

Communication Information For RJJJ ACC High (ACC Sector High)

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
TOKYO CONTROL:	126.8 MHz		
TOKYO CONTROL:	133.6 MHz		

Communication Information For RJJJ ACC Low (ACC Sector Low)

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
TOKYO CONTROL:	120.5 MHz		
TOKYO CONTROL:	128.32 MHz		

Communication Information For RJJJ FIR

CPDLC Service: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF RJJJ IN FUKUOKA FIR
SATCOM Service: SATCOM VOICE DIRECT DIAL IS 81-78-99-36-501
INMARSAT Service: INMARSAT SECURITY NUMBER IS 443101

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
KOBE CONTROL:	118.9 MHz	(R)	
KOBE CONTROL:	119.3 MHz	(R)	
FUKUOKA CONTROL:	119.35 MHz	(R)	
TOKYO CONTROL:	120.5 MHz	(R)	
FUKUOKA CONTROL:	120.57 MHz	(R)	Secondary
FUKUOKA CONTROL:	120.75 MHz	(R)	
TOKYO CONTROL:	120.97 MHz	(R)	
TOKYO CONTROL:	123.7 MHz	(R)	
SAPPORO CONTROL:	123.77 MHz	(R)	Secondary
FUKUOKA CONTROL:	123.9 MHz	(R)	
TOKYO CONTROL:	124.1 MHz	(R)	
FUKUOKA CONTROL:	124.15 MHz	(R)	
FUKUOKA CONTROL:	124.5 MHz	(R)	
FUKUOKA CONTROL:	124.95 MHz	(R)	
KOBE CONTROL:	125.6 MHz	(R)	
TOKYO CONTROL:	125.7 MHz	(R)	
TOKYO CONTROL:	125.9 MHz	(R)	
KOBE CONTROL:	126.1 MHz	(R)	Secondary
FUKUOKA CONTROL:	126.4 MHz	(R)	

TOKYO CONTROL:	126.8 MHz	(R)	Secondary
KOBE CONTROL:	127.15 MHz	(R)	
TOKYO CONTROL:	127.4 MHz	(R)	Secondary
FUKUOKA CONTROL:	127.5 MHz	(R)	
SAPPORO CONTROL:	127.57 MHz	(R)	
TOKYO CONTROL:	127.65 MHz	(R)	Secondary
TOKYO CONTROL:	128.12 MHz	(R)	Secondary
TOKYO CONTROL:	128.2 MHz	(R)	
TOKYO CONTROL:	128.32 MHz	(R)	Secondary
FUKUOKA CONTROL:	132.1 MHz	(R)	Secondary
TOKYO CONTROL:	132.25 MHz	(R)	
FUKUOKA CONTROL:	132.3 MHz	(R)	
KOBE CONTROL:	132.35 MHz	(R)	
KOBE CONTROL:	132.45 MHz	(R)	
KOBE CONTROL:	132.5 MHz	(R)	
SAPPORO CONTROL:	132.6 MHz	(R)	
KOBE CONTROL:	132.7 MHz	(R)	
FUKUOKA CONTROL:	132.9 MHz	(R)	Secondary
FUKUOKA CONTROL:	133.02 MHz	(R)	
FUKUOKA CONTROL:	133.15 MHz	(R)	
FUKUOKA CONTROL:	133.3 MHz	(R)	Secondary
TOKYO CONTROL:	133.35 MHz	(R)	
FUKUOKA CONTROL:	133.5 MHz	(R)	
KOBE CONTROL:	133.55 MHz	(R)	
FUKUOKA CONTROL:	133.6 MHz	(R)	
TOKYO CONTROL:	133.7 MHz	(R)	
KOBE CONTROL:	133.8 MHz	(R)	
KOBE CONTROL:	133.85 MHz	(R)	
TOKYO CONTROL:	134.0 MHz	(R)	Secondary
TOKYO CONTROL:	134.15 MHz	(R)	Secondary
KOBE CONTROL:	134.25 MHz	(R)	Secondary
FUKUOKA CONTROL:	134.35 MHz	(R)	
FUKUOKA CONTROL:	134.4 MHz	(R)	Secondary
KOBE CONTROL:	134.6 MHz	(R)	Secondary
FUKUOKA CONTROL:	135.3 MHz	(R)	
KOBE CONTROL:	135.65 MHz	(R)	
TOKYO CONTROL:	135.9 MHz	(R)	Secondary

Type: Radio:	
TOKYO:	10048 kHz
TOKYO:	11330 kHz
TOKYO:	11384 kHz
TOKYO:	13273 kHz
TOKYO:	13300 kHz
TOKYO:	17904 kHz
TOKYO:	17946 kHz
TOKYO:	21925 kHz
TOKYO:	2932 kHz
TOKYO:	2998 kHz
TOKYO:	3455 kHz
TOKYO:	4666 kHz
TOKYO:	5628 kHz
TOKYO:	5667 kHz
TOKYO:	6532 kHz
TOKYO:	6655 kHz
TOKYO:	8903 kHz
TOKYO:	8915 kHz
TOKYO:	8951 kHz

Communication Information For RPHI ACC Both (ACC Sector)

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
MANILA:	119.3 MHz		
MANILA:	128.7 MHz		

Type: Radio:
MANILA: 5655 kHz
MANILA: 8942 kHz

Communication Information For RPHI FIR

INMARSAT Service: INMARSAT SECURITY NUMBERS FOR MANILLA ACC ARE 454801, 454802, AND 454803

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
MANILA:	118.9 MHz	(R)	
MANILA:	119.3 MHz	(R)	
MANILA:	120.5 MHz	(R)	
MANILA:	124.9 MHz	(R)	
MANILA:	125.7 MHz	(R)	
MANILA:	127.5 MHz	(R)	
MANILA:	128.3 MHz	(R)	Secondary
MANILA:	128.7 MHz	(R)	Secondary
MANILA:	132.2 MHz	(R)	
MANILA:	132.5 MHz	(R)	
MANILA:	132.7 MHz	(R)	
Type: Radio:			
MANILA:	11297 kHz		
MANILA:	11396 kHz		
MANILA:	13300 kHz		
MANILA:	13309 kHz		
MANILA:	17904 kHz		
MANILA:	2998 kHz		
MANILA:	3485 kHz		
MANILA:	5655 kHz		
LIPA:	6525 kHz		A/G
MANILA:	6532 kHz		
MANILA:	6562 kHz		
MANILA:	8903 kHz		
MANILA:	8942 kHz		

Communication Information For VHHK FIR

INMARSAT Service: INMARSAT SECURITY NUMBER FOR HONG KONG ATC IS 441299

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
HONG KONG RADAR:	118.92 MHz	(R)	
HONG KONG RADAR:	121.3 MHz	(R)	
HONG KONG RADAR:	122.95 MHz	(R)	
HONG KONG RADAR:	123.47 MHz	(R)	
HONG KONG RADAR:	123.7 MHz	(R)	Secondary
HONG KONG RADAR:	123.95 MHz	(R)	
HONG KONG RADAR:	125.17 MHz	(R)	
HONG KONG RADAR:	125.32 MHz	(R)	
HONG KONG RADAR:	125.8 MHz	(R)	
HONG KONG RADAR:	126.3 MHz	(R)	
HONG KONG RADAR:	126.5 MHz	(R)	
HONG KONG RADAR:	127.1 MHz	(R)	
HONG KONG RADAR:	127.55 MHz	(R)	
HONG KONG RADAR:	128.12 MHz	(R)	
HONG KONG RADAR:	128.75 MHz	(R)	Secondary
HONG KONG RADAR:	132.15 MHz	(R)	
HONG KONG RADAR:	132.52 MHz	(R)	Secondary
HONG KONG RADAR:	132.6 MHz	(R)	Secondary
HONG KONG RADAR:	132.77 MHz	(R)	Secondary

HONG KONG RADAR:	132.8 MHz	(R)	Secondary
HONG KONG RADAR:	134.3 MHz	(R)	Secondary
HONG KONG RADAR:	135.6 MHz	(R)	Secondary
Type: Information:			
HONG KONG:	121.0 MHz		FIS
HONG KONG:	122.07 MHz		FIS, Secondary
HONG KONG:	122.4 MHz		FIS
Type: Radar:			
HONG KONG:	126.3 MHz	(R)	
Type: Radio:			
HONG KONG:	13309 kHz		Secondary
HONG KONG:	5655 kHz		Secondary
HONG KONG:	8942 kHz		Secondary
Type: VOLMET:			
HONG KONG:	128.87 MHz		
HONG KONG:	13282 kHz		
HONG KONG:	6679 kHz		
HONG KONG:	8828 kHz		

Communication Information For ZGZU ACC Both (ACC Sector)

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
GUANGZHOU CONTROL:	10066 kHz		
GUANGZHOU CONTROL:	120.75 MHz		
GUANGZHOU CONTROL:	134.25 MHz		
GUANGZHOU CONTROL:	3491 kHz		
GUANGZHOU CONTROL:	6556 kHz		

Communication Information For ZGZU ACC High (ACC Sector High)

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
GUANGZHOU CONTROL:	10066 kHz		
GUANGZHOU CONTROL:	126.75 MHz		
GUANGZHOU CONTROL:	133.77 MHz		
GUANGZHOU CONTROL:	3491 kHz		
GUANGZHOU CONTROL:	6556 kHz		

Communication Information For ZGZU FIR

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
GUANGZHOU CONTROL:	10066 kHz	(R)	
GUANGZHOU CONTROL:	118.95 MHz	(R)	
NANNING CONTROL:	118.97 MHz	(R)	
NANNING CONTROL:	119.32 MHz	(R)	
GUANGZHOU CONTROL:	119.37 MHz	(R)	

NANNING CONTROL:	120.55 MHz	(R)	Secondary
GUANGZHOU CONTROL:	120.75 MHz	(R)	
GUANGZHOU CONTROL:	120.95 MHz	(R)	
GUANGZHOU CONTROL:	122.5 MHz	(R)	Secondary
CHANGSHA CONTROL:	123.2 MHz	(R)	
CHANGSHA CONTROL:	123.72 MHz	(R)	Secondary
CHANGSHA CONTROL:	123.9 MHz	(R)	
GUANGZHOU CONTROL:	124.45 MHz	(R)	
GUANGZHOU CONTROL:	124.52 MHz	(R)	Secondary
NANNING CONTROL:	124.57 MHz	(R)	
GUANGZHOU CONTROL:	124.9 MHz	(R)	
GUANGZHOU CONTROL:	125.35 MHz	(R)	
GUANGZHOU CONTROL:	125.75 MHz	(R)	
GUANGZHOU CONTROL:	126.1 MHz	(R)	Secondary
GUANGZHOU CONTROL:	126.15 MHz	(R)	
GUANGZHOU CONTROL:	126.75 MHz	(R)	
CHANGSHA CONTROL:	127.15 MHz	(R)	
CHANGSHA CONTROL:	127.35 MHz	(R)	Secondary
GUANGZHOU CONTROL:	127.5 MHz	(R)	
GUANGZHOU CONTROL:	128.1 MHz	(R)	
GUANGZHOU CONTROL:	128.3 MHz	(R)	
NANNING CONTROL:	128.37 MHz	(R)	
CHANGSHA CONTROL:	128.55 MHz	(R)	
NANNING CONTROL:	128.7 MHz	(R)	
GUANGZHOU CONTROL:	128.72 MHz	(R)	
GUANGZHOU CONTROL:	132.1 MHz	(R)	Secondary
GUANGZHOU CONTROL:	132.3 MHz	(R)	
NANNING CONTROL:	132.35 MHz	(R)	Secondary
GUANGZHOU CONTROL:	132.4 MHz	(R)	Secondary
CHANGSHA CONTROL:	132.55 MHz	(R)	
GUANGZHOU CONTROL:	132.65 MHz	(R)	Secondary
NANNING CONTROL:	132.7 MHz	(R)	
GUANGZHOU CONTROL:	132.75 MHz	(R)	
GUANGZHOU CONTROL:	132.82 MHz	(R)	
GUANGZHOU CONTROL:	132.92 MHz	(R)	Secondary
NANNING CONTROL:	132.97 MHz	(R)	Secondary
GUANGZHOU CONTROL:	133.07 MHz	(R)	
NANNING CONTROL:	133.1 MHz	(R)	
CHANGSHA CONTROL:	133.15 MHz	(R)	Secondary
GUANGZHOU CONTROL:	133.25 MHz	(R)	
GUANGZHOU CONTROL:	133.27 MHz	(R)	
GUANGZHOU CONTROL:	133.37 MHz	(R)	
NANNING CONTROL:	133.4 MHz	(R)	Secondary
GUANGZHOU CONTROL:	133.47 MHz	(R)	
GUANGZHOU CONTROL:	133.52 MHz	(R)	
NANNING CONTROL:	133.6 MHz	(R)	
NANNING CONTROL:	133.75 MHz	(R)	
GUANGZHOU CONTROL:	133.77 MHz	(R)	Secondary
GUANGZHOU CONTROL:	133.85 MHz	(R)	
GUANGZHOU CONTROL:	133.9 MHz	(R)	
NANNING CONTROL:	133.95 MHz	(R)	
GUANGZHOU CONTROL:	133.97 MHz	(R)	
NANNING CONTROL:	134.02 MHz	(R)	
GUANGZHOU CONTROL:	134.15 MHz	(R)	Secondary
GUANGZHOU CONTROL:	134.2 MHz	(R)	Secondary
GUANGZHOU CONTROL:	134.25 MHz	(R)	Secondary
NANNING CONTROL:	134.37 MHz	(R)	
GUANGZHOU CONTROL:	134.5 MHz	(R)	
GUANGZHOU CONTROL:	134.8 MHz	(R)	
CHANGSHA CONTROL:	135.1 MHz	(R)	
GUANGZHOU CONTROL:	135.45 MHz	(R)	
CHANGSHA CONTROL:	3016 kHz	(R)	
GUANGZHOU CONTROL:	3491 kHz	(R)	
GUANGZHOU CONTROL:	6556 kHz	(R)	Secondary
CHANGSHA CONTROL:	6571 kHz	(R)	Secondary
CHANGSHA CONTROL:	8897 kHz	(R)	

Type: VOLMET:

GUANGZHOU:	13285 kHz
GUANGZHOU:	3458 kHz
GUANGZHOU:	5673 kHz
GUANGZHOU:	8849 kHz

Communication Information For ZSHA ACC Both (ACC Sector)

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
SHANGHAI CONTROL:	133.7 MHz		
SHANGHAI CONTROL:	134.3 MHz		
SHANGHAI CONTROL:	3016 kHz		
SHANGHAI CONTROL:	6571 kHz		
SHANGHAI CONTROL:	8897 kHz		

Communication Information For ZSHA ACC High (ACC Sector High)

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
SHANGHAI CONTROL:	133.22 MHz		
SHANGHAI CONTROL:	134.4 MHz		
SHANGHAI CONTROL:	3016 kHz		
SHANGHAI CONTROL:	6571 kHz		
SHANGHAI CONTROL:	8897 kHz		

Communication Information For ZSHA FIR

Callsign:	Frequency	Radar	ServiceIndicators
Type: ACC:			
SHANGHAI CONTROL:	118.97 MHz	(R)	
SHANGHAI CONTROL:	119.3 MHz	(R)	Secondary
SHANGHAI CONTROL:	120.1 MHz	(R)	
NANCHANG CONTROL:	120.5 MHz	(R)	
XIAMEN CONTROL:	120.52 MHz	(R)	
SHANGHAI CONTROL:	120.55 MHz	(R)	
SHANGHAI CONTROL:	120.7 MHz	(R)	
SHANGHAI CONTROL:	120.75 MHz	(R)	
SHANGHAI CONTROL:	120.9 MHz	(R)	
SHANGHAI CONTROL:	120.95 MHz	(R)	
JINAN CONTROL:	122.9 MHz	(R)	
XIAMEN CONTROL:	123.22 MHz	(R)	
SHANGHAI CONTROL:	123.27 MHz	(R)	Secondary
SHANGHAI CONTROL:	123.37 MHz	(R)	
SHANGHAI CONTROL:	123.7 MHz	(R)	Secondary
SHANGHAI CONTROL:	123.77 MHz	(R)	
SHANGHAI CONTROL:	123.95 MHz	(R)	
SHANGHAI CONTROL:	124.1 MHz	(R)	
NANCHANG CONTROL:	124.15 MHz	(R)	
XIAMEN CONTROL:	124.55 MHz	(R)	
SHANGHAI CONTROL:	124.57 MHz	(R)	Secondary
SHANGHAI CONTROL:	124.95 MHz	(R)	
XIAMEN CONTROL:	125.3 MHz	(R)	Secondary
SHANGHAI CONTROL:	125.32 MHz	(R)	
NANCHANG CONTROL:	125.37 MHz	(R)	
JINAN CONTROL:	125.7 MHz	(R)	
HEFEI CONTROL:	125.77 MHz	(R)	
NANCHANG CONTROL:	125.9 MHz	(R)	

SHANGHAI CONTROL:	125.95 MHz	(R)	
SHANGHAI CONTROL:	125.97 MHz	(R)	
HEFEI CONTROL:	126.12 MHz	(R)	
QINGDAO CONTROL:	126.15 MHz	(R)	Secondary
SHANGHAI CONTROL:	126.17 MHz	(R)	
SHANGHAI CONTROL:	126.9 MHz	(R)	
NANCHANG CONTROL:	127.52 MHz	(R)	
SHANGHAI CONTROL:	127.55 MHz	(R)	Secondary
SHANGHAI CONTROL:	128.12 MHz	(R)	
QINGDAO CONTROL:	128.15 MHz	(R)	
HEFEI CONTROL:	128.17 MHz	(R)	Secondary
SHANGHAI CONTROL:	128.32 MHz	(R)	
JINAN CONTROL:	128.35 MHz	(R)	
QINGDAO CONTROL:	128.55 MHz	(R)	
SHANGHAI CONTROL:	128.7 MHz	(R)	
SHANGHAI CONTROL:	128.75 MHz	(R)	
NANCHANG CONTROL:	130.3 MHz	(R)	Secondary
SHANGHAI CONTROL:	132.05 MHz	(R)	
SHANGHAI CONTROL:	132.1 MHz	(R)	Secondary
QINGDAO CONTROL:	132.12 MHz	(R)	
SHANGHAI CONTROL:	132.27 MHz	(R)	Secondary
QINGDAO CONTROL:	132.3 MHz	(R)	Secondary
SHANGHAI CONTROL:	132.32 MHz	(R)	
JINAN CONTROL:	132.37 MHz	(R)	
SHANGHAI CONTROL:	132.4 MHz	(R)	
SHANGHAI CONTROL:	132.45 MHz	(R)	
SHANGHAI CONTROL:	132.5 MHz	(R)	
SHANGHAI CONTROL:	132.62 MHz	(R)	
XIAMEN CONTROL:	132.72 MHz	(R)	Secondary
SHANGHAI CONTROL:	132.75 MHz	(R)	Secondary
QINGDAO CONTROL:	132.82 MHz	(R)	Secondary
SHANGHAI CONTROL:	132.9 MHz	(R)	Secondary
QINGDAO CONTROL:	132.95 MHz	(R)	
SHANGHAI CONTROL:	133.0 MHz	(R)	
QINGDAO CONTROL:	133.05 MHz	(R)	
SHANGHAI CONTROL:	133.07 MHz	(R)	
QINGDAO CONTROL:	133.15 MHz	(R)	
XIAMEN CONTROL:	133.17 MHz	(R)	
SHANGHAI CONTROL:	133.22 MHz	(R)	
SHANGHAI CONTROL:	133.27 MHz	(R)	
SHANGHAI CONTROL:	133.32 MHz	(R)	Secondary
SHANGHAI CONTROL:	133.4 MHz	(R)	Secondary
JINAN CONTROL:	133.45 MHz	(R)	Secondary
GUANGZHOU CONTROL:	133.47 MHz	(R)	
HEFEI CONTROL:	133.55 MHz	(R)	Secondary
XIAMEN CONTROL:	133.65 MHz	(R)	
SHANGHAI CONTROL:	133.7 MHz	(R)	Secondary
QINGDAO CONTROL:	133.72 MHz	(R)	
SHANGHAI CONTROL:	133.8 MHz	(R)	
NANCHANG CONTROL:	133.82 MHz	(R)	
JINAN CONTROL:	133.85 MHz	(R)	Secondary
SHANGHAI CONTROL:	133.87 MHz	(R)	
QINGDAO CONTROL:	133.95 MHz	(R)	Secondary
SHANGHAI CONTROL:	133.97 MHz	(R)	
SHANGHAI CONTROL:	134.0 MHz	(R)	Secondary
SHANGHAI CONTROL:	134.05 MHz	(R)	Secondary
QINGDAO CONTROL:	134.12 MHz	(R)	
SHANGHAI CONTROL:	134.2 MHz	(R)	Secondary
GUANGZHOU CONTROL:	134.25 MHz	(R)	Secondary
SHANGHAI CONTROL:	134.3 MHz	(R)	
JINAN CONTROL:	134.37 MHz	(R)	
SHANGHAI CONTROL:	134.4 MHz	(R)	Secondary
HEFEI CONTROL:	134.42 MHz	(R)	
SHANGHAI CONTROL:	134.47 MHz	(R)	
SHANGHAI CONTROL:	134.55 MHz	(R)	
HEFEI CONTROL:	134.7 MHz	(R)	
QINGDAO CONTROL:	134.85 MHz	(R)	
SHANGHAI CONTROL:	134.9 MHz	(R)	
SHANGHAI CONTROL:	135.0 MHz	(R)	
SHANGHAI CONTROL:	135.05 MHz	(R)	
HEFEI CONTROL:	135.4 MHz	(R)	
SHANGHAI CONTROL:	135.5 MHz	(R)	Secondary

HEFEI CONTROL:	135.65 MHz	(R)	
SHANGHAI CONTROL:	135.7 MHz	(R)	Secondary
NANCHANG CONTROL:	135.72 MHz	(R)	Secondary
SHANGHAI CONTROL:	135.75 MHz	(R)	
HEFEI CONTROL:	3016 kHz	(R)	
HEFEI CONTROL:	6571 kHz	(R)	Secondary
HEFEI CONTROL:	8897 kHz	(R)	

Operational Notes

Page 1 Strip Charts

CAUAYAN ATZ Type: Air Traffic Zone
Notes: FOR EXTENSION OF SERVICE ONE DAY PRIOR NOTICE IS REQUIRED.

VHHH Type: Airport
Notes: FLIGHTS WITHIN 50NM OF HONG KONG INTL AIRPORT SHALL NOT FLIGHT PLAN TO CRUISE AT LEVELS BETWEEN 9000' AND FL120.

GUEIREN Type: Class E Airspace
Notes: EAST TRAFFIC PATTERN IS USED FOR RCXY AD.

SINSHE Type: Class E Airspace
Notes: EAST TRAFFIC PATTERN IS USED FOR RCWK AD.

AIRSPACE BENEATH HONG KONG TMA Type: Class G Airspace
Notes: REQUIRES AIRCRAFT OPERATING IN SUCH CLASS G AIRSPACE TO HAVE EQUIPMENT CAPABLE OF MAINTAINING DIRECT TWO-WAY COMMUNICATION WITH ATC.

REQUIRES AIRCRAFT OPERATING IN SUCH CLASS G AIRSPACE TO HAVE EQUIPMENT CAPABLE OF MAINTAINING DIRECT TWO-WAY COMMUNICATION WITH ATC.

CHANGSHA CTA ZGHAAR01 Type: Control Area (Airport)
Notes: CONTACT ZGHAAR04 WHEN ZGHAAR01 U/S

CHANGSHA CTA ZGHAAR02 Type: Control Area (Airport)
Notes: CONTACT ZGHAAR04 WHEN ZGHAAR01 U/S

CHANGSHA CTA ZGHAAR03 Type: Control Area (Airport)
Notes: CONTACT ZGHAAR02 WHEN ZGHAAR03 U/S

CHANGSHA CTA ZGHAAR05 Type: Control Area (Airport)
Notes: CONTACT ZGHAAR01 WHEN ZGHAAR05 U/S

GUANGZHOU CTA ZGGGAR20 Type: Control Area (Airport)
Notes: EXCLUDE SECTOR ZGHAAR03

GUANGZHOU CTA ZGGGAR22 Type: Control Area (Airport)
Notes: CONTACT ZGGGAR11 WHEN ZGGGAR22 U/S

HEFEI CTA ZSOFAR02 Type: Control Area (Airport)
Notes: CONTACT ZSOFAR01 WHEN ZSOFAR02 U/S.

HEFEI CTA ZSOFAR03 Type: Control Area (Airport)
Notes: CONTACT ZSOFAR04 WHEN ZSOFAR03 U/S.

HEFEI CTA ZSOFAR04 Type: Control Area (Airport)
Notes: CONTACT ZSOFAR01 WHEN ZSOFAR04 U/S.

HEFEI CTA ZSOFAR05 Type: Control Area (Airport)
Notes: CONTACT ZSOFAR04 WHEN ZSOFAR05 U/S.

NANNING CTA ZGNNAR12 Type: Control Area (Airport)
Notes: CONTACT ZGNNAR10 WHEN ZGNNAR12 U/S

SANYA CTA ZJSYAR01 Type: Control Area (Airport)
Notes: EXCLUDE ZJSYAR04

SANYA CTA ZJSYAR04 Type: Control Area (Airport)
Notes: CONTACT ZJSYAR01 WHEN ZJSYAR04 U/S.

SHANGHAI CTA ZSSSAR41 Type: Control Area (Airport)
Notes: CONTACT ZSSSAR14 WHEN ZSSSAR41 U/S.

SHANGHAI CTA ZSSSAR42 Type: Control Area (Airport)
Notes: CONTACT ZSSSAR01 OR ZSSSAR44 WHEN ZSSSAR42 U/S.

SHANGHAI CTA ZSSSAR43 Type: Control Area (Airport)
Notes: CONTACT ZSSSAR15 WHEN ZSSSAR43 U/S.

SHANGHAI CTA ZSSSAR44 Type: Control Area (Airport)
Notes: CONTACT ZSSSAR01 WHEN ZSSSAR44 U/S.

XI'AN CTA ZLXYAR02 Type: Control Area (Airport)
Notes: CONTACT ZLXYAR01 WHEN ZLXYAR02 U/S.

XI'AN CTA ZLXYAR07 Type: Control Area (Airport)
Notes: CONTACT ZLXYAR02 WHEN ZLXYAR07 U/S.

XIAMEN CTA ZSAMAR02 Type: Control Area (Airport)
Notes: CONTACT ZSAMAR04 WHEN ZSAMAR02 U/S.

XIAMEN CTA ZSAMAR03 Type: Control Area (Airport)
Notes: CONTACT ZSAMAR04 WHEN ZSAMAR03 U/S.

XIAMEN CTA ZSAMAR05 Type: Control Area (Airport)
Notes: CONTACT ZSAMAR01 WHEN ZSAMAR05 U/S.

XIAMEN CTA ZSAMAR06 Type: Control Area (Airport)
Notes: CONTACT ZSAMAR01 WHEN ZSAMAR06 U/S.

RCAA Type: FIR
Notes: TAIPEI RCTP FIR: UNLESS APPLIED IN ADVANCE WITH RELATED DOCUMENTS AND AUTHORIZED BY CAA, NO PERSON MAY OPERATE A CIVIL AIRCRAFT WHILE IN CONTROLLED AIRSPACE BELOW 10,000' FEET [MSL] AT AN INDICATED AIRSPEED OF MORE THAN 250 KNOTS. R-583 AUTHORIZED ONLY W-BND FL380 OR ABOVE WITHIN TAIPEI (RCAA) FIR. UNLESS OTHERWISE APPROVED BY ATC ARRIVAL AIRCRAFT INTO TAIPEI ARE PROHIBITED.

RJJJ Type: FIR
Notes: SPEED RESTRICTIONS WITHIN JAPAN AIRSPACE MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC. WITHIN AN APPROACH CONTROL AREA BELOW 10000' MSL 250 KIAS WITHIN A CONTROL ZONE 250 KTS PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF RJJJ IN FUKUOKA FIR CPDLC: INMARSAT: INMARSAT SECURITY NUMBER IS 443101 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL IS 81-78-99-36-501 SATCOM:

RKRR Type: FIR
Notes: INMARSAT: INMARSAT SECURITY NUMBER FOR INCHEON ACC IS 444001 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR DAEGU ACC IS 444002 INMARSAT: ALL AIRWAYS WITHIN INCHEON FIR FROM MEA TO FL200 ARE CLASS D, FROM ABOVE FL200 TO FL600 ARE CLASS A, AND ABOVE FL600 ARE CLASS G. SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS CLASS C AND D AIRSPACE: AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

RPHI Type: FIR
Notes: CPDLC: CPDLC: SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF RPHI IN MANILA FIR. AIRCRAFT SHOULD LOG ON TO "RPHI" PRIOR TO DEPARTING FROM NINOY AQUINO INTERNATIONAL AIRPORT OR BETWEEN 10 - 25 MINUTES PRIOR TO ENTERING THE MANILA FIR. DATA LINK SERVICES ARE AVAILABLE TO FANS 1/A CAPABLE AIRCRAFT IN THE EAST SECTOR OF MANILA FIR ON THE FOLLOWING AIR ROUTES: 1. A582 2. A590 3. G578 4. M501 5. G467 INMARSAT: INMARSAT SECURITY NUMBERS FOR MANILLA ACC ARE 454801, 454802, AND 454803 INMARSAT: WITHIN THE MANILA FIR, THE AIRSPACE IS DIVIDED INTO THE FOLLOWING CLASSES: CLASS A FL200-UNL (MANILA FIR UPPER CONTROL AREA, EXCEPT SPECIAL USE AIRSPACE) CLASS A LOWER LIMIT - UNL (OCEANIC) CLASS A MEA - UNL (ATS ROUTES OUTSIDE TMA) CLASS E 1500' TO FL200 (TMA, EXCLUDING ATS ROUTES AT FL130 AND ABOVE)

VHHK Type: FIR
Notes: AIRCRAFT SHALL ESTABLISH TWO-WAY RADIO COMMUNICATION WITH HONG KONG RADAR WHEN SO PRESCRIBED BY THE RESPECTIVE ATC UNIT, AND MAINTAIN A LISTENING WATCH. SUCH AIRCRAFT SHALL MAKE POSITION REPORTS WHEN ENTERING AND LEAVING HONG KONG AIRSPACE, AND AT SUCH OTHER TIMES AND/OR POSITIONS AS DIRECTED BY HONG KONG ACC. PILOT SHALL REPORT THE AIRCRAFT CALL SIGN, POSITION (WITH REFERENCE TO A REPORTING POINT), LEVEL (INCLUDING PASSING AND CLEARED LEVELS IF NOT MAINTAINING THE CLEARED LEVEL), TRANSPONDER CODE AND OTHER PERTINENT INFORMATION (E.G. SPEED ASSIGNED BY LAST ATC, TRACKING IF IT DIFFERS FROM THE FLIGHT PLAN ROUTE) IN THE INITIAL CALL BEFORE ENTERING HONG KONG FIR. AIRCRAFT ENTERING HONG KONG FIR OUTSIDE CONTROLLED AIRSPACE, BUT WISHING TO JOIN CONTROLLED AIRSPACE, SHALL REQUEST CLEARANCE FROM HONG KONG ACC STATING FLIGHT LEVEL AND ESTIMATED TIME/POSITION OF JOINING, IN RELATION TO A REPORTING POINT. UNTIL SPECIFIC CLEARANCE IS RECEIVED FROM HONG KONG ACC, THE AIRCRAFT SHALL REMAIN CLEAR OF CONTROLLED AIRSPACE. WITHIN VHHK FIR ALL NON-COMPULSORY REPORTING POINTS ON CONVENTIONAL AND VICTOR ATS-ROUTES ARE COMPULSORY FOR NON-JET AIRCRAFT. RVSM AIRSPACE FL290-FL410 INCLUSIVE. INMARSAT: INMARSAT SECURITY NUMBER FOR HONG KONG ATC IS 441299 INMARSAT:

VVHM Type: FIR
Notes: CPDLC: CPDLC SERVICES FOR FANS-1/A EQUIPPED AIRCRAFT ARE AVAILABLE WITH LOGON ADDRESS OF VVHM IN HO CHI MINH FIR. LOGON SHOULD BE ESTABLISHED 15 TO 45 MINUTES PRIOR TO ENTERING THE DATA LINK AIRSPACE. DATA LINK ROUTES: L625, L628, L642, M765, M768, M771, N500, N892 CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR HO CHI MINH ACC IS 457402 INMARSAT:

ZGZU Type: FIR
Notes: ABOVE 19700' (6000M) THERE ARE FOLLOWING AIRSPACE CLASSES: 19700' (6000M)- 65700'(20000M) CLASS A AIRSPACE 65700'(20000M)-UNLTD CLASS D AIRSPACE AIRSPACE CLASS B DESIGNATED AS FOLLOWING: THE AIRSPACE DESIGNATED ABOVE TRANSPORT AIRPORTS. FOR TRANSPORT AIRPORTS WITH THREE RUNWAYS (INCLUSIVE) OR MORE, THREE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 10.8NM (20KM), 21.6NM (40KM), AND 32.4NM (60KM), ALTITUDES RESPECTIVELY FROM RUNWAY SURFACE TO 3000' (900M) ABOVE THE AIRPORT ELEVATION, FROM 3000' (900M) ABOVE THE AIRPORT ELEVATION TO 6000' (1800M) ABOVE THE AIRPORT ELEVATION, FROM 6000' (1800M) ABOVE THE AIRPORT ELEVATION TO QNE 19700' (6000M). FOR TRANSPORT AIRPORTS WITH TWO RUNWAYS, TWO-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 8.1NM (15KM) AND 16.2NM (30KM), ALTITUDES RESPECTIVELY FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION, FROM 2000' (600M) ABOVE THE AIRPORT ELEVATION TO 11900' (3600M) ABOVE THE AIRPORT ELEVATION, MAXIMUM TO THE LOWER LIMIT OF CLASS A AIRSPACE. FOR TRANSPORT AIRPORTS WITH ONE RUNWAY, ONE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 6.5NM (12KM), ALTITUDE FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION. AIRSPACE CLASS C DESIGNATED AS FOLLOWING: THE AIRSPACE DESIGNATED ABOVE GENERAL AVIATION AIRPORTS WITH TOWER, ONE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 2.7NM (5KM), ALTITUDE FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION. AIRSPACE CLASS D AND E DESIGNATED AS FOLLOWING: OUTSIDE OF CLASS A, B, C AND G AIRSPACE, IT CAN BE DESIGNATED AS CLASS D OR E AIRSPACE BASED ON OPERATION AND SAFETY REQUIREMENTS. AIRSPACE CLASS G DESIGNATED AS FOLLOWING: - THE AIRSPACE OUTSIDE OF CLASS B AND C AIRSPACE(CLASS W AIRSPACE EXCLUDED) AND BELOW 1000' (300M) AGL - AIRSPACE BELOW 19700' (6000M) MSL THAT DOES NOT AFFECT CIVIL AVIATION TRANSPORT FLIGHTS. AIRSPACE CLASS W DESIGNATED AS FOLLOWING: PART OF THE CLASS G AIRSPACE BELOW 400' (120M) AGL. RVSM AIRSPACE FL291-FL411 INCLUSIVE. ALL AIRCRAFT ENTERING OR EXITING PR OF CHINA SHALL CONTACT ATC 15-20 MINUTES PRIOR TO FIR ENTRY OR EXIT AND OBTAIN A CLEARANCE TO CROSS THE FIR BOUNDARIES.

ZHWH Type: FIR
Notes: ABOVE 19700' (6000M) THERE ARE FOLLOWING AIRSPACE CLASSES: 19700' (6000M)- 65700'(20000M) CLASS A AIRSPACE 65700'(20000M)-UNLTD CLASS D AIRSPACE AIRSPACE CLASS B DESIGNATED AS FOLLOWING: THE AIRSPACE DESIGNATED ABOVE TRANSPORT AIRPORTS. FOR TRANSPORT AIRPORTS WITH THREE RUNWAYS (INCLUSIVE) OR MORE, THREE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 10.8NM (20KM), 21.6NM (40KM), AND 32.4NM (60KM), ALTITUDES RESPECTIVELY FROM RUNWAY SURFACE TO 3000' (900M) ABOVE THE AIRPORT ELEVATION, FROM 3000' (900M) ABOVE THE AIRPORT ELEVATION TO 6000' (1800M) ABOVE THE AIRPORT ELEVATION, FROM 6000' (1800M) ABOVE THE AIRPORT ELEVATION TO QNE 19700' (6000M). FOR TRANSPORT AIRPORTS WITH TWO RUNWAYS, TWO-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 8.1NM (15KM) AND 16.2NM (30KM), ALTITUDES RESPECTIVELY FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION, FROM 2000' (600M) ABOVE THE AIRPORT ELEVATION TO 11900' (3600M) ABOVE THE AIRPORT ELEVATION, MAXIMUM TO THE LOWER LIMIT OF CLASS A AIRSPACE. FOR TRANSPORT AIRPORTS WITH ONE RUNWAY, ONE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 6.5NM (12KM), ALTITUDE FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION. AIRSPACE CLASS C DESIGNATED AS FOLLOWING: THE AIRSPACE DESIGNATED ABOVE GENERAL AVIATION AIRPORTS WITH TOWER, ONE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 2.7NM (5KM), ALTITUDE FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION. AIRSPACE CLASS D AND E DESIGNATED AS FOLLOWING: OUTSIDE OF CLASS A, B, C AND G AIRSPACE, IT CAN BE DESIGNATED AS CLASS D OR E AIRSPACE BASED ON OPERATION AND SAFETY REQUIREMENTS. AIRSPACE CLASS G DESIGNATED AS FOLLOWING: - THE AIRSPACE OUTSIDE OF CLASS B AND C AIRSPACE(CLASS W AIRSPACE EXCLUDED) AND BELOW 1000' (300M) AGL - AIRSPACE BELOW 19700' (6000M) MSL THAT DOES NOT AFFECT CIVIL AVIATION TRANSPORT FLIGHTS. AIRSPACE CLASS W DESIGNATED AS FOLLOWING: PART OF THE CLASS G AIRSPACE BELOW 400' (120M) AGL. RVSM AIRSPACE FL291-FL411 INCLUSIVE.

ZJSA Type: FIR
Notes: ALL FLIGHTS ENTERING THE SANYA FIR SHOULD ESTABLISH TWO-WAY RADIO COMMUNICATION WITH SANYA ACC WITHIN FIVE MINUTES BEFORE DESIGNATED REPORTING POINTS. ABOVE 19700' (6000M) THERE ARE FOLLOWING AIRSPACE CLASSES: 19700' (6000M)- 65700'(20000M) CLASS A AIRSPACE 65700'(20000M)-UNLTD CLASS D AIRSPACE AIRSPACE CLASS B DESIGNATED AS FOLLOWING: THE AIRSPACE DESIGNATED ABOVE TRANSPORT AIRPORTS. FOR TRANSPORT AIRPORTS WITH THREE RUNWAYS (INCLUSIVE) OR MORE, THREE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 10.8NM (20KM), 21.6NM (40KM), AND 32.4NM (60KM), ALTITUDES RESPECTIVELY FROM RUNWAY SURFACE TO 3000' (900M) ABOVE THE AIRPORT ELEVATION, FROM 3000' (900M) ABOVE THE AIRPORT ELEVATION TO 6000' (1800M) ABOVE THE AIRPORT ELEVATION, FROM 6000' (1800M) ABOVE THE AIRPORT ELEVATION TO QNE 19700' (6000M). FOR TRANSPORT AIRPORTS WITH TWO RUNWAYS, TWO-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 8.1NM (15KM) AND 16.2NM (30KM), ALTITUDES RESPECTIVELY FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION, FROM 2000' (600M) ABOVE THE AIRPORT ELEVATION TO 11900' (3600M) ABOVE THE AIRPORT ELEVATION, MAXIMUM TO THE LOWER LIMIT OF CLASS A AIRSPACE. FOR TRANSPORT AIRPORTS WITH ONE RUNWAY, ONE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 6.5NM (12KM), ALTITUDE FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION. AIRSPACE CLASS C DESIGNATED AS FOLLOWING: THE AIRSPACE DESIGNATED ABOVE GENERAL AVIATION AIRPORTS WITH TOWER, ONE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 2.7NM (5KM), ALTITUDE FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION. AIRSPACE CLASS D AND E DESIGNATED AS FOLLOWING: OUTSIDE OF CLASS A, B, C AND G AIRSPACE, IT CAN BE DESIGNATED AS CLASS D OR E AIRSPACE BASED ON OPERATION AND SAFETY REQUIREMENTS. AIRSPACE CLASS G DESIGNATED AS FOLLOWING: - THE AIRSPACE OUTSIDE OF CLASS B AND C AIRSPACE(CLASS W AIRSPACE EXCLUDED) AND BELOW 1000' (300M) AGL - AIRSPACE BELOW 19700' (6000M) MSL THAT DOES NOT AFFECT CIVIL AVIATION TRANSPORT FLIGHTS. AIRSPACE CLASS W DESIGNATED AS

FOLLOWING: PART OF THE CLASS G AIRSPACE BELOW 400' (120M) AGL. ALL AIRCRAFT ENTERING OR EXITING PR OF CHINA SHALL CONTACT ATC 15-20

ZSHA Type: FIR

Notes: RVSM AIRSPACE FL291-FL411 INCLUSIVE. ALL AIRCRAFT ENTERING OR EXITING PR OF CHINA SHALL CONTACT ATC 15-20 MINUTES PRIOR TO FIR ENTRY OR EXIT AND OBTAIN A CLEARANCE TO CROSS THE FIR BOUNDARIES. ABOVE 19700' (6000M) THERE ARE FOLLOWING AIRSPACE CLASSES: 19700' (6000M)-65700'(20000M) CLASS A AIRSPACE 65700'(20000M)-UNLTD CLASS D AIRSPACE AIRSPACE CLASS B DESIGNATED AS FOLLOWING: THE AIRSPACE DESIGNATED ABOVE TRANSPORT AIRPORTS. FOR TRANSPORT AIRPORTS WITH THREE RUNWAYS (INCLUSIVE) OR MORE, THREE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 10.8NM (20KM), 21.6NM (40KM), AND 32.4NM (60KM), ALTITUDES RESPECTIVELY FROM RUNWAY SURFACE TO 3000' (900M) ABOVE THE AIRPORT ELEVATION, FROM 3000' (900M) ABOVE THE AIRPORT ELEVATION TO 6000' (1800M) ABOVE THE AIRPORT ELEVATION, FROM 6000' (1800M) ABOVE THE AIRPORT ELEVATION TO QNE 19700' (6000M). FOR TRANSPORT AIRPORTS WITH TWO RUNWAYS, TWO-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 8.1NM (15KM) AND 16.2NM (30KM), ALTITUDES RESPECTIVELY FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION, FROM 2000' (600M) ABOVE THE AIRPORT ELEVATION TO 11900' (3600M) ABOVE THE AIRPORT ELEVATION, MAXIMUM TO THE LOWER LIMIT OF CLASS A AIRSPACE. FOR TRANSPORT AIRPORTS WITH ONE RUNWAY, ONE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 6.5NM (12KM), ALTITUDE FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION. AIRSPACE CLASS C DESIGNATED AS FOLLOWING: THE AIRSPACE DESIGNATED ABOVE GENERAL AVIATION AIRPORTS WITH TOWER, ONE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 2.7NM (5KM), ALTITUDE FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION. AIRSPACE CLASS D AND E DESIGNATED AS FOLLOWING: OUTSIDE OF CLASS A, B, C AND G AIRSPACE, IT CAN BE DESIGNATED AS CLASS D OR E AIRSPACE BASED ON OPERATION AND SAFETY REQUIREMENTS. AIRSPACE CLASS G DESIGNATED AS FOLLOWING: - THE AIRSPACE OUTSIDE OF CLASS B AND C AIRSPACE(CLASS W AIRSPACE EXCLUDED) AND BELOW 1000' (300M) AGL - AIRSPACE BELOW 19700' (6000M) MSL THAT DOES NOT AFFECT CIVIL AVIATION TRANSPORT FLIGHTS. AIRSPACE CLASS W DESIGNATED AS FOLLOWING: PART OF THE CLASS G AIRSPACE BELOW 400' (120M) AGL.

16 Type: Special Use Airspace

Notes: NO FLIGHT IS PERMITTED BELOW 4000 FEET IN R16 UNLESS PERMISSION FROM AOC HAS BEEN OBTAINED. HELICOPTERS ON MEDICAL SERVICES MAY OPERATE IN THIS AREA WITH PERMISSION FROM SUNGSHAN TOWER. IFR AIRCRAFT APPROACHING TAIPEI/SUNGSHAN AIRPORT ARE RESTRICTED TO AN ALTITUDE WHILE CROSSING (APU) VOR AND (LK) LOCATOR NOT LOWER THAN 5000 FEET.

179 Type: Special Use Airspace

Notes: THE EXERCISE ARE CONDUCTED ONLY UNDER RADAR CONFIRMATION THAT NO ACFT IS APPROACHING OR PENETRATING THE AIRSPACE MENTIONED ABOVE.

20 Type: Special Use Airspace

Notes: EXCLUSIVELY FOR AIRCRAFT WITH SPEED OF 150 MPH OR LESS. CAUTION ADVISED TO OTHER AIRCRAFT FLYING OVER THE AREA.

30 Type: Special Use Airspace

Notes: IF PRIOR COORDINATION WITH TAFU PROVING GROUND HAS BEEN COMPLETED, CIVIL AIRCRAFT OPERATIONS IN R30 MAY BE APPROVED BY ATC DURING ACTIVE HOURS.

41 Type: Special Use Airspace

Notes: TAITUNG TMA EXCLUDES RC(R)-41 AND RC(R)-42.

48 Type: Special Use Airspace

Notes: NO AIRCRAFT MAY ENTER THIS AREA WITHOUT PRIOR PERMISSION FROM APPROPRIATE AUTHORITY.

BEIDOU EA* Type: Special Use Airspace

Notes: IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL.

BULAO HOT* Type: Special Use Airspace

Notes: IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL.

DAHAN RIV* Type: Special Use Airspace

Notes: IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL.

DALI Type: Special Use Airspace
Notes: IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL.

IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL.

IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL. FOR ENTERING AND EXITING AREA B. OTHER ACT PROHIBITED.

GAOSHU Type: Special Use Airspace
Notes: IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL.

HUALIEN M* Type: Special Use Airspace
Notes: FOR ENTERING AND EXITING ULM HUATUNG AIRSPACE. OTHER ACT PROHIBITED.

HUATUNG Type: Special Use Airspace
Notes: IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 1000 FT AGL.

IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 1000 FT AGL.

LUODONG Type: Special Use Airspace
Notes: IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL.

MAOLUO RI* Type: Special Use Airspace
Notes: FOR ENTERING AND EXITING BEIDOU EAST. OTHER ACT PROHIBITED. IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL.

IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL. FOR ENTERING AND EXITING BEIDOU EAST. OTHER ACT PROHIBITED.

MIAOLI Type: Special Use Airspace
Notes: IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL.

NANHUA Type: Special Use Airspace
Notes: IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL.

NINGBO Type: Special Use Airspace
Notes: 9900' (3000M) QNH OR BELOW: BY ATC

RUEIFANG Type: Special Use Airspace
Notes: IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL.

SAIJIA Type: Special Use Airspace
Notes: IN THOSE PARTS WITH HIGH TERRAIN, THE UPPER LIMIT IS 500 FT AGL.

SOUTH LAN* Type: Special Use Airspace
Notes: FOR LANDING ONLY

CHANGSHA APP CTL ZGHAAP02 Type: Terminal Area
Notes: CONTACT ZGHAAP01 WHEN ZGHAAP02 U/S

CHANGSHA APP CTL ZGHAAP03N Type: Terminal Area
Notes: CONTACT ZGHAAP01 WHEN ZGHAAP03 U/S RWY36L/36R IN USE AT ZGHA

CHANGSHA APP CTL ZGHAAP03S Type: Terminal Area
Notes: RWY18L/18R IN USE AT ZGHA CONTACT ZGHAAP01 WHEN ZGHAAP03 U/S

FUZHOU APP CTL AREA AP03 Type: Terminal Area
Notes: CONTACT ZSFZAP01 WHEN ZSFZAP03 U/S

GUANGZHOU APP CTL ZGGGAP01N Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP01S Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP02N Type: Terminal Area

Notes: RWY01/02L/02R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP02S Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP03N1 Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG EXCLUDE ZGGGAP02

GUANGZHOU APP CTL ZGGGAP03N2 Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG EXCLUDE ZGGGAP02

GUANGZHOU APP CTL ZGGGAP03N3 Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG EXCLUDE ZGGGAP02

GUANGZHOU APP CTL ZGGGAP03N4 Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP03N5 Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP03N6 Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP03S1 Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG EXCLUDE ZGGGAP01 AND ZGGGAP06

GUANGZHOU APP CTL ZGGGAP03S2 Type: Terminal Area
Notes: EXCLUDE ZGGGAP01 AND ZGGGAP06 RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP03S3 Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG EXCLUDE ZGGGAP01 AND ZGGG06

GUANGZHOU APP CTL ZGGGAP03S4 Type: Terminal Area
Notes: EXCLUDE ZGGGAP02 RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP03S5 Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP03S6 Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP03S7 Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP04N1 Type: Terminal Area
Notes: EXCLUDE ZHUHAI TMA RWY01/02L/02R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP04N2 Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP04S1 Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG EXCLUDE ZHUHAI TMA

GUANGZHOU APP CTL ZGGGAP04S2 Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP05N1 Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP05N2 Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP05N3 Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG EXCLUDE ZGGGAP01, ZGGGAP04, ZGGGAP06 AND ZHUHAI TMA

GUANGZHOU APP CTL ZGGGAP05N4 Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP05S1 Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP05S2 Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP05S3 Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP05S4 Type: Terminal Area
Notes: EXCLUDE ZGGGAP04 AND ZHUHAI TMA RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP05S5 Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP06N Type: Terminal Area
Notes: RWY01/02L/02R IN USE AT ZGGG

GUANGZHOU APP CTL ZGGGAP06S Type: Terminal Area
Notes: RWY19/20L/20R IN USE AT ZGGG

HANGZHOU APP CTL ZSHCAP01 Type: Terminal Area
Notes: CONTACT ZSHCAP04 WHEN ZSHCAP01 U/S EXCLUDE ZSHCAP02/04

HANGZHOU APP CTL ZSHCAP02 Type: Terminal Area
Notes: CONTACT ZSHCAP04 WHEN ZSHCAP02 U/S

HANGZHOU APP CTL ZSHCAP03 Type: Terminal Area
Notes: EXCLUDE ZSHCAP02/06/07

HANGZHOU APP CTL ZSHCAP04 Type: Terminal Area
Notes: CONTACT ZSHCAP03 WHEN ZSHCAP04 U/S

HANGZHOU APP CTL ZSHCAP05 Type: Terminal Area
Notes: CONTACT ZSHCAP03 WHEN ZSHCAP05 U/S EXCLUDE ZSHCAP06/08 AND NINGBO APP

HANGZHOU APP CTL ZSHCAP06 Type: Terminal Area
Notes: CONTACT ZSHCAP02 WHEN ZSHCAP006 U/S

HANGZHOU APP CTL ZSHCAP07 Type: Terminal Area
Notes: CONTACT ZSHCAP03 WHEN ZSHCAP07 U/S

HANGZHOU APP CTL ZSHCAP08 Type: Terminal Area
Notes: CONTACT ZSHCAP04 WHEN ZSHCAP08 U/S

HEFEI APP CTL AREA ZSOFAP02 Type: Terminal Area
Notes: CONTACT ZSOFAP03 WHEN ZSOFAP02 U/S

CONTACT ZSOFAP03 WHEN ZSOFAP02 U/S

HEFEI APP CTL AREA ZSOFAP03 Type: Terminal Area
Notes: CONTACT ZSOFAP01 WHEN ZSOFAP03 U/S

CONTACT ZSOFAP01 WHEN ZSOFAP03 U/S

HEFEI APP CTL AREA ZSOFAP04 Type: Terminal Area
Notes: CONTACT ZSOFAP03 WHEN ZSOFAP04 U/S.

CONTACT ZSOFAP03 WHEN ZSOFAP04 U/S.

JINJIANG APP CONTROL AREA Type: Terminal Area
Notes: CONTACT JINJIANG TWR WHEN JINJIANG APP U/S.

LAOAG TMA Type: Terminal Area
Notes: WITHIN THE TMA AIRWAYS ARE CLASS (A) FL130 AND ABOVE.

NANJING APP CTL AREA ZSNJ AP04 Type: Terminal Area
Notes: CONTACT ZSNJAP01 WHEN ZSNJAP04 U/S

CONTACT ZSNJAP01 WHEN ZSNJAP04 U/S

NINGBO APP CTL ZSNBAP01N Type: Terminal Area
Notes: RWY31 IN USE AT ZSNB

NINGBO APP CTL ZSNBAP01S Type: Terminal Area
Notes: RWY13 IN USE AT ZSNB

NINGBO APP CTL ZSNBAP02N Type: Terminal Area
Notes: RWY31 IN USE AT ZSNB

NINGBO APP CTL ZSNBAP02S Type: Terminal Area
Notes: RWY13 IN USE AT ZSNB

SHANGHAI APP CTL ZSSSAP01 Type: Terminal Area
Notes: EXCLUDE ZSSSAP05/07

SHANGHAI APP CTL ZSSSAP02N Type: Terminal Area
Notes: RWY34L/34R/35L/35R IN USE AT ZSPD

SHANGHAI APP CTL ZSSSAP02S Type: Terminal Area
Notes: RWY16L/16R/17L/17R IN USE AT ZSPD

SHANGHAI APP CTL ZSSSAP03 Type: Terminal Area
Notes: EXCLUDE ZSSSAP02/04/06/07

SHANGHAI APP CTL ZSSSAP04N Type: Terminal Area
Notes: RWY34L/34R/35L/35R IN USE AT ZSPD

SHANGHAI APP CTL ZSSSAP04S Type: Terminal Area
Notes: RWY16L/16R/17L/17R IN USE AT ZSPD

SHANGHAI APP CTL ZSSSAP06N Type: Terminal Area
Notes: RWY34L/34R/35L/35R IN USE AT ZSPD

SHANGHAI APP CTL ZSSSAP06S Type: Terminal Area
Notes: RWY16L/16R/17L/17R IN USE AT ZSPD

SHANGHAI APP CTL ZSSSAP08 Type: Terminal Area
Notes: EXCLUDE ZSSSAP02/04/06

SHANGHAI APP CTL ZSSSAP09 Type: Terminal Area
Notes: EXCLUDE NANTONG TWR AND WUXI APP

SHANGHAI APP CTL ZSSSAP10 Type: Terminal Area
Notes: EXCLUDE ZSSSAP02/04/06

SHANGHAI APP CTL ZSSSAP11 Type: Terminal Area
Notes: EXCLUDE WUXI APP

TAITUNG TMA Type: Terminal Area
Notes: EXCLUDING RC(R)-41

WENZHOU APP CTL AREA ZSWZAP01 Type: Terminal Area
Notes: EXCLUDE ZSWZAP02

WENZHOU APP CTL AREA ZSWZAP03 Type: Terminal Area
Notes: CONTACT ZSWZAP01 WHEN ZSWZAP03 U/S

WUHAN APP CTL ZHHH AP01 Type: Terminal Area
Notes: EXCLUDE ZHHHAP03 CONTACT ZHHHAP02 WHEN ZHHHAP01 U/S

WUHAN APP CTL ZHHH AP02 Type: Terminal Area
Notes: EXCLUDE ZHHHAP03

WUHAN APP CTL ZHHH AP03 Type: Terminal Area
Notes: CONTACT ZHHHAP01 WHEN ZHHHAP03 U/S RWY04L/04R IN USE AT ZHHH

CONTACT ZHHHAP02 WHEN ZHHHAP03 U/S RWY22L/22R IN USE AT ZHHH

WUHAN APP CTL ZHHH AP04 Type: Terminal Area
Notes: CONTACT ZHHHAP02 WHEN ZHHHAP04 U/S EXCLUDE ZHHHAP03

WUXI APPROACH CONTROL AREA Type: Terminal Area
Notes: CONTACT WUXI TOWER WHEN WUXI APP U/S

XIAMEN APP CTL AREA ZSAMAP01 Type: Terminal Area
Notes: EXCLUDE JINJIANG APP CONTROL AREA

ZHUHAI TMA ZGJDTM01N1 Type: Terminal Area
Notes: CONTACT APP04 WHEN APP01 U/S RWY33/34 IN USE AT ZGSZ

ZHUHAI TMA ZGJDTM01N2 Type: Terminal Area
Notes: CONTACT APP04 WHEN APP01 U/S RWY33/34 IN USE AT ZGSZ

ZHUHAI TMA ZGJDTM01S1 Type: Terminal Area
Notes: RWY15/16 IN USE AT ZGSZ CONTACT APP04 WHEN APP01 U/S

ZHUHAI TMA ZGJDTM01S2 Type: Terminal Area
Notes: CONTACT APP04 WHEN APP01 U/S RWY15/16 IN USE AT ZGSZ

ZHUHAI TMA ZGJDTM03N1 Type: Terminal Area
Notes: CONTACT APP02 WHEN APP03 U/S RWY33/34 IN USE AT ZGSZ

ZHUHAI TMA ZGJDTM03N2 Type: Terminal Area
Notes: RWY33/34 IN USE AT ZGSZ CONTACT APP02 WHEN APP03 U/S

ZHUHAI TMA ZGJDTM03S Type: Terminal Area
Notes: RWY15/16 IN USE AT ZGSZ CONTACT APP02 WHEN APP03 U/S

ZHUHAI TMA ZGJDTM04N1 Type: Terminal Area
Notes: RWY33/34 IN USE AT ZGSZ CONTACT APP02 WHEN APP04 U/S

ZHUHAI TMA ZGJDTM04N2 Type: Terminal Area
Notes: RWY33/34 IN USE AT ZGSZ CONTACT APP02 WHEN APP04 U/S

ZHUHAI TMA ZGJDTM04S1 Type: Terminal Area
Notes: RWY15/16 IN USE AT ZGSZ

ZHUHAI TMA ZGJDTM04S2 Type: Terminal Area
Notes: RWY15/16 IN USE AT ZGSZ CONTACT APP02 WHEN APP04 U/S

ZHUHAI TMA ZGJDTM05N Type: Terminal Area
Notes: RWY33/34 IN USE AT ZGSZ CONTACT APP03 WHEN APP05 U/S

ZHUHAI TMA ZGJDTM05S Type: Terminal Area
Notes: CONTACT APP03 WHEN APP05 U/S RWY15/16 IN USE AT ZGSZ

LIG Type: VOR
Notes: TRAFFIC TO HONG KONG OR BEYOND REPORT ETO TAMOT OR SIERA INT TO GUANGZHOU ATC.

PLT Type: VOR
Notes: TRAFFIC TO HONG KONG OR BEYOND REPORT ETO TAMOT OR SIERA INT TO GUANGZHOU ATC.

ALGAG Type: Waypoint
Notes: G586, ALGAG-OSNOV NOT AVAILABLE. ROUTE VIA V147, V148.

ASOBA Type: Waypoint
Notes: CONTACT HONG KONG RADAR ON 122.950 AT LEAST 10NM PRIOR TO ASOBA.

BEKOL Type: Waypoint
Notes: CONTACT NEXT ATC UNIT AT LEAST 3 MINUTES PRIOR TO BEKOL.

DOSUT Type: Waypoint
Notes: CONTACT HONG KONG RADAR ON 122.950 AT LEAST 10NM PRIOR TO DOSUT.

DOTMI Type: Waypoint
Notes: CONTACT HONG KONG RADAR ON 121.300 AT LEAST 10NM PRIOR TO DOTMI.

DUMOL Type: Waypoint
Notes: CONTACT HONG KONG RADAR ON 128.125 AT DUMOL.

ELAGO Type: Waypoint
Notes: AIRCRAFT FROM ZSHC IN DIRECTION OF ZSQD OR RJTG FIR AND VICE VERSA ROUTE W36 AND CROSS ELAGO AT FL197/FL6000M OR ABOVE. EXPECT REROUTING VIA W-37 BY ATC.

ELATO Type: Waypoint
Notes: CONTACT HONG KONG RADAR ON 121.300 AT LEAST 10NM PRIOR TO ELATO.

IKELA Type: Waypoint
Notes: CONTACT HONG KONG RADAR ON 125.325 AT LEAST 10NM PRIOR TO IKELA.

KABAM Type: Waypoint
Notes: DURING 2200-1600, TRANSIT FLIGHTS VIA KABAM SHALL FILE AIRWAY W4 FOR N-BND FLIGHTS & AWY B591/Q11 FOR S-BND FLIGHTS.

KAPLI Type: Waypoint
Notes: DURING 2200-1600, TRANSIT FLIGHTS VIA KAPLI SHALL FILE AIRWAY W4 FOR N-BND FLIGHTS & AWY B591/Q11 FOR S-BND FLIGHTS. CONTACT HONG KONG RADAR ON 132.150 AT LEAST 10NM PRIOR TO KAPLI.

LAMEN Type: Waypoint
Notes: EASTBOUND TRAFFIC DEPARTING FROM SHANGHAI PUDONG AND HONGQIAO AIRPORTS UNABLE TO REACH LAMEN OR 124E LONGITUDE AT FL250 MAY BE INSTRUCTED TO CROSS LAMEN OR 124E LONGITUDE AT OR ABOVE FL230 IN ORDER TO REACH AND MAINTAIN FL250 OR ABOVE BY 20NM WEST OF SADLI OR 125E LONGITUDE.

LELIM Type: Waypoint
Notes: CONTACT HONG KONG RADAR ON 121.300 AT LEAST 10NM PRIOR TO LELIM.

NOMAN Type: Waypoint
Notes: AIRCRAFT INBOUND MANILA FIR HAVE TO REACH CRUISING LEVEL 20 NM PRIOR TO NOMAN. CONTACT HONG KONG RADAR ON 132.150 AT LEAST 10NM PRIOR TO NOMAN.

OSNOV Type: Waypoint
Notes: G586, OSNOV-ALGAG NOT AVAILABLE. ROUTE VIA V147, V148.

POTIB Type: Waypoint
Notes: DURING 2200-1600, TRANSIT FLIGHTS VIA POTIB SHALL FILE AIRWAY W4 FOR N-BND FLIGHTS & AWY B591/Q11 FOR S-BND FLIGHTS.

ROMEO Type: Waypoint
Notes: CONTACT HONG KONG RADAR ON 123.950 AT LEAST 3 MINUTES PRIOR TO ROMEO.

SABNO Type: Waypoint
Notes: CONTACT HONG KONG RADAR ON 128.125 AT LEAST 10NM PRIOR TO SABNO. AIRCRAFT INBOUND MANILA FIR HAVE TO REACH CRUISING LEVEL 20 NM PRIOR TO SABNO.

SADLI Type: Waypoint
Notes: ATC SERVICE FOR WESTBOUND TRAFFIC WILL BE TRANSFERRED FROM INCHEON ACC TO SHANGHAI ACC AT FIX SADLI ON FREQUENCY 120.95MHZ (PRIMARY) OR 134.00MHZ (SECONDARY). ATC SERVICE FOR EASTBOUND TRAFFIC WILL BE TRANSFERRED FROM SHANGHAI ACC TO INCHEON ACC AT FIX SADLI OR 125E LONGITUDE ON FREQUENCY 125.725MHZ (PRIMARY) OR 132.825MHZ (SECONDARY).

SIERA Type: Waypoint
Notes: CONTACT HONG KONG RADAR ON 127.550 AT LEAST 3 MINUTES PRIOR TO SIERA.

SIKOU Type: Waypoint
Notes: CONTACT HONG KONG RADAR ON 127.100 AT LEAST 10NM PRIOR TO SIKOU.

TAMOT Type: Waypoint
Notes: CONTACT HONG KONG RADAR ON 127.100 AT LEAST 10 NM PRIOR TO TAMOT.

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DALIAN CTA SECTOR ZYTLAR07 Type: Control Area (Airport)
Notes: CONTACT ZYTLAR02 WHEN ZYTLAR07 U/S

DALIAN CTA SECTOR ZYTLAR08 Type: Control Area (Airport)
Notes: CONTACT ZYTLAR07 OR ZYTLAR05 OR ZYTLAR02 WHEN ZYTLAR08 U/S

YOKOTA CTR Type: Control Zone (CTZ/CTR)
Notes: EXCLUDING TACHIKAWA AND IRUMA CTR.

KZAK Type: FIR
Notes: CPDLC: USE LOGON ADDRESS KZAK FOR ALL CPDLC COMMUNICATIONS IN THE OAKLAND OCEANIC FIR. WHEN MAKING HF VOICE CHECK-IN WITH SAN FRANCISCO RADIO UPON TRANSFERRING DATA LINK CONTACT TO SAN FRANCISCO, SFO RADIO REQUESTS YOU INCLUDE; POINT OF DEPARTURE, DESTINATION, A/C REGISTRATION AND SELCAL CODE. FOR AIRCRAFT DEPARTING FROM AIRPORTS ALONG THE WEST COAST OF NORTH AMERICA, GUAM AND HAWAII, OAKLAND OCEANIC CONTROL REQUIRES THAT DATA-LINK AIRCRAFT NOT LOGON TO OAKLAND OCEANIC (KZAK) UNTIL AFTER LEAVING 10,000' MSL. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM NON-CPDLC AIRSPACE: LOG ON TO CPDLC AT LEAST 15 BUT NOT MORE THAN 45 MINUTES PRIOR TO ENTERING. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM ADJACENT CPDLC AIRSPACE: IF KZAK IS THE ACTIVE CENTER CONTACT SAN FRANCISCO RADIO. IF KZAK IS NOT THE ACTIVE CENTER, TERMINATE THE CPDLC CONNECTION WITHIN 5 MINUTES AFTER THE BOUNDARY IS CROSSED, THEN LOG ON TO KZAK AND CONTACT SAN FRANCISCO RADIO. FOR AIRCRAFT OVER-FLYING HONOLULU CERAP: AIRCRAFT WILL RECEIVE AN END SERVICE MESSAGE THAT WILL RESULT IN TERMINATION OF CPDLC. AIRCRAFT SHALL RE-LOG ON TO CPDLC PRIOR TO REENTERING OAKLAND OCEANIC FIR. FOR AIRCRAFT ENTERING GUAM CERAP: CONTACT GUAM CERAP 250 MILES OUT ON 118.7, SQUAWK 2100. FOR AIRCRAFT OVER-FLYING GUAM CERAP: CPDLC CONNECTION WITH OAKLAND MAY BE TERMINATED WITHIN THE GUAM CERAP. IF THE CPDLC CONNECTION WITH KZAK IS NOT TERMINATED, DO NOT USE CPDLC FOR ATC UNTIL GUAM CERAP ADVISES YOU TO TO AGAIN CONTACT ENROUTE COMMUNICATIONS OR SAN FRANCISCO RADIO. IT MAY BE NECESSARY TO LOG BACK ON TO CPDLC WITH KZAK 10-15 MINUTES PRIOR TO EXITING GUAM CERAP IF THE CPDLC CONNECTION WAS TERMINATED. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR OAKLAND CENTER IS 436697 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR SAN FRANCISCO RADIO IS 436625 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR OAKLAND CENTER IS 1-510-745-3415 SATCOM: PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. POSITION REPORTS OVER OAKLAND OCEANIC OCA/FIR 120 W BOUNDARIES A. AIRCRAFT ENTERING THE OAKLAND OCA/FIR OVER 120 DEGREES WEST LONGITUDE WITHOUT A KZAK ADS-C CONNECTION ARE REQUESTED TO FORWARD BOUNDARY POSIT

RJJJ Type: FIR
Notes: SPEED RESTRICTIONS WITHIN JAPAN AIRSPACE MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC. WITHIN AN APPROACH CONTROL AREA BELOW 10000' MSL 250 KIAS WITHIN A CONTROL ZONE 250 KTS PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF RJJJ IN FUKUOKA FIR CPDLC: INMARSAT: INMARSAT SECURITY NUMBER IS 443101 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL IS 81-78-99-36-501 SATCOM:

RKRR Type: FIR
Notes: INMARSAT: INMARSAT SECURITY NUMBER FOR INCHEON ACC IS 444001 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR DAEGU ACC IS 444002 INMARSAT: ALL AIRWAYS WITHIN INCHEON FIR FROM MEA TO FL200 ARE CLASS D, FROM ABOVE FL200 TO FL600 ARE CLASS A, AND ABOVE FL600 ARE CLASS G. SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS CLASS C AND D AIRSPACE: AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

ZKKP Type: FIR
Notes: RVSM AIRSPACE FL290-FL410 INCLUSIVE.

ZYSH Type: FIR
Notes: INMARSAT: INMARSAT SECURITY NUMBER FOR SHENYANG ACC IS 441207 INMARSAT: RVSM AIRSPACE FL291-FL411 INCLUSIVE. ABOVE 19700' (6000M) THERE ARE FOLLOWING AIRSPACE CLASSES: 19700' (6000M)- 65700'(20000M) CLASS A AIRSPACE 65700'(20000M)-UNLTD CLASS D AIRSPACE AIRSPACE CLASS B DESIGNATED AS FOLLOWING: THE AIRSPACE DESIGNATED ABOVE TRANSPORT AIRPORTS. FOR TRANSPORT AIRPORTS WITH THREE RUNWAYS (INCLUSIVE) OR MORE, THREE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 10.8NM (20KM), 21.6NM (40KM), AND 32.4NM (60KM), ALTITUDES RESPECTIVELY FROM RUNWAY SURFACE TO 3000' (900M) ABOVE THE AIRPORT ELEVATION, FROM 3000' (900M) ABOVE THE AIRPORT ELEVATION TO 6000' (1800M) ABOVE THE AIRPORT ELEVATION, FROM 6000' (1800M) ABOVE THE AIRPORT ELEVATION TO QNE 19700' (6000M). FOR TRANSPORT AIRPORTS WITH TWO RUNWAYS, TWO-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 8.1NM (15KM) AND 16.2NM (30KM), ALTITUDES RESPECTIVELY FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION, FROM 2000' (600M) ABOVE THE AIRPORT ELEVATION TO 11900' (3600M) ABOVE THE AIRPORT ELEVATION, MAXIMUM TO THE LOWER LIMIT OF CLASS A AIRSPACE. FOR TRANSPORT AIRPORTS WITH ONE RUNWAY, ONE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 6.5NM (12KM), ALTITUDE FROM RUNWAY SURFACE TO 2000' (600M)

ABOVE THE AIRPORT ELEVATION. AIRSPACE CLASS C DESIGNATED AS FOLLOWING: THE AIRSPACE DESIGNATED ABOVE GENERAL AVIATION AIRPORTS WITH TOWER, ONE-TIERED STRUCTURE IS USUALLY ESTABLISHED WITH RADIUS OF 2.7NM (5KM), ALTITUDE FROM RUNWAY SURFACE TO 2000' (600M) ABOVE THE AIRPORT ELEVATION. AIRSPACE CLASS D AND E DESIGNATED AS FOLLOWING: OUTSIDE OF CLASS A, B, C AND G AIRSPACE, IT CAN BE DESIGNATED AS CLASS D OR E AIRSPACE BASED ON OPERATION AND SAFETY REQUIREMENTS. AIRSPACE CLASS G DESIGNATED AS FOLLOWING: - THE AIRSPACE OUTSIDE OF CLASS B AND C AIRSPACE(CLASS W AIRSPACE EXCLUDED) AND BELOW 1000' (300M) AGL - AIRSPACE BELOW 19700' (6000M) MSL THAT DOES NOT AFFECT CIVIL AVIATION TRANSPORT FLIGHTS. AIRSPACE CLASS W DESIGNATED AS FOLLOWING: PART OF THE CLASS G AIRSPACE BELOW 400' (120M) AGL. ALL AIRCRAFT ENTERING OR EXITING PR OF CHINA SHALL CONTACT ATC 15-20

SOKCHO MCTR Type: Military Control Zone
Notes: EXC P518 AND YANGYANG CTR

NAHA Type: Positive Control Area
Notes: EXCLUDING NAHA CTR, KADENA CTR AND FUTENMA CTR

EXCLUDING NAHA CTR, KADENA CTR AND FUTENMA CTR

EXCLUDING NAHA CTR, KADENA CTR AND FUTENMA CTR

EXCLUDING NAHA CTR, KADENA CTR AND FUTENMA CTR

EXCLUDING NAHA CTR, KADENA CTR AND FUTENMA CTR

EXCLUDING NAHA CTR, KADENA CTR AND FUTENMA CTR

115 Type: Special Use Airspace
Notes: SURFACE TO SURFACE FIRING ROKN 3RD FLEET/DO BY NOTAM CONT VMC-IMC EXCLUDE A586/Y579 ATS ROUTES AREA DURING IT'S OPERATIONAL HOURS

120 Type: Special Use Airspace
Notes: SURFACE TO SURFACE HIGH ANGLE FIRING AND SURFACE TO AIR FIRING. ROKN 1ST FLEET BY NOTAM CONT VMC-IMC EXCLUDE A586/Y579 ATS ROUTES AREA DURING IT'S OPERATIONAL HOURS

12E Type: Special Use Airspace
Notes: EXCLUDE A586/Y579 ATS ROUTES AREA DURING IT'S OPERATIONAL HOURS

EXCLUDE A586/Y579 ATS ROUTES AREA DURING IT'S OPERATIONAL HOURS

13E Type: Special Use Airspace
Notes: EXCLUDE A586/Y579 ATS ROUTES AREA DURING IT'S OPERATIONAL HOURS

EXCLUDE A586/Y579 ATS ROUTES AREA DURING IT'S OPERATIONAL HOURS

13W Type: Special Use Airspace
Notes: EXCLUDE A586/Y579 ATS ROUTES AREA DURING IT'S OPERATIONAL HOURS

EXCLUDE A586/Y579 ATS ROUTES AREA DURING IT'S OPERATIONAL HOURS

179 Type: Special Use Airspace
Notes: THE EXERCISE ARE CONDUCTED ONLY UNDER RADAR CONFIRMATION THAT NO ACFT IS APPROACHING OR PENETRATING THE AIRSPACE MENTIONED ABOVE.

31 Type: Special Use Airspace
Notes: EXCEPT YANGYANG CTR

32 Type: Special Use Airspace
Notes: EXCLUDE A586/Y579 ROUTES AREA DURING IT'S OPERATIONAL HOURS

33 Type: Special Use Airspace
Notes: EXCLUDE A586/Y579 ROUTES AREA DURING IT'S OPERATIONAL HOURS

518 Type: Special Use Airspace
Notes: THIS CORRIDOR MAY BE CLOSED WITHOUT PRIOR COORDINATION WITH ATC WHEN DEFCON- III IS DECLARED OR REQUIRED BY URGENT

MILITARY SITUATION.

63B Type: Special Use Airspace
Notes: EXC RK P 63A AREA EXC SKED AND NON SKED CIVIL AIRLINES, AUTHORIZED BY ATC, OTHER ACFT AUTHORIZED BY MOLIT, LIFE GUARD, POLICE, SAR, MILITARY OPERATION FLIGHT AND FIRE FIGHTING ACFT.

64B Type: Special Use Airspace
Notes: EXC RK P-64A AREA EXC SKED AND NON SKED CIVIL AIRLINES, AUTHORIZED BY ATC, OTHER ACFT AUTHORIZED BY MOLIT, LIFE GUARD, POLICE, SAR, MILITARY OPERATION FLIGHT AND FIRE FIGHTING ACFT.

65A Type: Special Use Airspace
Notes: EXC ONLY ROKAF OPERATION ACFT WARNING RK(P)-61B, RK(P)-62B, RK(P)-63B, RK(P)-64B, RK(P)-65A, RK(P)-65B EXCLUDED SCHEDULED AND NON-SCHEDULED CIVIL AIRLINES, AUTHORIZED BY ATC, OTHER AIRCRAFT AUTHORIZED BY MLTM, LIFE GUARD, POLICE, SAR, MILITARY OPERATION FLIGHT AND FIRE FIGHTING AIRCRAFT.

65B Type: Special Use Airspace
Notes: EXC RK(P)-65A AREA EXC SKED AND NON SKED CIVIL AIRLINES, AUTHORIZED BY ATC, OTHER ACFT AUTHORIZED BY MOLIT, LIFE GUARD, POLICE, SAR, MILITARY OPERATION FLIGHT AND FIRE FIGHTING ACFT.

73 Type: Special Use Airspace
Notes: IF AN AIRCRAFT FLIES TOWARDS RK(P)-73 WITHOUT PROPER CLEARANCE, A TRACER WARNING SHOT WILL BE FIRED. IF THE AIRCRAFT CONTINUES INTO RK(P)-73, IT WILL BE SHOT DOWN WITHOUT FURTHER WARNING.

74 Type: Special Use Airspace
Notes: AIR TO AIR FIRING ROKAF AFOC/DOT CONT VMC EXCLUDE A586/Y579 ATS ROUTES AREA DURING IT'S OPERATIONAL HOURS

A1 Type: Special Use Airspace
Notes: EXC W-174 BETWEEN 10000' & FL250 CONTACT NAHA APP ON 119.1 MHZ.

A2 Type: Special Use Airspace
Notes: BETWEEN 10000' & FL250 CONTACT NAHA APP ON 126.5 MHZ.

A3 Type: Special Use Airspace
Notes: EXC W-178 AND W-178A BETWEEN 10000' & FL250 CONTACT NAHA APP ON 119.1 MHZ.

A4 Type: Special Use Airspace
Notes: BETWEEN 10000' & FL250 CONTACT NAHA APP ON 126.5 MHZ.

AREA 3 Type: Special Use Airspace
Notes: EXCLUDING THE AIRSPACE OF SOUMAGAHARA CONTROL ZONE.

AREA 5 Type: Special Use Airspace
Notes: EXCLUDING THE AIRSPACES WITHIN 2NM RADIUS OF N35 45 15/E136 00 59, N35 44 25/E135 59 17, N35 45 02/E136 01 11 N35 45 10/E136 01 04, N35 42 07/E135 57 47, N35 42 08/E135 57 44 N35 42 14/E135 57 36 BELOW 2000 FT (AGL) RESPECTIVELY.

AREA A1 Type: Special Use Airspace
Notes: BELOW 5000' CONTACT YOKOTA APP/ASR ON 120.7 MHZ. BETWEEN 5000' - FL180 CONTACT YOKOTA APP/ASR ON 118.3 MHZ. EXCLUDING CIV TRG/TESTING AREA KK4-1.

AREA A2 Type: Special Use Airspace
Notes: BELOW 5000' CONTACT YOKOTA APP/ASR ON 120.7 MHZ. BETWEEN 5000' - FL180 CONTACT YOKOTA APP/ASR ON 118.3 MHZ. ABOVE FL180 TO FL240 CONTACT TOKYO ASR ON 123.6 MHZ. EXCLUDING RJTJ CTR.

AREA A3 Type: Special Use Airspace
Notes: BELOW 5000' CONTACT YOKOTA APP/ASR ON 120.7 MHZ. BETWEEN 5000' - FL180 CONTACT YOKOTA APP/ASR ON 118.3 MHZ.

AREA A4 Type: Special Use Airspace
Notes: BELOW 5000' CONTACT YOKOTA APP/ASR ON 120.7 MHZ. BETWEEN 5000' - 12000' CONTACT YOKOTA APP/ASR ON 118.3 MHZ. ABOVE 12000' TO FL240 CONTACT TOKYO ASR ON 123.6 MHZ. EXCLUDING RJTJ AND RJTC CTR.

AREA B1 Type: Special Use Airspace
Notes: BETWEEN 5000' & FL250 CONTACT NAHA APP ON 126.5 MHZ.

AREA B2 Type: Special Use Airspace
Notes: BETWEEN 5000' & FL250 CONTACT NAHA APP ON 126.5 MHZ.

AREA B3 Type: Special Use Airspace
Notes: BETWEEN 5000' & FL250 CONTACT NAHA APP ON 119.1 MHZ.

AREA E Type: Special Use Airspace
Notes: EXCLUDING R-121.

AREA K Type: Special Use Airspace
Notes: AIRSPACE ABOVE FL240 WILL BE NOTIFIED BY NOTAM RJJJ

AIRSPACE ABOVE FL240 WILL BE NOTIFIED BY NOTAM RJJJ

AIRSPACE ABOVE FL260 WILL BE NOTIFIED BY NOTAM RJJJ

AIRSPACE ABOVE FL310 WILL BE NOTIFIED BY NOTAM RJJJ

AREA N Type: Special Use Airspace
Notes: EXCLUDING TRAINING/TESTING AREAS AREA 9 AND AREA 8.

B1 Type: Special Use Airspace
Notes: BETWEEN ALTITUDE 10000' & FL250 CONTACT NAHA APP ON 119.100MHZ. EXCLUDING W-178 AND W-178A.

B2 Type: Special Use Airspace
Notes: BETWEEN ALTITUDE 10000' & FL250 CONTACT NAHA APP ON 126.500MHZ.

B3 Type: Special Use Airspace
Notes: BETWEEN ALTITUDE 10000' & FL250 CONTACT NAHA APP ON 126.500MHZ.

B4 Type: Special Use Airspace
Notes: BETWEEN ALTITUDE 10000' & FL250 CONTACT NAHA APP ON 119.100MHZ. EXCLUDING W-174 AND 2NM RADIUS OF 262316N/1270613E.

CENTRAL Type: Special Use Airspace
Notes: EXCLUDING CAMP SCHWAB AND R-177.

CK 21 2 Type: Special Use Airspace
Notes: EXCLUDING THE AIRSPACE WITHIN 2NM RADIUS OF N35 19 00 E133 56 25 BELOW 2000 FT (AGL).

CK 4 Type: Special Use Airspace
Notes: EXCLUDING THE AIRSPACE WITHIN 4NM RADIUS OF MAIZURU ARP.

ITRA E Type: Special Use Airspace
Notes: THE FOLLOWING FLIGHT PLANNED ROUTES SHALL NOT BE USED WHEN ITRA-E IS ACTIVE: G597 (FL250 OR BLW : BETWEEN DANJU AND LANAT) G585 (FL250 OR BLW : BETWEEN XZE AND SAPRA) Y38 (FL250 OR BLW : BETWEEN STAGE AND SAPRA)

ITRA N2 Type: Special Use Airspace
Notes: EXCLUDING THE AIRSPACE OF ITRA-N3.

ITRA S30 Type: Special Use Airspace
Notes: V71 (FL250 OR BLW: BETWEEN SABAN AND DEMPA) SHALL NOT BE FLIGHT PLANNED WHEN ITRA-S30 IS ACTIVE.

ITRA S31 Type: Special Use Airspace
Notes: V71 (FL250 OR BLW: BETWEEN SABAN AND DEMPA) SHALL NOT BE FLIGHT PLANNED WHEN ITRA-S31 IS ACTIVE.

ITRA S32 Type: Special Use Airspace
Notes: V71 (FL250 OR BLW: BETWEEN SABAN AND DEMPA) SHALL NOT BE FLIGHT PLANNED WHEN ITRA-S32 IS ACTIVE.

ITRA S33 Type: Special Use Airspace
Notes: V71 (FL250 OR BLW: BETWEEN SABAN AND DEMPA) SHALL NOT BE FLIGHT PLANNED WHEN ITRA-S33 IS ACTIVE.

KS 2 4 Type: Special Use Airspace
Notes: EXCLUDING THE AIRSPACES WITHIN 2 NM RADIUS OF N33 29 29 E132 18 31, N33 29 26 E132 18 31 AND N33 29 27 E132 18 39 BELOW 2000' AGL RESPECTIVELY.

MTFUJI Type: Special Use Airspace
Notes: AIRCRAFT OPERATING IFR MUST MAINTAIN FL160 OR HIGHER FOR TERRAIN CLEARANCE

UA31 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA32 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA33 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA34 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA35 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA36 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA37 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA38 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA39 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA40 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA41 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA42 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA43 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA47 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA48 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA49 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA50 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA51 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA52 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA53 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA54 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA55 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA56 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA57 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA58 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

UA59 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES DEMONSTRATION PROJECT

UA60 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES DEMONSTRATION PROJECT

UA61 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES DEMONSTRATION PROJECT

UA62 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES DEMONSTRATION PROJECT

UA63 Type: Special Use Airspace
Notes: UNMANNED AERIAL VEHICLES ONLY.

DAEGU TMA Type: Terminal Area
Notes: ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

HAEMI TMA Type: Terminal Area
Notes: ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

INCHEON IFR PROCEDURES PROTECT Type: Terminal Area
Notes: SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS CONTROLLED IFR AIRCRAFT BY SEOUL APPROACH CAN ONLY USE THIS AREA. VFR AIRCRAFT DO NOT USE THIS AREA.

JEJU TMA Type: Terminal Area
Notes: 1000 FT MSL IS APPLIED OVER THE TERRITORIAL WATERS. 5500 FT MSL IS APPLIED OVER THE HIGH SEAS.

POHANG TMA Type: Terminal Area
Notes: ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

SACHEON TMA Type: Terminal Area
Notes: ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

SEOUL APPROACH EAST Type: Terminal Area
Notes: SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

SEOUL APPROACH WEST Type: Terminal Area
Notes: SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

SEOUL TMA Type: Terminal Area
Notes: SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' .... 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT ...... 200 KTS

SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

SPEED RESTRICTIONS WITHIN KOREAN AIRSPACE ALL ARRIVALS INTO RKSS AND RKSI SHALL OPERATE IN ACCORDANCE WITH THE FLIGHT PROCEDURES FOR THAT AIRPORT. MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC: BELOW 10000' 250 KTS AT OR BELOW 2500' AGL WITHIN 4NM OF AN AIRPORT 200 KTS

WONJU TMA Type: Terminal Area
Notes: ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

ATS ROUTES ARE EXCLUDED.

NEU Type: VOR
Notes: ON REQUEST BELOW FL240.

OJT Type: VOR
Notes: ON REQUEST BELOW FL240.

KANSU Type: Waypoint
Notes: CROSS KANSU BETWEEN FL266 AND FL397.

ONIKU Type: Waypoint
Notes: AKARA - FUKUE CORRIDOR: WESTBOUND FLIGHTS SHALL FLIGHT PLAN FL240, FL280, FL300 OR FL400. REQUEST ATC CLEARANCE TO CROSS ONIKU INT AT THESE FLIGHT LEVELS WELL BEFORE CROSSING ONIKU INT.

SADLI Type: Waypoint
Notes: ATC SERVICE FOR WESTBOUND TRAFFIC WILL BE TRANSFERRED FROM INCHEON ACC TO SHANGHAI ACC AT FIX SADLI ON FREQUENCY 120.95MHZ (PRIMARY) OR 134.00MHZ (SECONDARY). ATC SERVICE FOR EASTBOUND TRAFFIC WILL BE TRANSFERRED FROM SHANGHAI ACC TO INCHEON ACC AT FIX SADLI OR 125E LONGITUDE ON FREQUENCY 125.725MHZ (PRIMARY) OR 132.825MHZ (SECONDARY).

Page 3 Strip Charts

KHABAROVSK/NOVY CTA Type: Control Area (Airport)
Notes: CLASS A AIRSPACE OUTSIDE THE TERRITORY OF THE RUSSIAN FEDERATION IS ON ATS ROUTES ONLY.

CLASS C AIRSPACE OUTSIDE THE TERRITORY OF THE RUSSIAN FEDERATION IS ON ATS ROUTES ONLY.

SOVETSKAYA GAVAN CTA Type: Control Area (Airport)
Notes: OUTSIDE ATS OPERATIONAL HOURS CONTACT KHABAROVSK CONTROL 135.100 MHZ, 4680 KHZ, 4770 KHZ.

SOVETSKAYA GAVAN CTR Type: Control Zone (CTZ/CTR)
Notes: OUTSIDE ATS OPERATIONAL HOURS CONTACT KHABAROVSK RAYON 133.000 MHZ OR KHABAROVSK CONTROL 135.100 MHZ, 4680 KHZ, 4770 KHZ.

KZAK Type: FIR
Notes: CPDLC: USE LOGON ADDRESS KZAK FOR ALL CPDLC COMMUNICATIONS IN THE OAKLAND OCEANIC FIR. WHEN MAKING HF VOICE CHECK-IN WITH SAN FRANCISCO RADIO UPON TRANSFERRING DATA LINK CONTACT TO SAN FRANCISCO, SFO RADIO REQUESTS YOU INCLUDE; POINT OF DEPARTURE, DESTINATION, A/C REGISTRATION AND SELCAL CODE. FOR AIRCRAFT DEPARTING FROM AIRPORTS ALONG THE WEST COAST OF NORTH AMERICA, GUAM AND HAWAII, OAKLAND OCEANIC CONTROL REQUIRES THAT DATA-LINK AIRCRAFT NOT LOGON TO OAKLAND OCEANIC (KZAK) UNTIL AFTER LEAVING 10,000' MSL. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM NON-CPDLC AIRSPACE: LOG ON TO CPDLC AT LEAST 15 BUT NOT MORE THAN 45 MINUTES PRIOR TO ENTERING. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM ADJACENT CPDLC AIRSPACE: IF KZAK IS THE ACTIVE CENTER CONTACT SAN FRANCISCO RADIO. IF KZAK IS NOT THE ACTIVE CENTER, TERMINATE THE CPDLC CONNECTION WITHIN 5 MINUTES AFTER THE BOUNDARY IS CROSSED, THEN LOG ON TO KZAK AND CONTACT SAN FRANCISCO RADIO. FOR AIRCRAFT OVER-FLYING HONOLULU CERAP: AIRCRAFT WILL RECEIVE AN END SERVICE MESSAGE THAT WILL RESULT IN TERMINATION OF CPDLC. AIRCRAFT SHALL RE-LOG ON TO CPDLC PRIOR TO REENTERING OAKLAND OCEANIC FIR. FOR AIRCRAFT ENTERING GUAM CERAP: CONTACT GUAM CERAP 250 MILES OUT ON 118.7, SQUAWK 2100. FOR AIRCRAFT OVER-FLYING GUAM CERAP: CPDLC CONNECTION WITH OAKLAND MAY BE TERMINATED WITHIN THE GUAM CERAP. IF THE CPDLC CONNECTION WITH KZAK IS NOT TERMINATED, DO NOT USE CPDLC FOR ATC UNTIL GUAM CERAP ADVISES YOU TO TO AGAIN CONTACT ENROUTE COMMUNICATIONS OR SAN FRANCISCO RADIO. IT MAY BE NECESSARY TO LOG BACK ON TO CPDLC WITH KZAK 10-15 MINUTES PRIOR TO EXITING GUAM CERAP IF THE CPDLC CONNECTION WAS TERMINATED. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR OAKLAND CENTER IS 436697 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR SAN FRANCISCO RADIO IS 436625 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR OAKLAND CENTER IS 1-510-745-3415 SATCOM: PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. POSITION REPORTS OVER OAKLAND OCEANIC OCA/FIR 120 W BOUNDARIES A. AIRCRAFT ENTERING THE OAKLAND OCA/FIR OVER 120 DEGREES WEST LONGITUDE WITHOUT A KZAK ADS-C CONNECTION ARE REQUESTED TO FORWARD BOUNDARY POSIT

RJJJ Type: FIR
Notes: SPEED RESTRICTIONS WITHIN JAPAN AIRSPACE MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC. WITHIN AN APPROACH CONTROL AREA BELOW 10000' MSL 250 KIAS WITHIN A CONTROL ZONE 250 KTS PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF RJJJ IN FUKUOKA FIR CPDLC: INMARSAT: INMARSAT SECURITY NUMBER IS 443101 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL IS 81-78-99-36-501 SATCOM:

UHHH Type: FIR
Notes: INMARSAT: INMARSAT SECURITY NUMBER FOR KHABAROVSK ACC IS 427324 INMARSAT: RVSM AIRSPACE FL290-FL410 INCLUSIVE.

UHMM Type: FIR
Notes: CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF GDXB IN MAGADAN FIR CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR MAGADAN ACC IS 427336 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR PETROPAVLOVSK-KAMCHATSKY ACC IS 427354 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR MAGADAN ACC IS 74-13-260-6719 SATCOM: SATCOM: SATCOM VOICE DIRECT DIAL FOR PETROPAVLOVSK-KAMCHATSKY ACC IS 74-15-319-9395 SATCOM: PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. RVSM AIRSPACE FL290-FL410 INCLUSIVE.

1592 Type: Special Use Airspace
Notes: THE RESTRICTION IS NOT APPLICABLE TO FLIGHTS CARRIED OUT ACCORDING TO SID AND APCH PROCEDURES OF YUZHNO-KURILSK/MENDELEEVO AD.

354 Type: Special Use Airspace
Notes: THE RESTRICTION IS NOT APPLICABLE TO FLIGHTS FROM/TO YUZHNO-SAKHALINSK/KHOMUTOVO AD

AREA 3 Type: Special Use Airspace
Notes: EXCLUDING THE AIRSPACE OF SOUMAGAHARA CONTROL ZONE.

AREA E Type: Special Use Airspace
Notes: EXCLUDING R-121.

HK 2 11 Type: Special Use Airspace
Notes: EXCLUDING THE AIRSPACE WITHIN 5NM RADIUS OF OBIHIRO AIRPORT/RJCB (424400N/1431302E)

HK 2 2 Type: Special Use Airspace
Notes: EXCLUDING AREA HK2-13.

HK 2 4 Type: Special Use Airspace
Notes: EXC THE AIRSPACE WITHIN 5NM RADIUS OF TOKACHI AERODROME/RJCT (425325N/1430930E).

HK 2 5 Type: Special Use Airspace
Notes: EXC THE AIRSPACE WITHIN 5NM RADIUS OF TOKACHI AERODROME/RJCT (425325N/1430930E) AND THE AIRSPACE WITHIN 5NM RADIUS OF OBIHIRO AIRPORT/RJCB (424400N/1431302E).

HK 2 7 Type: Special Use Airspace
Notes: EXC THE AIRSPACE WITHIN 5NM RADIUS OF TOKACHI AERODROME/RJCT (425325N/1430930E) AND THE AIRSPACE WITHIN 5NM RADIUS OF OBIHIRO AIRPORT/RJCB (424400N/1431302E).

HK 2 9 Type: Special Use Airspace
Notes: EXCLUDING THE AIRSPACE WITHIN 5NM RADIUS OF OBIHIRO AIRPORT/RJCB (424400N/1431302E)

MISAWA Type: Special Use Airspace
Notes: CONTACT MISAWA APP/ASR ON 120.7 MHZ AT OR BELOW 20,000 FEET.

OJT Type: VOR
Notes: ON REQUEST BELOW FL240.

ADKAK Type: Waypoint
Notes: XAC MRA FL230

KAGIS Type: Waypoint
Notes: HUC MRA 11000

OBCHI Type: Waypoint
Notes: ON REQUEST AT AND ABOVE FL240.

PABBA Type: Waypoint
Notes: HUC MRA FL280

SMOLT Type: Waypoint
Notes: XAC MRA FL280

VACKY Type: Waypoint
Notes: XAC MRA FL290

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MAGADAN CTA Type: Control Area (Airport)
Notes: CLASS C AIRSPACE OUTSIDE THE TERRITORY OF THE RUSSIAN FEDERATION IS ON ATS ROUTES ONLY.

ST PETERSBURG CTA Type: Control Area (Airport)
Notes: CLASS A AIRSPACE OUTSIDE THE TERRITORY OF THE RUSSIAN FEDERATION IS ON ATS ROUTES ONLY.

CLASS C AIRSPACE OUTSIDE THE TERRITORY OF THE RUSSIAN FEDERATION IS ON ATS ROUTES ONLY.

KZAK Type: FIR
Notes: CPDLC: USE LOGON ADDRESS KZAK FOR ALL CPDLC COMMUNICATIONS IN THE OAKLAND OCEANIC FIR. WHEN MAKING HF VOICE CHECK-IN WITH SAN FRANCISCO RADIO UPON TRANSFERRING DATA LINK CONTACT TO SAN FRANCISCO, SFO RADIO REQUESTS YOU INCLUDE; POINT OF DEPARTURE, DESTINATION, A/C REGISTRATION AND SELCAL CODE. FOR AIRCRAFT DEPARTING FROM AIRPORTS ALONG THE WEST COAST OF NORTH AMERICA, GUAM AND HAWAII, OAKLAND OCEANIC CONTROL REQUIRES THAT DATA-LINK AIRCRAFT NOT LOGON TO OAKLAND OCEANIC (KZAK) UNTIL AFTER LEAVING 10,000' MSL. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM NON-CPDLC AIRSPACE: LOG ON TO CPDLC AT LEAST 15 BUT NOT MORE THAN 45 MINUTES PRIOR TO ENTERING. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM ADJACENT CPDLC AIRSPACE: IF KZAK IS THE ACTIVE CENTER CONTACT SAN FRANCISCO RADIO. IF KZAK IS NOT THE ACTIVE CENTER, TERMINATE THE CPDLC CONNECTION WITHIN 5 MINUTES AFTER THE BOUNDARY IS CROSSED, THEN LOG ON TO KZAK AND CONTACT SAN FRANCISCO RADIO. FOR AIRCRAFT OVER-FLYING HONOLULU CERAP: AIRCRAFT WILL RECEIVE AN END SERVICE MESSAGE THAT WILL RESULT IN TERMINATION OF CPDLC. AIRCRAFT SHALL RE-LOG ON TO CPDLC PRIOR TO REENTERING OAKLAND OCEANIC FIR. FOR AIRCRAFT ENTERING GUAM CERAP: CONTACT GUAM CERAP 250 MILES OUT ON 118.7, SQUAWK 2100. FOR AIRCRAFT OVER-FLYING GUAM CERAP: CPDLC CONNECTION WITH OAKLAND MAY BE TERMINATED WITHIN THE GUAM CERAP. IF THE CPDLC CONNECTION WITH KZAK IS NOT TERMINATED, DO NOT USE CPDLC FOR ATC UNTIL GUAM CERAP ADVISES YOU TO TO AGAIN CONTACT ENROUTE COMMUNICATIONS OR SAN FRANCISCO RADIO. IT MAY BE NECESSARY TO LOG BACK ON TO CPDLC WITH KZAK 10-15 MINUTES PRIOR TO EXITING GUAM CERAP IF THE CPDLC CONNECTION WAS TERMINATED. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR OAKLAND CENTER IS 436697 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR SAN FRANCISCO RADIO IS 436625 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR

OAKLAND CENTER IS 1-510-745-3415 SATCOM: PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. POSITION REPORTS OVER OAKLAND OCEANIC OCA/FIR 120 W BOUNDARIES A. AIRCRAFT ENTERING THE OAKLAND OCA/FIR OVER 120 DEGREES WEST LONGITUDE WITHOUT A KZAK ADS-C CONNECTION ARE REQUESTED TO FORWARD BOUNDARY POSIT

PAZA Type: FIR
Notes: CPDLC: USE LOGON ADDRESS PAZN FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR WEST OF 165W AND SOUTH OF 63N. USE LOGON ADDRESS PAZA FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR SOUTH OF 73N AND EAST OF 165W. AIRCRAFT ENTERING ANCHORAGE FIR AIRSPACE FROM THE MAGADAN, EDMONTON, VANCOUVER, OR OAKLAND FIRS WILL BE PROVIDED AUTOMATIC FANS ADDRESS FORWARDING FROM THE ATC GROUND COMPUTER. AIRCRAFT DEPARTING ALASKAN AIRPORTS SHOULD LOGON AFTER DEPARTURE, BUT BEFORE LEAVING FL180. AFTER LOGON, ANCHORAGE ARTCC AUTOMATION WILL PROVIDE AUTOMATIC FANS ADDRESS FORWARDING FOR FLIGHTS ENTERING THE MAGADAN, EDMONTON, VANCOUVER AND OAKLAND FIRS. NOTE: - THE USE OF CPDLC DOES NOT REMOVE REQUIREMENTS FOR MONITORING VHF/HF FREQUENCIES. - AIRCRAFT WITHIN VHF COVERAGE MAY MAKE POSITION REPORTS VIA CPDLC. - WEST OF 165W, ALL REQUESTS TO ATC MAY BE MADE VIA CPDLC. - EAST OF 165W, REQUESTS TO ATC SHOULD BE MADE VIA VHF IF WITHIN VHF COVERAGE. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR ANCHORAGE ATC IS 436602. INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR ANCHORAGE ATC IS 907-269-1103. SATCOM:

CPDLC: USE LOGON ADDRESS PAZN FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE OCEANIC FIR. AIRCRAFT ENTERING ANCHORAGE FIR AIRSPACE FROM THE MAGADAN, OAKLAND OR FUKUOKA FIRS WILL BE PROVIDED AUTOMATIC FANS ADDRESS FORWARDING FROM THE ATC GROUND COMPUTER. AIRCRAFT DEPARTING ALASKAN AIRPORTS SHOULD LOGON AFTER DEPARTURE, BUT BEFORE LEAVING FL180. AFTER LOGON, ANCHORAGE ARTCC AUTOMATION WILL PROVIDE AUTOMATIC FANS ADDRESS FORWARDING FOR FLIGHTS ENTERING THE MAGADAN, OAKLAND, AND FUKUOKA FIRS. NOTE: - THE USE OF CPDLC DOES NOT REMOVE REQUIREMENTS FOR MONITORING VHF/HF FREQUENCIES. - AIRCRAFT WITHIN VHF COVERAGE MAY MAKE POSITION REPORTS VIA CPDLC. CPDLC: PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. INMARSAT: INMARSAT SECURITY NUMBER FOR ANCHORAGE ATC IS 436602 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR SAN FRANCISCO RADIO IS 436625 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR ANCHORAGE ATC IS 1-907-269-2590. SATCOM: HF SERVICE IN THE ANCHORAGE OCEANIC FIR IS PROVIDED VIA ARINC. PILOTS MUST MAINTAIN HF COMMUNICATIONS CAPABILITY WITH ARINC AT ALL TIMES WITHIN THE ANCHORAGE OCEANIC FIR.

RJJJ Type: FIR
Notes: SPEED RESTRICTIONS WITHIN JAPAN AIRSPACE MAXIMUM IAS UNLESS OTHERWISE AUTHORIZED BY ATC. WITHIN AN APPROACH CONTROL AREA BELOW 10000' MSL 250 KIAS WITHIN A CONTROL ZONE 250 KTS PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF RJJJ IN FUKUOKA FIR CPDLC: INMARSAT: INMARSAT SECURITY NUMBER IS 443101 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL IS 81-78-99-36-501 SATCOM:

UEEE Type: FIR
Notes: INMARSAT: INMARSAT SECURITY NUMBER FOR TIKSI ACC IS 427368 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR CHULMAN ACC IS 427315 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR MIRNY ACC IS 427339 INMARSAT: RVSM AIRSPACE FL290-FL410 INCLUSIVE.

UHMM Type: FIR
Notes: CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF GDXB IN MAGADAN FIR CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR MAGADAN ACC IS 427336 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR PETROPAVLOVSK-KAMCHATSKY ACC IS 427354 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR MAGADAN ACC IS 74-13-260-6719 SATCOM: SATCOM: SATCOM VOICE DIRECT DIAL FOR PETROPAVLOVSK-KAMCHATSKY ACC IS 74-15-319-9395 SATCOM: PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. RVSM AIRSPACE FL290-FL410 INCLUSIVE.

ULLL Type: FIR
Notes: INMARSAT: INMARSAT SECURITY NUMBER FOR ARCHANGELSK ACC IS 427305 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR MURMANSK ACC IS 427341 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR SYKTYVKAR ACC IS 427366 INMARSAT: RVSM AIRSPACE FL290-FL410 INCLUSIVE.

1522 Type: Special Use Airspace
Notes: THE RESTRICTION IS NOT APPLICABLE TO AIRCRAFT CARRYING OUT TAKE-OFF/LANDING FROM/ON PETROPAVLOVSK-KAMCHATSKY/YELIZOVO AD AT 1500 M/4900 FT AMSL OR ABOVE, EXCEPT FOR THE TIME OF BLASTING OPERATIONS NOTIFIED BY NOTAM.

1612 Type: Special Use Airspace
Notes: EXCLUDING: 551103N 1654732E - 545844N 1660201E - 550135N 1661431E - 551739N 1662604E - 552555N 1655526E - 551716N 1653607E - 551103N 1654732E.

325 Type: Special Use Airspace
Notes: FLIGHTS OF ACFT FROM/TO PETROPAVLOVSK-KAMCHATSKY/YELIZOVO AD ARE PERMITTED.

362 Type: Special Use Airspace
Notes: THE RESTRICTION IS NOT APPLICABLE TO FLIGHTS OF STATE AVIATION ACFT.

PAZA Type: UIR
Notes: CPDLC: USE LOGON ADDRESS PAZN FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR WEST OF 165W AND SOUTH OF 63N. USE LOGON ADDRESS PAZA FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR SOUTH OF 73N AND EAST OF 165W. AIRCRAFT ENTERING ANCHORAGE FIR AIRSPACE FROM THE MAGADAN, EDMONTON, VANCOUVER, OR OAKLAND FIRS WILL BE PROVIDED AUTOMATIC FANS ADDRESS FORWARDING FROM THE ATC GROUND COMPUTER. AIRCRAFT DEPARTING ALASKAN AIRPORTS SHOULD LOGON AFTER DEPARTURE, BUT BEFORE LEAVING FL180. AFTER LOGON, ANCHORAGE ARTCC AUTOMATION WILL PROVIDE AUTOMATIC FANS ADDRESS FORWARDING FOR FLIGHTS ENTERING THE MAGADAN, EDMONTON, VANCOUVER AND OAKLAND FIRS. NOTE: - THE USE OF CPDLC DOES NOT REMOVE REQUIREMENTS FOR

MONITORING VHF/HF FREQUENCIES. - AIRCRAFT WITHIN VHF COVERAGE MAY MAKE POSITION REPORTS VIA CPDLC. - WEST OF 165W, ALL REQUESTS TO ATC MAY BE MADE VIA CPDLC. - EAST OF 165W, REQUESTS TO ATC SHOULD BE MADE VIA VHF IF WITHIN VHF COVERAGE. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR ANCHORAGE ATC IS 436602. INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR ANCHORAGE ATC IS 1-907-269-1103. SATCOM:

SYA Type: VOR
Notes: VHF COMMUNICATIONS: THE NORMAL VHF (119.1 MHZ) INITIAL CONTACT POINTS WITH ANCHORAGE ARTCC FOR EASTBOUND FLIGHTS ESTABLISHED IN THE NOPAC ARE: ON R-591, 150NM WEST OF SHEMYA (SYA). NOTE: INITIAL CONTACT MAY BE ATTEMPTED ON 128.2 MHZ AS A BACKUP TO 119.1.

CHIPT Type: Waypoint
Notes: VHF COMMUNICATIONS: THE NORMAL VHF (119.1 MHZ) INITIAL CONTACT POINTS WITH ANCHORAGE ARTCC FOR EASTBOUND FLIGHTS ESTABLISHED IN THE NOPAC ARE: ON G-344, 150NM WEST OF CHIPT. NOTE: INITIAL CONTACT MAY BE ATTEMPTED ON 128.2 MHZ AS A BACKUP TO 119.1.

PINSO Type: Waypoint
Notes: VHF COMMUNICATIONS: THE NORMAL VHF (119.1 MHZ) INITIAL CONTACT POINTS WITH ANCHORAGE ARTCC FOR EASTBOUND FLIGHTS ESTABLISHED IN THE NOPAC ARE: ON A-590, 150NM WEST OF PINSO. NOTE: INITIAL CONTACT MAY BE ATTEMPTED ON 128.2 MHZ AS A BACKUP TO 119.1.

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AKIAK Type: Class E5 Airspace
Notes: EXCLUDING THAT AIRSPACE WITHIN THE BETHEL, ALASKA CLASS E AIRSPACE AREA.

CHIGNIK Type: Class E5 Airspace
Notes: EXCLUDING THAT AIRSPACE MORE THAN 12 NAUTICAL MILES FROM THE SHORELINE.

EMMONAK Type: Class E5 Airspace
Notes: EXCLUDING THAT AREA OUTSIDE 12 NM FROM THE SHORELINE THAT OVERLIES NORTON SOUND LOW.

KIPNUK Type: Class E5 Airspace
Notes: EXCLUDES THAT AREA OUTSIDE 12 MILES FROM THE SHORELINE WITHIN NORTON SOUND LOW AND CONTROL 1234L.

MAGADAN CTA Type: Control Area (Airport)
Notes: CLASS C AIRSPACE OUTSIDE THE TERRITORY OF THE RUSSIAN FEDERATION IS ON ATS ROUTES ONLY.

ST PETERSBURG CTA Type: Control Area (Airport)
Notes: CLASS A AIRSPACE OUTSIDE THE TERRITORY OF THE RUSSIAN FEDERATION IS ON ATS ROUTES ONLY.

CLASS C AIRSPACE OUTSIDE THE TERRITORY OF THE RUSSIAN FEDERATION IS ON ATS ROUTES ONLY.

KZAK Type: FIR
Notes: CPDLC: USE LOGON ADDRESS KZAK FOR ALL CPDLC COMMUNICATIONS IN THE OAKLAND OCEANIC FIR. WHEN MAKING HF VOICE CHECK-IN WITH SAN FRANCISCO RADIO UPON TRANSFERRING DATA LINK CONTACT TO SAN FRANCISCO, SFO RADIO REQUESTS YOU INCLUDE; POINT OF DEPARTURE, DESTINATION, A/C REGISTRATION AND SELCAL CODE. FOR AIRCRAFT DEPARTING FROM AIRPORTS ALONG THE WEST COAST OF NORTH AMERICA, GUAM AND HAWAII, OAKLAND OCEANIC CONTROL REQUIRES THAT DATA-LINK AIRCRAFT NOT LOGON TO OAKLAND OCEANIC (KZAK) UNTIL AFTER LEAVING 10,000' MSL. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM NON-CPDLC AIRSPACE: LOG ON TO CPDLC AT LEAST 15 BUT NOT MORE THAN 45 MINUTES PRIOR TO ENTERING. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM ADJACENT CPDLC AIRSPACE: IF KZAK IS THE ACTIVE CENTER CONTACT SAN FRANCISCO RADIO. IF KZAK IS NOT THE ACTIVE CENTER, TERMINATE THE CPDLC CONNECTION WITHIN 5 MINUTES AFTER THE BOUNDARY IS CROSSED, THEN LOG ON TO KZAK AND CONTACT SAN FRANCISCO RADIO. FOR AIRCRAFT OVER-FLYING HONOLULU CERAP: AIRCRAFT WILL RECEIVE AN END SERVICE MESSAGE THAT WILL RESULT IN TERMINATION OF CPDLC. AIRCRAFT SHALL RE-LOG ON TO CPDLC PRIOR TO REENTERING OAKLAND OCEANIC FIR. FOR AIRCRAFT ENTERING GUAM CERAP: CONTACT GUAM CERAP 250 MILES OUT ON 118.7, SQUAWK 2100. FOR AIRCRAFT OVER-FLYING GUAM CERAP: CPDLC CONNECTION WITH OAKLAND MAY BE TERMINATED WITHIN THE GUAM CERAP. IF THE CPDLC CONNECTION WITH KZAK IS NOT TERMINATED, DO NOT USE CPDLC FOR ATC UNTIL GUAM CERAP ADVISES YOU TO TO AGAIN CONTACT ENROUTE COMMUNICATIONS OR SAN FRANCISCO RADIO. IT MAY BE NECESSARY TO LOG BACK ON TO CPDLC WITH KZAK 10-15 MINUTES PRIOR TO EXITING GUAM CERAP IF THE CPDLC CONNECTION WAS TERMINATED. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR OAKLAND CENTER IS 436697 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR SAN FRANCISCO RADIO IS 436625 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR OAKLAND CENTER IS 1-510-745-3415 SATCOM: PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. POSITION REPORTS OVER OAKLAND OCEANIC OCA/FIR 120 W BOUNDARIES A. AIRCRAFT ENTERING THE OAKLAND OCA/FIR OVER 120 DEGREES WEST LONGITUDE WITHOUT A KZAK ADS-C CONNECTION ARE REQUESTED TO FORWARD BOUNDARY POSIT

PAZA Type: FIR
Notes: CPDLC: USE LOGON ADDRESS PAZN FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR WEST OF 165W AND SOUTH OF 63N. USE LOGON ADDRESS PAZA FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR SOUTH OF 73N AND EAST OF 165W. AIRCRAFT ENTERING ANCHORAGE FIR AIRSPACE FROM THE MAGADAN, EDMONTON, VANCOUVER, OR OAKLAND FIRS WILL BE PROVIDED AUTOMATIC FANS ADDRESS FORWARDING FROM THE ATC GROUND COMPUTER. AIRCRAFT DEPARTING ALASKAN AIRPORTS SHOULD LOGON AFTER DEPARTURE, BUT

BEFORE LEAVING FL180. AFTER LOGON, ANCHORAGE ARTCC AUTOMATION WILL PROVIDE AUTOMATIC FANS ADDRESS FORWARDING FOR FLIGHTS ENTERING THE MAGADAN, EDMONTON, VANCOUVER AND OAKLAND FIRS. NOTE: - THE USE OF CPDLC DOES NOT REMOVE REQUIREMENTS FOR MONITORING VHF/HF FREQUENCIES. - AIRCRAFT WITHIN VHF COVERAGE MAY MAKE POSITION REPORTS VIA CPDLC. - WEST OF 165W, ALL REQUESTS TO ATC MAY BE MADE VIA CPDLC. - EAST OF 165W, REQUESTS TO ATC SHOULD BE MADE VIA VHF IF WITHIN VHF COVERAGE. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR ANCHORAGE ATC IS 436602. INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR ANCHORAGE ATC IS 907-269-1103. SATCOM:

CPDLC: USE LOGON ADDRESS PAZN FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE OCEANIC FIR. AIRCRAFT ENTERING ANCHORAGE FIR AIRSPACE FROM THE MAGADAN, OAKLAND OR FUKUOKA FIRS WILL BE PROVIDED AUTOMATIC FANS ADDRESS FORWARDING FROM THE ATC GROUND COMPUTER. AIRCRAFT DEPARTING ALASKAN AIRPORTS SHOULD LOGON AFTER DEPARTURE, BUT BEFORE LEAVING FL180. AFTER LOGON, ANCHORAGE ARTCC AUTOMATION WILL PROVIDE AUTOMATIC FANS ADDRESS FORWARDING FOR FLIGHTS ENTERING THE MAGADAN, OAKLAND, AND FUKUOKA FIRS. NOTE: - THE USE OF CPDLC DOES NOT REMOVE REQUIREMENTS FOR MONITORING VHF/HF FREQUENCIES. - AIRCRAFT WITHIN VHF COVERAGE MAY MAKE POSITION REPORTS VIA CPDLC. CPDLC: PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. INMARSAT: INMARSAT SECURITY NUMBER FOR ANCHORAGE ATC IS 436602 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR SAN FRANCISCO RADIO IS 436625 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR ANCHORAGE ATC IS 1-907-269-2590. SATCOM: HF SERVICE IN THE ANCHORAGE OCEANIC FIR IS PROVIDED VIA ARINC. PILOTS MUST MAINTAIN HF COMMUNICATIONS CAPABILITY WITH ARINC AT ALL TIMES WITHIN THE ANCHORAGE OCEANIC FIR.

UHMM Type: FIR
Notes: CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF GDXB IN MAGADAN FIR CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR MAGADAN ACC IS 427336 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR PETROPAVLOVSK-KAMCHATSKY ACC IS 427354 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR MAGADAN ACC IS 74-13-260-6719 SATCOM: SATCOM: SATCOM VOICE DIRECT DIAL FOR PETROPAVLOVSK-KAMCHATSKY ACC IS 74-15-319-9395 SATCOM: PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. RVSM AIRSPACE FL290-FL410 INCLUSIVE.

ULLL Type: FIR
Notes: INMARSAT: INMARSAT SECURITY NUMBER FOR ARCHANGELSK ACC IS 427305 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR MURMANSK ACC IS 427341 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR SYKTYVKAR ACC IS 427366 INMARSAT: RVSM AIRSPACE FL290-FL410 INCLUSIVE.

1352 Type: Special Use Airspace
Notes: THE RESTRICTION IS NOT APPLICABLE TO ACFT EXECUTING FLIGHTS FROM/TO PROVIDENIYA BAY AD ALONG THE ESTABLISHED STAR, SID ROUTES, APCH PROCEDURES AS WELL AS FLIGHTS ALONG THE TRACKS ASSIGNED BY ATS UNIT BY RADAR VECTORING

1354 Type: Special Use Airspace
Notes: THE RESTRICTION IS NOT APPLICABLE TO ACFT EXECUTING FLIGHTS FROM/TO PROVIDENIYA BAY AD ALONG THE ESTABLISHED STAR, SID ROUTES, APCH PROCEDURES AS WELL AS FLIGHTS ALONG THE TRACKS ASSIGNED BY ATS UNIT BY RADAR VECTORING

1359 Type: Special Use Airspace
Notes: THE RESTRICTION IS NOT APPLICABLE TO ACFT EXECUTING FLIGHTS FROM/TO PROVIDENIYA BAY AD ALONG THE ESTABLISHED STAR, SID ROUTES, APCH PROCEDURES AS WELL AS FLIGHTS ALONG THE TRACKS ASSIGNED BY ATS UNIT BY RADAR VECTORING.

1361 Type: Special Use Airspace
Notes: THE RESTRICTION IS NOT APPLICABLE TO ACFT EXECUTING FLIGHTS FROM/TO PROVIDENIYA BAY AD ALONG THE ESTABLISHED STAR, SID ROUTES, APCH PROCEDURES AS WELL AS FLIGHTS ALONG THE TRACKS ASSIGNED BY ATS UNIT BY RADAR VECTORING.

1362 Type: Special Use Airspace
Notes: THE RESTRICTION IS NOT APPLICABLE TO ACFT EXECUTING FLIGHTS FROM/TO PROVIDENIYA BAY AD ALONG THE ESTABLISHED STAR, SID ROUTES, APCH PROCEDURES AS WELL AS FLIGHTS ALONG THE TRACKS ASSIGNED BY ATS UNIT BY RADAR VECTORING.

STONY A Type: Special Use Airspace
Notes: EXCLUDES THAT AIRSPACE 1,500' AGL AND BELOW WITHIN A 3NM RADIUS OF THE STONY RIVER AIRPORT (N61 47.4 W156 35.3).

PAZA Type: UIR
Notes: CPDLC: USE LOGON ADDRESS PAZN FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR WEST OF 165W AND SOUTH OF 63N. USE LOGON ADDRESS PAZA FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR SOUTH OF 73N AND EAST OF 165W. AIRCRAFT ENTERING ANCHORAGE FIR AIRSPACE FROM THE MAGADAN, EDMONTON, VANCOUVER, OR OAKLAND FIRS WILL BE PROVIDED AUTOMATIC FANS ADDRESS FORWARDING FROM THE ATC GROUND COMPUTER. AIRCRAFT DEPARTING ALASKAN AIRPORTS SHOULD LOGON AFTER DEPARTURE, BUT BEFORE LEAVING FL180. AFTER LOGON, ANCHORAGE ARTCC AUTOMATION WILL PROVIDE AUTOMATIC FANS ADDRESS FORWARDING FOR FLIGHTS ENTERING THE MAGADAN, EDMONTON, VANCOUVER AND OAKLAND FIRS. NOTE: - THE USE OF CPDLC DOES NOT REMOVE REQUIREMENTS FOR MONITORING VHF/HF FREQUENCIES. - AIRCRAFT WITHIN VHF COVERAGE MAY MAKE POSITION REPORTS VIA CPDLC. - WEST OF 165W, ALL REQUESTS TO ATC MAY BE MADE VIA CPDLC. - EAST OF 165W, REQUESTS TO ATC SHOULD BE MADE VIA VHF IF WITHIN VHF COVERAGE. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR ANCHORAGE ATC IS 436602. INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR ANCHORAGE ATC IS 1-907-269-1103. SATCOM:

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CZVR Type: ACC
Notes: EXCLUDING FL255.

PAZA Type: ARTCC

Notes: CLASS G BELOW 14500 FT.

CHIGNIK Type: Class E5 Airspace
Notes: EXCLUDING THAT AIRSPACE MORE THAN 12 NAUTICAL MILES FROM THE SHORELINE.

FAIRBANKS INTL Type: Class E5 Airspace
Notes: EXCLUDING THAT PORTION WITHIN RESTRICTED AREAS R-220B AND R-2206.

PETERSBURG JAMES A JOHNSON Type: Class E5 Airspace
Notes: EXCLUDING THAT AIRSPACE WITHIN THE WRANGELL, AK, AND SITKA, AK, CLASS E AIRSPACE AREAS.

EXCLUDING THAT AIRSPACE WITHIN THE WRANGELL, AK, AND SITKA, AK, CLASS E AIRSPACE AREAS.

EXCLUDING THAT AIRSPACE WITHIN THE WRANGELL, AK, AND SITKA, AK, CLASS E AIRSPACE AREAS.

EXCLUDING THAT AIRSPACE WITHIN THE WRANGELL, AK, AND SITKA, AK, CLASS E AIRSPACE AREAS.

EXCLUDING THAT AIRSPACE WITHIN THE WRANGELL, AK, AND SITKA, AK, CLASS E AIRSPACE AREAS.

SOUTHEAST E6 Type: Class E5 Airspace
Notes: EXCLUDING THAT AIRSPACE DESIGNATED FOR FEDERAL AIRWAYS AND EXCLUDING THAT AIRSPACE WITHIN KETCHIKAN, AK CLASS E5, THE KLAWOCK, AK CLASS E5, THE WRANGELL, AK CLASS E5, THE PETERSBURG, AK CLASS E5, THE KAKE, AK CLASS E5, THE SITKA, AK CLASS E5, AND THE JUNEAU, AK CLASS E5 AIRSPACE AREAS.

WASILLA Type: Class E5 Airspace
Notes: EXCLUDES BIG LAKE CLASS E AIRSPACE AREA.

WRANGELL Type: Class E5 Airspace
Notes: EXCLUDES AIRSPACE WITHIN THE PETERSBURG, AK CLASS E AIRSPACE AREA.

CZEG Type: FIR
Notes: AIRSPACE-ZONES, AREAS, AND REGIONS 1. DOMESTIC CLEARANCE - NORTH ATLANTIC (NAT) WEST-BOUND TRAFFIC. A) PILOTS PROCEEDING WESTBOUND ACROSS THE NORTH ATLANTIC (NAT) AND ENTERING CDA WITHIN THE GANDER, MONCTON AND MONTREAL FIRS SHALL COMPLY WITH THE FOLLOWING PROCEDURES: I) FLIGHTS CLEARED BY ATC VIA THE FLIGHT PLANNED ROUTE PRIOR TO REACHING CDA WILL NOT BE ISSUED EN-ROUTE CLEARANCES UPON ENTERING DOMESTIC AIRSPACE, AND ARE TO FOLLOW THE FLIGHT PLANNED ROUTE AS CLEARED. DOMESTIC EN-ROUTE CLEARANCES WILL BE ISSUED: A) FOR FLIGHTS THAT HAVE BEEN REROUTED AND EXIT OCEANIC AIRSPACE AT OTHER THAN THE FLIGHT PLANNED EXIT FIX: B) AT A PILOT'S REQUEST FOR ANOTHER ROUTING OR C) IF A FLIGHT PLAN HAS NOT BEEN RECEIVED BY THE ACC. B) IF ENTERING CANADIAN DOMESTIC AIRSPACE WITHIN THE EDMONTON FLIGHT INFORMATION REGION (FIR) THE ONWARD DOMESTIC ROUTING WILL HAVE BEEN ESTABLISHED IN COORDINATION BETWEEN THE REYKJAVIK AND EDMONTON ACCS, AND ADDITIONAL DOMESTIC CLEARANCE IS NOT NORMALLY REQUIRED. HOWEVER, IF THERE HAS BEEN A CHANGE IN ROUTE FROM FILED FLIGHT PLAN, CLARIFICATION OF THE ONWARD ROUTING MAY BE OBTAINED FROM EDMONTON ACC ON REQUEST. CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF CZEG IN EDMONTON FIR CPDLC: INMARSAT: INMARSAT SECURITY NUMBER IS 431601 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL IS 1-780-890-2775 SATCOM: INMARSAT: INMARSAT SECURITY NUMBER FOR ARCTIC RADIO IS 431610 INMARSAT:

CZVR Type: FIR
Notes: THE VANCOUVER FIR WEST OF TOFINO, CAPE SCOTT, PORT HARDY, AND SANDSPIT NDB IS UNCONTROLLED BELOW 6000' AGL. CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF CZVR IN VANCOUVER FIR. FLIGHTS ENTERING CANADIAN DOMESTIC AIRSPACE CPDLC AREA FROM A NON-CPDLC DATA LINK AREA SHOULD PERFORM A LOGON 45 TO 15 MINUTES PRIOR TO ENTERING AIRSPACE. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER IS 431607 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL IS 1-604-507-7875 SATCOM: SATCOM: CONTACT VANCOUVER CENTER ON THE NEAREST PERIPHERAL FREQUENCY AT THE TIME OF CROSSING FIR BOUNDARY. TRANSPONDER ADJUSTED TO REPLY ON MODE A-3 CODE 2000. SATCOM:

KZAK Type: FIR
Notes: CPDLC: USE LOGON ADDRESS KZAK FOR ALL CPDLC COMMUNICATIONS IN THE OAKLAND OCEANIC FIR. WHEN MAKING HF VOICE CHECK-IN WITH SAN FRANCISCO RADIO UPON TRANSFERRING DATA LINK CONTACT TO SAN FRANCISCO, SFO RADIO REQUESTS YOU INCLUDE; POINT OF DEPARTURE, DESTINATION, A/C REGISTRATION AND SELCAL CODE. FOR AIRCRAFT DEPARTING FROM AIRPORTS ALONG THE WEST COAST OF NORTH AMERICA, GUAM AND HAWAII, OAKLAND OCEANIC CONTROL REQUIRES THAT DATA-LINK AIRCRAFT NOT LOGON TO OAKLAND OCEANIC (KZAK) UNTIL AFTER LEAVING 10,000' MSL. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM NON-CPDLC AIRSPACE: LOG ON TO CPDLC AT LEAST 15 BUT NOT MORE THAN 45 MINUTES PRIOR TO ENTERING. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM ADJACENT CPDLC AIRSPACE: IF KZAK IS THE ACTIVE CENTER CONTACT SAN FRANCISCO RADIO. IF KZAK IS NOT THE ACTIVE CENTER, TERMINATE THE CPDLC CONNECTION WITHIN 5 MINUTES AFTER THE BOUNDARY IS CROSSED, THEN LOG ON TO KZAK AND CONTACT SAN FRANCISCO RADIO. FOR AIRCRAFT OVER-FLYING HONOLULU CERAP: AIRCRAFT WILL RECEIVE AN END SERVICE MESSAGE THAT WILL RESULT IN TERMINATION OF CPDLC. AIRCRAFT SHALL RE-LOG ON TO CPDLC PRIOR TO REENTERING OAKLAND OCEANIC FIR. FOR AIRCRAFT ENTERING GUAM CERAP: CONTACT GUAM CERAP 250 MILES OUT ON 118.7, SQUAWK 2100. FOR AIRCRAFT OVER-FLYING GUAM CERAP: CPDLC CONNECTION WITH OAKLAND MAY BE TERMINATED WITHIN THE GUAM CERAP. IF THE CPDLC CONNECTION WITH KZAK IS NOT TERMINATED, DO NOT USE CPDLC FOR ATC UNTIL GUAM CERAP ADVISES YOU TO TO AGAIN CONTACT ENROUTE COMMUNICATIONS OR SAN FRANCISCO RADIO. IT MAY BE NECESSARY TO LOG BACK ON TO CPDLC WITH KZAK 10-15 MINUTES PRIOR TO EXITING

GUAM CERAP IF THE CPDLC CONNECTION WAS TERMINATED. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR OAKLAND CENTER IS 436697 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR SAN FRANCISCO RADIO IS 436625 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR OAKLAND CENTER IS 1-510-745-3415 SATCOM: PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. POSITION REPORTS OVER OAKLAND OCEANIC OCA/FIR 120 W BOUNDARIES A. AIRCRAFT ENTERING THE OAKLAND OCA/FIR OVER 120 DEGREES WEST LONGITUDE WITHOUT A KZAK ADS-C CONNECTION ARE REQUESTED TO FORWARD BOUNDARY POSIT

PAZA Type: FIR
Notes: CPDLC: USE LOGON ADDRESS PAZN FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR WEST OF 165W AND SOUTH OF 63N. USE LOGON ADDRESS PAZA FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR SOUTH OF 73N AND EAST OF 165W. AIRCRAFT ENTERING ANCHORAGE FIR AIRSPACE FROM THE MAGADAN, EDMONTON, VANCOUVER, OR OAKLAND FIRS WILL BE PROVIDED AUTOMATIC FANS ADDRESS FORWARDING FROM THE ATC GROUND COMPUTER. AIRCRAFT DEPARTING ALASKAN AIRPORTS SHOULD LOGON AFTER DEPARTURE, BUT BEFORE LEAVING FL180. AFTER LOGON, ANCHORAGE ARTCC AUTOMATION WILL PROVIDE AUTOMATIC FANS ADDRESS FORWARDING FOR FLIGHTS ENTERING THE MAGADAN, EDMONTON, VANCOUVER AND OAKLAND FIRS. NOTE: - THE USE OF CPDLC DOES NOT REMOVE REQUIREMENTS FOR MONITORING VHF/HF FREQUENCIES. - AIRCRAFT WITHIN VHF COVERAGE MAY MAKE POSITION REPORTS VIA CPDLC. - WEST OF 165W, ALL REQUESTS TO ATC MAY BE MADE VIA CPDLC. - EAST OF 165W, REQUESTS TO ATC SHOULD BE MADE VIA VHF IF WITHIN VHF COVERAGE. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR ANCHORAGE ATC IS 436602. INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR ANCHORAGE ATC IS 907-269-1103. SATCOM:

BUFFALO Type: Special Use Airspace
Notes: EXCLUDING AT OR BELOW 1500 FEET AGL WITHIN A 3 NM RADIUS OF THE BLACK RAPIDS AIRPORT.

EXCLUDING THAT AIRSPACE BELOW 3000 FEET MSL FROM 2 NM NORTH OF THE ALASKA HIGHWAY TO 2 NM SOUTH OF THE ALASKA HIGHWAY.

EXCLUDING THAT AIRSPACE BELOW 3500 FEET MSL FROM 1/2 NM EAST OF THE RICHARDSON HIGHWAY TO THE WEST SIDE OF THE DELTA RIVER SOUTH OF A LINE ESTABLISHED BETWEEN N63 41 14 W145 54 48 AND N63 42 01 W145 48 52.

EXCLUDING THAT AIRSPACE BELOW 3500 FEET MSL FROM 2 NM EAST OF THE RICHARDSON HIGHWAY TO 1/2 NM WEST OF THE RICHARDSON HIGHWAY OR THE ALASKA PIPELINE WHICHEVER IS FURTHER WEST, NORTH OF A LINE ESTABLISHED BETWEEN N63 41 14 W145 54 48 AND N63 42 01 W145 48 52, AND THAT PORTION WHOLLY CONTAINED IN R-2201B AND R-2201D WHEN ACTIVE.

EXCLUDING THAT AIRSPACE PORTION WHOLLY CONTAINED IN R-2201B AND R-2201D WHEN ACTIVE.

DELTA FOUR Type: Special Use Airspace
Notes: EXCLUDING THAT PORTION WHOLLY CONTAINED IN R-2201D WHEN ACTIVE.

N962 Type: Special Use Airspace
Notes: ACFT operating within Bryant segment should self announce intentions on Bryant Airport CTAF.

Two-way radio contact required with ANCHORAGE APCH CTL.; ACFT entering to or from Lake Hood/Merrill segment BELOW 1200 shall CTC ATCT prior to entry and while operating within the area.

Two-way radio contact required with ATCT serving the segment containing the ARR or DEP APT prior to entry and while operating within the area.

Two-way radio contact required with ATCT serving the segment containing the ARR or DEP APT prior to entry and while operating within the area.; ACFT with speed > 105 kn fly ABOVE 1600, < 105 kn fly ABOVE 900, until landing requires further descent.

Two-way radio contact required with ATCT serving the segment containing the ARR or DEP APT prior to entry and while operating within the area.; Fly ABOVE 600, until landing requires further descent.

Two-way radio contact required with ATCT serving the segment containing the ARR or DEP APT prior to entry and while operating within the area.; Turbine powered ACFT fly ABOVE 1700, ACFT with speed > 105 kn fly ABOVE 1200, < 105 kn fly ABOVE 800, until landing requires further descent.

When MERRILL ATCT is not operating, CTC ANCHORAGE APP CTR for wake turbulence and other advisories. ACFT operating S of Mid-Channel should self announce intentions on MERRILL FIELD CTAF.; ACFT with speed > 105 kn fly ABOVE 1200, < 105 kn fly ABOVE 900, until landing requires further descent.

STONY A Type: Special Use Airspace
Notes: EXCLUDES THAT AIRSPACE 1,500' AGL AND BELOW WITHIN A 3NM RADIUS OF THE STONY RIVER AIRPORT (N61 47.4 W156 35.3).

SUSITNA Type: Special Use Airspace
Notes: VERTICAL LIMITS: 10,000' MSL OR 5,000' AGL, WHICHEVER IS HIGHER, TO BUT NOT INCLUDING FL180.

PAZA Type: UIR
Notes: CPDLC: USE LOGON ADDRESS PAZN FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR WEST OF 165W AND SOUTH OF 63N. USE LOGON ADDRESS PAZA FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR SOUTH OF 73N AND EAST OF 165W. AIRCRAFT ENTERING ANCHORAGE FIR AIRSPACE FROM THE MAGADAN, EDMONTON, VANCOUVER, OR OAKLAND FIRS WILL BE PROVIDED AUTOMATIC FANS ADDRESS FORWARDING FROM THE ATC GROUND COMPUTER. AIRCRAFT DEPARTING ALASKAN AIRPORTS SHOULD LOGON AFTER DEPARTURE, BUT BEFORE LEAVING FL180. AFTER LOGON, ANCHORAGE ARTCC AUTOMATION WILL PROVIDE AUTOMATIC FANS ADDRESS FORWARDING FOR FLIGHTS ENTERING THE MAGADAN, EDMONTON, VANCOUVER AND OAKLAND FIRS. NOTE: - THE USE OF CPDLC DOES NOT REMOVE REQUIREMENTS FOR MONITORING VHF/HF FREQUENCIES. - AIRCRAFT WITHIN VHF COVERAGE MAY MAKE POSITION REPORTS VIA CPDLC. - WEST OF 165W, ALL REQUESTS TO ATC MAY BE MADE VIA CPDLC. - EAST OF 165W, REQUESTS TO ATC SHOULD BE MADE VIA VHF IF WITHIN VHF COVERAGE. CPDLC: INMARSAT:

INMARSAT SECURITY NUMBER FOR ANCHORAGE ATC IS 436602. INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR ANCHORAGE ATC IS 1-907-269-1103. SATCOM:

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CZVR Type: ACC
Notes: EXCLUDING FL255.

PAZA Type: ARTCC
Notes: CLASS G BELOW 14500 FT.

FELTS Type: Class E Airspace
Notes: EXCLUDES THAT AIRSPACE WITHIN THE SPOKANE INTERNATIONAL AIRPORT, WA, CLASS C AIRSPACE AREA.

BOARDMAN E6 Type: Class E5 Airspace
Notes: EXCLUDING THE PORTION WITHIN RESTRICTED AREA R-5704 DURING ITS PUBLISHED HOURS OF DESIGNATION.

BOISE E6 Type: Class E5 Airspace
Notes: EXCLUDING FEDERAL AIRWAYS, BOISE AND MCCALL, ID, AND ONTARIO, OR, CLASS E AIRSPACE AREAS.

CASCADE RANGE E6 Type: Class E5 Airspace
Notes: EXCLUDING FEDERAL AIRWAYS, WENATCHEE, WA, ELLENSBURG, WA, AND YAKIMA, WA, CLASS E AIRSPACE AREAS.

COLVILLE E6 Type: Class E5 Airspace
Notes: THAT AIRSPACE BELOW 1,200 FEET AGL IS EXCLUDED.

DEER PARK Type: Class E5 Airspace
Notes: EXCLUDING THE SPOKANE, WA, CLASS E AIRSPACE AREA.

LA GRANDE/UNION CO Type: Class E5 Airspace
Notes: EXCLUDING THAT AIRSPACE WITHIN FEDERAL AIRWAYS.

LEXINGTON Type: Class E5 Airspace
Notes: EXCLUDING THAT AIRSPACE WITHIN FEDERAL AIRWAYS.

NEWPORT MUN Type: Class E5 Airspace
Notes: EXCLUDING THAT AIRSPACE WITHIN FEDERAL AIRWAYS.

OLYMPIC PENINSULA E6 Type: Class E5 Airspace
Notes: THAT AIRSPACE BELOW 1,200 FEET AGL IS EXCLUDED.

PETERSBURG JAMES A JOHNSON Type: Class E5 Airspace
Notes: EXCLUDING THAT AIRSPACE WITHIN THE WRANGELL, AK, AND SITKA, AK, CLASS E AIRSPACE AREAS.

EXCLUDING THAT AIRSPACE WITHIN THE WRANGELL, AK, AND SITKA, AK, CLASS E AIRSPACE AREAS.

EXCLUDING THAT AIRSPACE WITHIN THE WRANGELL, AK, AND SITKA, AK, CLASS E AIRSPACE AREAS.

EXCLUDING THAT AIRSPACE WITHIN THE WRANGELL, AK, AND SITKA, AK, CLASS E AIRSPACE AREAS.

EXCLUDING THAT AIRSPACE WITHIN THE WRANGELL, AK, AND SITKA, AK, CLASS E AIRSPACE AREAS.

SANDPOINT E6 Type: Class E5 Airspace
Notes: EXCLUDING FEDERAL AIRWAYS AND THAT AIRSPACE BELOW 1200' AGL.

SEATTLE-TACOMA INTL Type: Class E5 Airspace
Notes: EXCLUDING THAT AIRSPACE WITHIN THE WENATCHEE PANGBORN MEMORIAL AIRPORT, WA, CLASS E AIRSPACE AREA.

SOUTHEAST E6 Type: Class E5 Airspace
Notes: EXCLUDING THAT AIRSPACE DESIGNATED FOR FEDERAL AIRWAYS AND EXCLUDING THAT AIRSPACE WITHIN KETCHIKAN, AK CLASS E5, THE KLAWOCK, AK CLASS E5, THE WRANGELL, AK CLASS E5, THE PETERSBURG, AK CLASS E5, THE KAKE, AK CLASS E5, THE SITKA, AK CLASS E5, AND THE JUNEAU, AK CLASS E5 AIRSPACE AREAS.

TILLAMOOK Type: Class E5 Airspace
Notes: EXCLUDING THAT AIRSPACE WITHIN FEDERAL AIRWAYS; THE ASTORIA, OR; THE PORTLAND- HILLSBORO, OR; AND THE PORTLAND, OR, CLASS E AIRSPACE AREAS.

EXCLUDING THAT AIRSPACE WITHIN FEDERAL AIRWAYS; THE ASTORIA, OR; THE PORTLAND- HILLSBORO, OR; AND THE PORTLAND, OR, CLASS E AIRSPACE AREAS.

WRANGELL Type: Class E5 Airspace
Notes: EXCLUDES AIRSPACE WITHIN THE PETERSBURG, AK CLASS E AIRSPACE AREA.

CZEG Type: FIR
Notes: AIRSPACE-ZONES, AREAS, AND REGIONS 1. DOMESTIC CLEARANCE - NORTH ATLANTIC (NAT) WEST-BOUND TRAFFIC. A) PILOTS PROCEEDING WESTBOUND ACROSS THE NORTH ATLANTIC (NAT) AND ENTERING CDA WITHIN THE GANDER, MONCTON AND MONTREAL FIRS SHALL COMPLY WITH THE FOLLOWING PROCEDURES: I) FLIGHTS CLEARED BY ATC VIA THE FLIGHT PLANNED ROUTE PRIOR TO REACHING CDA WILL NOT BE ISSUED EN-ROUTE CLEARANCES UPON ENTERING DOMESTIC AIRSPACE, AND ARE TO FOLLOW THE FLIGHT PLANNED ROUTE AS CLEARED. DOMESTIC EN-ROUTE CLEARANCES WILL BE ISSUED: A) FOR FLIGHTS THAT HAVE BEEN REROUTED AND EXIT OCEANIC AIRSPACE AT OTHER THAN THE FLIGHT PLANNED EXIT FIX: B) AT A PILOT'S REQUEST FOR ANOTHER ROUTING OR C) IF A FLIGHT PLAN HAS NOT BEEN RECEIVED BY THE ACC. B) IF ENTERING CANADIAN DOMESTIC AIRSPACE WITHIN THE EDMONTON FLIGHT INFORMATION REGION (FIR) THE ONWARD DOMESTIC ROUTING WILL HAVE BEEN ESTABLISHED IN COORDINATION BETWEEN THE REYKJAVIK AND EDMONTON ACCS, AND ADDITIONAL DOMESTIC CLEARANCE IS NOT NORMALLY REQUIRED. HOWEVER, IF THERE HAS BEEN A CHANGE IN ROUTE FROM FILED FLIGHT PLAN, CLARIFICATION OF THE ONWARD ROUTING MAY BE OBTAINED FROM EDMONTON ACC ON REQUEST. CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF CZEG IN EDMONTON FIR CPDLC: INMARSAT: INMARSAT SECURITY NUMBER IS 431601 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL IS 1-780-890-2775 SATCOM: INMARSAT: INMARSAT SECURITY NUMBER FOR ARCTIC RADIO IS 431610 INMARSAT:

CZVR Type: FIR
Notes: THE VANCOUVER FIR WEST OF TOFINO, CAPE SCOTT, PORT HARDY, AND SANDSPIT NDB IS UNCONTROLLED BELOW 6000' AGL. CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF CZVR IN VANCOUVER FIR. FLIGHTS ENTERING CANADIAN DOMESTIC AIRSPACE CPDLC AREA FROM A NON-CPDLC DATA LINK AREA SHOULD PERFORM A LOGON 45 TO 15 MINUTES PRIOR TO ENTERING AIRSPACE. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER IS 431607 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL IS 1-604-507-7875 SATCOM: SATCOM: CONTACT VANCOUVER CENTER ON THE NEAREST PERIPHERAL FREQUENCY AT THE TIME OF CROSSING FIR BOUNDARY. TRANSPONDER ADJUSTED TO REPLY ON MODE A-3 CODE 2000. SATCOM:

KZAK Type: FIR
Notes: CPDLC: USE LOGON ADDRESS KZAK FOR ALL CPDLC COMMUNICATIONS IN THE OAKLAND OCEANIC FIR. WHEN MAKING HF VOICE CHECK-IN WITH SAN FRANCISCO RADIO UPON TRANSFERRING DATA LINK CONTACT TO SAN FRANCISCO, SFO RADIO REQUESTS YOU INCLUDE; POINT OF DEPARTURE, DESTINATION, A/C REGISTRATION AND SELCAL CODE. FOR AIRCRAFT DEPARTING FROM AIRPORTS ALONG THE WEST COAST OF NORTH AMERICA, GUAM AND HAWAII, OAKLAND OCEANIC CONTROL REQUIRES THAT DATA-LINK AIRCRAFT NOT LOGON TO OAKLAND OCEANIC (KZAK) UNTIL AFTER LEAVING 10,000' MSL. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM NON-CPDLC AIRSPACE: LOG ON TO CPDLC AT LEAST 15 BUT NOT MORE THAN 45 MINUTES PRIOR TO ENTERING. FOR AIRCRAFT ENTERING THE OAKLAND OCEANIC FIR FROM ADJACENT CPDLC AIRSPACE: IF KZAK IS THE ACTIVE CENTER CONTACT SAN FRANCISCO RADIO. IF KZAK IS NOT THE ACTIVE CENTER, TERMINATE THE CPDLC CONNECTION WITHIN 5 MINUTES AFTER THE BOUNDARY IS CROSSED, THEN LOG ON TO KZAK AND CONTACT SAN FRANCISCO RADIO. FOR AIRCRAFT OVER-FLYING HONOLULU CERAP: AIRCRAFT WILL RECEIVE AN END SERVICE MESSAGE THAT WILL RESULT IN TERMINATION OF CPDLC. AIRCRAFT SHALL RE-LOG ON TO CPDLC PRIOR TO REENTERING OAKLAND OCEANIC FIR. FOR AIRCRAFT ENTERING GUAM CERAP: CONTACT GUAM CERAP 250 MILES OUT ON 118.7, SQUAWK 2100. FOR AIRCRAFT OVER-FLYING GUAM CERAP: CPDLC CONNECTION WITH OAKLAND MAY BE TERMINATED WITHIN THE GUAM CERAP. IF THE CPDLC CONNECTION WITH KZAK IS NOT TERMINATED, DO NOT USE CPDLC FOR ATC UNTIL GUAM CERAP ADVISES YOU TO TO AGAIN CONTACT ENROUTE COMMUNICATIONS OR SAN FRANCISCO RADIO. IT MAY BE NECESSARY TO LOG BACK ON TO CPDLC WITH KZAK 10-15 MINUTES PRIOR TO EXITING GUAM CERAP IF THE CPDLC CONNECTION WAS TERMINATED. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR OAKLAND CENTER IS 436697 INMARSAT: INMARSAT: INMARSAT SECURITY NUMBER FOR SAN FRANCISCO RADIO IS 436625 INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR OAKLAND CENTER IS 1-510-745-3415 SATCOM: PILOTS SHOULD MONITOR VHF EMERGENCY FREQUENCY 121.5 MHZ ON LONG OVERWATER ROUTES WHEN POSSIBLE. SEE VHF EMERGENCY FREQUENCY REQUIREMENT. POSITION REPORTS OVER OAKLAND OCEANIC OCA/FIR 120 W BOUNDARIES A. AIRCRAFT ENTERING THE OAKLAND OCA/FIR OVER 120 DEGREES WEST LONGITUDE WITHOUT A KZAK ADS-C CONNECTION ARE REQUESTED TO FORWARD BOUNDARY POSIT

KZLC Type: FIR
Notes: CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF KUSA IN SALT LAKE CITY FIR. CPDLC:

KZSE Type: FIR
Notes: CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF KUSA IN SEATTLE FIR. CPDLC:

PAZA Type: FIR
Notes: CPDLC: USE LOGON ADDRESS PAZN FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR WEST OF 165W AND SOUTH OF 63N. USE LOGON ADDRESS PAZA FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR SOUTH OF 73N AND EAST OF 165W. AIRCRAFT ENTERING ANCHORAGE FIR AIRSPACE FROM THE MAGADAN, EDMONTON, VANCOUVER, OR OAKLAND FIRS WILL BE PROVIDED AUTOMATIC FANS ADDRESS FORWARDING FROM THE ATC GROUND COMPUTER. AIRCRAFT DEPARTING ALASKAN AIRPORTS SHOULD LOGON AFTER DEPARTURE, BUT BEFORE LEAVING FL180. AFTER LOGON, ANCHORAGE ARTCC AUTOMATION WILL PROVIDE AUTOMATIC FANS ADDRESS FORWARDING FOR FLIGHTS ENTERING THE MAGADAN, EDMONTON, VANCOUVER AND OAKLAND FIRS. NOTE: - THE USE OF CPDLC DOES NOT REMOVE REQUIREMENTS FOR MONITORING VHF/HF FREQUENCIES. - AIRCRAFT WITHIN VHF COVERAGE MAY MAKE POSITION REPORTS VIA CPDLC. - WEST OF 165W, ALL REQUESTS TO ATC MAY BE MADE VIA CPDLC. - EAST OF 165W, REQUESTS TO ATC SHOULD BE MADE VIA VHF IF WITHIN VHF COVERAGE. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR ANCHORAGE ATC IS 436602. INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR ANCHORAGE ATC IS 907-269-

1103. SATCOM:

105 Type: Special Use Airspace
Notes: THE RULES FOR CLASS G AIRSPACE APPLY WHEN THE AREA IS ACTIVE. WHEN NOT ACTIVE, THE RULES FOR THE APPLICABLE SURROUNDING AIRSPACE APPLY. EXCLUDING CYR165

113 Type: Special Use Airspace
Notes: THE RULES FOR CLASS G AIRSPACE APPLY WHEN THE AREA IS ACTIVE. WHEN NOT ACTIVE, THE RULES FOR THE APPLICABLE SURROUNDING AIRSPACE APPLY.

116 Type: Special Use Airspace
Notes: RULES FOR CLASS G AIRSPACE APPLY WHEN THE AREA IS ACTIVE. WHEN NOT ACTIVE, THE RULES FOR THE APPLICABLE SURROUNDING AIRSPACE APPLY.

117 Type: Special Use Airspace
Notes: RULES FOR CLASS G AIRSPACE APPLY WHEN AREA IS ACTIVE. WHEN NOT ACTIVE, THE RULES FOR THE APPLICABLE SURROUNDING AIRSPACE APPLY.

118 Type: Special Use Airspace
Notes: THE RULES FOR CLASS G AIRSPACE APPLY WHEN THE AREA IS ACTIVE. WHEN NOT ACTIVE, THE RULES FOR THE APPLICABLE SURROUNDING AIRSPACE APPLY.

184 Type: Special Use Airspace
Notes: THE RULES FOR CLASS G AIRSPACE APPLY WHEN THE AREA IS ACTIVE. WHEN NOT ACTIVE, THE RULES FOR THE APPLICABLE SURROUNDING AIRSPACE APPLY.

186 Type: Special Use Airspace
Notes: THE RULES FOR CLASS G AIRSPACE APPLY WHEN THE AREA IS ACTIVE. WHEN NOT ACTIVE, THE RULES FOR THE APPLICABLE SURROUNDING AIRSPACE APPLY.

188 Type: Special Use Airspace
Notes: THE RULES FOR CLASS G AIRSPACE APPLY WHEN THE AREA IS ACTIVE. WHEN NOT ACTIVE, THE RULES FOR THE APPLICABLE SURROUNDING AIRSPACE APPLY.

BOARDMAN Type: Special Use Airspace
Notes: EXCLUDING THAT AIRSPACE WITHIN R-5701 AND R-5706 WHEN ACTIVE.

BOARDMANL* Type: Special Use Airspace
Notes: EXCLUDING THAT AIRSPACE WITHIN R-5701 AND R-5706 WHEN ACTIVE.

JARBIDGE N Type: Special Use Airspace
Notes: EXCLUDING THAT AIRSPACE 1500 FEET AGL AND BELOW WITHIN A 3 NM RADIUS OF THE GRASMERE ARPT, ID CENTERED AT LAT 42-22-00N, LONG 115-53-03W.

N2561 Type: Special Use Airspace
Notes: Obtain Pearson Field weather & establish two-way radio CTC with CTAF 119.000 prior entering the SFRA.

N961 Type: Special Use Airspace
Notes: Two-way radio contact required prior to entry and while operating within the SATR. CTC KETCHIKAN AFIS 134.450 MHz / ot KETCHIKAN FSS 123.600 MHz.

OLYMPIC Type: Special Use Airspace
Notes: EXCLUDING THAT AIRSPACE BELOW 1,200 FEET AGL.

RAINIER 1 Type: Special Use Airspace
Notes: EXCLUDES THE AIRSPACE OF R-6703A, B, C, D, E, F, H AND J, WHEN ACTIVE.

RAINIER 2 Type: Special Use Airspace
Notes: EXCLUDES THE AIRSPACE OF R-6703F, G, H AND I, WHEN ACTIVE.

KZLC Type: UIR
Notes: CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF KUSA IN SALT LAKE CITY FIR. CPDLC:

KZSE Type: UIR
Notes: CPDLC: CPDLC SERVICES ARE AVAILABLE WITH LOGON ADDRESS OF KUSA IN SEATTLE FIR. CPDLC:

PAZA Type: UIR
Notes: CPDLC: USE LOGON ADDRESS PAZN FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR WEST OF 165W AND SOUTH OF 63N. USE LOGON ADDRESS PAZA FOR ALL CPDLC COMMUNICATIONS IN THE ANCHORAGE DOMESTIC FIR SOUTH OF 73N AND EAST OF 165W. AIRCRAFT ENTERING ANCHORAGE FIR AIRSPACE FROM THE MAGADAN, EDMONTON, VANCOUVER, OR OAKLAND FIRS WILL BE PROVIDED AUTOMATIC FANS ADDRESS FORWARDING FROM THE ATC GROUND COMPUTER. AIRCRAFT DEPARTING ALASKAN AIRPORTS SHOULD LOGON AFTER DEPARTURE, BUT

BEFORE LEAVING FL180. AFTER LOGON, ANCHORAGE ARTCC AUTOMATION WILL PROVIDE AUTOMATIC FANS ADDRESS FORWARDING FOR FLIGHTS ENTERING THE MAGADAN, EDMONTON, VANCOUVER AND OAKLAND FIRS. NOTE: - THE USE OF CPDLC DOES NOT REMOVE REQUIREMENTS FOR MONITORING VHF/HF FREQUENCIES. - AIRCRAFT WITHIN VHF COVERAGE MAY MAKE POSITION REPORTS VIA CPDLC. - WEST OF 165W, ALL REQUESTS TO ATC MAY BE MADE VIA CPDLC. - EAST OF 165W, REQUESTS TO ATC SHOULD BE MADE VIA VHF IF WITHIN VHF COVERAGE. CPDLC: INMARSAT: INMARSAT SECURITY NUMBER FOR ANCHORAGE ATC IS 436602. INMARSAT: SATCOM: SATCOM VOICE DIRECT DIAL FOR ANCHORAGE ATC IS 1-907-269-1103. SATCOM:

JAWBN Type: Waypoint
Notes: MINIMUM TURNING ALTITUDE V495 SE TO V4 W 8000'.

OKOPI Type: Waypoint
Notes: WAYPOINT USED IN VFR ADDITIONALLY.

Regional Notes

Page 1 Strip Charts

RJJJ Type: FIR
JDA AREAS, JDA CORRIDORS, AND JAPAN TRAINING AND TESTING AREAS
JDA AREAS Aircraft flying for purposes other than training/testing should not enter this airspace without prior coordination with Controlling Unit. Aircraft entering airspace inevitably for emergencies or avoidance of thunderclouds etc., should make a report to Controlling Unit on 121.5 MHz or 243.0 MHz (emergencies) or on the published frequency of the Controlling Unit (all other situations).
JDA CORRIDORS Aircraft should not penetrate corridors without permission by ACC controlling corridors.
JAPAN TRAINING AND TESTING AREAS EXCLUDES: Airways, ATS routes, SIDs, STARs, instrument approach routes, radar vectoring routes and holding areas and their protective airspace.

ZGZU Type: FIR
ALTIMETER SETTING Use QNH (where transition altitude established) for Take-off and climb until passing transition altitude. Use QFE (where transition height established) for Take-off and climb until passing transition height. Use QFE (where no transition altitude or transition height established) for Take-off and climb until passing 600m/1970'. Descent and landing as soon as passing transition level where established or after crossing ACA boundary or as instructed by ATC.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS CHINA ATC will issue the Flight Level clearance in meters. Pilots shall use the PR of China RVSM FLAS Diagram to determine the corresponding Flight Level in feet. The aircraft shall be flown using the Flight Level in FEET. Pilots should be aware that due to the rounding differences, the metric readout of the onboard avionics will not necessarily correspond to the cleared Flight Level in meters however the difference will never be more than 30 meters.

ZHWH Type: FIR
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KZAK Type: FIR
VHF EMERGENCY FREQUENCY REQUIREMENTS
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regard to aircraft which may experience in-flight emergencies, communications, or navigational difficulties.

CPDLC LOGON
Controller Pilot Data Link Communications (CPDLC) aircraft entering Guam ARTCC contact Guam CERAP 250NM out on 118.7, squawk 2100.

REGIONAL WARNINGS
All pilots should avoid the Kaena Point Satellite Tracking Station. Electromagnetic radiation will continuously exist 2800' above antenna systems along a 3 mile stretch of mountain ridge. Aircraft flying within this airspace will be exposed to direct radiation which may produce harmful effects to personnel and equipment.

REGIONAL WARNINGS
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FAA Q Routes (Alaska)
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FAA Q Routes (Alaska)
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Page 6 Strip Charts

CZEG Type: FIR
RNP PROCEDURES
Within RNPC (Required Navigation Performance Capability) airspace aircraft may use established RNAV Routes, provided the aircraft is certificated in accordance with the RNPC concept.

KZAK Type: FIR
VHF EMERGENCY FREQUENCY REQUIREMENTS
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FAA Q Routes (Alaska)
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Page 7 Strip Charts

CZEG Type: FIR
RNP PROCEDURES
Within RNPC (Required Navigation Performance Capability) airspace aircraft may use established RNAV Routes, provided the aircraft is certificated in accordance with the RNPC concept.

KZAK Type: FIR
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KZLC Type: FIR
MILITARY OPERATIONS
Military operations south of J-58-80 and west of J-9-107, direct routings normally unavailable.

FAA Q Routes (CONUS)
Not including Q routes in the Gulf of Mexico - GNSS or DME/DME/IRU RNAV required, unless otherwise indicated. DME/DME/IRU aircraft require radar surveillance. Refer to Jeppesen Enroute pages for DME information.

KZSE Type: FIR
FAA Q Routes (CONUS)
Not including Q routes in the Gulf of Mexico - GNSS or DME/DME/IRU RNAV required, unless otherwise indicated. DME/DME/IRU aircraft require radar surveillance. Refer to Jeppesen Enroute pages for DME information.

MAGNETIC DISTURBANCE
VFR Operations: Magnetic disturbance of as much as 6Â° exists at ground level between Maple Valley and Cedar Grove.

PAZA Type: FIR
VHF EMERGENCY FREQUENCY REQUIREMENTS
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Reference Notes

Page 1 Strip Charts

RCAA Type: FIR
ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

RJJJ Type: FIR
NORTH PACIFIC (NOPAC) ROUTE PROCEDURES

a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks

being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

TRANSPONDER REQUIRED
Transponder (Mode A/3 & Mode C) required in Approach Control Area and Control Zones.

TRANSPONDER REQUIRED
Transponder (Mode A/3 & Mode C) required in Approach Control Area and Control Zones.

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

FLIGHT PLANNING AND OVERFLIGHT ROUTES within the Pacific region: For complete Information see Enroute Tab.

FLIGHT PROCEDURES Okinawa Approach Control provides full time Stage III Service (RADAR sequencing and separation service for VFR aircraft) within the Okinawa TCA. No aircraft may operate within the TCA unless appropriate authorization is received from TAC prior to the operation.

a. VFR aircraft enroute to destination airports within the Okinawa TCA, should contact Okinawa Approach Control 50NM from the Kadena VORTAC.

1. Aircraft operating southeast of Kadena 050/230 radials use 258.3/126.5 MHz.

2. Aircraft operating northwest of Kadena 230/050 radials use 335.8/119.1 MHz.

3. Monitor ATIS broadcasts of destination airport prior to contacting Approach Control and advise ATIS code received on initial contact.

b. VFR aircraft departing Kadena AB will advise Ground Control prior to taxi, of intended direction of flight and proposed altitude to depart the TCA. VFR aircraft departing other airports that desire ATC service, will advise the appropriate tower prior to departure. The tower will then advise when to contact Departure Control and assign a frequency and beacon code.

c. The procedures used in this program are not to be interpreted as relieving pilots of their responsibilities to:

1. See, and avoid other traffic operating in VFR conditions,
2. Maintain appropriate terrain and obstruction clearance,
3. Remain in weather conditions equal to, or better than, the minimum required by pertinent regulations, and
4. Whenever compliance with an assigned route or heading is likely to compromise any of the above, Okinawa Approach Control shall be so advised.

d. Except in the case of inflight failure, no person may operate an aircraft within the TCA unless equipped with the following:

1. VOR or TACAN receiver (except helicopters),
2. Two-way radio capable of communicating with ATC on the appropriate frequencies for the TCA, or
3. Coded RADAR Beacon Transponder having at least a Mode A/3 & Mode C, 64 code capability, replying to A/3 interrogation with the code specfied by ATC.

RKRR Type: FIR
CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

CRUISING LEVELS
Cruising levels for flight level transition procedures refer to ENROUTE CH-201 and consecutive pages.

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

RPHI Type: FIR
TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

FLIGHT PROCEDURES AIRCRAFT SPEED CONTROL PROCEDURES Maximum IAS unless otherwise authorized by ATC. For arriving aircraft: 250KTS.
VFR OPERATIONS:

a. Be equipped with 118.1 MHz transceivers and approach frequency 119.7 MHz.

b. Prior to entering the designated VFR areas, contact Manila Tower on 118.1 MHz.

c. Adhere to the established MIA VFR arrival/departure routings.

d. Maintain the required altitude of 2500FT or below within 15NM from the ARP. Cruise/climb to higher altitude shall be on a prior approval from Manila Approach.

e. When intending to transit the IFR climb/descend areas, contact Manila Approach on 119.7 MHz for the necessary clearance.

f. When requesting radar vector within 15NM radius maintain 2500FT unless otherwise instructed by Manila Approach Control.

IFR OPERATIONS:

a. The radar traffic circuit shall not penetrate the aerodrome traffic zone.

b. IFR traffic radar vector to final approach of runways 06/24 shall maintain 3500FT prior to entering the IFR climb/descend area. Descent shall be made without violating the radar minimum vectoring altitude.

c. In the event of radar and/or communication failure, descent to 3000FT shall be effected only in the designated VFR areas-10 miles from the ARP. Otherwise, follow the Lost Communication Procedures.

d. All arriving IFR flights shall maintain an indicated airspeed (IAS) of 150KTS or more up to 5 DME final of Rwy 06/24.

e. Arriving aircraft on radar vector to Manila shall not cancel clearance within 20NM.

VHHK Type: FIR
TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

ATS ROUTE RESTRICTION NOTES
ATS ROUTE RESTRICTIONS For information regarding flight planning purposes refer to Enroute EE-101 and consecutive pages.

VHHK Transition Routes
For complete information of Terminal Transition Routes within VHHK FIR see VHHH Terminal charts.

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

FLIGHT PLANNING AND OVERFLIGHT ROUTES within the Pacific region: For complete Information see Enroute Tab.

ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

FLIGHT PLANNING AND OVERFLIGHT ROUTES within the Pacific region: For complete information see Enroute section.

VVHM Type: FIR
RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (RVSM) For procedures and equipment requirements see Air Traffic Control Tab.

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

ATS ROUTE RESTRICTION NOTES
ATS Route Restriction Notes for information regarding flight planning purposes see Enroute Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

ZGZU Type: FIR
ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

ZHWH Type: FIR
ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

ZJSA Type: FIR
RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

ZSHA Type: FIR
ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

Page 2 Strip Charts

KZAK Type: FIR
FLIGHT PLANNING AND OVERFLIGHT ROUTES within the Pacific region: For complete Information see Enroute Tab.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

EXTENDED RANGE OPERATIONS BY AIRCRAFT WITH TWO-TURBINE POWER-UNITS (ETOPS) 1. If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

OCEANIC POSITION REPORTING PROCEDURES OAKLAND OCEANIC FIR
1. For non ADS equipped aircraft, any waypoint filed in the route of flight (ItemÂ 15 of the ICAO flight plan) must be reported as a position report whether the filed waypoint is compulsory or not. If a noncompulsory waypoint is not filed in item 15, it does not need to be reported.

2. POSITION REPORTS

a. When operating on a published ATS Route or a temporary route established by NOTAM, report and estimate the designated reporting points using the specified waypoint names or geographic coordinates as specified in the NOTAM.

b. When operating on a random route:

1. Flights whose tracks are predominantly east and west shall report over each 5Â degrees or 10Â degrees (10Â degrees will be used if the speed of the aircraft is such that 10Â degrees will be traversed within 80 minutes or less) meridian longitude extending east and west from 180Â degrees.

2. Flights whose tracks are predominantly north and south shall report over each 5Â degrees or 10Â degrees (10Â degrees if traversed within 80Â minutes) parallel of latitude extending north and south of the equator.

c. ATC may require specific flights to report more frequently than each 5Â degrees for aircraft with slow ground speeds.

d. Position reports shall be transmitted at the time of crossing the designated reporting point or as soon thereafter as possible.

3. Position reports shall include information on present position, estimated next position, and ensuing position in sequence as indicated below.

a. PRESENT POSITION - Information shall include:

1. The word â€œpositionâ€ .

2. Aircraft identification.

3. Reporting point name, or if not named:

(a) Latitude (2 digits or more) and,

(b) Longitude (3 digits or more).

b. Time over reporting point (4 digits UTC).

c. Altitude (Flight Level). When forwarding an altitude report within the Oakland OCA/FIR, pilots should report their present altitude and their assigned altitude exactly as cleared if the present and assigned altitudes differ. Aircraft assigned a block altitude must report their current altitude and the assigned block altitude. A restriction to cross a point at an altitude is not a block altitude assignment and should not be reported as a block of altitudes.

d. ESTIMATED NEXT POSITION

(1) Reporting point name, or if not named, latitude and longitude as in a.3 above and,

(2) Estimated time over next position (4 digits UTC).

e. ENSUING FIX

(1) Name only of the next succeeding fix whether compulsory or not, or if not named, latitude and longitude as in a.3 above.

4. WEATHER REPORTS:

a. Weather reports shall be included as provided in SectionÂ 3 of Standard AIREP Form by all flights unless exempted from weather reporting by the Weather Service and/or ATC.

5. ADHERENCE TO ATC APPROVED ROUTE

a. If an aircraft, notwithstanding all action taken to adhere to the route specified in the ATC clearance, inadvertently deviates from this route, action shall be taken to regain it as soon as reasonable and not further ahead than 200 nautical miles from the DR position at which the heading was altered to regain the route specified in the ATC clearance. Action to regain this route shall not be delayed in anticipation of obtaining a requested re-clearance.

6. EXCEPTIONS TO POSITION REPORTS PROCEDURES

a. Within Oakland OCA/FIR, no 5Â degree report need be made that would fall within 100Â NM of Guam. Aircraft cleared via terminal area routes report compulsory reporting fixes. Other aircraft report 100Â NM from Nimitz VORTAC. Where other island destinations within the Oakland Oceanic FIR are not more than one-degree latitude-longitude from a 5Â degrees fixed line reporting point, the ETA and arrival report may be substituted in lieu of the adjacent fixed line report.

b. To the east of the Hawaiian Islands it will not be necessary to report the 155Â degree west position if position will be reported at the entry/exit fixes on the Honolulu Control Facility boundary. To the west of the Hawaiian Islands, the 160Â degree west need not be reported.

NORTH PACIFIC (NOPAC) ROUTE PROCEDURES

a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

CENTRAL EAST PACIFIC ROUTE SYSTEM (HAWAII â€“ U.S. MAINLAND)

a. The Central East Pacific (CEP) is the organized route system between Hawaii and California. Seven ATS routes, R-463, R-464, R-465, R-585, R-576, R-577 and R-578 are the primary routes within the CEP.

b. Reduced Vertical Separation Minimum (RVSM) and Required Navigation Performance 10 (RNP-10) are required for aircraft operating within the CEP Route System at FL290 through FL410. Non-approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

c. Operators show approval for RVSM and RNP-10 by annotating block 10 of the ICAO flight plan (equipment) with the letter W and R respectively.

d. Flight Levels normally assigned in the CEP are in accordance with ICAO Appendix 3a (East odd, West even).

ATS ROUTE RESTRICTION NOTES
ATS Route Restriction Notes for information regarding flight planning purposes see Enroute Tab.

RNP-10 SEPARATION
RNP-10 lateral separation (50 NM) may be applied wthin the Oakland Oceanic FIR between RNP-10 approved aircraft. RNP-10 approval is required for all PACOTS and for all aircraft operating within the CEP at FL290 through FL410. Non-RNP approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (RVSM) For procedures and equipment requirements see Air Traffic Control Tab.

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE ICAO DOC 4444, SECTION 15.2
Introduction

1. Although all possible contingencies cannot be covered, these procedures provide for the more frequent cases such as:

a. Inability to comply with assigned clearance due to meteorological conditions.

b. En-route diversion across the prevailing traffic flow; and

c. Loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or pressurization failure.

2. General Procedures

1. If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action.

2. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received. In general terms, the aircraft should be flown at an offset level and on an offset track where other aircraft are less likely to be encountered. Specifically, the pilot shall:

a. Leave the cleared track or ATS route by initially turning at least 30 degrees to the right or to the left, in order to establish and maintain a parallel, same direction track or ATS route offset 5 NM (9.3 km). The direction of the turn should be based on one or more of the following factors:

1) aircraft position relative to any organized track or ATS route system;

2) the direction of flights and flight levels allocated on adjacent tracks;

3) the direction to an alternate airport;

4) any strategic lateral offset being flown; and

5) terrain clearance.

b. Maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped), leaving ACAS in RA mode at all times, unless aircraft operating limitations dictate otherwise;

c. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

d. keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate and, if equipped with ADS-B or ADS-C, select the appropriate emergency functionality;

e. as soon as practicable, advise air traffic control of any deviation from their assigned clearance;

f. use means as appropriate (ie. voice and/or CPDLC) to communicate during a contingency or emergency;

g. if voice communications are used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times, shall be used, as appropriate;

h. when emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice contact with the aircraft;

i. establish communications with and alert nearby aircraft by broadcasting on the frequencies in use and at suitable intervals on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz): aircraft identification, the nature of the distress condition, intention of the pilot, position (including the ATS route designator or the track code, as appropriate) and flight level; and

j. the controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft shall be based on the intentions or the pilot and overall traffic situation.

3. Actions to be taken once offset from track:

a) operation within a parallel track system;

b) the potential for user preferred routes (UPR's) parallel to the aircraft's track or ATS route;

c) the nature of the contingency (e.g. aircraft system malfunction; and

d) weather factors (e.g. convective weather at lower flight levels).

4. If possible, maintain the assigned flight level until established on the 9.3 km (5.0 NM) parallel, same direction track or ATS route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.

5. Once established on a parallel, same direction track or ATS route offset by 9.3km (5.0 NM), either:

a) descend below FL 290, and establish a 150 m (500 ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or if an ATC clearance has been obtained, in accordance with the clearance; or

b) establish a 150 m (500 ft) vertical offset (or 300 m (1000 ft) vertical offset if above FL 410) from those flight levels normally used, and proceed as required by the operational situation, or if ATC clearance has been obtained, in accordance with the clearance.

WEATHER DEVIATION PROCEDURES FOR OCEANIC CONTROLLED AIRSPACE â€" PACIFIC

When weather deviation is required, the pilot should initiate communications with ATC via voice or CPDLC. A rapid response may be obtained by either:

1. stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response; or

2. requesting a weather deviation using a CPDLC lateral downlink message.

When necessary, the pilot should initiate the communications using the urgency call "PAN PAN PAN" (preferably spoken three times) or by using a CPDLC urgency downlink message.
The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

The pilot should notify ATC and request clearance to deviate from track or ATS route, advising, when possible, the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e. voice and/or CPDLC) to communicate during a weather deviation.
ATC should take one of the following actions:

1. when appropriate separation can be applied, issue clearance to deviate from track; or

2. if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall:

1. advise the pilot of inability to issue clearance for the requested deviation;

2. advise the pilot of conflicting traffic; and

3. request the pilot's intentions.

The pilot should take the following actions:

1. comply with the ATC clearance issued; or

2. advise ATC of intentions and execute the procedures detailed in the Action to be Taken if a Revised ATC Clearance Cannot Be Obtained procedure section.

If the aircraft is required to deviate from track or ATC route to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:

1. if possible, deviate away from an organized track or ATS route system;

2. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz);

3. watch for conflicting traffic both visually and by reference to ACAS (if equipped);

4. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

5. for deviations of less than 9.3 km (5.0 NM) from the originally cleared track or ATS route, remain at a level assigned by ATC;

6. for deviations greater than, or equal to 9.3 km (5.0 NM) from the originally cleared track or ATS route, when the aircraft is approximately 9.3 km (5.0 NM) from track, initiate a level change in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section.

7. if the pilot receives clearance to deviate from cleared track or ATS route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section before deviating beyond the cleared distance;

8. when returning to track or ATS route, be at its assigned flight level when the aircraft is within approximately 9.3 km (5.0 NM) of the center line; and

9. if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

EAST 000Â° -179Â° magnetic
1. DESCEND 300 ft (90 m)

2. CLIMB 300 ft (90 m)

WEST 180Â° - 359Â° magnetic
1. CLIMB 300 ft (90 m)

2. DESCEND 300 ft (90 m)

RJJJ Type: FIR
FLIGHT PLANNING AND OVERFLIGHT ROUTES within the Pacific region: For complete Information see Enroute Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

NORTH PACIFIC (NOPAC) ROUTE PROCEDURES
a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

TRANSPONDER REQUIRED
Transponder (Mode A/3 & Mode C) required in Approach Control Area and Control Zones.

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Transponder (Mode A/3 & Mode C) required in Approach Control Area and Control Zones.

FLIGHT PROCEDURES Okinawa Approach Control provides full time Stage III Service (RADAR sequencing and separation service for VFR aircraft) within the Okinawa TCA. No aircraft may operate within the TCA unless appropriate authorization is received from TAC prior to the operation.

a. VFR aircraft enroute to destination airports within the Okinawa TCA, should contact Okinawa Approach Control 50NM from the Kadena VORTAC.

1. Aircraft operating southeast of Kadena 050/230 radials use 258.3/126.5 MHz.
2. Aircraft operating northwest of Kadena 230/050 radials use 335.8/119.1 MHz.
3. Monitor ATIS broadcasts of destination airport prior to contacting Approach Control and advise ATIS code received on initial contact.

b. VFR aircraft departing Kadena AB will advise Ground Control prior to taxi, of intended direction of flight and proposed altitude to depart the TCA. VFR aircraft departing other airports that desire ATC service, will advise the appropriate tower prior to departure. The tower will then advise when to contact Departure Control and assign a frequency and beacon code.

c. The procedures used in this program are not to be interpreted as relieving pilots of their responsibilities to:

1. See, and avoid other traffic operating in VFR conditions,
2. Maintain appropriate terrain and obstruction clearance,
3. Remain in weather conditions equal to, or better than, the minimum required by pertinent regulations, and
4. Whenever compliance with an assigned route or heading is likely to compromise any of the above, Okinawa Approach Control shall be so advised.

d. Except in the case of inflight failure, no person may operate an aircraft within the TCA unless equipped with the following:

1. VOR or TACAN receiver (except helicopters),
2. Two-way radio capable of communicating with ATC on the appropriate frequencies for the TCA, or
3. Coded RADAR Beacon Transponder having at least a Mode A/3 & Mode C, 64 code capability, replying to A/3 interrogation with the code specfied by ATC.

RKRR Type: FIR

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

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CRUISING LEVELS
Cruising levels for flight level transition procedures refer to ENROUTE CH-201 and consecutive pages.

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ZKKP Type: FIR

ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

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RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

ZSHA Type: FIR
ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

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CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

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TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

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Page 3 Strip Charts

KZAK Type: FIR
FLIGHT PLANNING AND OVERFLIGHT ROUTES within the Pacific region: For complete Information see Enroute Tab.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

EXTENDED RANGE OPERATIONS BY AIRCRAFT WITH TWO-TURBINE POWER-UNITS (ETOPS) 1. If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

OCEANIC POSITION REPORTING PROCEDURES OAKLAND OCEANIC FIR
1. For non ADS equipped aircraft, any waypoint filed in the route of flight (ItemÂ 15 of the ICAO flight plan) must be reported as a position report whether the filed waypoint is compulsory or not. If a noncompulsory waypoint is not filed in item 15, it does not need to be reported.

2. POSITION REPORTS

a. When operating on a published ATS Route or a temporary route established by NOTAM, report and estimate the designated reporting points using the specified waypoint names or geographic coordinates as specified in the NOTAM.

b. When operating on a random route:

1. Flights whose tracks are predominantly east and west shall report over each 5Â degrees or 10Â degrees (10Â degrees will be used if the speed of the aircraft is such that 10Â degrees will be traversed within 80 minutes or less) meridian longitude extending east and west from 180Â degrees.

2. Flights whose tracks are predominantly north and south shall report over each 5Â degrees or 10Â degrees (10Â degrees if traversed within 80Â minutes) parallel of latitude extending north and south of the equator.

c. ATC may require specific flights to report more frequently than each 5Â degrees for aircraft with slow ground speeds.

d. Position reports shall be transmitted at the time of crossing the designated reporting point or as soon thereafter as possible.

3. Position reports shall include information on present position, estimated next position, and ensuing position in sequence as indicated below.

a. PRESENT POSITION - Information shall include:

1. The word â€œpositionâ€ .

2. Aircraft identification.

3. Reporting point name, or if not named:

(a) Latitude (2 digits or more) and,

(b) Longitude (3 digits or more).

b. Time over reporting point (4 digits UTC).

c. Altitude (Flight Level). When forwarding an altitude report within the Oakland OCA/FIR, pilots should report their present altitude and their assigned altitude exactly as cleared if the present and assigned altitudes differ. Aircraft assigned a block altitude must report their current altitude and the assigned block altitude. A restriction to cross a point at an altitude is not a block altitude assignment and should not be reported as a block of altitudes.

d. ESTIMATED NEXT POSITION

(1) Reporting point name, or if not named, latitude and longitude as in a.3 above and,

(2) Estimated time over next position (4 digits UTC).

e. ENSUING FIX

(1) Name only of the next succeeding fix whether compulsory or not, or if not named, latitude and longitude as in a.3 above.

4. WEATHER REPORTS:

a. Weather reports shall be included as provided in SectionÂ 3 of Standard AIREP Form by all flights unless exempted from weather reporting by the Weather Service and/or ATC.

5. ADHERENCE TO ATC APPROVED ROUTE

a. If an aircraft, notwithstanding all action taken to adhere to the route specified in the ATC clearance, inadvertently deviates from this route, action shall be taken to regain it as soon as reasonable and not further ahead than 200 nautical miles from the DR position at which the heading was altered to regain the route specified in the ATC clearance. Action to regain this route shall not be delayed in anticipation of obtaining a requested re-clearance.

6. EXCEPTIONS TO POSITION REPORTS PROCEDURES

a. Within Oakland OCA/FIR, no 5Â degree report need be made that would fall within 100Â NM of Guam. Aircraft cleared via terminal area routes report compulsory reporting fixes. Other aircraft report 100Â NM from Nimitz VORTAC. Where other island destinations within the Oakland Oceanic FIR are not more than one-degree latitude-longitude from a 5Â degrees fixed line reporting point, the ETA and arrival report may be substituted in lieu of the adjacent fixed line report.

b. To the east of the Hawaiian Islands it will not be necessary to report the 155Â degree west position if position will be reported at the entry/exit fixes on the Honolulu Control Facility boundary. To the west of the Hawaiian Islands, the 160Â degree west need not be reported.

NORTH PACIFIC (NOPAC) ROUTE PROCEDURES

a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

CENTRAL EAST PACIFIC ROUTE SYSTEM (HAWAII â€“ U.S. MAINLAND)

a. The Central East Pacific (CEP) is the organized route system between Hawaii and California. Seven ATS routes, R-463, R-464, R-465, R-585, R-576, R-577 and R-578 are the primary routes within the CEP.

b. Reduced Vertical Separation Minimum (RVSM) and Required Navigation Performance 10 (RNP-10) are required for aircraft operating within the CEP Route System at FL290 through FL410. Non-approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

c. Operators show approval for RVSM and RNP-10 by annotating block 10 of the ICAO flight plan (equipment) with the letter W and R respectively.

d. Flight Levels normally assigned in the CEP are in accordance with ICAO Appendix 3a (East odd, West even).

ATS ROUTE RESTRICTION NOTES

ATS Route Restriction Notes for information regarding flight planning purposes see Enroute Tab.

RNP-10 SEPARATION

RNP-10 lateral separation (50 NM) may be applied wthin the Oakland Oceanic FIR between RNP-10 approved aircraft. RNP-10 approval is required for all PACOTS and for all aircraft operating within the CEP at FL290 through FL410. Non-RNP approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

RVSM PROCEDURES

REDUCED VERTICAL SEPARATION MINIMUMS (RVSM) For procedures and equipment requirements see Air Traffic Control Tab.

REQUIRED NAVIGATION PERFORMANCE (RNP)

For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE ICAO DOC 4444, SECTION 15.2

Introduction

1. Although all possible contingencies cannot be covered, these procedures provide for the more frequent cases such as:

a. Inability to comply with assigned clearance due to meteorological conditions.

b. En-route diversion across the prevailing traffic flow; and

c. Loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or pressurization failure.

2. General Procedures

1. If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action.

2. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received. In general terms, the aircraft should be flown at an offset level and on an offset track where other aircraft are less likely to be encountered. Specifically, the pilot shall:

a. Leave the cleared track or ATS route by initially turning at least 30 degrees to the right or to the left, in order to establish and maintain a parallel, same direction track or ATS route offset 5 NM (9.3 km). The direction of the turn should be based on one or more of the following factors:

1) aircraft position relative to any organized track or ATS route system;

2) the direction of flights and flight levels allocated on adjacent tracks;

3) the direction to an alternate airport;

4) any strategic lateral offset being flown; and

5) terrain clearance.

b. Maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped), leaving ACAS in RA mode at all times, unless aircraft operating limitations dictate otherwise;

c. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

d. keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate and, if equipped with ADS-B or ADS-C, select the appropriate emergency functionality;

e. as soon as practicable, advise air traffic control of any deviation from their assigned clearance;

f. use means as appropriate (ie. voice and/or CPDLC) to communicate during a contingency or emergency;

g. if voice communications are used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times, shall be used, as appropriate;

h. when emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice contact with the aircraft;

i. establish communications with and alert nearby aircraft by broadcasting on the frequencies in use and at suitable intervals on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz): aircraft identification, the nature of the distress condition, intention of the pilot, position (including the ATS route designator or the track code, as appropriate) and flight level; and

j. the controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft shall be based on the intentions or the pilot and overall traffic situation.

3. Actions to be taken once offset from track:

a) operation within a parallel track system;

b) the potential for user preferred routes (UPR's) parallel to the aircraft's track or ATS route;

c) the nature of the contingency (e.g. aircraft system malfunction; and

d) weather factors (e.g. convective weather at lower flight levels).

4. If possible, maintain the assigned flight level until established on the 9.3 km (5.0 NM) parallel, same direction track or ATS route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.

5. Once established on a parallel, same direction track or ATS route offset by 9.3km (5.0 NM), either:

a) descend below FL 290, and establish a 150 m (500 ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or if an ATC clearance has been obtained, in accordance with the clearance; or

b) establish a 150 m (500 ft) vertical offset (or 300 m (1000 ft) vertical offset if above FL 410) from those flight levels normally used, and proceed as required by the operational situation, or if ATC clearance has been obtained, in accordance with the clearance.

WEATHER DEVIATION PROCEDURES FOR OCEANIC CONTROLLED AIRSPACE â€” PACIFIC

When weather deviation is required, the pilot should initiate communications with ATC via voice or CPDLC. A rapid response may be obtained by either:

1. stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response; or

2. requesting a weather deviation using a CPDLC lateral downlink message.

When necessary, the pilot should initiate the communications using the urgency call "PAN PAN PAN" (preferably spoken three times) or by using a CPDLC urgency downlink message.
The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

The pilot should notify ATC and request clearance to deviate from track or ATS route, advising, when possible, the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e. voice and/or CPDLC) to communicate during a weather deviation.
ATC should take one of the following actions:

1. when appropriate separation can be applied, issue clearance to deviate from track; or

2. if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall:

1. advise the pilot of inability to issue clearance for the requested deviation;

2. advise the pilot of conflicting traffic; and

3. request the pilot's intentions.

The pilot should take the following actions:

1. comply with the ATC clearance issued; or

2. advise ATC of intentions and execute the procedures detailed in the Action to be Taken if a Revised ATC Clearance Cannot Be Obtained procedure section.

If the aircraft is required to deviate from track or ATC route to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:

1. if possible, deviate away from an organized track or ATS route system;

2. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz);

3. watch for conflicting traffic both visually and by reference to ACAS (if equipped);

4. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

5. for deviations of less than 9.3 km (5.0 NM) from the originally cleared track or ATS route, remain at a level assigned by ATC;

6. for deviations greater than, or equal to 9.3 km (5.0 NM) from the originally cleared track or ATS route, when the aircraft is approximately 9.3 km (5.0 NM) from track, initiate a level change in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section.

7. if the pilot receives clearance to deviate from cleared track or ATS route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section before deviating beyond the cleared distance;

8. when returning to track or ATS route, be at its assigned flight level when the aircraft is within approximately 9.3 km (5.0 NM) of the center line; and

9. if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

EAST 000Â° -179Â° magnetic

1. DESCEND 300 ft (90 m)

2. CLIMB 300 ft (90 m)

WEST 180Â° - 359Â° magnetic

1. CLIMB 300 ft (90 m)

2. DESCEND 300 ft (90 m)

RJJJ Type: FIR

FLIGHT PLANNING AND OVERFLIGHT ROUTES within the Pacific region: For complete Information see Enroute Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

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a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

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2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

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1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

TRANSPONDER REQUIRED
Transponder (Mode A/3 & Mode C) required in Approach Control Area and Control Zones.

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2. Aircraft operating northwest of Kadena 230/050 radials use 335.8/119.1 MHz.
3. Monitor ATIS broadcasts of destination airport prior to contacting Approach Control and advise ATIS code received on initial contact.

b. VFR aircraft departing Kadena AB will advise Ground Control prior to taxi, of intended direction of flight and proposed altitude to depart the TCA. VFR aircraft departing other airports that desire ATC service, will advise the appropriate tower prior to departure. The tower will then advise when to contact Departure Control and assign a frequency and beacon code.

c. The procedures used in this program are not to be interpreted as relieving pilots of their responsibilities to:

1. See, and avoid other traffic operating in VFR conditions,
2. Maintain appropriate terrain and obstruction clearance,
3. Remain in weather conditions equal to, or better than, the minimum required by pertinent regulations, and
4. Whenever compliance with an assigned route or heading is likely to compromise any of the above, Okinawa Approach Control shall be so advised.

d. Except in the case of inflight failure, no person may operate an aircraft within the TCA unless equipped with the following:

1. VOR or TACAN receiver (except helicopters),
2. Two-way radio capable of communicating with ATC on the appropriate frequencies for the TCA, or
3. Coded RADAR Beacon Transponder having at least a Mode A/3 & Mode C, 64 code capability, replying to A/3 interrogation with the code specfied by ATC.

UHHH Type: FIR
ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

CRUISING LEVELS
Cruising levels for flight level transition procedures refer to ENROUTE CH-201 and consecutive pages.

POSITION REPORTING PROCEDURES

a. Unless otherwise requested by ATC , position reports for flights on routes not defined by designated reporting points should be made at the significant points listed in the flight plan.

b. ATC may require any flight operating in a North/South direction to report its position at any intermediate parallel of latitude when deemed necessary.

c. In requiring aircraft to report their position at intermediate points, ATC is guided by the requirement to have positional information at approximately hourly intervals and also by the need to accommodate varying types of aircraft and varying traffic and MET conditions.

d. Unless providing position reports via ADS-C, if the Estimated Time for the "next position", as last reported to ATC has changed by 2 minutes or more, a revised Estimate must be transmitted to the ATS unit concerned as soon as possible.

e. Flight Crews must always report to ATC as soon as possible on reaching any new cruising level.

f. For flights outside domestic ATS route networks, positions should be expressed in terms of latitude and longitude except when flying over named reporting points. For flights whose tracks are predominantly east or west, latitude should be expressed in degrees and minutes, longitude in degrees only. For flights whose tracks are predominantly north or south, latitude should be expressed in degrees only, longitude in degrees and minutes. However, it should be noted that when such minutes are zero then the position report may refer solely to degrees.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

UHMM Type: FIR
ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

TRACK ADVISORY (TA) PROGRAM FOR FLIGHTS CROSSING ANCHORAGE ARTCC/RUSSIAN FIRs
a. The TA program is similar to that used by Oakland for PACOTS traffic. It is designed to assist ATC in sequencing same altitude aircraft proceeding westbound over the Russian FIR entry fixes. Flights participating in the TA program will receive preference over non-participants.

b. All Westbound flights crossing the Anchorage/Russian FIR boundary at or above FL 280 (8600 meters) shall participate in the TA program.

POSITION REPORTING PROCEDURES
a. Unless otherwise requested by ATC , position reports for flights on routes not defined by designated reporting points should be made at the significant points listed in the flight plan.

b. ATC may require any flight operating in a North/South direction to report its position at any intermediate parallel of latitude when deemed necessary.

c. In requiring aircraft to report their position at intermediate points, ATC is guided by the requirement to have positional information at approximately hourly intervals and also by the need to accommodate varying types of aircraft and varying traffic and MET conditions.

d. Unless providing position reports via ADS-C, if the Estimated Time for the "next position", as last reported to ATC has changed by 2 minutes or more, a revised Estimate must be transmitted to the ATS unit concerned as soon as possible.

e. Flight Crews must always report to ATC as soon as possible on reaching any new cruising level.

f. For flights outside domestic ATS route networks, positions should be expressed in terms of latitude and longitude except when flying over named reporting points. For flights whose tracks are predominantly east or west, latitude should be expressed in degrees and minutes, longitude in degrees only. For flights whose tracks are predominantly north or south, latitude should be expressed in degrees only, longitude in degrees and minutes. However, it should be noted that when such minutes are zero then the position report may refer solely to degrees.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

Page 4 Strip Charts

KZAK Type: FIR
FLIGHT PLANNING AND OVERFLIGHT ROUTES within the Pacific region: For complete Information see Enroute Tab.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

EXTENDED RANGE OPERATIONS BY AIRCRAFT WITH TWO-TURBINE POWER-UNITS (ETOPS) 1. If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

OCEANIC POSITION REPORTING PROCEDURES OAKLAND OCEANIC FIR

1. For non ADS equipped aircraft, any waypoint filed in the route of flight (ItemÂ 15 of the ICAO flight plan) must be reported as a position report whether the filed waypoint is compulsory or not. If a noncompulsory waypoint is not filed in item 15, it does not need to be reported.

2. POSITION REPORTS

a. When operating on a published ATS Route or a temporary route established by NOTAM, report and estimate the designated reporting points using the specified waypoint names or geographic coordinates as specified in the NOTAM.

b. When operating on a random route:

1. Flights whose tracks are predominantly east and west shall report over each 5Â degrees or 10Â degrees (10Â degrees will be used if the speed of the aircraft is such that 10Â degrees will be traversed within 80 minutes or less) meridian longitude extending east and west from 180Â degrees.

2. Flights whose tracks are predominantly north and south shall report over each 5Â degrees or 10Â degrees (10Â degrees if traversed within 80Â minutes) parallel of latitude extending north and south of the equator.

c. ATC may require specific flights to report more frequently than each 5Â degrees for aircraft with slow ground speeds.

d. Position reports shall be transmitted at the time of crossing the designated reporting point or as soon thereafter as possible.

3. Position reports shall include information on present position, estimated next position, and ensuing position in sequence as indicated below.

a. PRESENT POSITION - Information shall include:

1. The word â€œpositionâ€ .

2. Aircraft identification.

3. Reporting point name, or if not named:

(a) Latitude (2 digits or more) and,

(b) Longitude (3 digits or more).

b. Time over reporting point (4 digits UTC).

c. Altitude (Flight Level). When forwarding an altitude report within the Oakland OCA/FIR, pilots should report their present altitude and their assigned altitude exactly as cleared if the present and assigned altitudes differ. Aircraft assigned a block altitude must report their current altitude and the assigned block altitude. A restriction to cross a point at an altitude is not a block altitude assignment and should not be reported as a block of altitudes.

d. ESTIMATED NEXT POSITION

(1) Reporting point name, or if not named, latitude and longitude as in a.3 above and,

(2) Estimated time over next position (4 digits UTC).

e. ENSUING FIX

(1) Name only of the next succeeding fix whether compulsory or not, or if not named, latitude and longitude as in a.3 above.

4. WEATHER REPORTS:

a. Weather reports shall be included as provided in SectionÂ 3 of Standard AIREP Form by all flights unless exempted from weather reporting by the Weather Service and/or ATC.

5. ADHERENCE TO ATC APPROVED ROUTE

a. If an aircraft, notwithstanding all action taken to adhere to the route specified in the ATC clearance, inadvertently deviates from this route, action shall be taken to regain it as soon as reasonable and not further ahead than 200 nautical miles from the DR position at which the heading was altered to regain the route specified in the ATC clearance. Action to regain this route shall not be delayed in anticipation of obtaining a requested re-clearance.

6. EXCEPTIONS TO POSITION REPORTS PROCEDURES

a. Within Oakland OCA/FIR, no 5Â degree report need be made that would fall within 100Â NM of Guam. Aircraft cleared via terminal area routes report compulsory reporting fixes. Other aircraft report 100Â NM from Nimitz VORTAC. Where other island destinations within the Oakland Oceanic FIR are not more than one-degree latitude-longitude from a 5Â degrees fixed line reporting point, the ETA and arrival report may be substituted in lieu of the adjacent fixed line report.

b. To the east of the Hawaiian Islands it will not be necessary to report the 155Â degree west position if position will be reported at the entry/exit fixes on the Honolulu Control Facility boundary. To the west of the Hawaiian Islands, the 160Â degree west need not be reported.

NORTH PACIFIC (NOPAC) ROUTE PROCEDURES

a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

CENTRAL EAST PACIFIC ROUTE SYSTEM (HAWAII â€“ U.S. MAINLAND)
a. The Central East Pacific (CEP) is the organized route system between Hawaii and California. Seven ATS routes, R-463, R-464, R-465, R-585, R-576, R-577 and R-578 are the primary routes within the CEP.

b. Reduced Vertical Separation Minimum (RVSM) and Required Navigation Performance 10 (RNP-10) are required for aircraft operating within the CEP Route System at FL290 through FL410. Non-approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

c. Operators show approval for RVSM and RNP-10 by annotating block 10 of the ICAO flight plan (equipment) with the letter W and R respectively.

d. Flight Levels normally assigned in the CEP are in accordance with ICAO Appendix 3a (East odd, West even).

ATS ROUTE RESTRICTION NOTES
ATS Route Restriction Notes for information regarding flight planning purposes see Enroute Tab.

RNP-10 SEPARATION
RNP-10 lateral separation (50 NM) may be applied wthin the Oakland Oceanic FIR between RNP-10 approved aircraft. RNP-10 approval is required for all PACOTS and for all aircraft operating within the CEP at FL290 through FL410. Non-RNP approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (RVSM) For procedures and equipment requirements see Air Traffic Control Tab.

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE ICAO DOC 4444, SECTION 15.2
Introduction
1. Although all possible contingencies cannot be covered, these procedures provide for the more frequent cases such as:

a. Inability to comply with assigned clearance due to meteorological conditions.

b. En-route diversion across the prevailing traffic flow; and

c. Loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or pressurization failure.

2. General Procedures

1. If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action.

2. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received. In general terms, the aircraft should be flown at an offset level and on an offset track where other aircraft are less likely to be encountered. Specifically, the pilot shall:

a. Leave the cleared track or ATS route by initially turning at least 30 degrees to the right or to the left, in order to establish and maintain a parallel, same direction track or ATS route offset 5 NM (9.3 km). The direction of the turn should be based on one or more of the following factors:

1) aircraft position relative to any organized track or ATS route system;

2) the direction of flights and flight levels allocated on adjacent tracks;

3) the direction to an alternate airport;

4) any strategic lateral offset being flown; and

5) terrain clearance.

b. Maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped), leaving ACAS in RA mode at all times, unless aircraft operating limitations dictate otherwise;

c. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

d. keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate and, if equipped with ADS-B or ADS-C, select the appropriate emergency functionality;

e. as soon as practicable, advise air traffic control of any deviation from their assigned clearance;

f. use means as appropriate (ie. voice and/or CPDLC) to communicate during a contingency or emergency;

g. if voice communications are used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times, shall be used, as appropriate;

h. when emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice contact with the aircraft;

i. establish communications with and alert nearby aircraft by broadcasting on the frequencies in use and at suitable intervals on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz): aircraft identification, the nature of the distress condition, intention of the pilot, position (including the ATS route designator or the track code, as appropriate) and flight level; and

j. the controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft shall be based on the intentions or the pilot and overall traffic situation.

3. Actions to be taken once offset from track:

a) operation within a parallel track system;

b) the potential for user preferred routes (UPR's) parallel to the aircraft's track or ATS route;

c) the nature of the contingency (e.g. aircraft system malfunction; and

d) weather factors (e.g. convective weather at lower flight levels).

4. If possible, maintain the assigned flight level until established on the 9.3 km (5.0 NM) parallel, same direction track or ATS route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.

5. Once established on a parallel, same direction track or ATS route offset by 9.3km (5.0 NM), either:

a) descend below FL 290, and establish a 150 m (500 ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or if an ATC clearance has been obtained, in accordance with the clearance; or

b) establish a 150 m (500 ft) vertical offset (or 300 m (1000 ft) vertical offset if above FL 410) from those flight levels normally used, and proceed as required by the operational situation, or if ATC clearance has been obtained, in accordance with the clearance.

WEATHER DEVIATION PROCEDURES FOR OCEANIC CONTROLLED AIRSPACE â€" PACIFIC

When weather deviation is required, the pilot should initiate communications with ATC via voice or CPDLC. A rapid response may be obtained by either:

1. stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response; or

2. requesting a weather deviation using a CPDLC lateral downlink message.

When necessary, the pilot should initiate the communications using the urgency call "PAN PAN PAN" (preferably spoken three times) or by using a CPDLC urgency downlink message.
The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

The pilot should notify ATC and request clearance to deviate from track or ATS route, advising, when possible, the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e. voice and/or CPDLC) to communicate during a weather deviation.

ATC should take one of the following actions:
1. when appropriate separation can be applied, issue clearance to deviate from track; or

2. if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall:

1. advise the pilot of inability to issue clearance for the requested deviation;

2. advise the pilot of conflicting traffic; and

3. request the pilot's intentions.

The pilot should take the following actions:
1. comply with the ATC clearance issued; or

2. advise ATC of intentions and execute the procedures detailed in the Action to be Taken if a Revised ATC Clearance Cannot Be Obtained procedure section.

If the aircraft is required to deviate from track or ATC route to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:
1. if possible, deviate away from an organized track or ATS route system;

2. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz);

3. watch for conflicting traffic both visually and by reference to ACAS (if equipped);

4. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

5. for deviations of less than 9.3 km (5.0 NM) from the originally cleared track or ATS route, remain at a level assigned by ATC;

6. for deviations greater than, or equal to 9.3 km (5.0 NM) from the originally cleared track or ATS route, when the aircraft is approximately 9.3 km (5.0 NM) from track, initiate a level change in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section.

7. if the pilot receives clearance to deviate from cleared track or ATS route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section before deviating beyond the cleared distance;

8. when returning to track or ATS route, be at its assigned flight level when the aircraft is within approximately 9.3 km (5.0 NM) of the center line; and

9. if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

EAST 000Â° -179Â° magnetic
1. DESCEND 300 ft (90 m)

2. CLIMB 300 ft (90 m)

WEST 180Â° - 359Â° magnetic
1. CLIMB 300 ft (90 m)

2. DESCEND 300 ft (90 m)

PAZA Type: FIR
EXTENDED RANGE OPERATIONS BY AIRCRAFT WITH TWO-TURBINE POWER-UNITS (ETOPS) 1. If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

OCEANIC POSITION REPORTING PROCEDURES OAKLAND OCEANIC FIR
1. For non ADS equipped aircraft, any waypoint filed in the route of flight (ItemÂ 15 of the ICAO flight plan) must be reported as a position report whether the filed waypoint is compulsory or not. If a noncompulsory waypoint is not filed in item 15, it does not need to be reported.

2. POSITION REPORTS

a. When operating on a published ATS Route or a temporary route established by NOTAM, report and estimate the designated reporting points using the specified waypoint names or geographic coordinates as specified in the NOTAM.

b. When operating on a random route:

1. Flights whose tracks are predominantly east and west shall report over each 5Â degrees or 10Â degrees (10Â degrees will be used if the speed of the aircraft is such that 10Â degrees will be traversed within 80 minutes or less) meridian longitude extending east and west from 180Â degrees.

2. Flights whose tracks are predominantly north and south shall report over each 5Â degrees or 10Â degrees (10Â degrees if traversed within 80Â minutes) parallel of latitude extending north and south of the equator.

c. ATC may require specific flights to report more frequently than each 5Â degrees for aircraft with slow ground speeds.

d. Position reports shall be transmitted at the time of crossing the designated reporting point or as soon thereafter as possible.

3. Position reports shall include information on present position, estimated next position, and ensuing position in sequence as indicated below.

a. PRESENT POSITION - Information shall include:

1. The word â€œpositionâ€ .

2. Aircraft identification.

3. Reporting point name, or if not named:

(a) Latitude (2 digits or more) and,

(b) Longitude (3 digits or more).

b. Time over reporting point (4 digits UTC).

c. Altitude (Flight Level). When forwarding an altitude report within the Oakland OCA/FIR, pilots should report their present altitude and their assigned altitude exactly as cleared if the present and assigned altitudes differ. Aircraft assigned a block altitude must report their current altitude and the assigned block altitude. A restriction to cross a point at an altitude is not a block altitude assignment and should not be reported as a block of altitudes.

d. ESTIMATED NEXT POSITION

(1) Reporting point name, or if not named, latitude and longitude as in a.3 above and,

(2) Estimated time over next position (4 digits UTC).

e. ENSUING FIX

(1) Name only of the next succeeding fix whether compulsory or not, or if not named, latitude and longitude as in a.3 above.

4. WEATHER REPORTS:

a. Weather reports shall be included as provided in SectionÂ 3 of Standard AIREP Form by all flights unless exempted from weather reporting by the Weather Service and/or ATC.

5. ADHERENCE TO ATC APPROVED ROUTE

a. If an aircraft, notwithstanding all action taken to adhere to the route specified in the ATC clearance, inadvertently deviates from this route, action shall be taken to regain it as soon as reasonable and not further ahead than 200 nautical miles from the DR position at which the heading was altered to regain the route specified in the ATC clearance. Action to regain this route shall not be delayed in anticipation of obtaining a requested re-clearance.

6. EXCEPTIONS TO POSITION REPORTS PROCEDURES

a. Within Oakland OCA/FIR, no 5Â degree report need be made that would fall within 100Â NM of Guam. Aircraft cleared via terminal area routes report compulsory reporting fixes. Other aircraft report 100Â NM from Nimitz VORTAC. Where other island destinations within the Oakland Oceanic FIR are not more than one-degree latitude-longitude from a 5Â degrees fixed line reporting point, the ETA and arrival report may be substituted in lieu of the adjacent fixed line report.

b. To the east of the Hawaiian Islands it will not be necessary to report the 155Â degree west position if position will be reported at the entry/exit fixes on the Honolulu Control Facility boundary. To the west of the Hawaiian Islands, the 160Â degree west need not be reported.

NORTH PACIFIC (NOPAC) ROUTE PROCEDURES

a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue

further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

TRACK ADVISORY (TA) PROGRAM FOR FLIGHTS CROSSING ANCHORAGE ARTCC/RUSSIAN FIRs

a. The TA program is similar to that used by Oakland for PACOTS traffic. It is designed to assist ATC in sequencing same altitude aircraft proceeding westbound over the Russian FIR entry fixes. Flights participating in the TA program will receive preference over non-participants.

b. All Westbound flights crossing the Anchorage/Russian FIR boundary at or above FL 280 (8600 meters) shall participate in the TA program.

ATS ROUTE RESTRICTION NOTES

ATS Route Restriction Notes for information regarding flight planning purposes see Enroute Tab.

MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE ICAO DOC 4444, SECTION 15.2

Introduction

1. Although all possible contingencies cannot be covered, these procedures provide for the more frequent cases such as:

a. Inability to comply with assigned clearance due to meteorological conditions.

b. En-route diversion across the prevailing traffic flow; and

c. Loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or pressurization failure.

2. General Procedures

1. If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action.

2. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received. In general terms, the aircraft should be flown at an offset level and on an offset track where other aircraft are less likely to be encountered. Specifically, the pilot shall:

a. Leave the cleared track or ATS route by initially turning at least 30 degrees to the right or to the left, in order to establish and maintain a parallel, same direction track or ATS route offset 5 NM (9.3 km). The direction of the turn should be based on one or more of the following factors:

1) aircraft position relative to any organized track or ATS route system;

2) the direction of flights and flight levels allocated on adjacent tracks;

3) the direction to an alternate airport;

4) any strategic lateral offset being flown; and

5) terrain clearance.

b. Maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped), leaving ACAS in RA mode at all times, unless aircraft operating limitations dictate otherwise;

c. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

d. keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate and, if equipped with ADS-B or ADS-C, select the appropriate emergency functionality;

e. as soon as practicable, advise air traffic control of any deviation from their assigned clearance;

f. use means as appropriate (ie. voice and/or CPDLC) to communicate during a contingency or emergency;

g. if voice communications are used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times, shall be used, as appropriate;

h. when emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice contact with the aircraft;

i. establish communications with and alert nearby aircraft by broadcasting on the frequencies in use and at suitable intervals on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz): aircraft identification, the nature of the distress condition, intention of the pilot, position (including the ATS route designator or the track code, as appropriate) and flight level; and

j. the controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft shall be based on the intentions or the pilot and overall traffic situation.

3. Actions to be taken once offset from track:

a) operation within a parallel track system;

b) the potential for user preferred routes (UPR's) parallel to the aircraft's track or ATS route;

c) the nature of the contingency (e.g. aircraft system malfunction; and

d) weather factors (e.g. convective weather at lower flight levels).

4. If possible, maintain the assigned flight level until established on the 9.3 km (5.0 NM) parallel, same direction track or ATS route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.

5. Once established on a parallel, same direction track or ATS route offset by 9.3km (5.0 NM), either:

a) descend below FL 290, and establish a 150 m (500 ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or if an ATC clearance has been obtained, in accordance with the clearance; or

b) establish a 150 m (500 ft) vertical offset (or 300 m (1000 ft) vertical offset if above FL 410) from those flight levels normally used, and proceed as required by the operational situation, or if ATC clearance has been obtained, in accordance with the clearance.

WEATHER DEVIATION PROCEDURES FOR OCEANIC CONTROLLED AIRSPACE â€" PACIFIC

When weather deviation is required, the pilot should initiate communications with ATC via voice or CPDLC. A rapid response may be obtained by either:
1. stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response; or

2. requesting a weather deviation using a CPDLC lateral downlink message.

When necessary, the pilot should initiate the communications using the urgency call "PAN PAN PAN" (preferably spoken three times) or by using a CPDLC urgency downlink message.
The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

The pilot should notify ATC and request clearance to deviate from track or ATS route, advising, when possible, the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e. voice and/or CPDLC) to communicate during a weather deviation.
ATC should take one of the following actions:
1. when appropriate separation can be applied, issue clearance to deviate from track; or

2. if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall:

1. advise the pilot of inability to issue clearance for the requested deviation;

2. advise the pilot of conflicting traffic; and

3. request the pilot's intentions.

The pilot should take the following actions:
1. comply with the ATC clearance issued; or

2. advise ATC of intentions and execute the procedures detailed in the Action to be Taken if a Revised ATC Clearance Cannot Be Obtained procedure section.

If the aircraft is required to deviate from track or ATC route to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:
1. if possible, deviate away from an organized track or ATS route system;

2. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz);

3. watch for conflicting traffic both visually and by reference to ACAS (if equipped);

4. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

5. for deviations of less than 9.3 km (5.0 NM) from the originally cleared track or ATS route, remain at a level assigned by ATC;

6. for deviations greater than, or equal to 9.3 km (5.0 NM) from the originally cleared track or ATS route, when the aircraft is approximately 9.3 km (5.0 NM) from track, initiate a level change in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section.

7. if the pilot receives clearance to deviate from cleared track or ATS route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section before deviating beyond the cleared distance;

8. when returning to track or ATS route, be at its assigned flight level when the aircraft is within approximately 9.3 km (5.0 NM) of the center line; and

9. if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

EAST 000Â° -179Â° magnetic
1. DESCEND 300 ft (90 m)

2. CLIMB 300 ft (90 m)

WEST 180Â° - 359Â° magnetic
1. CLIMB 300 ft (90 m)

2. DESCEND 300 ft (90 m)

RJJJ Type: FIR
FLIGHT PLANNING AND OVERFLIGHT ROUTES within the Pacific region: For complete Information see Enroute Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

NORTH PACIFIC (NOPAC) ROUTE PROCEDURES
a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

TRANSPONDER REQUIRED
Transponder (Mode A/3 & Mode C) required in Approach Control Area and Control Zones.

TRANSPONDER REQUIRED
Transponder (Mode A/3 & Mode C) required in Approach Control Area and Control Zones.

FLIGHT PROCEDURES Okinawa Approach Control provides full time Stage III Service (RADAR sequencing and separation service for VFR aircraft) within the Okinawa TCA. No aircraft may operate within the TCA unless appropriate authorization is received from TAC prior to the operation.

a. VFR aircraft enroute to destination airports within the Okinawa TCA, should contact Okinawa Approach Control 50NM from the Kadena VORTAC.

1. Aircraft operating southeast of Kadena 050/230 radials use 258.3/126.5 MHz.
2. Aircraft operating northwest of Kadena 230/050 radials use 335.8/119.1 MHz.
3. Monitor ATIS broadcasts of destination airport prior to contacting Approach Control and advise ATIS code received on initial contact.

b. VFR aircraft departing Kadena AB will advise Ground Control prior to taxi, of intended direction of flight and proposed altitude to depart the TCA. VFR aircraft departing other airports that desire ATC service, will advise the appropriate tower prior to departure. The tower will then advise when to contact Departure Control and assign a frequency and beacon code.

c. The procedures used in this program are not to be interpreted as relieving pilots of their responsibilities to:

1. See, and avoid other traffic operating in VFR conditions,
2. Maintain appropriate terrain and obstruction clearance,
3. Remain in weather conditions equal to, or better than, the minimum required by pertinent regulations, and
4. Whenever compliance with an assigned route or heading is likely to compromise any of the above, Okinawa Approach Control shall be so advised.

d. Except in the case of inflight failure, no person may operate an aircraft within the TCA unless equipped with the following:

1. VOR or TACAN receiver (except helicopters),
2. Two-way radio capable of communicating with ATC on the appropriate frequencies for the TCA, or
3. Coded RADAR Beacon Transponder having at least a Mode A/3 & Mode C, 64 code capability, replying to A/3 interrogation with the code specfied by ATC.

UEEE Type: FIR

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

UHMM Type: FIR

ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

TRACK ADVISORY (TA) PROGRAM FOR FLIGHTS CROSSING ANCHORAGE ARTCC/RUSSIAN FIRs

a. The TA program is similar to that used by Oakland for PACOTS traffic. It is designed to assist ATC in sequencing same altitude aircraft proceeding westbound over the Russian FIR entry fixes. Flights participating in the TA program will receive preference over non-participants.

b. All Westbound flights crossing the Anchorage/Russian FIR boundary at or above FL 280 (8600 meters) shall participate in the TA program.

POSITION REPORTING PROCEDURES

a. Unless otherwise requested by ATC , position reports for flights on routes not defined by designated reporting points should be made at the significant points listed in the flight plan.

b. ATC may require any flight operating in a North/South direction to report its position at any intermediate parallel of latitude when deemed necessary.

c. In requiring aircraft to report their position at intermediate points, ATC is guided by the requirement to have positional information at approximately hourly intervals and also by the need to accommodate varying types of aircraft and varying traffic and MET conditions.

d. Unless providing position reports via ADS-C, if the Estimated Time for the "next position", as last reported to ATC has changed by 2 minutes or more, a revised Estimate must be transmitted to the ATS unit concerned as soon as possible.

e. Flight Crews must always report to ATC as soon as possible on reaching any new cruising level.

f. For flights outside domestic ATS route networks, positions should be expressed in terms of latitude and longitude except when flying over named reporting points. For flights whose tracks are predominantly east or west, latitude should be expressed in degrees and minutes, longitude in degrees only. For flights whose tracks are predominantly north or south, latitude should be expressed in degrees only, longitude in degrees and minutes. However, it should be noted that when such minutes are zero then the position report may refer solely to degrees.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

ULLL Type: FIR
ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

Page 5 Strip Charts

KZAK Type: FIR
FLIGHT PLANNING AND OVERFLIGHT ROUTES within the Pacific region: For complete Information see Enroute Tab.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

EXTENDED RANGE OPERATIONS BY AIRCRAFT WITH TWO-TURBINE POWER-UNITS (ETOPS) 1. If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

OCEANIC POSITION REPORTING PROCEDURES OAKLAND OCEANIC FIR
1. For non ADS equipped aircraft, any waypoint filed in the route of flight (ItemÂ 15 of the ICAO flight plan) must be reported as a position report whether the filed waypoint is compulsory or not. If a noncompulsory waypoint is not filed in item 15, it does not need to be reported.

2. POSITION REPORTS

a. When operating on a published ATS Route or a temporary route established by NOTAM, report and estimate the designated reporting points using the specified waypoint names or geographic coordinates as specified in the NOTAM.

b. When operating on a random route:

1. Flights whose tracks are predominantly east and west shall report over each 5Â degrees or 10Â degrees (10Â degrees will be used if the speed of the aircraft is such that 10Â degrees will be traversed within 80 minutes or less) meridian longitude extending east and west from 180Â degrees.

2. Flights whose tracks are predominantly north and south shall report over each 5Â degrees or 10Â degrees (10Â degrees if traversed within 80Â minutes) parallel of latitude extending north and south of the equator.

c. ATC may require specific flights to report more frequently than each 5Â degrees for aircraft with slow ground speeds.

d. Position reports shall be transmitted at the time of crossing the designated reporting point or as soon thereafter as possible.

3. Position reports shall include information on present position, estimated next position, and ensuing position in sequence as indicated below.

a. PRESENT POSITION - Information shall include:

1. The word â€œpositionâ€ .

2. Aircraft identification.

3. Reporting point name, or if not named:

(a) Latitude (2 digits or more) and,

(b) Longitude (3 digits or more).

b. Time over reporting point (4 digits UTC).

c. Altitude (Flight Level). When forwarding an altitude report within the Oakland OCA/FIR, pilots should report their present altitude and their assigned altitude exactly as cleared if the present and assigned altitudes differ. Aircraft assigned a block altitude must report their current altitude and the assigned block altitude. A restriction to cross a point at an altitude is not a block altitude assignment and should not be reported as a block of altitudes.

d. ESTIMATED NEXT POSITION

(1) Reporting point name, or if not named, latitude and longitude as in a.3 above and,

(2) Estimated time over next position (4 digits UTC).

e. ENSUING FIX

(1) Name only of the next succeeding fix whether compulsory or not, or if not named, latitude and longitude as in a.3 above.

4. WEATHER REPORTS:

a. Weather reports shall be included as provided in SectionÂ 3 of Standard AIREP Form by all flights unless exempted from weather reporting by the Weather Service and/or ATC.

5. ADHERENCE TO ATC APPROVED ROUTE

a. If an aircraft, notwithstanding all action taken to adhere to the route specified in the ATC clearance, inadvertently deviates from this route, action shall be taken to regain it as soon as reasonable and not further ahead than 200 nautical miles from the DR position at which the heading was altered to regain the route specified in the ATC clearance. Action to regain this route shall not be delayed in anticipation of obtaining a requested re-clearance.

6. EXCEPTIONS TO POSITION REPORTS PROCEDURES

a. Within Oakland OCA/FIR, no 5Â degree report need be made that would fall within 100Â NM of Guam. Aircraft cleared via terminal area routes report compulsory reporting fixes. Other aircraft report 100Â NM from Nimitz VORTAC. Where other island destinations within the Oakland Oceanic FIR are not more than one-degree latitude-longitude from a 5Â degrees fixed line reporting point, the ETA and arrival report may be substituted in lieu of the adjacent fixed line report.

b. To the east of the Hawaiian Islands it will not be necessary to report the 155Â degree west position if position will be reported at the entry/exit fixes on the Honolulu Control Facility boundary. To the west of the Hawaiian Islands, the 160Â degree west need not be reported.

NORTH PACIFIC (NOPAC) ROUTE PROCEDURES

a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

CENTRAL EAST PACIFIC ROUTE SYSTEM (HAWAII â€“ U.S. MAINLAND)

a. The Central East Pacific (CEP) is the organized route system between Hawaii and California. Seven ATS routes, R-463, R-464, R-465, R-585, R-576, R-577 and R-578 are the primary routes within the CEP.

b. Reduced Vertical Separation Minimum (RVSM) and Required Navigation Performance 10 (RNP-10) are required for aircraft operating within the CEP Route

System at FL290 through FL410. Non-approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

c. Operators show approval for RVSM and RNP-10 by annotating block 10 of the ICAO flight plan (equipment) with the letter W and R respectively.

d. Flight Levels normally assigned in the CEP are in accordance with ICAO Appendix 3a (East odd, West even).

ATS ROUTE RESTRICTION NOTES
ATS Route Restriction Notes for information regarding flight planning purposes see Enroute Tab.

RNP-10 SEPARATION
RNP-10 lateral separation (50 NM) may be applied wthin the Oakland Oceanic FIR between RNP-10 approved aircraft. RNP-10 approval is required for all PACOTS and for all aircraft operating within the CEP at FL290 through FL410. Non-RNP approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (RVSM) For procedures and equipment requirements see Air Traffic Control Tab.

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE ICAO DOC 4444, SECTION 15.2
Introduction

1. Although all possible contingencies cannot be covered, these procedures provide for the more frequent cases such as:

a. Inability to comply with assigned clearance due to meteorological conditions.

b. En-route diversion across the prevailing traffic flow; and

c. Loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or pressurization failure.

2. General Procedures

1. If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action.

2. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received. In general terms, the aircraft should be flown at an offset level and on an offset track where other aircraft are less likely to be encountered. Specifically, the pilot shall:

a. Leave the cleared track or ATS route by initially turning at least 30 degrees to the right or to the left, in order to establish and maintain a parallel, same direction track or ATS route offset 5 NM (9.3 km). The direction of the turn should be based on one or more of the following factors:

1) aircraft position relative to any organized track or ATS route system;

2) the direction of flights and flight levels allocated on adjacent tracks;

3) the direction to an alternate airport;

4) any strategic lateral offset being flown; and

5) terrain clearance.

b. Maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped), leaving ACAS in RA mode at all times, unless aircraft operating limitations dictate otherwise;

c. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

d. keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate and, if equipped with ADS-B or ADS-C, select the appropriate emergency functionality;

e. as soon as practicable, advise air traffic control of any deviation from their assigned clearance;

f. use means as appropriate (ie. voice and/or CPDLC) to communicate during a contingency or emergency;

g. if voice communications are used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times, shall be used, as appropriate;

h. when emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make

voice contact with the aircraft;

i. establish communications with and alert nearby aircraft by broadcasting on the frequencies in use and at suitable intervals on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz): aircraft identification, the nature of the distress condition, intention of the pilot, position (including the ATS route designator or the track code, as appropriate) and flight level; and

j. the controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft shall be based on the intentions or the pilot and overall traffic situation.

3. Actions to be taken once offset from track:

a) operation within a parallel track system;

b) the potential for user preferred routes (UPR's) parallel to the aircraft's track or ATS route;

c) the nature of the contingency (e.g. aircraft system malfunction; and

d) weather factors (e.g. convective weather at lower flight levels).

4. If possible, maintain the assigned flight level until established on the 9.3 km (5.0 NM) parallel, same direction track or ATS route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.

5. Once established on a parallel, same direction track or ATS route offset by 9.3km (5.0 NM), either:

a) descend below FL 290, and establish a 150 m (500 ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or if an ATC clearance has been obtained, in accordance with the clearance; or

b) establish a 150 m (500 ft) vertical offset (or 300 m (1000 ft) vertical offset if above FL 410) from those flight levels normally used, and proceed as required by the operational situation, or if ATC clearance has been obtained, in accordance with the clearance.

WEATHER DEVIATION PROCEDURES FOR OCEANIC CONTROLLED AIRSPACE â€" PACIFIC

When weather deviation is required, the pilot should initiate communications with ATC via voice or CPDLC. A rapid response may be obtained by either:

1. stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response; or

2. requesting a weather deviation using a CPDLC lateral downlink message.

When necessary, the pilot should initiate the communications using the urgency call "PAN PAN PAN" (preferably spoken three times) or by using a CPDLC urgency downlink message.
The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

The pilot should notify ATC and request clearance to deviate from track or ATS route, advising, when possible, the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e. voice and/or CPDLC) to communicate during a weather deviation.
ATC should take one of the following actions:

1. when appropriate separation can be applied, issue clearance to deviate from track; or

2. if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall:

1. advise the pilot of inability to issue clearance for the requested deviation;

2. advise the pilot of conflicting traffic; and

3. request the pilot's intentions.

The pilot should take the following actions:

1. comply with the ATC clearance issued; or

2. advise ATC of intentions and execute the procedures detailed in the Action to be Taken if a Revised ATC Clearance Cannot Be Obtained procedure section.

If the aircraft is required to deviate from track or ATC route to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:

1. if possible, deviate away from an organized track or ATS route system;

2. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz);

3. watch for conflicting traffic both visually and by reference to ACAS (if equipped);

4. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

5. for deviations of less than 9.3 km (5.0 NM) from the originally cleared track or ATS route, remain at a level assigned by ATC;

6. for deviations greater than, or equal to 9.3 km (5.0 NM) from the originally cleared track or ATS route, when the aircraft is approximately 9.3 km (5.0 NM) from track, initiate a level change in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section.

7. if the pilot receives clearance to deviate from cleared track or ATS route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section before deviating beyond the cleared distance;

8. when returning to track or ATS route, be at its assigned flight level when the aircraft is within approximately 9.3 km (5.0 NM) of the center line; and

9. if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

EAST 000Â° -179Â° magnetic
1. DESCEND 300 ft (90 m)

2. CLIMB 300 ft (90 m)

WEST 180Â° - 359Â° magnetic
1. CLIMB 300 ft (90 m)

2. DESCEND 300 ft (90 m)

PAZA Type: FIR
EXTENDED RANGE OPERATIONS BY AIRCRAFT WITH TWO-TURBINE POWER-UNITS (ETOPS) 1. If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

OCEANIC POSITION REPORTING PROCEDURES OAKLAND OCEANIC FIR
1. For non ADS equipped aircraft, any waypoint filed in the route of flight (ItemÂ 15 of the ICAO flight plan) must be reported as a position report whether the filed waypoint is compulsory or not. If a noncompulsory waypoint is not filed in item 15, it does not need to be reported.

2. POSITION REPORTS

a. When operating on a published ATS Route or a temporary route established by NOTAM, report and estimate the designated reporting points using the specified waypoint names or geographic coordinates as specified in the NOTAM.

b. When operating on a random route:

1. Flights whose tracks are predominantly east and west shall report over each 5Â degrees or 10Â degrees (10Â degrees will be used if the speed of the aircraft is such that 10Â degrees will be traversed within 80 minutes or less) meridian longitude extending east and west from 180Â degrees.

2. Flights whose tracks are predominantly north and south shall report over each 5Â degrees or 10Â degrees (10Â degrees if traversed within 80Â minutes) parallel of latitude extending north and south of the equator.

c. ATC may require specific flights to report more frequently than each 5Â degrees for aircraft with slow ground speeds.

d. Position reports shall be transmitted at the time of crossing the designated reporting point or as soon thereafter as possible.

3. Position reports shall include information on present position, estimated next position, and ensuing position in sequence as indicated below.

a. PRESENT POSITION - Information shall include:

1. The word â€œpositionâ€ .

2. Aircraft identification.

3. Reporting point name, or if not named:

(a) Latitude (2 digits or more) and,

(b) Longitude (3 digits or more).

b. Time over reporting point (4 digits UTC).

c. Altitude (Flight Level). When forwarding an altitude report within the Oakland OCA/FIR, pilots should report their present altitude and their assigned altitude exactly as cleared if the present and assigned altitudes differ. Aircraft assigned a block altitude must report their current altitude and the assigned block altitude. A restriction to cross a point at an altitude is not a block altitude assignment and should not be reported as a block of altitudes.

d. ESTIMATED NEXT POSITION

(1) Reporting point name, or if not named, latitude and longitude as in a.3 above and,

(2) Estimated time over next position (4 digits UTC).

e. ENSUING FIX

(1) Name only of the next succeeding fix whether compulsory or not, or if not named, latitude and longitude as in a.3 above.

4. WEATHER REPORTS:

a. Weather reports shall be included as provided in SectionÂ 3 of Standard AIREP Form by all flights unless exempted from weather reporting by the Weather Service and/or ATC.

5. ADHERENCE TO ATC APPROVED ROUTE

a. If an aircraft, notwithstanding all action taken to adhere to the route specified in the ATC clearance, inadvertently deviates from this route, action shall be taken to regain it as soon as reasonable and not further ahead than 200 nautical miles from the DR position at which the heading was altered to regain the route specified in the ATC clearance. Action to regain this route shall not be delayed in anticipation of obtaining a requested re-clearance.

6. EXCEPTIONS TO POSITION REPORTS PROCEDURES

a. Within Oakland OCA/FIR, no 5Â degree report need be made that would fall within 100Â NM of Guam. Aircraft cleared via terminal area routes report compulsory reporting fixes. Other aircraft report 100Â NM from Nimitz VORTAC. Where other island destinations within the Oakland Oceanic FIR are not more than one-degree latitude-longitude from a 5Â degrees fixed line reporting point, the ETA and arrival report may be substituted in lieu of the adjacent fixed line report.

b. To the east of the Hawaiian Islands it will not be necessary to report the 155Â degree west position if position will be reported at the entry/exit fixes on the Honolulu Control Facility boundary. To the west of the Hawaiian Islands, the 160Â degree west need not be reported.

NORTH PACIFIC (NOPAC) ROUTE PROCEDURES

a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

TRACK ADVISORY (TA) PROGRAM FOR FLIGHTS CROSSING ANCHORAGE ARTCC/RUSSIAN FIRs

a. The TA program is similar to that used by Oakland for PACOTS traffic. It is designed to assist ATC in sequencing same altitude aircraft proceeding westbound over the Russian FIR entry fixes. Flights participating in the TA program will receive preference over non-participants.

b. All Westbound flights crossing the Anchorage/Russian FIR boundary at or above FL 280 (8600 meters) shall participate in the TA program.

ATS ROUTE RESTRICTION NOTES

ATS Route Restriction Notes for information regarding flight planning purposes see Enroute Tab.

MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE ICAO DOC 4444, SECTION 15.2

Introduction

1. Although all possible contingencies cannot be covered, these procedures provide for the more frequent cases such as:

a. Inability to comply with assigned clearance due to meteorological conditions.

b. En-route diversion across the prevailing traffic flow; and

c. Loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or pressurization failure.

2. General Procedures

1. If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action.

2. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received. In general terms, the aircraft should be flown at an offset level and on an offset track where other aircraft are less likely to be encountered. Specifically, the pilot shall:

a. Leave the cleared track or ATS route by initially turning at least 30 degrees to the right or to the left, in order to establish and maintain a parallel, same direction track or ATS route offset 5 NM (9.3 km). The direction of the turn should be based on one or more of the following factors:

1) aircraft position relative to any organized track or ATS route system;

2) the direction of flights and flight levels allocated on adjacent tracks;

3) the direction to an alternate airport;

4) any strategic lateral offset being flown; and

5) terrain clearance.

b. Maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped), leaving ACAS in RA mode at all times, unless aircraft operating limitations dictate otherwise;

c. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

d. keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate and, if equipped with ADS-B or ADS-C, select the appropriate emergency functionality;

e. as soon as practicable, advise air traffic control of any deviation from their assigned clearance;

f. use means as appropriate (ie. voice and/or CPDLC) to communicate during a contingency or emergency;

g. if voice communications are used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times, shall be used, as appropriate;

h. when emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice contact with the aircraft;

i. establish communications with and alert nearby aircraft by broadcasting on the frequencies in use and at suitable intervals on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz): aircraft identification, the nature of the distress condition, intention of the pilot, position (including the ATS route designator or the track code, as appropriate) and flight level; and

j. the controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft shall be based on the intentions or the pilot and overall traffic situation.

3. Actions to be taken once offset from track:

a) operation within a parallel track system;

b) the potential for user preferred routes (UPR's) parallel to the aircraft's track or ATS route;

c) the nature of the contingency (e.g. aircraft system malfunction; and

d) weather factors (e.g. convective weather at lower flight levels).

4. If possible, maintain the assigned flight level until established on the 9.3 km (5.0 NM) parallel, same direction track or ATS route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.

5. Once established on a parallel, same direction track or ATS route offset by 9.3km (5.0 NM), either:

a) descend below FL 290, and establish a 150 m (500 ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or if an ATC clearance has been obtained, in accordance with the clearance; or

b) establish a 150 m (500 ft) vertical offset (or 300 m (1000 ft) vertical offset if above FL 410) from those flight levels normally used, and proceed as required by the operational situation, or if ATC clearance has been obtained, in accordance with the clearance.

WEATHER DEVIATION PROCEDURES FOR OCEANIC CONTROLLED AIRSPACE â€" PACIFIC

When weather deviation is required, the pilot should initiate communications with ATC via voice or CPDLC. A rapid response may be obtained by either:

1. stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response; or
2. requesting a weather deviation using a CPDLC lateral downlink message.

When necessary, the pilot should initiate the communications using the urgency call "PAN PAN PAN" (preferably spoken three times) or by using a CPDLC urgency downlink message.
The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

The pilot should notify ATC and request clearance to deviate from track or ATS route, advising, when possible, the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e. voice and/or CPDLC) to communicate during a weather deviation.
ATC should take one of the following actions:

1. when appropriate separation can be applied, issue clearance to deviate from track; or
2. if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall:

1. advise the pilot of inability to issue clearance for the requested deviation;
2. advise the pilot of conflicting traffic; and
3. request the pilot's intentions.

The pilot should take the following actions:

1. comply with the ATC clearance issued; or
2. advise ATC of intentions and execute the procedures detailed in the Action to be Taken if a Revised ATC Clearance Cannot Be Obtained procedure section.

If the aircraft is required to deviate from track or ATC route to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:

1. if possible, deviate away from an organized track or ATS route system;
2. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz);
3. watch for conflicting traffic both visually and by reference to ACAS (if equipped);
4. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);
5. for deviations of less than 9.3 km (5.0 NM) from the originally cleared track or ATS route, remain at a level assigned by ATC;
6. for deviations greater than, or equal to 9.3 km (5.0 NM) from the originally cleared track or ATS route, when the aircraft is approximately 9.3 km (5.0 NM) from track, initiate a level change in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section.
7. if the pilot receives clearance to deviate from cleared track or ATS route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section before deviating beyond the cleared distance;
8. when returning to track or ATS route, be at its assigned flight level when the aircraft is within approximately 9.3 km (5.0 NM) of the center line; and
9. if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

EAST 000Â° -179Â° magnetic

1. DESCEND 300 ft (90 m)

2. CLIMB 300 ft (90 m)

WEST 180Â° - 359Â° magnetic
1. CLIMB 300 ft (90 m)

2. DESCEND 300 ft (90 m)

UHMM Type: FIR
CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

TRACK ADVISORY (TA) PROGRAM FOR FLIGHTS CROSSING ANCHORAGE ARTCC/RUSSIAN FIRs
a. The TA program is similar to that used by Oakland for PACOTS traffic. It is designed to assist ATC in sequencing same altitude aircraft proceeding westbound over the Russian FIR entry fixes. Flights participating in the TA program will receive preference over non-participants.

b. All Westbound flights crossing the Anchorage/Russian FIR boundary at or above FL 280 (8600 meters) shall participate in the TA program.

POSITION REPORTING PROCEDURES
a. Unless otherwise requested by ATC , position reports for flights on routes not defined by designated reporting points should be made at the significant points listed in the flight plan.

b. ATC may require any flight operating in a North/South direction to report its position at any intermediate parallel of latitude when deemed necessary.

c. In requiring aircraft to report their position at intermediate points, ATC is guided by the requirement to have positional information at approximately hourly intervals and also by the need to accommodate varying types of aircraft and varying traffic and MET conditions.

d. Unless providing position reports via ADS-C, if the Estimated Time for the "next position", as last reported to ATC has changed by 2 minutes or more, a revised Estimate must be transmitted to the ATS unit concerned as soon as possible.

e. Flight Crews must always report to ATC as soon as possible on reaching any new cruising level.

f. For flights outside domestic ATS route networks, positions should be expressed in terms of latitude and longitude except when flying over named reporting points. For flights whose tracks are predominantly east or west, latitude should be expressed in degrees and minutes, longitude in degrees only. For flights whose tracks are predominantly north or south, latitude should be expressed in degrees only, longitude in degrees and minutes. However, it should be noted that when such minutes are zero then the position report may refer solely to degrees.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

ULLL Type: FIR
ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

ATS ROUTE RESTRICTIONS: For information regarding flight planning purposes refer to Enroute section.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR): For Beacon Code procedures see ENROUTE section.

CRUISING LEVEL PROCEDURES
CRUISING LEVELS: For Flight Level Transition Procedures refer to Enroute section.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (FL290 - FL410) For RVSM procedures and equipment requirements see AIR TRAFFIC CONTROL pages series.

Page 6 Strip Charts

CZEG Type: FIR
USE OF DND AND CIVIL HIGH ARCTIC AERODROMES
USE OF DND and CIVIL HIGH ARCTIC AERODROMES: Civil operators must obtain permission from DND to use High Arctic Aerodromes in Canada. See Entry Requirements Tab.

CANADIAN DOMESTIC AIRSPACE (DOMESTIC CLEARANCE)
a. North Atlantic (NAT) West-bound Traffic.

1. Pilots proceeding westbound across the North Atlantic (NAT) and entering Canadian Domestic Airspace (CDA) within the Gander, Moncton and Montreal FIRs should comply with the following procedures:

(a) Flights cleared by ATC via the flight planned route prior to reaching CDA will not be issued en-route clearances upon entering domestic airspace, and are to follow the flight planned route as cleared.

(b) Domestic en-route clearances will be issued for flights that have been rerouted and exit oceanic airspace at other than the flight planned exit fix, at a pilot's request for another routing or if a flight plan has not been received by the ACC.

2. If entering Canadian Domestic Airspace within the Edmonton FIR, the onward domestic routing will have been established in coordination between the Reykjavik and Edmonton ACCs, and additional domestic clearance is not normally required. However, if there has been a change in route from the filed flight plan, clarification of the onward routing may be obtained from Edmonton ACC on request.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

CZVR Type: FIR
MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

KZAK Type: FIR
FLIGHT PLANNING AND OVERFLIGHT ROUTES within the Pacific region: For complete Information see Enroute Tab.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

EXTENDED RANGE OPERATIONS BY AIRCRAFT WITH TWO-TURBINE POWER-UNITS (ETOPS) 1. If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

OCEANIC POSITION REPORTING PROCEDURES OAKLAND OCEANIC FIR
1. For non ADS equipped aircraft, any waypoint filed in the route of flight (ItemÂ 15 of the ICAO flight plan) must be reported as a position report whether the filed waypoint is compulsory or not. If a noncompulsory waypoint is not filed in item 15, it does not need to be reported.

2. POSITION REPORTS

a. When operating on a published ATS Route or a temporary route established by NOTAM, report and estimate the designated reporting points using the specified waypoint names or geographic coordinates as specified in the NOTAM.

b. When operating on a random route:

1. Flights whose tracks are predominantly east and west shall report over each 5Â degrees or 10Â degrees (10Â degrees will be used if the speed of the aircraft is such that 10Â degrees will be traversed within 80 minutes or less) meridian longitude extending east and west from 180Â degrees.

2. Flights whose tracks are predominantly north and south shall report over each 5Â degrees or 10Â degrees (10Â degrees if traversed within 80Â minutes) parallel of latitude extending north and south of the equator.

c. ATC may require specific flights to report more frequently than each 5Â degrees for aircraft with slow ground speeds.

d. Position reports shall be transmitted at the time of crossing the designated reporting point or as soon thereafter as possible.

3. Position reports shall include information on present position, estimated next position, and ensuing position in sequence as indicated below.

a. PRESENT POSITION - Information shall include:

1. The word â€œpositionâ€ .

2. Aircraft identification.

3. Reporting point name, or if not named:

(a) Latitude (2 digits or more) and,

(b) Longitude (3 digits or more).

b. Time over reporting point (4 digits UTC).

c. Altitude (Flight Level). When forwarding an altitude report within the Oakland OCA/FIR, pilots should report their present altitude and their assigned altitude exactly as cleared if the present and assigned altitudes differ. Aircraft assigned a block altitude must report their current altitude and the assigned block altitude. A restriction to cross a point at an altitude is not a block altitude assignment and should not be reported as a block of altitudes.

d. ESTIMATED NEXT POSITION

(1) Reporting point name, or if not named, latitude and longitude as in a.3 above and,

(2) Estimated time over next position (4 digits UTC).

e. ENSUING FIX

(1) Name only of the next succeeding fix whether compulsory or not, or if not named, latitude and longitude as in a.3 above.

4. WEATHER REPORTS:

a. Weather reports shall be included as provided in SectionÂ 3 of Standard AIREP Form by all flights unless exempted from weather reporting by the Weather Service and/or ATC.

5. ADHERENCE TO ATC APPROVED ROUTE

a. If an aircraft, notwithstanding all action taken to adhere to the route specified in the ATC clearance, inadvertently deviates from this route, action shall be taken to regain it as soon as reasonable and not further ahead than 200 nautical miles from the DR position at which the heading was altered to regain the route specified in the ATC clearance. Action to regain this route shall not be delayed in anticipation of obtaining a requested re-clearance.

6. EXCEPTIONS TO POSITION REPORTS PROCEDURES

a. Within Oakland OCA/FIR, no 5Â degree report need be made that would fall within 100Â NM of Guam. Aircraft cleared via terminal area routes report compulsory reporting fixes. Other aircraft report 100Â NM from Nimitz VORTAC. Where other island destinations within the Oakland Oceanic FIR are not more than one-degree latitude-longitude from a 5Â degrees fixed line reporting point, the ETA and arrival report may be substituted in lieu of the adjacent fixed line report.

b. To the east of the Hawaiian Islands it will not be necessary to report the 155Â degree west position if position will be reported at the entry/exit fixes on the Honolulu Control Facility boundary. To the west of the Hawaiian Islands, the 160Â degree west need not be reported.

NORTH PACIFIC (NOPAC) ROUTE PROCEDURES

a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

CENTRAL EAST PACIFIC ROUTE SYSTEM (HAWAII â€“ U.S. MAINLAND)

a. The Central East Pacific (CEP) is the organized route system between Hawaii and California. Seven ATS routes, R-463, R-464, R-465, R-585, R-576, R-577 and R-578 are the primary routes within the CEP.

b. Reduced Vertical Separation Minimum (RVSM) and Required Navigation Performance 10 (RNP-10) are required for aircraft operating within the CEP Route System at FL290 through FL410. Non-approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

c. Operators show approval for RVSM and RNP-10 by annotating block 10 of the ICAO flight plan (equipment) with the letter W and R respectively.

d. Flight Levels normally assigned in the CEP are in accordance with ICAO Appendix 3a (East odd, West even).

ATS ROUTE RESTRICTION NOTES
ATS Route Restriction Notes for information regarding flight planning purposes see Enroute Tab.

RNP-10 SEPARATION
RNP-10 lateral separation (50 NM) may be applied wthin the Oakland Oceanic FIR between RNP-10 approved aircraft. RNP-10 approval is required for all PACOTS and for all aircraft operating within the CEP at FL290 through FL410. Non-RNP approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

RVSM PROCEDURES
REDUCED VERTICAL SEPARATION MINIMUMS (RVSM) For procedures and equipment requirements see Air Traffic Control Tab.

REQUIRED NAVIGATION PERFORMANCE (RNP)
For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE ICAO DOC 4444, SECTION 15.2
Introduction

1. Although all possible contingencies cannot be covered, these procedures provide for the more frequent cases such as:

a. Inability to comply with assigned clearance due to meteorological conditions.

b. En-route diversion across the prevailing traffic flow; and

c. Loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or pressurization failure.

2. General Procedures

1. If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action.

2. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received. In general terms, the aircraft should be flown at an offset level and on an offset track where other aircraft are less likely to be encountered. Specifically, the pilot shall:

a. Leave the cleared track or ATS route by initially turning at least 30 degrees to the right or to the left, in order to establish and maintain a parallel, same direction track or ATS route offset 5 NM (9.3 km). The direction of the turn should be based on one or more of the following factors:

1) aircraft position relative to any organized track or ATS route system;

2) the direction of flights and flight levels allocated on adjacent tracks;

3) the direction to an alternate airport;

4) any strategic lateral offset being flown; and

5) terrain clearance.

b. Maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped), leaving ACAS in RA mode at all times, unless aircraft operating limitations dictate otherwise;

c. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

d. keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate and, if equipped with ADS-B or ADS-C, select the appropriate emergency functionality;

e. as soon as practicable, advise air traffic control of any deviation from their assigned clearance;

f. use means as appropriate (ie. voice and/or CPDLC) to communicate during a contingency or emergency;

g. if voice communications are used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times, shall be used, as appropriate;

h. when emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice contact with the aircraft;

i. establish communications with and alert nearby aircraft by broadcasting on the frequencies in use and at suitable intervals on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz): aircraft identification, the nature of the distress condition, intention of the pilot, position (including the ATS route designator or the track code, as appropriate) and flight level; and

j. the controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft shall be based on the intentions or the pilot and overall traffic situation.

3. Actions to be taken once offset from track:

a) operation within a parallel track system;

b) the potential for user preferred routes (UPR's) parallel to the aircraft's track or ATS route;

c) the nature of the contingency (e.g. aircraft system malfunction; and

d) weather factors (e.g. convective weather at lower flight levels).

4. If possible, maintain the assigned flight level until established on the 9.3 km (5.0 NM) parallel, same direction track or ATS route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.

5. Once established on a parallel, same direction track or ATS route offset by 9.3km (5.0 NM), either:

a) descend below FL 290, and establish a 150 m (500 ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or if an ATC clearance has been obtained, in accordance with the clearance; or

b) establish a 150 m (500 ft) vertical offset (or 300 m (1000 ft) vertical offset if above FL 410) from those flight levels normally used, and proceed as required by the operational situation, or if ATC clearance has been obtained, in accordance with the clearance.

WEATHER DEVIATION PROCEDURES FOR OCEANIC CONTROLLED AIRSPACE â€" PACIFIC

When weather deviation is required, the pilot should initiate communications with ATC via voice or CPDLC. A rapid response may be obtained by either:

1. stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response; or

2. requesting a weather deviation using a CPDLC lateral downlink message.

When necessary, the pilot should initiate the communications using the urgency call "PAN PAN PAN" (preferably spoken three times) or by using a CPDLC urgency downlink message.
The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

The pilot should notify ATC and request clearance to deviate from track or ATS route, advising, when possible, the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e. voice and/or CPDLC) to communicate during a weather deviation.
ATC should take one of the following actions:

1. when appropriate separation can be applied, issue clearance to deviate from track; or

2. if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall:

1. advise the pilot of inability to issue clearance for the requested deviation;

2. advise the pilot of conflicting traffic; and

3. request the pilot's intentions.

The pilot should take the following actions:

1. comply with the ATC clearance issued; or

2. advise ATC of intentions and execute the procedures detailed in the Action to be Taken if a Revised ATC Clearance Cannot Be Obtained procedure section.

If the aircraft is required to deviate from track or ATC route to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:

1. if possible, deviate away from an organized track or ATS route system;

2. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz);

3. watch for conflicting traffic both visually and by reference to ACAS (if equipped);

4. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

5. for deviations of less than 9.3 km (5.0 NM) from the originally cleared track or ATS route, remain at a level assigned by ATC;

6. for deviations greater than, or equal to 9.3 km (5.0 NM) from the originally cleared track or ATS route, when the aircraft is approximately 9.3 km (5.0 NM) from track, initiate a level change in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section.

7. if the pilot receives clearance to deviate from cleared track or ATS route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section before deviating beyond the cleared distance;

8. when returning to track or ATS route, be at its assigned flight level when the aircraft is within approximately 9.3 km (5.0 NM) of the center line; and

9. if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

EAST 000Â° -179Â° magnetic
1. DESCEND 300 ft (90 m)

2. CLIMB 300 ft (90 m)

WEST 180Â° - 359Â° magnetic
1. CLIMB 300 ft (90 m)

2. DESCEND 300 ft (90 m)

PAZA Type: FIR
EXTENDED RANGE OPERATIONS BY AIRCRAFT WITH TWO-TURBINE POWER-UNITS (ETOPS) 1. If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

OCEANIC POSITION REPORTING PROCEDURES OAKLAND OCEANIC FIR
1. For non ADS equipped aircraft, any waypoint filed in the route of flight (ItemÂ 15 of the ICAO flight plan) must be reported as a position report whether the filed waypoint is compulsory or not. If a noncompulsory waypoint is not filed in item 15, it does not need to be reported.

2. POSITION REPORTS

a. When operating on a published ATS Route or a temporary route established by NOTAM, report and estimate the designated reporting points using the specified waypoint names or geographic coordinates as specified in the NOTAM.

b. When operating on a random route:

1. Flights whose tracks are predominantly east and west shall report over each 5Â degrees or 10Â degrees (10Â degrees will be used if the speed of the aircraft is such that 10Â degrees will be traversed within 80 minutes or less) meridian longitude extending east and west from 180Â degrees.

2. Flights whose tracks are predominantly north and south shall report over each 5Â degrees or 10Â degrees (10Â degrees if traversed within 80Â minutes) parallel of latitude extending north and south of the equator.

c. ATC may require specific flights to report more frequently than each 5Â degrees for aircraft with slow ground speeds.

d. Position reports shall be transmitted at the time of crossing the designated reporting point or as soon thereafter as possible.

3. Position reports shall include information on present position, estimated next position, and ensuing position in sequence as indicated below.

a. PRESENT POSITION - Information shall include:

1. The word â€œpositionâ€ .

2. Aircraft identification.

3. Reporting point name, or if not named:

(a) Latitude (2 digits or more) and,

(b) Longitude (3 digits or more).

b. Time over reporting point (4 digits UTC).

c. Altitude (Flight Level). When forwarding an altitude report within the Oakland OCA/FIR, pilots should report their present altitude and their assigned altitude exactly as cleared if the present and assigned altitudes differ. Aircraft assigned a block altitude must report their current altitude and the assigned block altitude. A restriction to cross a point at an altitude is not a block altitude assignment and should not be reported as a block of altitudes.

d. ESTIMATED NEXT POSITION

(1) Reporting point name, or if not named, latitude and longitude as in a.3 above and,

(2) Estimated time over next position (4 digits UTC).

e. ENSUING FIX

(1) Name only of the next succeeding fix whether compulsory or not, or if not named, latitude and longitude as in a.3 above.

4. WEATHER REPORTS:

a. Weather reports shall be included as provided in SectionÂ 3 of Standard AIREP Form by all flights unless exempted from weather reporting by the Weather Service and/or ATC.

5. ADHERENCE TO ATC APPROVED ROUTE

a. If an aircraft, notwithstanding all action taken to adhere to the route specified in the ATC clearance, inadvertently deviates from this route, action shall be taken to regain it as soon as reasonable and not further ahead than 200 nautical miles from the DR position at which the heading was altered to regain the route specified in the ATC clearance. Action to regain this route shall not be delayed in anticipation of obtaining a requested re-clearance.

6. EXCEPTIONS TO POSITION REPORTS PROCEDURES

a. Within Oakland OCA/FIR, no 5Â degree report need be made that would fall within 100Â NM of Guam. Aircraft cleared via terminal area routes report compulsory reporting fixes. Other aircraft report 100Â NM from Nimitz VORTAC. Where other island destinations within the Oakland Oceanic FIR are not more than one-degree latitude-longitude from a 5Â degrees fixed line reporting point, the ETA and arrival report may be substituted in lieu of the adjacent fixed line report.

b. To the east of the Hawaiian Islands it will not be necessary to report the 155Â degree west position if position will be reported at the entry/exit fixes on the Honolulu Control Facility boundary. To the west of the Hawaiian Islands, the 160Â degree west need not be reported.

NORTH PACIFIC (NOPAC) ROUTE PROCEDURES

a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

TRACK ADVISORY (TA) PROGRAM FOR FLIGHTS CROSSING ANCHORAGE ARTCC/RUSSIAN FIRs

a. The TA program is similar to that used by Oakland for PACOTS traffic. It is designed to assist ATC in sequencing same altitude aircraft proceeding westbound over the Russian FIR entry fixes. Flights participating in the TA program will receive preference over non-participants.

b. All Westbound flights crossing the Anchorage/Russian FIR boundary at or above FL 280 (8600 meters) shall participate in the TA program.

ATS ROUTE RESTRICTION NOTES

ATS Route Restriction Notes for information regarding flight planning purposes see Enroute Tab.

MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE ICAO DOC 4444, SECTION 15.2

Introduction

1. Although all possible contingencies cannot be covered, these procedures provide for the more frequent cases such as:

a. Inability to comply with assigned clearance due to meteorological conditions.

b. En-route diversion across the prevailing traffic flow; and

c. Loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or pressurization failure.

2. General Procedures

1. If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action.

2. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received. In general terms, the aircraft should be flown at an offset level and on an offset track where other aircraft are less likely to be encountered. Specifically, the pilot shall:

a. Leave the cleared track or ATS route by initially turning at least 30 degrees to the right or to the left, in order to establish and maintain a parallel, same direction track or ATS route offset 5 NM (9.3 km). The direction of the turn should be based on one or more of the following factors:

1) aircraft position relative to any organized track or ATS route system;

2) the direction of flights and flight levels allocated on adjacent tracks;

3) the direction to an alternate airport;

4) any strategic lateral offset being flown; and

5) terrain clearance.

b. Maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped), leaving ACAS in RA mode at all times, unless aircraft operating limitations dictate otherwise;

c. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

d. keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate and, if equipped with ADS-B or ADS-C, select the appropriate emergency functionality;

e. as soon as practicable, advise air traffic control of any deviation from their assigned clearance;

f. use means as appropriate (ie. voice and/or CPDLC) to communicate during a contingency or emergency;

g. if voice communications are used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times, shall be used, as appropriate;

h. when emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice contact with the aircraft;

i. establish communications with and alert nearby aircraft by broadcasting on the frequencies in use and at suitable intervals on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz): aircraft identification, the nature of the distress condition, intention of the pilot, position (including the ATS route designator or the track code, as appropriate) and flight level; and

j. the controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft shall be based on the intentions or the pilot and overall traffic situation.

3. Actions to be taken once offset from track:

a) operation within a parallel track system;

b) the potential for user preferred routes (UPR's) parallel to the aircraft's track or ATS route;

c) the nature of the contingency (e.g. aircraft system malfunction; and

d) weather factors (e.g. convective weather at lower flight levels).

4. If possible, maintain the assigned flight level until established on the 9.3 km (5.0 NM) parallel, same direction track or ATS route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.

5. Once established on a parallel, same direction track or ATS route offset by 9.3km (5.0 NM), either:

a) descend below FL 290, and establish a 150 m (500 ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or if an ATC clearance has been obtained, in accordance with the clearance; or

b) establish a 150 m (500 ft) vertical offset (or 300 m (1000 ft) vertical offset if above FL 410) from those flight levels normally used, and proceed as required by the operational situation, or if ATC clearance has been obtained, in accordance with the clearance.

WEATHER DEVIATION PROCEDURES FOR OCEANIC CONTROLLED AIRSPACE â€" PACIFIC

When weather deviation is required, the pilot should initiate communications with ATC via voice or CPDLC. A rapid response may be obtained by either:

1. stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response; or

2. requesting a weather deviation using a CPDLC lateral downlink message.

When necessary, the pilot should initiate the communications using the urgency call "PAN PAN PAN" (preferably spoken three times) or by using a CPDLC urgency downlink message.
The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

The pilot should notify ATC and request clearance to deviate from track or ATS route, advising, when possible, the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e. voice and/or CPDLC) to communicate during a weather deviation.
ATC should take one of the following actions:

1. when appropriate separation can be applied, issue clearance to deviate from track; or

2. if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall:

1. advise the pilot of inability to issue clearance for the requested deviation;

2. advise the pilot of conflicting traffic; and

3. request the pilot's intentions.

The pilot should take the following actions:

1. comply with the ATC clearance issued; or

2. advise ATC of intentions and execute the procedures detailed in the Action to be Taken if a Revised ATC Clearance Cannot Be Obtained procedure section.

If the aircraft is required to deviate from track or ATC route to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:

1. if possible, deviate away from an organized track or ATS route system;

2. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz);

3. watch for conflicting traffic both visually and by reference to ACAS (if equipped);

4. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

5. for deviations of less than 9.3 km (5.0 NM) from the originally cleared track or ATS route, remain at a level assigned by ATC;

6. for deviations greater than, or equal to 9.3 km (5.0 NM) from the originally cleared track or ATS route, when the aircraft is approximately 9.3 km (5.0 NM) from track, initiate a level change in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section.

7. if the pilot receives clearance to deviate from cleared track or ATS route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section before deviating beyond the cleared distance;

8. when returning to track or ATS route, be at its assigned flight level when the aircraft is within approximately 9.3 km (5.0 NM) of the center line; and

9. if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

EAST 000Â° -179Â° magnetic

1. DESCEND 300 ft (90 m)

2. CLIMB 300 ft (90 m)

WEST 180Â° - 359Â° magnetic
1. CLIMB 300 ft (90 m)

2. DESCEND 300 ft (90 m)

Page 7 Strip Charts

CZEG Type: FIR
USE OF DND AND CIVIL HIGH ARCTIC AERODROMES
USE OF DND and CIVIL HIGH ARCTIC AERODROMES: Civil operators must obtain permission from DND to use High Arctic Aerodromes in Canada. See Entry Requirements Tab.

CANADIAN DOMESTIC AIRSPACE (DOMESTIC CLEARANCE)
a. North Atlantic (NAT) West-bound Traffic.

1. Pilots proceeding westbound across the North Atlantic (NAT) and entering Canadian Domestic Airspace (CDA) within the Gander, Moncton and Montreal FIRs should comply with the following procedures:

(a) Flights cleared by ATC via the flight planned route prior to reaching CDA will not be issued en-route clearances upon entering domestic airspace, and are to follow the flight planned route as cleared.

(b) Domestic en-route clearances will be issued for flights that have been rerouted and exit oceanic airspace at other than the flight planned exit fix, at a pilot's request for another routing or if a flight plan has not been received by the ACC.

2. If entering Canadian Domestic Airspace within the Edmonton FIR, the onward domestic routing will have been established in coordination between the Reykjavik and Edmonton ACCs, and additional domestic clearance is not normally required. However, if there has been a change in route from the filed flight plan, clarification of the onward routing may be obtained from Edmonton ACC on request.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

CZVR Type: FIR
MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

KZAK Type: FIR
FLIGHT PLANNING AND OVERFLIGHT ROUTES within the Pacific region: For complete Information see Enroute Tab.

ADIZ REQUIREMENTS
FOR ADIZ REQUIREMENTS See Enroute Tab.

EXTENDED RANGE OPERATIONS BY AIRCRAFT WITH TWO-TURBINE POWER-UNITS (ETOPS) 1. If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

OCEANIC POSITION REPORTING PROCEDURES OAKLAND OCEANIC FIR
1. For non ADS equipped aircraft, any waypoint filed in the route of flight (ItemÂ 15 of the ICAO flight plan) must be reported as a position report whether the filed waypoint is compulsory or not. If a noncompulsory waypoint is not filed in item 15, it does not need to be reported.

2. POSITION REPORTS

a. When operating on a published ATS Route or a temporary route established by NOTAM, report and estimate the designated reporting points using the specified waypoint names or geographic coordinates as specified in the NOTAM.

b. When operating on a random route:

1. Flights whose tracks are predominantly east and west shall report over each 5Â degrees or 10Â degrees (10Â degrees will be used if the speed of the aircraft is such that 10Â degrees will be traversed within 80 minutes or less) meridian longitude extending east and west from 180Â degrees.

2. Flights whose tracks are predominantly north and south shall report over each 5Â degrees or 10Â degrees (10Â degrees if traversed within

80Â minutes) parallel of latitude extending north and south of the equator.

c. ATC may require specific flights to report more frequently than each 5Â degrees for aircraft with slow ground speeds.

d. Position reports shall be transmitted at the time of crossing the designated reporting point or as soon thereafter as possible.

3. Position reports shall include information on present position, estimated next position, and ensuing position in sequence as indicated below.

a. PRESENT POSITION - Information shall include:

1. The word â€œpositionâ€ .

2. Aircraft identification.

3. Reporting point name, or if not named:

(a) Latitude (2 digits or more) and,

(b) Longitude (3 digits or more).

b. Time over reporting point (4 digits UTC).

c. Altitude (Flight Level). When forwarding an altitude report within the Oakland OCA/FIR, pilots should report their present altitude and their assigned altitude exactly as cleared if the present and assigned altitudes differ. Aircraft assigned a block altitude must report their current altitude and the assigned block altitude. A restriction to cross a point at an altitude is not a block altitude assignment and should not be reported as a block of altitudes.

d. ESTIMATED NEXT POSITION

(1) Reporting point name, or if not named, latitude and longitude as in a.3 above and,

(2) Estimated time over next position (4 digits UTC).

e. ENSUING FIX

(1) Name only of the next succeeding fix whether compulsory or not, or if not named, latitude and longitude as in a.3 above.

4. WEATHER REPORTS:

a. Weather reports shall be included as provided in SectionÂ 3 of Standard AIREP Form by all flights unless exempted from weather reporting by the Weather Service and/or ATC.

5. ADHERENCE TO ATC APPROVED ROUTE

a. If an aircraft, notwithstanding all action taken to adhere to the route specified in the ATC clearance, inadvertently deviates from this route, action shall be taken to regain it as soon as reasonable and not further ahead than 200 nautical miles from the DR position at which the heading was altered to regain the route specified in the ATC clearance. Action to regain this route shall not be delayed in anticipation of obtaining a requested re-clearance.

6. EXCEPTIONS TO POSITION REPORTS PROCEDURES

a. Within Oakland OCA/FIR, no 5Â degree report need be made that would fall within 100Â NM of Guam. Aircraft cleared via terminal area routes report compulsory reporting fixes. Other aircraft report 100Â NM from Nimitz VORTAC. Where other island destinations within the Oakland Oceanic FIR are not more than one-degree latitude-longitude from a 5Â degrees fixed line reporting point, the ETA and arrival report may be substituted in lieu of the adjacent fixed line report.

b. To the east of the Hawaiian Islands it will not be necessary to report the 155Â degree west position if position will be reported at the entry/exit fixes on the Honolulu Control Facility boundary. To the west of the Hawaiian Islands, the 160Â degree west need not be reported.

NORTH PACIFIC (NOPAC) ROUTE PROCEDURES

a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

CENTRAL EAST PACIFIC ROUTE SYSTEM (HAWAII â€“ U.S. MAINLAND)

a. The Central East Pacific (CEP) is the organized route system between Hawaii and California. Seven ATS routes, R-463, R-464, R-465, R-585, R-576, R-577 and R-578 are the primary routes within the CEP.

b. Reduced Vertical Separation Minimum (RVSM) and Required Navigation Performance 10 (RNP-10) are required for aircraft operating within the CEP Route System at FL290 through FL410. Non-approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

c. Operators show approval for RVSM and RNP-10 by annotating block 10 of the ICAO flight plan (equipment) with the letter W and R respectively.

d. Flight Levels normally assigned in the CEP are in accordance with ICAO Appendix 3a (East odd, West even).

ATS ROUTE RESTRICTION NOTES

ATS Route Restriction Notes for information regarding flight planning purposes see Enroute Tab.

RNP-10 SEPARATION

RNP-10 lateral separation (50 NM) may be applied wthin the Oakland Oceanic FIR between RNP-10 approved aircraft. RNP-10 approval is required for all PACOTS and for all aircraft operating within the CEP at FL290 through FL410. Non-RNP approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

RVSM PROCEDURES

REDUCED VERTICAL SEPARATION MINIMUMS (RVSM) For procedures and equipment requirements see Air Traffic Control Tab.

REQUIRED NAVIGATION PERFORMANCE (RNP)

For procedures and equipment requirements, see Air Traffic Control pages and/or Air Traffic Control State pages for detailed information.

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE ICAO DOC 4444, SECTION 15.2

Introduction

1. Although all possible contingencies cannot be covered, these procedures provide for the more frequent cases such as:

a. Inability to comply with assigned clearance due to meteorological conditions.

b. En-route diversion across the prevailing traffic flow; and

c. Loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or pressurization failure.

2. General Procedures

1. If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action.

2. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received. In general terms, the aircraft should be flown at an offset level and on an offset track where other aircraft are less likely to be encountered. Specifically, the pilot shall:

a. Leave the cleared track or ATS route by initially turning at least 30 degrees to the right or to the left, in order to establish and maintain a parallel, same direction track or ATS route offset 5 NM (9.3 km). The direction of the turn should be based on one or more of the following factors:

1) aircraft position relative to any organized track or ATS route system;

2) the direction of flights and flight levels allocated on adjacent tracks;

3) the direction to an alternate airport;

4) any strategic lateral offset being flown; and

5) terrain clearance.

b. Maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped), leaving ACAS in RA mode at all times, unless aircraft operating limitations dictate otherwise;

c. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

d. keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate and, if equipped with ADS-B or ADS-C, select the appropriate emergency functionality;

e. as soon as practicable, advise air traffic control of any deviation from their assigned clearance;

f. use means as appropriate (ie. voice and/or CPDLC) to communicate during a contingency or emergency;

g. if voice communications are used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times, shall be used, as appropriate;

h. when emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice contact with the aircraft;

i. establish communications with and alert nearby aircraft by broadcasting on the frequencies in use and at suitable intervals on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz): aircraft identification, the nature of the distress condition, intention of the pilot, position (including the ATS route designator or the track code, as appropriate) and flight level; and

j. the controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft shall be based on the intentions or the pilot and overall traffic situation.

3. Actions to be taken once offset from track:

a) operation within a parallel track system;

b) the potential for user preferred routes (UPR's) parallel to the aircraft's track or ATS route;

c) the nature of the contingency (e.g. aircraft system malfunction; and

d) weather factors (e.g. convective weather at lower flight levels).

4. If possible, maintain the assigned flight level until established on the 9.3 km (5.0 NM) parallel, same direction track or ATS route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.

5. Once established on a parallel, same direction track or ATS route offset by 9.3km (5.0 NM), either:

a) descend below FL 290, and establish a 150 m (500 ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or if an ATC clearance has been obtained, in accordance with the clearance; or

b) establish a 150 m (500 ft) vertical offset (or 300 m (1000 ft) vertical offset if above FL 410) from those flight levels normally used, and proceed as required by the operational situation, or if ATC clearance has been obtained, in accordance with the clearance.

WEATHER DEVIATION PROCEDURES FOR OCEANIC CONTROLLED AIRSPACE â€” PACIFIC

When weather deviation is required, the pilot should initiate communications with ATC via voice or CPDLC. A rapid response may be obtained by either:
1. stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response; or

2. requesting a weather deviation using a CPDLC lateral downlink message.

When necessary, the pilot should initiate the communications using the urgency call "PAN PAN PAN" (preferably spoken three times) or by using a CPDLC urgency downlink message.
The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

The pilot should notify ATC and request clearance to deviate from track or ATS route, advising, when possible, the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e. voice and/or CPDLC) to communicate during a weather deviation.
ATC should take one of the following actions:
1. when appropriate separation can be applied, issue clearance to deviate from track; or

2. if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall:

1. advise the pilot of inability to issue clearance for the requested deviation;

2. advise the pilot of conflicting traffic; and

3. request the pilot's intentions.

The pilot should take the following actions:
1. comply with the ATC clearance issued; or

2. advise ATC of intentions and execute the procedures detailed in the Action to be Taken if a Revised ATC Clearance Cannot Be Obtained procedure section.

If the aircraft is required to deviate from track or ATC route to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:

1. if possible, deviate away from an organized track or ATS route system;

2. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz);

3. watch for conflicting traffic both visually and by reference to ACAS (if equipped);

4. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

5. for deviations of less than 9.3 km (5.0 NM) from the originally cleared track or ATS route, remain at a level assigned by ATC;

6. for deviations greater than, or equal to 9.3 km (5.0 NM) from the originally cleared track or ATS route, when the aircraft is approximately 9.3 km (5.0 NM) from track, initiate a level change in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section.

7. if the pilot receives clearance to deviate from cleared track or ATS route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section before deviating beyond the cleared distance;

8. when returning to track or ATS route, be at its assigned flight level when the aircraft is within approximately 9.3 km (5.0 NM) of the center line; and

9. if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

EAST 000Â° -179Â° magnetic

1. DESCEND 300 ft (90 m)

2. CLIMB 300 ft (90 m)

WEST 180Â° - 359Â° magnetic

1. CLIMB 300 ft (90 m)

2. DESCEND 300 ft (90 m)

PAZA Type: FIR

EXTENDED RANGE OPERATIONS BY AIRCRAFT WITH TWO-TURBINE POWER-UNITS (ETOPS) 1. If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

OCEANIC POSITION REPORTING PROCEDURES OAKLAND OCEANIC FIR

1. For non ADS equipped aircraft, any waypoint filed in the route of flight (ItemÂ 15 of the ICAO flight plan) must be reported as a position report whether the filed waypoint is compulsory or not. If a noncompulsory waypoint is not filed in item 15, it does not need to be reported.

2. POSITION REPORTS

a. When operating on a published ATS Route or a temporary route established by NOTAM, report and estimate the designated reporting points using the specified waypoint names or geographic coordinates as specified in the NOTAM.

b. When operating on a random route:

1. Flights whose tracks are predominantly east and west shall report over each 5Â degrees or 10Â degrees (10Â degrees will be used if the speed of the aircraft is such that 10Â degrees will be traversed within 80 minutes or less) meridian longitude extending east and west from 180Â degrees.

2. Flights whose tracks are predominantly north and south shall report over each 5Â degrees or 10Â degrees (10Â degrees if traversed within 80Â minutes) parallel of latitude extending north and south of the equator.

c. ATC may require specific flights to report more frequently than each 5Â degrees for aircraft with slow ground speeds.

d. Position reports shall be transmitted at the time of crossing the designated reporting point or as soon thereafter as possible.

3. Position reports shall include information on present position, estimated next position, and ensuing position in sequence as indicated below.

a. PRESENT POSITION - Information shall include:

1. The word â€œpositionâ€ .

2. Aircraft identification.

3. Reporting point name, or if not named:

(a) Latitude (2 digits or more) and,

(b) Longitude (3 digits or more).

b. Time over reporting point (4 digits UTC).

c. Altitude (Flight Level). When forwarding an altitude report within the Oakland OCA/FIR, pilots should report their present altitude and their assigned altitude exactly as cleared if the present and assigned altitudes differ. Aircraft assigned a block altitude must report their current altitude and the assigned block altitude. A restriction to cross a point at an altitude is not a block altitude assignment and should not be reported as a block of altitudes.

d. ESTIMATED NEXT POSITION

(1) Reporting point name, or if not named, latitude and longitude as in a.3 above and,

(2) Estimated time over next position (4 digits UTC).

e. ENSUING FIX

(1) Name only of the next succeeding fix whether compulsory or not, or if not named, latitude and longitude as in a.3 above.

4. WEATHER REPORTS:

a. Weather reports shall be included as provided in SectionÂ 3 of Standard AIREP Form by all flights unless exempted from weather reporting by the Weather Service and/or ATC.

5. ADHERENCE TO ATC APPROVED ROUTE

a. If an aircraft, notwithstanding all action taken to adhere to the route specified in the ATC clearance, inadvertently deviates from this route, action shall be taken to regain it as soon as reasonable and not further ahead than 200 nautical miles from the DR position at which the heading was altered to regain the route specified in the ATC clearance. Action to regain this route shall not be delayed in anticipation of obtaining a requested re-clearance.

6. EXCEPTIONS TO POSITION REPORTS PROCEDURES

a. Within Oakland OCA/FIR, no 5Â degree report need be made that would fall within 100Â NM of Guam. Aircraft cleared via terminal area routes report compulsory reporting fixes. Other aircraft report 100Â NM from Nimitz VORTAC. Where other island destinations within the Oakland Oceanic FIR are not more than one-degree latitude-longitude from a 5Â degrees fixed line reporting point, the ETA and arrival report may be substituted in lieu of the adjacent fixed line report.

b. To the east of the Hawaiian Islands it will not be necessary to report the 155Â degree west position if position will be reported at the entry/exit fixes on the Honolulu Control Facility boundary. To the west of the Hawaiian Islands, the 160Â degree west need not be reported.

NORTH PACIFIC (NOPAC) ROUTE PROCEDURES

a. The NOPAC Route System is comprised of five Air Traffic Service (ATS) routes which transit the North Pacific between Alaska and Japan. The two northern routes are used for westbound traffic. The three southern routes are used for eastbound traffic, except that R-591 or G-344 may be used for westbound aircraft crossing the Fukuoka/Anchorage FIR between 0000UTC and 0600UTC. The routes are as follows: R-220, R-580, A-590, R-591 and G-344.

b. Transition Routes

1. Within the Fukuoka FIR, Oceanic Transition Routes (OTRs) and, in one case, a Victor route, have been established for aircraft transitioning to or from the NOPAC Route System.

2. Within the Anchorage FIR, certain ATS routes are used for the same purpose. They are as follows: B-327 (For Westbound use only between BAMOK and SELDM), R-341, G-469, A-342, G-215, R-330, R-451, R-336, R-338, G-583 and G-349.

c. Separation Standards

1. The primary form of lateral separation within the NOPAC Route System is 25NM lateral either side of the centerline, based on Required Navigation Performance 10 (RNP-10) and 1000' vertical separation (FL290 - FL410) based on Reduced Vertical Separation Minimums (RVSM).

2. Lateral separation for Non-RNP10 aircraft and aircraft operating below FL180 is 50NM lateral either side of the centerline.

3. Standard longitudinal separation within the Anchorage Oceanic FIR is 15 minutes "in trail".

d. Flight Plans

1. Aircraft shall enter "R" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RNP 10 operations for the route of flight.

2. Aircraft shall enter "W" in item 10 of the ICAO flight plan if the aircraft and operator have been approved for RVSM.

3. Aircraft not approved for RNP 10 and/or RVSM shall not enter "R" and/or "W" in item 10.

4. Aircraft approved for both RNP 10 and RVSM may flight plan any of the NOPAC routes with the following altitude restrictions:

(a) R-220: Even Altitudes FL180 to FL400, also FL330, FL350, FL370, FL390, FL410

(b) R-580: Even Altitudes FL180 to FL400, also FL350, FL370

(c) A-590: Odd Altitudes FL190 to FL410, also FL300, FL320, FL340

(d) R-591: Eastbound, Odd Altitudes FL190 to FL410

(e) R-591: Westbound, Even Altitudes FL300 to FL400

(f) G-344: Eastbound, Odd Altitudes FL190 to FL410

(g) G-344: Westbound, Even Altitudes FL300 to FL400

(h) R-591 and G-344 are Eastbound routes unless designated as Westbound PACOTS. Traffic flows are either Eastbound or Westbound with the tracks being emptied of traffic before changing direction.

5. Non-RNP-10 aircraft shall flight plan as follows:

(a) Westbound: R-220 at all times.

(b) Eastbound: A-590 at all times.

(c) Eastbound: G-344 when available for eastbound flights.

(d) The altitudes available on these routes are at or below FL280 and at or above FL430.

e. Procedures

1. Peak traffic periods:

(a) Eastbound - 0700UTC to 2100UTC

(b) Westbound - 1200UTC to 1900UTC and 2200UTC to 0800UTC

(c) Due to traffic volume, flights desiring to operate contrary to the predominant traffic flow can expect to be rerouted or assigned less than optimum flight levels. If feasible, users planning to operate in the NOPAC Route System at airspeeds below MACH 0.78 should use other than the peak hours for their flights. This will reduce congestion and expedite traffic.

f. Aircraft cannot always be accommodated on their flight planned NOPAC route. In an effort to reduce coordination time and errors between ATC and flight crews, JCAB (Fukuoka ATMC) and FAA (Anchorage ARTCC) have agreed on a common procedure to accommodate most reroutes. Aircraft rerouted from one NOPAC ATC route to another NOPAC ATC route will be given short range clearances into the adjoining FIR's RADAR coverage airspace. The receiving ATC facility will then issue further routing to the aircraft prior to the aircraft reaching the clearance limit.

1. Example 1: aircraft ABC101 is routed via R-220 to RJTT but can not be accommodated on R-220. The aircraft may be re-cleared as follows: "ABC101 cleared to OATIS via R-580, expect further clearance from ATMC after OMOTO."

2. Example 2: aircraft ABC102 is routed via A-590 to PAFA but can not be accommodated on A-590. The aircraft may be re-cleared as follows: "ABC102 cleared to SYA via R-591, expect further routing from Anchorage ARTCC after AKISU."

TRACK ADVISORY (TA) PROGRAM FOR FLIGHTS CROSSING ANCHORAGE ARTCC/RUSSIAN FIRs

a. The TA program is similar to that used by Oakland for PACOTS traffic. It is designed to assist ATC in sequencing same altitude aircraft proceeding westbound over the Russian FIR entry fixes. Flights participating in the TA program will receive preference over non-participants.

b. All Westbound flights crossing the Anchorage/Russian FIR boundary at or above FL 280 (8600 meters) shall participate in the TA program.

ATS ROUTE RESTRICTION NOTES
ATS Route Restriction Notes for information regarding flight planning purposes see Enroute Tab.

MACH NUMBER TECHNIQUE For information about routes and/or areas affected, see Air Traffic Control Tab.

TRANSPONDER SETTING (Secondary Surveillance Radar-SSR) For Beacon Code procedures see Enroute Tab.

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE ICAO DOC 4444, SECTION 15.2
Introduction

1. Although all possible contingencies cannot be covered, these procedures provide for the more frequent cases such as:

a. Inability to comply with assigned clearance due to meteorological conditions.

b. En-route diversion across the prevailing traffic flow; and

c. Loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or pressurization failure.

2. General Procedures

1. If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action.

2. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received. In general terms, the aircraft should be flown at an offset level and on an offset track where other aircraft are less likely to be encountered. Specifically, the pilot shall:

a. Leave the cleared track or ATS route by initially turning at least 30 degrees to the right or to the left, in order to establish and maintain a parallel, same direction track or ATS route offset 5 NM (9.3 km). The direction of the turn should be based on one or more of the following factors:

1) aircraft position relative to any organized track or ATS route system;

2) the direction of flights and flight levels allocated on adjacent tracks;

3) the direction to an alternate airport;

4) any strategic lateral offset being flown; and

5) terrain clearance.

b. Maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped), leaving ACAS in RA mode at all times, unless aircraft operating limitations dictate otherwise;

c. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

d. keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate and, if equipped with ADS-B or ADS-C, select the appropriate emergency functionality;

e. as soon as practicable, advise air traffic control of any deviation from their assigned clearance;

f. use means as appropriate (ie. voice and/or CPDLC) to communicate during a contingency or emergency;

g. if voice communications are used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times, shall be used, as appropriate;

h. when emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice contact with the aircraft;

i. establish communications with and alert nearby aircraft by broadcasting on the frequencies in use and at suitable intervals on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz): aircraft identification, the nature of the distress condition, intention of the pilot, position (including the ATS route designator or the track code, as appropriate) and flight level; and

j. the controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft shall be based on the intentions or the pilot and overall traffic situation.

3. Actions to be taken once offset from track:

a) operation within a parallel track system;

b) the potential for user preferred routes (UPR's) parallel to the aircraft's track or ATS route;

c) the nature of the contingency (e.g. aircraft system malfunction; and

d) weather factors (e.g. convective weather at lower flight levels).

4. If possible, maintain the assigned flight level until established on the 9.3 km (5.0 NM) parallel, same direction track or ATS route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.

5. Once established on a parallel, same direction track or ATS route offset by 9.3km (5.0 NM), either:

a) descend below FL 290, and establish a 150 m (500 ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or if an ATC clearance has been obtained, in accordance with the clearance; or

b) establish a 150 m (500 ft) vertical offset (or 300 m (1000 ft) vertical offset if above FL 410) from those flight levels normally used, and proceed as required by the operational situation, or if ATC clearance has been obtained, in accordance with the clearance.

WEATHER DEVIATION PROCEDURES FOR OCEANIC CONTROLLED AIRSPACE â€" PACIFIC

When weather deviation is required, the pilot should initiate communications with ATC via voice or CPDLC. A rapid response may be obtained by either:
1. stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response; or

2. requesting a weather deviation using a CPDLC lateral downlink message.

When necessary, the pilot should initiate the communications using the urgency call "PAN PAN PAN" (preferably spoken three times) or by using a CPDLC urgency downlink message.
The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

The pilot should notify ATC and request clearance to deviate from track or ATS route, advising, when possible, the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e. voice and/or CPDLC) to communicate during a weather deviation.
ATC should take one of the following actions:
1. when appropriate separation can be applied, issue clearance to deviate from track; or

2. if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall:

1. advise the pilot of inability to issue clearance for the requested deviation;

2. advise the pilot of conflicting traffic; and

3. request the pilot's intentions.

The pilot should take the following actions:
1. comply with the ATC clearance issued; or

2. advise ATC of intentions and execute the procedures detailed in the Action to be Taken if a Revised ATC Clearance Cannot Be Obtained procedure section.

If the aircraft is required to deviate from track or ATC route to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:
1. if possible, deviate away from an organized track or ATS route system;

2. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz);

3. watch for conflicting traffic both visually and by reference to ACAS (if equipped);

4. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

5. for deviations of less than 9.3 km (5.0 NM) from the originally cleared track or ATS route, remain at a level assigned by ATC;

6. for deviations greater than, or equal to 9.3 km (5.0 NM) from the originally cleared track or ATS route, when the aircraft is approximately 9.3 km (5.0 NM) from track, initiate a level change in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section.

7. if the pilot receives clearance to deviate from cleared track or ATS route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with the Originally Cleared Track or ATS Route Center Line / Deviations / Level Change section before deviating beyond the cleared distance;

8. when returning to track or ATS route, be at its assigned flight level when the aircraft is within approximately 9.3 km (5.0 NM) of the center line; and

9. if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

EAST 000Â° -179Â° magnetic
1. DESCEND 300 ft (90 m)

2. CLIMB 300 ft (90 m)

WEST 180Â° - 359Â° magnetic
1. CLIMB 300 ft (90 m)

2. DESCEND 300 ft (90 m)