

## **HONOLULU (DANIEL K INOUEY INTL) AIRPORT HNL RUNWAY INCURSION AND WRONG SURFACE LANDING RISKS**

**Runways 04–22 Runway Incursion Risk:** The runway holding position markings (hold lines) between Runway 04L–22R and Runway 04R–22L are relocated, with minimal space of approximately 20 feet between them. Pilots are reminded to hold short of the parallel runway until a clearance is received to cross that runway. ATC is aware that the aircraft tail may not be clear of the exiting runway and is restricting arriving and departing aircraft on that runway.

For additional information, enter this link into your web browser to view a short video on FAA's You Tube Channel: <https://youtu.be/OzwZvJPcGIs>.

**Wrong Surface Landing Risk:** Rwy 04R/Rwy 04L thresholds. Pilot expectation bias or runway confusion cause a potential for wrong runway landings. Pilots are reminded to acknowledge landing runway assignment and visually confirm lined up for the correct runway.

For additional information contact Honolulu Control Facility (HCF) at 808-840-6100.

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## **LASER LIGHT OPERATION**

### **Keck Observatory, Gemini Observatory and Subaru Observatory**

A permanent laser light operation is being conducted nightly between sunset and sunrise at Keck Observatory and Gemini Observatory N19–49–26/W155–28–09, Kamuela VOR (MUE) 122 degree radial at 16 nautical miles. The laser beam may be injurious to eyes if viewed on axis. Cockpit illumination and flash blindness may also occur if the beam enters the cockpit. Honolulu Control Facility, (808) 840–6201 is the FAA coordination facility.

### **Maui Space Surveillance Complex**

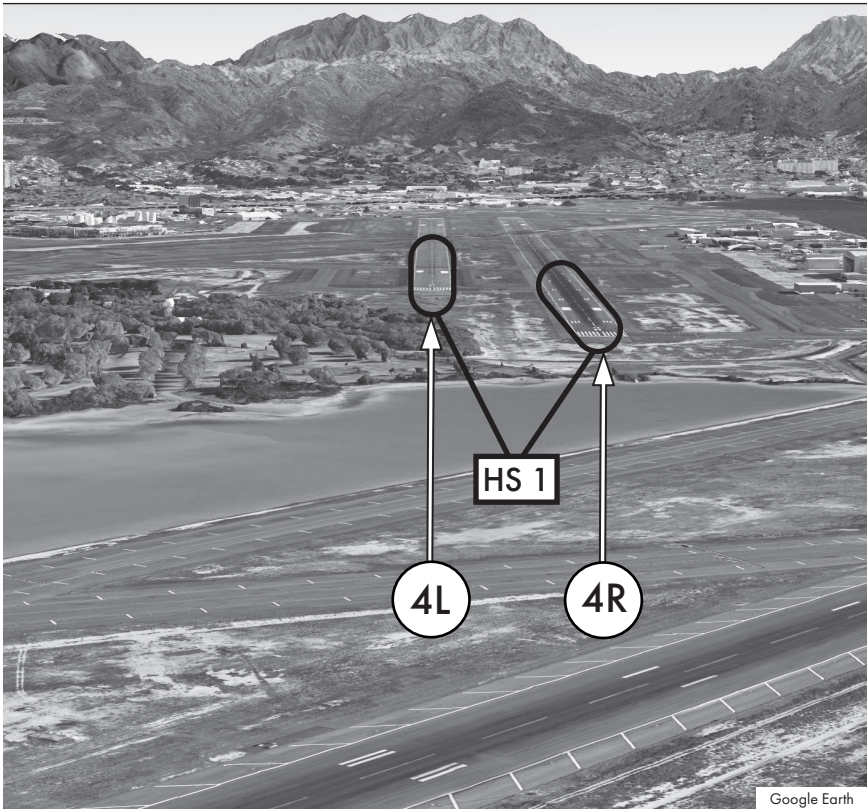
A permanent laser light operation is being conducted nightly between sunset and sunrise at the Maui Space Surveillance Complex (MSSC) N204231/W1561528, Maui VOR (OGG) 131 degree radial at 15 nautical miles. The laser beam may be injurious to eyes if viewed on axis. Cockpit illumination and flash blindness may also occur if the beam enters the cockpit. Honolulu Control Facility, (808) 840–6201 is the FAA coordination facility.

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## DANIEL K INOUE INTL (HNL) ARRIVAL ALERT

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### Landing Northeast RWY 4L and RWY 4R



**Pilot sometimes confuse RWY 4L and RWY 4R.**

**Not for Navigational Purposes  
For Situational Awareness Only  
For Inquiries: [9-awa-RunwaySafety@faa.gov](mailto:9-awa-RunwaySafety@faa.gov)  
Effective 19 MAY 2022 to 16 MAY 2024**



**CHANGE NOTICE**

A Change Notice will only be issued for safety considerations such as when an amended or original instrument approach procedure is issued.

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**VMC FLIGHT (VFR)**

1. The Oakland OCA/FIR, unless otherwise specified, is classified as class A airspace from FL055 to FL600 (IFR only). VMC flights are not authorized in class A airspace but may operate within the Oakland Oceanic FIR as follows:
  - a. At or below FL055 (class G).
  - b. In class D and E airspace.
  - c. In the airspace surrounding Pacific islands located within the Oakland OCA/FIR with the following restrictions:
    - (1) Between sunrise and sunset; and
    - (2) When operating less than 100 NM of shoreline of any landmass; and
    - (3) Below FL200.

NOTE: VMC Flights operating within 100 NM of landfall are not considered to be “over water” flights.

2. All “over water” VMC flights planning to operate outside of controlled airspace (class G) but on routes within the Oakland Oceanic FIR are required for national security to file an ICAO flight plan.
  - a. The flight plan shall contain reporting points along the route not more than 80 minutes apart.
  - b. It is the VMC pilots' responsibility to open and close their VMC flight plan with Oakland ARTCC.
3. All over water VMC flights are required to maintain a continuous listening watch on the appropriate frequency, and make position reports at all filed reporting points on the appropriate HF frequencies.

NOTE: Satphones do not meet the “continuous listening watch” requirements as prescribed by ICAO.

4. Flight following and alerting services are provided by ATC for all over water flights.
5. State owned aircraft (military, customs etc.) may operate VFR within the Oakland Oceanic FIR if exercising “Due regard.”

Office of Primary Responsibility (OPR): Oakland Center – FAA/AJT-ZOA-IAP  
Contact Information: 510-745-3326/3464; email: AJT-ZOA-IAP@faa.gov  
Amended: August 2023

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**ADDRESSING FLIGHT PLANS WITH OAKLAND OCEANIC**

All aircraft entering Oakland OCA/FIR (KZAK) must address the ICAO flight plans to KZAKZQZX and KSFOXAAX.

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**OCEANIC IFR SEPARATION STANDARDS**

1. LONGITUDINAL: At least 10 minutes between turbojet aircraft on the same or continuously diverging course. Non-turbojet aircraft, at least 15 minutes. Between two RNP-10 aircraft with ADS-C connections, 50 nautical miles and between two RNP-4 aircraft with ADS-C connections, 30 nautical miles.
  2. CROSSING: All aircraft at least 15 minutes.
  3. LATERAL: At least 100 nautical miles between intended routes, 50 nautical miles between aircraft certified RNP-10 and 30 nautical miles between aircraft certified RNP-4. Lateral separation minima may be reduced in some cases when suitable NAVAIDS are available.
  4. VERTICAL: Oakland OCA is classified as Reduced Vertical Separation Minimum (RVSM) airspace. Vertical separation standards are therefore at least 1,000 feet from the lower limit to flight level 410. Above flight level 410 at least 2,000 feet.
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**LOWER SEPARATION MINIMA – OAKLAND OCEANIC FIR**

In accordance with ICAO Regional Supplementary Procedures – DOC 7030 PAC Region 6.2.6, notice is hereby given that separation lower than those specified in 6.2.1 and 6.2.2 may be applied in accordance with PANS-ATM DOC 4444 within the Oakland Oceanic FIR/OCA. The use of lower separation standards within the airspace listed below is contingent upon satisfactory and current flight check data of the navigational aids.

**AIRSPACE**

100 NM seaward of the boundary  
of the Honolulu Domestic area  
50 NM of Guam  
130 NM of Wake Island  
40 NM of Wake Island  
130 NM of Midway Island  
40 NM of Midway Island  
50 NM of Majuro Island  
50 NM of Kwajalein Island  
50 NM of Weno Island/Chuuk  
50 NM of Yap Island  
50 NM of Ponape Island  
50 NM of Saipan Island  
50 NM of Babelthupai Island/Koror

**NAVIGATIONAL AIDS**

SOK, LIH, HNL, MKK, LNY,  
OGG, ITO, UPP and KOA VORTACS  
AJA NDB  
AWK VORTAC FL180–450  
AWK VORTAC SFC–FL180  
NQM TACAN FL180–450  
NQM TACAN SFC–FL180  
MAJ NDB/DME  
NDJ NDB  
TKK NDB/DME  
YP NDB/DME  
PNI NDB/DME  
SN NDB  
ROR NDB/DME

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**MACH NUMBER TECHNIQUE**

1. The minimum longitudinal separation between aircraft may be reduced with the application of Mach Number Technique (MNT) thereby improving airspace utilization.

**2. APPLICATION**

- MNT may be used only between turbojet aircraft following the same or continuously diverging track, which have reported over a common point.
- MNT can only be applied between aircraft that are assigned a single cardinal altitude or the aircraft concerned are in level, climbing or descending flight.
- Longitudinal separation between aircraft using MNT is based on the aircraft maintaining the assigned Mach number at all times, including during climb and descent. If it is not feasible, for operational reasons, to maintain the last assigned Mach number, the pilot shall advise ATC at the time of the initial clearance or subsequent climb/descent request or clearance.
- Aircraft shall adhere to the Mach number assigned by ATC and shall obtain approval before making any change to the Mach number. If it is essential to make an immediate change in Mach number (i.e. due to turbulence) ATC shall be notified as soon as possible that such a change has been made.
- MNT SEPARATION MINIMA. When the lead aircraft maintains the same Mach number of the following aircraft the minima when using MNT is 10 minutes.
- REDUCTIONS TO SEPARATION WHEN APPLYING MNT.
  - To apply reductions, it must be possible to ensure that the required time interval will exist at the common point from which the aircraft either follow the same track or continuously diverging tracks.
  - Both turbojet aircraft will be assigned an appropriate Mach number. The lead aircraft will be assigned a Mach number greater than the following aircraft. Separation minima are as follows:

Difference in Mach number  
between aircraft  
0.02 Mach  
0.03 Mach  
0.04 Mach  
0.05 Mach  
0.06 Mach

Minimum separation  
between aircraft  
9 Minutes  
8 Minutes  
7 Minutes  
6 Minutes  
5 Minutes

- MNT WITH FASTER AIRCRAFT BEHIND. Mach Number Technique may be applied when faster aircraft will follow another aircraft at the same flight level. In this case, longitudinal separation may be established during transition from offshore airspace to the OCA, or when both aircraft are within oceanic airspace. Sufficient longitudinal separation will be applied to ensure at least 10 minutes separation until another form of separation is achieved.

Office of Primary Responsibility (OPR): Oakland Center – FAA/AJT-ZOA-IAP  
Contact Information: 510-745-3326/3464; email: AJT-ZOA-IAP@faa.gov  
Amended: August 2023

### **USE OF VERY HIGH FREQUENCY (VHF) AND HIGH FREQUENCY (HF) FOR COMMUNICATIONS**

Due to the inherent "line of sight" limitations of VHF radio equipment when used for communications in international oceanic airspace, those aircraft operating on an IFR or controlled VFR flight plan beyond the communications capability on the assigned VHF will be required as per ICAO Annex 2 to maintain a continuous listening watch and communications capability on the assigned HF frequencies. These frequencies are listed in Section IV of this Chart Supplement as part of the general-purpose communication facilities operated by Collins Aerospace (San Francisco Radio). These facilities will be responsible for the relay of position reports and other pertinent information between the aircraft and Air Traffic Control.

NOTE: Use of satellite telephones does not provide "a continuous listening watch and therefore does not meet minimum ICAO requirements. However satellite telephones may be used as a backup to HF communications in the event an aircraft is unable to contact San Francisco Radio on HF. Satellite voice equipped aircraft may call San Francisco Radio at SATCOM SHORT CODE 436625 to transmit messages.

### **DIRECT SATVOICE CAPABILITY**

Oakland Center Oceanic has the capability for air/ground and ground/air satellite telephone service (SATVOICE). Direct SATVOICE contact between the pilot and the Front Line Manager at Oakland Center Oceanic shall be limited to distress and urgency situations or other exceptional circumstances only. Aircraft desiring to contact Oakland Center Oceanic should use the following INMARSAT security numbers:

INMARSAT number  
436697

Office of Primary Responsibility (OPR): Oakland Center – FAA/AJT-ZOA-IAP  
Contact Information: 510-745-3326/3464; email: AJT-ZOA-IAP@faa.gov  
Amended: August 2023

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**SPECIAL PACIFIC AREA COMMUNICATIONS**

Frequency 123.45 MHz has been designated for use in air-to-air communications between aircraft operating in the Pacific area out of range of VHF ground stations to exchange operational information and facilitate resolution of operational problems.

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**GUARD OF VHF EMERGENCY FREQUENCY**

Pilots should remember that there is a need to continuously guard the VHF emergency frequency 121.5 MHz when on long over-water flights, except when communications on other VHF channels, equipment limitations, or cockpit duties prevent simultaneous guarding of two channels. Guarding of 121.5 MHz is particularly critical when operating in proximity to flight information region (FIR) boundaries since it serves to facilitate communications with regard to aircraft, which may experience in-flight emergencies, communications, or navigational difficulties.

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**USE OF NONDIRECTIONAL BEACON (NDB) FOR NAVIGATION**

1. The use of NDB as the "primary" source of navigation for long-range oceanic flight presents the operator with numerous limitations and restrictions that are inherent in low frequency radio equipment and low frequencies signals. These include:
  - a. Infrequent identification of the station.
  - b. Identification of foreign language stations may be impossible without some knowledge of the language.
  - c. Transmitter sites are not always collocated with studio facilities.
  - d. Termination of service without notice.
  - e. Weather systems causing erratic and unreliable reception of signal.
  - f. Atmospheric disturbances causing erratic and unreliable reception of signal.
  - g. No flight checks conducted to verify the suitability and reliability of the facility and its signal for use in air navigation.
  - h. Fluctuation (bending) of signal due to "shoreline/mountain" effect.
  - i. Standard broadcast stations are not dedicated for air navigation purposes.
4. Considering the limitations, the operator should make every effort to navigate the aircraft so as to maintain the "track/course" and the "tolerances" specified in the ATC clearance. An error of 10 degrees at a distance of 2000 miles equates to approximately 350 NM of course deviation; the inadequacies of the NDB as the sole source of navigation for oceanic flight must be evaluated carefully.

Office of Primary Responsibility (OPR): Aviation Safety, Flight Operations Group, AFS-410  
Contact Information: 202-267-8806; email: 9-AWA-AVS-AFS410@faa.gov  
Amended: August 2023

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**AMERICAN SAMOA****PAGO PAGO INTERNATIONAL AIRPORT****PROCEDURES**

**Inbound.** About 30 miles from the airport, monitor 118.3 for broadcasts from other aircraft. At 15 miles from the airport broadcast your position, altitude and intentions. Follow this with your position on downwind, base leg and final approach.

**Outbound.** Monitor 118.3 for broadcasts from other aircraft before taxiing. Broadcast your position on the airport and intentions. Follow this with an announcement before you taxi onto the runway for takeoff.

**HAZARDS, CAUTIONS AND WARNINGS**

**AMERICAN SAMOA – POWER LINES:** Permanently installed power lines between island of Ofu and Olosega 400 feet ASL unlighted and unmarked.

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**HONOLULU CTA/HAWAII****GENERAL INFORMATION ON FLYING TO HAWAII**

(Entry and Departure Requirements)

Air Commerce Regulations of the United States, Part 6, place certain responsibilities upon owners and operators of aircraft engaging in flights to and from foreign countries.

Customs and other agencies concerned desire to facilitate air travel to the fullest extent possible while carrying out their responsibilities. Aircraft operators can assist by familiarizing themselves with the regulations and by complying with them under all circumstances. Failure to do so may incur substantial penalties.

The following sets forth the principal requirements of concern to private plane operators engaging in international flights.

**ARRIVAL AND DEPARTURE MANIFESTS.** All aircraft departing from the continental United States or Alaska or Hawaii are exempt from filing an arrival or departure manifest. Aircraft arriving from any other place are required to file arrival and departure manifests.

**ADVANCE NOTICE REQUIRED.** Advance notice of each arrival must be furnished to U.S. Customs officials at or nearest to the place of intended first landing who will notify the Immigration and Public Health officials.

Advance notice should be sent so as to be received in sufficient time to enable the officers designated to inspect the aircraft to reach the place of landing before the arrival of the aircraft. At most airports, at least 2 hours advance notice is required for this purpose.

Notification may be made by telephone, which is preferable, or by telegram or radio. The notice should specify the following: (a) Type of aircraft; (b) Identification number (NC number); (c) Name of pilot; (d) Place of last departure; (e) Airport of entry; (f) Number of alien and citizen passengers; and (g) Estimated time of arrival (Indicating whether H.S.T., P.S.T., etc.).

All aircraft entering the United States from a foreign area must give advance notice of arrival IAW 19 CFR 122.23 and 122.31. Notice must be given to the port director at the place of first landing, either directly by radio, telephone, or other method; or through FAA flight notification procedure (see International Flight Information Manual, Federal Aviation Administration). When reliable means for giving notice are not available (for example, when departure is from a remote place) a departure must be made at a place where notice can be sent prior to coming into the U.S. Notice of arrival must be furnished far enough in advance to allow inspecting U.S. Customs and Border Protection (CBP) officers to reach the place of first landing of the aircraft prior to the aircraft's arrival. When advance notice is received, the port director will inform any other concerned Federal agency.

**AIRPORTS FOR ENTRY OR REENTRY.** If the operator of a private aircraft returning to or visiting the United States wishes to land at any airport of entry, advance notice of arrival is necessary. This advance notice should be sent also to the immigration and public health officers at or nearest the intended place of first landing.

If he intends to land at a place not designated as an airport of entry, he must obtain permission to make such landing and give advance notice of arrival to the customs office nearest the intended place of first landing. It is not necessary that separate requests be sent to immigration and public health officers in these cases.

**WHAT TO REPORT.** The advance notice should specify the type of aircraft, registration marks, name of commander, place of last departure, international airport, number of alien passengers, number of citizen passengers, and the estimated time of arrival. This advance notice should be sent in time to enable officers, designated to inspect the aircraft, to reach the place of landing before the aircraft arrives.

Upon arrival, the operator and passengers will be examined in the same manner as any international traveler. They must declare any articles acquired abroad. If any passengers or cargo are carried, an inward manifest must be filed. Customs officers can supply forms for both types of declaration, although operators should have their own supply.

**IN CASE OF EMERGENCY.** If an emergency landing is made in the United States, the aircraft operator should report as promptly as possible to the nearest customs, immigration and public health officers. The aircraft operator should not permit any merchandise or baggage to be removed, or any passengers to depart, without official permission unless necessary for preservation of life or property.

**THE MATTER OF CHARGES.** No charges are made for services during business hours when a landing takes place at any airport of entry; except that, when an aircraft arrives on a Sunday or holiday, or during other than regular hours, OVERTIME PAY WILL BE COLLECTIBLE. These charges are required by law. They may amount to as much as two days pay for each officer for any service performed on a Sunday or holiday. However, the charges are prorated where more than one aircraft is processed.

If the landing is made at a place other than an airport of entry, any expenses incurred by Government officers in going to and from the place of landing are payable by the plane operator. In addition, if the aircraft arrives on a Sunday or holiday, or during other than regular hours, OVERTIME PAY WILL BE COLLECTIBLE.

**UNITED STATES LANDING RIGHTS AIRPORTS.** At the following airports an application for permission to land must be submitted in advance to U.S. Customs. At least two hours advance notice of arrival must also be furnished to U.S. Customs. Advance notice of arrival may be included in your flight plan filed in Canada or Mexico if destined to an airport where flight notification service is available; this notice will be treated as an application for permission to land.

## HAWAII

Lihue/Lihue Airport  
Hilo/Hilo Intl  
Honolulu/Daniel K Inouye Intl  
Kahului/Kahului Airport

NOTE: All aircraft entering U.S. airspace from a foreign port or departing U.S. airspace for a foreign port must provide at least 1 hour advance notice to the U.S. Customs and Border Protection (CBP) via the Electronic APIS (eAPIS) at <https://eapis.cbp.dhs.gov/>, telephone, radio, or other means, or through the FAA. Requests for permission to land at a Hawaiian landing rights airport should be directed to 808-861-8462 ext 0.

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## RADAR SERVICE – HONOLULU DOMESTIC AREA

In an effort to eliminate the mid-air collision potential in the Honolulu Domestic area, civil aircraft are encouraged to take one of the following two courses of action: (1) File an IFR flight plan, if the pilot is qualified and aircraft properly equipped; (2) Take advantage of the VFR radar advisory service provided by Honolulu Control Facility, by contacting Honolulu Control Facility on 119.3 MHz for aircraft SE of Oahu, 126.5 MHz when W of Oahu, or on 124.1 MHz when NE of Oahu. Aircraft desiring this service should request VFR radar advisory service and give aircraft identification, type, altitude, position with reference to the nearest navaid or geographical location, heading and destination. If controller workload permits, radar traffic advisories will be issued after radar identification is accomplished by aircraft position correlation, or aircraft identifying turns. This is in addition to the radar services provided by Maui and Honolulu Approach Controls for aircraft in their respective areas.

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## RADAR SERVICE – KONA DOMESTIC AREA

Primary radar service unavailable below 5000 feet MSL east of Haleakala and south of Maunakea. In the area as described, radar services are available only to transponder equipped aircraft.

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## GLIDE SLOPE SIGNALS ON LOCALIZER BACK COURSE

Localizer Back Course instrument approach procedures do not utilize glide path information. In most back course areas, however, extraneous glide slope signals emanating from the front course site can be detected—THESE GLIDE SLOPE SIGNALS SHOULD BE DISREGARDED WHEN CONDUCTING LOCALIZER BACK COURSE APPROACHES.

The FAA has conducted an airborne survey to determine the level of extraneous glide slope signal at each location. Where a significant level of "fly down" glide slope signal is present, the approach chart will be annotated as an additional alert to the pilot.

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## BEACON REQUIREMENTS

Aircraft departing the Honolulu CTA and entering the Oakland FIR should remain on their last assigned discrete beacon code until passing the first compulsory reporting point after crossing the KZAK FIR boundary, thence adjust transponder to display code 2000 until otherwise directed by air traffic control.

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## HIGH FREQUENCY (HF) RADIO FREQUENCY ASSIGNMENT

Aircraft departing airports in Hawaii and entering the Oakland FIR should contact San Francisco Radio on 131.95 for HF frequency assignment prior to departure. If unable to contact San Francisco Radio prior to departure, then within ten (10) minutes of departure.

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## STRATEGIC LATERAL OFFSET PROCEDURE (SLOP) IN HONOLULU CONTROL FACILITY AIRSPACE TO MITIGATE WAKE TURBULENCE AND TO MITIGATE COLLISION RISK

1. Aircraft are encouraged to use the Strategic Lateral Offset Procedure (SLOP) published in the USA AIP (Aeronautical Information Publication) within the Honolulu CF CTA (Honolulu Control Facility Control Area).
2. In addition to the airspace authorized for SLOP in the USA AIP, flights may use SLOP while on ATS routes in the Honolulu CF CTA.
  - a. Departing oceanic flights may apply SLOP within the Honolulu CF CTA upon reaching initial cruise flight level and within 70 NM from oceanic entry point.
  - b. Oceanic flights arriving Hawaii should terminate SLOP no later than 70 NM after oceanic exit point or when receiving radar vectors whichever occurs first.
  - c. Oceanic overflights should remain on SLOP offset throughout the Honolulu CTA.
3. Hawaiian inter-island flights must not use SLOP.

For questions about SLOP in HCF CTA call 808-840-6204



## VFR FLIGHT WITHIN HAWAII

NOTE: CAUTION – HIGH DENSITY COMMUTER AND SIGHTSEEING TRAFFIC

### VFR Cruising altitude at or below 3,000 feet AGL

In order to reduce traffic conflict between interisland flights at or below 3,000 feet, an informal cruising altitude program is in use in the Hawaiian islands. Recommended eastbound altitudes: 2500, 1500, 500 feet; recommended westbound altitudes: 3000, 2000, 1000 feet.

**SPECIAL ALERTNESS RECOMMENDED:** Pilots engaged in sightseeing Hawaii must be sure their attention is not diverted from their primary responsibility for the safe operation of their aircraft. There is extensive VFR traffic operating along shorelines of all islands. Aircraft range in size from Cessna 152 to DeHavilland DHC-7 (4-engine). These aircraft generally operate from the shoreline to three miles offshore, at altitudes below 4500 feet.

Pilots should be aware of the high density traffic areas listed below.

### **NORTH SHORE MOLOKAI–MAUI**

The route from Koko Head (CKH) VORTAC to and along the north shore of Molokai and Maui is extremely heavily traveled by aircraft engaged in commuter and sightseeing operations. As many as seven aircraft may be operating along Molokai north shore in both east and west bound directions, simultaneously and on a routine basis. The number may be up to 15 aircraft during peak traffic periods. VFR CHECKPOINTS: ILIO POINT, KALAUPAPA, and CAPE HALAWA on Molokai; NAKALELE POINT on Maui.

### The following precautions are recommended:

–Maintain an especially alert watch for other aircraft. Traffic becomes concentrated in the vicinity of Ilio Point, Kalaupapa (airport), Cape Halawa, and Nakalele Point. Altitude changes should be avoided in these areas.

–Maintain an alert listening watch on 122.9 MHz and announce aircraft position, direction of flight and altitude when passing the VFR checkpoints named above.

EXAMPLE: ROYAL 76, ILIO POINT EASTBOUND 1500  
TANGO 34, CAPE HALAWA WESTBOUND 2000

–Landing aircraft–Molokai Airport: Before crossing within one mile of the shoreline, or before passing abeam the VFR checkpoints noted above, arriving aircraft should broadcast position, altitude and intentions on 122.9 MHz prior to contacting Molokai Tower.

EXAMPLE: ROYAL 76 THREE WEST ILIO POINT, 1500, LANDING MOLOKAI

–Landing aircraft–Kalaupapa Airport: Aircraft landing at Kalaupapa Airport should comply with transiting procedures and, when approximately five miles from the airport, broadcast position, altitude and intentions on 122.9 MHz (remaining clear of the Molokai Airport Traffic Area). Follow this up with appropriate announcements on downwind, base leg and final approach. When departing Molokai for Kalaupapa, request frequency change to 122.9 MHz after departure, in order to make these broadcasts.

Flights Through Kalaeloa Class D–Aircraft at or above 2000', contact HCF APP on 119.1/239.05 if north of Kalaeloa Airport, 118.3/269.0 if south of the airport. Aircraft below 2000', contact Kalaeloa Tower for instructions.

## HONOLULU CLASS B AIRSPACE

### OPERATING RULES AND PILOT/EQUIPMENT REQUIREMENTS

Regardless of weather conditions, an ATC authorization is required prior to operating within Class B airspace. Pilots should not request an authorization to operate within CLASS B unless the requirements of sections 91.215 and 91.131 of the FAR are met. Included among these requirements are:

- (1) Unless otherwise authorized by ATC, the aircraft must be equipped with an operable two-way radio capable of communicating with ATC on appropriate frequencies for that terminal control area.
- (2) No person may takeoff or land a civil aircraft at an airport within CLASS B or operate within CLASS B unless:
  - (a) The pilot in command holds at least a private pilot certificate; or
  - (b) The aircraft is operated by a student pilot who has met the requirements of FAR section 61.95.
- (3) Unless otherwise authorized by ATC, each person operating a large turbine engine-powered airplane to or from a primary airport shall operate at or above the designated floors while within the lateral limits of CLASS B.
- (4) Unless otherwise authorized by ATC, the aircraft must be equipped with an operable VOR or TACAN receiver.
- (5) Unless otherwise authorized by ATC, the aircraft must be equipped with a 4096 code transponder with automatic altitude reporting equipment.

NOTE. ATC may, upon notification, immediately authorize a deviation from the altitude reporting requirement; however, a request for a deviation from the 4096 code transponder equipment requirement must be submitted to the controlling ATC facility at least one hour before the proposed operation.

### **FLIGHT PROCEDURES**

#### **A. IFR Flights**

Aircraft operating within the Honolulu CLASS B airspace must be operated in accordance with ATC clearances and instructions.

#### **B. VFR Flights**

1. Arriving aircraft, or aircraft desiring to transit CLASS B should contact Honolulu Control Facility on the frequency depicted for the sector of flight with reference to the geographical center of the airport. Pilots should state, on initial contact, their position, direction of flight and destination. If holding of VFR aircraft is required, the holding point will be specified by ATC and will be a prominent geographical fix, landmark or VOR radial.
2. Aircraft departing the primary airports are requested to advise the Honolulu clearance delivery position prior to taxiing of the intended route of flight and altitude. Aircraft departing from other than the primary airports should give this information on appropriate ATC frequencies or as directed by ATIS information if the route penetrates CLASS B.
3. Aircraft desiring to transit CLASS B will obtain clearance on an equitable "first-come, first-served" basis, providing the requirements of FAR 91 are met.

## ATC PROCEDURES

All aircraft will be controlled and separated while operating with CLASS B, except helicopters may not be separated from other helicopters. Although radar separation will be the primary standard used, approved visual and other nonradar procedures will be applied as required or deemed appropriate. Traffic information on observed targets will be provided on a workload permitting basis to aircraft operating outside of CLASS B.

NOTE: Assignments of radar headings and/or altitudes are based on the provision that a pilot operating in accordance with visual flight rules is expected to advise ATC if compliance with an assigned route, radar heading or altitude will cause the pilot to violate such rules.

## **CLASS D/CLASS E AIRSPACE**

Elimination of Special VFR (FAR 91.157) Operations within Certain CLASS D/CLASS E airspace (FAR 93.113)

Special VFR flight operations by fixed-wing aircraft have been suspended within Honolulu CLASS D/CLASS E airspace which contains the following airports:

Honolulu (Daniel K Inouye Intl) Airport

At all other CLASS D/CLASS E airspace, Special VFR operations will be permitted only if IFR operations are not delayed.

Requests for relief from the special VFR prohibition will be considered for certain frequently recurring flight operations, including agricultural, industrial, and flights conducted by IFR-rated pilots in IFR equipped aircraft.

The ruling affects only Special VFR operations. VFR operations may continue to be conducted.

## **TRAFFIC ADVISORIES AT NON-TOWER AIRPORTS**

The following procedures are supplemental to those described in the FAA Aeronautical Information Manual (AIM).

### **1. AT A NON-UNICOM AIRPORT**

- a. When inbound, tune to 122.9 MHz about 15 miles from the airport (if IFR, when the controller advises: "CHANGE TO ADVISORY FREQUENCY APPROVED") and listen for broadcasts from any other aircraft. Then, about 5 miles from the airport broadcast your position, altitude, and intentions. Follow this up with appropriate announcements of your position on downwind, base and final approach.
- b. When outbound, tune to 122.9 MHz before taxiing and listen for broadcasts from any other aircraft. Then broadcast your position on the airport and intentions. Follow this up with an announcement before you taxi onto the runway for takeoff.

### **2. AT AN AIRPORT LISTED AS HAVING UNICOM**

- a. When inbound, tune to 122.8 MHz about 15 miles from the airport (if IFR, when the controller advises: "CHANGE TO ADVISORY FREQUENCY APPROVED") and listen for any other aircraft communicating with the UNICOM operator. Then, about 5 miles from the airport, inform the UNICOM operator of your position, altitude and intentions.
- b. When outbound, contact the UNICOM operator on 122.8 MHz before taxiing and furnish your position on the airport and intentions.
- c. In both cases, the UNICOM operator will provide runway, wind, and at his discretion, traffic information.

### **3. PART TIME TOWER (WHEN CLOSED)**

- a. When inbound at about 15 miles from the airport (if IFR, when the controller advises: "CHANGE TO ADVISORY FREQUENCY APPROVED") tune to and listen for broadcasts from other aircraft on the appropriate frequency listed below. Then, about 5 miles from the airport, broadcast your position, altitude and intentions. Follow this up with appropriate announcements of your position on downwind, base and final approach.
  1. Hilo Intl – 118.1 MHz
  2. Kahului Airport – 118.7 MHz
  3. Keahole Airport – 120.3 MHz
  4. Lihue Airport – 118.9 MHz
  5. Molokai Airport – 125.7 MHz
- b. When outbound, tune to the appropriate frequency before taxiing and listen for broadcasts from any other aircraft. Then broadcast your position on the airport and intentions. Follow with an announcement before you taxi onto the runway for takeoff.

## **HONOLULU TERMINAL AREA – VFR CLASS B DEPARTURE ROUTES**

### **RESPONSIBILITIES**

VFR CLASS B DEPARTURE ROUTES WILL BE ISSUED ONLY UPON REQUEST. Detailed departure instructions will be furnished to others. All procedures and altitudes described in this letter are subject to weather and traffic conditions. Pilots are not relieved of their responsibilities to see and avoid other traffic, to maintain appropriate terrain and obstruction clearance, and to remain in weather conditions equal to or better than the minima required by FAR 91.155. When compliance with an assigned route, heading, or altitude is likely to compromise pilot responsibility with respect to terrain, obstruction clearance, and/or weather minima, approach control should be so advised.

### **DEPARTURE PROCEDURES**

Before taxiing, pilots shall contact clearance delivery on 121.4/281.4 and state the current ATIS information code and requested departure procedure. Clearance delivery will issue the departure route clearance and assign transponder code. Unless otherwise directed by ATC, pilots shall depart CLASS B via the cleared route.

Example: Pilot – N86DD SHORELINE FOUR DEPARTURE WITH INFORMATION QUEBEC.

ATC – N86DD IS CLEARED OUT OF CLASS B VIA SHORELINE FOUR DEPARTURE SQUAWK 0271.

NOTE: Large acft expect clearance via radar vectors, initial heading 155°/200°

### **Runway 04/08L Procedures**

#### **Shoreline Six Departure**

Departing Runway 04L/04R maintain runway heading to the H-1 Freeway. Departing Runway 08L maintain runway heading to Nimitz Highway. Turn right, parallel Nimitz Highway proceeding direct to the center of Honolulu Harbor. Fly

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within ½ mile offshore passing abeam Kewalo Basin then within ½ mile of the shoreline until south of Diamond Head. Turn left and resume own navigation remaining within 2 miles of the shoreline until departing Class B. Fixed wing aircraft maintain 1500 feet. Helicopters maintain at or below 500 feet. Departure Control frequency will be 124.8/317.6. Procedure intended for twin engine aircraft and helicopters.

#### **Freeway Two Departure**

Depart Runway 04L or Runway 04R on runway heading to Moanalua Freeway (State Highway 78/Interstate Highway H201), or depart runway 08L and turn left to fly parallel to runway 04L to Moanalua Freeway. Then turn RIGHT to follow Moanalua Freeway eastbound to H-1 Freeway and Kalanianaʻole Highway until passing abeam Koko Head. Maintain 1500 feet. Departure Control frequency will be 124.8/317.6. Procedure restricted to helicopters and small propeller-driven aircraft only. Helicopters maintain at or below 1000 feet.

#### **Redhill Two Departure**

Depart Runway 04L/04R on runway heading to Moanalua Freeway (State Highway 78/Interstate Highway H-201) or depart Runway 08L and turn left to parallel Runway 04L to Moanalua Freeway. Then turn left and follow Moanalua Freeway northwest bound until departing Class B. Maintain 1500 feet. Departure control frequency will be 119.1/239.05. Procedure restricted to helicopters and small propeller driven aircraft. Helicopters maintain at or below 1000 feet. CAUTION: VFR traffic proceeding inbound from the H-1/H-2 Interchange descending out of 2000 feet.

#### **Punchbowl Two Departure**

Depart runway 04L/04R on runway heading to Moanalua Freeway (State Highway 78/Interstate Highway H-201) or depart runway 08L and turn left paralleling Runway 04L to Moanalua Freeway. Turn right and follow Moanalua Freeway eastbound via the H-1 Freeway to Punchbowl. Proceed east of Magic Island, then offshore to remain within ½ mile of the shoreline until south of Diamond Head. After Diamond Head, turn left and resume own navigation remaining within 2 miles of the shoreline until departing Class B airspace. Maintain 1500 feet. Departure control frequency will be 124.8/317.6. Procedure intended for twin engine aircraft.

#### **Runway 22/26R Procedures**

NOTE: All aircraft turn on landing lights while in CLASS B.

#### **Kona Five Departure**

After departure, remain over the runway until departure end, then turn left heading 180, climb and maintain 1500 feet. Expect radar vectors to avoid traffic on Runway 26L LDA final approach course. Departure control frequency will be 124.8/317.6. Helicopters depart the south ramp and proceed direct to HNL VORTAC; do not overfly any runways. From HNL VORTAC, fly heading 180, climb and maintain at or below 1000 feet.

#### **West Loch Five Departure**

After departure turn right as soon as practicable until north of Runway 26R. Then fly direct to the center of West Loch of Pearl Harbor. Maintain 1500 feet while in Class B. Departure control frequency will be 119.1/239.05. Helicopters maintain at or below 1000 feet. Caution: VFR traffic inbound from the H-1/H-2 Interchange will be descending out of 2000 feet.

### **ARRIVAL PROCEDURES**

Arrivals must contact Approach Control and receive clearance BEFORE entering CLASS B. The HNL CLASS B is established from the HNL VORTAC. High density traffic in the vicinity of the H-1/H-2 interchange. CLASS B entry from the Pali is not recommended.

#### **North Six Arrival**

Contact approach control 119.1/239.05 prior to H-1/H-2 Interchange at or above 2000 feet.

PROCEDURE WHEN CLEARED:

FIXED WING AIRCRAFT: From the H-1/H-2 Interchange, proceed direct to and cross Ford Island at 1500 feet. Proceed direct to the Navy/Marine Golf Course while maintaining 1500 feet until advised by tower. Enter left downwind Runway 4R. Downwind must be flown over Runway 8L at Taxiways G/L. Aircraft must remain north of Taxiway R. If unable, advise ATC.

HELICOPTERS: Proceed direct to Ford Island and hold, maintain at or below 1000 feet. Expect further instructions from the tower.

#### **West Five Arrival**

Contact approach control 119.1/239.05 prior to Kahe Power Plant at or above 2000 feet.

PROCEDURE WHEN CLEARED:

From Kahe Power Plant, proceed direct to the H-1/H-2 Interchange at 2000 feet.

FIXED WING AIRCRAFT: From the H-1/H-2 Interchange, via one of the following routes as assigned by approach control:

a. Runway 4R: Proceed direct to and cross Ford Island at 1500 feet. Proceed direct to the Navy/Marine Golf Course while maintaining 1500 feet until advised by tower. Enter left downwind Runway 4R. Downwind must be flown over Runway 8L at Taxiways G/L. Aircraft must remain north of Taxiway R. If unable advise ATC.

b. Runway 22L: Proceed eastbound along the H-1 Freeway then join Moanalua Freeway to Tripler Hospital. After Tripler Hospital, enter right base Runway 22L. Maintain 1500 feet until advised by tower.

HELICOPTERS: Depart the H-1/H-2 Interchange direct to Ford Island and hold, maintain at or below 1000 feet. Expect further instructions from the tower

NOTE: Aircraft below 2000 feet should contact Kalaeloa Tower on 132.6 prior to Kahe Power Plant.

## **East Four Arrival**

Runways 04/08 configuration. Contact App Con 124.8/317.6 prior to NORBY intersection (MKK262 radial 20 DME or CKH 112 radial 12 DME). PROCEDURE WHEN CLEARED, from NORBY, proceed southwest bound on the MKK 262 radial at or below 3500'. Expect radar vectors for right base to Runway 04R.

## **Freeway Five Arrival**

Runways 04/08 configuration. Contact App Con 124.8/317.6 prior to CKH at or above 2000'.

PROCEDURE WHEN CLEARED:

From Koko Head, proceed direct to Waialae Golf course, then follow the Freeway to Fort Shafter to enter a left downwind to Runway 04R. Downwind leg must overfly Runway 08L over Taxiway G/L. Aircraft must remain north of Taxiway R; if unable advise ATC.

Maintain 2000' until advised by tower.

## **Kona Six Arrival**

Runways 22/26 configuration. Contact approach control on 119.1/239.05 prior to CKH at or above 1,500 feet, or contact approach control on 124.8/317.6 prior to NORBY intersection at or below 3,000 feet. PROCEDURE WHEN CLEARED:

FIXED WING AIRCRAFT: Proceed direct to and cross Koko Head at or below 2,000 feet, then proceed to Waialae Golf Course. Follow the H-1 Freeway to enter a left base to Runway 22L. Maintain 1,500 feet until advised by the tower.

HELICOPTERS: Proceed direct to and cross Waialae Golf Course at or below 1,000 feet. Follow the H-1 Freeway to Punchbowl. Hold at Punchbowl at or below 1,000 feet.

Use caution: Turbojet aircraft will be inbound along the south shoreline.

## **Tripler Four Arrival**

Contact Approach control 119.1/239.05 prior to H1/H2 interchange at or above 2000'. PROCEDURE WHEN CLEARED:

From H1/H2 interchange, proceed east along H1 then join Moanalua freeway to Tripler Hospital then via one of the following routes as assigned by approach control:

- Runway 22L: After Tripler, enter right base RWY 22L. Maintain 1500 feet until advised by tower.
- Runway 4R: Enter left downwind Runway 4R. Downwind must be flown over Runway 8L at Taxiways G/L. Aircraft must remain north of Taxiway R. Maintain 2000' until advised by tower.

## **SIMULTANEOUS OPERATIONS**

Simultaneous take-offs and landings on intersecting runways are common at the Honolulu (Daniel K Inouye Intl) Airport. IT IS THE RESPONSIBILITY OF THE PILOT TO DETERMINE WHETHER HE/SHE CAN COMPLY WITH A HOLD-SHORT RESTRICTION. Upon acceptance of a "HOLD-SHORT" instruction, pilots must acknowledge the clearance with a read back of "(aircraft ID), hold short rwy (rwy number)."

## **HONOLULU (Daniel K Inouye Intl) AIRPORT**

### **Gatehold Procedures**

THE FOLLOWING GATEHOLD PROCEDURES ARE ESTABLISHED FOR ALL NORTH AMERICA-BOUND TURBOJET DEPARTURES FROM HONOLULU (DANIEL K INOUE INTL) AIRPORT:

- Advise clearance delivery: "identification, 10 minutes to taxi, destination, requested flight level."
- The statement "10 minutes to taxi" means that you will depart the blocks, taxi, tow or pushback within 10 minutes after receiving enroute ATC clearance. Failure to push-back within 10 minutes after receipt of your clearance may result in ATC canceling your clearance when other aircraft are requesting the same altitude/route assignment and is/has pushed from the gate.
- When ATC specifies a release (take-off) time for your requested route and altitude, alternatives with no or less delay will be offered, if available. If your choice involves a release time, call for push-back at least 10 minutes prior to your release (take-off) time (the intent of this procedure is to have you at the departure runway at your release time). Failure to push back 10 minutes prior to your release time may result in ATC canceling your clearance when other aircraft are requesting the same altitude/route assignment and is/has pushed from the gate.
- ATC will not contact you if time elapses and your clearance is cancelled; it is the pilots responsibility to push-back in a timely manner. In the event the allotted time expires contact clearance delivery to verify the status of your clearance prior to calling for push-back.
- If you wish to depart the gate and absorb the delay in a holding area closer to the departure, advise ground control of your desire.
- When two aircraft are requesting the same altitude/route and call for clearance at approximately the same time, the first aircraft to call will receive the altitude/route. The second aircraft will receive the alternatives. The first aircraft may lose their assigned altitude/route if all the following occurs.
  - The first aircraft has not pushed from the gate in the specified time in paragraphs 2 or 3.
  - The second aircraft is/has pushed from the gate.
  - The second aircraft requests that altitude after push back.
- Enroute clearances are based on accurate "10 minute to taxi" declarations. Those flight that taxi without receiving any enroute clearance will receive no altitude/route priority.

- NOTES: 1. Compliance will ensure an orderly sequence of altitude/route assignments during peak traffic movements.  
2. Oceanic departures are sequenced with Hilo and Kahului traffic.

### Informal Runway Use Program

Unless runway closures, wind, weather or traffic conditions, aircraft emergencies, actual air defense missions or operational necessities require otherwise, all turbojet aircraft and all aircraft having a maximum passenger capacity of more than 30 seats or a maximum payload capacity of more than 7,500 pounds, including all models of the Convair 240, 350, and 440; Martin 202 and 404; F-27 and FH227; Hawker Siddeley 748; military fighter interceptor turbojet; and any other aircraft with a minimum zero fuel weight in excess of 35,000 pounds will be assigned runway as follows:

#### GROUP I

Turbojet aircraft capable of 300,000 pounds gross takeoff weight or more 4 or more engine turbojet, and military fighter interceptor turbojet type aircraft  
(DC10, L1011, DC8, B747, B707, KC135, B52, F15, F16, E6, etc).

#### GROUP II

Other turbojet, turbine; powered and propeller driven type aircraft.  
(B727, B737, MD80, C130, etc).

### TRADE (NORTHEAST) WIND CONDITIONS

Departures: 8R  
Arrivals: 8L

8L  
4R/L or 8L

### KONA (SOUTHWEST) WIND CONDITIONS

Departures: 26L or 22R/L  
Arrivals: 26L

22R/L or 26R  
26L

**AIRCRAFT LANDING RUNWAY 8L:** Fly the ILS approach procedure or fly a base leg over Kalaeloa (John Rodgers Fld) maintaining 3000 feet until established on the final approach course. Large jet or smaller aircraft may fly a close-in base leg remaining over the center of Pearl Harbor channel.

**AIRCRAFT LANDING RUNWAY 26L/R:** Remain at traffic pattern altitudes as long as possible before beginning descent for landing.

**AIRCRAFT LANDING RUNWAY 4R:** For aircraft parking on the South Ramp, expect to exit Runway 4R at Taxiway D or North. Taxiway F is a primary departure point for Runway 4R.

### STANDARDIZED TAXI ROUTES FROM RUNWAY 26L

Signatories to STR Letters of Agreement with Honolulu Control Facility may expect STR instructions from RWY 26L to the Terminal. After exiting runway 26L onto taxiway R3, R2 or J, if given standardized taxi route instructions by Honolulu Tower, comply with the assigned taxi route:

#### North Route Bravo

From taxiway J taxi north via taxiway J, hold short of taxiway B. From taxiway R2, or R3 turn left on taxiway R, turn right on taxiway J, taxi north via taxiway J, hold short of taxiway B. Hold short of taxiway B until further taxi instructions are received.

#### North Route Sierra

From taxiway J taxi north via taxiway J, turn right on taxiway B, turn left on taxiway Sierra, hold short of Runway 26R. From taxiway R2, or R3 turn left on taxiway R, turn right on taxiway J, taxi north via taxiway J, turn right on taxiway B, turn left on taxiway Sierra, hold short of Runway 26R. Hold short of Runway 26R until further taxi instructions are received.

Advise Honolulu Tower if unable to comply with the STR instructions.

**DEPARTURES – ALL RUNWAYS:** Turn southward as soon as possible after takeoff. Remain at least one mile offshore of Waikiki, Diamond Head, Koko Head and Ewa Beach.

NOTES: 1. Cooperation of all users is expected to preclude disruption or creation of conflicting traffic flows.

2. Pilots unable to comply with the program should advise Honolulu Ground or Approach Control as soon as possible for traffic adjustments.

### KAHULUI AIRPORT

#### Gatehold Procedures

THE FOLLOWING GATEHOLD PROCEDURES ARE ESTABLISHED FOR OVERSEAS TURBOJET DEPARTURES FROM KAHULUI AIRPORT:

1. Advise clearance delivery: "identification, 10 minutes to taxi, destination, requested flight level."
2. The statement "10 minutes to taxi" means that you will depart the blocks, taxi, tow or pushback within 10 minutes after receiving enroute ATC clearance.
3. When ATC specifies a release (takeoff) time of more than 15 minutes for your requested altitude/route, alternatives with no or less delay will be offered, if available. If your choice involves a release time of more than 15 minutes, advise Clearance Delivery if you desire to wait at the gate.
4. Depart the blocks within 10 minutes after receiving enroute clearance when release time is less than 15 minutes. Ready to taxi means ready to immediately depart the blocks/taxi, tow or pushback. Failure to do so will result in ATC canceling your clearance when other aircraft are requesting the same altitude/route and are ready to taxi.
5. Enroute clearances are based on accurate "10 minute to taxi" declarations. Those flights that taxi without receiving any enroute clearance will receive no altitude/route priority.

- NOTES: 1. Compliance will ensure an orderly sequence of altitude/route assignments during peak traffic movements.  
2. Oceanic departures are sequenced with Honolulu and Hilo traffic.

## KONA INTL AT KEAHOLE (ELLISON ONIZUKA)

### Gatehold Procedures

THE FOLLOWING GATEHOLD PROCEDURES ARE ESTABLISHED FOR OVERSEAS TURBOJET DEPARTURES FROM KONA INTL AT KEAHOLE AIRPORT (ELLISON ONIZUKA):

1. Advise clearance delivery: "Identification, 10 minutes to taxi, destination, requested flight level."
2. The statement "10 minutes to taxi" means that you will depart the block, taxi, tow, or pushback within 10 minutes after receiving enroute ATC clearance.
3. When ATC specifies a release (takeoff) time of more than 15 minutes for your requested altitude/route, alternatives with no or less delay will be offered, if available. If your choice involves a release time of more than 15 minutes, advise Clearance Delivery if you desire to wait at the gate.
4. Depart the blocks within 10 minutes after receiving enroute clearance when release time is less than 15 minutes. Ready to taxi means ready to immediately depart the blocks/taxi, tow, or pushback. Failure to do so will result in ATC canceling your clearance when other aircraft are requesting the same altitude/route and are ready to taxi.
5. Enroute clearances are based on accurate "10 minutes to taxi" declarations. Those flights that taxi without receiving any enroute clearance will receive no altitude/route priority.

NOTES: 1. Compliance will ensure an orderly sequence of altitude/route assignments during peak traffic movements.  
2. Oceanic departures are sequenced primarily with Honolulu, Maui, and Hilo traffic.

### LIHUE AIRPORT

#### Gatehold Procedures

THE FOLLOWING GATEHOLD PROCEDURES ARE ESTABLISHED FOR OVERSEAS TURBOJET DEPARTURES FROM LIHUE AIRPORT:

1. Advise clearance delivery: "Identification, 10 minutes to taxi, destination, requested flight level."
2. The statement, "10 minutes to taxi" means that you will depart the blocks, taxi, tow, or pushback within 10 minutes after receiving enroute ATC clearance.
3. When ATC specifies a release (takeoff) time of more than 15 minutes for your requested altitude/route, alternatives with no or less delay will be offered, if available. If your choice involves a release time of more than 15 minutes, advise Clearance Delivery if you desire to wait at the gate.
4. Depart the blocks within 10 minutes after receiving enroute clearance when release time is less than 15 minutes. Ready to taxi means ready to immediately depart the blocks/taxi, tow, or pushback. Failure to do so will result in ATC canceling your clearance when other aircraft are requesting the same altitude/route and are ready to taxi.
5. Enroute clearances are based on accurate "10 minutes to taxi" declarations. Those flights that taxi without receiving any enroute clearance will receive no altitude/route priority.

NOTES: 1. Compliance will ensure an orderly sequence of altitude/route assignments during peak traffic movements.  
2. Oceanic departures are sequenced with Honolulu, Maui, Hilo, and Keahole traffic.

#### Informal Runway Use Program

The area directly south of Lihue Airport and west of Carters Point has been designated as a noise sensitive area. The opening of Rwy 17-35 has given us the opportunity to significantly reduce aircraft noise in the vicinity of schools and homes. This program is the result of the cooperative efforts of state, local and federal government and is designed in accordance with the U.S. Department of Transportation Aviation Noise Abatement Policy.

- A. GENERAL** Unless runway closures, weather, traffic conditions, aircraft emergencies, actual air defense missions, or operational necessity requires, aircraft will be assigned runways and routings as described in this section. Pilots are requested to adhere to these procedures during all hours, including 2100 to 0700 local.
- B. ITINERANT DEPARTURES** All jet and multi-engine propeller aircraft should depart on Rwy 03, 17, or 35. Aircraft to initiate turns seaward as soon as possible following takeoff.
- C. ITINERANT ARRIVALS** All jet and multi-engine propeller aircraft should land on Rwy 35, 21, or 17. All approaches should occur from a seaward direction.
- D. LOCAL OPERATIONS** (Touch-and-Go and Low Approach) Preferred runways for local operations of jet and multi-engine propeller aircraft are Rwy 17-35. Downwind leg for Rwy 17-35 should be at least 1 mile east of the coastline.
- E. TOWER ADVISORY** When the runway specified in these procedures is other than the runway most nearly aligned with the wind, controllers shall preface their instructions with the phrase "For Noise Abatement". If in the interest of safety a runway different from that specified is preferred the pilot is expected to advise Lihue Tower accordingly. Lihue Tower will honor such requests and advise the pilot that the runway requested is noise sensitive.

### HILO INTERNATIONAL AIRPORT

#### Gatehold Procedures

THE FOLLOWING GATEHOLD PROCEDURES ARE ESTABLISHED FOR OVERSEAS TURBOJET DEPARTURES FROM HILO INTERNATIONAL AIRPORT:

1. Advise clearance delivery: "identification, 10 minutes to taxi, destination, requested flight level."
2. The statement "10 minutes to taxi" means that you will depart the blocks, taxi, tow or pushback within 10 minutes after receiving enroute ATC clearance.
3. When ATC specifies a release (takeoff) time of more than 15 minutes for your requested altitude/route, alternatives with no or less delay will be offered, if available. If your choice involves a release time of more than 15 minutes, advise Clearance Delivery if you desire to wait at the gate.
4. Depart the blocks within 10 minutes after receiving enroute clearance when release time is less than 15 minutes. Ready to taxi means ready to immediately depart the blocks/taxi, tow, or pushback. Failure to do so will result in ATC canceling your clearance when other aircraft are requesting the same altitude/route and are ready to taxi.
5. Enroute clearances are based on accurate "10 minute to taxi" declarations. Those flights that taxi without receiving enroute clearance will receive no altitude/route priority.



NOTES: 1. Compliance will ensure an orderly sequence of altitude/route assignments during peak traffic movements.  
2. Oceanic departures are sequenced primarily with Honolulu, Maui, and Keahole traffic.

### Preferred Departure Routing

Hilo departures planning U.S. Mainland destinations via the Central East Pacific (CEP)–Hawaii to U.S. Mainland will be cleared as follows:

R578 VIA THE ITO 345 RADIAL 39 MILE DME FIX AND THE UPP 066 RADIAL TO FITES.  
R577 VIA THE ITO 345 RADIAL 55 MILE DME FIX AND THE UPP 048 RADIAL TO EBBER.  
R465 VIA THE ITO 345 RADIAL 158 MILE DME FIX AND THE OGG 027 RADIAL TO CLUTS.  
R463 AND NORTH VIA V25 ARROW DIRECT APACK.

Flight plan format for these routes is as follows:

ITO345039	FITES	R578
ITO345055	EBBER	R577
ITO345158	CLUTS	R465

Your cooperation in filing flight plans in accordance with the above data will be appreciated.

### HAZARDS, CAUTIONS, AND WARNINGS

**HAWAII – POHAKULOA TRAINING AREA:** Extensive military aircraft training in and near R3103 at speeds of 250 knots. All pilots flying over the island of Hawaii within 10 NM of R3103 (SFC to 30,000 feet) should be alert for high speed maneuvering aircraft.

**HAWAII – TRAFFIC PATTERN VOLCANIC ERUPTION AREA:** During eruptions in the Hawaii Volcanos Parks area, left hand elliptical traffic patterns will be established up wind of the eruption area for all aircraft. Minimum altitude 2000 feet above the terrain. Remain clear of smoke. Pilots are requested to maintain an alert listening watch on 122.9 MHz and announce aircraft position, direction of flight, altitude and intentions.

**HAWAII:** Caution advised all airports on Kauai, Oahu, Molokai, Lanai and Maui. Migratory bird activity surface to 1500 feet within a 5 NM radius of the airports from August–May.

**HAWAII – TOUR AIRCRAFT:** High volume tour aircraft operating over Hawaii. For traffic information, monitor 127.05 NW of ITO VOR 215 radial, monitor 122.85 SE of ITO VOR 215 radial.

**KAUAI – NAVIGATIONAL WARNING:** Electromagnetic radiation will continuously exist within a 2500 foot radius and 2500 feet above unified S band antenna located at N22°06.81' / W159°39.83' near Kokee NASA Telemetry Station, Kauai. Helicopters and slow speed aircraft flying within the airspace will be exposed to direct radiation which may produce harmful effects to personnel and equipment. Radiation cannot be seen and must be presumed by all pilots to continuously exist.

**KAUAI – PORT ALLEN AIRPORT:** Warning – Exercise extreme caution in the vicinity of Port Allen due to high volume of Tour Rotorcraft and Fixed Wing, Glider, and Military Operations.

**KAUAI – TOUR AIRCRAFT:** High volume tour aircraft operating over Kauai. Monitor 127.05 for traffic information.

**LANAI – LANAI AIRPORT APRON AREA:** Apron use is as follows: Light acft transient parking in marked tie downs NE section of apron. Helicopters park on far NE corner of apron. Airline operations on apron area fronting terminal. Air Cargo acft operations on apron by cargo bldg SW of ARFF station; do not block access to SW apron extension. Jet/heavy acft transient parking on SW apron extension. HAZARDOUS MATERIALS handling far SE corner of apron.

**LANAI – TOUR AIRCRAFT:** High volume tour aircraft operating over Lanai. Monitor 122.9 for traffic information.

**MAUI – KAHOO LAWE ISLAND:** Flying below the altitude of 300 feet or landing on the island of Kahoolawe, Hawaii is inherently dangerous. Live unexploded munitions are on the surface of the island. Rotor and prop wash may disturb these items, resulting in a detonation. Anyone desiring to land on Kahoolawe Island must contact the Kahoolawe Island Reserve Commission at (808) 243–5029 or 243–5022.

**MAUI – KAHULUI AIRPORT/HELIPORT:** The area east of the approach end of Rwy 02 has been designated as a helicopter operating area. No fixed wing operations approved except via PPR. Contact arpt manager 808–872–3880.

**MAUI – KAHULUI AIRPORT RAMP AREA:** Yellow segmented and solid lines painted on the apron area fronting the passenger terminal represents the line of demarcation between the authority of the FAA and the State. The FAA is responsible for the control and direction of all ground traffic from the solid yellow line outward toward the field. That area is considered to be an active operating area. Aircraft, vehicles, and/or ground equipment entering this area must have prior clearance from the tower. The area lying between the line and the terminal building falls under the jurisdiction of the State. The acft pilot and ground vehicle operator crossing from the taxiway is responsible for avoiding collisions, accidents, and using safe operating procedures. Ramp area East of RWY 02–20 falls under the jurisdiction of the State. The FAA is not responsible for control or direction of ground traffic in that area. Yellow demarcation lines cross east ramp taxiway entrances. Acft with wingspan between 95' and 112' taxi E ramp only between Twy E and 600' north Twy F; acft with wingspan greater than 112' may not use E ramp taxiway. East Ramp: parking limited to MTOW 155,000 lb.; parking area north of ARFF limited to acft wingspan less than 96'; parking between 600' north Twy F and Twy E limited to acft wingspan less than 112'.

**MAUI – HALEAKALA CONTROLLED FIRING AREA:** The Haleakala Controlled Firing Area is described as follows: From 10,000 feet MSL to unlimited within a circular area with a 1 NM radius from the Mount Haleakala Maui Observatory (located at the 10,000 foot level at N20°42.42' /W156°15.38') and expanding outward and upward in a conical shape from this 1 NM radius based on an angle from the observatory of 15 degrees above the horizontal. The conical boundary leaves the 1 NM radius at 10,000 feet MSL and passes through 20,000 feet MSL at the 7.22NM radius and through 42,000 feet at the 20.90 NM radius. Pulsed Ruby Laser operations potentially hazardous to eyesight will be conducted within this area intermittently for 5 to 30 minute periods generally at night and advertised by NOTAM. Laser operations are predicted on the non-interference with IFR operations through coordination with the Honolulu Control Facility. Pilots of aircraft flying VFR should avoid the controlled firing area during its advertised time of use. As a precautionary measure however Laser operations will be suspended if an aircraft penetrates the area of concern. The status of the controlled firing area can be obtained by contacting the controlling facility.

**MAUI-KAHOO LAWE CONTROLLED FIRING AREA:** The Kahoolawe Hawaii Controlled Firing Area is described as follows: From SFC up to and including 5000' MSL within that area bounded by N20°37'30"/W156°32'48", to N20°34'48"/W156°30'24", to N20°28'56"/W156°30'24", to N20°28'06"/W156°41'48", to N20°20'30"/W156°44'12", to N20°33'12"/W156°44'30", to N20°37'30"/W156°36'24", thence to point of beginning. The CFA includes the entire island of Kahoolawe.

Ordnance disposal/demolition work potentially hazardous to aircraft shall be conducted by NOTAM during daylight hours only. The controlling agency is FAA Honolulu Control Facility. The status of the CFA can be obtained by contacting the controlling facility.

**MAUI – PARASAILING AREA:** Parasailing off-shore Lahaina (OGG VORTAC 250R/014 DME) 1000' /below, sunrise to sunset.

**MAUI – AEROBATIC OPERATIONS:** 1 NM radius (OGG VORTAC 175R/011 DME) from 0315–0415Z Sundays 1500' and below.

**MAUI – ULTRALIGHT OPERATIONS:** Extensive ultralight operations from atop Mt. Haleakala to Kalama Park (OGG VORTAC 175R/011DME). Unpowered ultralights remain over land. It is recommended that aircraft arriving from the south remain offshore, west of the OGG 175R until 11 DME before turning inbound to Kahului airport.

**MAUI – TOUR AIRCRAFT:** High volume tour aircraft operating over Maui. Monitor 120.65 for traffic information.

**MAUI – VFR AIRCRAFT LANDING KAHULUI AIRPORT INBOUND FROM THE NW:** VFR aircraft landing Kahului Airport inbound from the NW should contact Honolulu Control Facility ("HCF Approach") on 120.2 at least 5 miles NW of Nakalele Point for radar identification and sequencing to the airport.

**MOLOKAI – TOUR AIRCRAFT:** High volume tour aircraft operating over Molokai. Monitor 121.95 for traffic information.

**OAHU – HONOLULU (DANIEL K INOUE INTL) AIRPORT – RAMP AREA:** Broken yellow lines, ramps and taxiways indicate the edge of full strength bearing pavement. Pilots are cautioned to avoid taxiing main gear over stabilized taxiway and apron shoulders. Shoulder pavement is stabilized only and not load bearing. Exercise care in following taxiway centerlines at all times especially on turns and at intersections. Yellow non movement area boundary lines painted on the apron area fronting the terminal complex represents a line of demarcation between the authority of the FAA and the airport operator (State). The FAA is responsible for the control and directing of all ground traffic from the non movement area boundary line outward toward the field. This area is considered an air operation area (AOA). Aircraft, vehicles and/or ground equipment entering this area must have proper clearance from the air traffic control tower. The area lying between the non movement area boundary lines inbound toward the concourse falls under the jurisdiction of the airport operator (State). The aircraft pilot and ground vehicle equipment operator crossing the non movement boundary lines from the taxiway is responsible for avoiding collisions, accidents, and using safe operating procedures in the non movement area.

**OAHU – HONOLULU (DANIEL K INOUE INTL) AIRPORT AND METROPOLITAN AREA:** Numerous cranes at the airport and metropolitan areas up to 500' AGL.

**OAHU – HONOLULU (DANIEL K INOUE INTL) AIRPORT – PROXIMITY TO KALAELOA (JOHN RODGERS FLD):** All pilots are reminded of the proximity of Honolulu (Daniel K Inouye Intl) Airport to Kalaeloa (John Rodgers Fld). Exercise caution when approaching Honolulu (Daniel K Inouye Intl) Airport as both fields have parallel Runways 04. Several landings have been made at Kalaeloa (John Rodgers Fld) by pilots mistaking it for Honolulu (Daniel K Inouye Intl) Airport. Minimum IFR altitude for aircraft overflying Kalaeloa (John Rodgers Fld) is 2200 feet.

**OAHU-KALAELOA AIRPORT NOISE ABATEMENT:** Avoid overflight residential areas and schools north and east of arpt. Rwy 11/29 available Cat A acft only; fly downwind over dep ends rwys 4. All other acft Rwy 11 dep only, Rwy 29 arr only.

**OAHU – KANEOHE BAY MCAS – HIGH PERFORMANCE AIRCRAFT:** Kaneohe Bay MCAS advises high performance aircraft will make maximum performance VFR climbs from takeoff Rwy 04/05 at various times following a warning broadcast on Kaneohe Tower and Approach Control frequencies. Request all aircraft contact Kaneohe Tower prior to transiting CLASS D airspace northeast of Rwy 04/05.

**OAHU – KALAELOA (JOHN RODGERS FLD):** Tanker vessels with mast height up to 170 feet intermittently operating 2 NM South of approach end Rwy 04.

**OAHU – KALAELOA (JOHN RODGERS FLD) AIRPORT – PROXIMITY TO HONOLULU (DANIEL K INOUE INTL) AIRPORT:** All pilots are reminded of the proximity of Honolulu (Daniel K Inouye Intl) Airport to Kalaeloa (John Rodgers Fld). Departing aircraft must complete assigned departure heading within two nautical miles from the departure end of the runway. Advise Tower if unable to comply.

**OAHU – GLIDER OPERATIONS:** Caution – Gliders operating over central Oahu, 20 NM Radius of the location of the now-decommissioned Wheeler (HHI) NDB (21°28.67'N 158°02.03'W excluding HNL TCA), surface to 22,000 feet during mountain wave conditions. Occasional higher operations in unusually strong conditions. Gliders aren't normally transponder equipped and aren't visible on ATC radar.

**OAHU – HAZARD AREAS:** (1) Pilots are cautioned to avoid, or maintain a minimum of 500 feet AGL over the following ammunition storage areas due to significant threat to life and property posed by possible forced landing or other mishap.

AREA	DIMENSIONS	LOCATION FROM HNL VORTAC
NAD Waikale	1.5 NM Radius	353 radial at 5.2 DME
NAD Luualaei	2.5 NM Radius	316 radial at 9.7 DME

- (2) All pilots are cautioned to avoid Kaena Point land mass within 1 1/2 NM (9,120 feet). Potential personnel and electro-explosive device hazards exist due to high power radio frequency transmitters.

**OAHU – HANG GLIDING:** Hang gliding operations will be conducted from Makapuu Point 3 miles west along ridge to Waimanalo Beach from 1800 to 0500Z daily, 2000 feet and below. Exercise extreme caution when transiting the area.

**OAHU – ULTRALIGHT OPERATIONS:** Extensive ultralight operations conducted between Makapuu Point and Manana (Rabbit Island).

**OAHU – TOUR AIRCRAFT:** High volume tour aircraft operating over Oahu. Monitor 122.85 for traffic information.

**OAHU – EARTH TRACKING STATION:** Effective immediately and UFN all pilots are requested to avoid overflights below 1000 feet AGL of Com Earth Tracking Station located at HNL300023 DME fix at all times.

**OAHU – RIFLE/PISTOL RANGE:** Military rifle/pistol range located on west side of Pearl Harbor channel entrance between Ewa Beach and Keahi Point (HNL264R 3.0 DME) (N21°18.81' /W157°58.84') active Monday through Friday between 0700 to 1700 HST. Danger area from the shoreline extends one nautical mile southeast, 4500 feet wide, from the surface to 200 feet. All aircraft inbound to HNL Rwy 4R/L and 8R/L, remain above 200 feet until east of this area.

**OAHU – NAVIGATIONAL WARNING:** Electromagnetic radiation will continuously exist within a 2800 foot radius and 2800 feet above all antenna systems along a three mile stretch of mountain ridge between N21°33.81' /W158°13.83' and N21°33.81' /W158°15.83' as part of the Kaena Point Satellite Tracking Station, Oahu, Hawaii. Helicopters and slow speed aircraft, including hang gliders, flying within the above airspace will be exposed to direct radiation which may produce harmful effects to personnel and equipment. Radiation is not visually apparent and must be presumed by all pilots to continuously exist.

**OAHU – LIGHTS-OUT MILITARY TRAINING:** Extensive military rotary wing traffic in and near Alert Area A-311. Unlighted military rotary wing training conducted within boundaries of A-311 from 1 hour after sunset through 1 hour before sunrise, surface to 500 feet AGL.

**OAHU – AIRBORNE HAZARD:** Fireworks Displays will be conducted every Friday between 7:00 pm and 9:00 pm, for three minutes at Hilton Hawaiian Village (HNL VORTAC 096R/5NM), 600 ft and below, 1/2 NM radius. Avoidance Advised.

**HELICOPTER PILOTS – KAPALAMA HELIPAD:** Additional high tension electrical line installed on West border of helipad. Use Caution.

#### HAWAII – OIL POLLUTION REPORTS

Pilots observing oil slicks are requested to report them to Flight Service as soon as possible. The report should include the approximate location using prominent landmarks, size of slick, type of vessels observed in vicinity, and other pertinent information.

### KIRIBATI

Full details of all aeronautical facilities in the Kiribati, which includes the Line Islands, are promulgated in the New Zealand Aeronautical Information Publication, South Pacific Flight Guide.

**TARAWA – BONRIKI AIRFIELD:** Operates during daylight hours only. Field is not lighted at night. Tarawa authorities request that pilots arrive before dark.

**KIRITIMA TI (CHRISTMAS ISLAND) – CASSIDY INTL:** Operates during daylight hours for any flight which has given 48 hours prior notice. Airport not manned unless flights are known to be operating. Fuel is available during daylight hours with prior notice.

#### Non-scheduled Flight Procedures

1. If an operator intends to carry out a non-scheduled flight in transit across, or make non-traffic stops in the territory of Kiribati, he may do so without the necessity of obtaining prior permission. However, the attention of operators is drawn to the need for prior notification in respect to navigation aids.
2. If an operator intends to perform a non-scheduled flight into Kiribati for the purpose of taking on or discharging passengers, cargo, or mail he shall apply to:
 

Postal Address:	Director of Civil Aviation P. O. Box 487 Betio, Tarawa Kiribati
Telegraphic Address:	AVIATION, BETIO, Tarawa
3. The application for permission to carry out such operations must include the following information in the same order as shown hereunder:
  - A. Name and address of applicant.
  - B. Type of aircraft and registration marks.
  - C. Date and times of arrival and departure from airfields in Kiribati.
  - D. Place or places of embarkation or disembarkation, as the case may be, of passengers and/or freight.
  - E. Purpose of flight and number of passengers, and/or nature and amount of freight.
  - F. Name, address and business of charterer, if any.
4. Normally the time required for consideration of applications is brief, but applicants should make allowances for communication delays.

**FEDERATED STATES OF MICRONESIA  
WENO ISLAND—CHUUK INTERNATIONAL AIRPORT**

1. Prior permission required for all non-scheduled aircraft from Civil Aviation Directorate, Department of Transportation, Communications and Infrastructure, Division of Civil Aviation, P.O. Box PS 2, Palikir, Pohnpei, FM 96941-0000; Tel (691) 320-2865; Fax (691) 320-5853; e-mail [TransFSM@mail.fm](mailto:TransFSM@mail.fm)
2. A copy of clearance and schedule must then be submitted to:
  - a) Chuuk International Airport, P.O. Box 189, Weno, Chuuk State, FM 96942; Tel—Office (691) 330-5940, SWARS (691) 330-2352; FAX (691) 330-4242; e-mail [ChuukAirport@mail.fm](mailto:ChuukAirport@mail.fm). The Chuuk Airport Executive Manager must be notified three (3) days prior for the ETA of the aircraft. A flight plan must be filed 12 hours prior for the ETA, include Pohnpei Intl Airport (PTPN) as an additional address of the Flt Plan.
  - b) Immigration Office, P.O. Box 666, Weno, Chuuk State, FM 96942; Tel. (691) 330-2355; FAX (691) 330-4135; e-mail [CIL@mail.fm](mailto:CIL@mail.fm)
  - c) Customs Office, P.O. Box 610, Weno, Chuuk State, FM 96942; Tel. (691) 330-4482; FAX (691) 330-5893; e-mail [CTAchK@mail.fm](mailto:CTAchK@mail.fm)
  - d) Quarantine Office, Tel (691) 330-3720; FAX (691) 330-3721; e-mail [ChuukQuart@mail.fm](mailto:ChuukQuart@mail.fm)
3. Transient aircraft must make prior arrangements with Mobil Oil Guam for fuel and also Mobil Oil Micronesia—Chuuk, P.O. Box 130, Weno, Chuuk State, FM 96942, Tel (691) 330-2540; FAX (691) 330-2688.

**GUAM CTA/MARIANA ISLANDS**

**GUAM—APRA HARBOR—OROTE POINT**

In the interest of national security, the Commander, Naval Forces Marianas (COMNAVMAV) requests all civil aircraft avoid overflying U.S. Naval ships and military property west of a line between Santa Rita and Piti below 1500 feet.

**RADAR SERVICE PROGRAM GUAM TERMINAL AREA**

The VFR radar service program in the Guam Terminal Area provides full time radar advisory and sequencing service to VFR aircraft within 25 miles of the Nimitz VORTAC and radar advisory sequencing and separation within the Andersen TRSA and arriving Andersen AFB. Pilots of VFR aircraft arriving airports in Guam Terminal Area should contact Guam Approach Control when 25 NM from the Nimitz VORTAC. All aircraft use 269.0 or 119.8 MHz. Approach control will issue runway, wind and traffic information, and vectors as necessary for proper sequencing with other arriving aircraft at Andersen AFB and Agana airports. When a pilot reports the aircraft he is to follow in sight, he will be advised to follow it. Departing VFR aircraft desiring traffic information should request VFR radar service on initial contact with Andersen Ground Control or Agana Tower, and advise direction of flight. Tower will advise when to contact departure control and frequency. Since this is a voluntary program, the procedures are not to be interpreted as relieving pilots of their responsibilities to see and avoid other traffic operating in basic VFR weather conditions, to maintain appropriate terrain and obstruction clearance, or to remain in weather conditions equal to or better than the minima required by FAR 91.155. Whenever compliance with an assigned route or heading is likely to compromise pilot responsibility respecting terrain and obstruction clearance and weather minima, Guam approach control should be so advised so that the heading may be revised as appropriate.

- NOTES: 1. A graphic depiction of the Guam Terminal Area may be found at the end of this section.  
 2. Information on flying within a TRSA may be located in Section V of this supplement or in the Aeronautical Information Manual.

**FRANCISCO MANGLONA BORJA/TINIAN INTL AIRPORT – COMMUNICATION**

Airport with UNICOM available from 2000–0930Z. When inbound tune to 123.6 about 15 miles from the airport (if IFR when the controller advises CHANGE TO ADVISORY FREQUENCY APPROVED) and listen for any other aircraft communicating with the UNICOM operator. When about 5 miles from the airport inform the operator of your position, altitude and intentions. When outbound contract the UNICOM operator before taxiing and furnish your position on the airport and intentions. In both cases the UNICOM operator will provide runway, wind and traffic information.

**HAZARDS, CAUTIONS, AND WARNINGS**

**GUAM – SATELLITE TRACKING OPERATIONS:** Because of possible interference with satellite tracking operations and to avoid a potentially hazardous radiation field, pilots are advised to avoid the area within 1 NM of the UNZ VORTAC 033R at 12.2 DME at and below 3100 feet.

**GUAM – BALLOON RELEASE:** National Weather Service Guam Observatory releases twice ascending balloon borne atmospheric sensing instruments at N13°33' /E144°50' between 1100–1115Z and 2300–2315Z. Instrument equipment consists of 6 foot diameter rubber balloon with string train 100 feet in length containing a red paper parachute and small white plastic radiosonde instrument. Equipment estimated to ascend to altitudes of 10,000 feet within a 5 mile radius by 1130Z and 2330Z. Ascends to 50,000 feet by 1215Z and 0015Z. Ascends to 100,000 feet by 1300Z and 0100Z respectively.

## AUCKLAND OCEANIC FIR

### 1. Altimeter Setting Requirements

- 1.1 Within the Auckland Oceanic FIR, the vertical position of aircraft shall be maintained by reference to standard pressure value of 1013.2 hPa, except that:
  - a. Aircraft shall change to and from the appropriate zone QNH value upon entering and leaving the QNH zones;
  - b. Where the aerodrome of destination or departure is not within a QNH zone aircraft shall use the appropriate aerodrome QNH value when at or below 13,000 feet within 100NM from the shoreline of the landmass on which the destination or departure aerodrome is situated.
- 1.2 Within the New Zealand domestic, Samoa, Tonga and Cook Area QNH Zones, when at or below 13,000 feet aircraft shall maintain vertical position by reference to the appropriate zone QNH, except that aircraft landing and taking off or operation within a control zone shall use the appropriate aerodrome QNH. However, a QFE altimeter setting may be used in accordance with paragraph 1.7.
- 1.3 The transition layer between the transition altitude of 13,000 feet and the transition level of FL150 provides adequate separation between aircraft observing different pressure values when the QNH is above 980 hPa. However, when the zone QNH is 980 MB or less, the minimum usable flight level above the zone involved shall be FL160.
- 1.4 The transition layer shall not be used except when ascending or descending. While passing through the transition layer, vertical position shall be expressed in terms of flight levels (1013.2 hPa) when ascending and in terms of altitude (QNH) when descending.
- 1.5 Pilots departing from an aerodrome where no QNH value is available shall set the aerodrome elevation on the altimeter prior to departure and shall obtain the appropriate altimeter setting as soon as possible and in any case before entering IMC.
- 1.6 QNH values passed to aircraft will be rounded down to the nearest whole hPa.
- 1.7 Use of QFE Altimeter Setting.
- 1.7.1 Where suitable equipment is available, a QFE altimeter setting will be provided, on request, for flights operating by visual reference within an aerodrome traffic circuit. Additionally, foreign operators normally using a QFE altimeter setting for instrument approaches will be provided, on request, with a QFE for the aerodrome elevation except for:
  - a. An instrument runway, if the runway threshold is 7 feet or more below the aerodrome elevation;
  - b. A precision approach runway, in which case the QFE for the relevant threshold elevation will be provided.
- 1.7.2 QFE values passed to an aircraft will be rounded down to the nearest whole hPa.

### 2. Enroute Communications

- 2.1 The Auckland Oceanic Control System (OCS) is fully FANS 1/A compliant. The Logon address is "NZZO"
- 2.1.1 Auckland Oceanic Control will accept Automatic Dependent Surveillance – Contract (ADS-C) position reports; and Controller Pilot Datalink Communications (CPDLC).
- 2.1.2 SELCAL checks by CPDLC equipped aircraft are not required when entering NZZO FIR. Aircraft filing a SELCAL code in item 18 of their flight plan will be assumed to have a serviceable SELCAL and to be maintaining a SELCAL watch on the HF primary frequency advised in the appropriate MONITOR instruction passed by the transferring CPDLC authority.  
NOTE: There is no requirement for FANS 1/A aircraft entering NZZO FIR to contact Auckland Radio for a SELCAL check.
- 2.2 Aircraft enroute within the Auckland Oceanic FIR shall maintain a continuous listening watch on the frequency assigned by the Air/Ground control station.  
NOTE: The requirement to maintain a continuous listening watch may be met by the use of approved automatic signaling devices such as SELCAL.
- 2.3 Unless using Datalink and logged onto NZZO, aircraft inbound to Auckland Oceanic FIR shall establish RTF contact with ATC on Auckland Oceanic frequencies at the Auckland boundary. Outbound aircraft shall transfer to route frequency when instructed by ATC.
- 2.4 Aircraft entering the Samoa, Tonga, Cook or New Zealand domestic sectors, will be instructed when to change from route frequency to the frequency of the appropriate ATC unit. Aircraft leaving these sectors will be instructed by ATC when to change to the route frequency.

### 3. Enroute Air Navigation Facilities and Service Charges

Airways Corporation, the ATC service provider in the upper airspace of the Auckland Oceanic FIR, levies charges for enroute air navigation services provided to aircraft. Operators of any aircraft for which navigation services are made available in the Auckland Oceanic FIR should be aware that they may be obligated to pay charges for the services provided.

Office of Primary Responsibility (OPR): Auckland Oceanic Area Control Centre - Oceanic Operations Team Leader  
 Contact Information: +64 9 275 5473; email: AKLOCATLGroup@airways.co.nz  
 Amended: August 2023

## OAKLAND OCEANIC OCA/FIR

### CENTRAL EAST PACIFIC (CEP)

1. The Central East Pacific (CEP) is the organized route system between Hawaii and California. Seven ATS routes, R463, R464, R465, R585, R576, R577, R578, and associated transition waypoints are within the CEP. Reduced Vertical Separation Minimum (RVSM) and Required Navigation Performance 10 (RNP-10) are required for aircraft operating within the CEP at FL290 through FL410. Non-approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.
2. ATS Routes R464, R465, R585, R576 and R577 are one-way routes and any odd or even cardinal flight level may be flight planned.
3. Applicable ATC procedures can be found in Order JO 7110.65 and ICAO Document 7030 – PAC/RAC.

### RNAV-10 SEPARATION

RNAV 10 is also known as RNP 10 (ICAO DOC 9613 1.2.5.5.1). RNP 10 lateral separation (50 NM) may be applied within the Oakland OCA/FIR between RNP 10 or better approved aircraft. RNP 10 lateral separation is based on the equipment qualifiers filed in the flight plan for the aircraft. Operators shall determine that the appropriate state authority has approved the aircraft and the aircraft will meet the RNP 10 requirements for the filed route of flight and any planned alternate routes. The letter "R" in field 10a (equipment) of the ICAO standard flight plan indicates PBN (Performance Based Navigation). Associated with the "R" in field 10a, the flight plan should also contain PBN/A1 in field 18 of the FPL to indicate RNP 10. This equipment qualifier should be filed provided the aircraft will maintain RNP 10 eligibility for the entire route segment within the Oakland Oceanic FIR. RNP 10 approval is required for all PACOTS and for all aircraft operating within the CEP at FL290 through FL410. Non-approved aircraft can expect FL280 and below or FL430 and above, traffic permitting.

### RNP-4 SEPARATION

RNP 4 horizontal separation (30 NM lateral and 30 NM longitudinal) may be applied within the Oakland OCA/FIR between RNP 4 approved aircraft with RCP 240 and RSP 180 approval. Eligibility for RNP 4 horizontal separation is based on the equipment qualifiers filed in the flight plan for the aircraft. Operators shall determine that the appropriate state authority has approved the aircraft and the aircraft will meet the RNP 4, RCP 240 and RSP 180 requirements for the filed route of flight and any planned alternate routes. The flight plan shall be filed with the appropriate codes as detailed in the United States AIP.

### RVSM SEPARATION

Reduced Vertical Separation Minimum (RVSM- 1,000 foot vertical separation between RVSM approved aircraft) may be applied within the Oakland OCA/FIR between FL290 and FL410. Aircraft operating within this airspace between FL290 and FL410 require RVSM approval. RVSM vertical separation will be based on the equipment qualifier filed by the aircraft. The operators shall determine that the appropriate state authority has approved the aircraft and the aircraft will meet the RVSM requirements for the filed route of flight and any planned alternate routes. The letter "W" in field 10a (equipment) of the ICAO standard flight plan indicates RVSM approved aircraft.

#### 1. Non-RVSM Equipped Civil Aircraft:

- a. Non-RVSM equipped civil aircraft unable to fly to an appropriate destination at or below FL280 and unable to fly at or above FL430 may flight plan at RVSM flight levels in the RVSM stratum provided one of the following conditions exists:
  - (1) The aircraft is being initially delivered to the state of registry or operator; or
  - (2) The aircraft was formerly RVSM approved but has experienced an equipment failure and is being flown to a maintenance facility for repair in order to meet RVSM requirements and/or obtain approval; or
  - (3) The aircraft is being utilized for mercy or humanitarian purposes.
- b. The approval for non-RVSM is intended exclusively for the purposes indicated above.

#### 2. Non-RVSM Equipped State Aircraft:

Non-RVSM state aircraft may flight plan at RVSM flight levels without prior coordination. State aircraft should include "STS/Military NON-RVSM" in field 18 of the ICAO standard flight plan.

#### 3. Suspension of RVSM:

ATC will consider suspending RVSM procedures within affected areas of the Oakland OCA/FIR when there are pilot reports of greater than moderate turbulence. Within areas where RVSM procedures are suspended, the vertical separation minimum between all aircraft will be 2000 ft.

### CONTROLLER PILOT DATA LINK COMMUNICATIONS (CPDLC)

Oakland ARTCC has full CPDLC capability and normal service in the entire Oakland OCA/FIR for FANS-1/A capable aircraft. The Oakland OCA/FIR log-on address is "KZAK"; the facility is "OAKODYA."

#### 1. HF Communications Requirement

Prior to entering the Oakland OCA/FIR, contact San Francisco Radio on HF and identify the flight as CPDLC equipped. Provide SELCAL, departure and destination, aircraft registration number and advise whether SATVOICE equipped. Expect to receive primary and secondary HF frequency assignments from San Francisco Radio for the entire route of flight within the Oakland OCA/FIR. Pilots must maintain HF communications capability with San Francisco Radio at all times within the Oakland OCA/FIR.

#### 2. Log-On

- a. 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. This request is made to eliminate ADS periodic reports for aircraft that are still on the ground which will assist in the transition from the domestic airspace automation environment. Additionally, this should reduce operator cost.



- b. Aircraft entering the Oakland OCA/FIR CPDLC service area from non-CPDLC airspace: Log on to CPDLC at least 15 but not more than 45 minutes prior to entering the Oakland OCA/FIR CPDLC service area. Contact San Francisco Radio on HF and inform them you are a CPDLC flight.
- c. Aircraft entering the Oakland OCA/FIR CPDLC service area from adjacent CPDLC airspace: Pilots should determine the status of the CPDLC connection. If KZAK is the active center, the pilot shall contact San Francisco Radio on HF, identify the flight as a CPDLC flight. If KZAK is not the active center, the pilot shall, within 5 minutes after the boundary is crossed, terminate the CPDLC connection, then log on to KZAK, contact San Francisco Radio on HF and inform them you are a CPDLC flight.

### 3. CPDLC Position Report Message Format

Oakland OCA/FIR (KZAK) cannot accept position reports containing latitude and longitude (Lat/Long) in the ARINC 424 format, which is limited to five characters (e.g. 40N50). Position reports in the KZAK CPDLC service area containing Lat/Long waypoints will be accepted in complete latitude and longitude format only. Flights unable to send position reports in complete latitude and longitude format must accomplish position reporting via HF voice communications.

### 4. Aircraft Over-Flying Honolulu Control Facility (HCF) Airspace.

Prior to entering HCF airspace, 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 OCA/FIR (KZAK) airspace when HCF advises to contact en route communications or San Francisco Radio.

### 5. Aircraft Entering Guam CERAP Airspace.

Contact Guam CERAP 250 miles out on 118.7, squawk 2100.

### 6. Aircraft Over-Flying Guam CERAP Airspace.

The CPDLC and ADS connection with Oakland ARTCC may be terminated within the Guam CTA. If the CPDLC connection with KZAK is not terminated, do not use CPDLC for ATC COM until Guam CERAP advises you to again contact en route communications or San Francisco Radio. It may be necessary to log back on to CPDLC with KZAK 10–15 minutes prior to exiting the Guam CTA if the CPDLC connection was terminated.

## BEACON CODE REQUIREMENTS

Upon reaching the first compulsory reporting point in KZAK FIR airspace and after radar service is terminated, all aircraft should adjust their transponder to display code 2000 on their display. Aircraft should maintain code 2000 thereafter until otherwise directed by air traffic control.

## PACIFIC ORGANIZED TRACK SYSTEM (PACOTS) GUIDELINES

### (1) General Information

a. Geographical Boundary. PACOTS tracks may be established within the Oakland Oceanic, Fukuoka, and Anchorage FIRs.

b. Track Definition Message (TDM). Oakland ARTCC is using the TDM format for PACOTS tracks. Questions regarding published PACOTS tracks should be directed to Oakland ARTCC Traffic Management Unit (TMU), at (510) 745–3771.

c. Oakland ARTCC or Fukuoka Air Traffic Management Center (ATMC) may develop more or fewer tracks according to user needs, military activity, significant weather, or other limitations.

d. Usable Flight Levels

(1) All IFR flight levels at or above FL290 except the Westbound North America-Japan PACOTS which also includes FL280 in the Oakland OCA/FIR. Certain restrictions may apply for non-PACOTS traffic operating in the opposite direction to the published PACOTS tracks.

e. Lateral Spacing of Tracks

(1) PACOTS Tracks are established at least 50 NM apart. Tracks are defined using latitude/longitude expressed in whole degrees or named waypoints with the exception of FIR crossing points.

f. Flight Planning

(1) The following flight planning restrictions and rules apply to aircraft operating within the Oakland Oceanic FIR on the PACOTS during the effective time of the Track. These restrictions do not affect aircraft filing on ATS routes.

(a) Participating Aircraft

1. Aircraft requesting altitudes at or above FL280 may flight plan via the route published in the daily NOTAM or track message.
2. Operators must file appropriate SIDs and STARs associated with the departure/arrival airports.
3. Operators must flight plan to avoid active military airspace and comply with NOTAM restrictions.

(b) Non-Participating Aircraft. Random routes under the PACOTS at FL270 and below are permitted, unless otherwise prohibited by NOTAM. Higher Altitude may be approved if traffic permits.

g. ATC Procedures

- (1) Aircraft utilizing a PACOTS Track must be RNAV 10 (RNP10) or RNP4 approved.
- (2) Aircraft flight planning via an approved UPR procedure have the same priority for altitude assignment as aircraft flight planning a PACOTS Track.
- (3) The minimum longitudinal separation between aircraft crossing the Fukuoka FIR boundary on the same track at the same flight level will be 10 minutes using Mach Number Technique or applicable ADS-C distance-based separation standard.

h. Position Reporting

(1) Within the Oakland and Anchorage oceanic control areas position reports shall be made using latitude/longitude coordinates or named fixes as specified in the TDM. Position reports shall comprise information on present position, estimated next position, and ensuing position in accordance with

ICAO procedures. Rounding off geographical coordinates is prohibited.

## (2) PACOTS TRACK DESIGNATOR AND DETAILS TABLE

TRACK NAME	ROUTE	TDM DAILY PUBLICATION TIME	REQUIRED USE OR UPR ALTERNATIVES
A	Hawaii to Japan	Daily at 1100 UTC by KZAK	Track A is optional, operators may flight plan a UPR.
B	Hawaii to Japan	Optional at 1100 UTC by KZAK	Track B is optional, operators may flight plan a UPR.
11	Japan to Hawaii	Daily at 2200 UTC by RJJJ	Track 11 is optional, operators may flight plan a UPR.
12	Japan to Hawaii	Optional at 2200 UTC by RJJJ	Track 12 is optional, operators may flight plan a UPR.
C	North American West Coast to Japan	Daily at 1100 UTC by KZAK	Track C is required for westbound aircraft crossing 160E between 0230 and 0600 UTC. During the Track C, required times operators may file a UPR at least 50 NM north or south of Track C.
D	North American West Coast to Japan	Optional at 1100 UTC by KZAK	For westbound aircraft crossing 160E between 0230 and 0600 UTC, operators may file a UPR at least 50 NM north or south of Track C.
E	North American West Coast to Japan	Daily at 1100 UTC by KZAK	For westbound aircraft crossing 160E between 0230 and 0600 UTC, operators may file a UPR at least 50 NM north or south of Track C.
F	North American West Coast to Japan	Daily at 1100 UTC by KZAK	For westbound aircraft crossing 160E between 0230 and 0600 UTC, operators may file a UPR at least 50 NM north or south of Track C.
1	Japan to North American West Coast	Daily at 2200 UTC by RJJJ	For eastbound aircraft crossing 160E between 0900 and 1230 UTC, operators may file a UPR at least 50 NM north or south of Track 2.
2	Japan to North American West Coast	Daily at 2200 UTC by RJJJ	Track 2 is required for eastbound aircraft crossing 160E between 0900 and 1230 UTC. During the Track 2, required times operators may file a UPR at least 50 NM north or south of Track 2.
3	Japan to North American West Coast	Daily at 2200 UTC by RJJJ	For eastbound aircraft crossing 160E between 0900 and 1230 UTC, operators may file a UPR at least 50 NM north or south of Track 2.
4	Japan to North American West Coast	Optional at 2200 UTC by RJJJ	For eastbound aircraft crossing 160E between 0900 and 1230 UTC, operators may file a UPR at least 50 NM north or south of Track 2.
H	North American West Coast to Asia	Daily at 1100 UTC by KZAK	For westbound aircraft crossing 160E between 0230 and 0600 UTC, operators may file a UPR at least 50 NM north or south of Track C.
J	North American West Coast to Asia	Daily at 0000 UTC by KZAK	Track J is required for westbound aircraft crossing 160E between 1500 and 1800 UTC. During the Track J, required times operators may file a UPR at least 50 NM north or south of Track J.
14	Asia to North American West Coast	Daily at 2200 UTC by RJJJ	For eastbound aircraft crossing 160E between 0900 and 1230 UTC, operators may file a UPR at least 50 NM north or south of Track 2.
15	Asia to North American West Coast	Optional at 2200 UTC by RJJJ	For eastbound aircraft crossing 160E between 0900 and 1230 UTC, operators may file a UPR at least 50 NM north or south of Track 2.

NOTE: Operators may contact Oakland ARTCC Traffic Management Unit to be added to the daily publication of Westbound PACOTS Tracks.

### USER PREFERRED ROUTE (UPR) GUIDELINES

#### 1. UPR General Guidelines:

- The UPR must be planned to avoid military special use and NOTAMed airspace when active.
  - The UPR must utilize a published STAR where appropriate.
  - PACOTS UPRs have the same priority for altitude assignment as aircraft on an optional PACOTS Track. There is one exception, operators which flight plan a UPR that is not laterally separated from an opposite direction PACOTS/UPR traffic flow will likely be restricted vertically while in conflict with the major traffic flow.
  - Conditions that may not allow the use of UPRs
- Operators will be informed via International NOTAM whenever a condition exists that may restrict the use of UPRs within a particular FIR.
  - Conditions that may restrict the use of UPRs include:
    - Large scale military operations
    - Typhoons.

- (c) Volcanic Ash
- (d) Space Launches

## 2. UPR Specific Guidelines

### a. North America – Asia PACOTS UPR Guidelines

- (1) The North America – Asia PACOTS UPR guidelines are applicable to the Oakland, Fukuoka and Anchorage Oceanic FIRs.
- (2) The UPR route must enter or exit the Oakland Oceanic FIR over a published waypoint on the FIR boundary offshore of North America.
- (3) The UPR must comply with the procedures published by Japan and Anchorage ARTCC.
- (4) The PACOTS Track UPR must follow the Guidelines published above in the PACOTS Track Designator Details Table.

### b. Hawaii – Asia PACOTS UPR Guidelines

- (1) The Hawaii-Asia PACOTS UPR guidelines are applicable to the Oakland and Fukuoka Oceanic FIRs.
- (2) The UPR shall be planned to incorporate a published waypoint on the Honolulu Control Facility (HCF) boundary.
- (3) The UPR must comply with the procedures published by Japan.
- (4) The PACOTS Track UPR must follow the Guidelines published above in the PACOTS Track Designator and Details Table.
- (5) The UPR route must begin or end over one of the following Hawaiian Gateway waypoints in the HCF CTA:
  - (a) THOMA
  - (b) DANNO
  - (c) CANON
  - (d) LILIA
  - (e) PUPPI
  - (f) SYVAD
  - (g) HOOPA

NOTE: Operators may contact Oakland ARTCC Traffic Management Unit to be added to the daily publication of available Hawaiian Gateway waypoints due to Hawaii Warning Area Activity.

### c. Japan – Oceania UPR Procedures.

In association with operations between Japan (RJAA, RJTT, RJBB and RJGG) and Oceania (YSSY, YBBN, YBCS, YBCG, NZAA and NWWW) the following procedures must be used when planning UPRs:

- (1) The northbound and southbound UPRs must remain in the Fukuoka, Oakland, Guam, Port Moresby, Honiara, Auckland and Brisbane FIRs.
- (2) The UPR must include filed reporting points on the Control Center boundary crossings.
- (3) Within the Guam CTA aircraft may flight plan UPRs at or above FL310. Aircraft at FL300 and below must flight plan via Air Traffic Service (ATS) Routes in the Guam CTA.
- (4) The UPR must comply with the published procedures for the Fukuoka, Port Moresby, Brisbane and Auckland CTAs.

### d. Asia -- Koror UPR Procedures.

In association with operations between Asia and Koror (PTRO) the following procedures must be used when planning UPRs:

- (1) The UPR must remain in the Fukuoka FIR, Oakland FIR and Guam CTA.
- (2) Aircraft must flight plan via existing ATS routes within the Guam CTA or remain clear of the Guam CTA by 50 NM or more.
- (3) The UPR must remain at least 50 NM clear of the Manila FIR.
- (4) The UPR must comply with the published procedures in the Japan AIP for the Fukuoka FIR.

### e. Central East Pacific (CEP) UPR Procedures.

The Central Eastern Pacific Routes (CEPs) are published ATC airways between Hawaii and California. The CEP routes include R463, R464, R465, R585, R576, R577, and R578. One CEP UPR Flight may have a negative impact on multiple aircraft flight planned on a CEP airway. To preserve the overall efficiency of the CEP airspace, CEP UPRs will likely be subject to vertical restrictions below or above the traffic established on the CEP routes.

- (1) CEP UPR General restrictions.
  - (a) Aircraft on UPR routes in the CEP have a lower priority for altitude assignment than aircraft flight planned on a CEP route. CEP UPRs should expect to be at FL300 or below or FL430 and above until established on a CEP Route. Higher altitude may be available traffic permitting.
  - (b) Aircraft that cross multiple tracks will encounter more traffic and will be held to lower altitude while crossing CEP routes.
  - (c) CEP UPR aircraft must enter/depart the HCF CTA on a CEP route.
  - (d) Aircraft should cross the CEP airways as expeditiously as possible.
  - (e) CEP UPRs may cross a CEP Route to join a CEP route in the direction the route is published to be flown.
- (2) UPRs between Hawaii and California:
  - (a) Flight plan the UPR utilizing the waypoints of the CEP routes, do not file points in between CEP airways.
  - (b) Aircraft may flight plan a UPR route east of 142 West longitude. Aircraft must be established on a CEP route west of 142 West longitude.
- (3) UPRs from the South Pacific to California within the CEP airspace
  - (a) Northbound UPRs that cross the CEP must be capable of climbing to FL390 by the time they cross R578.
  - (b) Northbound UPRs that cannot cross R578 at FL390 or above, should expect to be restricted to cross below CEP Traffic.
- (4) UPRs California to the South Pacific within the CEP airspace
  - (a) California departures to the South Pacific are typically heavy and requesting initial oceanic altitudes below the CEP traffic established on routes. The California departures will be held below the CEP Traffic until they are clear of the CEP airspace or join a CEP route.
- (5) UPRs between the Pacific Northwest and the South Pacific
  - (a) UPRs that cross the CEP must be capable of climbing to FL390 by the time they reach the CEP airspace.
  - (b) UPRs that cannot cross the CEP airspace at F390 or above, should expect to be restricted to cross below the CEP

Traffic established on routes.

- f. **UPRs between Hawaii and Alaska.** UPRs between Hawaii and Alaska typically cross the heavy East or Westbound PACOTS/UPR North America traffic flows.

(1) While in conflict with the NA PACOTS/UPR traffic flows, the Hawaii – Alaska UPRs will likely experience vertical restrictions below or above the PACOTS/UPR traffic.

(2) The Hawaii – Alaska UPRs must exit/enter the HCF CTA over one of the following route segments:

- (a) ZIGIE ZOULU or ZOULU ZIGIE
- (b) APACK AUNTI or AUNTI APACK
- (c) ZIGIE to a point north ZOULU or point north ZOULU to ZIGIE

4. For further information or questions regarding UPRs, contact the Oakland Oceanic Supervisor at (510) 745-3342.

#### GUAM AREA PREFERENTIAL ROUTING

1. Due to traffic congestion within the Oakland OCA/FIR north, south and west of the airspace delegated to Guam CERAP (A 250NM radius of 13°32'N/144°55'E) preferred routings have been established. This notice applies to all turbojet aircraft at or above FL280 operating within the Oakland OCA/FIR north, south or west of the Guam CTA. The following are the Guam area preferential routings within the Oakland OCA/FIR. Aircraft operators must ensure that these preferential routes are indicated in Field 15 of the ICAO standard flight plan. The acronym FPRD in the descriptions below means flight plan route to destination.

#### 2. Southbound aircraft en route from the Fukuoka OCA/FIR and terminating within Guam CERAP delegated airspace:

- a. OVER KEITH – KEITH R584 OTTRE FPRD
- b. OVER PADKO – PADKO G339 RIDLL FPRD
- c. OVER MONPI – MONPI A597 REEDE FPRD MONPI A216 RIDLL FPRD
- d. OVER OMLET – OMLET B586 WINZR FPRD
- e. OVER TEGOD – TEGOD G205 GUYES FPRD TEGOD A337 SNAPP W21 HIRCH FPRD

#### 3. Northbound aircraft originating within Guam CERAP delegated airspace, en route to destinations within the Fukuoka OCA/FIR:

- a. OVER MIKYY – MIKYY R584 KEITH FPRD
- b. OVER NATSS – NATSS G339 PAKDO FPRD
- c. OVER OATSS – OATSS A216 MONPI FPRD
- d. OVER RICHH – RICHH A597 MONPI FPRD
- e. OVER TOESS – TOESS B586 OMLET FPRD
- f. OVER TERYY – TERYY G205 TEGOD FPRD
- g. OVER TEEDE – TEEDE A337 TEGOD FPRD

NOTE 1: Aircraft within the Oakland OCA/FIR and transiting Guam CERAP delegated airspace must flight plan to enter/exit Guam Center airspace on an appropriate ATS route(s) or other established compulsory reporting points (e.g., FATUM or JOBSS).

NOTE 2: With the exception of aircraft flight planned via Oceania UPR procedures, operators flight planning at or above FL310 with filed routes other than those described above should expect to be re-routed to the preferential route. Requests for alternate routes will be considered on a real-time basis as traffic conditions permit. However, aircraft should flight plan for and be prepared to fly the entire preferential route. Aircraft operating EAST of 150E longitude will not be affected.

Office of Primary Responsibility (OPR): Oakland Center – FAA/AJT-ZOA-IAP  
Contact Information: 510-745-3326/3464; email: AJT-ZOA-IAP@faa.gov  
Amended: August 2023

## OAKLAND OCA ISLAND AIRPORTS

### 1. Clearances

- a. When requesting an IFR clearance while on the ground, make every effort to communicate through San Francisco Radio or CPDLC. If unable to contact San Francisco Radio, a request for an IFR clearance can be made via direct communications with the sector controller via telephone.
- b. If unable to receive a clearance through any of the above means and you elect to depart VFR in accordance with ICAO Annex 2 and Document 7030, continue efforts to establish communication and obtain a clearance as soon as possible.

NOTE: Rules pertaining to VFR flight may be found within Section III—General Notices of this supplement.

### 2. Hazards

- a. Kwajalein Atoll–Dyess AAF: Electromagnetic radiation will exist 24 hours daily within 2.17 NM radius of Dyess AAF from the surface to 13,000 feet. Aircraft within this airspace may be exposed to direct radiation, which may be harmful to personnel and equipment.
- b. Kwajalein Atoll–Bucholz AAF: Electronic radiation may exist 24 hours daily within 5nm radius of Bucholz AAF from surface to 30,000 feet.
- c. Kwajalein Atoll–180 NM Radius: Hazardous military activity will be conducted which affect aircraft at all altitudes and flight levels within a 180 NM radius of 0843.3N/16743.8E until further notice. All nonparticipating VFR pilots are advised to remain well clear of the area. IFR flights under ATC jurisdiction may expect possible reroute to and from Bucholz Airport. For further information, contact Kwajalein Range Safety Officer at 805–355–1516.

Office of Primary Responsibility (OPR): Oakland Center – FAA/AJT-ZOA-IAP  
Contact Information: 510-745-3326/3464; email: AJT-ZOA-IAP@faa.gov  
Amended: August 2023

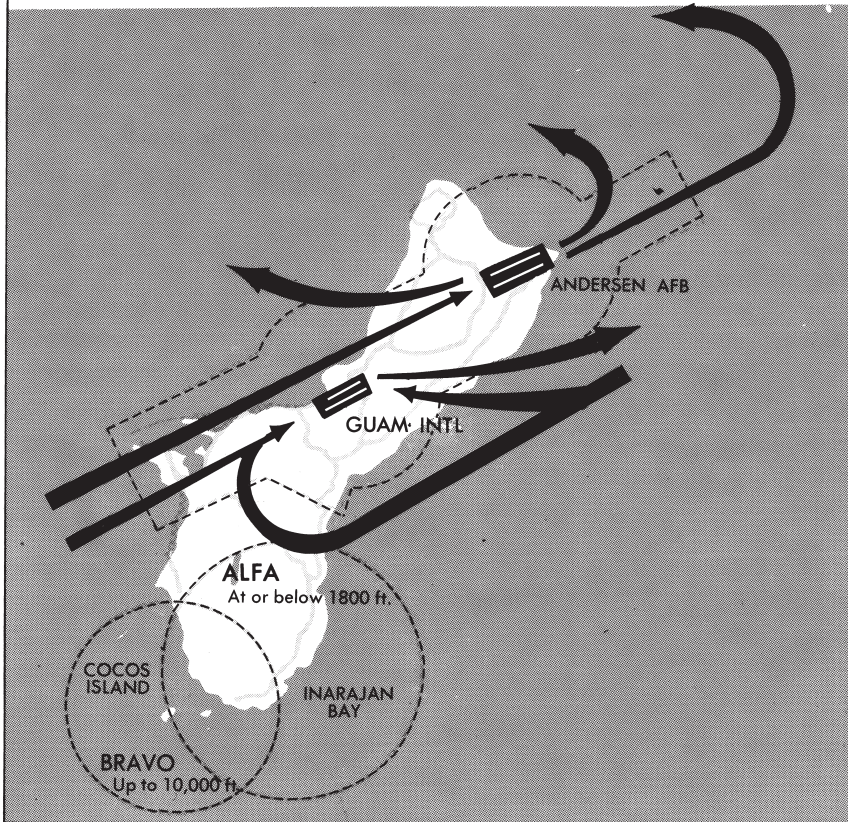




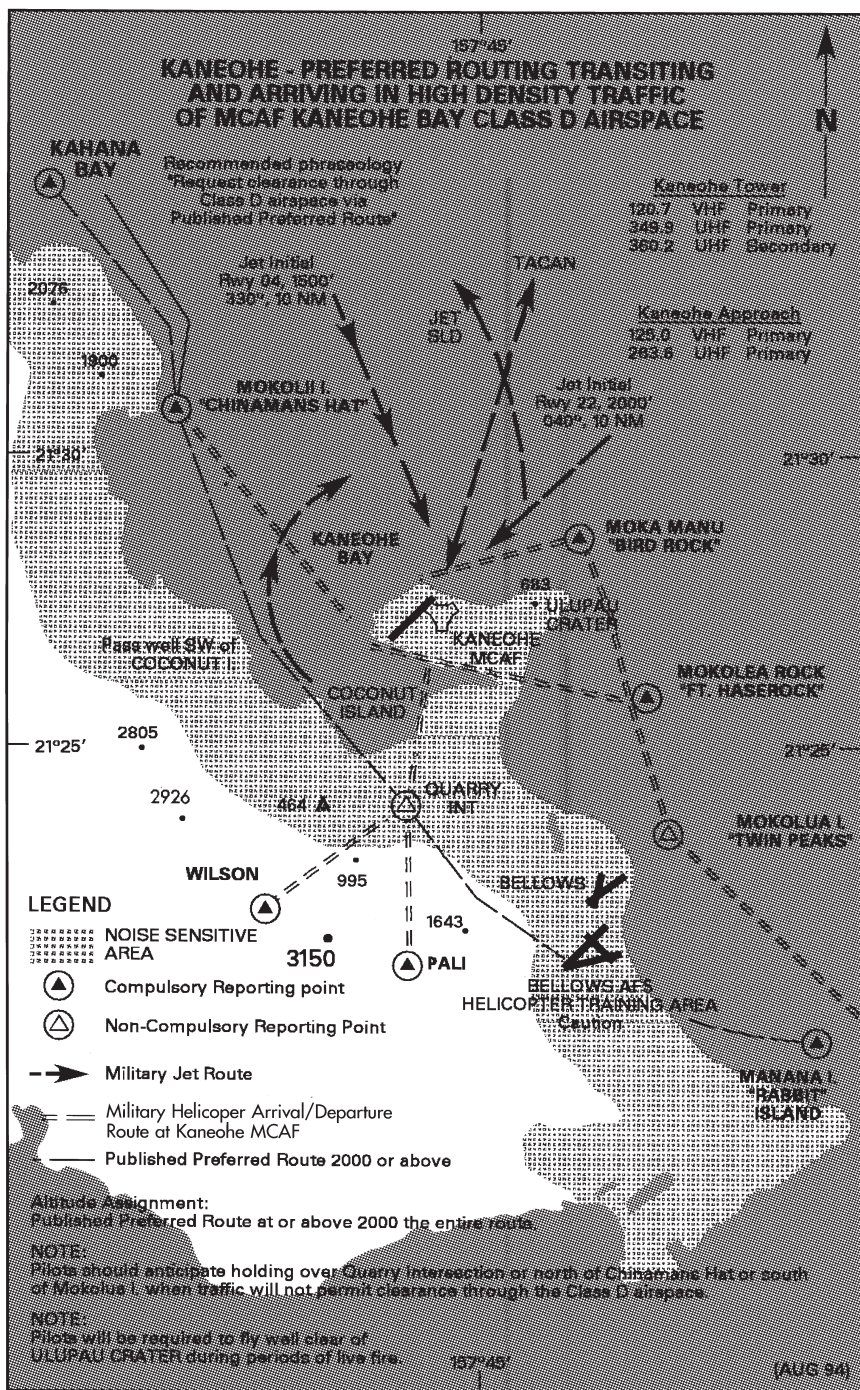
## GUAM TERMINAL AREA

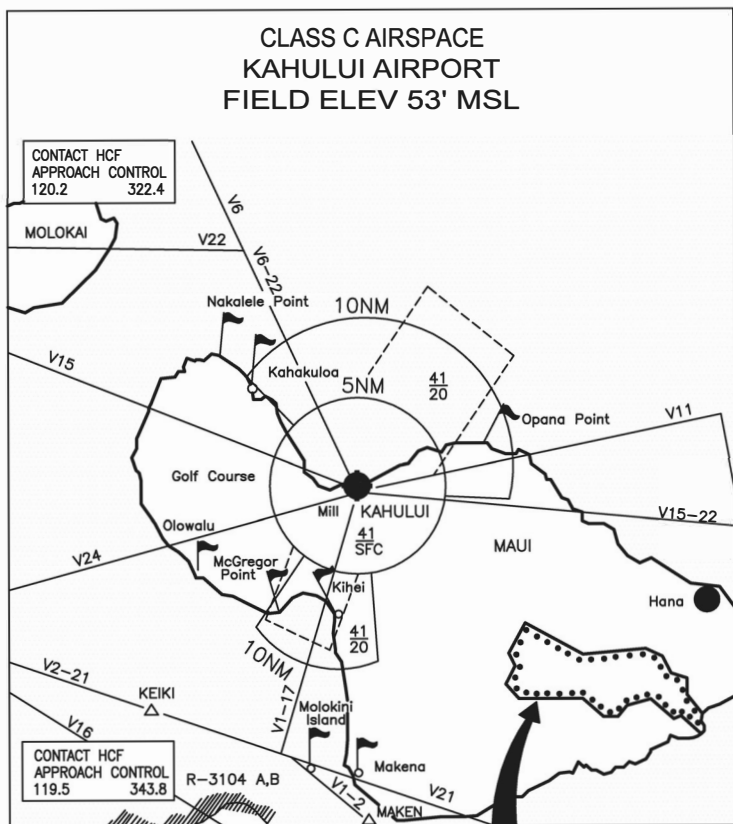
Heavily travelled routes for high performance aircraft arriving and departing Guam Intl and Andersen AFB should be avoided by light aircraft pilots flying VFR. The largest concentration of aircraft occurs within a radius of approximately 15 miles of the airports and at an altitude up to and including 4000 feet.

In addition to the above there are two areas of activity to be avoided, both outside the Agana Class D airspace. The first – ALFA – is a light aircraft low altitude training area within a 6 mile radius of Inarajan Bay. Aircraft training in this area should operate at or below 1800 feet and should monitor Guam Approach Control on freq 119.8. The second area – BRAVO – is a light aircraft high altitude training area for use up to 10,000 feet. This area is within a 5 mile radius of Cocos Island. Aircraft in this area should also monitor Guam Approach Control on 119.8.









LEGEND

VFR CHECK POINTS

FLOOR IN HUNDREDS  
OF FEET MSL

CEILING IN HUNDREDS  
OF FEET MSL

41  
20

## HALEAKALA NATIONAL PARK

Public law prohibits flight of VFR helicopters or Fixed-wing aircraft below 9500 feet MSL over the following areas in Haleakala National Park: Haleakala Crater, Crater Cabins, the Scientific Research, Halemau Trail, Kaupo Gap Trail or any designated tourist viewpoint.

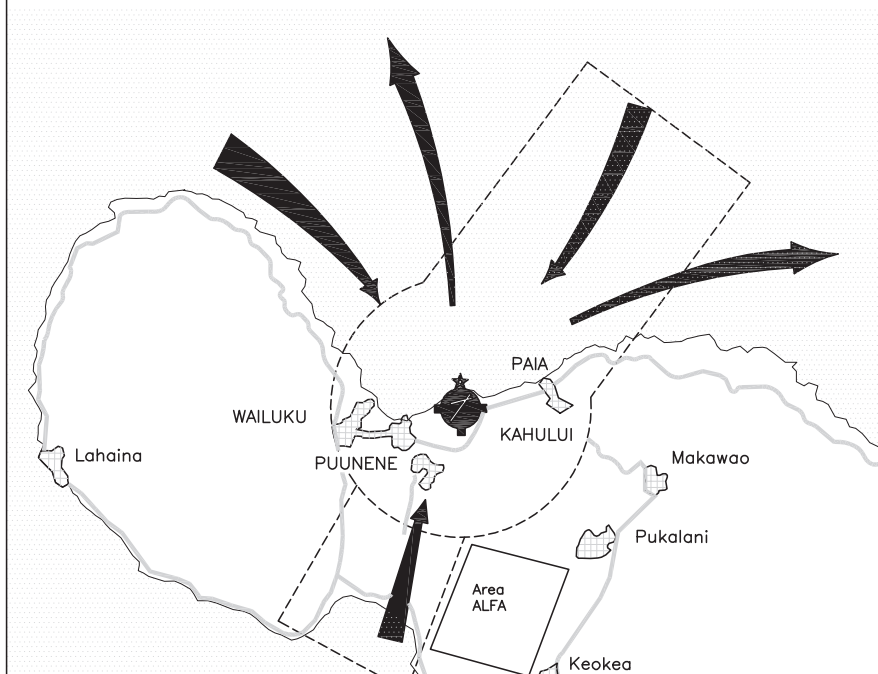
## CLASS C AIRSPACE PROCEDURES

VFR AIRCRAFT PROPOSING TO ENTER KAHULUI AIRPORT CLASS C AIRSPACE ARE REQUIRED TO CONTACT ATC PRIOR TO ENTRY. INITIAL CONTACT: REFER TO CHARTED VFR CHECK POINTS OR 10 DME FROM THE OGG VORTAC. INITIAL CALLS IN CLOSE PROXIMITY TO THE AIRSPACE BOUNDARY MAY RECEIVE INSTRUCTIONS TO "REMAIN CLEAR OF CHARLIE AIRSPACE AND STANDBY." INITIAL CALLS FROM THE MORE DISTANT CHECK POINTS ARE PREFERRED.

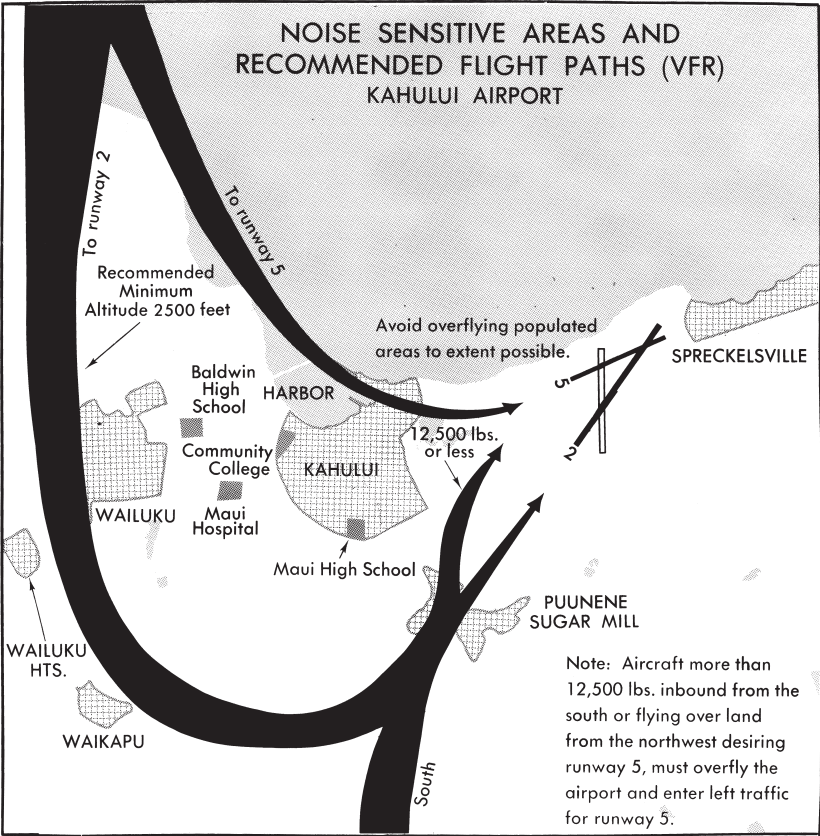
FREQUENCIES: NORTH OF V15 - 120.2, SOUTH OF V15 - 119.5.

## KAHULUI, MAUI

Shown are the most heavily traveled routes for high performance aircraft arriving and departing Kahului Airport, Maui. Light plane pilots flying VFR in these areas should maintain an alert lookout and monitor HCF Approach Control frequency. Aircraft transiting north of the Kahului Airport in VFR conditions are requested to remain at least 8 NM north of the airport at or below 4500 ft. if westbound, 3500 ft. if eastbound, or following the shoreline at or below 2500 ft. and be responsive to routing changes issued by HCF Approach Control or Maui Tower. The area depicted as "ALFA" is a light aircraft local training area. Area is outside Kahului Airport Class C airspace. Aircraft training in area normally operate at or below 3000 ft. and monitor HCF Approach Control.

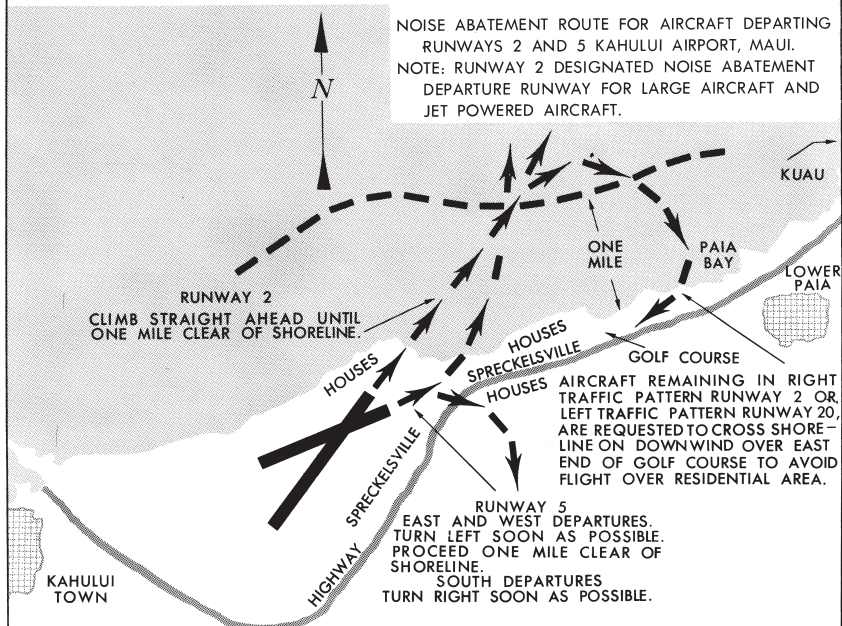






### INFORMAL RUNWAY USE PROGRAM—KAHULUI ARPT, MAUI

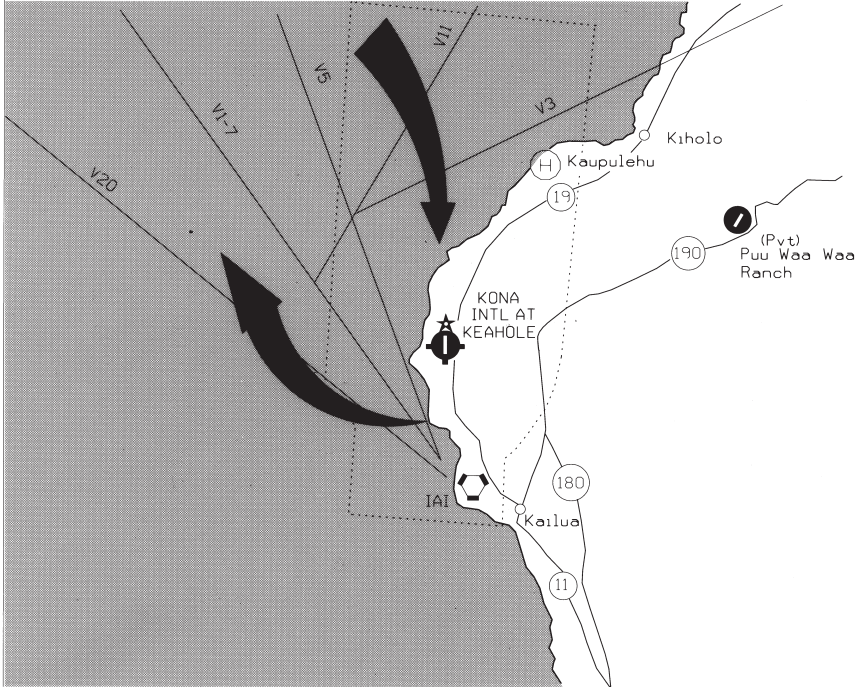
Aircraft noise complaints from Spreckelsville Beach area located adjacent to Kahului Airport have become a matter of serious concern. To alleviate the situation, noise abatement departure runways and flight patterns have been developed. All pilots are urged to follow these procedures to the maximum extent possible consistent with operational and safety requirements. Runway 2 is designated as the noise abatement departure runway for both large and jet powered aircraft. Departure flight pattern runway 2: - Climb straight ahead until one mile clear of shoreline before commencing turns. If takeoff on runway 5 is necessary, both large and jet powered aircraft are requested to: if east or westbound, turn left as soon as possible and proceed one mile clear of shoreline; if southbound, turn right as soon as possible if traffic permits, otherwise turn left.



KONA INTERNATIONAL AT KEAHOLE AIRPORT, HAWAII

Depicted on this chart are the most heavily traveled routes for high performance aircraft arriving and departing Kona Intl At Keahole Airport, Kona, Hawaii.

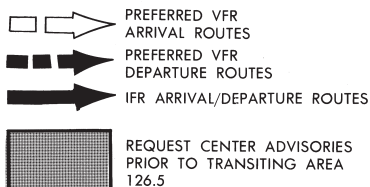
General Aviation pilots flying VFR should be extra alert in these areas. Contact Kona Tower on frequency 120.3 for traffic advisories.





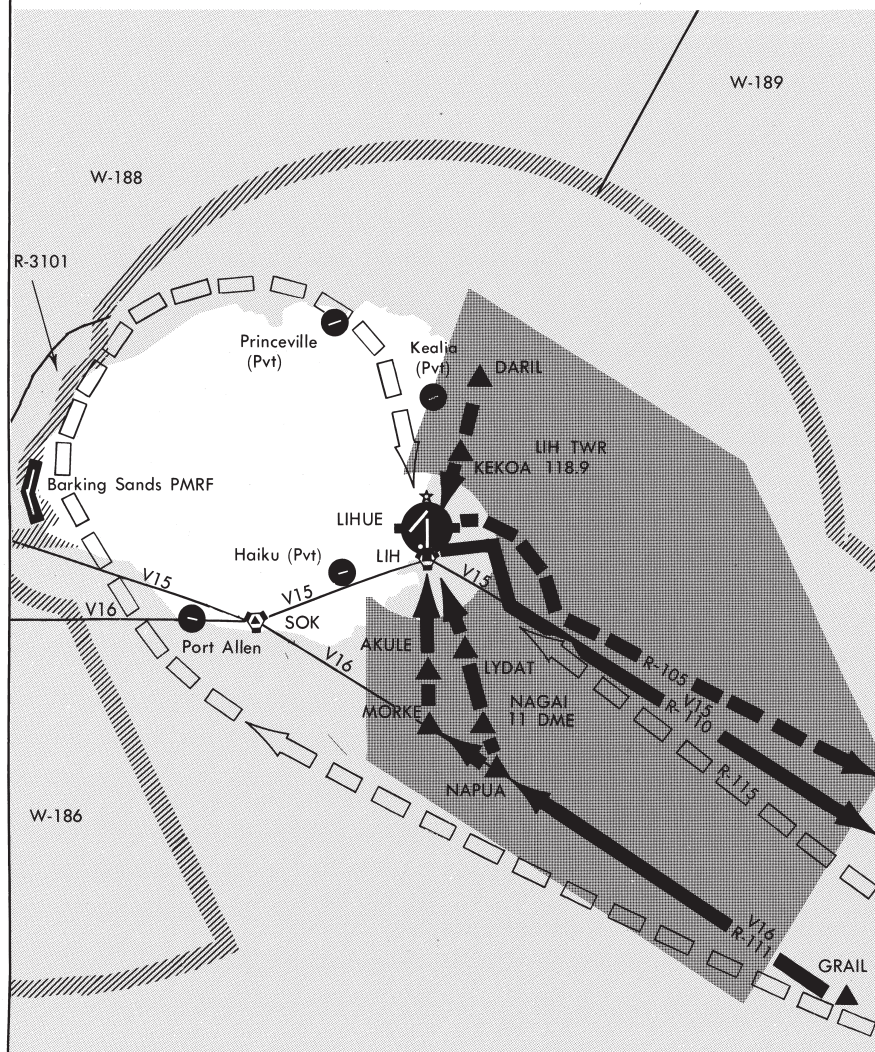
# PREFERRED VFR ROUTING LIHUE AIRPORT, LIHUE, KAUAI

## LEGEND

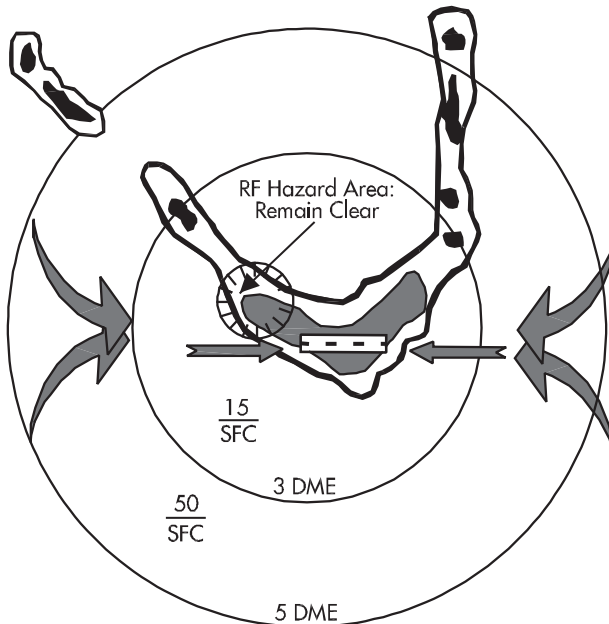


AIRCRAFT INBOUND TO LIHUE FROM THE EAST CONTACT HONOLULU CENTER 126.5 BY MID-CHANNEL.

VFR AIRCRAFT DEPARTING LIHUE AIRPORT VIA RUNWAY 3/35 EASTBOUND, FLY OUTBOUND ON OR NORTH OF LIH 105 RADIAL UNTIL 25 MILES EAST.



## Bucholz Army Airfield (Kwajalein Atoll) VFR Arrival/Departure RF Avoidance Routing



1. VFR arriving or departing aircraft must maintain indicated altitudes in vicinity of Bucholz Army Airfield. A high intensity radiated field can exist in vicinity of Bucholz and the possibility of interference exists if procedure is not followed.
2. Avoid overflight of indicated area at NW corner of Kwajalein.



PREFERRED VFR ROUTING AT SAIPAN AND WEST TINIAN AIRPORTS

Tradewind Condition  
(Northeast Winds, Rwy 07, Rwy 08 In Use)

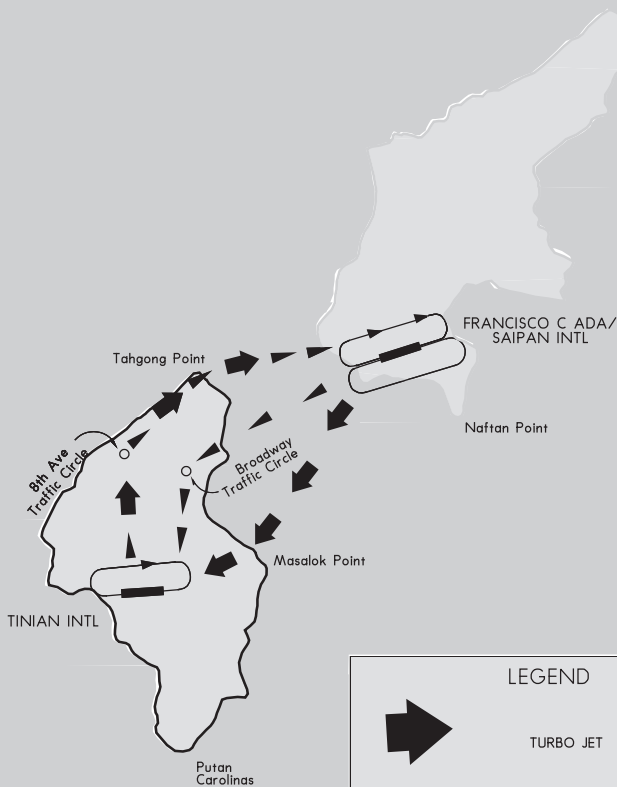
- 1. VFR turbo jet aircraft arriving Saipan from the southwest should proceed northbound along the west coast of Tinian. VFR turbo jets from the north-northwest should proceed southbound about 10 miles west of Saipan. They should intercept the I-GSN localizer at 10 DME and proceed inbound on the localizer maintaining at or above 2300' above mean sea level until passing KORDY (localizer/7 DME).
- 2. VFR twin engine aircraft arriving at Saipan from Tinian, Rota/Guam should proceed to Unai Masalok and direct to Puntan Opyan.
- 3. VFR single engine aircraft arriving Saipan from Tinian should turn left after takeoff and proceed northbound via BROADWAY to the traffic circle, then northeast to Asiga Point, then across Saipan channel for straight-in to Rwy 07.
- 4. VFR twin engine aircraft from Saipan should make right traffic to Naftan Point, then southwest bound to Puntan Masalok, then enter left traffic for Rwy 08 at West Tinian.
- 5. VFR single engine aircraft from Saipan should make left traffic downwind to Puntan Agingan, across Saipan channel to Puntan Tahgong (north tip of Tinian), direct to 8th Avenue traffic circle, thence via 8th Avenue to enter left traffic for Rwy 08 at West Tinian.



# PREFERRED VFR ROUTING AT SAIPAN AND WEST TINIAN AIRPORTS

Southwest Wind Condition  
(Rwy 25 and Rwy 26 In Use)

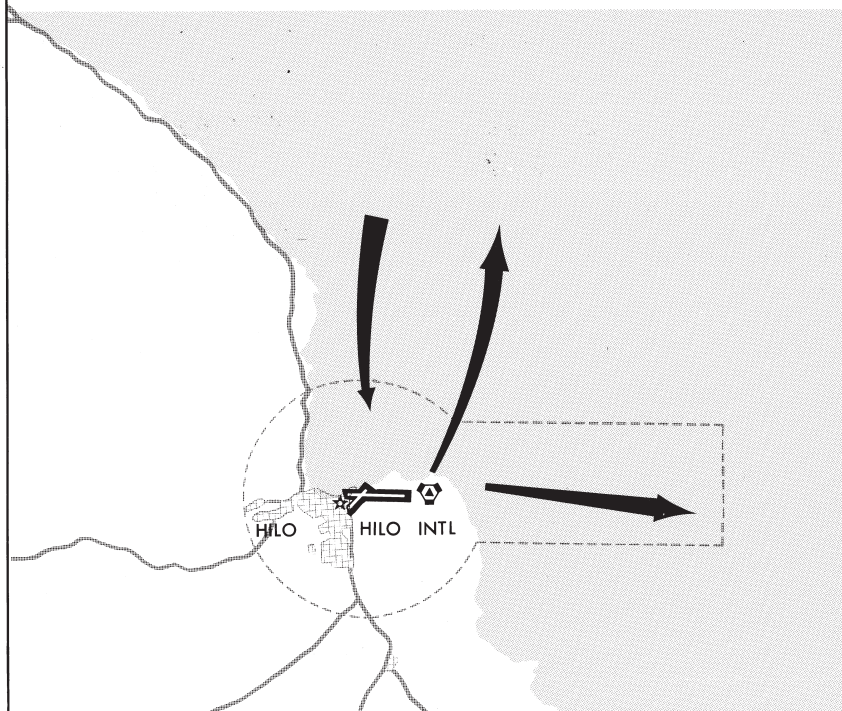
1. VFR single engine aircraft from Saipan Rwy 25 to West Tinian, direct across Saipan Channel to Broadway Traffic Circle, via BROADWAY to enter a right base leg for Rwy 26.
2. VFR twin engine aircraft from Saipan Rwy 25 left turn direct Unai Masalok, make straight-in to Rwy 26 at West Tinian.
3. VFR twin and single engine aircraft from West Tinian, Rwy 26 to Saipan, right turn follow 8th Avenue to Traffic Circle, direct to Puntan Tahgong across Saipan Channel to Agingan Point, enter right downwind for Rwy 25 at Saipan.

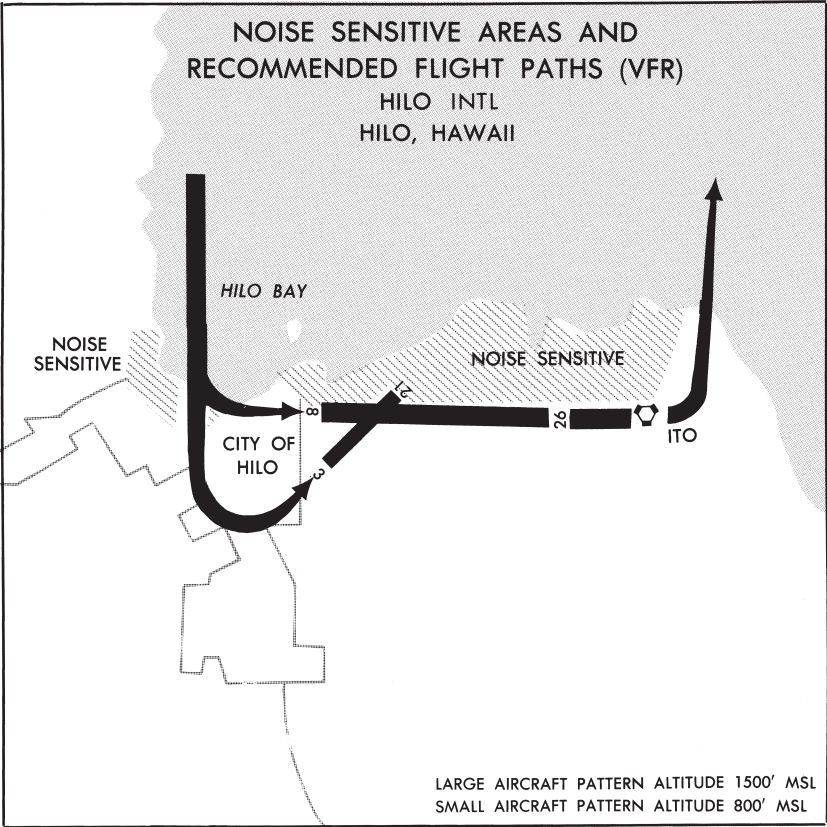


**HILO INTL, HILO**

Depicted on this chart are the most heavily traveled routes for high performance aircraft arriving and departing Hilo Intl, Hilo, Hawaii.

General aviation pilots flying VFR should be extra alert in these areas. Contact Hilo Approach Control on frequency 119.7 for traffic advisories.





## DILLINGHAM AIRFIELD, OAHU

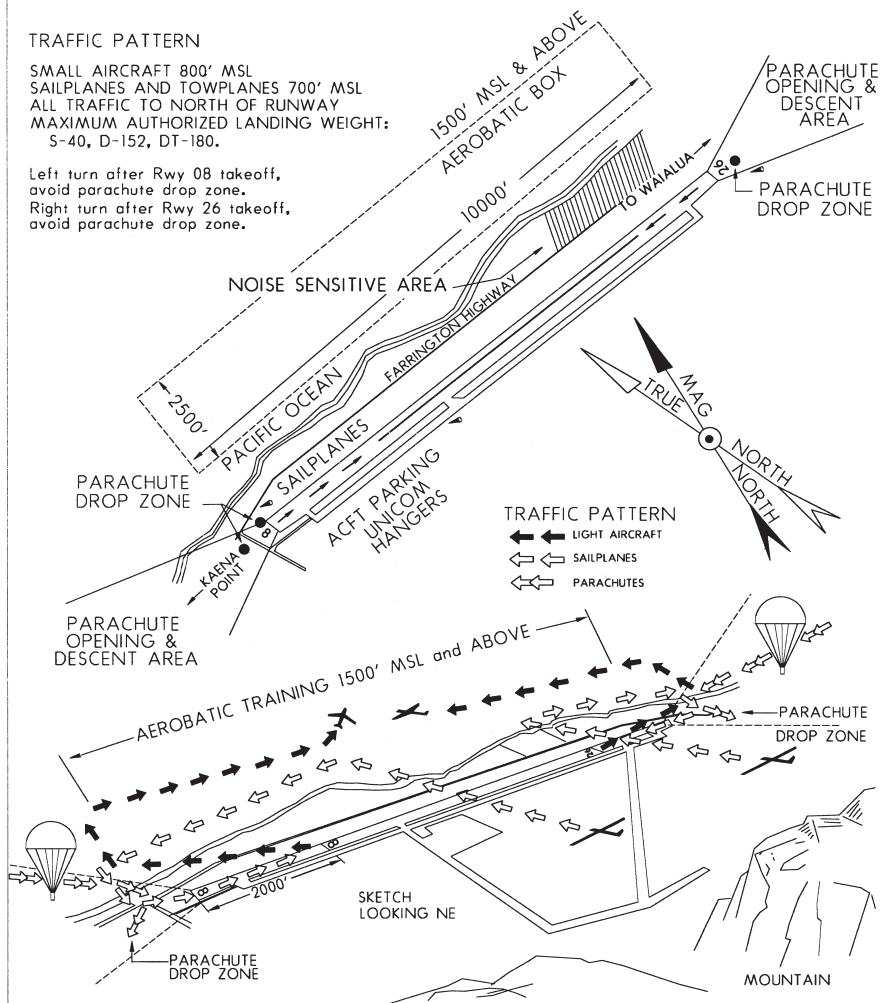
**Glider Operations:** Gliders are normally air-towed and routinely depart the traffic pattern to the South. (Right turn after takeoff Rwy 08, left turn after takeoff Rwy 26.) Gliders normally fly the ridge line to the south of the airport, within 5 NM. Most gliders are not radio equipped. The powered aircraft towing the gliders have radios and routinely use the glider traffic pattern, entering the traffic pattern from the South.

**Sky Dive Operations:** Extensive parachute operations occur daily at 16,000' and below. Parachutists normally exit the aircraft upwind of the airport and during strong winds may exit as far as 3 NM from the drop zone. Parachutes are usually opened between 2,000' and 4,500' altitude, and then flow to the drop zone entering an abbreviated left traffic pattern (Rwy 08) or right traffic pattern (Rwy 26). During light and no wind conditions, the parachutes may open directly above the airport and adjacent beach area.

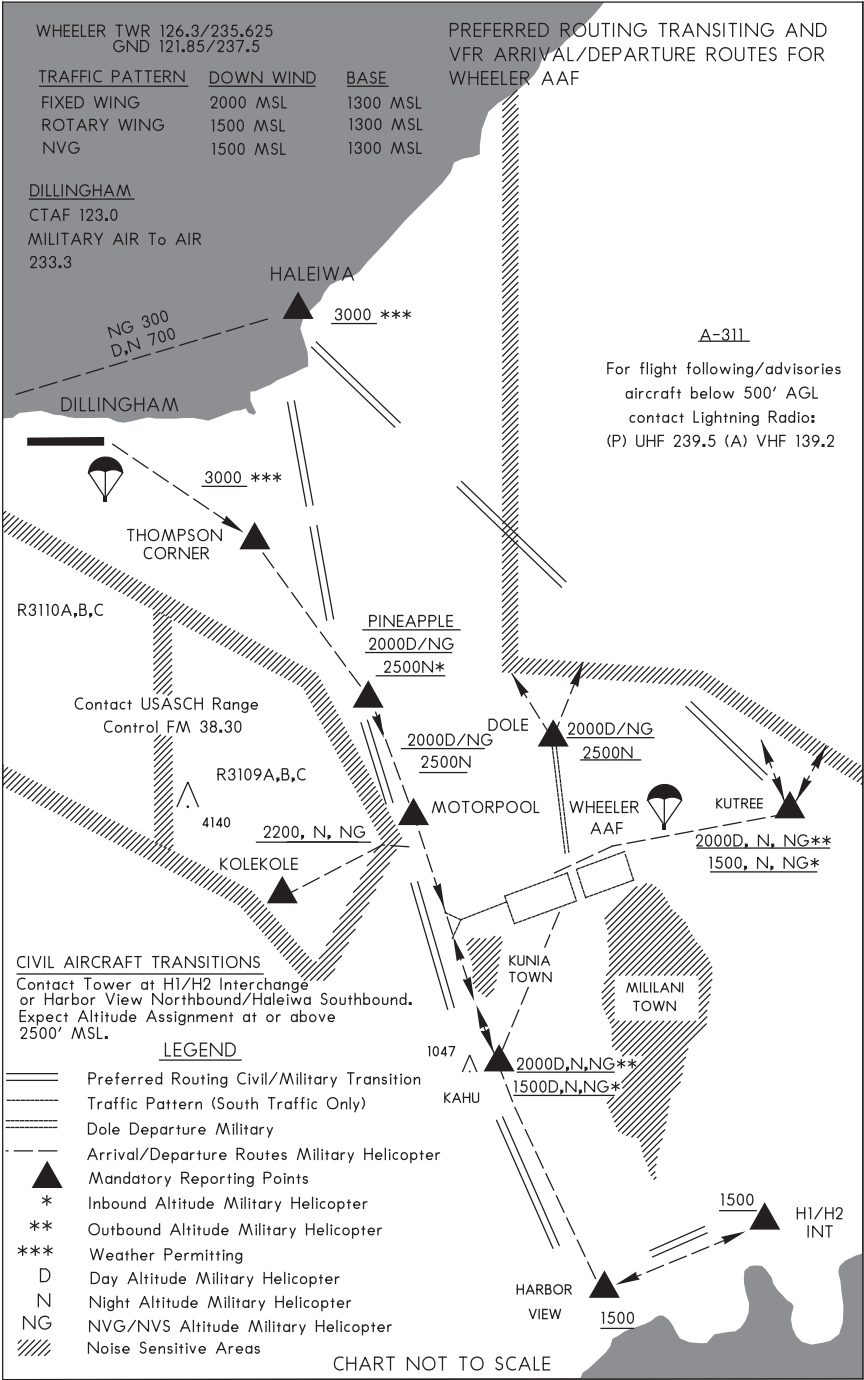
## TRAFFIC PATTERN

SMALL AIRCRAFT 800' MSL  
SAILPLANES AND TOWPLANES 700' MSL  
ALL TRAFFIC TO NORTH OF RUNWAY  
MAXIMUM AUTHORIZED LANDING WEIGHT:  
S-40, D-152, DT-180.

Left turn after Rwy 08 takeoff,  
avoid parachute drop zone.  
Right turn after Rwy 26 takeoff,  
avoid parachute drop zone.



ARRIVAL/DEPARTURE GRAPHICS



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RADIO NAVIGATIONAL AIDS BY IDENT

Ident	Name	Ident	Name
AJA	Mt. Macajna (NDB)	NDJ	Bucholz (NDB)
AWK	Wake (VORTAC)	OGG	Maui (VORTAC)
CKH	Koko Head (VORTAC)	PNI	Pohnpei (NDB/DME)
GRO	Rota (NDB)	POA	Pahoa (NDB)
HN	Ewabe (NDB)	ROR	Koror (NDB/DME)
HNL	Honolulu (VORTAC)	SN	Saipan (NDB)
IAI	Kona (VORTAC)	SOK	South Kauai (VORTAC)
ITO	Hilo (VORTAC)	TKK	Truk (NDB/DME)
LIH	Lihue (VORTAC)	TUT	Pago Pago (NDB)
LNJ	Lanai (VORTAC)	TUT	Pago Pago (VORTAC)
MAJ	Majuro (NDB/DME)	UKS	Kosrae (NDB/DME)
MDY	Midway (NDB)	UNZ	NIMITZ (VORTAC)
MKK	Molokai (VORTAC)	UPP	Upolu Point (VORTAC)
MUE	Kamuela (VOR/DME)	XI	Christmas Island (NDB)
		YP	Yap (NDB/DME)

VOR RECEIVER CHECK

Airborne and ground checkpoints consist of certified radials that should be received at specific points on the airport surface, or over specific landmarks while airborne in the immediate vicinity of the airport.

Should an error in excess of  $\pm 4^\circ$  be indicated through use of the ground check, or  $\pm 6^\circ$  using the airborne check, IFR flight should not be attempted without first correcting the source of the error. CAUTION: No correction other than the "correction card" figures supplied by the manufacturer should be applied in making these VOR receiver checks.

GROUND RECEIVER CHECKPOINTS

Nimitz	063	3.3 NM	Twy A between Rwy 06L and Rwy 06R.
Pago Pago	242	0.8 NM	On twy Rwy 05.
Wake Island	98	1.3 NM	Runup area Rwy 28.

VOR TEST FACILITIES (VOT)

STATION	FREQ.	TYPE VOT FACILITY
Honolulu	111.0	G

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**SAN FRANCISCO RADIO****(Services available for aircraft engaged in international flight)**

San Francisco Radio using Pacific common air/ground ATC frequency networks shared with other ground stations are listed below. The frequencies in use will depend on the time and conditions which affect radio propagation. International flights on the ground at ANC or within VHF range of the SEA-ANC network that are entering the NOPAC Route System within Anchorage Centers FIR boundary should contact San Francisco Radio on VHF 129.4, to obtain primary/secondary HF frequencies and verify SELCAL before entering NOPAC. If unable 129.4, primary/secondary HF frequencies may be obtained from Anchorage ARTCC, but no SELCAL is available.

**WEB-PAGE FOR CURRENT SAN FRANCISCO RADIO FREQUENCIES: [Radio.arinc.net](http://Radio.arinc.net)**

Primary and Secondary San Francisco Radio frequencies for the Pacific and Atlantic are continuously updated on this webpage.

**CENTRAL WEST PACIFIC (CWP) NETWORK FREQUENCIES**

San Francisco

MWARA—2998, 3455, 4666, 5652, 6532, 8870, 8903, 11384, 13300, 17904 and 21985 kHz

LDOCF (c)—3494, 6640, 8933, 11342, 13348, 17925 and 21964 kHz

**NORTH PACIFIC (NP) NETWORK FREQUENCIES**

San Francisco

MWARA—5628, 6655, 8915, 8951, 10048, 13339, 17946 and 21925 kHz

LDOCF (c)—3494, 6640, 8933, 11342, 13348, 17925 and 21964 kHz

**CENTRAL EAST PACIFIC NETWORK FREQUENCIES**

San Francisco

Extended Range VHF (a)—131.95 MWARA—2869, 3413, 3452, 5547, 5574, 6673, 8843, 8915, 10057, 11282, 13288, 13354, and 21964 kHz

LDOCF (c)—3494, 6640, 8933, 11342, 13348, 17925, and 21964 kHz

Seattle Pre-flight checks (b)—129.4 (SEA-ANC), 131.80 (North West), 131.95 (Central CA), and 128.90 (Southern CA).

**SOUTH PACIFIC (SP) NETWORK FREQUENCIES**

San Francisco

MWARA—3467, 5643, 8867, 13261, and 17904 kHz

LDOC (c)—3494, 6640, 8933, 11342, 13348, 17925, and 21964 kHz

SSB capability available on all HF freqs. (a) Extended Range VHF 131.95. Coverage includes area within approximately 200 NM of the Hawaiian Islands and along the Hawaii-Mainland US tracks extending outward approximately 250 NM from the HNL, SFO, and LAX areas. (b) Call San Francisco Radio on VHF to arrange HF checks. 129.40 available for enroute communications on SEA-ANC routes. (c) Users are reminded that all transmissions on the San Francisco Radio HF SSB LDOCF must be in the single sideband mode (upper sideband only).

Phone patch service will be available as a normal part of the service. Communications are limited to aircraft operational control matters. Public correspondence (personal messages) to/from crew or passengers cannot be accepted. Refer questions to San Francisco Radio operations at 1-800-621-0140. Aircraft operating in the Anchorage Arctic CTA/FIR beyond line of sight range of remote control VHF air/ground facilities operated from the Anchorage ARTCC, shall maintain communications with Gander Radio and a listening or SELCAL watch on HF frequencies of the North Atlantic D (NAT D) network (2971 kHz, 4675 kHz, 8891 kHz and 11279 kHz). Additionally, Gander Radio can provide Anchorage and Fairbanks surface observations and terminal forecasts to flight crews on request.

**SATCOM VOICE AVAILABLE AS ALTERNATIVE COMMUNICATIONS MEDIUM:**

San Francisco Radio has operational use of SATCOM Voice as an acceptable alternative communications medium for oceanic long range ATC communications. It is intended that SATCOM Voice will augment HF radio, in that HF will remain primary for all air-ground-air communications between San Francisco Radio Communications Centers and enroute oceanic aircraft.

**Aircraft desiring to contact the San Francisco Radio Communications Center should use the SATCOM Short Code to call San Francisco Radio:**

Oceanic Area	Center	SATCOM Short code
Pacific	SFO	436625

San Francisco Radio will also utilize SATCOM Voice as a normal operational backup to HF to initiate communications from ground-to-air on the rare occasion when HF communications cannot be established in a timely manner. SATCOM Voice may be used for either ATC or AOC (Aeronautical Operation Control) Communications.

Office of Primary Responsibility (OPR): Oakland Center – FAA/AJT-ZOA-IAP

Contact Information: 510-745-3326 and/or 510-745-3464; email: [AJT-ZOA-IAP@faa.gov](mailto:AJT-ZOA-IAP@faa.gov)

Amended: June 2023

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PARACHUTE JUMPING AREAS

The following tabulation lists all known jumping sites. Unless otherwise indicated, all activities are conducted during daylight hours and under VFR conditions.

AREA NAME	LOCATION	REMARKS
Agat Bay Drop Zone, GU	244 radial, 11.2 NM, UNZ VORTAC	2 NM radius. Intermittent. Up to 10,000 ft MSL. Military use only.
Anderson Drop Zone, GU	054 radial, 13.5 NM, UNZ VORTAC	2 NM radius. Intermittent. Up to 18,000 ft.
Apra Harbor, GU	265 radial, 4 NM, UNZ VORTAC	2 NM radius. Intermittent. Up to 12,000 ft.
Basilan Drop Zone, HI	326 radial, 16.6 NM, HNL VORTAC	2 NM radius. Intermittent. FSS HNL. Military. Up to 12,500 ft. Honolulu Control Facility ARTCC 126.5.
Dandan Drop Zone, GU	018 radial, 2.4 NM, SN NDB	1 NM radius. Daily. Up to 14,000 ft AGL.
Dillingham, HI	310 radial, 21.5 NM, HNL VORTAC	3 NM radius. Daily. Up to 16,000 ft.
	306 radial, 22.1 NM, HNL VORTAC	3 NM radius. Up to 16,000 ft.
East Range/Taro Drop Zone, HI	332 radial, 11.8 NM, HNL VORTAC	0.5 NM radius. Intermittent. Greatest activity on weekends. Military. Maximum altitude 12,500 ft MSL.
Ferguson Hill Drop Zone, GU	040 radial, 9.5 NM, UNZ VORTAC	2 NM radius. Intermittent. Up to 14,000 ft. MSL. Military use only.
Guam Intl, GU	080 radial, 5.8 NM, UNZ VORTAC	1 NM radius. Daily. Up to 14,000 ft FSS HNL.
Holister Drop Zone, HI	179 radial, 9.1 NM, MUE VOR/DME	1 NM radius. 0700-2200. Up to 35,000 ft. Honolulu Control Facility ARTCC 118.45.
Honolulu, HI Helemano Military Reservation, HI	340 radial, 14.5 NM, HNL VORTAC	0.7 NM radius. Daily. Greatest activity on weekends. Up to 15,000 ft.
Inouye Drop Zone, HI	178 radial, 10.7 NM, MUE VOR/DME	1 NM radius. 0700-2200. Up to 35,000 ft. Honolulu Control Facility ARTCC 118.45.
Kahuku, HI	351 radial, 22.6 NM, HNL VORTAC	Intermittent. Up to 12,500 ft AGL.
Kanes Drop Zone, HI	341 radial, 22.5 NM, HNL VORTAC	2 NM radius. Intermittent. FSS HNL. Military. Maxium Alt 12,500 ft AGL. Honolulu Control Facility ARTCC 126.5.
Mangilao Drop Zone, GU	090 radial, 4.6 NM, UNZ VORTAC	2 NM radius. Daily. Up to 14,000 ft FSS HNL. Guam Intl Twr 118.7.
Northwest Fld Drop Zone, GU	035 radial, 12 NM, UNZ VORTAC	2 NM radius. Intermittent up to 18,000 ft. Military.
Orote Point, GU	254 radial, 5.5 NM, UNZ VORTAC	2 NM radius. Intermittent. Up to 12,000 ft.
Pokai Bay, HI	285 radial, 17.5 NM, HNL VORTAC	3 NM radius. Intermittent. Up to 3,000 ft.
Port Allen, HI	256 radial, 4.2 NM, SOK VORTAC	2 NM radius. Daily. Max altitude 10,000 ft. Honolulu Control Facility Center 126.5.
Puukapu Drop Zone, HI	345 radial, 22.6 NM, HNL VORTAC	Intermittent. Up to 12,000 ft AGL. FSS HNL.
Tigershark-Inland Drop Zone, HI		1 NM radius. M-F 0700-2200, Sat-Sun, Hol 0900-2200. Up to 7,000 ft. Honolulu Cont Fac (ZHN) 142.45.
Uncle Drop Zone, HI	179 radial, 8.7 NM, MUE VOR/DME	1 NM radius. 0700-2200. Up to 35,000 ft. Honolulu Control Facility ARTCC 118.45.
Upolu Point Drop Zone, HI		5 NM radius. Daily, all hours. Up to 13,000 ft MSL. Honolulu Control Facility (ZHN) 126.0

SPECIAL USE AIRSPACE

No.	Name	Altitude	Time	Controlling Agency
				Using Agency
A-311	Wheeler AAF	To 500' AGL	1730-0900Z	Lightning Control VHF 139.2 UHF 239.5 FM 39.35
				25th Infantry Division, Schofield Barracks, HI
W-11A		To FL300	By NOTAM	FAA, Guam CERAP
				Commander Joint Region Marianas
W-11B		To FL300	By NOTAM	FAA, Guam CERAP
				Commander Joint Region Marianas
W-12		To FL600	By NOTAM	FAA, Guam CERAP
				Commander Joint Region Marianas



ASSOCIATED DATA

W-13A LOW	To FL300	By NOTAM	FAA, Guam CERAP
			Commander Joint Region Marianas
W-13B LOW	To FL300	By NOTAM	FAA, Guam CERAP
			Commander Joint Region Marianas
W-13C LOW	To FL300	By NOTAM	FAA, Guam CERAP
			Commander Joint Region Marianas
W-13A HIGH	To FL300 to FL600	By NOTAM	FAA, Guam CERAP
			Commander Joint Region Marianas
W-13B HIGH	To FL300 to FL600	By NOTAM	FAA, Guam CERAP
			Commander Joint Region Marianas
W-13C HIGH	To FL600	By NOTAM	FAA, Guam CERAP
			Commander Joint Region Marianas
W-11A	To FL300	By NOTAM	FAA, Guam CERAP
			Commander Joint Region Marianas
W-186	To 9,000'	Cont	FAA, Honolulu Control Facility
			CO PMRFAC HAWAREA
W-187	To 18,000'	Mon-Fri 1700-0800Z	FAA, Honolulu Control Facility
		Sat-Sun 1800-0200Z other times by NOTAM	FACSFAC PH, Pearl Harbor, HI
W-188	Unltd	Cont	FAA, Honolulu Control Facility
			CO PMRFAC HAWAREA
W-189	Unltd	Mon-Fri 1700-0800Z	FAA, Honolulu Control Facility
		Sat-Sun 1800-0200Z Other times by NOTAM	FACSFAC PH, Pearl Harbor, HI
W-190	Unltd	Mon-Fri 1700-0800Z	FAA, Honolulu Control Facility
		Sat-Sun 1800-0200Z Other times by NOTAM	FACSFAC PH, Pearl Harbor, HI
W-191	To 3000'	Mon-Fri 1700-0800Z	FAA, Honolulu Control Facility
		Sat-Sun 1800-0200Z Other times by NOTAM	FACSFAC PH, Pearl Harbor, HI
W-192	Unltd	Mon-Fri 1700-0800Z	FAA, Honolulu Control Facility
		Sat-Sun 1800-0200Z Other times by NOTAM	FACSFAC PH, Pearl Harbor, HI
W-193	Unltd	Mon-Fri 1700-0800Z	FAA, Honolulu Control Facility
		Sat-Sun 1800-0200Z Other times by NOTAM	FACSFAC PH, Pearl Harbor, HI
W-194	Unltd	Mon-Fri 1700-0800Z	FAA, Honolulu Control Facility
		Sat-Sun 1800-0200Z Other times by NOTAM	FACSFAC PH, Pearl Harbor, HI

SPECIAL USE AIRSPACE (Continued from preceding page)

No.	Name	Altitude	Time	Controlling Agency
				Using Agency
W-196		to 2,000'	on-Fri 1700-0800Z	FAA, Honolulu Control Facility
			Sat-Sun 1800-0200Z	FACSFAC PH, Pearl Harbor, HI
			Other times by NOTAM	
W-517	Guam	Unltd	By NOTAM	FAA GUAM CERAP
				Commander Joint Region Marianas
R-3101	PMRF Barking Sands 4	Unltd	Mon-Fri 1600-0400Z	FAA, Honolulu Control Facility
			Other times by NOTAM	CO Pacific Missile Range Fac
R-3103	Humuula	to 30,000'	By NOTAM	FAA, Honolulu Control Facility
				Commanding Gen. US Army Schofield Barracks, HI
R-3107	Kaula Rock	to 18,000'	Mon-Fri 1700-0800Z	FAA, Honolulu Control Facility
			Sat-Sun 1800-0200Z, other times by NOTAM	FACSFAC PH, Pearl Harbor, HI issued at least 24 hours in advance.
R-3109A	Schofield-Makua	to 8,999'	By NOTAM	FAA, Honolulu Control Facility
				US Army Schofield Barracks, HI
R-3109B	Schofield-Makua	9,000' to 18,999'	Intermittent	FAA, Honolulu Control Facility
				US Army Schofield Barracks, HI
R-3109C	Schofield-Makua	to 8,999'	By NOTAM	FAA, Honolulu Control Facility
				US Army Schofield Barracks, HI
R-3110A	Schofield-Makua	to 8,999'	By NOTAM	FAA, Honolulu Control Facility
				US Army Schofield Barracks, HI
R-3110B	Schofield-Makua	9,000' to 18,999'	Intermittent	FAA, Honolulu Control Facility
				US Army Schofield Barracks, HI
R-3110C	Schofield-Makua	to 8,999'	By NOTAM	Honolulu Twr
				US Army Schofield Barracks, HI
R-7201	Farallon de Medinilla Is.	To FL600	By NOTAM	FAA, Guam CERAP
				Commander Joint Region Marianas
R-7201A	Farallon de Medinilla Is.	To FL600	By NOTAM	FAA, Guam CERAP
				Commander Joint Region Marianas

Altitude given in feet. P—Prohibited R—Restricted A—Alert W—Warning

Unauthorized flight is not permitted within a Prohibited Area, or within a Restricted Area during the time of use and between the altitudes noted in the tabulation. In Warning Areas flights are not restricted, but avoidance is advised during use.

(Authorization may be granted by the controlling agency or by Executive Order of the President).

# **KEY to AERODROME FORECAST (TAF) and AVIATION ROUTINE WEATHER REPORT (METAR)**

<b>TAF KPIT 091730Z 091818 15005KT 5SM HZ.FEW020 WS010/31022KT</b> <b>FM1930 30015G25KT 3SM SHRA OVC015 TEMPO 2022 1/2SM +TSRA</b> <b>OVC008CB</b> <b>FM0100 27008KT 5SM SHRA BKN020 OVC040 PROB40 0407 1SM -RA BR</b> <b>FM1015 18005KT 6SM -SHRA OVC020 BECMG 1315 P6SM NSW SKC</b>
<b>METAR KPIT 091955Z COR 22015G25KT 3/4SM R28L/2600FT TSRA OVC010CB</b> <b>18/16 A2992 RMK SLP045 T01820159</b>

Forecast	Explanation	Report
<b>TAF</b>	Message type: <u>TAF</u> -routine or <u>TAF AMD</u> -amended forecast, <u>METAR</u> -hourly, <u>SPECI</u> -special or <u>TESTM</u> -non-commissioned ASOS report	<b>METAR</b>
<b>KPIT</b>	ICAO location indicator	<b>KPIT</b>
<b>091730Z</b>	Issuance time: ALL times in UTC " <u>Z</u> ", 2-digit date, 4-digit time	<b>091955Z</b>
<b>091818</b>	Valid period: 2-digit date, 2-digit beginning, 2-digit ending times  In U.S. <b>METAR</b> : <u>COR</u> rected ob; or <u>AUTO</u> mated ob for automated report with no human intervention; omitted when observer logs on	<b>COR</b>
<b>15005KT</b>	Wind: 3 digit true-north direction, nearest 10 degrees (or <u>VaRiaBle</u> ); next 2-3 digits for speed and unit, <u>KT</u> (KMH or MPS); as needed, <u>Gust</u> and maximum speed; 00000KT for calm; for <b>METAR</b> , if direction varies 60 degrees or more, <u>Variability</u> appended, e.g. 180V260	<b>22015G25KT</b>
<b>5SM</b>	Prevailing visibility: in U.S., <u>Statute Miles</u> & fractions; above 6 miles in <b>TAF</b> <u>Plus6SM</u> . (Or, 4-digit minimum visibility in meters and as required, lowest value with direction)  Runway Visual Range: <u>R</u> ; 2-digit runway designator <u>Left</u> , <u>Center</u> , or <u>Right</u> as needed; <u>"I"</u> ; <u>Minus</u> or <u>Plus</u> in U.S., 4-digit value, <u>FeeT</u> in U.S., (usually meters elsewhere); 4-digit value <u>Variability</u> 4-digit value (and tendency <u>Down</u> , <u>Up</u> or <u>No</u> change)	<b>3/4SM</b>
<b>HZ</b>	Significant present, forecast and recent weather: see table (on back)	<b>R28L/2600FT</b>
<b>FEW020</b>	Cloud amount, height and type: <u>SKy</u> <u>C</u> lear 0/8, <u>FEW</u> >0/8-2/8, <u>SCA</u> tered 3/8-4/8, <u>BroKeN</u> 5/8-7/8, <u>OVerCast</u> 8/8; 3-digit height in hundreds of ft; <u>Towering CU</u> mulus or <u>CumulonimBus</u> in <b>METAR</b> ; in <b>TAF</b> , only <u>CB</u> . <u>Vertical</u> <u>Vis</u> ibility for obscured sky and height "VV004". More than 1 layer may be reported or forecast. In auto-mated <b>METAR</b> reports only, <u>CLeaR</u> for "clear below 12,000 feet"  Temperature: degrees Celsius; first 2 digits, temperature <u>"I"</u> last 2 digits, dew-point temperature; <u>Minus</u> for below zero, e.g., M06  Altimeter setting: indicator and 4 digits; in U.S., <u>A</u> -inches and hundredths; ( <u>Q</u> -hectoPascals, e.g., Q1013)	<b>TSRA</b> <b>OVC010CB</b>
		<b>18/16</b>
		<b>A2992</b>

KEY to AERODROME FORECAST (TAF) and  
AVIATION ROUTINE WEATHER REPORT  
(METAR)

Forecast	Explanation	Report
<b>WS010/31022KT</b>	In U.S. <b>TAF</b> , non-convective low-level (≤2,000 ft) <u>Wind Shear</u> ; 3-digit height (hundreds of ft); <u>"/</u> "; 3-digit wind direction and 2-3 digit wind speed above the indicated height, and unit, <u>KT</u>  In <b>METAR</b> , <u>ReMark</u> indicator & remarks. For example: <u>Sea-Level Pressure</u> in hectoPascals & tenths, as shown: 1004.5 hPa; <u>Temp/</u> dew-point in tenths °C, as shown: temp. 18.2°C, dew-point 15.9°C	<b>RMK</b> <b>SLP045</b> <b>T01820159</b>
<b>FM1930</b>	<u>FroM</u> and 2-digit hour and 2-digit minute <b>beginning</b> time: indicates significant change. Each FM starts on new line, indented 5 spaces.	
<b>TEMPO 2022</b>	<u>TEMPO</u> rary: changes expected for < 1 hour and in total, < half of 2-digit hour <b>beginning</b> and 2-digit hour <b>ending</b> time period	
<b>PROB40 0407</b>	<u>PROB</u> ability and 2-digit percent (30 or 40): probable condition during 2-digit hour <b>beginning</b> and 2-digit hour <b>ending</b> time period	
<b>BECMG 1315</b>	<u>BEC</u> oMinG: change expected during 2-digit hour <b>beginning</b> and 2-digit hour <b>ending</b> time period	

Table of Significant Present, Forecast and Recent Weather - Grouped in categories and used in the order listed below; or as needed in TAF, No Significant Weather.

<b>QUALIFIER</b>			
<b>Intensity or Proximity</b>			
- Light                      "no sign" Moderate        + Heavy			
VC Vicinity: but not at aerodrome; in U.S. <b>METAR</b> , between 5 and 10SM of the point(s) of observation; in U.S. <b>TAF</b> , 5 to 10SM from center of runway complex (elsewhere within 8000m)			
<b>Descriptor</b>			
MI Shallow	BC Patches	PR Partial	TS Thunderstorm
BL Blowing	SH Showers	DR Drifting	FZ Freezing
<b>WEATHER PHENOMENA</b>			
<b>Precipitation</b>			
DZ Drizzle	RA Rain	SN Snow	SG Snow grains
IC Ice crystals	PL Ice pellets	GR Hail	GS Small hail/snow pellets
UP Unknown precipitation in automated observations			
<b>Obscuration</b>			
BR Mist (≥5/8SM)	FG Fog (<5/8SM)	FU Smoke	VA Volcanic ash
SA Sand	HZ Haze	PY Spray	DU Widespread dust
<b>Other</b>			
SQ Squall	SS Sandstorm	DS Duststorm	PO Well developed dust/sand whirls
FC Funnel cloud	+FC tornado/waterspout		

- Explanations in parentheses "( )" indicate different worldwide practices.
- Ceiling is not specified; defined as the lowest broken or overcast layer, or the vertical visibility.
- NWS **TAFs** exclude turbulence, icing & temperature forecasts; NWS **METARs** exclude trend fcsts
- Although not used in US, Ceiling And Visibility OK replaces visibility, weather and clouds if: visibility ≥10 km; no cloud below 5000 ft (1500 m) or below the highest minimum sector altitude, whichever is greater and no CB; and no precipitation, TS, DS, SS, MIFG, DRDU, DRSA or DRSN.

PIREP FORM

3 or 4 letter Identifier

1. UA

UUA

Routine

Urgent

2. /OV	Location
3. /TM	Time
4. /FL	Altitude/Flight Level
5. /TP	Aircraft Type
Items 1 through 5 are mandatory for all PIREPs	
6. /SK	Sky Condition
7. /WX	Flight Visibility & Weather
8. /TA	Temperature (Celsius)
9. /WV	Wind
10. /TB	Turbulence
11. /IC	Icing
12. /RM	Remarks

FAA Form 7110-2 (9/19) Supersedes Previous Edition

## Submitting Pilot Weather Reports (PIREPs)

### 1. UA - Routine PIREP / UUA - Urgent PIREP

#### 2. /OV - Location: Use Airport or NAVAID identifiers only.

- Location can be reported as a single fix, radial DME, or a route segment (Fix- Fix)

**Examples:** /OV LAX, /OV LAX-SL1120005, /OV PDZ-PSP.

#### 3. /TM - Time: When conditions occurred or were encountered.

- Use 4 digits in UTC.

**Examples:** /TM 1645, /TM 0915

#### 4. /FL - Altitude/Flight Level

- Use 3 digits for hundreds of feet. If not known, use UNKN.

**Examples:** /FL095, /FL310, /FLUNKN

#### 5. /TP - Type aircraft: Required if reporting Turbulence or Icing

- No more than 4 characters, use UNKN if the type is not known.

**Examples:** /TP P28A, /TP RV8, /TP B738, /TP UNKN

#### 6. /SK - Sky Condition/Cloud layers:

- Report cloud coverage using contractions: FEW, SCT, BKN, OVC, SKC
- Report bases in hundreds of feet: BKN005, SCT015, OVC200
- If bases are unknown, use UNKN
- Report cloud tops in hundreds of feet: TOP120

**Examples:** /SK BKN035, /SK SCT UNKN-TOP125, /SK OVC095-TOP125/ SKC

#### 7. /WX - Weather: Flight visibility is always reported first. Append FV reported with SM.

- Report visibility using 2 digits: FV01SM, FV10SM
- Unrestricted visibility use FV99SM.
- Use standard weather contractions e.g.: RA, SH, TS, HZ, FG, -, +

**Examples:** /WX FV01SM +SHRA, /WX FV10 SM -RA BR.

#### 8. /TA - Air temperature (Celsius): Required when reporting icing

- 2 digits, unless below zero, then prefix digits with M.

**Examples:** /TA 15, /TA 04 /TA M06

#### 9. /WV - Wind: Direction in 3 digits, speed in 3 or 4 digits, followed by KT.

**Examples:** /WV 270045KT, /WV 080110KT

#### 10. /TB - Turbulence:

- Report intensity using LGT, MOD, SEV, or EXTRM
- Report duration using INTMT, OCNL or CONS when reported by pilot.
- Report type using CAT or CHOP when reported by pilot.
- Include altitude only if different from /FL.
- Use ABV or BLO when limits are not defined.
- Use NEG if turbulence is not encountered.

**Examples:** /TB OCNL MOD, /TB LGT CHOP, /LGT 060, /TB MOD BLO 090, /TB NEG

#### 11. /IC - Icing:

- Report intensity using TRACE, LGT, MOD or SEV
- Report type using RIME, CLR, or MX
- Include altitude only if different than /FL.
- Use NEG if icing not encountered.

**Examples:** /IC LGT-MOD RIME, /IC SEV CLR 028-045, /IC NEG

#### 12. /RM - Remarks: Use to report phenomena that does not fit in any other field.

- Report the most hazardous element first.
- Name of geographic location from /OV field fix.

**Examples:** /RM LLWS +/-15KT SFC-003 DURC RWY22 JFK

/RM MTN WAVE, /RM DURC, /RM DURD, /RM MULLAN PASS

/RM BA RWY 02L BA MEDIUM TO POOR 3IN DRY SN OVER COMPACTED

SN

### Examples of Completed PIREPS

UA /OV RFD /TM 1315 /FL160 /TP PA44 /SK OVC025-TOP095/OVC150 /TA M12 /TB INTMT LGT CHOP

UA /OV DHT360015-AMA /TM 2116 /FL050 /TP PA32 /SK BKN090 /WX FV05SM -RA /TA 04 /TB LGT /IC NEG

UUA /OV PDZ010018 /TM 1520 /FL125 /TP C172 /WV 270048KT TB SEV 055-085 /RM CAJON PASS

\*

FLIGHT SERVICE STATIONS  
NATIONAL WEATHER SERVICE OFFICES

**Flight Service Station (FSS)** facilities process flight plans and provide flight planning and weather briefing services to pilots. FSS services in the contiguous United States, Hawaii and Puerto Rico, are provided by a contract provider at two large facilities. In Alaska, FSS services are delivered through a network of three hub facilities and 14 satellite facilities, some of which operate part-time and some are seasonal. Because of the interconnectivity between the facilities, all FSS services including radio frequencies are available continuously using published data.

**National Weather Service Office (WSO):** Only general weather information is available on the National Weather Service Office (WSO) telephone numbers listed. NOTE: National Weather Service Offices in the United States are not authorized to provide official Pilot Weather Briefings.

NATIONAL FSS TELEPHONE NUMBER

Pilot Weather Briefings..... 1-800-WX-BRIEF (1-800-992-7433) \*

OTHER FSS TELEPHONE NUMBERS

Medevac Flights Only (except in Alaska)..... 1-877-LIF-GRD3 (1-877-543-4733)

Location	Frequencies
Honolulu, Oahu	117.7T (LNY) 116.9T (ITO) 116.1T (MKK) 115.7T (IAI) 114.8T (HNL) 114.3T (OGG) 113.5T (LIH) 113.3T (MUE) 112.3T (UPP) 115.4T (SOK) 123.6 122.6 122.2 122.1R 296.7 233.7
Remarks: FSS—1-800-WX-BRIEF, available 24 hours. WSO—973-5286, operates 24 hours. Surface weather reports available on request via air/ground voice communication frequencies. Best VHF enroute communication coverage due to location of RCO sites: 122.2-Molokai & Lanai routes, 122.6-Lihue routes, 123.6-Maui & Hawaii routes Routine and selected special reports—Honolulu/Hilo/Kahului/Guam. Terminal forecast—Honolulu/Hilo/Guam.	
Hilo	WSO—933-6941, operates 1000-0200Z.
Lihue	WSO—245-2420, operates 1000-0200Z.

R—Receive only T—Transmit only

Emerg Freq. 121.5 and 243.0 are available at most stations and are not tabulated.

\* Outer Islands may be required to dial LD 808-833-8440 for FSS weather briefing and flight planning svc.

**KEY AIR TRAFFIC FACILITIES**  
**Air Traffic Control System Command Center**  
 Main Number..... 540-422-4100

**AIR ROUTE TRAFFIC CONTROL CENTERS (ARTCCs)**

ARTCC NAME	*24 HR RGNL DUTY OFFICE TELEPHONE #	BUSINESS HOURS	BUSINESS TELEPHONE #	**CLEARANCE DELIVERY TELEPHONE #
Albuquerque	817-222-5006	7:30 a.m.-4:00 p.m.	505-856-4300	505-856-4561
Anchorage	907-271-5936	7:30 a.m.-4:00 p.m.	907-269-1137	
Atlanta	404-305-5180	7:30 a.m.-5:00 p.m.	770-210-7601	770-210-7692
Boston	404-305-5156	7:30 a.m.-4:00 p.m.	617-455-3100	603-879-6859
Chicago	817-222-5006	8:00 a.m.-4:00 p.m.	630-906-8221	630-906-8921
Cleveland	817-222-5006	8:00 a.m.-4:00 p.m.	440-774-0310	440-774-0490
Denver	206-231-2099	7:30 a.m.-4:00 p.m.	303-651-4100	303-651-4257
Ft. Worth	817-222-5006	7:30 a.m.-4:00 p.m.	817-858-7500	817-858-7584
Honolulu	310-725-3300	7:30 a.m.-4:00 p.m.	808-840-6100	808-840-6201
Houston	817-222-5006	7:30 a.m.-4:00 p.m.	281-230-5300	281-230-5622
Indianapolis	817-222-5006	8:00 a.m.-4:00 p.m.	317-247-2231	317-247-2411
Jacksonville	404-305-5180	8:00 a.m.-4:30 p.m.	904-549-1501	904-845-1592
Kansas City	817-222-5006	7:30 a.m.-4:00 p.m.	913-254-8500	913-254-8508
Los Angeles	661-265-8200	7:30 a.m.-4:00 p.m.	661-265-8200	661-575-2079
Memphis	404-305-5180	7:30 a.m.-4:00 p.m.	901-368-8103	901-368-8453
Miami	404-305-5180	7:00 a.m.-3:30 p.m.	305-716-1500	305-716-1731
Minneapolis	817-222-5006	8:00 a.m.-4:00 p.m.	651-463-5580	651-463-5588
New York	718-995-5426	8:00 a.m.-4:40 p.m.	631-468-1001	631-468-1425
Oakland	310-725-3300	6:30 a.m.-3:00 p.m.	510-745-3331	
Salt Lake City	206-231-2099	7:30 a.m.-4:00 p.m.	801-320-2500	801-320-2568
San Juan	404-305-5180	7:30 a.m.-4:00 p.m.	787-253-8663	787-253-8664
Seattle	206-231-2099	7:30 a.m.-4:00 p.m.	253-351-3500	253-351-3694
Washington	718-995-5426	8:00 a.m.-4:30 p.m.	703-771-3401	703-771-3587

\*Facilities can be contacted through the Rgnl Duty Officer during non-business hours.

\*\*For use when numbers or frequencies are not listed in the airport listing

**MAJOR TERMINAL RADAR APPROACH CONTROLS (TRACONs)**

TRACON NAME	*24 HR RGNL DUTY OFFICE TELEPHONE #	BUSINESS HOURS	BUSINESS TELEPHONE #
Atlanta	404-305-5180	7:00 a.m.-3:30 p.m.	404-669-1200
Chicago	817-222-5006	8:00 a.m.-4:00 p.m.	847-608-5509
Dallas/Ft. Worth	817-222-5006	7:30 a.m.-4:00 p.m.	972-615-2500
Denver	425-227-1389	7:30 a.m.-4:00 p.m.	303-342-1500
Houston	817-222-5006	7:30 a.m.-4:00 p.m.	281-230-8400
New York	718-995-5426	8:00 a.m.-4:30 p.m.	516-683-2901
Northern CA	310-725-3300	7:00 a.m.-3:30 p.m.	916-366-4001
Potomac	718-995-5426	8:00 a.m.-4:30 p.m.	540-349-7500
Southern CA	310-725-3300	7:30 a.m.-4:00 p.m.	858-537-5800

\* Facilities can be contacted through the Rgnl Duty Officer during non-business hours.



### KEY AIR TRAFFIC FACILITIES DAILY NAS REPORTABLE AIRPORTS

AIRPORT NAME	*24 HR RGNL DUTY OFFICE TELEPHONE #	BUSINESS HOURS	BUSINESS TELEPHONE #
Albuquerque Intl Sunport, NM	817-222-5006	8:00 a.m.-5:00 p.m.	505-842-4366
Andrews AFB, MD	718-995-5426	8:00 a.m.-4:30 p.m.	301-735-2380
Baltimore/Washington Intl Thurgood Marshall, MD	718-995-5426	8:00 a.m.-4:30 p.m.	410-962-3555
Boston Logan Intl, MA	404-305-5156	7:30 a.m.-4:00 p.m.	617-561-5901
Bradley Intl, CT	404-305-5156	7:30 a.m.-4:00 p.m.	203-627-3428
Burbank/Bob Hope, CA	301-725-3300	7:00 a.m.-5:30 p.m.	818-567-4806
Charlotte Douglas Intl, NC	404-305-5180	8:00 a.m.-4:30 p.m.	704-344-6487
Chicago Midway, IL	817-222-5006	8:00 a.m.-4:00 p.m.	773-884-3670
Chicago O'Hare Intl, IL	817-222-5006	8:00 a.m.-4:00 p.m.	773-601-7600
Cleveland Hopkins Intl, OH	817-222-5006	8:00 a.m.-4:00 p.m.	216-352-2000
Covington/Cincinnati, OH	708-294-7401	8:00 a.m.-4:30 p.m.	606-767-1006
Dallas/Ft. Worth Intl, TX	817-222-5006	8:30 a.m.-5:00 p.m.	972-615-2531
Dayton Cox Intl, OH	817-222-5006	7:30 a.m.-4:00 p.m.	937-454-7300
Denver Intl, CO	425-227-1389	7:30 a.m.-4:00 p.m.	303-342-1600
Detroit Metro, MI	817-222-5006	8:00 a.m.-4:00 p.m.	734-955-5000
Fairbanks Intl, AK	907-271-5936	7:30 a.m.-4:00 p.m.	907-474-0050
Fort Lauderdale Intl, FL	404-305-5180	7:00 a.m.-3:30 p.m.	305-356-7932
George Bush Intercontinental/Houston, TX	817-222-5006	7:30 a.m.-4:00 p.m.	713-230-8400
Hartsfield-Jackson Atlanta Intl, GA	404-305-5180	7:00 a.m.-3:30 p.m.	404-669-1200
Honolulu (Daniel K Inouye Intl), HI	310-725-3300	7:30 a.m.-4:00 p.m.	808-840-6100
Houston Hobby, TX	817-222-5006	8:00 a.m.-5:00 p.m.	713-847-1400
Indianapolis Intl, IN	817-222-5006	8:00 a.m.-4:00 p.m.	317-484-6600
Kahului/Maui, HI	310-725-3300	7:30 a.m.-4:00 p.m.	808-877-0725
Kansas City Intl, MO	817-222-5006	7:30 a.m.-4:00 p.m.	816-329-2700
Las Vegas McCarran, NV	310-725-3300	7:30 a.m.-4:00 p.m.	702-262-5978
Los Angeles Intl, CA	310-725-3300	7:00 a.m.-3:30 p.m.	310-342-4900
Louis Armstrong New Orleans Intl, LA	817-222-5006	7:00 a.m.-4:30 p.m.	504-471-4300
Memphis Intl, TN	404-305-5180	7:30 a.m.-4:00 p.m.	901-322-3350
Miami Intl, FL	404-305-5180	7:00 a.m.-4:00 p.m.	305-869-5400
Minneapolis/St. Paul, MN	817-222-5006	8:00 a.m.-4:00p.m.	612-713-4000
Nashville Intl, TN	404-305-5180	7:00 a.m.-3:30 p.m.	615-781-5460
New York Kennedy Intl, NY	718-995-5426	8:00 a.m.-4:30 p.m.	718-656-0335
New York La Guardia, NY	718-995-5426	8:00 a.m.-4:30 p.m.	718-335-5461
Newark Liberty Intl, NJ	718-995-5426	7:30 a.m.-4:00 p.m.	973-565-5000
Norman Y. Mineta San Jose Intl, CA	310-725-3300	7:30 a.m.-4:00 p.m.	408-982-0750
Ontario Intl, CA	310-725-3300	7:30 a.m.-4:00 p.m.	909-983-7518
Orlando Intl, FL	404-305-5180	7:30 a.m.-5:00 p.m.	407-850-7000
Philadelphia Intl, PA	718-995-5426	8:00 a.m.-4:30 p.m.	215-492-4100
Phoenix Sky Harbor Intl, AZ	310-725-3300	7:30 a.m.-4:00 p.m.	602-379-4226
Pittsburgh Intl, PA	718-995-5426	8:00 a.m.-4:30 p.m.	412-269-9237
Portland Intl, OR	425-227-1389	7:30 a.m.-4:00 p.m.	503-493-7500
Raleigh-Durham, NC	404-305-5180	8:00 a.m.-4:30 p.m.	919-380-3125
Ronald Reagan Washington National, DC	718-995-5426	8:00 a.m.-4:30 p.m.	703-413-0330
Salt Lake City, UT	425-227-1389	7:30 a.m.-4:00 p.m.	801-325-9600
San Antonio Intl, TX	817-222-5006	8:00 a.m.-4:30 p.m.	210-805-5507
San Diego Lindbergh Intl, CA	310-725-3300	8:00 a.m.-4:30 p.m.	619-299-0677
San Francisco Intl, CA	310-725-3300	7:00 a.m.-3:30 p.m.	650-876-2883
San Juan Intl, PR	404-305-5180	7:30 a.m.-5:00 p.m.	809-253-8663
Seattle-Tacoma Intl, WA	425-227-1389	7:30 a.m.-4:00 p.m.	206-768-2900
St. Louis Lambert, MO	817-222-5006	7:30 a.m.-4:00 p.m.	314-890-1000
Tampa Intl, FL	404-305-5180	7:30 a.m.-4:00 p.m.	813-371-7700
Ted Stevens Anchorage Intl, AK	907-271-5936	7:30 a.m.-4:00 p.m.	907-271-2700
Teterboro, NJ	718-995-5426	8:00 a.m.-4:30 p.m.	201-288-1889
Washington Dulles Intl, DC	718-995-5426	8:00 a.m.-4:30 p.m.	571-323-6372
West Palm Beach, FL	404-305-5180	8:00 a.m.-4:30 p.m.	561-683-1867
Westchester Co, NY	718-995-5426	8:00 a.m.-4:30 p.m.	914-948-6520

\* Facilities can be contacted through the Rgnl Duty Officer during non-business hours.

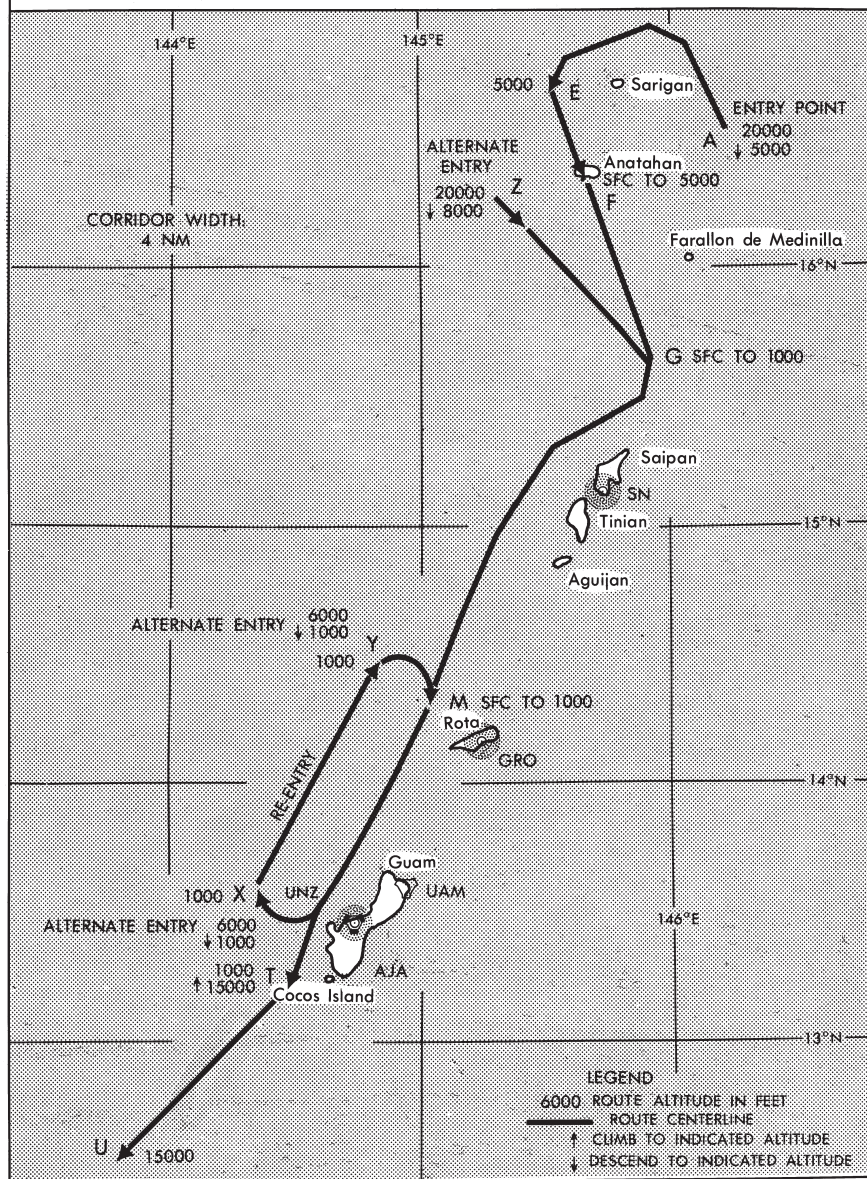
**MILITARY TRAINING ROUTES**

The DOD Flight Information Publication AP/1B provides textual and graphic descriptions and operating instructions for all military training routes (IR, VR, SR) and refueling tracks/anchors. Complete and more comprehensive information relative to policy and procedures for IRs and VRs is published in FAA Handbook 7610.4 (Special Military Operations) which is agreed to by the DOD and therefore directive for all military flight operations. The AP/1B is the official source of route data for military users.

1. National security depends largely on the deterrent effect of our airborne military forces. To be proficient, the military services must train in a wide range of airborne tactics. One phase of this training involves "low level" combat tactics. The required maneuvers and high speeds are such that they may occasionally make the see-and-avoid aspect of VFR flight more difficult without increased vigilance in areas containing such operations. In an effort to ensure the greatest practical level of safety for all flight operations, the Military Training Route program was conceived.
2. The Military Training Routes (MTR) program is a joint venture by the FAA and the Department of Defense (DOD). MTR routes are mutually developed for use by the military for the purpose of conducting low-altitude, high-speed training. There are IFR (IR) routes located in the Marianas Islands. These routes are flown from FL200 or as assigned by ATC to 1,000 feet MSL. Points of entry/exit and altitudes along the route are charted for use in preflight pilot briefings. Pilots should review this information to acquaint themselves with these routes that are located along their route of flight and in the vicinity of airports on Guam, Rota, Tinian and Saipan.
3. Non participating aircraft are not prohibited from flying within an MTR, however, extreme vigilance should be exercised when conducting flight through or near these routes. Pilots should contact Guam CERAP or Saipan radio to obtain information on route usage in their vicinity.
4. Marianas Islands Military Training Routes are also published in the Mariana Islands Sectional Aeronautical Chart, the DOD Flight Information Publication (enroute). Chart 1, Panel B and the DOD FLIP are planning document AP/3.

# MILITARY TRAINING ROUTES MARIANAS ISLANDS IR-983

Hours of Operation—Continuous



## DISTANCES

METERS/FEET		
MTRS	FT/MTRS	FT
0.305	1	3.281
0.610	2	6.562
0.914	3	9.843
1.219	4	13.123
1.524	5	16.404
1.829	6	19.685
2.134	7	22.966
2.438	8	26.247
2.743	9	29.528
3.048	10	32.808
6.096	20	65.617
9.144	30	98.425
12.192	40	131.233
15.240	50	164.042
18.288	60	196.850
21.336	70	229.658
24.384	80	262.467
27.432	90	295.275
30.480	100	328.083
60.960	200	656.2
91.440	300	984.3
121.920	400	1312.3
152.400	500	1640.4
304.800	1000	3280.8
609.601	2000	6561.7
914.402	3000	9842.5
1219.202	4000	13123.3
1524.003	5000	16404.2

NAUTICAL MILES TO		
KM	NM	SM
0.185	0.1	0.115
0.370	0.2	0.230
0.556	0.3	0.345
0.741	0.4	0.460
0.926	0.5	0.575
1.111	0.6	0.690
1.296	0.7	0.806
1.482	0.8	0.921
1.667	0.9	1.036
1.85	1	1.15
3.70	2	2.30
5.56	3	3.45
7.41	4	4.60
9.26	5	5.75
11.11	6	6.90
12.96	7	8.06
14.82	8	9.21
16.67	9	10.36
18.52	10	11.51

NAUTICAL MILES TO		
KM	NM	SM
37.04	20	23.02
55.56	30	34.52
74.08	40	46.03
92.60	50	57.54
111.12	60	69.05
129.64	70	80.55
148.16	80	92.06
166.68	90	103.57
185.20	100	115.08
370.40	200	230.16
555.60	300	345.23
740.80	400	460.31
926.00	500	575.39
1111.20	600	690.47
1296.40	700	805.54
1481.60	800	920.62
1666.80	900	1035.70
1852.00	1000	1150.78

MTRS	NM
100	0.054
500	0.270
1000	0.540
2000	1.080
3000	1.620
4000	2.160

MTRS	NM
5000	2.700
6000	3.240
7000	3.780
8000	4.320
9000	4.860
10,000	5.399

## MILLIBARS TO INCHES

mb	0	1	2	3	4	5	6	7	8	9
	INCHES									
940	27.76	27.79	27.82	27.85	27.88	27.91	27.94	27.96	27.99	28.02
950	28.05	28.08	28.11	28.14	28.17	28.20	28.23	28.26	28.29	28.32
960	28.35	28.38	28.41	28.44	28.47	28.50	28.53	28.56	28.59	28.61
970	28.64	28.67	28.70	28.73	28.76	28.79	28.82	28.85	28.88	28.91
980	28.94	28.97	29.00	29.03	29.06	29.09	29.12	29.15	29.18	29.21
990	29.23	29.26	29.29	29.32	29.35	29.38	29.41	29.44	29.47	29.50
1000	29.53	29.56	29.59	29.62	29.65	29.68	29.71	29.74	29.77	29.80
1010	29.83	29.85	29.88	29.91	29.94	29.97	30.00	30.03	30.06	30.09
1020	30.12	30.15	30.18	30.21	30.24	30.27	30.30	30.33	30.36	30.39
1030	30.42	30.45	30.47	30.50	30.53	30.56	30.59	30.62	30.65	30.68
1040	30.71	30.74	30.77	30.80	30.83	30.86	30.89	30.92	30.95	30.98
1050	31.01	31.04	31.07	31.10	31.12	31.15	31.18	31.21	31.24	31.27

## TEMPERATURE SCALES IN DEGREES

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
-40	-40.0	-28	-18.4	-16	3.2	-4	24.8	8	46.4	20	68.0	32	89.6	44	111.2
-39	-38.2	-27	-16.6	-15	5.0	-3	26.6	9	48.2	21	69.8	33	91.4	45	113.0
-38	-36.4	-26	-14.8	-14	6.8	-2	28.4	10	50.0	22	71.6	34	93.2	46	114.8
-37	-34.6	-25	-13.0	-13	8.6	-1	30.2	11	51.8	23	73.4	35	95.0	47	116.6
-36	-32.8	-24	-11.2	-12	10.4	0	32.0	12	53.6	24	75.2	36	96.8	48	118.4
-35	-31.0	-23	-9.4	-11	12.2	1	33.8	13	55.4	25	77.0	37	98.6	49	120.2
-34	-29.2	-22	-7.6	-10	14.0	2	35.6	14	57.2	26	78.8	38	100.4	50	122.0
-33	-27.4	-21	-5.8	-9	15.8	3	37.4	15	59.0	27	80.6	39	102.2		
-32	-25.6	-20	-4.0	-8	17.6	4	39.2	16	60.8	28	82.4	40	104.0		
-31	-23.8	-19	-2.2	-7	19.4	5	41.0	17	62.6	29	84.2	41	105.8		
-30	-22.0	-18	-0.4	-6	21.2	6	42.8	18	64.4	30	86.0	42	107.6		
-29	-20.2	-17	1.4	-5	23.0	7	44.6	19	66.2	31	87.8	43	109.4		

HOT SPOTS

An “Airport surface hot spot” is a location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

A “hot spot” is a runway safety related problem area on an airport that presents increased risk during surface operations. Typically it is a complex or confusing taxiway/taxiway or taxiway/runway intersection. The area of increased risk has either a history of or potential for runway incursions or surface incidents, due to a variety of causes, such as but not limited to: airport layout, traffic flow, airport marking, signage and lighting, situational awareness, and training. Hot spots are depicted on airport diagrams as open circles or polygons designated as “HS 1”, “HS 2”, etc. and tabulated in the list below with a brief description of each hot spot. Hot spots will remain charted on airport diagrams until such time the increased risk has been reduced or eliminated.

CITY/AIRPORT	HOT SPOT	DESCRIPTION
HAWAII		
HONOLULU DANIEL K INOUE INTL (HNL)	HS 1	Pilots sometimes confuse Rwy 04L and Rwy 04R on arrival.
	HS 2	Acft Idg Rwy 04R and exiting left onto Twy K sometimes fail to hold short of Rwy 04L–22R and Rwy 08L–26R.
	HS 3	Acft proceeding north or south on Twy E and instructed to turn onto Twy B sometimes miss the turn onto Twy B and enter Rwy 08L–26R or 04L–22R without clearance.
	HS 4	Twy A, Twy V, Twy T, Twy J, and Twy M all converge at or in close proximity to Rwy 08L.
	HS 5	Minimal dist btn rwy hold short lines btn Rwy 04L–22R/Rwy 04R–22L. Plan to hold short of the parl rwy. ATC is aware the acft tail is encroaching the landed rwy.
KAHULUI KAHULUI (OGG)	HS 1	Acft Idg Rwy 05 and instructed to exit on Twy A with a left turn onto Twy F to the east ramp, sometimes turn left onto Twy G by mistake.
	HS 2	Rwy holding position marking Rwy 02–20 located at the intersection of Twy E and the ramp.
	HS 3	Acft Idg Rwy 02 that are instructed to exit left on Twy A sometimes cross Rwy 05–23 w/o clnc.
KAILUA/KONA ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA)	HS 1	Extv helicopter OPS on twy A abm ramp K.
	HS 2	Extv helicopter OPS on twy A S of twy C.
KAUNAKAKAI MOLOKAI (MKK)	HS 1	Area not visible from ctl twr.
HONOLULU		

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**FLIGHT PLANS****1. Requirement for Flight Plan Filing**

ICAO Annex 2 requires a flight plan to be submitted for any flight across international borders. This permits en route stations and the destination station to render better service by having prior knowledge of flights. Aircraft on VFR flight plans must make regular position reports to ATC for flight following, weather safety advisories, and prompt search and rescue action in the proper area if necessary. Flight plans may be submitted to Flight Service through [www.1800wxbrief.com](http://www.1800wxbrief.com), any flight planning application, or by calling 1-800-WX-BRIEF. Aircraft radio may be used if no other means are available. If Flight Service cannot be reached, San Francisco Radio will relay flight plans received via HF radio to Oakland ARTCC.

**2. Flight Plan Filing Time Requirement**

Due to the critical workload in the processing of flight data and the increased time in transit due to the volume of messages it is strongly recommended that ICAO flight plan messages be filed and transmitted to the appropriate Control Center not less than one hour before estimated time of departure.

**3. Filing Mach Number in Flight Plan**

- a. For oceanic departures, Mach speed and flight level should be specified in the flight plan in one of the following ways:
- b. Preferred method: Mach number and flight level immediately preceding the initial domestic portion of the route of flight.

Example of Item 15 of ICAO Flight Plan for Honolulu to San Francisco:  
M084F340 MOLOKAI 3 CLUTS R465 CINNY/N0494F360 OSI

**4. Filing an EET in Flight Plan**

In accordance with ICAO DOC-4444, flight plans with routes entering the Oakland OCA/FIR (KZAK), must contain the elapsed time (EET) in field 18, an entry point for KZAK and an estimated time. It is not mandatory to file the boundary crossing point in field 15 of the route of flight but it is permitted.

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### ALTIMETER SETTING OAKLAND OCEANIC FIR

1. Each person operating an aircraft shall maintain the cruising altitude or flight level of the aircraft by reference to an altimeter that is set:
  2. Within the Hawaiian Islands domestic area, within 100 NM of the Nimitz VORTAC, and within 35 NM of Saipan NDB:
    - a. At FL180 and above, to standard altimeter setting 29.92 inches of mercury (QNE).
    - b. Below 18,000' MSL, to current altimeter setting (QNH).
  3. Within all other areas of the Oakland OCA/FIR, at or above 5,500' MSL, to standard altimeter setting 29.92 inches of mercury (QNE).
- 

### AIR TRAFFIC CONTROL RADAR BEACON SYSTEM (ATCRBS)

1. ATCRBS is similar to and compatible with military coded radar beacon equipment. Civil Mode A is identical to military Mode 3. The Radar Beacon Code Employment Plan is designed to minimize the number of code changes and to enable a controller to display and quickly identify only those Mode 3/A responses from aircraft operating within his area of jurisdiction.
  2. Accordingly, pilots of aircraft equipped with a functioning coded radar beacon transponder, and operating on an IFR flight plan in an area covered by radar, will be instructed by ATC to reply on the appropriate code. Flights assigned a particular code by ATC are expected to remain on that code until further advised by ATC. (See also Beacon Code Requirements within this section.) Within the Hawaiian Islands domestic area and the Guam ADIZ, pilots of aircraft equipped with functioning coded radar beacon transponder will adjust their transponders to reply on Mode 3/A codes specified below, unless a different code has been assigned by advance coordination or via direct communication with ATC. If possible, coordination shall be effected with the appropriate ATC facility when special military operations preclude compliance with this requirement.
    - a. Code 4000 – For all operations within restricted/warning areas.
    - b. Code 1200 – For all VFR operations not being provided radar services by ATC facilities.
  3. Should the pilot of an aircraft equipped with a coded radar beacon transponder experience a loss of two-way radio capability he should:
    - a. Adjust his transponder to reply on Mode A/3, Code 7700 for a period of 1 minute.
    - b. Change to Code 7600 and remain on 7600 for period of 15 minutes or the remainder of flight, whichever occurs first.
    - c. Repeat steps a and b, as practicable.
  4. The pilot should understand that he might not be in an area of radar coverage. Many radar facilities are not presently equipped to automatically display Code 7600 and will interrogate 7600 only when the aircraft is under direct radar control at the time of radio failure. Replying on Code 7700 first increases the probability of early detection of a radio failure condition.
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### OCEANIC POSITION REPORTING PROCEDURES OAKLAND OCEANIC FIR

#### 1. GENERAL

For non ADS equipped aircraft, any waypoint filed in the route of flight (Item 15 of the ICAO flight plan) must be reported as a position report whether the filed waypoint is compulsory or not. If a non-compulsory 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 5 degrees or 10 degrees (10 degrees will be used if the speed of the aircraft is such that 10 degrees will be traversed within 80 minutes or less) meridian longitude extending east and west from 180 degrees.
  - (2) Flights whose tracks are predominantly north and south shall report over each 5 degrees or 10 degrees (10 degrees if traversed within 80 minutes) parallel of latitude extending north and south of the equator.
- c. ATC may require specific flights to report more frequently than each 5 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. CONTENTS OF POSITION REPORT

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 "position."
  - (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 Section 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 REPORTING PROCEDURES

- a. Within Oakland OCA/FIR, no 5 degree report need be made that would fall within 100 NM of Guam. Aircraft cleared via terminal area routes report compulsory reporting fixes. Other aircraft report 100 NM from Nimitz VORTAC. Where other island destinations within the Oakland Oceanic FIR are not more than one-degree latitude-longitude from a 5 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 155 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 160 degree west need not be reported.

#### 7. 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 position reports via San Francisco Radio or CPDLC.  
NOTE: See AIP ENR 7.1 General Procedures 5 "Position Reporting in the Oceanic Environment"
- b. Aircraft leaving the lateral limits of the Oakland OCA/FIR and entering uncontrolled airspace shall forward the time over the boundary outbound.

OPR: Oakland Oceanic Supervisor Contact: 510-745-3342

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### CLIMB TIMES/CHANGE OF FLIGHT LEVEL OAKLAND OCEANIC FIR

#### 1. CLIMB TIMES

A distinction should be made between the time at which higher flight level is requested and the time at which the next higher flight level can be accepted.

#### 2. CHANGE OF FLIGHT LEVEL

- a. Pilots are advised that when an aircraft is proceeding from one Oceanic Control Area to another at the time that a change of flight level is desired, coordination must be effected between the Oceanic Control Centers concerned before an ATC clearance can be issued.
- b. A flight level request shown on a filed flight plan does not constitute authority for an aircraft to change flight level; a specific ATC clearance for the flight level change is required.

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### CHANGE OF TRUE AIRSPEED/MACH NUMBER OAKLAND OCEANIC FIR

#### CHANGE OF SPEED

Pilots must inform ATC prior to making a planned en route speed change, as indicated in Item 15 of a filed flight plan. Additionally, pilots are reminded that such changes are not authorized when a specific ATC clearance assigning a Mach number to maintain has been issued.

**ATTN ALL AIRCREWS:** New procedural requirement for flights operating in Oakland Oceanic Control Area (KZAK). In order to support cost index or econ speeds and maintain ATC separation spacing, aircrews are required to use the following procedures in the KZAK FIR.

A pilot must inform ATS via voice or CPDLC each time the cruising Mach number varies or is expected to vary by a value equal to or greater than 0.02 Mach from:

- (1) the Mach number at FIR entry; or
- (2) any subsequent speed change notified to ATC in flight.

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### CHANGES TO THE NAVIGATION CAPABILITIES FILED IN THE ORIGINAL FLIGHT PLAN

All flights entering the Oakland Oceanic FIR are required to advise Oakland Center of any changes to the Navigational Capabilities filed in the original Flight Plan prior to entering oceanic airspace.

OPR: Oakland Oceanic Supervisor Contact: 510-745-3342

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**EMERGENCY SECURITY CONTROL OF AIR TRAFFIC (ESCAT) PROCEDURES**

1. The ESCAT Plan contains responsibilities of military authorities. Federal Aviation Administration, and Federal Communications Commission in regard to actions to be taken for security control of air traffic and air navigation aids in defense of the United States during defense emergencies. The ESCAT Plan provides that, in the defense of the United States during defense emergencies, the military will direct actions to be taken in regard to landing, grounding, diversion or dispersal of aircraft, and in regard to the control of air navigation aids.
  2. At the time that ESCAT is implemented, ATC facilities will broadcast instructions received from the military over available ATC frequencies. Depending on instructions received from the military, VFR flights may be directed to land at the nearest available airport; IFR flights will be expected to proceed as directed by ATC. Pilots on the ground may be required to file a flight plan and obtain approval (through FAA) before conducting flight operations.
  3. In view of the above, all pilots should guard an ATC or Flight Service Station frequency at all times while conducting flight operations.
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**NATIONAL SECURITY****1. General**

- a. National security in the control of air traffic is governed by Title 14 of the U.S. Code of Federal Regulations, Part 99.
- b. All aircraft entering domestic U.S. airspace from points outside must provide for identification prior to entry. To facilitate early aircraft identification of all aircraft in the vicinity of U.S.–International airspace boundaries, Air Defense Identification Zones (ADIZ) have been established. (See Figures 1–4–1, 1–4–2, 1–4–3, and 1–4–4.)
- c. Operational requirement for aircraft entering or flying within the ADIZ areas are as follows:
  - (1) Flight plan requirements. Except as specified in subparagraphs d and e, an instrument flight rules (IFR) or defense visual flight rules (DVFR) flight plan must be on file with the appropriate aeronautical facility as follows:
    - (a) Generally, for all operations that enter an ADIZ.
    - (b) For operations that will enter or exit the United States and which will operate into, within, or across the contiguous U.S. ADIZ, regardless of true airspeed.
    - (c) The flight plan must be filed before departure except for operations associated with the Alaska ADIZ when the airport of departure has no facility for filing a flight plan; in which case, the flight plan may be filed immediately after takeoff or when within range of the aeronautical facility.
  - (2) Two-way radio requirements. For the majority of operations associated with an ADIZ, an operating two-way radio is required. See 14 CFR Part 99.1 for exceptions.
  - (3) Transponder requirements. Unless otherwise authorized by ATC, each aircraft conducting operations into, within, or across the Contiguous U.S. ADIZ must be equipped with an operable radar beacon transponder having altitude reporting capability (Mode C), and that transponder must be turned on and set to reply on the appropriate code or as assigned by ATC.
  - (4) Position reporting requirements.
    - (a) For IFR flight, normal IFR position reporting.
    - (b) For DVFR flights, the estimated time of ADIZ penetration must be filed with the aeronautical facility at least 15 minutes prior to penetration except for flight in the Alaskan ADIZ; in which case, report prior to penetration.
    - (c) For inbound aircraft of foreign registry, the pilot must report to the aeronautical facility at least 1 hour prior to ADIZ penetration.
  - (5) Aircraft position tolerances:
    - (a) Over land, the tolerance is within plus or minus 5 minutes from the estimated time over a reporting point or point of penetration and within 10 NM from the centerline of an intended track over an estimated reporting point or penetration point.
    - (b) Over water, the tolerance is plus or minus 5 minutes from the estimated time over a reporting point or point of penetration and within 20 NM from the centerline of the intended track over an estimated reporting point or point of penetration (to include the Aleutian Islands).
- d. Except when applicable under 14 CFR 99.7, Part 99 does not apply to aircraft operations.
  - (1) Within the 48 contiguous states and the District of Columbia, or within the State of Alaska, and remains within 10 NM of the point of departure.
  - (2) Over any island, or within 12 NM of the coastline of any island, in the Hawaii ADIZ.
  - (3) Associated with any ADIZ other than the contiguous U.S. ADIZ when the aircraft is operating at true airspeed of less than 180 knots.
- e. Authorizations to deviate from the requirements of Part 99 may also be granted by an Air Route Traffic Control Center (ARTCC), on a local basis, for some operations associated with an ADIZ.
- f. A VFR flight plan makes an aircraft subject to interception for positive identification when entering an ADIZ. Pilots are urged to file the required Defense VFR (DVFR) flight plan either in person or by telephone prior to departure.

Fig 1-4-1. Air Defense Identification Zone Boundaries/Designated Mountainous Areas

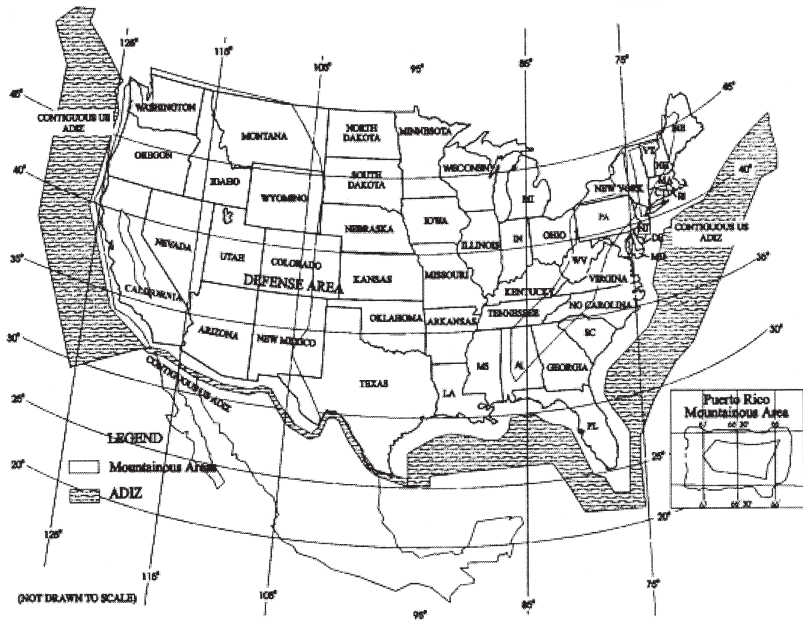






Fig 1-4-3. Guam Air Defense Identification Zone and Defense Area

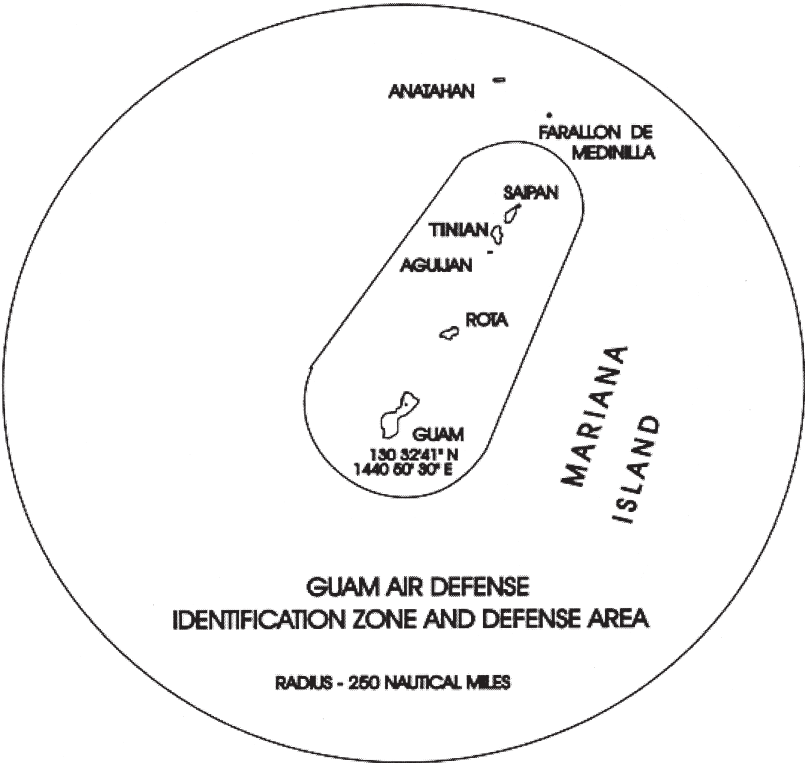
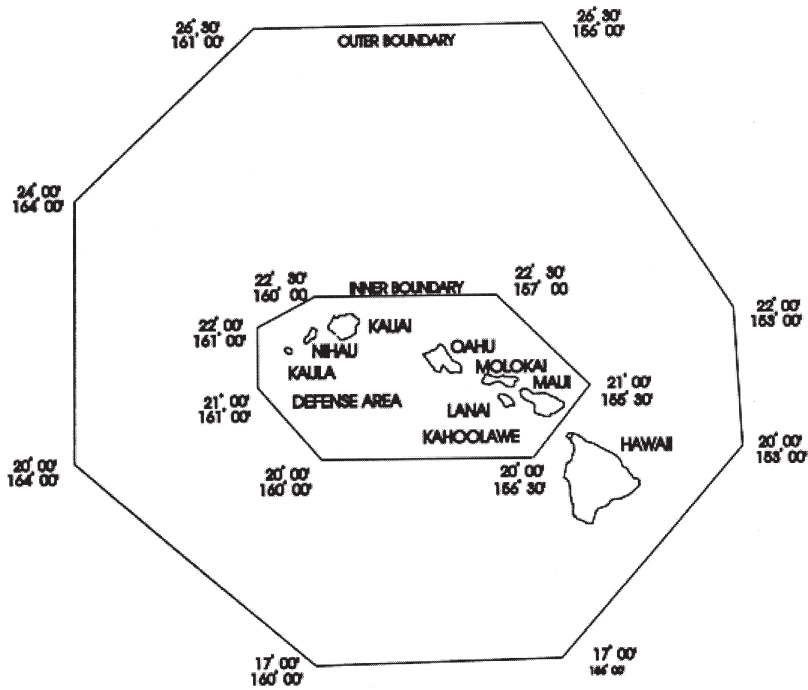


Fig 1-4-4. Hawaiian Air Defense Identification Zone and Defense Area



Office of Primary Responsibility (OPR): Air Traffic Organization, Mission Support Services, Policy, Airspace Rules and Regulations  
Contact Information: (202) 267-8783  
Amended: August 2023

## EMERGENCY PROCEDURES

## INTERCEPTION SIGNALS

## ICAO STANDARD

SIGNALS INITIATED BY INTERCEPTING AIRCRAFT AND  
RESPONSES BY INTERCEPTED AIRCRAFT

SERIES	INTERCEPTING AIRCRAFT SIGNALS	MEANING	INTERCEPTED AIRCRAFT RESPONSE	MEANING
1	<p>AIRPLANES: DAY—Rocking wings from a position slightly above and ahead of, and normally to the left of, the intercepted aircraft and, after acknowledgement, a slow level turn, normally to the left, on to the desired heading.</p> <p>NIGHT—Same and, in addition, flashing navigational lights at irregular intervals.</p> <p>NOTE 1.—Meteorological conditions or terrain may require the intercepting aircraft to take up a position slightly above and ahead of, and to the right of, the intercepted aircraft and to make the subsequent turn to the right.</p> <p>NOTE 2.—If the intercepted aircraft is not able to keep pace with the intercepting aircraft, the latter is expected to fly a series of race-track patterns and to rock its wings each time it passes the intercepted aircraft.</p>	You have been intercepted. Follow me.	<p>AIRPLANES: DAY—Rocking wings and following.</p> <p>NIGHT—Same and, in addition, flashing navigational lights at irregular intervals.</p> <p>HELICOPTERS: DAY or NIGHT—Rocking aircraft, flashing navigational lights at irregular intervals and following.</p>	Understood, will comply.
2	DAY OR NIGHT—An abrupt breakaway maneuver from the intercepted aircraft consisting of a climbing turn of 90 degrees or more without crossing the line of flight of the intercepted aircraft.	You may proceed.	<p>AIRPLANES: DAY or NIGHT—Rocking wings.</p> <p>HELICOPTERS: DAY or NIGHT—Rocking aircraft.</p>	Understood, will comply.
3	<p>DAY—Circling aerodrome, lowering landing gear and overflying runway in direction of landing or, if the intercepted aircraft is a helicopter, overflying the helicopter landing area.</p> <p>NIGHT—Same and, in addition, showing steady landing lights.</p>	Land at this aerodrome.	<p>AIRPLANES: DAY—Lowering landing gear, following the intercepting aircraft and, if after overflying the runway landing is considered safe, proceeding to land.</p> <p>NIGHT—Same and, in addition, showing steady landing lights (if carried).</p> <p>HELICOPTERS: DAY or NIGHT—Following the intercepting aircraft and proceeding to land, showing a steady landing light (if carried).</p>	Understood, will comply.

## SEARCH AND RESCUE

**National Search and Rescue Plan.**—Under the National Search and Rescue Plan, the U.S. Coast Guard is responsible for coordination of search and rescue for the Maritime Region, and the U.S. Air Force is responsible for coordination of search and rescue for the Inland Region. In order to carry out this responsibility, the Air Force and the Coast Guard have established Rescue Coordination Center to direct search and rescue activities within their regions. This service is available to all persons and property in distress, both civilian and military. Normally, for aircraft incidents, information will be passed to the Rescue Coordination Centers through the appropriate Air Route Traffic Control Center.

Search and Rescue is a life-saving service provided through the combined efforts of the FAA, Air Force, Coast Guard, State Board of Aeronautics, Aeronautic Commissions or other similar State agencies who are assisted by other organizations such as the Civil Air Patrol, Sheriffs Air Patrol, State Police, etc. It provides search, survival aid, and rescue of personnel of missing or crashed aircraft.

Prior to departure on every flight, local or otherwise, someone at the departure point should be advised of your destination and the route of flight if other than direct. Search efforts are often wasted and rescue is often delayed because of pilots who thoughtlessly take off without advising anyone where they are going.

All you need to remember to obtain this valuable protection is to file, activate, and close flight plans with Flight Service through [www.1800wxbrief.com](http://www.1800wxbrief.com), by using a flight planning application, by radio, or by calling 1-800-WX-BRIEF.

**Close your Flight Plan.**—The control tower does not automatically close your VFR flight plan since many of the landing aircraft are not operating on flight plans. It remains the responsibility of a pilot who has filed a flight plan to close it. This will prevent a needless search. Remember, the lives of other pilots are sometimes sacrificed when searching for overdue pilots. For an emergency occurring in flight, send a distress message if possible by radio. The facility receiving your message will alert the rescue organization serving your area.

To assure survival and rescue in the event of a crash landing, the following advice is given:

- (1) For flight over uninhabited land areas it is wise to take suitable survival equipment depending on type of climate and terrain.
- (2) If forced landing occurs at sea, chances for survival are governed by degree of crew proficiency in emergency procedures and by effectiveness of water survival equipment.
- (3) If it becomes necessary to ditch, distressed aircraft should make every effort to ditch near a surface vessel. If time permits, the position of the nearest vessel can be obtained from a Coast Rescue Coordination Center through the FAA facility.
- (4) The rapidity of rescue on land or water will depend on how accurately your position may be determined. If flight plan has been followed and your position is on course, rescue should be prompt.
- (5) Unless you have good reason to believe that you will not be located by search aircraft, it is better to remain near your aircraft and prepare means for signalling whenever aircraft approach your position.

Search and rescue facilities made available to all pilots include the following:

- (a) Rescue coordination centers;
- (b) Search and rescue aircraft;
- (c) Rescue vessels;
- (d) Pararescue and ground rescue teams;
- (e) Emergency radio fixing.

The Air Rescue Service and the U.S. Coast Guard extend a welcome invitation to all pilots to visit any of their rescue units. By so doing, pilots may become more familiar with the actual means whereby this vital phase of aviation safety is carried out. The location and address of your nearest rescue unit may be obtained from the FAA or any AF or CG Rescue Coordination Center.

Report of crashed or missing aircraft may be made by any individual by a telephone call to the nearest FAA facility or to any Air Force or Coast Guard facility.

**PACIFIC SAR COORDINATOR (PACSARCOORD):**

Coast Guard Commander, Pacific Area (PACSARCOORD), has overall responsibility for the administration, management and oversight of aeronautical SAR in the U.S. aeronautical and maritime SAR Regions (SRRs) Pacific and Arctic Oceans. The coordination of SAR operations is provided by JRCC Alameda, JRCC Seattle, JRCC Honolulu, and JRCC Juneau within their respective aeronautical SRRs.

**SRR ALAMEDA:**

JRCC Alameda is responsible for the coordination and conduct of SAR operations in aeronautical SRR Alameda own SAR area. Aeronautical SRR Alameda is established within following coordinates:

From 42°N, 124°13'W (California-Oregon State Line), to 40°N, 150°W to 07°09'N, 120°W to 30°N, 120°W to 30°45'N, 120°50'W to 32°33'N, 117°05'W thence north along the Pacific coastline back to 42°N, 124°13'W. (Telephone number for RCC Alameda is 510-437-3701)

**SRR HONOLULU:**

JRCC Honolulu is responsible for the coordination and conduct of SAR operations in aeronautical SRR Honolulu and aeronautical Search and Rescue Sub-Region (SRS) Guam. Aeronautical SRR Honolulu is established within following coordinates:

From 03°30'N, 120°W to 07°09'N, 120°W to 40°N, 150°W to 40°N, 165°E to 27°N, 165°E to 27°N, 155°E to 21°N, 155°E to 21°N, 130°E to 07°N, 130°E to 3°30'N, 133°E to 3°30'N, 141°E to 00°N, 141°E to 00°N, 160°E to 3°30'N, 160°E to 03°30'N, 180° to 5°S, 155°W to 3°30'N, 145°W to 03°30'N, 120°W. (Telephone number for RCC Honolulu is 808-535-3333)

**SRS GUAM:**

Joint Rescue Sub-Center (JRSC) Guam is responsible for the coordination and conduct of SAR operations in aeronautical SRS Guam. Aeronautical SRS Guam is established within following coordinates:

From 17°N, 130°E to 17°N, 160°E to 09°30'N, 160°E to 07°N, 165°E to 03°30'N, 165°E to 03°30'N, 160°E to 00°N, 160°E to 00°N, 141°E to 03°30'N, 141°E to 3°30'N, 133°E to 07°N, 130°E to 17°N, 130°E. Guam Joint Rescue Sub-Center (JRSC) at Guam has responsibility for SAR in this area. (Telephone for JRSC Guam 671-355-4824)

**SRR SEATTLE:**

JRCC Seattle is responsible for the coordination and conduct of SAR operations in aeronautical SRR Seattle.

Aeronautical SRR Seattle is established within the following coordinates:

From 48°20'N, 145°W to 40°N, 150°W to 42°N, 124°13'W thence north along the Pacific coastline to 49°00'07"N, 122°49'05"W to 49°00'07"N, 123°19'21"W to 48°49'53"N, 123°00'30"W to 48°46'02"N, 123°00'32"W to 48°41'35"N, 123°16'27"W to 48°32'56"N, 123°13'09"W to 48°27'14"N, 123°09'39"W to 48°25'24"N, 123°06'51"W to 48°17'04"N, 123°14'51"W to to 48°13'30"N, 123°32'25"W to 48°14'26"N, 123°40'41"W to 48°17'50"N, 124°00'40"W to 48°30'N, 124°45'W to 48°30'N, 125°W to 48°20'N, 128°W to 48°20'N, 145°W. (Telephone number for RCC Seattle is 206-220-7001)

**SRR JUNEAU:**

JRCC Juneau is responsible for the coordination and conduct of SAR operations in aeronautical SRR Juneau.

Aeronautical SRR Juneau is established within the following coordinates:

From 50°05'N, 159°E to 43°N, 165°E to 40°N, 165°E to 40°N, 150°W to 48°20'N, 145°W to 54°40'N, 140°W to 54°40'N, 136°W to 54°N, 136°W to 54°13'N, 134°57'W to 54°39'27"N, 132°41'W to 54°42'30"N, 130°36'30"W thence north along the United States/Canada National border to 69°39'47"N, 141°W to North Pole to 65°N, 168°58'24"W to 64°03'N, 172°12'W to 60°N, 180° to 54°49'N, 170°12'E to 54°N, 169°E to 50°05'N, 159°E. (Telephone number for JRCC Juneau is 907-463-2000)

**COAST GUARD RESCUE COORDINATION CENTERS:** Coast Guard Rescue Coordination Centers are served by major radio stations which guard 500kHz (CW), 8364 kHz (CW), and 2182 kHz (Voice). In addition to these major radio stations, the 247 Coast Guard units along the sea coasts of the United States and shores to the Great Lakes guard 2182 kHz (Voice). All of these facilities are available for reporting distress or potential distress. THE CALL "NCU" (CW) or "COAST GUARD" (VOICE) ALERTS ALL COAST GUARD RADIO STATIONS WITHIN RANGE.

## EMERGENCY PROCEDURES

- I. A pilot in any emergency phase (uncertainty, alert, or distress) should do three things to obtain assistance:
- If equipped with IFF, switch to "Emergency" position.**
  - Contact controlling agency and give nature of distress and pilots intentions.—If unable to contact controlling agencies attempt to contact any agency on assigned frequency or any of the following frequencies (transmit and receive):

Frequency	Emission	Effective Range in Nautical Miles	Guarded By
121.5 MHz	Voice	Generally limited to Radio line-of-sight	All military twrs, most civil twrs, VHF direction finding stns, radar facilities, ocean station vessels.
243.0 MHz	Voice	Generally limited to radio line-of-sight	All military twrs, most civil twrs, VHF direction finding stns, radar facilities, ocean station vessels.
2182 kHz	Voice	Generally less than 300 miles for average aircraft installations	Some ships and boats at sea, most Coast Guard stations, most commercial coast stations.
500 kHz	CW	Generally less than 100 miles for average aircraft installations.	Most large ships at sea, most Coast Guard radio stations, most commercial coast stations.
8364 kHz	CW	Up to several thousand miles, depending upon propagation conditions. Subject to "skip".	U.S.N. direction finding stations, ocean station vessels and most Coast Guard radio stations

Transmit as much of the following as possible:

1. MAYDAY, MAYDAY, MAYDAY (if distress), or PAN, PAN, PAN (if uncertainty or alert). If CW transmission use SOS (distress) or XXX (uncertainty or alert).
  2. Aircraft identification repeated three times.
  3. Type of aircraft.
  4. Position or estimated position (stating which).
  5. Heading (True or Magnetic) (stating which).
  6. True airspeed or estimated true airspeed (stating which).
  7. Altitude.
  8. Fuel remaining in hours and minutes.
  9. Nature of distress.
  10. Pilot's intentions (bailout, ditch, crash landing, etc.).
  11. Assistance desired (fix, steer, bearing, escort, etc.).
  12. Two 10-second dashes with mike (voice) or key (CW) followed by aircraft identification (once) OVER (Voice) or K (CW).
- c. Comply with instructions received.**—Accept the "communications control" offered to you by the ground radio station, silence interfering radio stations, and do not shift frequency or shift to another ground station unless absolutely necessary.
- II. Pilots on IFR flights experiencing two-way radio failure are expected to adhere to prescribed procedures.
- The pilot should remember that he has two means of declaring an emergency.
- (1) Emergency IFF and/or mode A/3 Code 7700.
  - (2) Sending emergency message.

Ground stations have **three** electronic means of assisting:

- (1) Receipt of emergency message;
- (2) Radar detection of IFF signal; and
- (3) DF bearings.

## THE PILOT SHOULD REMEMBER THE FOUR C'S:

- Confess** your predicament to any ground radio station. Do not wait too long. Give SAR a chance!
- Communicate** with your ground link and pass as much of the distress message on first transmission as possible. We need information for best SAR action!
- Climb** if possible for better radar and DF detection. If flying at low altitude, the chance for establishing radio contact is improved by climbing, also chances of alerting radar systems are sometimes improved by climbing or descending.

NOTE:—Climbing or descending under IFR conditions within controlled air space is not permitted except in EMERGENCY. Air traffic control will operate on the assumption that the provisions of FAR 91.185 are being followed by the pilot.

- d. Comply—especially Comply**—with advice and instructions received, if you really want to help. Assist the ground "communications control" station to control communications on the distress frequency on which you are working (as that is the distress frequency for your case). Tell interfering stations to maintain silence until you call. Cooperate!

III. For bail-out, set radio for continuous emission. For ditching or crash landing, the radio equipment should if it is considered that there is no additional risk of fire and if circumstances permit, be set for continuous transmission.

When a pilot is in doubt of his position, or feels apprehensive for his safety, he should not hesitate to request assistance. Search and Rescue facilities, including Radar, Radio and DF stations, are ready and willing to help. There is no penalty for using them. Delay has caused crashes and cost lives. Take action!

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21336

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**CORRECTIONS, COMMENTS AND/OR PROCUREMENT**

FOR CHARTING ERRORS, OR FOR CHANGES, ADDITIONS, RECOMMENDATIONS ON PROCEDURAL ASPECTS CONTACT:

FAA, Aeronautical Information Services  
1305 East-West Highway  
SSMC 4, Room 4531  
Silver Spring, MD 20910-3281  
Telephone: 1-800-638-8972

**[https://www.faa.gov/air\\_traffic/flight\\_info/aeronav/aero\\_data/](https://www.faa.gov/air_traffic/flight_info/aeronav/aero_data/)**

For inquiries regarding military charts, please contact [aerohelp@nga.mil](mailto:aerohelp@nga.mil)

FOR PROCUREMENT:

For digital products, visit our website at: **[https://www.faa.gov/air\\_traffic/flight\\_info/aeronav/digital\\_products/](https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/)**

For a list of approved FAA Print Providers, visit our website at:

**[https://www.faa.gov/air\\_traffic/flight\\_info/aeronav/print\\_providers/](https://www.faa.gov/air_traffic/flight_info/aeronav/print_providers/)**

Frequently asked questions (FAQ) are answered on our website at: **<https://www.faa.gov/go/ais>**  
See the FAQs prior to contact via toll free number or email.

Request for the creation or revisions to Airport Diagrams should be in accordance with FAA Order 7910.4

21336

INOP COMPONENTS 19339

INOPERATIVE COMPONENTS OR VISUAL AIDS TABLE  
(For Civil Use Only)

Straight-in and Sidestep landing minimums published on instrument approach procedure charts are based on full operation of all components and visual aids (see exception below for ALSF 1 & 2) associated with the particular approach chart being used. Higher minimums are required with inoperative components or visual aids as indicated below. If more than one component is inoperative, each minimum is raised to the highest minimum required by any single component that is inoperative. ILS glideslope inoperative minimums are published on the instrument approach charts as localizer minimums. This table applies to approach categories A thru D and is to be used unless amended by notes on the approach chart. Such notes apply only to the particular approach category(ies) as stated. Category E inoperative notes will be specified when published on civil charts. The inoperative table does not apply to Circling minimums. See legend page for description of components indicated below.

Full Operation Exception: For ALSF 1 & 2 operated as SSALR, or when the sequenced flashing lights are inoperative, there is no effect on visibility for ILS lines of minima.

(1) ILS, PAR, LPV, GLS minima

Inoperative Component or Visual Aid	Increase Visibility
All ALS types (except ODALS)	¼ mile

(2) ILS, LPV, GLS with visibility minima of RVR 1800<sup>†</sup>/2000\*/2200\*

Inoperative Component or Visual Aid	Increase Visibility
ALSF 1 & 2, MALSR, SSALR	To RVR 4000 <sup>†</sup> To RVR 4500*
TDZL or RCLS	To RVR 2400#
RVR	To ½ mile

#For ILS, LPV, GLS procedures with a 200 foot HAT, RVR 1800 authorized with use of FD or AP or HUD to DA.

(3) All Approach Types and all lines of minima other than (1) & (2) above

Inoperative Component or Visual Aid	Increase Visibility
ALSF 1 & 2, MALSR, SSALR	½ mile
MALSF, MALS, SSALF, SSALS, SALSF, SALS	¼ mile

(4) Sidestep minima (CAT C-D)

Inoperative Component or Visual Aid to Sidestep Runway	Increase Visibility
ALSF 1 & 2, MALSR, SSALR	½ mile

(5) All Approach Types, All lines of minima

Inoperative Component or Visual Aid	Increase Visibility
ODALS (CAT A-B)	¼ mile
ODALS (CAT C-D)	⅛ mile

TERMS/LANDING MINIMA DATA 20142

**IFR LANDING MINIMA**

The United States Standard for Terminal Instrument Procedures (TERPS) is the approved criteria for formulating instrument approach procedures. Landing minima are established for six aircraft approach categories (ABCDE and COPTER). In the absence of COPTER MINIMA, helicopters may use the CAT A minima of other procedures.

**LANDING MINIMA FORMAT**

In this example airport elevation is 1179, and runway touchdown zone elevation is 1152.

CATEGORY	A	B	C	D
S-ILS 27	1352/24		200	(200-½)
S-LOC 27	1440/24	288	(300-½)	1440/50 288 (300-1)
CIRCLING	1540-1 361 (400-1)	1640-1 461 (500-1)	1640-1½ 461 (500-1½)	1740-2 561 (600-2)

DA: DA (Decision Altitude)  
Vis: Visibility (RVR 100's of feet)  
HAT: Aircraft Approach Category  
MDA: MDA (Minimum Descent Altitude)  
HAA: HAA (Height Above Airport)  
Vis: Visibility in Statute Miles

Labels: Straight-in ILS to Runway 27, Straight-in with Glide Slope Inoperative or not used to Runway 27, All weather minima in parentheses not applicable to Civil Pilots, Military Pilots refer to appropriate regulations.

**COPTER MINIMA ONLY**

CATEGORY	COPTER
H-176°	680-½ 363 (400-½)

Copter Approach Direction, Height of MDA/DA Above Landing Area (HAL), No circling minima are provided

NOTE: The **W** symbol indicates outages of the WAAS vertical guidance may occur daily at this location due to initial system limitations. WAAS NOTAMS for vertical outages are not provided for this approach. Use LNAV minima for flight planning at these locations, whether as a destination or alternate. For flight operations at these locations, when the WAAS avionics indicate that LNAV/VNAV or LPV service is available, then vertical guidance may be used to complete the approach using the displayed level of service. Should an outage occur during the procedure, reversion to LNAV minima may be required. As the WAAS coverage is expanded, the **W** will be removed.

RNAV minima are dependent on navigation equipment capability, as stated in the applicable AFM, AFMS, or other FAA approved document. See AIM paragraph 5-4-5, AC 90-105 and AC 90-107 for detailed requirements for each line of minima.

**COLD TEMPERATURE AIRPORTS**

NOTE: A **W**-12°C symbol indicates a cold temperature altitude correction is required at this airport when reported temperature is at or below the published temperature. See the following Cold Temperature Error Table to make manual corrections. Advise ATC with altitude correction. Advising ATC with altitude corrections is not required in the final segment. See Aeronautical Information Manual (AIM), Chapter 7, for guidance and additional information. For a complete list, see the "Cold Temperature Airports" link under the Additional Resources heading at the bottom of the following page: [http://www.faa.gov/air\\_traffic/flight\\_info/aeronav/digital\\_products/dtpp/search/](http://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/search/)

**COLD TEMPERATURE ERROR TABLE**

HEIGHT ABOVE AIRPORT IN FEET

	200	300	400	500	600	700	800	900	1000	1500	2000	3000	4000	5000
+10	10	10	10	10	20	20	20	20	20	30	40	60	80	90
0	20	20	30	30	40	40	50	50	60	90	120	170	230	280
-10	20	30	40	50	60	70	80	90	100	150	200	290	390	490
-20	30	50	60	70	90	100	120	130	140	210	280	420	570	710
-30	40	60	80	100	120	140	150	170	190	280	380	570	760	950
-40	50	80	100	120	150	170	190	220	240	360	480	720	970	1210
-50	60	90	120	150	180	210	240	270	300	450	590	890	1190	1500

**AIRCRAFT APPROACH CATEGORIES**

Aircraft approach category indicates a grouping of aircraft based on a speed of VREF, if specified, or if VREF not specified, 1.3 VSO at the maximum certificated landing weight. VREF, VSO, and the maximum certificated landing weight are those values as established for the aircraft by the certification authority of the country of registry. Helicopters are Category A aircraft. An aircraft shall fit in only one category. When necessary to operate the aircraft at an airspeed in excess of the maximum airspeed of its certified aircraft approach category, pilots should use the applicable higher category minima. For additional options and to ensure the aircraft remains within protected airspace, consult the AIM. See following category limits:

**MANEUVERING TABLE**

Approach Category	A	B	C	D	E
Speed (Knots)	0-90	91-120	121-140	141-165	Abv 165

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CIRCLING APPROACH OBSTACLE PROTECTED AIRSPACE

The circling MDA provides vertical obstacle clearance during a circle-to-land maneuver. The circling MDA protected area extends from the threshold of each runway authorized for landing following a circle-to-land maneuver for a distance as shown in the tables below. The resultant arcs are then connected tangentially to define the protected area.

STANDARD CIRCLING APPROACH MANEUVERING RADIUS

Circling approach protected areas developed prior to late 2012 used the radius distances shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category. The approaches using standard circling approach areas can be identified by the absence of the **C** symbol on the circling line of minima.

Circling MDA in feet MSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E
All Altitudes	1.3	1.5	1.7	2.3	4.5

**C** EXPANDED CIRCLING APPROACH MANEUVERING AIRSPACE RADIUS

Circling approach protected areas developed after late 2012 use the radius distance shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category, and the altitude of the circling MDA, which accounts for true airspeed increase with altitude. The approaches using expanded circling approach areas can be identified by the presence of the **C** symbol on the circling line of minima.

Circling MDA in feet MSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E
1000 or less	1.3	1.7	2.7	3.6	4.5
1001-3000	1.3	1.8	2.8	3.7	4.6
3001-5000	1.3	1.8	2.9	3.8	4.8
5001-7000	1.3	1.9	3.0	4.0	5.0
7001-9000	1.4	2.0	3.2	4.2	5.3
9001 and above	1.4	2.1	3.3	4.4	5.5

Comparable Values of RVR and Visibility

The following table shall be used for converting RVR to ground or flight visibility. For converting RVR values that fall between listed values, use the next higher RVR value; do not interpolate. For example, when converting 4800 RVR, use 5000 RVR with the resultant visibility of 1 mile.

RVR (feet)	Visibility (SM)	RVR (feet)	Visibility (SM)	RVR (feet)	Visibility (SM)	RVR (feet)	Visibility (SM)
1600	¼	2400	½	3500	¾	5500	1
1800	½	2600	½	4000	¾	6000	1¼
2000	½	3000	¾	4500	¾		
2200	½	3200	¾	5000	1		

RADAR MINIMA

	RWY	GP/TCH/RPI	CAT	DA/ MDA-VIS	HAT HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT HAA	CEIL-VIS
PAR	10	2.5°/42/1000	ABCDE	195/16	100	(100-¼)				
	28	2.5°/48/1068	ABCDE	187/16	100	(100-¼)				
ASR	10		ABC	560/40	463	(500-¾)	DE	560/50	463	(500-1)
	28		AB	600/50	513	(600-1)	CDE	600/60	513	(600-1¼)
CIR	10		AB	560-1¼	463	(500-1¼)	CDE	560-1½	463	(500-1½)
	28		AB	600-1¼	503	(600-1¼)	CDE	600-1½	503	(600-1½)

Radar Minima:  
1. Minima shown are the lowest permitted by established criteria. Pilots should consult applicable directives for their category of aircraft.  
2. The circling MDA and weather minima to be used are those for the runway to which the final approach is flown- not the landing runway. In the above RADAR MINIMA example, a category C aircraft flying a radar approach to runway 10, circling to land on runway 28, must use an MDA of 560 feet with weather minima of 500-1½.

NOTE: Military RADAR MINIMA may be shown with communications symbology that indicates emergency frequency monitoring capability by the radar facility as follows: (E) VHF and UHF emergency frequencies monitored  
(V) VHF emergency frequency (121.5) monitored  
(U) UHF emergency frequency (243.0) monitored

Additionally, unmonitored frequencies which are available on request from the controlling agency may be annotated with an "x".

- ⚠ Alternate Minima not standard. Civil users refer to tabulation. USA/USN/USAF pilots refer to appropriate regulations.
- ⚠ NA Alternate minima are Not Authorized due to unmonitored facility or absence of weather reporting service.
- ✈ Airport is published in the Takeoff Minima, (Obstacle) Departure Procedures, and Diverse Vector Area (Radar Vectors) tabulation.

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GENERAL INFORMATION

This publication is issued every 56 days and includes Standard Instrument Approach Procedures (SIAPs), Standard Instrument Departures (SIDs), Standard Terminal Arrivals (STARs), IFR Takeoff Minimums and (Obstacle) Departure Procedures (ODPs), IFR Alternate Minimums, and Radar Instrument Approach Minimums for use by civil and military aviation. The organization responsible for SIAPs, Radar Minimums, SIDs, STARs and graphic ODPs is identified in parentheses in the top margin of the procedure; e.g., (FAA), (FAA-O), (USA), (USAF), (USN). SIAPs with the (FAA) and (FAA-O) designation are regulated under 14 CFR, Part 97. SIAPs with the (FAA-O) designation have been developed under Other Transaction Agreement (OTA) by private providers and have been certified by the FAA. See 14 CFR, Part 91.175 (a) and the AIM for further details. 14 CFR, Part 91.175 (g) and the Special Notices section of the Chart Supplement contain information on civil operations at military airports.

The FAA uses an internal numbering system on all charts in the TPP. This Approach and Landing (AL) number is located on the top center margin of the chart followed by the organization responsible for the procedure in parentheses, e.g., AL-18 (FAA), AL-11919 (FAA-O). Military procedures do not show AL number, but do show the appropriate authority for the procedure, e.g., (USAF).

CHART CURRENCY INFORMATION

Date of Latest Revision
 09365

The Date of Latest Revision identifies the Julian date the chart was added or last revised for any reason. The first two digits indicate the year, the last three digits indicate the day of the year (001 to 365/6) in which the latest revision of any kind has been made to the chart.



The FAA Procedure Amendment Number represents the most current amendment of a given procedure. The Procedure Amendment Effective Date represents the AIRAC cycle date on which the procedure amendment was incorporated into the chart. Updates to the amendment number & effective date represent procedural/criteria revisions to the charted procedure, e.g., course, fix, altitude, minima, etc. On Departure Procedures and Standard Terminal Arrivals, procedural revisions to the current chart are indicated by an upnumber to the procedure title with the procedure amendment effective date following. On Radar Minima, Takeoff Minimums and (Obstacle) Departure Procedures and Diverse Vector Areas, the FAA Procedure Amendment Number, Procedure Effective Date, and the Julian Date of Last Revision will be shown on the same line, e.g., AMDT 2 10DEC15 15344.

MISCELLANEOUS

★ Indicates a non-continuously operating facility, see Chart Supplement.

For Civil (FAA) instrument procedures, "RADAR REQUIRED" in the planview of the chart indicates that ATC radar must be available to assist the pilot when transitioning from the en route environment. "Radar required" in the pilot briefing portion of the chart indicates that ATC radar is required on portions of the procedure outside the final approach segment, including the missed approach. Some military procedures also have equipment requirements such as "Radar Required", but do not conform to the same charting application standards used by the FAA.

Distances are in nautical miles (except visibility in statute miles and Runway Visual Range in hundreds of feet). Runway dimensions are in feet. Elevations are in feet, Mean Sea Level (MSL). Ceilings are in feet above airport elevation. Radials/bearings/headings/courses are magnetic. Horizontal Datum: Unless otherwise noted on the chart, all coordinates are referenced to North American Datum 1983 (NAD 83), which for charting purposes is considered equivalent to World Geodetic System 1984 (WGS 84).

Terrain is scaled within the neat lines (planview boundaries) and does not accurately underlie not-to-scale distance depictions or symbols.

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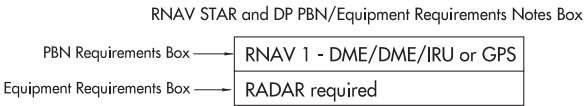
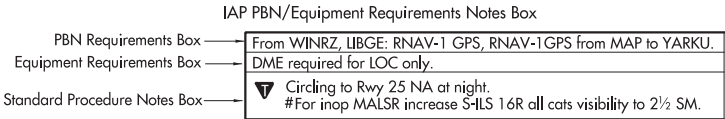
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STANDARD TERMINAL ARRIVALS AND DEPARTURE PROCEDURES

The use of the associated codified STAR/DP and transition identifiers are requested of users when filing flight plans online. It must be noted that when filing a STAR/DP with a transition, the first three coded characters of the STAR and the last three coded characters of the DP are replaced by the transition code. Examples: ACTON SIX ARRIVAL, file (AQN.AQN6); ACTON SIX ARRIVAL, EDNAS TRANSITION, file (EDNAS.AQN6). FREEHOLD THREE DEPARTURE, file (FREH3.RBV), FREEHOLD THREE DEPARTURE, ELWOOD CITY TRANSITION, file (FREH3.EWC).



PROCEDURE PBN/EQUIPMENT REQUIREMENTS


Users will begin to see Performance-Based Navigation (PBN) Requirements and Equipment Requirements on Instrument Approach Procedures (IAPs), RNAV STARs and RNAV DPs prominently displayed in separate, standardized notes boxes. For procedures with PBN elements, the PBN box will contain the procedure's navigation specification(s); and, if required: specific sensors or infrastructure needed for the navigation solution; any additional or advanced functional requirements; the minimum Required Navigation Performance (RNP) value and any amplifying remarks. Items listed in this PBN box are REQUIRED for the procedure's PBN elements. The Equipment Requirements Box will list non-PBN requirements. On charts with both PBN elements and equipment requirements, the PBN requirements box will be listed first. The publication of these notes will continue incrementally until all charts have been amended to comply with the new standard.



PILOT CONTROLLED AIRPORT LIGHTING SYSTEMS

Reference the Chart Supplement for detailed information on pilot controlled lighting (PCL) systems.

Available FAA standard approach lighting systems are charted as a negative symbol to indicate pilot controlled lighting, e.g.,  , .

Available airport lighting systems that are charted as notes, e.g. REIL, MIRL, are shown with a negative "" symbol beside the name to indicate pilot controlled lighting.

To activate lights, use frequency indicated in the communication section of the chart with a  or the appropriate lighting system identification e.g., UNICOM 122.8  ,  , .

KEY MIKE	FUNCTION
7 times within 5 seconds	Highest intensity available
5 times within 5 seconds	Medium or lower intensity (Lower REIL or REIL-off)
3 times within 5 seconds	Lowest intensity available (Lower REIL or REIL-off)

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# ABBREVIATIONS

AAUP.....	Attention All Users Page	GLS.....	Ground based Augmentation System Landing System
ADF.....	Automatic Direction Finder	GP.....	Glidepath
ADIZ.....	Air Defense Identification Zone	GPI.....	Ground Point of Interception
AFIS.....	Automatic Flight Information Service	GPS.....	Global Positioning System
ALS.....	Approach Light System	GS.....	Glide Slope
ALSF.....	Approach Light System with Sequenced Flashing Lights	HAA.....	Height above Airport
AOB.....	At or Below	HAL.....	Height above Landing
AP.....	Autopilot System	HAT.....	Height above Touchdown
APCH.....	Approach	HATh.....	Height above Threshold
APP CON.....	Approach Control	HCH.....	Heliport Crossing Height
AR.....	Authorization Required	HGS.....	Heads-up Guidance System
ARR.....	Arrival	HIRL.....	High Intensity Runway Lights
ASOS.....	Automated Surface Observing System	HUD.....	Head-up Display
ASR/PAR.....	Published Radar Minimums at this Airport	IAF.....	Initial Approach Fix
ASSC.....	Airport Surface Surveillance Systems	ICAO.....	International Civil Aviation Organization
ATIS.....	Automated Terminal Information Service	IF.....	Intermediate Fix
AUNICOM.....	Automated UNICOM	IM.....	Inner Marker
AWOS.....	Automated Weather Observing System	INOP.....	Inoperative
AZ.....	Azimuth	INT.....	Intersection
BC.....	Back Course	K.....	Knots
BND.....	Bound	KIAS.....	Knots Indicated Airspeed
C.....	Circling	LAAS.....	Local Area Augmentation System
CAT.....	Category	LDA.....	Localizer Type Directional Aid
CCW.....	Counter Clockwise	Ldg.....	Landing
CDI.....	Course Deviation Indicator	LIRL.....	Low Intensity Runway Lights
Chan.....	Channel	LNAV.....	Lateral Navigation
CIFP.....	Coded Instrument Flight Procedures	LOC.....	Localizer
CIR.....	Circling	LP.....	Localizer Performance
CLNC DEL.....	Clearance Delivery	LPV.....	Localizer Performance with Vertical Guidance
CNF.....	Computer Navigation Fix	LR.....	Lead Radial. Provides at least 2 NM (Copter 1 NM) of lead to assist in turning onto the intermediate/final course.
CPDLC.....	Controller Pilot Data Link Communication	MAA.....	Maximum Authorized Altitude
CTAF.....	Common Traffic Advisory Frequency	MALS.....	Medium Intensity Approach Light System
CW.....	Clockwise	MALSF.....	Medium Approach Lighting System with Sequenced Flashers
D-ATIS.....	Digital-Automated Terminal Information Service	MALSR.....	Medium Intensity Approach Light System with RAIL
DA.....	Decision Altitude	MAP.....	Missed Approach Point
DER.....	Departure End of Runway	MDA.....	Minimum Descent Altitude
DH.....	Decision Height	MIRL.....	Medium Intensity Runway Lights
DME.....	Distance Measuring Equipment	MM.....	Middle Marker
DTHR.....	Displaced Threshold	MRA.....	Minimum Reception Altitude
DVA.....	Diverse Vector Area	N/A.....	Not Applicable
ELEV.....	Elevation	NA.....	Not Authorized
EMAS.....	Engineered Material Arresting System	NDB.....	Non-directional Radio Beacon
FAF.....	Final Approach Fix	NM.....	Nautical Mile
FD.....	Flight Director System	NoPT.....	No Procedure Turn Required (Procedure Turn shall not be executed without ATC clearance)
FM.....	Fan Marker		
FMS.....	Flight Management System		
GBAS.....	Ground Based Augmentation System		
GCO.....	Ground Communications Outlet		

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**ABBREVIATIONS**

ODALS.....	Omnidirectional Approach Light System	VDA.....	Vertical Descent Angle
ODP.....	Obstacle Departure Procedure	VDP.....	Visual Descent Point
OM.....	Outer Marker	VGSI.....	Visual Glide Slope Indicator
PAR.....	Precision Approach Radar	VNAV.....	Vertical Navigation
PDC.....	Pre-Departure Clearance	WAAS.....	Wide Area Augmentation System
PRM.....	Precision Runway Monitor	WP/WPT.....	Waypoint (RNAV)
R.....	Radial		
RA.....	Radio Altimeter setting height		
RAIL.....	Runway Alignment Indicator Lights		
RCLS.....	Runway Centerline Light System		
REIL.....	Runway End Identifier Lights		
RF.....	Radius-to-Fix		
RLLS.....	Runway Lead-in Light System		
RNAV.....	Area Navigation		
RNP.....	Required Performance Navigation		
RPI.....	Runway Point of Intercept(ion)		
RRL.....	Runway Remaining Lights		
Rwy.....	Runway		
RVR.....	Runway Visual Range		
S.....	Straight-in		
SALS.....	Short Approach Light System		
SALSF.....	Short Approach Lighting System with Sequenced Flashing Lights		
SSALF.....	Simplified Short Approach Lighting System with Sequenced Flashers		
SSALR.....	Simplified Short Approach Light System with RAIL		
SSALS.....	Simplified Short Approach Lighting System		
SDF.....	Simplified Directional Facility		
SM.....	Statute Mile		
SOIA.....	Simultaneous Offset Instrument Approach		
SR-SS.....	Sunrise-Sunset		
TAA.....	Terminal Arrival Area		
TAC.....	TACAN		
TCH.....	Threshold Crossing Height (height in feet above ground level)		
TDZ.....	Touchdown Zone		
TDZE.....	Touchdown Zone Elevation		
TDZ/CL.....	Touchdown Zone and Runway Centerline Lighting		
TDZL.....	Touchdown Zone Lights		
THR.....	Threshold		
TODA.....	Takeoff Distance Available		
TORA.....	Takeoff Run Available		
TR.....	Track		
VASI.....	Visual Approach Slope Indicator		
VCOA.....	Visual Climb over Airport		

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LEGEND 23334 INSTRUMENT APPROACH PROCEDURES (CHARTS)

PLANVIEW SYMBOLS

ROUTES

Procedure Track

Feeder Route

Missed Approach

Visual Flight Path

Minimum Route Altitude

3100 NoPT to LOM

045°

Mileage (14.2)

HOLDING PATTERNS

Hold-in-lieu of Procedure Turn

HOLD 10000 8000

090° (IAS)

270°

4 NM

Missed Approach

090°

270°

Arrival

HOLD 8000

090°

270°

Holding pattern with maximum restricted airspeed: (175K) applies to all altitudes. (210K) applies to altitudes above 6000' to and including 14000'. Arrival Holding Pattern altitude restrictions will be indicated when they deviate from the adjacent leg.

Timing or distance limits for Hold-in-lieu of Procedure Turn Holding Patterns will be shown. DME fixes may be shown.

FIXES/ATC REPORTING REQUIREMENTS

△ Reporting Point

Waypoint

MAP WP (Flyby)

MAP WP (Flyover)

Flyover Point

Computer Navigation Fix (CNF)-No ATC Function ("x" omitted when it is a MAP)

R-198 Radial line and value

LR-198 Lead Radial

LB-198 Lead Bearing

Procedure Turn (Type degree and point of turn optional)

165°

345°

ALTITUDES

5500 Mandatory Altitude

2500 Minimum Altitude

4300 Maximum Altitude

3000 Recommended Altitude

5000 Mandatory Block Altitude

3000 Altitude

INDICATED AIRSPEED

175K

120K

250K

180K

Mandatory Airspeed

Minimum Airspeed

Maximum Airspeed

Recommended Airspeed

RADIO AIDS TO NAVIGATION

110.1 Underline indicates No Voice transmitted on this frequency

VOR

VORTAC

TACAN

VOR/DME

DME

NDB

NDB/DME

LOM (Compass locator at Outer Marker)

Marker Beacon

Marker beacons that are not specifically part of the procedure.

Localizer Front Course (LOC/LDA)

Right side shading- Front course

Localizer Back Course

Left side shading- Back Course

SDF Course

LOC/LDA/SDF Transmitter

LOC/DME

(shown when installation is offset from its normal position off the end of the runway.)

Primary NAVAID

Secondary NAVAID

TACAN or DME NAVAID

SCOTT

Chan 59

SKE

(112.2)

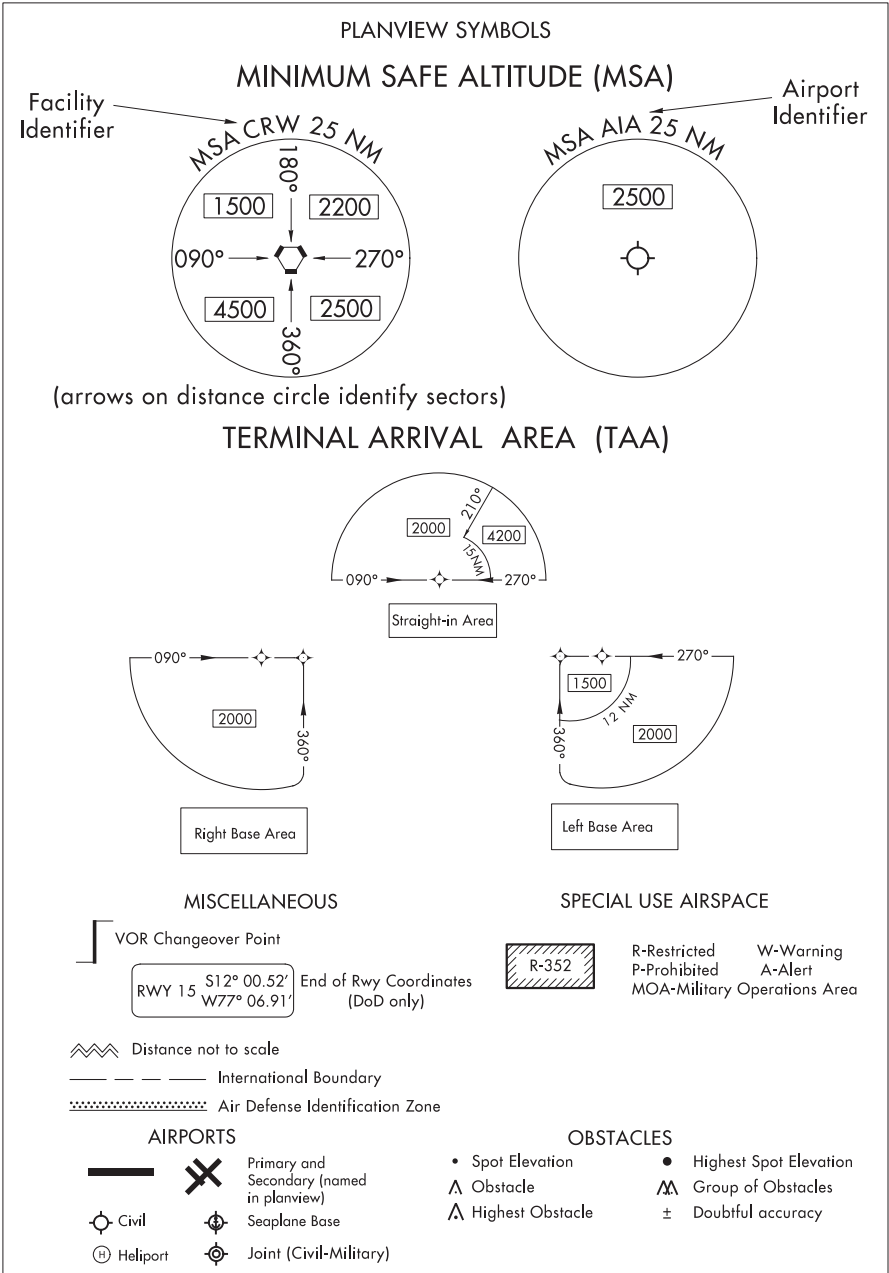
VHF

Paired Frequency

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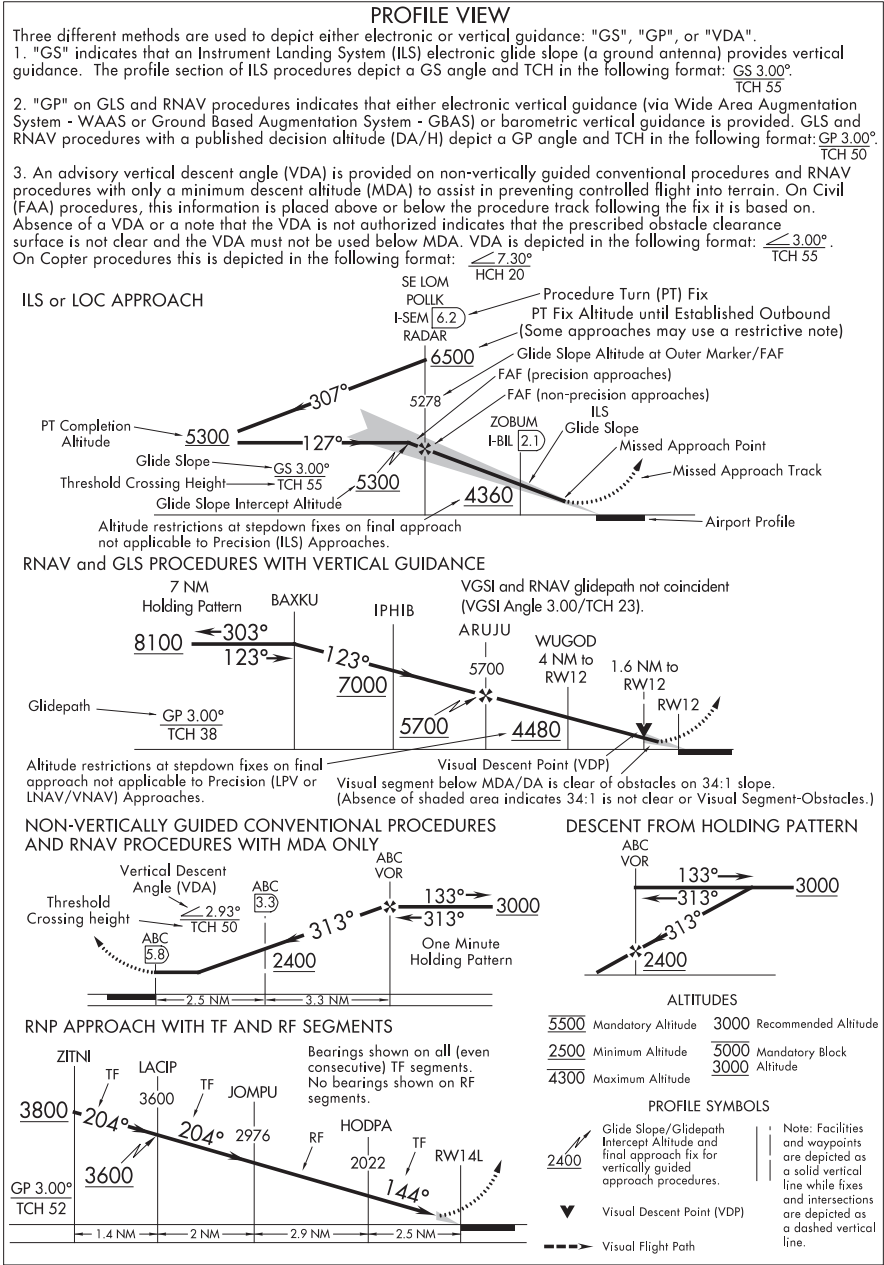
LEGEND 23110

INSTRUMENT APPROACH PROCEDURES (CHARTS)



LEGEND 23110

LEGEND 22251 INSTRUMENT APPROACH PROCEDURES (CHARTS)



LEGEND 22251

**LEGEND** 23334 STANDARD TERMINAL ARRIVAL (STAR) CHARTS

## RADIO AIDS TO NAVIGATION

**Compulsory:**

- VOR
- VORTAC
- DME
- NDB
- NDB/DME

**Non-Compulsory:**

- VOR
- VORTAC
- DME
- NDB
- NDB/DME

**Other Symbols:**

- LOM (Compass locator at outer marker)
- Marker Beacon
- Localizer Front Course
- Localizer Back Course (Shading on left)
- TACAN or DME NAVDIX Box

**Frequency Protection:**

(T) indicates frequency protection range

Underline indicates no voice transmitted on this frequency

(Y) TACAN must be placed in "Y" mode to receive distance information

## ROUTES

**MAA FL200** Maximum Authorized Altitude  
**4500** MEA-Minimum Enroute Altitude  
**\*3500** MOCA-Minimum Obstruction Clearance Altitude

**270°** Arrival Route  
 (65) Mileage between Radio Aids, Reporting Points, and Route Breaks

**Transition Route**  
**R-275** Radial line and value  
**Lost Communications Track**

**V12 J80** Airway/Jet Route Identification

**Holding Pattern**  
 (IAS) Holding Pattern  
 Lost Comm Holding Pattern

Holding pattern with maximum restricted airspeed (175K) applies to all altitudes (210K) applies to altitudes above 6000' to and including 14000'

## SPECIAL USE AIRSPACE

**R-352** R-Restricted  
**P-Prohibited** P-Prohibited  
**W-Warning** W-Warning  
**A-Alert** A-Alert  
**MOA-Military Operations Area**

## ALTITUDES

**5500** Mandatory Altitude (Cross at)

**2300** Minimum Altitude (Cross at or above)

**4800** Maximum Altitude (Cross at or below)

**15000**  
**12000**  
 Block Altitude

Altitude change at other than Radio Aids to Navigation

## FIXES/ATC REPORTING REQUIREMENTS

**Unnamed DME fix**

**Reporting Point (Compulsory)**  
**Reporting Point (Non-Compulsory)**

**Obvious DME** (DME Mileage matches route mileage)

**DME Mileage** (when not obvious)

**Waypoint (Compulsory)**  
**Waypoint (Non-Compulsory)**

**Flyover Point**

**Computer Navigation Fix (CNF) - No ATC Function**

## AIRPORTS

**Civil**  
**Military**  
**Joint (Civil-Military)**

Airports not served by the procedure shown in screened color

**Civil**  
**Military**  
**Joint (Civil-Military)**

## INDICATED AIRSPEED

**175K** Mandatory Airspeed  
**120K** Minimum Airspeed  
**250K** Maximum Airspeed

## MISCELLANEOUS

**Changeover Point**

**Air Defense Identification Zone**

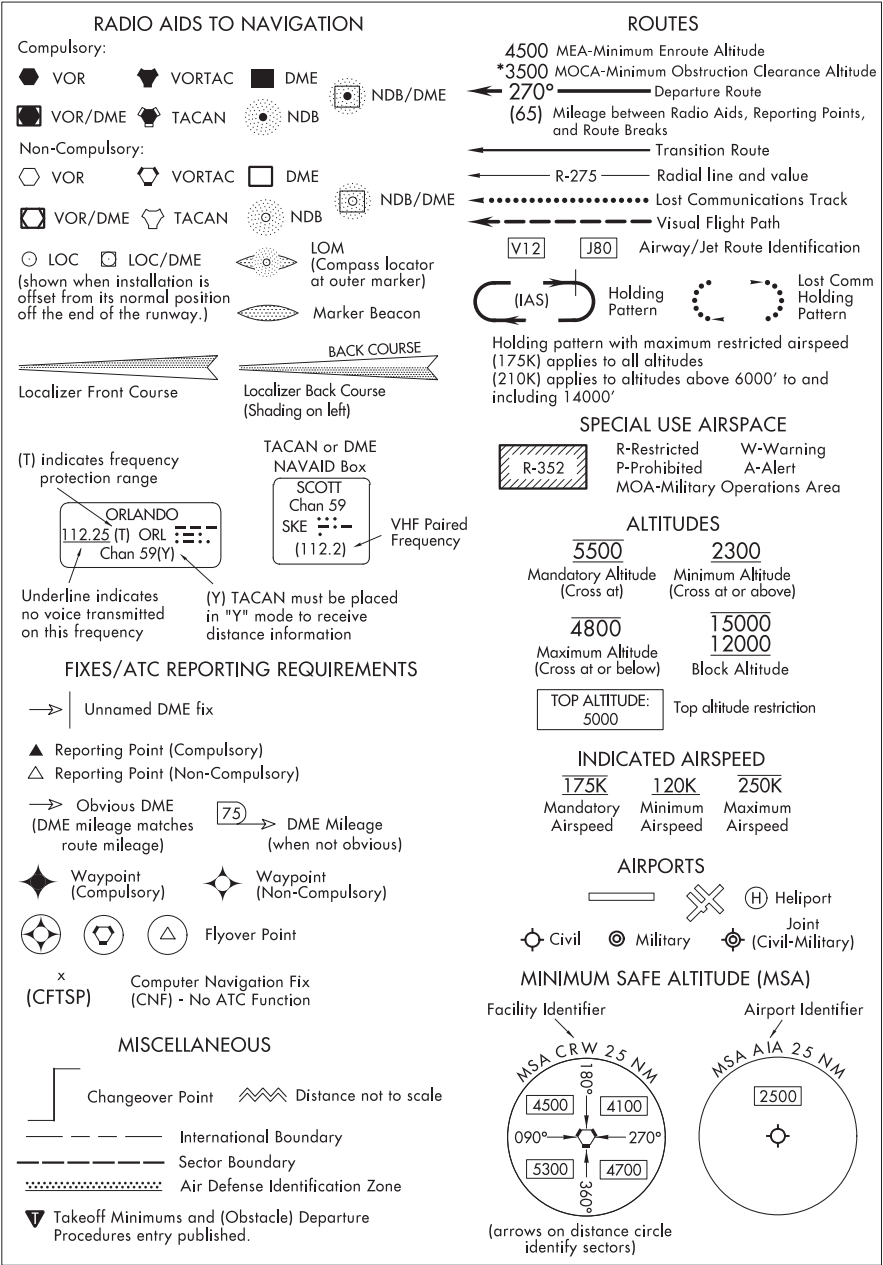
**Ldg KLAS and KHAND**  
**Ldg Rwy's 16L/C/R**

**Terminus identifier**

**Indicates True North is not aligned to the top of the page**

LEGEND 23334

DEPARTURE PROCEDURE (DP) CHARTS



LEGEND 23334

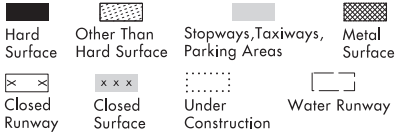
23334

LEGEND

INSTRUMENT APPROACH PROCEDURES (CHARTS)

AIRPORT DIAGRAM/AIRPORT SKETCH

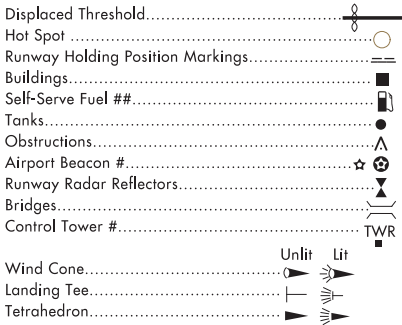
Runways



ARRESTING GEAR: Specific arresting gear systems; e.g., BAK12, MA-1A etc., shown on airport diagrams, not applicable to Civil Pilots. Military Pilots refer to appropriate DOD publications.



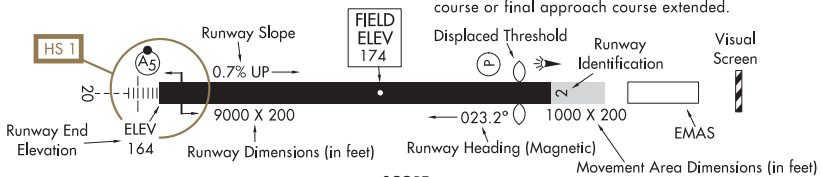
REFERENCE FEATURES



# When Control Tower and Rotating Beacon are co-located, Beacon symbol will be used and further identified as TWR.

## See appropriate Chart Supplement for information.

Runway Weight Bearing Capacity or Pavement Classification Number (PCN)/Pavement Classification Rating (PCR) is shown as a codified expression. Refer to the appropriate Supplement/Directory for applicable codes e.g., Rwy 14-32 PCR 560 R/B/W/T; S-75, D-185, 2D-325, 2D/2D2-1120



SCOPE

Airport diagrams are specifically designed to assist in the movement of ground traffic at locations with complex runway/taxiway configurations. Airport diagrams are not intended to be used for approach and landing or departure operations. For revisions to Airport Diagrams: Consult FAA Order 7910.4.

Helicopter Alighting Areas [H] [H] [H] [H]

Negative Symbols used to identify Copter Procedures landing point..... [H] [H] [H] [H]

NOTE: Landmark features depicted on Copter Approach insets and sketches are provided for visual reference only.

Runway TDZ elevation.....TDZE 123

Runway Slope..... 0.3% Down.....0.8% UP (shown when rounded runway slope is  $\geq 0.3\%$ )

NOTE: Runway Slope measured to midpoint on runways 8000 feet or longer.

[H] U.S. Navy Optical Landing System (OLS) "OLS" location is shown because of its height of approximately 7 feet and proximity to edge of runway may create an obstruction for some types of aircraft.

Approach light symbols are shown in the Flight Information Handbook.

Airport diagram scales are variable.

True/magnetic North orientation may vary from diagram to diagram

Coordinate values are shown in 1 or 1/2 minute increments. They are further broken down into 6 second ticks, within each 1 minute increments.

Positional accuracy within  $\pm 600$  feet unless otherwise noted on the chart.

Runway length depicted is the physical length of the runway (end-to-end, including displaced thresholds if any) but excluding areas designated as stopways.

A [D] symbol is shown to indicate runway declared distance information available, see appropriate Chart Supplement for distance information.

NOTE:

All new and revised airport diagrams are shown referenced to the World Geodetic System (WGS) (noted on appropriate diagram), and may not be compatible with local coordinates published in DoD FLIP. (Foreign Only)

The airport sketch box includes the final approach course or final approach course extended.

LEGEND 22195

INSTRUMENT APPROACH PROCEDURES (CHARTS)

APPROACH LIGHTING SYSTEM - UNITED STATES

Approach lighting and visual glide slope systems are indicated on the airport sketch by an identifier, e.g., (A2), (A1), etc.		
A dot "•" portrayed with approach lighting letter identifier indicates sequenced flashing lights (F) installed with the approach lighting system e.g., (A1). Negative symbology, e.g., (A1), indicates Pilot Controlled Lighting (PCL).		
<p><b>CATEGORY I APPROACH LIGHTING SYSTEM</b></p> <p>(A1)</p> <p><b>ALSF-1</b></p> <p>(High Intensity) LENGTH 2400/3000 FEET</p>	<p><b>SHORT APPROACH LIGHTING SYSTEM</b></p> <p>(A2) (A2)</p> <p><b>SALS/SALSF</b></p> <p>(High Intensity) LENGTH 1500 FEET</p>	<p><b>MEDIUM INTENSITY APPROACH LIGHTING SYSTEM</b> with Runway Alignment Indicator Lights</p> <p>(A5)</p> <p><b>MALS</b></p> <p>LENGTH 2400 FEET</p>
<p><b>CATEGORY II APPROACH LIGHTING SYSTEM</b></p> <p>(A)</p> <p><b>ALSF-2</b></p> <p>(High Intensity) LENGTH 2400/3000 FEET</p> <p>NOTE: CIVIL ALSF-2 MAY BE OPERATED AS SSALR DURING FAVORABLE WEATHER CONDITIONS</p>	<p><b>SIMPLIFIED SHORT APPROACH LIGHTING SYSTEM</b> with Runway Alignment Indicator Lights</p> <p>(A3)</p> <p><b>SSALR</b></p> <p>(High Intensity) LENGTH 2400/3000 FEET</p>	<p><b>OMNIDIRECTIONAL APPROACH LIGHTING SYSTEM</b></p> <p>(A)</p> <p><b>ODALS</b></p> <p>LENGTH 1500 FEET</p>
	<p><b>MEDIUM INTENSITY (MALS and MALSF) OR SIMPLIFIED SHORT (SSALS and SSALF) APPROACH LIGHTING SYSTEMS</b></p> <p>(A4) (A4)</p> <p>LENGTH 1400 FEET</p>	<p><b>RUNWAY TOUCHDOWN ZONE AND CENTERLINE LIGHTING SYSTEMS</b></p> <p><b>TDZ/CL</b></p> <p>AVAILABILITY OF TDZ/CL will be shown by NOTE in SKETCH e.g. "TDZ/CL Rwy 15"</p>

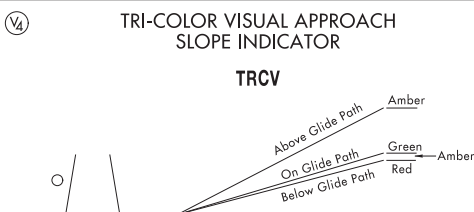
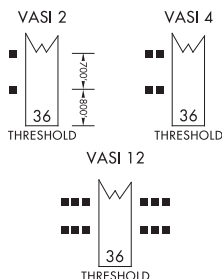
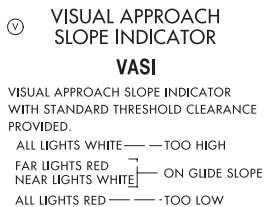
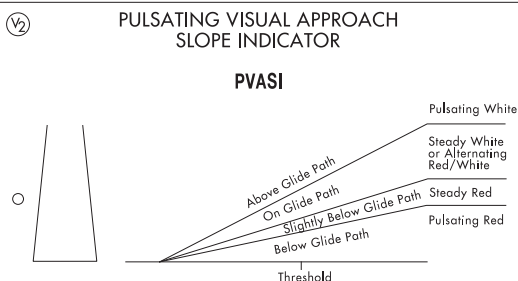
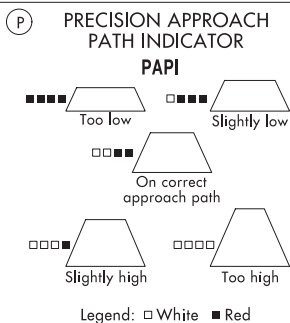


## LEGEND 22195

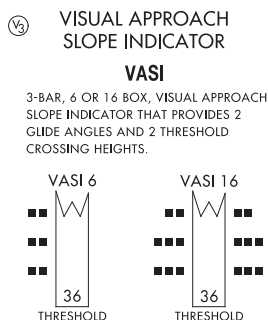
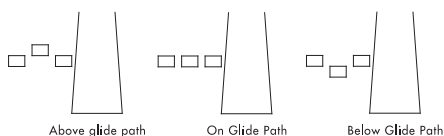
INSTRUMENT APPROACH PROCEDURES (CHARTS)  
APPROACH LIGHTING SYSTEM - UNITED STATES

Approach lighting and visual glide slope systems are indicated on the airport sketch by an identifier, (A<sub>2</sub>), (V) etc.

A dot "•" portrayed with approach lighting letter identifier indicates sequenced flashing lights (F) installed with the approach lighting system e.g., (A<sub>1</sub>). Negative symbology, e.g., (A<sub>1</sub>), (V) indicates Pilot Controlled Lighting (PCL).



CAUTION: When the aircraft descends from green to red, the pilot may see a dark amber color during the transition from green to red.

ALIGNMENT OF ELEMENTS SYSTEMS  
**APAP**

Painted panels which may be lighted at night.  
To use the system the pilot positions the aircraft so the elements are in alignment.

## LEGEND 22195

FREQ PAIRING 20198

FREQUENCY PAIRING TABLE

TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY
17Y	108.05	40X	110.30	88Y	114.15
18X	108.10	40Y	110.35	89Y	114.25
18Y	108.15	41Y	110.45	90Y	114.35
19Y	108.25	42X	110.50	91Y	114.45
20X	108.30	42Y	110.55	92Y	114.55
20Y	108.35	43Y	110.65	93Y	114.65
21Y	108.45	44X	110.70	94Y	114.75
22X	108.50	44Y	110.75	95Y	114.85
22Y	108.55	45Y	110.85	96Y	114.95
23Y	108.65	46X	110.90	97Y	115.05
24X	108.70	46Y	110.95	98Y	115.15
24Y	108.75	47Y	111.05	99Y	115.25
25Y	108.85	48X	111.10	100Y	115.35
26X	108.90	48Y	111.15	101Y	115.45
26Y	108.95	49Y	111.25	102Y	115.55
27Y	109.05	50X	111.30	103Y	115.65
28X	109.10	50Y	111.35	104Y	115.75
28Y	109.15	51Y	111.45	105Y	115.85
29Y	109.25	52X	111.50	106Y	115.95
30X	109.30	52Y	111.55	107Y	116.05
30Y	109.35	53Y	111.65	108Y	116.15
31Y	109.45	54X	111.70	109Y	116.25
32X	109.50	54Y	111.75	110Y	116.35
32Y	109.55	55Y	111.85	111Y	116.45
33Y	109.65	56X	111.90	112Y	116.55
34X	109.70	56Y	111.95	113Y	116.65
34Y	109.75	80Y	113.35	114Y	116.75
35Y	109.85	81Y	113.45	115Y	116.85
36X	109.90	82Y	113.55	116Y	116.95
36Y	109.95	83Y	113.65	117Y	117.05
37Y	110.05	84Y	113.75	118Y	117.15
38X	110.10	85Y	113.85	119Y	117.25
38Y	110.15	86Y	113.95		
39Y	110.25	87Y	114.05		

See the Chart Supplement for a complete listing.

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## INDEX OF TERMINAL CHARTS AND MINIMUMS

NAME	PROC	SECT PG	NAME	PROC	SECT PG
<b>AMATA KABUA INTL</b>			<b>HILO, HI</b>		
---SEE MAJURO ATOLL,MH			<b>HILO INTL(ITO)(PHTO)</b>		
<b>BABELTHUAP ISLAND,PW</b>			TAKEOFF MINIMUMS .....	L	
<b>PALAU INTL(ROR)(PTRO)</b>			DIVERSE VECTOR AREA .....	L	
TAKEOFF MINIMUMS .....	L		ALTERNATE MINIMUMS .....	M	
ALTERNATE MINIMUMS .....	M		STARS .....LYCHI ONE (RNAV) .....	Z13	
IAPS .....RNAV (GPS) RWY 09 .....	1		IAPS .....ILS OR LOC RWY 26 .....	21	
RNAV (GPS) RWY 27 .....	2		RNAV (GPS) RWY 21 .....	22	
NDB RWY 09 .....	3		RNAV (GPS) RWY 26 .....	23	
AIRPORT DIAGRAM .....	4		VOR/DME OR TACAN RWY 26 .....	24	
<b>BENJAMIN TAISACAN MANGLONA INTL</b>			VOR/DME OR TACAN-A .....	25	
---SEE ROTA ISLAND,CQ			VOR-B .....	26	
<b>CHUUK INTL</b>			AIRPORT DIAGRAM .....	27	
---SEE WENO ISLAND,FM			DPS .....PARIS FOUR (OBSTACLE) .....	28	
<b>DANIEL K INOUE INTL</b>			PPKEO ONE (RNAV) .....	30	
---SEE HONOLULU, HI					
<b>ELLISON ONIZUKA KONA INTL AT KEAHOLE</b>					
---SEE KAILUA-KONA, HI					
<b>FRANCISCO C ADA/SAIPAN INTL</b>					
---SEE SAIPAN ISLAND,CQ					
<b>FRANCISCO MANGLONA BORJA/TINIAN INTL</b>					
---SEE TINIAN ISLAND,CQ					
<b>GUAM INTL</b>					
---SEE GUAM,GU					
<b>GUAM,GU</b>					
<b>GUAM INTL(GUM)(PGUM)</b>					
TAKEOFF MINIMUMS .....	L				
ALTERNATE MINIMUMS .....	M				
IAPS .....ILS OR LOC RWY 06L .....	5				
ILS OR LOC RWY 06R .....	6				
RNAV (RNP) Z RWY 06L .....	7				
RNAV (RNP) Z RWY 06R .....	8				
RNAV (RNP) Z RWY 24L .....	9				
RNAV (RNP) Z RWY 24R .....	10				
RNAV (GPS) Y RWY 06L .....	11				
RNAV (GPS) Y RWY 06R .....	12				
RNAV (GPS) Y RWY 24L .....	13				
RNAV (GPS) Y RWY 24R .....	14				
VOR OR TACAN RWY 24R .....	15				
NDB RWY 24R .....	16				
AIRPORT DIAGRAM .....	17				
<b>HANA, HI</b>					
<b>HANA(HNM)(PHHN)</b>					
TAKEOFF MINIMUMS .....	L				
ALTERNATE MINIMUMS .....	M				
IAPS .....RNAV (GPS) RWY 08 .....	18				
RNAV (GPS) RWY 26 .....	19				
DPS .....LINDBERG TWO (OBSTACLE) (RNAV) .....	20				
<b>HENDERSON FLD</b>					
---SEE MIDWAY ATOLL,QM					

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INDEX OF TERMINAL CHARTS AND MINIMUMS

NAME	PROC	SECT PG	NAME	PROC	SECT PG
<b>HONOLULU, HI</b>			<b>KAHULUI, HI</b>		
<b>DANIEL K INOUYE INTL(HNL)(PHNL)</b>			<b>KAHULUI(OGG)(PHOG)</b>		
TAKEOFF MINIMUMS		L	TAKEOFF MINIMUMS		L
DIVERSE VECTOR AREA		L	DIVERSE VECTOR AREA		L
ALTERNATE MINIMUMS		M	ALTERNATE MINIMUMS		M
LAHSO		O	HOT SPOT		P
HOT SPOT		P	STARS	CAMPS FOUR	Z2
STARS	BOOKE EIGHT	Z1		LAVAS ONE (RNAV)	Z11
	INOYI ONE (RNAV)	Z3		LNDHY ONE (RNAV)	Z12
	JULLE FIVE	Z5	IAPS	ILS Y OR LOC Y RWY 02	.63
	KAENA TWO (RNAV)	Z6		ILS Z OR LOC Z RWY 02	.64
	KLANI THREE (RNAV)	Z9		RNAV (RNP) Z RWY 02	.65
	MAGGI THREE	Z14		RNAV (GPS) RWY 20	.66
	MAKAH ONE (RNAV)	Z15		RNAV (GPS) RWY 23	.67
	OPACA FOUR	Z16		RNAV (GPS) Y RWY 02	.68
	SAKKI FIVE	Z17		VOR Z OR TACAN RWY 20	.69
	SHLAE ONE (RNAV)	Z19		SMOKE STACK VISUAL RWY 02	.70
	SYMIN ONE (RNAV)	Z20	AIRPORT DIAGRAM		.71
IAPS	ILS RWY 08L	.31	DPS	BEACH FOUR	.72
	ILS Y RWY 04R	.32		HIKA ONE (RNAV)	.73
	ILS Z RWY 04R	.33		MAUI FIVE	.74
	RNAV (RNP) RWY 26L	.34		NPLI TWO (RNAV)	.75
	RNAV (RNP) Z RWY 04R	.35		ONOHI TWO	.76
	RNAV (RNP) Z RWY 08L	.36		PUHEE ONE (RNAV)	.77
	RNAV (GPS) RWY 04L	.37		STACEY TWO	.78
	RNAV (GPS) RWY 08R	.38		SWEEP TWO	.79
	RNAV (GPS) Y RWY 04R	.39			
	RNAV (GPS) Y RWY 08L	.40			
	LOC RWY 04R	.41	<b>KAILUA-KONA, HI</b>		
	LOC RWY 08L	.42	<b>ELLISON ONIZUKA KONA INTL AT KEAHOLE</b>		
	LDA RWY 26L	.43	<b>(KOA)(PHKO)</b>		
	VOR OR TACAN RWY 04R	.44	TAKEOFF MINIMUMS		L
	VOR OR TACAN-A	.45	DIVERSE VECTOR AREA		L
	VOR OR TACAN-B	.46	ALTERNATE MINIMUMS		M
	KAHE POWER PLANT VISUAL RWY 22L	.47	HOT SPOT		P
	WAIALAE GOLF COURSE VISUAL RWY 22L	.48	STARS	KAYAK SIX	Z7
AIRPORT DIAGRAM		.49		VECKI NINE	Z21
DPS	HONOLULU TWO (OBSTACLE)	.50	IAPS	ILS OR LOC RWY 17	.80
	BANZI ONE (RNAV)	.52		RNAV (RNP) Z RWY 17	.81
	KEAHI THREE	.54		RNAV (GPS) RWY 35	.82
	KEOLA THREE	.55		RNAV (GPS) Y RWY 17	.83
	MOLOKAI FIVE	.56		LOC BC RWY 35	.84
	OPIHI THREE	.58		VOR OR TACAN RWY 17	.85
	PALAY THREE	.60		VOR OR TACAN RWY 35	.86
	PIPLN ONE (RNAV)	.61	AIRPORT DIAGRAM		.87
			DPS	AMERY FOUR	.88
				CRISI TWO (RNAV)	.89
				ONIZU ONE (RNAV)	.90
			<b>KALAELOA (JOHN RODGERS FLD)</b>		
			<b>---SEE KAPOLEI, HI</b>		
			<b>KALAUPAPA, HI</b>		
			<b>KALAUPAPA(LUP)(PHLU)</b>		
			TAKEOFF MINIMUMS		L
			IAPS	RNAV (GPS)-A	.91
				RNAV (GPS)-B	.92
			DPS	KALAUPAPA ONE (OBSTACLE)	.93
			<b>KAMUELA, HI</b>		
			<b>WAIMEA-KOHALA(MUE)(PHMU)</b>		
			TAKEOFF MINIMUMS		L
			IAPS	RNAV (GPS) RWY 04	.94
				RNAV (GPS) RWY 22	.95
				VOR/DME RWY 04	.96
				VOR/DME-A	.97

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NAME	PROC	SECT PG	NAME	PROC	SECT PG
<b>KAPOLEI, HI</b>					
<b>KALAELOA (JOHN RODGERS FLD)(JRF)(PHJR)</b>					
TAKEOFF MINIMUMS		L	<b>MAJURO ATOLL, MH</b>		
ALTERNATE MINIMUMS		M	<b>AMATA KABUA INTL(MAJ)(PKMJ)</b>		
IAPS	RNAV (GPS) RWY 04R	98	TAKEOFF MINIMUMS		L
	VOR/DME RWY 04R	99	IAPS	RNAV (GPS) RWY 07	133
	NDB RWY 04R	100		RNAV (GPS) RWY 25	134
AIRPORT DIAGRAM		101		NDB RWY 07	135
DPS	JELIE ONE (RNAV)	102		NDB RWY 25	136
<b>KAUNAKAKAI, HI</b>					
<b>MOLOKAI(MKK)(PHMK)</b>					
TAKEOFF MINIMUMS		L	<b>MIDWAY ATOLL,QM</b>		
DIVERSE VECTOR AREA		L	<b>HENDERSON FLD(MDY)(PMDY)</b>		
ALTERNATE MINIMUMS		M	ALTERNATE MINIMUMS		M
HOT SPOT		P	IAPS	RNAV (GPS) RWY 06	137
IAPS	RNAV (GPS)-B	104		RNAV (GPS) RWY 24	138
	VOR OR TACAN-A	105		NDB RWY 06	139
AIRPORT DIAGRAM		106		NDB RWY 24	140
DPS	KAUNAKAKAI ONE (OBSTACLE)	107	<b>MOLOKAI</b>		
	BLUSH TWO	109	<b>---SEE KAUNAKAKAI, HI</b>		
	HAPAI THREE	110	<b>PAGO PAGO, AS</b>		
	KALAE ONE (RNAV)	111	<b>PAGO PAGO INTL(PPG)(NSTU)</b>		
	MAULA ONE (RNAV)	112	TAKEOFF MINIMUMS		L
<b>KOSRAE</b>					
<b>---SEE KOSRAE,FM</b>					
<b>KOSRAE,FM</b>					
<b>KOSRAE(TTK)(PTSA)</b>					
TAKEOFF MINIMUMS		L	ALTERNATE MINIMUMS		M
ALTERNATE MINIMUMS		M	IAPS	ILS OR LOC RWY 05	141
IAPS	RNAV (GPS) RWY 05	113		RNAV (GPS) RWY 05	142
	RNAV (GPS) RWY 23	114		RNAV (GPS) RWY 23	143
	NDB-A	115		VOR OR TACAN-B	144
<b>LANAI CITY, HI</b>					
<b>LANAI(LNY)(PHNY)</b>					
TAKEOFF MINIMUMS		L	AIRPORT DIAGRAM		145
ALTERNATE MINIMUMS		M	<b>PALAU INTL</b>		
IAPS	ILS OR LOC RWY 03	116	<b>---SEE BABELTHUAP ISLAND,PW</b>		
	RNAV (GPS) RWY 03	117	<b>POHNPEI ISLAND,FM</b>		
	VOR OR TACAN OR GPS-A	118	<b>POHNPEI INTL(PNI)(PTPN)</b>		
	VOR OR TACAN RWY 03	119	TAKEOFF MINIMUMS		L
<b>LIHUE, HI</b>					
<b>LIHUE(LIH)(PHLI)</b>					
TAKEOFF MINIMUMS		L	ALTERNATE MINIMUMS		M
DIVERSE VECTOR AREA		L	IAPS	RNAV (RNP) Y RWY 09	146
ALTERNATE MINIMUMS		M		RNAV (RNP) Z RWY 09	147
IAPS	ILS OR LOC RWY 35	120		RNAV (GPS) RWY 27	148
	RNAV (RNP) Z RWY 21	121		RNAV (GPS) X RWY 09	149
	RNAV (RNP) Z RWY 35	122		NDB-A	150
	RNAV (GPS) RWY 17	123	<b>ROTA ISLAND,CQ</b>		
	RNAV (GPS) Y RWY 21	124	<b>BENJAMIN TAISACAN MANGLONA INTL(GRO)</b>		
	RNAV (GPS) Y RWY 35	125	<b>(PGRO)</b>		
	VOR OR TACAN RWY 21	126	TAKEOFF MINIMUMS		L
	VOR OR TACAN RWY 35	127	ALTERNATE MINIMUMS		M
AIRPORT DIAGRAM		128	IAPS	RNAV (GPS) RWY 09	151
DPS	KAUAI ONE (OBSTACLE)	129		RNAV (GPS) RWY 27	152
	LIHUE SIX	131		NDB RWY 09	153
	RICHE THREE	132		NDB RWY 27	154

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SAIPAN ISLAND,CQ

FRANCISCO C ADA/SAIPAN INTL(GSN)(PGSN)	
TAKEOFF MINIMUMS .....	L
ALTERNATE MINIMUMS .....	M
IAPS .....ILS OR LOC RWY 07 .....	155
RNAV (GPS) RWY 07 .....	156
RNAV (GPS) RWY 25 .....	157
NDB RWY 25 .....	158
NDB Y RWY 07 .....	159
NDB Z RWY 07 .....	160
AIRPORT DIAGRAM .....	161

TINIAN ISLAND,CQ

FRANCISCO MANGLONA BORJA/TINIAN INTL (TNI)(PGWT)	
TAKEOFF MINIMUMS .....	L
ALTERNATE MINIMUMS .....	M
IAPS .....RNAV (GPS) RWY 08 .....	162
RNAV (GPS) RWY 26 .....	163
NDB-A .....	164

WAIMEA-KOHALA  
---SEE KAMUELA, HI

WENO ISLAND,FM

CHUUK INTL(TKK)(PTKK)	
TAKEOFF MINIMUMS .....	L
ALTERNATE MINIMUMS .....	M
IAPS .....RNAV (GPS) RWY 04 .....	165
RNAV (GPS) RWY 22 .....	166
NDB RWY 04 .....	167
NDB RWY 22 .....	168

YAP ISLAND,FM

YAP INTL(T11)(PTYA)	
TAKEOFF MINIMUMS .....	L
ALTERNATE MINIMUMS .....	M
IAPS .....RNAV (GPS) RWY 07 .....	169
RNAV (GPS) RWY 25 .....	170
NDB/DME RWY 07 .....	171
NDB/DME RWY 25 .....	172
NDB RWY 07 .....	173
NDB RWY 25 .....	174

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# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS) INSTRUMENT APPROACH PROCEDURE CHARTS



## IFR TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

### Civil Airports and Selected Military Airports

**ALL USERS:** Airports that have Departure Procedures (DPs) designed specifically to assist pilots in avoiding obstacles during the climb to the minimum enroute altitude, and/or airports that have civil IFR takeoff minimums other than standard, are listed below. Takeoff Minimums and Departure Procedures apply to all runways unless otherwise specified. An entry may also be listed that contains only Takeoff Obstacle Notes. Altitudes, unless otherwise indicated, are minimum altitudes in MSL.

DPs specifically designed for obstacle avoidance are referred to as Obstacle Departure Procedures (ODPs) and are textually described below, or published separately as a graphic procedure. If the ODP is published as a graphic procedure, its name will be listed below, and it can be found in either this volume (civil), or the applicable military volume, as appropriate. Users will recognize graphic obstacle DPs by the term "(OBSTACLE)" included in the procedure title; e.g., TETON TWO (OBSTACLE). If not specifically assigned an ODP, SID, or RADAR vector as part of an IFR clearance, an ODP may be required to be flown for obstacle clearance, even though not specifically stated in the IFR clearance. When doing so in this manner, ATC should be informed when the ODP being used contains a specified route to be flown, restrictions before turning, and/or altitude restrictions.

Some ODPs, which are established solely for obstacle avoidance, require a climb in visual conditions to cross the airport, a fix, or a NAVD in a specified direction, at or above a specified altitude. These procedures are called Visual Climb Over Airport (VCOA). To ensure safe and efficient operations, the pilot must verbally request approval from ATC to fly the VCOA when requesting their IFR clearance.

At some locations where an ODP has been established, a diverse vector area (DVA) may be created to allow RADAR vectors to be used in lieu of an ODP. DVA information will state that headings will be as assigned by ATC and climb gradients, when applicable, will be published immediately following the specified departure procedure.

Graphic DPs designed by ATC to standardize traffic flows, ensure aircraft separation and enhance capacity are referred to as "Standard Instrument Departures (SIDs)". SIDs also provide obstacle clearance and are published under the appropriate airport section. ATC clearance must be received prior to flying a SID.

**CIVIL USERS NOTE:** Title 14 Code of Federal Regulations Part 91 prescribes standard takeoff rules and establishes takeoff minimums for certain operators as follows: (1) For aircraft, other than helicopters, having two engines or less – one statute mile visibility. (2) For aircraft having more than two engines – one-half statute mile visibility. (3) For helicopters – one-half statute mile visibility. These standard minima apply in the absence of any different minima listed below.

**MILITARY USERS NOTE:** Civil (nonstandard) takeoff minima are published below. For military takeoff minima, refer to appropriate service directives.

### BABELTHUAP ISLAND, PW

#### PALAU INTL (ROR) (PTRO)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

##### AMDT 2 31DEC09 (23222) (FAA)

##### TAKEOFF MINIMUMS:

**Rwy 27,** 300-1% or std w/min climb of 320' per NM to 500.

##### DEPARTURE PROCEDURE:

**Rwy 27,** climb on heading 271° to 600 before turning right.

##### TAKEOFF OBSTACLE NOTES:

**Rwy 9,** trees beginning 19' from DER, 317' right of centerline, up to 26' AGL/188' MSL.

Tree 89' from DER, 271' left of centerline, 178' MSL.

Vegetation, trees beginning 107' from DER, 131' left of centerline, up to 187' MSL.

Tree 390' from DER, 320' right of centerline, 34' AGL/191' MSL.

**Rwy 27,** trees beginning 23' from DER, 296' right of centerline, up to 17' AGL/180' MSL.

Tree 238' from DER, 382' right of centerline, 184' MSL.

Trees beginning 439' from DER, 372' right of centerline, up to 46' AGL/206' MSL.

Tree 824' from DER, 465' left of centerline, 47' AGL/205' MSL.

Tree 1757' from DER, 258' right of centerline, 232' MSL.

Trees beginning 4512' from DER, 486' right of centerline, up to 356' MSL.

Tree 5708' from DER, 652' right of centerline, 43' AGL/371' MSL.

Tree 5736' from DER, 670' right of centerline, 363' MSL.



# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)





# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



23278

## GUAM, GU

### GUAM INTL (GUM) (PGUM)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1A 17JUN21 (21168) (FAA)

##### TAKEOFF MINIMUMS:

**Rwy 6L**, 400-1¼ or std. w/min. climb of 450' per NM to 800.

**Rwy 6R**, 400-1¼ or std. w/min. climb of 520' per NM to 900.

**Rwy 24L**, std. w/min. climb of 280' per NM to 1700.

**Rwy 24R**, std. w/min. climb of 286' per NM to 1700.

##### DEPARTURE PROCEDURE:

**Rwys 6L/R**, climb on heading 063° to 1100 before proceeding on course.

##### TAKEOFF OBSTACLE NOTES:

**Rwy 6L**, terrain abeam DER, 472' right of centerline, 307' MSL.

Vegetation 160' from DER, 366' left of centerline, 312' MSL.

Terrain 186' from DER, 304' right of centerline, 313' MSL.

Terrain 196' from DER, 446' right of centerline, 315' MSL.

Terrain 378' from DER, 333' left of centerline, 317' MSL.

Terrain beginning 426' from DER, 374' right of centerline, up to 326' MSL.

Trees beginning 467' from DER, 387' left of centerline, up to 348' MSL.

Terrain beginning 611' from DER, 430' right of centerline, up to 336' MSL.

Trees beginning 712' from DER, 377' left of centerline, up to 371' MSL.

Terrain beginning 768' from DER, 472' right of centerline, up to 344' MSL.

Fence, terrain beginning 885' from DER, 468' right of centerline, up to 358' MSL.

Trees beginning 1052' from DER, 490' left of centerline, up to 374' MSL.

Pole, fence beginning 1074' from DER, 617' right of centerline, up to 12' AGL/360' MSL.

Tree, pole, fence beginning 1194' from DER, 493' right of centerline, up to 385' MSL.

Trees beginning 1233' from DER, 411' left of centerline, up to 376' MSL.

Tree, pole, fence beginning 1328' from DER, 376' right of centerline, up to 390' MSL.

Trees beginning 1435' from DER, 613' left of centerline, up to 388' MSL.

Tree, fence beginning 1524' from DER, 533' right of centerline, up to 395' MSL.

Tree, fence, pole, building, terrain beginning 1570' from DER, 71' right of centerline, up to 397' MSL.

Tree, terrain beginning 1667' from DER, 79' left of centerline, up to 400' MSL.

Tree, terrain beginning 1879' from DER, 73' left of centerline, up to 401' MSL.

Tree, terrain, building, fence beginning 1986' from DER, 68' right of centerline, up to 413' MSL.

Tree, building, fence, pole beginning 2057' from DER, 340' right of centerline, up to 423' MSL.

Trees beginning 2123' from DER, 329' left of centerline, up to 405' MSL.

Trees beginning 2236' from DER, 334' left of centerline, up to 409' MSL.

Tree, building, fence, pole beginning 2306' from DER, 343' right of centerline, up to 431' MSL.

Trees beginning 2479' from DER, 359' left of centerline, up to 414' MSL.

Trees beginning 2702' from DER, 375' left of centerline, up to 419' MSL.

Tree, building, fence, pole beginning 2786' from DER, 367' right of centerline, up to 433' MSL.

Tree 2898' from DER, 1153' right of centerline, 435' MSL.

Tree, building beginning 2918' from DER, 497' right of centerline, up to 437' MSL.

Trees beginning 2920' from DER, 370' left of centerline, up to 427' MSL.

Pole, tree, building, fence, vehicle on road, tank, vegetation, rig beginning 2933' from DER, 2' right of centerline, up to 67' AGL/469' MSL.

Tree, vegetation, pole beginning 3137' from DER, 15' left of centerline, up to 434' MSL.

Pole, tree beginning 3771' from DER, 22' left of centerline, up to 86' AGL/436' MSL.

Tree, fence, pole, building beginning 4888' from DER, 1023' right of centerline, up to 471' MSL.

Tree, pole beginning 5042' from DER, 255' right of centerline, up to 481' MSL.

Pole, tree beginning 5206' from DER, 266' right of centerline, up to 34' AGL/516' MSL.

Tree, building beginning 5494' from DER, 378' right of centerline, up to 522' MSL.

Tree, pole beginning 5732' from DER, 1535' right of centerline, up to 555' MSL.

Tree, building beginning 5924' from DER, 1631' right of centerline, up to 559' MSL.

Trees beginning 1 NM from DER, 1820' right of centerline, up to 567' MSL.

Trees beginning 1.1 NM from DER, 697' right of centerline, up to 616' MSL.

Tree 1.4 NM from DER, 1777' right of centerline, 534' MSL.

**Rwy 6R**, lighting 10' from DER, 160' left of centerline, 1' AGL/303' MSL.

Sign 60' from DER, 280' left of centerline, 3' AGL/304' MSL.

Trees beginning 140' from DER, 460' right of centerline, up to 378' MSL.

Trees beginning 725' from DER, 465' right of centerline, up to 384' MSL.

Tree, pole beginning 952' from DER, 276' right of centerline, up to 390' MSL.

Trees beginning 1080' from DER, 449' right of centerline, up to 407' MSL.

Trees beginning 1279' from DER, 471' right of centerline, up to 410' MSL.

Trees beginning 1472' from DER, 539' right of centerline, up to 411' MSL.

Tree 1637' from DER, 723' right of centerline, 421' MSL.

Tree, fence, pole, building, terrain beginning 1653' from DER, on centerline, up to 423' MSL.

Fence beginning 1885' from DER, 27' left of centerline, up to 9' AGL/358' MSL.

Pole, fence beginning 2074' from DER, 21' left of centerline, up to 12' AGL/360' MSL.

Tree, pole, fence beginning 2194' from DER, 12' left of centerline, up to 385' MSL.

Tree, pole, fence beginning 2328' from DER, 2' left of centerline, up to 390' MSL.

Tree 2524' from DER, 166' left of centerline, 395' MSL.

Tree, fence beginning 2570' from DER, 10' left of centerline, up to 397' MSL.

Building, fence, tree, pole beginning 3076' from DER, 45' right of centerline, up to 20' AGL/426' MSL.

CONT



# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



23278





# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



23278

## GUAM, GU (CON'T)

### GUAM INTL (GUM) (PGUM) (CON'T)

**Rwy 6R (CON'T)**, tree 3200' from DER, 1029' left of centerline, 398' MSL.  
 Building, fence, tree, pole beginning 3208' from DER, 57' right of centerline, up to 29' AGL/435' MSL.  
 Tree, fence beginning 3214' from DER, 1' left of centerline, up to 405' MSL.  
 Tree, building beginning 3297' from DER, 135' right of centerline, up to 437' MSL.  
 Tree 3343' from DER, 1034' left of centerline, 409' MSL.  
 Pole, building, fence, tree beginning 3360' from DER, 4' right of centerline, up to 76' AGL/482' MSL.  
 Trees beginning 3431' from DER, 220' left of centerline, up to 415' MSL.  
 Trees beginning 3525' from DER, 60' left of centerline, up to 417' MSL.  
 Pole, building, tree, fence, vehicle on road, tank beginning 3571' from DER, 19' right of centerline, up to 81' AGL/486' MSL.  
 Tree 3609' from DER, 339' left of centerline, 421' MSL.  
 Trees beginning 3616' from DER, 57' left of centerline, up to 425' MSL.  
 Trees beginning 3920' from DER, 69' left of centerline, up to 427' MSL.  
 Trees beginning 4039' from DER, 37' left of centerline, up to 432' MSL.  
 Trees beginning 4137' from DER, 65' left of centerline, up to 434' MSL.  
 Tree, tank, building, pole, vehicle on road beginning 4403' from DER, 55' right of centerline, up to 487' MSL.  
 Tree, pole beginning 4427' from DER, 42' left of centerline, up to 446' MSL.  
 Tree, building beginning 4606' from DER, 292' right of centerline, up to 501' MSL.  
 Tree, building, pole beginning 4676' from DER, 152' right of centerline, up to 514' MSL.  
 Tree, pole, building beginning 4868' from DER, 63' right of centerline, up to 534' MSL.  
 Tree, building, pole beginning 5057' from DER, 647' right of centerline, up to 548' MSL.  
 Tree, building beginning 5287' from DER, 54' right of centerline, up to 556' MSL.  
 Tree, pole, building beginning 5502' from DER, 581' right of centerline, up to 569' MSL.  
 Tree, pole beginning 5680' from DER, 643' right of centerline, up to 611' MSL.  
 Trees beginning 5814' from DER, 698' right of centerline, up to 636' MSL.  
 Trees beginning 5965' from DER, 616' right of centerline, up to 660' MSL.  
 Building, pole, tree beginning 1 NM from DER, 488' right of centerline, up to 89' AGL/700' MSL.  
 Tree 1.4 NM from DER, 2200' right of centerline, 521' MSL.  
**Rwy 24L**, lighting 10' from DER, 84' right of centerline, 2' AGL/233' MSL.  
 Lighting 11' from DER, 4' left of centerline, 1' AGL/232' MSL.  
 Sign 58' from DER, 416' right of centerline, 3' AGL/239' MSL.  
 Tree 1415' from DER, 365' left of centerline, 269' MSL.  
 Tree 1510' from DER, 405' left of centerline, 270' MSL.  
 Tree 1578' from DER, 334' left of centerline, 273' MSL.  
**Rwy 24R**, lighting 8' from DER, 2' right of centerline, 2' AGL/235' MSL.

## HANA, HI

### HANA (HNM) (PHHN)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 01SEP05 (05244) (FAA)

DEPARTURE PROCEDURE:

Use LINDBERG DEPARTURE.

## HILO, HI

### HILO INTL (ITO) (PHTO)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 6 22DEC05 (05356) (FAA)

DEPARTURE PROCEDURE:

Use PARIS DEPARTURE.

#### DIVERSE VECTOR AREA (RADAR VECTORS)

AMDT 1 26MAY16 (16147) (FAA)

**Rwys 3, 8**, heading as assigned by ATC.

**Rwy 21**, heading as assigned by ATC; requires minimum climb of 300' per NM to 1300.

**Rwy 26**, heading as assigned by ATC; requires minimum climb of 420' per NM to 2800.

## HONOLULU, HI

### DANIEL K INOUEY INTL (HNL) (PHNL)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 8B 08NOV18 (18312) (FAA)

DEPARTURE PROCEDURE:

Use HONOLULU DEPARTURE.

TAKEOFF OBSTACLE NOTES:

**Rwy 4L**, multiple lights beginning 630' from DER, 236' left of centerline, 102' right of centerline, up to 84' AGL/ 92' MSL.

Light on building 669' from DER, 394' left of centerline, 29' AGL/37' MSL.

Stack on building 2488' from DER, 219' right of centerline 72' AGL/80' MSL.

Multiple trees beginning 1253' from DER, 209' left of centerline, 935' right of centerline, up to 64' AGL/72' MSL.

Bush 450' from DER, 234' left of centerline, 14' AGL/ 22' MSL.

**Rwy 4R**, stack on building, 2442' from DER, 283' left of centerline, 72' AGL/80' MSL.

Multiple trees beginning 1206' from DER, 711' left of centerline, 433' right of centerline, up to 64' AGL/72' MSL.

Multiple lights beginning 1072' from DER, 399' left of centerline, 504' right of centerline, up to 36' AGL/44' MSL.

CON'T



# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



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# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



## HONOLULU, HI (CON'T)

### DANIEL K INOUE INTL (HNL) (PHNL) (CON'T)

- Rwy 4R (CON'T)**, pole 2110' from DER, 951' left of centerline, 59' AGL/67' MSL.
- Rwy 22L**, multiple bushes beginning 265' from DER, 396' right of centerline, up to 17' AGL/31' MSL.
- Tree 1065' from DER, 499' right of centerline, 30' AGL/38' MSL.
- Rwy 22R**, rod on OL ASR 1451' from DER, 827' right of centerline, 76' AGL/84' MSL.
- Tree 853' from DER, 308' right of centerline, 43' AGL/51' MSL.
- Rwy 26L**, ship 1.1 NM from DER, on centerline, 208' AGL/208' MSL.
- Rwy 26R**, multiple light poles beginning 2120' from DER, 813' right of centerline, up to 105' AGL/111' MSL.

### DIVERSE VECTOR AREA (RADAR VECTORS)

#### AMDT 2 25FEB21 (21056) (FAA)

- Rwys 4L/R**, heading as assigned by ATC; requires min. climb of 490' per NM to 2100, do not exceed 180K until established on assigned heading.
- Rwy 8L**, heading as assigned by ATC; requires min. climb of 360' per NM to 1700.
- Rwy 8R**, heading as assigned by ATC; requires min. climb of 305' per NM to 500.
- Rwys 22L/R**, heading as assigned by ATC; requires min. climb of 320' per NM to 3700.
- Rwy 26L**, heading as assigned by ATC; requires min. climb of 360' per NM to 3700.
- Rwy 26R**, heading as assigned by ATC; requires min. climb of 430' per NM to 4400.

## KAHULUI, HI

### KAHULUI (OGG) (PHOG)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

##### AMDT 7 29MAY14 (14149) (FAA)

###### TAKEOFF MINIMUMS:

###### **Rwy 23**, NA-ATC.

###### DEPARTURE PROCEDURE:

- Rwy 2**, climb on a heading 316° CW 052° from DER to 10600 before proceeding on course.
  - Rwy 5**, climb on a heading 312° CW 040° from DER to 10700 before proceeding on course.
  - Rwy 20**, climb on heading 185° from DER to 11000 before proceeding on course.
- ###### TAKEOFF OBSTACLE NOTES:
- Rwy 2**, bush and trees beginning 190' from DER, 363' left of centerline, up to 60' AGL/79' MSL.
  - Bushes and obstruction light on building beginning 339' from DER, 289' right of centerline, up to 20' AGL/25' MSL.
  - Rwy 5**, tree 2359' from DER, 512' left of centerline, 56' AGL/75' MSL.
  - Fence 20' from DER, 304' right of centerline, 11' AGL/31' MSL.
  - Bushes, trees and fence beginning 228' from DER, 300' right of centerline, up to 76' AGL/95' MSL.

### DIVERSE VECTOR AREA (RADAR VECTORS)

#### AMDT 2 05OCT23 (23278) (FAA)

- Rwys 2, 5**, heading as assigned by ATC.
- Rwy 20**, heading as assigned by ATC; requires min climb of 490'/NM to 5000.

## KAILUA-KONA, HI

### ELLISON ONIZUKA KONA INTL AT KEAHOE (KOA) (PHKO)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

##### AMDT 5A 29MAR18 (18088) (FAA)

###### DEPARTURE PROCEDURE:

- Rwy 17**, climb on heading 174° to 500 then climbing right turn heading 357° and KOA R-327 to MYNAH INT for assigned route.
  - Rwy 35**, eastbound climb on heading 354° to intercept MUE R-246 for assigned route; northwest bound climb heading 354° to 500 then climbing left turn to assigned route.
- ###### TAKEOFF OBSTACLE NOTES:
- Rwy 17**, obstruction light on AMOM at DER, 350' right of centerline, 25' AGL/62' MSL.
  - Rwy 35**, tree 1606' from DER, 7211' right of centerline, 15' AGL/94' MSL.

### DIVERSE VECTOR AREA (RADAR VECTORS)

#### AMDT 1 15OCT15 (15288) (FAA)

- Rwys 17, 35**, heading as assigned by ATC.

## KALAUPAPA, HI

### KALAUPAPA (LUP) (PHLU)

#### TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

##### ORIG 10MAR11 (11069) (FAA)

###### DEPARTURE PROCEDURE:

- Use KALAUPAPA ONE DEPARTURE.



# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)





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# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



## KAMUELA, HI

WAIIMEA-KOHALA (MUE) (PHMU)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 17MAR05 (05076) (FAA)

TAKEOFF MINIMUMS:

**Rwy 4**, 400-2 or std. with a min. climb of 240' per NM to 3100.

DEPARTURE PROCEDURE:

**Rwy 4**, climb via heading 041° to 3100 then climbing right turn via heading 080° and MUE VOR/DME R-057 to 6000 to VELLA INT, then as assigned.

**Rwy 22**, climb via heading 233° and MUE VOR/DME R-234 to 5000 to JASON INT, then as assigned.

TAKEOFF OBSTACLE NOTES:

**Rwy 4**, windsock 158' from DER, 299' right of centerline, 25' AGL/2702' MSL.

Fence 2754' from DER, 323' right of centerline, 12' AGL/2741' MSL.

Tree 5200' from DER, 179' right of centerline, 50' AGL/2817' MSL.

Tree 5331' from DER, 110' left of centerline, 50' AGL/2829' MSL.

Tree 1.3 NM from DER, 739' right of centerline, 50' AGL/2864' MSL.

Tree 1.3 NM from DER, 1741' left of centerline, 50' AGL/2889' MSL.

Antenna 1.8 NM from DER, 1094' left of centerline 152' AGL/2992' MSL.

Rising terrain beginning 1.5 NM from DER, 3.9 NM left of centerline, up to 13796' MSL.

**Rwy 22**, cactus at DER, 191' left of centerline, 10' AGL/2668' MSL.

Tree at DER, 353' right of centerline, 50' AGL/2687' MSL.

Bush 673' from DER, 186' left of centerline, 30' AGL/2673' MSL.

Pole 1058' from DER, 124' left of centerline, 20' AGL/2683' MSL.

Rapidly rising terrain beginning 1.5 NM from DER, 4209' left of centerline, up to 5513' MSL.

## KAPOLEI, OAHU ISLAND, HI

KALAELOA (JOHN RODGERS FLD) (JRF) (PHJR)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 22OCT09 (21112) (FAA)

DEPARTURE PROCEDURE:

DME required.

**Rwys 4L, 4R, 11**, climb heading 200° to intercept HNL VORTAC R-241 to GECKO/HNL 22.4 DME before proceeding on course.

**Rwys 22L, 22R**, climb heading 224° to intercept HNL VORTAC R-241 to GECKO/HNL 22.4 DME before proceeding on course.

**Rwy 29**, climb heading 210° to intercept HNL VORTAC R-241 to GECKO/HNL 22.4 DME before proceeding on course.

TAKEOFF OBSTACLE NOTES:

**Rwy 11**, tree 1533' from DER, 831' left of centerline, 60' AGL/770' MSL.

**Rwy 22L**, vehicles on road 305' from DER, 195' left of centerline, 15' AGL/26' MSL.

**Rwy 29**, tree 1794' from DER, 573' left of centerline, 60' AGL/99' MSL.

## KAUNAKAKAI, HI

MOLOKAI (MKK) (PHMK)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 6 19MAY14 (14149) (FAA)

DEPARTURE PROCEDURE:

Use KAUNAKAKAI DEPARTURE.

DIVERSE VECTOR AREA (RADAR VECTORS)

AMDT 1 15OCT15 (15288) (FAA)

**Rwy 17**, heading as assigned by ATC.

**Rwy 23**, heading as assigned by ATC; requires minimum climb of 460' per NM to 2000.

## KOSRAE, FM

KOSRAE (TTK) (PTSA)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG-A 12MAR09 (09071) (FAA)

CAUTION: Ships with masts to 200' traverse harbor entrance located on west side of runway.

DEPARTURE PROCEDURE:

**Rwy 5**, left turn.

**Rwy 23**, right turn, climb to 2000 or above before turning east.



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# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)





# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



## LANAI CITY, HI

LANAI (LNY) (PHNY)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 5 27AUG09 (09239) (FAA)

TAKEOFF MINIMUMS:

**Rwy 3**, 400-1 or std. w/ min. climb of 370' per NM to 2700 or 2500-3 for climb in visual conditions.

DEPARTURE PROCEDURE:

**Rwy 3**, climb heading 033° to 1720 before turning left. Climb heading 300° or 180° to intercept route or airway, then continue as cleared. Maintain maximum 210 kts until turn is completed or for climb in visual conditions cross LNY VORTAC eastbound at or above 3700.

**Rwy 21**, climb heading 213° to assigned altitude. Eastbound - climb westbound to cross LNY VORTAC eastbound at or above 2700 and climb as cleared. Westbound - climb direct LNY VORTAC then via assigned route.

TAKEOFF OBSTACLE NOTES:

**Rwy 3**, multiple poles, trees, and terrain beginning 2108' from DER, 1011' left of centerline, up to 200' AGL/2202' MSL.

**Rwy 21**, lighted windsock 8' from DER, 191' right of centerline, 30' AGL/1323' MSL.

## LIHUE, HI

LIHUE (LIH) (PHLI)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 9 15JUN23 (23166) (FAA)

DEPARTURE PROCEDURE:

Use KAUAI DEPARTURE.

TAKEOFF OBSTACLE NOTES:

**Rwy 3**, NAVAID 85' from DER, 418' left of centerline, 8' AGL/85' MSL.

Trees beginning 221' from DER, 188' right of centerline, up to 35' AGL/88' MSL.

Trees beginning 240' from DER, 19' right of centerline, up to 43' AGL/95' MSL.

Trees beginning 250' from DER, 7' left of centerline, up to 34' AGL/93' MSL.

Trees beginning 395' from DER, 38' left of centerline, up to 34' AGL/94' MSL.

Trees beginning 415' from DER, 39' left of centerline, up to 39' AGL/95' MSL.

Trees beginning 431' from DER, 38' left of centerline, up to 34' AGL/103' MSL.

Trees beginning 473' from DER, 14' left of centerline, up to 50' AGL/107' MSL.

Tree 541' from DER, 4' right of centerline, 54' AGL/103' MSL.

Trees beginning 548' from DER, 8' right of centerline, up to 56' AGL/104' MSL.

Tree 972' from DER, 676' left of centerline, 68' AGL/115' MSL.

Tree 1563' from DER, 538' left of centerline, 90' AGL/127' MSL.

Tree 1750' from DER, 783' left of centerline, 120' AGL/165' MSL.

**Rwy 17**, light poles 4' from DER, 6' left of centerline, 2' AGL/94' MSL.

Tree 135' from DER, 272' right of centerline, 10' AGL/95' MSL.

Trees beginning 857' from DER, 565' right of centerline, up to 45' AGL/131' MSL.

Tree 1289' from DER, 734' right of centerline, 57' AGL/132' MSL.

**Rwy 21**, light poles 9' from DER, 54' left of centerline, 3' AGL/154' MSL.

Light poles 9' from DER, 55' right of centerline, 3' AGL/155' MSL.

Terrain 33' from DER, 457' right of centerline, 156' MSL.

Pole 192' from DER, 546' left of centerline, 44' AGL/183' MSL.

Pole 366' from DER, 550' left of centerline, 46' AGL/184' MSL.

Tree, pole beginning 497' from DER, 563' left of centerline, up to 70' AGL/206' MSL.

Trees beginning 1148' from DER, 231' right of centerline, up to 42' AGL/203' MSL.

Tree 1457' from DER, 185' right of centerline, 67' AGL/212' MSL.

Trees beginning 1466' from DER, 53' right of centerline, up to 77' AGL/230' MSL.

Trees beginning 1510' from DER, 62' right of centerline, up to 87' AGL/241' MSL.

Tree 1536' from DER, 3' left of centerline, 70' AGL/208' MSL.

Tree, pole beginning 1660' from DER, 9' right of centerline, up to 96' AGL/248' MSL.

Trees beginning 1903' from DER, 267' left of centerline, up to 68' AGL/217' MSL.

Tree 2017' from DER, 280' left of centerline, 70' AGL/218' MSL.

Trees beginning 2029' from DER, 296' left of centerline, up to 73' AGL/221' MSL.

Trees beginning 2212' from DER, 337' left of centerline, up to 82' AGL/227' MSL.

Tree 3102' from DER, 442' left of centerline, 107' AGL/231' MSL.

Trees beginning 2.1 NM from DER, 2126' left of centerline, up to 3' AGL/896' MSL.

Tree 2.2 NM from DER, 2973' left of centerline, 25' AGL/947' MSL.

Trees beginning 2.2 NM from DER, 2747' left of centerline, up to 212' AGL/1329' MSL.

Tree 2.3 NM from DER, 3671' left of centerline, 2' AGL/1474' MSL.

Tree 2.4 NM from DER, 4032' left of centerline, 100' AGL/1488' MSL.

Trees beginning 2.4 NM from DER, 2595' left of centerline, up to 100' AGL/1488' MSL.

Trees beginning 2.5 NM from DER, 3483' left of centerline, up to 23' AGL/1294' MSL.

**Rwy 35**, fence 40' from DER, 308' right of centerline, 13' AGL/94' MSL.

Tree 106' from DER, 435' right of centerline, 19' AGL/100' MSL.

Trees beginning 203' from DER, 379' right of centerline, up to 51' AGL/131' MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)

AMDT 1 15OCT15 (15288) (FAA)

**Rwys 3, 17**, heading as assigned by ATC.

**Rwy 21**, heading as assigned by ATC; requires min. climb of 400' per NM to 4500.

**Rwy 35**, heading as assigned by ATC; requires min. climb of 230' per NM to 700.



# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



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## TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



### MAJURO ATOLL, MH

AMATA KABUA INTL (MAJ) (PKMJ)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 08APR10 (21224) (FAA)

TAKEOFF OBSTACLE NOTES:

**Rwy 7**, antenna on building 215' from DER, 446' left of centerline, 48' AGL/54' MSL.  
Obstruction light on AMOM 44' from DER, 269' left of centerline, 33' AGL/39' MSL.  
Obstruction light on WSK 10' from DER, 245' right of centerline, 23' AGL/29' MSL.  
Tree 934' from DER, 243' left of centerline, 39' AGL/45' MSL.  
Bush 555' from DER, 187' right of centerline, 17' AGL/23' MSL.  
**Rwy 25**, obstruction light on WSK 11' from DER, 246' left of centerline, 23' AGL/29' MSL.  
Post 51' from DER, 252' right of centerline, 8' AGL/14' MSL.  
Tree 986' from DER, 39' left of centerline, 31' AGL/37' MSL.  
Tree 563' from DER, 5' right of centerline, 20' AGL/26' MSL.  
Bushes beginning 207' from DER, from 124' left to 207' right of centerline, up to 14' AGL/20' MSL.  
Vehicle on roadway 130' from DER, 241' right of centerline, 15' AGL/20' MSL.

### PAGO PAGO, AS

PAGO PAGO INTL (PPG) (NSTU)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG-A 12MAR09 (09071) (FAA)

TAKEOFF MINIMUMS:

**Rwy 23**, std. w/ min. climb of 320' per NM to 800, or 2700-3 for climb in visual conditions.**Rwy 26**, NA-obstacles.

DEPARTURE PROCEDURE:

**Rwys 5, 8**, climbing right turn southbound between TUT R-090 clockwise to R-180 to 2800, then proceed on course.  
**Rwy 23**, climbing left turn heading 150° southbound between TUT R-090 clockwise to R-180 to 2800, then proceed on course. For climb in visual conditions: cross Pago Pago Intl airport at or above 2600 before proceeding on course.

TAKEOFF OBSTACLE NOTES:

**Rwy 5**, bush 1' from DER, 237' right of centerline, 3' AGL/12' MSL.  
Bush 379' from DER, 362' left of centerline, 14' AGL/23' MSL.  
Ship 998' from DER, 57' right of centerline, 150' AGL/150' MSL.  
**Rwy 8**, bush 689' from DER, 360' left of centerline, 15' AGL/23' MSL.  
Ship 1435' from DER, 304' left of centerline, 150' AGL/150' MSL.  
**Rwy 23**, multiple trees beginning 352' from DER, 173' left of centerline, up to 20' AGL/132' MSL.  
Multiple trees beginning 881' from DER, 296' right of centerline, up to 20' AGL/172' MSL.  
Multiple trees and poles beginning 1.6 NM from DER, 38' right of centerline, up to 367' AGL/554' MSL.  
Tree 2.3 NM from DER, 2126' left of centerline, 20' AGL/387' MSL.

### POHNPEI ISLAND, FM

POHNPEI INTL (PNI) (PTPN)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 3 27APR17 (17117) (FAA)

TAKEOFF MINIMUMS:

**Rwy 27**, 300-1½ or std. w/min. climb of 215' per NM to 300, or alternatively, with standard takeoff minimums and a normal 200'/NM climb gradient, takeoff must occur no later than 1400' prior to DER.

DEPARTURE PROCEDURE:

**Rwy 9**, Climb on a heading between 264° CW 083° from DER to 2600 before proceeding on course.  
**Rwy 27**, Climb on a heading between 264° CW 083° from DER to 2600 before proceeding on course.

TAKEOFF OBSTACLE NOTES:

**Rwy 27**, fence 92' from DER, left to right of centerline, up to 9' AGL/15' MSL.  
Tree 1.2 NM from DER, 1175' left of centerline, 62' AGL/203' MSL.  
CAUTION: **Rwy 27**, ships with maximum height of 150' MSL may traverse Pohnpei channel 400' off DER, closing airport at times.

### ROTA ISLAND, CQ

BENJAMIN TAISACAN MANGLONA INTL (GRO) (PGRO)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 06FEB14 (14037) (FAA)

DEPARTURE PROCEDURE:

**Rwy 9**, climb heading 090° to 1400 before turning.  
**Rwy 27**, climb heading 270° to 2200 before turning southbound.

TAKEOFF OBSTACLE NOTES:

**Rwy 9**, tree 514' from DER, 418' left of centerline, up to 30' AGL/638' MSL.  
**Rwy 27**, tree 1203' from DER, 581' left of centerline, up to 30' AGL/618' MSL.



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## TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



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# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



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## SAIPAN ISLAND, CQ

FRANCISCO C ADA/SAIPAN INTL (GSN) (PGSN)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG-A 12MAR09 (09071) (FAA)

DEPARTURE PROCEDURE:

**Rwys 7, 25**, climb on runway heading to 1600 before climbing on course.

## TINIAN ISLAND, CQ

FRANCISCO MANGLONA BORJA/TINIAN INTL (TNI) (PGWT)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 27AUG09 (23222) (FAA)

TAKEOFF OBSTACLE NOTES:

**Rwy 8**, trees beginning 694' from DER, 507' left of centerline, up to 100' AGL/363' MSL.

Multiple trees beginning 569' from DER, 471' right of centerline, up to 100' AGL/389' MSL.

**Rwy 26**, multiple trees beginning 743' from DER, 508' right of centerline, up to 100' AGL/363' MSL.

## WENO ISLAND, FM

CHUUK INTL (TKK) (PTKK)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 11FEB10 (10042) (FAA)

DEPARTURE PROCEDURE:

**Rwy 4**, climb heading 041° to 1100 before proceeding on course.

**Rwy 22**, climb heading 221° to 1500 before proceeding on course.

TAKEOFF OBSTACLE NOTES:

**Rwy 4**, bush 205' from DER, 203' right of centerline, 7' AGL/17' MSL.

**Rwy 22**, bush 5' from DER, 241' right of centerline, 14' AGL/24' MSL.

Bush 221' from DER, 85' right of centerline, 7' AGL/17' MSL.

CAUTION: Ships with superstructure to 150' traverse channels west of runway 4/22.

## YAP ISLAND, FM

YAP INTL (T11) (PTYA)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 08DEC94 (94342) (FAA)

DEPARTURE PROCEDURE:

**Rwy 7**, climbing right turn to 1500 via 090° bearing from YP NDB/DME, then climb on course.

**Rwy 25**, climb to 500, then climb on course.



# TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)



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INSTRUMENT APPROACH PROCEDURE CHARTS

A

IFR ALTERNATE AIRPORT MINIMUMS

Pilots must review the IFR Alternate Minimums Notes to determine alternate airport suitability.

**A**NA designation on the approach chart means that pilots may not use that approach as an alternate due to unmonitored facility, absence of weather reporting service, or lack of adequate navigation coverage. Approaches with the **A**NA designation are not listed in this section. **A** designation on the approach chart indicates that the approach procedure has non-standard minimums (for aircraft other than helicopters) or restrictions (for all users) for its use as an alternate.

Alternate Minima (ref: 14 CFR 91.169)		
	Precision Approach	Non-Precision Approach
Standard	600-2	800-2
<b>A</b> Non-Standard or restrictions	As indicated below	As indicated below
Helicopters	For the selected approach: Ceiling: 200' above published ceiling Visibility: the greater of 1 SM visibility or the published visibility	
US Military (USA/USN/USAF)	See Service Regulations	

**Note:** For alternate airport flight planning purposes, precision approach operations include: ILS, PAR, and GLS, and Non-Precision approach operations include: NDB, VOR, LOC, TACAN, LDA, SDF, ASR, RNAV (GPS) and RNAV (RNP).

NAME

ALTERNATE MINIMUMS

**BABELTHUAP ISLAND, PW**

PALAU INTL (ROR) (PTOR).....NDB Rwy 9<sup>1</sup>  
RNAV (GPS) Rwy 9  
RNAV (GPS) Rwy 27

NA except standard for operators with approved weather reporting service.

<sup>1</sup>Categories A, B, 900-2; Category C, 900-2½; Category D, 900-2¼.

**GUAM, GU**

GUAM

INTL (GUM) (PGUM).....ILS or LOC Rwy 6L<sup>1</sup>  
ILS or LOC Rwy 6R<sup>1</sup>  
RNAV (GPS) Y Rwy 6L<sup>2</sup>  
RNAV (GPS) Y Rwy 6R<sup>2</sup>  
RNAV (GPS) Y Rwy 24L<sup>3</sup>  
RNAV (RNP) Z Rwy 24L<sup>4</sup>  
RNAV (RNP) Z Rwy 24R<sup>5</sup>  
VOR or TACAN Rwy 24R<sup>6</sup>

<sup>1</sup>LOC, Categories A, B, 1200-2; Categories C, D, 1200-3.

<sup>2</sup>Category D, 900-2¾.

<sup>3</sup>Categories A, B, 900-2; Category C, 900-2¼; Category D, 900-3.

<sup>4</sup>Categories A, B, C, D, 900-3.

<sup>5</sup>Categories A, B, C, D, 800-2½.

<sup>6</sup>Categories A, B, 900-2; Category C, 900-2½; Category D, 900-2¼.

NAME

ALTERNATE MINIMUMS

**HANA, HI**

HANA (HNM) (PHHN).....RNAV (GPS) Rwy 26  
Category A, 900-2; Category B, 1100-2.

**HILO, HI**

HILO INTL (ITO) (PHTO).....ILS or LOC Rwy 26<sup>12</sup>  
RNAV (GPS) Rwy 21<sup>3</sup>  
RNAV (GPS) Rwy 26<sup>3</sup>  
VOR-B<sup>3</sup>  
VOR/DME or TACAN Rwy 26<sup>3</sup>  
VOR/DME or TACAN-A<sup>3</sup>

<sup>1</sup>NA when control tower closed.

<sup>2</sup>LOC, Category C, 900-2¼; Category D, 1300-3.

<sup>3</sup>Category C, 900-2¼; Category D, 1300-3.



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NAME ALTERNATE MINIMUMS

**HONOLULU, HI**

DANIEL K INOUEYE

INTL (HNL) (PHNL).....LOC Rwy 4R<sup>1</sup>  
 LOC Rwy 8L<sup>1</sup>  
 RNAV (GPS) Rwy 4L<sup>2</sup>  
 RNAV (GPS) Rwy 8R<sup>3</sup>  
 RNAV (GPS) Y Rwy 4R<sup>4</sup>  
 RNAV (GPS) Y Rwy 8L<sup>5</sup>  
 VOR or TACAN Rwy 4R<sup>6</sup>  
 VOR or TACAN-A<sup>1</sup>  
 VOR or TACAN-B<sup>1</sup>

<sup>1</sup>Category C, 800-2½; Category D, 1400-3.

<sup>2</sup>Category C, 900-2½; Category D, 1400-3; Category E, 2000-3.

<sup>3</sup>Category C, 900-2½; Category D, 1400-3; Category E, 2100-3.

<sup>4</sup>Category D, 1300-3.

<sup>5</sup>Category C, 900-2½; Category D, 1300-3.

<sup>6</sup>Category C, 900-2½; Category D, 1400-3.

**KAHULUI, HI**

KAHULUI (OGG)

(PHOG).....ILS Y or LOC Y Rwy 2<sup>12</sup>  
 ILS Z or LOC Z Rwy 2<sup>12</sup>  
 RNAV (GPS) Rwy 20<sup>3</sup>  
 RNAV (GPS) Rwy 23<sup>4</sup>  
 RNAV (GPS) Y Rwy 2<sup>35</sup>  
 VOR Z or TACAN Rwy 20<sup>3</sup>

<sup>1</sup>NA when control tower closed.

<sup>2</sup>LOC, Category D, 1100-3; Category E, 1700-3.

<sup>3</sup>Category D, 1100-3.

<sup>4</sup>Category D, 1200-3.

<sup>5</sup>NA when local weather not available.

**KAILUA/KONA, HI**

ELLISON ONIZUKA KONA INTL AT

KEAHOLE (KOA) (PHKO).....ILS or LOC Rwy 17<sup>1</sup>  
 LOC BC Rwy 35<sup>2</sup>  
 RNAV (GPS) Rwy 35<sup>2</sup>  
 RNAV (GPS) Y Rwy 17<sup>2</sup>  
 VOR or TACAN Rwy 17<sup>2</sup>  
 VOR or TACAN Rwy 35<sup>2</sup>

<sup>1</sup>NA when control tower closed.

<sup>2</sup>NA when local weather not available.

**KAPOLEI, OAHU ISLAND, HI**

KALAELOA (JOHN RODGERS

FLD) (JRF) (PHJR).....NDB Rwy 4R<sup>1</sup>  
 RNAV (GPS) Rwy 4R<sup>2</sup>

<sup>1</sup>Category C, 800-2½; Category D, 800-2½.

<sup>2</sup>NA when local weather not available.

**KAUNAKAKAI, HI**

MOLOKAI (MKK) (PHMK)

.....RNAV (GPS)-B<sup>12</sup>  
 VOR or TACAN-A<sup>3</sup>

<sup>1</sup>NA when local weather not available.

<sup>2</sup>Category C, 1200-3; Category D, 1500-3.

<sup>3</sup>Categories A, B, 1500-2; Categories C, D, 1500-3.

M2



NAME ALTERNATE MINIMUMS

**KOSRAE, FM**

KOSRAE (TTK) (PTSA).....RNAV (GPS) Rwy 5<sup>1</sup>  
 RNAV (GPS) Rwy 23<sup>2</sup>

<sup>1</sup>NA except standard for operators with approved weather reporting service.

<sup>2</sup>NA except categories A,B, standard, Category C, 800-2½, Category D 800-2½, for operators with approved weather reporting service.

**LANAI CITY, HI**

LANAI (LNY) (PHNY).....RNAV (GPS) Rwy 3<sup>12</sup>  
 VOR or TACAN or GPS-A<sup>3</sup>

<sup>1</sup>NA when local weather not available.

<sup>2</sup>Category C, 900-2½.

<sup>3</sup>NA when local weather not received except for operators with approved weather reporting service.

**LIHUE, HI**

LIHUE (LIH) (PHLI).....ILS or LOC Rwy 35<sup>1</sup>  
 RNAV (GPS) Rwy 17<sup>23</sup>  
 RNAV (GPS) Y Rwy 21<sup>23</sup>  
 RNAV (GPS) Y Rwy 35<sup>4</sup>  
 RNAV (RNP) Z Rwy 21<sup>5</sup>  
 VOR or TACAN Rwy 21<sup>2</sup>

<sup>1</sup>NA when control tower closed.

<sup>2</sup>NA when local weather not available.

<sup>3</sup>Categories C, D, 800-2½.

<sup>4</sup>Category C, 800-2½; Category D, 800-2½.

<sup>5</sup>RNP 0.30, Categories A, B, C, D, 1000-4.

<sup>6</sup>Category B, 900-2; Category C, 1000-2½; Category D, 1000-3.

**MIDWAY ATOLL, QM**

HENDERSON

FLD (MDY) (PMDY).....NDB Rwy 6  
 NDB Rwy 24  
 RNAV (GPS) Rwy 6  
 RNAV (GPS) Rwy 24

NA except standard for operators with approved weather reporting service.

**PAGO PAGO, AS**

PAGO PAGO

INTL (PPG) (NSTU).....ILS or LOC Rwy 5<sup>1</sup>  
 RNAV (GPS) Rwy 5<sup>2</sup>  
 RNAV (GPS) Rwy 23<sup>2</sup>  
 VOR or TACAN-B<sup>2</sup>

<sup>1</sup>ILS, Categories A, B, C, D, 900-2;

LOC, Category C, 800-2½; Category D, 900-2½.

<sup>2</sup>Category C, 800-2½; Category D, 900-2½.

**POHNPEI ISLAND, FM**

POHNPEI INTL (PNI) (PTPN)

.....NDB-A<sup>1</sup>  
 RNAV (GPS) Rwy 27<sup>2</sup>  
 RNAV (GPS) X Rwy 9<sup>1</sup>  
 RNAV (RNP) Y Rwy 9<sup>3</sup>

<sup>1</sup>Categories A, B, 1000-2; Categories C, D, 1000-3.

<sup>2</sup>Category D, 800-2½.

<sup>3</sup>Categories A, B, C, D, 1000-4.



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**A** ALTERNATE MINS

M3



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NAME	ALTERNATE MINIMUMS	NAME	ALTERNATE MINIMUMS
<b>ROTA ISLAND, CQ</b>			
BENJAMIN TAISACAN MANGLONA			
INTL (GRO) (PGRO).....	<b>RNAV (GPS) Rwy 9</b>		
	<b>RNAV (GPS) Rwy 27</b>		
	<b>NDB Rwy 9<sup>1</sup></b>		
	<b>NDB Rwy 27</b>		
NA except standard for operators with approved weather reporting service.			
<sup>1</sup> Categories A, B, 1200-2; Categories C, D, 1200-3.			
<b>SAIPAN ISLAND, CQ</b>			
FRANCISCO C ADA/			
SAIPAN INTL (GSN) (PGSN).....	<b>NDB Y Rwy 7</b>		
Category D, 800-2¼.			
<b>TINIAN ISLAND, CQ</b>			
FRANCISCO MANGLONA BORJA			
TINIAN INTL (TNI) (PGWT).....	<b>RNAV (GPS) Rwy 8</b>		
	<b>RNAV (GPS) Rwy 26</b>		
NA when local weather not available.			
Category D, 800-2½.			
<b>WENO ISLAND, FM</b>			
CHUUK INTL (TKK) (PTKK).....	<b>NDB Rwy 4<sup>1</sup></b>		
	<b>NDB Rwy 22<sup>23</sup></b>		
	<b>RNAV (GPS) Rwy 4<sup>24</sup></b>		
	<b>RNAV (GPS) Rwy 22<sup>25</sup></b>		
<sup>1</sup> NA except for operators with approved weather reporting service. Categories A, B, C, D, 800-2½.			
<sup>2</sup> NA except standard for operators with approved weather reporting service.			
<sup>3</sup> Categories C, D, 800-2½.			
<sup>4</sup> Categories A, B, C, D, 800-3.			
<sup>5</sup> Categories A, B, 900-2; Category C, 900-2½; Category D, 900-2¾.			
<b>YAP ISLAND, FM</b>			
YAP INTL (T11) (PTYA).....	<b>NDB Rwy 7<sup>1</sup></b>		
	<b>NDB Rwy 25<sup>2</sup></b>		
	<b>NDB/DME Rwy 25<sup>2</sup></b>		
<sup>1</sup> Category D, 800-2¼;			
<sup>2</sup> Categories A, B, 1000-2; Categories C, D, 1000-3.			

**A** ALTERNATE MINS



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M3

RADAR MINS

N1

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RADAR INSTRUMENT APPROACH MINIMUMS

THERE ARE NO RADAR PROCEDURES  
FOR PACIFIC

PAC-1

RADAR INSTRUMENT APPROACH MINIMUMS

RADAR MINS

03275

N1

### LAND AND HOLD-SHORT OPERATIONS (LAHSO)

Specific questions regarding these distances should be referred to the air traffic manager of the facility concerned. The Aeronautical Information Manual contains specific details on hold-short operations and markings.

CITY/AIRPORT	LDG RWY	HOLD-SHORT POINT	AVBL LDG DIST
HONOLULU, HI			
DANIEL K INOUE INTL (HNL) (PHNL)	04L	08L-26R	3,700 feet
	04R	08L-26R	6,250 feet
	08L	04L-22R	9,300 feet

PAC, 30 NOV 2023 to 25 JAN 2024

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## HOT SPOTS

An "airport surface hot spot" is a location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

A "hot spot" is a runway safety related problem area on an airport that presents increased risk during surface operations. Typically it is a complex or confusing taxiway/taxiway or taxiway/runway intersection. The area of increased risk has either a history of or potential for runway incursions or surface incidents, due to a variety of causes, such as but not limited to: airport layout, traffic flow, airport marking, signage and lighting, situational awareness, and training. Hot spots are depicted on airport diagrams as open circles or polygons designated as "HS 1", "HS 2", etc. and tabulated in the list below with a brief description of each hot spot. Hot spots will remain charted on airport diagrams until such time the increased risk has been reduced or eliminated.

CITY/AIRPORT	HOT SPOT	DESCRIPTION*
HONOLULU, HI DANIEL K INOUE INTL (HNL) (PHNL)	HS 1	Aircraft Idg Rwy 04R and exiting left onto Twy K, sometimes fail to hold short of Rwy 04L-22R and Rwy 08L-26R. When holding short, ATC is aware the aircraft tail is encroaching the Idg rwy.
	HS 2	Aircraft proceeding north or south on Twy E and instructed to turn onto Twy B sometimes miss the turn onto Twy B and enter Rwy 08L-26R or 04L-22R without clearance.
	HS 3	Pilot confusion may be caused by the convergence of Twy A, Twy V, Twy T, Twy J, and Twy M, in close proximity to Rwy 08L.
	HS 4	Minimal distance between rwy hold short lines between Rwy 04L-22R/Rwy 04R-22L.
KAHULUI, HI KAHULUI (OGG) (PHOG)	HS 1	Rwy 05, Twy A, Twy F, and Twy G.
	HS 2	Rwy 02-20, Twy E and the ramp.
	HS 3	Twy A, Rwy 05-23
KAILUA/KONA, HI ELLISON ONIZUKA KONA INTL AT KEAHOE (KOA) (PHKO)	HS 1	Extensive helicopter operations on Twy A abeam ramp K.
	HS 2	Extensive helicopter operations on Twy A south of Twy C.
KAUNAKAKAI, HI MOLOKAI (MKK)(PHMK)	HS 1	Area not visible from control tower.

\*See appropriate Chart Supplement HOT SPOT table for additional information.

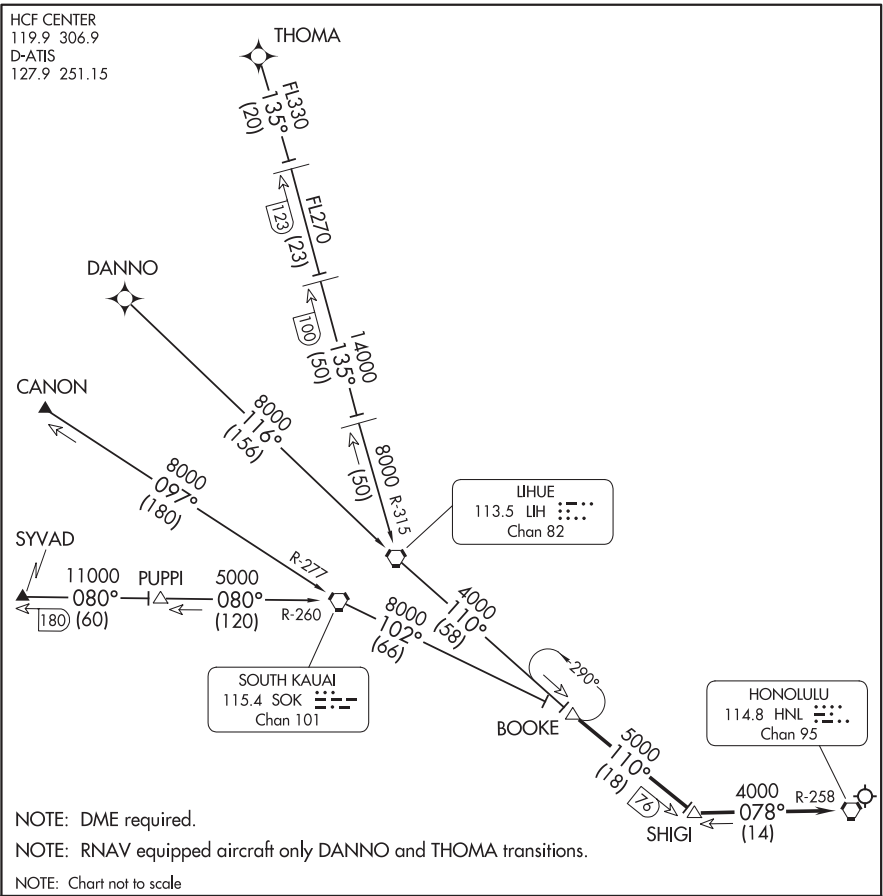
23334

(BOOKE.BOOKE8) 23334

BOOKE EIGHT ARRIVAL

AL-754 (FAA)

DANIEL K INOUEY INTL (HNL) (PHNL)  
HONOLULU, HAWAII



ARRIVAL ROUTE DESCRIPTION

CANON TRANSITION (CANON.BOOKE8): From over CANON INT via SOK R-277 to SOK VORTAC. Then via SOK R-102 to BOOKE DME. Thence. . . .

DANNO TRANSITION (DANNO.BOOKE8): From over DANNO WP via RNAV 116° course to LIH VORTAC. Then via LIH R-110 to BOOKE DME. Thence. . . .

SYVAD TRANSITION (SYVAD.BOOKE8): From over SYVAD INT via SOK R-260 to SOK VORTAC. Then via SOK R-102 to BOOKE DME. Thence. . . .

THOMA TRANSITION (THOMA.BOOKE8): From over THOMA WP via RNAV 135° course to LIH 123 DME, then LIH R-315 to LIH VORTAC. Then via LIH R-110 to BOOKE DME. Thence. . . .

. . . .From over BOOKE DME via LIH R-110 and HNL R-258 to HNL VORTAC. Expect RADAR vectors.

BOOKE EIGHT ARRIVAL

(BOOKE.BOOKE8) 27MAY93

HONOLULU, HAWAII  
DANIEL K INOUEY INTL (HNL) (PHNL)

(CAMPS.CAMPS4) 23278

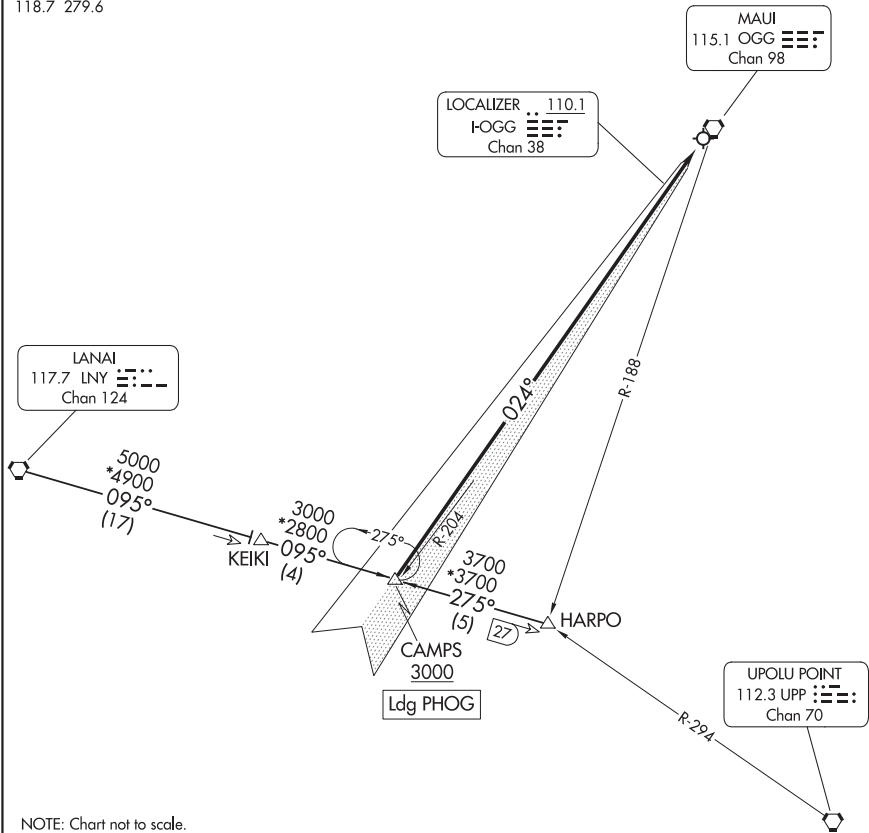
CAMPS FOUR ARRIVAL

AL-762 (FAA)

KAHULUI (OGG)(PHOG)  
KAHULUI, HAWAII

HCF CENTER  
119.5 225.4  
ATIS  
128.6  
MAUI TOWER★  
118.7 279.6

RADAR required to HARPO.  
DME required for LANAI Transition.



ARRIVAL ROUTE DESCRIPTION

HARPO TRANSITION (HARPO.CAMPS4): From over HARPO on LNY R-095 to CAMPS.  
Thence . . .

LANAI TRANSITION (LNY.CAMPS4): From over LNY VORTAC on LNY R-095 to CAMPS.  
Thence . . .

. . . cross CAMPS at or above 3000, then on I-OGG localizer course. Expect  
ILS Y or LOC Y RWY 2 approach.

CAMPS FOUR ARRIVAL

(CAMPS.CAMPS4) 05OCT23

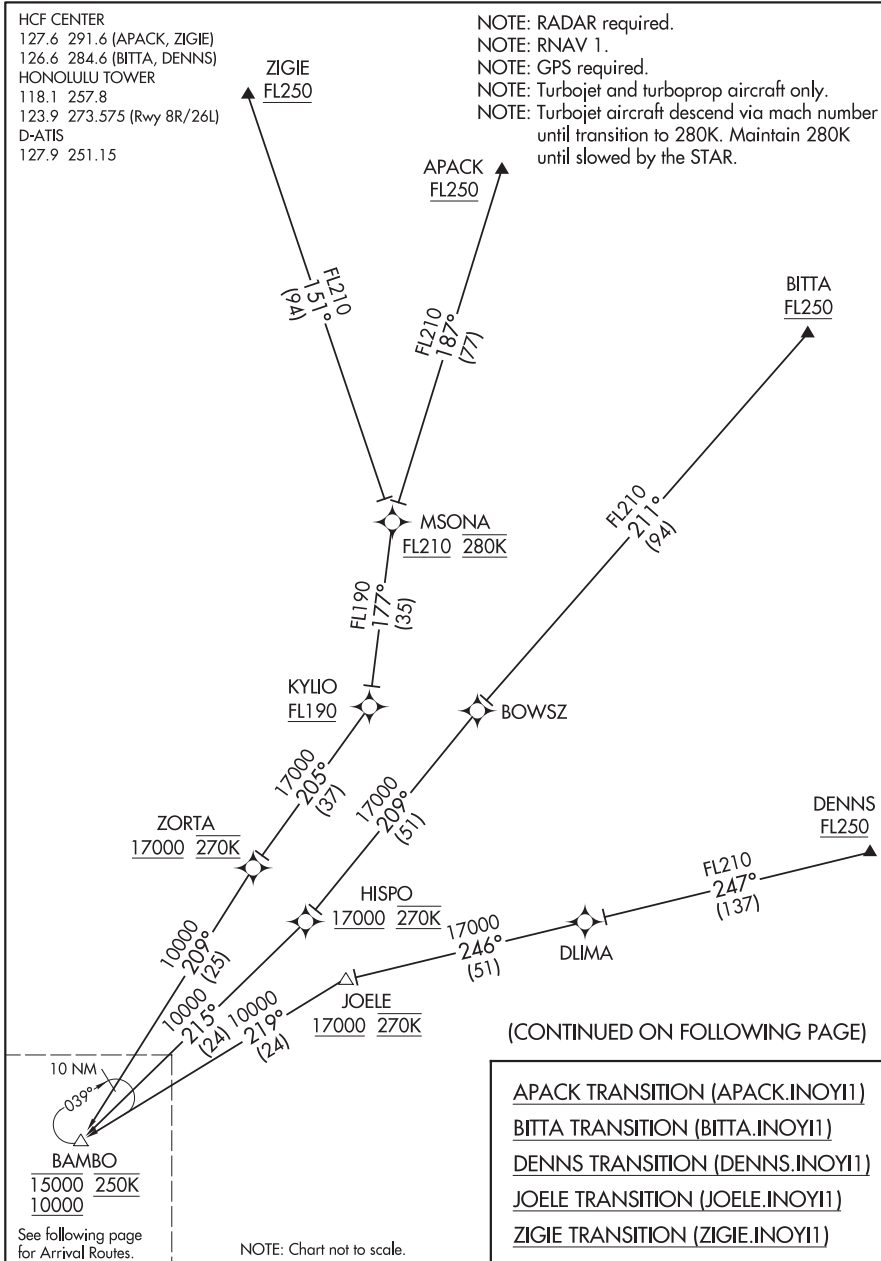
KAHULUI, HAWAII  
KAHULUI (OGG)(PHOG)

(BAMBO.INOY11) 20030

AL-754 (FAA)

DANIEL K INOUEY INTL (HNL) (PHNL)  
HONOLULU, HAWAII

## INOYI ONE ARRIVAL (RNAV) Transition Routes



## INOYI ONE ARRIVAL (RNAV) Transition Routes

HONOLULU, HAWAII

(BAMBO.INOY11) 30JAN20

DANIEL K INOUEY INTL (HNL) (PHNL)

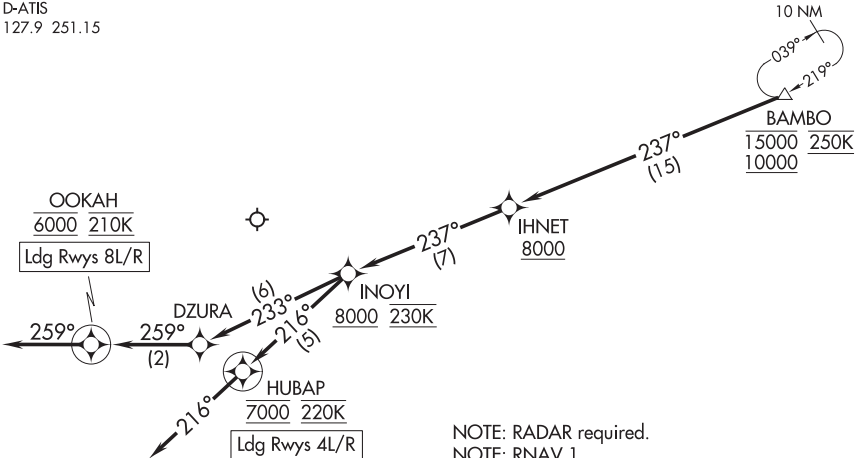
(BAMBO.INOY11) 20030

AL-754 (FAA)

DANIEL K INOUE INTL (HNL) (PHNL)  
HONOLULU, HAWAII

INOYI ONE ARRIVAL (RNAV) Arrival Routes

HCF CENTER  
127.6 291.6 (APACK, ZIGIE)  
126.6 284.6 (BITTA, DENNS)  
HONOLULU TOWER  
118.1 257.8  
123.9 273.575 (Rwy 8R/26L)  
D-ATIS  
127.9 251.15



NOTE: RADAR required.  
NOTE: RNAV 1.  
NOTE: GPS required.  
NOTE: Turbojet and turboprop aircraft only.  
NOTE: Turbojet aircraft descend via mach number until transition to 280K. Maintain 280K until slowed by the STAR.

NOTE: Chart not to scale.

ARRIVAL ROUTE DESCRIPTION

From BAMBO on track 237° to cross IHNET at or above 8000, then on track 237° to cross INOYI at or above 8000 and at 230K.

LANDING RUNWAY 4L: From INOYI on track 216° to cross HUBAP at 7000 and at 220K, then on track 216°. Expect RADAR vectors to final approach course or visual approach.

LANDING RUNWAY 4R: From INOYI on track 216° to cross HUBAP at 7000 and at 220K, then on track 216°. Expect RNAV RNP/ILS/GPS approach or RADAR vectors to final approach course.

LANDING RUNWAY 8L: From INOYI on track 233° to DZURA, then on track 259° to cross OOKAH at 6000 and at 210K, then on heading 259°. Expect RNAV RNP/ILS/GPS approach or RADAR vectors to final approach course.

LANDING RUNWAY 8R: From INOYI on track 233° to DZURA, then on track 259° to cross OOKAH at 6000 and at 210K, then on heading 259°. Expect RADAR vectors to final approach course or visual approach.

INOYI ONE ARRIVAL (RNAV) Arrival Routes  
(BAMBO.INOY11) 30JAN20

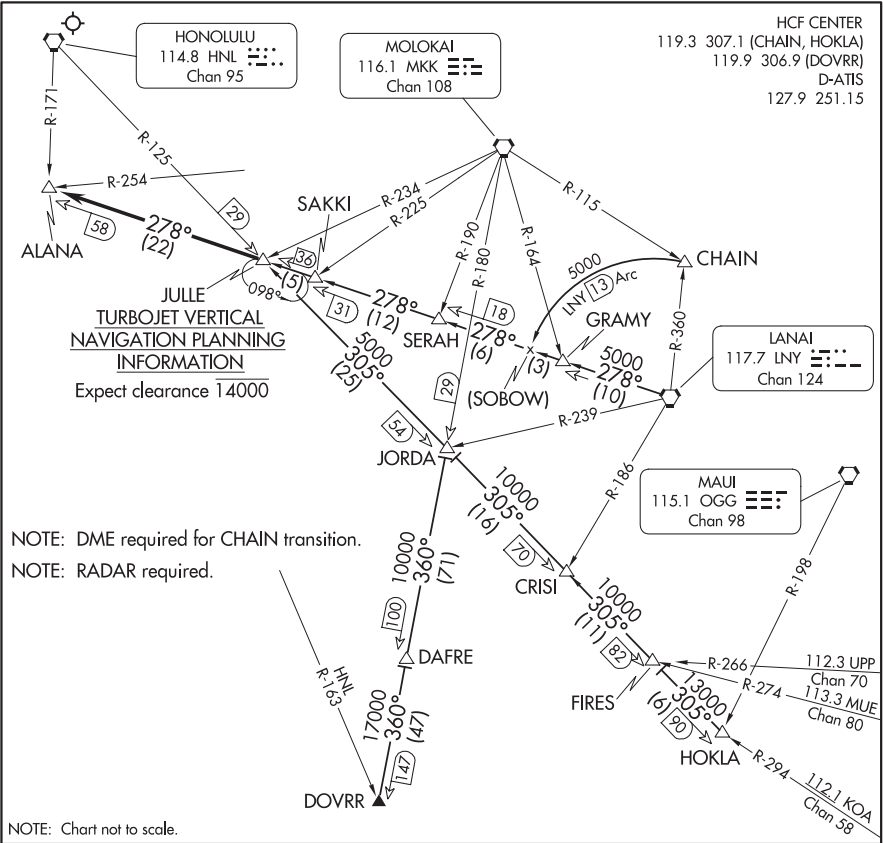
HONOLULU, HAWAII  
DANIEL K INOUE INTL (HNL) (PHNL)



(JULLE.JULLE5) 23334  
JULLE FIVE ARRIVAL

AL-754 (FAA)

DANIEL K INOUEY INTL (HNL) (PHNL)  
HONOLULU, HAWAII



ARRIVAL ROUTE DESCRIPTION

CHAIN TRANSITION (CHAIN.JULLE5): From over CHAIN INT on LNY 13 DME CCW arc to SOBOW then via LNY R-278 to JULLE INT. Thence. . .

DOVRR TRANSITION (DOVRR.JULLE5): From over DOVRR INT via MKK R-180 to JORDA INT then via HNL R-125 to JULLE INT. Thence. . .

HOKLA TRANSITION (HOKLA.JULLE5): From over HOKLA INT via HNL R-125 and KOA R-294 on HNL R-125 to JULLE INT. Thence. . .

LANAI TRANSITION (LNY.JULLE5): From over LNY VORTAC via LNY R-278 to JULLE INT. Thence. . .

. . . .From over JULLE INT on LNY R-278 to ALANA INT. Expect vectors to final approach course.

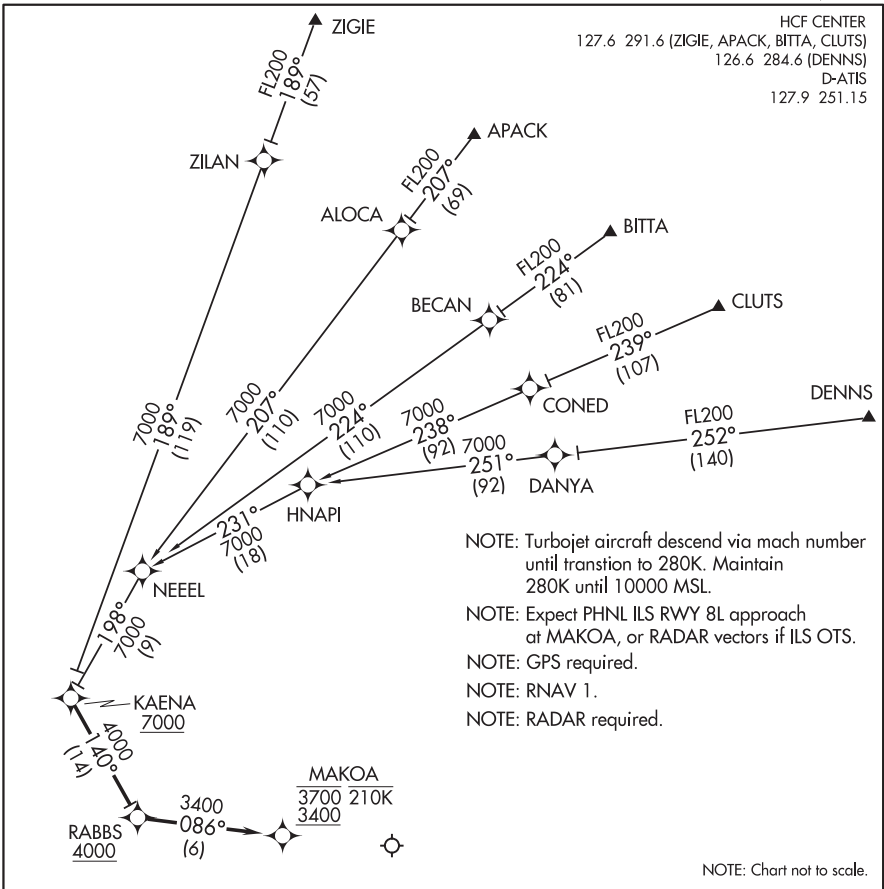
LOST COMMUNICATIONS: At ALANA INT proceed with the VOR or TACAN RWY 4R approach.

JULLE FIVE ARRIVAL  
(JULLE.JULLE5) 25AUG11

HONOLULU, HAWAII  
DANIEL K INOUEY INTL (HNL) (PHNL)

(KAENA.KAENA2) 17117  
KAENA TWO ARRIVAL (RNAV)

AL-754 (FAA) DANIEL K INOUYE INTL (HNL)(PHNL)  
HONOLULU, HAWAII



ARRIVAL ROUTE DESCRIPTION

- APACK TRANSITION (APACK.KAENA2)
- BITTA TRANSITION (BITTA.KAENA2)
- CLUTS TRANSITION (CLUTS.KAENA2)
- DENNS TRANSITION (DENNS.KAENA2)
- ZIGIE TRANSITION (ZIGIE.KAENA2)

From KAENA as depicted to MAKOA. Cross RABBS at/above 4000, cross MAKOA at/below 3700 and at/above 3400 and at/below 210K.  
Expect PHNL ILS RWY 8L approach.

LOST COMMUNICATIONS: Descend via the KAENA ARRIVAL. At MAKOA, cleared PHNL ILS RWY 8L approach.

KAENA TWO ARRIVAL (RNAV)  
(KAENA.KAENA2) 20OCT11

HONOLULU, HAWAII  
DANIEL K INOUYE INTL (HNL)(PHNL)

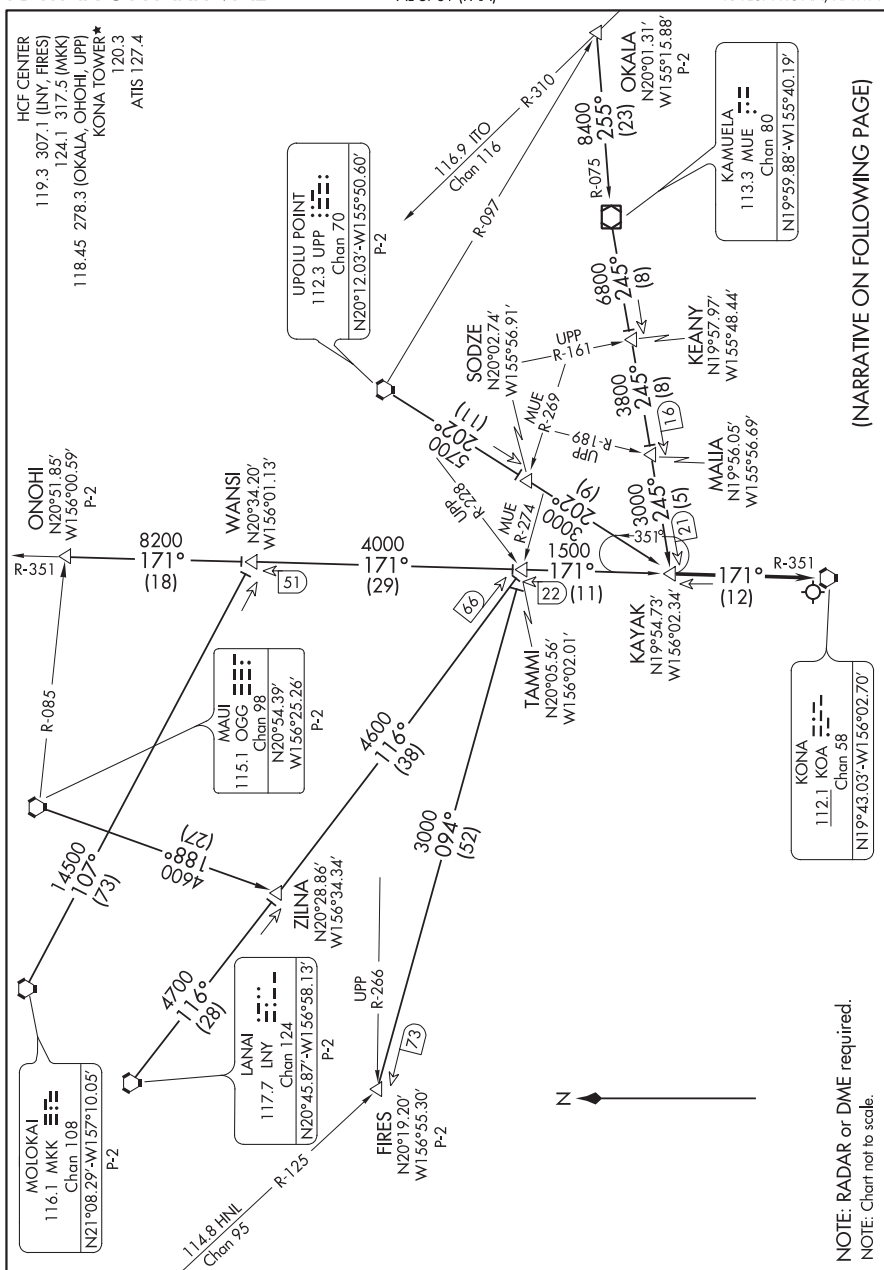
(KAYAK.KAYAK6) 20254

## KAYAK SIX ARRIVAL

ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)

AL-5761 (FAA)

KAILUA-KONA, HAWAII



KAYAK SIX ARRIVAL  
(KAYAK.KAYAK6) 07DEC17

KAILUA-KONA, HAWAII

ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)

(KAYAK.KAYAK6) 17341  
KAYAK SIX ARRIVAL

ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)  
AL-5761 (FAA) KAILUA-KONA, HAWAII

ARRIVAL ROUTE DESCRIPTION

FIRES TRANSITION (FIRES.KAYAK6): From over FIRES on MUE R-274 to TAMMI , then on KOA R-351 to KAYAK . Thence. . . .

LANAI TRANSITION (LNY.KAYAK6): From over LNY VORTAC on LNY R-116 to TAMMI , then on KOA R-351 to KAYAK . Thence. . . .

MAUI TRANSITION (OGG.KAYAK6): From over OGG VORTAC on OGG R-188 to ZILNA, then on LNY R-116 to TAMMI , then on KOA R-351 to KAYAK . Thence. . . .

MOLOKAI TRANSITION (MKK.KAYAK6): From over MKK VORTAC on MKK R-107 and KOA R-351 to TAMMI , then on KOA R-351 to KAYAK . Thence. . . .

OKALA TRANSITION (OKALA.KAYAK6): From over OKALA on MUE VOR/DME R-075 to MUE VOR/DME, then on MUE R-245 to KAYAK . Thence. . . .

ONOHU TRANSITION (ONOHU.KAYAK6): From over ONOHU on KOA R-351 to KAYAK. Thence. . . .

UPOLU POINT TRANSITION (UPP.KAYAK6): From over UPP VORTAC on UPP R-202 to KAYAK . Thence. . . .

. . . .From over KAYAK on KOA R-351 to KOA VORTAC. Expect RADAR vectors.

LOST COMMUNICATIONS: At KAYAK proceed on VOR/DME or TACAN RWY 17 approach.

KAYAK SIX ARRIVAL  
(KAYAK.KAYAK6) 07DEC17

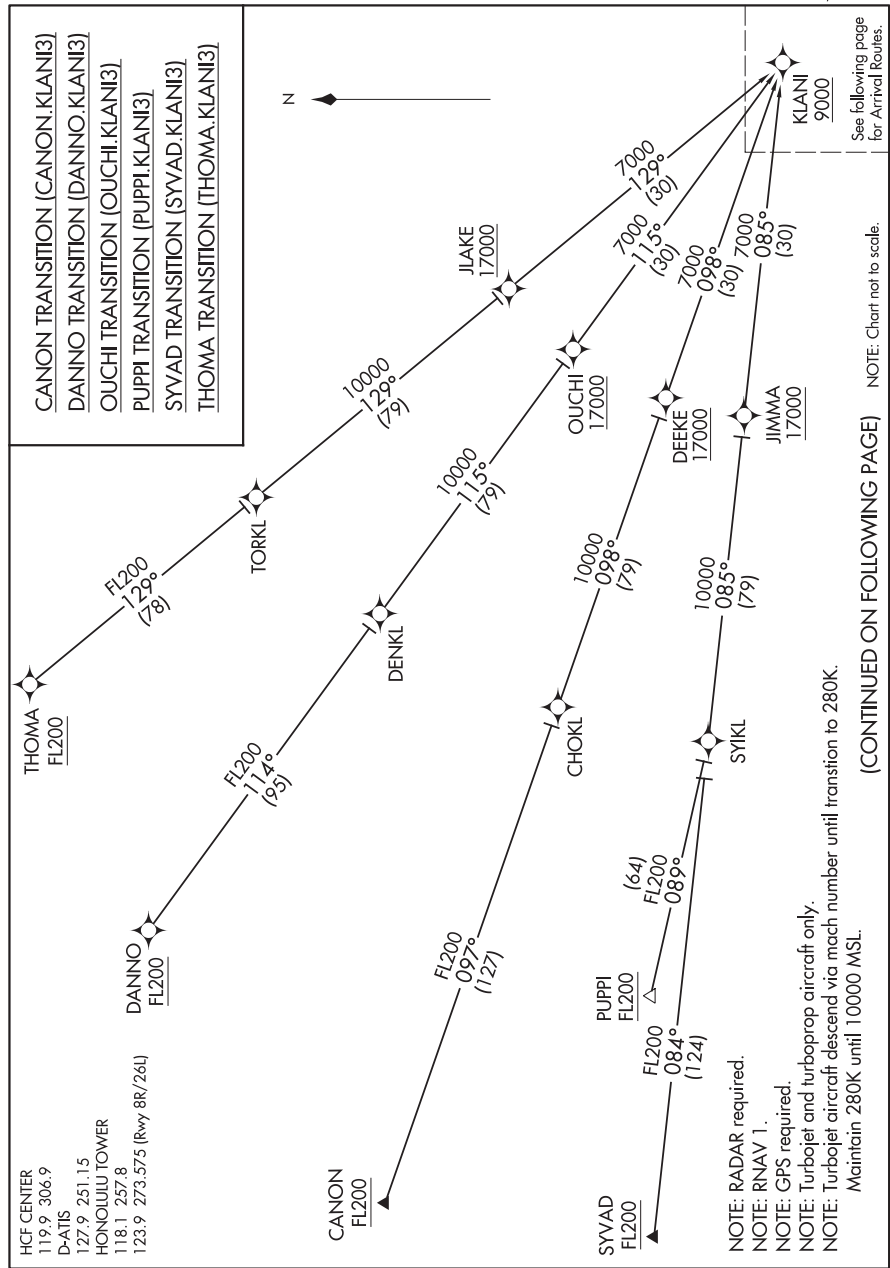
KAILUA-KONA, HAWAII  
ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)

(KLANI.KLANI3) 20030

AL-754 (FAA) DANIEL K INOUE INTL (HNL) (PHNL)

KLANI THREE ARRIVAL (RNAV) Transition Routes

HONOLULU, HAWAII

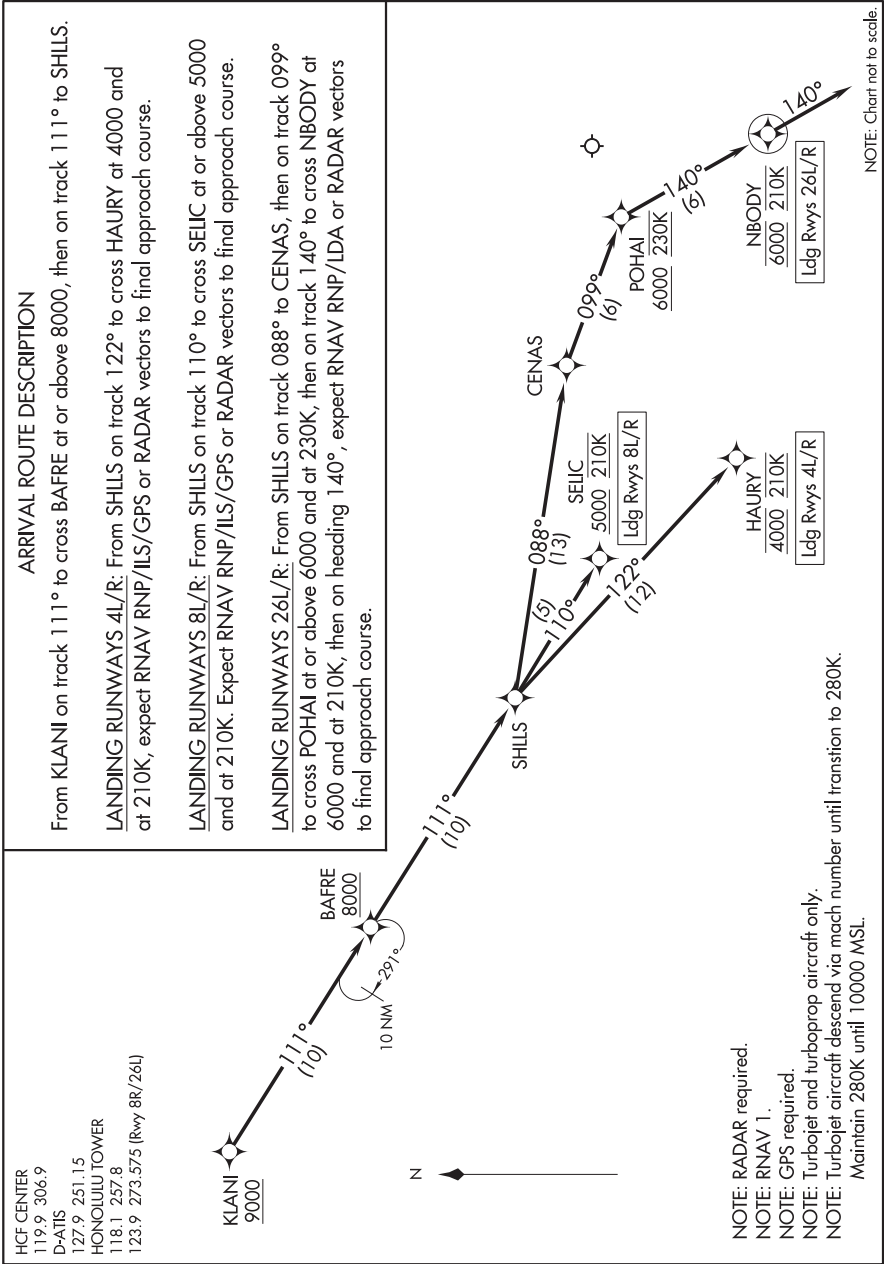


(KLANI.KLANI3) 20030

AL-754 (FAA) DANIEL K INOUEY INTL (HNL) (PHNL)

KLANI THREE ARRIVAL (RNAV) Arrival Routes

HONOLULU, HAWAII



KLANI THREE ARRIVAL (RNAV) Arrival Routes

HONOLULU, HAWAII

(KLANI.KLANI3) 30JAN20

DANIEL K INOUEY INTL (HNL) (PHNL)

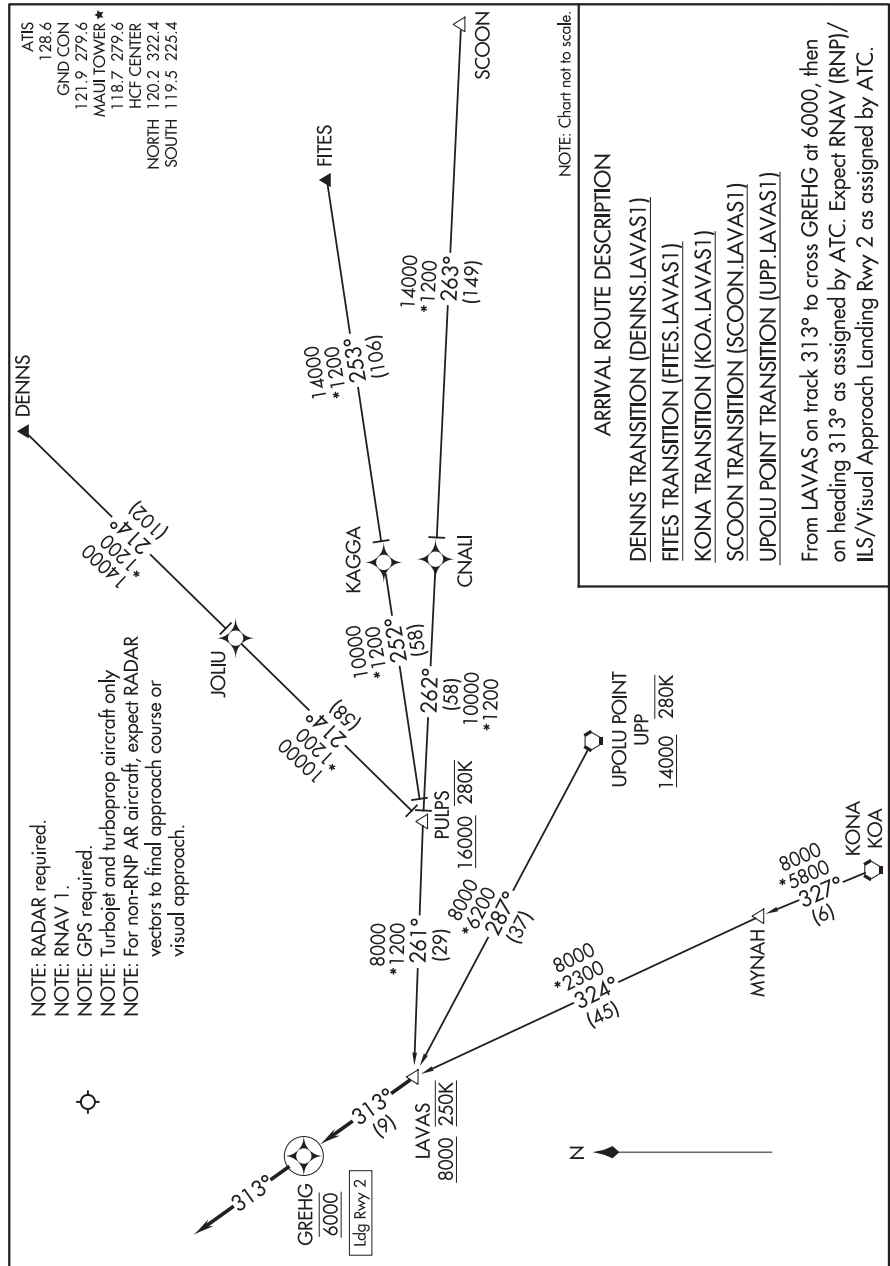
(LAVAS.LAVAS1) 19171

LAVAS ONE ARRIVAL (RNAV)

AL-762 (FAA)

KAHULUI (OGG) (PHOG)

KAHULUI, HAWAII



LAVAS ONE ARRIVAL (RNAV)

(LAVAS.LAVAS1) 20JUN19

KAHULUI, HAWAII

KAHULUI (OGG) (PHOG)

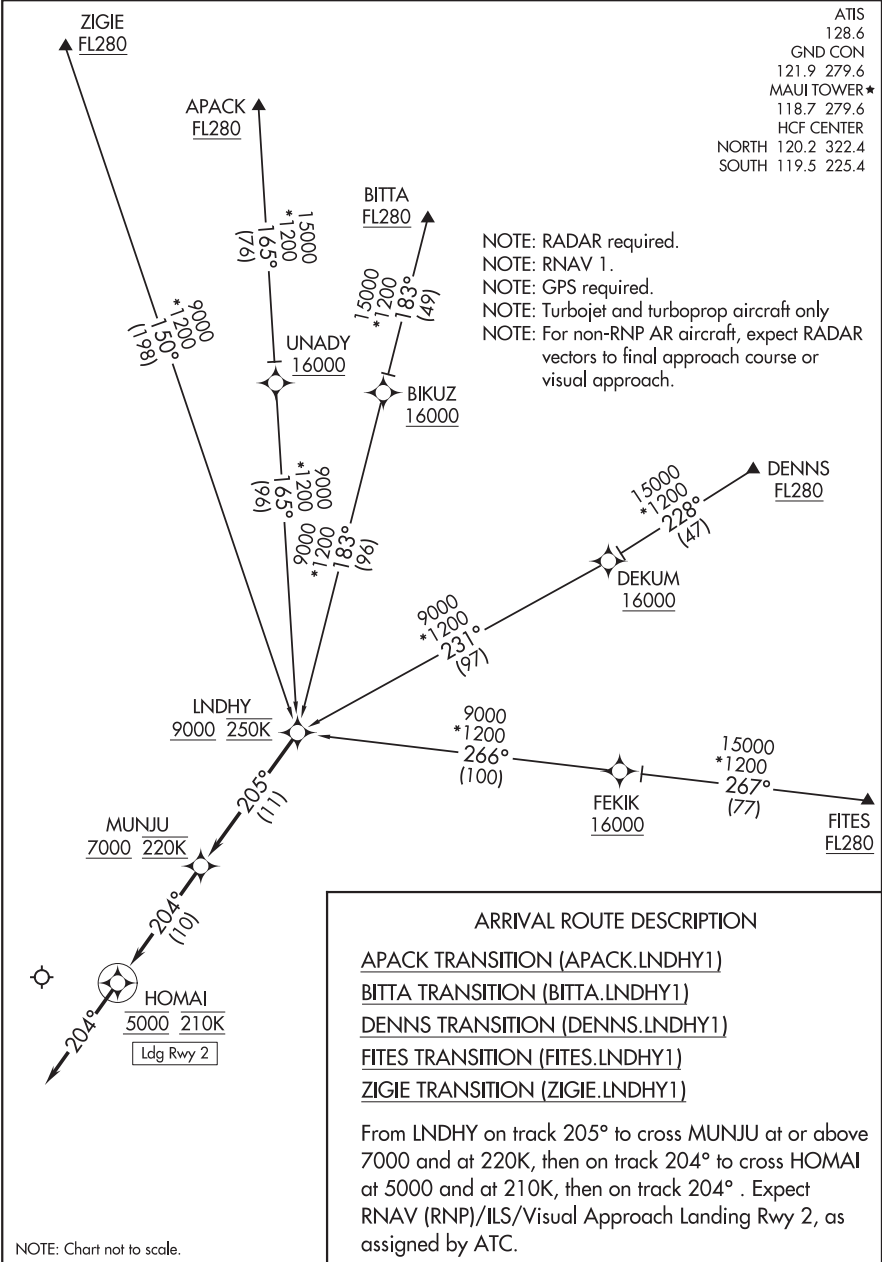
(LNDHY.LNDHY1) 19171

LNDHY ONE ARRIVAL (RNAV)

AL-762 (FAA)

KAHULUI (OGG) (PHOG)

KAHULUI, HAWAII



LNDHY ONE ARRIVAL (RNAV)

(LNDHY.LNDHY1) 20JUN19

KAHULUI, HAWAII

KAHULUI (OGG) (PHOG)



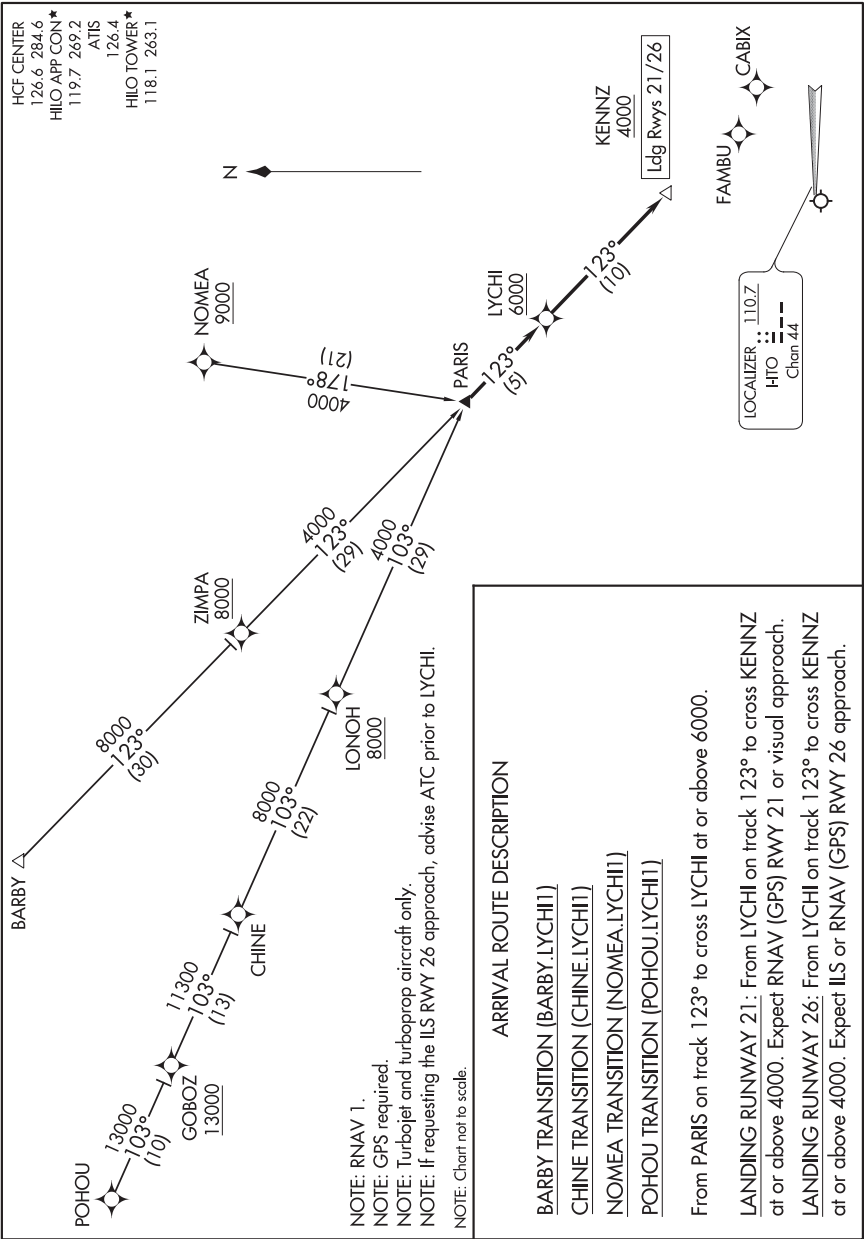
(PARIS.LYCHI1) 21056

LYCHI ONE ARRIVAL (RNAV)

AL-756 (FAA)

HILO INTL (ITO)(PHTO)

HILO, HAWAII



LYCHI ONE ARRIVAL (RNAV)

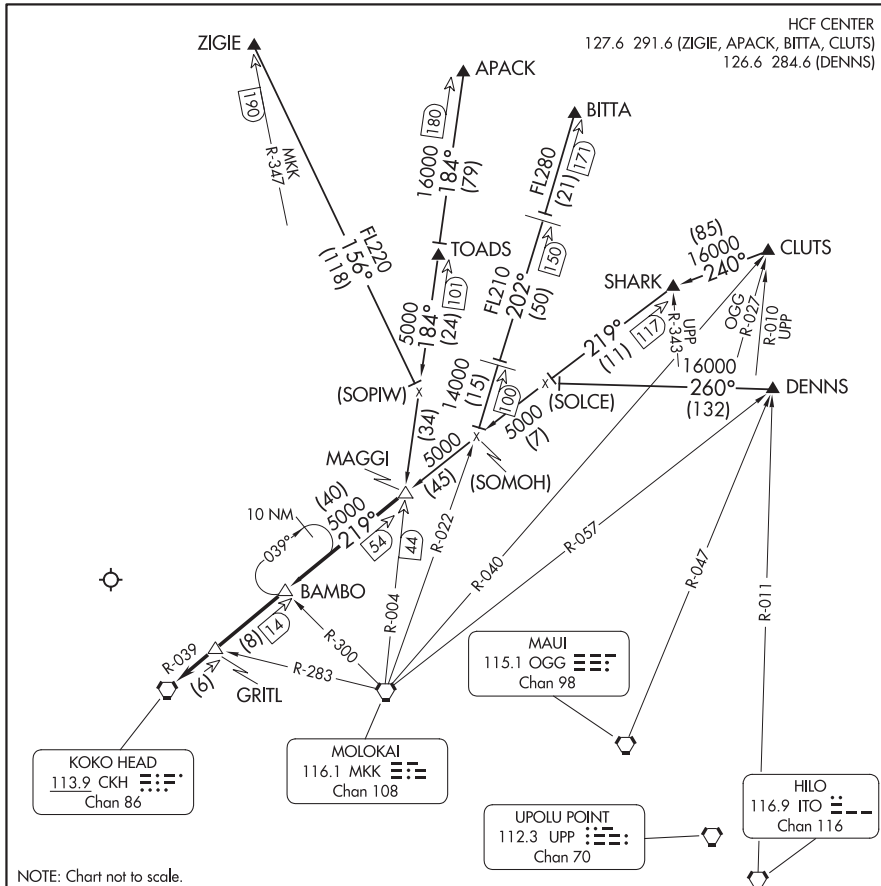
(PARIS.LYCHI1) 25FEB21

HILO, HAWAII

HILO INTL (ITO)(PHTO)

AL-754 (FAA)

DANIEL K INOUE INTL (HNL) (PHNL)  
HONOLULU, HAWAII



NOTE: Chart not to scale.

APACK TRANSITION (APACK.MAGGI3): From over APACK DME via MKK R-004 to MAGGI INT. Thence. . . .

BITTA TRANSITION (BITTA.MAGGI3): From over BITTA DME via MKK R-022 to intercept CKH R-039 to MAGGI INT. Thence. . . .

CLUTS TRANSITION (CLUTS.MAGGI3): From over CLUTS DME via heading 240° to intercept CKH R-039 to MAGGI INT. Thence. . . .

DENNS TRANSITION (DENNS.MAGGI3): From over DENNS INT via heading 260° to intercept CKH R-039 to MAGGI INT. Thence. . . .

ZIGIE TRANSITION (ZIGIE.MAGGI3): From over ZIGIE DME via heading 156° to intercept MKK R-004 to MAGGI INT. Thence. . . .

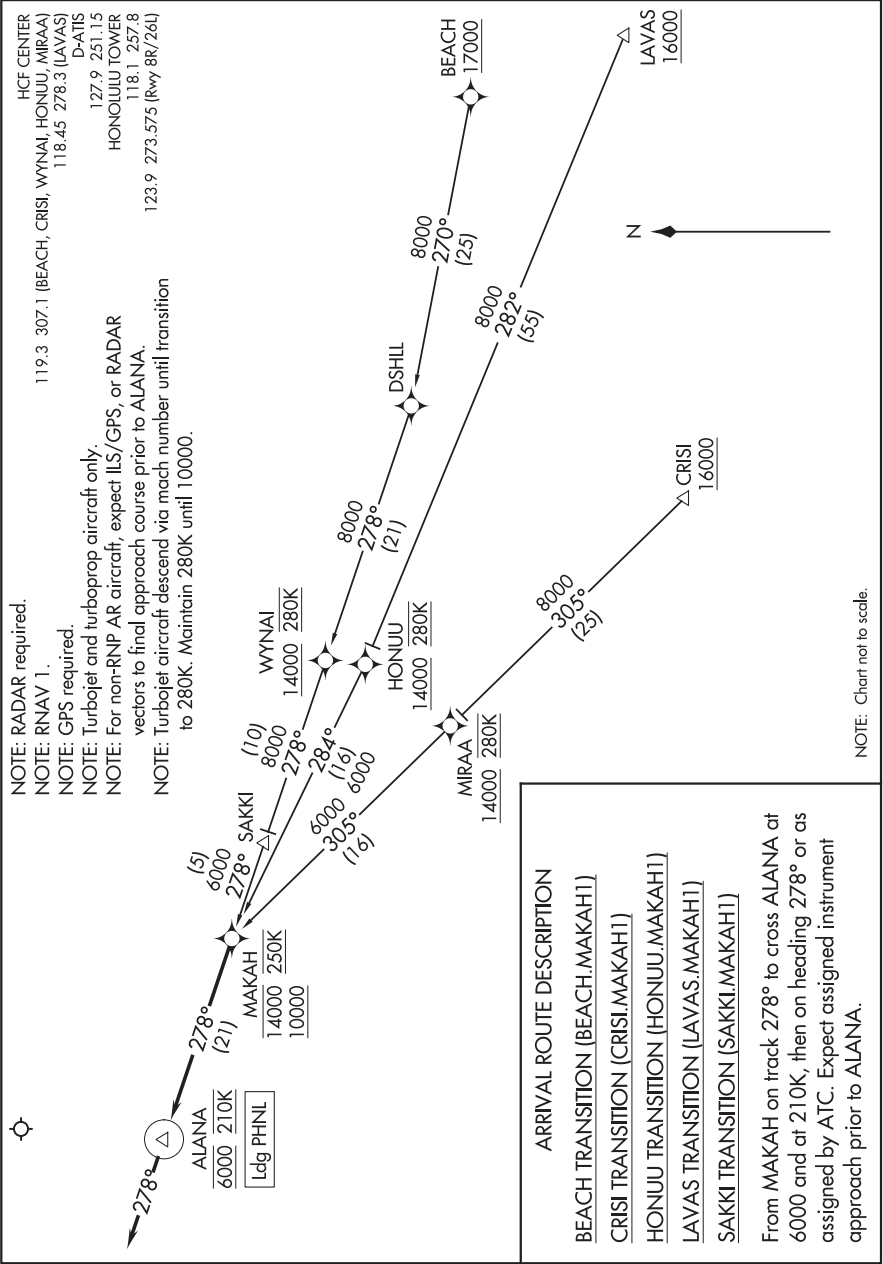
. . . .From over MAGGI INT via CKH R-039 to CKH VORTAC then RADAR vectors for approach to airport.

HONOLULU, HAWAII  
DANIEL K INOUE INTL (HNL) (PHNL)

(MAKAH.MAKAH1) 21112  
 MAKAH ONE ARRIVAL (RNAV)

AL-754 (FAA)

DANIEL K INOUEY INTL (HNL) (PHNL)  
 HONOLULU, HAWAII



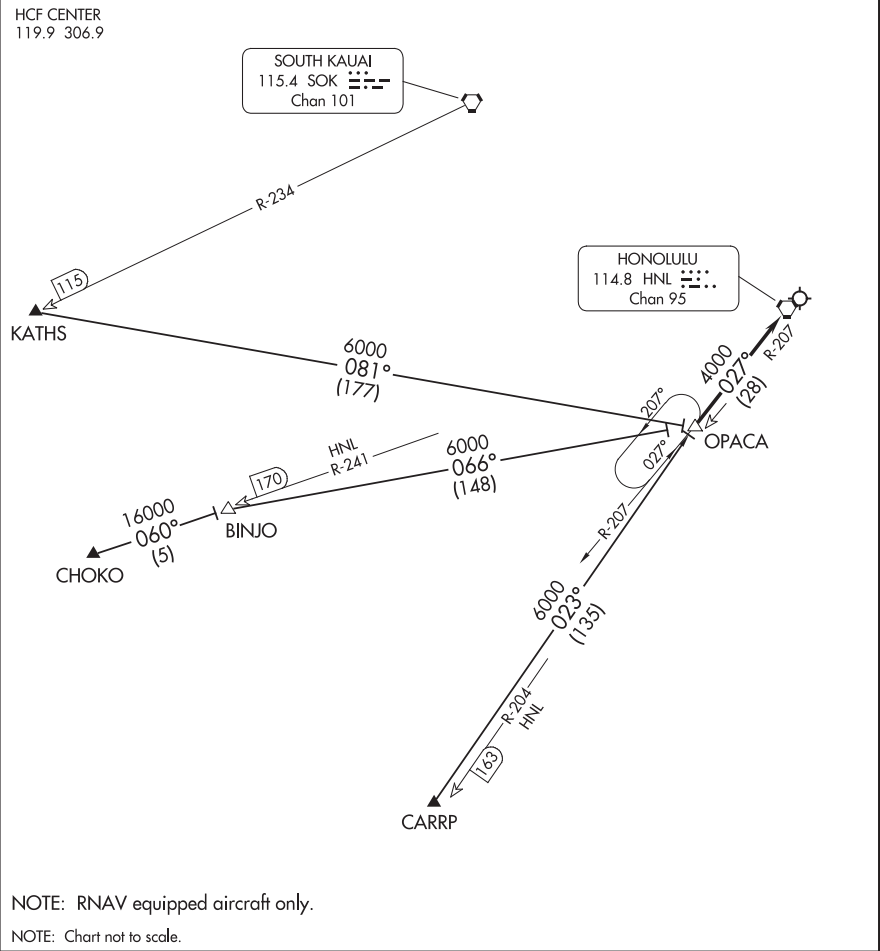
MAKAH ONE ARRIVAL (RNAV)  
 (MAKAH.MAKAH1) 30JAN20

HONOLULU, HAWAII  
 DANIEL K INOUEY INTL (HNL) (PHNL)

(OPACA.OPACA4) 23334  
OPACA FOUR ARRIVAL

AL-754 (FAA)

DANIEL K INOUE INTL (HNL) (PHNL)  
HONOLULU, HAWAII



ARRIVAL ROUTE DESCRIPTION

CARRP TRANSITION (CARRP.OPACA4): From over CARRP WP, RNAV direct to OPACA DME. Thence. . . .

CHOKO TRANSITION (CHOKO.OPACA4): From over CHOKO WP, RNAV direct to BINJO DME, then direct to OPACA DME. Thence. . . .

KATHS TRANSITION (KATHS.OPACA4): From over KATHS WP, RNAV direct to OPACA DME. Thence. . . .

. . . .From over OPACA DME via HNL R-207 to HNL VORTAC, expect RADAR vectors to final approach course.

OPACA FOUR ARRIVAL  
(OPACA.OPACA4) 06JAN94

HONOLULU, HAWAII  
DANIEL K INOUE INTL (HNL) (PHNL)

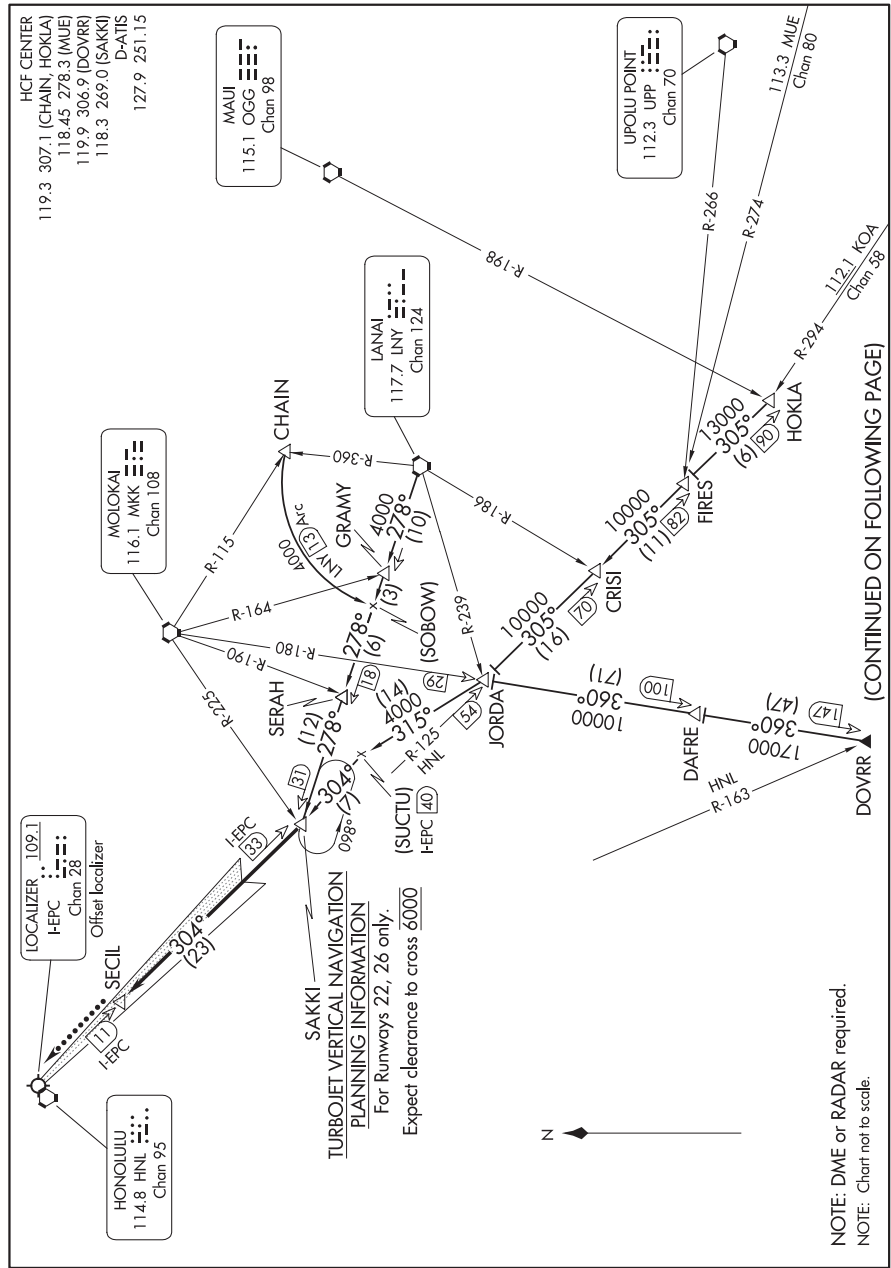
(SAKKI.SAKKI15) 23334

AL-754 (FAA)

DANIEL K INOUEY INTL (HNL) (PHNL)

SAKKI FIVE ARRIVAL

HONOLULU, HAWAII



SAKKI FIVE ARRIVAL

HONOLULU, HAWAII

(SAKKI.SAKKI15) 25AUG11

DANIEL K INOUEY INTL (HNL) (PHNL)

(SAKKI.SAKKI5) 17117  
SAKKI FIVE ARRIVAL

AL-754 (FAA)

DANIEL K INOUE INTL (HNL) (PHNL)  
HONOLULU, HAWAII

ARRIVAL ROUTE DESCRIPTION

CHAIN TRANSITION (CHAIN.SAKKI5): From over CHAIN INT on LNY 13 DME CCW arc to SOBOW and LNY R-278 to SAKKI INT. Thence. . . .

DOVRR TRANSITION (DOVRR.SAKKI5): From over DOVRR on MKK R-180 to JORDA, turn left heading 315° to join I-EPC LDA course at SUCTU 40 DME then to SAKKI INT. Thence. . . .

HOKLA TRANSITION (HOKLA.SAKKI5): From over HOKLA on HNL R-125 to JORDA, turn right heading 315° to join I-EPC LDA course at SUCTU 40 DME then to SAKKI INT. Thence. . . .

LANAI TRANSITION (LNY.SAKKI5): From over LNY VORTAC on LNY R-278 to SAKKI INT. Thence. . . .

. . . .For runways 22, 26 only: From over SAKKI INT on the LDA/DME RWY 26L course to SECIL 11 DME.

LOST COMMUNICATIONS: At SECIL INT/WP proceed with the LDA/DME RWY 26L approach.

SAKKI FIVE ARRIVAL  
(SAKKI.SAKKI5) 25AUG11

HONOLULU, HAWAII  
DANIEL K INOUE INTL (HNL) (PHNL)

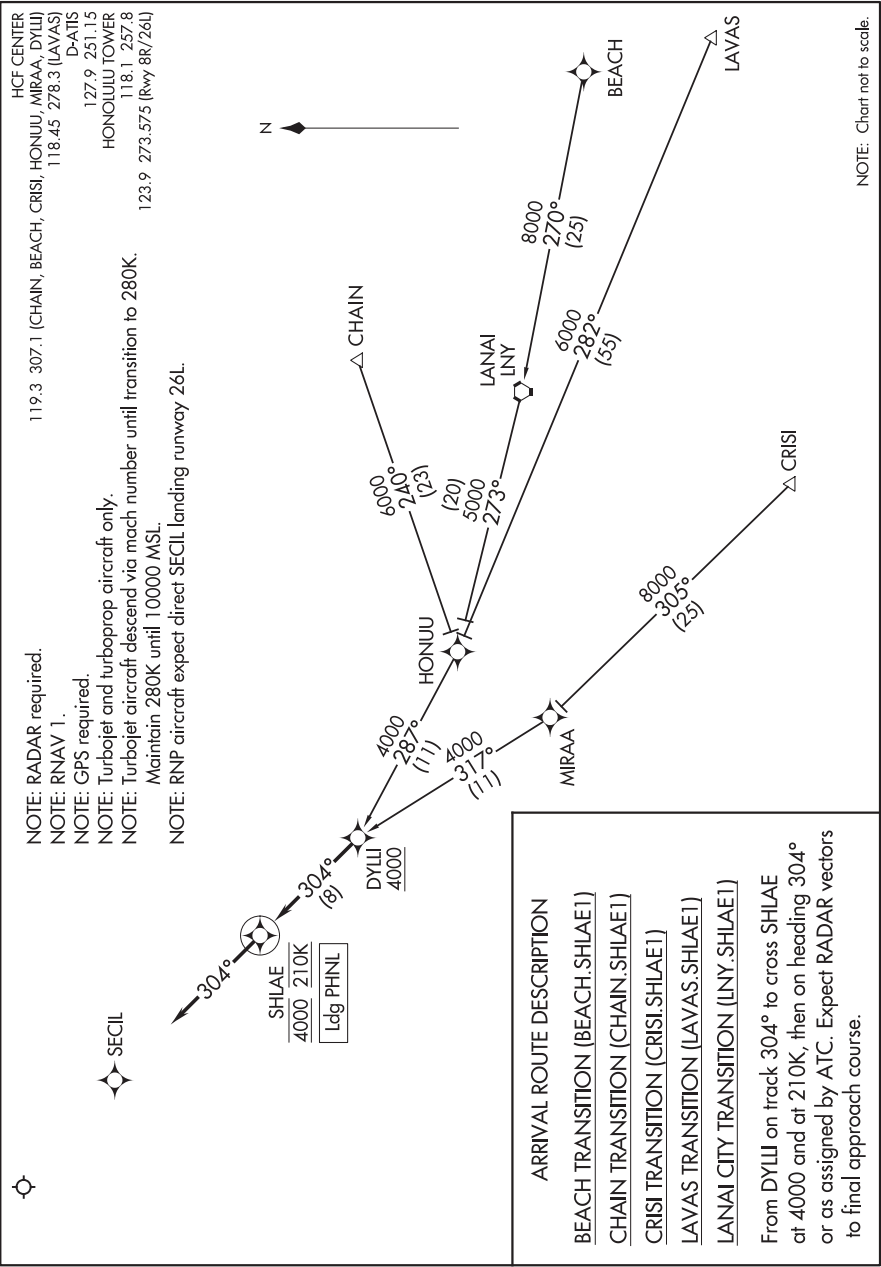
(DYLLI.SHLAE1) 21112

SHLAE ONE ARRIVAL (RNAV)

AL-754 (FAA)

DANIEL K INOUEY INTL (HNL) (PHNL)

HONOLULU, HAWAII



SHLAE ONE ARRIVAL (RNAV)

(DYLLI.SHLAE1) 30JAN20

HONOLULU, HAWAII

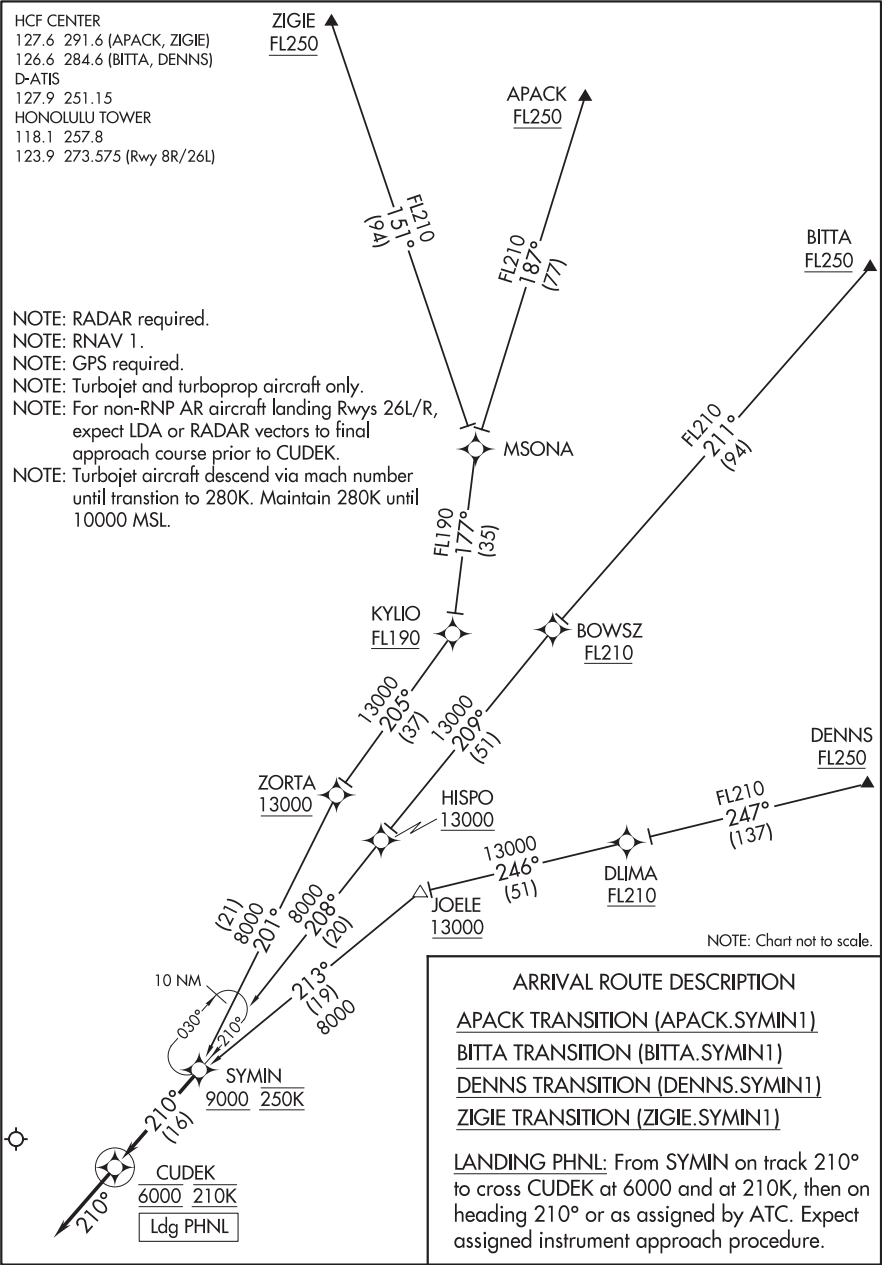
DANIEL K INOUEY INTL (HNL) (PHNL)

(SYMIN.SYMIN1) 20030

SYMIN ONE ARRIVAL (RNAV)

AL-754 (FAA)

DANIEL K INOUE INTL (HNL) (PHNL)  
HONOLULU, HAWAII



SYMIN ONE ARRIVAL (RNAV)

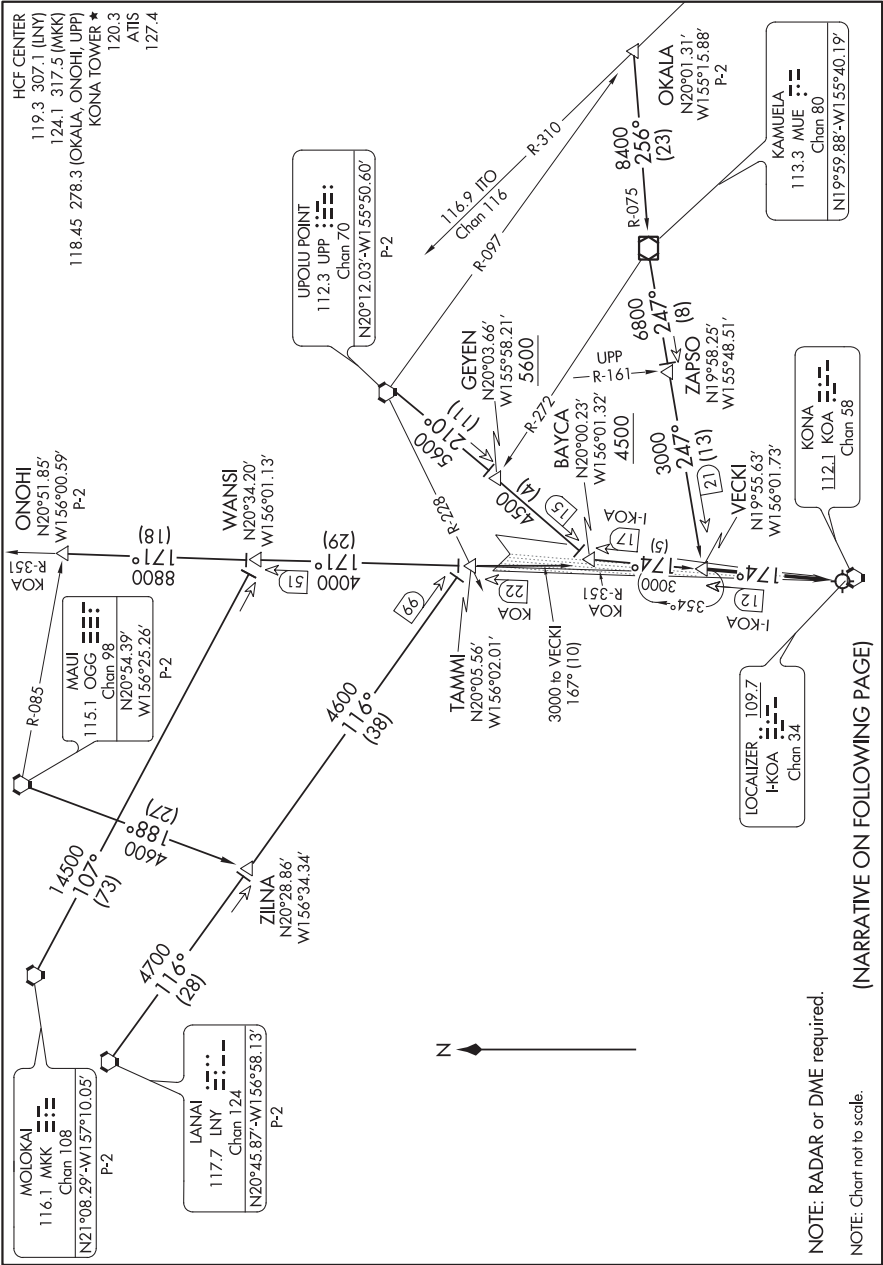
(SYMIN.SYMIN1) 30JAN20

HONOLULU, HAWAII  
DANIEL K INOUE INTL (HNL) (PHNL)



(VECKI.VECKI9) 20254  
VECKI NINE ARRIVAL

ELLISON ONIZUKA KONA INTL AT KEAHOLE(KOA)(PHKO)  
AL-5761 (FAA) KAILUA-KONA, HAWAII



VECKI NINE ARRIVAL  
(VECKI.VECKI9) 07DEC17

KAILUA-KONA, HAWAII  
ELLISON ONIZUKA KONA INTL AT KEAHOLE(KOA)(PHKO)

(VECKI.VECKI9) 17341  
 VECKI NINE ARRIVAL

ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA)(PHKO)  
 AL-5761 (FAA) KAILUA-KONA, HAWAII

ARRIVAL ROUTE DESCRIPTION

LANAI TRANSITION (LNY.VECKI9): From over LNY VORTAC on LNY R-116 to TAMMI , then on heading 167° to VECKI . Thence . . . .

MAUI TRANSITION (OGG.VECKI9): From over OGG VORTAC on OGG R-188 to ZILNA , then on LNY R-116 to TAMMI , then on heading 167° to VECKI . Thence . . . .

MOLOKAI TRANSITION (MKK.VECKI9): From over MKK VORTAC on MKK R-107 to WANSI , then on KOA R-351 to TAMMI , then on heading 167° to VECKI . Thence . . . .

OKALA TRANSITION (OKALA.VECKI9): From over OKALA on MUE VOR/DME R-075 to MUE VOR/DME, then on MUE R-247 to VECKI . Thence . . . .

ONOHU TRANSITION (ONOHU.VECKI9): From over ONOHU on KOA R-351 to TAMMI , then on heading 167° to VECKI . Thence . . . .

UPOLU POINT TRANSITION (UPP.VECKI9): From over UPP VORTAC on UPP R-210 to BAYCA , then on I-KOA 174° course to VECKI . Thence . . . .

. . . . from over VECKI INT on I-KOA localizer course to Ellison Onizuka Kona Intl at Keahole.

LOST COMMUNICATIONS: At VECKI INT proceed with ILS or LOC/DME RWY 17 approach.

VECKI NINE ARRIVAL  
 (VECKI.VECKI9) 07DEC17

ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA)(PHKO)  
 KAILUA-KONA, HAWAII

**INTENTIONALLY  
LEFT  
BLANK**

TERMINAL PROCEDURES

1

BABELTHUAP ISLAND, PW

AL-6432 (FAA)

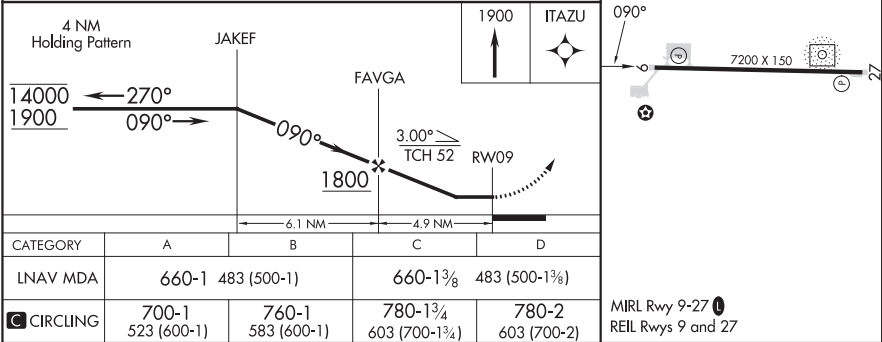
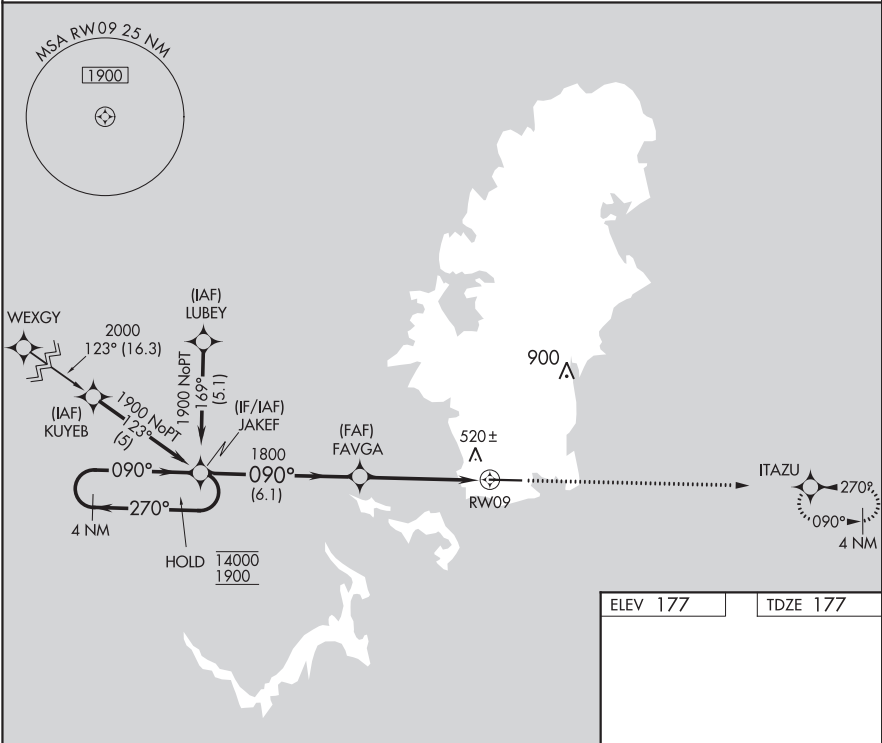
23222

APP CRS	Rwy Idg	7200
090°	TDZE	177
	Apt Elev	177

RNAV (GPS) RWY 9  
PALAU INTL (ROR)(PTRO)

<p><b>⚠</b> Circling NA north of Rwy 9-27. <b>⚠</b> Rwy 9 helicopter visibility reduction below ¾ SM NA. Obtain local altimeter setting on CTAF; when not received, procedure NA. No controlled airspace below 5500.</p>	<p>MISSED APPROACH: Climb to 1900 direct ITAZU and hold.</p>
--	--

KOROR RADIO  
123.6 (CTAF) **1**



BABELTHUAP ISLAND, PW

AL-6432 (FAA)

23222

APP CRS  
270°

Rwy Idg  
7200

TDZE  
176

Apt Elev  
177

RNAV (GPS) RWY 27

PALAU INTL (ROR)(PTRO)

RNP APCH-GPS.

▼

▲

Circling NA north of Rwy 9-27.  
Rwy 27 helicopter visibility reduction below ¾ SM NA.  
Obtain local altimeter setting on CTAF; when not received,  
procedure NA. No controlled airspace below 5500.

MISSED APPROACH: Climb to 1900 direct JAKEF and hold.

KOROR RADIO  
123.6 (CTAF)

WEXGY 2000 to EBFIT 099° (40.6)

EFUYE 2000 220° (15.5)

900

JAKEF 090° 270° 4 NM

RW27 425±

(FAF) OHUDA

ITAZU 1800 270° (s)

090° 270° 4 NM

HOLD 14000 1900

MSA RW27 25 NM 1900

(IAF) EBFIT 180° (s)

(IF/IAF) ITAZU 180° (s)

(IAF) UVOVY 220° (s)

ELEV 177

TDZE 176

1900

JAKEF

CATEGORY	A	B	C	D
LNNAV MDA	680-1 504 (600-1)	680-1 504 (600-1 3/8)	680-1 504 (600-1 3/8)	680-2 603 (700-2)
CIRCLING	700-1 523 (600-1)	760-1 583 (600-1)	780-1 3/4 603 (700-1 3/4)	780-2 603 (700-2)

MIRL Rwy 9-27   
REIL Rws 9 and 27

TERMINAL PROCEDURES

3

BABELTHUAP ISLAND, PW		AL-6432 (FAA)		23222
NDB/DME ROR <b>371</b>	APP CRS <b>087°</b>	Rwy Idg TDZE Apt Elev	<b>7200</b> <b>177</b> <b>177</b>	<b>NDB RWY 9</b> PALAU INTL (ROR)(PTRO)
Chan <b>104 (115.7)</b>				

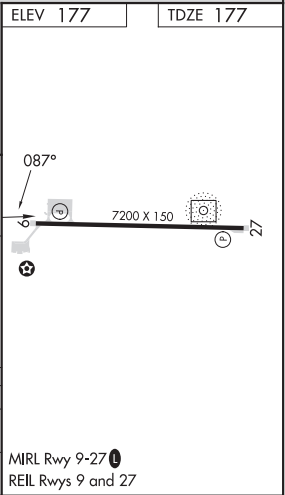
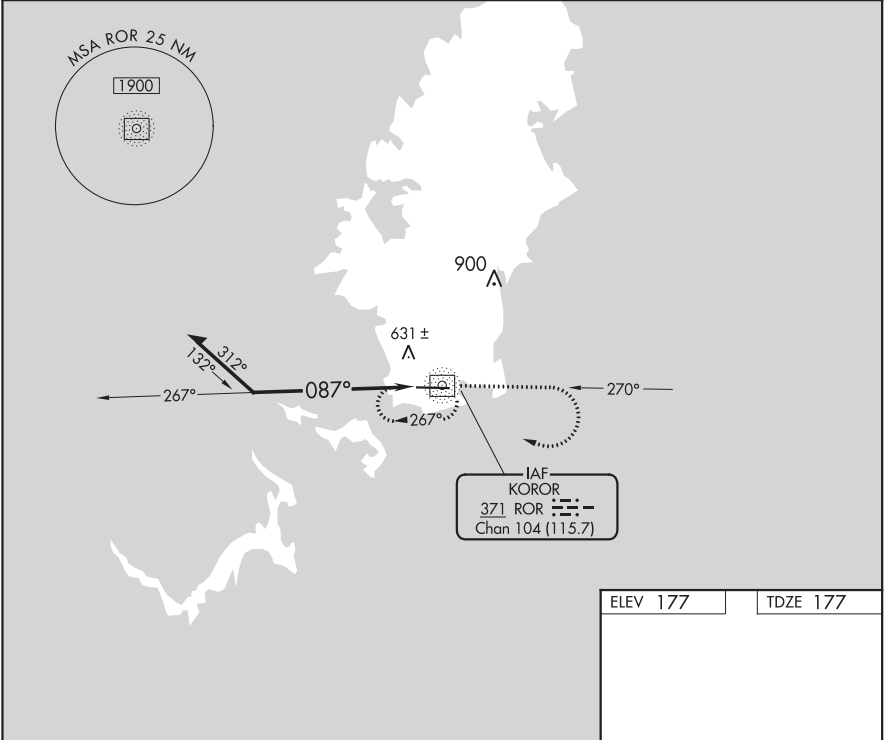
- ⚠

Circling NA north of Rwy 9-27.
- ⚠

Rwy 9 helicopter visibility reduction below  $\frac{3}{4}$  SM NA. Obtain local altimeter setting on CTAF; when not received, procedure NA. No controlled airspace below 5500.

MISSED APPROACH: Climb to 1900 on ROR bearing 090° then right turn direct ROR NDB/DME and hold.

KOROR RADIO  
**123.6 (CTAF)**

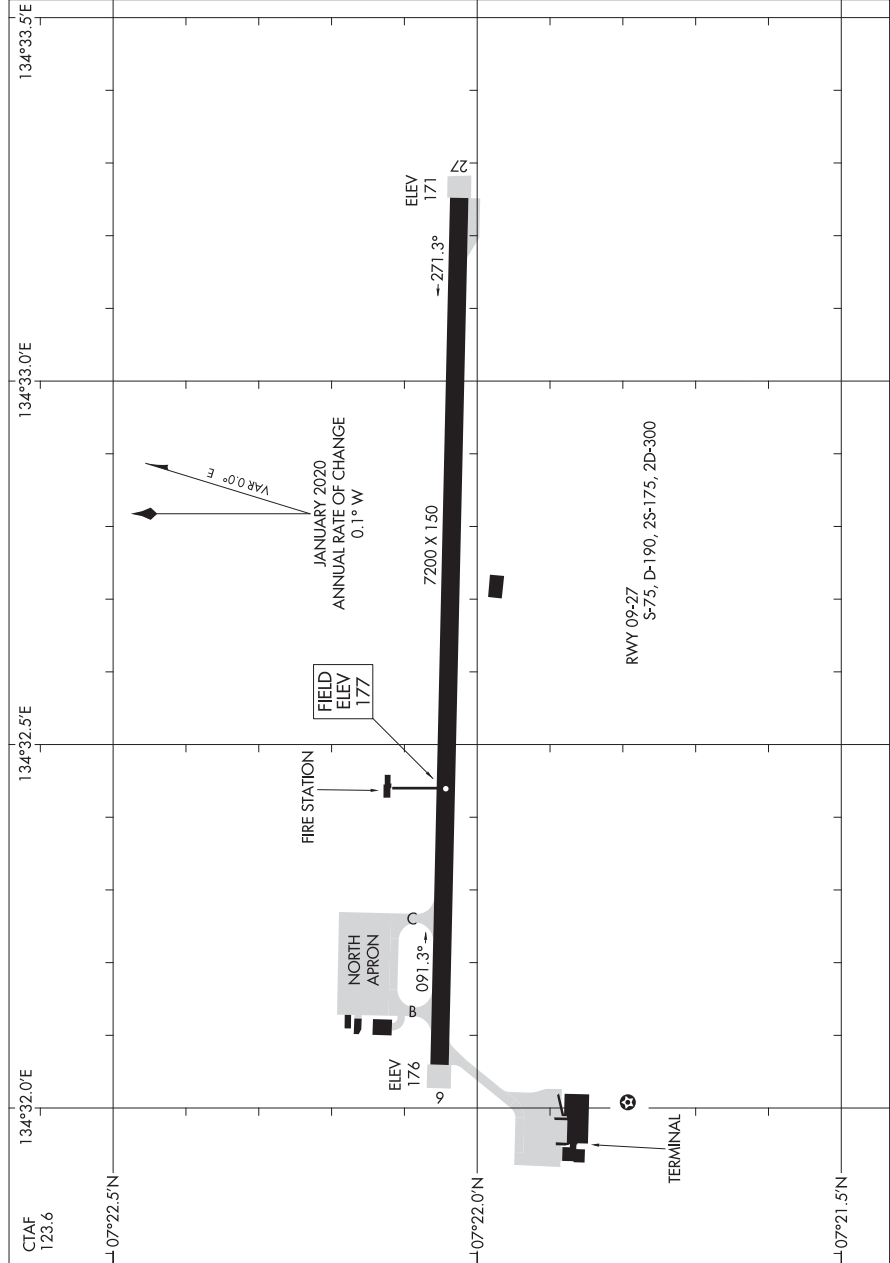


Remain within 10 NM		ROR NDB/DME	1900 ↑ ROR 090°	ROR	087°
1900		267°	087°		
CATEGORY	A	B	C	D	MRL Rwy 9-27 REL Rwys 9 and 27
S-9	1000-1 823 (900-1)	1000-1¼ 823 (900-1¼)	1000-2½	823 (900-2½)	
Ⓢ CIRCLING	1000-1¼	823 (900-1¼)	1000-2½ 823 (900-2½)	1000-2¾ 823 (900-2¾)	

BABELTHUAP ISLAND, PW  
 Orig-C 08SEP22

07°22'N-134°33'E

PALAU INTL (ROR)(PTRO)  
**NDB RWY 9**



GUAM, GU

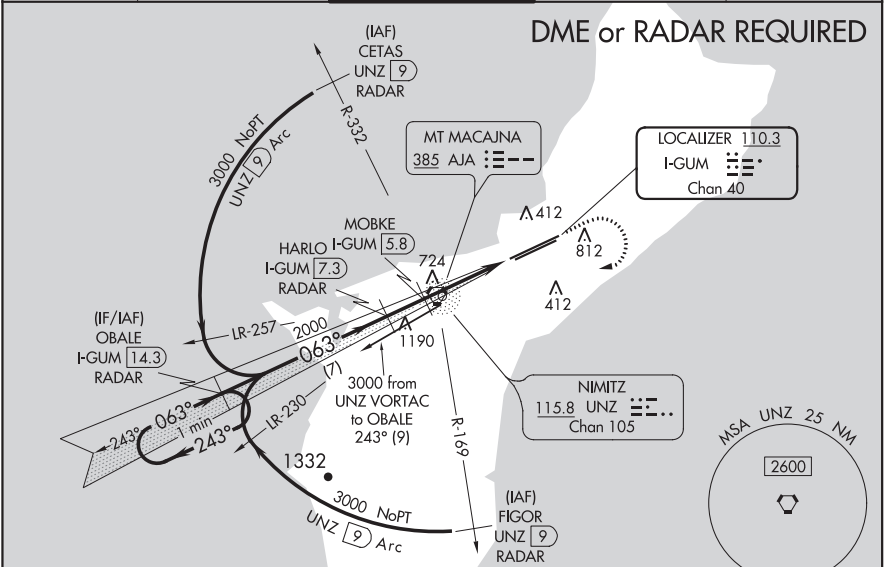
AL-2146 (FAA)

23110

LOC/DME I-GUM <b>110.3</b> Chan <b>40</b>	APP CRS <b>063°</b>	Rwy Idg <b>11014</b> TDZE <b>256</b> Apt Elev <b>305</b>	<b>ILS or LOC RWY 6L</b> GUAM INTL (GUM)(PGUM)	
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<div><div>⚠</div><div>Circling NA southeast of Rwy 6R-24L. DME or RADAR required. For inop ALS, increase S-ILS 6L all Cats visibility to 1 SM; MOBKE DME minimums: For inop ALS, increase S-LOC 6L Cat A visibility to 1 SM. Inop table does not apply to S-LOC 6L Cats C and D.</div></div>	<div><div>MALSR</div><div></div></div>	MISSED APPROACH: Climb to 2100 then climbing right turn to 3000 direct UNZ VORTAC then on I-GUM localizer SW course to OBALE/I-GUM 14.3 DME/RADAR and hold.
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ATIS <b>119.0</b>	GUAM CERAP <b>119.8 269.0</b>	AGANA TOWER <b>118.1 340.2</b>	GND CON <b>121.9 336.4</b>	CLNC DEL <b>121.9</b>
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VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 73).		2100	3000	UNZ	I-GUM SW crs	OBALE I-GUM 14.3	ELEV 305	TDZE 256
One Minute Holding Pattern		OBACLE I-GUM 14.3 RADAR		HARLO I-GUM 7.3 RADAR		Use I-GUM DME when on the localizer course.		
3000 ← 243° 063° →		063° →		MOBKE I-GUM 5.8 *I-GUM 4.4		*LOC only		
GS 3.00° TCH 55		2000		2000		2000		
		7 NM		1.5 NM		1.4 NM		2.5 NM
CATEGORY	A	B	C	D				
S-ILS 6L	590-½		334 (300-½)					
S-LOC 6L	1500-¾ 1244 (1200-¾)	1500-1 1244 (1200-1)	1500-3 1244 (1200-3)					
CIRCLING	1500-1¼ 1195 (1200-1¼)	1500-½ 1195 (1200-½)	1500-3 1195 (1200-3)					
MOBKE FIX MINIMUMS (DME REQUIRED)								
S-LOC 6L	1100-¾ 844 (800-¾)	1100-2 844 (800-2)						
CIRCLING	1100-1 795 (800-1)	1100-1¼ 795 (800-1¼)	1100-2½ 795 (800-2½)	1140-2¾ 835 (900-2¾)				

FAF to MAP 5.4 NM					
Knots	60	90	120	150	180
Min:Sec	5:24	3:36	2:42	2:10	1:48



GUAM, GU

AL-2146 (FAA)

23110

LOC/DME I-AWD

110.9

Chan 46

APP CRS

063°

Rwy Idg

10014

TDZE

258

Apt Elev

305

ILS or LOC RWY 6R

GUAM INTL (GUM)(PGUM)

⚠

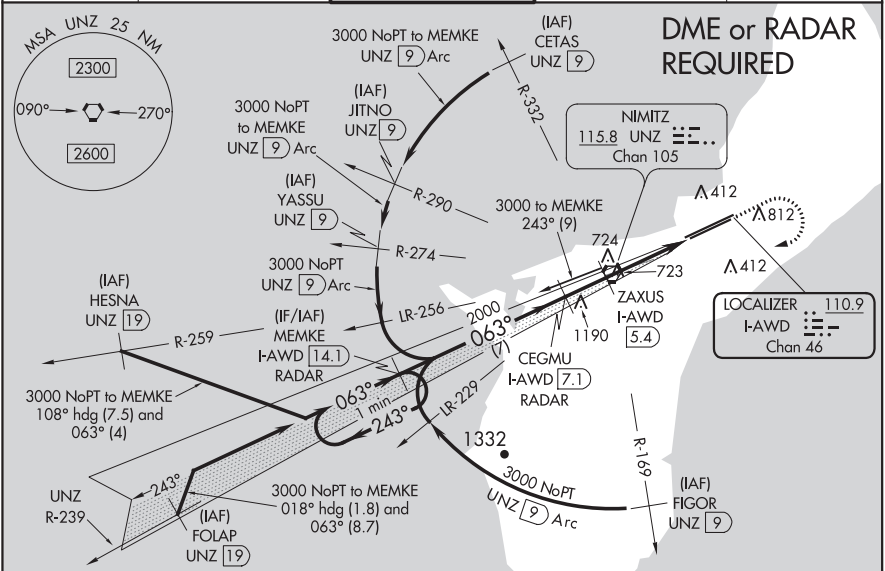
⚠

Circling NA southeast of Rwy 6R-24L. Rwy 6R helicopter visibility reduction below ¾ SM NA. DME or RADAR required. Inop table does apply to S-LOC 6R Cat C/D. ZAXUS DME minimums: For inop ALS, increase S-LOC 6R Cat A/B visibility to 1 SM.

MALSR

MISSED APPROACH: Climb to 2100 then dimbing right turn to 3000 direct UNZ VORTAC then on I-AWD to MEMKE/I-AWD 14.1 DME/RADAR and hold.

ATIS	GUAM CERAP	AGANA TOWER	GND CON	CLNC DEL
119.0	119.8 269.0	118.1 340.2	121.9 336.4	121.9



VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 76).

One Minute Holding Pattern

MEMKE I-AWD 14.1 RADAR

3000 ← 243°

063° →

GS 3.00° TCH 57

Use I-AWD DME when on localizer course.

7 NM

1.7 NM

1.5 NM

2.1 NM

2100

3000

UNZ

I-AWD

MEMKE I-AWD 14.1

\*LOC only

CEGMU I-AWD 7.1 RADAR

ZAXUS I-AWD 5.4

\*I-AWD 3.9

I-AWD 1.8

2000

1440

341±

0.5% UP

0.7% DOWN

1201.4 X 150

0.6% UP

0.8% DOWN

TWR 352

554

063°

CATEGORY	A	B	C	D
S-ILS 6R		603-¾	345 (300-¾)	
S-LOC 6R	1440-¾ 1182 (1200-¾)	1440-1 1182 (1200-1)	1440-3 1182 (1200-3)	
CIRCLING	1440-1¼ 1135 (1200-1¼)	1440-1½ 1135 (1200-1½)	1440-3 1135 (1200-3)	
ZAXUS DME MINIMUMS				
S-LOC 6R	980-¾	722 (700-¾)	980-1½	722 (700-1½)
CIRCLING	980-1	675 (700-1)	980-2 675 (700-2)	1140-2¾ 835 (900-2¾)

ELEV 305

TDZE 258

HIRL all Rwys

FAF to MAP 5.3 NM

Knots	60	90	120	150	180
Min:Sec	5:18	3:32	2:39	2:07	1:46


GUAM, GU

AL-2146 (FAA)

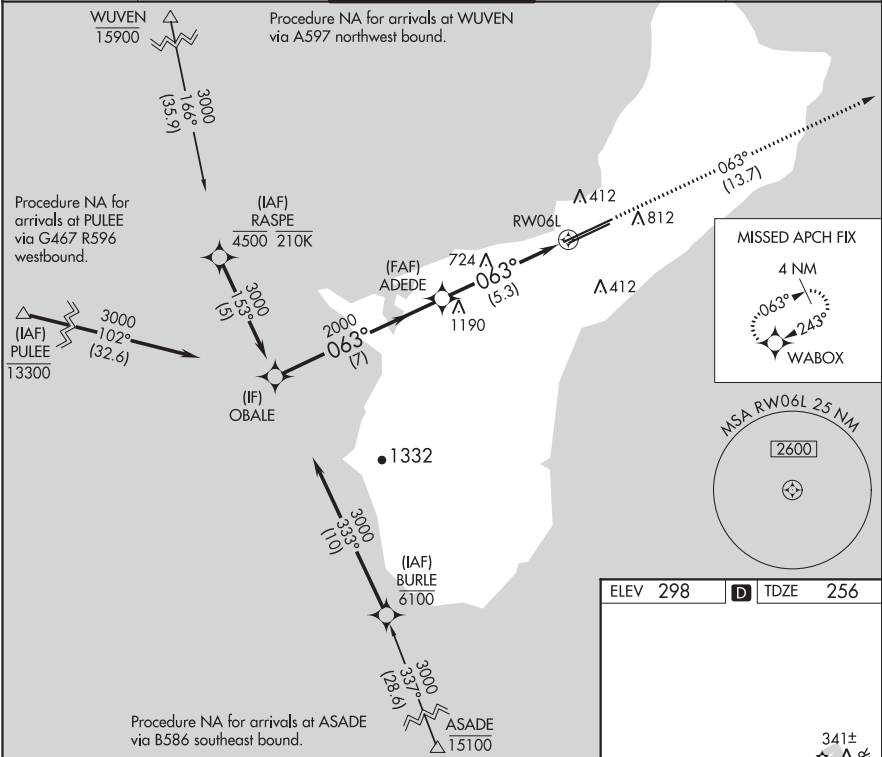
23110

APP CRS	Rwy Idg	11014
063°	TDZE	256
	Apt Elev	298

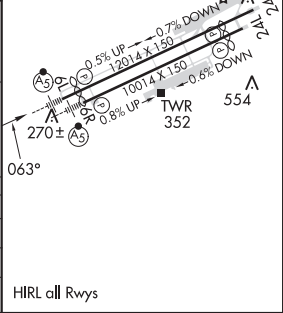
RNAV (RNP) Z RWY 6L  
GUAM INTL (GUM)(PGUM)

<p>▼ For uncompensated Baro-VNAV systems, procedure NA below 19°C (66°F) or above 48°C (119°F). GPS required. For inoperative MALSR, increase RNP 0.30* visibility to 1 mile and RNP 0.30 visibility to 1½ mile. *Missed approach requires a minimum climb of 276 feet per NM to 1400.</p>	<p>MALSR</p> 	<p>MISSED APPROACH: Climb to 3000 via track 063° to WABOX and hold.</p>
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ATIS 119.0	GUAM CERAP 119.8 269.0	AGANA TOWER 118.1 340.2	GND CON 121.9 336.4	CLNC DEL 121.9
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Procedure Turn NA	OBALE	VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 73)	3000	WABOX
GP 3.00° TCH 50	3000	063°	2000	ADEDE
				3000
				tr 063°
CATEGORY	A	B	C	D
RNP 0.30* DA		511-½	255 (300-½)	
RNP 0.30 DA		656-1	400 (400-1)	
AUTHORIZATION REQUIRED				



GUAM, GU  
Orig-D 15DEC11

13°29'N-144°48'E

GUAM INTL (GUM)(PGUM)  
RNAV (RNP) Z RWY 6L

GUAM, GU

AL-2146 (FAA)

23110

APP CRS

063°

Rwy Idg

10014

TDZE

258

Apt Elev

298

RNAV (RNP) Z RWY 6R

GUAM INTL (GUM)(PGUM)

⚠

For uncompensated Baro-VNAV systems, procedure NA below 19°C (66°F) or above 48°C (119°F). GPS required.  
\*Missed approach requires a minimum climb of 285 feet per NM to 1400.

MALSR

MISSED APPROACH:

Climb to 3000 via track 063° to CIBOL and hold.

ATIS

119.0

GUAM CERAP

119.8 269.0

AGANA TOWER

118.1 340.2

GND CON

121.9 336.4

CLNC DEL

121.9

WUVEN 16000  
3000 (135.9)  
166°

Procedure NA for arrivals at WUVEN via A597 northwest bound.

Procedure NA for arrivals at PULEE via G467 R596 westbound.

(IAF) PULEE 13300  
3000 102° (32.7)

(IAF) RASPE 4600 210K  
3000 153° (5.1)

(IF) DALPE  
2000 063° (7)

(FAF) FISON 724 1190  
063° (5.3)

RW06R  
A 412  
A 812  
A 412

MISSED APCH FIX  
4 NM  
063°  
243°  
CIBOL

MSA RW06R 25 NM  
2600

1332

(IAF) BURLE 3100  
3000 128.6

Procedure NA for arrivals at ASADE via B586 southeast bound.

ASADE 15100

DALPE  
3000  
063°  
2000

FISON  
2000

CIBOL

GP 3.00°  
TCH 55

7 NM  
5.3 NM

3000  
fr 063°

341±  
270±  
0.5% UP  
0.7% DOWN  
1201.4 X 150  
1001.4 X 150  
0.8% UP  
0.6% DOWN  
TWR 352  
554

HIRL all Rwys

CATEGORY	A	B	C	D
RNP 0.30* DA		508-½	250 (300-½)	
RNP 0.30 DA		656-1	398 (400-1)	

AUTHORIZATION REQUIRED

GUAM, GU  
Orig-C 15DEC11

13°29'N-144°48'E

GUAM INTL (GUM)(PGUM)  
RNAV (RNP) Z RWY 6R

PAC, 30 NOV 2023 to 25 JAN 2024

## 9

23334

RNAV (RNP) Z RWY 24L  
GUAM INTL (GUM)(PGUM)

**MISSED APPROACH:** Climb to 3000 via track 243° to DALPE and hold.

MSA RW24L 25 NM

2600

MISSED APCH FIX

DALPE

063°

243°

4 NM

CULPS 11300

(IAF) CADUK 6100

3000

186° (16.5)

3000

333° (5)

Procedure NA for arrivals at CULPS via A221 northeast bound.

Procedure NA for arrivals at BAGBE via A450 northeast bound.

(IF) CIBOL

3000

253° (18.4)

(IAF) BAGBE 8800

(FAF) JOMAX

3000

243° (6.9)

(IF) SIDPE 4500

3000

333° (5)

3000

243° (13.8)

3000

236° (16.9)

GUMGE 12900

Procedure NA for arrivals at GUMGE via A597 R584 southeast bound.

ELEV 305

D

TDZE 293

243°

3000  
↑  
fr 243°

DALPE

VGSi and RNAV glidepath not coincident  
(VGSi Angle 3.00/TCH 75).

CIBOL

Procedure  
Turn  
NA

JOMAX

2000

2000

243°

3000

GP 3.00°  
TCH 55

5.1 NM

6.9 NM

CATEGORY	A	B	C	D
RNP 0.20 DA		1103-2½	810 (900-2½)	
RNP 0.30 DA		1140-2½	847 (900-2½)	

**AUTHORIZATION REQUIRED**

GUAM INTL (GUM)(PGUM)  
RNAV (RNP) Z RWY 24L

PAC. 30 NOV 2023 to 25 JAN 2024





GUAM, GU

AL-2146 (FAA)

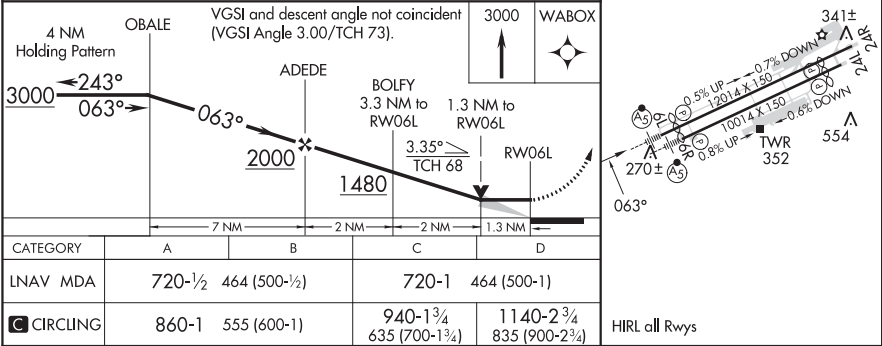
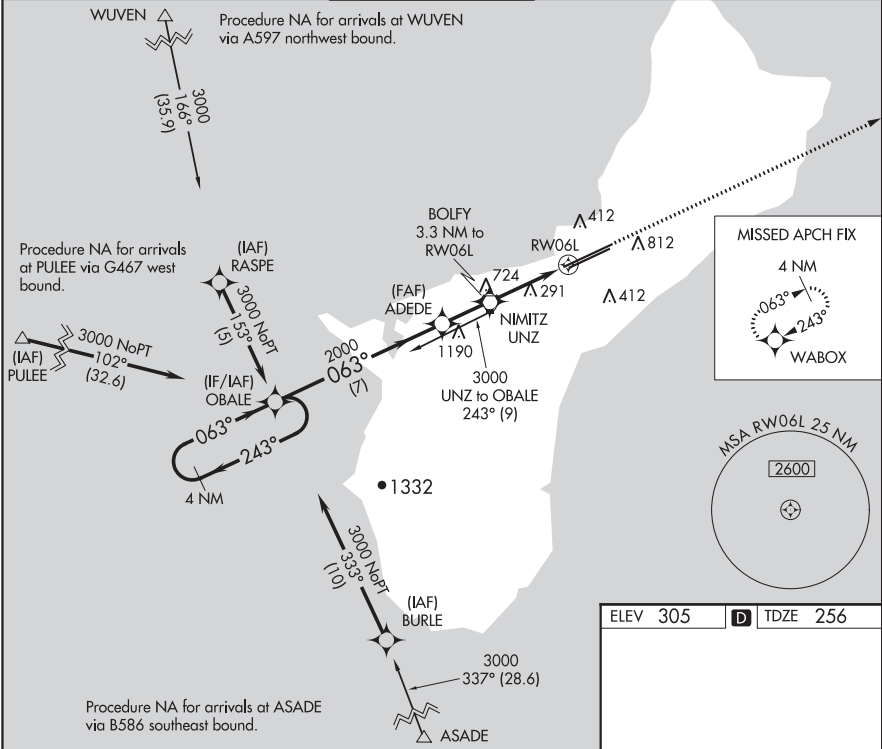
23110

APP CRS	Rwy Idg	11014
063°	TDZE	256
	Apt Elev	305

RNAV (GPS) Y RWY 6L  
GUAM INTL (GUM)(PGUM)

 Circling NA southeast of Rwy 6R-24L. DME/DME RNP-0.3 NA. For inop ALS, increase Cat C/D visibility to 1 1/2 SM.		MISSED APPROACH: Climb to 3000 direct WABOX and hold.
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ATIS 119.0	GUAM CERAP 119.8 269.0	AGANA TOWER 118.1 340.2	GND CON 121.9 336.4	CLNC DEL 121.9
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GUAM, GU  
Amdt 1B 24MAY18

13°29'N-144°48'E

GUAM INTL (GUM)(PGUM)  
RNAV (GPS) Y RWY 6L

GUAM, GU

AL-2146 (FAA)

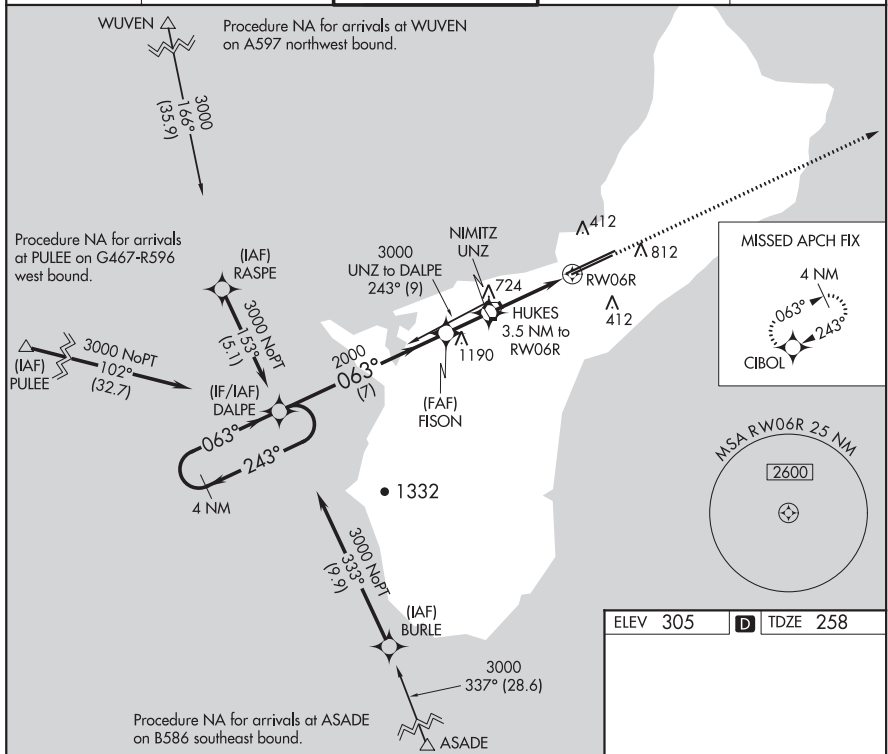
23110

APP CRS <b>063°</b>	Rwy Idg TDZE Apt Elev	<b>10014</b> <b>258</b> <b>305</b>
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## RNAV (GPS) Y RWY 6R

GUAM INTL (GUM)(PGUM)

<div><div></div><div></div></div>	Rwy 6R helicopter visibility reduction below ¾ SM NA. DME/DME RNP-0.3 NA. For inop ALS, increase Cat A/B visibility to 1 SM, and Cat C/D to 2 SM. Circling NA southeast of Rwy 6R-24L.				<div><div>MALS</div><div><div></div><div></div></div></div>	MISSED APPROACH: Climb to 3000 direct CIBOL and hold.	
	ATIS 119.0	GUAM CERAP 119.8 269.0	AGANA TOWER 118.1 340.2	GND CON 121.9 336.4	CLNC DEL 121.9		



4 NM Holding Pattern

VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 76).

3000

243°

063°

063°

2000

1440

7 NM

1.8 NM

1.4 NM

2.1 NM

3000

CIBOL

HUKES 3.5 NM to RW06R 2.1 NM to RW06R 3.11 NM TCH 55

RW06R

341±

0.5% UP

0.7% DOWN

12014 X 150

0.6% DOWN

10014 X 150

0.8% UP

270±

063°

CATEGORY	A	B	C	D
LNAV MDA	980-3/4 722 (700-3/4)		980-1 722 (700-1)	
CIRCLING	980-1 675 (700-1)		980-2 675 (700-2)	1140-2 835 (900-2)

HIRL all Rwy's

GUAM, GU  
Amdt 1C 26MAR20

13°29'N-144°48'E

GUAM INTL (GUM)(PGUM)  
RNAV (GPS) Y RWY 6R

GUAM, GU

AL-2146 (FAA)

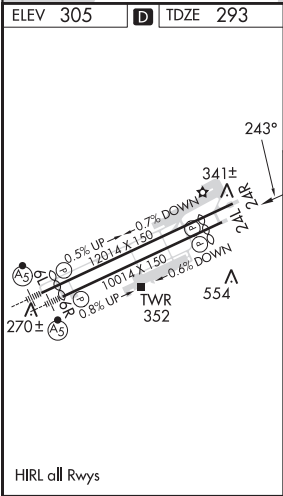
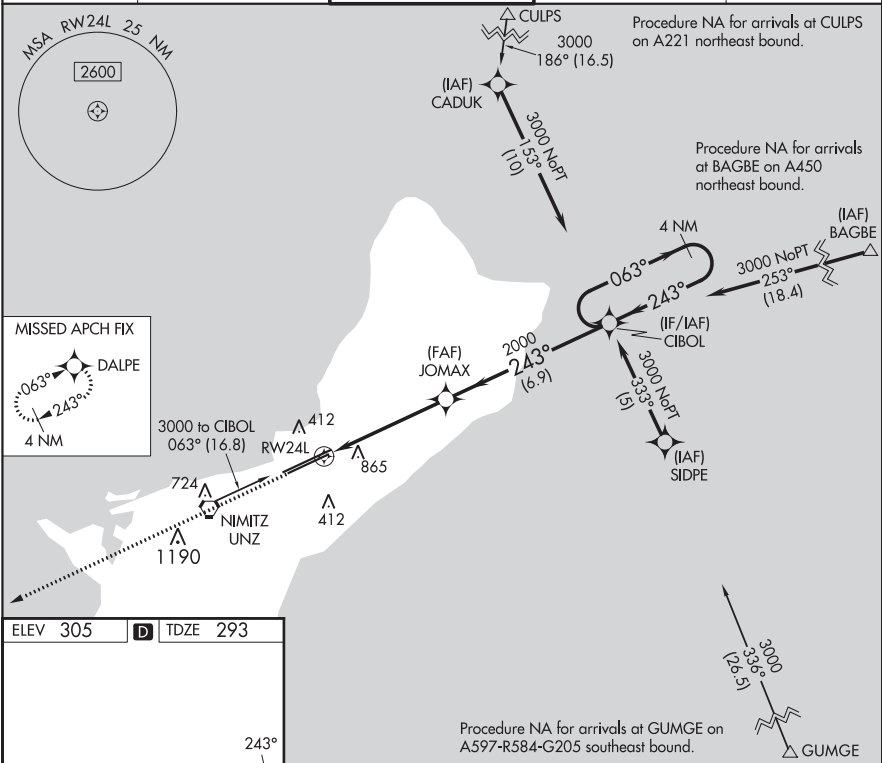
23110

APP CRS	Rwy Idg	8710
243°	TDZE	293
	Apt Elev	305

RNAV (GPS) Y RWY 24L  
GUAM INTL (GUM)(PGUM)

<p><b>⚠</b> Circling NA southeast of Rwy 6R-24L. <b>⚠</b> Rwy 24L helicopter visibility reduction below ¾ SM NA. DME/DME RNP-0.3 NA.</p>	MISSED APPROACH: Climb to 3000 direct DALPE and hold.
--	---

ATIS 119.0	GUAM CERAP 119.8 269.0	AGANA TOWER 118.1 340.2	GND CON 121.9 336.4	CLNC DEL 121.9
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3000	DALPE	VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 75).	CIBOL	4 NM Holding Pattern
RW24L				
JOMAX				
2000				
5.1 NM				
6.9 NM				
CIRCLING				
CATEGORY	A	B	C	D
LNNAV MDA	1180-1¼	887 (900-1¼)	1180-2¾ 887 (900-2¾)	1180-3 887 (900-3)
CIRCLING	1180-1¼	875 (900-1¼)	1180-2¾ 875 (900-2¾)	1180-3 875 (900-3)

GUAM, GU  
Amdt 1C 24MAY18

13°29'N-144°48'E

GUAM INTL (GUM)(PGUM)  
RNAV (GPS) Y RWY 24L



GUAM, GU

AL-2146 (FAA)

23110

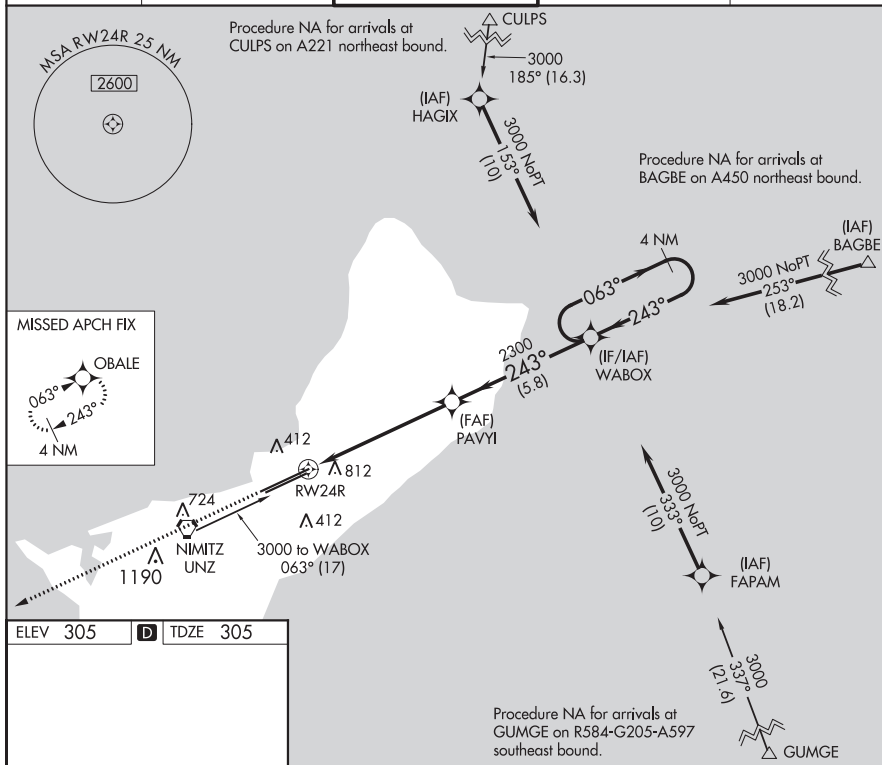
APP CRS <b>243°</b>	Rwy Idg <b>12014</b> TDZE <b>305</b> Apt Elev <b>305</b>
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## RNAV (GPS) Y RWY 24R

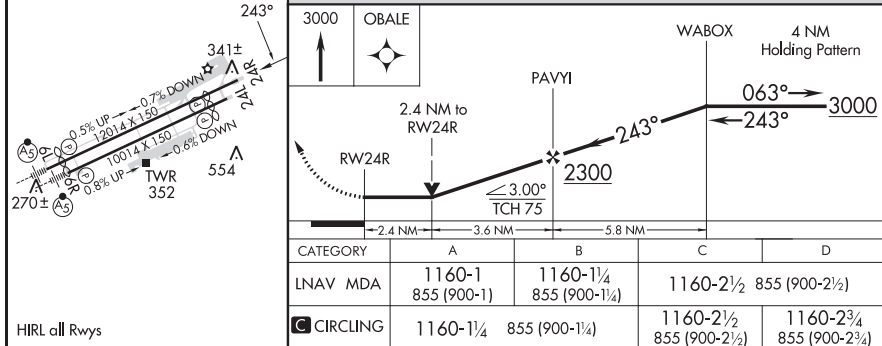
GUAM INTL (GUM)(PGUM)


<p><b>T</b> DME/DME RNP-0.3 NA.          Circling NA southeast of Rwy 6R-24L.          Rwy 24R helicopter visibility reduction below <math>\frac{3}{4}</math> SM NA.</p>	<p>MISSED APPROACH: Climb to 3000 direct OBALE and hold.</p>
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ATIS 119.0	GUAM CERAP 119.8 269.0	AGANA TOWER 118.1 340.2	GND CON 121.9 336.4	CLNC DEL 121.9
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ELEV 305	<b>D</b>	TDZE 305
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CATEGORY	A	B	C	D
UNAV MDA	1160-1 855 (900-1)	1160-1¼ 855 (900-1¼)	1160-2½	855 (900-2½)
 CIRCLING	1160-1¼	855 (900-1¼)	1160-2½ 855 (900-2½)	1160-2¾ 855 (900-2¾)

GUAM, GU  
Amdt 2A 24MAY18

13°29'N-144°48'E

GUAM INTL (GUM)(PGUM)

## RNAV (GPS) Y RWY 24R

GUAM, GU

AL-2146 (FAA)

23110

VORTAC UNZ <b>115.8</b> Chan <b>105</b>	APP CRS <b>242°</b>	Rwy Idg <b>12014</b> TDZE <b>305</b> Apt Elev <b>305</b>
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## VOR or TACAN RWY 24R

GUAM INTL (GUM)(PGUM)

**T**  
**A** Circling NA southeast of Rwy 6R-24L.  
Rwy 24R helicopter visibility reduction below  $\frac{3}{4}$  SM NA.

**MISSED APPROACH:** Climb to 2300 then left turn on UNZ VORTAC R-062 to FIBEE/UNZ 15.6 DME and hold.

ATIS 119.0	GUAM CERAP 119.8 269.0	AGANA TOWER 118.1 340.2	GND CON 121.9 336.4	CLNC DEL 121.9
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GUAM, GU

AL-2146 (FAA)

23110

NDB AJA

385

APP CRS

241°

Rwy Idg

12014

TDZE

305

Apt Elev

305

NDB RWY 24R

GUAM INTL (GUM)(PGUM)

⚠

NA

Circling NA southeast of Rwy 6R-24L. Rwy 24R helicopter visibility reduction below ¾ SM NA. DME from UNZ VORTAC, simultaneous reception of AJA NDB and UNZ DME required.

MISSED APPROACH: Climb to 2300 direct AJA NDB and left turn on bearing 061° from AJA NDB to ADAYI/UNZ 15.6 DME and hold.

ATIS 119.0	GUAM CERAP 119.8 269.0	AGANA TOWER 118.1 340.2	GND CON 121.9 336.4	CLNC DEL 121.9
---------------	---------------------------	----------------------------	------------------------	-------------------

ELEV 305

D

TDZE 305

HIRL all Rwys

2300

AJA

AJA

061°

ADAYI

UNZ 15.6

UNZ VORTAC

NOVKE UNZ 5.1

MOGOE UNZ 9.6

ADAYI UNZ 15.6

One Minute Holding Pattern

2300

061°

241°

1800

3.00° TCH 75

4.5 NM

6 NM

CATEGORY	A	B	C	D
S-24R	1220-1¼ 915 (1000-1¼)		1220-2½ 915 (1000-2½)	
<div>C</div> CIRCLING	1220-1¼ 915 (1000-1¼)		1220-2¾ 915 (1000-2¾)	1220-3 915 (1000-3)

GUAM, GU

Amdt 1A 24MAY18

13°29'N-144°48'E

GUAM INTL (GUM)(PGUM)

NDB RWY 24R

PAC, 30 NOV 2023 to 25 JAN 2024

GUAM INTL (GUM)(PGUM)  
GUAM, GU





HANA, HAWAII

APP CRS  
**259°**

Rwy Idg  
**3606**

TDZE  
**70**


Apt Elev  
**78**

AL-5156 (FAA)

22251

**RNAV (GPS) RWY 26**  
HANA (HNM)(PHHN)

RNP APCH-GPS.

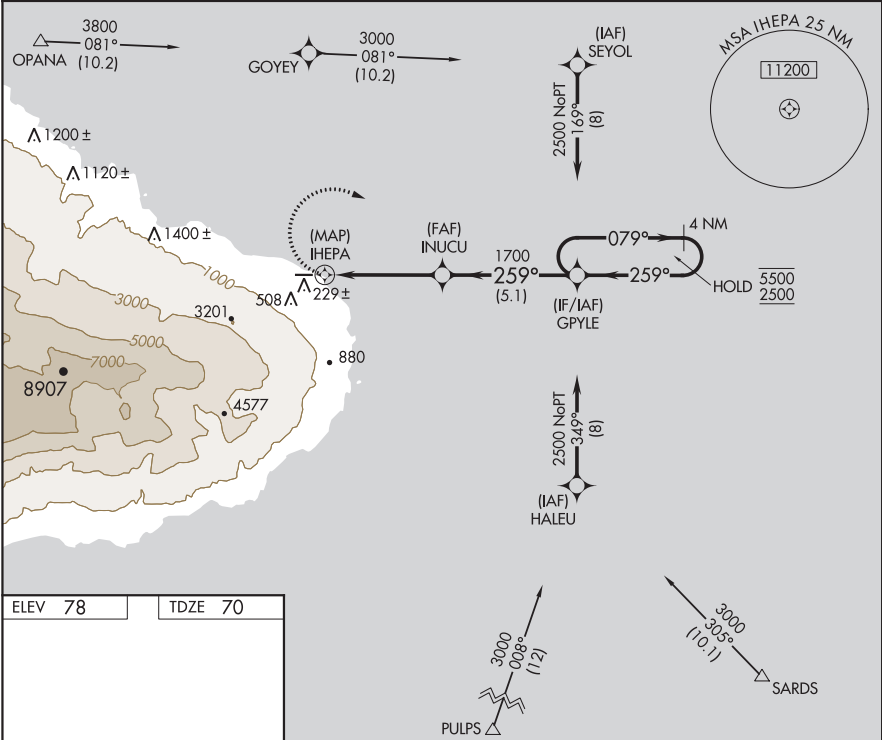
 Circling NA south of Rwy 8-26. Procedure NA at night. When local altimeter setting not received, procedure NA.


AWOS-3PT  
**118.325**

HCF CENTER  
**118.45 278.3**

CLNC DEL  
**122.3**


CTAF  
**122.9 0**



CATEGORY	A	B	C	D
LNNAV MDA	940-1 870 (900-1)	940-1¼ 870 (900-1¼)	NA	
 CIRCLING	940-1¼ 862 (900-1¼)	1100-1½ 1022 (1100-1½)	NA	

ELEV 78

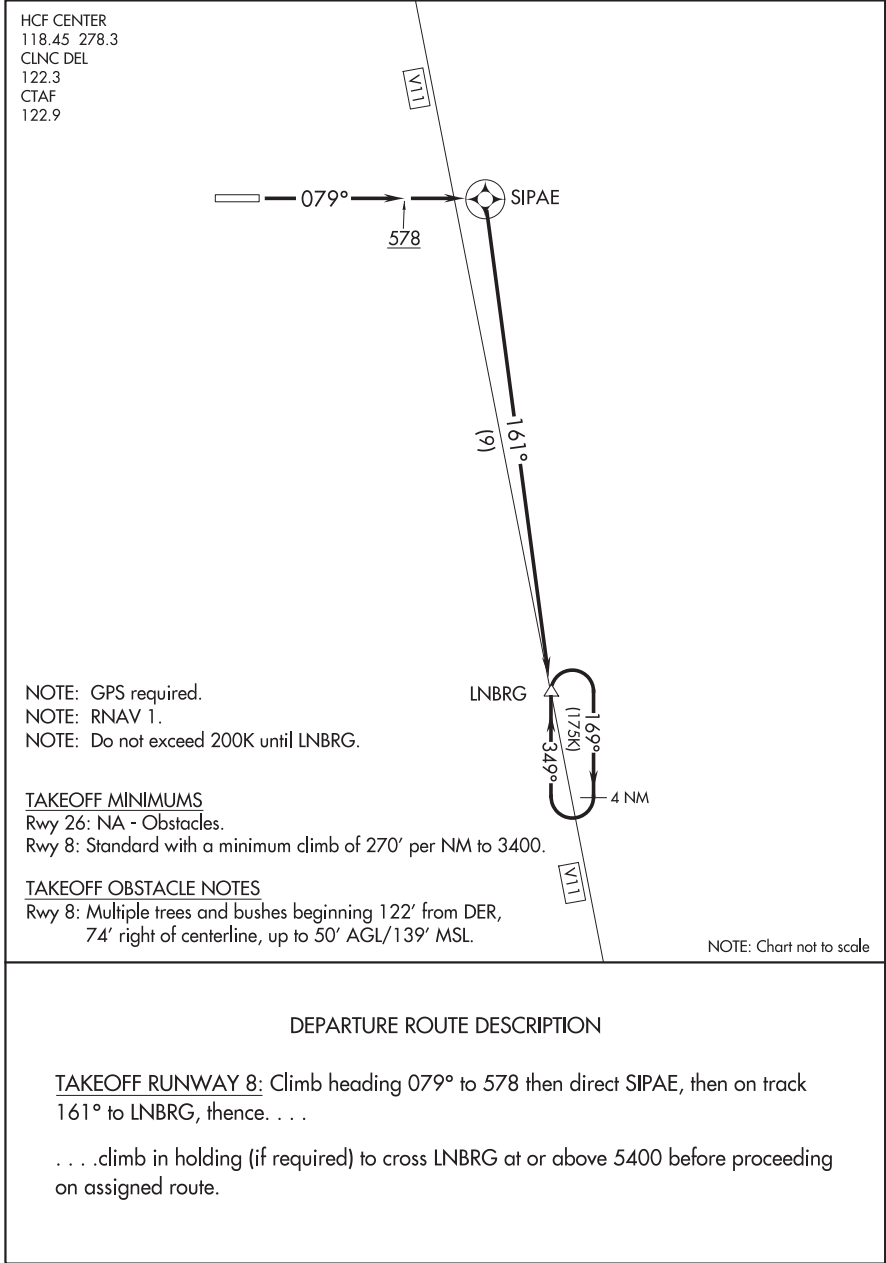
TDZE 70

 MIRL Rwy 8-26

(LNBRG2.LNBRG) 20254

LINDBERG TWO DEPARTURE (OBSTACLE) (RNAV)

HANA (HNM)(PHHN)  
AL-5156 (FAA) HANA, HAWAII



LINDBERG TWO DEPARTURE (OBSTACLE) (RNAV)

(LNBRG2.LNBRG) 25AUG11

HANA, HAWAII  
HANA (HNM)(PHHN)

HILO, HAWAII

AL-756 (FAA)

21168

LOC/DME I-TO <b>110.7</b> Chan <b>44</b>	APP CRS <b>259°</b>	Rwy Idg <b>9800</b> TDZE <b>38</b> Apt Elev <b>38</b>
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ILS or LOC RWY 26  
HILO INTL (ITO) (PHTO)

DME required. From KENNZ: RNAV 1-GPS required.

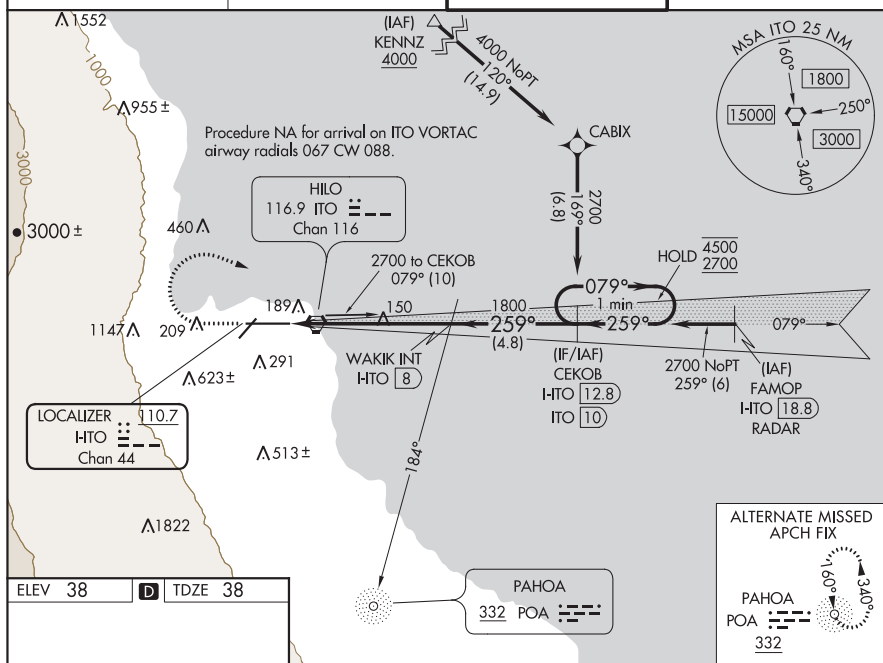
**T** Circling NA south of Rwy 8-26. Rwy 26 helicopter visibility reduction below  $\frac{3}{4}$  SM NA. Inop table does not apply to S-ILS 26 all Cats. For inop ALS, increase S-LOC 26 Cat A/B visibility to 1 SM, and Cat C/D to  $1\frac{1}{8}$  SM.

MALSR

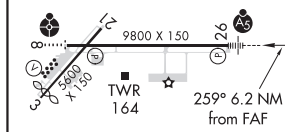


**MISSED APPROACH:** Climb to 500 then climbing right turn to 3300 on heading 100° and on ITO VORTAC R-079 to CEKOB/ITO VORTAC 10 DME and hold, continue climb-in-hold to 3300.

ATIS 126.4	HILO APP CON★ 119.7 269.2	HILO TOWER★ 118.1(CTAF) 263.1	GND CON 121.9
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ELEV 38	<b>D</b>	TDZE 38
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REIL Rwy 3  
MIRL Rwy 3-21 **L**  
HIRL Rwy 8-26 **L**

HILO, HAWAII  
Amdt 14A 17JUN21

19°43'N-155°03'W

HILO INTL (ITO) (PHTO)  
ILS or LOC RWY 26



HILO, HAWAII

AL-756 (FAA)

21056

APP CRS  
210°

Rwy Idg  
TDZE  
31

Apt Elev  
38

RNAV (GPS) RWY 21

HILO INTL (ITO)(PHTO)

RNP APCH.

▼ Circling NA south of Rwy 8-26. Rwy 21 helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 500, then climbing left turn to 4000 direct CABIX and hold, continue climb-in-hold to 4000.

ATIS  
126.4

HILO APP CON \*  
119.7 269.2

HILO TOWER \*  
118.1(CTAF) 263.1

GND CON  
121.9

Procedure NA for arrivals at ARBOR on V15-V26 northwest bound.

ARBOR △ 4000 069° (5.7)

(IAF) KENNZ 3300 130° (10)

(IF) FAMBU 1800 210° (5.9)

(FAF) KOPSE 186

RW21 189

209 △

1147 △

623 ± △

△ 291

△ 513 ±

△ 460

△ 955 ±

1552 △

3000 ±

3000

1000

Procedure NA for arrivals at HAKRI on V22 northeast bound.

4000 261° (18.9) HAKRI

(IAF) CABIX 210K

3300 281° (5.3)

4 NM

349°

169°

MSA RW21 25 NM

15000

500

4000

CABIX

FAMBU

KOPSE

RW21

1.1 NM to RW21

1800

210°

3300

1.1

4.3 NM

5.9 NM

3.00°

TCH 50

CATEGORY	A	B	C	D
LNAV MDA	440-1	409 (500-1)	440-1½	409 (500-1½)
CIRCLING	500-1 462 (500-1)	540-1 502 (600-1)	840-2¼ 802 (900-2¼)	1320-3 1282 (1300-3)

ELEV 38

TDZE 31

210° to RW21

9800 X 150

26

45

50

500

1750

TWR 164

REIL Rwy 3

MIRL Rwy 3-21

HIRL Rwy 8-26

HILO, HAWAII

19°43'N-155°03'W

HILO INTL (ITO) (PHTO)

Amdt 1 25FEB21

RNAV (GPS) RWY 21

HILO, HAWAII

AL-756 (FAA)

21056

APP CRS	Rwy Idg
259°	9800
TDZE	38
Apt Elev	38

RNAV (GPS) RWY 26  
HILO INTL (ITO) (PHTO)

**RNP APCH.**

**⚠** Circling NA south of Rwy 8-26. Rwy 26 helicopter visibility reduction below  $\frac{3}{4}$  SM NA. WAAS VNAV NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 15°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to  $\frac{3}{8}$  SM and increase LNAV Cat A/B visibility to 1 SM.

**MALSR**

**AS**

**MISSED APPROACH:** Climb to 500 then climbing right turn to 4000 direct CABIX and hold, continue climb-in-hold to 4000.

ATIS <b>126.4</b>	HILO APP CON* <b>119.7 269.2</b>	HILO TOWER* <b>118.1(CTAF) 263.1</b>	GND CON <b>121.9</b>
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Procedure NA for arrivals at ARBOR on V15-V2-V16 northwest bound.

Procedure NA for arrivals at HAKRI on V22 northeast bound.

Procedure NA for arrivals at GEBNE on V15 eastbound.

MSA RW 26 25 NM  
15000

GP 2.60° TCH 56

ELEV 38	<b>D</b>	TDZE 38
---------	----------	---------

REIL Rwy 3  
MIRL Rwy 3-21  
HIRL Rwy 8-26

CATEGORY	A	B	C	D
LNAV/VNAV DA	350- $\frac{3}{4}$ 312 (400- $\frac{3}{4}$ )			
LNAV MDA	460- $\frac{3}{4}$ 422 (500- $\frac{3}{4}$ )			
<b>C</b> CIRCLING	500-1 462 (500-1)	540-1 502 (600-1)	840-2 $\frac{1}{4}$ 802 (900-2 $\frac{1}{4}$ )	1320-3 1282 (1300-3)

HILO, HAWAII  
Amdt 2 25FEB21

19°43'N-155°03'W

HILO INTL (ITO) (PHTO)  
RNAV (GPS) RWY 26



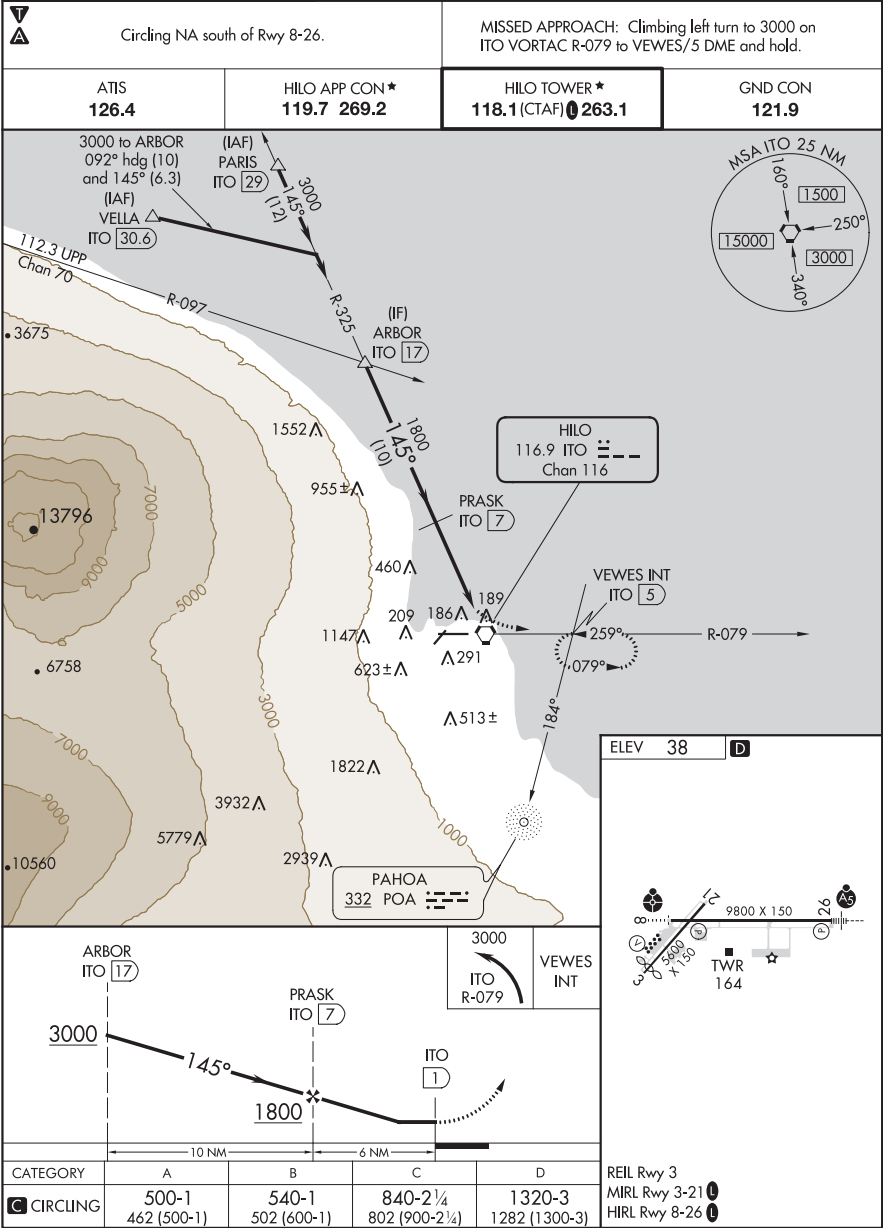
HILO, HAWAII

AL-756 (FAA)

22083

VORTAC ITO <b>116.9</b> Chan <b>116</b>	APP CRS <b>145°</b>	Rwy Idg TDZE Apt Elev <b>N/A</b> <b>N/A</b> <b>38</b>
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VOR/DME or TACAN-A  
HILO INTL (ITO) (PHTO)



HILO, HAWAII  
Amdt 7D 16JUL20

19°43'N-155°03'W

HILO INTL (ITO) (PHTO)  
VOR/DME or TACAN-A

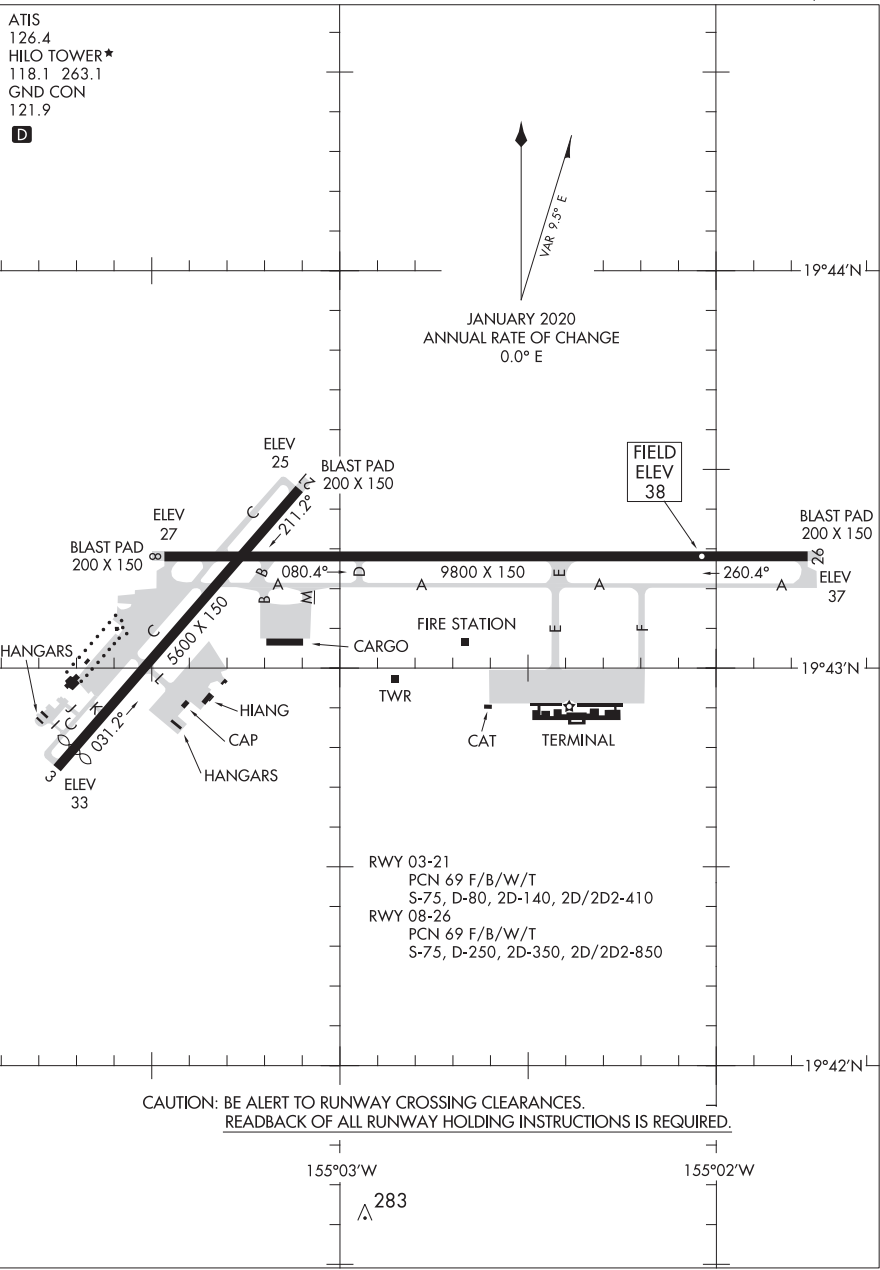


20310

AIRPORT DIAGRAM

AL-756 (FAA)

HILO INTL (ITO) (PHTO)  
HILO, HAWAII



AIRPORT DIAGRAM

20310

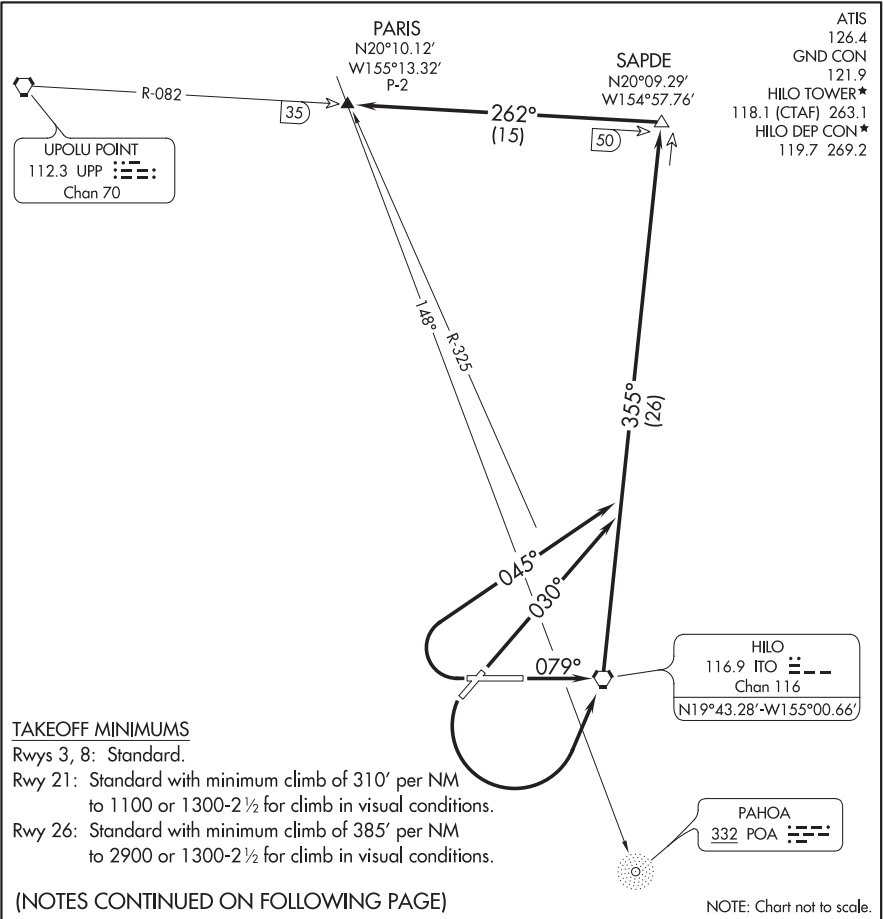
HILO, HAWAII  
HILO INTL (ITO) (PHTO)

(PARIS4.PARIS) 16259

PARIS FOUR DEPARTURE (OBSTACLE)

SL-756 (FAA)

HILO INTL (ITO)(PHTO)  
HILO, HAWAII



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climb heading 030° and ITO R-355 to SAPDE INT, thence. . . .

TAKEOFF RUNWAY 8: Climb heading 079° to ITO VORTAC and ITO R-355 to SAPDE INT, thence. . . .

TAKEOFF RUNWAY 21: Climbing left turn direct ITO VORTAC and ITO R-355 to SAPDE INT, or climb in visual conditions to cross ITO VORTAC northbound at or above 1200 MSL, then via R-355 to SAPDE INT, thence. . . .

TAKEOFF RUNWAY 26: Climbing right turn via heading 045° and ITO R-355 to SAPDE INT, or climb in visual conditions to cross ITO VORTAC northbound at or above 1200 MSL, then via R-355 to SAPDE INT, thence. . . .

. . . .proceed via UPP R-082 to PARIS INT.

PARIS FOUR DEPARTURE (OBSTACLE)

(PARIS4.PARIS) 11FEB10

HILO, HAWAII  
HILO INTL (ITO)(PHTO)

(PARIS4.PARIS) 16035

PARIS FOUR DEPARTURE (OBSTACLE)

SL-756 (FAA)

HILO INTL (ITO)(PHTO)

HILO, HAWAII

TAKEOFF OBSTACLE NOTES

- Rwy 3: Numerous trees and WSK beginning 395' from DER, 68' left of centerline, up to 86' AGL/115' MSL.  
Numerous trees beginning 325' from DER, 137' right of centerline, up to 66' AGL/95' MSL.
- Rwy 8: Tree 1198' from DER, 480' left of centerline, 37' AGL/70' MSL.  
Numerous trees beginning 414' from DER, 328' right of centerline, up to 46' AGL/79' MSL.
- Rwy 21: Numerous trees and poles beginning 1077' from DER, 272' left of centerline, up to 70' AGL/490' MSL.  
Numerous trees and poles beginning 236' from DER, 43' right of centerline, up to 83' AGL/362' MSL.  
Vehicles on road beginning 234' from DER, 260' left of centerline, 15' AGL/58' MSL.
- Rwy 26: Numerous vehicles beginning 6' from DER, 452' right of centerline, up to 15' AGL/39' MSL.  
Numerous trees and light poles beginning 542' from DER, 471' left of centerline, up to 86' AGL/92' MSL.  
Numerous trees beginning 1645' from DER, 266' right of centerline, up to 93' AGL/119' MSL.  
Windsock 3' from DER, 269' right of centerline, 19' AGL/46' MSL.  
RADAR reflector 373' from DER, 346' right of centerline, 10' AGL/37' MSL.

PARIS FOUR DEPARTURE (OBSTACLE)

(PARIS4.PARIS) 11FEB10

HILO, HAWAII

HILO INTL (ITO)(PHTO)





HONOLULU, HAWAII

AL-754 (FAA)

23334

LOC/DME I-HNL <b>111.7</b> Chan <b>54</b>	APP CRS <b>079°</b>	Rwy Idg <b>12312</b> TDZE <b>13</b> Apt Elev <b>13</b>
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ILS RWY 8L

DANIEL K INOUE INTL (HNL) (PHNL)

From OOKAH: RNAV 1-GPS required. DME or RADAR required.

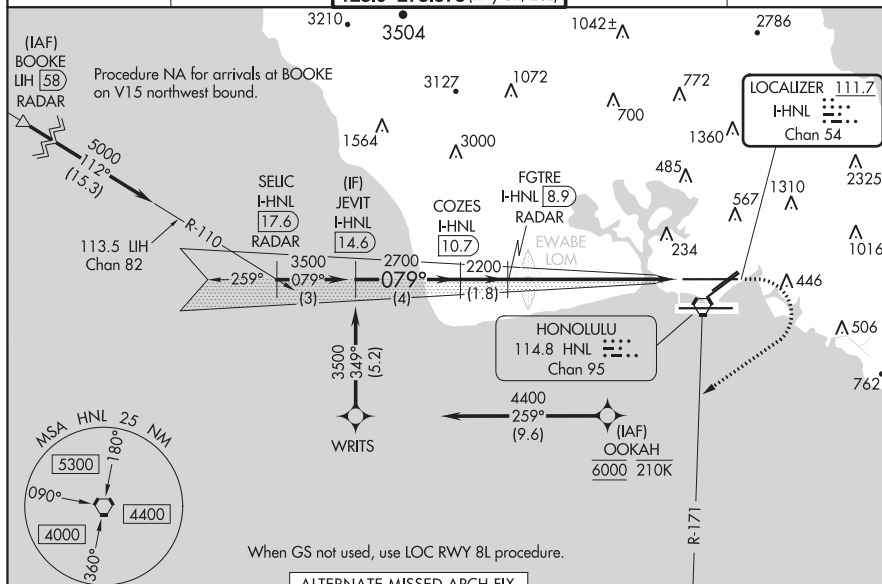
For inop ALS, increase Cat E visibility to  $\frac{3}{4}$  SM.  
OOKAH transition NA for Cat E aircraft.

MALSR



**MISSED APPROACH:** Climb to 500 then climbing right turn to 5000 on HNL VORTAC R-171 to ALANA INT/HNL 13.9 DME and hold, continue climb-in-hold to 5000.

D-ATIS	HCF APPROACH	HONOLULU TOWER	GND CON	CLNC DEL
127.9 251.15	118.3 269.0	118.1 257.8		
		123.9 273.575 (Rwy 8R/26L)	121.9 348.6	121.4 281.4



ELEV	13	<b>D</b>	TDZE	13
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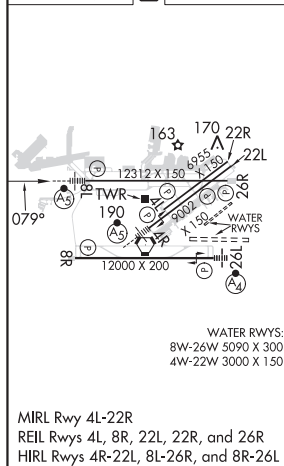


Diagram illustrating the ILS glidepath not coincident with the VGS angle. The diagram shows the HNL (Horizontal Nucleus Line) and the VGS (Vertical Glide Slope) angles for various stations. The HNL is 13.9° and the VGS angle is 3.00°/TCH 71. The diagram also shows the HNL and VGS angles for other stations: CKH (17.4°), ALANA (13.9°), and MKK (116.1°). The HNL and VGS angles are shown for stations R-278, R-218, R-254, and R-171. The diagram also shows the HNL and VGS angles for stations R-278, R-218, R-254, and R-171. The diagram also shows the HNL and VGS angles for stations R-278, R-218, R-254, and R-171.

CATEGORY	A	B	C	D	E
S-ILS 8L					

213-1/2 200 (200-1/2)

HONOLULU, HAWAII

Amdt 24A 16 JUL 20

DANIEL K INOUE INTL (HNL) (PHNL)

ILS RWY 8L

21°19'N-157°55'W

HONOLULU, HAWAII

AL-754 (FAA)

23334

LOC/DME HUM  
110.5  
Chan 42

APP CRS  
042°

Rwy Idg  
TDZE  
Apt Elev  
8950  
8  
13

ILS Y RWY 4R

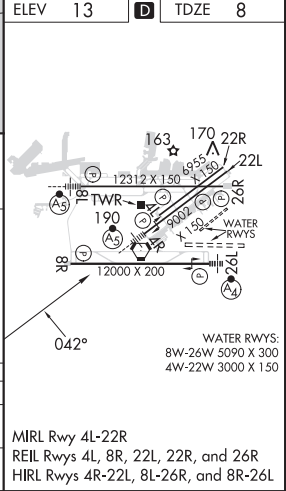
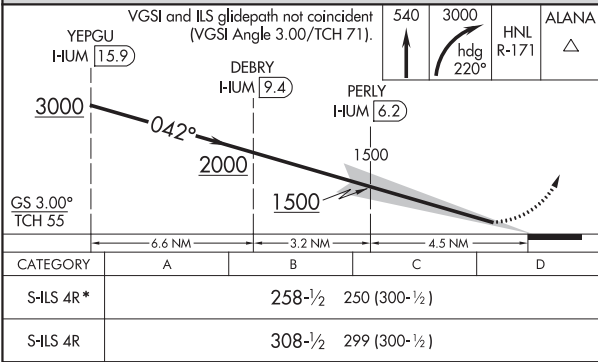
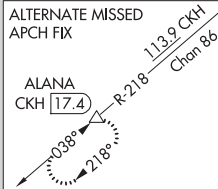
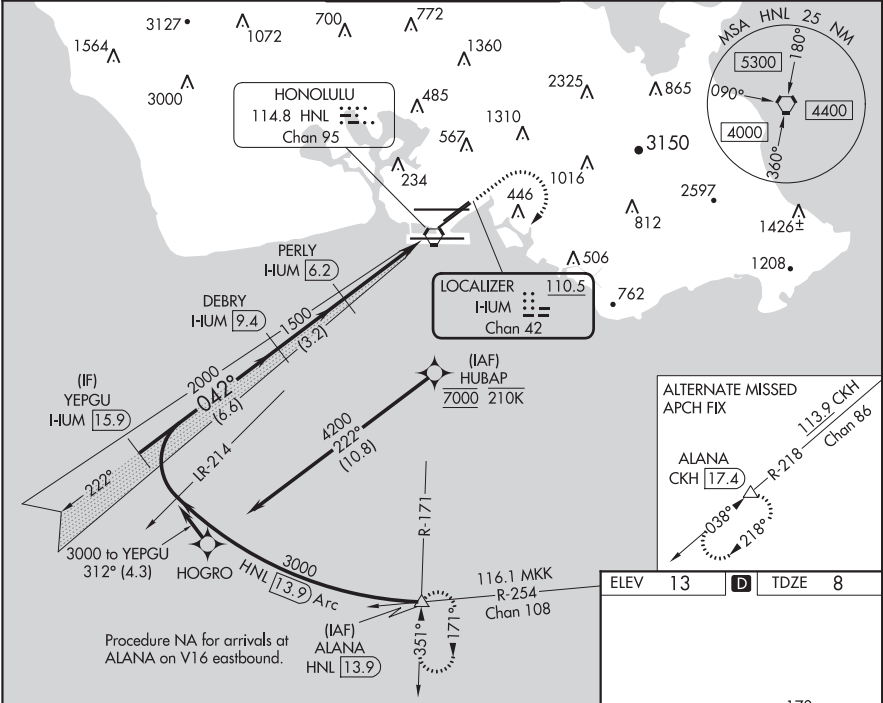
DANIEL K INOUEY INTL (HNL) (PHNL)

DME required. From HUBAP: RNAV 1-GPS required.  
DME or RADAR required for procedure entry.

MALSR

MISSED APPROACH: Climb to 3000 then climbing right turn to 3000 on heading 220° and on HNL VORTAC R-171 to ALANA INT/HNL 13.9 DME and hold. \*Missed approach requires minimum climb of 318 feet per NM to 1820. (If unable to meet climb gradient use S-ILS 4R minimums).

D-ATIS	HCF APPROACH	HONOLULU TOWER	GND CON	CLNC DEL
127.9 251.15	118.3 269.0	118.1 257.8 123.9 273.575 (Rwy 8R/26L)	121.9 348.6	121.4 281.4



HONOLULU, HAWAII

Amdt 2A 08SEP22

DANIEL K INOUEY INTL (HNL) (PHNL)

21°19'N-157°55'W

ILS Y RWY 4R

HONOLULU, HAWAII

AL-754 (FAA)

23334

LOC/DME HUM <b>110.5</b> Chan <b>42</b>	APP CRS <b>042°</b>	Rwy Idg <b>8950</b> TDZE <b>8</b> Apt Elev <b>13</b>
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**ILS Z RWY 4R**  
DANIEL K INOUE INTL (HNL) (PHNL)

From HAURY: RNAV 1-GPS required. DME or RADAR required.  
DME or RADAR required for procedure entry.

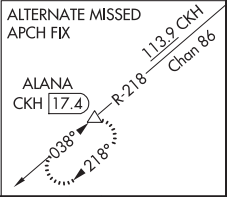
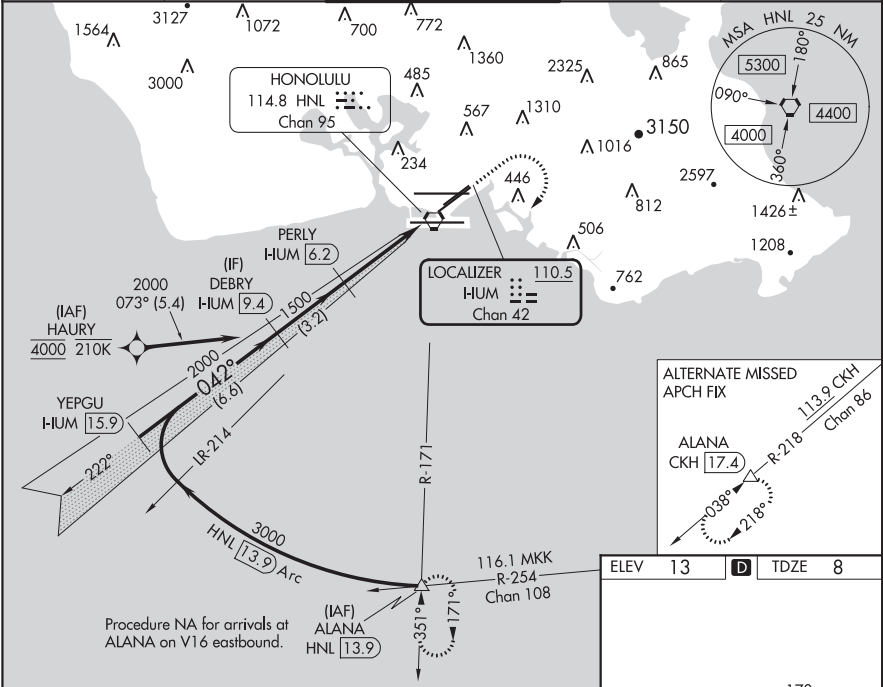
MALSR



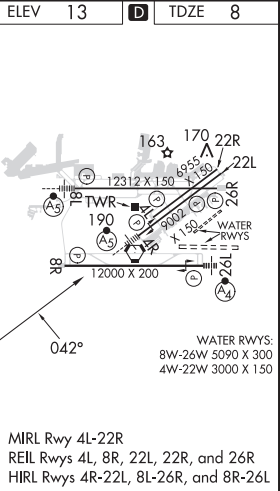
MISSED APPROACH: Climb to 540, Cat E climb to 780 then climbing right turn to 3000 on heading 220° and on HNL VORTAC R-171 to ALANA INT/HNL VORTAC 13.9 DME and hold. \*Missed approach requires minimum climb of 318 feet per NM to 1820, (if unable to meet climb gradient use S-ILS 4R minimums).

HAURY transition NA for Cat E aircraft. For inop ALS, increase S-ILS 4R Cats A-D visibility to 7/8 SM, increase S-ILS 4R Cat E visibility to 1 1/8 SM.

D-ATIS <b>127.9 251.15</b>	HCF APPROACH <b>118.3 269.0</b>	HONOLULU TOWER <b>118.1 257.8</b> <b>123.9 273.575</b> (Rwy 8R/26L)	GND CON <b>121.9 348.6</b>	CLNC DEL <b>121.4 281.4</b>
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VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 71).				
YEPGU I-HUM [15.9]	DEBRY I-HUM [9.4]	PERLY I-HUM [6.2]	HNL R-171	ALANA
3000	2000	1500	540	3000
GS 3.00° TCH 55	042°	1500	hdg 220°	
6.6 NM	3.2 NM	4.5 NM		
CATEGORY	A	B	C	D
S-ILS 4R*	258-1/2	250 (300-1/2)		NA
S-ILS 4R	308-1/2	299 (300-1/2)		566-1 1/8 557 (600-1 1/8)



HONOLULU, HAWAII  
Amdt 2A 08SEP22

21°19'N-157°55'W

**ILS Z RWY 4R**  
DANIEL K INOUE INTL (HNL) (PHNL)

HONOLULU, HAWAII

AL-754 (FAA)

23222

APP CRS  
259°

Rwy Idg  
12000

TDZE  
10

Apt Elev  
13

RNAV (RNP) RWY 26L

DANIEL K INOUEY INTL (HNL) (PHNL)

RNP AR APCH, RF required.

▼

▲ NA

For uncompensated Baro-VNAV systems, procedure NA below 15°C (58°F) or above 53°C (128°F).

MALSF

▲

■

MISSED APPROACH: Climb to 3000 on track 259° to KABTE, left turn to LAYIG, then track 133° to ALANA and hold. Missed approach requires minimum climb of 234 feet per NM to 300.

D-ATIS  
127.9 251.15

HCF APPROACH  
118.3 269.0

HONOLULU TOWER  
118.1 257.8  
123.9 273.575 (Rwy 8R/26L)

GND CON  
121.9 348.6

CLNC DEL  
121.4 281.4

ELEV 13

D

TDZE 10

MIRL Rwy 4L-22R

REIL Rwys 4L, 8R, 22L, 22R, and 26R

HIRL Rwys 4R-22L, 8L-26R, and 8R-26L

3000

tr 259°

KABTE

↙

LAYIG

↙

tr 133°

ALANA

△

KUHIO

SECIL

RWY 26L

512

1154

2000

3000

259°

316°

304°

1.3 NM

2 NM

2.6 NM

4.5 NM

GP 3.00°

TCH 75

CATEGORY

A

B

C

D

RNP 0.15 DA

260-¾

250 (300-¾)

AUTHORIZATION REQUIRED

HONOLULU, HAWAII

Orig-E 28FEB19

21°19'N-157°55'W

DANIEL K INOUEY INTL (HNL) (PHNL)

RNAV (RNP) RWY 26L

PAC, 30 NOV 2023 to 25 JAN 2024

HONOLULU, HAWAII

AL-754 (FAA)

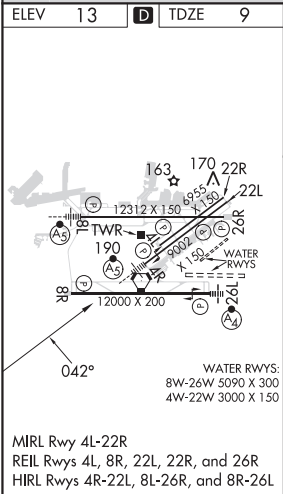
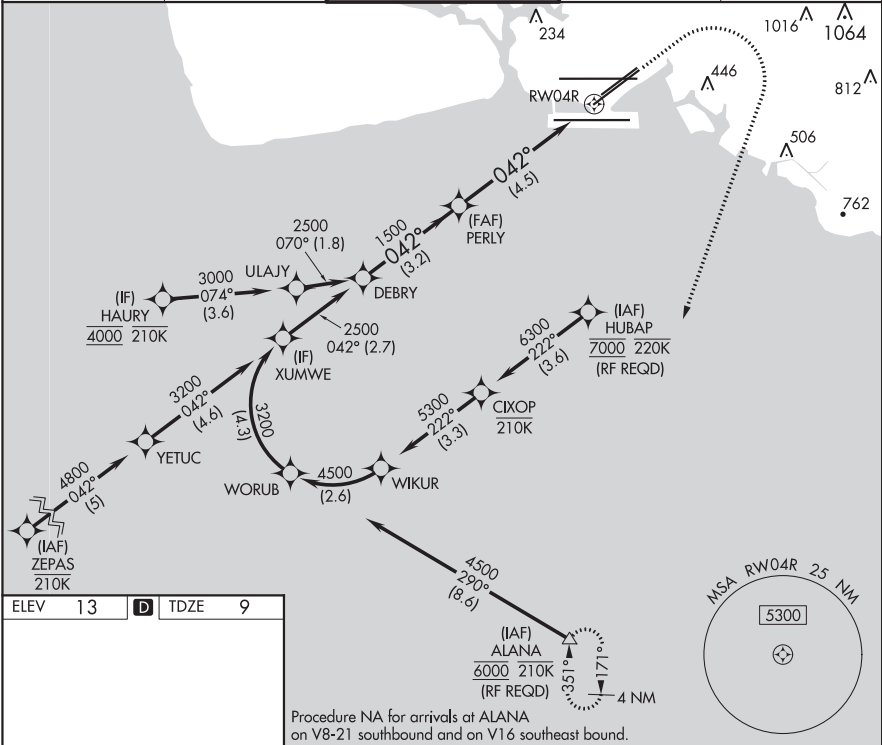
23222

APP CRS	Rwy Idg	8950
042°	TDZE	9
	Apt Elev	13

RNAV (RNP) Z RWY 4R  
DANIEL K INOUE INTL (HNL) (PHNL)

RNP AR APCH.	MALSR	MISSED APPROACH: Climb to 580 then climbing right turn to 3000 direct ALANA and hold.
▼ For uncompensated Baro-VNAV systems, procedure NA below 17°C or above 54°C. For inop ALS, increase RNP 0.30 Cat A visibility to ¾ SM and Cat B to ½ SM.		

D-ATIS	HCF APPROACH	HONOLULU TOWER	GND CON	CLNC DEL
127.9 251.15	118.3 269.0	118.1 257.8 123.9 273.575 (Rwy 8R/26L)	121.9 348.6	121.4 281.4



DEBRY	VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 71).	580	3000	ALANA
2500		↑	↗	△
GP 3.00° TCH 55	PERLY	See planview for multiple IF locations.		RW04R
	3.2 NM	4.5 NM		
CATEGORY	A	B	C	D
RNP 0.30 DA	259-½ 250 (300-½)	277-½ 268 (300-½)	432-¾	423 (500-¾)

AUTHORIZATION REQUIRED

HONOLULU, HAWAII  
Amdt 2 30JAN20

DANIEL K INOUE INTL (HNL) (PHNL)  
21°19'N-157°55'W  
RNAV (RNP) Z RWY 4R

HONOLULU, HAWAII

AL-754 (FAA)

23222


APP CRS  
**079°**

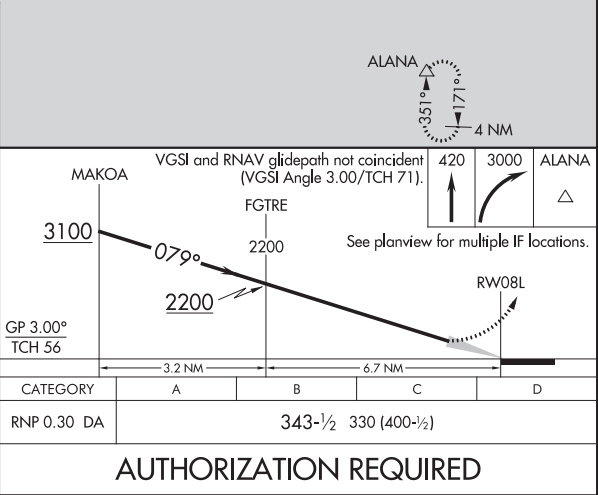
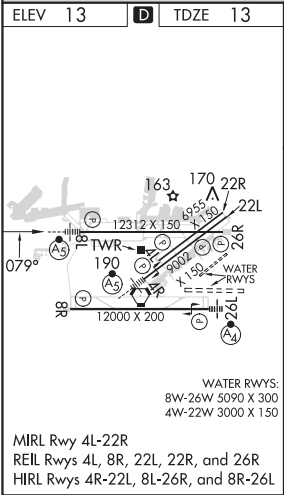
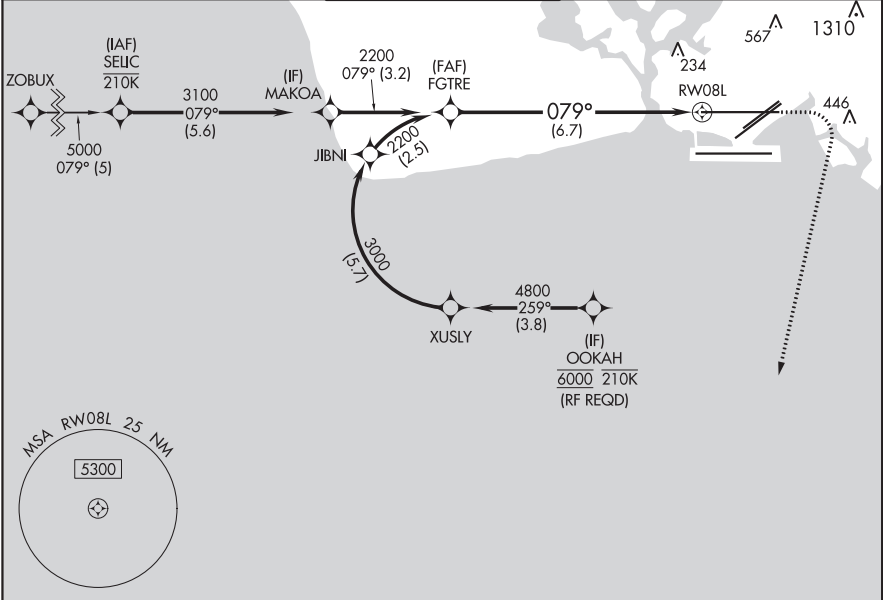
Rwy Idg  
**12312**

TDZE  
**13**

Apt Elev  
**13**

**RNAV (RNP) Z RWY 8L**  
DANIEL K INOUEY INTL (HNL) (PHNL)

RNP AR APCH. ▼ For uncompensated Baro-VNAV systems, procedure NA below 17°C or above 54°C.		MALSR 	MISSED APPROACH: Climb to 420 then climbing right turn to 3000 direct ALANA and hold.	
D-ATIS <b>127.9 251.15</b>	HCF APPROACH <b>118.3 269.0</b>	HONOLULU TOWER <b>118.1 257.8</b> <b>123.9 273.575</b> (Rwy 8R/26L)	GND CON <b>121.9 348.6</b>	CLNC DEL <b>121.4 281.4</b>



HONOLULU, HAWAII  
Amdt 3 30JAN20

DANIEL K INOUEY INTL (HNL) (PHNL)  
21°19'N-157°55'W

**RNAV (RNP) Z RWY 8L**


HONOLULU, HAWAII

AL-754 (FAA)

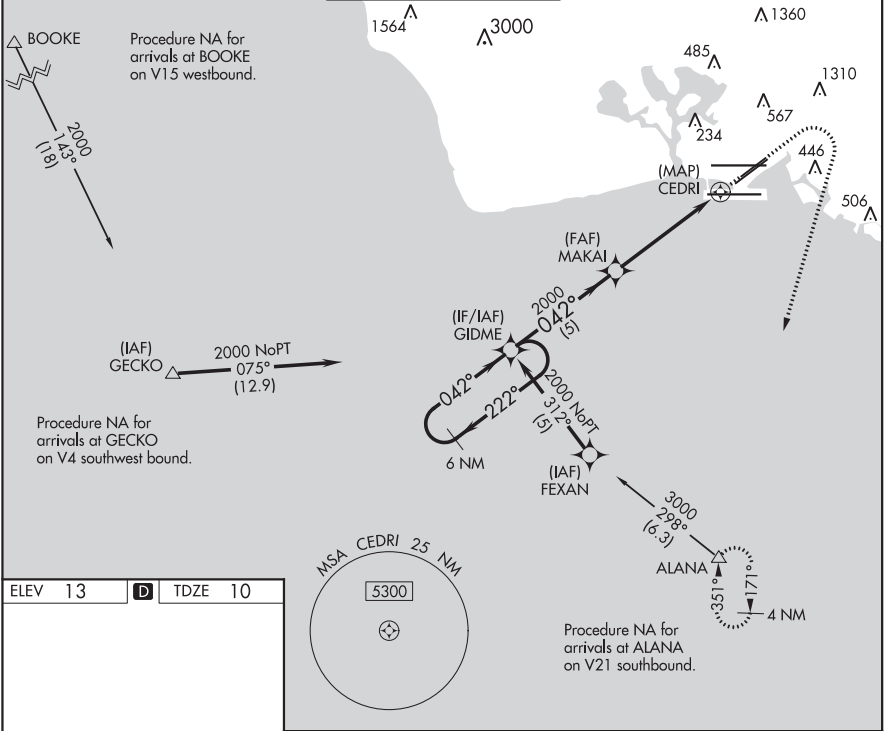
23222

APP CRS	Rwy Idg	6952
042°	TDZE	10
	Apt Elev	13

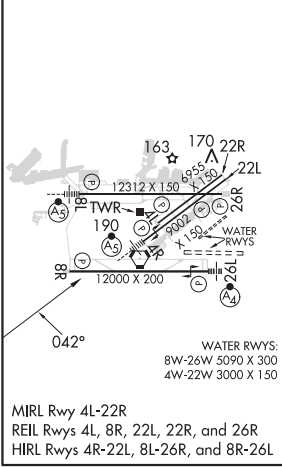
**RNAV (GPS) RWY 4L**  
DANIEL K INOUE INTL (HNL) (PHNL)


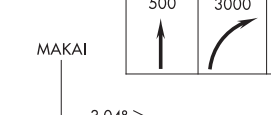
<b>RNP APCH.</b>  Circling Rwy 22R NA at night. Circling NA for Cats A and B northwest of Rwys 8L and 22R. Circling NA for Cats C, D, and E north of Rwy 8L-26R. Circling NA to Sea Lanes 4W, 8W, 22W, and 26W. Rwy 4L helicopter visibility reduction below 3/4 SM NA.	<b>MISSED APPROACH:</b> Climb to 500 then climbing right turn to 3000 direct ALANA and hold.
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D-ATIS <b>127.9 251.15</b>	HCF APPROACH <b>118.3 269.0</b>	HONOLULU TOWER <b>118.1 257.8</b> <b>123.9 273.575 (Rwy 8R/26L)</b>	GND CON <b>121.9 348.6</b>	CLNC DEL <b>121.4 281.4</b>
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ELEV 13	<b>D</b>	TDZE 10
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6 NM Holding Pattern					500 3000 ALANA				
GIDME					MAKAI				
2000 ← 222° → 042° → 2000					3.04° TCH 50 CEDRI				
5 NM					5 NM 1 NM				
CATEGORY	A		B		C	D		E	
LNAY MDA	460-1 1/4		450 (500-1 1/4)		460-1 3/8 450 (500-1 3/8)	460-1 1/2 450 (500-1 1/2)		980-3 970 (1000-3)	
<b>C</b> CIRCLING	680-1 1/4		667 (700-1 1/4)		820-2 1/4 807 (900-2 1/4)	1400-3 1387 (1400-3)		1940-3 1927 (2000-3)	

HONOLULU, HAWAII  
Orig-C 08SEP22

DANIEL K INOUE INTL (HNL) (PHNL)  
21°19'N-157°55'W  
**RNAV (GPS) RWY 4L**



HONOLULU, HAWAII

AL-754 (FAA)

23222

APP CRS  
**079°**

Rwy Idg  
**10**

TDZE  
**10**

Apt Elev  
**13**

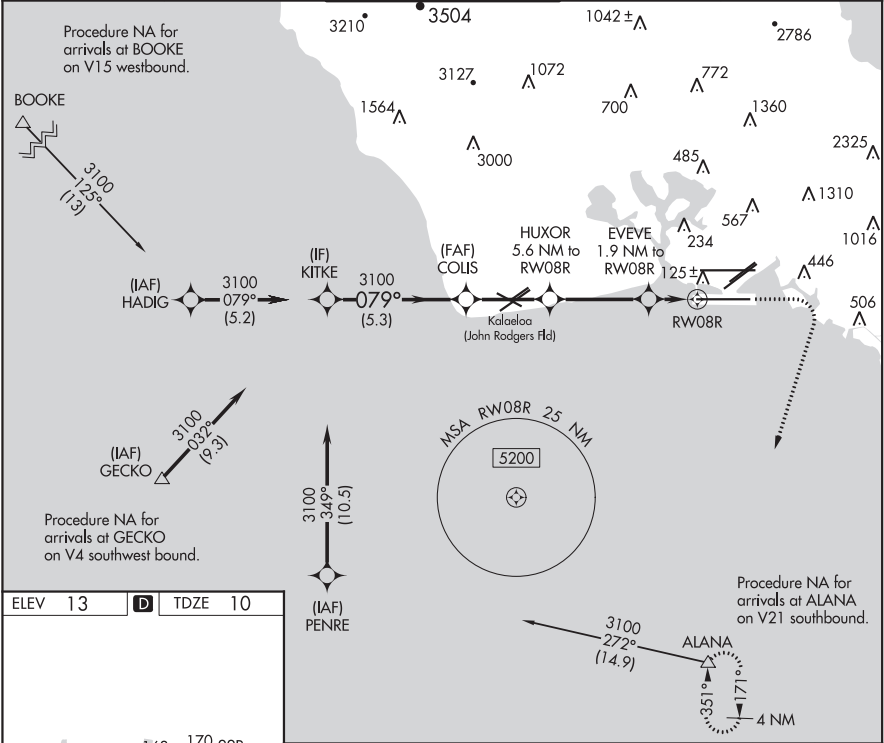
**RNAV (GPS) RWY 8R**  
DANIEL K INOUEY INTL (HNL) (PHNL)

RNP APCH.

**⚠** Circling Rwy 22R NA at night. Circling NA for Cats A and B northwest of Rwy 8L and 22R. Circling NA for Cats C, D, and E north of Rwy 8L-26R. Circling NA to Sea Lanes 4W, 8W, 22W, and 26W. Cat E restricted to USAF/USN Aircraft.

MISSED APPROACH: Climb to 500 then climbing right turn to 3100 direct ALANA and hold, continue climb-in-hold to 3100.

D-ATIS	HCF APPROACH	HONOLULU TOWER	GND CON	CLNC DEL
127.9 251.15	118.3 269.0	118.1 257.8 123.9 273.575 (Rwy 8R/26L)	121.9 348.6	121.4 281.4



ELEV 13 **D** TDZE 10

WATER RWYS:  
8W-26W 5090 X 300  
4W-22W 3000 X 150

MIRL Rwy 4L-22R  
REIL Rwy 4L, 8R, 22L, 22R, and 26R  
HIRL Rwy 4R-22L, 8L-26R, and 8R-26L

VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 75)

CATEGORY	A	B	C	D	E
LNNAV MDA	360-1 350 (400-1)				
<b>C</b> CIRCLING	680-1 667 (700-1)	760-1 747 (800-1)	820-2½ 807 (900-2¼)	1340-3 1327 (1400-3)	2020-3 2007 (2100-3)

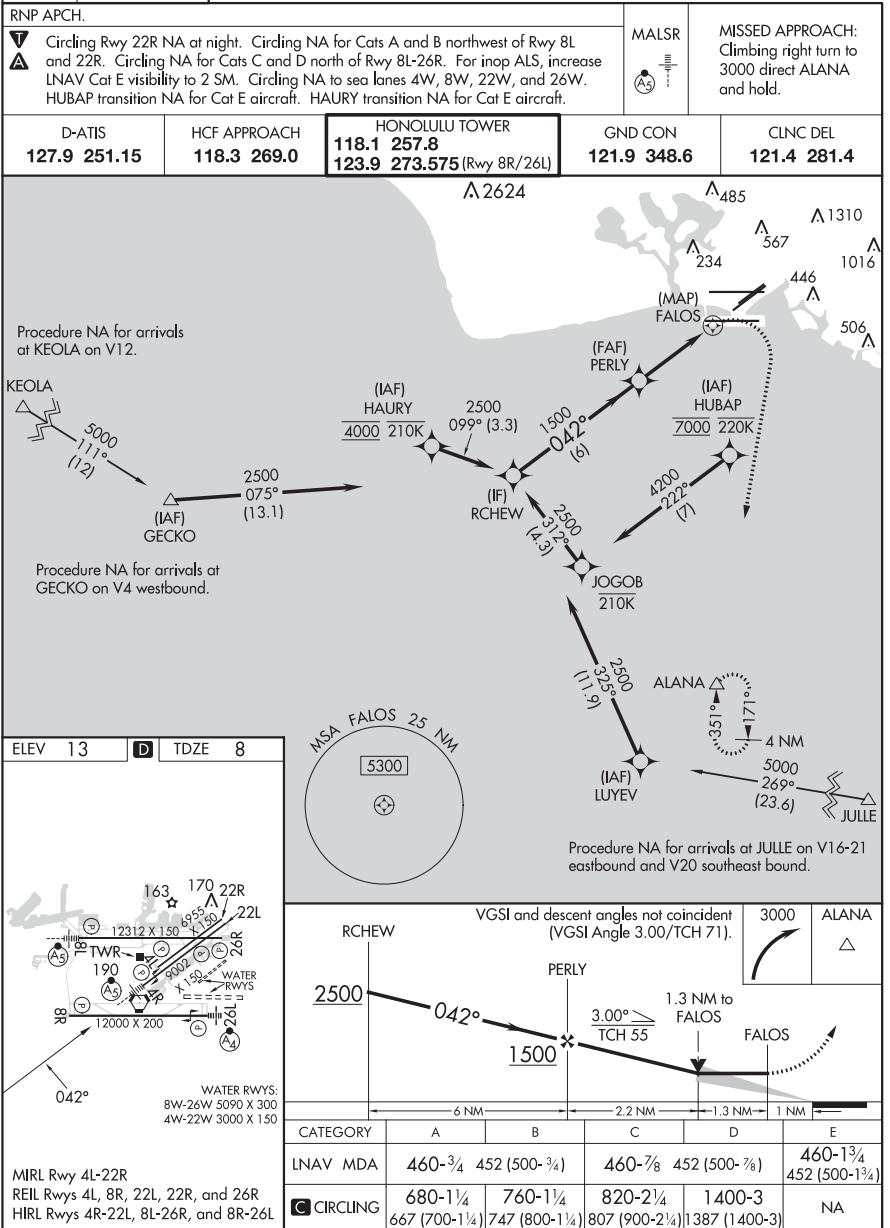
HONOLULU, HAWAII

AL-754 (FAA)

23222

APP CRS	Rwy Idg	8950
042°	TDZE	8
	Apt Elev	13

RNAV (GPS) Y RWY 4R  
DANIEL K INOUE INTL (HNL) (PHNL)



HONOLULU, HAWAII

AL-754 (FAA)

23222

APP CRS	Rwy Idg	<b>12312</b>
<b>079°</b>	TDZE	<b>13</b>
	Apt Elev	<b>13</b>

RNAV (GPS) Y RWY 8L  
DANIEL K INOUE INTL (HNL) (PHNL)

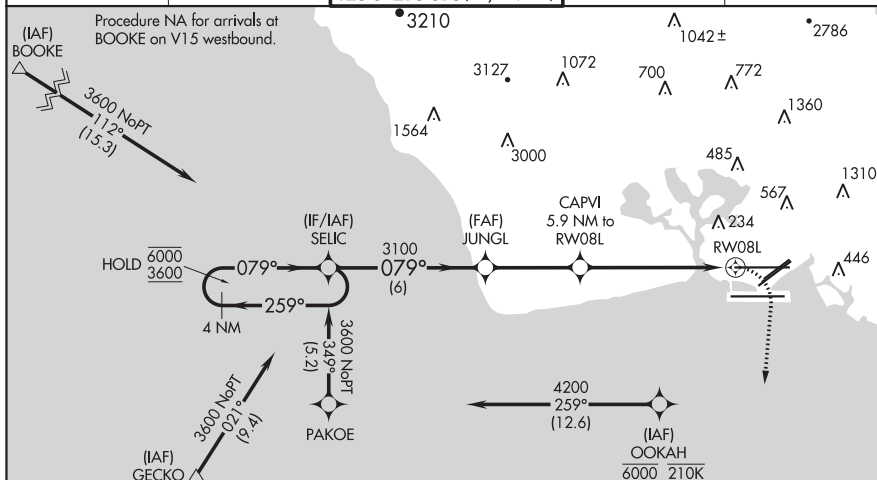
RNP APCH.

- T** Circling Rwy 22R NA at night. For inop ALS, increase Cats C, D, and E visibility to 1 3/4 SM. Circling NA to sea lanes 4W, 8W, 22W, and 26W. Circling NA for Cats A and B northwest of Rwy 8L-22R. Circling NA for Cats C and D north of Rwy 8L-26R. OOKAH transition NA for Cat E aircraft.



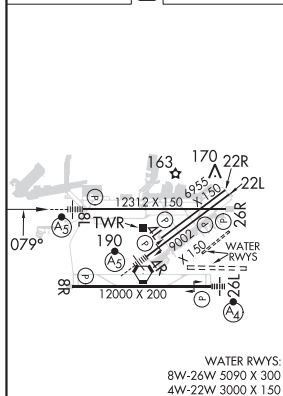
**MISSED APPROACH:** Climbing right turn to 3600 direct ALANA and hold, continue climb-in-hold to 3600.

D-ATIS	HCF APPROACH	HONOLULU TOWER	GND CON	CLNC DEL
127.9 251.15	118.3 269.0	118.1 257.8 123.9 273.575 (Rwy 8R/26L)	121.9 348.6	121.4 281.4

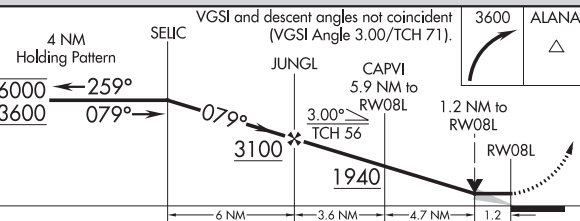
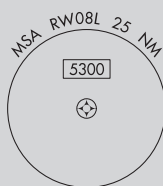



Procedure NA for arrivals at GECKO on V16 northwest bound and V4 southwest bound.

ELEV 13	<b>D</b>	TDZE 13
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MIRL Rwy 4L-22R  
REIL Rwy 4L, 8R, 22L, 22R, and 26R  
HIRL Rwy 4R-22L, 8L-26R, and 8R-26L



CATEGORY	A	B	C	D	E
LNAV MDA	480-½	467 (500-½)	480-1 467 (500-1)		
 CIRCLING	680-1	667 (700-1)	820-2½ 807 (900-2½)	1260-3 1247 (1300-3)	NA

HONOLULU, HAWAII

Amdt 3B 08SEP22

DANIEL K INOUE INTL (HNL) (PHNL)  
RNAV (GPS) Y RWY 8L

21°19'N-157°55'W

HONOLULU, HAWAII

AL-754 (FAA)

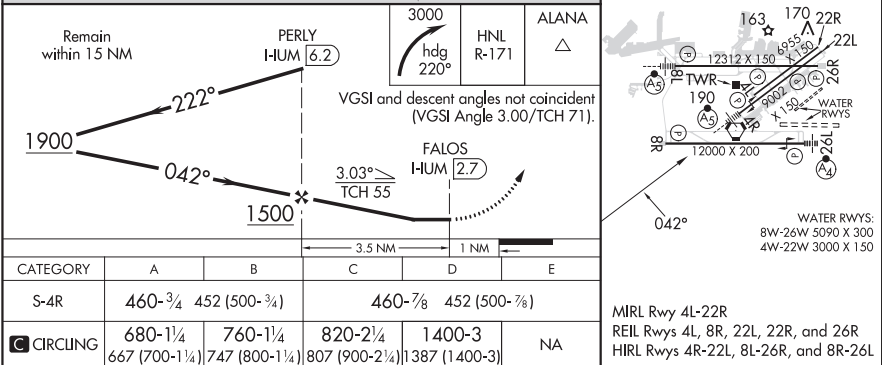
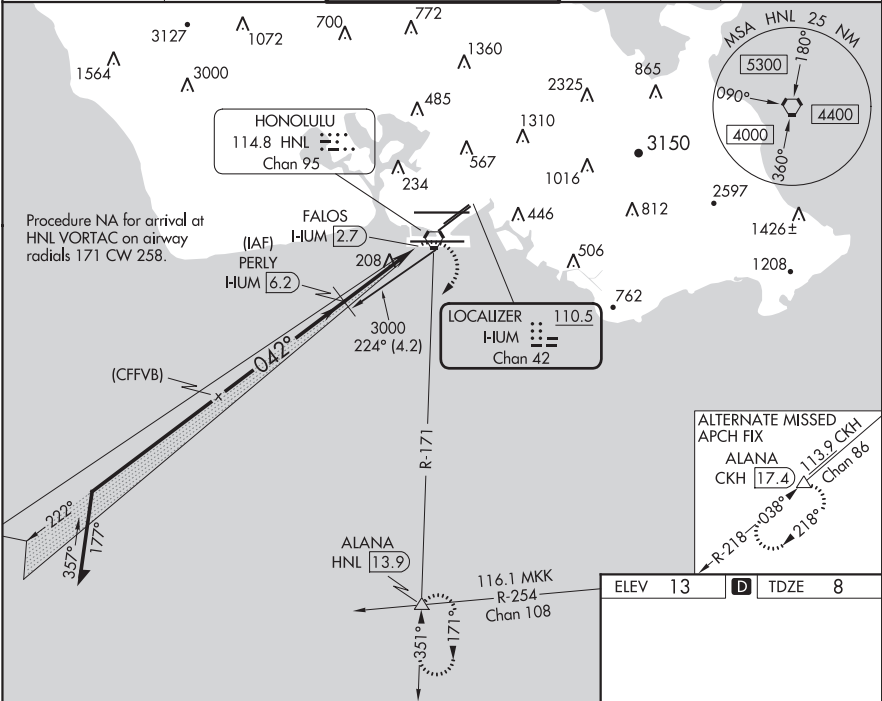
23334

LOC/DME HUM <b>110.5</b> Chan <b>42</b>	APP CRS <b>042°</b>	Rwy Idg TDZE Apt Elev <b>8950</b> <b>8</b> <b>13</b>
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**LOC RWY 4R**  
DANIEL K INOUE INTL (HNL) (PHNL)

DME required. <b>⚠</b> Circling Rwy 22R NA at night. For inop ALS, increase Cat E visibility to 1 3/8 SM. Circling NA for Cats A and B northwest of Rwys 8L and 22R. Circling NA for Cats C and D north of Rwy 8L-26R. Circling NA to sea lanes 4W, 8W, 22W, and 26W.	MALSR <b>(AS)</b>	MISSED APPROACH: Climbing right turn to 3000 on heading 220° and HNL VORTAC R-171 to ALANA INT/ HNL 13.9 DME and hold.
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D-ATIS <b>127.9 251.15</b>	HCF APPROACH <b>118.3 269.0</b>	HONOLULU TOWER <b>118.1 257.8</b> <b>123.9 273.575</b> (Rwy 8R/26L)	GND CON <b>121.9 348.6</b>	CLNC DEL <b>121.4 281.4</b>
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HONOLULU, HAWAII  
Amdt 1D 25FEB21

DANIEL K INOUE INTL (HNL) (PHNL)  
21°19'N-157°55'W  
**LOC RWY 4R**

HONOLULU, HAWAII

AL-754 (FAA)

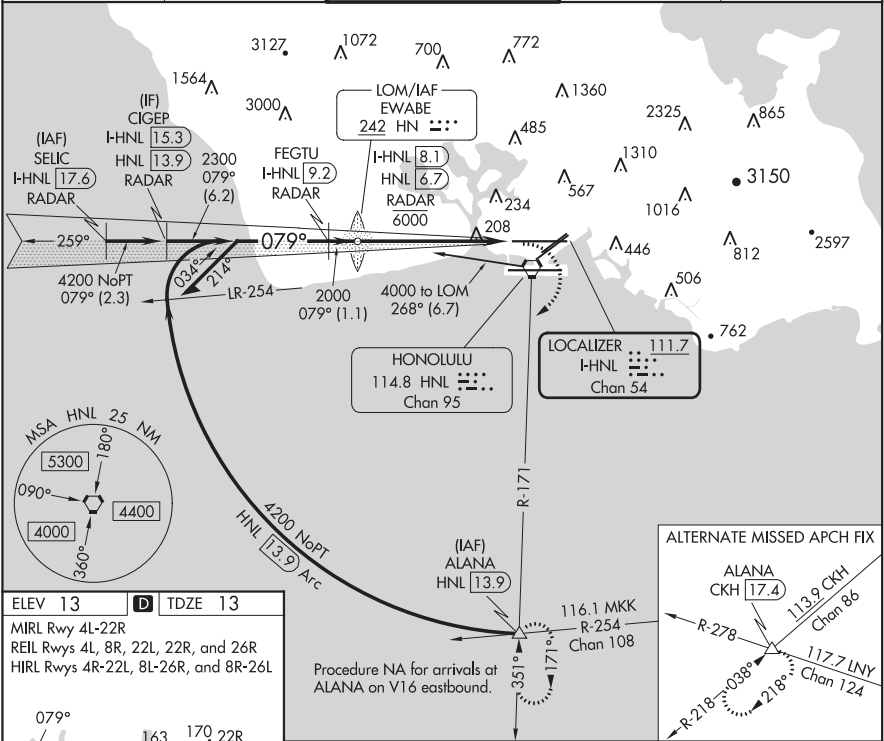
23334

LOC/DME I-HNL 111.7 Chan 54	APP CRS 079°	Rwy Idg TDZE Apt Elev	12312 13 13
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LOC RWY 8L  
DANIEL K INOUEY INTL (HNL) (PHNL)

DME or RADAR required.	MALSR (AS)	MISSED APPROACH: Climbing right turn to 5000 on heading 200° and HNL VORTAC R-171 to ALANA INT/HNL 13.9 DME and hold, continue climb-in-hold to 5000.
▼ Circling Rwy 22R NA at night. Circling NA for Cats A and B northwest of Rwys 8L and 22R. Circling NA for Cats C and D north of Rwy 8L-26R. Circling NA to sea lanes 4W, 8W, 22W, and 26W.		

D-ATIS 127.9 251.15	HCF APPROACH 118.3 269.0	HONOLULU TOWER 118.1 257.8 123.9 273.575 (Rwy 8R/26L)	GND CON 121.9 348.6	CLNC DEL 121.4 281.4
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ELEV 13	TDZE 13
MIRL Rwy 4L-22R	
REIL Rws 4L, 8R, 22L, 22R, and 26R	
HIRL Rws 4R-22L, 8L-26R, and 8R-26L	
079°	
163, 170, 22R, 22L	
12312 X 150, 6950 X 150, 9000 X 150	
12000 X 200	
WATER RWYS: 8W-26W 5090 X 300 4W-22W 3000 X 150	
FAF to MAP 5.9 NM	
Knots 60 90 120 150 180	
Min:Sec 5:54 3:56 2:57 2:22 1:58	

<p>Remain within 10 NM</p> <p>3900</p> <p>259° FEGTU I-HNL 9.2 RADAR</p> <p>079°</p> <p>2300</p> <p>2000</p> <p>Use I-HNL DME when on the localizer course.</p>		<p>EWABE HN LOM</p> <p>I-HNL 8.1 /RADAR 6000</p> <p>1.1 NM</p> <p>5.9 NM</p>	<p>5000</p> <p>hdg 200°</p> <p>I-HNL 2.2</p> <p>3.08° TCH 55</p>	<p>HNL R-171</p>	<p>ALANA</p> <p>△</p>
CATEGORY	A	B	C	D	
S-8L	460-½	447 (500-½)	460-⅞	447 (500-⅞)	
CIRCLING	680-1 667 (700-1)	760-1 747 (800-1)	820-2¼ 807 (900-2¼)	1400-3 1387 (1400-3)	

HONOLULU, HAWAII  
Amdt 1C 25FEB21

DANIEL K INOUEY INTL (HNL) (PHNL)  
LOC RWY 8L

21°19'N-157°55'W



HONOLULU, HAWAII

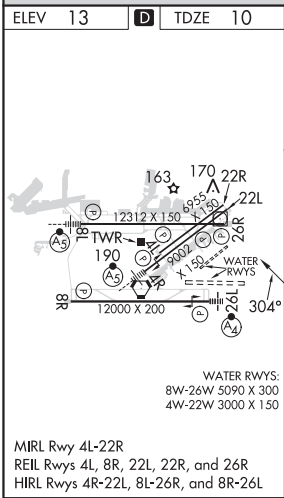
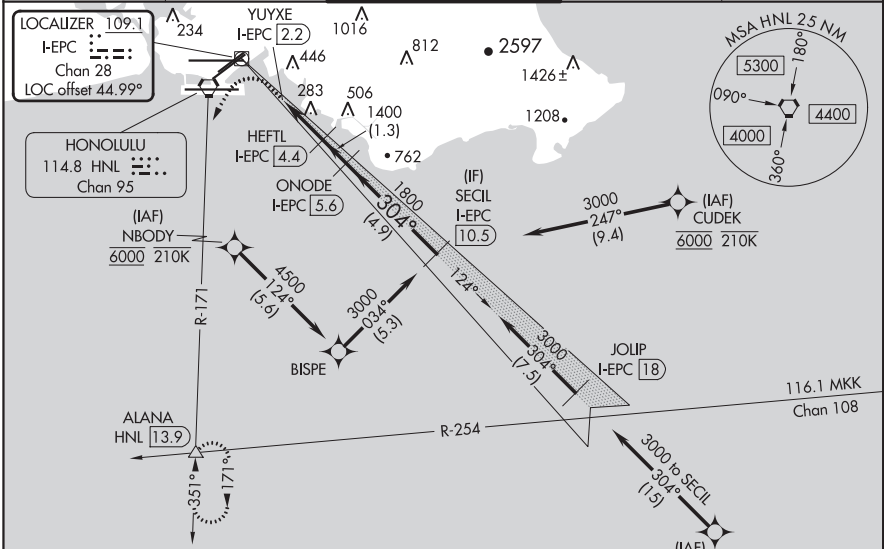
AL-754 (FAA)

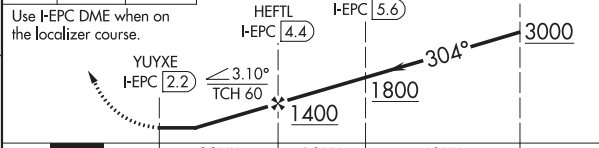

23334

LOC/DME I-EPC <b>109.1</b> Chan 28	APP CRS <b>304°</b>	Rwy Idg <b>12000</b> TDZE <b>10</b> Apt Elev <b>13</b>
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**LDA RWY 26L**  
DANIEL K INOUE INTL (HNL) (PHNL)

DME required. From CUDEK, NBODY, SHLAE: RNAV 1-GPS required.			MALSF 		MISSED APPROACH: Climb to 600 then climbing left turn to 3000 on HNL VORTAC R-171 to ALANA INT/ HNL 13.9 DME and hold.
 NA Circling Rwy 22R NA at night. Circling NA to sea lanes 4W, 8W, 22W and 26W. NBODY transition, CUDEK transition, SHLAE transition NA for Cat E aircraft. Follow flasher lights to Rwy 26L. Procedure NA when ALS or SFL inop. Circling Cat E NA. Circling NA for Cats A and B northwest of Rwy 8L-22R. Circling NA for Cats C and D north of Rwy 8L-26R.			D-ATIS <b>127.9 251.15</b>		HCF APPROACH <b>118.3 269.0</b>
HONOLULU TOWER <b>118.1 257.8</b> <b>123.9 273.575</b> (Rwy 8R/26L)			GND CON <b>121.9 348.6</b>		CLNC DEL <b>121.4 281.4</b>



600 ↑ HNL R-171		ALANA △		VGSi and descent angles not coincident (VGSi Angle 3.00/TCH 75).	
Use I-EPC DME when on the localizer course.					
					
CATEGORY	A	B	C	D	E
S-LDA 26L	600-2 590 (600-2)				
 CIRCLING	680-2¼ 667 (700-2¼)	760-2¼ 747 (800-2¼)	820-2¼ 807 (900-2¼)	1400-3 1387 (1400-3)	NA

HONOLULU, HAWAII  
Amdt 6A 25FEB21

DANIEL K INOUE INTL (HNL) (PHNL)  
**LDA RWY 26L**

21°19'N-157°55'W

HONOLULU, HAWAII

AL-754 (FAA)

23334

VORTAC HNL <b>114.8</b> Chan <b>95</b>	APP CRS <b>018°</b>	Rwy Idg TDZE Apt Elev <b>8950</b> <b>8</b> <b>13</b>
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# VOR or TACAN RWY 4R

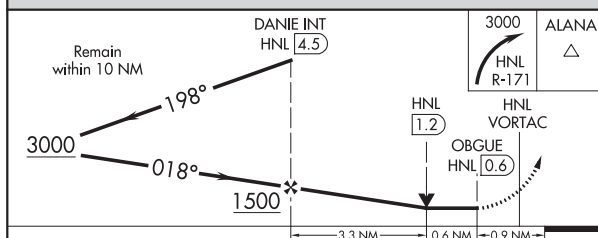
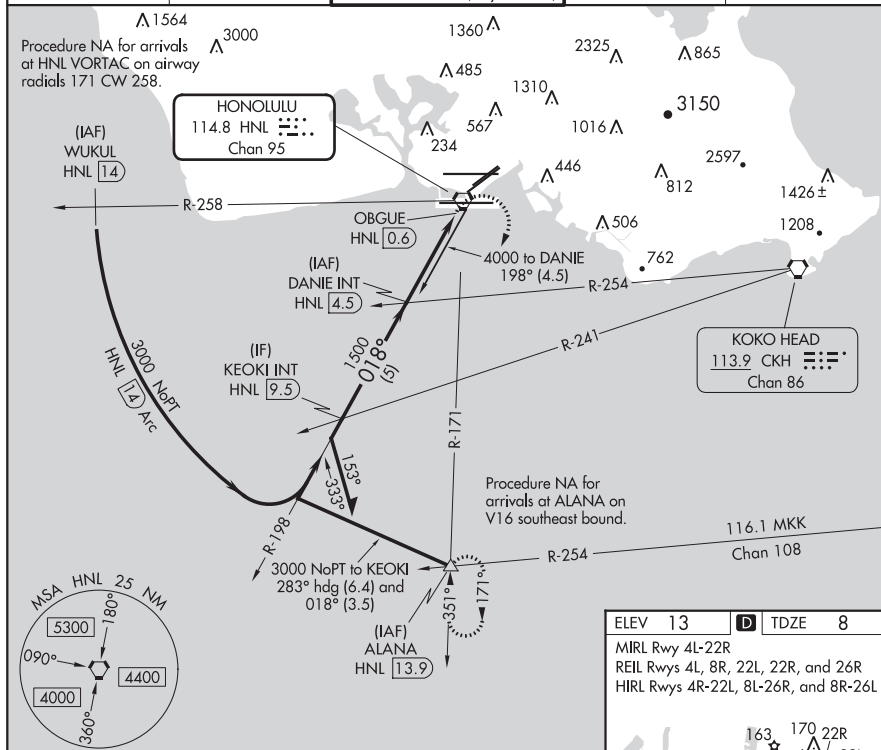
DANIEL K INOUEY INTL (HNL) (PHNL)

▼ Circling Rwy 22R NA at night. Inop table does not apply. Circling NA for Cats A and B northwest of Rwy 8L and 22R. Circling NA for Cats C and D north of Rwy 8L-26R. Circling NA to sea lanes 4W, 8W, 22W, and 26W.



MISSED APPROACH: Climbing right turn to 3000 on HNL VORTAC R-171 to ALANA INT/HNL 13.9 DME and hold.

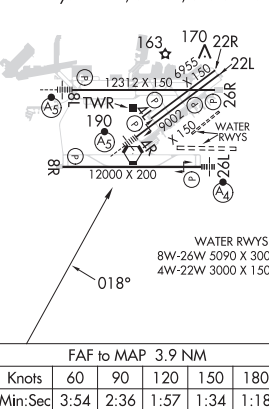
D-ATIS	HCF APPROACH	HONOLULU TOWER	GND CON	CLNC DEL
<b>127.9 251.15</b>	<b>118.3 269.0</b>	<b>118.1 257.8</b> <b>123.9 273.575</b> (Rwy 8R/26L)	<b>121.9 348.6</b>	<b>121.4 281.4</b>



CATEGORY	A	B	C	D
S-4R	460-1	452 (500-1)	460-1½ 452 (500-1½)	460-1½ 452 (500-1½)
◻ CIRCLING	680-1¼ 667 (700-1¼)	760-1¼ 747 (800-1¼)	820-2¼ 807 (900-2¼)	1400-3 1387 (1400-3)

ELEV 13	TDZE 8
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MIRL Rwy 4L-22R  
REIL Rwy 4L, 8R, 22L, 22R, and 26R  
HIRL Rwy 4R-22L, 8L-26R, and 8R-26L



HONOLULU, HAWAII  
Orig-E 25 FEB21

DANIEL K INOUEY INTL (HNL) (PHNL)  
21°19'N-157°55'W  
**VOR or TACAN RWY 4R**

HONOLULU, HAWAII

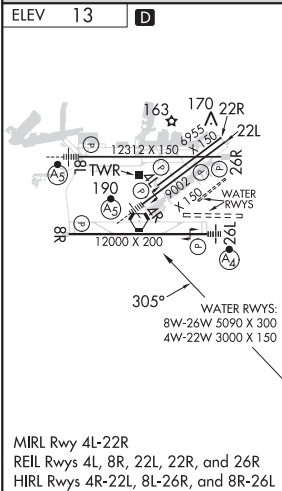
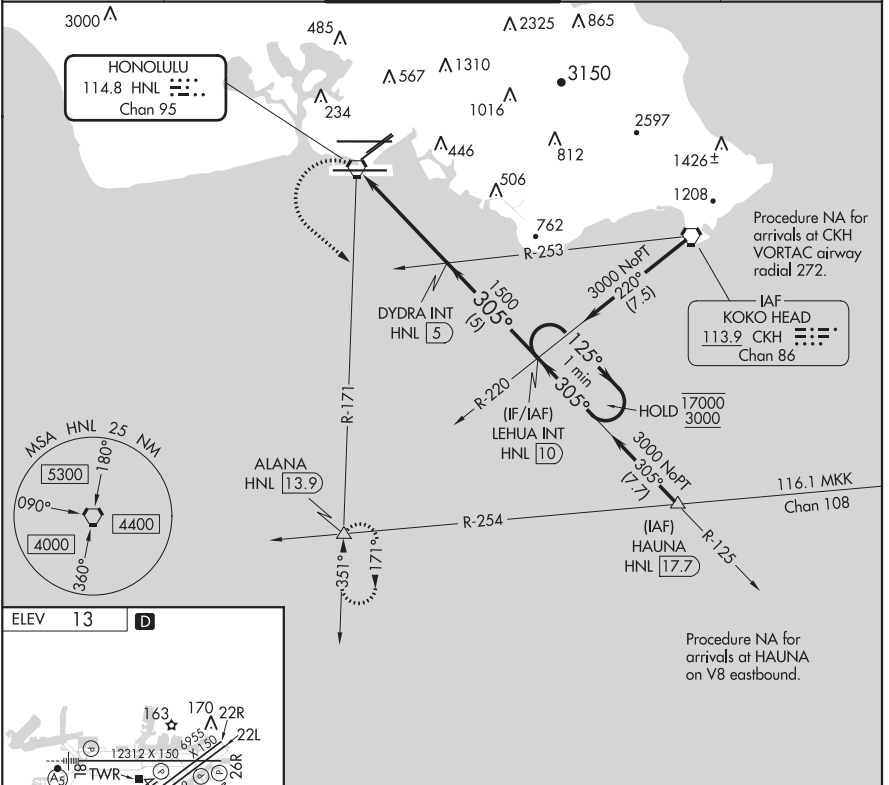
AL-754 (FAA)

23334

VORTAC HNL <b>114.8</b> Chan <b>95</b>	APP CRS <b>305°</b>	Rwy Idg TDZE Apt Elev	<b>N/A</b> <b>N/A</b> <b>13</b>
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**VOR or TACAN-A**  
DANIEL K INOUEY INTL (HNL) (PHNL)

<b>⚠</b> Circling Rwy 22R NA at night. Circling NA for Cats A and B northwest of Rwys 8L and 22R. Circling NA for Cats C and D north of Rwy 8L-26R. Circling NA to sea lanes 4W, 8W, 22W, and 26W.		<b>MISSED APPROACH:</b> Climbing left turn to 3000 on HNL R-171 to ALANA INT/HNL 13.9 DME and hold.	
D-ATIS <b>127.9 251.15</b>	HCF APPROACH <b>118.3 269.0</b>	HONOLULU TOWER <b>118.1 257.8</b> <b>123.9 273.575</b> (Rwy 8R/26L)	GND CON <b>121.9 348.6</b>
			CLNC DEL <b>121.4 281.4</b>



<b>3000</b> ALANA HNL R-171		LEHUA INT HNL 10		One Minute Holding Pattern	
DYDRA INT HNL 5		125° → 17000 ← 305° 3000			
HNL VORTAC		1500			
5 NM		5 NM			
CATEGORY	A	B	C	D	
<b>C</b> CIRCLING	680-1 667 (700-1)	760-1 747 (800-1)	820-2¼ 807 (900-2¼)	1400-3 1387 (1400-3)	

HONOLULU, HAWAII  
Amdt 1D 25FEB21

DANIEL K INOUEY INTL (HNL) (PHNL)  
**VOR or TACAN-A**

21°19'N-157°55'W





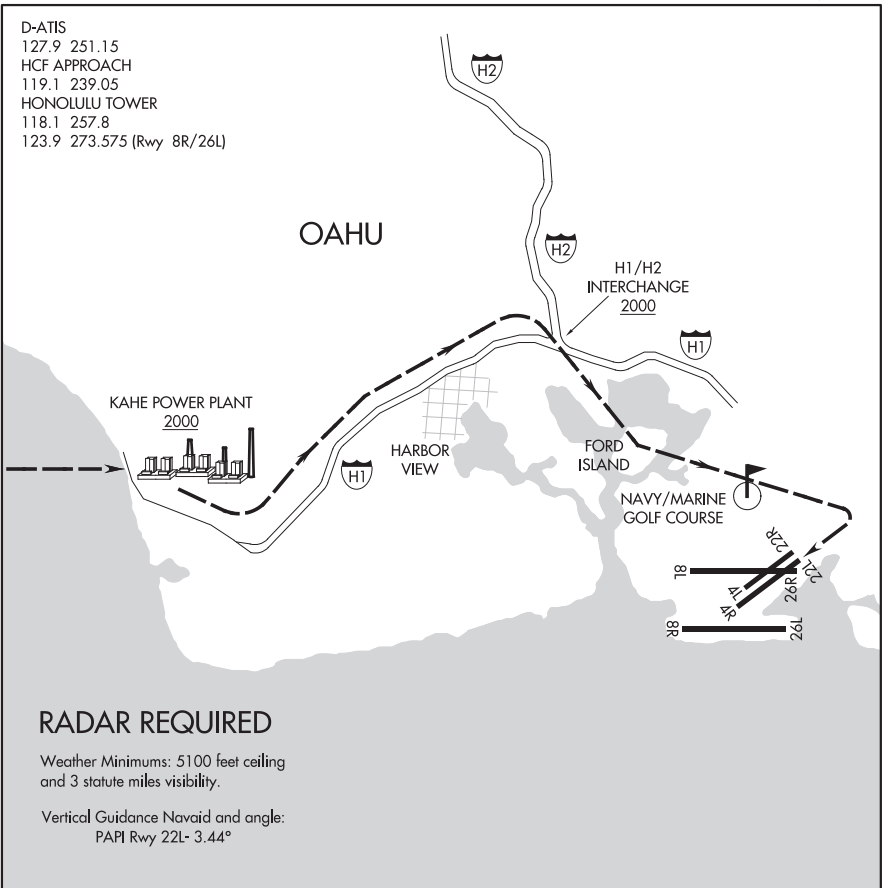
17117

AL-754 (FAA)

DANIEL K INOUE INTL (HNL) (PHNL)

KAHE POWER PLANT VISUAL RWY 22L

HONOLULU, HAWAII



1	NM	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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KAHE POWER PLANT VISUAL APPROACH RWY 22L

PROCEDURE NOT AUTHORIZED AT NIGHT

RESTRICTED TO CAT I AND CAT II AIRCRAFT ONLY

Pilots may expect landing Runway 22R.

KAHE POWER PLANT VISUAL RWY 22L

HONOLULU, HAWAII

Amdt 1 27APR17

21°19'N-157°55'W

DANIEL K INOUE INTL (HNL) (PHNL)

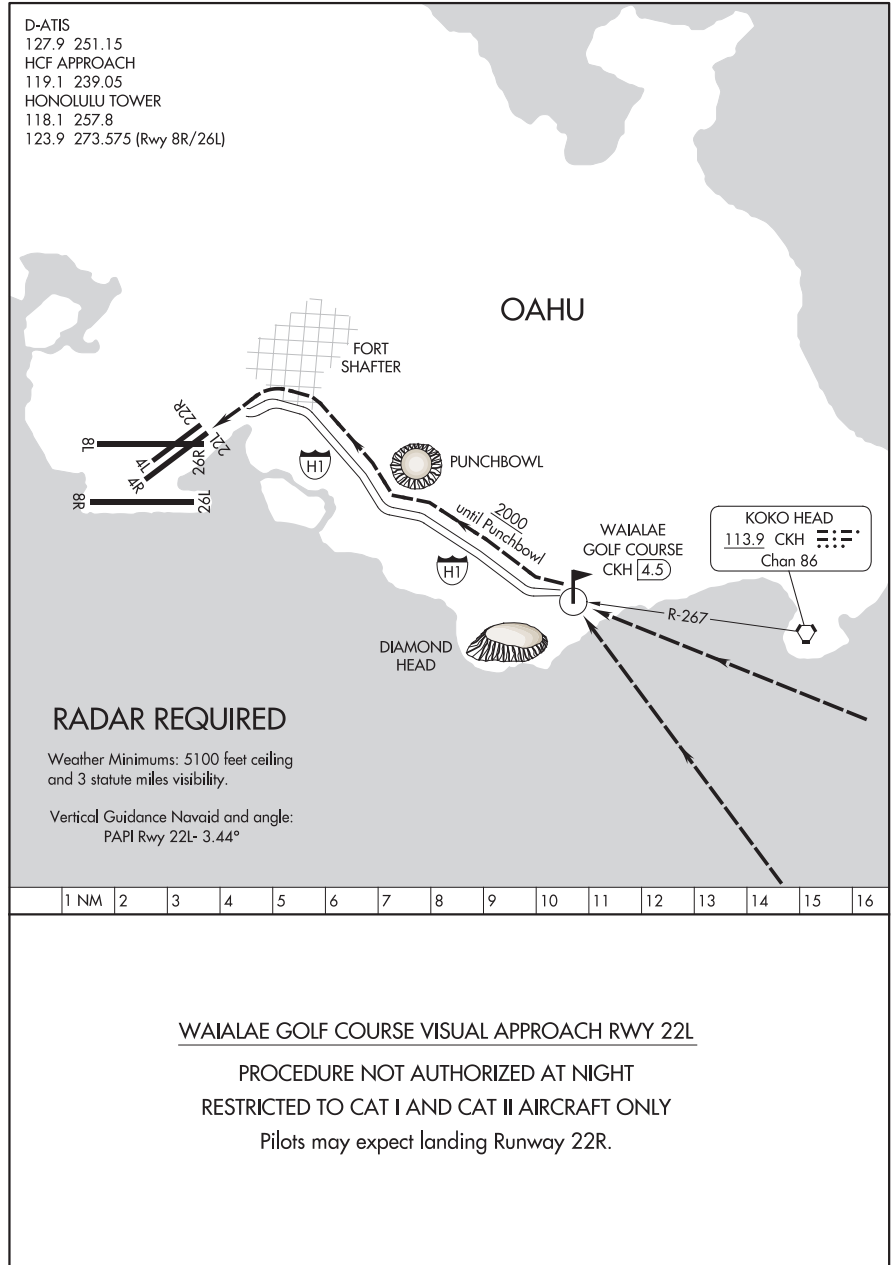
23334

AL-754 (FAA)

DANIEL K INOUEY INTL (HNL) (PHNL)

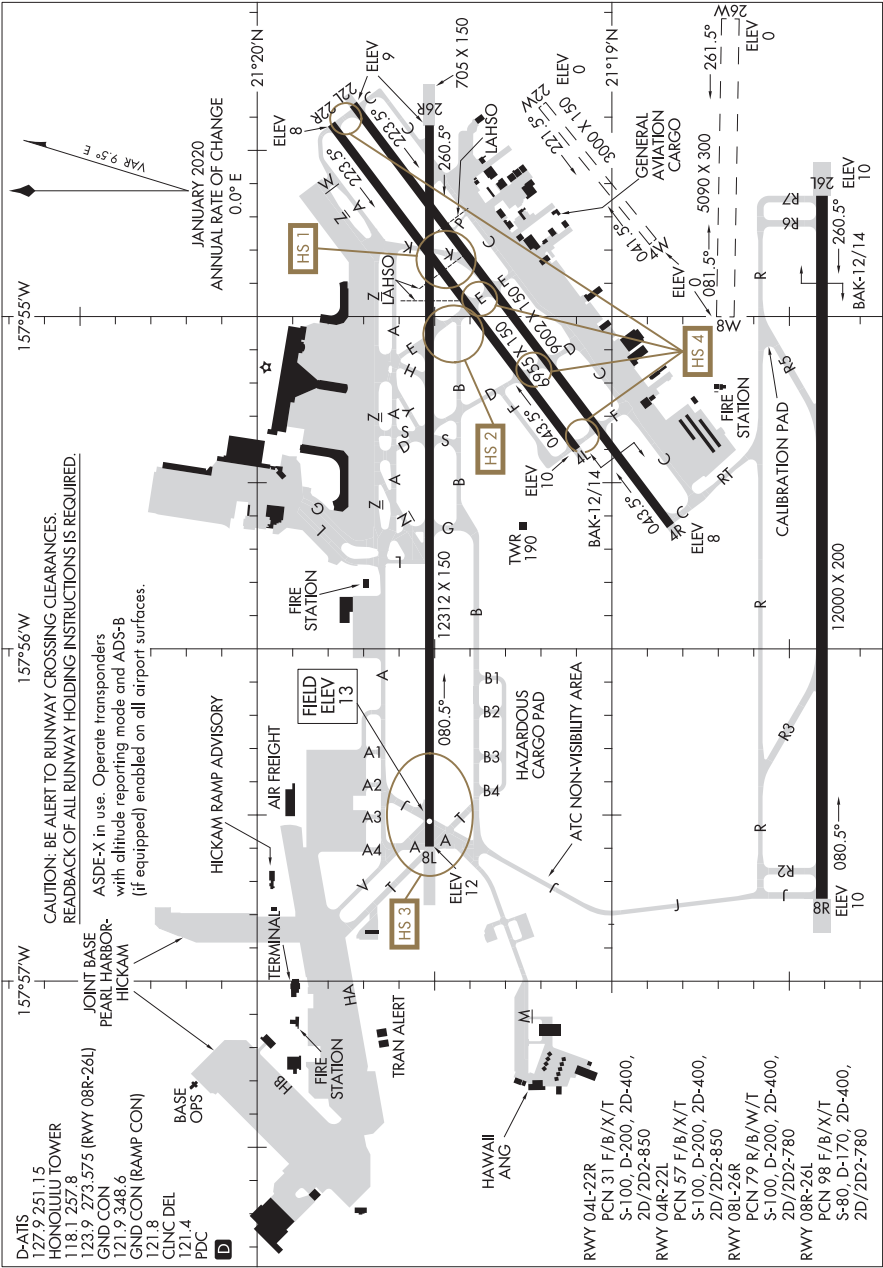
WAIALAE GOLF COURSE VISUAL RWY 22L

HONOLULU, HAWAII



23334  
AIRPORT DIAGRAM

DANIEL K INOUEY INTL (HNL) (PHNL)  
HONOLULU, HAWAII



AIRPORT DIAGRAM

HONOLULU, HAWAII  
DANIEL K INOUEY INTL (HNL) (PHNL)



(HNL2.HNL) 18312

HONOLULU TWO DEPARTURE (OBSTACLE)

DANIEL K INOUE INTL (HNL) (PHNL)  
AL-754 (FAA) HONOLULU, HAWAII

TAKEOFF OBSTACLE NOTES

- Rwy 4L: Multiple lights beginning 630' from DER, 236' left of centerline, 102' right of centerline, up to 84' AGL/92' MSL.  
Light on building 669' from DER, 394' left of centerline, 29' AGL/37' MSL.  
Stack on building 2488' from DER, 219' right of centerline, 72' AGL/80' MSL.  
Multiple trees beginning 1253' from DER, 209' left of centerline, 935' right of centerline, up to 64' AGL/72' MSL.  
Bush 450' from DER, 234' left of centerline, 14' AGL/22' MSL.
- Rwy 4R: Stack on building, 2442' from DER, 283' left of centerline, 72' AGL/80' MSL.  
Multiple trees beginning 1206' from DER, 711' left of centerline, 433' right of centerline, up to 64' AGL/72' MSL.  
Multiple lights beginning 1072' from DER, 399' left of centerline, 504' right of centerline, up to 36' AGL/44' MSL.  
Pole 2110' from DER, 951' left of centerline, 59' AGL/67' MSL.
- Rwy 22L: Multiple bushes beginning 265' from DER, 396' right of centerline, up to 17' AGL/31' MSL.  
Tree 1065' from DER, 499' right of centerline, 30' AGL/38' MSL.
- Rwy 22R: Rod on obstruction light ASR 1451' from DER, 827' right of centerline, 76' AGL/84' MSL.  
Tree 853' from DER, 308' right of centerline, 43' AGL/51' MSL.
- Rwy 26L: Ship 1.1 NM from DER, on centerline, 208' AGL/208' MSL.
- Rwy 26R: Multiple light poles beginning 2120' from DER, 813' right of centerline, up to 105' AGL/111' MSL.

HONOLULU TWO DEPARTURE (OBSTACLE)

(HNL2.HNL) 08NOV18

HONOLULU, HAWAII  
DANIEL K INOUE INTL (HNL) (PHNL)



(BANZI1.BANZI) 20030

BANZI ONE DEPARTURE (RNAV)

AL-754 (FAA)

DANIEL K INOUE INTL (HNL)(PHNL)  
HONOLULU, HAWAII



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 22L/R: Climb on heading 222° to intercept course 208° to cross BANZI at or below 5000, thence . . . .

TAKEOFF RUNWAY 26L: Climb on heading 259° to intercept course 199° to cross BANZI at or below 5000, thence . . . .

TAKEOFF RUNWAY 26R: Climb on heading 259° to intercept course 197° to cross BANZI at or below 5000, thence . . . .

. . . . on track 208° to LHAKE, then on track 208° for RADAR vectors to assigned route/fix, maintain 5000 or as assigned by ATC. Expect clearance to filed altitude/flight level within 10 minutes after departure.

NOTE: ALANA departures expect direct/vectors to ALANA/V8/V16/V20/V21.

NOTE: APACK departures expect direct/vectors to APACK/R463.

NOTE: CANON departures expect direct/vectors to CANON/V15.

NOTE: CARRP departures expect direct/vectors to CARRP/A579.

NOTE: CHOKO departures expect direct/vectors to CHOKO/R584/B326.

NOTE: CLUTS departures expect direct/vectors to CLUTS/R465.

NOTE: DANNO departures expect direct/vectors to DANNO.

NOTE: DOVRR departures expect direct/vectors to DOVRR/B596.

NOTE: EBBER departures expect direct/vectors to EBBER/R577.

NOTE: FITES departures expect direct/vectors to FITES/R578.

NOTE: GECKO departures expect direct/vectors to GECKO/V4/V12/V16.

NOTE: HAUNA departures expect direct/vectors to HAUNA/V8/V16/V20/V21/LNY.

NOTE: HOOPA departures expect direct/vectors to HOOPA/A450.

NOTE: JULLE departures expect direct/vectors to JULLE/V16/V20/V21.

NOTE: KATHS departures expect direct/vectors to KATHS/A450.

NOTE: KEOLA departures expect direct/vectors to KEOLA/V16.

NOTE: KOA departures expect direct/vectors to KOA.

NOTE: LILIA departures expect direct/vectors to LILIA/V15.

NOTE: OPIHI departures expect direct/vectors to OPIHI/V8/V16/V20/V21.

NOTE: PALAY departures expect direct/vectors to PALAY/V2/V8/LNY.

NOTE: PUPPI departures expect direct/vectors to PUPPI/V16.

NOTE: SCOON departures expect direct/vectors to SCOON.

NOTE: SYVAD departures expect direct/vectors to SYVAD/V16.

NOTE: THOMA departures expect direct/vectors to THOMA.

NOTE: UPP departures expect direct/vectors to UPP.

NOTE: ZIGIE departures expect direct/vectors to ZIGIE/A331.

BANZI ONE DEPARTURE (RNAV)

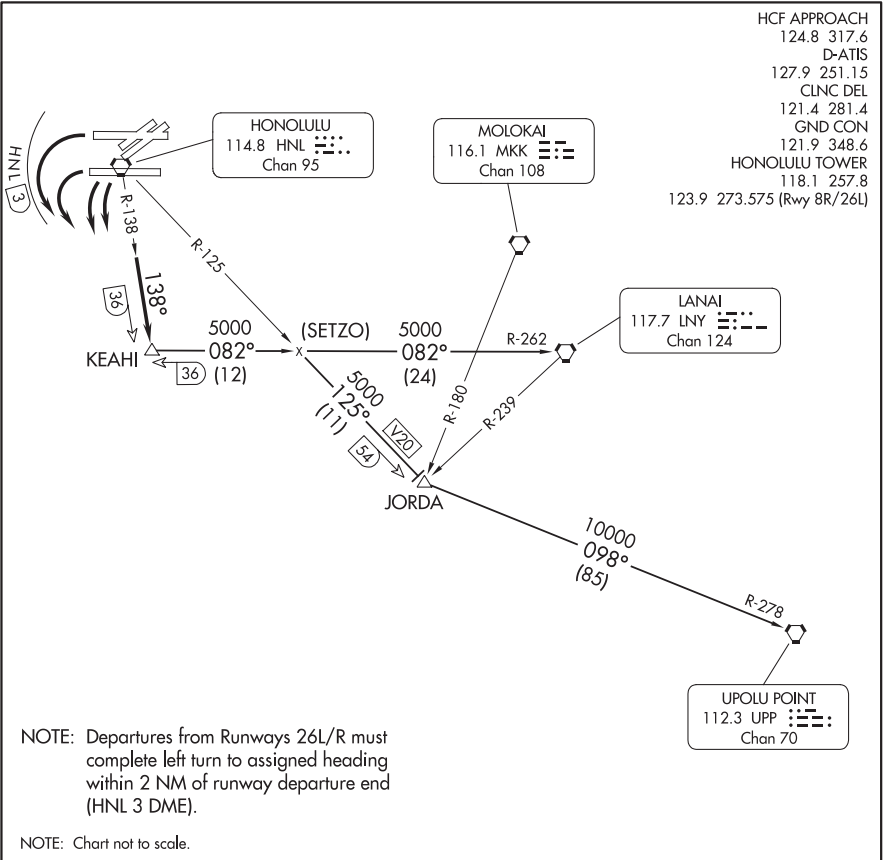
(BANZI1.BANZI) 30JAN20

HONOLULU, HAWAII  
DANIEL K INOUE INTL (HNL)(PHNL)



(KEAH3.KEAHI) 23334  
KEAHI THREE DEPARTURE

DANIEL K INOUEY INTL (HNL) (PHNL)  
AL-754 (FAA) HONOLULU, HAWAII



**DEPARTURE ROUTE DESCRIPTION**

TAKEOFF RUNWAYS 22/26 ONLY: Turn left to heading assigned by tower, expect RADAR vectors to intercept HNL R-138; then via HNL R-138 to KEAHI INT, maintain 5000'; then via (transition). Expect clearance to enroute altitude/flight level at JORDA INT or LNY VORTAC.

JORDA TRANSITION (KEAH3.JORDA): From over KEAHI INT via LNY R-262 and HNL R-125 to JORDA INT.

LANAI TRANSITION (KEAH3.LNY): From over KEAHI INT via LNY R-262 to LNY VORTAC.

UPOLU TRANSITION (KEAH3.UPP): From over KEAHI INT via LNY R-262 and HNL R-125 to JORDA INT, thence via UPP R-278 to UPP VORTAC.

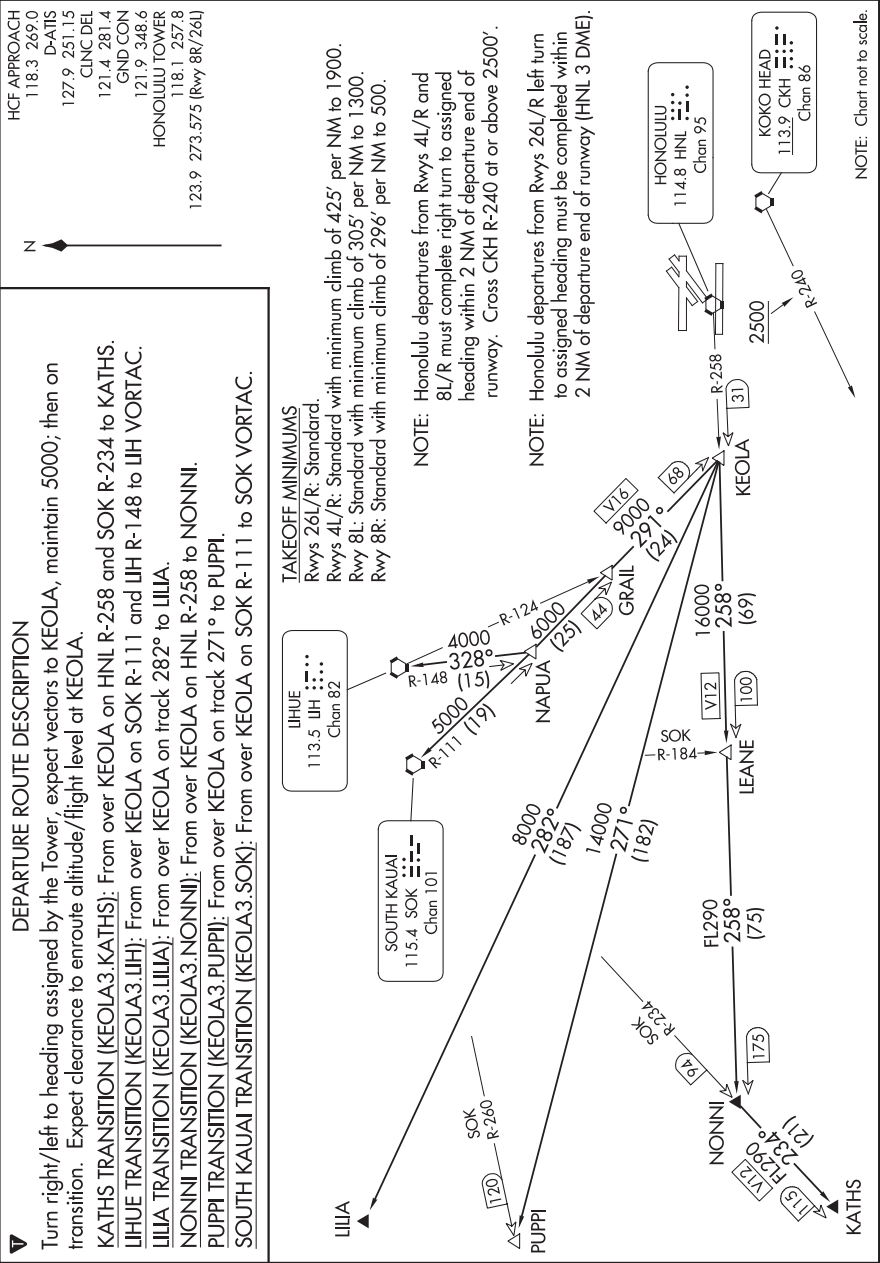
KEAHI THREE DEPARTURE  
(KEAH3.KEAHI) 06JAN94

HONOLULU, HAWAII  
DANIEL K INOUEY INTL (HNL) (PHNL)

(KEOLA3.KEOLA) 23334

KEOLA THREE DEPARTURE

DANIEL K INOUEY INTL (HNL) (PHNL)  
 HONOLULU, HAWAII



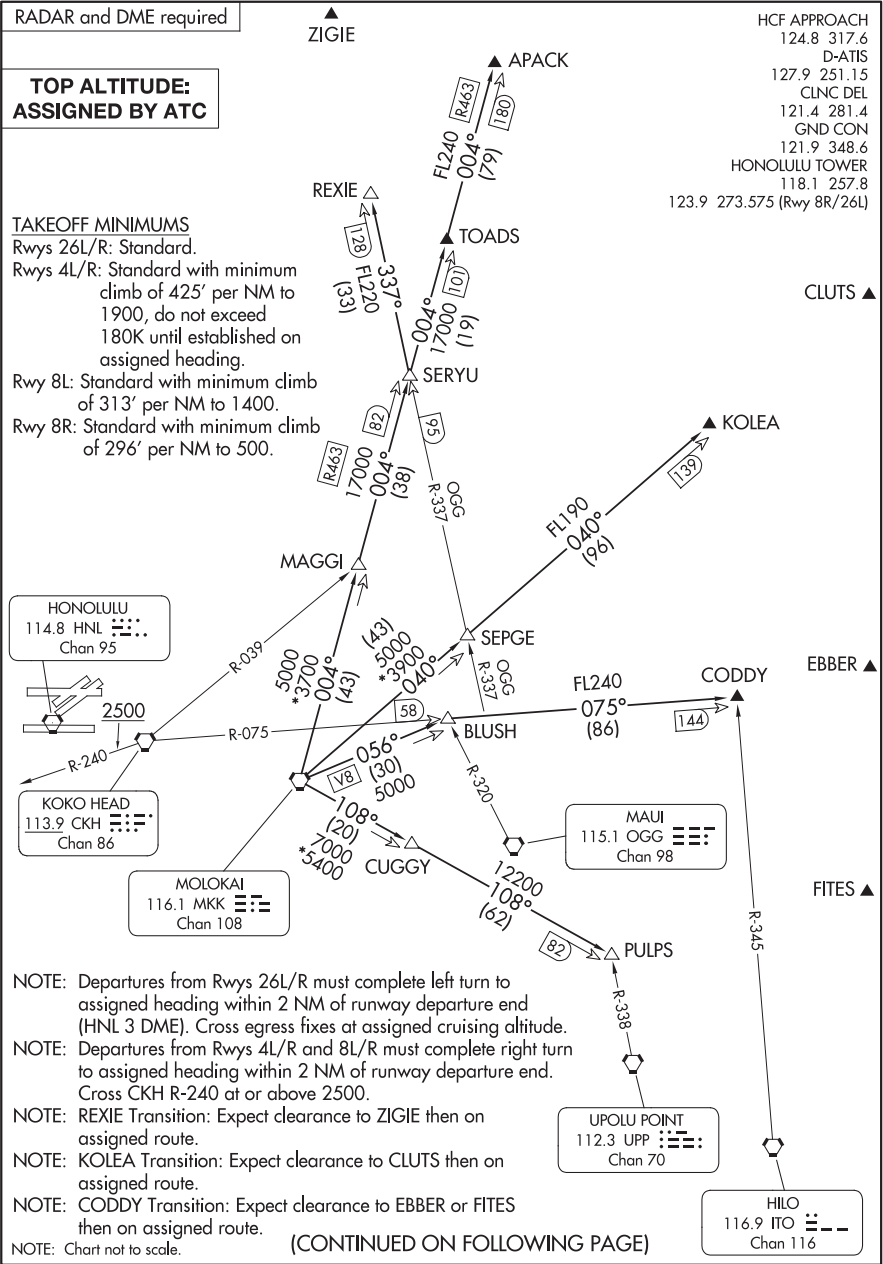
KEOLA THREE DEPARTURE  
 (KEOLA3.KEOLA) 25FEB21

HONOLULU, HAWAII  
 DANIEL K INOUEY INTL (HNL) (PHNL)

(MKK5.MKK) 23334

MOLOKAI FIVE DEPARTURE

DANIEL K INOUEY INTL (HNL) (PHNL)  
HONOLULU, HAWAII



MOLOKAI FIVE DEPARTURE

(MKK5.MKK) 03NOV22

DANIEL K INOUEY INTL (HNL) (PHNL)  
HONOLULU, HAWAII

(MKK5.MKK) 22307

MOLOKAI FIVE DEPARTURE

DANIEL K INOUE INTL (HNL) (PHNL)  
AL-754 (FAA) HONOLULU, HAWAII



DEPARTURE ROUTE DESCRIPTION

Turn right/left to heading as assigned by Tower, expect vectors to MKK VORTAC, maintain 5000; then on transition. Expect clearance to enroute altitude/flight level at MKK VORTAC. Cross egress fixes REXIE, APACK, KOLEA, and CODDY at assigned cruising altitude, unless otherwise advised by ATC.

APACK TRANSITION (MKK5.APACK): From over MKK VORTAC on MKK R-004 to APACK.

CODDY TRANSITION (MKK5.CODDY): From over MKK VORTAC on MKK R-056 and CKH R-075 to CODDY.

KOLEA TRANSITION (MKK5.KOLEA): From over MKK VORTAC on MKK R-040 to KOLEA.

PULPS TRANSITION (MKK5.PULPS): From over MKK VORTAC on MKK R-108 to PULPS.

REXIE TRANSITION (MKK5.REXIE): From over MKK VORTAC on MKK R-004 and OGG R-337 to REXIE.

MOLOKAI FIVE DEPARTURE

(MKK5.MKK) 03NOV22

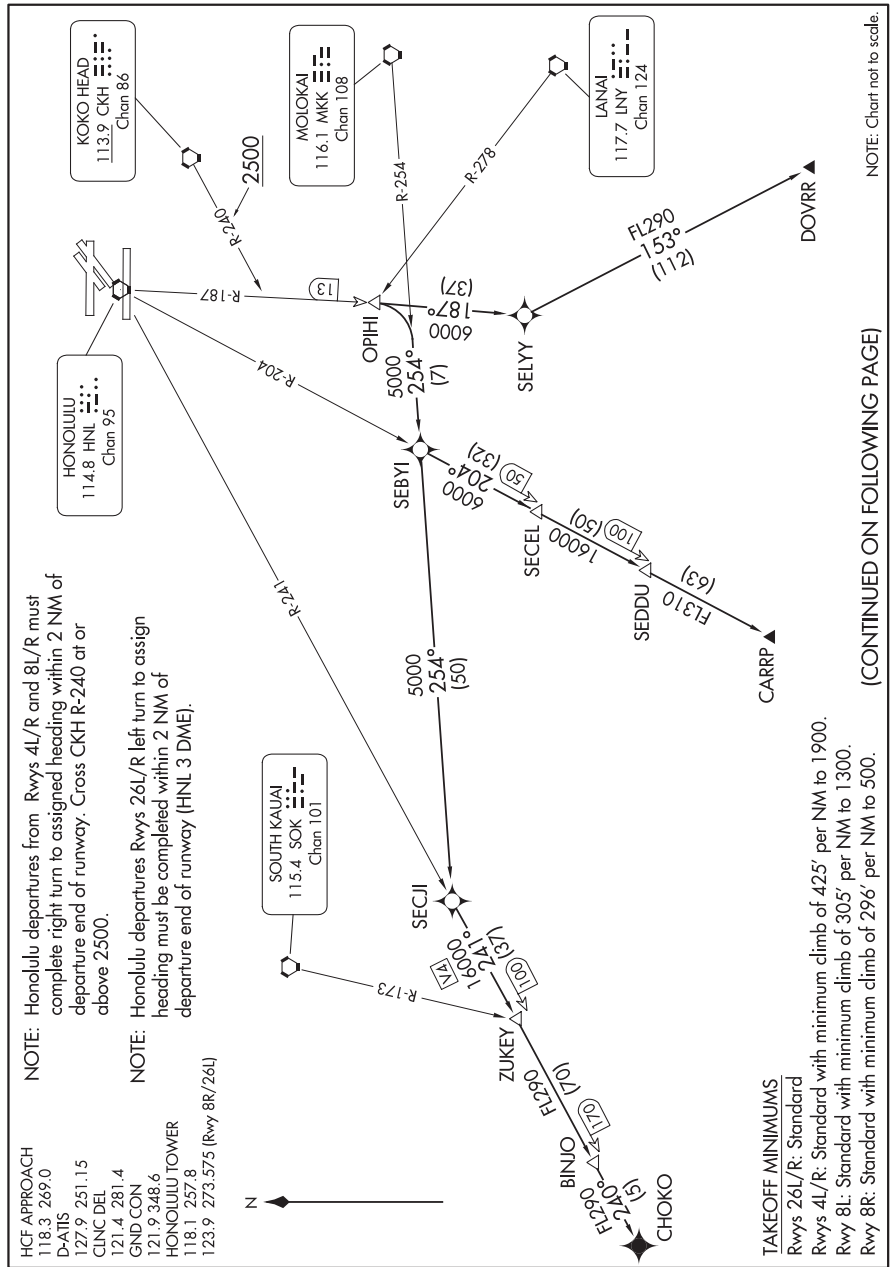
HONOLULU, HAWAII  
DANIEL K INOUE INTL (HNL) (PHNL)

OPIHI3.OPIHI) 23334

OPIHI THREE DEPARTURE

DANIEL K INOUE INTL (HNL) (PHNL)  
HONOLULU, HAWAII

AL-754 (FAA)



(OPIHI3.OPIHI) 21056

OPIHI THREE DEPARTURE

AL-754 (FAA)

DANIEL K INOUE INTL (HNL) (PHNL)  
HONOLULU, HAWAII



DEPARTURE ROUTE DESCRIPTION

Turn right/left to heading assigned by Tower, expect vectors to OPIHI, maintain 5000; then on (transition). Expect clearance to enroute altitude/flight level at OPIHI.

CARRP TRANSITION (OPIHI3.CARRP): From over OPIHI right turn to intercept MKK R-254 to SEBYI, then on HNL R-204 to CARRP.

CHOKO TRANSITION (OPIHI3.CHOKO): From over OPIHI right turn to intercept MKK R-254 to SECJI, then on HNL R-241 to BINJO, then on track 240° to CHOKO.

DOVRR TRANSITION (OPIHI3.DOVRR): From over OPIHI on HNL R-187 to SELYY, then on track 153° to DOVRR.

OPIHI THREE DEPARTURE

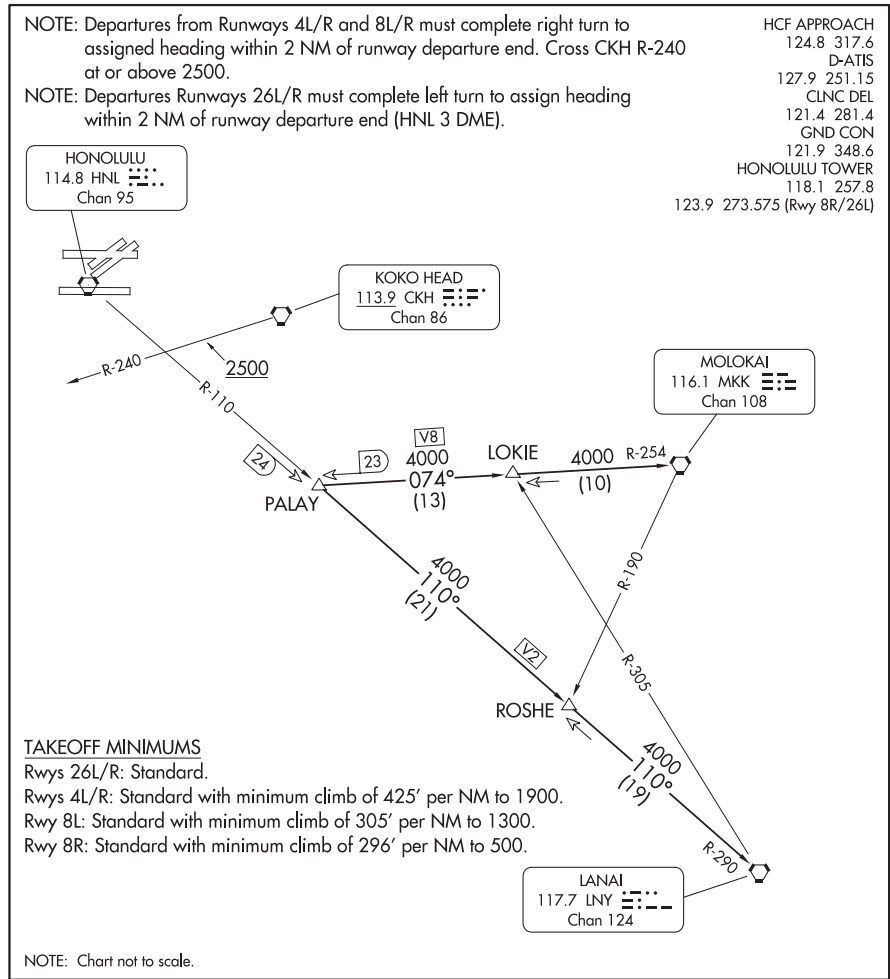
(OPIHI3.OPIHI) 25FEB21

HONOLULU, HAWAII  
DANIEL K INOUE INTL (HNL) (PHNL)

(PALAY3.PALAY) 23334

PALAY THREE DEPARTURE

DANIEL K INOUEY INTL (HNL) (PHNL)  
AL-754 (FAA)  
HONOLULU, HAWAII



DEPARTURE ROUTE DESCRIPTION

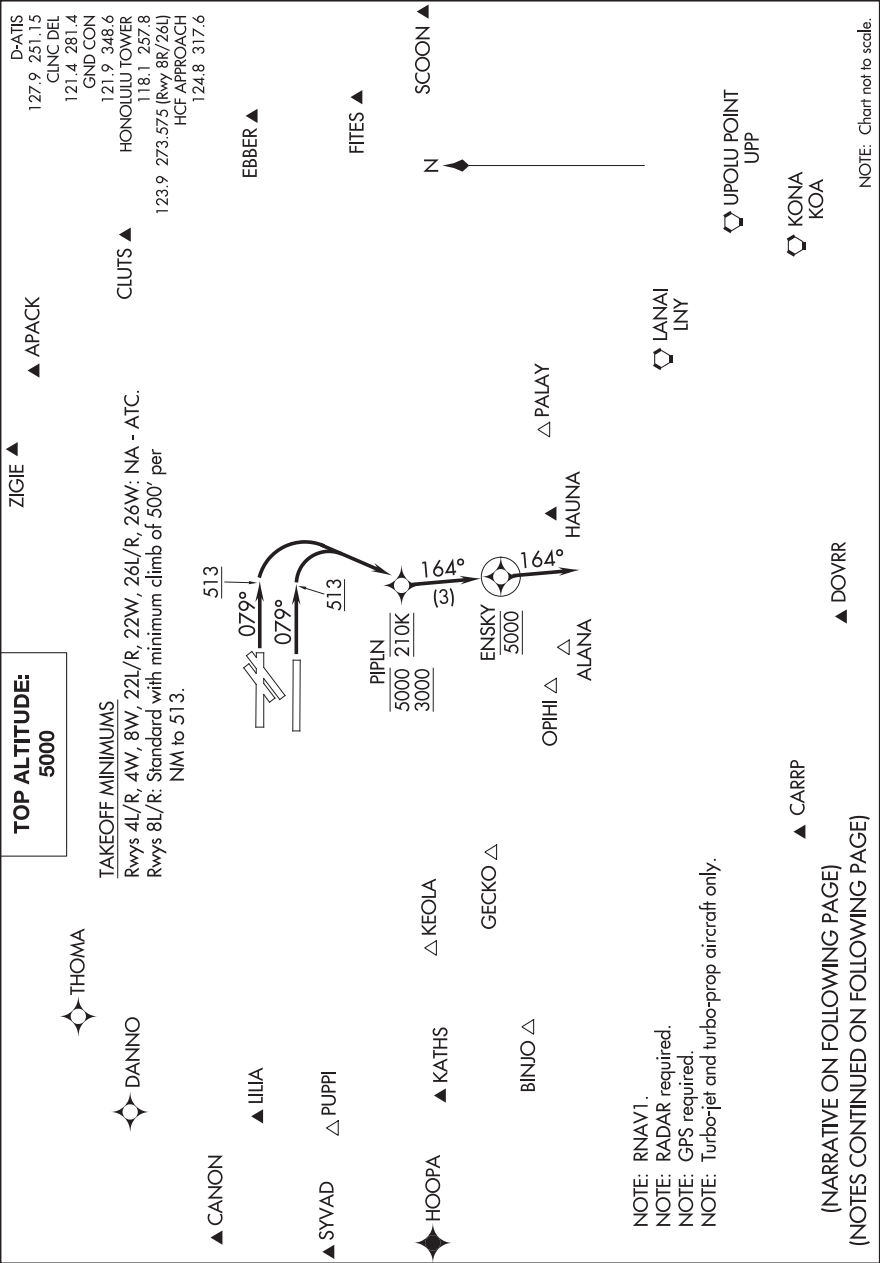
Turn right/left to heading assigned by Tower, expect vectors to PALAY, maintain 5000; then on (transition). Expect clearance to enroute altitude/flight level at LNY VORTAC.

LANAI TRANSITION (PALAY3.LNY): From over PALAY INT on HNL R-110 and LNY R-290 to LNY VORTAC.

MOLOKAI TRANSITION (PALAY3.MKK): From over PALAY INT on MKK R-254 to MKK VORTAC.

(PIPLN1.PIPLN) 20030  
 PIPLN ONE DEPARTURE (RNAV)

DANIEL K INOUEY INTL (HNL) (PHNL)  
 HONOLULU, HAWAII



PIPLN ONE DEPARTURE (RNAV)  
 (PIPLN1.PIPLN) 30JAN20

HONOLULU, HAWAII  
 DANIEL K INOUEY INTL (HNL) (PHNL)



(PIPLN1.PIPLN) 20030

PIPLN ONE DEPARTURE (RNAV)

AL-754 (FAA)

DANIEL K INOUEY INTL (HNL) (PHNL)  
HONOLULU, HAWAII

## DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 8L/R: Climb on heading 079° to 513, then right turn direct PIPLN between 3000 and 5000 at 210K, thence. . . .

. . . .on track 164° to ENSKY, then on track 164° for RADAR vectors to assigned route/fix, maintain 5000 or as assigned by ATC. Expect clearance to filed altitude/flight level within 10 minutes after departure.

NOTE: ALANA departures expect direct/vectors to ALANA/V8/V16/V20/V21.

NOTE: APACK departures expect direct/vectors to APACK/R463.

NOTE: BINJO departures expect direct/vectors to BINJO/R584/B326.

NOTE: CANON departures expect direct/vectors to CANON/V15.

NOTE: CARRP departures expect direct/vectors to CARRP/A579.

NOTE: CLUTS departures expect direct/vectors to CLUTS/R465.

NOTE: DANNO departures expect direct/vectors to DANNO.

NOTE: DOVRR departures expect direct/vectors to DOVRR/B596.

NOTE: EBBER departures expect direct/vectors to EBBER/R577.

NOTE: FITES departures expect direct/vectors to FITES/R578.

NOTE: GECKO departures expect direct/vectors to GECKO/V4/V12/V16.

NOTE: HAUNA departures expect direct/vectors to HAUNA/V8/V16/V20/V21/LNY.

NOTE: HOOPA departures expect direct/vectors to HOOPA/A450.

NOTE: KATHS departures expect direct/vectors to KATHS/A450.

NOTE: KEOLA departures expect direct/vectors to KEOLA/A16.

NOTE: KOA departures expect direct/vectors to KOA.

NOTE: LILIA departures expect direct/vectors to LILIA/V15.

NOTE: LNY departures expect direct/vectors to LNY.

NOTE: OPIHI departures expect direct/vectors to OPIHI/V8/V16/V20/V21.

NOTE: PALAY departures expect direct/vectors to PALAY/V2/V8/LNY.

NOTE: PUPPI departures expect direct/vectors to PUPPI/V16.

NOTE: SCOON departures expect direct/vectors to SCOON.

NOTE: SYVAD departures expect direct/vectors to SYVAD/V16.

NOTE: THOMA departures expect direct/vectors to THOMA.

NOTE: UPP departures expect direct/vectors to UPP.

NOTE: ZIGIE departures expect direct/vectors to ZIGIE/A331.

PIPLN ONE DEPARTURE (RNAV)

HONOLULU, HAWAII

(PIPLN1.PIPLN) 30JAN20

DANIEL K INOUEY INTL (HNL) (PHNL)

KAHULUI, HAWAII

AL-762 (FAA)

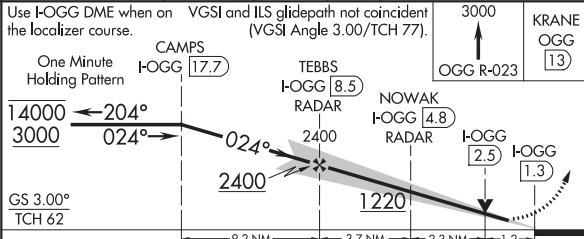
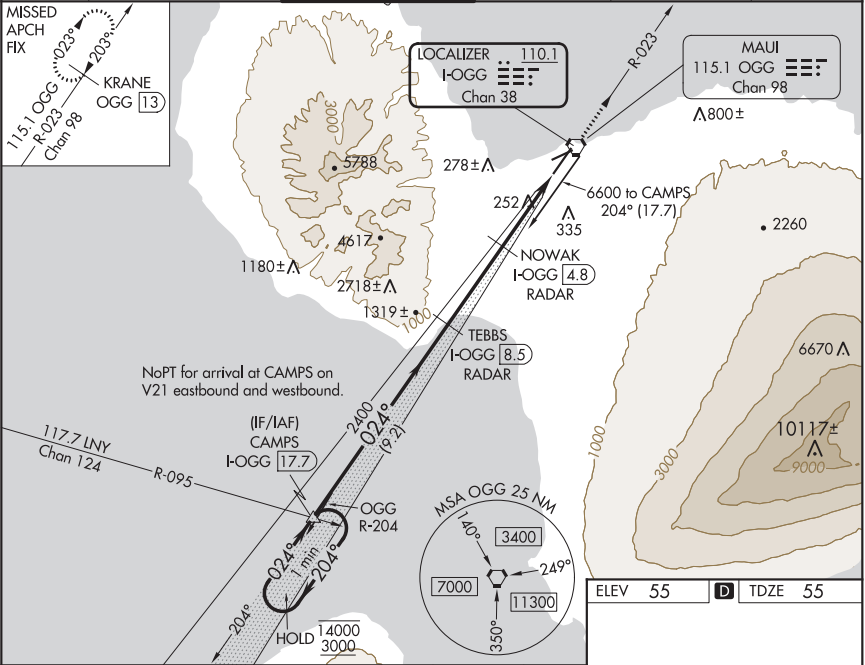
23278

LOC/DME I-OGG	APP CRS	Rwy Idg	6995
110.1	024°	TDZE	55
Chan 38		Apt Elev	55

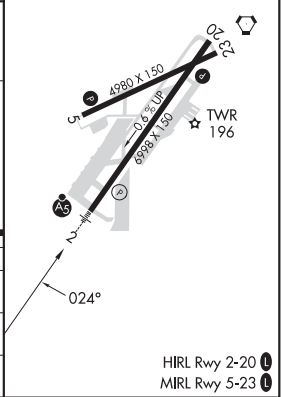
ILS Y or LOC Y RWY 2  
KAHULUI (OGG)(PHOG)

DME required.	MALSR	MISSED APPROACH: Climb to 3000 on OGG VORTAC R-023 to KRANE/OGG 13 DME and hold.
For inop ALS, increase S-ILS 2 Cat E visibility to ¾ SM, and S-LOC 2 Cats C/D/E visibility to 1¾ SM.		

ATIS 128.6	HCF APPROACH 120.2 322.4 (NORTH) 119.5 225.4 (SOUTH)	MAUI TOWER ★ 118.7 (CTAF) 0 279.6	GND CON 121.9 279.6	CLNC DEL 120.6 290.5	UNICOM 122.95
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CATEGORY	A	B	C	D	E
S-ILS 2	275-½ 220 (300-½)				
S-LOC 2	520-½ 465 (500-½)	520-1 465 (500-1)			
CIRCLING	520-1 465 (500-1)	620-1 565 (600-1)	740-2 685 (700-2)	1140-3 1085 (1100-3)	1720-3 1665 (1700-3)



KAHULUI, HAWAII  
Orig-A 05OCT23

20°54'N-156°26'W

KAHULUI (OGG)(PHOG)  
ILS Y or LOC Y RWY 2

KAHULUI, HAWAII

AL-762 (FAA)

23278

LOC/DME I-OGG <b>110.1</b> Chan <b>38</b>	APP CRS <b>024°</b>	Rwy Idg TDZE Apt Elev <b>6995</b> <b>55</b> <b>55</b>
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## ILS Z or LOC Z RWY 2

KAHULUI (OGG)(PHOG)

RNP APCH-GPS. From HOMA1 or KEIK1 or GREHG.

DME required.

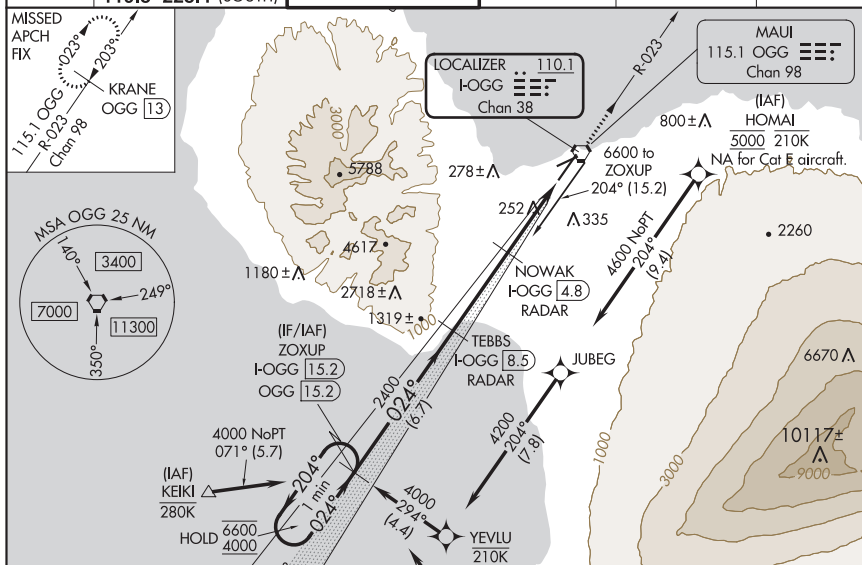
For inop ALS, increase S-ILS 2 Cat E visibility to  $\frac{3}{4}$  SM, and S-LOC 2 Cats C/D/E visibility to  $\frac{1}{2}$  SM.

MALSR



MISSED APPROACH: Climb to 3000 on OGG VORTAC R-023 to KRANE/OGG 13 DME and hold.

ATIS <b>128.6</b>	HCF APPROACH <b>120.2 322.4 (NORTH)</b> <b>119.5 225.4 (SOUTH)</b>	MAUI TOWER ★ <b>118.7 (CTAF) 0 279.6</b>	GND CON <b>121.9 279.6</b>	CLNC DEL <b>120.6 290.5</b>	UNICOM <b>122.95</b>
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Use I-OGG DME when on the localizer course. VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 77).

One Minute Holding Pattern

I-OGG 15.2  
OGG 15.2

6600 ← 204°  
4000 → 024°

GS 3.00°  
TCH 62

6.7 NM 3.7 NM 2.3 NM 1.2 NM

CATEGORY A B C D E

S-ILS 2 275- $\frac{1}{2}$  220 (300- $\frac{1}{2}$ )

S-LOC 2 520- $\frac{1}{2}$  465 (500- $\frac{1}{2}$ ) 520-1 465 (500-1)

CIRCLING 520-1 620-1 740-2 1140-3 1720-3  
465 (500-1) 565 (600-1) 685 (700-2) 1085 (1100-3) 1665 (1700-3)

3000  
OGG R-023

TEBBS I-OGG 8.5 RADAR

NOWAK I-OGG 4.8 RADAR

I-OGG 2.5 I-OGG 1.3

4980 X 150

6935 X 150

204°

204°

204°

204°

KAHULUI, HAWAII  
Amdt 26A 05OCT23

20°54'N-156°26'W

KAHULUI (OGG)(PHOG)

## ILS Z or LOC Z RWY 2

KAHALUI, HAWAII

AL-762 (FAA)

23166

APP CRS	Rwy Idg	6995
024°	TDZE	55
	Apt Elev	55

# RNAV (RNP) Z RWY 2

KAHALUI (OGG)(PHOG)

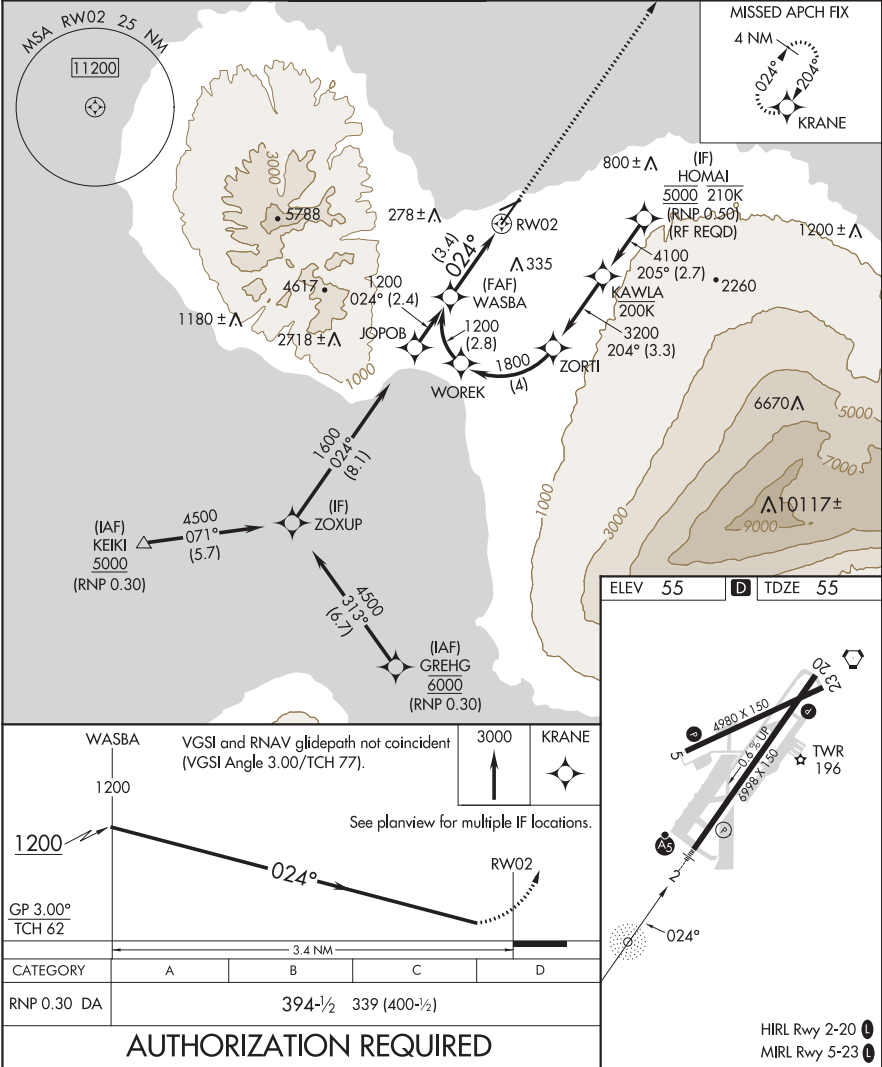
RNP AR APCH - GPS.

For uncompensated Baro-VNAV systems, procedure NA below 14°C or above 54° C. When local altimeter setting not received, procedure NA. For inop ALS, increase RNP 0.30 all Cats visibility to ½ SM.

MALSR

MISSED APPROACH: Climb to 3000 direct KRANE and hold.

ATIS	HCF APPROACH	MAUI TOWER ★	GND CON	CLNC DEL	UNICOM
128.6	120.2 322.4 (NORTH) 119.5 225.4 (SOUTH)	118.7 (CTAF) 279.6	121.9 279.6	120.6 290.5	122.95



KAHALUI, HAWAII  
Amdt 1B 15JUN23

20°54'N-156°26'W

# KAHALUI (OGG)(PHOG)

# RNAV (RNP) Z RWY 2



KAHULUI, HAWAII


AL-762 (FAA)

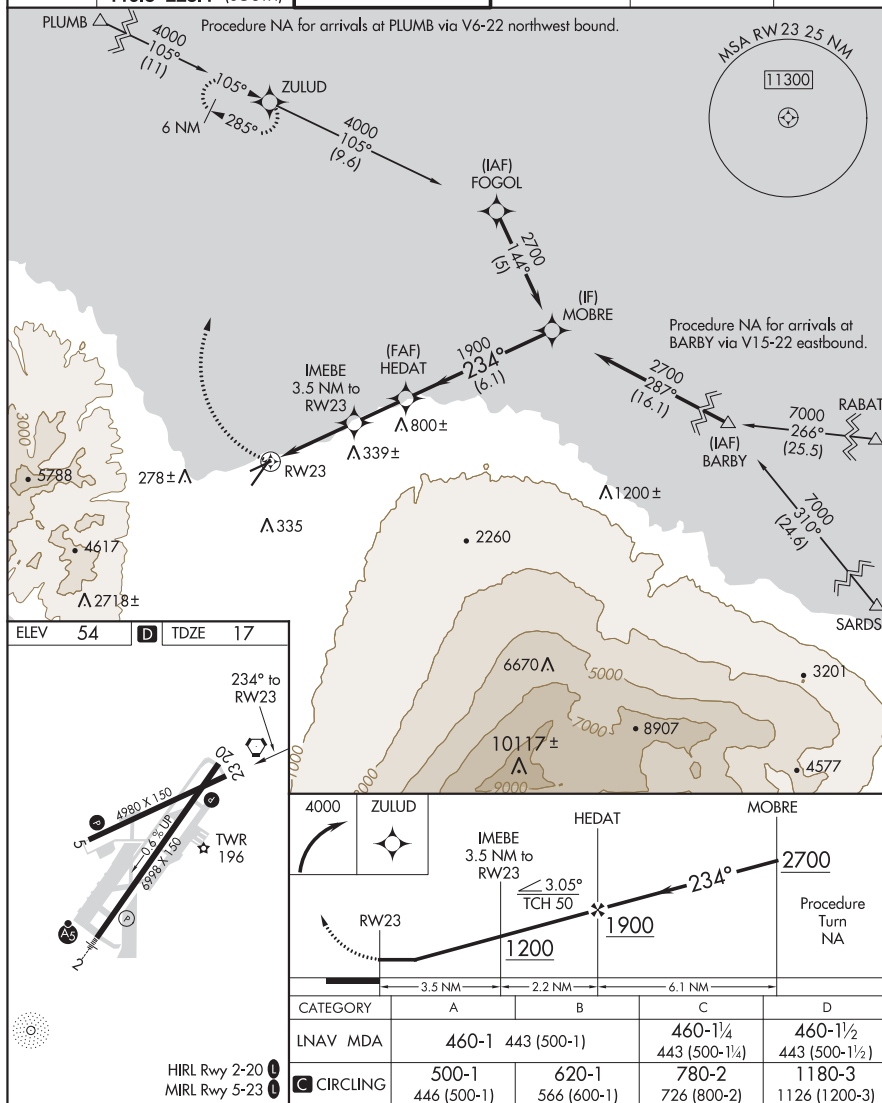
20310

APP CRS	Rwy Idg	<b>4980</b>
<b>234°</b>	TDZE	<b>17</b>
	Apt Elev	<b>54</b>

## RNAV (GPS) RWY 23

KAHULUI (OGG)(PHOG)

	DME/DME RNP-0.3 NA.		MISSED APPROACH: Climbing right turn to 4000 direct ZULUD and hold, continue climb-in-hold to 4000.			
	ATIS <b>128.6</b>	HCF APPROACH <b>120.2 322.4</b> (NORTH) <b>119.5 225.4</b> (SOUTH)	MAUI TOWER ★ <b>118.7</b> (CTAF) <b>0 279.6</b>	GND CON <b>121.9 279.6</b>	CLNC DEL <b>120.6 290.5</b>	UNICOM <b>122.95</b>



KAHULUI, HAWAII

AL-762 (FAA)

22251

APP CRS

Rwy Idg

6995

024°

TDZE

55

Apt Elev

55

RNAV (GPS) Y RWY 2

KAHULUI (OGG)(PHOG)

RNP APCH-GPS.

When Kahului altimeter setting not received, procedure NA.

MALSR

MISSED APPROACH: Climb to 3000 direct KRANE and hold.

ATIS

128.6

HCF APPROACH

120.2 322.4 (NORTH)

119.5 225.4 (SOUTH)

MAUI TOWER ★

118.7 (CTAF) 0 279.6

GND CON

121.9 279.6

CLNC DEL

120.6 290.5

UNICOM

122.95

MSA RW02 25 NM

11200

MISSED APCH FIX

4 NM

024°

200°

KRANE

278±Λ

238Λ

Λ335

JINAS 3.8 NM to RW02

4500 204° 15.7

800±Λ (IAF) HOMAI 5000 210K

1200±Λ

2260

6670Λ

5000

7000

Λ10117±

9000

3000

1000

2718±Λ

(FAF) SABAE

2600 024° (3.4)

3200 055° (8.2) (IAF) KEIKI

3200 294° (4.3)

CORBU

3200 334° (8.3)

(IAF) GREHG 6000 210K

Procedure NA for arrivals at KEIKI on V2-21 westbound.

ELEV 55

TDZE 55

WUNAT

SABAE

JINAS 3.8 NM to RW02

1.2 NM to RW02

RW02

3000

KRANE

VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 77).

3200

024°

2600

1400

3.20° TCH 62

3.4 NM

3.5 NM

2.6 NM

1.2 NM

4980 X 150

0.6 X 150

5980 X 150

TWR 196

024° to RW02

HIRL Rwy 2-20

MIRL Rwy 5-23

CATEGORY	A	B	C	D
LNAV MDA	500-1/2	445 (500-1/2)	500-7/8	445 (500-7/8)
CIRCLING	500-1 445 (500-1)	620-1 565 (600-1)	740-2 685 (700-2)	1140-3 1085 (1100-3)

KAHULUI, HAWAII

Amdt 3 08SEP22

20°54'N-156°26'W

KAHULUI (OGG)(PHOG)

RNAV (GPS) Y RWY 2

PAC, 30 NOV 2023 to 25 JAN 2024

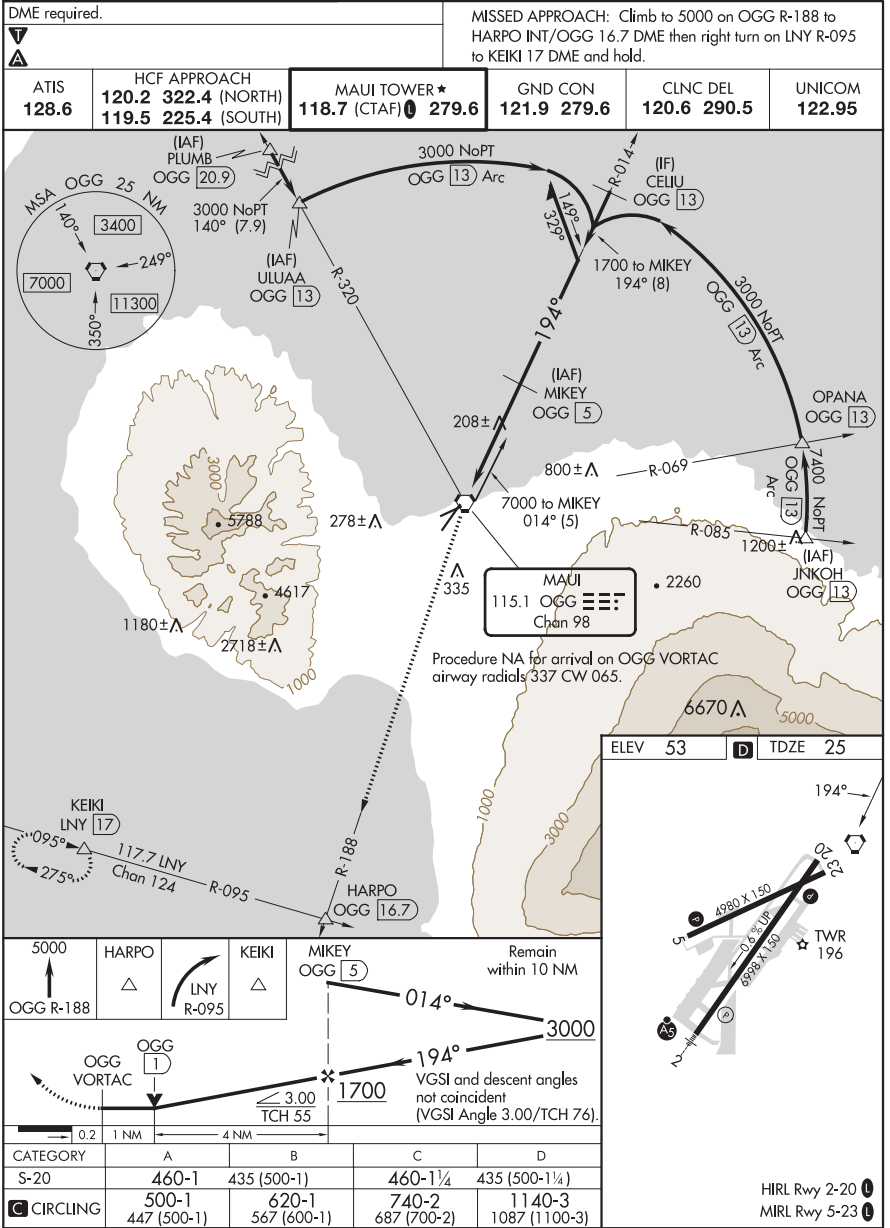
KAHULUI, HAWAII

AL-762 (FAA)

23278

VORTAC OGG	APP CRS	Rwy Idg	6995
115.1	194°	TDZE	25
Chan 98		Apt Elev	53

VOR Z or TACAN RWY 20  
KAHULUI (OGG)(PHOG)



KAHULUI, HAWAII  
Amdt 1A 05OCT23

20°54'N-156°26'W

KAHULUI (OGG)(PHOG)  
VOR Z or TACAN RWY 20

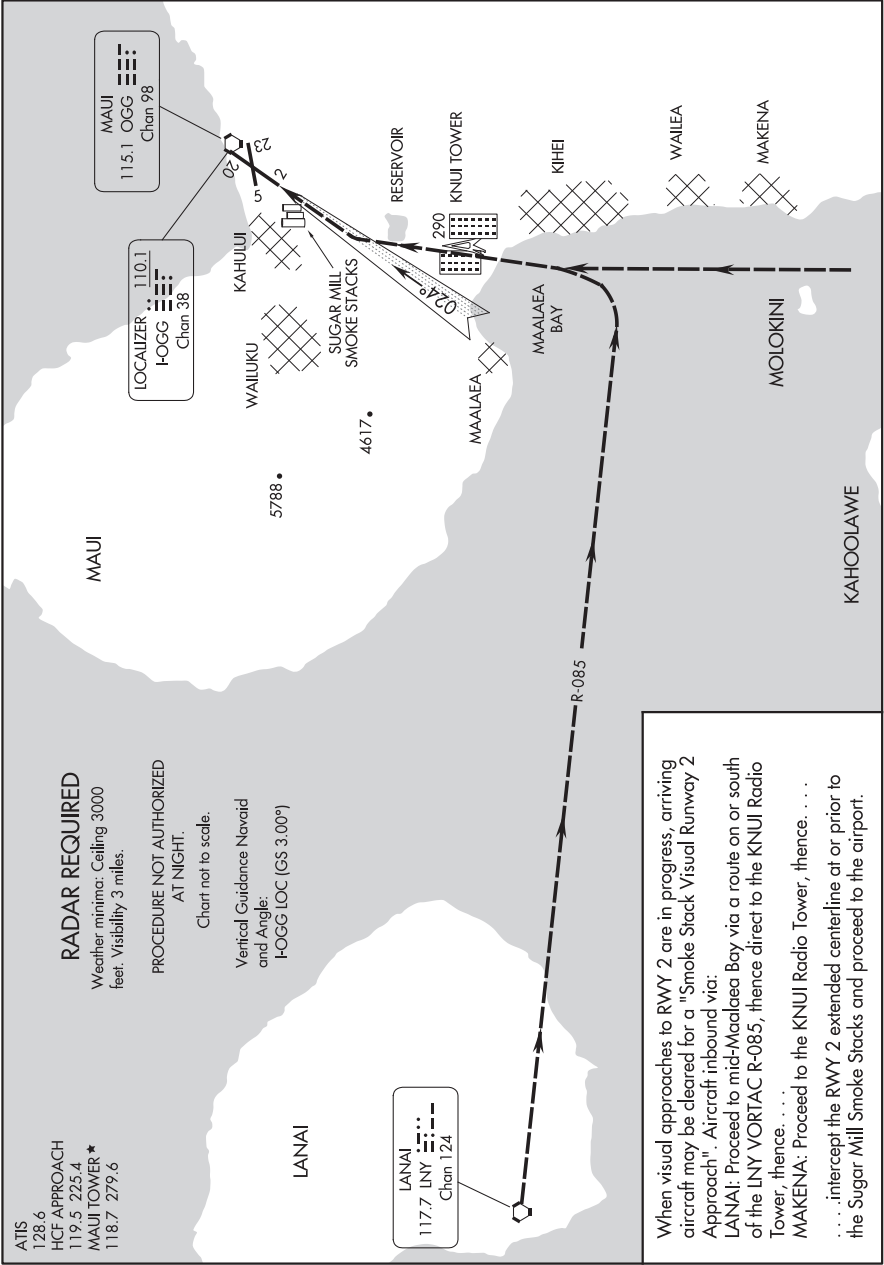


23334

AL-762 (FAA)

SMOKE STACK VISUAL RWY 2

KAHULUI (OGG)(PHOG)  
KAHULUI, HAWAII



SMOKE STACK VISUAL RWY 2

20° 54'N-156° 26'W

KAHULUI, HAWAII  
KAHULUI (OGG)(PHOG)

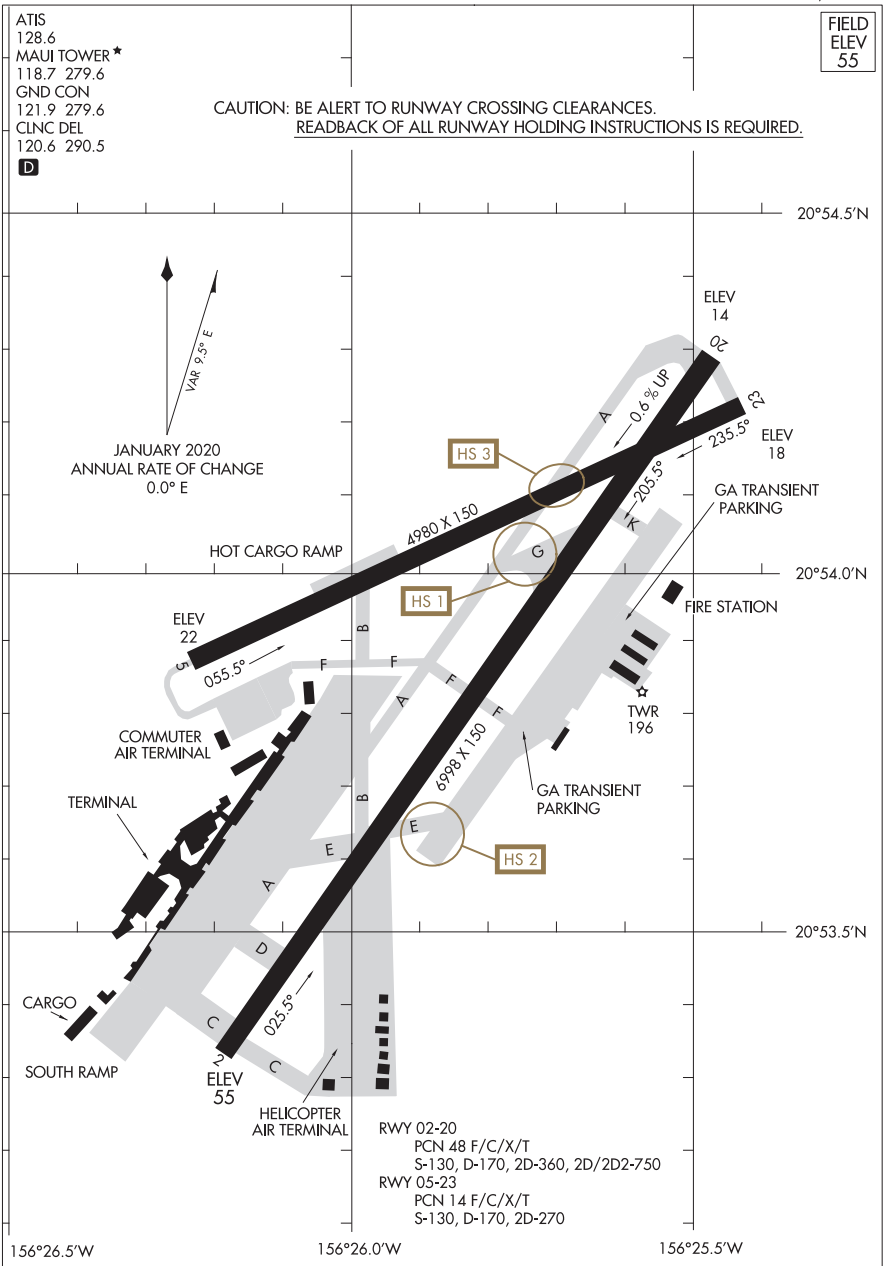
Amdt 1A 30NOV23

20310

AIRPORT DIAGRAM

AL-762 (FAA)

KAHULUI (OGG)(PHOG)  
KAHULUI, HAWAII



AIRPORT DIAGRAM

20310

KAHULUI, HAWAII  
KAHULUI (OGG)(PHOG)



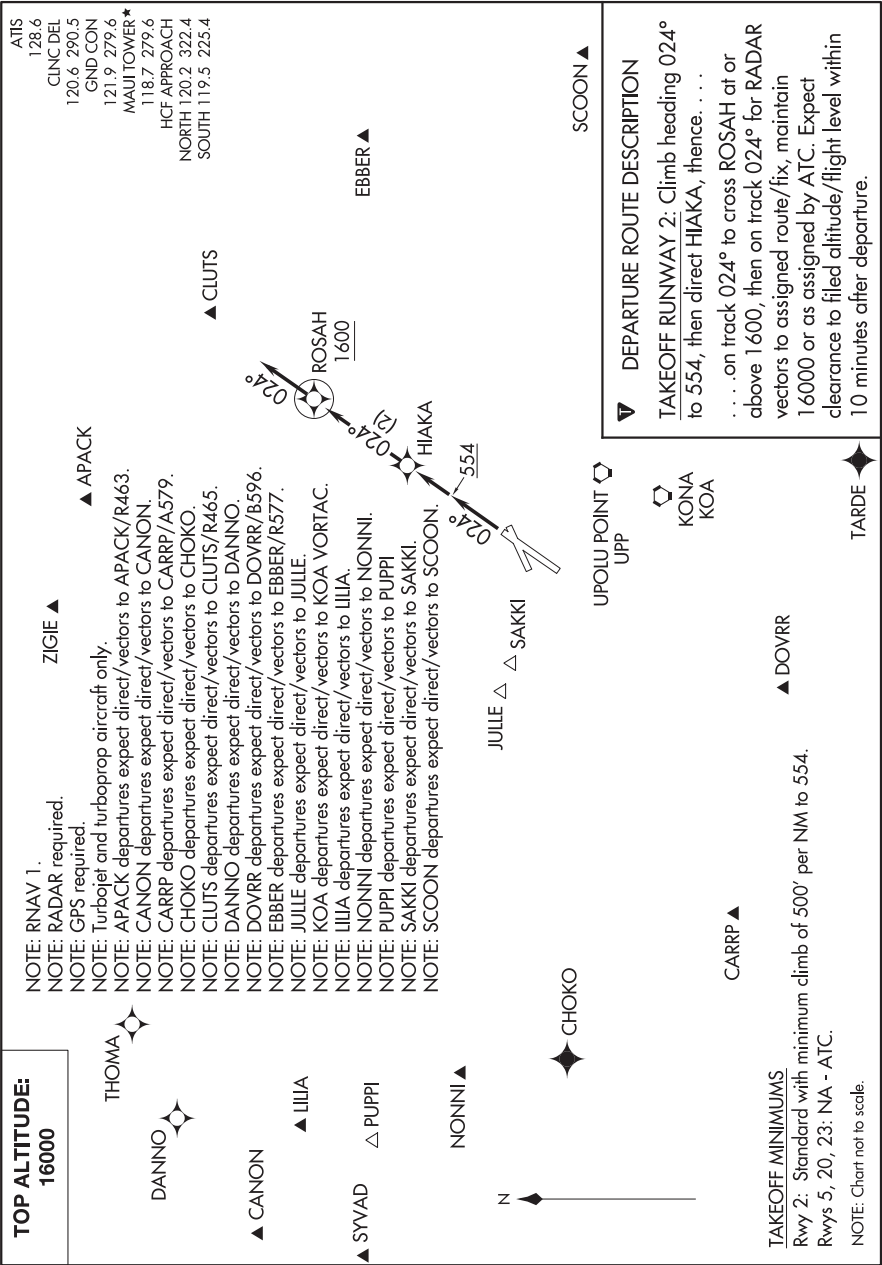
(HIAKA1.HIAKA) 20030

HIAKA ONE DEPARTURE (RNAV)

AL-762 (FAA)

KAHULUI (OGG)(PHOG)

KAHULUI, HAWAII



HIAKA ONE DEPARTURE (RNAV)

(HIAKA1.HIAKA) 20JUN19

KAHULUI, HAWAII

KAHULUI (OGG)(PHOG)

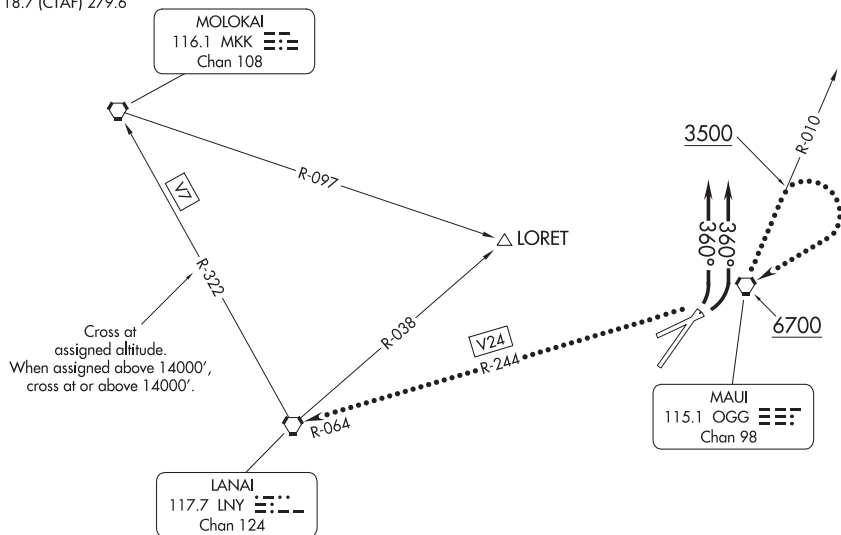
(MAUI5.OGG) 23278

## MAUI FIVE DEPARTURE

AL-762 (FAA)

KAHULUI (OGG)(PHOG)  
KAHULUI, HAWAII

HCF APPROACH  
120.2 322.4  
ATIS  
128.6  
CLNC DEL  
120.6 290.5  
GND CON  
121.9 279.6  
MAUI TOWER ★  
118.7 (CTAF) 279.6



NOTE: Takeoff requires minimum climb  
of 420' per NM until reaching 8000'.

NOTE: Chart not to scale.



## DEPARTURE ROUTE DESCRIPTION

**TAKEOFF RUNWAYS 2 AND 5 ONLY:** After takeoff, all aircraft fly heading 360°, expect radar vectors west of Maui Island to assigned fix/route. Cross the LNY R-322 at assigned altitude. When assigned above 14000', cross at or above 14000'.

**LOST COMMUNICATIONS:** If not in contact with Departure Control 1 minute after crossing the shoreline, climb northbound via the OGG R-010 until reaching at least 3500'. Then reverse course to the right direct OGG VORTAC. Then via V24 to LNY VORTAC. Cross OGG VORTAC at or above 6700'.

## MAUI FIVE DEPARTURE

(MAUI5.OGG) 09SEP99

KAHULUI, HAWAII  
KAHULUI (OGG)(PHOG)

(NPLI2.SAKKI) 18032

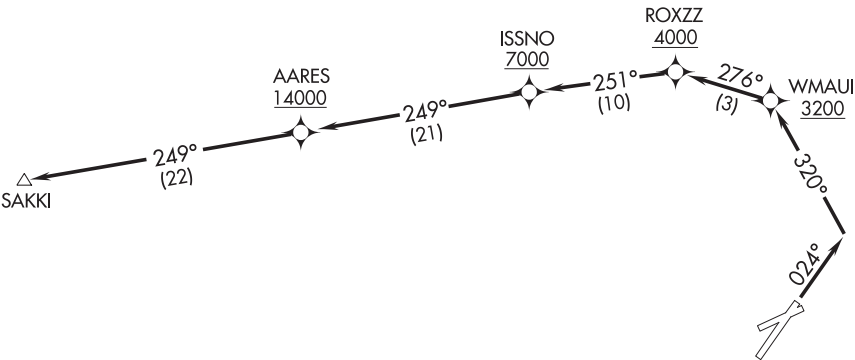
NPLI TWO DEPARTURE (RNAV)

AL-762 (FAA)

KAHULUI (OGG)(PHOG)  
KAHULUI, HAWAII

ATIS 128.6  
CLNC DEL  
120.6 290.5  
GND CON  
121.9 279.6  
MAUI TOWER ★  
118.7 (CTAF) 279.6  
HCF APPROACH  
NORTH 120.2 322.4  
SOUTH 119.5 225.4

**TOP ALTITUDE:  
ASSIGNED BY ATC**



NOTE: RNAV 1.  
NOTE: GPS required.

**TAKEOFF MINIMUMS**  
Rwys 5, 20, 23, NA - Air Traffic.  
Rwy 2: Standard with minimum climb of 355' per NM to 11200.

NOTE: Chart not to scale.



DEPARTURE ROUTE DESCRIPTION

**TAKEOFF RUNWAY 2:** Climb to assigned altitude on heading 024° to intercept course 320° to cross WMAUI at or above 3200, and on track 276° to cross ROXZZ at or above 4000, and on track 251° to cross ISSNO at or above 7000, and on track 249° to cross AARES at or above 14000, and on track 249° to SAKKI.

NPLI TWO DEPARTURE (RNAV)

(NPLI2.SAKKI) 20AUG15

KAHULUI, HAWAII  
KAHULUI (OGG)(PHOG)

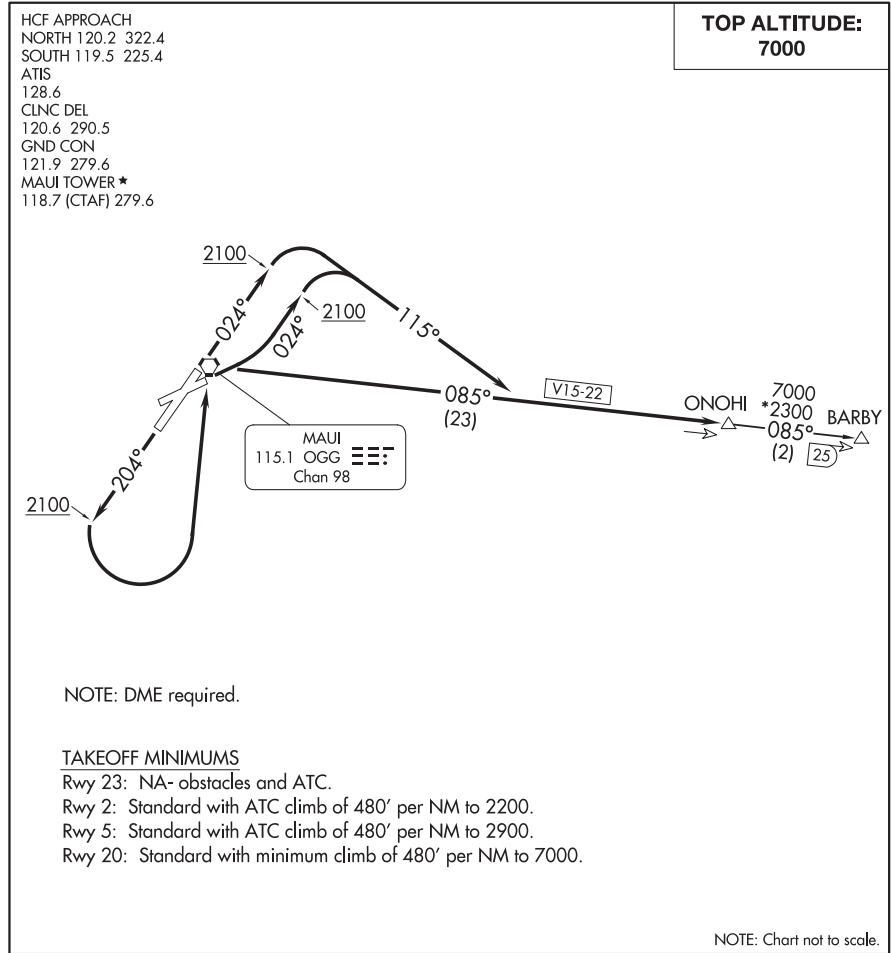
(ONOH12.ONOH1) 23278

ONOH1 TWO DEPARTURE

AL-762 (FAA)

KAHULUI (OGG)(PHOG)

KAHULUI, HAWAII



▼

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 2: Climb on heading 024° to 2100 then climbing right turn to 7000 to ONOH1/OGG 23 DME via heading 115° and OGG R-085.

TAKEOFF RUNWAY 5: Climbing left turn on heading 024° to 2100 then climbing right turn to 7000 to ONOH1/OGG 23 DME via heading 115° and OGG R-085.

TAKEOFF RUNWAY 20: Climb on heading 204° to 2100 then climbing left turn to 7000 to ONOH1/OGG 23 DME via direct OGG VORTAC and OGG R-085.

BARBY TRANSITION (ONOH12.BARBY): From over ONOH1/OGG 23 DME on OGG R-085 to BARBY/OGG 25 DME.

ONOH1 TWO DEPARTURE

(ONOH12.ONOH1) 20AUG15

KAHULUI, HAWAII

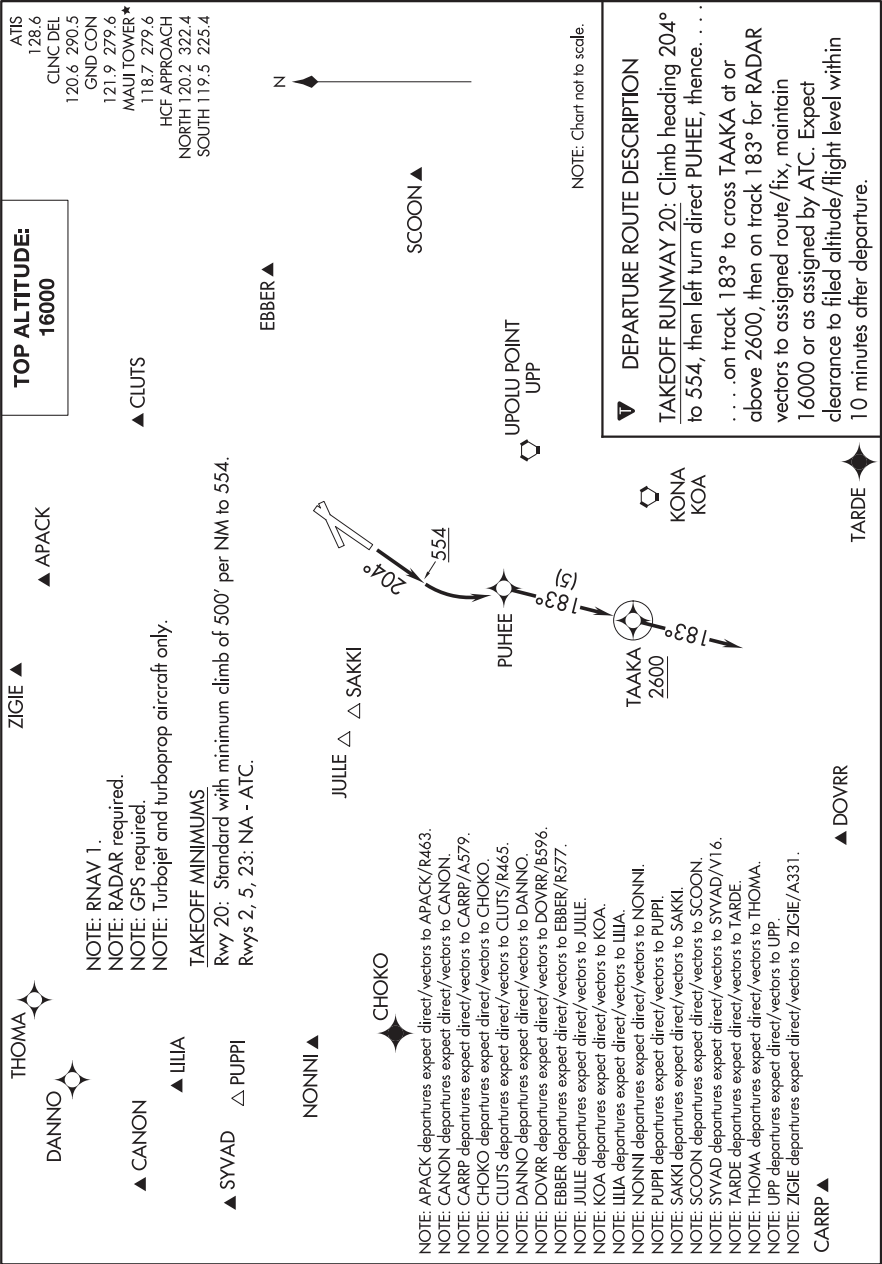
KAHULUI (OGG)(PHOG)

(PUHEE1.PUHEE) 20030

PUHEE ONE DEPARTURE (RNAV)

AL-762 (FAA)

KAHULUI (OGG)(PHOG)  
 KAHULUI, HAWAII

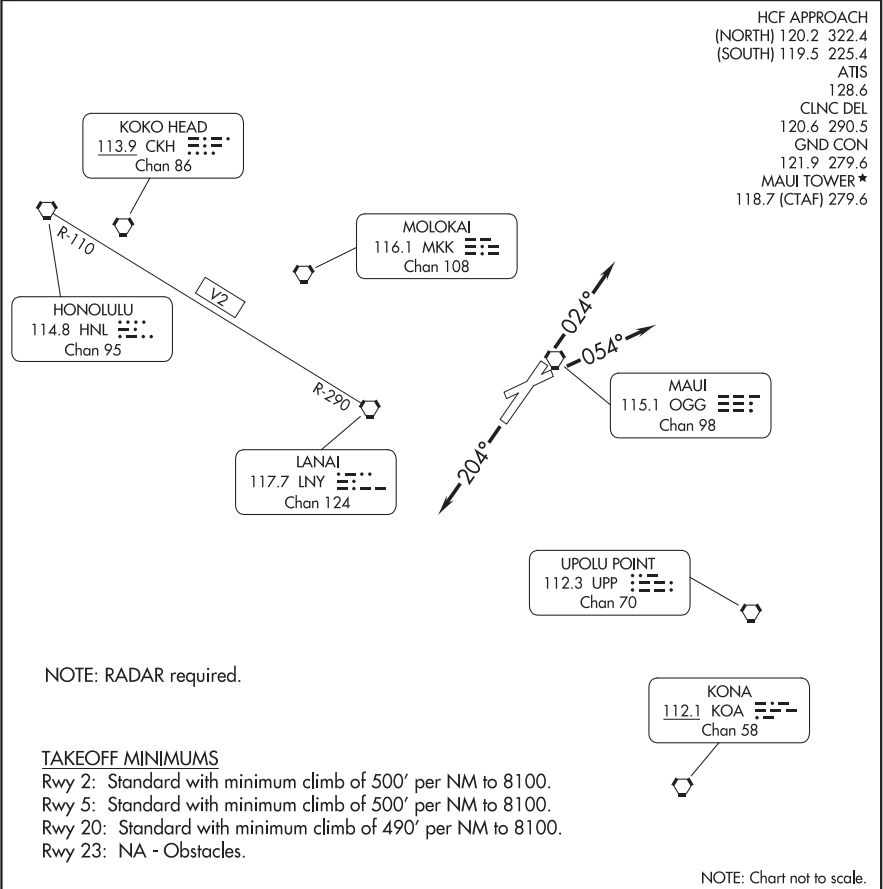


PUHEE ONE DEPARTURE (RNAV)

(PUHEE1.PUHEE) 20JUN19

KAHULUI, HAWAII  
 KAHULUI (OGG)(PHOG)





**DEPARTURE ROUTE DESCRIPTION**

TAKEOFF RUNWAY 2: Climb heading 024° (or ATC assigned heading 310° CW 053°);  
thence. . .

TAKEOFF RUNWAY 5: Climbing heading 054° (or ATC assigned heading 307° CW 054°);  
thence. . .

TAKEOFF RUNWAY 20: Climb heading 204° (or ATC assigned heading 169° CW 204°);  
thence. . .

TAKEOFF RUNWAY 23: NA - Obstacles.

. . . expect RADAR vectors to join assigned route. Maintain assigned altitude; expect filed altitude/flight level 5 minutes after departure.

LOST COMMUNICATIONS: If not in contact with departure control 1 minute after departure, climb southbound to join V2 to LNY VORTAC, then on assigned route.

(SWEEP2.SWEEP) 23278

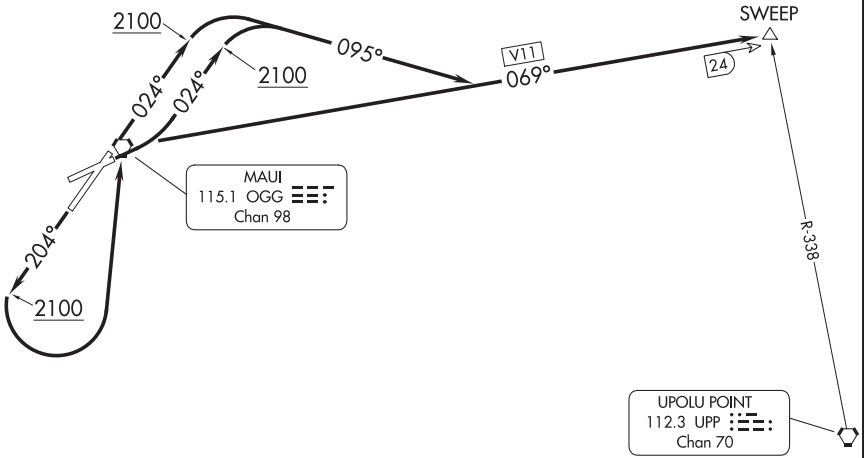
SWEEP TWO DEPARTURE

AL-762 (FAA)

KAHULUI (OGG)(PHOG)  
KAHULUI, HAWAII

MAUI DEP CON  
NORTH 120.2 322.4  
SOUTH 119.5 225.4  
HCF APPROACH  
NORTH 120.2 322.4  
SOUTH 119.5 225.4  
ATIS  
128.6  
CLNC DEL  
120.6 290.5  
GND CON  
121.9 279.6  
MAUI TOWER ★  
118.7 (CTAF) 279.6

TOP ALTITUDE:  
6000



TAKEOFF MINIMUMS

Rwy 23: NA Obstacle and ATC.  
Rwys 2, 5: Standard with ATC climb of 480' per NM to 2100.  
Rwy 20: Standard with minimum climb of 480' per NM to 2100.

NOTE: Chart not to scale.



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 2: Climb heading 024° to 2100 then climbing right turn to 6000 via heading 095° to intercept OGG VORTAC R-069 (V11) to SWEEP INT/OGG 24 DME.  
TAKEOFF RUNWAY 5: Climb heading 024° to 2100 then right turn to 6000 via heading 095° to intercept OGG VORTAC R-069 (V11) to SWEEP INT/OGG 24 DME.  
TAKEOFF RUNWAY 20: Climb heading 204° to 2100 then climbing left turn to 6000 direct OGG VORTAC then via OGG R-069 (V11) to SWEEP INT/OGG 24 DME.

SWEEP TWO DEPARTURE

(SWEEP2.SWEEP) 20AUG15

KAHULUI, HAWAII  
KAHULUI (OGG)(PHOG)



KAILUA-KONA, HAWAII

AL-5761 (FAA)

22083

APP CRS <b>174°</b>	Rwy Idg <b>11000</b> TDZE <b>47</b> Apt Elev <b>47</b>
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## RNAV (RNP) Z RWY 17

ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)

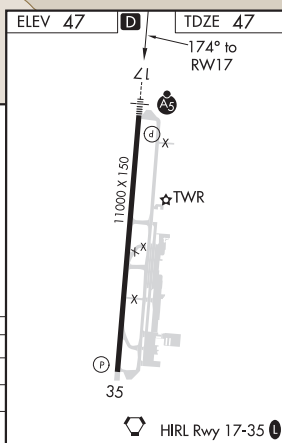
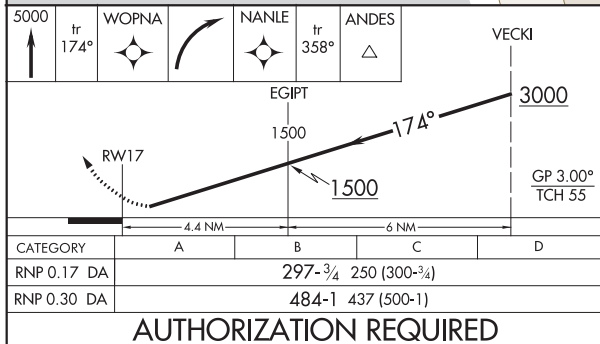
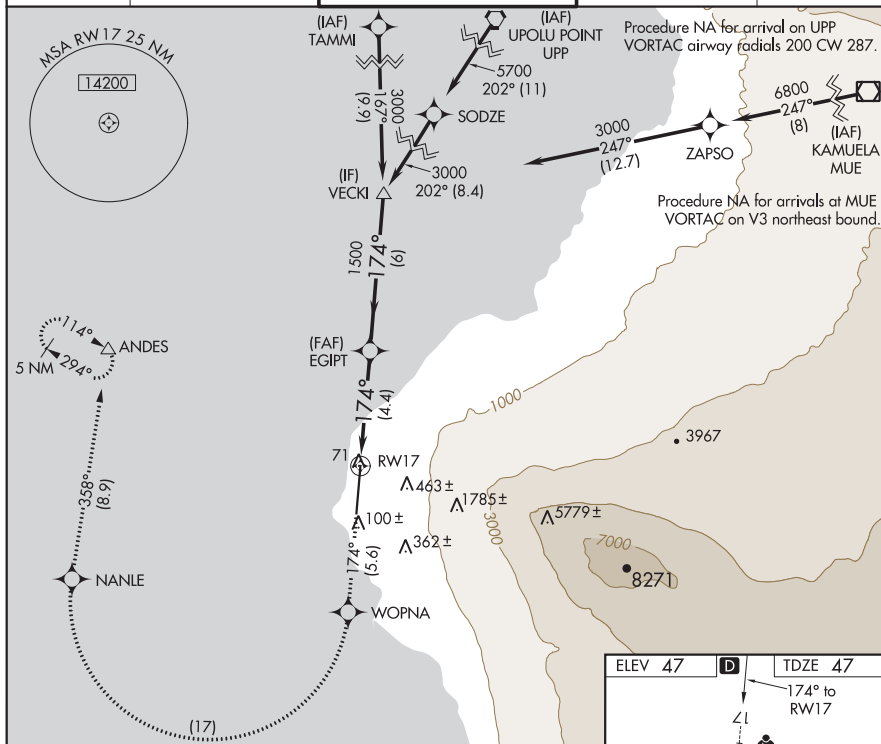
**T** For uncompensated Baro-VNAV systems, procedure NA below 6°C (43°F) or above 48°C (119°F). RF required. GPS required. For inop ALS, increase RNP 0.30 all Cats visibility to 1½ mile.

MALSR



**MISSED APPROACH:** Climb to 5000 on track 174° to WOPNA and right turn to NANLE, and on track 358° to ANDES and hold.

ATIS 127.4	HCF CENTER 118.45 278.3	KONA TOWER* 120.3 (CTAF) 0 254.3	GND CON 121.9	CLNC DEL 118.6
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**AUTHORIZATION REQUIRED**

KAILUA-KONA, HAWAII  
Orig-B 24MAY18

ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)  
19°44'N-156°03'W **RNAV (RNP) Z RWY 17**



KAILUA-KONA, HAWAII

AL-5761 (FAA)

22083

APP CRS	Rwy Idg <b>11000</b>
<b>174°</b>	TDZE <b>47</b>
	Apt Elev <b>47</b>

RNAV (GPS) Y RWY 17

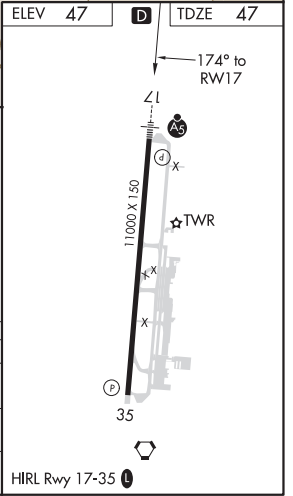
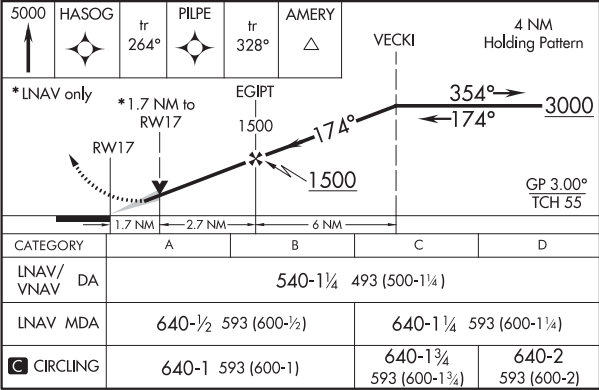
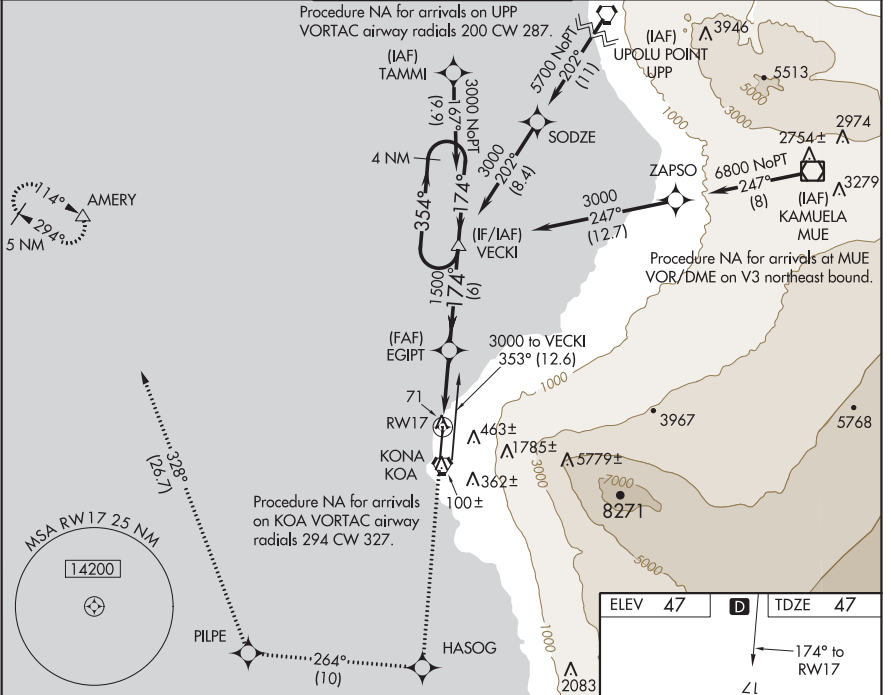
ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)

**⚠** WAAS VNAV NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -5°C (23°F) or above 43°C (109°F). Circling NA east of Rwy 17-35. DME/DME RNP-0.3 NA. For inop ALS, increase LNAV/VNAV all Cats visibility to 1½ miles.



**MISSED APPROACH:** Climb to 5000 direct HASOG and on track 264° track to PILPE and on track 328° to AMERY and hold.

ATIS <b>127.4</b>	HCF CENTER <b>118.45 278.3</b>	KONA TOWER★ <b>120.3(CTAF) 0 254.3</b>	GND CON <b>121.9</b>	CLNC DEL <b>118.6</b>
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KAILUA-KONA, HAWAII  
Amdt 1D 05NOV20

ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)  
19°44'N-156°03'W  
**RNAV (GPS) Y RWY 17**



KAILUA-KONA, HAWAII

AL-5761 (FAA)

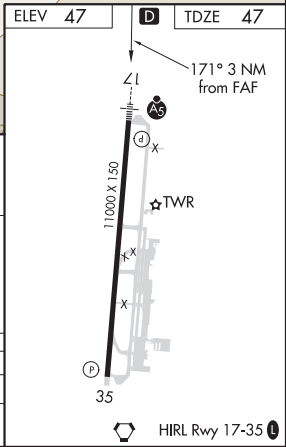
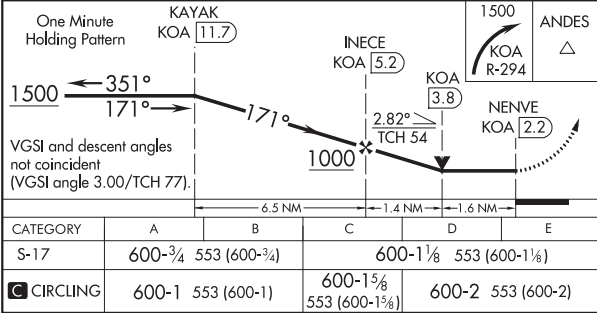
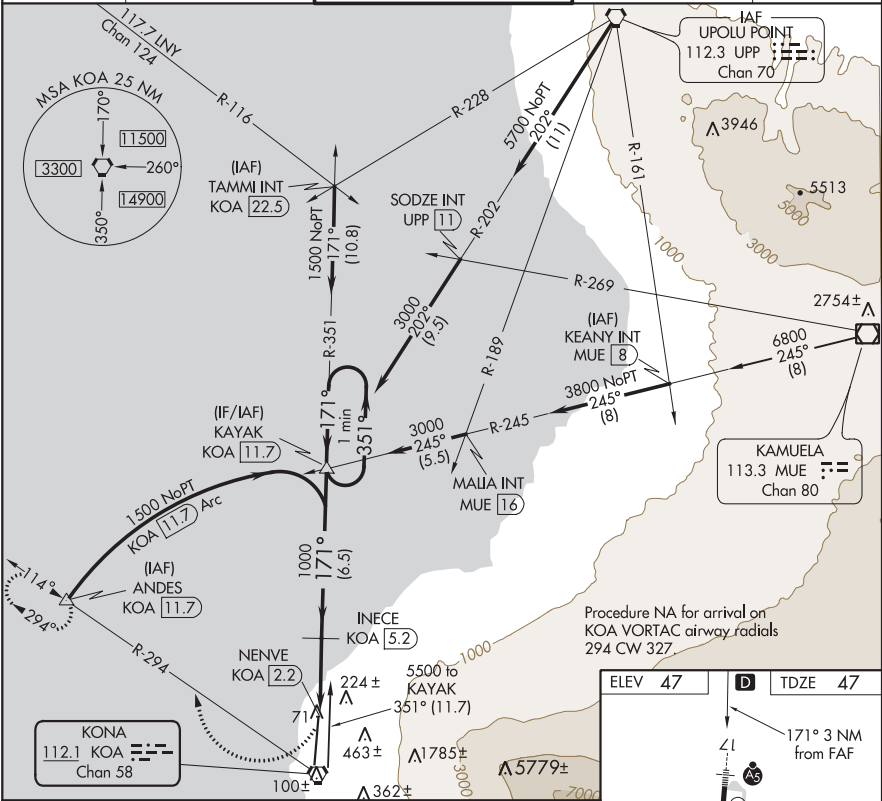
22083

VORTAC KOA <b>112.1</b> Chan <b>58</b>	APP CRS <b>171°</b>	Rwy Idg <b>11000</b> TDZE <b>47</b> Apt Elev <b>47</b>
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**VOR or TACAN RWY 17**  
ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHK0)

DME required. Circling NA east of Rwy 17-35. For inop ALS, increase S-17 Cat A, B visibility to 1 mile, Cat E visibility to 1½ mile.	MALSR 	MISSED APPROACH: Climbing right turn to 1500 on KOA VORTAC R-294 to ANDES/11.7 DME and hold.
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ATIS <b>127.4</b>	HCF CENTER <b>118.45 278.3</b>	KONA TOWER ★ <b>120.3(CTAF) 254.3</b>	GND CON <b>121.9</b>	CLNC DEL <b>118.6</b>
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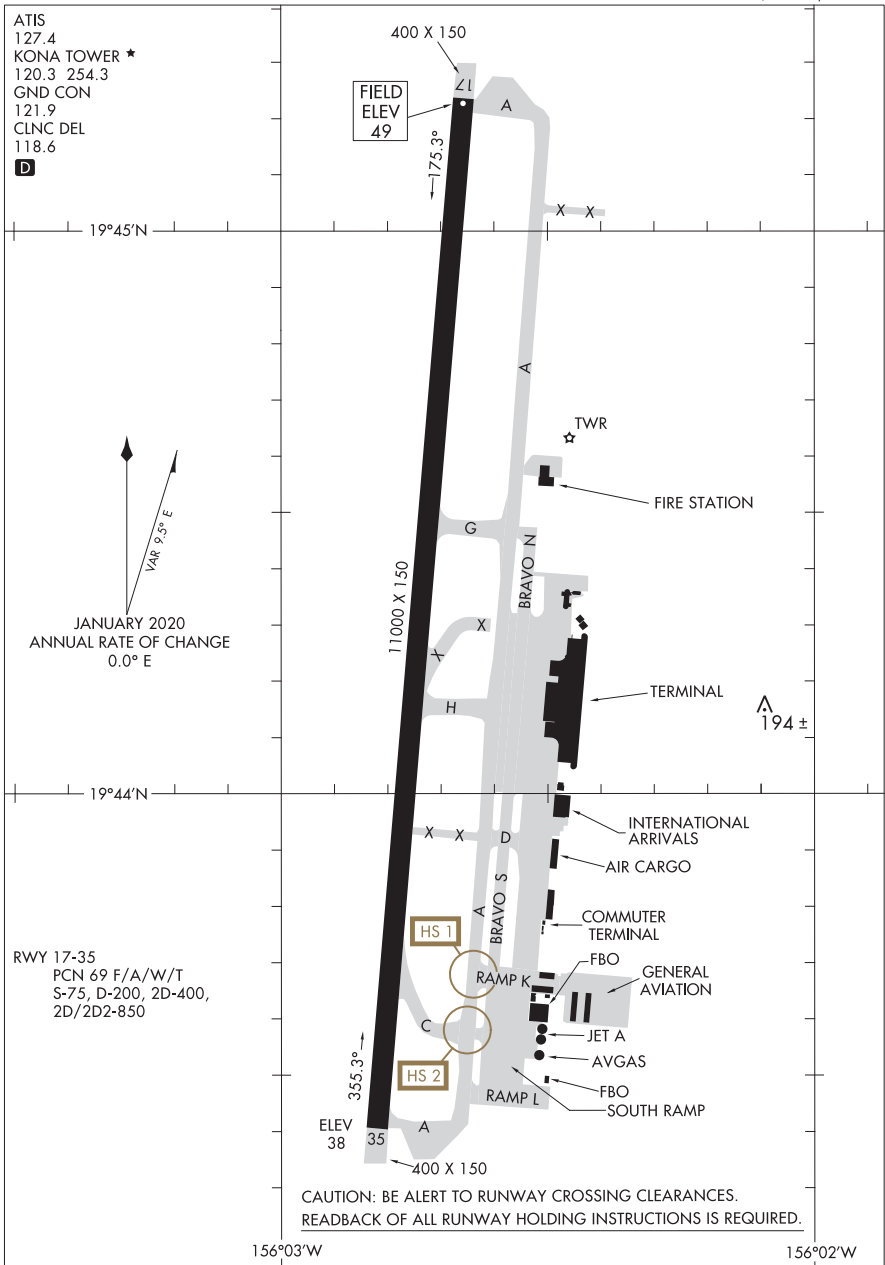
KAILUA-KONA, HAWAII  
Orig-D 05NOV20

ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHK0)  
VOR or TACAN RWY 17  
19°44'N-156°03'W





# AIRPORT DIAGRAM



**AIRPORT DIAGRAM** ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO) KAILUA/KONA, HAWAII  
23054

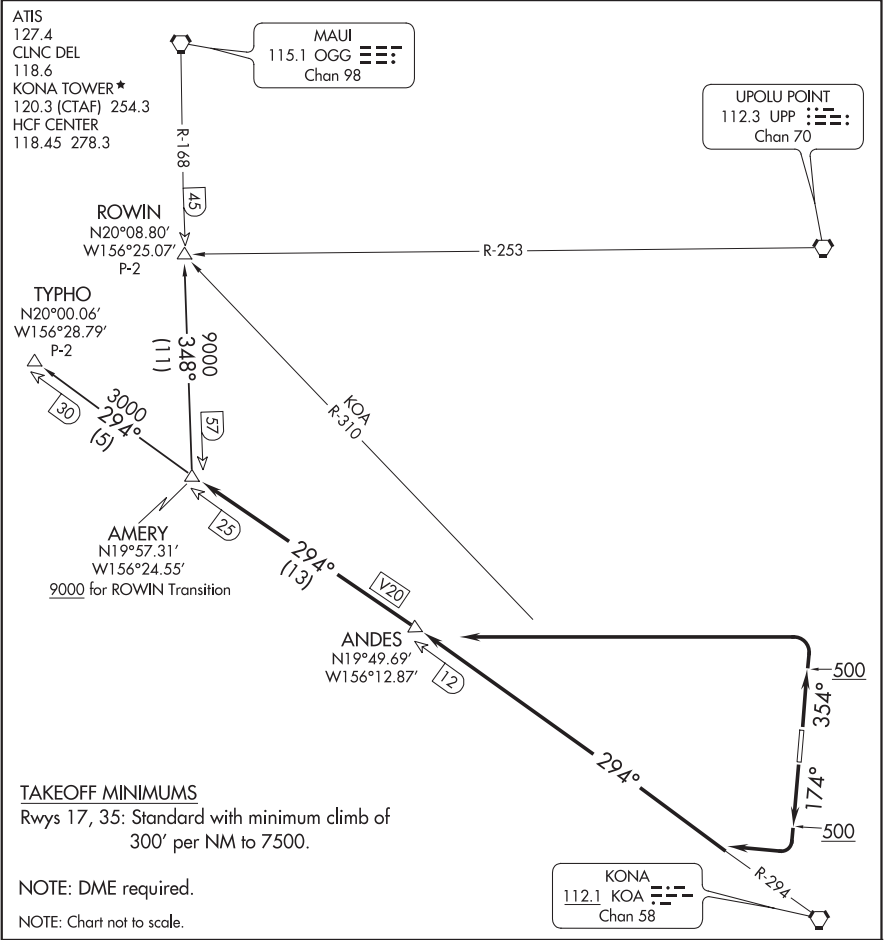
(AMERY4.AMERY) 20254

AMERY FOUR DEPARTURE

ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)

AL-5761 (FAA)

KAILUA-KONA, HAWAII



**DEPARTURE ROUTE DESCRIPTION**

TAKEOFF RUNWAY 17: Climb heading 174° to 500, then climbing right turn to intercept KOA R-294 to AMERY INT, Thence. . . .

TAKEOFF RUNWAY 35: Climb heading 354° to 500, then climbing left turn to intercept KOA R-294 to AMERY INT, Thence. . . .

. . . .via transition.

ROWIN TRANSITION (AMERY4.ROWIN): From AMERY INT on OGG R-168 to ROWIN INT.

TYPHO TRANSITION (AMERY4.TYPHO): From AMERY INT on KOA R-294 to TYPHO INT.

(CRIS2.CRIS1) 20254
 ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)
 CRISI TWO DEPARTURE (RNAV)
 AL-5761 (FAA)
 KAILUA-KONA, HAWAII

ATIS  
 127.4  
 CLNC DEL  
 118.6  
 KONA TOWER \*  
 120.3 254.3  
 HCF CENTER  
 118.45 278.3

CRISI △  
 10000

NOTE: DME/DME/IRU or GPS required.  
 NOTE: RADAR required.  
 NOTE: RNAV 1

TAKEOFF MINIMUMS  
 Rwy 17, 35: Standard.

NOTE: Chart not to scale.



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 17: Climb on heading 174° to 560 then climbing right turn to 10000 direct CRISI.  
 TAKEOFF RUNWAY 35: Climb on heading 354° to 560 then climbing left turn to 10000 direct CRISI.

CRISI TWO DEPARTURE (RNAV)
 KAILUA-KONA, HAWAII
 (CRIS2.CRIS1) 07DEC17
 ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)

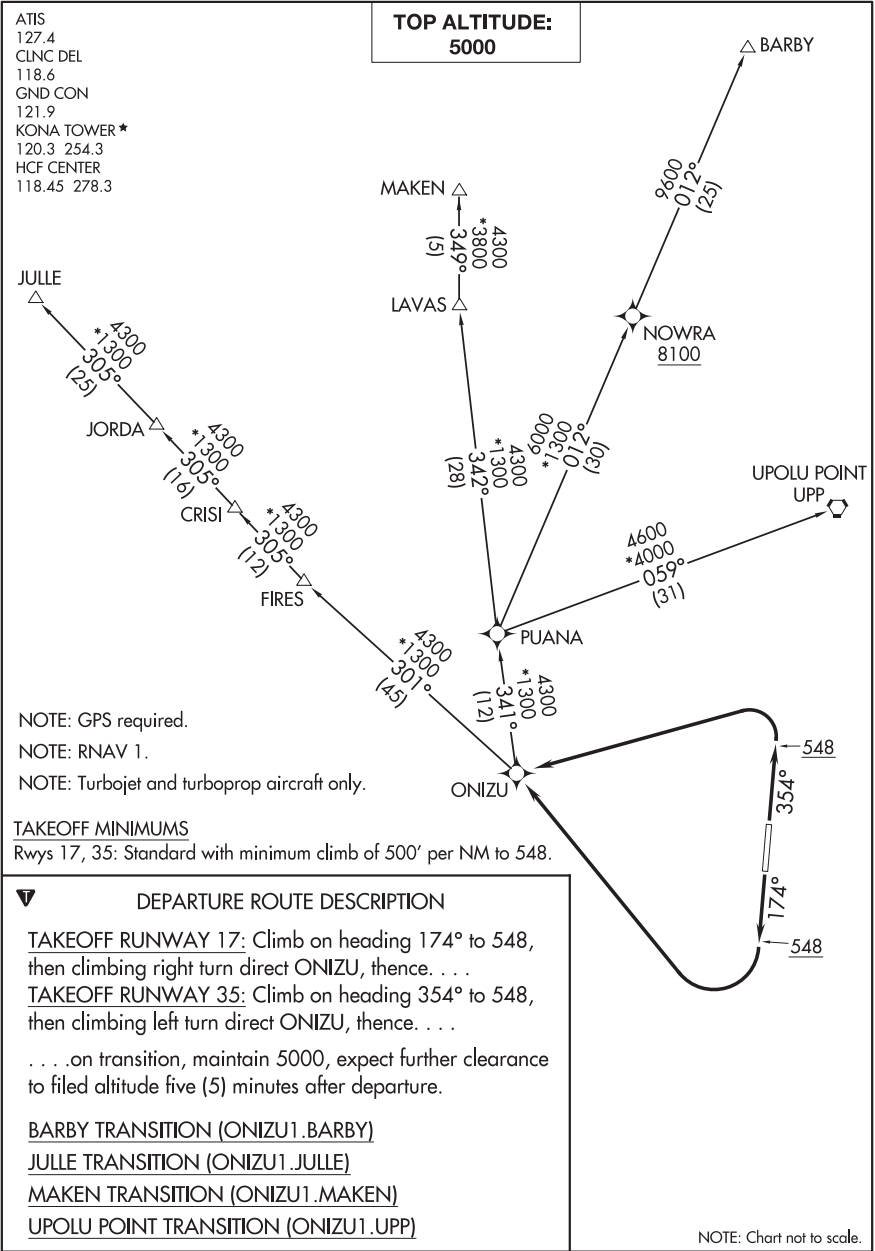
(ONIZU1.ONIZU) 21056

ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)

ONIZU ONE DEPARTURE (RNAV)

AL-5761 (FAA)

KAILUA-KONA, HAWAII



ONIZU ONE DEPARTURE (RNAV)

KAILUA-KONA, HAWAII

(ONIZU1.ONIZU) 25FEB21

ELLISON ONIZUKA KONA INTL AT KEAHOLE (KOA) (PHKO)

KALAUPAPA, HAWAII

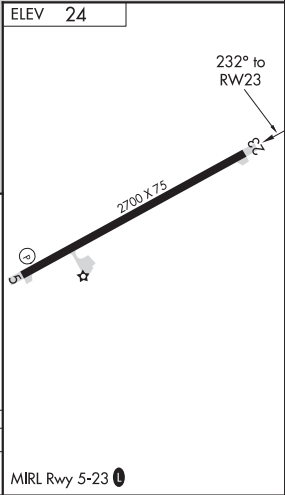
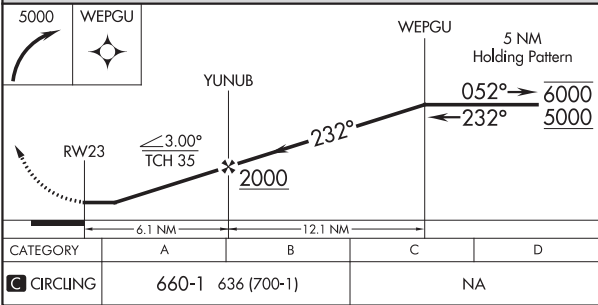
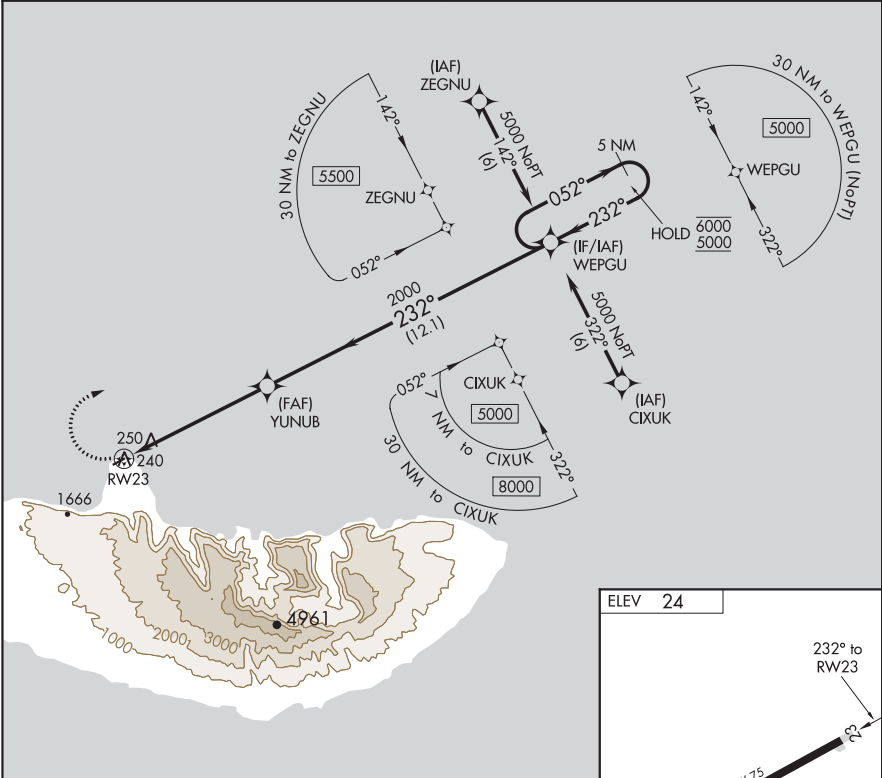
AL-6993 (FAA)

19171

APP CRS	Rwy Idg	N/A
232°	TDZE	N/A
	Apt Elev	24

RNAV (GPS)-A  
KALAUPAPA (LUP) (PHLU)

RNP APCH: Circling NA southeast of Rwy 5-23. Procedure NA at night. Use Kaunakakai altimeter setting.	MISSED APPROACH: Climbing right turn to 5000 direct WEPGU and hold, continue climb-in-hold to 5000.
HCF CENTER 124.1 317.5	CTAF 122.9



KALAUPAPA, HAWAII  
Amdt 1 20JUN19

21°13'N-156°58'W

KALAUPAPA (LUP) (PHLU)  
RNAV (GPS)-A

KALAUPAPA, HAWAII

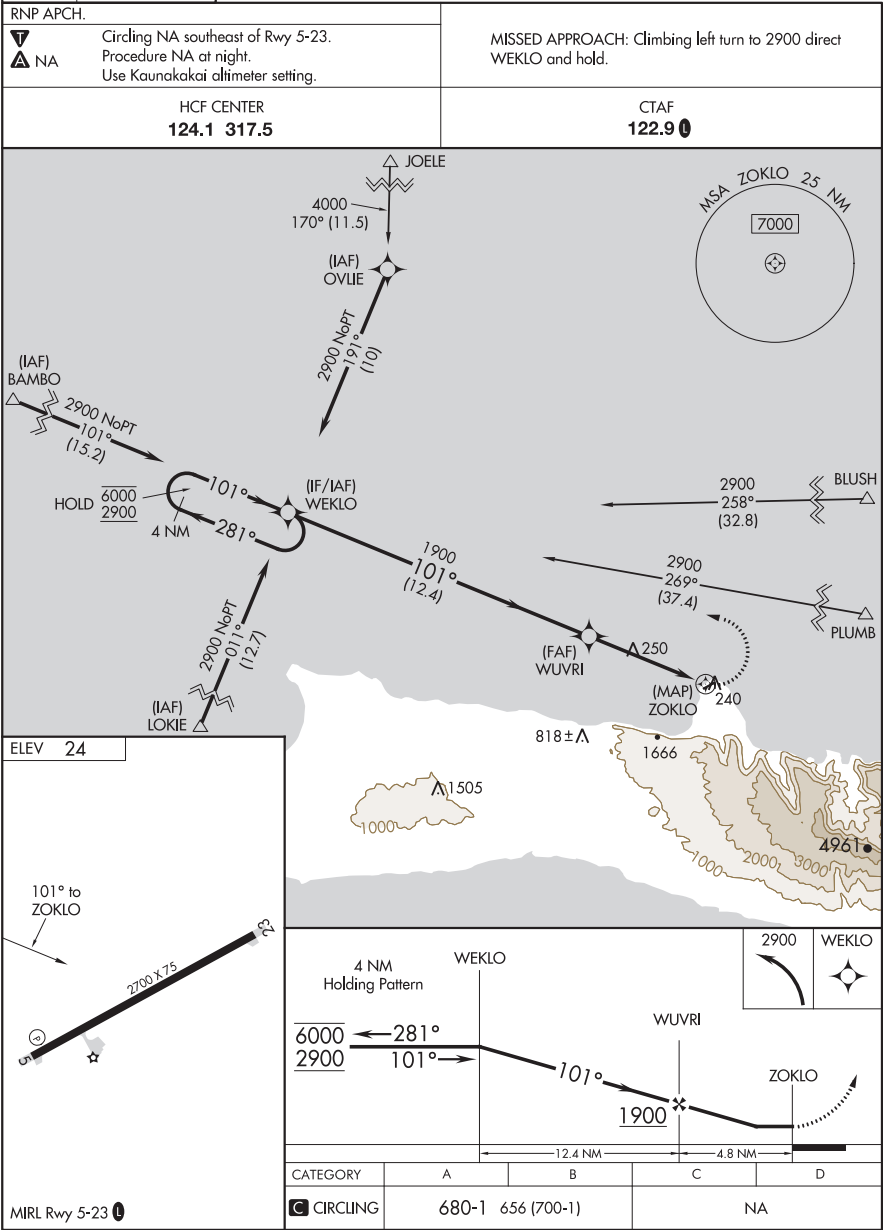
AL-6993 (FAA)

20310

APP CRS	Rwy Idg	N/A
101°	TDZE	N/A
	Apt Elev	24

RNAV (GPS)-B

KALAUPAPA (LUP) (PHLU)



KALAUPAPA, HAWAII

Orig 20JUN19

21°13'N-156°58'W

KALAUPAPA (LUP) (PHLU)

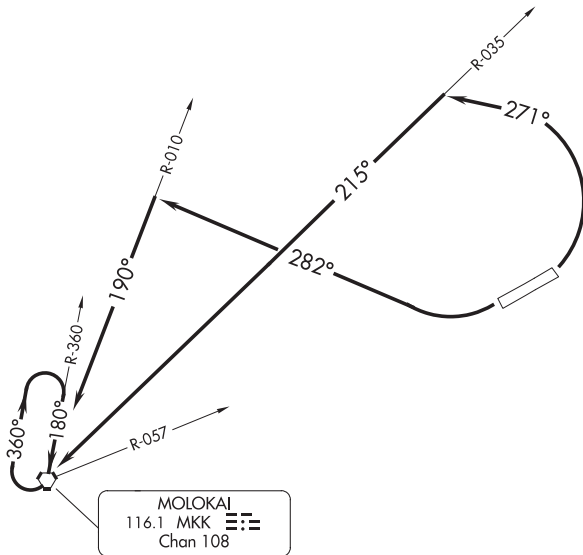
RNAV (GPS)-B

(LUP1.LUP) 23334

KALAUPAPA ONE DEPARTURE (OBSTACLE)

KALAUPAPA (LUP) (PHLU)  
AL-6993 (FAA) KALAUPAPA, HAWAII

HCF CENTER  
124.1 317.5  
CTAF  
122.9



TAKEOFF MINIMUMS

Rwy 5: Standard.

Rwy 23: Standard with minimum climb of 400' per NM  
to 430 or 3200-3 for climb in visual conditions.

TAKEOFF OBSTACLE NOTES

Rwy 5: Terrain beginning 52' from DER, 85' right of centerline, 27' MSL.

Bush 286' from DER, 198' right of centerline, 17' AGL/34' MSL.

Rwy 23: Bush 163' from DER, 92' right of centerline, 4' AGL/28' MSL.

NOTE: Chart not to scale

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climbing left turn to 4000 heading 271° to intercept MKK R-035 to MKK VORTAC, Thence. . . .

TAKEOFF RUNWAY 23: Climbing right turn to 4000 heading 282° to intercept MKK R-010 to MKK VORTAC, Thence. . . . or for climb in visual conditions, cross Kalaupapa Airport southwest bound at or above 3100 MSL then proceed on MKK R-057 to MKK VORTAC.

. . . .Climb in MKK VORTAC holding pattern to cross MKK VORTAC at or above MEA before proceeding enroute.

KALAUPAPA ONE DEPARTURE (OBSTACLE)

(LUP1.LUP) 10MAR11

KALAUPAPA, HAWAII  
KALAUPAPA (LUP) (PHLU)



KAMUELA, HAWAII

AL-5306 (FAA)

22027

APP CRS

055°

Rwy Idg

5197

TDZE

2671

Apt Elev

2671

RNAV (GPS) RWY 4

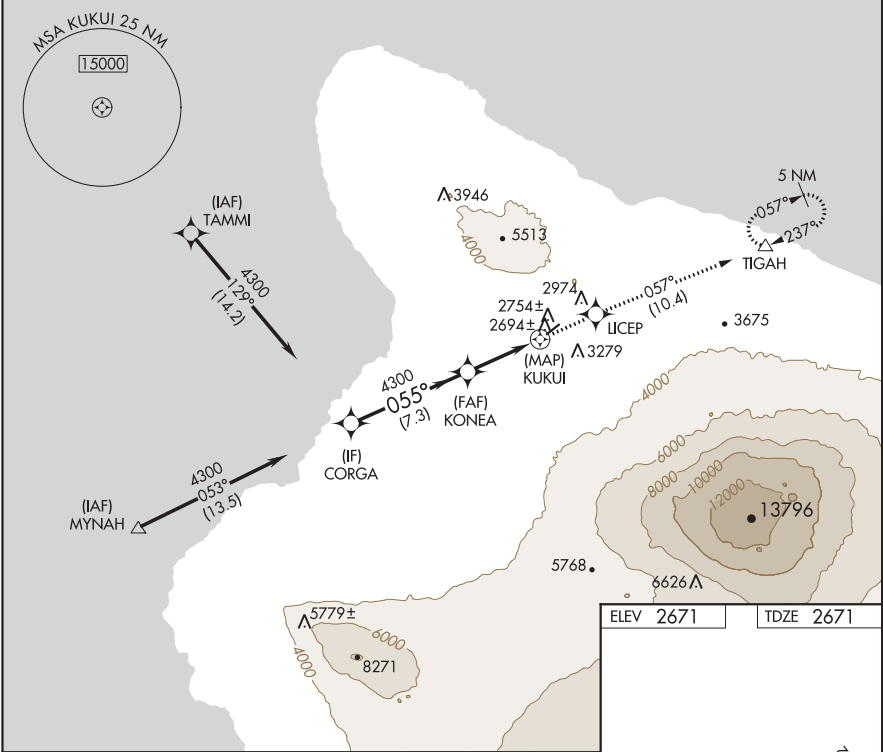
WAIMEA-KOHALA (MUE)(PHMU)

NA

Circling NA northwest of Rwy 4-22.  
When local altimeter setting not received, procedure NA.  
DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 5000 direct LICEP and on track 057° to TIGAH and hold.

AWOS-3PT 120.0	HCF CENTER 118.45 278.3	CTAF 122.9 0
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VGSI and descent angles not coincident  
(VGSI Angle 2.50/TCH 43).

CORGA

KONEA

KUKUI

TIGAH

5000

LICEP

tr 057°

TIGAH

4300

055°

4300

3.00° TCH 45

1.5 NM to KUKUI

7.3 NM

3 NM

1.5

0.5

CATEGORY	A	B	C	D
LNAV MDA	3220-1	549 (600-1)	3220-1½	549 (600-1½)
CIRCLING	3520-1¼	849 (900-1¼)	3580-2¾ 909 (1000-2¾)	3940-3 1269 (1300-3)

MIRL Rwy 4-22 0

REIL Rws 4 and 22

KAMUELA, HAWAII

Amdt 1B 27JAN22

20°00'N-155°40'W

WAIMEA-KOHALA (MUE)(PHMU)

RNAV (GPS) RWY 4

KAMUELA, HAWAII

AL-5306 (FAA)

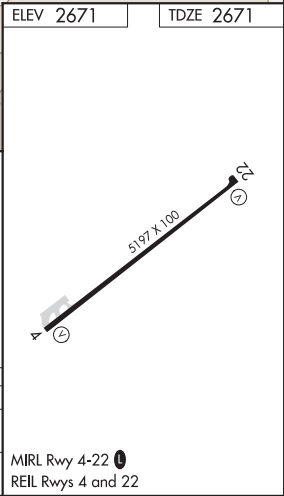
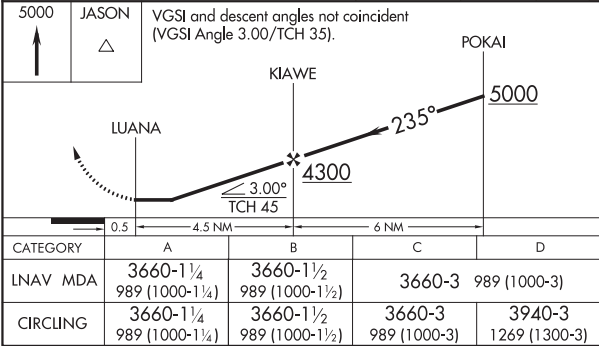
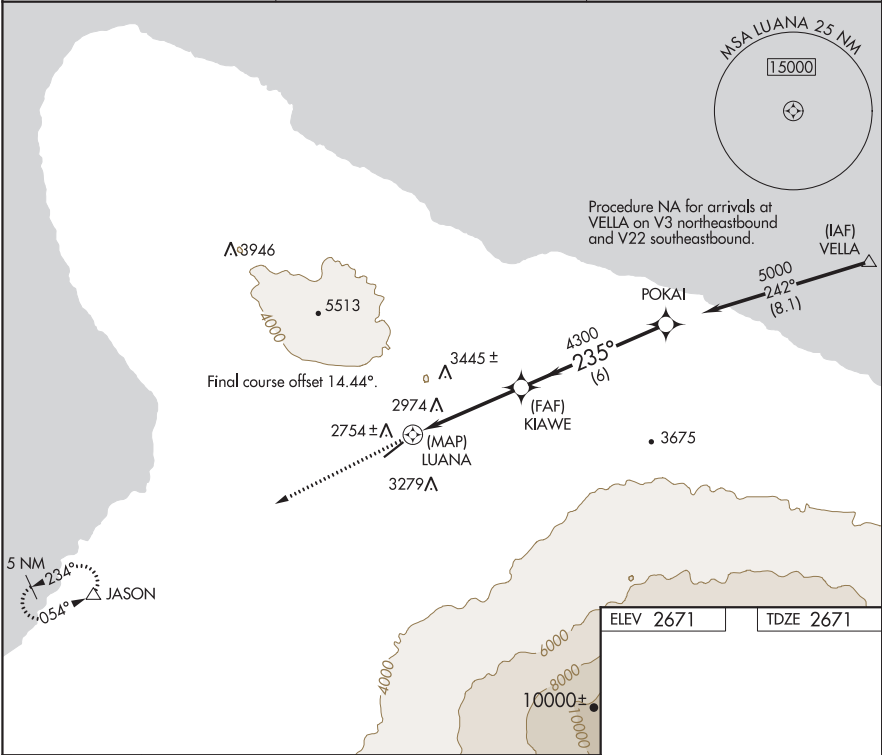
22027

APP CRS	Rwy Idg	5197
235°	TDZE	2671
	Apt Elev	2671

RNAV (GPS) RWY 22  
WAIMEA-KOHALA (MUE)(PHMU)

RNP APCH	<p>⚠ NA</p> <p>⚠ NA Circling NA NW of Rwy 4-22. Rwy 22 helicopter visibility reduction below 1 SM NA. When local altimeter setting not received procedure NA.</p>	<p>MISSED APPROACH: Climb to 5000 direct JASON and hold.</p>
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AWOS-3PT 120.0	HCF CENTER 118.45 278.3	CTAF 122.9
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KAMUELA, HAWAII  
Orig-D 27JAN22

20°00'N-155°40'W

WAIMEA-KOHALA (MUE)(PHMU)  
RNAV (GPS) RWY 22



KAMUELA, HAWAII

AL-5306 (FAA)

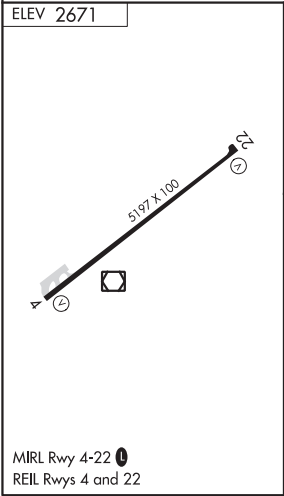
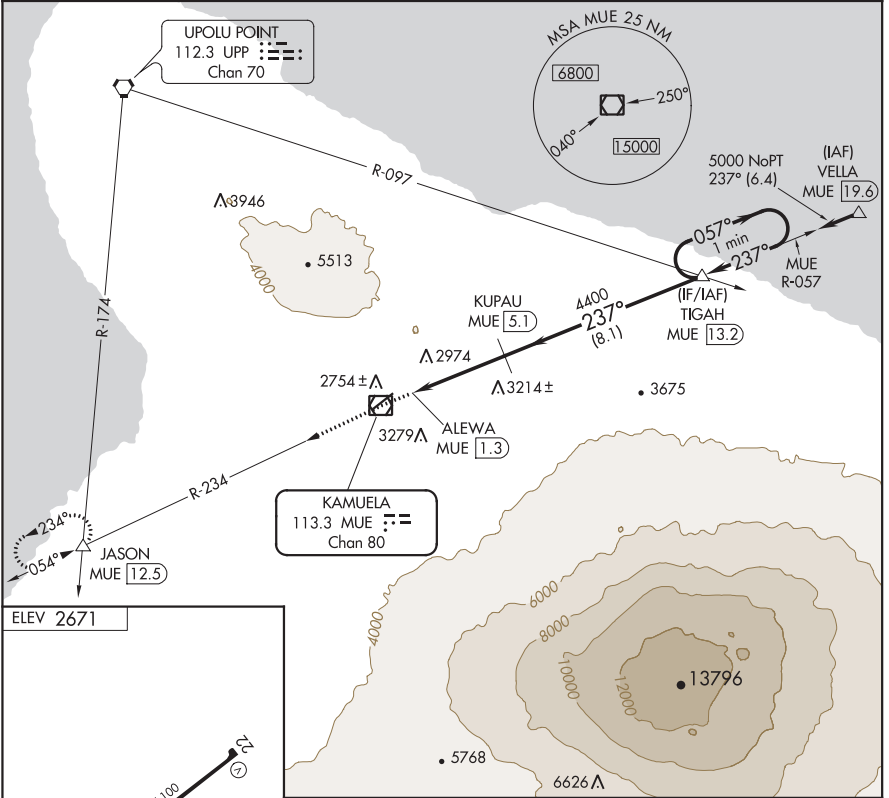
22027

VOR/DME MUE	APP CRS	Rwy Idg	N/A
113.3	237°	TDZE	N/A
Chan 80		Apt Elev	2671

VOR/DME-A  
WAIMEA-KOHALA (MUE)(PHMU)

NA	When local altimeter not received, procedure NA. Circling NA northwest of Rwy 4-22.	MISSED APPROACH: Climb to 5000 via MUE R-234 to JASON INT/12.5 DME and hold.
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AWOS-3PT 120.0	HCF CENTER 118.45 278.3	CTAF 122.9
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5000	JASON	TIGHA	One Minute Holding Pattern
MUE R-234	MUE [5.1]	MUE [13.2]	
MUE VOR/DME	ALEWA		
	MUE [1.3]		
	4400	5057° 237°	5000
	3.8 NM	8.1 NM	
CATEGORY	A	B	C
CIRCLING	3680-1¼ 1009 (1100-1¼)	3680-1½ 1009 (1100-1½)	3680-3 1269 (1300-3)

MIRL Rwy 4-22   
REIL Rws 4 and 22

WAIMEA-KOHALA (MUE)(PHMU)  
VOR/DME-A

20°00'N-155°40'W

KAPOLEI, HAWAII

AL-761 (FAA)

23222

APP CRS <b>044°</b>	Rwy Idg TDZE Apt Elev	<b>8000</b> <b>17</b> <b>30</b>
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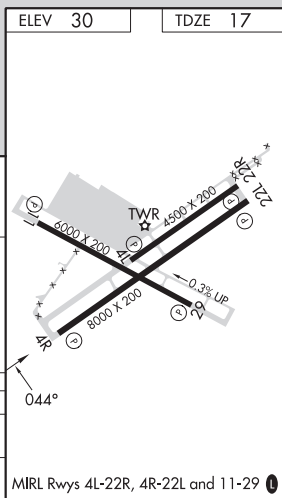
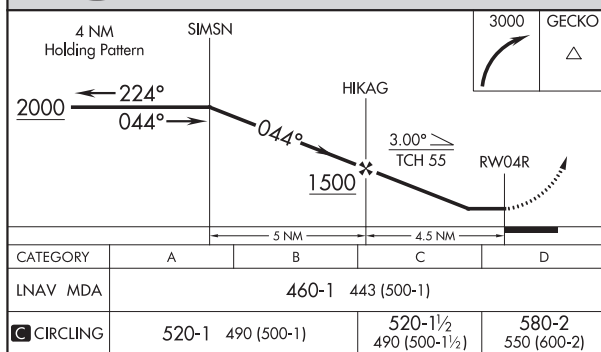
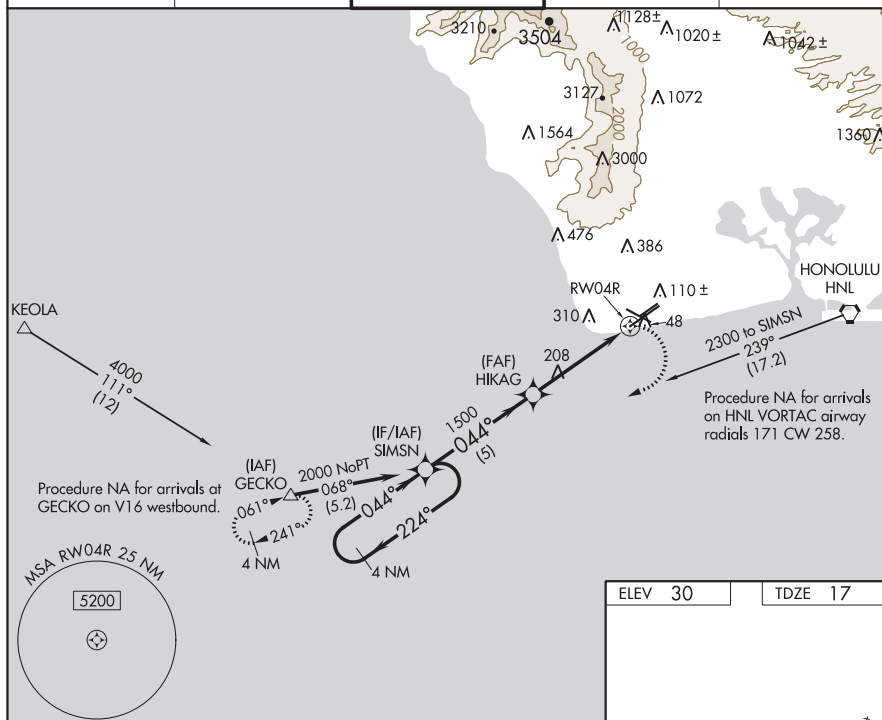
## RNAV (GPS) RWY 4R

KALAELOA (JOHN RODGERS FLD) (JRF)(PHJR)

**T** Circling NA north of Rwy 4R-22L. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Honolulu altimeter setting and increase all MDA 40 feet. For inop MALSR, increase LNAV Cat C/D visibility to 1½ miles. For inop MALSR when using Honolulu altimeter setting increase LNAV Cat C/D visibility to 1½ miles. Helicopter visibility reduction below 1 SM NA. Procedure NA at night.

**MISSED APPROACH:** Climbing right turn to 3000 direct GECKO and hold.

ATIS 119.8	HCF APP CON 118.3 269.0	KALAELOA TOWER* 132.6(CTAF) 340.2	GND CON 123.8 336.4	CLNC DEL 121.7 380.5
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KAPOLEI, HAWAII  
Orig-A 26MAY16

KALAELOA (JOHN RODGERS FLD) (JRF) (PHJR)  
21°18'N-158°04'W **RNAV (GPS) RWY 4R**

KAPOLEI, HAWAII

AL-761 (FAA)

23222

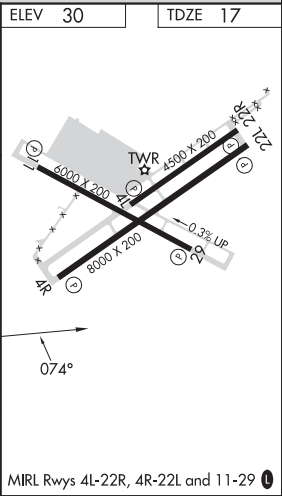
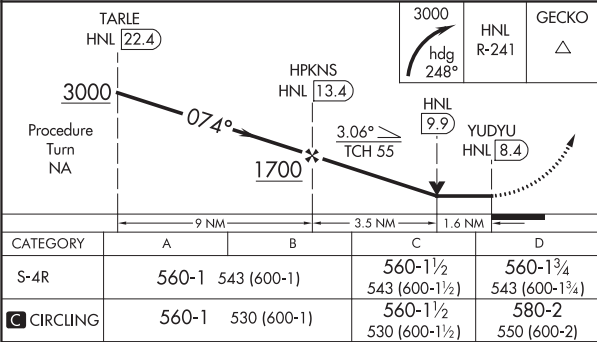
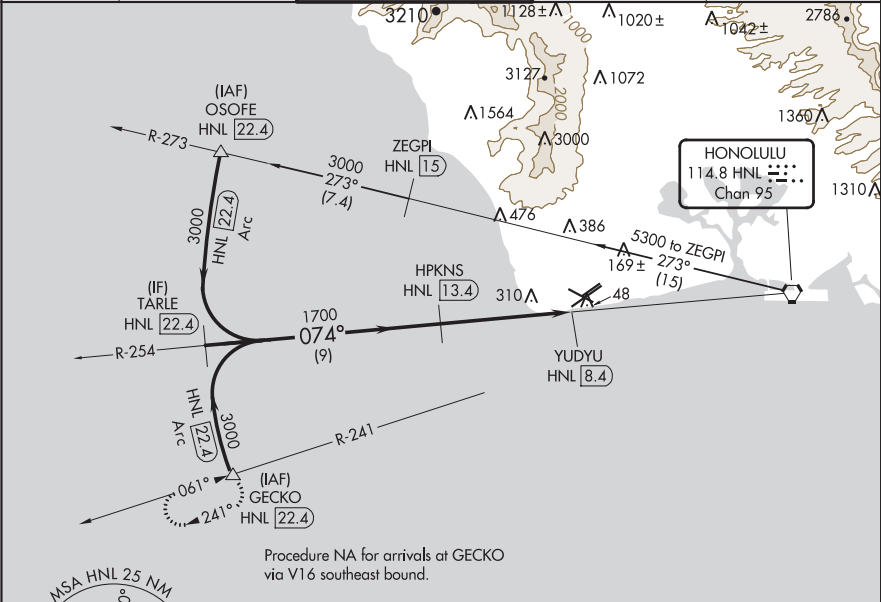
VORTAC HNL	APP CRS	Rwy Idg	8000
114.8	074°	TDZE	17
Chan 95		Apt Elev	30

VOR/DME RWY 4R

KALAELOA (JOHN RODGERS FLD) (JRF)(PHJR)

 Circling NA north of Rwy 4R-22L. Inop table does not apply.	MISSED APPROACH: Climbing right turn to 3000 via heading 248° and HNL VORTAC R-241 to GECKO/HNL 22.4 DME and hold.
--	--

ATIS 119.8	HCF APP CON 118.3 269.0	KALAELOA TOWER ★ 132.6(CTAF) 340.2	GND CON 123.8 336.4	CLNC DEL 121.7 380.5
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KAPOLEI, HAWAII  
Amdt 1A 05NOV20

21°18'N-158°04'W

KALAELOA (JOHN RODGERS FLD) (JRF)(PHJR)

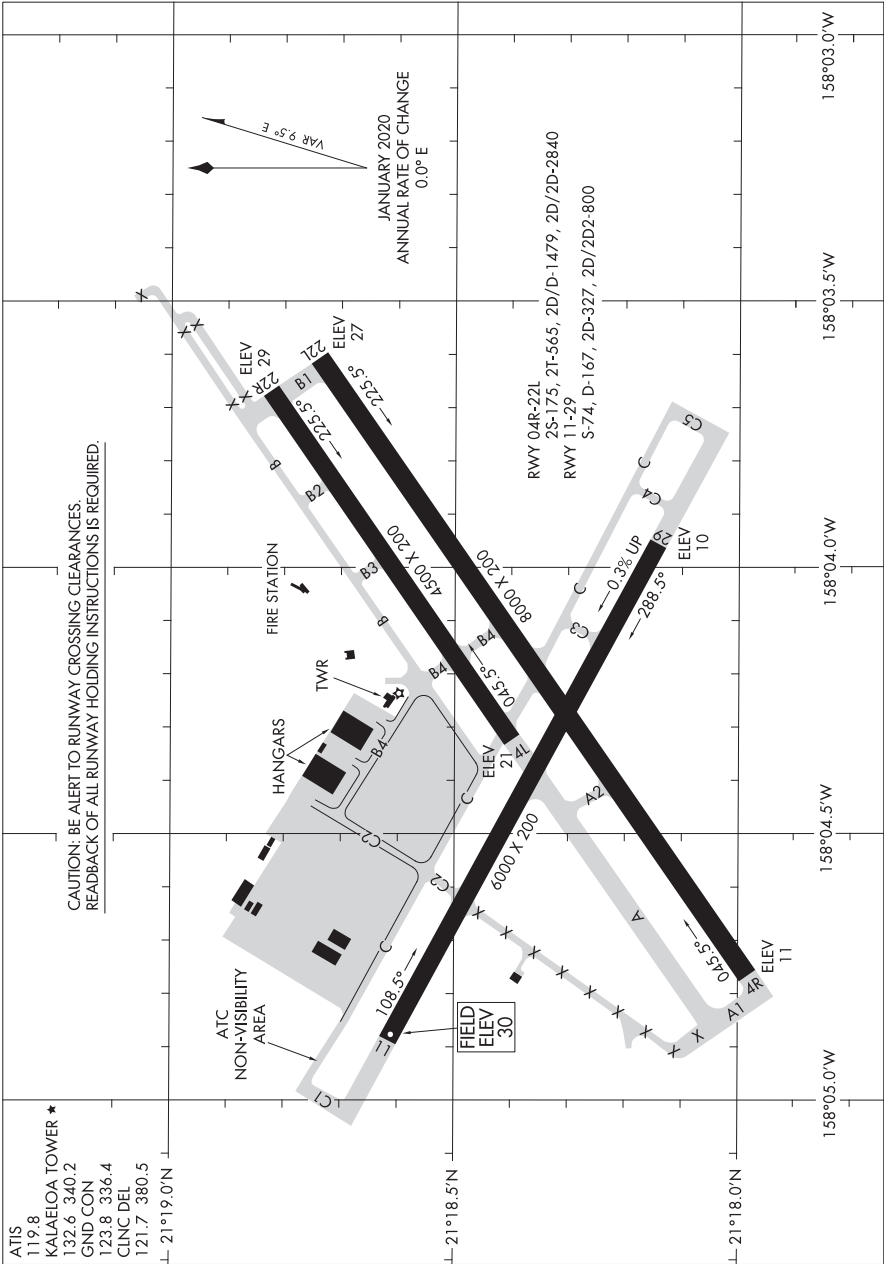
VOR/DME RWY 4R



21112

AIRPORT DIAGRAM

KALAELOA (JOHN RODGERS FLD) (JRF)(PHJR)  
AL-761 (FAA) KAPOLEI, HAWAII



AIRPORT DIAGRAM

21112

KALAELOA (JOHN RODGERS FLD) (JRF)(PHJR)  
KAPOLEI, HAWAII



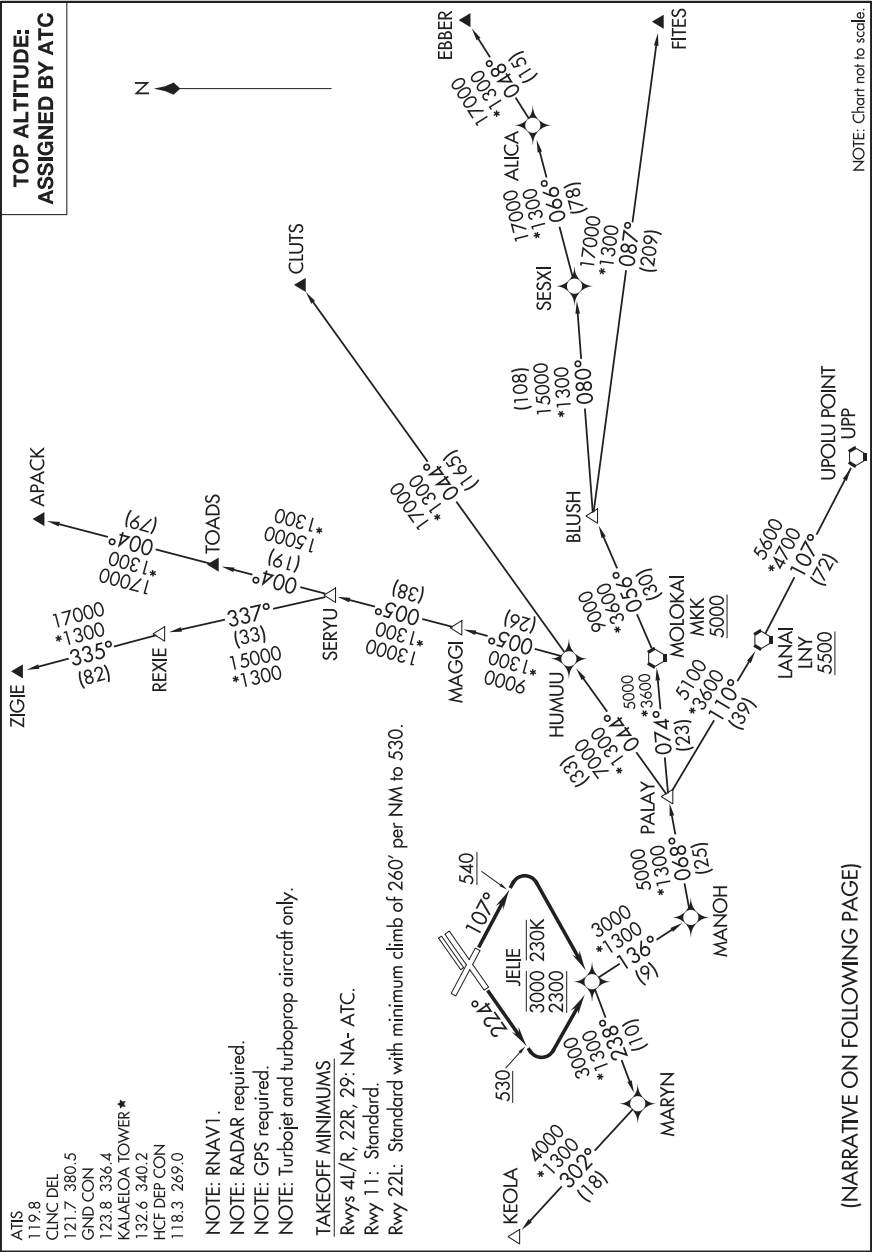
(JELIE1 .JELIE) 22307

JELIE ONE DEPARTURE (RNAV)

KALAELOA (JOHN RODGERS FLD) (JRF)(PHJR)

AL-761 (FAA)

KAPOLEI, HAWAII



JELIE ONE DEPARTURE (RNAV)

(JELIE1 .JELIE) 25FEB21

KALAELOA (JOHN RODGERS FLD) (JRF)(PHJR)

KAPOLEI, HAWAII

(JELIE1.JELIE) 21112

JELIE ONE DEPARTURE (RNAV)

KALAELOA (JOHN RODGERS FLD) (JRF)(PHJR)

AL-761 (FAA)

KAPOLEI, HAWAII



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 11: Climb on heading 107° to 540, then climbing right turn direct JELIE. Cross JELIE between 2300 and 3000, at or below 230K, thence. . . .

TAKEOFF RUNWAY 22L: Climb on heading 224° to 530, then climbing left turn direct JELIE. Cross JELIE between 2300 and 3000, at or below 230K, thence. . . .

. . . .(transition), maintain ATC assigned altitude. Expect filed altitude 10 minutes after departure.

APACK TRANSITION (JELIE1.APACK)

CLUTS TRANSITION (JELIE1.CLUTS)

EBBER TRANSITION (JELIE1.EBBER)

FITES TRANSITION (JELIE1.FITES)

KEOLA TRANSITION (JELIE1.KEOLA)

MOLOKAI TRANSITION (JELIE1.MKK)

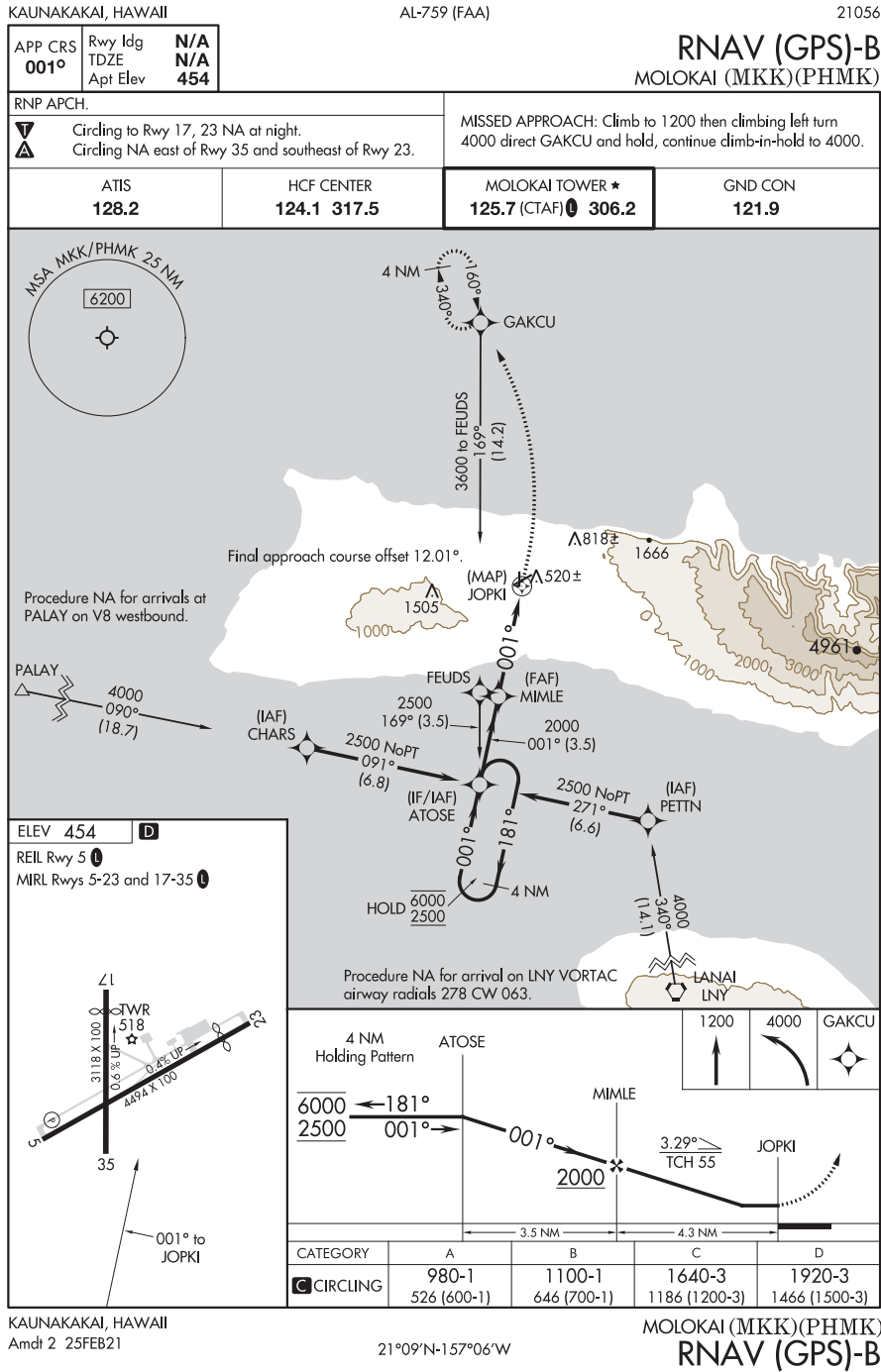
UPOLU POINT TRANSITION (JELIE1.UPP)

ZIGIE TRANSITION (JELIE1.ZIGIE)

JELIE ONE DEPARTURE (RNAV)

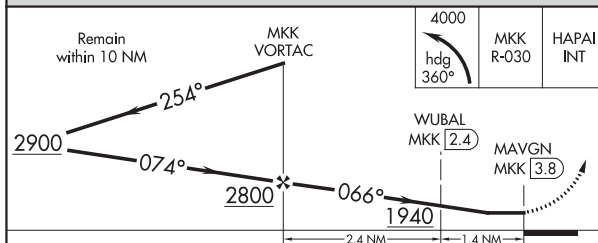
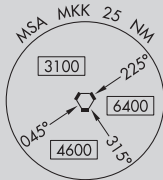
(JELIE1.JELIE) 25FEB21

KALAELOA (JOHN RODGERS FLD) (JRF)(PHJR)  
KAPOLEI, HAWAII

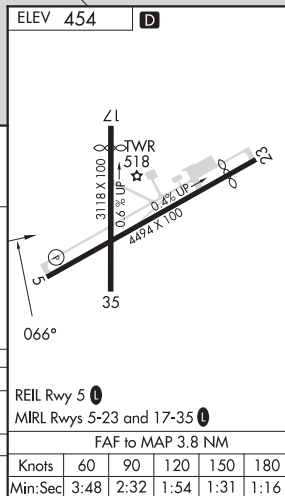


23334

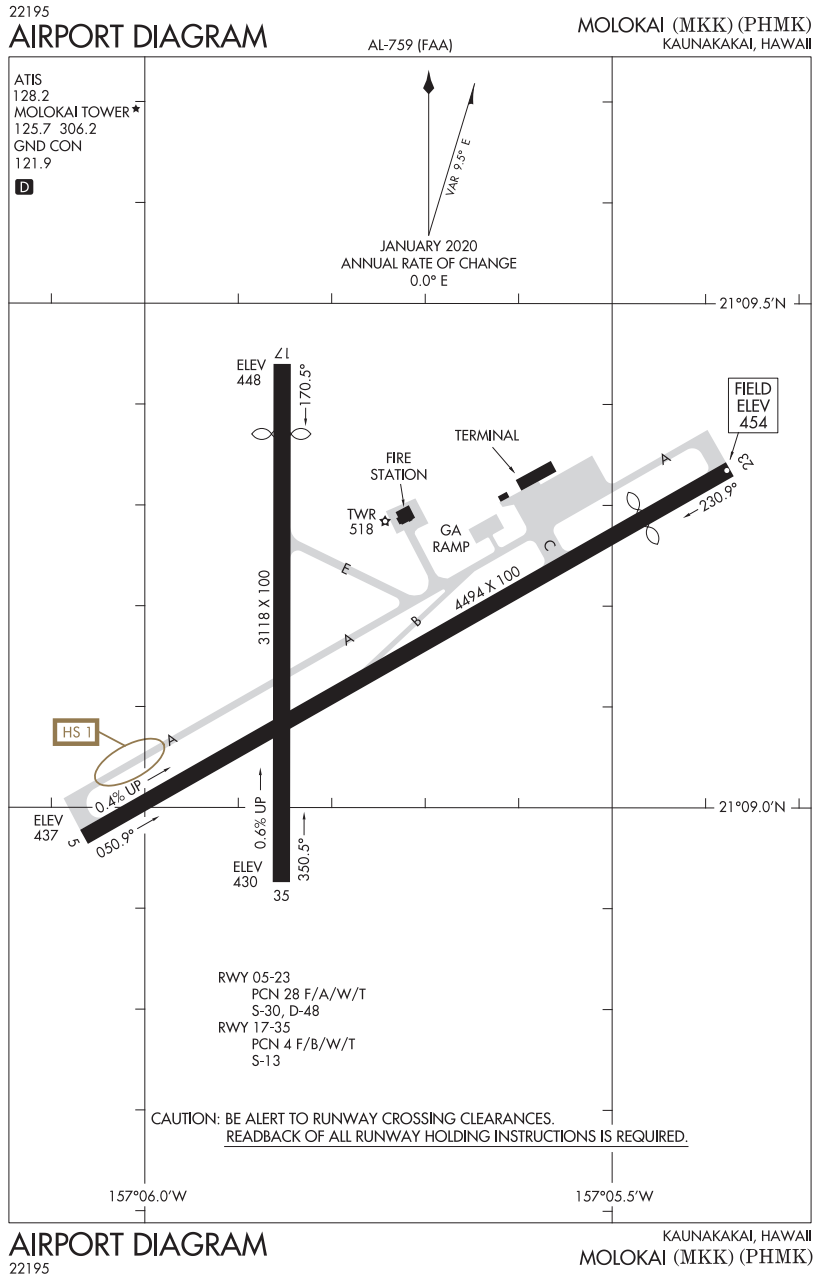
VOR or TACAN-A  
MOLOKAI (MKK) (PHMK)



CATEGORY	A	B	C	D
<b>C</b> CIRCLING	1940-1¼ 1486 (1500-1¼)	1940-1½ 1486 (1500-1½)	1940-3	1486 (1500-3)
WUBAL FIX MINIMUMS (DME REQUIRED)				
<b>C</b> CIRCLING	1400-1¼	946 (1000-1¼)	1680-3 1226 (1300-3)	1940-3 1486 (1500-3)



MOLOKAI (MKK) (PHMK)  
VOR or TACAN-A

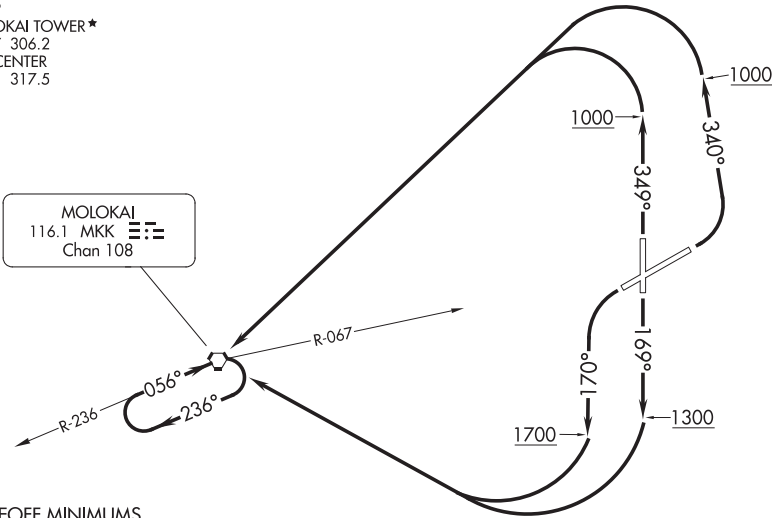


(HMK1.MKK) 23334

KAUNAKAKAI ONE DEPARTURE (OBSTACLE)

MOLOKAI (MKK) (PHMK)  
AL-759 (FAA) KAUNAKAKAI, HAWAII

ATIS  
128.2  
GND CON  
121.9  
MOLOKAI TOWER★  
125.7 306.2  
HCF CENTER  
124.1 317.5



TAKEOFF MINIMUMS

- Rwy 17: Standard.
- Rwy 5: 300-1 with minimum climb of 325' per NM to 1500 or standard with minimum climb of 540' per NM to 800 or 1500-2½ for climb in visual conditions.
- Rwy 35: 300-1 or standard with minimum climb of 535' per NM to 800.
- Rwy 23: Standard with minimum climb of 435' per NM to 1500 or 1500-2½ for climb in visual conditions.

(CONTINUED ON FOLLOWING PAGE)

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climbing left turn heading 340° to 1000 then climbing left turn direct MKK VORTAC, thence. . . .

TAKEOFF RUNWAY 17: Climb heading 169° to 1300 then climbing right turn direct MKK VORTAC, thence. . . .

TAKEOFF RUNWAY 23: Climbing left turn heading 170° to 1700 then climbing right turn direct MKK VORTAC, thence. . . .

TAKEOFF RUNWAY 35: Climb heading 349° to 1000 then climbing left turn direct MKK VORTAC, thence. . . .

VCOA RUNWAYS 5 and 23: Obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Molokai Airport southwest bound at or above 1800 on MKK R-067 to MKK VORTAC, thence. . . .

. . . .climb in MKK VORTAC hold pattern to cross MKK at or above MEA/MCA for route of flight.

KAUNAKAKAI ONE DEPARTURE (OBSTACLE)

(HMK1.MKK) 29MAY14

KAUNAKAKAI, HAWAII  
MOLOKAI (MKK) (PHMK)

(HMK1.MKK) 23334

## KAUNAKAKAI ONE DEPARTURE (OBSTACLE)

MOLOKAI (MKK) (PHMK)

AL-759 (FAA) KAUNAKAKAI, HAWAII

TAKEOFF OBSTACLES NOTES

- Rwy 5: Rising terrain and vehicles on roadway beginning 14' from DER, 238' right of centerline, up to 17' AGL/476' MSL.  
 Vehicles on roadway beginning 28' from DER, 484' left of centerline, up to 17' AGL/509' MSL.  
 Multiple fences and bushes beginning 49' from DER, 95' left of centerline, up to 21' AGL/480' MSL.  
 Multiple fences and bushes beginning 437' from DER, 65' right of centerline, up to 31' AGL/490' MSL.  
 Multiple trees and bushes beginning 735' from DER, 496' left of centerline, up to 27' AGL/551' MSL.  
 Multiple bushes and vehicles on roadway beginning 950' from DER, left and right of centerline, up to 17' AGL/552' MSL.  
 Electrical system 1367' from DER, 78' right of centerline, 35' AGL/528' MSL.  
 Multiple towers, poles and trees beginning 1887' from DER, 33' right of centerline, up to 43' AGL/602' MSL.  
 Multiple towers, poles and trees beginning 2386' from DER, 644' left of centerline, up to 60' AGL/617' MSL.
- Rwy 17: Bush 46' from DER, 266' right of centerline, 13' AGL/443' MSL.  
 Vehicles on roadway beginning 124' from DER, 505' left of centerline, up to 17' AGL/443' MSL.  
 Vehicles on roadway beginning 484' from DER, 590' right of centerline, up to 17' AGL/443' MSL.
- Rwy 23: Trees beginning 691' from DER, 491' left of centerline, up to 77' AGL/470' MSL.  
 Trees beginning 1.9 NM from DER, 2279' left of centerline, up to 60' AGL/880' MSL.  
 Trees beginning 2.2 NM from DER, 541' left of centerline, up to 60' AGL/1208' MSL.
- Rwy 35: Bush 28' from DER, 288' left of centerline, 12' AGL/461' MSL.  
 Bush 48' from DER, 118' right of centerline, 14' AGL/463' MSL.  
 Fence beginning 70' from DER, on centerline through 35' left of centerline, 4' AGL/460' MSL.  
 Multiple bushes vehicles on roadway and trees beginning 107' from DER, 48' right of centerline, up to 65' AGL/514' MSL.  
 Bushes beginning 133' from DER, 34' left of centerline, up to 26' AGL/489' MSL.  
 Bushes beginning 1170' from DER, 259' right of centerline, up to 15' AGL/514' MSL.  
 Trees beginning 2286' from DER, 407' right of centerline, up to 90' AGL/615' MSL.  
 Trees beginning 2942' from DER, 75' right of centerline, up to 123' AGL/648' MSL.

## KAUNAKAKAI ONE DEPARTURE (OBSTACLE)

(HMK1.MKK) 29MAY14

KAUNAKAKAI, HAWAII

MOLOKAI (MKK) (PHMK)

(BLUSH2.BLUSH) 23334

BLUSH TWO DEPARTURE

AL-759 (FAA)

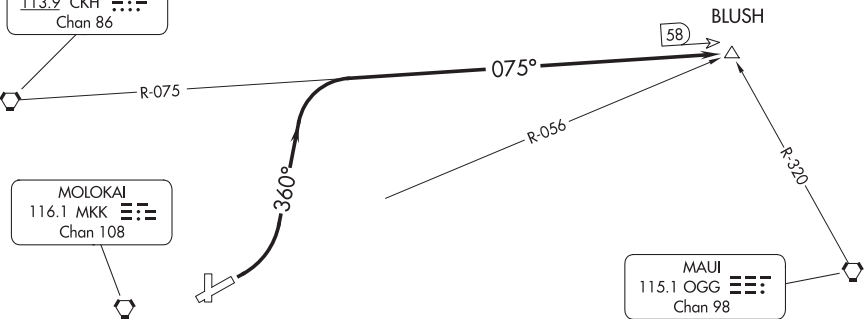
MOLOKAI (MKK) (PHMK)  
 KAUNAKAKAI, HAWAII

ATIS  
 128.2  
 GND CON  
 121.9  
 MOLOKAI TOWER ★  
 125.7 306.2  
 HCF CENTER  
 124.1 317.5

KOKO HEAD  
 113.9 CKH  
 Chan 86

MOLOKAI  
 116.1 MKK  
 Chan 108

MAUI  
 115.1 OGG  
 Chan 98



TAKEOFF MINIMUMS

Rwy 17, 23, 35: NA-ATC.  
 Rwy 5: 300-1 with minimum climb of 325' per NM to 1500 or  
 standard with minimum climb of 540' per NM to 800.

NOTE: Chart not to scale.



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climbing left turn to 5000 on heading 360° and CKH VORTAC  
 R-075 to BLUSH INT/CKH 58 DME.

BLUSH TWO DEPARTURE  
 (BLUSH2.BLUSH) 29MAY14

KAUNAKAKAI, HAWAII  
 MOLOKAI (MKK) (PHMK)

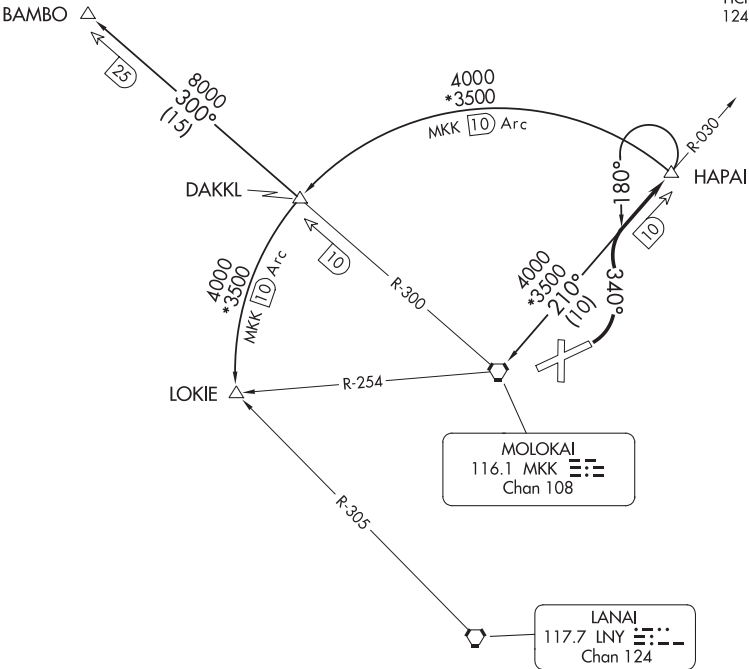


(HAPAI3.HAPAI) 23334  
HAPAI THREE DEPARTURE

AL-759 (FAA)

MOLOKAI (MKK) (PHMK)  
KAUNAKAKAI, HAWAII

ATIS  
128.2  
GND CON  
121.9  
MOLOKAI TOWER ★  
125.7 306.2  
HCF CENTER  
124.1 317.5



TAKEOFF MINIMUMS

Rwys 17, 23, 35: NA-ATC.  
Rwy 5: 300-1 with minimum climb of 325' per NM to 1500 or  
standard with minimum climb of 540' per NM to 800.

NOTE: DME required.  
NOTE: Chart not to scale



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 5: Climbing left turn heading 340° and MKK VORTAC R-030 to HAPAI/MKK 10 DME, thence. . . .  
. . . .on assigned transition.

BAMBO TRANSITION (HAPAI3.BAMBO): From over HAPAI/MKK 10 DME on MKK VORTAC 10 DME Arc CCW to DAKKL/MKK 10 DME, then on MKK R-300 to BAMBO/MKK 25 DME.

LOKIE TRANSITION (HAPAI3.LOKIE): From over HAPAI/MKK 10 DME on MKK VORTAC 10 DME Arc CCW to LOKIE INT/MKK 10 DME.

MOLOKAI TRANSITION (HAPAI3.MKK): From over HAPAI/MKK 10 DME, left turn heading 180° and MKK R-030 to MKK VORTAC.

HAPAI THREE DEPARTURE  
(HAPAI3.HAPAI) 29MAY14

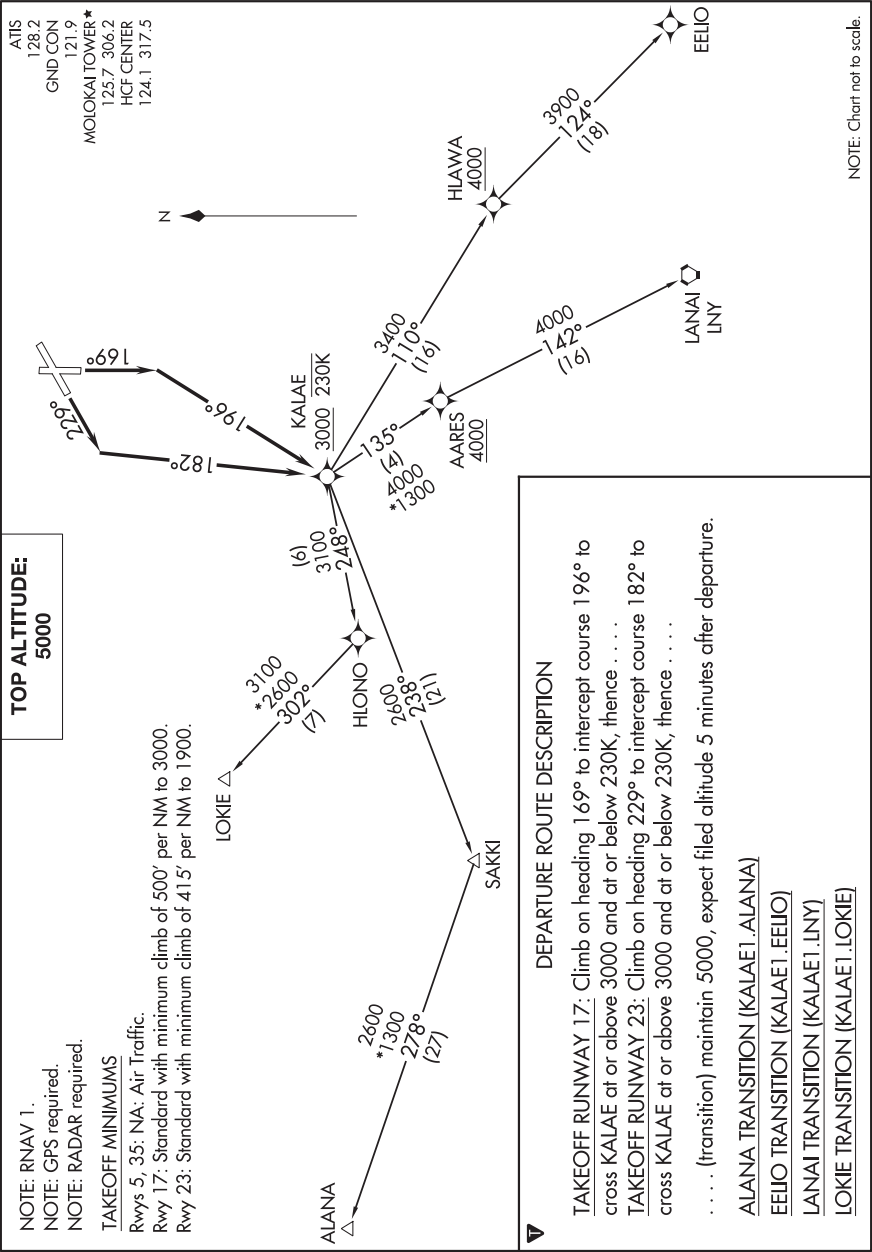
KAUNAKAKAI, HAWAII  
MOLOKAI (MKK) (PHMK)

(KALAE1.KALAE) 21056

KALAE ONE DEPARTURE (RNAV)

AL-759 (FAA)

MOLOKAI (MKK) (PHMK)  
KAUNAKAKAI, HAWAII



KALAE ONE DEPARTURE (RNAV)

(KALAE1.KALAE) 25FEB21

KAUNAKAKAI, HAWAII  
MOLOKAI (MKK) (PHMK)



KOSRAE, FM

AL-6887 (FAA)

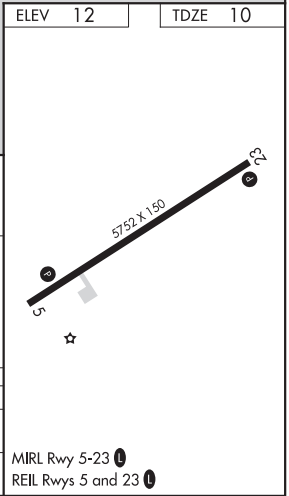
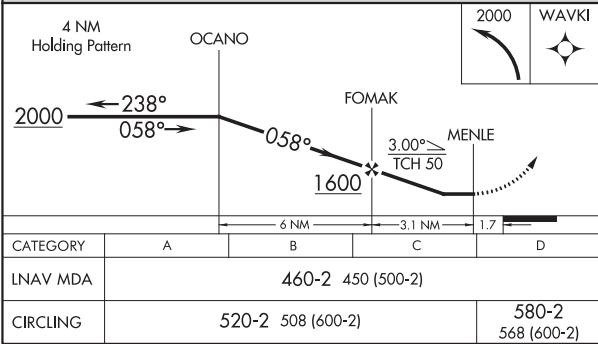
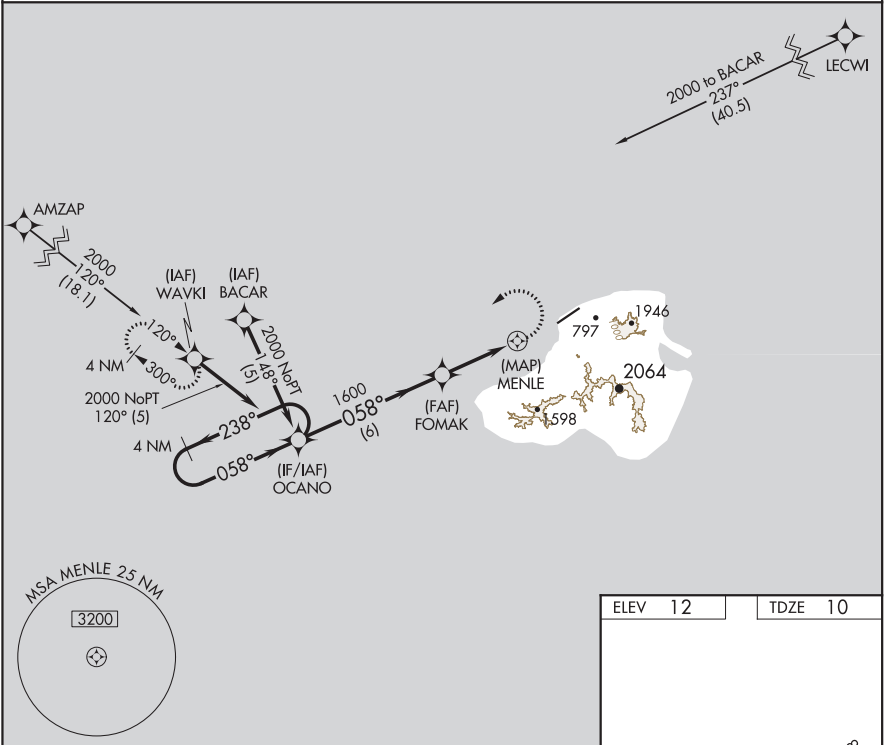
21336

APP CRS	Rwy Idg	5752
058°	TDZE	10
	Apt Elev	12

RNAV (GPS) RWY 5  
KOSRAE (TTK)(PTSA)

<p><b>⚠</b> Circling not authorized southeast of Rwy 5-23. <b>⚠</b> Obtain local altimeter setting on CTAF; when not received, procedure not authorized. DME/DME RNP-0.3 NA. No controlled airspace below 5500.</p>	<p>MISSED APPROACH: Climbing left turn to 2000 direct WAVKI WP and hold.</p>
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KOSRAE RADIO  
123.6 (CTAF) **1**



KOSRAE, FM

Orig-C 02DEC21

05°21'N-162°58'E

KOSRAE (TTK)(PTSA)  
RNAV (GPS) RWY 5

KOSRAE, FM

AL-6887 (FAA)

21336

APP CRS

213°

Rwy Idg

5752

TDZE

11

Apt Elev

12

RNAV (GPS) RWY 23

KOSRAE (TTK)(PTSA)

⚠

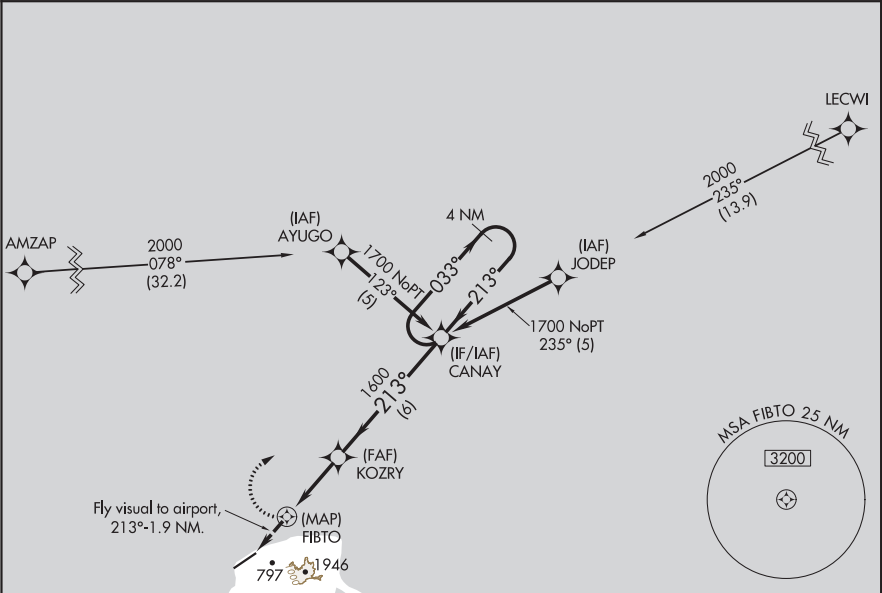
⚠

Circling not authorized southeast of Rwy 5-23. Obtain local altimeter setting on CTAF; when not received, procedure not authorized. DME/DME RNP-0.3 NA. No controlled airspace below 5500.

MISSED APPROACH: Climbing right turn to 1700 direct CANAY WP and hold.

KOSRAE RADIO

123.6 (CTAF) 0



1700

CANAY

Fly visual to airport, 213°-1.9 NM.

FIBTO

3.00° TCH 50

KOZRY

1600

213°

033°

1700

4 NM Holding Pattern

CATEGORY	A	B	C	D
LNAV MDA	800-2	789 (800-2)	800-2¼ 789 (800-2¼)	800-2½ 789 (800-2½)
CIRCLING	800-2	788 (800-2)	800-2¼ 788 (800-2¼)	800-2½ 788 (800-2½)

ELEV 12

TDZE 11

MIRL Rwy 5-23 0

REIL Rwy 5 and 23 0

5752 X 150

23

KOSRAE, FM

Orig-C 02DEC21

05°21'N-162°58'E

KOSRAE (TTK)(PTSA)

RNAV (GPS) RWY 23



LANAI CITY, HAWAII

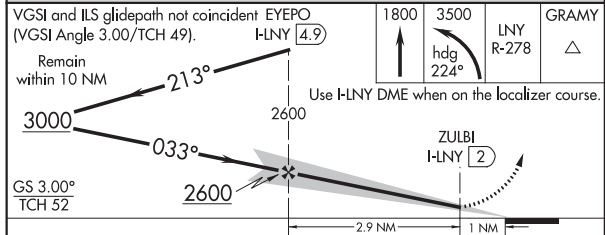
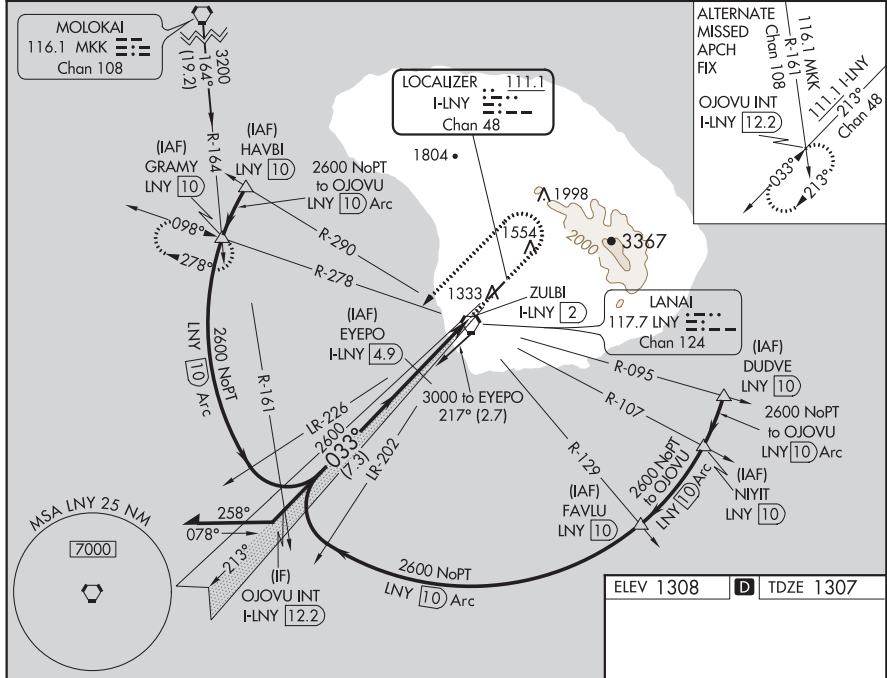
AL-777 (FAA)

LOC/DME I-LNY	APP CRS	Rwy Idg
<b>111.1</b>	<b>033°</b>	<b>5000</b>
Chan <b>48</b>		<b>1307</b>
		Apt Elev <b>1308</b>

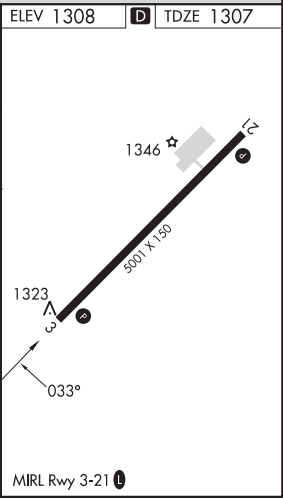
ILS or LOC RWY 3  
LANAI (LNY)(PHNY)

DME required.	
<p>⚠️ <b>NA</b> Circling Rwy 21 NA at night. Autopilot coupled approach NA below 1505. When local altimeter setting not received, procedure NA, except for operators with approved weather reporting service. Circling NA for Cat C southeast of Rwy 3-21.</p>	<p><b>MISSED APPROACH:</b> Climb to 1800 then climbing left turn to 3500 on heading 224° and LNY VORTAC R-278 to GRAMY INT/LNY VORTAC 10 DME and hold.</p>

AWOS-3P <b>118.375</b>	HCF CENTER <b>119.3 307.1</b>	CTAF <b>122.9</b>
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CATEGORY	A	B	C	D
S-ILS 3		1588-1	281 (300-1)	
S-LOC 3		1580-1¼	273 (300-1¼)	
CIRCLING	1900-1¼ 592 (600-1¼)	1940-1¼ 632 (700-1¼)	2140-2½ 832 (900-2½)	NA



LANAI CITY, HAWAII  
Amdt 1C 12AUG21

20°47'N-156°57'W

LANAI (LNY)(PHNY)  
ILS or LOC RWY 3

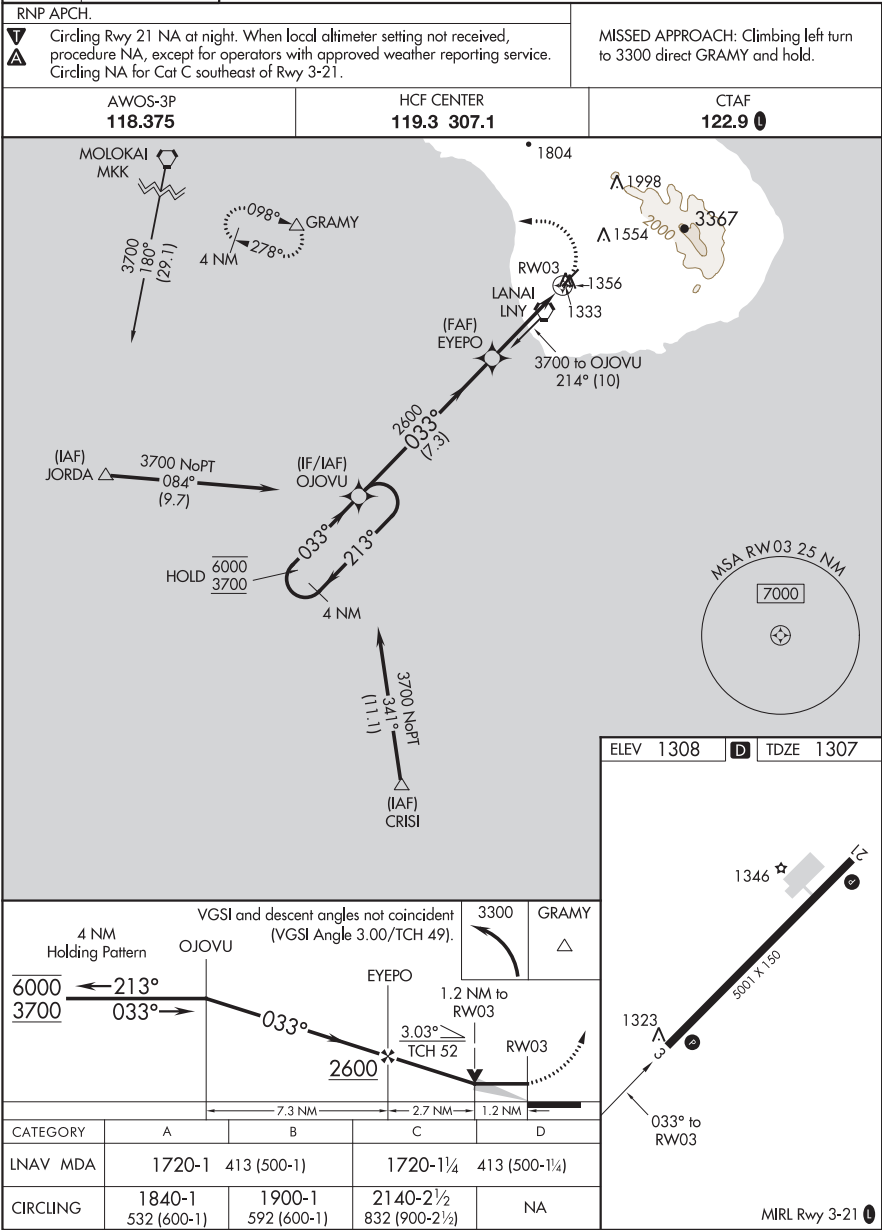
LANAI CITY, HAWAII

AL-777 (FAA)

21224

APP CRS	Rwy Idg	5000
033°	TDZE	1307
	Apt Elev	1308

RNAV (GPS) RWY 3  
LANAI (LNY)(PHNY)



LANAI CITY, HAWAII  
Orig-D 12AUG21

20°47'N-156°57'W

LANAI (LNY)(PHNY)  
RNAV (GPS) RWY 3



LANAI CITY, HAWAII

AL-777 (FAA)

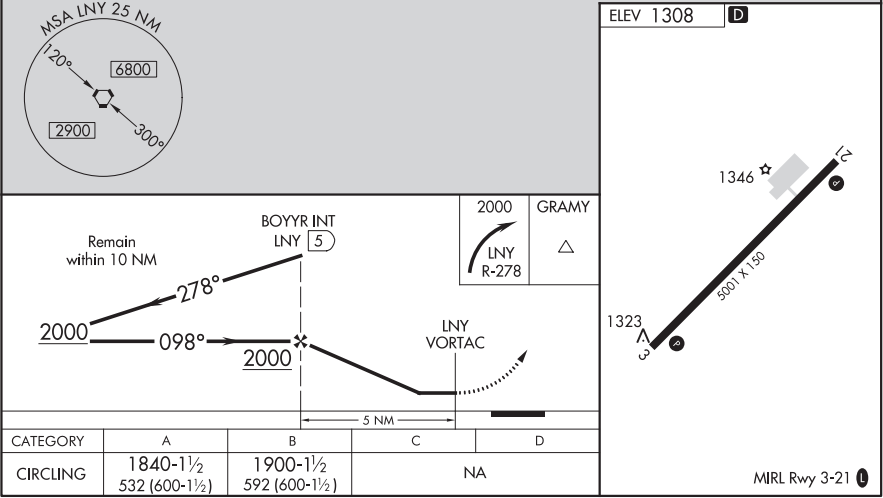
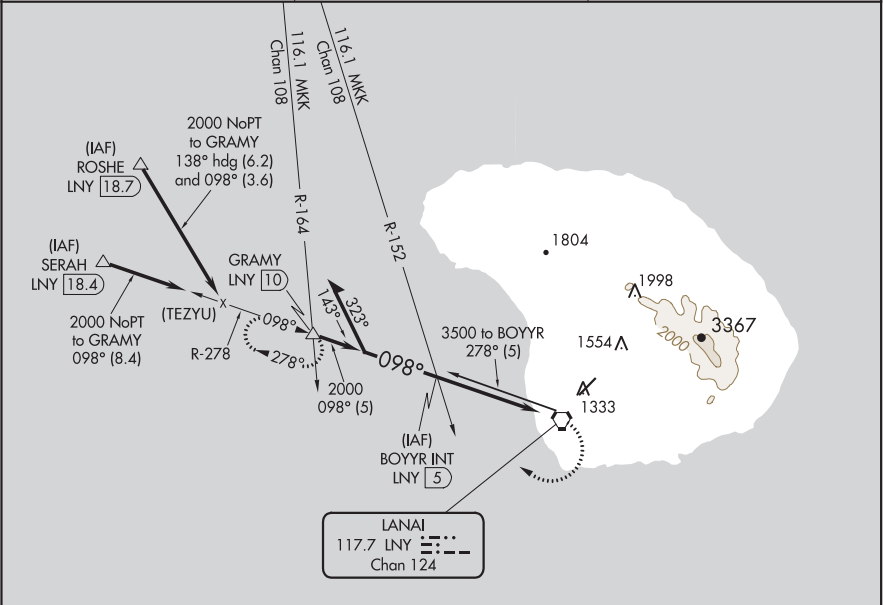
21224

VORTAC LNY <b>117.7</b> Chan <b>124</b>	APP CRS <b>098°</b>	Rwy Idg TDZE Apt Elev <b>N/A</b> <b>N/A</b> <b>1308</b>
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VOR or TACAN or GPS-A  
LANAI (LNY)(PHNY)

<p><b>⚠</b> When local altimeter not received, procedure not authorized, except for operators with approved weather reporting service. Circling Rwy 21 NA at night.</p>	<p>MISSED APPROACH: Climbing right turn to 2000 via LNY R-278 to GRAMY INT/LNY 10 DME and hold.</p>
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AWOS-3P <b>118.375</b>	HCF CENTER <b>119.3 307.1</b>	CTAF <b>122.9 0</b>
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LANAI CITY, HAWAII  
Amdt 8B 12AUG21

20°47'N-156°57'W

LANAI (LNY)(PHNY)  
VOR or TACAN or GPS-A

LANAI CITY, HAWAII

AL-777 (FAA)

21224

VORTAC LNY <b>117.7</b> Chan <b>124</b>	APP CRS <b>025°</b>	Rwy Idg TDZE Apt Elev	<b>5000</b> <b>1307</b> <b>1308</b>
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VOR or TACAN RWY 3

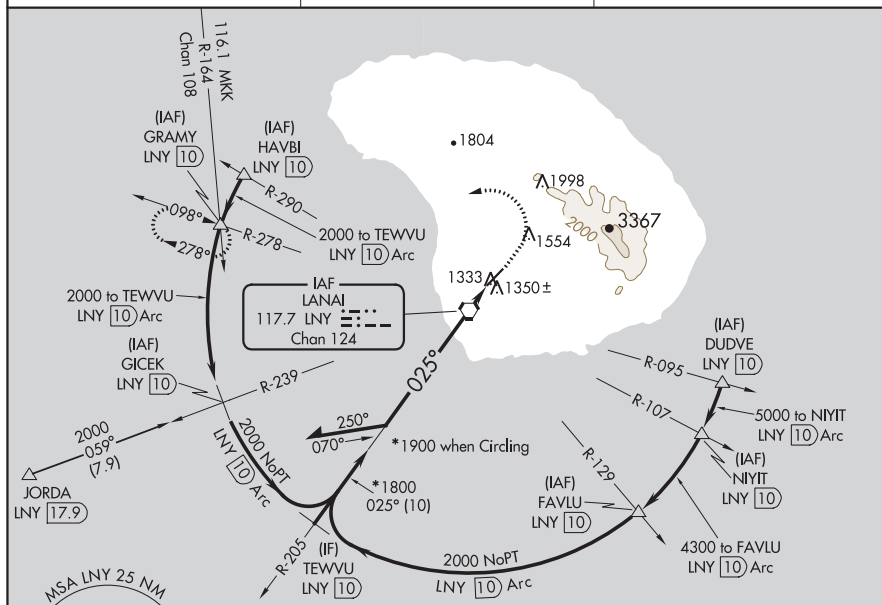
LANAI (LNY)(PHNY)



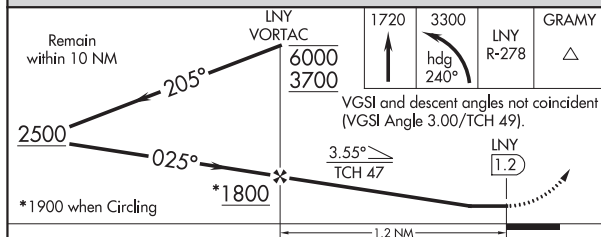
Circling Rwy 21 NA at night.

**MISSED APPROACH:** Climb to 1720 then climbing left turn to 3300 via heading 240° and LNY VORTAC R-278 to GRAMY INT/LNY 10 DME and hold.

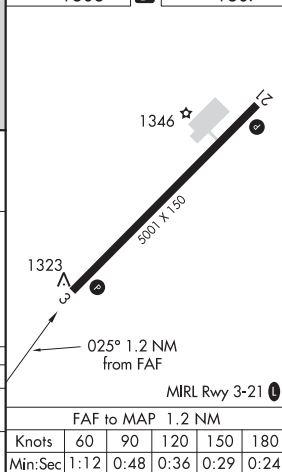
AWOS-3P <b>118.375</b>	HCF CENTER <b>119.3 307.1</b>	CTAF <b>122.9</b>
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ELEV 1308	<b>D</b>	TDZE 1307
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CATEGORY	A	B	C	D
S-3	1660-1 353 (400-1)			1660-1 $\frac{1}{4}$ 353 (400-1 $\frac{1}{4}$ )
CIRCLING	1840-1 532 (600-1)	1900-1 592 (600-1)	NA	



LANAI CITY, HAWAII

Amdt 7C 12AUG21

20°47'N-156°57'W

LANAI (LNY)(PHNY)

VOR or TACAN RWY 3

LIHUE, HAWAII

AL-776 (FAA)

23166

LOC/DME I-LIH <b>110.9</b> Chan <b>46</b>	APP CRS <b>349°</b>	Rwy Idg <b>6500</b> TDZE <b>96</b> Apt Elev <b>152</b>
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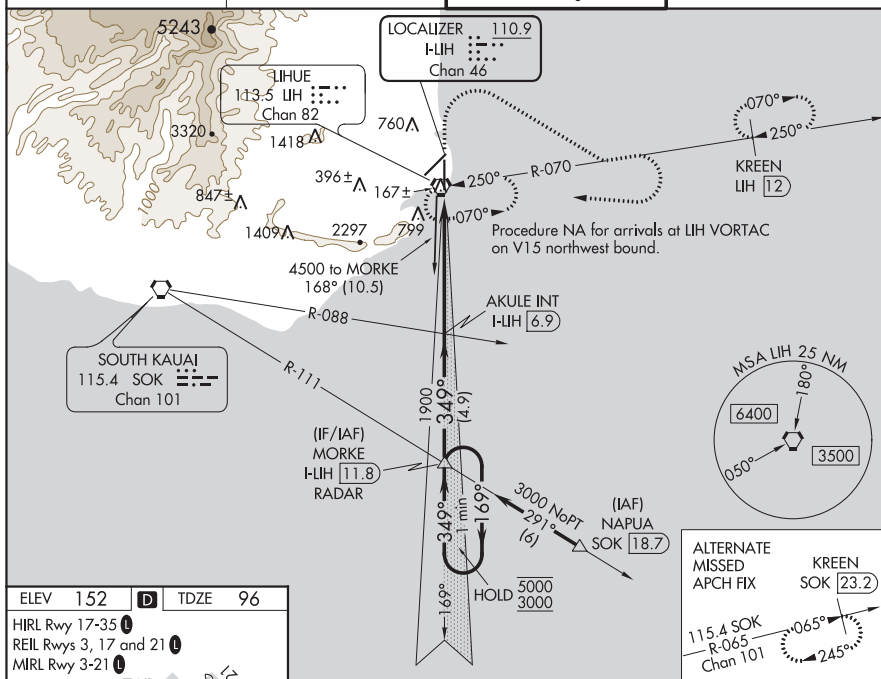
ILS or LOC RWY 35  
LIHUE (LIH)(PHLI)

**T** Circling NA at night. Circling NA west  
**A** of Rwy 17-35. For inop ALS, increase  
S-ILS 35 Cat E visibility to  $\frac{3}{4}$  SM and  
increase S-LOC 35 Cat E visibility to  
1 SM.



**MISSED APPROACH:** Climb to 600 then climbing right turn to 3000 on heading 110° and LHM VORTAC R-070 then climbing right turn to 4000 direct LHM VORTAC and hold. (TACAN or DME equipped aircraft continue on LHM VORTAC R-070 to KREEN/LHM VORTAC 12 DME and hold, east, RT, 250° inbound, continue climb-in-hold to 3000).

ATIS 127.2	HCF CENTER 126.5 269.4	LIHUE TOWER ★ 118.9(CTAF) 263.1	GND CON 121.9
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One Minute Holding Pattern

MORKE  
I-UH [11.8]  
RADAR

600 3000 I-UH R-070 4000 I-UH

↑ hdg 110°

Use I-UH DME when on the localizer course.

5000 ← 169°  
3000 → 349°

AKULE INT  
I-UH [6.9]

1900 1900

I-UH [2.2] I-UH [1.4]

GS 3.00°  
TCH 55

4.9 NM 4.7 NM 0.9

CATEGORY	A	B	C	D	E
S-ILS 35		296-½	200 (200-½)		
S-LOC 35		420-½	324 (300-½)		
<b>C</b> CIRCLING	520-1 368 (400-1)	620-1 468 (500-1)	620-1½ 468 (500-1½)	720-2 568 (600-2)	740-2 588 (600-2)

LIHUE, HAWAII

Amdt 7 23FEB23

21°59'N-159°20'W

LIHUE (LIH)(PHLI)

ILS or LOC RWY 35

LIHUE, HAWAII

AL-776 (FAA)

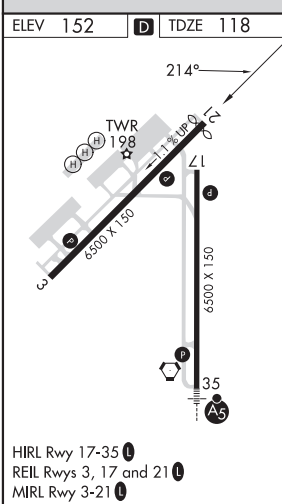
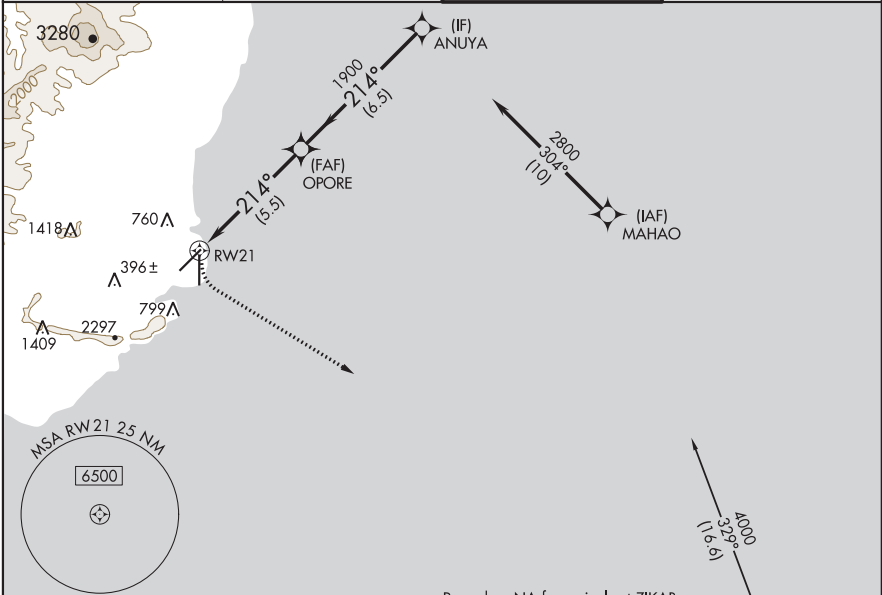
23166

APP CRS	Rwy Idg	6295
214°	TDZE	118
	Apt Elev	152

RNAV (RNP) Z RWY 21  
LIHUE (LIH)(PHLI)

RNP AR APCH-GPS.	MISSED APPROACH: Climbing left turn to 3000 direct ZIKAB and hold. *Missed approach requires minimum climb of 350 feet per NM to 2500.
For uncompensated Baro-VNAV systems, procedure NA below 15°C or above 54°C.	

ATIS 127.2	HCF CENTER 126.5 269.4	LIHUE TOWER★ 118.9(CTAF) 263.1	GND CON 121.9
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Procedure NA for arrivals at ZIKAB on V15 southeast bound.				
Procedure NA for arrivals at GRAIL on V16 southeast bound.				
VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 45).				
ANUYA 2800				
OPORE 1900				
RWY 21 1900				
GP 3.00° TCH 52				
5.5 NM 6.5 NM				
CATEGORY	A	B	C	D
RNP 0.30 DA*	663-2 545 (600-2)			
RNP 0.30 DA	1078-4 960 (1000-4)			
AUTHORIZATION REQUIRED				

LIHUE, HAWAII  
Orig-B 07OCT21

21°59'N-159°20'W

LIHUE (LIH)(PHLI)  
RNAV (RNP) Z RWY 21

LIHUE, HAWAII

AL-776 (FAA)

23166

APP CRS

349°

Rwy Idg

6500

TDZE

96

Apt Elev

153

RNAV (RNP) Z RWY 35

LIHUE (LIH)(PHLI)

GPS required. For inoperative MALS, increase RNP 0.30 visibility to 1¾. For uncompensated Baro-VNAV systems, procedure NA below 14°C (57°F) or above 48°C (119°F).

MALS

A5

MISSED APPROACH: Climbing right turn to 3000 direct KREEN and hold.

ATIS

127.2

HCF CENTER

126.5 269.4

LIHUE TOWER \*

118.9(CTAF) 263.1

GND CON

121.9

ELEV 153

TDZE 96

HIRL Rwy 17-35

REIL Rwys 3, 17 and 21

MIRL Rwy 3-21

3000

KREEN

AKULE

1900

MORKE

3000

Procedure Turn NA

GS 3.00°

TCH 55'

5.4 NM

5 NM

CATEGORY	A	B	C	D
RNP 0.30 DA	599-1¼ 503 (500-1¼)			

AUTHORIZATION REQUIRED

LIHUE, HAWAII

21°59'N-159°20'W

LIHUE (LIH)(PHLI)

RNAV (RNP) Z RWY 35

Orig-A 20OCT11

PAC, 30 NOV 2023 to 25 JAN 2024

LIHUE, HAWAII

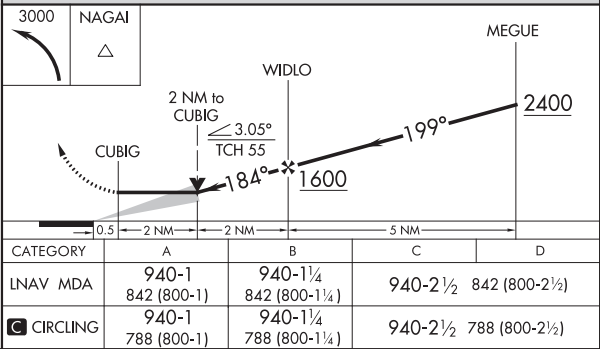
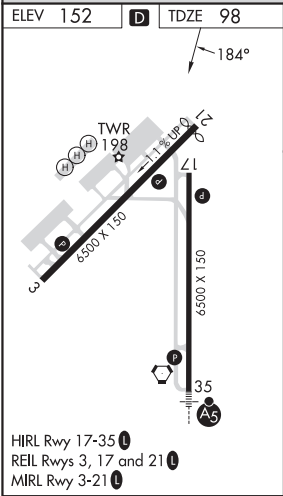
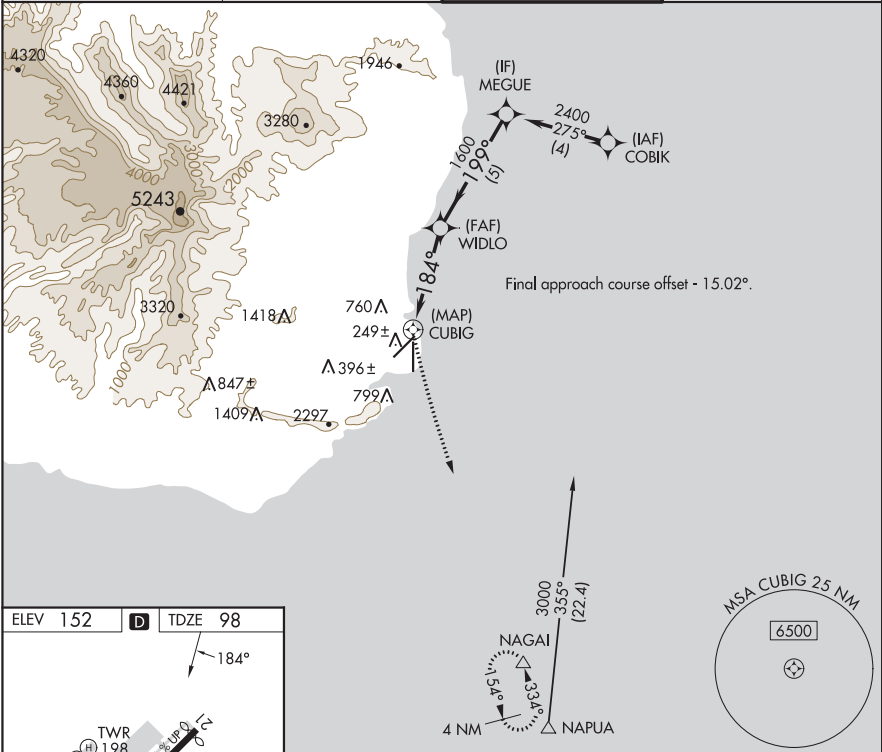
AL-776 (FAA)

23166

APP CRS	Rwy Idg	6500
184°	TDZE	98
	Apt Elev	152

RNAV (GPS) RWY 17  
LIHUE (LIH)(PHLI)

RNP APCH-GPS.		MISSED APPROACH: Climbing left turn to 3000 direct NAGAI and hold.	
Circling NA at night. Circling NA west of Rwy 17-35.			
ATIS 127.2	HCF CENTER 126.5 269.4	LIHUE TOWER ★ 118.9(CTAF) 263.1	GND CON 121.9



LIHUE, HAWAII  
Orig-B 23FEB23

LIHUE (LIH)(PHLI)  
RNAV (GPS) RWY 17

21°59'N-159°20'W

LIHUE, HAWAII

AL-776 (FAA)

23166

APP CRS  
214°

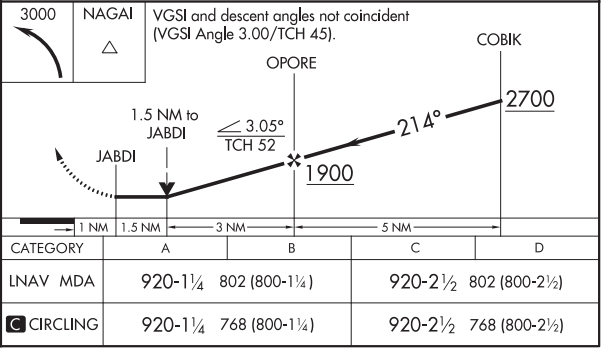
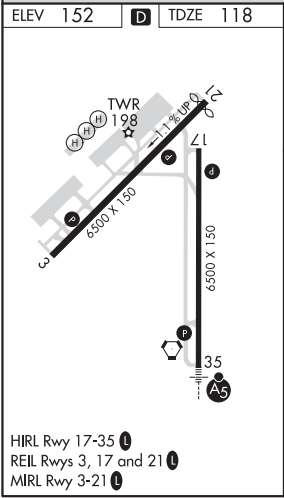
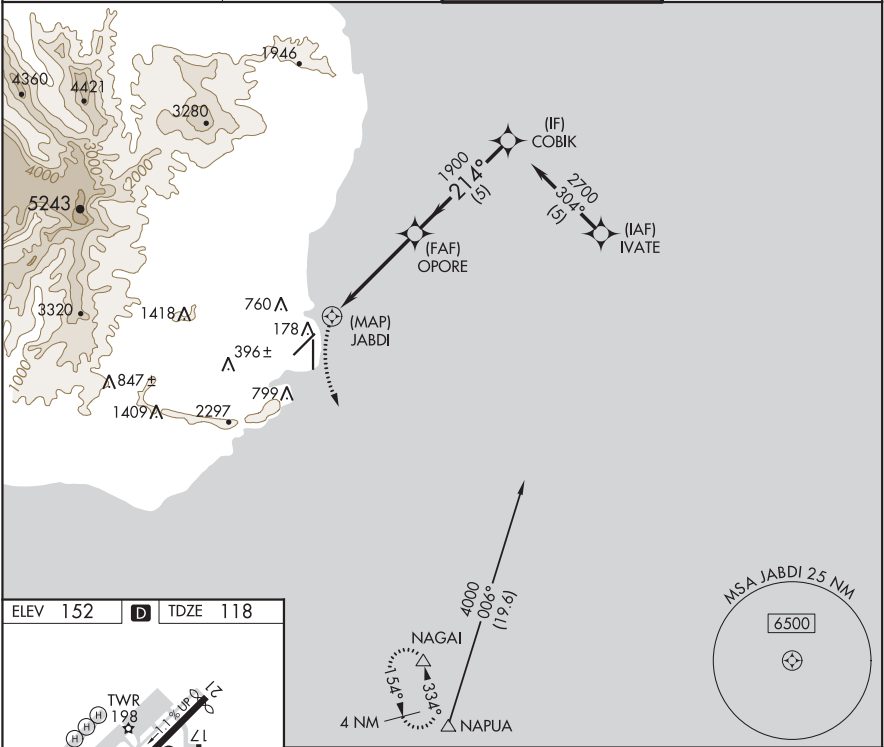
Rwy Idg  
TDZE  
118

Apt Elev  
152

RNAV (GPS) Y RWY 21

LIHUE (LIH)(PHLI)

RNP APCH-GPS.		MISSED APPROACH: Climbing left turn to 3000 direct NAGAI and hold.	
<div><div><div></div><div></div></div><div>Circling NA at night. Circling NA west of Rwy 17-35. Rwy 21 helicopter visibility reduction below ¾ SM NA.</div></div>			
ATIS 127.2	HCF CENTER 126.5 269.4	LIHUE TOWER ★ 118.9(CTAF) 0 263.1	GND CON 121.9







LIHUE, HAWAII

AL-776 (FAA)

23166

VORTAC LIH

113.5

Chan 82

APP CRS

191°

Rwy Idg

6295

TDZE

118

Apt Elev

152

VOR or TACAN RWY 21

LIHUE (LIH)(PHLI)

DME required.

Circling NA at night. Circling NA west of Rwy 17-35.

Rwy 21 helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 600 then climbing left turn to 3000 on heading 152° and LIH VORTAC R-148 to NAGAI/12 DME and hold.

ATIS

127.2

HCF CENTER

126.5 269.4

LIHUE TOWER ★

118.9(CTAF) 263.1

GND CON

121.9

Map of LIHUE, HAWAII showing terrain, airports, and navigation aids. Includes a detailed approach diagram for RWY 21 with altitudes, headings, and distances.

ELEV 152

D

TDZE 118

Diagram of the approach path for RWY 21, showing the transition from 6000 to 3000 feet and then to the runway.

HIRL Rwy 17-35

REIL Rwys 3, 17 and 21

MIRL Rwy 3-21

FAF to MAP 4.1 NM

Knots	60	90	120	150	180
Min:Sec	4:06	2:44	2:03	1:38	1:22

600	3000	NAGAI	VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 45).	DARIL																				
↑	hdg 152°	LIH R-148	△	LIH 12 RADAR																				
<p>Detailed approach diagram for RWY 21 showing altitudes, headings, and distances.</p>																								
<table><tr><td>CATEGORY</td><td>A</td><td>B</td><td>C</td><td>D</td></tr><tr><td>S-21</td><td>520-1</td><td>402 (400-1)</td><td>520-1½</td><td>402 (400-1½)</td></tr><tr><td>CIRCLING</td><td>520-1</td><td>620-1</td><td>620-1½</td><td>720-2</td></tr><tr><td></td><td>368 (400-1)</td><td>468 (500-1)</td><td>468 (500-1½)</td><td>568 (600-2)</td></tr></table>					CATEGORY	A	B	C	D	S-21	520-1	402 (400-1)	520-1½	402 (400-1½)	CIRCLING	520-1	620-1	620-1½	720-2		368 (400-1)	468 (500-1)	468 (500-1½)	568 (600-2)
CATEGORY	A	B	C	D																				
S-21	520-1	402 (400-1)	520-1½	402 (400-1½)																				
CIRCLING	520-1	620-1	620-1½	720-2																				
	368 (400-1)	468 (500-1)	468 (500-1½)	568 (600-2)																				

LIHUE, HAWAII

Amdt 5 20APR23

21°59'N-159°20'W

LIHUE (LIH)(PHLI)

VOR or TACAN RWY 21

PAC, 30 NOV 2023 to 25 JAN 2024

23166

VOR or TACAN RWY 35  
LIHUE (LIH)(PHLI)

**MISSED APPROACH:** Climbing right turn to 3000 via heading 100° and UH VORTAC R-070 to KREEN/12 DME/RADAR and hold.

LIHUE  
113.5 LH  
Chan 82

R-070

KREEN  
LH 12

070°  
250°

760 A

396 ± A

339 ± A

799 A

4500 to LYDAT  
148° (6)

UWEHE  
LH 0.8

2297

1409 A

847 A

1418 A

3320

5243

4500  
087°  
(12.9)

R-087

(IAF)  
LYDAT INT  
LH 6

R-111

328°  
(18.71)

2000

(IF)  
NAPUA  
LH 14.7

3500 NoPT  
(5.3)

291°

103°

28.3

R-148

(IAF)  
HUPOK  
SOK 24

SOUTH KAUAI  
115.4 SOK  
Chan 101

MSA LH 25 NM

180°

050°

6500

3500

ELEV 153

D

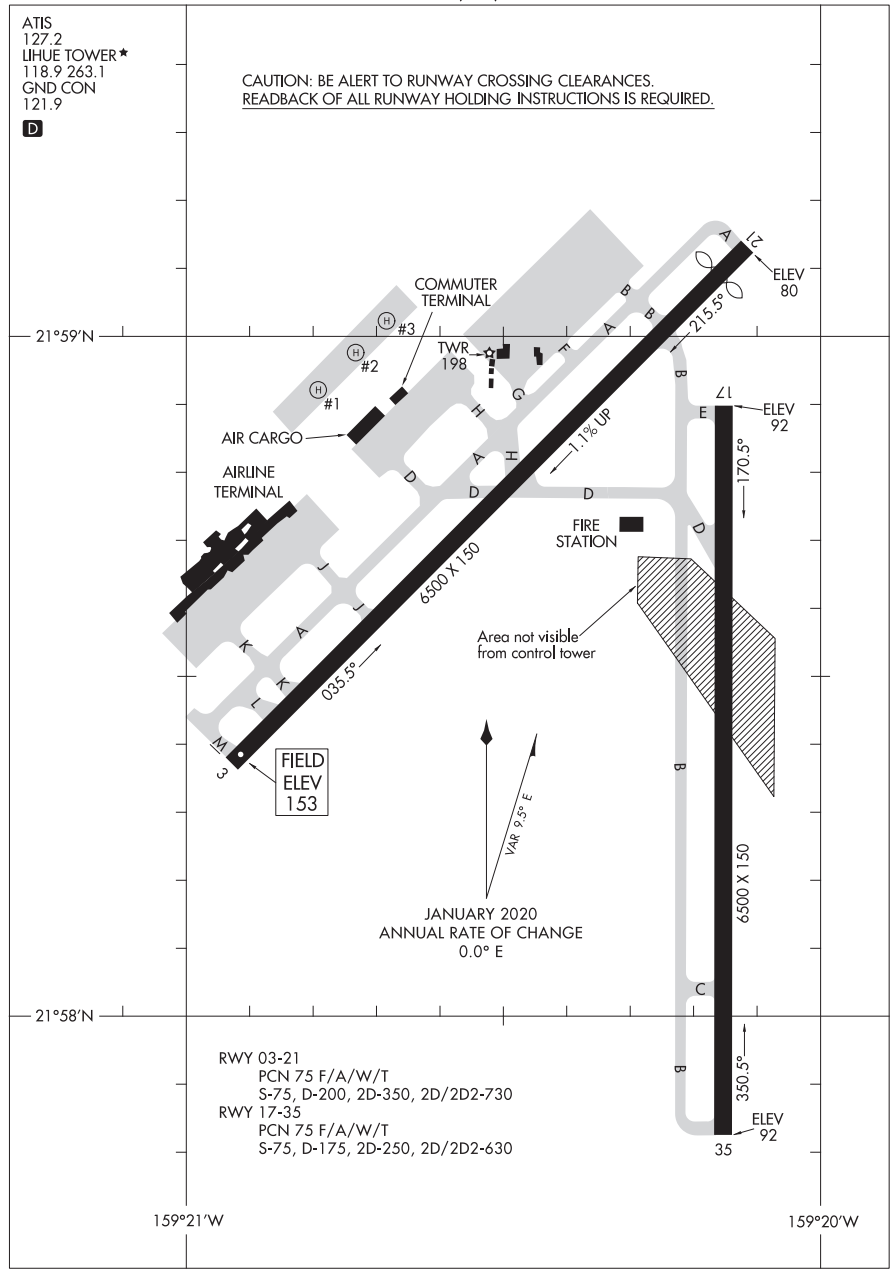
TDZE 96

TWR 198

18L

	LIH R-070	KREEN LIH 12	LYDAT INT LIH 6 3500	Remain within 15 NM
	LIH 1.6 UWEHE LIH 0.8	2000	148° 328° 2000 2.97° TCH 55	2000
CATEGORY	A	B	C	D
S-35	600-1	504 (500-1)	600-1½	504 (500-1½)
CIRCLING	600-1 447 (500-1)	620-1 467 (500-1)	620-1½ 467 (500-1½)	720-2 567 (600-2)

LIHUE (LIH)(PHLI)  
VOR or TACAN RWY 35



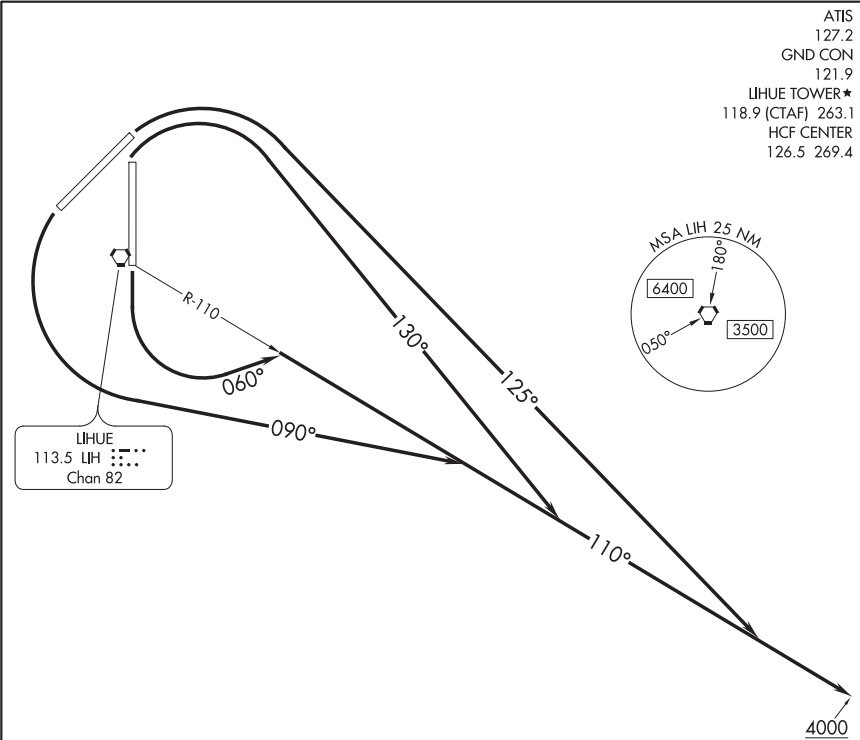
(KAUAI).KAUAI) 23166

KAUAI ONE DEPARTURE (OBSTACLE)

AL-776 (FAA)

LIHUE (LIH)(PHLI)  
LIHUE, HAWAII

ATIS  
127.2  
GND CON  
121.9  
LIHUE TOWER★  
118.9 (CTAF) 263.1  
HCF CENTER  
126.5 269.4



TAKEOFF MINIMUMS

Rwys 3, 17, 35: Standard

Rwy 21: Standard with minimum climb of 720' per NM to 2100 or 4900-3 for VCOA.

NOTE: Rwy 21: Obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Lihue Airport at or above 4900 before proceeding on course.

NOTE: Chart not to scale.

(NOTES CONTINUED ON FOLLOWING PAGE)

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 3: Climbing right turn to heading 125° thence. . . .

TAKEOFF RUNWAY 17: Climbing left turn to heading 060° thence. . . .

TAKEOFF RUNWAY 21: Climbing left turn to heading 090° thence. . . .

TAKEOFF RUNWAY 35: Climbing right turn to heading 130° thence. . . .

. . . .intercept LIH VORTAC R-110 eastbound to 4000 before proceeding on course.

KAUAI ONE DEPARTURE (OBSTACLE)

(KAUAI).KAUAI) 15JUN23

LIHUE, HAWAII  
LIHUE (LIH)(PHLI)

(KAUAI1.KAUAI) 23166

## KAUAI ONE DEPARTURE (OBSTACLE)

AL-776 (FAA)

LIHUE (LIH)(PHLI)

LIHUE, HAWAII

TAKEOFF OBSTACLE NOTES

- Rwy 3: Navaid 85' from DER, 418' left of centerline, 8' AGL/85' MSL.  
 Trees beginning 221' from DER, 188' right of centerline, up to 35' AGL/88' MSL.  
 Trees beginning 240' from DER, 19' right of centerline, up to 43' AGL/95' MSL.  
 Trees beginning 250' from DER, 7' left of centerline, up to 34' AGL/93' MSL.  
 Trees beginning 395' from DER, 38' left of centerline, up to 34' AGL/94' MSL.  
 Trees beginning 415' from DER, 39' left of centerline, up to 39' AGL/95' MSL.  
 Trees beginning 431' from DER, 38' left of centerline, up to 34' AGL/103' MSL.  
 Trees beginning 473' from DER, 14' left of centerline, up to 50' AGL/107' MSL.  
 Tree 541' from DER 4' right of centerline 54' AGL/103' MSL.  
 Trees beginning 548' from DER, 8' right of centerline, up to 56' AGL/104' MSL.  
 Tree 972' from DER, 676' left of centerline, 68' AGL/115' MSL.  
 Tree 1563' from DER, 538' left of centerline, 90' AGL/127' MSL.  
 Tree 1750' from DER, 783' left of centerline, 120' AGL/165' MSL.
- Rwy 17: Light poles 4' from DER, 6' left of centerline, 2' AGL/94' MSL.  
 Tree 135' from DER, 272' right of centerline, 10' AGL/95' MSL.  
 Trees beginning 857' from DER, 565' right of centerline, up to 45' AGL/131' MSL.  
 Tree 1289' from DER, 734' right of centerline, 57' AGL/132' MSL.
- Rwy 21: Light poles 9' from DER, 54' left of centerline, 3' AGL/154' MSL.  
 Light poles 9' from DER, 55' right of centerline, 3' AGL/155' MSL.  
 Terrain 33' from DER, 457' right of centerline, 156' MSL.  
 Pole 192' from DER, 546' left of centerline, 44' AGL/183' MSL.  
 Pole 366' from DER, 550' left of centerline, 46' AGL/184' MSL.  
 Tree, pole beginning 497' from DER, 563' left of centerline, up to 70' AGL/206' MSL.  
 Trees beginning 1148' from DER, 231' right of centerline, up to 42' AGL/203' MSL.  
 Tree 1457' from DER, 185' right of centerline, 67' AGL/212' MSL.  
 Trees beginning 1466' from DER, 53' right of centerline, up to 77' AGL/230' MSL.  
 Trees beginning 1510' from DER, 62' right of centerline, up to 87' AGL/241' MSL.  
 Tree 1536' from DER, 3' left of centerline, 70' AGL/208' MSL.  
 Tree, pole beginning 1660' from DER, 9' right of centerline, up to 96' AGL/248' MSL.  
 Trees beginning 1903' from DER, 267' left of centerline, up to 68' AGL/217' MSL.  
 Tree 2017' from DER, 280' left of centerline, 70' AGL/218' MSL.  
 Trees beginning 2029' from DER, 296' left of centerline, up to 73' AGL/221' MSL.  
 Trees beginning 2212' from DER, 337' left of centerline, up to 82' AGL/227' MSL.  
 Tree 3102' from DER, 442' left of centerline, 107' AGL/231' MSL.  
 Trees beginning 2.1 NM from DER, 2126' left of centerline, up to 3' AGL/896' MSL.  
 Tree 2.2 NM from DER, 2973' left of centerline, 25' AGL/947' MSL.  
 Trees beginning 2.2 NM from DER, 2747' left of centerline, 212' AGL/1329' MSL.  
 Tree 2.3 NM from DER, 3671' left of centerline, 2' AGL/1474' MSL.  
 Tree 2.4 NM from DER, 4032' left of centerline, 100' AGL/1488' MSL.  
 Trees beginning 2.4 NM from DER, 2595' left of centerline, 100' AGL/1488' MSL.  
 Trees beginning 2.5 NM from DER, 3483' left of centerline, up to 23' AGL/1294' MSL.
- Rwy 35: Fence 40' from DER, 308' right of centerline, 13' AGL/94' MSL.  
 Tree 106' from DER, 435' right of centerline, 19' AGL/100' MSL.  
 Trees beginning 203' from DER, 379' right of centerline, up to 51' AGL/131' MSL.

## KAUAI ONE DEPARTURE (OBSTACLE)

(KAUAI1.KAUAI) 15JUN23

LIHUE, HAWAII  
LIHUE (LIH)(PHLI)

(LIHUE6.BOOKE) 23054

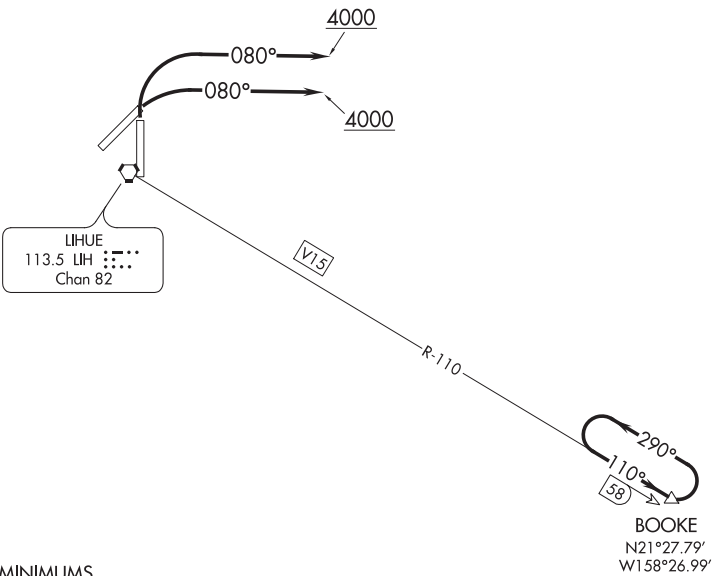
LIHUE SIX DEPARTURE

AL-776 (FAA)

LIHUE (LIH)(PHLI)  
LIHUE, HAWAII

HCF CENTER  
126.5 269.4

**TOP ALTITUDE:  
ASSIGNED BY ATC**



TAKEOFF MINIMUMS

Rwy 3: Standard.

Rwy 35: Standard with minimum climb of 230' per NM to 700.

NOTE: RADAR required.

NOTE: DME required.

NOTE: Chart not to scale.



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 3, 35: Climbing right turn heading 080° to 4000, thence. . . .

. . . .Expect RADAR vectors to intercept LIH VORTAC R-110 to BOOKE/LIH 58 DME fix, maintain ATC assigned altitude. Expect clearance to filed altitude/flight level 10 minutes after departure.

LOST COMMUNICATIONS: If not in contact with HCF 1 minute after departure, maintain SID heading until 10 NM east of LIH VORTAC, then intercept LIH R-110 to BOOKE DME fix.

LIHUE SIX DEPARTURE  
(LIHUE6.BOOKE) 23FEB23

LIHUE, HAWAII  
LIHUE (LIH)(PHLI)

(RICHE3.BOOKE) 23054

AL-776 (FAA)

LIHUE (LIH)(PHLI)  
LIHUE, HAWAII

RICHE THREE DEPARTURE

HCF CENTER  
126.5 269.4

TOP ALTITUDE:  
ASSIGNED BY ATC

LIHUE  
113.5 MHz  
Chan 82

090°  
4000

150°  
4000

V15

R-110

290°  
110°  
58

BOOKE  
N21°27.79'  
W158°26.99'

TAKEOFF MINIMUMS

Rwy 17: Standard.

Rwy 21: Standard with minimum climb of 720' per NM to 2100.

NOTE: RADAR required.

NOTE: DME required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 17: Climbing left turn heading 150° to 4000, thence . . .

TAKEOFF RUNWAY 21: Climbing left turn heading 090° to 4000, thence . . .

. . . Expect RADAR vectors to intercept LIH VORTAC R-110 eastbound to BOOKE/LIH 58 DME fix, maintain ATC assigned altitude. Expect clearance to filed altitude/flight level 10 minutes after departure.

LOST COMMUNICATIONS: If not in contact with HCF 1 minute after departure maintain SID heading until 10 NM east of LIH VORTAC, then intercept LIH R-110 to BOOKE DME fix.

RICHE THREE DEPARTURE

(RICHE3.BOOKE) 23FEB23

LIHUE, HAWAII  
LIHUE (LIH)(PHLI)

MAJURO ATOLL, MH

AL-6049 (FAA)

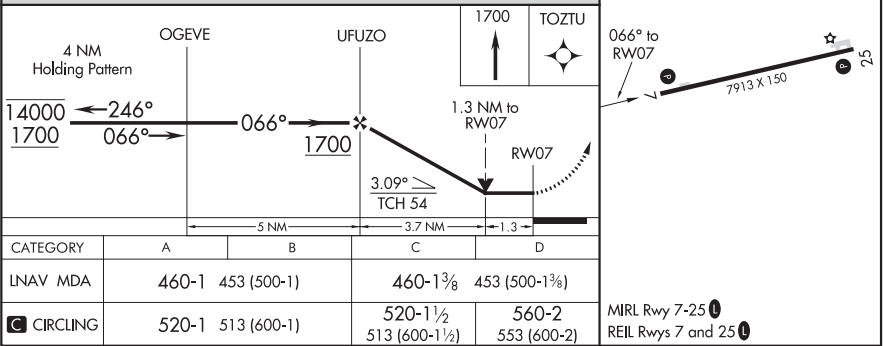
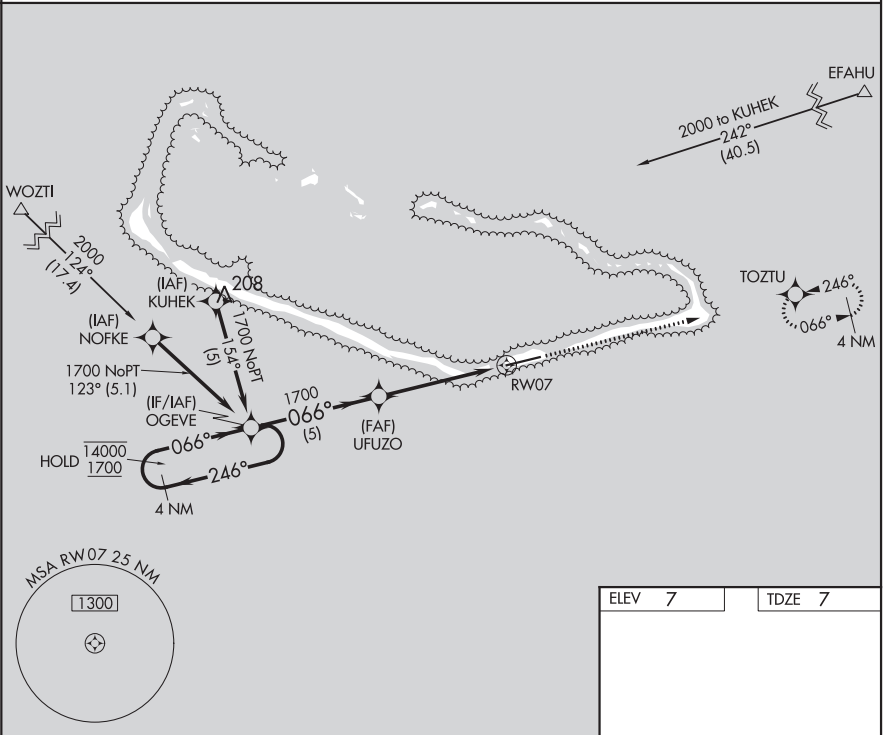
22195

APP CRS	Rwy Idg	7913
066°	TDZE	7
	Apt Elev	7

**RNAV (GPS) RWY 7**  
AMATA KABUA INTL (MAJ)(PKMJ)

<b>RNP APCH-GPS</b> ▼ Rwy 7 helicopter visibility reduction below $\frac{3}{4}$ SM NA. Obtain local altimeter setting on CTAF; when not received, procedure NA. Uncontrolled airspace below 5500.	<b>MISSED APPROACH:</b> Climb to 1700 direct TOZTU and hold.
--	--

MAJURO RADIO  
**123.6** (CTAF) **0**



MAJURO ATOLL, MH  
Orig-F 14JUL22

07°04'N-171°16'E

AMATA KABUA INTL (MAJ)(PKMJ)  
**RNAV (GPS) RWY 7**



MAJURO ATOLL, MH

AL-6049 (FAA)

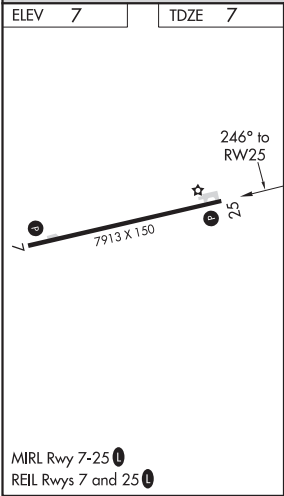
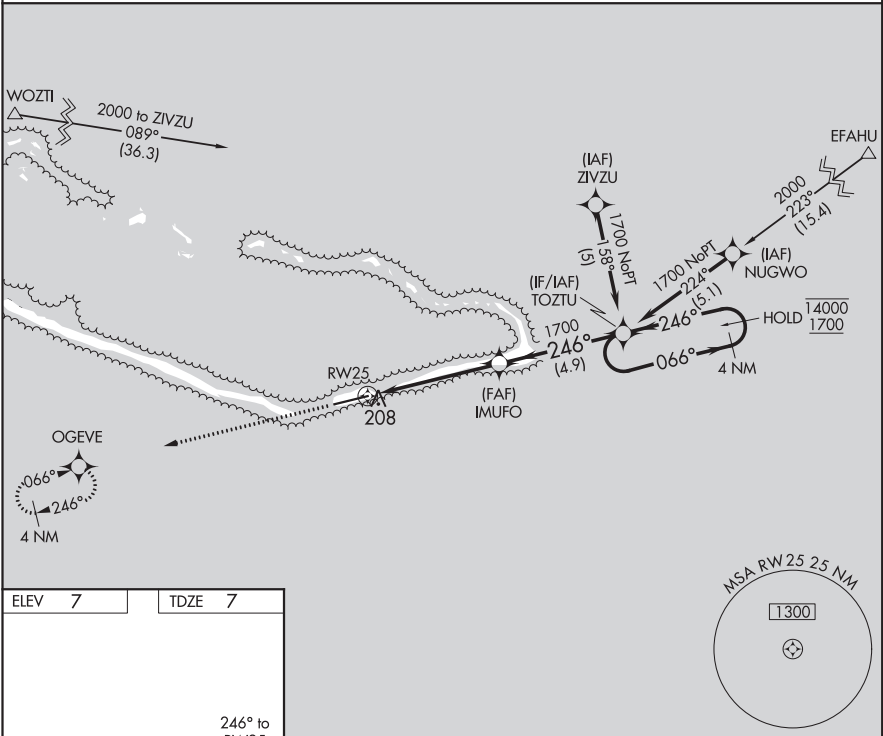
22195



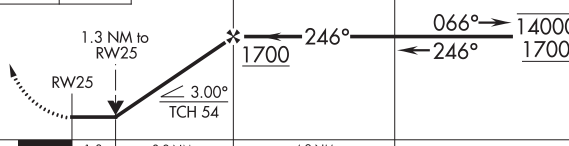

APP CRS	Rwy Idg	7913
246°	TDZE	7
	Apt Elev	7

RNAV (GPS) RWY 25  
AMATA KABUA INTL (MAJ)(PKMJ)

RNP APCH-GPS. ▼ Rwy 25 helicopter visibility reduction below ¾ SM NA. Obtain local altimeter setting on CTAF; when not received, procedure NA. Uncontrolled airspace below 5500.	MISSED APPROACH: Climb to 1700 direct OGEVE and hold.
---	---

MAJURO RADIO  
123.6 (CTAF) 0



1700	OGEVE	VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 46).			
		IMUFO	TOZTU	4 NM Holding Pattern	
					
1.3		3.9 NM		4.9 NM	
CATEGORY	A		B	C	D
LNAV MDA	460-1 453 (500-1)		460-1 $\frac{3}{8}$ 453 (500-1 $\frac{3}{8}$ )		
 CIRCLING	520-1 513 (600-1)		520-1 $\frac{1}{2}$ 513 (600-1 $\frac{1}{2}$ )		560-2 553 (600-2)

MAJURO ATOLL, MH  
Orig-F 14JUL22

07°04'N-171°16'E

AMATA KABUA INTL (MAJ)(PKMJ)  
RNAV (GPS) RWY 25

MAJURO ATOLL, MH

AL-6049 (FAA)

21224

NDB/DME MAJ	APP CRS	Rwy Idg	7913
316	062°	TDZE	7
Chan 114 (116.7)		Apt Elev	7

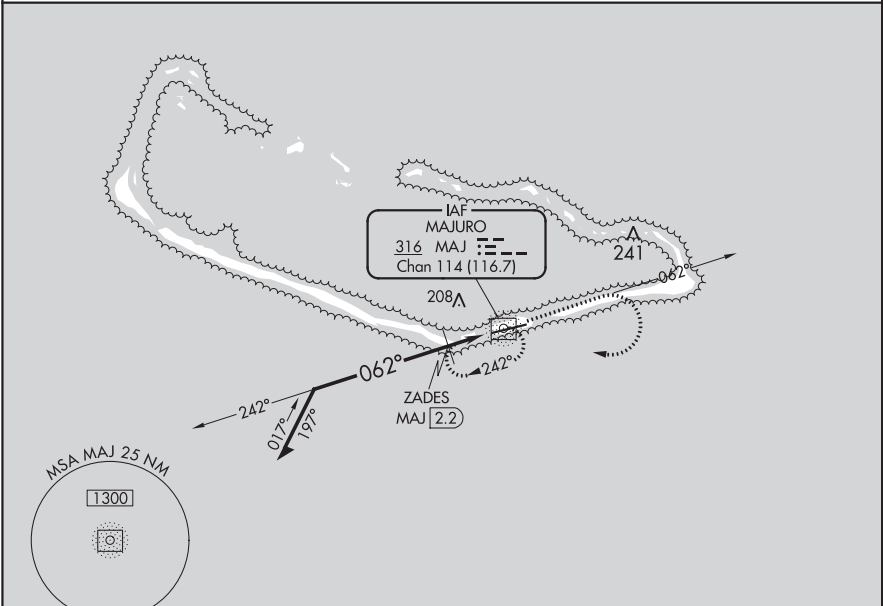
NDB RWY 7

AMATA KABUA INTL (MAJ)(PKMJ)

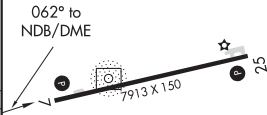
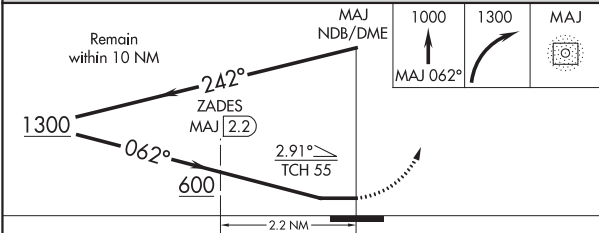
Rwy 7 helicopter visibility reduction below ¾ SM NA. Obtain local altimeter setting on CTAF; when not received, procedure NA. Uncontrolled airspace below 5500.

MISSED APPROACH: Climb to 1000 on MAJ NDB/DME bearing 062° then climbing right turn to 1300 direct MAJ NDB/DME and hold.

MAJURO RADIO  
 123.6 (CTAF)



ELEV 7 TDZE 7



CATEGORY	A	B	C	D
S-7	600-1	593 (600-1)	600-1¾	593 (600-1¾)
CIRCLING	600-1	593 (600-1)	600-1¾	600-2
			593 (600-1¾)	593 (600-2)
ZADES FIX MINIMUMS (DME REQUIRED)				
S-7	520-1	513 (600-1)	520-1⅜	513 (600-1⅜)
CIRCLING	520-1	513 (600-1)	520-1½	560-2
			513 (600-1½)	553 (600-2)

MRL Rwy 7-25  
 REIL Rwys 7 and 25

MAJURO ATOLL, MH  
 Amdt 1B 31DEC20

07°04'N-171°16'E

AMATA KABUA INTL (MAJ)(PKMJ)

NDB RWY 7

MAJURO ATOLL, MH

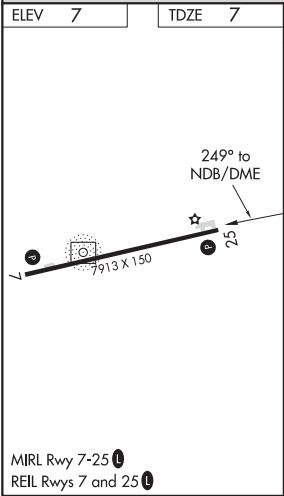
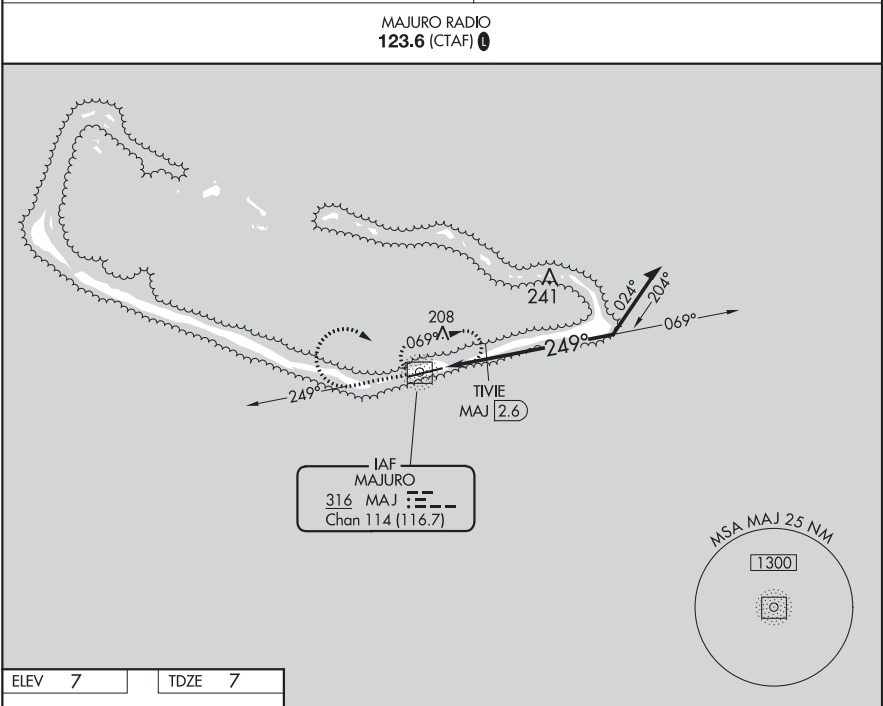
AL-6049 (FAA)

21224

NDB/DME MAJ	316	APP CRS	Rwy Idg	7913
Chan 114 (116.7)		249°	TDZE	7
			Apt Elev	7

NDB RWY 25  
AMATA KABUA INTL (MAJ)(PKMJ)

<p><b>V</b> Rwy 25 helicopter visibility reduction below ¾ SM NA.</p> <p><b>Δ NA</b> Obtain local altimeter setting on CTAF; when not received, procedure NA. Uncontrolled airspace below 5500.</p>	<p>MISSED APPROACH: Climb to 1000 on MAJ NDB/DME bearing 249° then climbing right turn to 1300 direct MAJ NDB/DME and hold.</p>
---	---



1000	1300	MAJ	MAJ NDB/DME	069°	1300	Remain within 10 NM
MAJ 249°						
				069°		
				TIVE MAJ 2.6		
				≤ 2.95°		
				TCH 46		
				249°		
				600		
				2.6 NM		
CATEGORY	A	B	C	D		
S-25	600-1	593 (600-1)	600-1¾	593 (600-1¾)		
<b>C</b> CIRCLING	600-1	593 (600-1)	600-1¾ 593 (600-1¾)	600-2 593 (600-2)		
TIVE FIX MINIMUMS (DME REQUIRED)						
S-25	520-1	513 (600-1)	520-1¾	513 (600-1¾)		
<b>C</b> CIRCLING	520-1	513 (600-1)	520-1½ 513 (600-1½)	560-2 553 (600-2)		

MAJURO ATOLL, MH  
Amdt 1B 31DEC20

07°04'N-171°16'E

AMATA KABUA INTL (MAJ)(PKMJ)  
NDB RWY 25

MIDWAY ATOLL, QM

AL-2154 (FAA)

22083

APP CRS  
059°

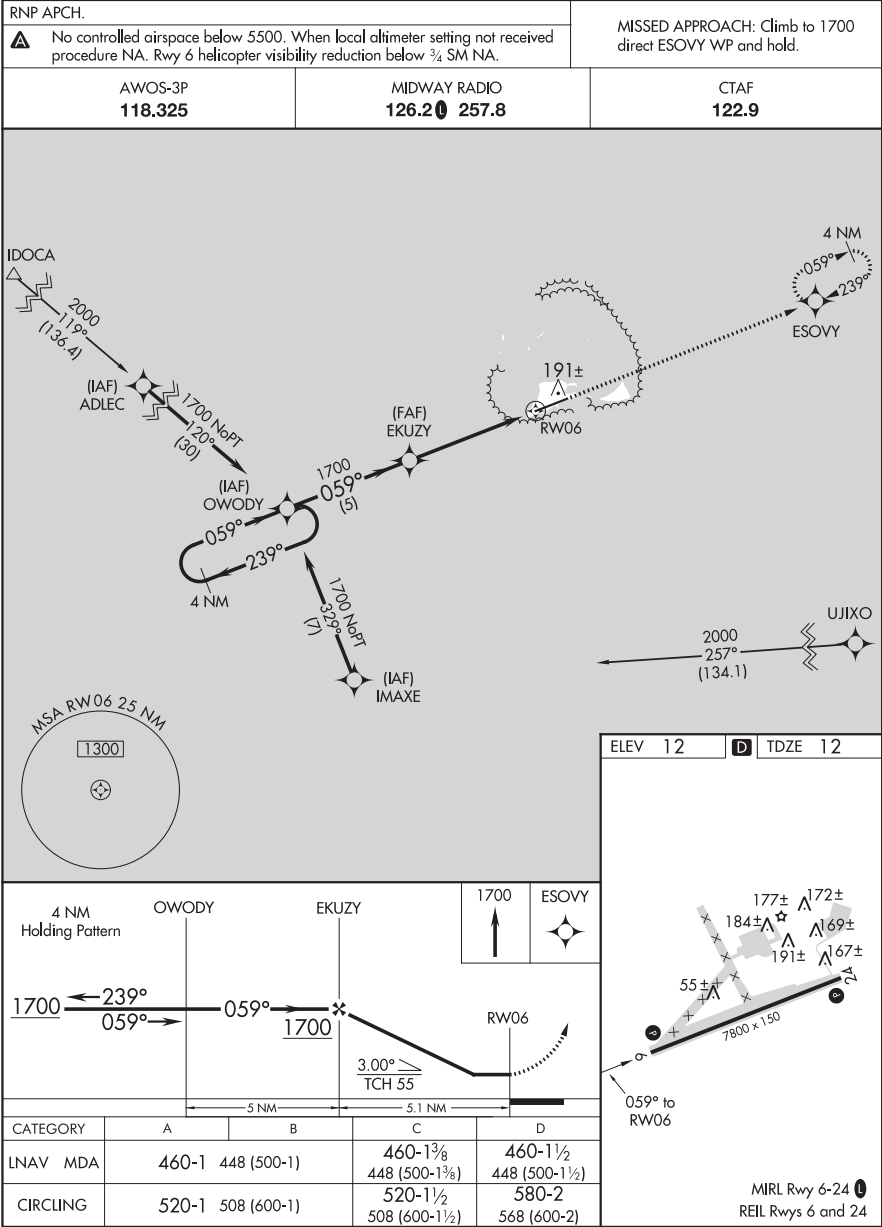
Rwy Idg  
7800

TDZE  
12

Apt Elev  
12

RNAV (GPS) RWY 6

HENDERSON FLD (MDY) (PMDY)



MIDWAY ATOLL, QM

AL-21.54 (FAA)

22083

APP CRS  
**239°**

Rwy Idg  
TDZE  
Apt Elev  
**7400**  
**7**  
**12**

**RNAV (GPS) RWY 24**  
HENDERSON FLD (MDY) (PMDY)

RNP APCH.

**⚠** No controlled airspace below 5500. When local altimeter setting not received procedure NA. Rwy 24 helicopter visibility reduction below  $\frac{3}{4}$  SM NA.

MISSED APPROACH: Climb to 1700 direct OWODY WP and hold.

AWOS-3P  
**118.325**

MIDWAY RADIO  
**126.2 257.8**

CTAF  
**122.9**

IDOCA → 2000 112° (173.5) → (IAF) UVIHU 1700 149° (5) → (FAF) AVIKY 1700 239° (5) → (IAF) ESOVY 1700 NoPT 059° 4 NM → (IAF) OKEZO 1700 NoPT 263° (30) → (IAF) UJIXO 2000 263° (86.3)

MSA RW24 25 NM 1300

MISSED APCH FIX  
OWODY  
059° 239° 4 NM

1700 OWODY

AVIKY ESOVY 4 NM Holding Pattern

RW24 1700 239° 059° 1700

≤ 3.00° TCH 55

5.1 NM 5 NM

CATEGORY	A	B	C	D
LNAV MDA	460-1 453 (500-1)		460-1 $\frac{3}{8}$ 453 (500-1 $\frac{3}{8}$ )	460-1 $\frac{1}{2}$ 453 (500-1 $\frac{1}{2}$ )
CIRCLING	520-1 508 (600-1)		520-1 $\frac{1}{2}$ 508 (600-1 $\frac{1}{2}$ )	580-2 568 (600-2)

MIRL Rwy 6-24  
REL Rws 6 and 24

MIDWAY ATOLL, QM

AL-2154 (FAA)

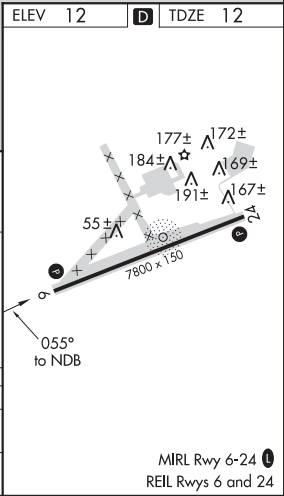
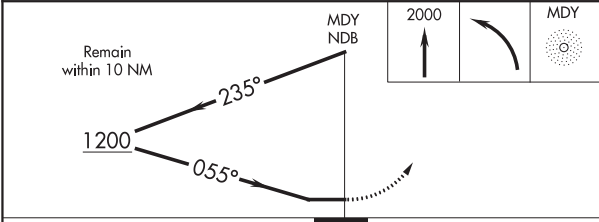
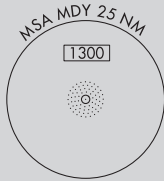
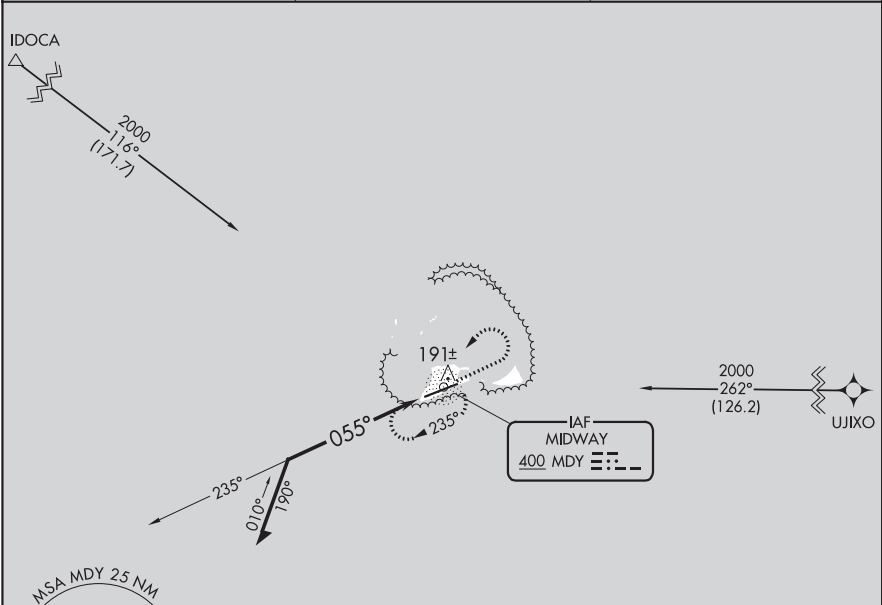
22083

NDB MDY <b>400</b>	APP CRS <b>055°</b>	Rwy Idg TDZE Apt Elev <b>7800</b> <b>12</b> <b>12</b>
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**NDB RWY 6**  
HENDERSON FLD (MDY) (PMDY)

<b>⚠</b> No controlled airspace below 5500 feet. When local altimeter not received, procedure NA. Rwy 6 helicopter visibility reduction below ¾ SM NA.	MISSED APPROACH: Climb to 2000, then left turn direct MDY NDB and hold.
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AWOS-3P <b>118.325</b>	MIDWAY RADIO <b>126.20 257.8</b>	CTAF <b>122.9</b>
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CATEGORY	A	B	C	D
S-6	560-1 548 (600-1)		560-1 5/8 548 (600-1 5/8)	560-1 3/4 548 (600-1 3/4)
CIRCLING	560-1 548 (600-1)		560-1 5/8 548 (600-1 5/8)	580-2 568 (600-2)

MIDWAY ATOLL, QM  
Orig-D 12AUG21

28°12'N-177°23'W

HENDERSON FLD (MDY) (PMDY)  
**NDB RWY 6**

MIDWAY ATOLL, GM

AL-21.54 (FAA)

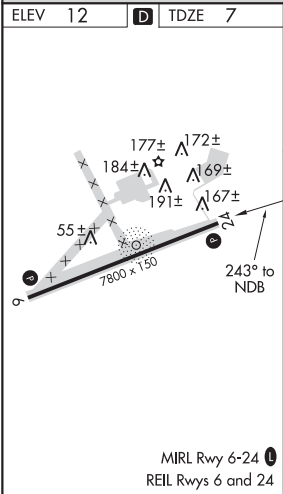
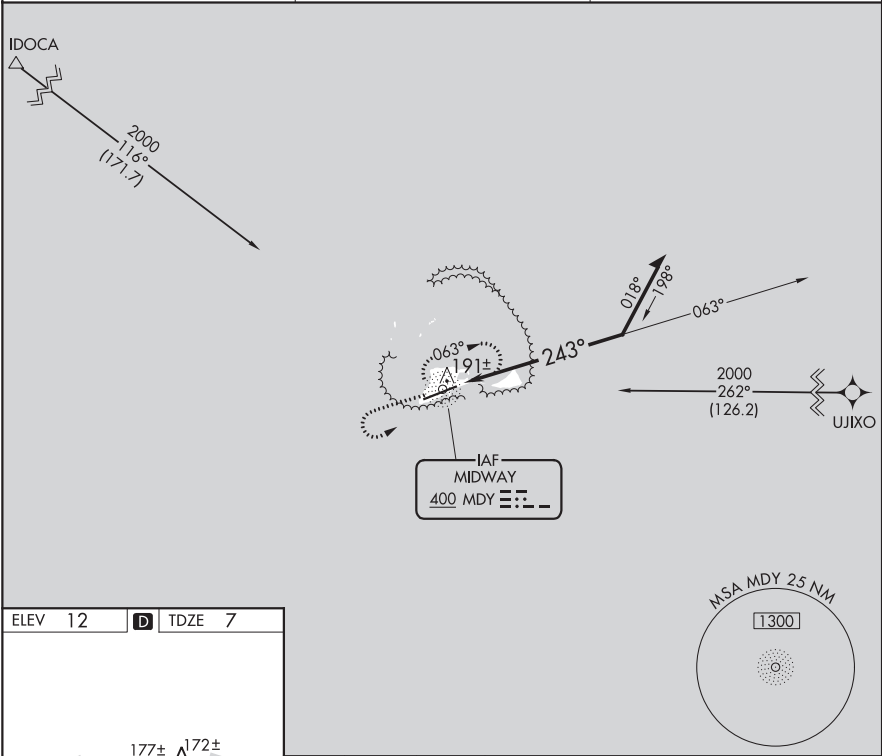
22083




NDB MDY <b>400</b>	APP CRS <b>243°</b>	Rwy Idg TDZE Apt Elev <b>7400</b> <b>7</b> <b>12</b>
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**NDB RWY 24**  
HENDERSON FLD (MDY) (PMDY)

<b>A</b> No controlled airspace below 5500 feet. When local altimeter setting not received, procedure NA. Rwy 24 helicopter visibility reduction below ¾ SM NA.	MISSED APPROACH: Climb to 2000, then left turn direct MDY NDB and hold.
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AWOS-3P <b>118.325</b>	MIDWAY RADIO <b>126.2</b> <b>257.8</b>	CTAF <b>122.9</b>
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<div><div>2000</div><div></div><div></div><div><div>MDY</div><div></div></div></div> <div><div>MDY NDB</div><div><div>063°</div><div>1200</div></div><div><div>243°</div><div>Remain within 10 NM</div></div></div>				
CATEGORY	A	B	C	D
S-24	560-1	553 (600-1)	560-1½ 553 (600-1½)	560-1¾ 553 (600-1¾)
CIRCLING	560-1	548 (600-1)	560-1½ 548 (600-1½)	580-2 568 (600-2)

MIDWAY ATOLL, GM  
Orig-D 12AUG21

28°12'N-177°23'W

HENDERSON FLD (MDY) (PMDY)  
**NDB RWY 24**

PAGO PAGO, AS

AL-5018 (FAA)

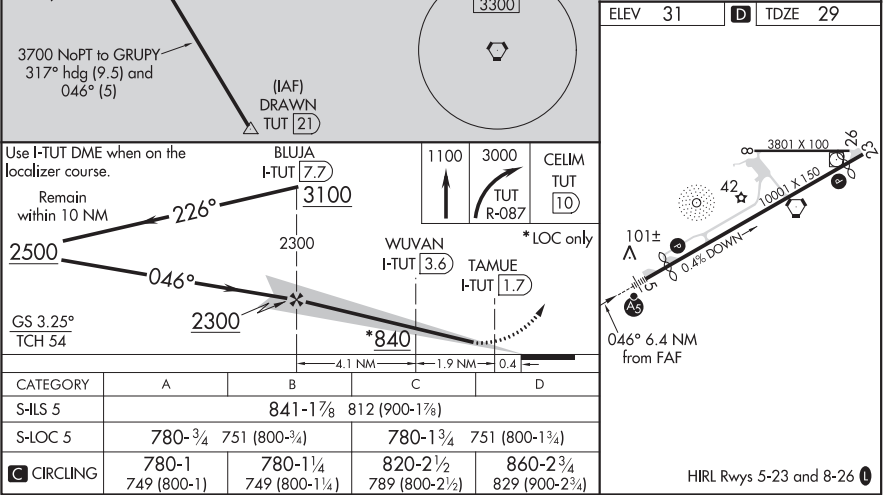
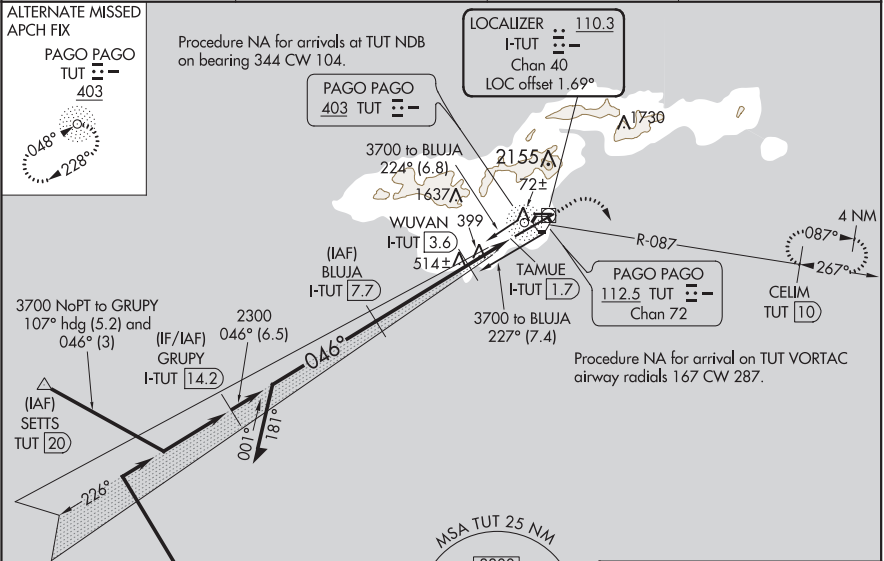
22083

LOC/DME I-TUT <b>110.3</b> Chan <b>40</b>	APP CRS <b>046°</b>	Rwy Idg TDZE Apt Elev <b>8200</b> <b>29</b> <b>31</b>
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**ILS or LOC RWY 5**  
PAGO PAGO INTL (PPG) (NSTU)

DME required. Circling NA northwest of Rwy 5-23. Rwy 5 helicopter visibility reduction below 3/4 SM NA. For inop ALS, increase S-ILS 5 all Cats visibility to 2 1/2 SM; increase S-LOC 5 Cat A visibility to 1 SM and Cats C/D to 2 SM.	MALSR 	MISSED APPROACH: Climb to 1100 then climbing right turn to 3000 on TUT VORTAC R-087 to CEUM/TUT 10 DME and hold, continue climb-in-hold to 3000.
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AWOS-3PT <b>127.925</b>	FALEOLO APP CON <b>118.1 6.553(HF)</b>	CTAF <b>122.9</b>	<b>118.30</b>
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PAGO PAGO, AS

Amdt 15 12AUG21

14°20'S-170°43'W

PAGO PAGO INTL (PPG) (NSTU)  
**ILS or LOC RWY 5**



APP CRS  
**047°**

Rwy Idg  
TDZE  
**32**

8200  
Apt Elev  
**32**

**RNAV (GPS) RWY 5**  
PAGO PAGO INTL (PPG) (NSTU)

RNP APCH.  

⚠

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 22°C or above 54°C. When local altimeter setting not received, procedure NA. Circling NA northwest of Rwy 5-23. Rwy 5 helicopter visibility reduction below ¾ SM NA. Inop table does not apply to LNAV Cats A/B. For inop ALS, increase LNAV/VNAV all Cats visibility to 1½ SM and LNAV Cats C/D visibility to 2 SM.

MALSR

MISSED APPROACH:  
(Maintain 185 K max until 760) Climb to 760 then climbing right turn to 4000 direct DRAWN and hold.

AWOS-3PT <b>127.925</b>	FALEOLO APP CON <b>118.1 6.553(HF)</b>	CTAF <b>122.9</b>	<b>118.3 0</b>
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4 NM Holding Pattern

VGSI and RNAV glidepath not coincident (VGSI Angle 3.25/TCH 57).

760 4000 DRAWN

3700 ← 227°

047° →

GP 3.25° TCH 51

GRUPY

BLUJA 2300

CAXEB 2 NM to HOPID

HOPID

\*840

\*LNAV only

047°

2300

6.5 NM

4.2 NM

2 NM

0.2

CATEGORY	A	B	C	D
LNAV/VNAV DA	551-1 519 (600-1)			
LNAV MDA	760-1	728 (800-1)	760-1½ 728 (800-1½)	
CIRCLING	760-1	728 (800-1)	820-2¼ 788 (800-2¼)	860-2¾ 828 (900-2¾)

HILS Rlys 5-23 and 8-26 0

PAGO PAGO, AS  
Orig-B 15AUG19

14°20'S-170°43'W

PAGO PAGO INTL (PPG) (NSTU)  
**RNAV (GPS) RWY 5**

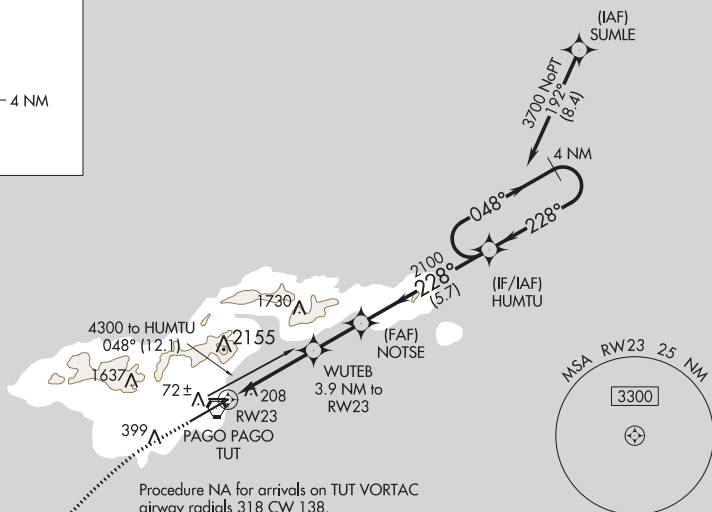
PAC, 30 NOV 2023 to 25 JAN 2024

22083

RNAV (GPS) RWY 23  
PAGO PAGO INTL (PPG) (NSTU)

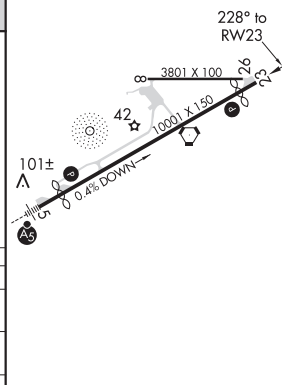
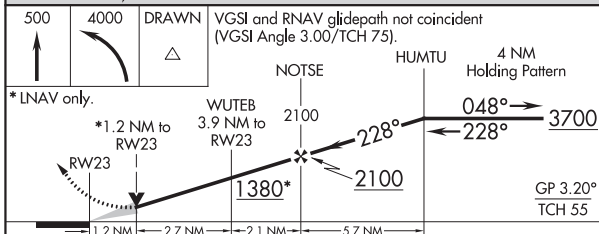
**MISSED APPROACH:** Climb to 500 then climbing left turn to 4000 direct DRAWN and hold.

MISSED APCH FIX



Procedure NA for arrivals on TUT VORTAC  
airway radials 318 CW 138.

ELEV	32	<b>D</b>	TDZE	9
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CATEGORY	A	B	C	D
LNAV/DA	489-1 $\frac{3}{8}$ 480 (500-1 $\frac{3}{8}$ )			
LNAV MDA	460-1	451 (500-1)	460-1 $\frac{3}{8}$	451 (500-1 $\frac{3}{8}$ )
CIRCLING	520-1 488 (500-1)	700-1 668 (700-1)	820-2 $\frac{1}{4}$ 788 (800-2 $\frac{1}{4}$ )	860-2 $\frac{3}{4}$ 828 (900-2 $\frac{3}{4}$ )

H|RL Rwy 5-23 and 8-26 L

PAGO PAGO INTL (PPG) (NSTU)  
RNAV (GPS) RWY 23

PAGO PAGO, AS

VORTAC TUT

112.5

Chan 72

APP CRS

238°

Rwy Idg

TDZE

Apt Elev

N/A

N/A

31

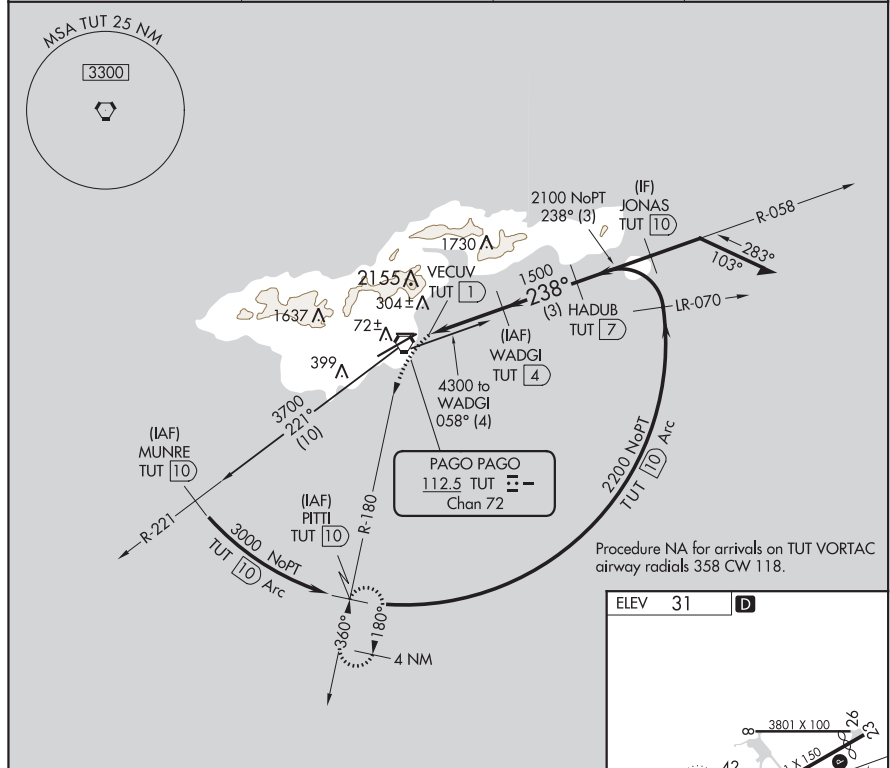
AL-5018 (FAA)

22083

VOR or TACAN-B

PAGO PAGO INTL (PPG) (NSTU)

DME required.		MISSED APPROACH: Climbing left turn to 3000 on TUT VORTAC R-180 to PITTI/10 DME and hold, continue climb-in-hold to 3000.	
AWOS-3PT 127.925		CTAF 122.9	
FALEOLO APP CON 118.1 6.553(HF)		118.3	



3000

TUT R-180

PITTI TUT 10

WADGI TUT 4

HADUB TUT 7

JONAS TUT 10

2800

2200

2100

1500

058°

238°

360°

180°

4 NM

Remain within 10 NM

TUT VORTAC

VECUV TUT 1

CATEGORY	A	B	C	D
CIRCLING	560-1 529 (600-1)	700-1 669 (700-1)	820-2 1/4 789 (800-2 1/4)	860-2 3/4 829 (900-2 3/4)

ELEV 31

D

HIRL Rwy 5-23 and 8-26

PAGO PAGO, AS

Amdt 6B 12AUG21

14°20'S-170°43'W

PAGO PAGO INTL (PPG) (NSTU)

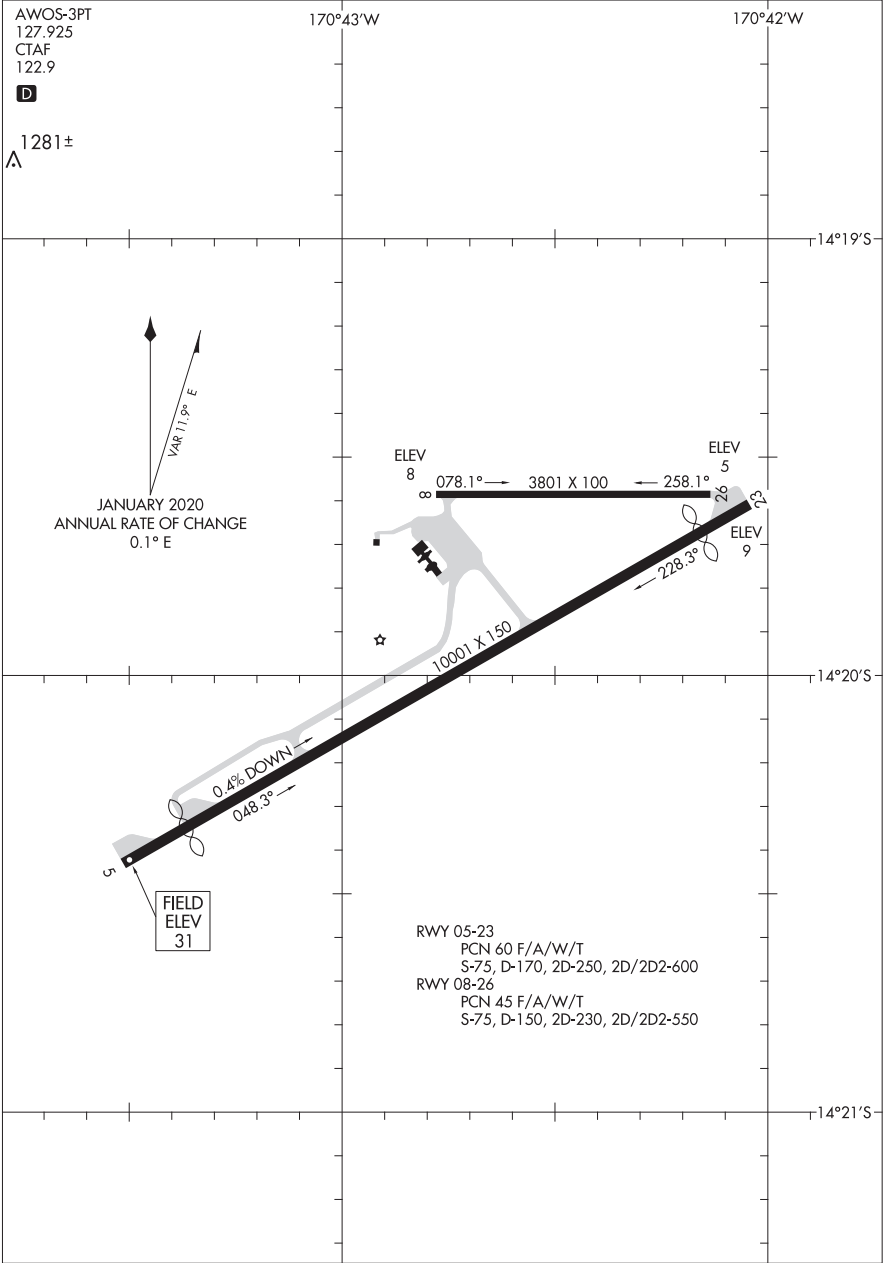
VOR or TACAN-B

22083

AIRPORT DIAGRAM

AL-5018 (FAA)

PAGO PAGO INTL (PPG) (NSTU)  
PAGO PAGO, AS



AIRPORT DIAGRAM

22083

PAGO PAGO, AS  
PAGO PAGO INTL (PPG) (NSTU)

POHNPEI ISLAND, FM

AL-6167 (FAA-O)

22251

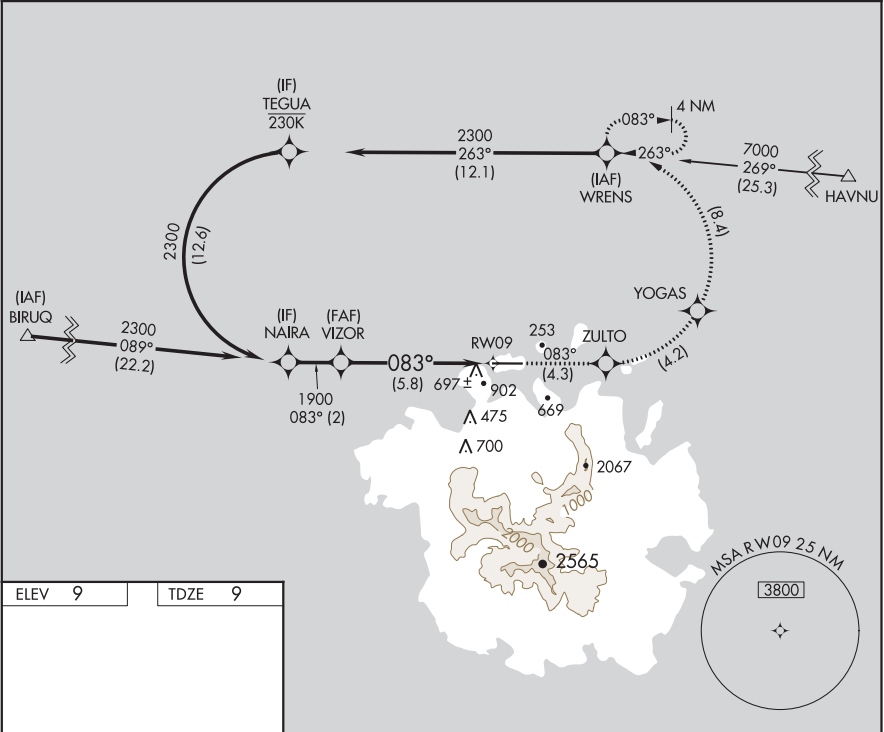
APP CRS	Rwy Idg	6600
083°	TDZE	9
	Apt Elev	9

RNAV (RNP) Y RWY 9  
POHNPEI INTL (PNI)(PTPN)

- ▼ Obtain local altimeter setting on CTAF; when not received, procedure NA.

▲ For uncompensated Baro-VNAV systems, procedure NA below 20°C (68°F) or above 54°C (130°F). Missed approach requires RNP less than 1.0. RF required. GPS required. No controlled airspace below 5500 feet.
- MISSED APPROACH: (Do not exceed 230K until WRENS) Climb to 2300 on the RNAV missed approach route to WRENS and hold.

POHNPEI RADIO  
123.6 (CTAF) 0



ELEV 9	TDZE 9
--------	--------

083° to RWY 09

6600 X 150

GP 3.00° TCH 50

MIRL Rwy 9-27 0

REIL Rwy 9 and 27

VIZOR	2300	ZULTO	YOGAS	WRENS
1900	tr 083°			

Procedure Turn NA

See planview for multiple IF locations.

GP 3.00° TCH 50

5.8 NM

CATEGORY	A	B	C	D
RNP 0.30 DA	912-4 903 (1000-4)			

**AUTHORIZATION REQUIRED**

POHNPEI ISLAND, FM  
Amdt 2A 13SEP18

POHNPEI INTL (PNI)(PTPN)  
RNAV (RNP) Y RWY 9  
06°59'N-158°13'E

22251

RNAV (RNP) Z RWY 9  
POHNPEI INTL (PNI)(PTPN)

**MISSED APPROACH:** (Do not exceed 230K until WRENS) Climb to 2300 on the RNAV missed approach route to WRENS and hold.

Flight Profile Diagram:

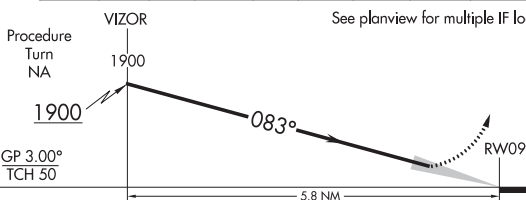
- Waypoints and Altitudes:**
  - BIRUQ (IAF): 2300, 089° (22.2)
  - NAIRA (IF): 1900, 083° (2)
  - VIZOR (FAF): 083° (5.8)
  - RIPIE: 902, 083° to RIPIE (1.7)
  - SAKAE: 669, 083° to SAKAE (1.3)
  - ZULTO: 253, 083° to ZULTO (1.3)
  - YOGAS: 475, 083° (4.2)
  - WRENS (IAF): 263° (12.1)
  - HAVNU: 7000, 269° (25.3)
- Distances and Angles:**
  - BIRUQ to NAIRA: 2300, 089° (22.2)
  - NAIRA to VIZOR: 1900, 083° (2)
  - VIZOR to RIPIE: 083° (5.8)
  - RIPIE to SAKAE: 253, 083° to RIPIE (1.7)
  - SAKAE to ZULTO: 669, 083° to SAKAE (1.3)
  - ZULTO to YOGAS: 253, 083° to ZULTO (1.3)
  - YOGAS to WRENS: 475, 083° (4.2)
  - WRENS to HAVNU: 263° (12.1), 7000, 269° (25.3)
- Map and MSA:**
  - MSA RW09 25 NM: 3800
  - MSA RW09 25 NM: 3800
  - MSA RW09 25 NM: 3800
- Table:**

ELEV	9	TDZE	9
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Diagram of a 6600 X 150 beam. The beam is labeled "6600 X 150". At the left end, there is a label "083° to RW09" with an arrow pointing to a small circle. Below the beam, there is a square box with a circle inside, a star, and a grey square. At the right end, there is a label "27" and a small circle.

2300 ↑ tr 083°	RIPIE ✧ tr 083°	SAKAE ✧ tr 083°	ZULTO ✧ tr 083°	YOGAS ↷ ✧	WRENS ↷ ✧
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See planview for multiple IF locations.



CATEGORY	A	B	C	D
RNP 0.15 DA	259-1 250 (300-1)			

AUTHORIZATION REQUIRED

POHNPEI INTL (PNI)(PTPN)  
RNAV (RNP) Z RWY 9

POHNPEI ISLAND, FM

AL-6167 (FAA)

19283

APP CRS	Rwy Idg	6600
258°	TDZE	9
	Apt Elev	9

RNAV (GPS) RWY 27  
POHNPEI INTL (PNI)(PTPN)

**⚠** Obtain local altimeter setting on CTAF; when not received, procedure NA. Circling NA south of Rwy 9-27. Procedure NA at night except by prior arrangement for runway lights. DME/DME RNP-0.3 NA. No controlled airspace below 5500. Ships with maximum height of 150 feet MSL may traverse Pohnpei Channel 400 feet off approach end of runway 9, closing airport at times.

**MISSED APPROACH:**  
Climb to 3000 direct WULON and hold.

POHNPEI RADIO  
**123.6 (CTAF) 0**

ADUFO  
3000 to OHAFU  
104°  
(41)

BIRUG  
3000 to OHAFU  
085°  
(42.7)

Final approach course offset 5.14°.

3000 to OHAFU  
085°  
(42.7)

270±  
327±

CUSOS  
1.4 NM to EVUTY

1700  
258°  
(6.7)

078°  
4 NM

3000 NoPT  
248°  
(17.3)

(IAF) HAVNU

(IF/IAF) OHAFU

3000 NoPT  
298°  
(19)

(IAF) AXTEU

3000 NoPT  
327°  
(22.9)

(IAF) AFOYU

MSA EVUTY 25 NM  
3800

MAP EVUTY  
(FAF) UKOSY

902.  
669.  
Δ 475  
Δ 700  
2067  
2565

**MISSED APCH FIX**  
WULON  
083°  
263°  
4 NM

ELEV 9 TDZE 9

MIRL Rwy 9-27  
REIL Rws 9 and 27

3000 WULON

CUSOS 1.4 NM to EVUTY

UKOSY

OHAFU 4 NM Holding Pattern

EVUTY

1040

1700

≤ 3.00° TCH 50

1.7 NM 1.4 NM 2.1 NM 6.7 NM

CATEGORY	A	B	C	D
LNAV MDA	720-2 711 (800-2)			
CIRCLING	720-2 711 (800-2)			720-2¼ 711 (800-2¼)

POHNPEI ISLAND, FM  
Amdt 2 27APR17

06°59'N-158°13'E

POHNPEI INTL (PNI)(PTPN)  
RNAV (GPS) RWY 27

POHNPEI ISLAND, FM

AL-6167 (FAA)

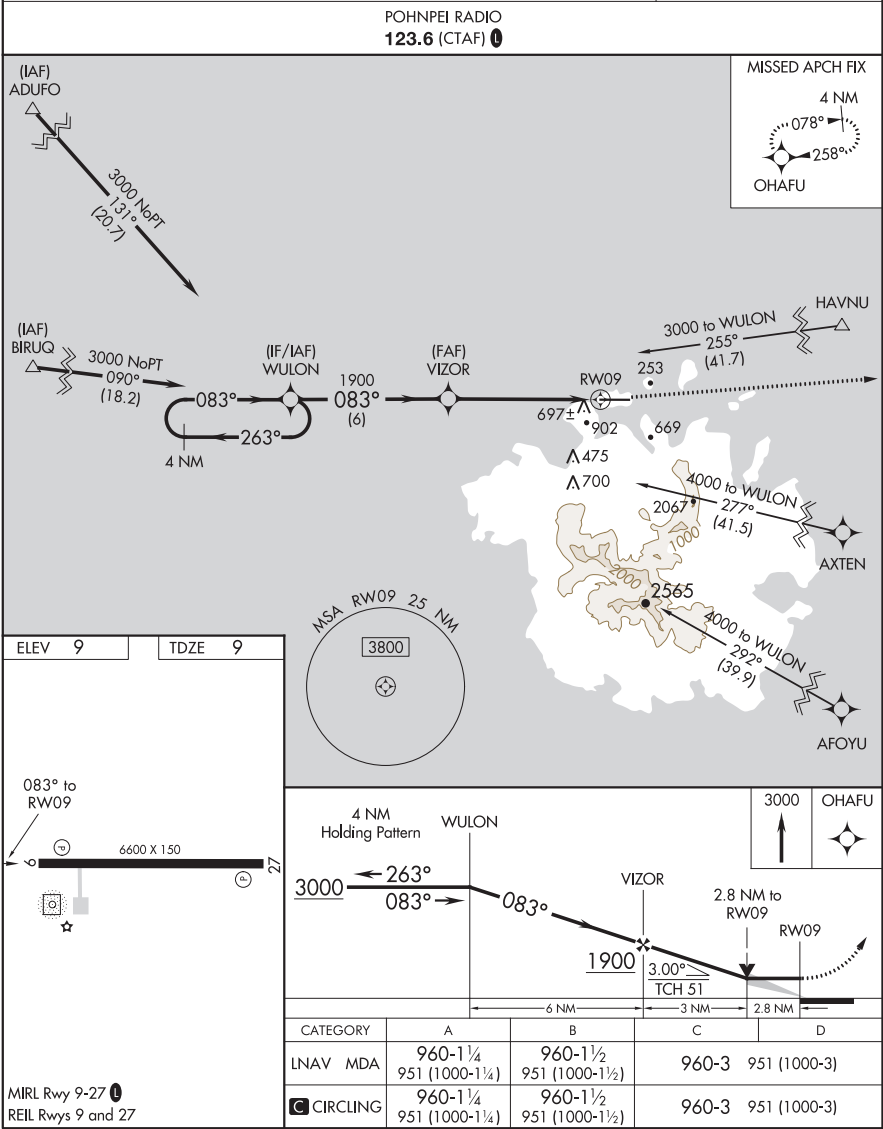
19283

APP CRS	Rwy Idg	6600
083°	TDZE	9
	Apt Elev	9

RNAV (GPS) X RWY 9  
POHNPEI INTL (PNI)(PTPN)

**⚠** Obtain local altimeter setting on CTAF; when not received, procedure NA. Circling NA south of Rwy 9-27. Procedure NA at night except by prior arrangement for runway lights. DME/DME RNP-0.3 NA. No controlled airspace below 5500. Ships with maximum height of 150 feet MSL may traverse Pohnpei Channel 400 feet off approach end of runway, closing airport at times.

**MISSED APPROACH:**  
Climb to 3000 direct OHAFU and hold.





POHNPEI ISLAND, FM

AL-6167 (FAA)

20310

NDB/DME PNI  
**366**

Chan **47 (111.0)**

APP CRS  
**252°**

Rwy Idg  
TDZE  
Apt Elev

**N/A**  
**N/A**  
**9**

**NDB-A**

POHNPEI INTL (PNI)(PTPN)

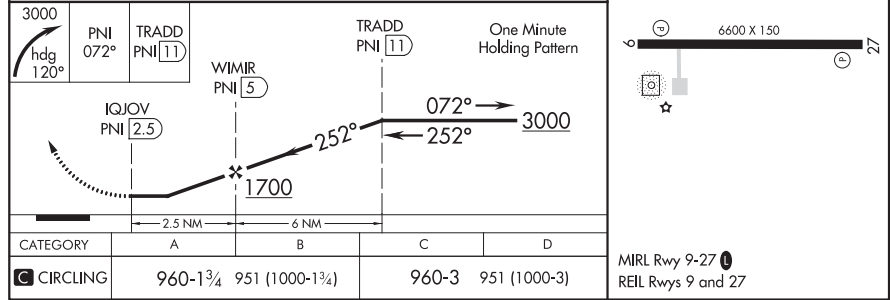
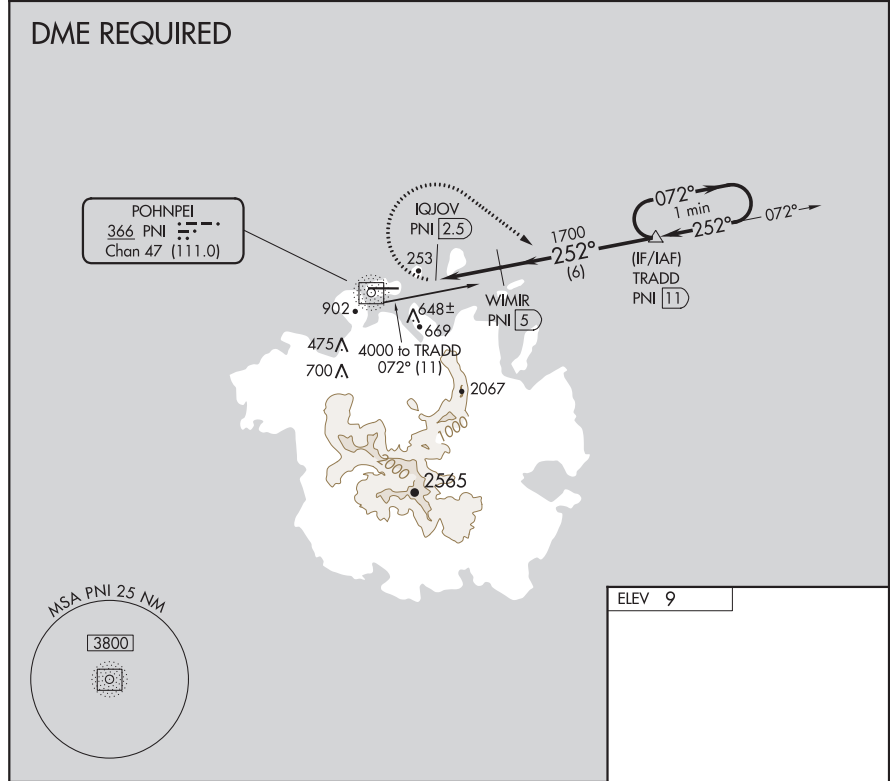
**▼** Obtain local altimeter setting on CTAF; when not received, procedure NA.

**▲** Circling NA south of Rwy 9-27. Procedure NA at night except by prior arrangement for runway lights. DME required. No controlled airspace below 5500 feet. Ships with maximum height of 150 feet MSL may traverse Pohnpei Channel 400 feet off approach end of runway 9, closing airport at times.

MISSED APPROACH: Climbing right turn to 3000 on heading 120° and on PNI NDB bearing 072° to TRADD/PNI 11 DME and hold.

POHNPEI RADIO

123.6 (CTAF) **0**



ROTA ISLAND, CQ

AL-6596 (FAA)

19003

APP CRS	Rwy Idg	7000
093°	TDZE	594
	Apt Elev	607

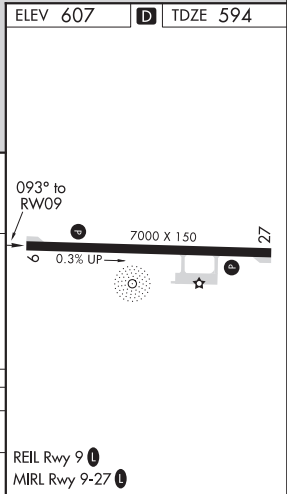
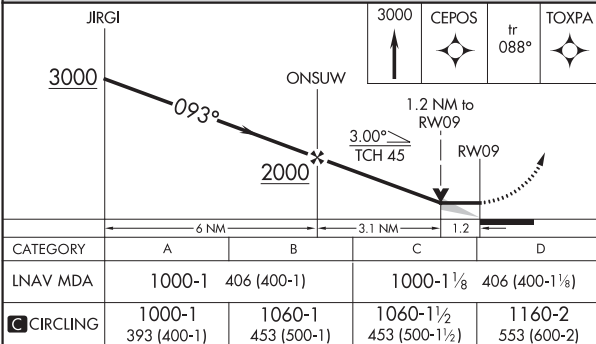
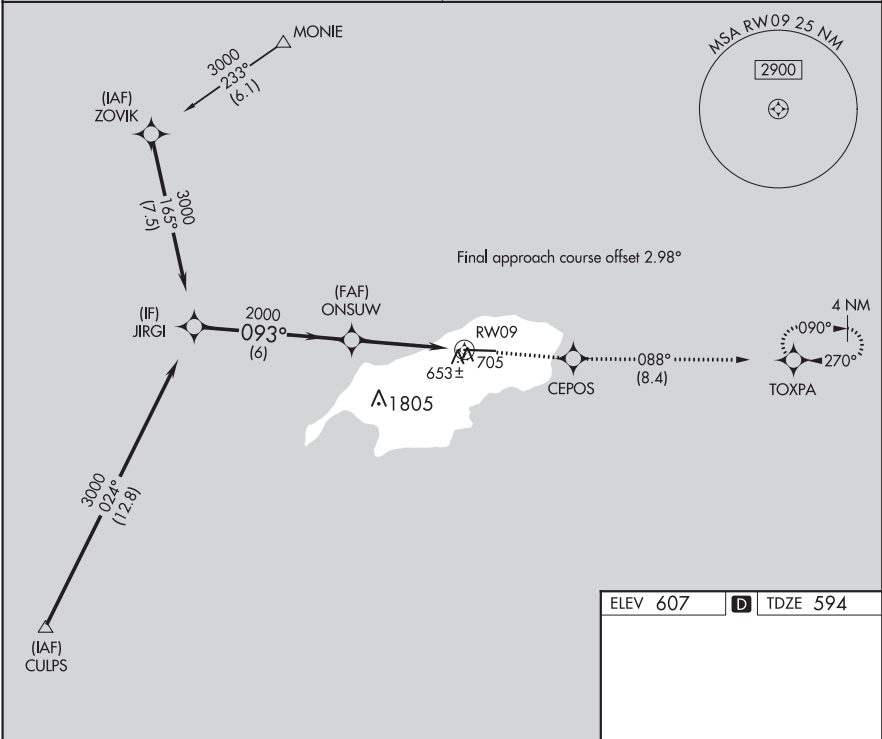
RNAV (GPS) RWY 9

BENJAMIN TAISACAN MANGLONA INTL (GR0)(PGR0)

**⚠** Circling NA south of Rwy 9-27. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Andersen AFB altimeter setting and increase all MDA 320 feet, increase LNAV Cat C, D visibility 7/8 mile, Circling Cat C, D visibility 3/4 mile. VDP NA when using Andersen AFB altimeter setting.

**MISSED APPROACH:** Climb to 3000 direct CEPOS and on track 088° to TOXPA and hold.

GUAM CENTER 120.5 263.0	CTAF 123.6
----------------------------	---------------



ROTA ISLAND, CQ  
Amdt 1A 29MAY14

BENJAMIN TAISACAN MANGLONA INTL (GR0)(PGR0)  
14°10'N-145°14'E  
RNAV (GPS) RWY 9

ROTA ISLAND, CQ

AL-6596 (FAA)

19003

APP CRS  
**270°**

Rwy Idg  
TDZE  
**607**

Apt Elev  
**607**

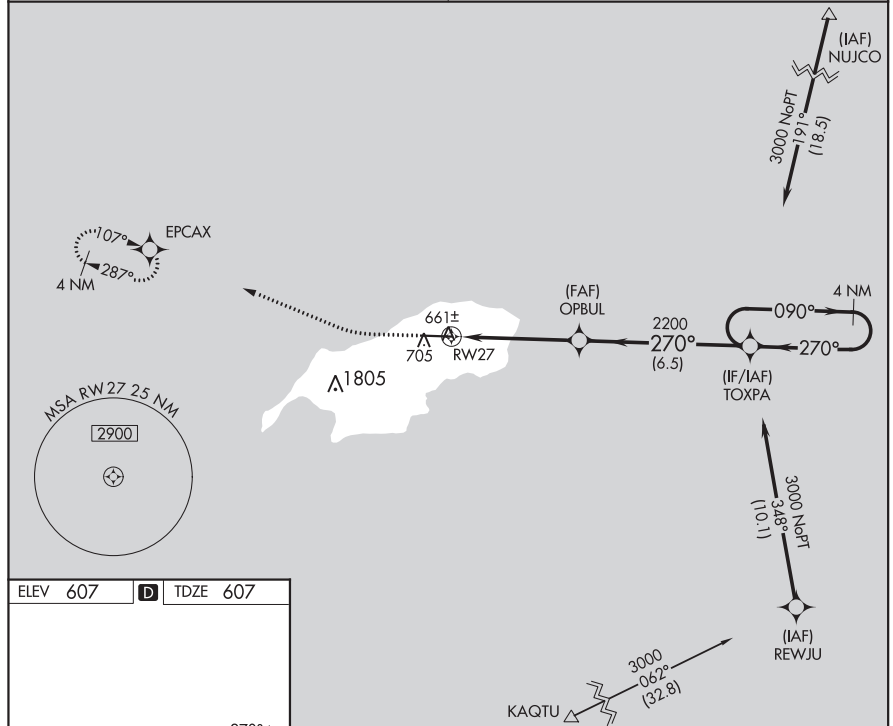
**RNAV (GPS) RWY 27**

BENJAMIN TAISACAN MANGLONA INTL (GRO)(PGRO)

**⚠** Circling NA south of Rwy 9-27. When local altimeter setting not received, use Andersen AFB altimeter setting and increase all MDA 320 feet, increase LNAV Cat B visibility ¼ mile, Cat C visibility 1½ mile, Cat D visibility 1 mile, Circling Cat C visibility 1 mile Cat D visibility ¾ mile. DME/DME RNP -0.3 NA.

MISSED APPROACH: Climb to 1200 then climbing right turn to 3000 direct EPCAX and hold.



GUAM CENTER <b>120.5 263.0</b>	CTAF <b>123.6 0</b>
-----------------------------------	------------------------



ELEV 607 **D** TDZE 607

270° to RWY 27  
7000 X 150  
0.3% UP

REIL Rwy 9 **0**  
MIRL Rwy 9-27 **0**

<div><div><div>1200</div><div>↑</div></div><div><div>3000</div><div></div></div><div><div>EPCAX</div><div></div></div></div> <div><div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> 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ROTA ISLAND, CQ  
Amdt 1A 02MAR17

BENJAMIN TAISACAN MANGLONA INTL (GRO)(PGRO)  
14°10'N-145°14'E

**RNAV (GPS) RWY 27**

ROTA ISLAND, CQ

AL-6596 (FAA)

20310

NDB GRO

332

APP CRS

104°

Rwy Idg

7000

TDZE

594

Apt Elev

607

BENJAMIN TAISACAN MANGLONA INTL (GRO)(PGRO)

NDB RWY 9

▼

▲

When local altimeter setting not received, use Andersen AFB altimeter setting and increase all MDA 320 feet. Circling NA south of Rwy 9-27.

MISSED APPROACH: Climb to 2200 then climbing left turn to 3100 direct GRO NDB and hold.

GUAM CENTER

120.5 263.0

CTAF

123.6

ERTTS UNZ 46

KAQTU UNZ 23

IAF ROTA 332 GRO

MSA GRO 25 NM

2900

1604 ± 705

1805

104°

284°

320°

3100

087° (12.3)

149°

284°

ELEV 607

D

TDZE 594

104° to NDB

7000 X 150

0.3% UP

2200

3100

GRO

Remain within 10 NM

2900

284°

104°

GRO NDB

CATEGORY	A	B	C	D
S-9	1800-1¼ 1206 (1200-1¼)	1800-1½ 1206 (1200-1½)	1800-3	1206 (1200-3)
C CIRCLING	1800-1¼ 1193 (1200-1¼)	1800-1½ 1193 (1200-1½)	1800-3	1193 (1200-3)

REIL Rwy 9

MIRL Rwy 9-27

ROTA ISLAND, CQ

AL-6596 (FAA)

20310

NDB GRO <b>332</b>	APP CRS <b>260°</b>	Rwy Idg TDZE Apt Elev <b>7000</b> <b>607</b> <b>607</b>
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BENJAMIN TAISACAN MANGLONA INTL (GRO)(PGRO)

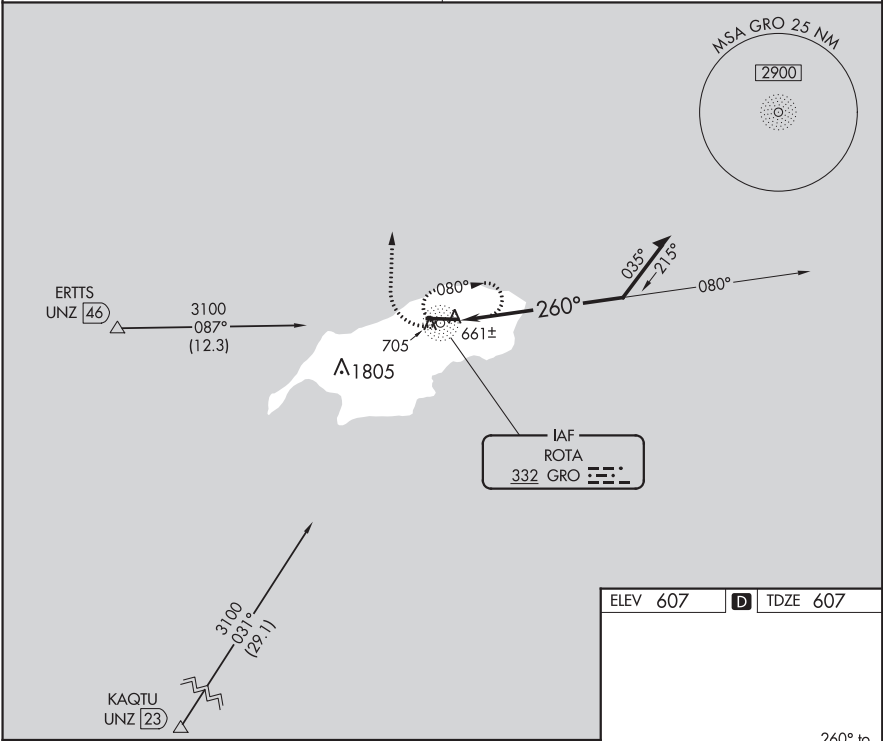
NDB RWY 27

**▼** When local altimeter setting not received, use Andersen AFB altimeter setting and increase all MDA 320 feet, increase S-27 Cat B visibility ¼ mile, Cat C, D visibility 1½ mile, Circling Cat A, B visibility ¼ mile, Cat C 1 mile, Cat D ¾ mile. Circling NA south of Rwy 9-27.

MISSED APPROACH: Climbing right turn to 2000 on heading 360° then continue climbing right turn to 3100 direct GRO NDB and hold.

GUAM CENTER  
**120.5 263.0**

CTAF  
**123.6**



2000 hdg 360°	3100	GRO
------------------	------	-----

GRO NDB

3100

080°

260°

2000

Remain within 10 NM

ELEV 607	<b>D</b>	TDZE 607
----------	----------	----------

The diagram shows the runway layout for RWY 27, including the runway lights, centerline, and approach lights. It also shows the missed approach path starting from the runway, climbing to 2000, then turning right to 360° and climbing to 3100. The diagram includes a scale bar for 7000 X 150 and a note for 0.3% UP.

REIL Rwy 9 **9**  
MIRL Rwy 9-27 **1**

ROTA ISLAND, CQ  
Amdt 4A 02MAR17

BENJAMIN TAISACAN MANGLONA INTL (GRO)(PGRO)  
14°10'N-145°14'E

NDB RWY 27





SAIPAN ISLAND, CQ

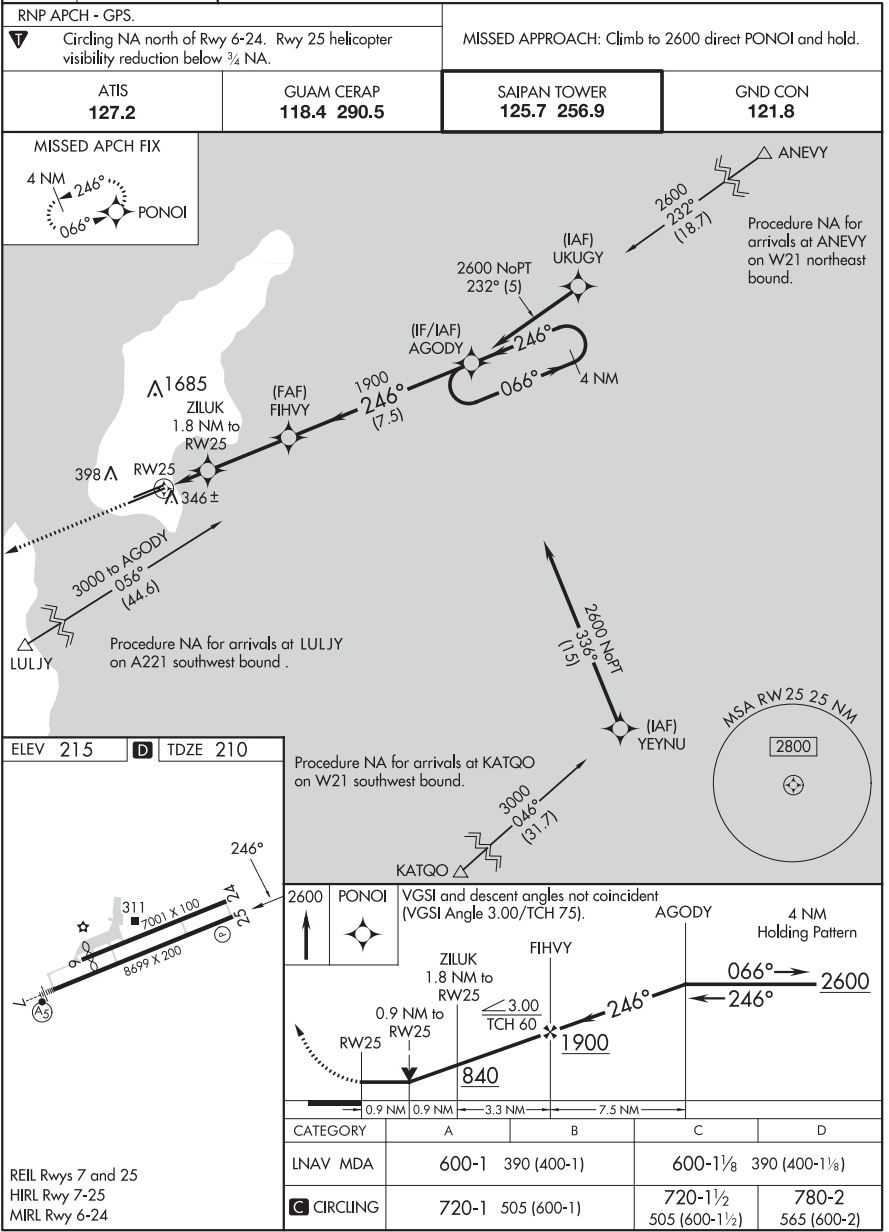
AL-6293 (FAA)

23222

APP CRS	Rwy Idg	8010
246°	TDZE	210
	Apt Elev	215

# RNAV (GPS) RWY 25

FRANCISCO C ADA/SAIPAN INTL (GSN)(PGSN)





SAIPAN ISLAND, CQ

AL-6293 (FAA)

23222

NDB SN <b><u>312</u></b>	APP CRS <b>246°</b>	Rwy Idg TDZE Apt Elev	<b>8010</b> <b>210</b> <b>215</b>
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NDB RWY 25

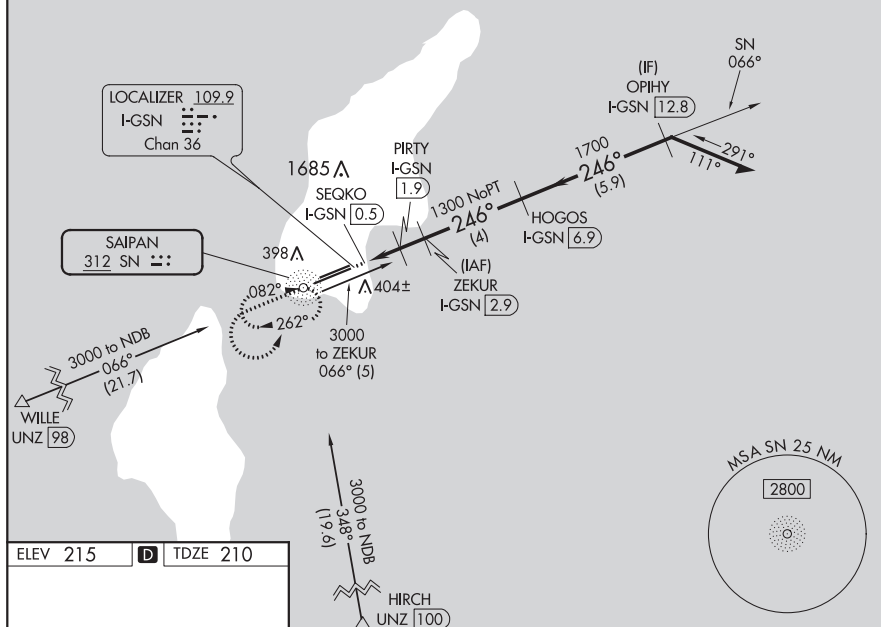
FRANCISCO C ADA/SAIPAN INTL (GSN)(PGSN)

**T** Circling NA north of Rwy 6-24.  
Rwy 25 helicopter visibility reduction below  $\frac{3}{4}$  SM NA.  
DME required.

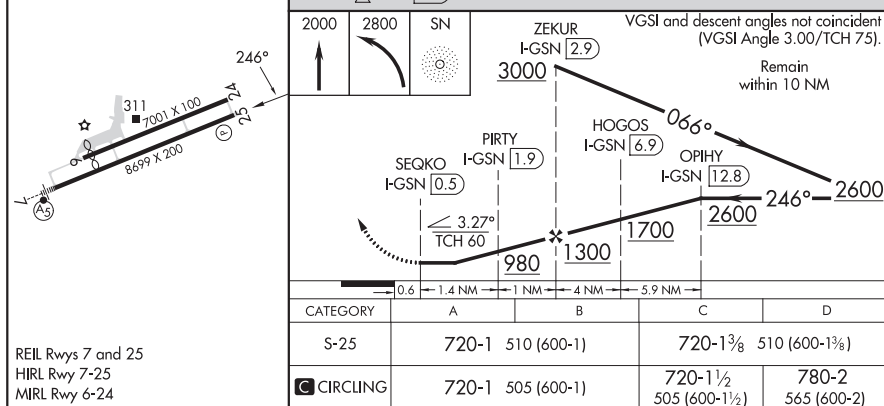
**MISSED APPROACH:** Climb to 2000 then climbing left turn to 2800 direct SN NDB and hold.

ATIS 127.2	GUAM CERAP 118.4 290.5	SAIPAN TOWER 125.7 256.9	GND CON 121.8
---------------	---------------------------	-----------------------------	------------------

## DME REQUIRED



ELEV 215	<b>D</b>	TDZE 210
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REIL Rwys 7 and 25  
HIRL Rwy 7-25  
MIRL Rwy 6-24

SAIPAN ISLAND, CQ  
Amdt 3A 03JAN19

FRANCISCO C ADA/SAIPAN INTL (GSN)(PGSN)

15°07'N-145°44'E

NDB RWY 25

SAIPAN ISLAND, CQ

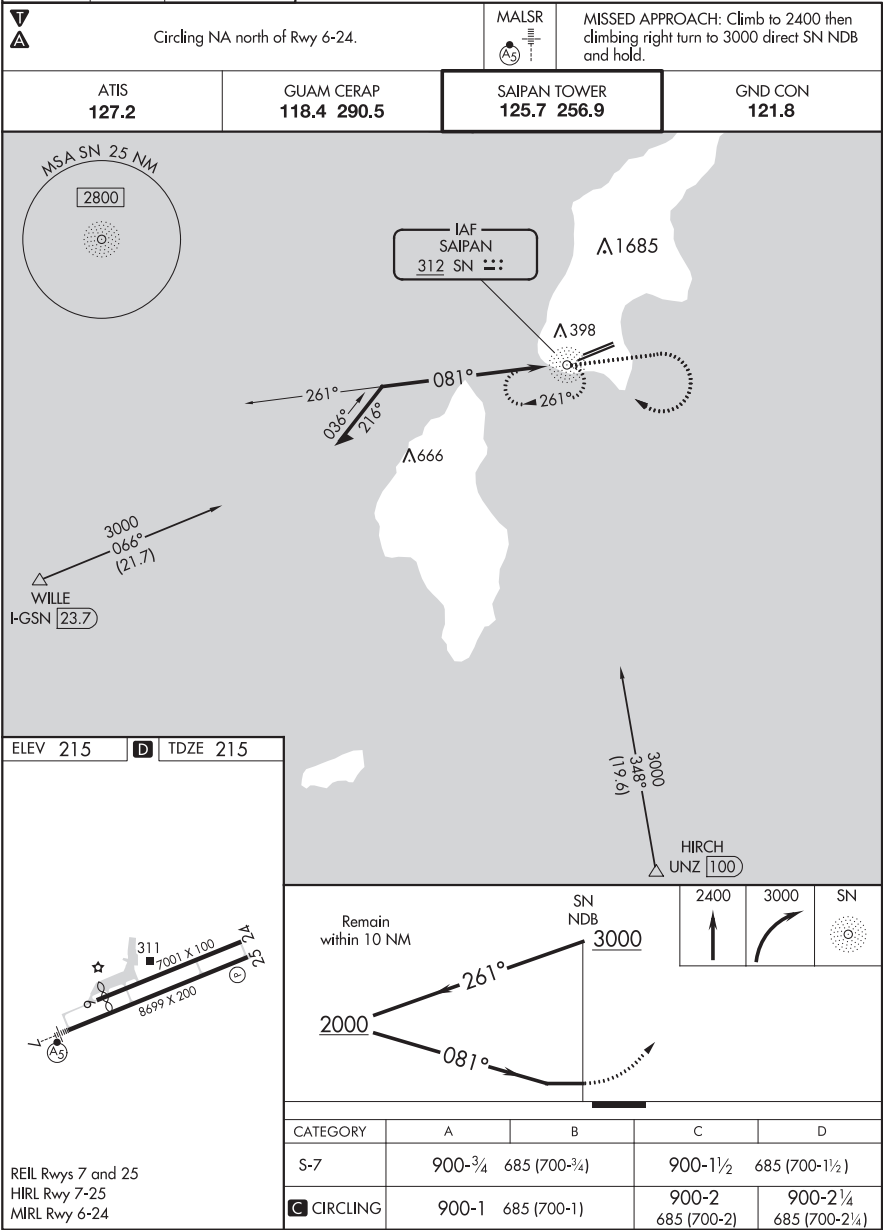
AL-6293 (FAA)

23222

NDB SN	APP CRS	Rwy Idg	8010
312	081°	TDZE	215
		Apt Elev	215

FRANCISCO C ADA/SAIPAN INTL (GSN)(PGSN)

**NDB Y RWY 7**



SAIPAN ISLAND, CQ  
Amdt 6 02MAR17

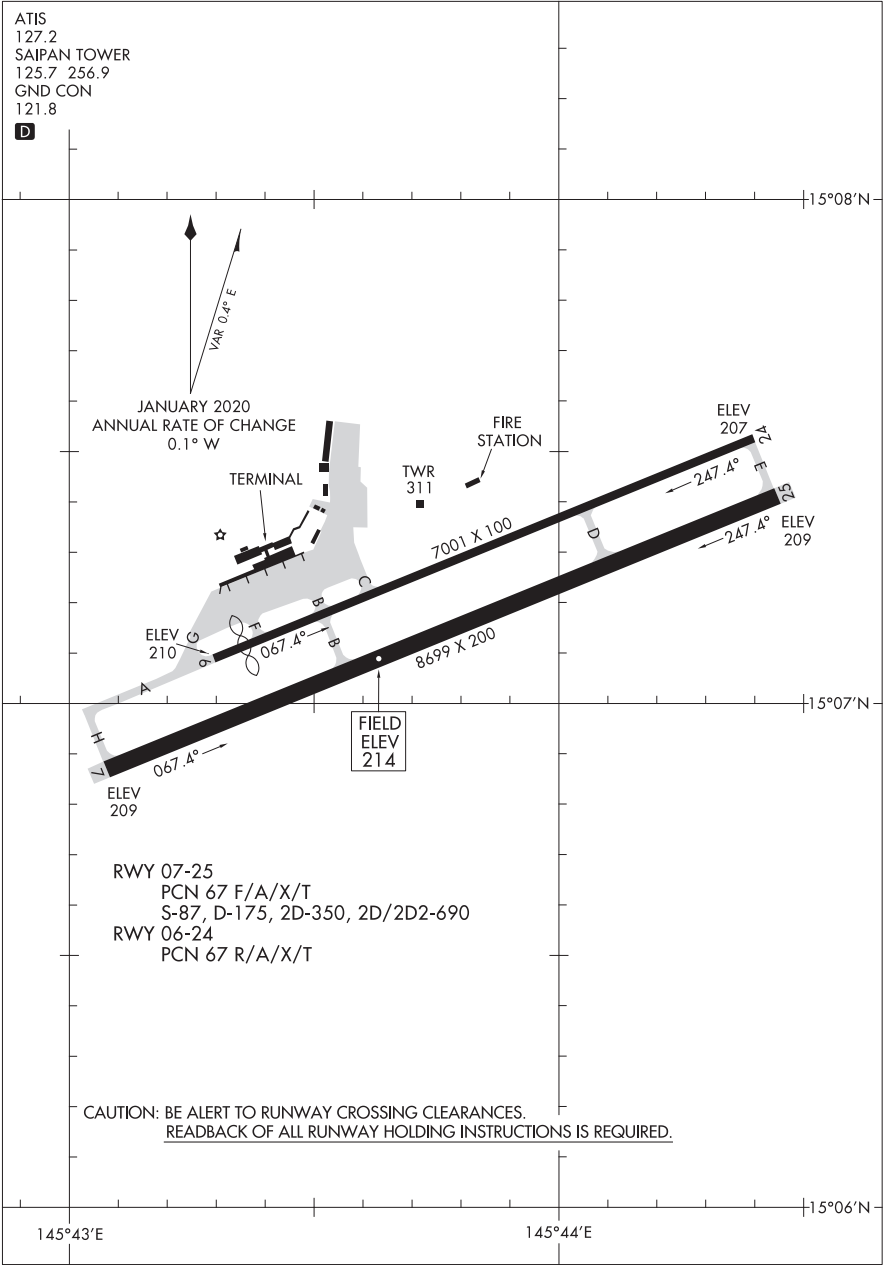
FRANCISCO C ADA/SAIPAN INTL (GSN)(PGSN)  
15°07'N-145°44'E  
**NDB Y RWY 7**



22027

AIRPORT DIAGRAM

FRANCISCO C ADA/SAIPAN INTL (GSN)(PGSN)  
AL-6293 (FAA) SAIPAN ISLAND, CQ



AIRPORT DIAGRAM

22027

SAIPAN ISLAND, CQ  
FRANCISCO C ADA/SAIPAN INTL (GSN)(PGSN)

TINIAN ISLAND, CQ

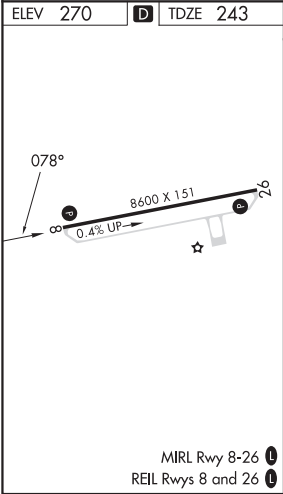
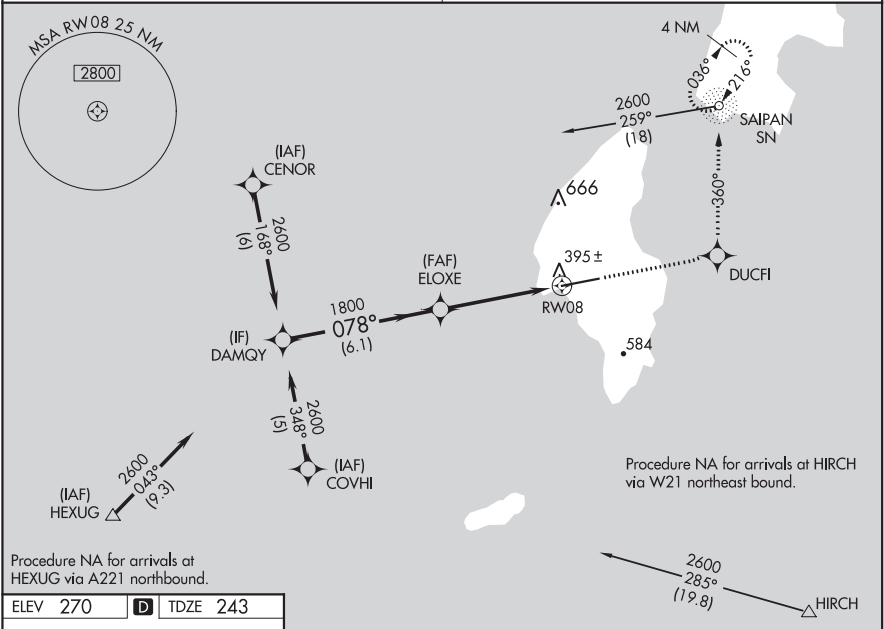
AL-6848 (FAA)

23222

APP CRS	Rwy Idg	8600
078°	TDZE	243
	Apt Elev	270

RNAV (GPS) RWY 8  
FRANCISCO MANGLONA BORJA/TINIAN INTL (TNI)(PGWT)

RNP APCH. ▼ ⚠ Obtain local altimeter setting on CTAF; when not received, use Saipan altimeter setting. VDP NA when using Saipan altimeter setting.	MISSED APPROACH: Climb to 2800 direct DUCFI and via 360° track to SN NDB and hold, continue climb-in-hold to 2800.
GUAM APP CON 118.4 290.5	SAIPAN RADIO 123.6 (CTAF) 0



DAMQY	ELOXE	2800	DUCFI	360° tr	SN
2600	1800	1.2 NM to RW08	RW08		
Procedure Turn NA					
6.1 NM					
3.04° TCH 45					
3.5 NM					
1.2					
CATEGORY	A	B	C	D	
LNAV MDA	660-1	417 (400-1)	660-1¼	417 (400-1¼)	
CIRCLING	760-1 490 (500-1)	860-1 590 (600-1)	1000-2 730 (800-2)	1060-2½ 790 (800-2½)	
SAIPAN ALTIMETER SETTING MINIMUMS					
LNAV MDA	680-1	437 (500-1)	680-1¼ 437 (500-1¼)	680-1½ 437 (500-1½)	
CIRCLING	800-1 530 (600-1)	900-1 630 (700-1)	1040-2¼ 770 (800-2¼)	1100-2¾ 830 (900-2¾)	

TINIAN ISLAND, CQ  
Amdt 1A 26MAR20

FRANCISCO MANGLONA BORJA/TINIAN INTL (TNI)(PGWT)  
15°00'N-145°37'E  
RNAV (GPS) RWY 8

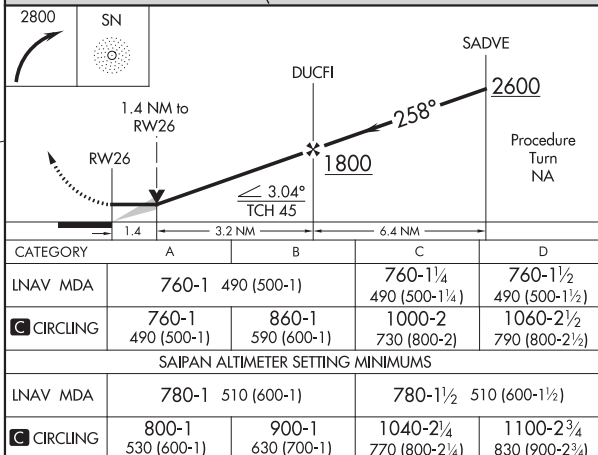
23222

FRANCISCO MANGLONA BORJA/TINIAN INTL (TNI)(PGWT)

**MISSED APPROACH:** Climbing right turn to 2800 direct SN NDB and hold, continue climb-in-hold to 2800.

118.4 290.5

**123.6 (CTAF) L**



Amdt 1A 26MAR20

15° 00'N-145° 37'E

RNAV (GPS) RWY 26

TINIAN ISLAND, CQ

AL-6848 (FAA)

23222

SN NDB  
**312**

APP CRS  
**216°**

Rwy Idg  
TDZE  
Apt Elev  
**N/A**  
**270**

**NDB-A**  
FRANCISCO MANGLONA BORJA/TINIAN INTL (TNI)(PGWT)

NA

Obtain local altimeter setting on CTAF; when not received, use Saipan altimeter setting and increase all MDA 40 feet, and all Cats visibility ¼ SM. Increase UYHEW fix minimums Cats C and D visibility ¼ mile. # DME from I-GSN LOC/DME.

MISSED APPROACH: Climbing right turn to 2800 direct SN NDB and hold.

GUAM APP CON  
**118.4 290.5**

SAIPAN RADIO  
**123.6 (CTAF) 0**

ELEV 270 **D**

216°

8600 X 151

0.4% UP

MIRL Rwy 8-26 **0**  
REIL Rwy 8 and 26 **0**

FAF to MAP 8 NM

Knots	60	90	120	150	180
Min:Sec	8:00	5:20	4:00	3:12	2:40

2800 SN

UYHEW I-GSN 6.6

FIPMU I-GSN 9.9

216°

1060\*

3.3 NM

4.7 NM

2800 SN NDB

036°

216°

2800

\*1100 when using Saipan altimeter setting.

One Minute Holding Pattern

CATEGORY	A	B	C	D
<b>CIRCLING</b>	1060-1 790 (800-1)	1060-2 790 (800-2 ½)	1060-2 790 (800-2 ½)	1060-2 790 (800-2 ½)

# UYHEW FIX MINIMUMS

<b>CIRCLING</b>	1000-1 730 (800-1)	1000-2 730 (800-2)	1060-2 790 (800-2 ½)
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TINIAN ISLAND, CQ  
Amdt 3A 20JUN19

FRANCISCO MANGLONA BORJA/TINIAN INTL (TNI)(PGWT)  
15°00'N-145°37'E

**NDB-A**

PAC, 30 NOV 2023 to 25 JAN 2024

WENO ISLAND, FM

AL-2655 (FAA)

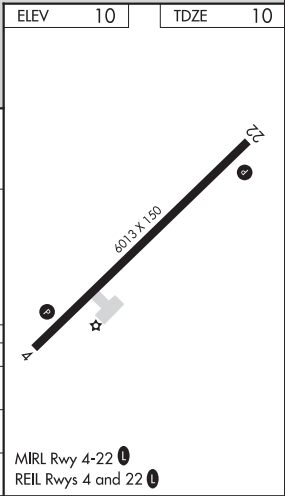
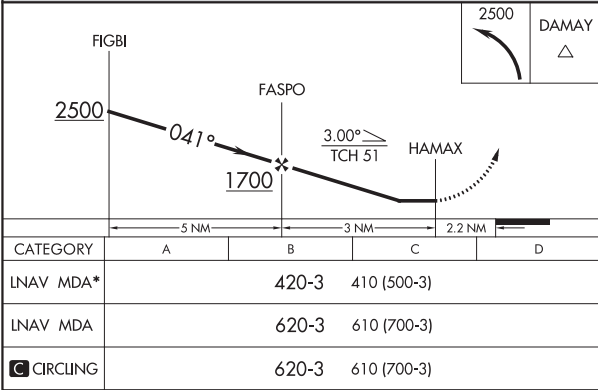
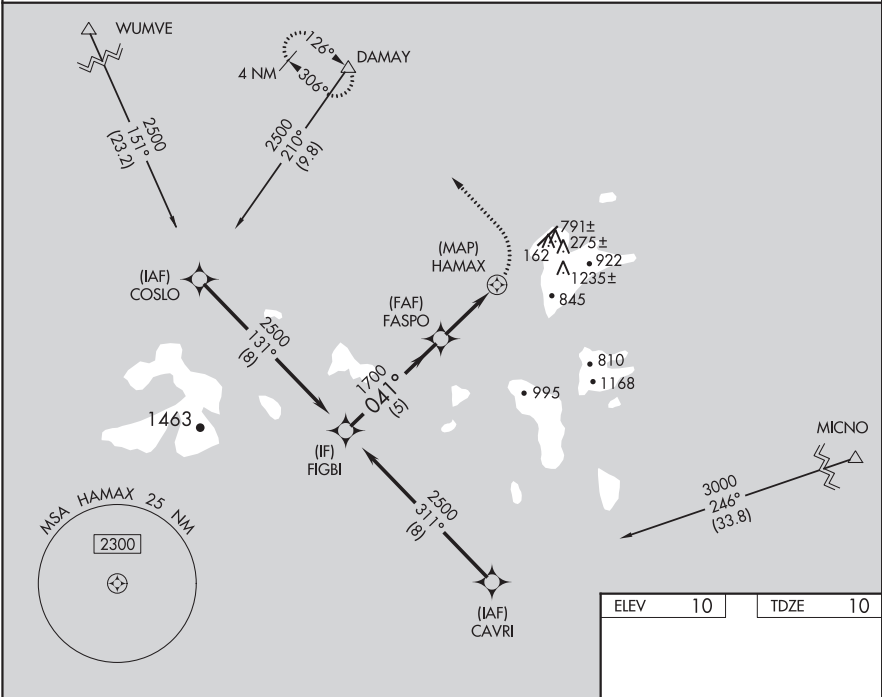
22027

APP CRS	Rwy Idg	6013
041°	TDZE	10
	Apt Elev	10

RNAV (GPS) RWY 4  
 CHUUK INTL (TKK) (PTKK)

RNP APCH.	MISSED APPROACH: Climbing left turn to 2500 direct DAMAY and hold. * Missed approach requires minimum climb of 375 feet per NM to 960.
<div> <div></div> <div>Obtain local altimeter setting on CTAF; when not received, procedure NA.</div> </div> <div> <div></div> <div>Circling NA southeast of Rwy 4-22.</div> </div> <div> <div></div> <div>No controlled airspace below 5500.</div> </div>	

TRUK RADIO  
 123.6 (CTAF)



WENO ISLAND, FM  
 Amdt 1A 28FEB19

07°28'N-151°51'E

CHUUK INTL (TKK) (PTKK)  
 RNAV (GPS) RWY 4



WENO ISLAND, FM

AL-2655 (FAA)

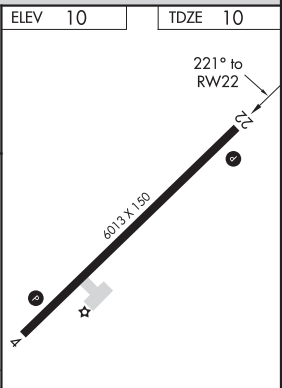
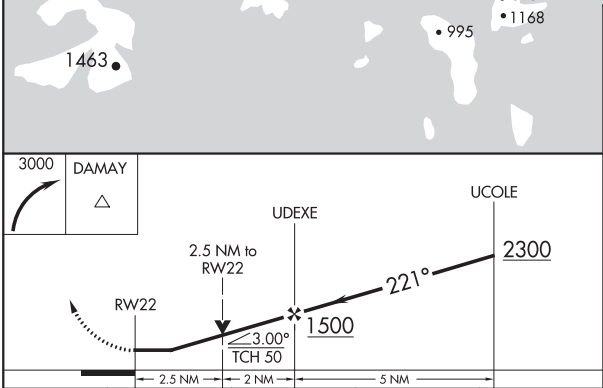
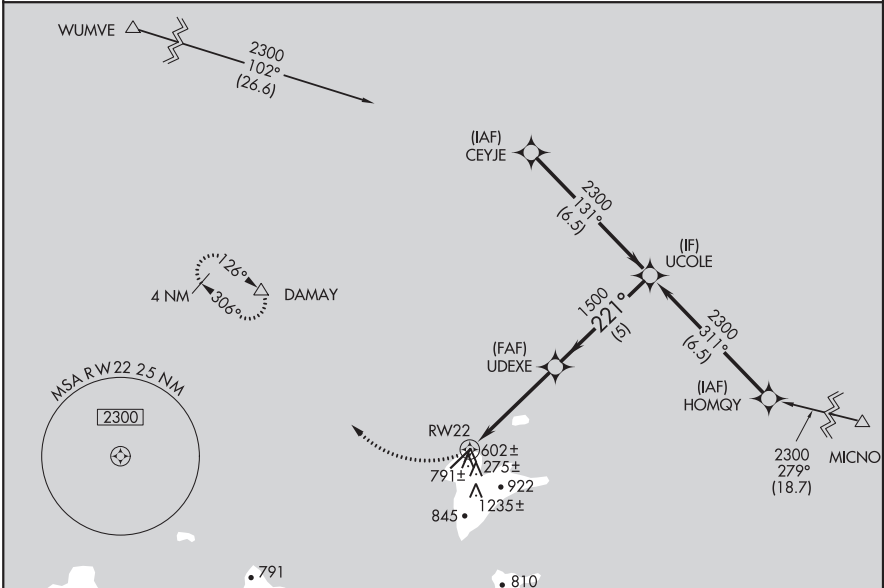
22027

APP CRS	Rwy Idg	6013
221°	TDZE	10
	Apt Elev	10

**RNAV (GPS) RWY 22**  
CHUUK INTL (TKK) (PTKK)

<p><b>RNP APCH.</b></p> <p><b>⚠</b> Circling NA southeast of Rwy 4-22.</p> <p><b>⚠</b> Obtain local altimeter setting on CTAF; when not received, procedure NA.</p> <p>No controlled airspace below 5500.</p>	<p><b>MISSED APPROACH:</b> Climbing right turn to 3000 direct DAMAY and hold.</p>
---	---

TRUK RADIO  
**123.6 0** (CTAF)



CATEGORY	A	B	C	D
LNAV MDA	860-1 850 (900-1)	860-1¼ 850 (900-1¼)	860-2½ 850 (900-2½)	860-2¾ 850 (900-2¾)
<b>C</b> CIRCLING	860-1¼ 850 (900-1¼)	860-2½ 850 (900-2½)	860-2¾ 850 (900-2¾)	860-2¾ 850 (900-2¾)

MIRL Rwy 4-22 0  
REIL Rws 4 and 22 0

WENO ISLAND, FM  
Orig-A 28 FEB19

CHUUK INTL (TKK) (PTKK)  
07°28N-151°51'E

**RNAV (GPS) RWY 22**

WENO ISLAND, FM

AL-2655 (FAA)

19059

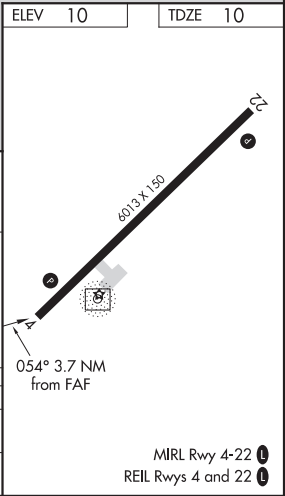
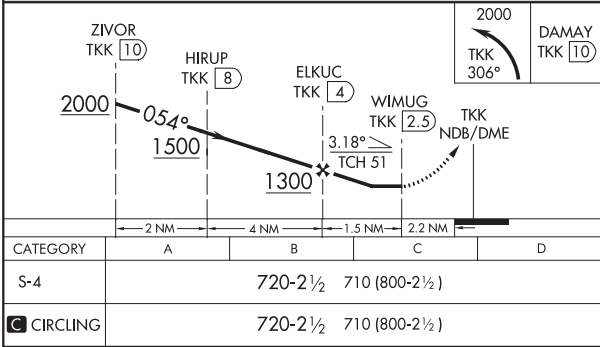
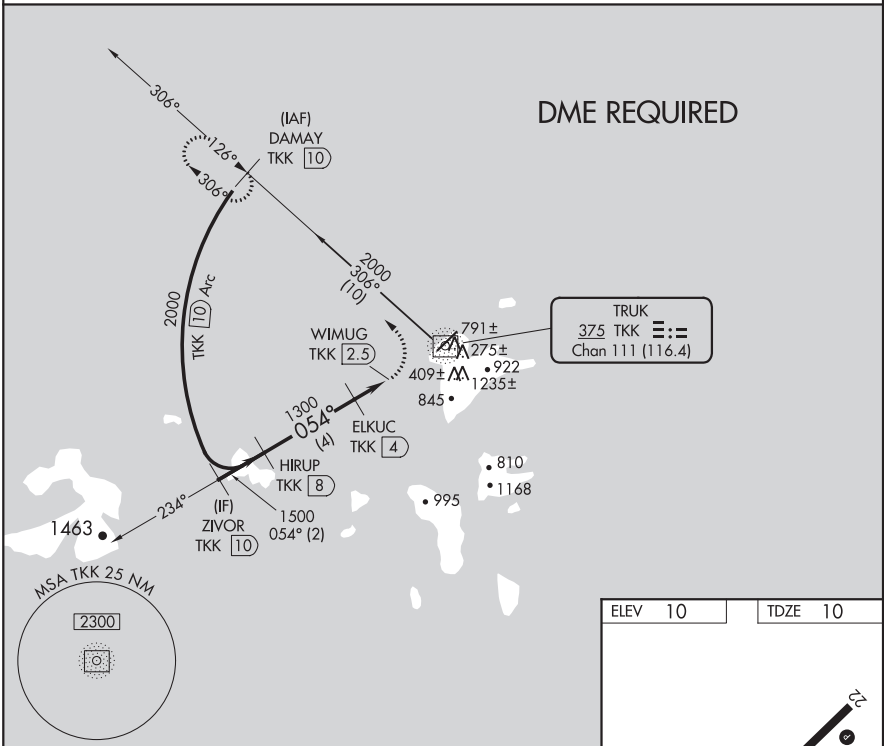
NDB/DME TTK	APP CRS	Rwy Idg	6013
375	054°	TDZE	10
Chan 111 (116.4)		Apt Elev	10

**NDB RWY 4**  
CHUUK INTL (TKK) (PTKK)

- ▼ Obtain local altimeter setting on CTAF; when not received, procedure NA.  
▲ Circling NA southeast of Rwy 4-22. DME required.  
No controlled airspace below 5500.

MISSED APPROACH: Climbing left turn to 2000 on TTK NDB/DME bearing 306° to DAMAY/TKK 10 DME and hold.

TRUK RADIO  
123.6 (CTAF)



WENO ISLAND, FM  
Amdt 1A 28FEB19

07°28'N-151°51'E

CHUUK INTL (TKK) (PTKK)  
**NDB RWY 4**

WENO ISLAND, FM

AL-2655 (FAA)

19059

NDB/DME TTK	375	APP CRS	221°	Rwy Idg	6013
Chan	111 (116.4)	TDZE		Apt Elev	10

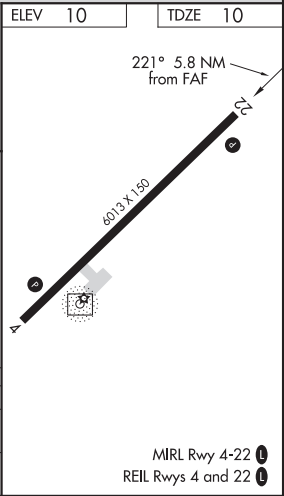
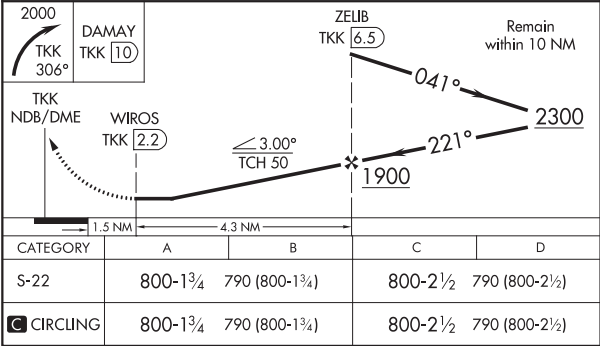
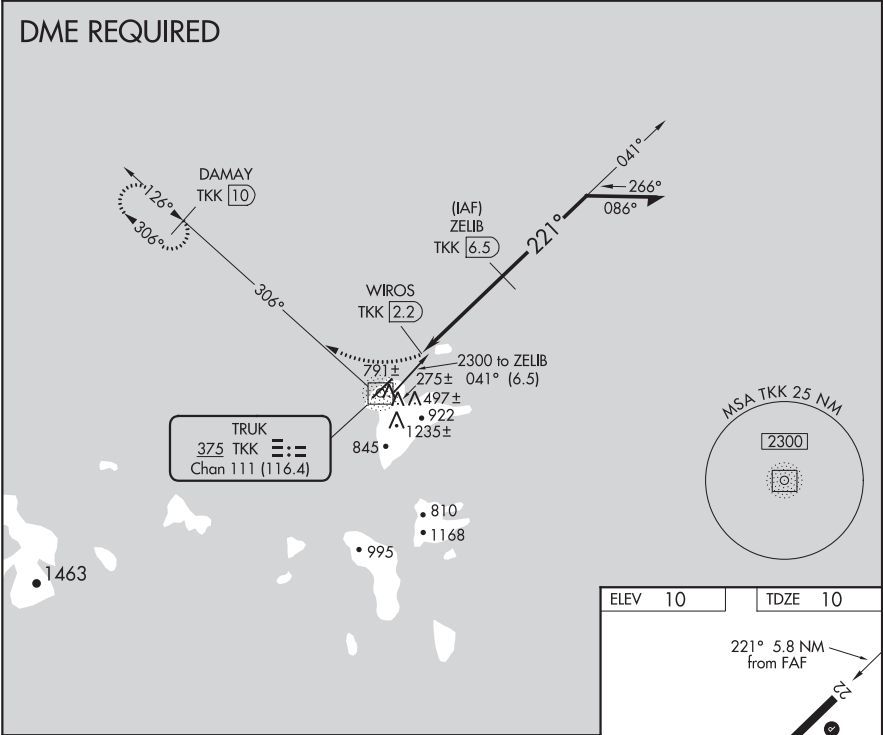
NDB RWY 22  
CHUUK INTL (TKK) (PTKK)

- Obtain local altimeter setting on CTAF; when not received, procedure NA.
- Circling NA southeast of Rwy 4-22. DME Required.
- No controlled airspace below 5500.

MISSED APPROACH: Climbing right turn to 2000 on BRG-306 from TTK NDB/DME to DAMAY/TKK 10 DME and hold.

TRUK RADIO  
123.6 (CTAF)

DME REQUIRED



WENO ISLAND, FM  
Orig-A 28FEB19

07°28'N-151°51'E

CHUUK INTL (TKK) (PTKK)  
NDB RWY 22

YAP ISLAND, FM

AL-6048 (FAA)

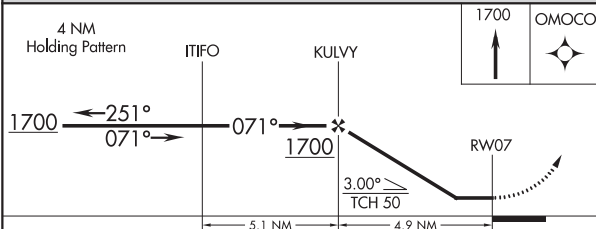
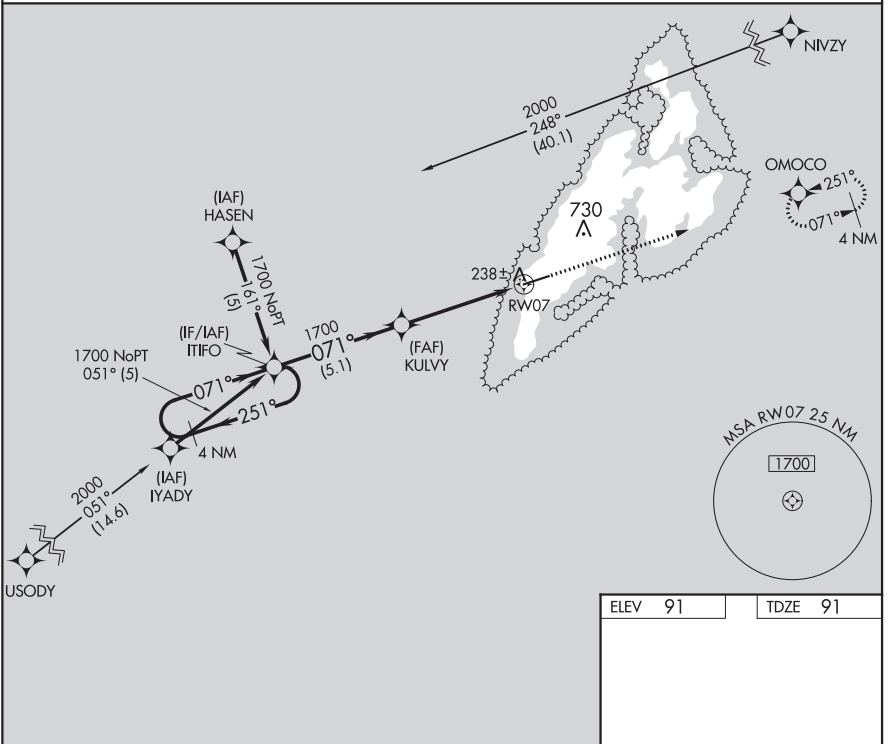
22027

APP CRS	Rwy Idg	6000
071°	TDZE	91
	Apt Elev	91

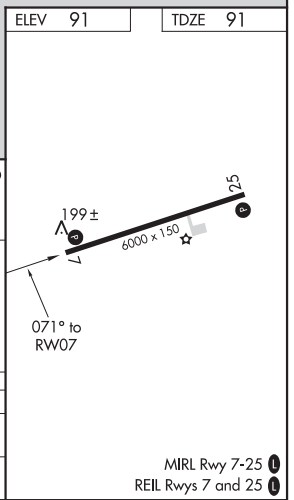
RNAV (GPS) RWY 7  
YAP INTL (T11)(PTYA)

<p>Obtain local altimeter setting on CTAF; when not received, procedure not authorized. Circling NA North of Rwy 7-25. DME/DME RNP-0.3 NA. No controlled airspace below 5500'.</p>	<p>MISSED APPROACH: Climb to 1700 direct OMOCO WP and hold.</p>
--	---

YAP RADIO  
123.6 (CTAF)



CATEGORY	A	B	C	D
RNAV MDA	600-1	509 (600-1)	600-1½	509 (600-1½)
CIRCLING	600-1	509 (600-1)	600-1½ 509 (600-1½)	660-2 569 (600-2)



YAP ISLAND, FM  
Orig-A 11MAY06

09°30'N-138°05'E

YAP INTL (T11)(PTYA)  
RNAV (GPS) RWY 7

YAP ISLAND, FM

AL-6048 (FAA)

22027

APP CRS  
251°

Rwy Idg  
6000

TDZE  
89

Apt Elev  
91

RNAV (GPS) RWY 25  
YAP INTL (T11)(PTYA)

▼

Obtain local altimeter setting on CTAF; when not received, procedure not authorized.  
Circling NA North of Rwy 7-25. DME/DME RNP-0.3 NA.  
No controlled airspace below 5500'.

MISSED APPROACH: Climb to 1700 direct ITIFO WP and hold.

YAP RADIO  
123.6 (CTAF)

1700

ITIFO

KEENG

OMOCO

4 NM Holding Pattern

RW25

1700

251°

071°

1700

251°

4.9 NM

5.1 NM

CATEGORY	A	B	C	D
LNAV MDA	700-1 611 (700-1)		700-1¾ 611 (700-1¾)	700-2 611 (700-2)
CIRCLING	700-1 609 (700-1)		700-1¾ 609 (700-1¾)	700-2 609 (700-2)

199±

6000 x 150

25

251° to RW25

MIRL Rwy 7-25

REIL Rwys 7 and 25

YAP ISLAND, FM

Orig-A 11MAY06

09°30'N-138°05'E

RNAV (GPS) RWY 25

YAP INTL (T11)(PTYA)

PAC, 30 NOV 2023 to 25 JAN 2024

YAP ISLAND, FM

AL-6048 (FAA)

22027

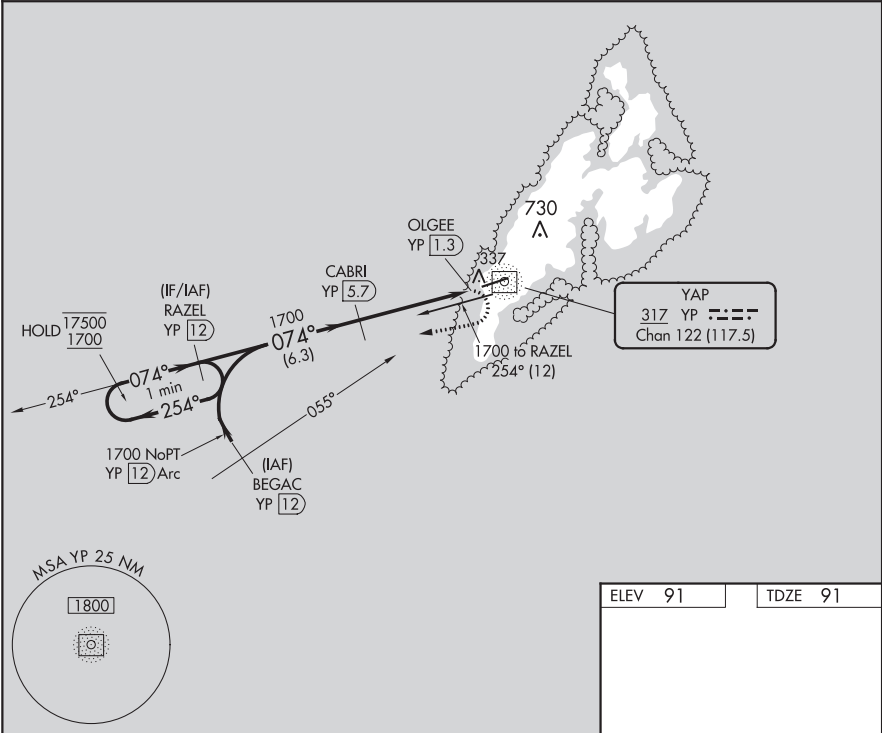
NDB/DME YP	APP CRS	Rwy Idg	6000
<b>317</b>	<b>074°</b>	TDZE	<b>91</b>
Chan <b>122 (117.5)</b>		Apt Elev	<b>91</b>

**NDB/DME RWY 7**  
 YAP INTL (T11)(PTYA)

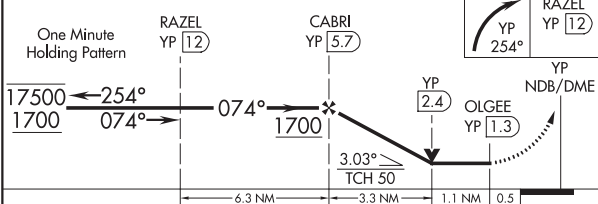
**▼** Circling NA north of Rwy 7-25.  
 Rwy 7 helicopter visibility reduction below ¾ SM NA.  
 GPS required for procedure entry at BEGAC.  
 No controlled airspace below 5500.

MISSED APPROACH: Climbing right turn to 1700 on 254° bearing from YP NDB/DME to RAZEL/12 DME and hold.

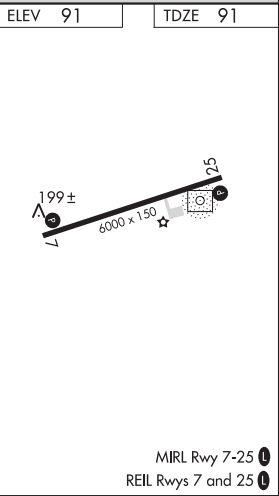
YAP RADIO  
**123.60** (CTAF)



VGSi and descent angles not coincident (VGSi Angle 3.00/TCH 47).



CATEGORY	A	B	C	D
S-7	640-1	549 (600-1)	640-1½	549 (600-1½)
<b>C</b> CIRCLING	640-1	549 (600-1)	640-1½	660-2
			549 (600-1½)	569 (600-2)



YAP ISLAND, FM  
 Amdt 2B 27JAN22

09°30'N-138°05'E

YAP INTL (T11)(PTYA)  
**NDB/DME RWY 7**

YAP ISLAND, FM

NDB/DME YP

**317**

Chan

**122 (117.5)**

APP CRS

**237°**

Rwy Idg

**6000**

TDZE

**90**

Apt Elev

**91**

AL-6048 (FAA)

22027

NDB/DME RWY 25

YAP INTL (T11)(PTYA)

▼

▲

Circling NA north of Rwy 7-25.  
No controlled airspace below 5500.

MISSED APPROACH: Climbing left turn to 1800 on 057° bearing from YP NDB/DME to ADABE/11.1 DME and hold.

YAP RADIO

**123.6** (CTAF)

ELEV 91

TDZE 90

CATEGORY	A		B		C		D	
	S-25		S-25		S-25		S-25	
CIRCLING	1040-1¼ 950 (1000-1¼)		1040-1½ 950 (1000-1½)		1040-3 950 (1000-3)		1040-3 950 (1000-3)	
	1040-1¼ 949 (1000-1¼)		1040-1½ 949 (1000-1½)		1040-3 949 (1000-3)		1040-3 949 (1000-3)	

YAP ISLAND, FM

Orig-C 27JAN22

09°30'N-138°05'E

NDB/DME RWY 25

YAP INTL (T11)(PTYA)

PAC, 30 NOV 2023 to 25 JAN 2024

YAP ISLAND, FM

AL-6048 (FAA)

22027

NDB/DME YP <b>317</b> Chan <b>122 (117.5)</b>	APP CRS <b>074°</b>	Rwy Idg TDZE Apt Elev	<b>6000</b> <b>91</b> <b>91</b>
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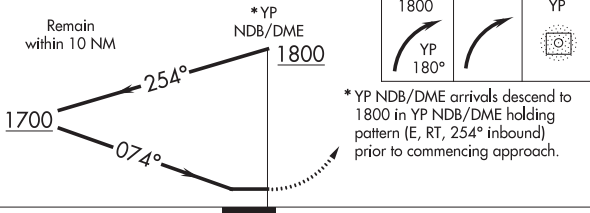
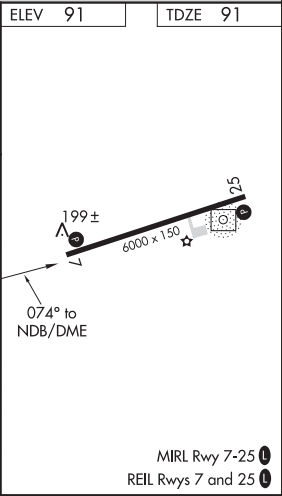
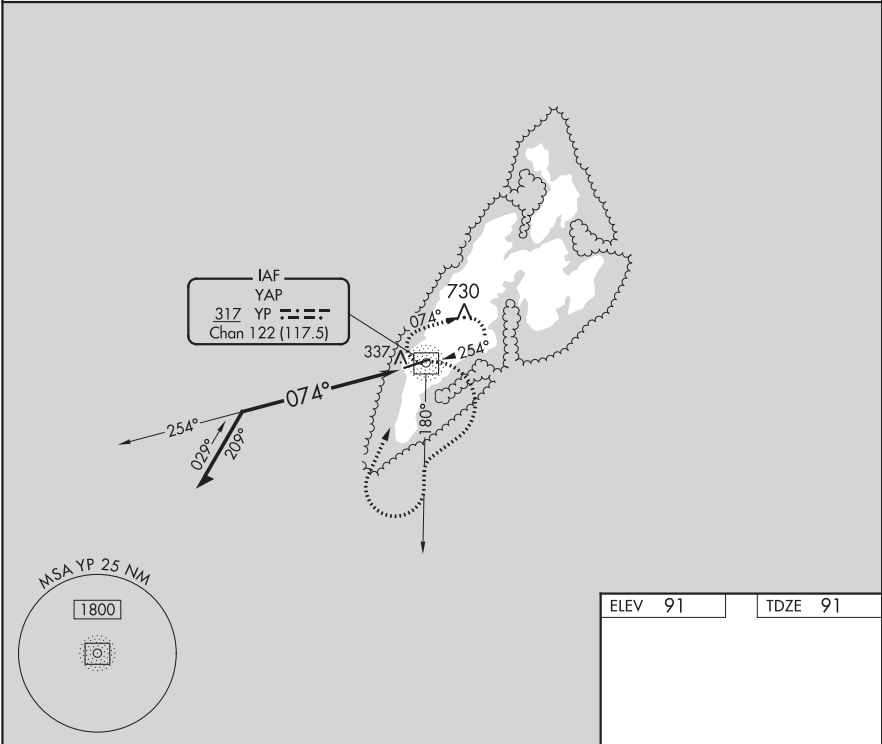
**NDB RWY 7**  
YAP INTL (T11)(PTYA)



Circling NA north of Rwy 7-25.  
Rwy 7 helicopter visibility reduction below  $\frac{3}{4}$  SM NA.  
No controlled airspace below 5500 feet.

MISSED APPROACH: Climbing right turn to 1800  
on 180° bearing from YP NDB/DME then right turn  
direct YP NDB/DME and hold.

YAP RADIO  
**123.60** (CTAF)



CATEGORY	A	B	C	D
S-7	820-1	729 (800-1)	820-2	729 (800-2)
CIRCLING	820-1	729 (800-1)	820-2 729 (800-2)	820-2 1/4 729 (800-2 1/4)

YAP ISLAND, FM  
Amdt 2B 27JAN22

09°30'N-138°05'E

YAP INTL (T11)(PTYA)  
**NDB RWY 7**



YAP ISLAND, FM

AL-6048 (FAA)

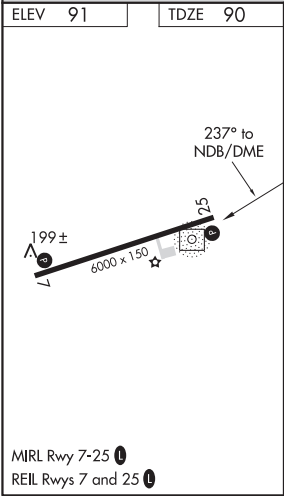
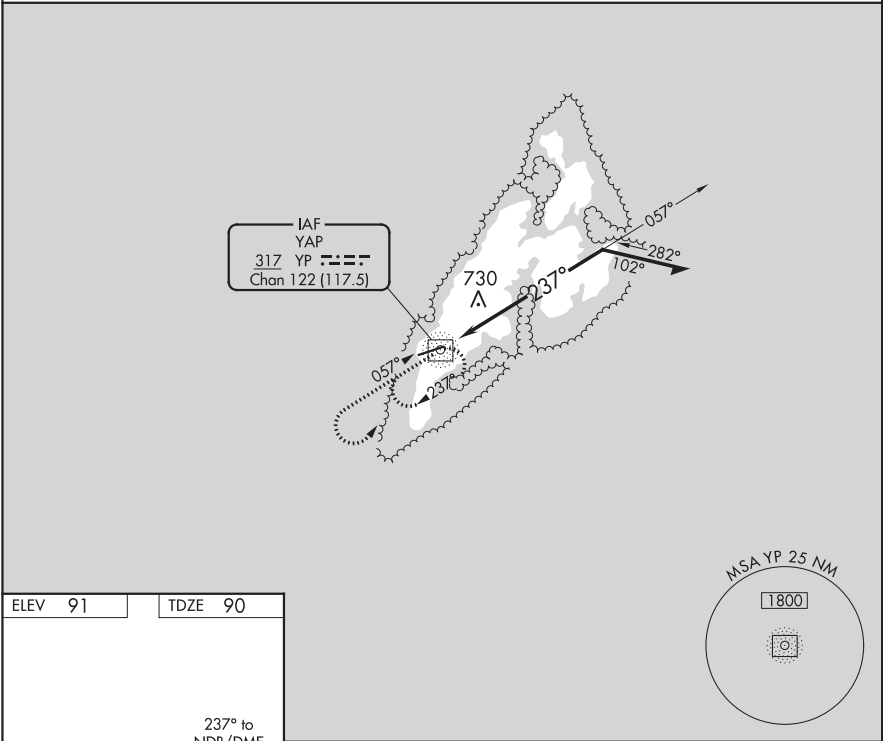
22027




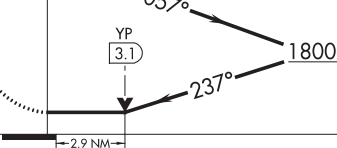

NDB/DME YP <b>317</b> Chan <b>122 (117.5)</b>	APP CRS <b>237°</b>	Rwy Idg <b>6000</b> TDZE <b>90</b> Apt Elev <b>91</b>	<b>NDB RWY 25</b> YAP INTL (T11)(PTYA)
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<div><div>▼</div><div>▲</div></div> <div>Circling NA north of Rwy 7-25. No controlled airspace below 5500.</div>	MISSED APPROACH: Climb to 1800 then left turn direct YP NDB/DME and hold.
--	---

YAP RADIO

123.6  (CTAF)



1800	YP	*YP NDB/DME	Remain within 10 NM
			
*YP NDB/DME arrivals descend to 1800 in YP NDB/DME holding pattern (SW, RT, 057° inbound) prior to commencing approach.			
			
CATEGORY	A	B	C D
S-25	1080-1¼ 990 (1000-1¼)	1080-1½ 990 (1000-1½)	1080-3 990 (1000-3)
 CIRCLING	1080-1¼ 989 (1000-1¼)	1080-1½ 989 (1000-1½)	1080-3 989 (1000-3)

YAP ISLAND, FM  
Orig-C 27JAN22

09°30'N-138°05'E

YAP INTL (T11)(PTYA)  
**NDB RWY 25**

**INTENTIONALLY  
LEFT  
BLANK**

**INTENTIONALLY  
LEFT  
BLANK**

# TERMINAL PROCEDURES

21224

INSTRUMENT TAKEOFF OR APPROACH PROCEDURE CHARTS RATE OF CLIMB/DESCENT TABLE (ft per min)													
A rate of climb/descent table is provided for use in planning and executing climbs or descents under known or approximate ground speed conditions. It will be especially useful for approaches when the localizer only is used for course guidance. A best speed, power, altitude combination can be programmed which will result in a stable glide rate and altitude favorable for executing a landing if minimums exists upon breakout. Care should always be exercised so that minimum descent altitude and missed approach point are not exceeded.													
ft/NM	%	GROUND SPEED (knots)											ANGLE
		60	90	120	150	180	210	240	270	300	330	360	
152	2.50	150	230	300	380	460	530	610	680	760	840	910	1.43
200	3.29	200	300	400	500	600	700	800	900	1000	1100	1200	1.89
210	3.46	210	320	420	530	630	740	840	950	1050	1160	1260	1.98
220	3.62	220	330	440	550	660	770	880	990	1100	1210	1320	2.07
230	3.79	230	350	460	580	690	810	920	1040	1150	1270	1380	2.17
240	3.95	240	360	480	600	720	840	960	1080	1200	1320	1440	2.26
250	4.11	250	380	500	630	750	880	1000	1130	1250	1380	1500	2.36
260	4.28	260	390	520	650	780	910	1040	1170	1300	1430	1560	2.45
270	4.44	270	410	540	680	810	950	1080	1220	1350	1490	1620	2.54
280	4.61	280	420	560	700	840	980	1120	1260	1400	1540	1680	2.64
290	4.77	290	440	580	730	870	1020	1160	1310	1450	1600	1740	2.73
300	4.94	300	450	600	750	900	1050	1200	1350	1500	1650	1800	2.83
310	5.10	310	470	620	780	930	1090	1240	1400	1550	1710	1860	2.92
320	5.27	320	480	640	800	960	1120	1280	1440	1600	1760	1920	3.01
330	5.43	330	500	660	830	990	1160	1320	1490	1650	1820	1980	3.11
340	5.60	340	510	680	850	1020	1190	1360	1530	1700	1870	2040	3.20
350	5.76	350	530	700	880	1050	1230	1400	1580	1750	1930	2100	3.30
360	5.92	360	540	720	900	1080	1260	1440	1620	1800	1980	2160	3.39
370	6.09	370	560	740	930	1110	1300	1480	1670	1850	2040	2220	3.48
380	6.25	380	570	760	950	1140	1330	1520	1710	1900	2090	2280	3.58
390	6.42	390	590	780	980	1170	1370	1560	1760	1950	2150	2340	3.67
400	6.58	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400	3.77
450	7.41	450	680	900	1130	1350	1580	1800	2030	2250	2480	2700	4.24
500	8.23	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	4.70
550	9.05	550	830	1100	1380	1650	1930	2200	2480	2750	3030	3300	5.17

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