

AD 2 AERODROMES

RODN AD 2.1 AERODROME LOCATION INDICATOR AND NAME

RODN - KADENA

RODN AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

1	ARP coordinates and site at AD	262120.20N/1274603.48E
2	Direction and distance from (city)	1.3nm SE of KADENA
3	Elevation/ Reference temperature	143ft(43.6m) / -
4	Geoid undulation at AD ELEV PSN	Nil
5	MAG VAR/ Annual change	4.0° W(2009) / 0.0°
6	AD Administration, address, telephone, telefax, telex, AFS, e-mail and/or Web-site addresses	USAF Airfield Operations Flight, 18th Operations Support Squadron, Kadena AB, JAPAN Unit 5177 Box 10, APO, AP 96368-5177 Tel: 098-961-3410 Fax: 098-961-3410 AFTN: RODNXYXY Web: http://www.kadena.af.mil
7	Types of traffic permitted (IFR/ VFR)	IFR/VFR
8	Remarks	18th Wing Command Post, Kadena AB, JAPAN Tel: 098-961-1800

RODN AD 2.3 OPERATIONAL HOURS

1	AD Administration	H24
2	Customs and immigration	Nil
3	Health and sanitation	Nil
4	AIS Briefing Office	H24
5	ATS Reporting Office(ARO)	Nil
6	MET Briefing Office	H24
7	ATS	H24
8	Fuelling	H24
9	Handling	H24
10	Security	H24
11	De-icing	Nil
12	Remarks	Services require prior coordination and approval or expect operational delays.

RODN AD 2.4 HANDLING SERVICES AND FACILITIES

1	Cargo-handling facilities	Nil
2	Fuel/ oil types	Fuel grades: JET - JP8 Other: 80 (Aero club use only), and 115. FLUID - W, SP, PRESAIR, LHOX, LOX Oil grades: 0-148,156, SOAP
3	Fuelling facilities/ capacity	Fuel truck refueling./No limitation
4	De-icing facilities	Nil
5	Hangar space for visiting aircraft	H24. Requires prior coordination and approval. Transient aircraft expect 30 minute delay.
6	Repair facilities for visiting aircraft	Nil
7	Remarks	Fuel is provided by contract with the Defense Energy Supply Center (DESC) or via cash only. Credit cards or checks will not be accepted. Credit with DESC must be obtained prior to arrival and validated through a DD Form 1896, Fuels Identaplate.

RODN AD 2.5 PASSENGER FACILITIES

1	Hotels	Off-base within local commuting area.
2	Restaurants	Off-base within local commuting area.
3	Transportation	Off-base taxis and buses.
4	Medical facilities	Off-base ambulance. Off-base hospital in Okinawa City 5 km.
5	Bank and Post Office	Off-base within local commuting area.
6	Tourist Office	Off-base within local commuting area.
7	Remarks	Nil

RODN AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

1	AD category for fire fighting	Nil
2	Rescue equipment	Chemical fire fighting truck Ambulance Water supply truck
3	Capability for removal of disabled aircraft	Nil
4	Remarks	Nil

RODN AD 2.7 SEASONAL AVAILABILITY-CLEARING

1	Types of clearing equipment	Nil
2	Clearance priorities	Nil
3	Remarks	Nil

RODN AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS DATA

1	Apron surface and strength	For details contact Airfield Management (refer to AD Administration section)																												
2	Taxiway width, surface and strength	<div>1. Taxiways for Kadena AB include: The Northeast Connector. Running north to south intersecting the runways are taxiways Alpha, Bravo, Charlie, Delta, Echo and Foxtrot. Taxiway Hotel runs north to south between taxiways Golf and Kilo. Running west to east are taxiways Golf, Juliet, Kilo, Lima, Mike, November, and Papa.</div> <div>2. TWY widths. All taxiways are 75 feet wide except as noted in the table below.</div> <table><tr><th>TWY</th><th>Between RWY05L and TWY Lima</th><th>Between RWY05L and RWY05R</th><th>Between RWY05R and TWY Kilo</th></tr><tr><td>Alpha</td><td>105ft</td><td>82ft</td><td>94ft</td></tr><tr><td>Bravo</td><td>442ft</td><td>295ft</td><td>295ft</td></tr><tr><td>Charlie</td><td>96ft</td><td>--</td><td>--</td></tr><tr><td>Delta</td><td>96ft</td><td>--</td><td>--</td></tr><tr><td>Echo</td><td>96ft</td><td>--</td><td>100ft</td></tr><tr><td>Foxtrot</td><td>442ft</td><td>--</td><td>295ft</td></tr></table> <div>3. TWY Visual Blind Spots. Taxiways November, Papa, and Kilo between Taxiways Echo and Foxtrot, Taxiway Hotel, Spots 1-50 on the Upper Fighter Ramp (UFR), and the intersection of Taxiways Juliet and Delta cannot be seen from the Tower. Tower cannot provide positive control for aircraft operating in these areas.</div> <div>For surface and strength details contact Airfield Management (refer to AD Administration section)</div>	TWY	Between RWY05L and TWY Lima	Between RWY05L and RWY05R	Between RWY05R and TWY Kilo	Alpha	105ft	82ft	94ft	Bravo	442ft	295ft	295ft	Charlie	96ft	--	--	Delta	96ft	--	--	Echo	96ft	--	100ft	Foxtrot	442ft	--	295ft
TWY	Between RWY05L and TWY Lima	Between RWY05L and RWY05R	Between RWY05R and TWY Kilo																											
Alpha	105ft	82ft	94ft																											
Bravo	442ft	295ft	295ft																											
Charlie	96ft	--	--																											
Delta	96ft	--	--																											
Echo	96ft	--	100ft																											
Foxtrot	442ft	--	295ft																											
3	ACL and elevation	Not available																												
4	VOR checkpoints	Ground NAVAID checkpoints are located on all TWYs associated with the end of RWYs (TWYs Alpha North, Alpha South, Foxtrot North, and Foxtrot South). VOR checkpoint not available on TWY Alpha South.																												
5	INS checkpoints	Not available																												
6	Remarks	Nil																												

RODN AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

1	Use of aircraft stand ID signs, TWY guide lines and Visual docking/ parking guidance system of aircraft stands	Nil
2	RWY and TWY markings and LGT	<p>RWY 05L/23R (Marking):RWY CL, RWY EDGE (LGT):RCLL, RTHL, RENL, REDL, RWY DIST marker LGT</p> <p>RWY 05R/23L (Marking):RWY CL, RWY EDGE (LGT):RTHL, RENL, REDL, RWYTIL, RWY DIST marker LGT</p> <p>TWY: ALL TWY (Marking):TWY CL, RWY HLDG PSN, INST HLDG PSN (LGT):TWY edge LGT, RWY HLDG PSN, INST HLDG PSN</p>
3	Stop bars	Nil
4	Remarks	Nil

RODN AD 2.10 AERODROME OBSTACLES

In approach/TKOF areas

RWY NR/Area affected	Obstacle type	Coordinates	Elevation	Markings/LGT	Remarks
RWY 05L	Tower	262503.26N/1274731.59E	686ft	No	2.4 nm from DER 1.9 nm left of centerline
RWY 05R	Tower	262503.26N/1274731.59E	686ft	No	2.3 nm from DER 2.2 nm left of centerline

In circling area and at AD

Obstacle type	Coordinates	Elevation	Markings/LGT	Remarks
Power Tower 22	262013.20N/1274656.49E	420ft	Unknown	Applicable to CAT A aircraft only
Pylon	262041.33N/1274758.77E	518ft	Unknown	Applicable to CAT B aircraft only
Power Tower 33	262030.84N/1274752.14E	516ft	Unknown	Applicable to CAT C aircraft only
Fen Tower	261851.61N/1274701.39E	635ft	Unknown	Applicable to CAT D/E aircraft only

RODN AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

1	Associated MET Office	Weather Flight, 18th Operations Support Squadron, Kadena AB, JAPAN Tel: 098-961-3140 Fax: 098-961-3140 Web: http://weather.kadenaservices.com/
2	Hours of service MET Office outside hours	H24
3	Office responsible for TAF preparation Periods of validity	Kadena AB 24 hours (Time of issuance: 8 Hour cycle at 0100, 0900, and 1700 UTC)
4	Trend forecast Interval of issuance	TREND 30min
5	Briefing/ consultation provided	On request, limited availability
6	Flight documentation Language(s) used	C En
7	Charts and other information available for briefing or consultation	Nil
8	Supplementary equipment available for providing information	Nil
9	ATS units provided with information	TWR, GCA, ATIS
10	Additional information(limitation of service, etc.)	ATIS is in the METAR format. Operating hours are 2000-1400 daily and/or 30 minutes prior to the start of local scheduled flying. Weather information, field conditions, barrier information, and approach information are broadcasted on ATIS frequencies (124.2/280.5 MHz). All pilots shall attempt to receive ATIS information before initial contact with ATC. NOTAMS which are more than 24 hours old will not be broadcast on the ATIS. ATIS broadcasts may continue after published hours if ATC determines operation is necessary to support flying operations.

RODN AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

Designations RWY NR	TRUE BRG	Dimensions of RWY(M)	Strength(PCN) and surface of RWY	THR coordinates RWY end coordinates THR geoid undulation	THR elevation and highest elevation of TDZ of precision APP RWY
1	2	3	4	5	6
05L	51.0°	3688x91	PCN 37/R/B/W/T Asphalt Concrete	262046.48N1274505.38E	THR ELEV: 63ft TDZ ELEV: 93ft
23R	231.0°	3688x91	PCN 37/R/B/W/T Asphalt Concrete	262201.82N1274648.84E	THR ELEV: 129ft TDZ ELEV: 126ft
05R	51.0°	3688x61	PCN 45/R/B/W/T Asphalt Concrete	262038.57N1274518.13E	THR ELEV: 74ft TDZ ELEV: 106ft
23L	231.0°	3688x61	PCN 45/R/B/W/T Asphalt Concrete	262153.92N1274701.58E	THR ELEV: 133ft TDZ ELEV: 143ft
Slope of RWY	SWY dimensions	CWY dimensions	Strip Dimensions(M)	OFZ	Remarks
7	8	9	10	11	12
See Chart below	Nil	Nil		Nil	See below "Aircraft arrest- ing systems (AAS)"

RWY05L

0.5%

63ft

0m

3688m

RWY23R

129ft

RWY05R

0.5%

74ft

0m

3688m

RWY23L

133ft

Aircraft arresting systems (AAS). All arresting systems are BAK-12 supported pendant cable capable of bi-directional tail hook arrestments only. When a pilot elects to make an emergency engagement, they will advise ATC of the arresting system to be used.

1. Locations and types.

AAS-1. BAK-12 Located 1,403ft from the approach end of Runway 05L.

AAS-2. BAK-12 Located 3,200ft from the approach end of Runway 05L.

AAS-3. BAK-12 Located 3,160ft from the departure end of Runway 05L.

AAS-4. BAK-12 Located 1,591ft from the departure end of Runway 05L.

AAS-5. BAK-12 Located 1,091ft from the departure end of Runway 05R.

AAS-6. BAK-12 Located 2,710ft from the approach end of Runway 05R.

2. Normal Configuration. The following arresting cables shall remain in the ready position for the runway in use unless operational requirements dictate a change:

RWY 05L; AAS-2, 3, and 4.

RWY 23R; AAS-3, 2, and 1.

RWY 05R; AAS-6 and 5.

RWY 23L; AAS-5 and 6.

RODN AD 2.13 DECLARED DISTANCES

RWY Designator	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	Remarks
1	2	3	4	5	6
05L	3688	3688	3688	3688	Nil
23R	3688	3688	3688	3688	Nil
05R	3688	3688	3688	3688	Nil
23L	3688	3688	3688	3688	Nil

RODN AD 2.14 APPROACH AND RUNWAY LIGHTING

RWY Designator	APCH LGT type LEN INTST	RTHL Color WBAR	PAPI (VASIS) Angle DIST FM THR MEHT	RTZL LEN	RCLL LEN Spacing Color INTST	REDL LEN Spacing Color INTST	RENL Color WBAR	STWL LEN Color
1	2	3	4	5	6	7	8	9
05L	PALS (CAT I) 914m LIH	Green	PAPI 3.0°/LEFT	Nil	3688m Coded color (White/Red) LIH	3688m Coded color (White/Yellow) LIH	Red	Nil
23R	SALS 457m LIH	Green	PAPI 3.0°/LEFT	Nil	3688m Coded color (White/Red) LIH	3688m Coded color (White/Yellow) LIH	Red	Nil
05R	Nil	Green	PAPI 3.0°/LEFT	Nil	Nil	3688m Coded color (White/Yellow) LIH	Red	Nil
23L	Nil	Green	PAPI 3.0°/LEFT	Nil	Nil	3688m Coded color (White/Yellow) LIH	Red	Nil
Remarks								
10								
1. No visual reference available on night take-off beyond end of RWY 23L/23R 2. Runway Distance Markers. Standard runway distance markers are located 67 feet from the edge of pavement on Runway 05R/23L and 50 feet from the edge of pavement on Runway 05L/23R. Runway distance markers indicate runway remaining in 1,000-foot increments and are lighted for night operations.								

RODN AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

1	ABN/IBN location, characteristics and hours of operation	ABN: 262101.20N/1274611.85E, White/Green EV4.3sec
2	LDI location and LGT Anemometer location and LGT	Nil
3	TWY edge and centerline lighting	TWY edge LGT: Blue TWY CL LGT: ALTN Green/Yellow FM RWY leaving Report point, other Green Taxiway lighting is available on TWY Hotel, North East Connector, Juliet, Kilo, Lima, the east end of Golf and Alpha through Foxtrot between TWYs Kilo and Lima. Taxiways lighting is NOT available on TWY Golf (west end), Mike, November, Papa, and Upper Fighter Ramp (UFR). Pilots must use extreme caution in these areas at night and during instrument meteorological conditions because of reduced lighting and the numerous vehicles operating there. All transient aircrews shall use transient alert Follow-Me services when taxiing in these areas.
4	Secondary power supply/switch-over time	Nil
5	Remarks	Nil

RODN AD 2.16 HELICOPTER LANDING AREA

1. TWY Charlie North at intersection of Echo North 2. TWY Charlie South 3. Vertical Takeoff and Landing Pad (VTOL) on TWY Charlie Center
Remarks: Helicopters will take off and land only on active runways, VTOL pad, or designated helipads.

RODN AD 2.17 ATS AIRSPACE

Designation and lateral limits		Vertical Limits (ft)	Airspace classification	ATS unit Call sign Language	Remarks
1		2	3	4	6
KADENA CTR	Area within a radius of 5nm of ARP (2621N12746E), excluding Futenma CTR. (See ROTM AD2.17)	----- 3143 (exc 3143)	D	KADENA TOWER En	
NAHA PCA	See ROAH AD2.17		B	NAHA APP/DEP NAHA RADAR NAHA ARR KADENA ARR En	
NAHA ACA	See ROAH AD2.17		E	NAHA APP/DEP NAHA RADAR NAHA ARR KADENA ARR En	

RODN AD 2.18 ATS COMMUNICATION FACILITIES

Service designation	Call sign	Frequency	Hours of operation	Remarks
1	2	3	4	5
TWR	Kadena Tower	315.8MHz 236.6MHz(1) 134.1MHz 243.0MHz(E) 121.5MHz(E)	H24	APP service provided by NAHA APP (1)on request
GND	Kadena Ground Control	275.8MHz 118.5MHz	H24	
DLVRY	Kadena Clearance Delivery	235.0MHz 123.3MHz	H24	
OPS	Kadena Dispatch	266.0MHz 131.4MHz	H24	
ATIS	Kadena Air base	280.5MHz 124.2MHz	2000-1400	
MET	Kadena Metro	344.6MHz	H24	

RODN AD 2.19 RADIO NAVIGATION AND LANDING AIDS

Type of aid	ID	Frequency	Hours of operation	Position of transmitting antenna coordinates	Elevation of DME transmitting antenna	Remarks
1	2	3	4	5	6	7
VOR (4.00°W)	KAD	112.0MHz	H24	262124.16N/1274606.73E		VOR Maintenance Period: 2100 - 2300 SUN-THU. VOR unusable: 050°-060° beyond 30nm 061°-224° 225°-250° beyond 30nm 251°-049°
TACAN (4.00°W)	KAD	1018MHz (CH-57X)	H24	262124.16N/1274606.73E	158ft	TACAN Maintenance Period: 2100 - 2300 SUN-THU. TACAN unusable: 010°-030° beyond 20nm BLW 6000ft. 110°-190° beyond 10nm BLW 6000ft.
ILS-LOC 23R	IKZZ	108.7MHz	H24	262040.17N/1274456.70E		LOC: 309.4m (1015ft) away FM RWY 05L THR. BRG (MAG) 235°
ILS-GP 23R	-	330.5MHz	H24	262153.11N/1274642.12E		GP: 313.6m (1029ft) inside FM RWY 23R THR. Angle 3.0°
ILS-LOC 05L	IKDN	109.7MHz	H24	262204.49N/1274652.50E		LOC: 130.5m (428ft) away FM RWY 23R THR. BRG (MAG) 055°
ILS-GP 05L	-	333.2MHz	H24	262050.13N/1274519.13E		GP: 367m (1204ft) inside FM RWY 05L THR. Angle 3.0° ILS Maintenance Period: 2000 - 2300 SUN-THU

RODN AD 2.20 LOCAL TRAFFIC REGULATIONS

1. Airport regulations

1.1 Aircraft operations other than scheduled flights or in an emergency.

On use of this airport, aircraft operator is required to obtain the prior permission (PPR) of the Airport Administrator. Request PPR at least 24 HR in advance.

1.1.1 Civil Aircraft Operations.

Civil aircraft desiring to operate at Kadena Air Base must comply with procedures in applicable Air Force Instructions such as AFI 10-1001, *Civil Aircraft Landing Permits*, AFI 10-1002, *Agreements for Civil Aircraft Use of Air Force Airfields* and AFI 10-1003, *Use of Air Force Installations for Non-Government Business by Civil Air Carriers Participating in the Civil Air Reserve Fleet (CARF) Program*.

1.1.2 A flight plan is mandatory for all aircraft arriving and departing Kadena AB.

1.2 Except for taxi, DO NOT point exhaust toward adjacent perimeter road.

1.3 Photography on Airfield is prohibited. Photographic, video, and audio recording within the flight line controlled area and Kadena Air Base restricted areas is prohibited without prior coordination.

1.4 Supersonic Flight.

Supersonic flights are only authorized during training in approved military training areas. Supersonic flight is prohibited during training over land areas in the vicinity of Kadena Air Base and Okinawa.

1.5 Acrobatic Flight. No aircraft will conduct acrobatic flight in the Kadena CTR (Class D Airspace).

1.6 ATC Procedures.

Departing aircraft shall comply with the following procedures.

(1) ATC clearance: Contact KADENA CLEARANCE DELIVERY at least 5 minutes prior to starting engines but no earlier than 30 minutes before proposed departure time with the following items.

- a) call sign
- b) destination
- c) proposed flight level/altitude (alternative flight levels/altitudes, if any)
- d) alternative flight routes, if any

(2) Taxi: Contact KADENA GROUND

(3) Intersection departure

- a) Pilots may initiate request for intersection departures.
- b) Pilots are responsible for determining that sufficient runway length is available to permit safe takeoff and that the intersection takeoff is authorized by unit or company operating directives.
- c) The remaining runway length for intersection departures are as follows.

TWY	RWY05L	RWY05R	RWY23L	RWY23R
Bravo	9300ft	9700ft	2300ft	2700ft
Charlie	7800ft	8200ft	3800ft	4200ft
Delta	5700ft	6400ft	5600ft	6300ft
Echo	2600ft	3700ft	8300ft	9400ft

(4) Protection of Precision Critical Areas.

There are three critical areas associated with precision approaches at Kadena AB, which must be protected. The localizer and glide slope critical areas must be protected because of possible interference to the ILS signal. The PAR touchdown area must be protected from encroachment due to proximity to the landing runway.

- a) Glideslope and Localizer Critical Areas. When the ceiling is below 800 feet or the visibility is less than 2 miles.
- b) PAR Touchdown Critical Areas. When the ceiling is less than 200 feet and/or visibility is less than 1/2 mile.
- c) Instrument Hold Lines. Critical areas are marked by instrument hold lines consisting of two parallel lines with vertical stripes and the letters "INST". Instrument hold lines are located on TWYs Alpha, Bravo, and Foxtrot on the north and south sides of RWYs 05L/23R and 05R/23L and on the north and south sides of RWYs 05L/23R on TWY Echo.

2. Taxiing to and from stands

2.1 Use extreme caution when taxiing on TWY Kilo between TWY Charlie and Delta due to congestion.

2.2 Jet aircraft will not use TWY Delta when accessing Service Apron 2 from RWY 05R/23L due to hill incline and jet blast to Service Apron 1.

3. Parking area for small aircraft(General aviation)

Nil

4. Parking area for helicopters

Nil

5. Apron - taxiing during winter conditions

Nil

6. Taxiing - limitations

6.1 WING TIP RESTRICTIONS:

- (1) TWY Golf (in the vicinity of Hardstands 302, 304, and 306) is closed to all aircraft with over 45 foot wing span due to inadequate wing tip clearance near Buildings 3430, 3431, 3432 and 3433.
- (2) TWY Golf, between Building 3456 and TWY Echo, is restricted to aircraft with a wing span of 135ft or less.
- (3) TWY Golf, between TWY Echo and TWY Foxtrot is restricted to aircraft with a wingspan of 55ft or less.
- (4) TWY Kilo between TWYs Echo and Foxtrot is restricted to aircraft with a wing span of 160ft or less. Aircraft with a wing span greater than 160ft but less than 166ft may only use this area with prior coordination with the Airport Administrator and will require wing walkers.
- (5) TWY Kilo between TWYs Delta and Echo is restricted to aircraft with a wing span of 170ft or less.
- (6) Hot Pit Location Restrictions: During usage of the Hot Pit Refueling Site on Service Apron 3, TWY Kilo between TWYs Echo and Foxtrot will be closed to all aircraft with wing span greater than 55ft. Aircraft with wing span greater than 55ft already parked on hardstands between TWYs Echo and Foxtrot may exit /enter via TWYs Echo or Foxtrot.
- (7) TWY Juliet is authorized for aircraft with wing span of 135ft or smaller only. These aircraft may utilize TWYs Delta or Echo to enter or exit TWY Juliet.
- (8) TWY Lima: When aircraft are parked on service apron 4 or 5 adjacent to TWY Lima, aircraft with wingspans greater than 160ft but less than 180ft will require wing walkers; aircraft with wingspans greater than 180ft are prohibited.
 - a) Coordination with the Airport Administrator for repositioning of aircraft on Service Aprons 4 and 5 must be accomplished for unrestricted taxi operations.
 - b) TWY Lima between TWYs Alpha and Delta is restricted to aircraft with a wing span of 185ft or less.
 - c) TWYs Mike, November, and Papa are restricted to aircraft with a wing span of 185ft or less.
- (9) The Upper Fighter Ramp (UFR) is specifically designed and marked for fighter type aircraft with wing spans less than 45ft. Pilots will follow the yellow taxi lines while taxiing in the UFR. These taxi lines provide at least a 10ft clearance from all obstacles behind the yellow Wing Tip Clearance (WTC) line. Pilots may not taxi, without a marshaller, with less than 25ft wing tip clearance, unless on a yellow taxi line and all equipment is behind the yellow WTC lines.

7. School and training flights - technical test flights - use of runways

Nil

8. Helicopter traffic - limitation

Nil

9. Removal of disabled aircraft from runways

Nil

RODN AD 2.21 NOISE ABATEMENT PROCEDURES

1. Procedure is strictly enforced, no ARR/DEP between 1300-2100 without prior approval. Except Air Mobility Command priority missions.
2. Extremely dense population in the areas to the north, northwest and east of KADENA AB (RODN) requires all pilots minimize aircraft noise to the maximum extent possible, particularly during hours of darkness, on weekends, and holidays. Deviations from noise abatement procedures require prior approval.
3. The following specific procedures will be strictly enforced:
 - 1) Straight-in, full stops 1300-2100 daily, 1300SAT through 2100SUN (0600 Local on MON), and during holidays as indicated by local advisory and NOTAMs, no exceptions without prior approval.
 - 2) Use of afterburner over Okinawa and on takeoff is prohibited except for safety of flight or when operationally required. Pilots are responsible for ensuring that they have obtained prior permission.
 - 3) Transient aircraft requesting Visual Flight Rule patterns can expect Runway 05R/23L, and will minimize requests for multiple Visual Flight Rule patterns on weekdays.
 - 4) Multiple Radar and VFR patterns are approved 2100-1300 (2100SUN-1300FRI) and prohibited weekends/holidays. Saturday patterns between 2100FRI-1300SAT require prior approval.
 - 5) Closed pattern traffic will delay pulling up to turn for downwind leg until passing the end of the runway unless otherwise directed by ATC.
 - 6) Closed traffic patterns will be flown in a clean configuration until established on the downwind leg, unless an emergency or service procedure requires leaving the aircraft in the landing configuration.
 - 7) Engine Runs above idle, other than for takeoff, are only authorized 2100-1300 (2100SUN-1300FRI) and SUN/holidays 0300-0900.
 - 8) During times of local Quiet Periods, all aircraft straight-in, full stop. No engine runs above idle unless hush house or test cell facility used. No departures without prior approval. Local quiet periods are issued via NOTAM.
 - 9) No VTOL hover checks Saturday, Sunday, and holidays. VTOL landing Saturday, Sunday and holidays only if cross winds are 10 kts or greater. The use of vertical thrusters by aircraft is unauthorized on Runway 05R/23L and 05L/23R.
 - 10) Minimize reverse thrust to max extent.
 - 11) Avoid over flight of Naha city below 4000ft.
 - 12) Avoid over flight of Ie-Shima Island below 4000ft.
 - 13) Avoid over flight of Hospital at 2618.8N12746.3E (KAD R-182 2.5DME)
 - 14) Local holiday observances and school testing restrictions published by NOTAM.

RODN AD 2.22 FLIGHT PROCEDURES**1. Traffic Pattern Altitudes:****Jet Tactical and/or Overhead - 1,800 MSL.**

Aircraft inbound to initial shall maintain 2,500 feet unless a lower altitude is approved by ATC. Aircraft shall descend to 1,800 feet MSL (initial altitude) at 5 DME or once established on initial and inside the Kadena Delta Airspace.

Conventional Rectangular - 1,300 feet MSL.

Aircraft shall enter the pattern at 1,300 feet MSL, or as directed by Tower. Unless directed by Tower, aircraft shall fly a left hand pattern to Runway 05L and 23L and right pattern to Runway 05R and 23R. When flying right pattern to Runway 05L/R, extend downwind until over the water prior to turning base, avoid angling final, and be aligned with the runway centerline prior to reaching the land area.

Helicopter and Aero Club - 800 feet MSL.

Helicopters will conform to the established rectangular pattern, except pattern altitude will be 800 feet MSL. Approaches to/departures from helipads will be in the direction of the designated runway in use, unless otherwise authorized by Tower.

The Overhead pattern (1,800ft) is only open from sunrise to civil twilight. This restriction does not apply to the Conventional Rectangular pattern (1,300ft) or the Helicopter and Aero Club pattern (800ft).

During VMC, all aircraft must remain below 1,300ft until departure end of RWY to ensure separation of overhead traffic pattern, unless otherwise cleared by ATC. All aircraft contact GND prior to engine start.

KADENA TRAFFIC PATTERNS AND ALTITUDES



2. Lost communication procedures for arrival aircraft under radar navigational guidance

If radio communications with Naha Approach/Kadena Arrival are lost for 1 minute, squawk Mode A/3 Code 7600 and;

- (1)
 - a) Contact Kadena Tower.
 - b) If unable, proceed in accordance with Visual Flight Rules, proceed to IAF as filed in flight plan at FL190. Normally descend or climb to maintain FL190, no closer than 50 DME from KAD. On a filed ETA or EFC (if received), descend to FL150 and execute the penetration and approach to the active runway or the last known runway in use. If VMC is encountered proceed under VFR rules.
- (2) Regardless of weather conditions or type of flight plan filed, the approach or landing should be planned for Runway 05L or 23R. On final approach, check PAPI lights to verify direction of traffic.
- (3) Procedures other than above will be issued when situation required.

3. ATC Radar Beacon Program.

Aircraft flying under control of Naha approach control in the approach control area will be instructed to reply with discrete code on Mode A/3 and Mode C. If an aircraft with non-discrete code capability be instructed to reply with the discrete code, it shall report a controller accordingly.

4. Kadena Air Base VFR Aero Club/Helicopter Arrival/Departure Routes**(1) FUTENMA ONE :**

Via Point Sierra (KAD R-194, 3.6 NM) direct Kadena Gate One, then as directed by Kadena Tower to requested landing area. Maintain 800 feet MSL. Reverse route is flown for departures.

(2) MOON BEACH :

Via Moon Beach direct Water Tower (KAD R-013, 1.2 NM), then as directed by Kadena Tower to requested landing area. Maintain 800 feet MSL. Reverse route is flown for departures. Departures additionally will maintain 800 feet MSL until clear of the CTR. Aircraft will remain clear of the Naha PCA unless they are in radio contact with Naha Approach Control and have received a PCA clearance.

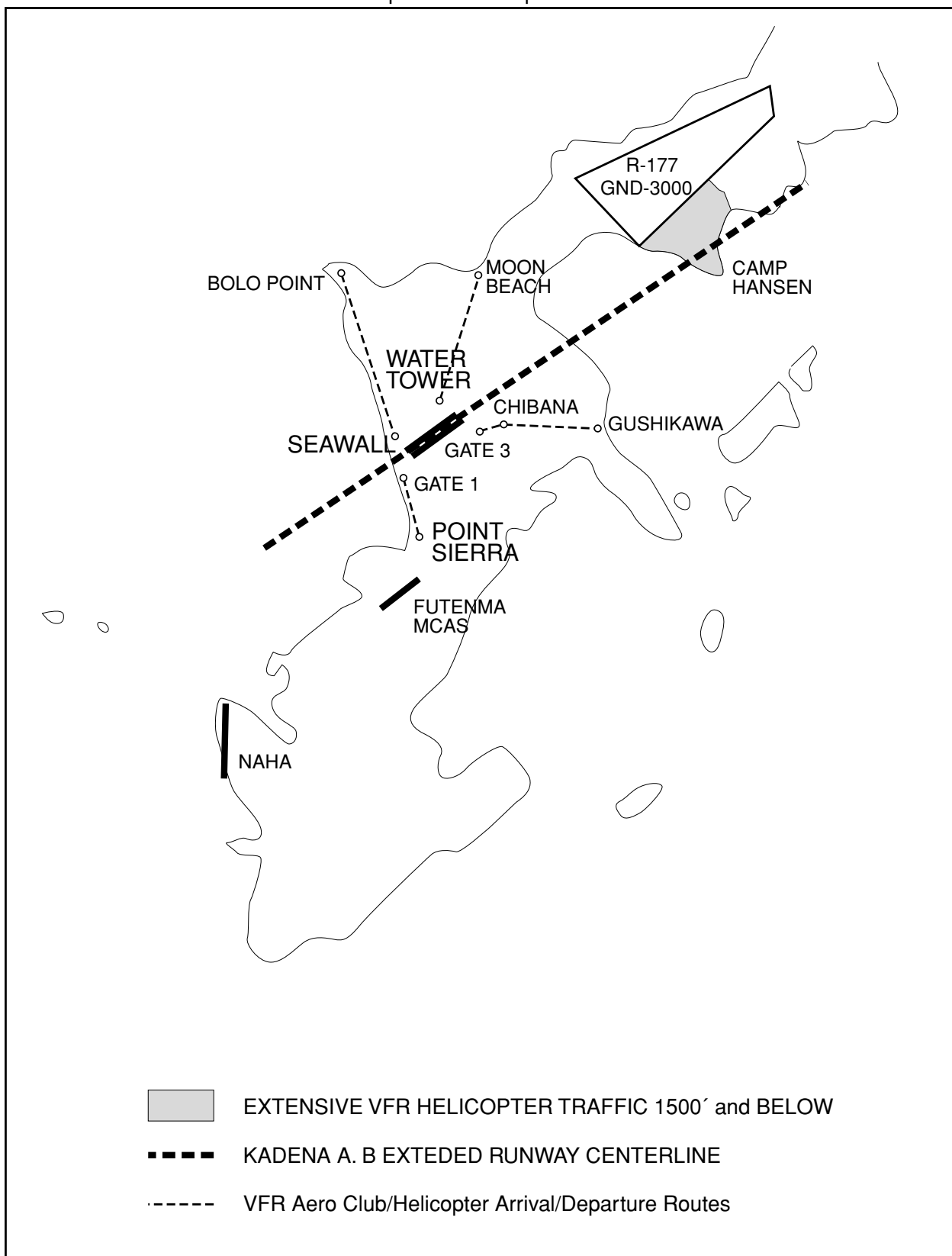
(3) GUSHIKAWA THREE :

Via Gushikawa, direct Chibana, direct Kadena Gate Three, then as directed by Kadena Tower to requested landing area. Cross Chibana at and maintain 800 feet MSL. Reverse route is flown for departures. Departures additionally will maintain 800 feet MSL until clear of the CTR. Aircraft will remain clear of the Naha PCA unless they are in radio contact with Naha Approach Control and have received a PCA clearance.


(4) BOLO FIVE :

Via Bolo Point, direct Seawall, then as directed by Kadena Tower to requested landing area. Maintain 800 feet MSL. Reverse route is flown for departures. Departures additionally will maintain 800 feet MSL until clear of the CTR. Aircraft will remain clear of the Naha PCA unless they are in radio contact with Naha Approach Control and have received a PCA clearance.

Kadena Air Base VFR Aero Club/Helicopter Arrival/Departure Routes



5. WX MINIMA CONCERNING ASR APCH PROCEDURE

RADAR - Call: OKINAWA APP CON (E) Primary-North 119.1 335.8 South 126.5 258.3 Secondary 121.1x 132.8x 134.1 135.9x 238.3x 255.8x 257.5x 261.4x 270.6x 287.8x 289.4x 290.3 297.2 317.8x 

	RWY	GS/TCH/RPI	CAT	DH/ MDA-VIS	HAT/HATh HAA	CEIL-VIS
ASR ④	05L ①⑧		AB	520/24	427	(400-½)
			CDE	520/40	427	(400-¾)
	05R ⑤⑧		AB	540/55	434	(400-1)
			CDE	540-1¼	434	(400-1¼)
	23R ②⑥		AB	740/40	611	(600-¾)
			CDE	740-1½	611	(600-1½)
	23L ⑦		AB	740/55	597	(600-1)
			CDE	740-1¾	597	(600-1¾)
CIR ③⑥	All Rwy		A	780-1	637	(700-1)
			B	920-1	777	(800-1)
			C	940-2¼	797	(800-2¼)
			D	940-2½	797	(800-2½)
			E	1180-3	1037	(1100-3)

- ① When ALS inop, increase CAT AB RVR to 55, vis to 1 mile, CAT CDE vis to 1¼ miles.
 ② When ALS inop, increase CAT AB RVR to 55, vis to 1 mile, CAT CDE vis to 1¾ miles.
 ③ Circling NW of Rwy 05L-23R not authorized.
 ④ ASR MP 1600-1900Z Sun-Thurs.
 ⑤ VGSI and descent angle not coincident (VGSI Angle 3.00 TCH 60).
 ⑥ Amdt 3 19MAY22.
 ⑦ Amdt 4 19MAY22.
 ⑧ Amdt 5 19MAY22.

NOTE:REPRINTING DOD FLIP

RODN AD 2.23 ADDITIONAL INFORMATION

RWY 05L/23R closed every 4th FRI2230-SAT0230

RWY 05R/23L closed every 4th SAT0330-0730

Extensive jet and low level act WI 50NM of Kadena 2300-1000 (2300SUN-1000FRI)

BIRD CONCENTRATIONS/AREAS.

Bird activity at Kadena AB (RODN) increases during the months of September through December. Much of this increase is due to plovers wintering in the area. Egrets frequent airfield grassy areas in APR, MAY, SEP, and OCT, particularly during mowing operation. Use caution for large flocks of small shorebirds, especially when heavy rains produce standing water. Bird activity in the local ranges and low-level areas does not present a significant strike hazard to Kadena's aircraft.

- a) Phase Designations: Phase I and Phase II designations are based on historical bird activity. Should conditions warrant, the Operations Group Commander can elevate Phase I to Phase II based on sustained, out of season increased bird activity.

- 1) Phase I represents residential bird activity, and will normally be from January 1st through March 31st, and from June 1st through August 31st.
- 2) Phase II represents heavy/migratory bird activity, and will normally be designated from April 1st through May 31st, and September 1st through December 31st.

- b) Bird Condition Codes:

- 1) Bird Watch Condition **SEVERE**: Bird activity on or immediately above the active runway or other specific location representing high potential for strikes. Supervisors and aircrews must thoroughly evaluate mission need before conducting operations in areas under Bird Watch Condition (BWC) SEVERE.
- 2) Bird Watch Condition **MODERATE**: Bird activity near the active runway or other specific location representing increased potential for strikes. BWC MODERATE requires increased vigilance by all agencies and supervisors and caution by aircrews.
- 3) Bird Watch Condition **LOW**: Bird activity on and around the airfield representing low potential for strikes.

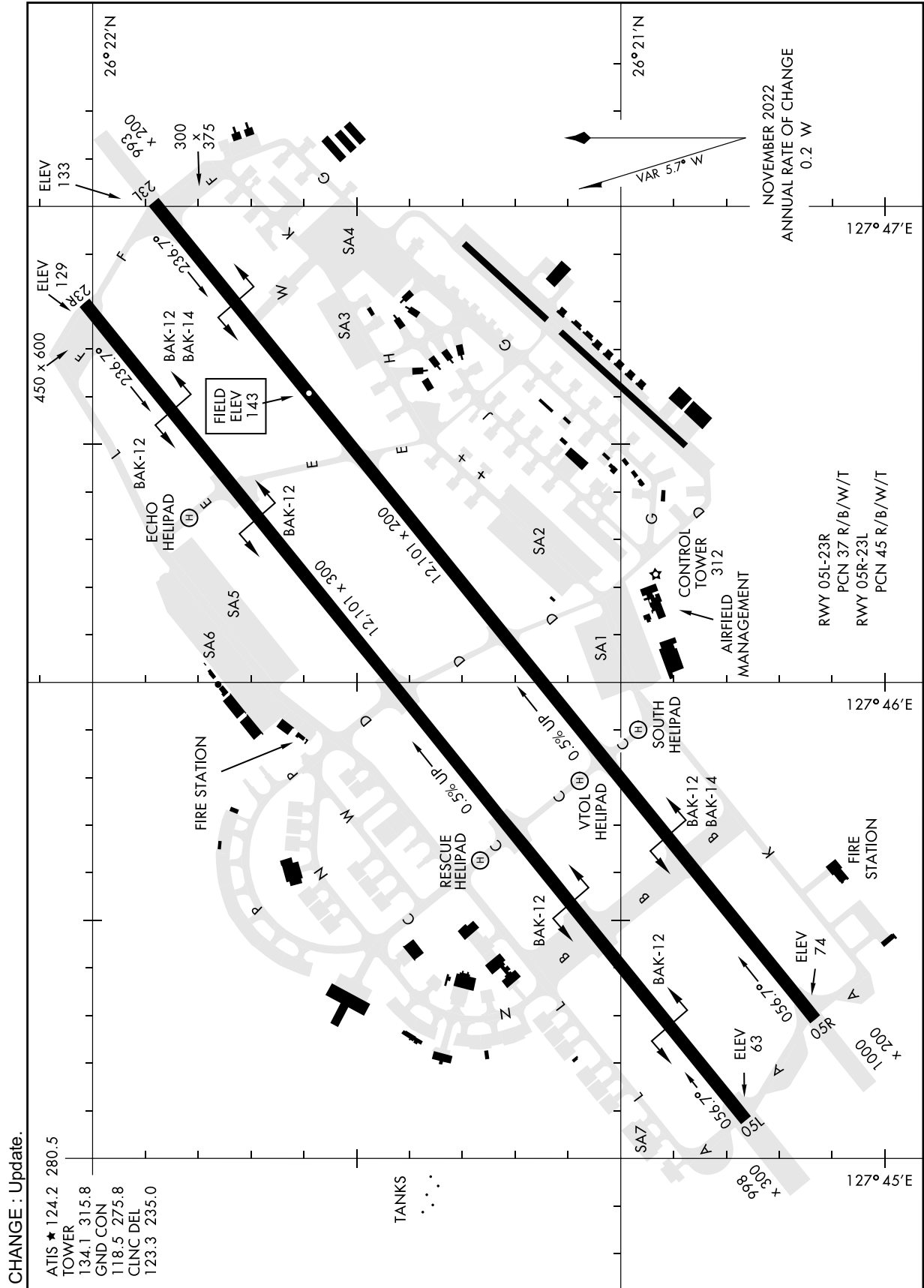
RODN AD 2.24 CHARTS RELATED TO AN AERODROME

Aerodrome/Heliport Chart
Standard Departure Chart-Instrument (JILEE)
Standard Departure Chart-Instrument (TUCOF)
Standard Departure Chart-Instrument (EKOLU)
Standard Departure Chart-Instrument (CUNEK (RNAV))
Standard Departure Chart-Instrument (HIVAS (RNAV))
Instrument Approach Chart (ILS or LOC RWY05L)
Instrument Approach Chart (VOR or TACAN RWY05L)
Instrument Approach Chart (VOR or TACAN RWY05R)
Instrument Approach Chart (ILS or LOC RWY23R)
Instrument Approach Chart (RNAV (GPS) RWY05L)
Instrument Approach Chart (RNAV (GPS) RWY05R)
Instrument Approach Chart (RNAV (GPS) RWY23L)
Instrument Approach Chart (RNAV (GPS) RWY23R)

INTENTIONALLY LEFT BLANK

RODN/KADENA

AD CHART



NOTE: REPRINTING DOD FLIP

STANDARD DEPARTURE CHART -INSTRUMENT

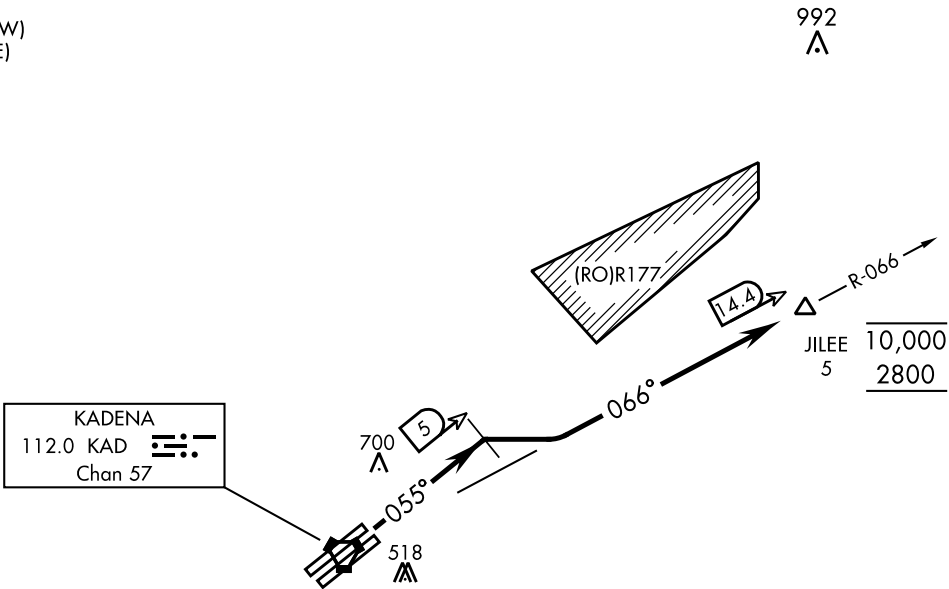
RODN / KADENA

ATIS ★ 124.2 280.5
CLNC DEL
123.3 235.0
GND CON
118.5 275.8
TOWER
134.1 315.8
NAHA DEP CON
119.1 335.8 (NW)
126.5 258.3 (SE)

JILEE THREE DEPARTURE

Rwy	Knots	60	120	180	240	300	360
05L	V/V(fpm)	221	442	663	884	1105	1326

Minimum Climb Rate to 2800



TLv FL140
TA 14,000



DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RWY 05L/05R: Climb heading 055° to KAD VORTAC 5 DME then turn right to intercept the KAD R-066 outbound to JILEE. Cross JILEE at or above 2800 not to exceed 10,000 or altitude specified by ATC.

CHANGE:Update.

NOTE: REPRINTING DOD FLIP

STANDARD DEPARTURE CHART -INSTRUMENT

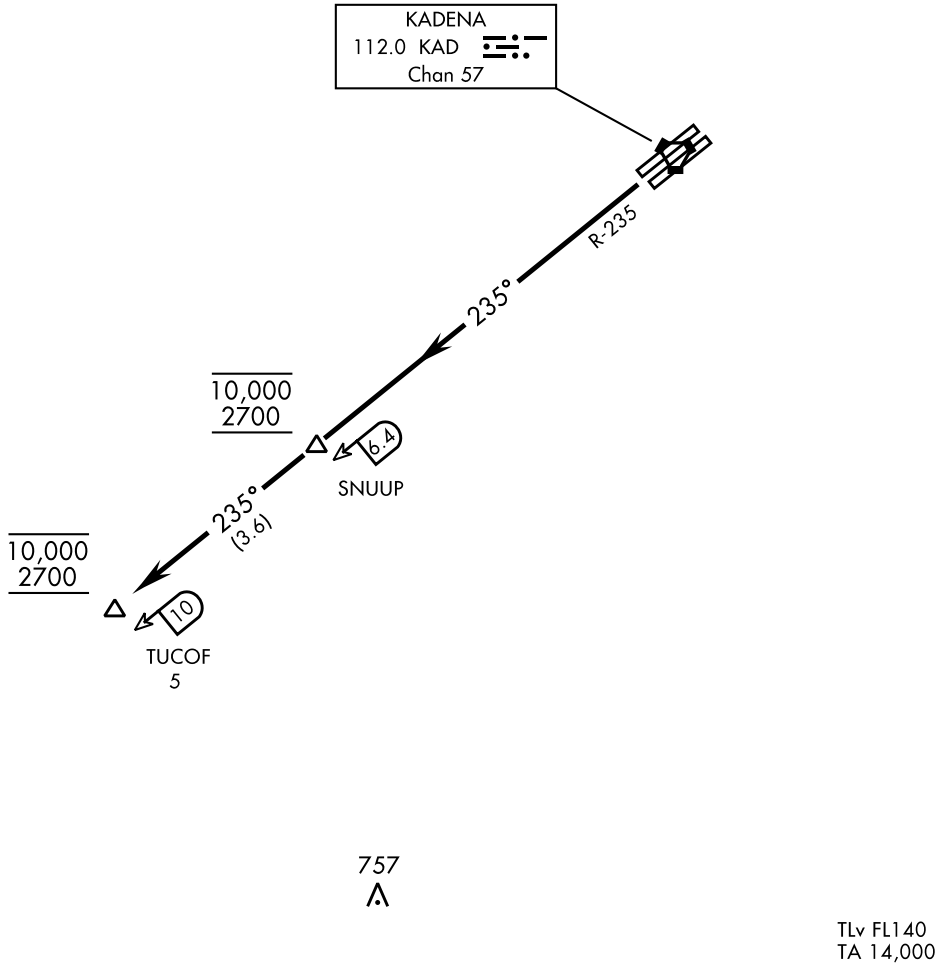
RODN / KADENA

ATIS ★ 124.2 280.5
CLNC DEL
123.3 235.0
GND CON
118.5 275.8
TOWER
134.1 315.8
NAHA DEP CON
119.1 335.8 (NW)
126.5 258.3 (SE)

TUCOF TWO DEPARTURE

Rwy	Knots	60	120	180	240	300	360
23L	V/V(fpm)	491	982	1473	1964	2455	2946
23R	V/V(fpm)	499	998	1497	1996	2495	2994

ATC Climb Rate to 2700 at 6.4 DME



DEPARTURE ROUTE DESCRIPTION

TAKE-OFF Rwy 23L/23R: Climb on KAD R-235 to 10,000, cross SNUUP at or above 2700 and TUCOF at or below 10,000 or altitude specified by ATC.

CHANGE:Update.

NOTE: REPRINTING DOD FLIP

STANDARD DEPARTURE CHART -INSTRUMENT

RODN / KADENA

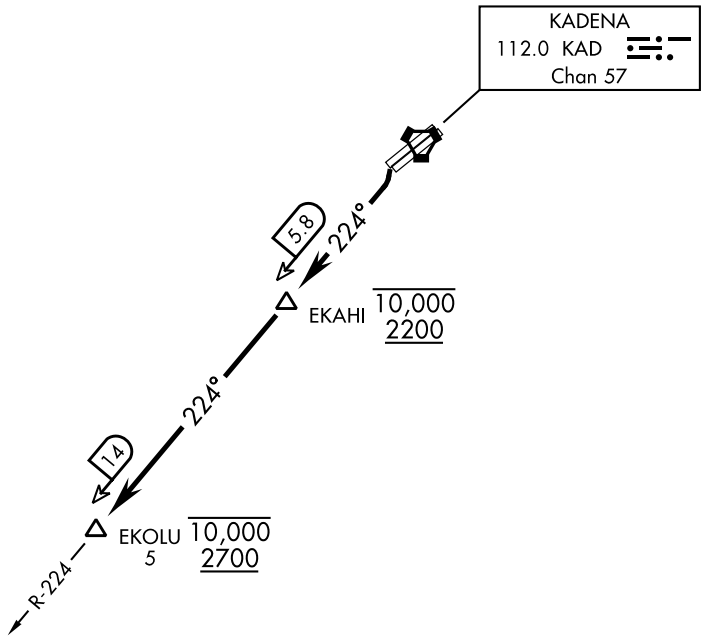
ATIS★ 124.2 280.5
CLNC DEL
123.3 235.0
GND CON
118.5 275.8
TOWER
134.1 315.8
NAHA DEP CON
119.1 335.8 (NW)
126.5 258.3 (SW)

EKOLU ONE DEPARTURE

Rwy	Knots	60	120	180	240	300	360
23L ①	V/V(fpm)	205	410	615	820	1025	1230
23L ②	V/V(fpm)	455	910	1365	1820	2275	2730
23R ①	V/V(fpm)	206	412	618	824	1030	1236
23R ②	V/V(fpm)	460	920	1380	1840	2300	2760

ATC Climb Rate
① to EKOLU to 2700
② to EKAHI to 2000

1191



TLv FL140
TA 14,000



DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RWY 23L/23R: Climb left turn to intercept KAD VORTAC R-224 to EKOLU. Cross EKAHI at or above 2200 not to exceed 10,000, cross EKOLU at or above 2700 not to exceed 10,000, or altitude specified by ATC.

CHANGE: Update

NOTE: REPRINTING DOD FLIP

STANDARD DEPARTURE CHART -INSTRUMENT

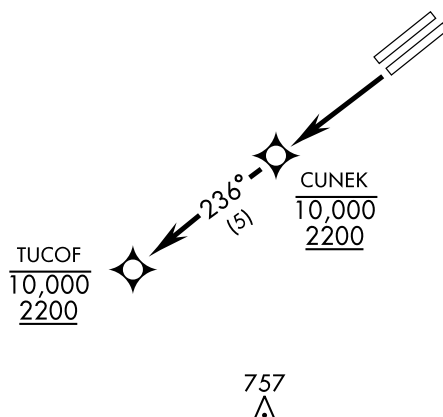
RODN / KADENA

CUNEK THREE DEPARTURE(RNAV1)

ATIS ★ 124.2 280.5
CLNC DEL
123.3 235.0
GND CON
118.5 275.8
TOWER
134.1 315.8
NAHA DEP CON
119.1 335.8 (NW)
126.5 258.3 (SE)

Rwy	Knots	60	120	180	240	300	360
23L	V/V(fpm)	546	1092	1638	2184	2730	3276

ATC Climb Rate to 2200



RNAV 1

GPS REQUIRED

DME/DME RNP - 0.3 NA

RADAR REQUIRED

for Non-GPS Equipped Aircraft

TLv FL140
TA 14,000



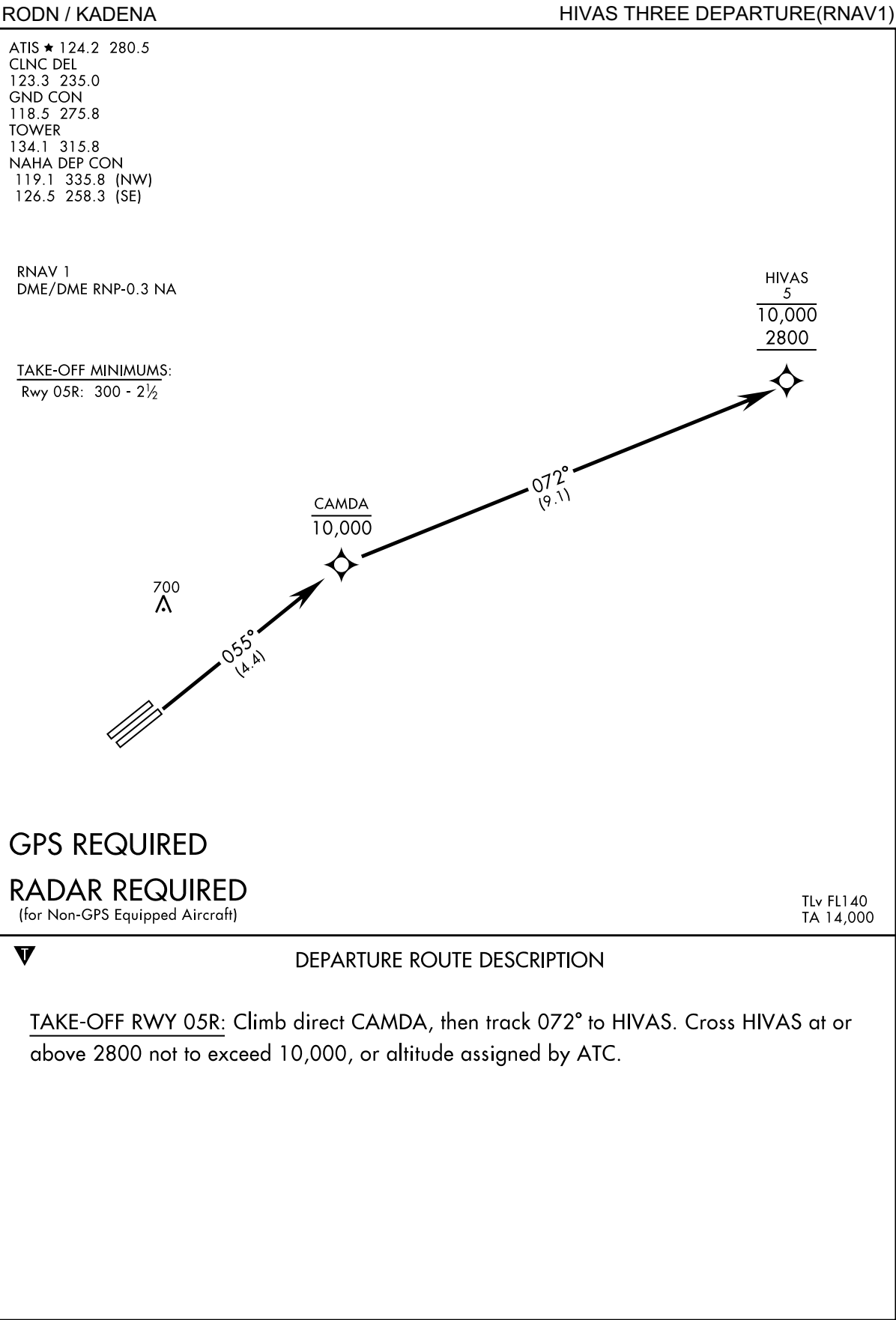
DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RWY 23L: Climb direct CUNEK. Cross CUNEK at or above 2200, not to exceed 10,000, then track 236° to TUOCF, cross TUOCF at or above 2200 not to exceed 10,000, or altitude assigned by ATC.

CHANGE: Update

NOTE: REPRINTING DOD FLIP

STANDARD DEPARTURE CHART -INSTRUMENT



INTENTIONALLY LEFT BLANK

RODN / KADENA

EMERGENCY SAFE ALT 100 NM 2700

VGSI and ILS glidepath not coincident
(VGSI Angle 2.80/TCH 56)

TLv FL140
TA 14,000

6000
KAD
R-055

IMONO
KAD
20

EBLIR 13

ADPEP 8

DUPIT 7

3000

055°

2200

2000

5.4 NM

0.5

VORTAC

GS 3.00°
TCH 65

BOMDI 1.6

321

312

ELEV 143

TDZE 93

055° 5.9 NM
from FAF

HIRL all runways
REIL Rwy 05R and 23L

FAF to MAP 5.4 NM

Knots	60	90	120	150	180
Min:Sec	5:24	3:36	2:42	2:10	1:48

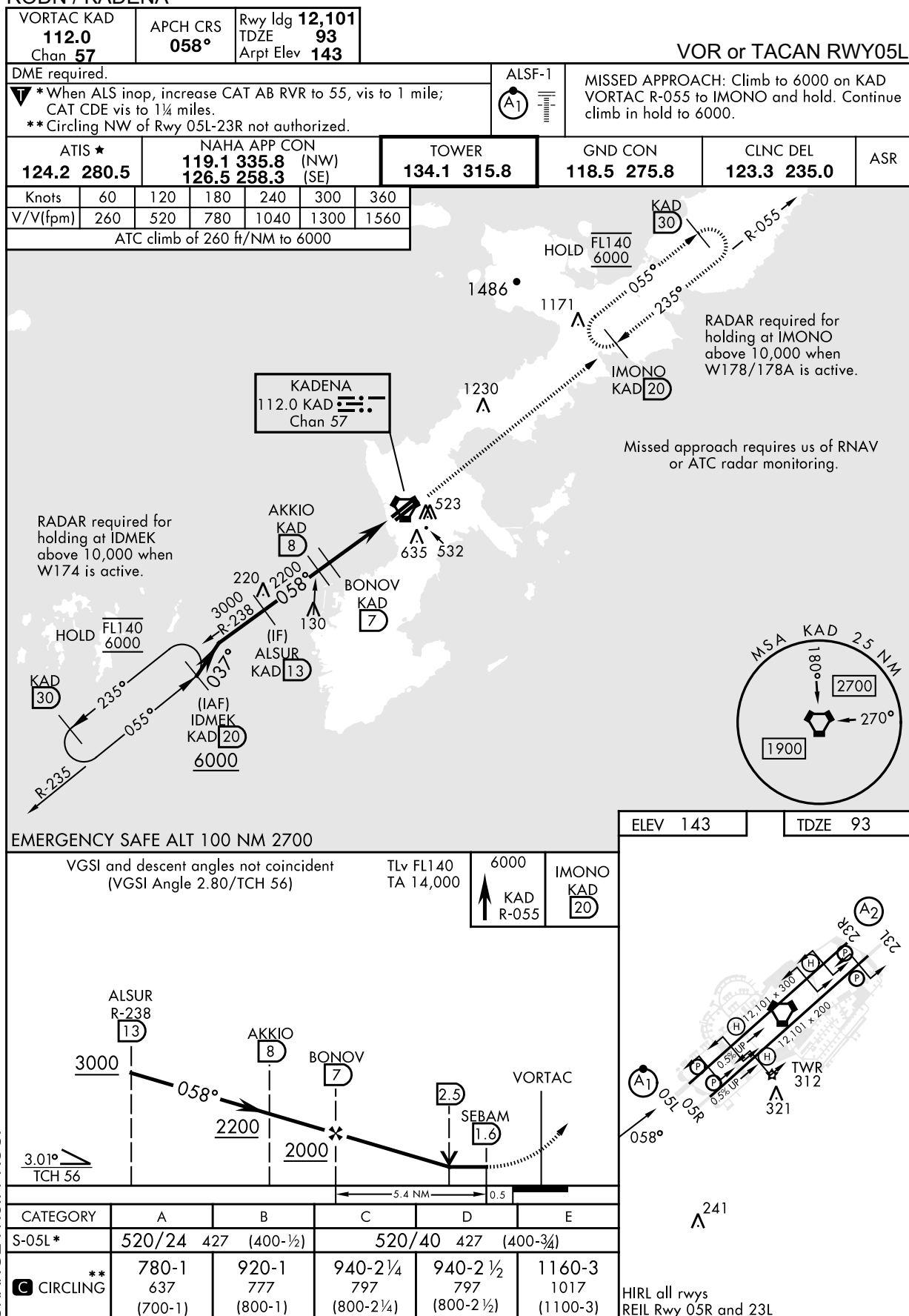
CATEGORY	A	B	C	D	E
S-ILS 05L *		293/24	200	(200-½)	
S-LOC 05L **		380/24	287	(300-½)	

	780-1 637 (700-1)	920-1 777 (800-1)	940-2¼ 797 (800-2 ¼)	940-2½ 797 (800-2½)	1160-3 1017 (1100-3)
C CIRCLING ***					

16/6/22

INSTRUMENT APPROACH CHART

RODN / KADENA



NOTE: REPRINTING DOD FLIP

RODN / KADENA

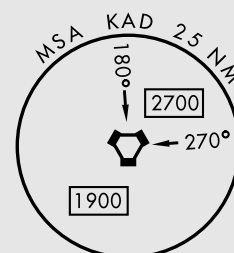
VOR or TACAN RWY05R

MISSED APPROACH: Climb to 6000 on KAD VORTAC R-055 to IMONO and hold. Continue climb in hold to 6000.

T *Circling NW of Rwy 05L-23R not authorized.

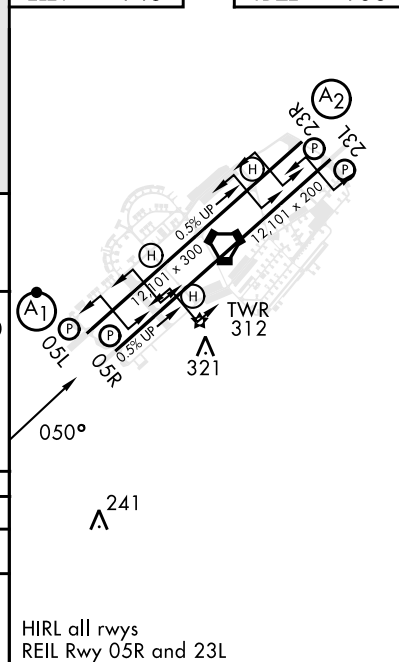
Knots	60	120	180	240	300	360
V/V(fpm)	260	520	780	1040	1300	1560

ATC climb of 260 ft/NM to 6000



EMERGENCY SAFE ALT 100 NM 2700

ELEV	143		TDZE	106
------	-----	--	------	-----




CHANGE : New PROC.

CATEGORY	A	B	C	D	E
S-05R	520/55 414 (400-1)		520/60 414 (400-1½)		
CIRCLING*	780-1 637 (700-1)	920-1 777 (800-1)	940-2¼ 797 (800-2¼)	940-2½ 797 (800-2½)	1160-3 1017 (1100-3)

NOTE: REPRINTING DOD FLIP

RODN / KADENA

LOC I-KZZ 108.7		APCH CRS 235°		Rwy Idg 12,101 THRE 129 Arpt Elev 143		ILS or LOC RWY23R	
RADAR or DME required.						SALS	
T * When ALS inop, increase CAT AB RVR to 55, vis to 1 mile; CAT CDE vis to 1½ miles. ** Circling NW of Rwy 05L-23R not authorized.						 MISSED APPROACH: Climb to 6000 on KAD VORTAC R-235 to IDMEK and hold.	
ATIS ★ 124.2 280.5		NAHA APP CON 119.1 335.8 (NW) 126.5 258.3 (SE)		TOWER 134.1 315.8		GND CON 118.5 275.8	
						CLNC DEL 123.3 235.0	
ASR							

Knots	60	120	180	240	300	360
V/V(fpm)	280	560	840	1120	1400	1680

Knots	60	120	180	240	300	360
V/V(fpm)	280	560	840	1120	1400	1680

ATC climb of 280 ft/NM to 6000

LOCALIZER 108.7
I-KZZ

KADENA
112.0 KAD
Chan 57

NUGAP
KAD 6.9

LETOX
KAD 13

(IAF) IMONO
KAD 20
6000

HOLD FL140
6000

R-055

R-235

R-055

HOLD FL140
6000

IDMEK
KAD 20

RADAR required for holding at IDMEK above 10,000 when W174 is active.

RADAR required for holding at IMONO above 10,000 when W178/178A is active.

MSA KAD 25 NM
1800
2700

EMERGENCY SAFE ALT 100 NM 2700

VORTAC

Obstacles:

- KAD R-235:** 6000 ft MSL, IDMEK KAD 20.
- TAlv FL140 TA 14,000:** Terminal Area Vertical Clearance.
- APRAV:** Obstacle at 1.4 NM, 2.6 NM from VORTAC.
- NUGAP:** Obstacle at 6.9 NM, 2100 ft MSL.
- LETOX:** Obstacle at 13 NM, 3000 ft MSL.

Other Features:

- GS 3.00° TCH 47:** Glide Slope and Threshold Crossing Height.
- 235°:** Bearing from VORTAC to LETOX.
- 0.5 NM, 5.5 NM:** Distances along the ground track.

CATEGORY	A	B	C	D	E
S-ILS 23R	329/40	200	(200-¾)		
S-LOC 23R*	740/40 611 (600-¾)	740-1½ 611 (600-1½)			
** CIRCLING	780-1 637 (700-1)	920-1 777 (800-1)	940-2¼ 797 (800-2¼)	940-2½ 797 (800-2½)	1160-3 1017 (1100-3)

[illegible]

CHANGE: Update

NOTE: REPRINTING DOD FLIP

RODN / KADENA

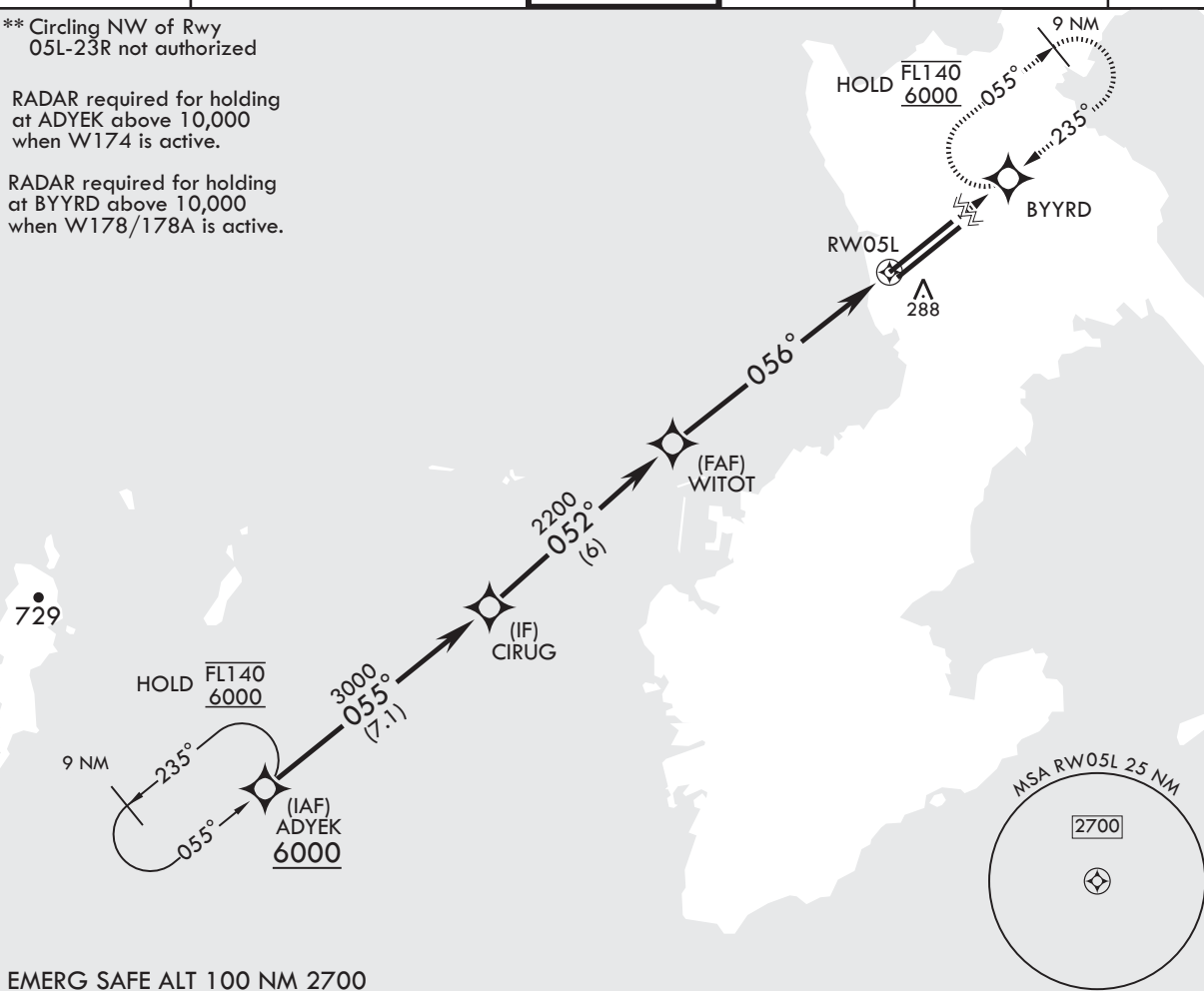
RNAV(GPS) RWY05L

ALSF-1

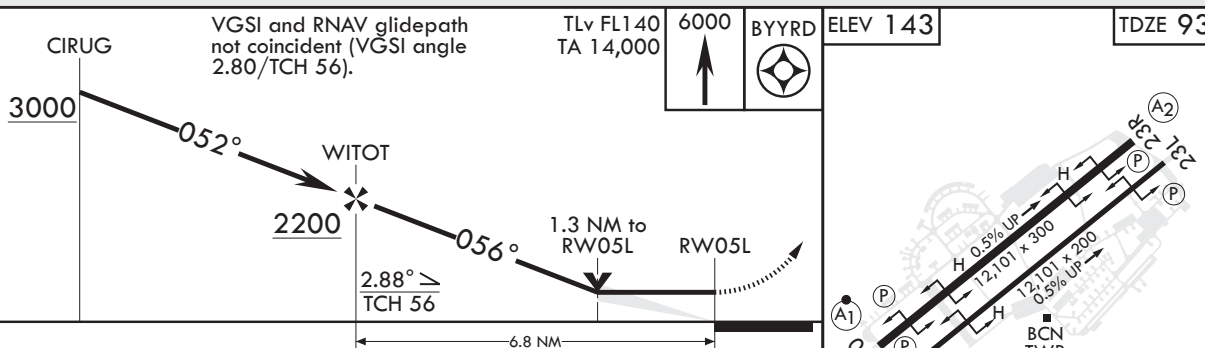
** Circling NW of Rwy
05L-23R not authorized


RADAR required for holding
at ADYEK above 10,000
when W174 is active.

RADAR required for holding
at BYYRD above 10,000
when W178/178A is active.

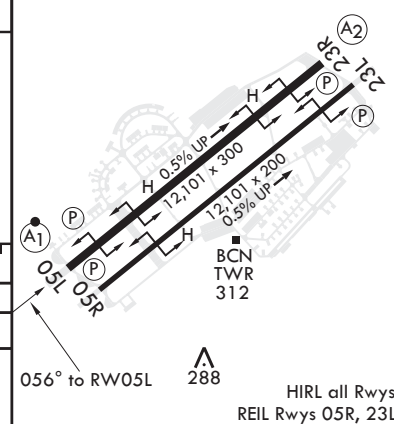


EMERG SAFE ALT 100 NM 2700



CATEGORY	A	B	C	D	E
LNAV MDA*	500/24 407 (400-½)		500/40 407		(400-¾)
 CIRCLING**	780-1 637 (700-1)	920-1 777 (800-1)	940-2¼ 797 (800-2¼)	940-2½ 797 (800-2½)	1160-3 1017 (1100-3)

CHANGE: Update



NOTE: REPRINTING DOD FLIP

INSTRUMENT APPROACH CHART

RODN / KADENA

APCH CRS 055°	Rwy Idg 12,101
	TDZE 106
	Arpt Elev 143

RNAV(GPS) RWY05R

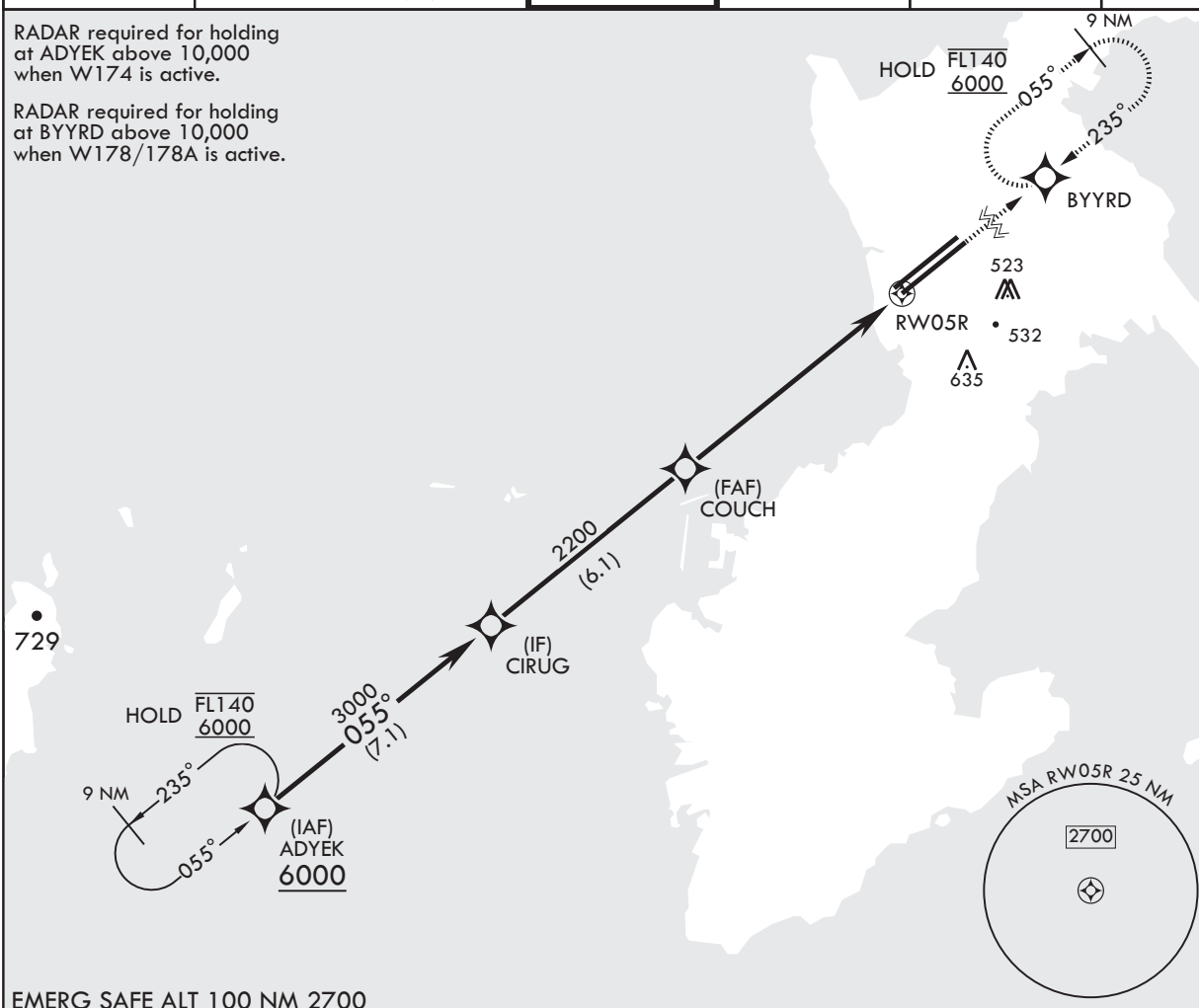
RNP APCH - GPS

RADAR required. DME/DME RNP - 0.3 NA.

* Circling not authorized NW of Rwy 05L-23R.

MISSED APPROACH: Climb to 6000 direct BYYRD and hold. Continue climb in hold to 6000.

ATIS★ 124.2 280.5	NAHA APP CON/DEP CON 119.1 335.8 (NW) 126.5 258.3 (SE)	TOWER 134.1 315.8	GND CON 118.5 275.8	CLNC DEL 123.3 235.0	ASR
-----------------------------	--	-----------------------------	-------------------------------	--------------------------------	-----

RADAR required for holding
at ADYEK above 10,000
when W174 is active.RADAR required for holding
at BYYRD above 10,000
when W178/178A is active.

EMERG SAFE ALT 100 NM 2700



CHANGE: Update

NOTE: REPRINTING DOD FLIP

INSTRUMENT APPROACH CHART

RODN / KADENA

APCH CRS	Rwy Idg	12,101
235°	TDZE	143
	Arpt Elev	143

RNAV(GPS) RWY23L

RNP APCH - GPS

RADAR required. DME/DME RNP - 0.3 NA.

MISSED APPROACH: Climb to 6000 direct ADYEK and hold. Continue climb-in-hold to 6000.

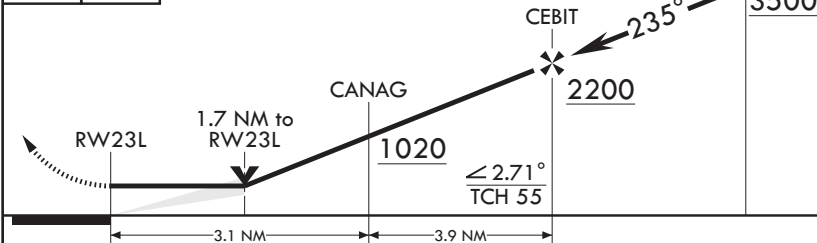
* Circling not authorized NW of Rwy 05L-23R.

ATIS★	NAHA APP CON/DEP CON	TOWER	GND CON	CLNC DEL	ASR
124.2 280.5	119.1 335.8 (NW) 126.5 258.3 (SE)	134.1 315.8	118.5 275.8	123.3 235.0	

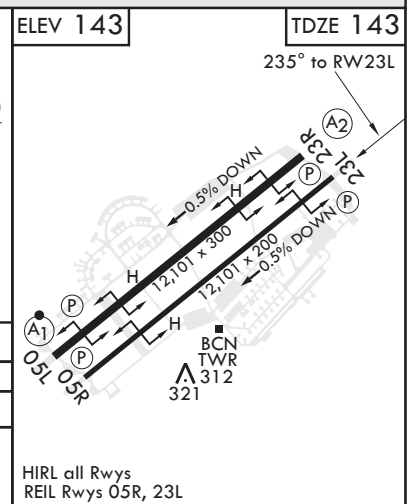
RADAR required for holding
at ADYEK above 10,000
when W174 is active.RADAR required for holding
at BYYRD above 10,000
when W178/178A is active.

EMERG SAFE ALT 100 NM 2700

6000	ADYEK	TLv FL140 TA 14,000	VGSI and Descent angles not coincident.	CITIK	ELEV 143	TDZE 143
------	-------	------------------------	--	-------	----------	----------



CATEGORY	A	B	C	D	E
LNAV MDA	740/55	597 (600-1)	740-1 ³ / ₄	597 (600-1 ³ / ₄)	
CIRCLING*	780-1 637 (700-1)	920-1 777 (800-1)	940-2 ¹ / ₄ 797 (800-2 ¹ / ₄)	940-2 ¹ / ₂ 797 (800-2 ¹ / ₂)	1160-3 1017 (1100-3)



CHANGE: Update

NOTE: REPRINTING DOD FLIP

INSTRUMENT APPROACH CHART

RODN / KADENA

APCH CRS 235°	Rwy Idg 12,101
TDZE 129	Arprt Elev 143

RNAV(GPS) RWY23R

RNP APCH - GPS

RADAR required. DME/DME RNP - 0.3 NA.

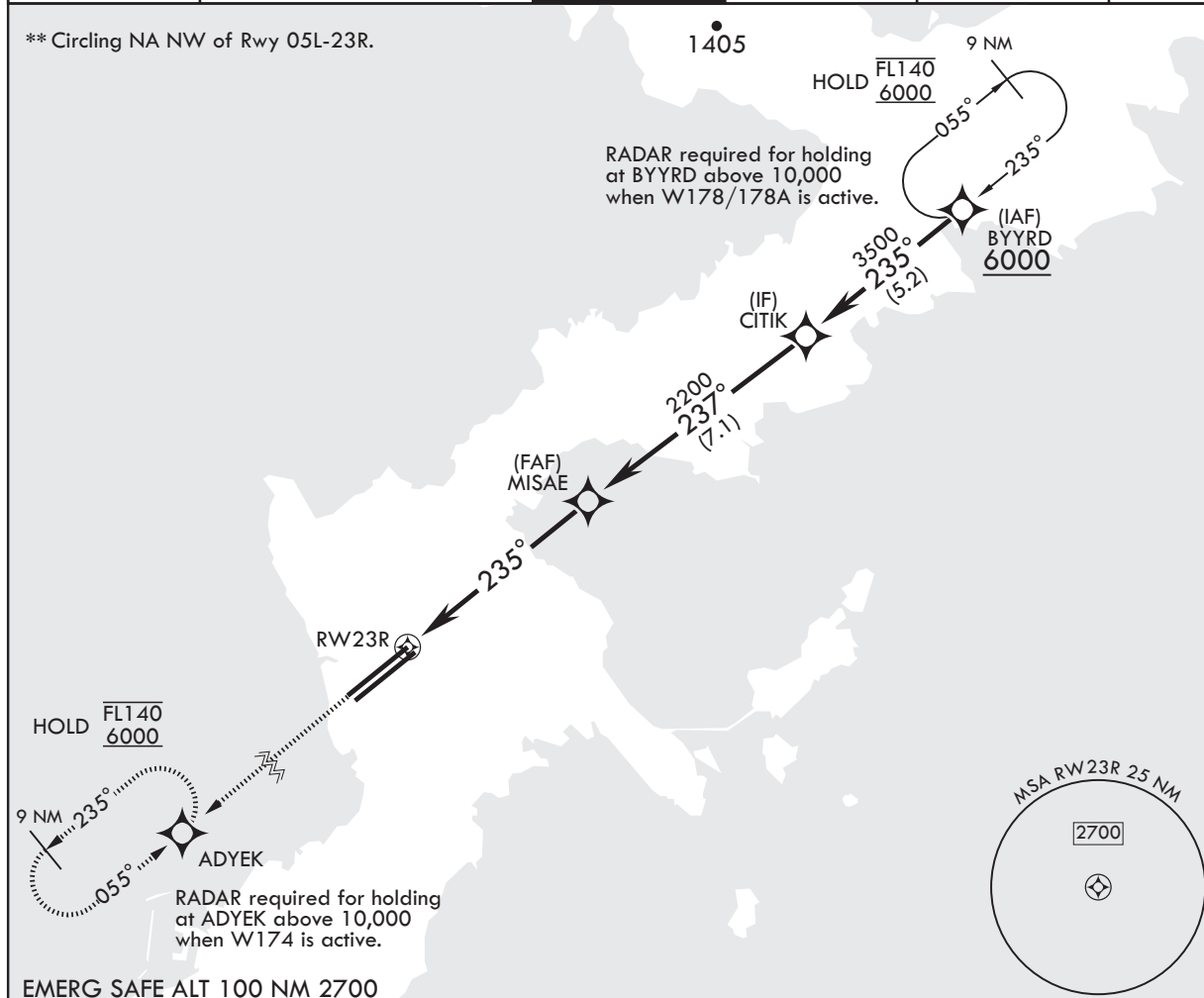
* When ALS inop, increase CAT AB RVR to 55, vis to 1 mile, CAT CDE vis to 1 3/4 miles.



MISSED APPROACH: Climbing left turn to 6000 direct ADYEK and hold. Continue climb-in-hold to 6000.

ATIS★ 124.2 280.5	NAHA APP CON/DEP CON 119.1 335.8 (NW) 126.5 258.3 (SE)	TOWER 134.1 315.8	GND CON 118.5 275.8	CLNC DEL 123.3 235.0	ASR
-----------------------------	--	-----------------------------	-------------------------------	--------------------------------	-----

** Circling NA NW of Rwy 05L-23R.



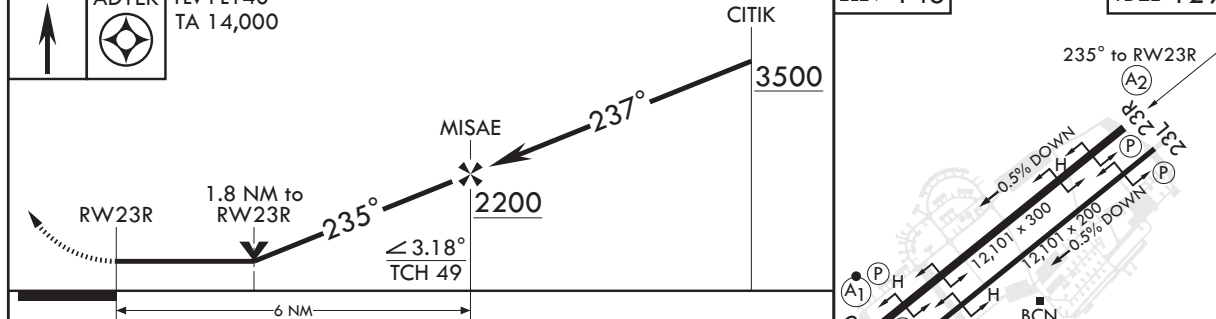
6000

TLv FL140
TA 14,000

CITIK

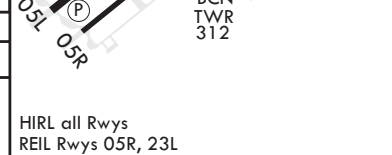
ELEV 143

TDZE 129



CHANGE: Update

CATEGORY	A	B	C	D	E
LNVA MDA*	740/40 611 (600-3/4)	740-1 611 (600-1 1/2)	740-1 1/2 611 (600-1 1/2)	740-2 1/2 611 (600-1 1/2)	740-3 611 (600-1 1/2)
CIRCLING**	780-1 637 (700-1)	920-1 777 (800-1)	940-2 1/4 797 (800-2 1/4)	940-2 1/2 797 (800-2 1/2)	1160-3 1017 (1100-3)



NOTE: REPRINTING DOD FLIP