# Addendum

# July 2011

FAA-CT-8080-7C

# COMPUTER TESTING SUPPLEMENT FOR AIRLINE TRANSPORT PILOT AND AIRCRAFT DISPATCHER

**DO NOT MARK IN THIS BOOK**

U.S. Department of Transportation
**Federal Aviation Administration**

## 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* |
|---|---|---|
| CARLSBAD, CA | | |
| MC CLELLAN-PALOMAR (CRQ) | HS 1 | Large Jets may obscure twr visibility of small aircraft. |
| CHINO, CA | | |
| CHINO (CNO) | HS 1 | Twy D close proximity to Rwy 08L-26R. |
| | HS 2 | Twy L close proximity to Rwy 03-21. |
| HAWTHORNE, CA | | |
| JACK NORTHROP FIELD/ HAWTHORNE MUNI (HHR) | HS 1 | Rwy 25 run-up area. |
| LONG BEACH, CA | | |
| LONG BEACH (DAUGHERTY FLD) (LGB) | HS 1 | Rwy 30 and Rwy 07L-25R, Twy A and Twy D. |
| | HS 2 | Rwy 12-30 and Rwy 07L-25R, Twy B and Twy K. |
| | HS 3 | Rwy 07R-25L, Twy B. |
| | HS 4 | Rwy 07R-25L and Rwy 12-30, Twy J and Twy D. |
| | HS 5 | Rwy 16R-34L, southwest ramp, Twy F and Twy B. |
| | HS 6 | Rwy 34R and Rwy 07R-25L. |
| | HS 7 | Rwy 12-30 cross every other rwy. |
| LOS ANGELES, CA | | |
| LOS ANGELES INTL (LAX) | HS 1 | Twy R not visible from the control twr. |
| PALM SPRINGS, CA | | |
| PALM SPRINGS INTL (PSP) | HS 1 | Twy C mistaken for Rwy 13R-31L or Rwy 13L-31R. |
| | HS 2 | Int of Twy B and Twy C. |
| | HS 3 | Twy B and Rwy 31R. |
| | HS 4 | Twy C and Twy J. |
| RIVERSIDE, CA | | |
| RIVERSIDE MUNI (RAL) | HS 1 | Rwy 27, Twy C. |
| | HS 2 | ATC non-visibility area. |
| SAN DIEGO, CA | | |
| MONTGOMERY FLD (MYF) | HS 1 | Rwy 10R-28L, Twy G and Twy H. |
| | HS 2 | Rwy 28R and Rwy 28L, Twys G. |
| | HS 3 | Rwy 28R and Rwy 28L, Twys F. |
| SANTA ANA, CA | | |
| JOHN WAYNE ARPT-ORANGE COUNTY (SNA) | HS 1 | Rwy 19L and Rwy 19R, Twy L and Twy K. |
| | HS 2 | Rwy 19L and Rwy 19R, Twy H. |
| | HS 3 | Twy A,Twy H, and Twy C. |

(SEE CONTINUATION PAGE FOR MORE LISTINGS)



Figure 241—Hot Spots.



10 MAR 2011 to 07 APR 2011

HOT SPOTS

(CONTINUED)

| CITY/AIRPORT | HOT SPOT | DESCRIPTION* |
|---|---|---|
| SANTA BARBARA, CA | | |
| SANTA BARBARA MUNI (SBA) | HS 1 | Rwy 07-25, Twy C. |
| | HS 2 | Rwy 15L and Rwy 15R, Twy C, wide pavement. |
| | HS 3 | Rwy 15L-33R, Rwy 15R-33L, Rwy 07-25. Rwy 15L-33R and Rwy 15R-33L utilized for taxi. |
| | HS 4 | Rwy 25, Twy H and Twy J. |
| SANTA MARIA, CA | | |
| CAPTAIN G. ALLAN HANCOCK FLD (SMX) | HS 1 | Twy A, Twy C, and Twy D. |
| | HS 2 | Rwy 20 and Twy A. |
| | HS 3 | Rwy 12 and Twy B. |
| VICTORVILLE, CA | | |
| SOUTHERN CALIFORNIA LOGISTICS (VCV) | HS 1 | Wrong rwy departure risk. |

10 MAR 2011 to 07 APR 2011

*See appropriate A/FD, Alaska or Pacific Supplement HOT SPOT table for additional information.



Figure 241—Hot Spots, continued.

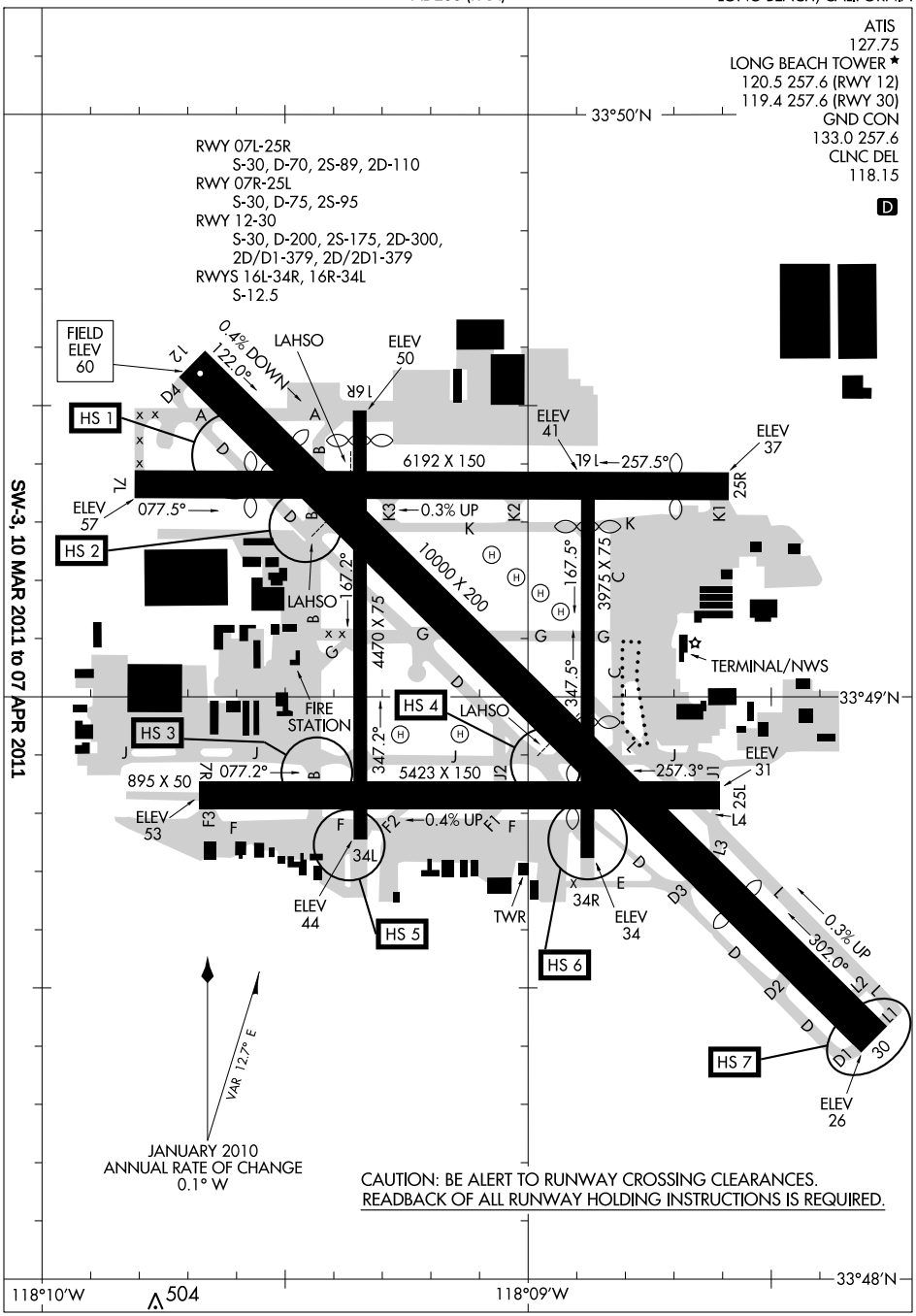




Figure 242—Airport Diagram.

## HOT SPOTS

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| CITY/AIRPORT | HOT SPOT | DESCRIPTION* |
|---|---|---|
| DAYTONA BEACH, FL | | |
| DAYTONA BEACH INTL (DAB) | HS 1 | Int of Twy W and Twy S. |
| FORT LAUDERDALE, FL | | |
| FORT LAUDERDALE-HOLLYWOOD INTL (FLL) | HS 1 | Twy E at Rwy 09L-27R. |
| | HS 2 | Twy D at Rwy 09L-27R. |
| | HS 3 | Twy Q at Rwy 09L-27R. |
| | HS 4 | Twy E int departure for Rwy 27L. |
| | HS 5 | Twy departure risk. Twy B instead of Rwy 09L. |
| HOLLYWOOD, FL | | |
| NORTH PERRY (HWO) | HS 1 | Southbound on Twy D for Rwy 27R departures. |
| | HS 2 | The hold line for Rwy 36L is also the hold line for Rwy 09R. |
| | HS 3 | Aircraft taxiing on Twy L westbound to depart on Rwy 18R-36L. |
| MIAMI, FL | | |
| MIAMI INTL (MIA) | HS 1 | Short twy risk. |
| | HS 2 | Short twy risk. |
| | HS 3 | Rwy 27 and Rwy 30 wrong rwy departure risk. |
| | HS 4 | Short twy between rwys. |
| MIAMI, FL | | |
| OPA-LOCKA EXECUTIVE (OPF) | HS 1 | Surface painted LOCATION and DIRECTION signs ONLY. |
| ORLANDO, FL | | |
| ORLANDO SANFORD INTL (SFB) | HS 1 | Twy C is beyond the Rwy 09C APCH hold sign and marking. |
| | HS 2 | Hold line for Rwy 09R on Twy R northbound is adjacent to Twy S. |
| STUART, FL | | |
| WITHAM FIELD (SUA) | HS 1 | Intersecting rwys, wrong rwy departure risk. |
| | HS 2 | Rwy 12 and Twy A1. |

*See appropriate A/FD, Alaska or Pacific Supplement HOT SPOT table for additional information.



Figure 243—Hot Spots.



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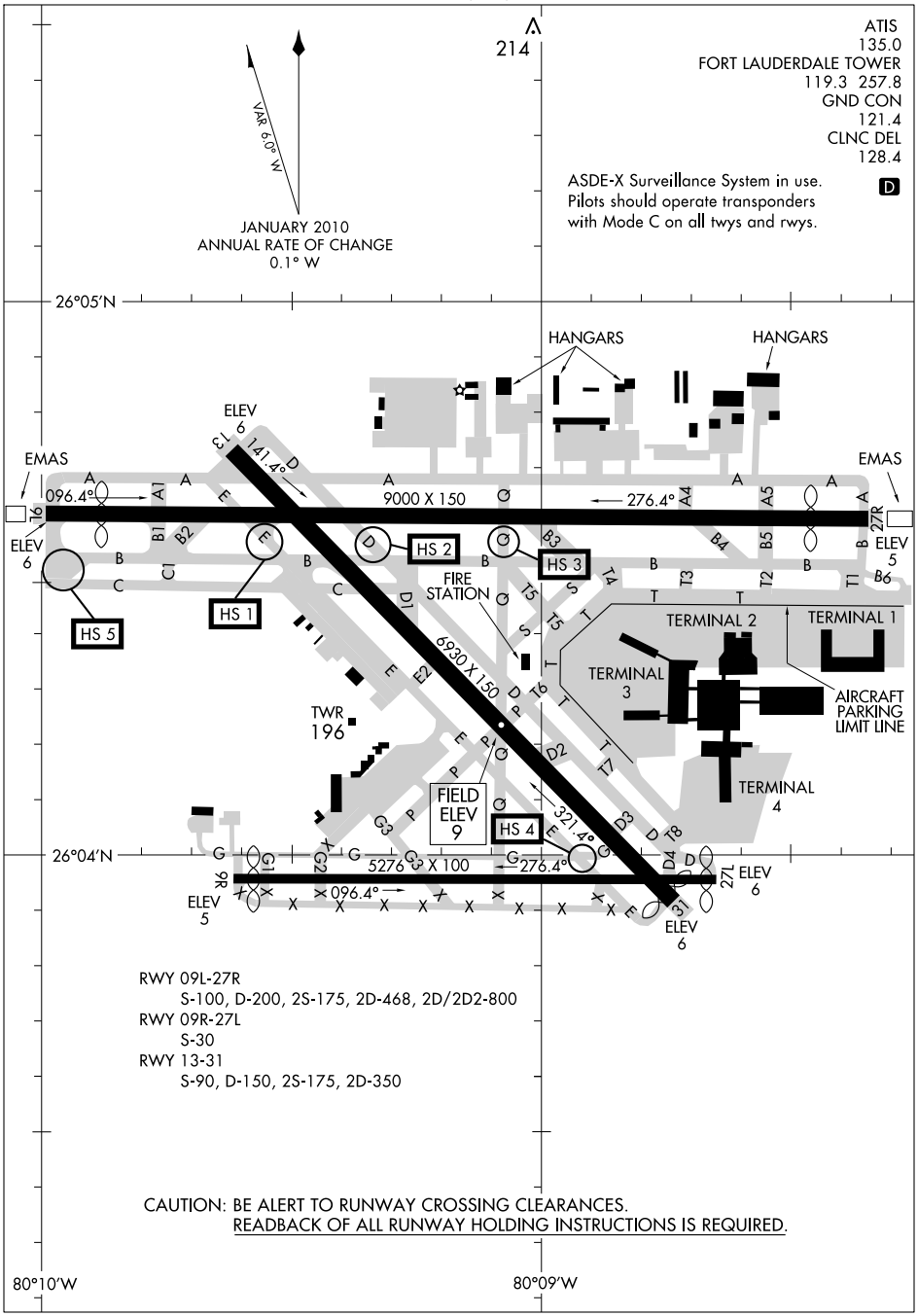
11069

# AIRPORT DIAGRAM

FORT LAUDERDALE-HOLLYWOOD INTL (FLL)
AL-744 (FAA)
FORT LAUDERDALE, FLORIDA




RWY 09L-27R
S-100, D-200, 2S-175, 2D-468, 2D/2D2-800
RWY 09R-27L
S-30
RWY 13-31
S-90, D-150, 2S-175, 2D-350

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

SE-3, 10 MAR 2011 to 07 APR 2011

SE-3, 10 MAR 2011 to 07 APR 2011

AIRPORT DIAGRAM
11069
FORT LAUDERDALE, FLORIDA
FORT LAUDERDALE-HOLLYWOOD INTL (FLL)

Figure 244—Airport Diagram.

## 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.

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| CITY/AIRPORT | HOT SPOT | DESCRIPTION* |
|---|---|---|
| CHANDLER, AZ | | |
| CHANDLER MUNI (CHD) | HS 1 | Rwy 22R may be used as an alternate taxi route. |
| LAS VEGAS, NV | | |
| HENDERSON | HS 1 | Twy H, Twy G, and Rwy 17R. |
| EXECUTIVE (HND) | HS 2 | Twy E and ramp area. High volume of traffic. |
| | HS 3 | Twy A and run up area. Twy A being confused for Rwy 35L. |
| LAS VEGAS, NV | | |
| McCARRAN INTL (LAS) | HS 1 | Rwy 01R-19L, Twy S and the ramp. |
| | HS 2 | Rwy 01R-19L and Rwy 01L-19R, Twy U. |
| | HS 3 | Rwy 01R-19L and Rwy 01L-19R, Twy Y. |
| | HS 4 | Rwy 07L and Rwy 01L, co-located rwy holding position markings. |
| | HS 5 | Twy E. |
| LAS VEGAS, NV | | |
| NORTH LAS VEGAS (VGT) | HS 1 | Rwy 07, Twy G and Twy F. |
| | HS 2 | Rwy 12R, Twy G. |
| | HS 3 | Rwy 12R, Twy A and Twy B. |
| | HS 4 | Rwy 12L, Twy A. |
| MESA, AZ | | |
| FALCON FIELD (FFZ) | HS 1 | Rwy 04R-22L, Twy B and Twy D. |
| MINDEN, NV | | |
| MINDEN-TAHOE (MEV) | HS 1 | Complex int. |
| | HS 2 | Frequent crossings for sailplane operations. |
| OGDEN, UT | | |
| OGDEN-HINCKLEY (OGD) | HS 1 | Twy D intersects Rwy 25 at north edge of Rwy 03-21. Wrong rwy departure risk. |
| | HS 2 | Confusing twy int in close proximity to rwy. |
| PHOENIX, AZ | | |
| PHOENIX DEER VALLEY (DVT) | HS 1 | Inadvertent Rwy 07R-25L crossings from Twy B5. |
| | HS 2 | Inadvertent Rwy 07R-25L crossings from Twy B9. |
| PHOENIX, AZ | | |
| PHOENIX-MESA GATEWAY (IWA) | HS 1 | Twy V, Twy B, and Twy K complex int. |
| PHOENIX, AZ | | |
| PHOENIX SKY HARBOR INTL (PHX) | HS 1 | Pilots sometimes mistake Twy F for Rwy 07L or Rwy 07R. |
| | HS 2 | Pilots sometimes cross Rwy 07L-25R at Twy F8, Twy F9, or Twy F10, without authorization. |
| | HS 3 | Aircraft taxiing from southern ramps have turned onto Rwy 25L when given instructions to cross Rwy 25L at Twy H3. |

(SEE CONTINUATION PAGE FOR MORE LISTINGS)



Figure 245—Hot Spots.



10 MAR 2011 to 07 APR 2011

10 MAR 2011 to 07 APR 2011

HOT SPOTS

(CONTINUED)

| CITY/AIRPORT | HOT SPOT | DESCRIPTION* |
|---|---|---|
| PRESCOTT, AZ | | |
| ERNEST A. LOVE FLD (PRC) | HS 1 | Not visible from the twr. |
| | HS 2 | Complex int. |
| | HS 3 | Complex int. |
| | HS 4 | Not visible from the twr. |
| | HS 5 | Frequent rwy crossings. |
| PROVO, UT | | |
| PROVO MUNI (PVU) | HS 1 | Twy A and Twy A3 close proximity to ramp and rwys. |
| RENO, NV | | |
| RENO/TAHOE INTL (RNO) | HS 1 | Rwy 07-25, Twy A and Twy B. |
| | HS 2 | Twy C and the ramp. |
| | HS 3 | Rwy 16L, Twy C and Twy D. |
| SALT LAKE CITY, UT | | |
| SALT LAKE CITY INTL (SLC) | HS 1 | Hold line on apch end of Rwy 32 protects Rwy 35. |
| | HS 2 | Confusing int. Twy K2 ramp in close proximity to Rwy 17-35. |
| | HS 3 | Area not visible from control twr. Hold line at K1 in close proximity to ramp, protects Rwy 32 and Rwy 35. |
| | HS 4 | Intermittent radio reception with ATC at apch end of Rwy 16L for some aircraft. |
| TUCSON, AZ | | |
| RYAN FIELD (RYN) | HS 1 | Rwy 33 and Rwy 06R, Twy B. |
| TUCSON, AZ | | |
| TUCSON INTL (TUS) | HS 1 | Twy A, Twy D and Twy A3, complex int. |
| | HS 2 | Rwy 11L and Rwy 11R apch areas. |
| | HS 3 | Rwy 29R and Rwy 29L. |
| | HS 4 | Twy A5 and Twy A6 in close proximity of Rwy 11L-29R. |

*See appropriate A/FD, Alaska or Pacific Supplement HOT SPOT table for additional information.



Figure 245—Hot Spots, continued.



10 MAR 2011 to 07 APR 2011

10 MAR 2011 to 07 APR 2011

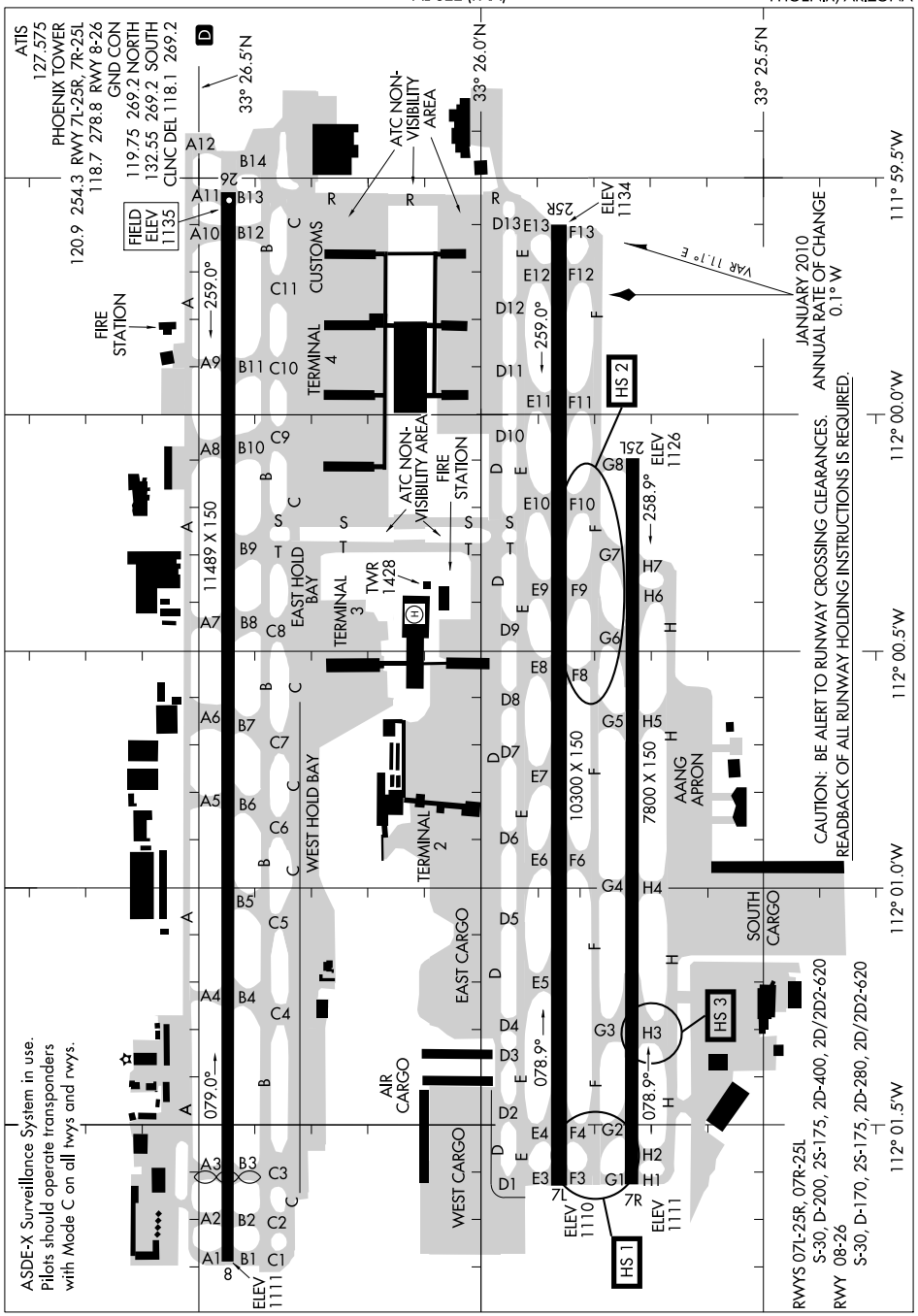
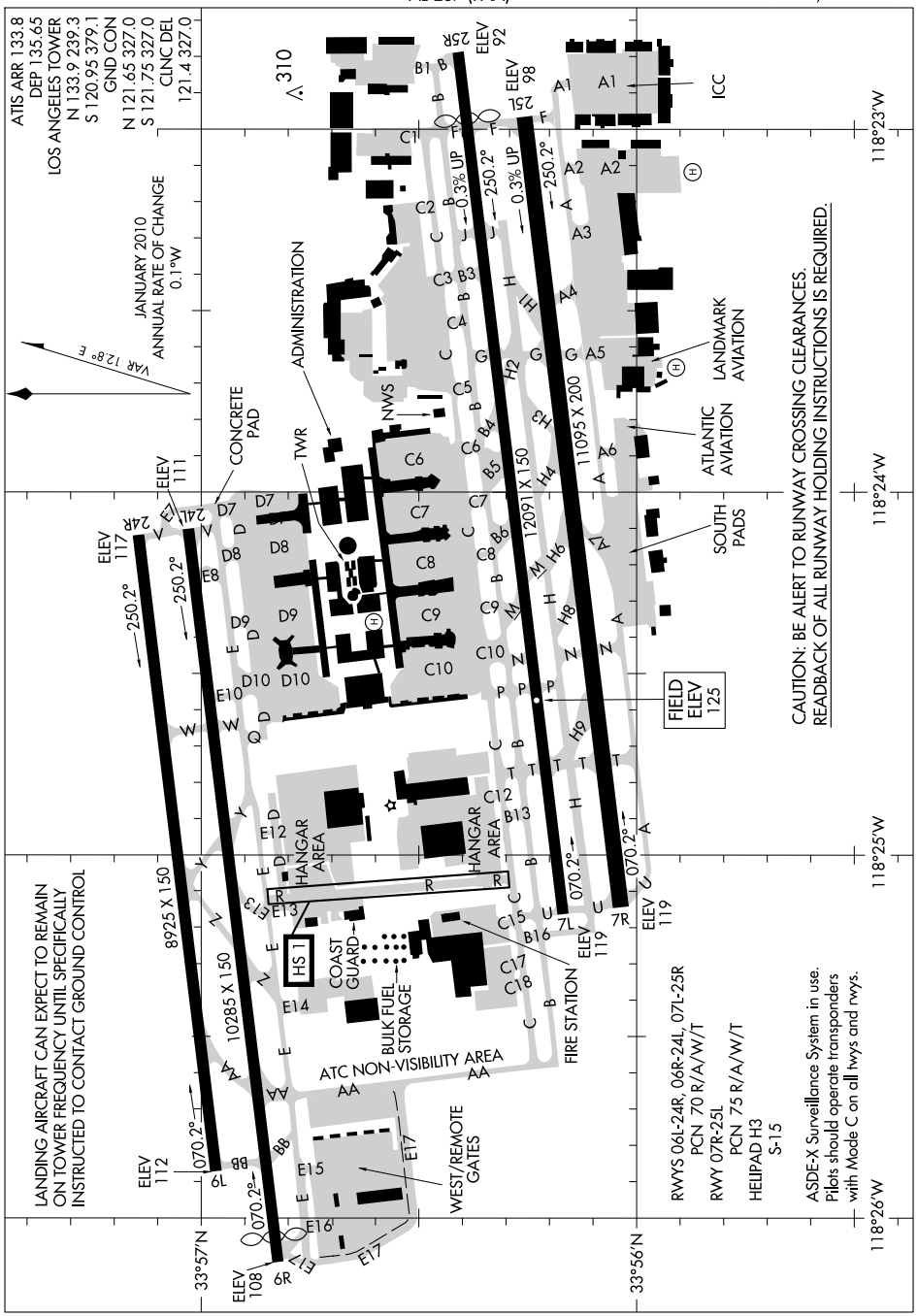





Figure 246—Airport Diagram.




SW-4, 10 MAR 2011 to 07 APR 2011





SW-3, 10 MAR 2011 to 07 APR 2011

AIRPORT DIAGRAM
LOS ANGELES, CALIFORNIA
LOS ANGELES INTL (LAX)
11069

Figure 247—Airport Diagram.

| WAAS CH 90410 W02A | APP CRS 023° | Rwy ldg 8519<br>TDZE 7539<br>Apt Elev 7539 |
|---|---|---|

# RNAV (GPS) RWY 2

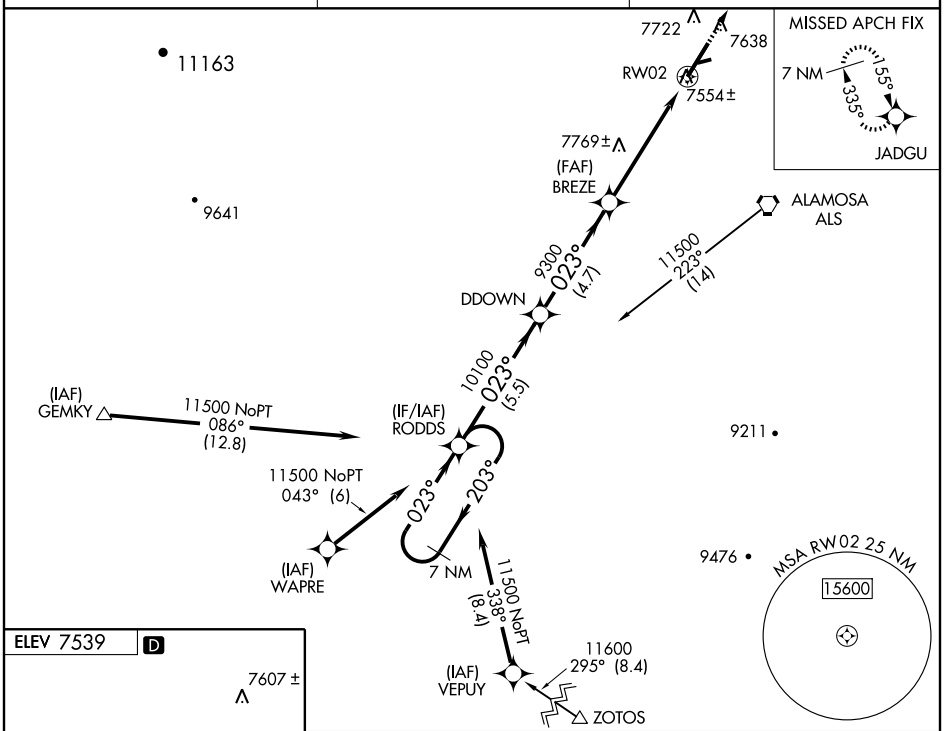
## ALAMOSA/SAN LUIS VALLEY RGNL/BERGMAN FIELD (ALS)

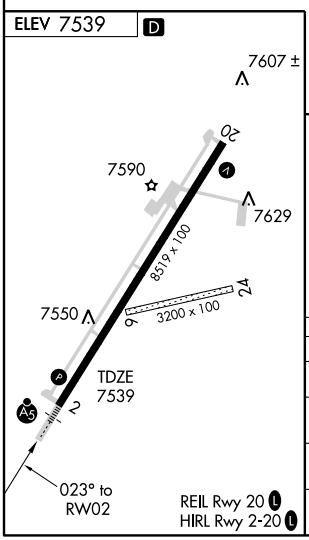
For inoperative MALSR, increase LNAV/VNAV Cat D visibility to 1 mile. When local altimeter setting not received, procedure NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -30°C (-22°F) or above 34°C (93°F). DME/DME RNP -0.3 NA.

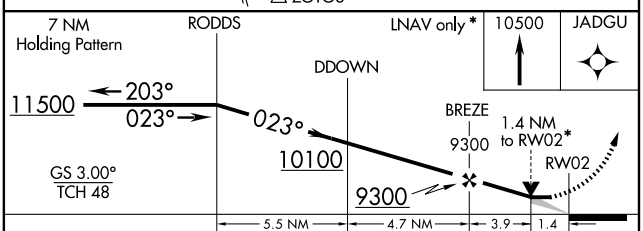
MALSR

MISSED APPROACH: Climb to 10500 direct JADGU and hold.

| ASOS | DENVER CENTER | UNICOM |
|---|---|---|
| 135.175 | 128.375 379.95 | 122.8 (CTAF) L |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| LPV DA | 7739-½ 200 (300-½) | | | |
| LNAV/VNAV DA | 7804-½ 265 (300-½) | | | 7804-¾ 265 (300-¾) |
| LNAV MDA | 8020-½ 481 (500-½) | | 8020-¾ 481 (500-¾) | 8020-1 481 (500-1) |
| CIRCLING | 8040-1 501 (600-1) | | 8040-1½ 501 (600-1½) | 8100-2 561 (600-2) |



Figure 248—Airport Diagram.

| WAAS CH 70507 W19A | APP CRS 190° | Rwy ldg 6400<br>TDZE 118<br>Apt Elev 126 |
|---|---|---|

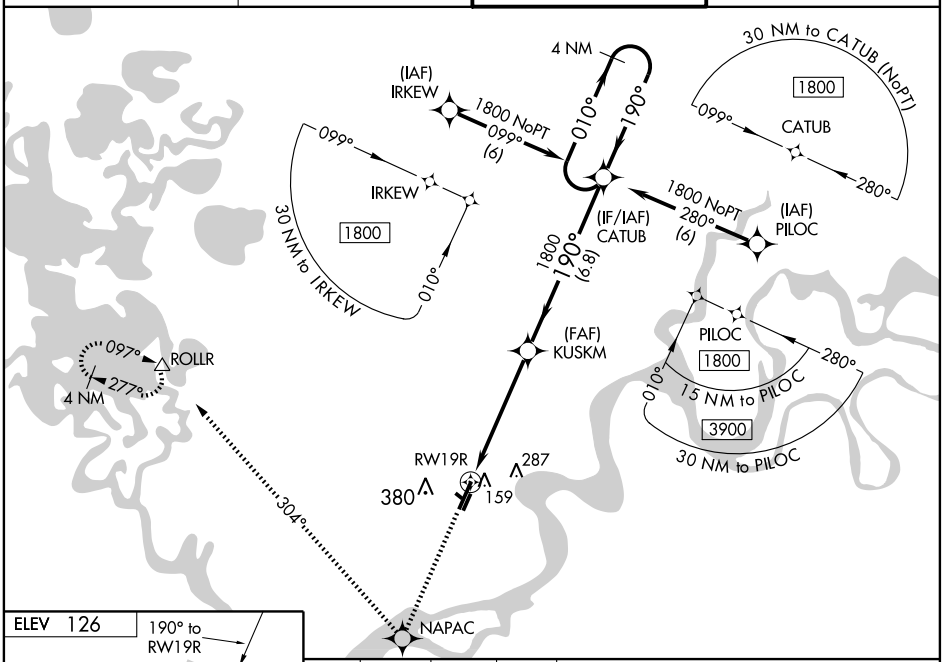
# RNAV (GPS) RWY 19R
## BETHEL (BET)(PABE)

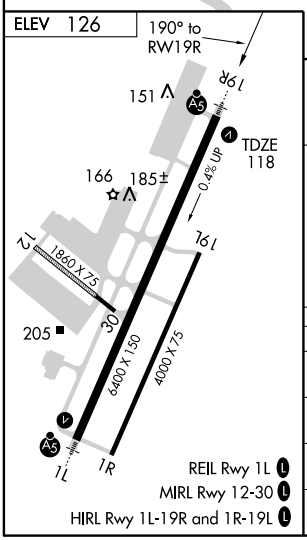
T Circling to Rwy 12-30 and 1R-19L NA at night.
W For inoperative MALSR, increase LPV all Cats visibility to RVR 5000.
Circling NA west of Rwy 1L-19R.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -25°C (-13°F) or above 48°C (118°F).
DME/DME RNP-0.3 NA.

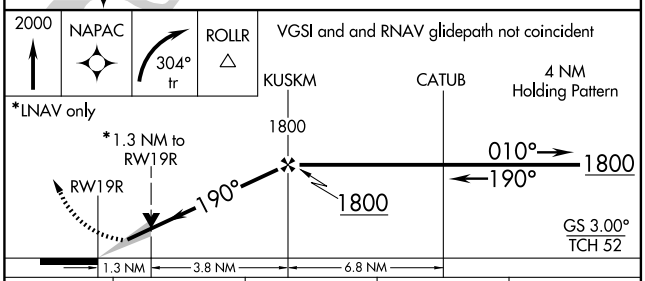
MALSR

MISSED APPROACH: Climb to 2000 direct NAPAC and right turn via 304° track to ROLLR and hold.

| ATIS | ANCHORAGE CENTER | BETHEL TOWER ★ | GND CON |
|---|---|---|---|
| 119.8 | 125.2 372.0 | 118.7 (CTAF) L | 121.7 |




| CATEGORY | | A | B | C | D |
|---|---|---|---|---|---|
| LPV | DA | 368/24 250 (300-½) | | | |
| LNAV/VNAV | DA | 459/40 341 (400-¾) | | | |
| LNAV | MDA | 560/24 442 (500-½) | | 560/40 442 (500-¾) | 560/50 442 (500-1) |
| CIRCLING | | 560-1 434 (500-1) | 580-1 454 (500-1) | 600-1½ 474 (500-1½) | 680-2 554 (600-2) |



Figure 249—Airport Diagram.

AK, 10 MAR 2011 to 05 MAY 2011
AK, 10 MAR 2011 to 05 MAY 2011

| WAAS CH 65605 W02A | APP CRS 019° | Rwy ldg 7200<br>TDZE 682<br>Apt Elev 682 |
|---|---|---|

# RNAV (GPS) RWY 2
## CHATTANOOGA/LOVELL FIELD (CHA)

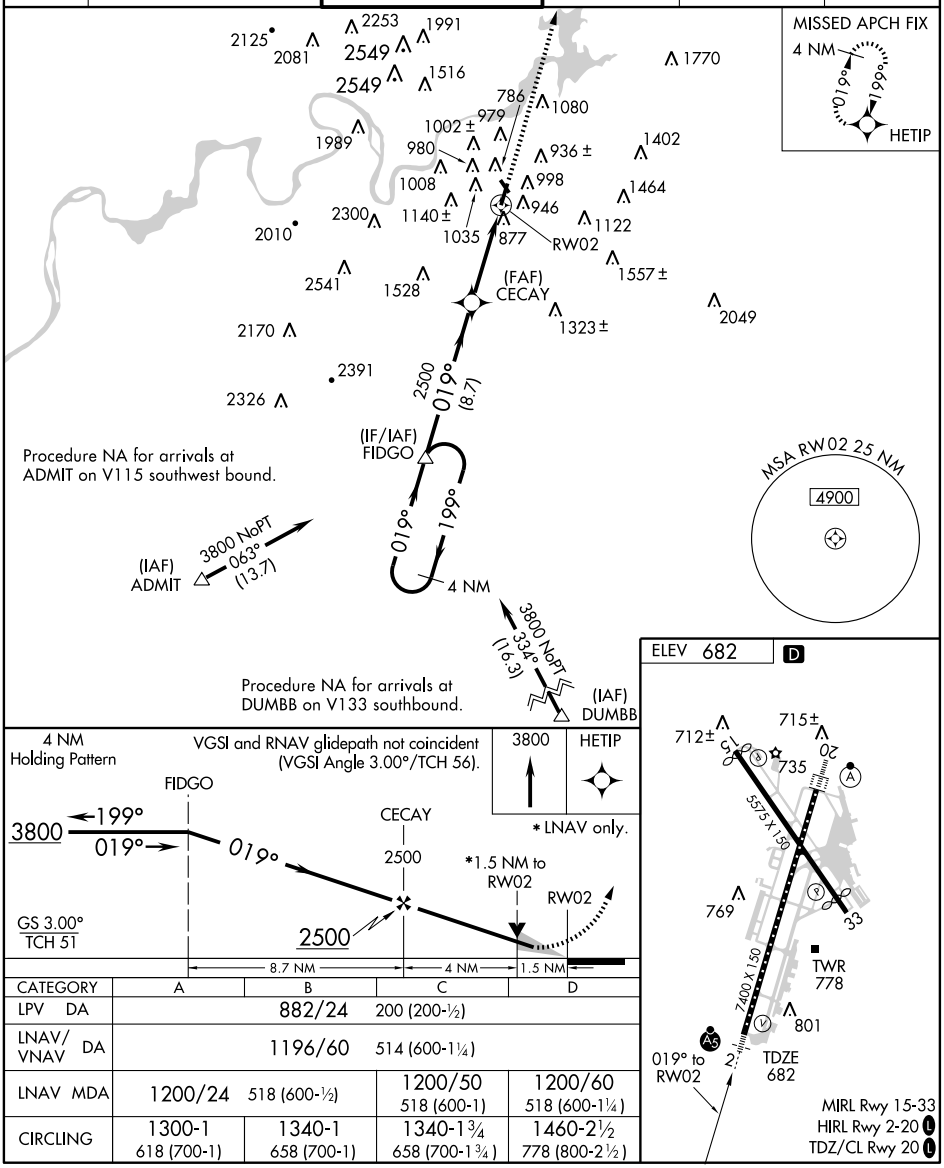
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 16°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. Circling to Rwy 15/33 NA when control tower closed.

ASR

MALSR

MISSED APPROACH: Climb to 3800 direct HETIP and hold.

| ATIS | CHATTANOOGA APP CON ★ | CHATTANOOGA TOWER ★ | GND CON | CLNC DEL | UNICOM |
|---|---|---|---|---|---|
| 119.85 | 125.1 379.1 | 118.3 (CTAF) L 257.8 | 121.7 348.6 | 120.95 348.6 | 122.95 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| LPV DA | 882/24 200 (200-½) | | | |
| LNAV/VNAV DA | 1196/60 514 (600-1¼) | | | |
| LNAV MDA | 1200/24 518 (600-½) | | 1200/50 518 (600-1) | 1200/60 518 (600-1¼) |
| CIRCLING | 1300-1 618 (700-1) | 1340-1 658 (700-1) | 1340-1¾ 658 (700-1¾) | 1460-2½ 778 (800-2½) |



Figure 250—Airport Diagram.


SE-1, 10 MAR 2011 to 07 APR 2011

HONOLULU, HAWAII

AL-754 (FAA)

11013

# RNAV (RNP) RWY 26L
## HONOLULU INTL (HNL)(PHNL)

| APP CRS | Rwy ldg | 12000 |
|---|---|---|
| 259° | TDZE | 10 |
| | Apt Elev | 13 |

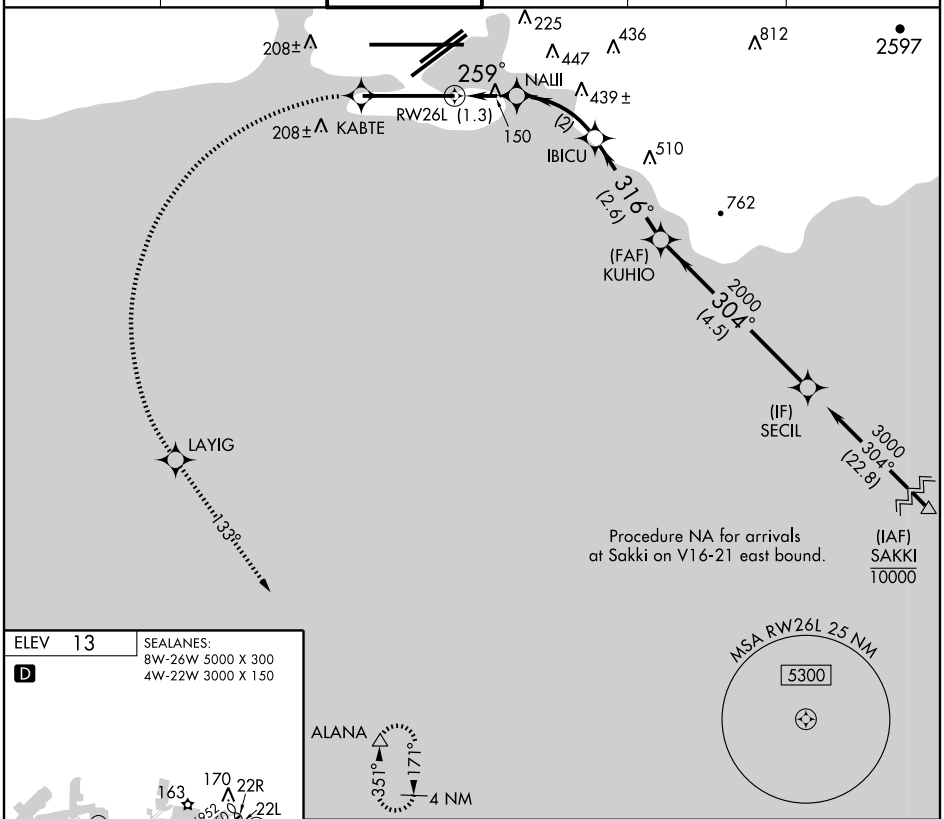
RF and GPS REQUIRED. For uncompensated Baro-VNAV systems, procedure NA below 15°C (58°F) or above 49°C (121°F). For inoperative MALSF, increase RNP 0.15 visibility to 1 all Cats.
* Missed approach requires a minimum climb of 234′ per NM to 300.

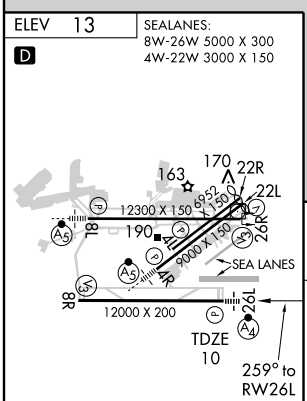
NA

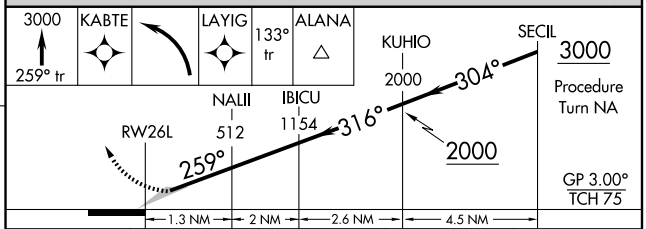
MALSF

MISSED APPROACH: Climb to 3000 via 259° track to KABTE, left turn via 4.9 radius to LAYIG, 133° track to ALANA and hold.

| ATIS | HCF APPROACH | HONOLULU TOWER | GND CON | CLNC DEL | RAMP CONTROL |
|---|---|---|---|---|---|
| 127.9 251.15 | 118.3 269.0 | 118.1 257.8 | 121.9 348.6 | 121.4 281.4 | 121.8 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| RNP 0.15 DA* | 260-½ 250 (300-½) | | | |

MIRL Rwy 4L-22R
REIL Rwys 4L, 8R, 22L, 22R and 26R
HIRL Rwys 4R-22L, 8L-26R and 8R-26L

**SPECIAL AIRCRAFT & AIRCREW AUTHORIZATION REQUIRED**

HONOLULU, HAWAII
Orig-B 13JAN11

21° 19′N-157° 55′W

HONOLULU INTL (HNL)(PHNL)
RNAV (RNP) RWY 26L

FAA-CT-8080-7C

Figure 251—Airport Diagram.

PAC, 10 MAR 2011 to 05 MAY 2011

PAC, 10 MAR 2011 to 05 MAY 2011

| WAAS CH 69219 W04A | APP CRS 041° | Rwy ldg 5001 TDZE 270 Apt Elev 288 |
|---|---|---|

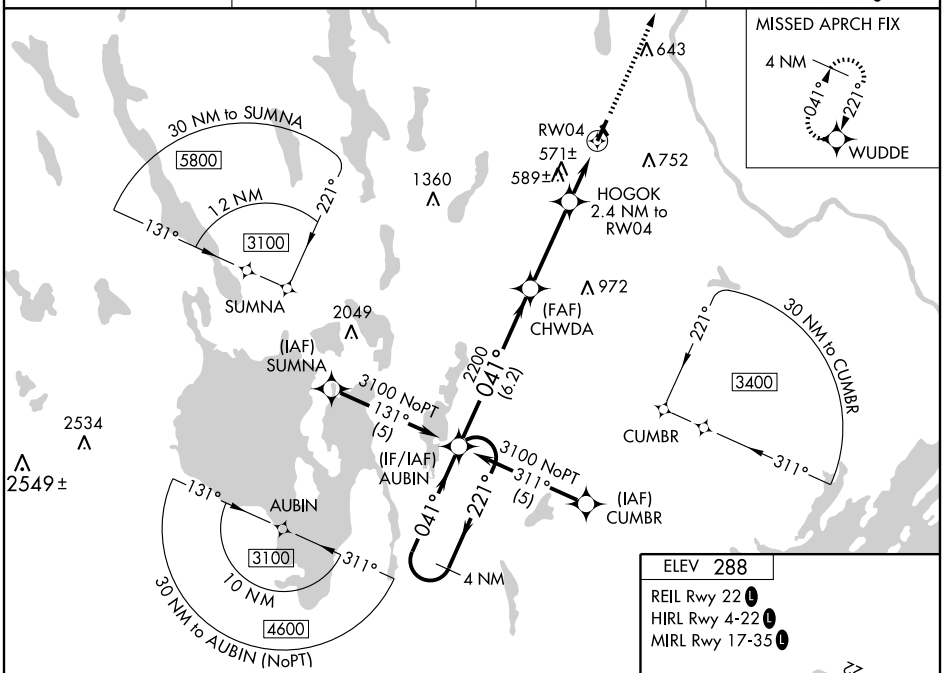
# RNAV (GPS) RWY 4
## AUBURN-LEWISTON MUNI (LEW)

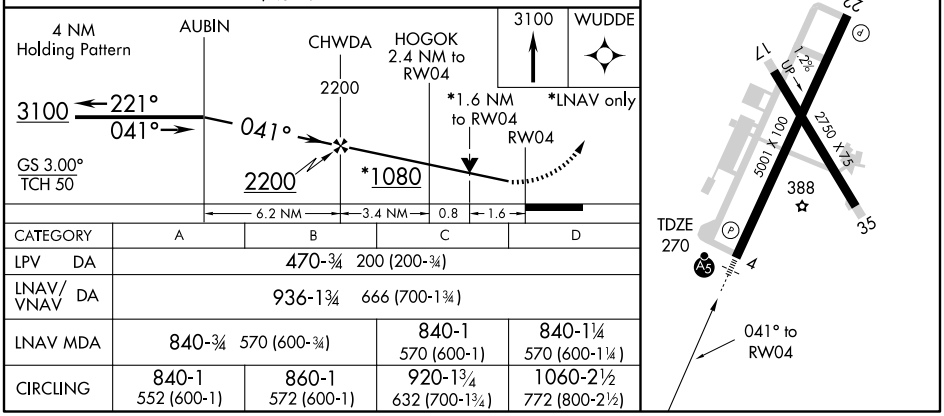
Circling to Rwy 17, 22, 35 NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 48°C (118°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Augusta altimeter setting and increase all DA 71 feet and all MDA 80 feet; increase LNAV/VNAV all Cats visibility ¼ mile and LNAV and circling Cats C/D visibility ¼ mile. Baro-VNAV and VDP NA when using Augusta altimeter setting. Inoperative table does not apply to LPV all Cats. For inoperative MALSR, increase LNAV Cats A and B visibility to 1 mile. For inoperative MALSR, when using Augusta altimeter setting increase LNAV Cats A and B visibility to 1 mile.

MALSR A5

MISSED APPROACH: Climb to 3100 direct WUDDE and hold.

| AWOS-3 | PORTLAND APP CON * | PORTLAND CLNC DEL | UNICOM |
|---|---|---|---|
| 118.025 | 125.5 353.9 | 124.05 | 122.8 (CTAF) L |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| LPV DA | 470-¾ 200 (200-¾) | | | |
| LNAV/VNAV DA | 936-1¾ 666 (700-1¾) | | | |
| LNAV MDA | 840-¾ 570 (600-¾) | | 840-1 570 (600-1) | 840-1¼ 570 (600-1¼) |
| CIRCLING | 840-1 552 (600-1) | 860-1 572 (600-1) | 920-1¾ 632 (700-1¾) | 1060-2½ 772 (800-2½) |



Figure 252—Airport Diagram.

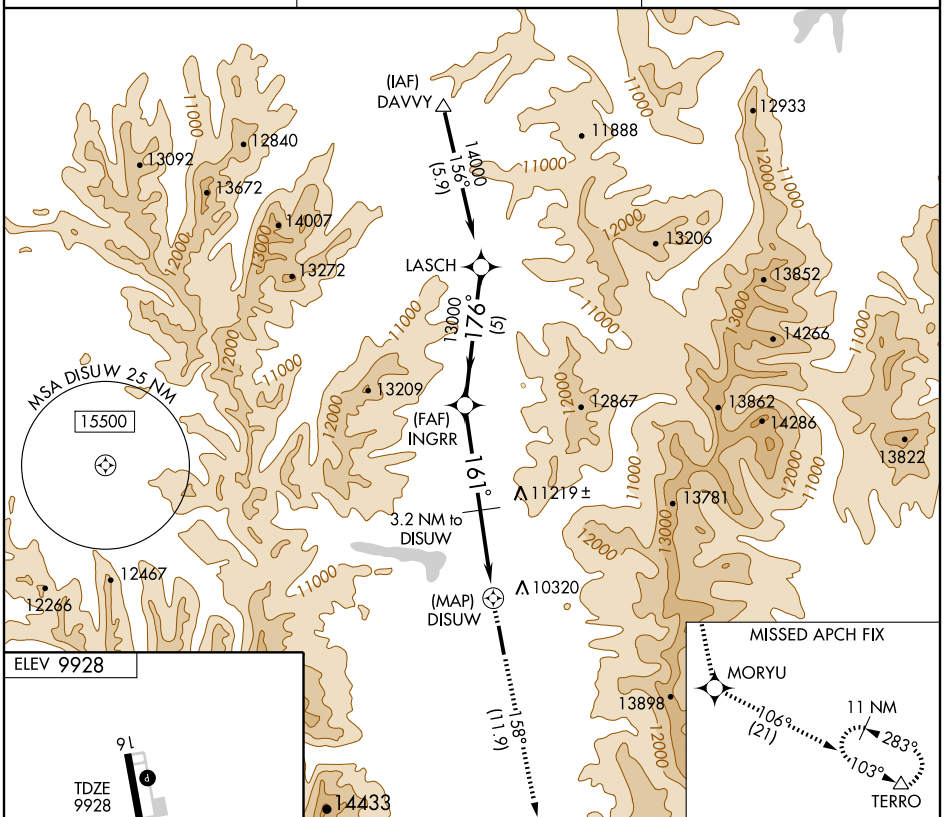
| APP CRS | Rwy ldg | 6400 |
|---|---|---|
| 161° | TDZE | 9928 |
| | Apt Elev | 9928 |

# GPS RWY 16
## LEADVILLE/LAKE COUNTY (LXV)

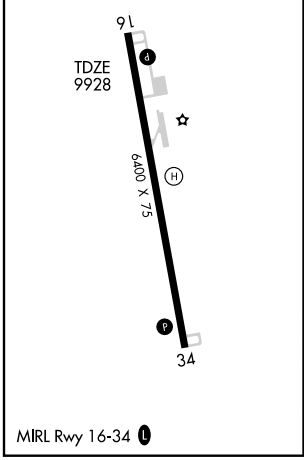
T
NA

MISSED APPROACH: Climb to 16000 via 158° course to MORYU WP, then via 106° course to TERRO WP and hold.

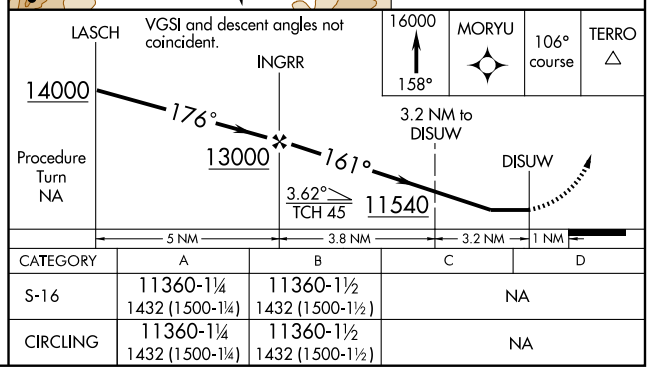
| ASOS | DENVER CENTER | UNICOM |
|---|---|---|
| 118.375 | 119.85 363.15 | 122.8 (CTAF) L |




ELEV 9928




MIRL Rwy 16-34 L




| 16000 | MORYU | 106° course | TERRO |
|---|---|---|---|
| 158° | | | |

| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-16 | 11360-1¼<br>1432 (1500-1¼) | 11360-1½<br>1432 (1500-1½) | NA | |
| CIRCLING | 11360-1¼<br>1432 (1500-1¼) | 11360-1½<br>1432 (1500-1½) | NA | |



Figure 253—Airport Diagram.

| LOC/DME I-JDL | APP CRS | Rwy ldg | 8457 |
|---|---|---|---|
| 109.9 | 068° | TDZE | 21 |
| Chan 36 | | Apt Elev | 21 |

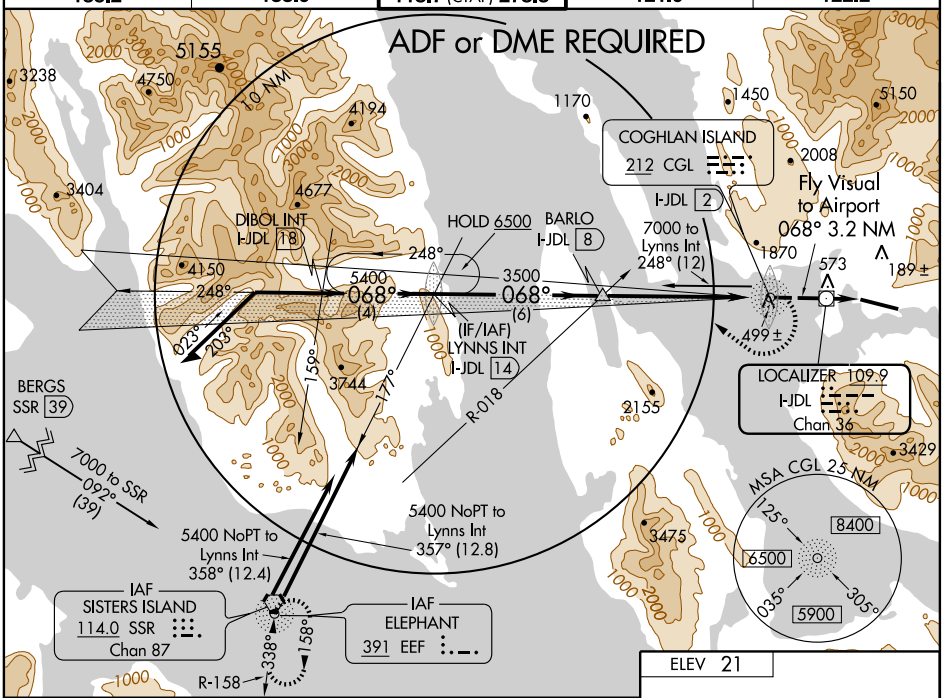
# LDA X RWY 8
## JUNEAU INTL (JNU)(PAJN)

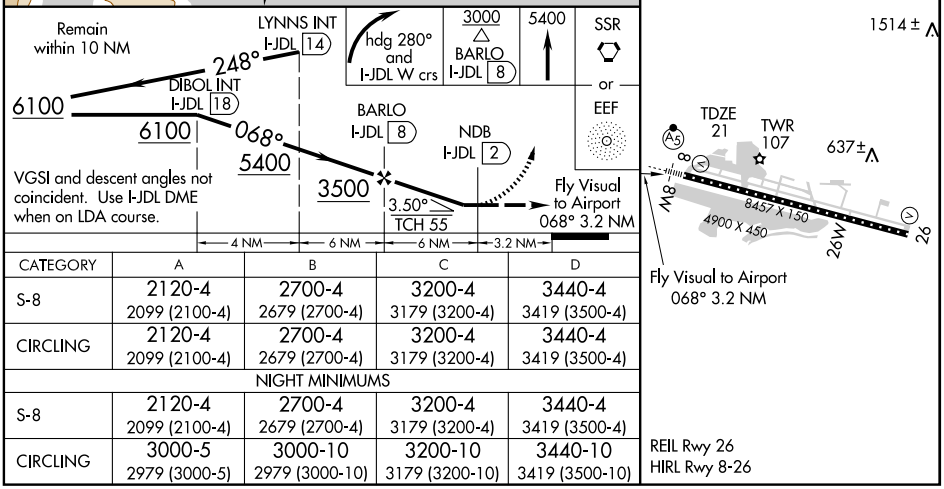
Circling NA north of Rwy 8/26. CAUTION: Any go-around after passing MAP will not provide standard obstruction clearance. For night circling, if runway lights not visible over MAP, execute missed approach.

MALSR

MISSED APPROACH: Immediate climbing right turn via heading 280° and I-JDL west course to cross BARLO Int/I-JDL 8 DME at or above 3000. Continue climb to 5400 direct SSR VORTAC or EEF NDB and hold.

| ATIS | ANCHORAGE CENTER | JUNEAU TOWER★ | GND CON | JUNEAU RADIO |
|---|---|---|---|---|
| 135.2 | 133.9 | 118.7 (CTAF) 278.3 | 121.9 | 122.2 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-8 | 2120-4<br>2099 (2100-4) | 2700-4<br>2679 (2700-4) | 3200-4<br>3179 (3200-4) | 3440-4<br>3419 (3500-4) |
| CIRCLING | 2120-4<br>2099 (2100-4) | 2700-4<br>2679 (2700-4) | 3200-4<br>3179 (3200-4) | 3440-4<br>3419 (3500-4) |
| NIGHT MINIMUMS | | | | |
| S-8 | 2120-4<br>2099 (2100-4) | 2700-4<br>2679 (2700-4) | 3200-4<br>3179 (3200-4) | 3440-4<br>3419 (3500-4) |
| CIRCLING | 3000-5<br>2979 (3000-5) | 3000-10<br>2979 (3000-10) | 3200-10<br>3179 (3200-10) | 3440-10<br>3419 (3500-10) |

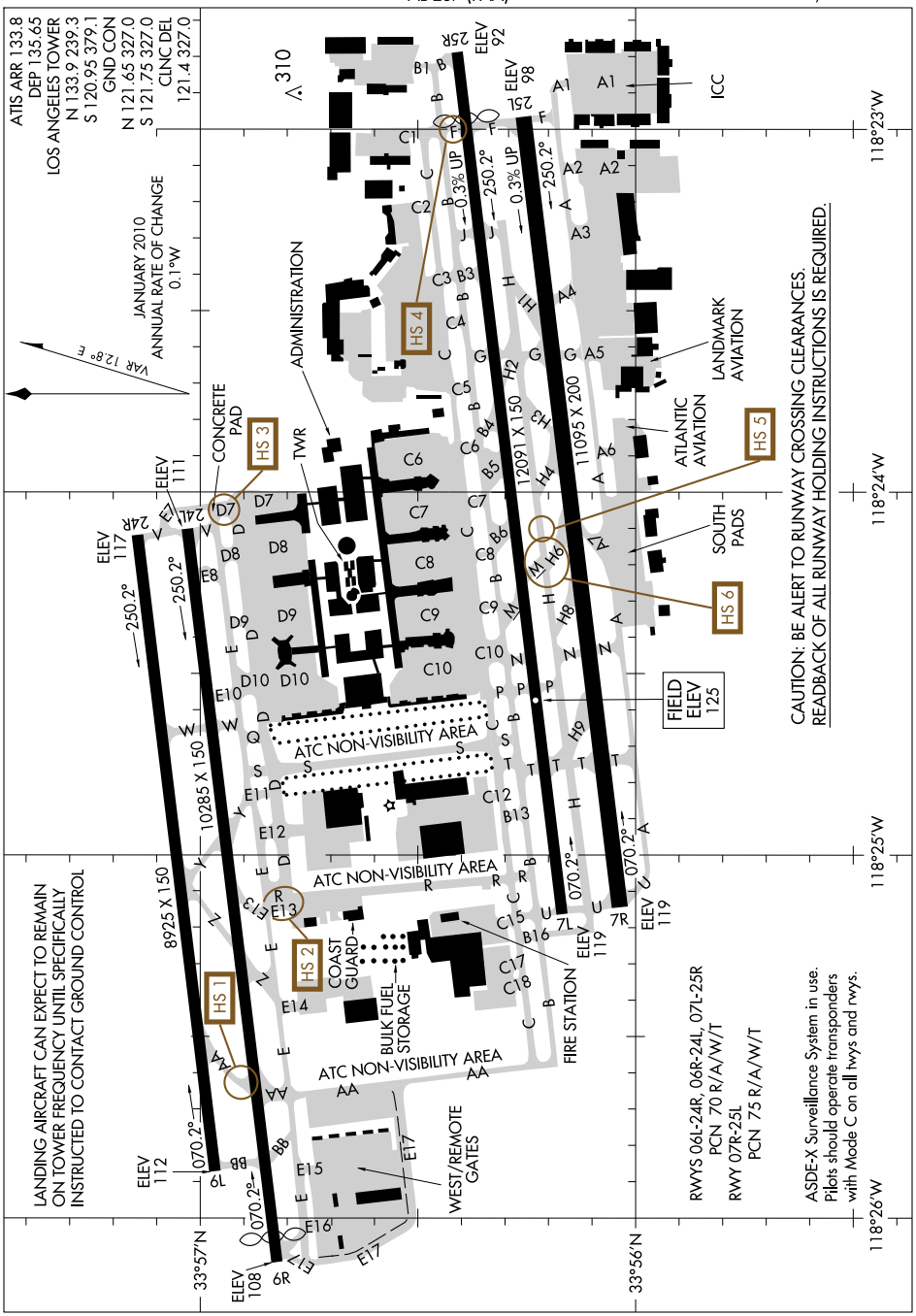
REIL Rwy 26
HIRL Rwy 8-26

AK, 05 APR 2012 to 31 MAY 2012

AK, 05 APR 2012 to 31 MAY 2012



Figure 254




SW-3, 05 APR 2012 to 03 MAY 2012

SW-3, 05 APR 2012 to 03 MAY 2012



Figure 255

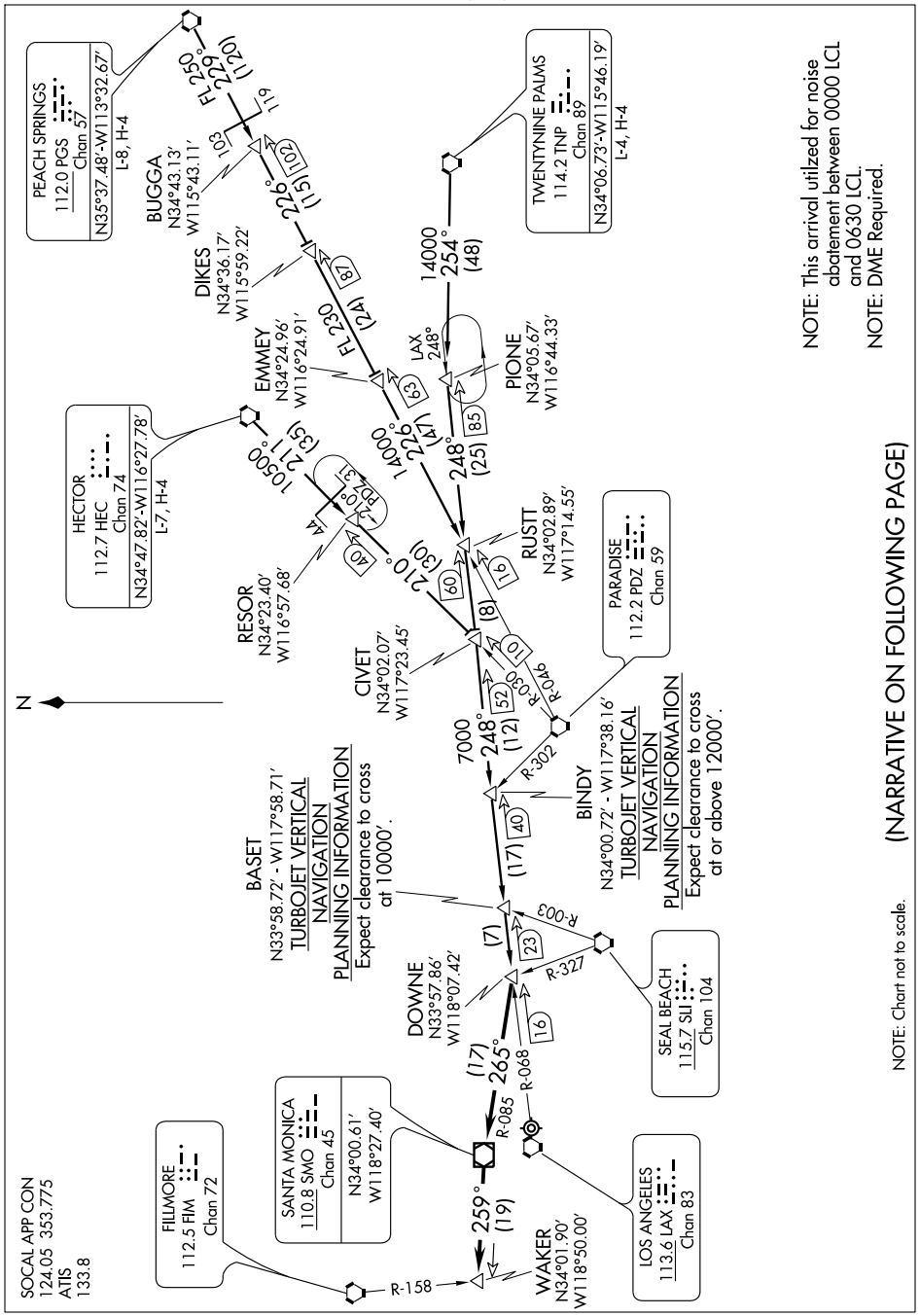

PEACH SPRINGS
112.0 PGS
Chan 57
N35°37.48'-W113°32.67'
L-8, H-4
BUGGA
N34°43.13'
W115°43.11'
DIKES
N34°36.17'
W115°59.22'
EMMEY
N34°24.96'
W116°24.91'
LAX
248°
PIONE
N34°05.67'
W116°44.33'
TWENTYNINE PALMS
114.2 TNP
Chan 89
N34°06.73'-W115°46.19'
L-4, H-4
HECTOR
112.7 HEC
Chan 74
N34°47.82'-W116°27.78'
L-7, H-4
RESOR
N34°23.40'
W116°57.68'
CIVET
N34°02.07'
W117°23.45'
RUSTT
N34°02.89'
W117°14.55'
PARADISE
112.2 PDZ
Chan 59
BASET
N33°58.72' - W117°58.71'
TURBOJET VERTICAL
NAVIGATION
PLANNING INFORMATION
Expect clearance to cross
at 10000'.
BINDY
N34°00.72' - W117°38.16'
TURBOJET VERTICAL
NAVIGATION
PLANNING INFORMATION
Expect clearance to cross
at or above 12000'.
DOWNE
N33°57.86'
W118°07.42'
SEAL BEACH
115.7 SLI
Chan 104
SANTA MONICA
110.8 SMO
Chan 45
N34°00.61'
W118°27.40'
FILLMORE
112.5 FIM
Chan 72
WAKER
N34°01.90'
W118°50.00'
LOS ANGELES
113.6 LAX
Chan 83
N
SOCAL APP CON
124.05 353.775
ATIS
133.8
NOTE: This arrival utilized for noise
abatement between 0000 LCL
and 0630 LCL.
NOTE: DME Required.
NOTE: Chart not to scale.
(NARRATIVE ON FOLLOWING PAGE)



**Figure 255A**

ARRIVAL DESCRIPTION

HECTOR TRANSITION (HEC.DOWNE4): From over HEC VORTAC via HEC R-211 and PDZ R-030 to CIVET INT, then LAX R-068 to DOWNE INT. Thence....
PEACH SPRINGS TRANSITION (PGS.DOWNE4): From over PGS VORTAC via PGS R-229 and PDZ R-046 to RUSTT INT, then LAX R-068 to DOWNE INT. Thence....
TWENTYNINE PALMS TRANSITION (TNP.DOWNE4): From over TNP VORTAC via TNP R-254 to PIONE DME, then LAX R-068 to DOWNE INT.Thence....
....From DOWNE INT via SMO R-085 to SMO VOR/DME, then via SMO R-259 to WAKER INT, expect vector to final approach course for runways 6 and 7.


SW-3, 08 MAR 2012 to 05 APR 2012

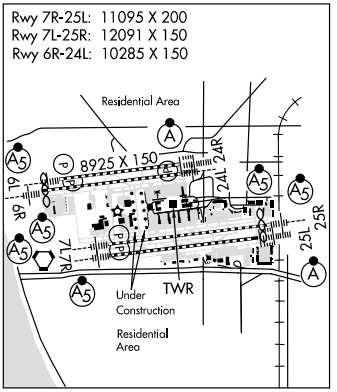


Figure 255B

## LOS ANGELES

**LOS ANGELES INTL** (LAX) 9 SW UTC–8(–7DT) N33°56.55´ W118°24.48´ **LOS ANGELES**
125 B S4 **FUEL** JET A OX 1, 3 LRA Class I, ARFF Index E NOTAM FILE LAX **COPTER**
**H-4I, L-3E, 4G, 7B, A**
**IAP, AD**

**RWY 07L–25R:** H12091X150 (CONC–GRVD) PCN 70 R/A/W/T HIRL CL
**RWY 07L:** MALSR. TDZL. PAPI(P4L)—GA 3.0° TCH 59´. Rgt tfc.
**RWY 25R:** MALSR. Thld dsplcd 957´. Railroad. 0.3% up.
**RWY 07R–25L:** H11095X200 (CONC–GRVD) PCN 75 R/A/W/T HIRL CL
**RWY 07R:** MALSR. PAPI(P4L)—GA 3.0° TCH 57´. Pole. Rgt tfc.
**RWY 25L:** ALSF2. TDZL. Railroad. 0.3% up.
**RWY 06R–24L:** H10285X150 (CONC–GRVD) PCN 70 R/A/W/T HIRL CL
**RWY 06R:** MALSR. TDZL. PAPI(P4L)—GA 3.0° TCH 78´. Thld dsplcd 331´. Pole.
**RWY 24L:** MALSR. PAPI(P4R)—GA 3.0° TCH 79´. Rgt tfc.
**RWY 06L–24R:** H8925X150 (CONC–GRVD) PCN 70 R/A/W/T HIRL CL
**RWY 06L:** MALSR. PAPI(P4L)—GA 3.0° TCH 77´. Pole.
**RWY 24R:** ALSF2. TDZL. PAPI(P4L)—GA 3.0° TCH 73´. Sign. Rgt tfc.




**AIRPORT REMARKS:** Attended continuously. Rwy 25L preferred emerg rwy. Numerous birds on and invof airport. Turbulence may be deflected upward from the blast fence 180´ E of Rwy 25R. ASDE–X Surveillance System in use: Pilots should operate transponders with Mode C on all twys and rwys. Tom Bradley International Gates: check LAWA (Los Angeles World Airport) rules and regulations for latest operating procedures. For B–777–300 and 300ER/A340–600 acft ops restrictions ctc LAX afld ops (310) 646–4265. Practice instrument approaches and touch and go landings are prohibited. Noise sensitive arpt. On westerly tkfs no turns before crossing shoreline. Over–ocean apchs utilized 0800–1430Z‡. Rwy 24R ALSF2 operates as SSALR till weather goes below VFR. Rwy 25L ALSF2 operates as SSALR until weather goes below VFR. Westbound B747–400 acft on Twy C prohibited from southbound turns onto Twy P. (Twy C–7, C–8, C–9 north of Twy C) and Twy D–7 south of Twy E will not accommodate B747 200 and larger acft. Twy D between Twy D–7 and D–8 (north of terminal one) restricted to B–767–300 and smaller acft. Taxilane D7 south of Twy E Rstd to 767–300 acft and smaller. Twy E–17, A340–600, B777–300/300ER acft northbound turn onto Twy E–17 from westbound Twy E prohibited. Twy E, A340–600, B777–300/300ER acft westbound turn onto Twy E from southbound Twy BB prohibited. Twy C–8, A340–600, B777–300/300ER acft prohibited on Twy C–8 between Twy B and Twy C. Twy C–9, A340–600, B777–300/300ER acft prohibited on Twy C–9 between Twy B and Twy C. A–380 ops ctc LAX afld opr (310) 646–4265 for acft movement procedures. West remote gates: acft use of open gates as taxi path is prohibited (gates 206, 207, 208, 209). A 700´X500´ clearway has been reestablished at west end of Rwy 24R. Touchdown, midpoint and rollout runway visual range avbl Rwy 06L, Rwy 24R, Rwy 06R, Rwy 24L, Rwy 07R, Rwy 25L, Rwy 07L, Rwy 25R. Simultaneous acft ops prohibited on Twy T and Twy H9 between Rwy 07L–25R and Rwy 07R–25L. Simultaneous acft ops prohibited on Twy H2 and Twy G between Rwy 07L–25R and Rwy 07R–25L. Overnight storage fee. Flight Notification Service (ADCUS) available. NOTE: See Special Notices—Noise Abatement Procedures, Continuous Power Facilities.

**WEATHER DATA SOURCES:** ASOS (310) 568-1486

**COMMUNICATIONS: D-ATIS ARR** 133.8 **D-ATIS DEP** 135.65 310-646-2297 **UNICOM** 122.95
Ⓡ**SOCAL APP CON** 128.5 (045°-089°), 124.9 (090°-224°), 124.5 (225°-044°) 124.3 (App from west)
**TOWER** 133.9 (N. complex), 120.95 (S. complex) 119.8
**GND CON** 121.75 (S. complex) 121.65 (N. complex) **CLNC DEL** 121.4 120.35
Ⓡ**SOCAL DEP CON** 125.2 (225°-044°) 124.3 (045°-224°) (Dep to west)

**AIRSPACE: CLASS B** See VFR Terminal Area Chart

**RADIO AIDS TO NAVIGATION:** NOTAM FILE LAX.
**(H) VORTACW** 113.6 LAX Chan 83 N33°55.99´ W118°25.92´ 050° 1.3 NM to fld. 182/15E.
VOR portion unusable:
270°-277° byd 25 NM blo 8,000´
277°-300° byd 10 NM blo 8,000´
277°-300° byd 28 NM blo 12,000´
VOR portion unusable:
175°-205° byd 10 NM blo 3,000´

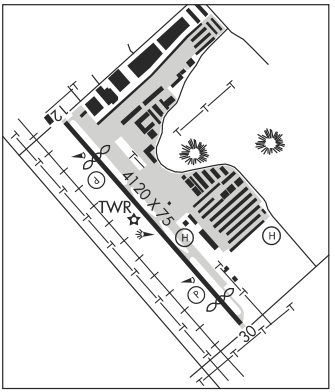
**CONTINUED ON NEXT PAGE**

CONTINUED FROM PRECEDING PAGE

**ILS/DME** 108.5 I-UWU Chan 22 Rwy 06L. Class IE. DME also serves Rwy 24R.
**ILS/DME** 111.7 I-GPE Chan 54 Rwy 06R. Class IE. MM OTS indef. DME also serves Rwy 24L.
**ILS/DME** 111.1 I-IAS Chan 48 Rwy 07L. Class ID. MM OTS indef. Glideslope unusable byd 5º right of localizer course. DME also serves Rwy 25R.
**ILS/DME** 109.9 I-MKZ Chan 36 Rwy 07R. Class IT. GS unuseable 5º left and 4º right of course. Coupled approaches not applicable below 264 ‘ MSL. DME also serves Rwy 25L.
**ILS/DME** 111.7 I-HQB Chan 54 Rwy 24L. Class IE. DME also serves Rwy 06R.
**ILS/DME** 108.5 I-OSS Chan 22 Rwy 24R. Class IIIE. DME also serves Rwy 06L
**ILS/DME** 109.9 I-LAX Chan 36 Rwy 25L. Class IIIE.
**ILS/DME** 111.1 I-CFN Chan 48 Rwy 25R. Class IE. DME also serves Rwy 07L.

---

**WHITEMAN** (WHP) 1 E UTC–8(–7DT) N34º15.56´ W118º24.81´ **LOS ANGELES**
1003 B S4 **FUEL** 100LL, JET A OX 1, 3 TPA—2003(1000) NOTAM FILE WHP **COPTER**
**RWY 12–30:** H4120X75 (ASPH) S–12.5 MIRL 1.0% up NW **L-3E, 4G, 7B, A**
**RWY 12:** REIL. PAPI(P2R)—GA 3.8º TCH 40´. Thld dsplcd 729´. P-line. **IAP, AD**
**RWY 30:** REIL. PAPI(P2L)—GA 3.8º TCH 40´. Thld dsplcd 478´. P-line. Rgt tfc.




**RUNWAY DECLARED DISTANCE INFORMATION**
**RWY 12:** TORA–3442 TODA–4120 ASDA–3910 LDA–3181
**RWY 30:** TORA–3191 TODA–4120 ASDA–3940 LDA–3462
**AIRPORT REMARKS:** Attended continuously. Birds on and invof arpt. Helicopter ops 2500´ MSL (1500´ AGL) and below. Arpt CLOSED to helicopter training/pattern opr 0400–1600Z‡. Dirt infield areas. Helicopters advised to use care to prevent blasting dirt and debris onto movement areas.
**WEATHER DATA SOURCES:** AWOS-3PT 132.1 (818) 899-9820.
**COMMUNICATIONS: CTAF** 135.0 **ATIS** 132.1 818-899-9820
**UNICOM** 122.95
®**SOCAL APP/DEP CON** 120.4 134.2 (VNY 280º-BUR 050º) 134.2 (VNY 160º-VNY 280º)
**TOWER** 135.0 (1600-0400Z‡) **GND CON** 125.0
**CLNC DEL** For clnc del when ATCT clsd call Socal App 800-448-3724.
**AIRSPACE: CLASS D** svc 1600-0400Z‡ other times CLASS G
**RADIO AIDS TO NAVIGATION:** NOTAM FILE VNY.
**VAN NUYS (L) VORW/DME** 113.1 VNY Chan 78 N34º13.41´ W118º29.50´ 046º 4.4 NM to fld. 812/15E.
VOR/DME unusable:
010º-030º byd 20 NM blo 6,700´
030º-050º byd 25 NM blo 8,600´
330º-350º byd 25 NM blo 5,500´
350º-010º byd 15 NM blo 6,100´
DME unusable:
094º-096º byd 35 NM blo 5,000´
**PACOIMA NDB (MHW)** 370 PAI N34º15.58´ W118º24.80´ at fld. NOTAM FILE HHR. VFR only.
**COMM/NAV/WEATHER REMARKS:** Whiteman arpt altimeter setting not avbl.

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## LOS BANOS

**LOS BANOS MUNI** (LSN) 1 W UTC–8(–7DT) N37º03.83´ W120º52.19´ **SAN FRANCISCO**
121 B S2 **FUEL** 100LL, JET A TPA—921(800) NOTAM FILE RIU **L–3B**
**RWY 14–32:** H3801X75 (ASPH) S–23 MIRL **IAP**
**RWY 14:** REIL. PAPI(P2L)—GA 3.0º TCH 30´. Tree. Rgt tfc.
**RWY 32:** REIL. PAPI(P2L)—GA 3.0º TCH 38´. Tree.
**AIRPORT REMARKS:** Unattended. For cash fuel after hours call 209–827–7070. 24 hour automated fuel avbl with major credit card. Avoid overflight of houses south of arpt. No departures over housing areas to east of arpt. MIRL Rwy 14–32 preset low intensity until 0800Z‡. To increase intensity and ACTIVATE MIRL Rwy 14–32, REIL Rwy 14 and Rwy 32, and PAPI Rwy 14 and Rwy 32—CTAF.
**WEATHER DATA SOURCES:** AWOS-3 118.675 (209) 827-7084.
**COMMUNICATIONS: CTAF/UNICOM** 122.8
**PANOCHE RCO** 122.1R 112.6T (FRESNO RADIO)
®**NORCAL APP/DEP CON** 120.95
**RADIO AIDS TO NAVIGATION:** NOTAM FILE RIU.
**PANOCHE (L) VORTAC** 112.6 PXN Chan 73 N36º42.93´ W120º46.72´ 332º 21.3 NM to fld. 2060/16E.
VOR unusable:
230º-280º byd 7NM blo 9,000´

---

**Figure 257**

# ILS or LOC RWY 25L
## LOS ANGELES INTL (LAX)

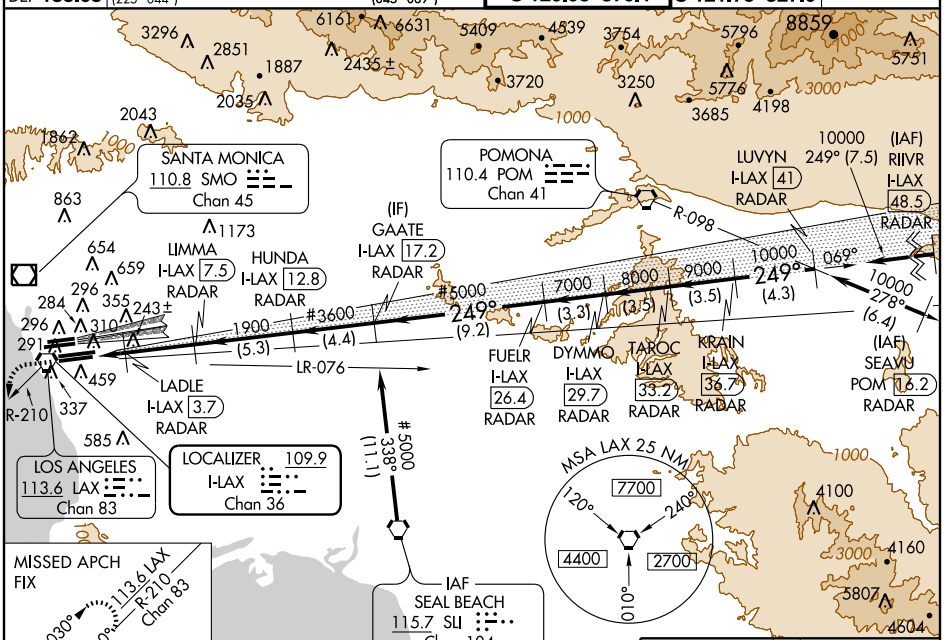
| LOC/DME I-LAX | APP CRS | Rwy ldg | 25L | 25R |
|---|---|---|---|---|
| 109.9 | 249° | THRE | 98 | 94 |
| Chan 36 | | Apt Elev | 126 | 126 |

Inoperative table does not apply to Sidestep Rwy 25R Cats A and B.
Simultaneous approach authorized with Rwy 24L/R.
LOC procedure NA during simultaneous operations.

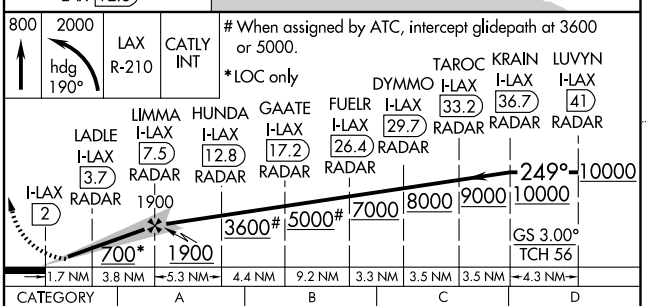
ALSF-2 Rwy 25L (A) | MALSR Rwy 25R (A5)

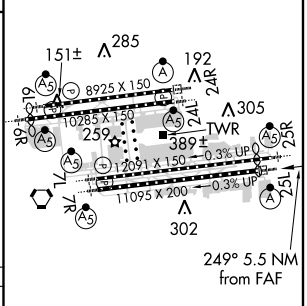
MISSED APPROACH: Climb to 800 then climbing left turn to 2000 on heading 190° and LAX VORTAC R-210 to CATLY INT/ LAX 12.8 DME and hold.

| ATIS | | SOCAL APP CON | | LOS ANGELES TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|---|---|
| ARR 133.8 | 124.3 363.2 (APCH FM WEST) | | 124.9 269.0 (090°-224°) | N 133.9 239.3 | N 121.65 327.0 | 121.4 327.0 |
| DEP 135.65 | 124.5 235.975 (225°-044°) | | 128.5 360.7 (045°-089°) | S 120.95 379.1 | S 121.75 327.0 | |




| ELEV 126 | THRE 25L | 98 |
|---|---|---|
| | THRE 25R | 94 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 25L | 298/18 200 (200-½) | | | |
| S-LOC 25L | 540/24 442 (500-½) | | 540/45 442 (500-⅞) | |
| SIDESTEP 25R | 700/50 606 (600-1) | | 700/60 606 (600-1¼) | 700-1½ 606 (600-1½) |

TDZ/CL Rwys 6R, 7L, and 25L
HIRL all Rwys

| FAF to MAP 5.5 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:30 | 3:40 | 2:45 | 2:12 | 1:50 |



**Figure 257A**

SW-3, 08 MAR 2012 to 05 APR 2012
SW-3, 08 MAR 2012 to 05 APR 2012

| LOC/DME I-OSS 108.5 Chan 22 | APP CRS 249° | Rwy ldg 8925 TDZE 120 Apt Elev 126 |
|---|---|---|

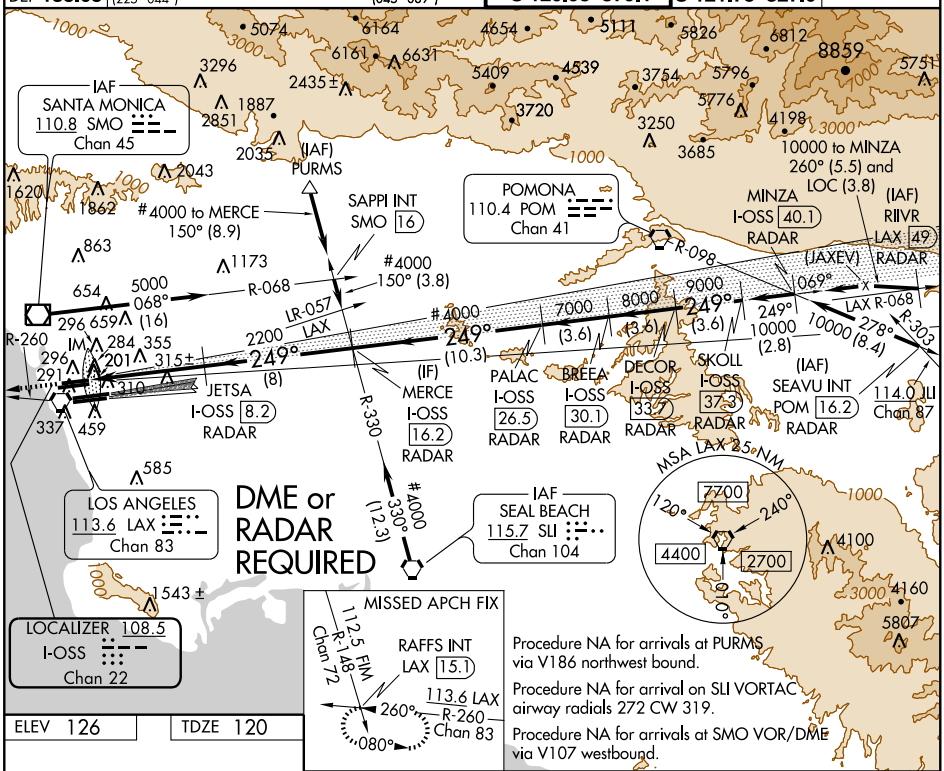
# ILS RWY 24R (CAT II)
## LOS ANGELES INTL (LAX)

Simultaneous approach authorized with Rwy 25L/R.

ALSF-2

MISSED APPROACH: Climb to 2000 via heading 249° and LAX R-260 to RAFFS INT/LAX 15.1 DME and hold.

| ATIS | SOCAL APP CON | LOS ANGELES TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| ARR 133.8 DEP 135.65 | 124.3 363.2 (APCH FM WEST) 124.5 235.975 (225°-044°) 124.9 269.0 (090°-224°) 128.5 360.7 (045°-089°) | N 133.9 239.3 S 120.95 379.1 | N 121.65 327.0 S 121.75 327.0 | 121.4 327.0 |

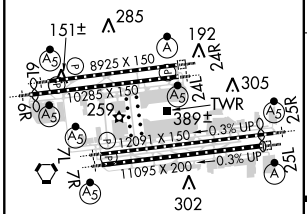



Procedure NA for arrivals at PURMS via V186 northwest bound.

Procedure NA for arrival on SLI VORTAC airway radials 272 CW 319.

Procedure NA for arrivals at SMO VOR/DME via V107 westbound.

| ELEV 126 | TDZE 120 |
|---|---|




TDZ/CL Rwys 6R, 7L, 24R, and 25L
HIRL all Rwys

# When assigned by ATC, intercept glidepath at 4000.

| 2000 hdg 249° | LAX R-260 | RAFFS INT LAX 15.1 | JETSA I-OSS 8.2 RADAR | MERCE I-OSS 16.2 RADAR | PALAC I-OSS 26.5 RADAR | BREEA I-OSS 30.1 RADAR | DECOR I-OSS 33.7 RADAR | SKOLL I-OSS 37.3 RADAR |
|---|---|---|---|---|---|---|---|---|

DH RA 115 — 120 MSL — IM — 2200 — 4000# — 7000 — 8000 — 9000 — 10000 — 249° — Procedure Turn NA — GS 3.00° TCH 59

1026′ — 843′ — 6.2 NM — 8 NM — 10.3 NM — 3.6 NM — 3.6 NM — 3.6 NM

| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 24R | RA 115/12 100 DA 220 | | | |

**CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED**



**Figure 257B**

SW-3, 05 APR 2012 to 03 MAY 2012
SW-3, 05 APR 2012 to 03 MAY 2012

| WAAS CH 81811 W32A | APP CRS 316° | Rwy ldg 6121<br>TDZE 714<br>Apt Elev 728 |
|---|---|---|

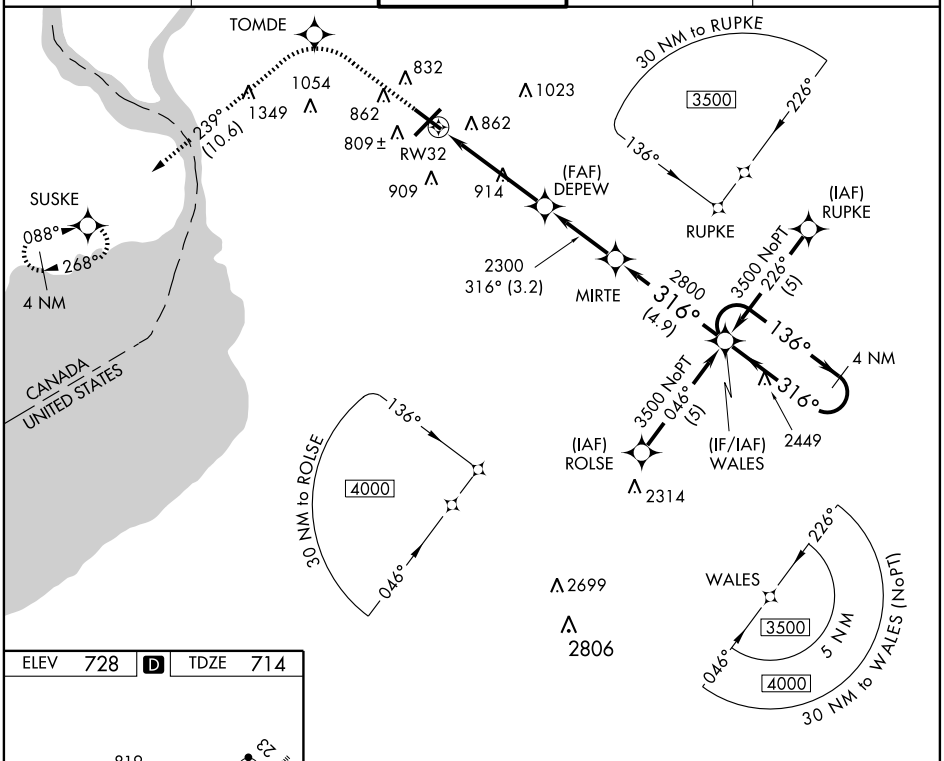
# RNAV (GPS) RWY 32
## BUFFALO NIAGARA INTL (BUF)

DME/DME RNP-0.3 NA.
Baro-VNAV NA below -16°C (4°F).
For inoperative MALSR increase LPV all Cats visibility to 1 mile.

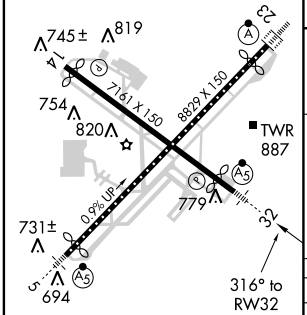
MALSR

MISSED APPROACH: Climb to 3000 direct TOMDE and via 239° track to SUSKE and hold.

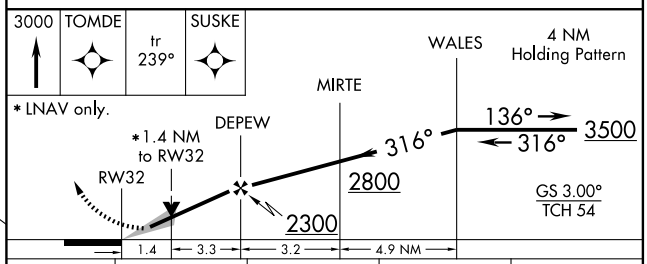
| ATIS | BUFFALO APP CON | BUFFALO TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 135.35 | 126.15 263.125 | 120.5 257.8 | 133.2 257.8 | 124.7 257.8 |




ELEV 728 D TDZE 714




REIL Rwy 14
TDZ/CL Rwy 5 and 23
HIRL Rwy 5-23 and 14-32




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| LPV DA | 1003-½ 289 (300-½) | | | |
| LNAV/VNAV DA | 1146-1 432 (500-1) | | | |
| LNAV MDA | 1220-½ 506 (500-½) | | 1220-1 506 (500-1) | |
| CIRCLING | 1220-1½ 492 (500-1½) | | | 1280-2 552 (600-2) |



**Figure 258**


NE-2, 05 APR 2012 to 03 MAY 2012

# ILS or LOC RWY 33R

HOUSTON/ GEORGE BUSH INTERCONTINENTAL/HOUSTON (IAH)

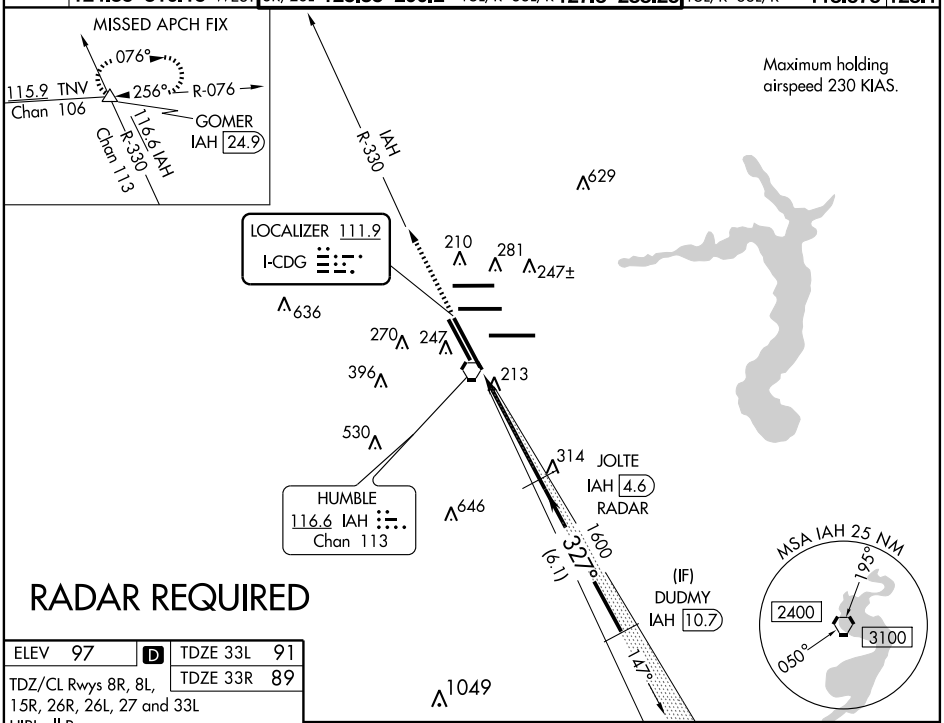
| LOC I-CDG | APP CRS | Rwy 33R ldg | 12001 | Rwy 33L ldg | 9999 |
|---|---|---|---|---|---|
| 111.9 | 327° | TDZE | 89 | TDZE | 91 |
| | | Apt Elev | 97 | Apt Elev | 97 |

DME from IAH VORTAC. Simultaneous reception of I-CDG and IAH DME required. DME or RADAR REQUIRED. For inoperative MALSR, increase S-ILS 33R Cat E visibility to RVR 4000 and S-LOC 33R Cat E visibility to 1½. #RVR 1800 authorized with the use of FD or AP or HUD to DA.

MALSR

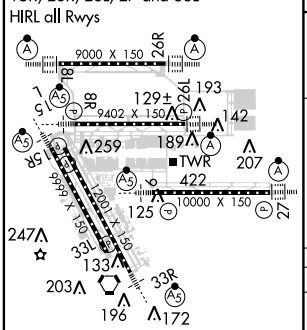
MISSED APPROACH: Climb to 2000 via IAH R-330 to GOMER INT / IAH 24.9 DME and hold.

| ATIS | HOUSTON APP CON | HOUSTON TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 124.05 | 120.05 379.1 EAST<br>124.35 316.15 WEST | 8L/26R 120.725 290.2 9/27 135.15 290.2<br>8R/26L 125.35 290.2 15L/R 33L/R 127.3 288.25 | 8L/R 26L/R, 9/27 121.7<br>15L/R 33L/R 118.575 | 128.1 |

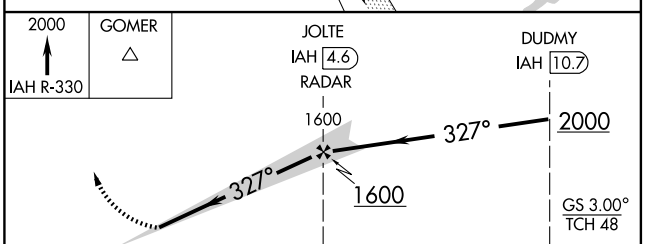



| ELEV 97 | D | TDZE 33L 91 |
|---|---|---|
| | | TDZE 33R 89 |

TDZ/CL Rwys 8R, 8L, 15R, 26R, 26L, 27 and 33L
HIRL all Rwys




| FAF to MAP 4.5 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:30 | 3:00 | 2:15 | 1:48 | 1:30 |




| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| S-ILS 33R | #289/24 200 (200-½) | | | | 289/24 200 (200-½) |
| S-LOC 33R | 540/24 451 (500-½) | | | | 540/50 451 (500-1) |
| SIDESTEP Rwy 33L | 540-1 449 (500-1) | | 540-1½ 449 (500-1½) | 540-2 449 (500-2) | NA |
| CIRCLING | NA | | | | |

## CROCKETT, TX

HOUSTON COUNTY (DKR)
ORIG 11349 (FAA)

TAKE-OFF MINIMUMS: **Rwy 2,** 400-2 or std. w/min. climb of 280' per NM to 800. **Rwy 20,** 300-1½ or std. w/ min. climb of 459' per NM to 700.

NOTE: **Rwy 2,** multiple trees beginning 57' from DER, 61' right of centerline, up to 50' AGL/399' MSL. Multiple trees and terrain beginning 27' from DER, 109' left of centerline, up to 50' AGL/409' MSL. Tower 1.5 NM from DER, 2864' left of centerline 233' AGL/ 623' MSL. **Rwy 20,** multiple towers beginning 4567' from DER, 1025' right of centerline, up to 200' AGL/ 529' MSL.

## EAGLE LAKE, TX

EAGLE LAKE

TAKE-OFF MINIMUMS: **Rwy 17**, 200-1, or std. with a min. climb of 420' per NM to 500.

NOTE: **Rwy 17,** tower 3068' from departure end of runway, 793' left of centerline, 192' AGL/317' MSL.

## GALVESTON, TX

SCHOLES INTL AT GALVESTON (GLS)
AMDT 4 08157 (FAA)

TAKE-OFF MINIMUMS: **Rwy 17,** 300-1 or std. w/ min. climb of 502' per NM to 300.

NOTE: **Rwy 13,** bush 381' from departure end of runway, 533' left of centerline, 15' AGL/20' MSL. Fence 201' from departure end of runway, 490' left of centerline, 6' AGL/ 11' MSL. Tree 343' from departure end of runway, 468' right of centerline, 12' AGL/17' MSL. **Rwy 17,** building 3057' from departure end of runway, 339' left of centerline, 123' AGL/130' MSL. Multiple poles beginning 2034' from departure end of runway, 87' right of centerline, up to 60' AGL/70' MSL. Multiple transmission towers beginning 636' from departure end of runway, 551' right of centerline, up to 55' AGL/60' MSL. Tree 460' from departure end of runway, 316' right of centerline, 22' AGL/29' MSL. **Rwy 31,** multiple cranes beginning 4341' from departure end of runway, 1017' left of centerline, up to 131' AGL/ 131' MSL. **Rwy 35,** tree 730' from departure end of runway, 501' right of centerline, 27' AGL/32' MSL.

## GIDDINGS, TX

GIDDINGS-LEE COUNTY (GYB)
ORIG 10210 (FAA)

NOTE: **Rwy 17,** numerous trees beginning 720' from DER, 58' right of centerline, up to 50' AGL/479' MSL. Numerous trees beginning 754' from DER, 340' left of centerline, up to 50' AGL/479' MSL. **Rwy 35,** numerous trees beginning 613' from DER, 272' right of centerline, up to 50' AGL/539' MSL. Numerous trees beginning 558' from DER, 265' left of centerline, up to 50' AGL/559' MSL. Vehicle on road 516' from DER, 246' left of centerline, 15' AGL/514' MSL.

## HOUSTON, TX

DAN JONES INTL (T51)
ORIG 11321 (FAA)

TAKE-OFF MINIMUMS: **Rwy 17,** NA - numerous trees. **Rwy 35,** NA - numerous trees.

## HOUSTON, TX (CON'T)

DAVID WAYNE HOOKS MEMORIAL (DWH)
AMDT 3 08157 (FAA)

TAKE-OFF MINIMUMS: **Rwys 17L, 35R,** NA-Environmental. **Waterways 17, 35,** NA - air traffic.

NOTE: **Rwy 17R,** multiple trees beginning 708' from departure end of runway, 68' left of centerline, up to 71' AGL/220' MSL. Multiple hangars beginning 433' from departure end of runway, 515' left of centerline, up to 37' AGL/182' MSL. DME antenna 653' from departure end of runway, 256' left of centerline, 13' AGL/162' MSL. Multiple trees and pole beginning 85' from departure end of runway, 294' right of centerline, up to 45' AGL/ 189' MSL. **Rwy 35L,** multiple trees and poles beginning 144' from departure end of runway, 32' left of centerline, up to 79' AGL/238' MSL. Multiple hangars and buildings beginning 85' from departure end of runway, 9' left of centerline, up to 53' AGL/202' MSL. Multiple trees, towers and pole beginning 100' from departure end of runway, 124' right of centerline, up to 93' AGL/247' MSL. Vehicle and road 315' from departure end of runway, on centerline 15' AGL/166' MSL. Building 894' from departure end of runway, 231' right of centerline, 23' AGL/173' MSL.

ELLINGTON FIELD (EFD)
AMDT 2 08157 (FAA)

NOTE: **Rwy 17R,** pole 1489' from departure end of runway, 817' right of centerline, 40' AGL/74' MSL. **Rwy 22,** antenna on building 1998' from departure end of runway, 598' right of centerline, 54' AGL/83' MSL. Obstruction light on glide slope 327' from departure end of runway, 543' left of centerline, 39' AGL/68' MSL. **Rwy 35R,** tree 1597' from departure end of runway, 32' left of centerline, 33' AGL/80' MSL. **Rwy 35L,** multiple trees beginning 1118' from departure end of runway, 679' right of centerline, up to 37' AGL/ 77' MSL. Crane 2352' from departure end of runway, 1024' left of centerline, 37' AGL/ 97' MSL.

GEORGE BUSH INTERCONTINENTAL/ HOUSTON (IAH)
AMDT 2 08157 (FAA)

NOTE: **Rwy 8L,** tree 2866' from departure end of runway, 921' left of centerline, 107' AGL/201' MSL. Multiple trees beginning 2750' from departure end of runway, 106' right of centerline, up to 80' AGL/174' MSL. **Rwy 15L,** multiple trees 2638' from departure end of runway, 758' right of centerline, up to 76' AGL/160' MSL. **Rwy 15R,** tower 1431' from departure end of runway, 591' left of centerline, 48' AGL/133' MSL. Antenna on glideslope 1469' from departure end of runway, 621' left of centerline, 49' AGL/133' MSL. **Rwy 26R,** pole 950' from departure end of runway, 660' right of centerline, 40' AGL/129' MSL. **Rwy 33R,** tree 2868' from departure end of runway, 1027' right of centerline, 73' AGL/172' MSL.

HOUSTON EXECUTIVE (TME)

DEPARTURE PROCEDURE: **Rwy 36,** Climb heading 355° to 700 before turning east.

NOTE: **Rwy 36,** power poles from left to right beginning 703' from departure end of runway, 623' left to 685' right of centerline, up to 32' AGL/196' MSL.

05 APR 2012 to 03 MAY 2012

05 APR 2012 to 03 MAY 2012



Figure 260

## HOUSTON, TX (CON'T)

HOUSTON-SOUTHWEST (AXH)
AMDT 5 08157 (FAA)

DEPARTURE PROCEDURE: **Rwy 9,** climb heading 089° to 2000 before turning left. **Rwy 27**, climb heading 269° to 2200 before turning right.

NOTE: **Rwy 9,** multiple hangars beginning 239' from departure end of runway, 360' right of centerline, up to 42' AGL/106' MSL. Multiple trees beginning 501' from departure end of runway, 355' right of centerline, up to 43' AGL/111' MSL. Multiple hangars beginning 119' from departure end of runway, 498' left of centerline, up to 41' AGL/105' MSL. Pole 332' from departure end of runway, 299' left of centerline, 43' AGL/97' MSL. Antenna 1172' from departure end of runway, 658' left of centerline, 51' AGL/115' MSL. Multiple trees beginning 558' from departure end of runway, 68' left of centerline, up to 58' AGL/122' MSL. **Rwy 27,** multiple trees beginning 1050' from departure end of runway, 40' left of centerline, up to 71' AGL/140' MSL. Vehicle and road 99' from departure end of runway, 291' right of centerline, 15' AGL/83' MSL. Multiple trees beginning 873' from departure end of runway, 514' right of centerline, up to 59' AGL/130' MSL. Multiple transmission poles beginning 1304' from departure end of runway, 131' right of centerline, up to 41' AGL/110' MSL.

LONE STAR EXECUTIVE (CXO)
AMDT 3 10266 (FAA)

NOTE: **Rwy 1,** trees beginning 194' from DER, 130' right of centerline, up to 100' AGL/374' MSL. Trees beginning 817' from DER, 15' left of centerline, up to 100' AGL/359' MSL. **Rwy 14,** trees and obstruction light on DME beginning 399' from DER, 80' right of centerline, up to 100' AGL/329' MSL. Trees beginning 640' from DER, 408' left of centerline, up to 100' AGL/329' MSL. **Rwy 19,** trees beginning 68' from DER, 64' right of centerline, up to 100' AGL/344' MSL. Trees beginning 1' from DER, 159' left of centerline, up to 100' AGL/339' MSL. **Rwy 32,** trees beginning 1785' from DER, 973' right of centerline, up to 100' AGL/339' MSL. Trees and vehicles on road beginning 603' from DER, 458' left of centerline, up to 100' AGL/354' MSL.

PEARLAND RGNL

DEPARTURE PROCEDURE: **Rwy 14,** climb heading 139° to 1600 before proceeding south through southwest. **Rwy 32,** climb heading 319° to 900 before proceeding on course.

NOTE: **Rwy 14,** multiple trees beginning 199' from departure end of runway, 226' right of centerline, up to 66' AGL/100' MSL. Vehicle on road 398' from departure end of runway, 405' left of centerline, 9' AGL/55' MSL. Trees 1287' from departure end of runway, 453' left of centerline, up to 56' AGL/90' MSL. **Rwy 32,** multiple trees beginning 690' from departure end of runway, 81' left of centerline, up to 79' AGL/128' MSL. Multiple poles beginning 745' from departure end of runway, 24' left of centerline, up to 40' AGL/80' MSL. Multiple trees and poles beginning 29' from departure end of runway, 11' right of centerline, up to 64' AGL/104' MSL. Building 237' from departure end of runway, 520' right of centerline, 32' AGL/72' MSL.

## HOUSTON, TX (CON'T)

SUGAR LAND RGNL (SGR)
AMDT 7 08157 (FAA)

DEPARTURE PROCEDURE: **Rwy 17,** climb heading 170° to 1500 before turning eastbound. **Rwy 35,** climb heading 350° to 1100 before turning southbound.

NOTE: **Rwy 17,** multiple poles beginning 436' from departure end of runway, 172' right of centerline, up to 44' AGL/124' MSL. Railroad 110' from departure end of runway, 10' left of centerline, 23' AGL/104' MSL. Multiple poles beginning 135' from departure end of runway, 270' left of centerline, up to 44' AGL/ 111' MSL. **Rwy 35,** vehicle and road 65' from departure end of runway , 2' right of centerline, 15' AGL/ 96' MSL. Multiple trees beginning 37' from departure end of runway , 275' right of centerline, up to 81' AGL/164' MSL. DME antenna 380' from departure end of runway , 253' right of centerline, 24' AGL/100' MSL. Multiple trees beginning 83' from departure end of runway , 65' left of centerline, up to 81' AGL/155' MSL.

WEISER AIR PARK (EYQ)
AMDT 2 08157 (FAA)

TAKE-OFF MINIMUMS: **Rwy 9,** 200-1 or std. w/ min. climb of 399' per NM to 400.

NOTE: **Rwy 9,** tank 4127' from departure end of runway, 1455' left of centerline, 147' AGL/282' MSL. **Rwy 27,** railroad 462' from departure end of runway, 555' left of centerline, 23' AGL/165' MSL. Vehicle and road 650' from departure end of runway, 7' left of centerline, 17' AGL/159' MSL.

WEST HOUSTON (IWS)
AMDT 3 09295 (FAA)

NOTE: **Rwy 15,** vehicles on roadway beginning abeam DER, left and right of centerline, up to 15' AGL/124' MSL. Building 177' from DER, 398' left of centerline, 18' AGL/ 126' MSL. Trees beginning 178' from DER, 289' right of centerline, up to 100' AGL/209' MSL. **Rwy 33,** building 265' from DER, 364' left of centerline, 33' AGL/143' MSL. Trees beginning 2706' from DER, 700' left of centerline, up to 100' AGL/214' MSL. Trees beginning 3159' from DER, 747' right of centerline, up to 100' AGL/216' MSL.



**Figure 261**

# RIICE THREE ARRIVAL Transition Routes

HOUSTON, TEXAS

BILEE TRANSITION (BILEE.RIICE3): From over BILEE INT via TNV R-334 to HOMRN INT and IAH R-313 to RIICE INT. Thence....

COLLEGE STATION TRANSITION (CLL.RIICE3): From over CLL VORTAC via CLL R-076 to BAZBL and IAH R-313 to RIICE INT. Thence....

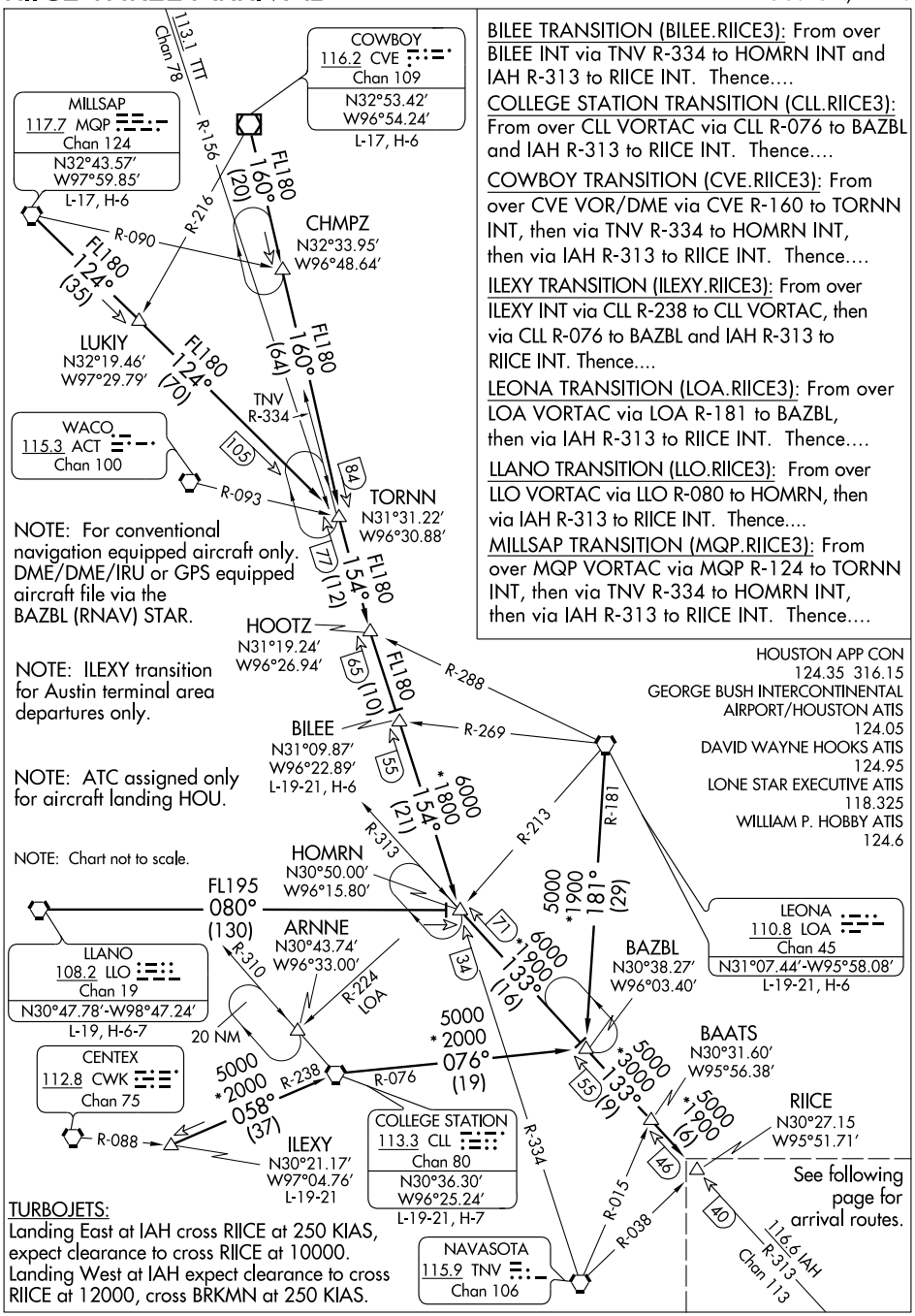
COWBOY TRANSITION (CVE.RIICE3): From over CVE VOR/DME via CVE R-160 to TORNN INT, then via TNV R-334 to HOMRN INT, then via IAH R-313 to RIICE INT. Thence....

ILEXY TRANSITION (ILEXY.RIICE3): From over ILEXY INT via CLL R-238 to CLL VORTAC, then via CLL R-076 to BAZBL and IAH R-313 to RIICE INT. Thence....

LEONA TRANSITION (LOA.RIICE3): From over LOA VORTAC via LOA R-181 to BAZBL, then via IAH R-313 to RIICE INT. Thence....

LLANO TRANSITION (LLO.RIICE3): From over LLO VORTAC via LLO R-080 to HOMRN, then via IAH R-313 to RIICE INT. Thence....

MILLSAP TRANSITION (MQP.RIICE3): From over MQP VORTAC via MQP R-124 to TORNN INT, then via TNV R-334 to HOMRN INT, then via IAH R-313 to RIICE INT. Thence....




TURBOJETS:
Landing East at IAH cross RIICE at 250 KIAS, expect clearance to cross RIICE at 10000.
Landing West at IAH expect clearance to cross RIICE at 12000, cross BRKMN at 250 KIAS.

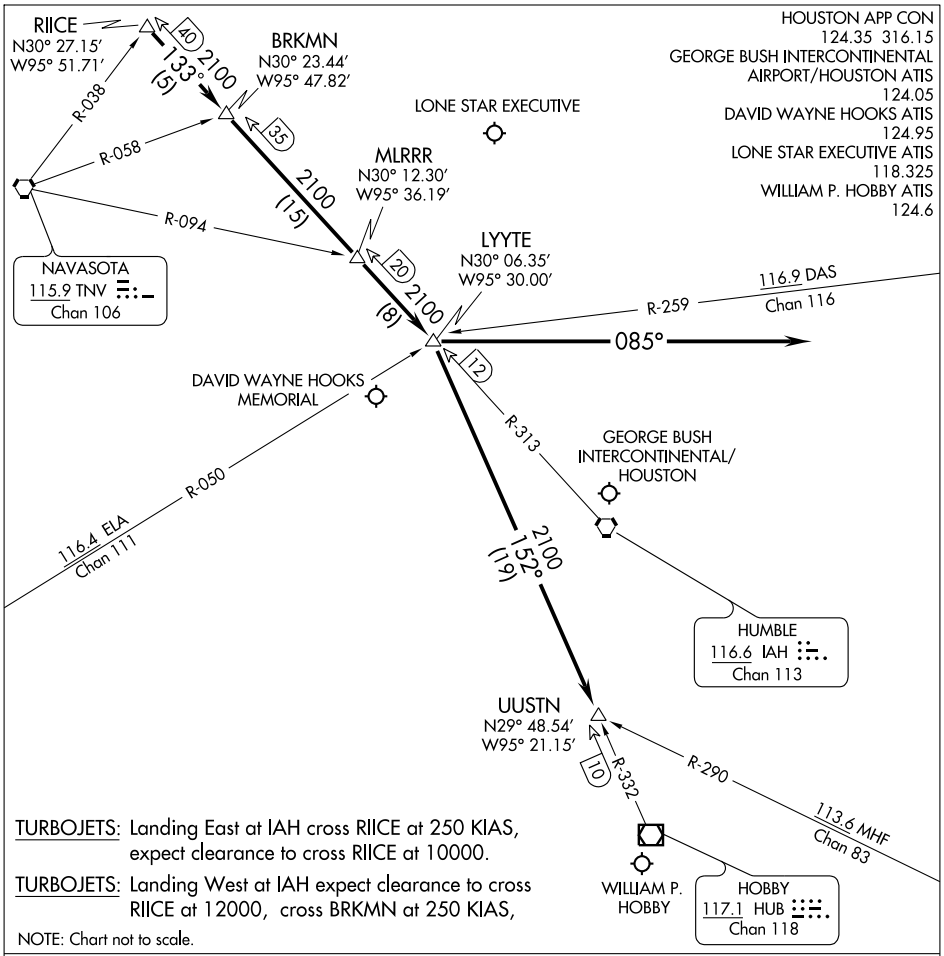
RIICE THREE ARRIVAL Transition Routes
HOUSTON, TEXAS
(RIICE.RIICE3) 12096



Figure 262

# RIICE THREE ARRIVAL Arrival Routes

HOUSTON, TEXAS




TURBOJETS: Landing East at IAH cross RIICE at 250 KIAS, expect clearance to cross RIICE at 10000.

TURBOJETS: Landing West at IAH expect clearance to cross RIICE at 12000, cross BRKMN at 250 KIAS,

NOTE: Chart not to scale.

## ARRIVAL ROUTE DESCRIPTION

GEORGE BUSH INTERCONTINENTAL/HOUSTON (IAH):

....From over RIICE INT via IAH R-313 to LYYTE INT.

LANDING RUNWAYS 26L/26R, 27: Fly heading 085° for vectors to final approach course.

LANDING ALL OTHER RUNWAYS: Expect vectors to final approach course at or prior to LYYTE INT.

WILLIAM P. HOBBY (HOU) (ATC ASSIGNED):

....From over RIICE INT via IAH R-313 to LYYTE INT, then via HUB R-332 to UUSTN INT, expect vectors to final approach course at or prior to UUSTN INT.

DAVID WAYNE HOOKS MEMORIAL (DWH) and LONE STAR EXCUTIVE (CXO):

....From over RIICE INT via IAH R-313 to LYYTE INT, expect vectors to final approach course at or prior to LYYTE INT.





SC-5, 05 APR 2012 to 03 MAY 2012

Figure 263

# ILS or LOC RWY 8L

## HOUSTON/GEORGE BUSH INTERCONTINENTAL/HOUSTON (IAH)

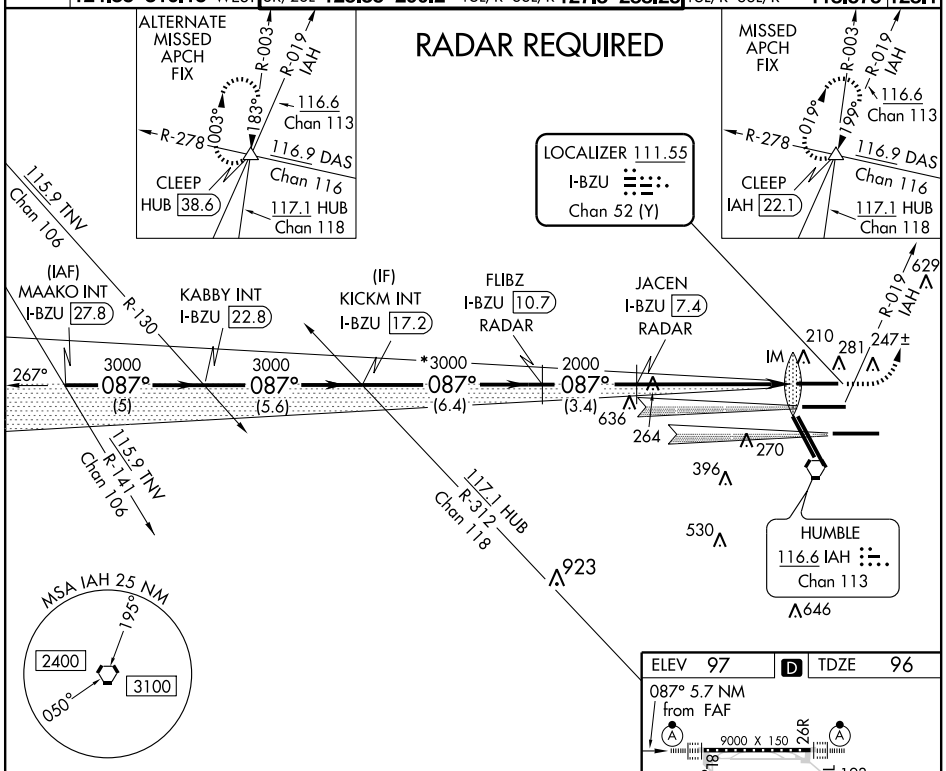
| LOC/DME I-BZU | APP CRS | Rwy ldg | 9000 |
|---|---|---|---|
| 111.55 | 087° | TDZE | 96 |
| Chan 52 (Y) | | Apt Elev | 97 |

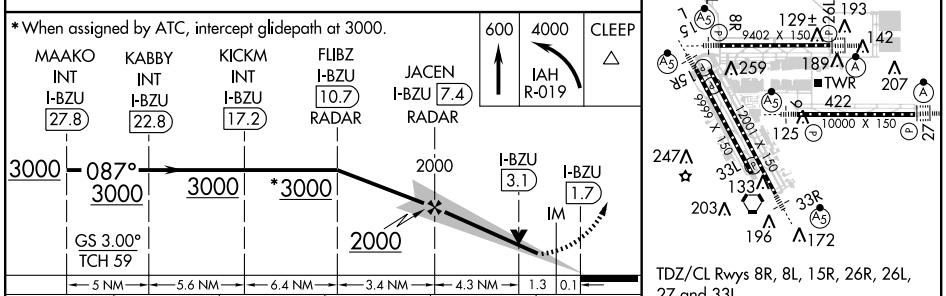
For inoperative ALSF increase S-ILS 8L Cat E visibility to RVR 4000, and S-LOC 8L Cat E visibility to 1¾. Simultaneous approach authorized with Rwy 8R and Rwy 9. LOC procedure NA during simultaneous operations.

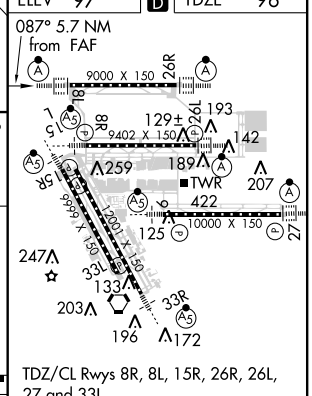
ALSF-2

MISSED APPROACH: Climb to 600 then climbing left turn to 4000 via IAH VORTAC R-019 to CLEEP INT/IAH 22.1 DME and hold.

| ATIS | HOUSTON APP CON | | HOUSTON TOWER | | GND CON | CLNC DEL |
|---|---|---|---|---|---|---|
| 124.05 | 120.05 379.1 EAST | 124.35 316.15 WEST | 8L/26R 120.725 290.2 | 9/27 135.15 290.2 | 8L/R 26L/R, 9/27 121.7 | 128.1 |
| | | | 8R/26L 125.35 290.2 | 15L/R 33L/R 127.3 288.25 | 15L/R 33L/R 118.575 | |




TDZ/CL Rwys 8R, 8L, 15R, 26R, 26L, 27 and 33L
HIRL all Rwys

| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| S-ILS 8L | 296/18 200 (200-½) | | | | |
| S-LOC 8L | 600/24 504 (600-½) | | 600/50 504 (600-1) | | 600/60 504 (600-1¼) |

| FAF to MAP 5.7 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:42 | 3:48 | 2:51 | 2:17 | 1:54 |



Figure 264

| LOC/DME I-GHI 110.9 Chan 46 | APP CRS 267° | Rwy ldg 10000 THRE 86 Apt Elev 97 | HOUSTON/ GEORGE BUSH INTERCONTINENTAL/HOUSTON (IAH) |
|---|---|---|---|

# ILS or LOC RWY 27

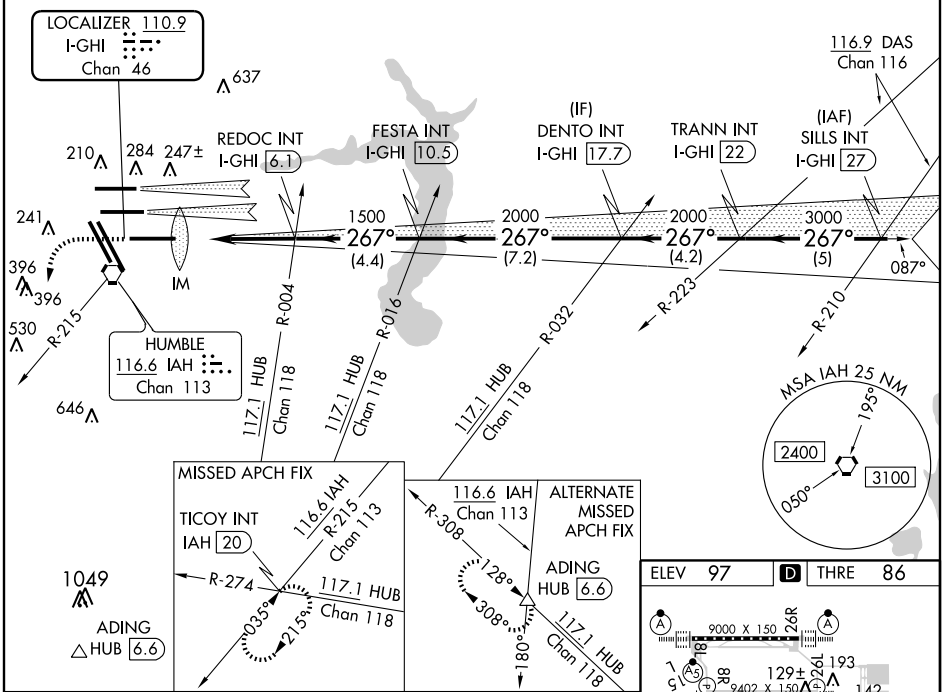
For inoperative ALSF, increase S-ILS 27 Cat E visibility to RVR 4000 and S-LOC 27 Cat C-E visibility to 1⅜. Simultaneous approach authorized with Rwy 26L/R. LOC procedure NA during simultaneous operations.

ALSF-2

MISSED APPROACH: Climb to 560 then climbing left turn to 3000 on IAH VORTAC R-215 to TICOY INT/IAH 20 DME and hold.

| ATIS | HOUSTON APP CON | HOUSTON TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 124.05 | 120.05 379.1 EAST<br>124.35 316.15 WEST | 8L/26R 120.725 290.2 9/27 135.15 290.2<br>8R/26L 125.35 290.2 15L/R 33L/R 127.3 288.25 | 8L/R 26L/R, 9/27 121.7<br>15L/R 33L/R 118.575 | 128.1 |

## RADAR REQUIRED

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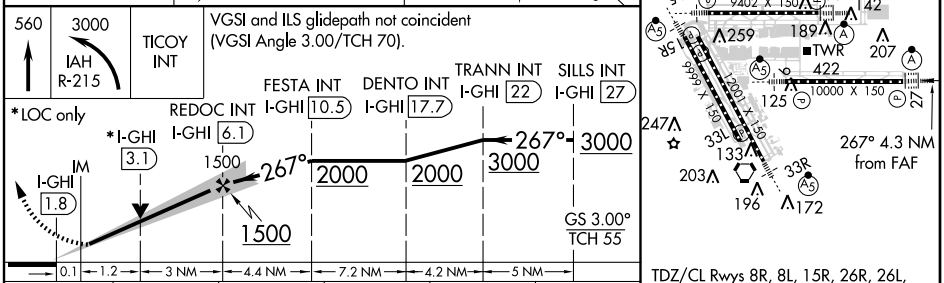
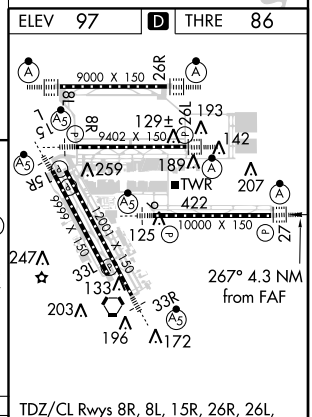



TDZ/CL Rwys 8R, 8L, 15R, 26R, 26L, 27 and 33L
HIRL all Rwys

| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| S-ILS 27 | 286/18 200 (200-½) | | | | |
| S-LOC 27 | 560/24 474 (500-½) | | 560/50 474 (500-1) | | |

| FAF to MAP 4.3 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:18 | 2:52 | 2:09 | 1:43 | 1:26 |



Figure 265

| WAAS CH 97726 W26A | APP CRS 265° | Rwy ldg 9000<br>THRE 95<br>Apt Elev 97 |
|---|---|---|

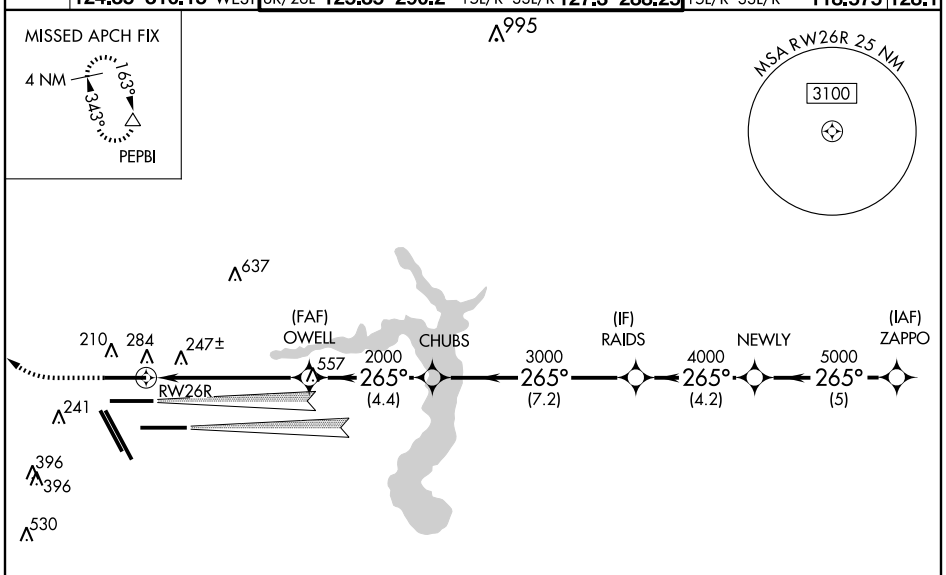
# RNAV (GPS) Z RWY 26R
## HOUSTON/GEORGE BUSH INTERCONTINENTAL/HOUSTON (IAH)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C (29°F) or above 39°C (101°F). For inoperative ALSF, increase LPV Cat E visibility to RVR 4000, LNAV/VNAV all Cats visibility to 1¼, and LNAV Cat C/D/E visibility to 1⅜. DME/DME RNP-0.3 NA. Simultaneous approach authorized with Rwy 26L and Rwy 27. LNAV procedure NA during simultaneous operations. Use of FD or AP providing RNAV track guidance required during simultaneous operations.

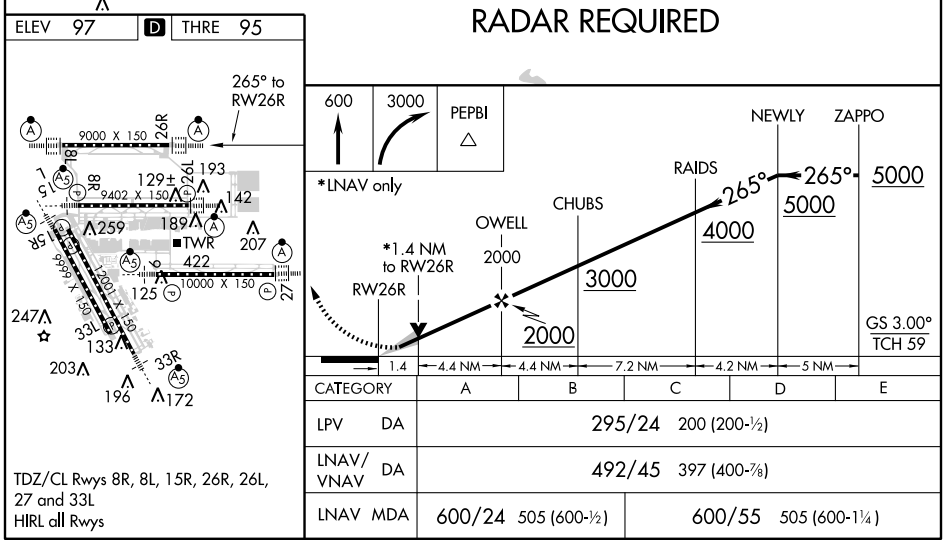
ALSF-2

MISSED APPROACH: Climb to 600 then climbing right turn to 3000 direct PEPBI and hold.

| ATIS | HOUSTON APP CON | HOUSTON TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 124.05 | 120.05 379.1 EAST<br>124.35 316.15 WEST | 8L/26R 120.725 290.2 9/27 135.15 290.2<br>8R/26L 125.35 290.2 15L/R 33L/R 127.3 288.25 | 8L/R 26L/R, 9/27 121.7<br>15L/R 33L/R 118.575 | 128.1 |




RADAR REQUIRED




| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| LPV DA | 295/24 200 (200-½) | | | | |
| LNAV/VNAV DA | 492/45 397 (400-⅞) | | | | |
| LNAV MDA | 600/24 505 (600-½) | | 600/55 505 (600-1¼) | | |



Figure 266


SC-5, 05 APR 2012 to 03 MAY 2012

ATIS 127.75
CLNC DEL 118.15
GND CON 133.0 257.6
SOCAL DEP CON 127.2 269.6

TAKE-OFF MINIMUMS:
Rwys 7L/R, 25L/R, 34L/R,12, and 30: Standard.
Rwy 16L: 400-1 or standard with a minimum climb of 392' per NM to 500'.
Rwy 16R: 400-1 or standard with minimum climb of 507' per NM to 500'.

NOTE: All Rwys, cross DER at or above 35' AGL.
NOTE: This departure procedure not authorized for Turbo-prop or Turbo-jet aircraft.
NOTE: RADAR required.

NOTE: Rwy 7R, building 1474' from DER, 822' right of centerline, 86'AGL/115'MSL.
Rwy 25L, building 1149' from Rwy 25L, 793' right of centerline, 119' AGL/169' MSL.
Rwy 34L, crane, 752' from DER, on centerline, 60' AGL/106'MSL.
Rwy 34R, antenna 1194' from DER, 527' right of centerline, 83' AGL/121' MSL.

†Hector Transition
††Lake Hughes Transition

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)



SW-3, 05 APR 2012 to 03 MAY 2012

ANAHEIM THREE DEPARTURE
(ANAHM3.SLI) 12040
LONG BEACH, CALIFORNIA
LONG BEACH (DAUGHERTY FIELD) (LGB)

Figure 267

DEPARTURE ROUTE DESCRIPTION

HECTOR or LAKE HUGHES TRANSITION: Climb runway heading to 800′ then fly assigned heading for radar vectors to SLI VORTAC. Thence. . . .

VENTURA TRANSITION: Climb runway heading to 800′ then fly assigned heading for radar vectors to LAX VORTAC. Thence. . . .

. . . .via (transition) or (assigned route). Maintain assigned altitude. Expect clearance to filed altitude 10 minutes after departure.

HECTOR TRANSITION (ANAHM3.HEC): From over SLI VORTAC via SLI R-058 and PDZ R-238 to PDZ VORTAC, then via PDZ R-012 and HEC R-232 to HEC VORTAC.

LAKE HUGHES TRANSITION (ANAHM3.LHS): From over SLI VORTAC via SLI R-058 and PDZ R-238 to POXKU INT, then via POM R-164 to BAYJY INT, then via VNY R-095 to DARTS INT. Thence via SLI R-319 and LHS R-139 to LHS VORTAC.

VENTURA TRANSITION (ANAHM3.VTU): From over SLI VORTAC via SLI R-251 to WILMA INT, then via LAX R-123 to LAX VORTAC, then via LAX R-276 and VTU R-093 to VTU VOR/DME.


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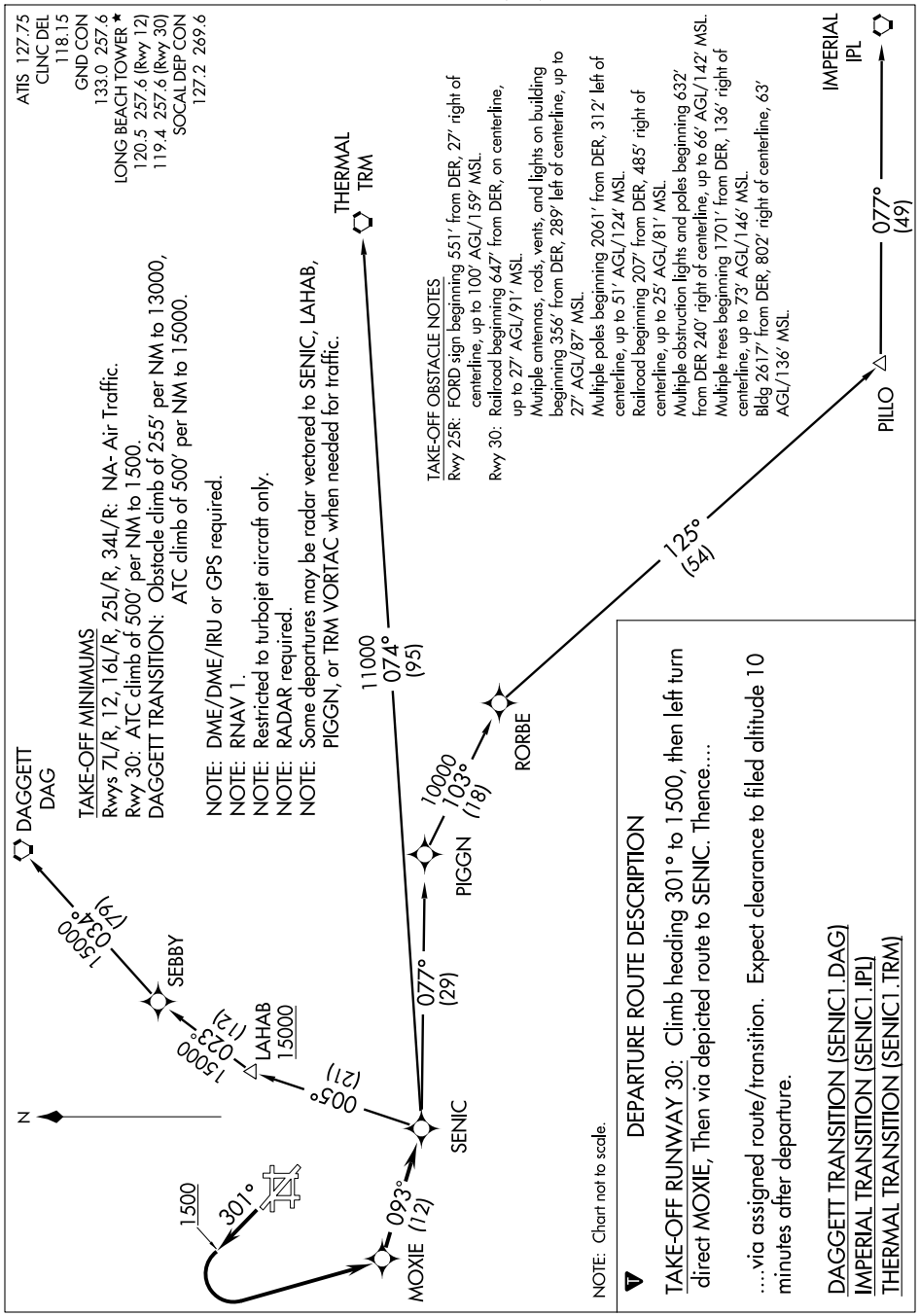
Figure 268

ATIS 127.75
CLNC DEL 118.15
GND CON 133.0 257.6
LONG BEACH TOWER ★ 120.5 257.6 (Rwy 12) 119.4 257.6 (Rwy 30)
SOCAL DEP CON 127.2 269.6

TAKE-OFF MINIMUMS
Rwys 7L/R, 12, 16L/R, 25L/R, 34L/R: NA- Air Traffic.
Rwy 30: ATC climb of 500' per NM to 1500.
DAGGETT TRANSITION: Obstacle climb of 255' per NM to 13000, ATC climb of 500' per NM to 15000.

NOTE: DME/DME/IRU or GPS required.
NOTE: RNAV 1.
NOTE: Restricted to turbojet aircraft only.
NOTE: RADAR required.
NOTE: Some departures may be radar vectored to SENIC, LAHAB, PIGGN, or TRM VORTAC when needed for traffic.

TAKE-OFF OBSTACLE NOTES
Rwy 25R: FORD sign beginning 551' from DER, 27' right of centerline, up to 100' AGL/159' MSL.
Rwy 30: Railroad beginning 647' from DER, on centerline, up to 27' AGL/91' MSL.
Mutiple antennas, rods, vents, and lights on building beginning 356' from DER, 289' left of centerline, up to 27' AGL/87' MSL.
Multiple poles beginning 2061' from DER, 312' left of centerline, up to 51' AGL/124' MSL.
Railroad beginning 207' from DER, 485' right of centerline, up to 25' AGL/81' MSL.
Multiple obstruction lights and poles beginning 632' from DER 240' right of centerline, up to 66' AGL/142' MSL.
Multiple trees beginning 1701' from DER, 136' right of centerline, up to 73' AGL/146' MSL.
Bldg 2617' from DER, 802' right of centerline, 63' AGL/136' MSL.




NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 30: Climb heading 301° to 1500, then left turn direct MOXIE, Then via depicted route to SENIC. Thence....

....via assigned route/transition. Expect clearance to filed altitude 10 minutes after departure.

DAGGETT TRANSITION (SENIC1.DAG)
IMPERIAL TRANSITION (SENIC1.IPL)
THERMAL TRANSITION (SENIC1.TRM)



Figure 269

| VORTAC SLI 115.7 Chan 104 | APP CRS 275° | Rwy ldg 8000<br>TDZE 38<br>Apt Elev 60 |
|---|---|---|

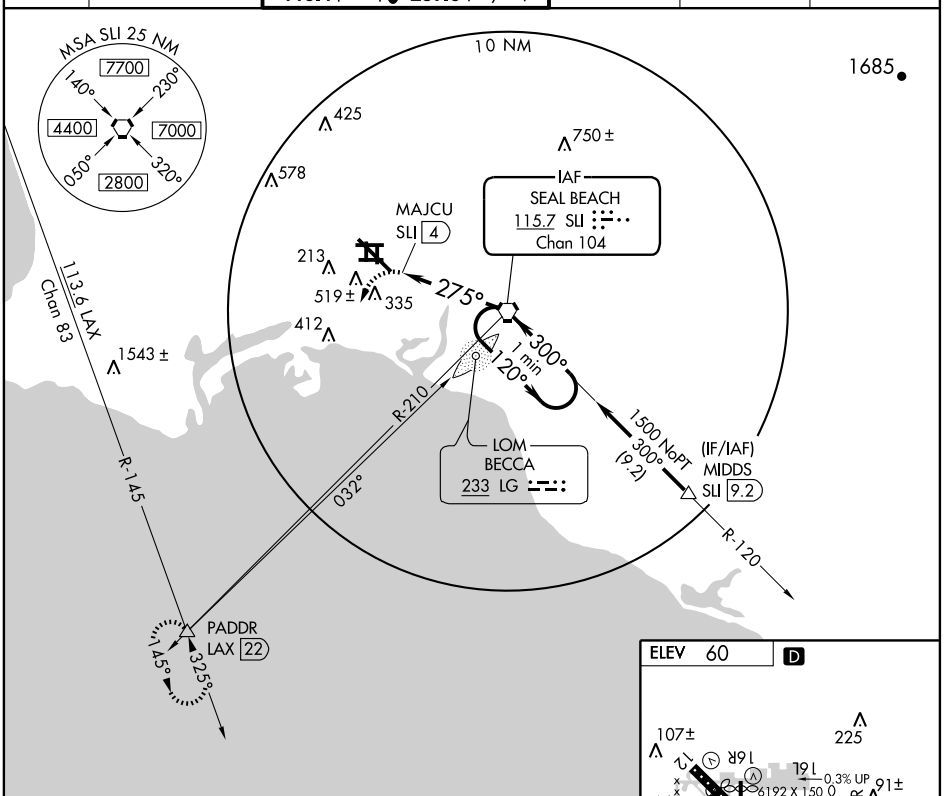
# VOR or TACAN RWY 30
## LONG BEACH (DAUGHERTY FIELD) (LGB)

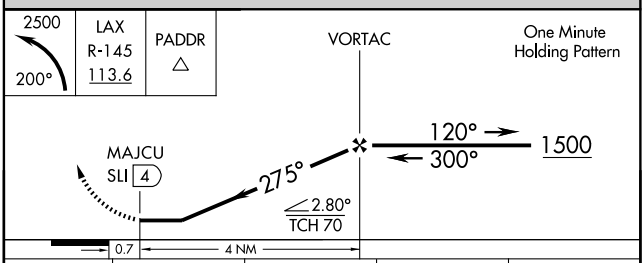
Inoperative table does not apply.
Visibility reduction by helicopters NA.

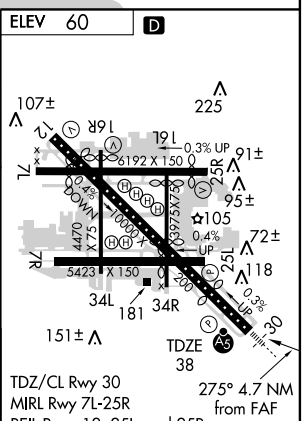
MALSR

MISSED APPROACH: Climbing left turn to 2500 via heading 200° and LAX R-145 to PADDR Int/LAX 22 DME and hold.

| ATIS | SOCAL APP CON | LONG BEACH TOWER★ | GND CON | CLNC DEL | UNICOM |
|---|---|---|---|---|---|
| 127.75 | 124.65 316.125 | 120.5 257.6 (Rwy 12)<br>119.4 (CTAF) L 257.6 (Rwy 30) | 133.0 257.6 | 118.15 | 122.95 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-30 | 640/50 602 (600-1) | | 640-1¾<br>602 (600-1¾) | 640-2<br>602 (600-2) |
| CIRCLING | 880-1<br>820 (900-1) | 880-1¼<br>820 (900-1¼) | 880-2½<br>820 (900-2½) | 880-2¾<br>820 (900-2¾) |

| FAF to MAP 4 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:00 | 2:40 | 2:00 | 1:36 | 1:20 |

SW-3, 05 APR 2012 to 03 MAY 2012

SW-3, 05 APR 2012 to 03 MAY 2012



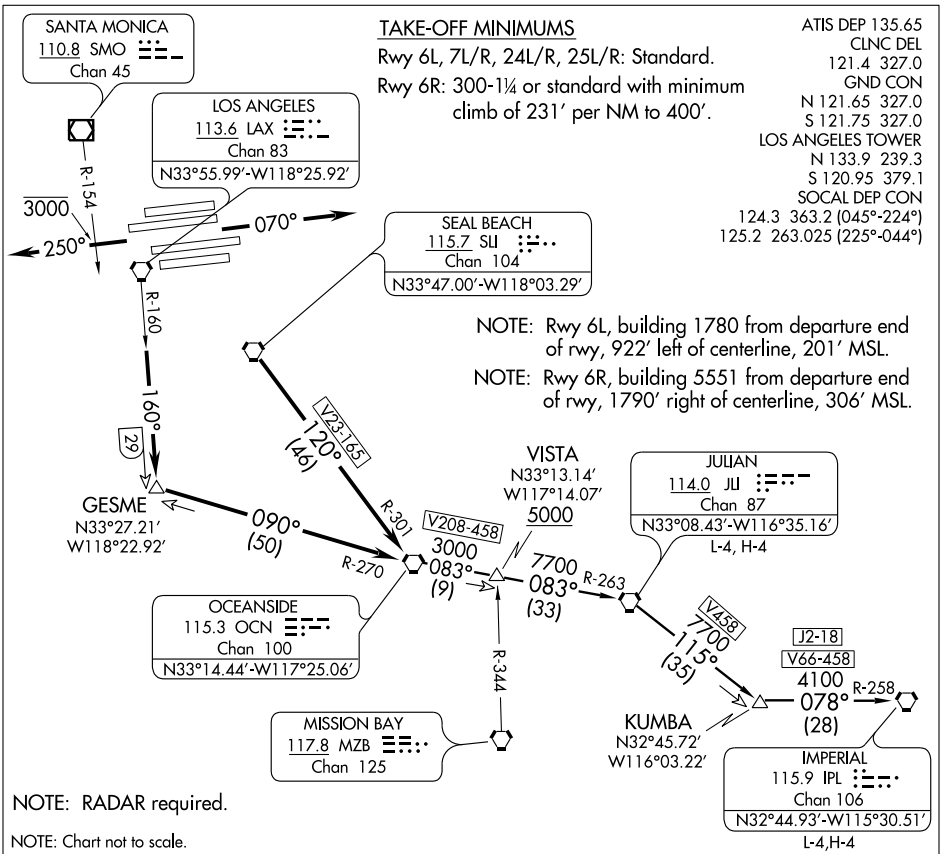
**Figure 270**

TAKE-OFF MINIMUMS

Rwy 6L, 7L/R, 24L/R, 25L/R: Standard.

Rwy 6R: 300-1¼ or standard with minimum climb of 231′ per NM to 400′.

ATIS DEP 135.65
CLNC DEL
121.4 327.0
GND CON
N 121.65 327.0
S 121.75 327.0
LOS ANGELES TOWER
N 133.9 239.3
S 120.95 379.1
SOCAL DEP CON
124.3 363.2 (045°-224°)
125.2 263.025 (225°-044°)




NOTE: RADAR required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 6L/R, 7L/R: Climb via heading 070° for vector to SLI VORTAC, then via SLI R-120 and OCN R-301 to OCN VORTAC. Thence. . . .

TAKE-OFF RUNWAYS 24L/R, 25L/R: Climb via heading 250° to cross SMO R-154 at or below 3000. Then via radar vectors to join LAX R-160 to GESME INT. Then via OCN R-270 to OCN VORTAC. Thence. . . .

. . . .via (assigned transition) or (assigned route). All aircraft expect further clearance to filed flight level three minutes after departure.

LOST COMMUNICATIONS: If not in contact with Departure Control within five minutes after departure, climb to FL230 or filed altitude whichever is lower. Aircraft filing FL240 or above climb to filed altitude ten minutes after departure.

IMPERIAL TRANSITION (IMPER1.IPL): From over OCN VORTAC via OCN R-083 and JLI R-263 to JLI VORTAC. Then via JLI R-115 and IPL R-258 to IPL VORTAC.

JULIAN TRANSITION (IMPER1.JLI): From over OCN VORTAC via OCN R-083 and JLI R-263 to JLI VORTAC.

# ARLIN THREE ARRIVAL

ST-322 (FAA)

PHOENIX, ARIZONA

BLYTHE TRANSITION (BLH.ARLIN3): From over BLH VORTAC via BLH R-089 and IWA R-256 to ARLIN INT. Thence....

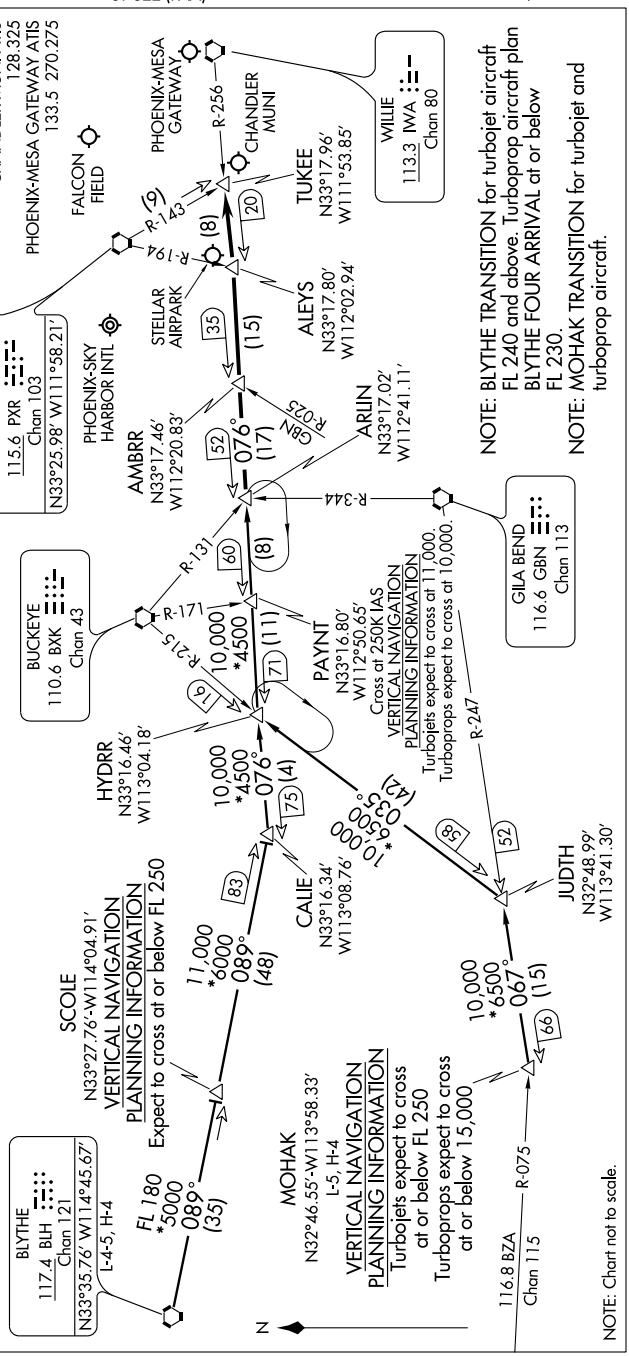
MOHAK TRANSITION (MOHAK.ARLIN3): From over MOHAK INT via GBN R-247 and BXK R-215 to HYDRR INT, then via IWA R-256 to ARLIN INT. Thence....

...From over ARLIN INT:

PHOENIX SKY HARBOR INTL: Rwys 7L/R or 8: Expect vectors after ARLIN INT to final approach course; Rwys 25L/R or 26: via IWA R-256 to TUKEE INT. Expect vectors prior to TUKEE INT to final approach course.

SATELLITE AIRPORTS: Expect vectors after passing TUKEE INT.

LOST COMMUNICATIONS: After ARLIN INT, via IWA R-256 and PXR R-143 to PXR VORTAC.








SW-4, 05 APR 2012 to 03 MAY 2012

Figure 272

# ILS or LOC RWY 25L
## PHOENIX SKY HARBOR INTL (PHX)

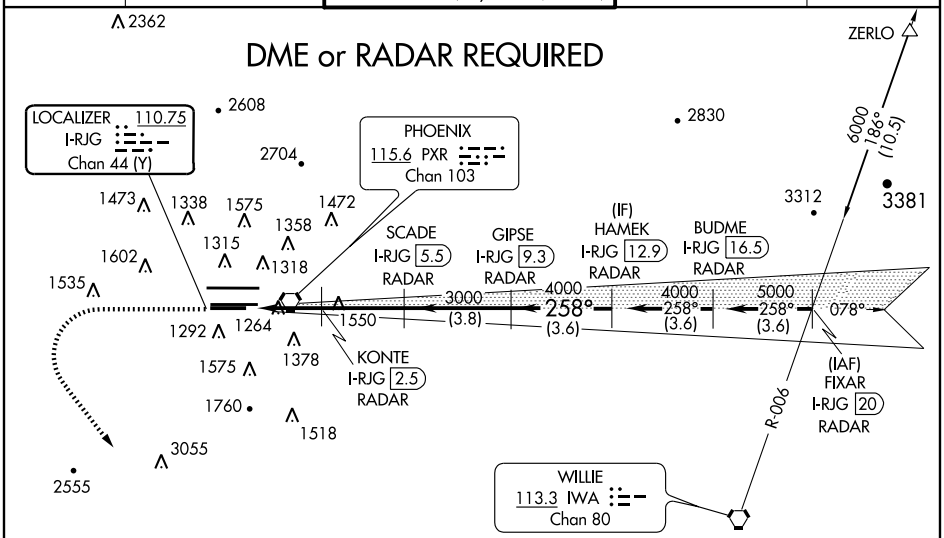
| LOC/DME I-RJG | APP CRS | Rwy ldg | 7800 |
|---|---|---|---|
| 110.75 | 258° | TDZE | 1126 |
| Chan 44 (Y) | | Apt Elev | 1135 |

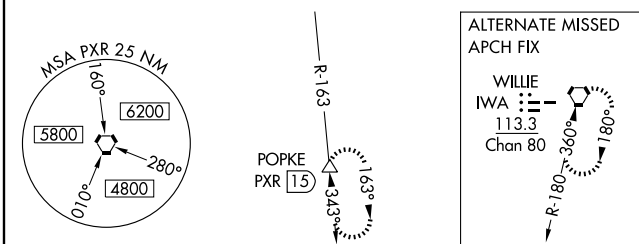
Autopilot coupled approach NA below 1925.
Simultaneous approach authorized with Rwy 26.

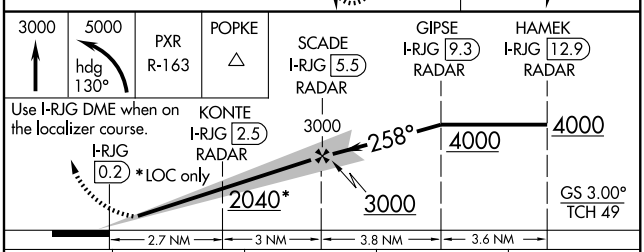
MALSR

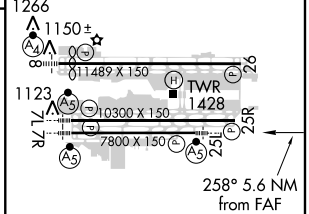
MISSED APPROACH: Climb to 3000 then climbing left turn to 5000 on heading 130° and PXR R-163 to POPKE/15 DME and hold.

| ATIS | PHOENIX APP CON | PHOENIX TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 127.575 | 128.65 353.8 | 118.7 278.8 (Rwy 8-26)<br>120.9 254.3 (Rwy 7L-25R, 7R-25L) | 119.75 269.2 (N)<br>132.55 269.2 (S) | 118.1 269.2 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 25L | 1326-½ 200 (200-½) | | | |
| S-LOC 25L | 1520-½ 394 (400-½) | | | 1520-¾ 394 (400-¾) |
| CIRCLING | 1740-1 605 (700-1) | | 1740-1¾ 605 (700-1¾) | 1920-2 785 (800-2) |

HIRL Rwys 8-26, 7L-25R and 7R-25L
REIL Rwy 26

| FAF to MAP 5.6 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:36 | 3:44 | 2:48 | 2:14 | 1:52 |



Figure 273


SW-4, 05 APR 2012 to 03 MAY 2012

# RNAV (GPS) Y RWY 25L
## PHOENIX SKY HARBOR INTL (PHX)

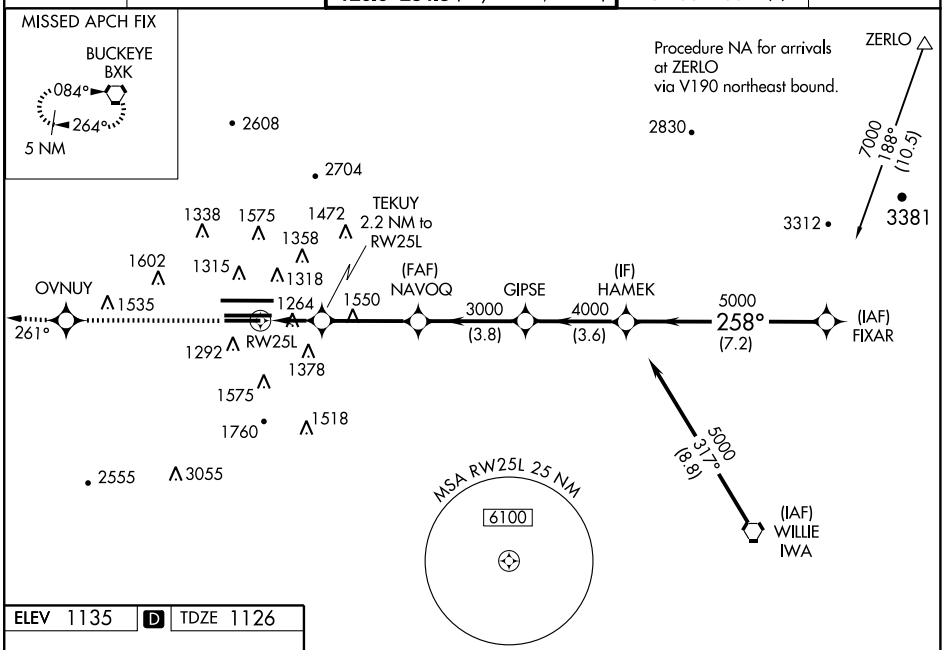
| WAAS CH 82211 W25B | APP CRS 258° | Rwy ldg 7800<br>TDZE 1126<br>Apt Elev 1135 |
|---|---|---|

For inoperative MALSR, increase LPV all Cats visibility to 1 ¼. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP- 0.3 NA. Simultaneous approach authorized with ILS or LOC Rwy 26. Use of FD or AP providing RNAV track guidance required during simultaneous operations. LNAV procedure NA during simultaneous operations.

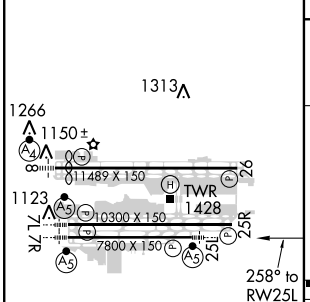
MALSR

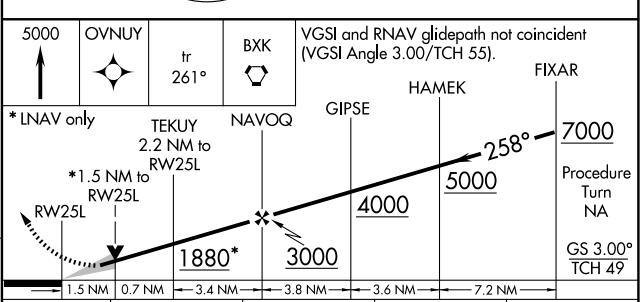
MISSED APPROACH: Climb to 5000 direct OVNUY and via 261° track to BXK VORTAC and hold.

| ATIS | PHOENIX APP CON | PHOENIX TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 127.575 | 128.65 353.8 | 118.7 278.8 (Rwy 8-26)<br>120.9 254.3 (Rwy 7L-25R, 7R-25L) | 119.75 269.2 (N)<br>132.55 269.2 (S) | 118.1 269.2 |




ELEV 1135 | D | TDZE 1126




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| LPV DA | 1482-¾ 356 (400-¾) | | | |
| LNAV/VNAV DA | 1613-1¼ 487 (500-1¼) | | | |
| LNAV MDA | 1680-½ 554 (600-½) | | 1680-1 554 (600-1) | 1680-1¼ 554 (600-1¼) |
| CIRCLING | 1740-1 605 (700-1) | | 1740-1¾ 605 (700-1¾) | 1920-2½ 785 (800-2½) |

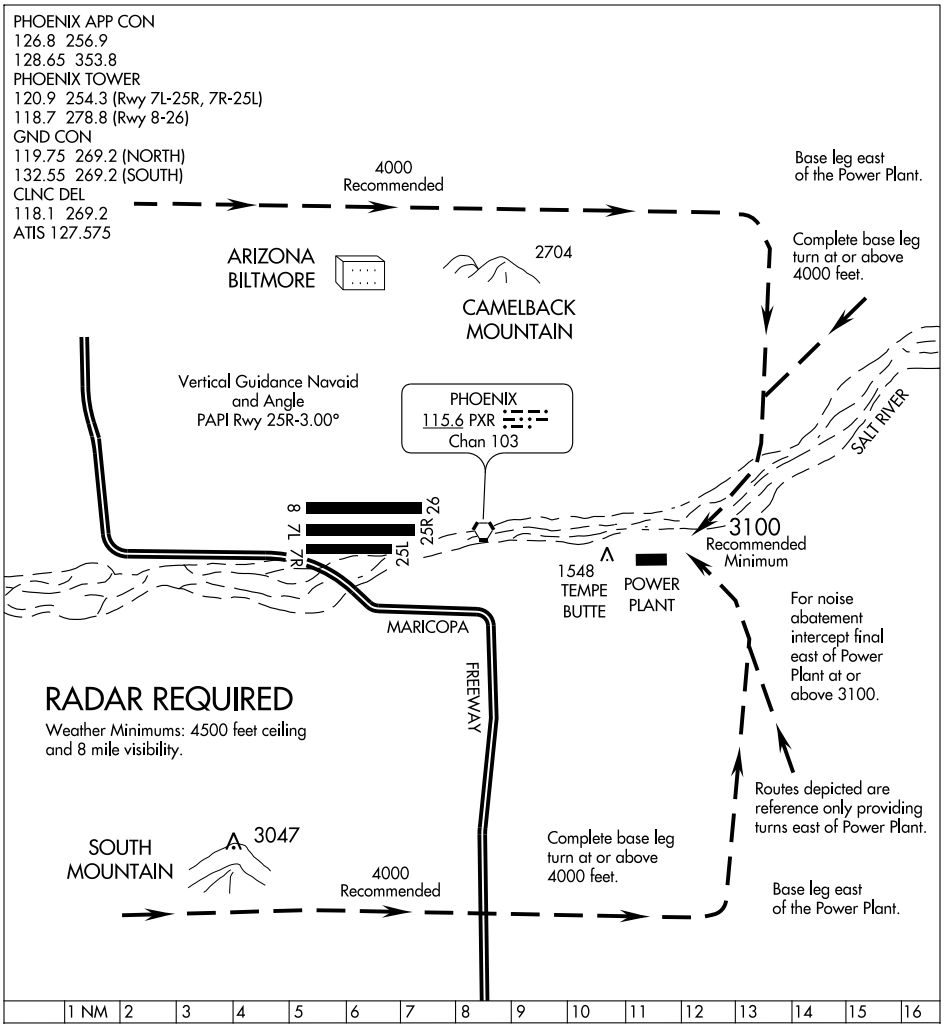
HIRL Rwys 8-26, 7L-25R and 7R-25L
REIL Rwy 26



Figure 274

# POWER PLANT VISUAL RWY 25R

PHOENIX SKY HARBOR INTL (PHX)
PHOENIX, ARIZONA




POWER PLANT VISUAL RWY 25R

When visual approaches to Runway 25R are in progress, clearances will be given utilizing in part the following phaseology:

"(IDENT) CLEARED FOR A POWER PLANT VISUAL RUNWAY 25R APPROACH"




SW-4, 05 APR 2012 to 03 MAY 2012

Figure 275

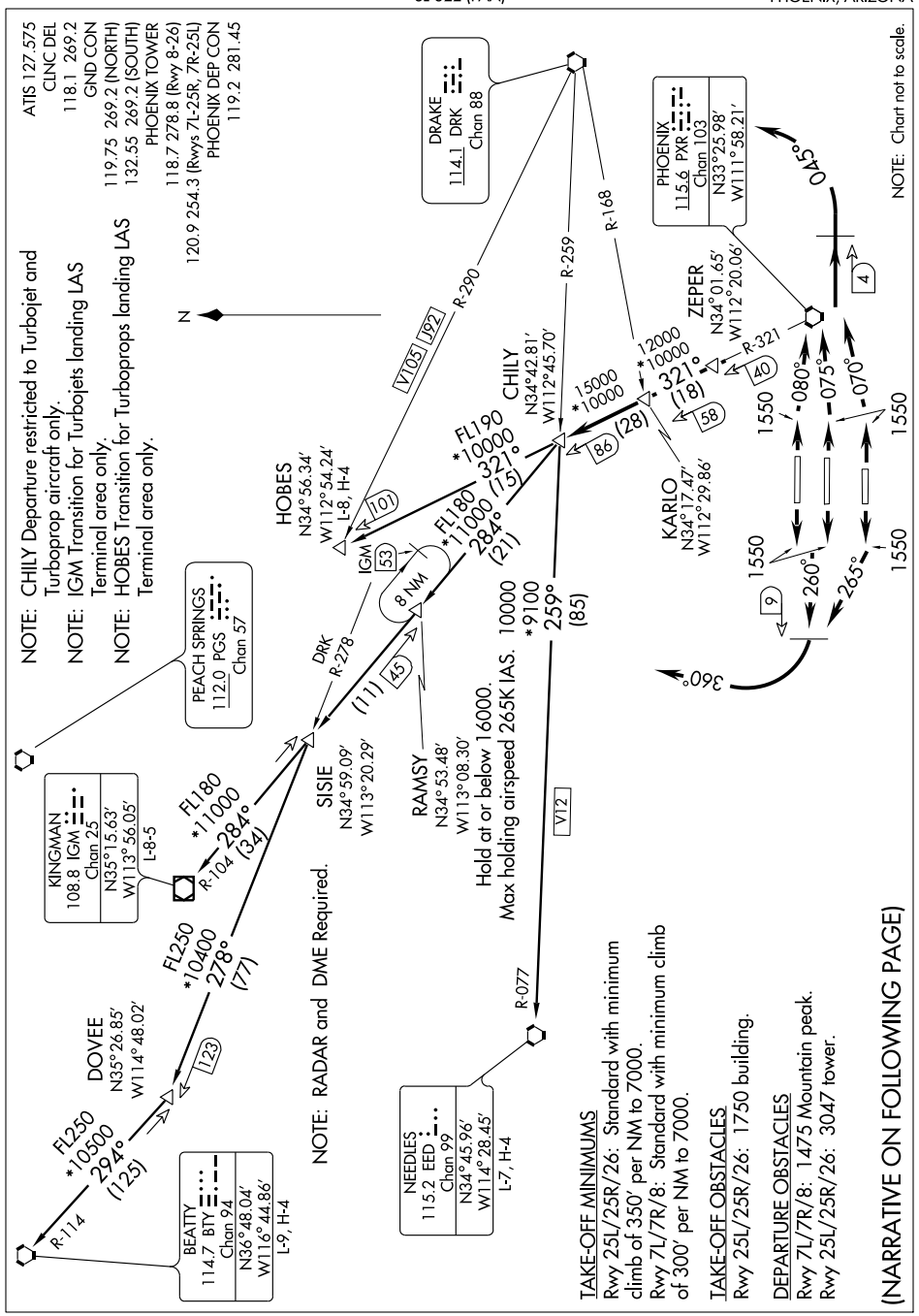

ATIS 127.575
CLNC DEL
118.1 269.2
GND CON
119.75 269.2 (NORTH)
132.55 269.2 (SOUTH)
PHOENIX TOWER
118.7 278.8 (Rwy 8-26)
120.9 254.3 (Rwys 7L-25R, 7R-25L)
PHOENIX DEP CON
119.2 281.45
NOTE: CHILY Departure restricted to Turbojet and Turboprop aircraft only.
NOTE: IGM Transition for Turbojets landing LAS Terminal area only.
NOTE: HOBES Transition for Turboprops landing LAS Terminal area only.
N
DRAKE
114.1 DRK
Chan 88
PHOENIX
115.6 PXR
Chan 103
N33°25.98′
W111°58.21′
NOTE: Chart not to scale.
R-290
R-259
R-168
V105
J92
ZEPER
N34°01.65′
W112°20.06′
R-321
CHILY
N34°42.81′
W112°45.70′
HOBES
N34°56.34′
W112°54.24′
L-8, H-4
IGM
101
53
FL190
*10000
321°
(15)
FL180
*11000
284°
(21)
8 NM
86
(28)
12000
*10000
321°
(18)
58
40
15000
*10000
KARLO
N34°17.47′
W112°29.86′
PEACH SPRINGS
112.0 PGS
Chan 57
DRK
R-278
(11)
45
SISIE
N34°59.09′
W113°20.29′
RAMSY
N34°53.48′
W113°08.30′
Hold at or below 16000.
Max holding airspeed 265K IAS.
10000
*9100
259°
(85)
V12
R-077
KINGMAN
108.8 IGM
Chan 25
N35°15.63′
W113°56.05′
L-8-5
R-104
FL180
*11000
284°
(34)
FL250
*10400
278°
(77)
DOVEE
N35°26.85′
W114°48.02′
123
FL250
*10500
294°
(125)
R-114
BEATTY
114.7 BTY
Chan 94
N36°48.04′
W116°44.86′
L-9, H-4
NOTE: RADAR and DME Required.
NEEDLES
115.2 EED
Chan 99
N34°45.96′
W114°28.45′
L-7, H-4
TAKE-OFF MINIMUMS
Rwy 25L/25R/26: Standard with minimum climb of 350′ per NM to 7000.
Rwy 7L/7R/8: Standard with minimum climb of 300′ per NM to 7000.
TAKE-OFF OBSTACLES
Rwy 25L/25R/26: 1750 building.
DEPARTURE OBSTACLES
Rwy 7L/7R/8: 1475 Mountain peak.
Rwy 25L/25R/26: 3047 tower.
(NARRATIVE ON FOLLOWING PAGE)
040°
080°
075°
070°
1550
1550
1550
1550
9
4
360°
260°
265°



Figure 276

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 7L: Climb runway heading to 1550, then climbing left turn heading 075°, at 4 DME east of PXR VORTAC, climbing left turn heading 045°. Thence....
TAKE-OFF RUNWAY 7R: Climb runway heading to 1550, then climbing left turn heading 070°, at 4 DME east of PXR VORTAC, climbing left turn heading 045°. Thence....
TAKE-OFF RUNWAY 8: Climb runway heading to 1550, then climbing right turn heading 080°, at 4 DME east of PXR VORTAC, climbing left turn heading 045°. Thence....
TAKE-OFF RUNWAY 25L: Climb runway heading to 1550, then climbing right turn heading 265°, at 9 DME west of PXR VORTAC, climbing right turn heading 360°. Thence....
TAKE-OFF RUNWAY 25R: Climb runway heading to 1550, then climbing right turn heading 260°, at 9 DME west of PXR VORTAC, climbing right turn heading 360°. Thence....
TAKE-OFF RUNWAY 26: Climb runway heading to 1550, then climbing right turn heading 260°, at 9 DME west of PXR VORTAC, climbing right turn heading 360°. Thence....

....maintain 7000. Expect radar vectors to PXR R-321 to ZEPER INT then CHILY INT. Then via (transition). Expect filed altitude 3 minutes after departure.

BEATTY TRANSITION (CHILY1.BTY): From over CHILY INT via IGM R-104 to SISIE INT, then via DRK R-278 to DOVEE INT, then via BTY R-114 to BTY VORTAC.

HOBES TRANSITION (CHILY1.HOBES): From over CHILY INT via PXR R-321 to HOBES INT.

KINGMAN TRANSITION (CHILY1.IGM): From over CHILY INT via IGM R-104 to IGM VOR/DME.

NEEDLES TRANSITION (CHILY1.EED): From over CHILY INT via DRK R-259 and EED R-077 to EED VORTAC.



Figure 277

ATIS 135.35
CLNC DEL
124.7
GND CON
133.2 257.8
BUFFALO TOWER
120.5 257.8

TAKEOFF MINIMUMS:
All Rwys, STANDARD.

BUFFALO
116.4 BUF
Chan 111
N42°55.74′
W78°38.78′
L-31, H-10-11

LONDON
117.2 YXU
Chan 119
N43°02.29′
W81°08.91′
L-30-31, H-10-11

ROCHESTER
110.0 ROC
Chan 37
N43°07.08′
W77°40.37′
L-31-32, H-10-11-12

SYRACUSE
117.0 SYR
Chan 117
N43°09.63′
W76°12.27′
L-32, H-11-12

316°
053°
233°
136°

GENESEO
108.2 GEE
Chan 19
N42°50.06′
W77°43.97′
L-31-32, H-10-11-12

AYLMER
114.2 YQO
Chan 89
N42°42.40′
W80°53.27′
L-30, H-10-11

DUNKIRK
116.2 DKK
Chan 109
N42°29.43′
W79°16.45′
L-30, H-10

WELLSVILLE
111.4 ELZ
Chan 51
N42°05.38′
W77°59.97′
L-30-32, H-10-12

JAMESTOWN
114.7 JHW
Chan 94
N42°11.32′
W79°07.28′
L-30, H-10

STONYFORK
108.6 SFK
Chan 23
N41°41.72′
W77°25.19′
L-30, H-10-12

DRYER
113.6 DJB
Chan 83
N41°21.48′
W82°09.72′
L-30, H-10

BRADFORD
116.6 BFD
Chan 113
N41°47.18′
W78°37.16′
L-30

SLATE RUN
113.9 SLT
Chan 86
N41°30.77′
W77°58.21′
L-30, H-10-12

NOTE: RADAR Required.
NOTE: Chart not to scale.

(Continued on next page)

NE-2, 05 APR 2012 to 03 MAY 2012

## DEPARTURE ROUTE DESCRIPTION

TURBOJET AIRCRAFT:
TAKE-OFF RUNWAY 5: Climb via heading 053° until leaving 3000, thence. . . .
TAKE-OFF RUNWAY 14: Climb via heading 136° until leaving 3000, thence. . . .
TAKE-OFF RUNWAY 23: Climb via heading 233° until leaving 3000, thence. . . .
TAKE-OFF RUNWAY 32: Climb via heading 316° until leaving 2000, thence. . . .

NON-TURBOJET AIRCRAFT ONLY: Climb on assigned heading, thence. . . .

. . . .Expect vectors to filed route or depicted fix. Maintain 10,000′ or assigned lower altitude. Expect further clearance to requested altitude/flight level ten minutes after departure.



NE-2, 05 APR 2012 to 03 MAY 2012

Figure 278

| LOC I-IDN | APP CRS | Rwy ldg / TDZE / Apt Elev |
|---|---|---|
| 110.75 | 323° | 10003 / 653 / 672 |

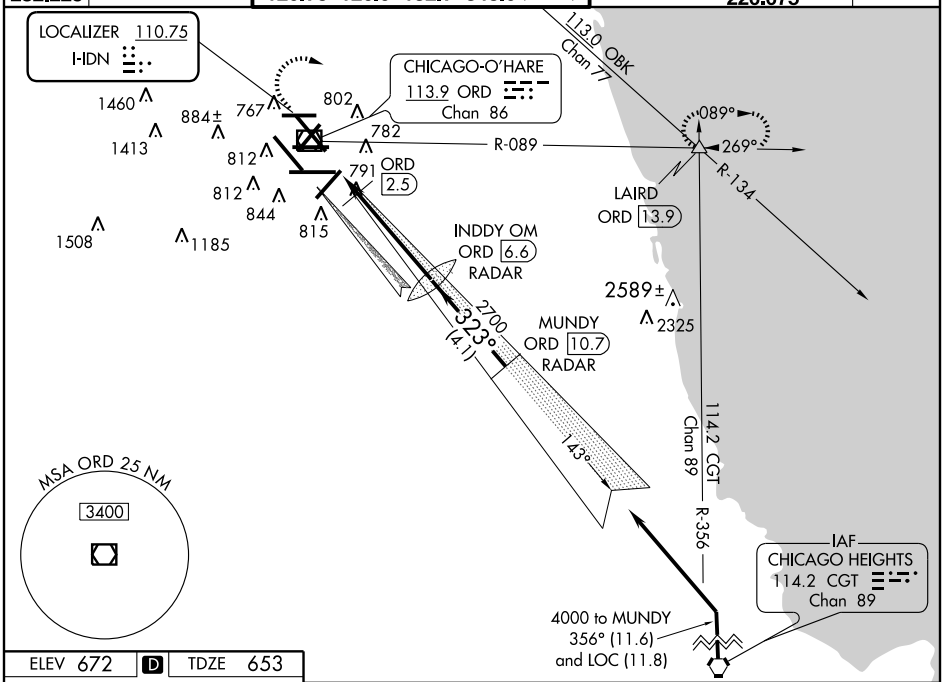
# ILS or LOC RWY 32R
## CHICAGO-O'HARE INTL (ORD)

DME from ORD VOR/DME.

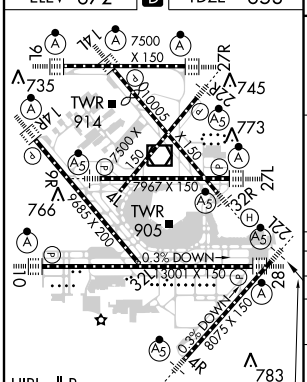
MALSR

MISSED APPROACH: Climb to 1100, then climbing right turn to 4000 via ORD R-089 to LAIRD INT/ORD 13.9 DME and hold.

| ATIS | CHICAGO APP CON | O'HARE TOWERS | GND CON (TWR NORTH) | GND CON (TWR CENTER) | CLNC DEL |
|---|---|---|---|---|---|
| 135.4 282.225 | 119.0 393.1 | 128.15 (Rwy 9L/27R) 120.75 126.9 132.7 348.0 (CENTER) | 124.125 | 121.75 (OBND) 121.9 (IBND) 226.675 | 121.6 |



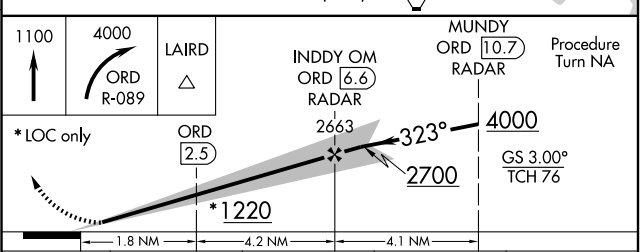

ELEV 672 | D | TDZE 653




HIRL all Rwys
TDZ/CL all Rwys except 4L and 32L

323° 6 NM from FAF

| FAF to MAP 6 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 6:00 | 4:00 | 3:00 | 2:24 | 2:00 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 32R | 853/18 200 (200-½) | | | |
| S-LOC 32R | 1220/24 567 (600-½) | | 1220/50 567 (600-1) | 1220/60 567 (600-1¼) |
| CIRCLING | 1220-1 548 (600-1) | | 1220-1½ 548 (600-1½) | 1240-2 568 (600-2) |
| DME MINIMUMS | | | | |
| S-LOC 32R | 1100/24 447 (500-½) | | 1100/40 447 (500-¾) | 1100/50 447 (500-1) |
| CIRCLING | 1220-1 548 (600-1) | | 1220-1½ 548 (600-1½) | 1240-2 568 (600-2) |



Figure 279

EC-3, 05 APR 2012 to 03 MAY 2012
EC-3, 05 APR 2012 to 03 MAY 2012

| LOC/DME I-SAJ | APP CRS | Rwy ldg | 7500 |
|---|---|---|---|
| 111.75 | 093° | TDZE | 668 |
| Chan 54 (Y) | | Apt Elev | 672 |

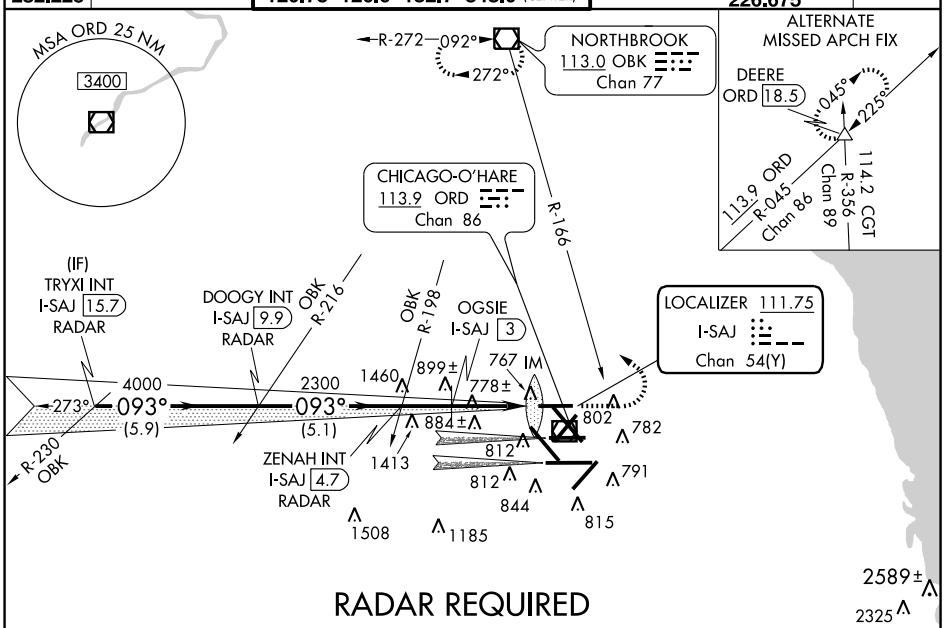
# ILS or LOC RWY 9L
## CHICAGO-O'HARE INTL (ORD)

Simultaneous approach authorized with Rwy 9R and 10.

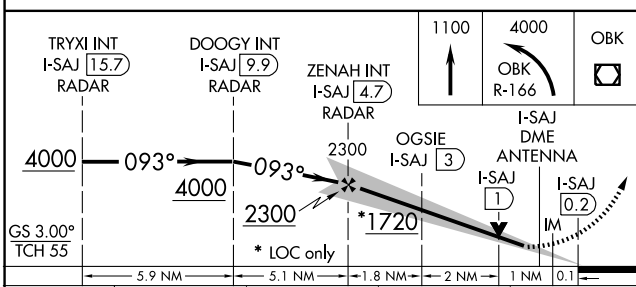
ALSF-2

MISSED APPROACH: Climb to 1100 then climbing left turn to 4000 via OBK VOR/DME R-166 to OBK VOR/DME and hold.

| ATIS | CHICAGO APP CON | O'HARE TOWERS | (TWR NORTH) GND CON (TWR CENTER) | CLNC DEL |
|---|---|---|---|---|
| 135.4<br>282.225 | 119.0 393.1 | 128.15 (Rwy 9L/27R)<br>120.75 126.9 132.7 348.0 (CENTER) | 124.125<br>121.75 (OBND)<br>121.9 (IBND)<br>226.675 | 121.6 |



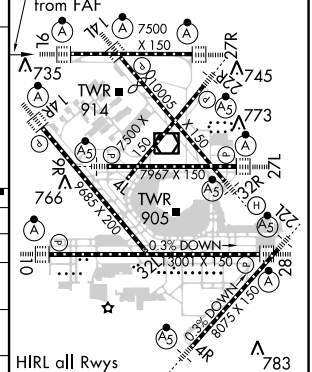

RADAR REQUIRED




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 9L | 868/18 200 (200-½) | | | |
| S-LOC 9L | 1720/40 1052 (1100-¾) | 1720/50 1052 (1100-1) | 1720-2½ 1052 (1100-2½) | |
| CIRCLING | 1720-1¼ 1048 (1100-1¼) | 1720-1½ 1048 (1100-1½) | 1720-3 1048 (1100-3 ) | |
| OGSIE FIX MINIMUMS | | | | |
| S-LOC 9L | 1080/24 412 (500-½) | | 1080/40 412 (500-¾) | |
| CIRCLING | 1220-1 548 (600-1) | | 1220-1½ 548 (600-1½) | 1240-2 568 (600-2) |

ELEV 672 D TDZE 668

093° 4.9 NM from FAF

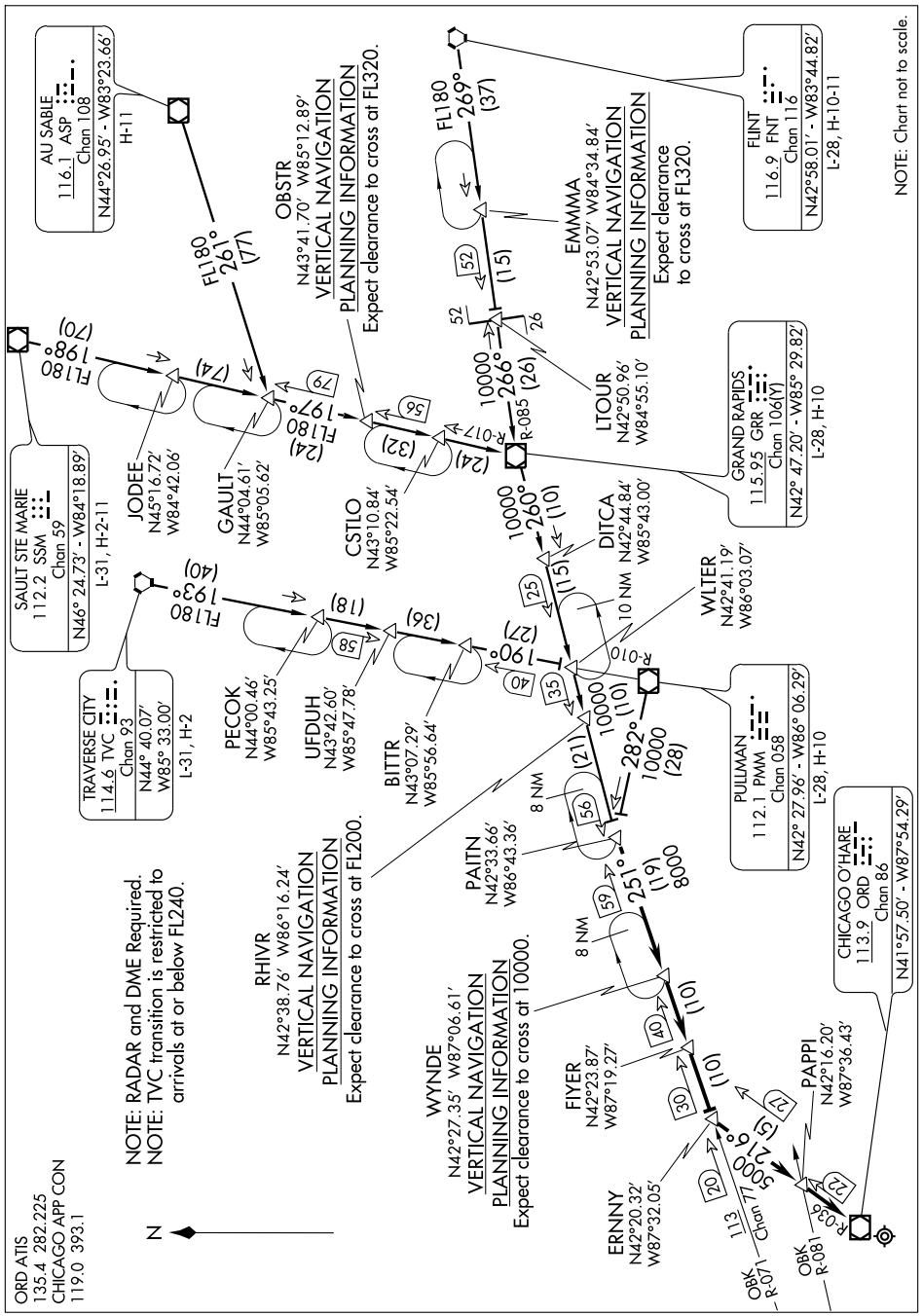



HIRL all Rwys
TDZ/CL all Rwys except 4L and 32L

| FAF to MAP 4.9 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:54 | 3:16 | 2:27 | 1:58 | 1:38 |



EC-3, 05 APR 2012 to 03 MAY 2012
EC-3, 05 APR 2012 to 03 MAY 2012




EC-3, 05 APR 2012 to 03 MAY 2012

EC-3, 05 APR 2012 to 03 MAY 2012



Figure 281

## ARRIVAL ROUTE DESCRIPTION

AU SABLE TRANSITION (ASP.PAITN2): From over ASP VOR/DME via ASP R-261 to GAULT then via GRR R-017 to GRR VOR/DME then via GRR R-260 to PAITN. Thence....
FLINT TRANSITION (FNT.PAITN2): From over FNT VORTAC via FNT R-269 to LTOUR and GRR R-085 to GRR VOR/DME then via GRR R-260 to PAITN. Thence....
GRAND RAPIDS TRANSITION (GRR.PAITN2): From over GRR VOR/DME via GRR R-260 to PAITN. Thence....
PULLMAN TRANSITION (PMM.PAITN2): From over PMM VOR/DME via PMM R-282 to PAITN. Thence....
SAULT STE MARIE TRANSITION (SSM.PAITN2): From over SSM VOR/DME via SSM R-198 to GAULT then via GRR R-017 to GRR VOR/DME then via GRR R-260 to PAITN. Thence....
TRAVERSE CITY TRANSITION (TVC.PAITN2): From over TVC VORTAC via TVC R-193 to BITTR then via PMM R-010 to WLTER then via GRR R-260 to PAITN. Thence....

....From over PAITN via OBK VOR/DME R-071 to WYNDE/OBK 40 DME, then via OBK VOR/DME R-071 to FIYER/OBK 30 DME, then via OBK VOR/DME R-071 to ERNNY/OBK 20 DME, then via ORD VOR/DME R-036 to PAPPI/ORD 22 DME, then via ORD VOR/DME R-036 to ORD VOR/DME. Expect radar vectors to final approach course.

EC-3, 05 APR 2012 to 03 MAY 2012
EC-3, 05 APR 2012 to 03 MAY 2012



Figure 282

| WAAS CH 40004 W10A | APP CRS 099° | Rwy ldg 11000<br>TDZE 24<br>Apt Elev 31 |
|---|---|---|

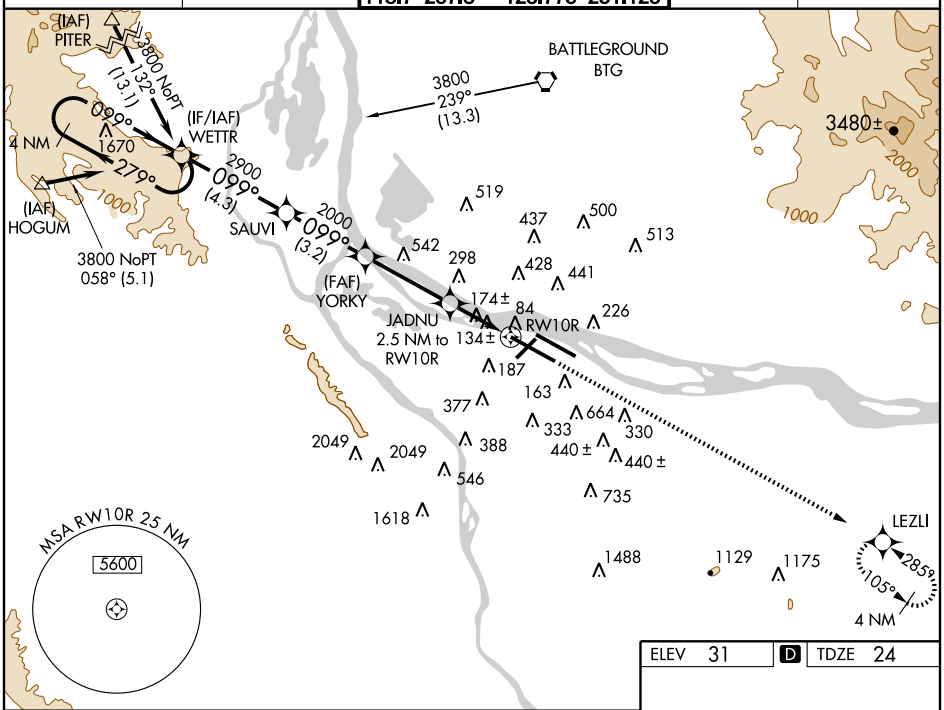
# RNAV (GPS) RWY 10R
## PORTLAND INTL (PDX)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 49°C (120°F). DME/DME RNP-0.3 NA. Simultaneous approach authorized with ILS or LOC RWY 10L. Use of FD or AP providing RNAV track guidance required during simultaneous operations. LNAV procedure NA during simultaneous operations.

ALSF-2

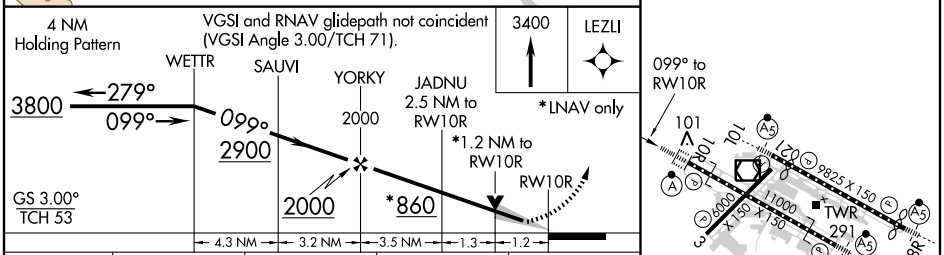
MISSED APPROACH: Climb to 3400 direct LEZLI and hold.

| ATIS | PORTLAND APP CON | PORTLAND TOWER | | GND CON | CLNC DEL |
|---|---|---|---|---|---|
| | | Rwy 10L-28R | Rwys 3-21, 10R-28L | | |
| 128.35 269.9 | 124.35 299.2 | 118.7 257.8 | 123.775 251.125 | 121.9 348.6 | 120.125 318.1 |




NW-1, 05 APR 2012 to 03 MAY 2012

NW-1, 05 APR 2012 to 03 MAY 2012







| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| LPV DA | 224/24 200 (200-½) | | | |
| LNAV/VNAV DA | 663-1¾ 639 (700-1¾) | | | |
| LNAV MDA | 460/24 436 (500-½) | | 460/40 436 (500-¾) | 460/50 436 (500-1) |
| CIRCLING | 720-1 689 (700-1) | 740-1 709 (800-1) | 760-2 729 (800-2) | 1000-3 969 (1000-3) |

REIL Rwys 3 and 21
TDZ or CL Rwy 10L-28R and 10R-28L
MIRL Rwy 3-21
HIRL Rwys 10L-28R and 10R-28L



**Figure 283**

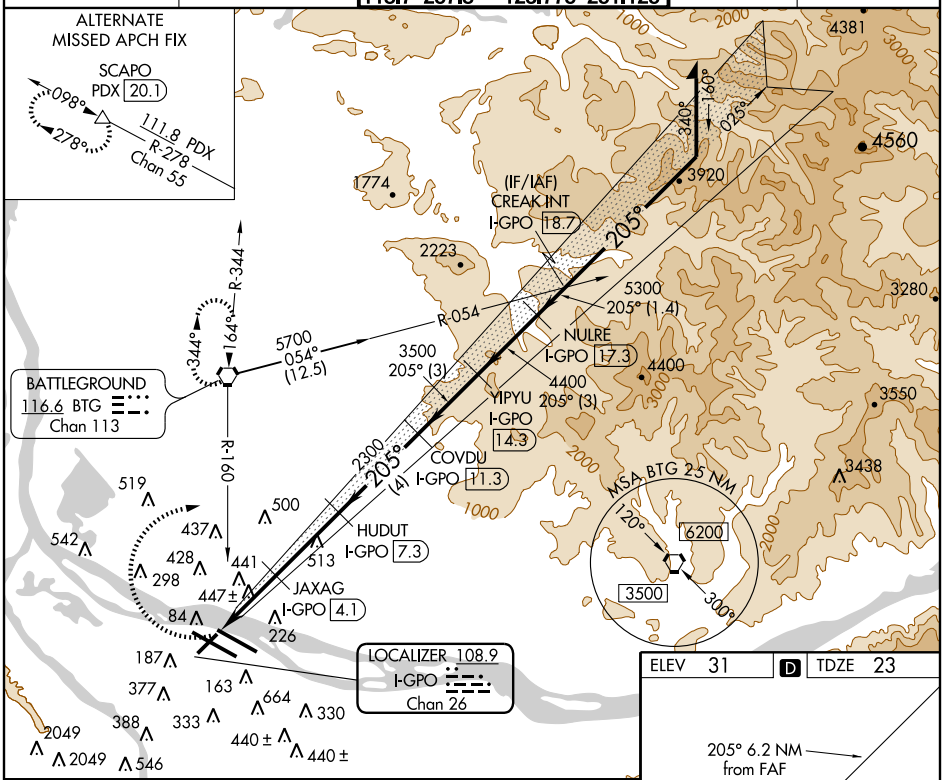
# LOC/DME RWY 21
## PORTLAND INTL (PDX)

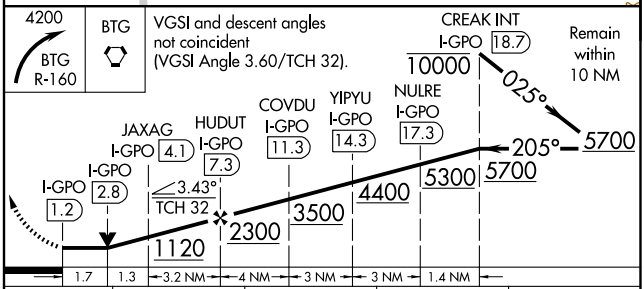
| LOC/DME I-GPO | APP CRS | Rwy ldg | 6000 |
|---|---|---|---|
| 108.9 | 205° | TDZE | 23 |
| Chan 26 | | Apt Elev | 31 |

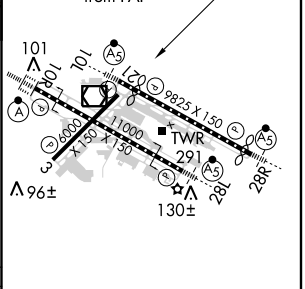
Visibility reduction by helicopters NA.

MISSED APPROACH: Climbing right turn to 4200 via BTG VORTAC R-160 to BTG VORTAC and hold, continue climb-in-hold to 4200.

| ATIS | PORTLAND APP CON | PORTLAND TOWER Rwy 10L-28R | PORTLAND TOWER Rwys 3-21, 10R-28L | GND CON | CLNC DEL |
|---|---|---|---|---|---|
| 128.35 269.9 | 124.35 299.2 | 118.7 257.8 | 123.775 251.125 | 121.9 348.6 | 120.125 318.1 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-21 | 700-1 677 (700-1) | | 700-2 677 (700-2) | 700-2¼ 677 (700-2¼) |
| CIRCLING | 720-1 689 (700-1) | 740-1 709 (800-1) | 760-2 729 (800-2) | 1000-3 969 (1000-3) |

REIL Rwys 3 and 21
TDZ or CL Rwy 10L-28R and 10R-28L
MIRL Rwy 3-21
HIRL Rwys 10L-28R and 10R-28L

NW-1, 05 APR 2012 to 03 MAY 2012

NW-1, 05 APR 2012 to 03 MAY 2012



Figure 284

| APP CRS | Rwy ldg | 7820 |
|---|---|---|
| 146° | TDZE | 326 |
| | Apt Elev | 335 |

# RNAV (GPS) Y RWY 15
## BURLINGTON INTL (BTV)

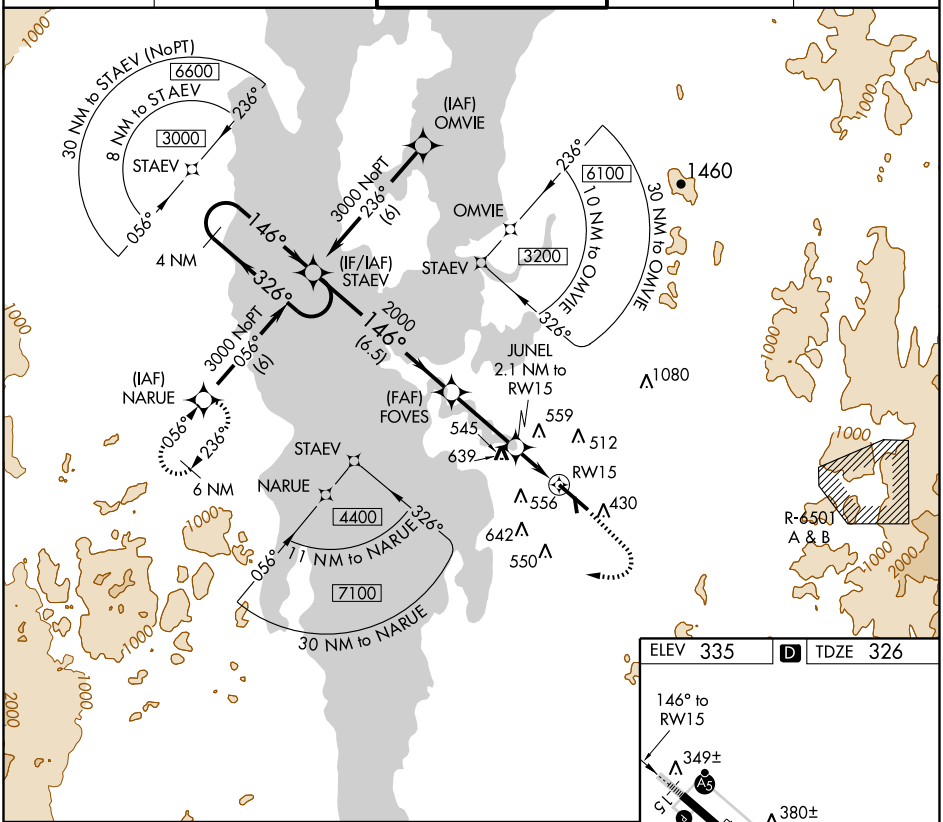
For inoperative MALSR, increase LNAV Cat A and B visibility to RVR 5000 and Cat E visibility to 1½. When VGSI inoperative, Circling Rwy 1 NA at night. DME/DME RNP-0.3 NA.

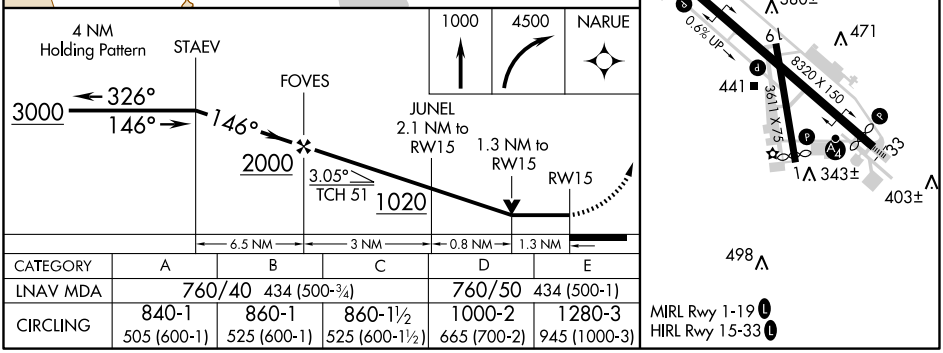
NA

MALSR

MISSED APPROACH: Climb to 1000 then climbing right turn to 4500 direct NARUE WP and hold.

| ATIS | BURLINGTON APP CON ★ | BURLINGTON TOWER ★ | BURLINGTON RADIO | GND CON |
|---|---|---|---|---|
| 123.8 269.9 | 121.1 278.8 | 118.3 (CTAF) L 257.8 | 122.6 255.4 | 119.15 348.6 |




| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| LNAV MDA | 760/40 434 (500-¾) | | | 760/50 434 (500-1) | |
| CIRCLING | 840-1 505 (600-1) | 860-1 525 (600-1) | 860-1½ 525 (600-1½) | 1000-2 665 (700-2) | 1280-3 945 (1000-3) |



Figure 285

NE-1, 05 APR 2012 to 03 MAY 2012
NE-1, 05 APR 2012 to 03 MAY 2012

| LOC/DME I-VOE | APP CRS | Rwy ldg | 7820 |
|---|---|---|---|
| 110.3 | 326° | TDZE | 335 |
| Chan 40 | | Apt Elev | 335 |

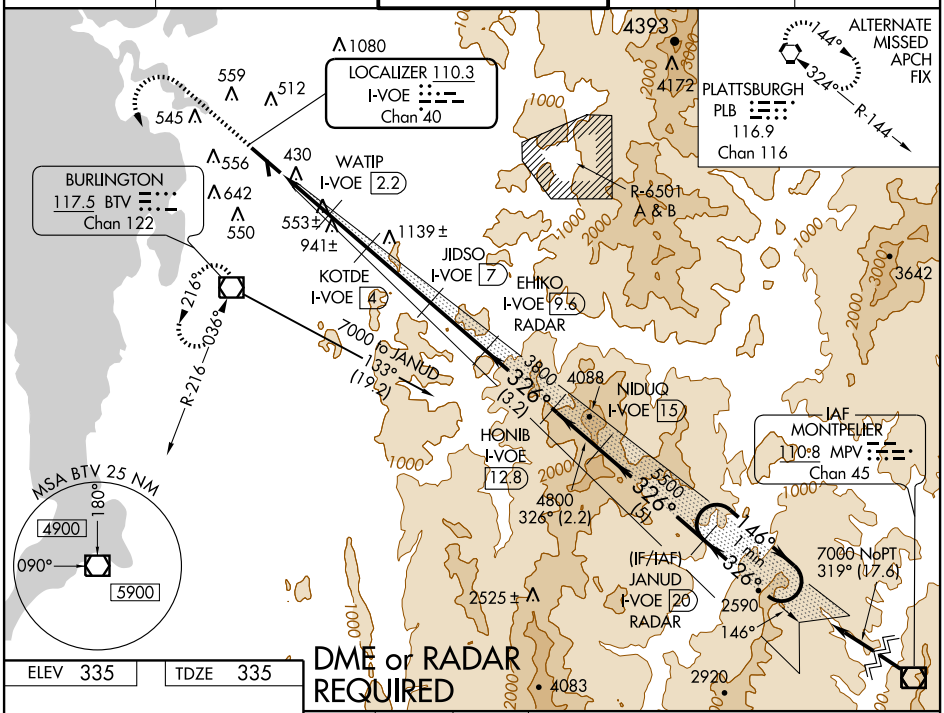
# ILS or LOC/DME RWY 33
## BURLINGTON INTL (BTV)

Inoperative table does not apply to S-LOC 33 Cats C, D, and E. Inoperative table does not apply to S-ILS all Cats.

MALSF

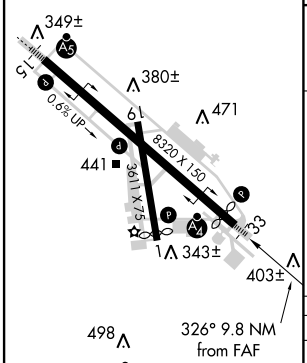
MISSED APPROACH: Climb to 1200 then climbing left turn to 2800 direct BTV VOR/DME and hold, continue climb-in-hold to 2800.

| ATIS | BURLINGTON APP CON ★ | BURLINGTON TOWER ★ | BURLINGTON RADIO | GND CON |
|---|---|---|---|---|
| 123.8 269.9 | 121.1 278.8 | 118.3 (CTAF) L 257.8 | 122.6 255.4 | 119.15 348.6 |



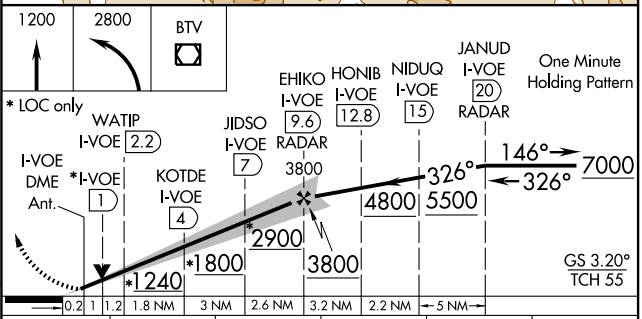

DME or RADAR REQUIRED

| ELEV 335 | TDZE 335 |
|---|---|




MIRL Rwy 1-19 L
HIRL Rwy 15-33 L

| FAF to MAP 9.8 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 9:48 | 6:32 | 4:54 | 3:55 | 3:16 |




| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| S-ILS 33 | 535/40 200 (200-¾) | | 585/50 250 (300-1) | | NA |
| S-LOC 33 | 820/40 485 (500-¾) | | 820/60 485 (500-1¼) | 820-1½ 485 (500-1½) | 820-1¾ 485 (500-1¾) |
| CIRCLING | 840-1 505 (600-1) | 860-1 525 (600-1) | 860-1½ 525 (600-1½) | 1000-2 665 (700-2) | 1280-3 945 (1000-3) |

NE-1, 05 APR 2012 to 03 MAY 2012

NE-1, 05 APR 2012 to 03 MAY 2012



Figure 286

# RNAV (GPS) Y RWY 33
## BURLINGTON INTL (BTV)

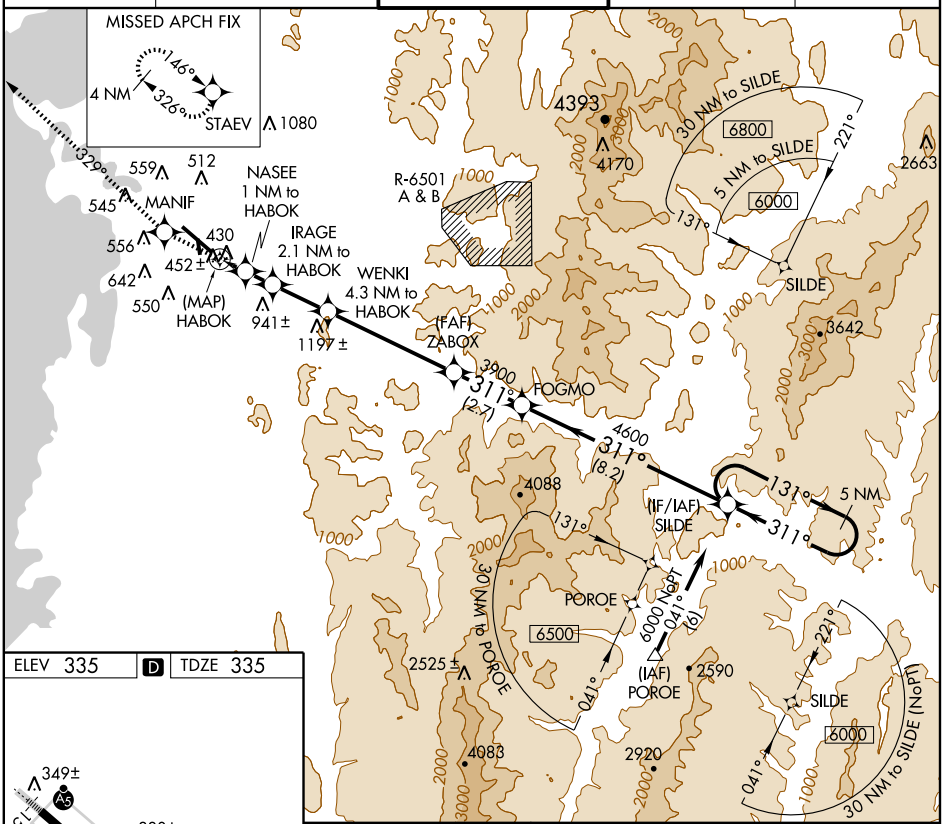
| APP CRS | Rwy ldg | 7820 |
|---|---|---|
| 311° | TDZE | 335 |
| | Apt Elev | 335 |

When VGSI inop, circling to Rwy 1 NA at night.
DME/DME RNP- 0.3 NA.
Visibility reduction by helicopters NA.

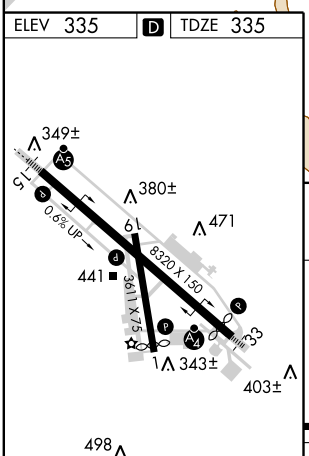
MALSF

MISSED APPROACH: Climb to 3000 direct MANIF and via track 329° to STAEV and hold.

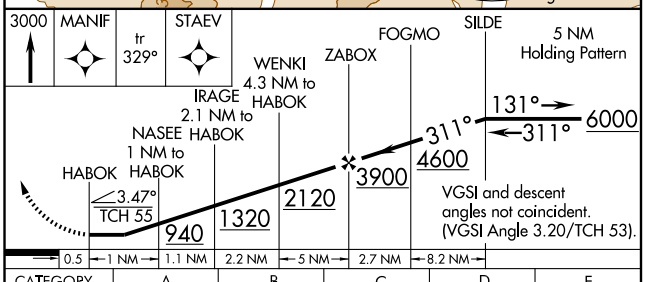
| ATIS | BURLINGTON APP CON ★ | BURLINGTON TOWER ★ | BURLINGTON RADIO | GND CON |
|---|---|---|---|---|
| 123.8 269.9 | 121.1 278.8 | 118.3 (CTAF) 257.8 | 122.6 255.4 | 119.15 348.6 |




ELEV 335 | D | TDZE 335




MIRL Rwy 1-19 L
HIRL Rwy 15-33 L




| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| LNAV MDA | 720/40 385 (400-¾) | | | 720/60 385 (400-1¼) | |
| CIRCLING | 840-1 505 (600-1) | 860-1 525 (600-1) | 860-1½ 525 (600-1½) | 1000-2 665 (700-2) | 1280-3 945 (1000-3) |



Figure 287

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# BURLINGTON SIX DEPARTURE

ATIS
123.8 269.9
BURLINGTON GND CON
119.15 348.6
BURLINGTON TOWER ★
118.3 257.8
BURLINGTON DEP CON
121.1 278.8
BURLINGTON RADIO
122.6 255.4

ST JEAN
115.8 YJN
Chan 105
N45°15.35′-W73°19.28′
L-32, H-11-12

SHERBROOKE
113.2 YSC
Chan 79
N45°18.99′-W71°47.29′
L-32, H-11

BANGOR
114.8 BGR
Chan 95
N44°50.51′
W68°52.44′
L-32, H-11

PLATTSBURGH
116.9 PLB
Chan 116
N44°41.10′-W73°31.36′
L-32, H-11-12

BERLIN
110.4 BML
Chan 41
N44°38.00′
W71°11.17′
L-32

MASSENA
114.1 MSS
Chan 88
N44°54.86′
W74°43.36′
L-32, H-11-12

MONTPELIER
110.8 MPV
Chan 45
N44°05.13′-W72°26.96′
L-32

SARANAC LAKE
109.2 SLK
Chan 29
N44°23.07′
W74°12.27′
L-32

BURLINGTON
117.5 BTV
Chan 122
N44°23.83′
W73°10.95′
L-32, H-11-12

LEBANON
113.7 LEB
Chan 84
N43°40.73′
W72°12.96′
L-32

WATERTOWN
109.8 ART
Chan 35
N43°57.13′
W76°03.88′
L-32, H-11-12

GLENS FALLS
110.2 GFL
Chan 39
N43°20.50′
W73°36.71′
L-32

KEENE
109.4 EEN
Chan 31
N42°47.66′
W72°17.51′
L-32-33, H-11-12

SYRACUSE
117.0 SYR
Chan 117
N43°09.63′
W76°12.27′
L-32, H-11-12

CAMBRIDGE
115.0 CAM
Chan 97
N42°59.66′
W73°20.64′
L-32-34, H-11-12

ALBANY
115.3 ALB
Chan 100
N42°44.84′-W73°48.19′
L-32-33-34, H-10-11-12

TAKEOFF MINIMUMS:
Rwy 1: Standard with minimum climb of 360′ per NM to 6000.
Rwy 15: Standard with minimum climb of 375′ per NM to 5900.
Rwy 19: Standard with minimum climb of 345′ per NM to 5900.
Rwy 33: Standard with minimum climb of 340′ per NM to 5900.

NOTE: Radar required.

NOTE: Chart not to scale

(NARRATIVE ON FOLLOWING PAGE)



Figure 288

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1, 15, 19, 33: Climb on assigned heading for vectors to filed navaid, fix, or airway to 10000 or assigned lower altitude. Expect filed altitude ten minutes after departure.

TAKEOFF OBSTACLE NOTES:

Rwy 1: Trees beginning 1396′ from DER, 216′ right of centerline, up to 64′ AGL/384′ MSL.
Trees 1694′ from DER, 200′ left of centerline, up to 80′ AGL/380′ MSL.

Rwy 15: Bush 318′ from DER, 292′ left of centerline, up to 23′ AGL/343′ MSL.
Trees beginning 1418′ from DER, 358′ right of centerline, up to 27′ AGL/387′ MSL.
Hopper and trees beginning 1801′ from DER, 377′ left of centerline, up to 63′ AGL/403′ MSL.
Building 3453′ from DER, 1145′ left of centerline, 110′ AGL/430′ MSL.

Rwy 19: Trees beginning 168′ from DER, 24′ right of centerline, up to 56′ AGL/436′ MSL.
Trees beginning 172′ from DER, 184′ left of centerline, up to 93′ AGL/413′ MSL.

Rwy 33: Pole and trees beginning 971′ from DER, 755′ left of centerline, up to 97′ AGL/357′ MSL.
Trees beginning 1091′ from DER, 590′ right of centerline, up to 34′ AGL/334′ MSL.


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Figure 289

PHILADELPHIA, PENNSYLVANIA

AL-320 (FAA)

# ILS PRM RWY 26 (SIMULTANEOUS CLOSE PARALLEL)

PHILADELPHIA INTL (PHL)

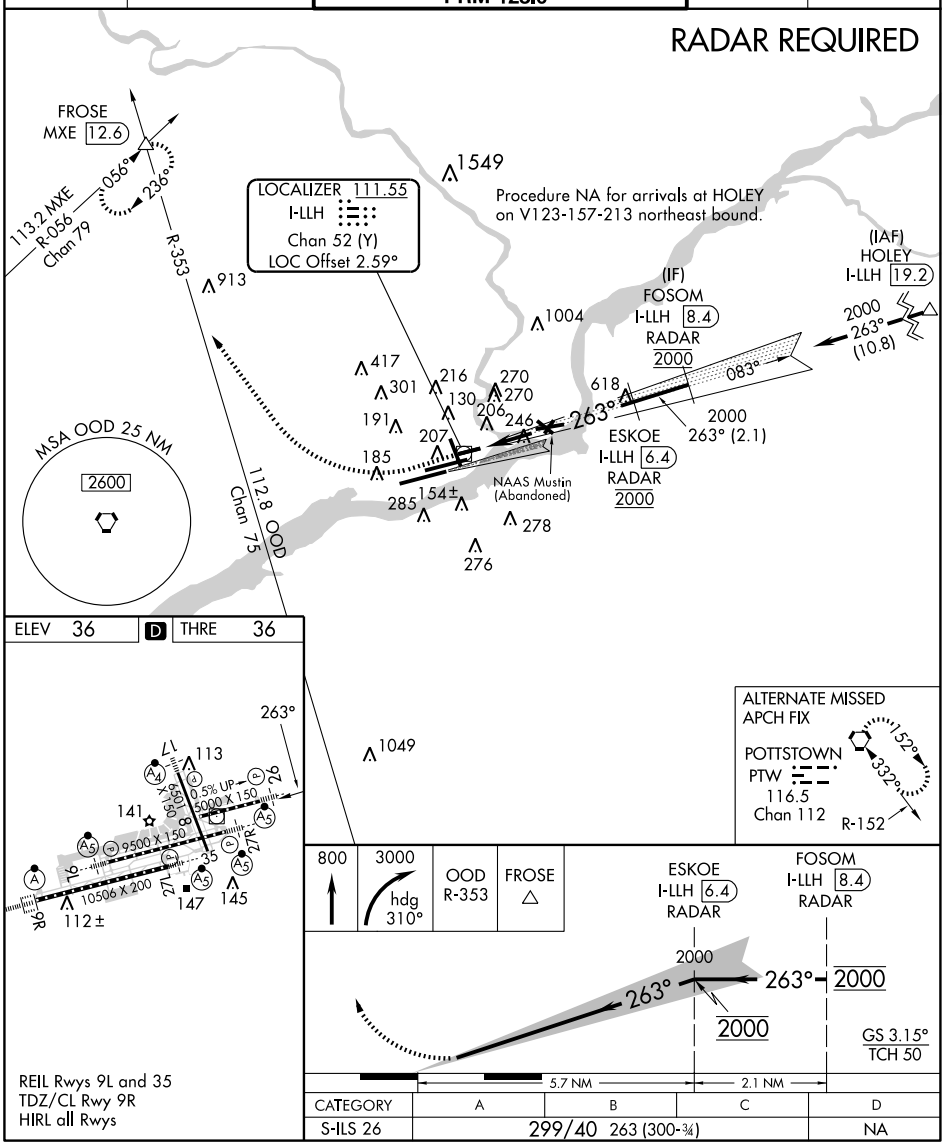
| LOC/DME I-LLH | APP CRS | Rwy ldg | 5000 |
|---|---|---|---|
| 111.55 | 263° | THRE | 36 |
| Chan 52 (Y) | | Apt Elev | 36 |

Simultaneous Close Parallel approach authorized with ILS PRM Rwy 27L. Procedure NA when glideslope not available. Dual VHF Comm Required. See additional requirements on AAUP. Visilbility reduction by helicopters NA.

MALSR

MISSED APPROACH: Climb to 800 then climbing right turn to 3000 on heading 310° and OOD VORTAC R-353 to FROSE INT/ MXE VORTAC 12.6 DME and hold.

| ATIS | PHILADELPHIA APP CON | PHILADELPHIA TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| ARR 133.4<br>DEP 135.925 | 124.35 319.15 | 118.5 327.05 (Rwys 9L/27R, 8/26 and 17/35)<br>135.1 327.05 (Rwy 9R/27L)<br>PRM 123.6 | 121.9 348.6 | 118.85 348.6 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 26 | 299/40 263 (300-¾) | | | NA |

NE-4, 05 APR 2012 to 03 MAY 2012

NE-4, 05 APR 2012 to 03 MAY 2012



Figure 290

## ATTENTION ALL USERS OF ILS PRECISION RUNWAY MONITOR (PRM)

Condensed Briefing Point:
*When instructed, immediately switch to the tower frequency and select the monitor frequency audio.

1. **ATIS.** When the ATIS broadcast advises that simultaneous ILS/PRM and LDA/PRM approaches are in progress, pilots should brief to fly the ILS/PRM 26 approach. If later advised to expect an ILS 26 approach, the ILS/PRM 26 chart may be used after completing the following briefing items:
   (a) Minimums and missed approach procedures are unchanged.
   (b) Monitor frequency no longer required.

2. **Dual VHF Communication required.** To avoid blocked transmissions, each runway will have two frequencies, a primary and a monitor frequency. The tower controller will transmit on both frequencies. The monitor controller's transmissions, if needed, will override both frequencies. Pilots will ONLY transmit on the tower controller's frequency, but will listen to both frequencies. Select the monitor frequency audio only when instructed by ATC to contact the tower. The volume levels should be set about the same on both radios so that the pilots will be able to hear transmissions on at least one frequency if the other is blocked.

3. **ALL "Breakouts"** are to be hand flown to assure that the manuever is accomplished in the shortest amount of time. Pilots, when directed by ATC to break off an approach, must assume that an aircraft is blundering toward their course and a breakout must be initiated immediately.

   (a) ATC Directed "Breakouts": ATC directed breakouts will consist of a turn and a climb or descent. Pilots must always initiate the breakout in response to an air traffic controller instruction. Controllers will give a descending breakout only when there are no other reasonable options available, but in no case will the descent be below minimum vectoring altitude (MVA) which provides at least 1000 feet required obstruction clearance. The MVA in the final approach segment is 1800 feet at Philadelphia Intl Airport.

   (b) Phraseology - "TRAFFIC ALERT": If an aircraft enters the "NO TRANSGRESSION ZONE" (NTZ), the controller will breakout the threatened aircraft on the adjacent approach. The phraseology for the breakout will be:

   "TRAFFIC ALERT, (aircraft call sign) TURN (left/right) IMMEDIATELY, HEADING (degrees), CLIMB/DESCEND AND MAINTAIN (altitude)".

4. **ILS Navigation** Decending on ILS glideslope ensures complying with any charted crossing restrictions.

Special pilot training required. Pilots who are unable to participate will be afforded appropriate arrival services as operational conditions permit and must notify the controlling ARTCC as soon as practical, but at least 100 miles from destination.



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NE-4, 05 APR 2012 to 03 MAY 2012

Figure 291

| LOC/DME I-GDI 108.5 Chan 22 | APP CRS 134° | Rwy ldg 7003 TDZE 12 Apt Elev 21 |
|---|---|---|

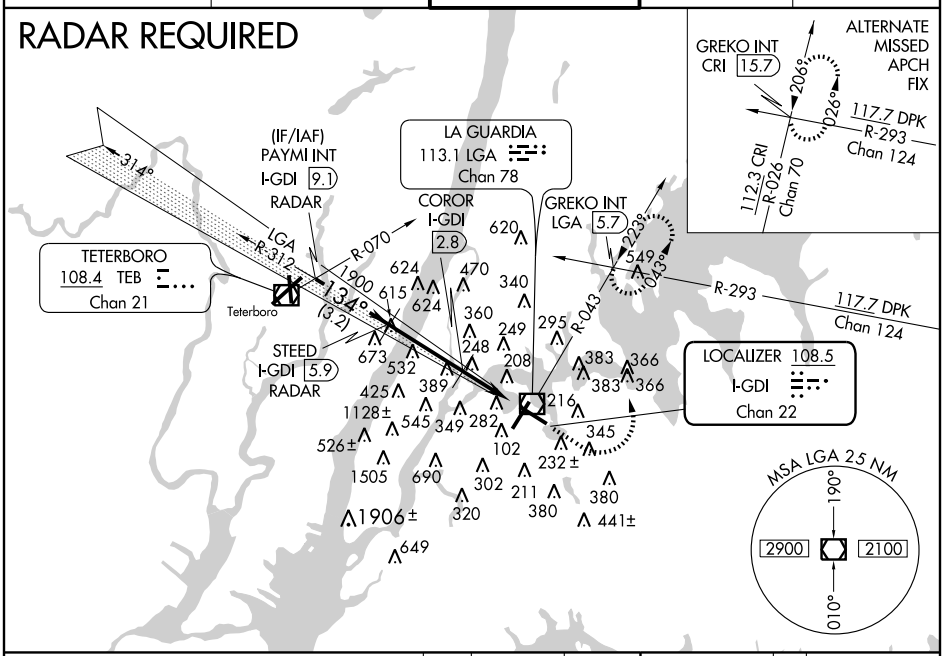
# ILS or LOC RWY 13
## NEW YORK/LA GUARDIA (LGA)

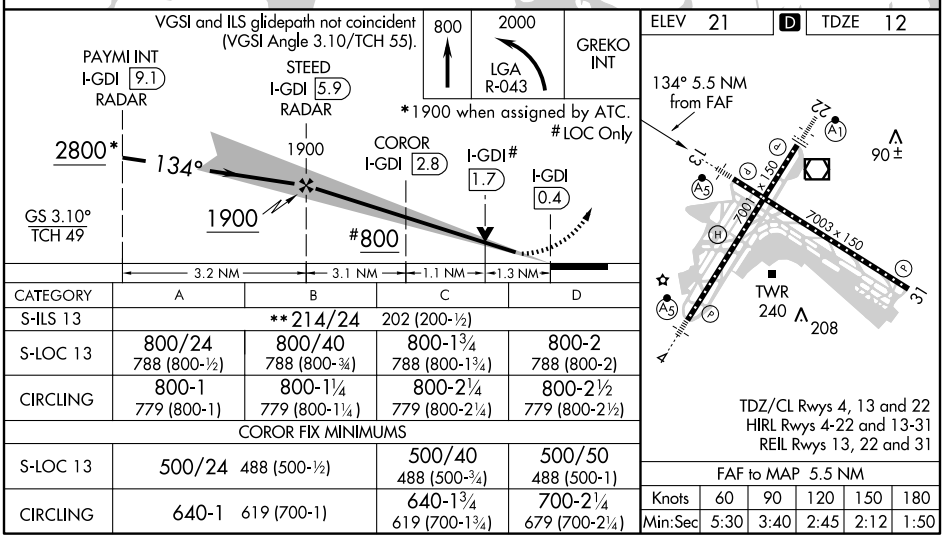
When VGSI inoperative, Circling Rwy 31 NA at night. DME or RADAR required.
** RVR 1800 authorized with use of FD or AP or HUD to DA.

MALSR

MISSED APPROACH: Climb to 800 then climbing left turn to 2000 via LGA VOR/DME R-043 to GREKO INT/ LGA 5.7 DME and hold, continue climb-in-hold to 2000.

| ATIS ARR 125.95 ATIS DEP 127.05 | NEW YORK APP CON 120.8 263.0 | LA GUARDIA TOWER 118.7 263.0 | GND CON 121.7 263.0 | CLNC DEL 135.2 |
|---|---|---|---|---|




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 13 | **214/24 202 (200-½) | | | |
| S-LOC 13 | 800/24 788 (800-½) | 800/40 788 (800-¾) | 800-1¾ 788 (800-1¾) | 800-2 788 (800-2) |
| CIRCLING | 800-1 779 (800-1) | 800-1¼ 779 (800-1¼) | 800-2¼ 779 (800-2¼) | 800-2½ 779 (800-2½) |
| COROR FIX MINIMUMS | | | | |
| S-LOC 13 | 500/24 488 (500-½) | | 500/40 488 (500-¾) | 500/50 488 (500-1) |
| CIRCLING | 640-1 619 (700-1) | | 640-1¾ 619 (700-1¾) | 700-2¼ 679 (700-2¼) |

| FAF to MAP 5.5 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:30 | 3:40 | 2:45 | 2:12 | 1:50 |



**Figure 292**

| VOR/DME CRI | APP CRS | Rwy ldg 13R 12468 |
|---|---|---|
| 112.3 | 041° | 13L 9095 |
| Chan 70 | | TDZE 13 |
| | | Apt Elev 13 |

# VOR or GPS RWY 13L/13R

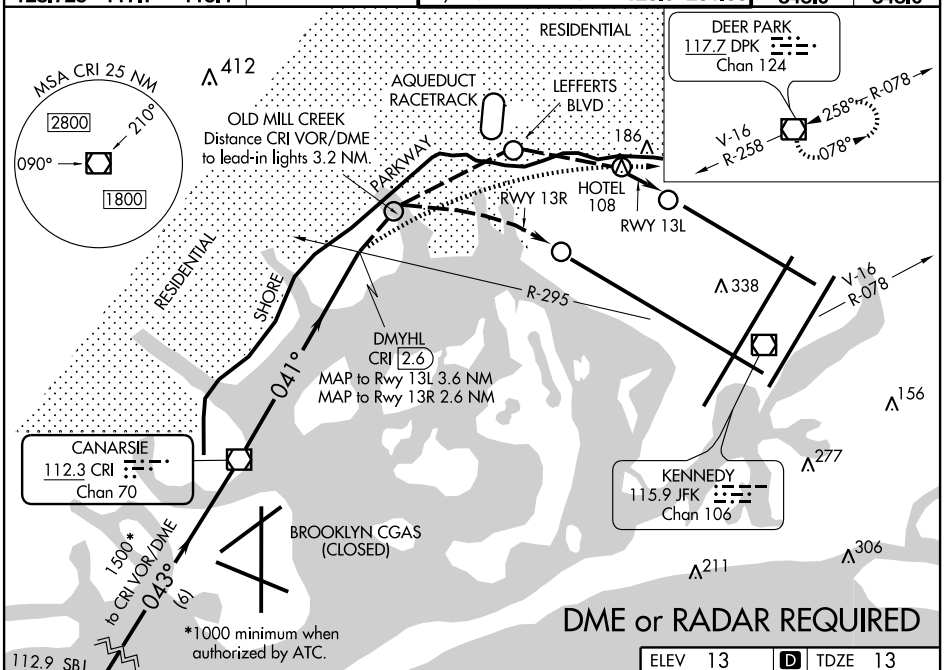
## NEW YORK / JOHN F. KENNEDY INTL (JFK)

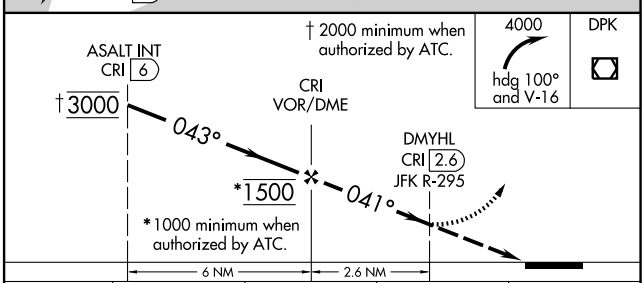
For inoperative LDIN, procedure not authorized.

Rwy13L ALSF-2

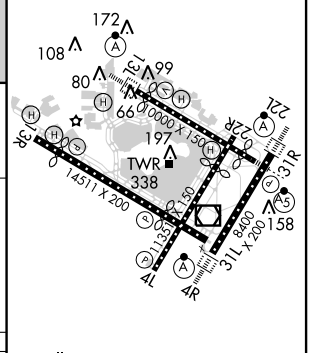
MISSED APPROACH: At or beyond MAP, climbing right turn to 4000 via heading 100° and V-16 to DPK VOR/DME and hold.

| ATIS (ARR-NE) | (ARR-SW) | NEW YORK APP CON | KENNEDY TOWER | | GND CON | CLNC DEL |
|---|---|---|---|---|---|---|
| 128.725 | 117.7 | 115.4 | 127.4 269.0 | Rwys 4R/22L and 13L/31R 119.1 281.55<br>Rwys 4L/22R and 13R/31L 123.9 281.55 | 121.9<br>348.6 | 135.05<br>348.6 |




| ELEV 13 | D | TDZE 13 |
|---|---|---|




HIRL all Rwys
TDZ/CL Rwys 4R, 13L, 31R and 22L

| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| LDIN-13L | 800-2 787 (800-2) | | 800-2¼ 787 (800-2¼) | 800-2½ 787 (800-2½) |
| LDIN-13R | 800-2 787 (800-2) | | 800-2¼ 787 (800-2¼) | 800-2½ 787 (800-2½) |

FAF to MAP 2.6 NM

| Knots | 60 | 90 | 120 | 150 | 180 |
|---|---|---|---|---|---|
| Min:Sec | 2:36 | 1:44 | 1:18 | 1:02 | 0:52 |

| APP CRS | Rwy ldg | N/A |
|---|---|---|
| 028° | TDZE | N/A |
| | Apt Elev | N/A |

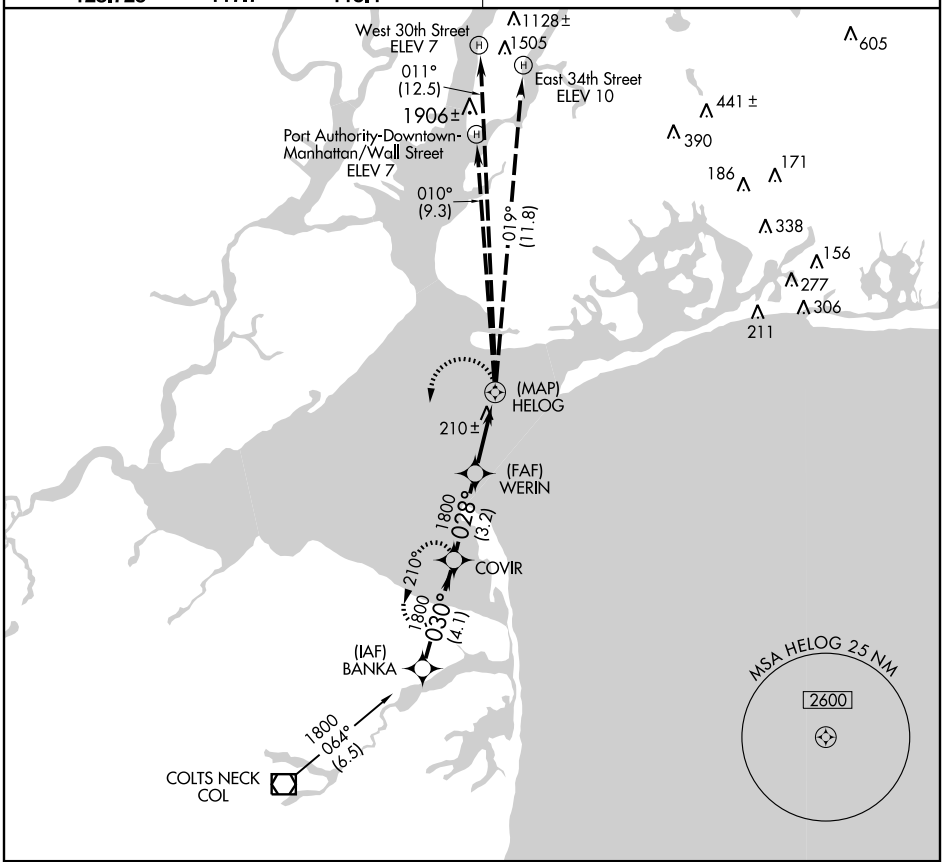
# COPTER RNAV (GPS) 028°

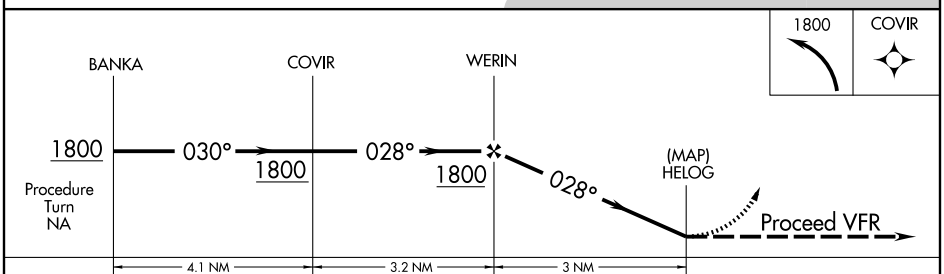
NEW YORK/ JOHN F. KENNEDY INTL (JFK)

NA Proceed VFR from HELOG WP or conduct the specified missed approach. Limit final and missed approach airspeed to 70 KIAS. Use John F. Kennedy Intl altimeter setting.

MISSED APPROACH: Climbing left turn to 1800 direct COVIR WP and hold.

| ATIS | | | NEW YORK APP CON | |
|---|---|---|---|---|
| 128.725 | ARR-NE 117.7 | ARR-SW 115.4 | 127.4 | 269.0 |




| CATEGORY | COPTER |
|---|---|
| H-028° | 500-¾ 467 (500-¾) |



Figure 294


NE-2, 05 APR 2012 to 03 MAY 2012

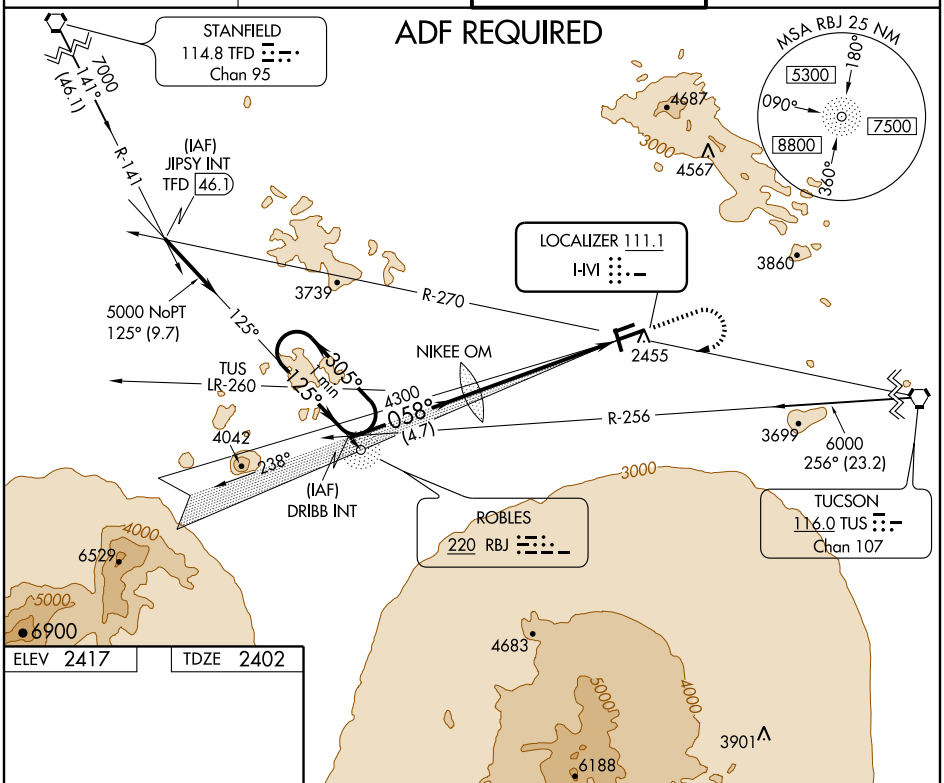
| LOC I-IVI | APP CRS | Rwy ldg | 5500 |
|---|---|---|---|
| 111.1 | 058° | TDZE | 2402 |
| | | Apt Elev | 2417 |

# ILS or LOC RWY 6R
## TUCSON/RYAN FIELD (RYN)

NA

MISSED APPROACH: Climb to 3000, then climbing right turn to 5000 via direct RBJ NDB and 305° bearing RBJ to DRIBB Int and hold.

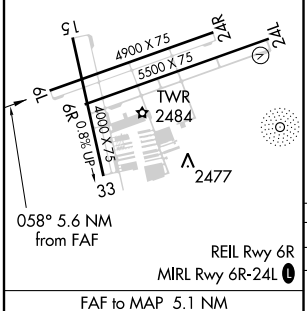
| AWOS-3 | TUCSON APP CON | RYAN TOWER* | GND CON |
|---|---|---|---|
| 133.35 | 128.5 395.9 | 125.8 (CTAF) L | 118.2 |



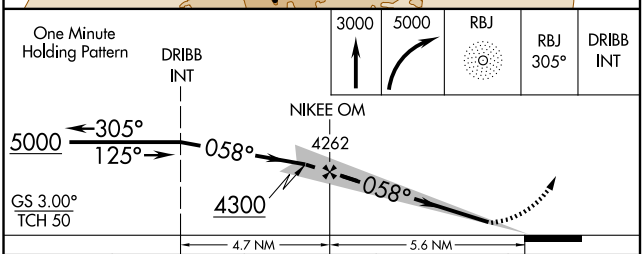

SW-4, 05 APR 2012 to 03 MAY 2012

SW-4, 05 APR 2012 to 03 MAY 2012

ELEV 2417 | TDZE 2402




REIL Rwy 6R
MIRL Rwy 6R-24L L




| FAF to MAP 5.1 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:06 | 3:24 | 2:33 | 2:02 | 1:42 |

| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 6R | 2652-1 250 (300-1) | | | |
| S-LOC 6R | 2900-1 498 (500-1) | | 2900-1¼ 498 (500-1¼) | 2900-1½ 498 (500-1½) |
| CIRCLING | 2900-1 483 (500-1) | | 2900-1½ 483 (500-1½) | 2980-2 563 (600-2) |



Figure 295

| NDB RYN | APP CRS | Rwy ldg | 5500 |
|---|---|---|---|
| 338 | 074° | TDZE | 2400 |
| | | Apt Elev | 2415 |

# NDB/DME or GPS RWY 6R

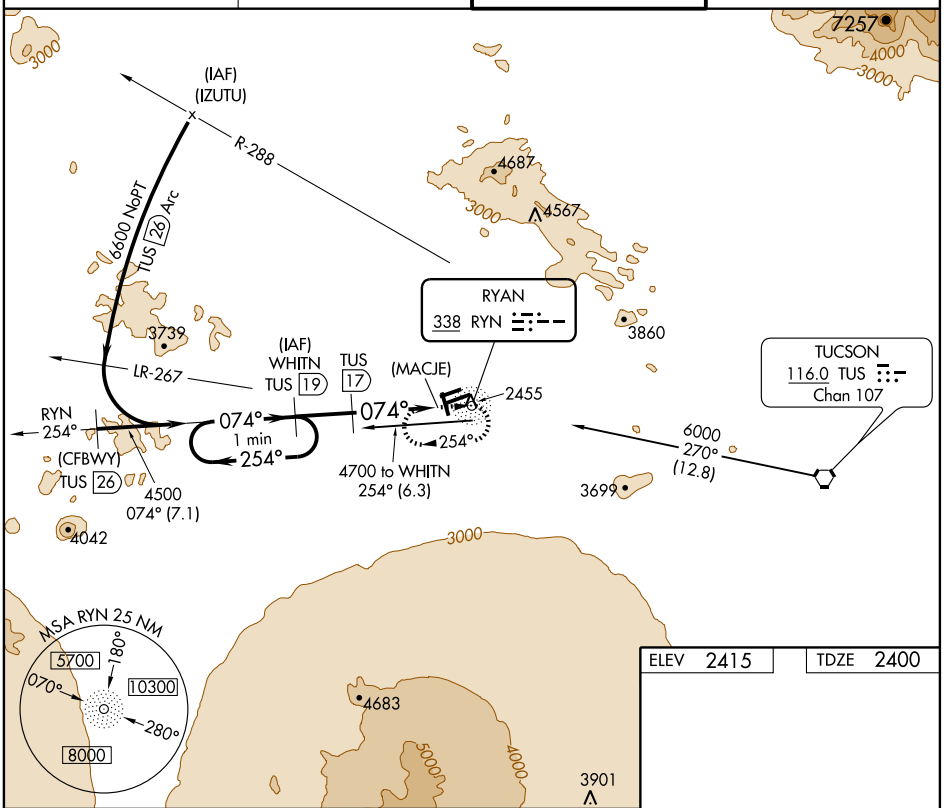
TUCSON/ RYAN FIELD (RYN)

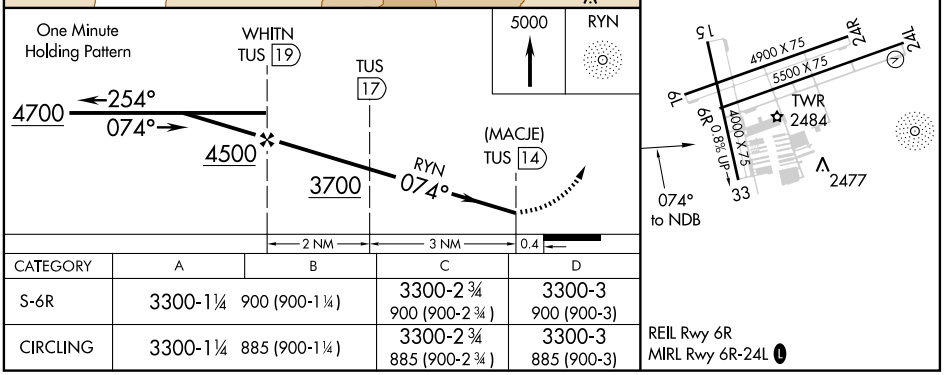
T
A NA

DME from TUS VORTAC.
Simultaneous reception of RYN NDB and TUS DME required.

MISSED APPROACH: Climb to 5000 direct RYN NDB and hold.

| AWOS-3 | TUCSON APP CON | RYAN TOWER ★ | GND CON |
|---|---|---|---|
| 133.35 | 128.5 395.9 | 125.8 (CTAF) L | 118.2 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-6R | 3300-1¼ 900 (900-1¼) | | 3300-2¾ 900 (900-2¾) | 3300-3 900 (900-3) |
| CIRCLING | 3300-1¼ 885 (900-1¼) | | 3300-2¾ 885 (900-2¾) | 3300-3 885 (900-3) |

REIL Rwy 6R
MIRL Rwy 6R-24L L

SW-4, 05 APR 2012 to 03 MAY 2012

SW-4, 05 APR 2012 to 03 MAY 2012



Figure 296

| LOC/DME I-SPT | APP CRS | Rwy ldg | 12793 |
|---|---|---|---|
| 111.9 | 079° | TDZE | 5320 |
| Chan 56 | | Apt Elev | 5355 |

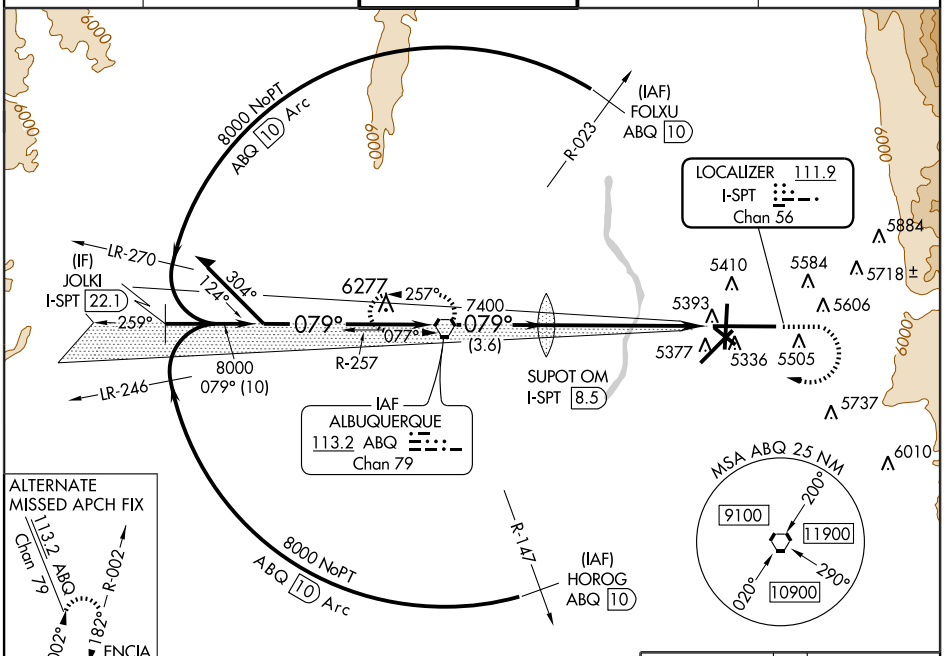
# ILS or LOC RWY 8
## ALBUQUERQUE INTL SUNPORT (ABQ)

ASR

MALSR

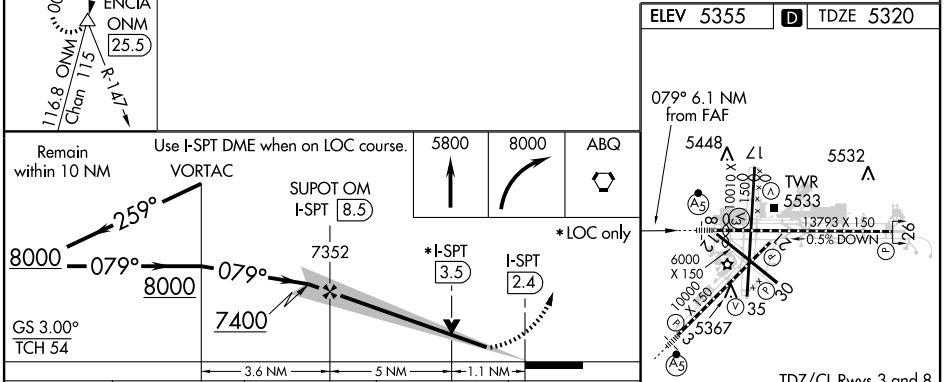
MISSED APPROACH: Climb to 5800 then climbing right turn to 8000 direct ABQ VORTAC and hold.

| ATIS | ALBUQUERQUE APP CON | ALBUQUERQUE TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 118.0 257.7 | 123.9 354.1 | 120.3 351.9 | 121.9 348.6 | 119.2 259.3 |




SW-1, 05 APR 2012 to 03 MAY 2012

SW-1, 05 APR 2012 to 03 MAY 2012




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 8 | 5522/18 202 (200-½) | | | |
| S-LOC 8 | 5720/24 400 (400-½) | | | 5720/40 400 (400-¾) |
| CIRCLING | 5840-1 485 (500-1) | | 5900-1½ 545 (600-1½) | 5920-2 565 (600-2) |

| FAF to MAP 6.1 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 6:06 | 4:04 | 3:03 | 2:26 | 2:02 |



Figure 297

| LOC I-AEG | APP CRS | Rwy ldg | 7398 |
|---|---|---|---|
| 110.1 | 215° | TDZE | 5817 |
| | | Apt Elev | 5837 |

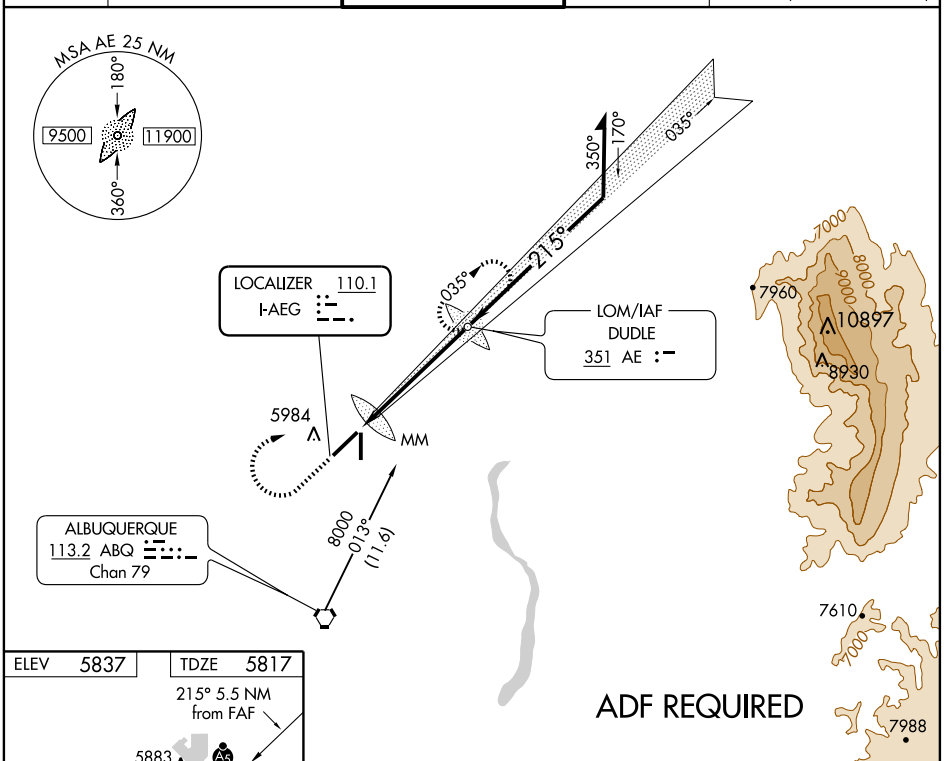
# ILS RWY 22
## ALBUQUERQUE/ DOUBLE EAGLE II (AEG)

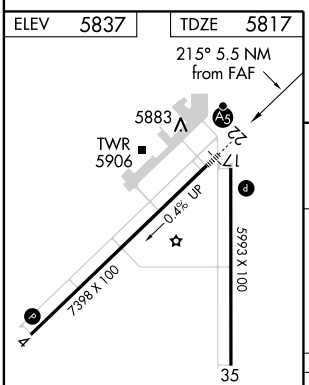
T NA Autopilot coupled approaches not authorized. For inoperative MALSR, increase S-LOC 22 Cat D visibility to 1.

MALSR A5

MISSED APPROACH: Climb to 6500 then climbing right turn to 8000 direct Dudle LOM and hold.

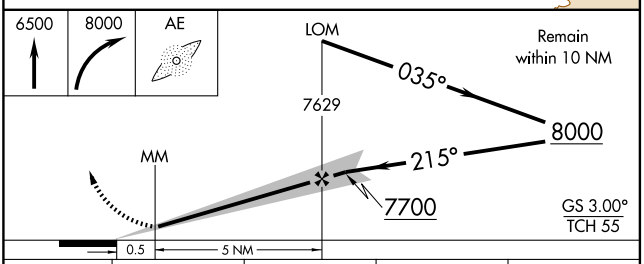
| AWOS-3 | ALBUQUERQUE APP CON | DOUBLE EAGLE II TOWER ★ | GND CON | ALBUQUERQUE CLNC DEL |
|---|---|---|---|---|
| 119.025 | 127.4 253.5 | 120.15 (CTAF) L | 121.625 | 124.8 (When tower closed) |




REIL Rwys 17 and 35 L
MIRL Rwys 4-22 and 17-35 L

| FAF to MAP 5.5 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:30 | 3:40 | 2:45 | 2:12 | 1:50 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 22 | 6017-½ 200 (200-½) | | | |
| S-LOC 22 | 6140-½ 323 (400-½) | | | 6140-¾ 323 (400-¾) |
| CIRCLING | 6400-1 563 (600-1) | | 6400-1½ 563 (600-1½) | 6400-2 563 (600-2) |



Figure 298


SW-1, 05 APR 2012 to 03 MAY 2012

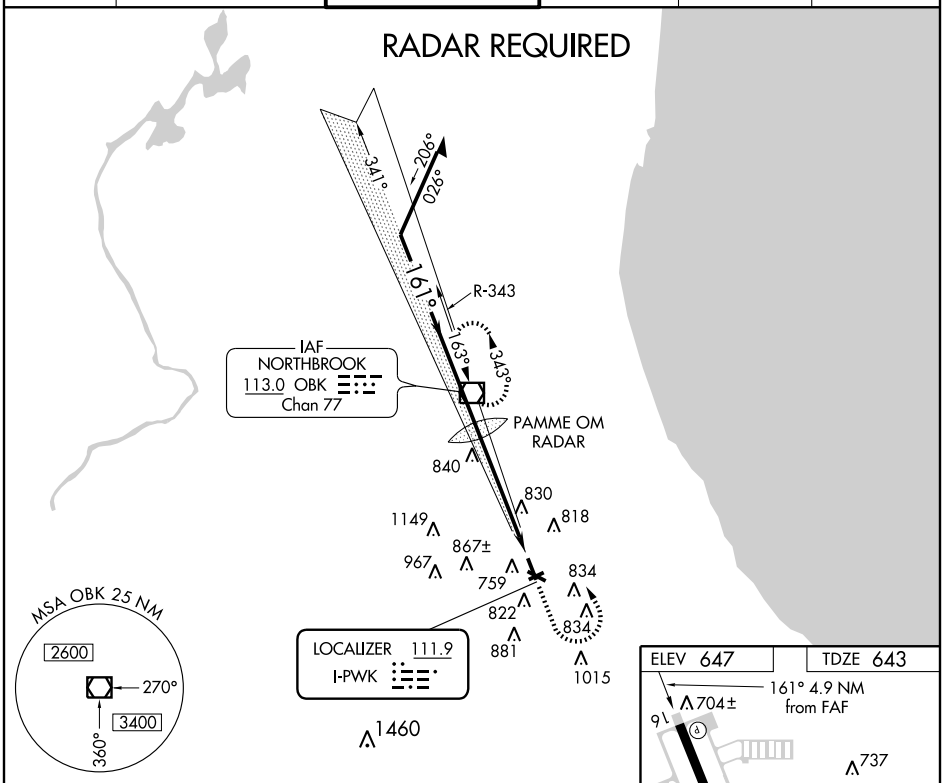
| LOC I-PWK | APP CRS | Rwy ldg | 5001 |
|---|---|---|---|
| 111.9 | 161° | TDZE | 643 |
| | | Apt Elev | 647 |

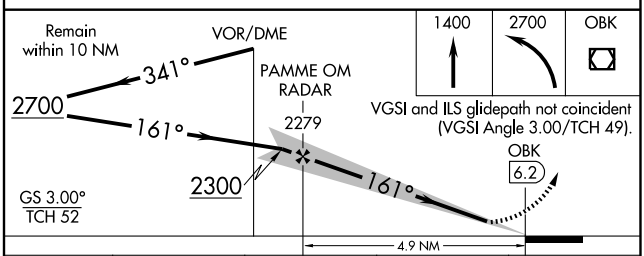
# ILS or LOC RWY 16
## CHICAGO EXECUTIVE (PWK)

If local altimeter setting not received, use Chicago-O'Hare Intl altimeter setting and increase all DAs 22 feet, and all visibilities ¼ mile; increase all MDAs 40 feet, and S-LOC Cat C and D visibilities ¼ mile. Visibility reduction by helicopters NA.

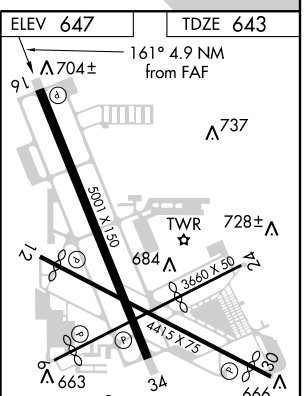
MISSED APPROACH: Climb to 1400 then climbing left turn to 2700 direct OBK VOR/DME and hold.

| ATIS | CHICAGO APP CON | EXECUTIVE TOWER ★ | GND CON | CLNC DEL | UNICOM |
|---|---|---|---|---|---|
| 124.2 | 120.55 290.2 | 119.9 (CTAF) L | 121.7 | 124.7 | 122.95 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 16 | 893-¾ 250 (300-¾) | | | |
| S-LOC 16 | 1140-1 497 (500-1) | | 1140-1¼ 497 (500-1¼) | 1140-1½ 497 (500-1½) |
| CIRCLING | 1140-1 493 (500-1) | | 1140-1½ 493 (500-1½) | 1200-2 553 (600-2) |




HIRL all Rwys L
REIL Rwys 16 and 34 L
LDIN Rwy 16 L

| FAF to MAP 4.9 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:54 | 3:16 | 2:27 | 1:58 | 1:38 |



Figure 299


EC-3, 05 APR 2012 to 03 MAY 2012

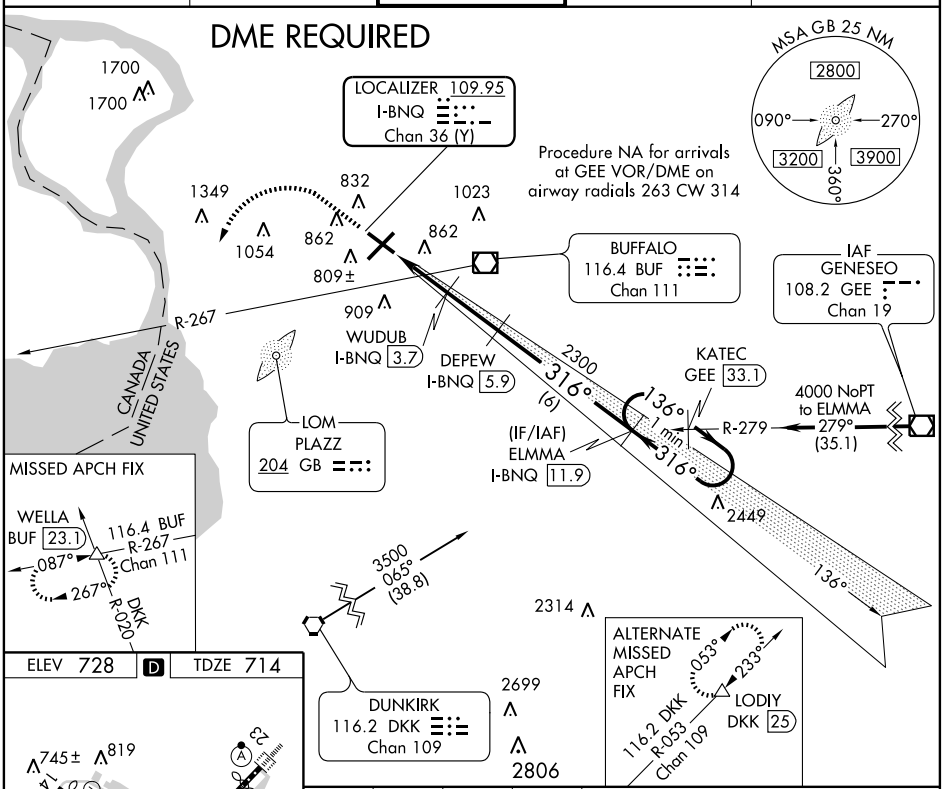
# ILS or LOC/DME RWY 32
## BUFFALO NIAGARA INTL (BUF)

| LOC/DME I-BNQ | APP CRS | Rwy ldg | 6121 |
|---|---|---|---|
| 109.95 | 316° | TDZE | 714 |
| Chan 36 (Y) | | Apt Elev | 728 |

MALSR

MISSED APPROACH: Climb to 1200 then climbing left turn to 3000 via heading 245° and BUF R-267 to WELLA INT/BUF 23.1 DME and hold.

| ATIS | BUFFALO APP CON | BUFFALO TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 135.35 | 126.15 263.125 | 120.5 257.8 | 133.2 257.8 | 124.7 257.8 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 32 | 938-½ 224 (300-½) | | | |
| S-LOC 32 | 1100-½ 386 (400-½) | | | 1100-¾ 386 (400-¾) |
| CIRCLING | 1200-1 472 (500-1) | | 1200-1½ 472 (500-1½) | 1280-2 552 (600-2) |

REIL Rwy 14
TDZ/CL Rwy 5 and 23
HIRL Rwy 5-23 and 14-32



Figure 300


NE-2, 05 APR 2012 to 03 MAY 2012

| LOC/DME I-MRZ | APP CRS | Rwy ldg | 9003 |
|---|---|---|---|
| 109.9 | 100° | THRE | 419 |
| Chan 36 | | Apt Elev | 421 |

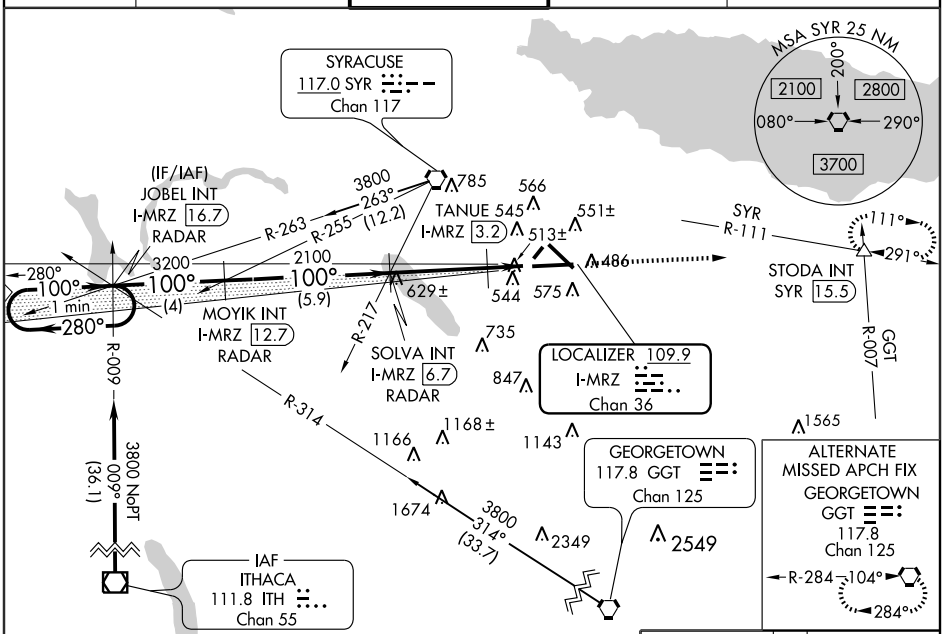
# ILS or LOC RWY 10
## SYRACUSE HANCOCK INTL (SYR)

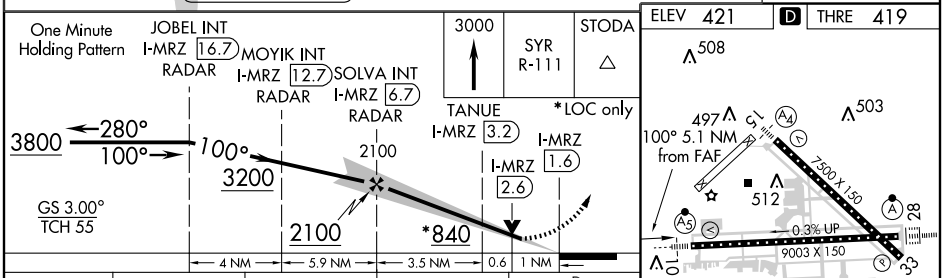
**RVR 1800 authorized with the use of FD or AP or HUD to DA.
For inoperative MALSR, increase S-LOC 10 Cats A and B visibility to RVR 5500 and Cats C and D visibility to 1¼. TANUE fix minimums, for inoperative MALSR, increase S-LOC 10 all Cats visibility to RVR 5500.

MALSR

MISSED APPROACH: Climb to 3000 via SYR VORTAC R-111 to STODA Int/SYR 15.5 DME and hold.

| ATIS | SYRACUSE APP CON | SYRACUSE TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 124.225 | 134.275 279.6 | 120.3 239.0 | 121.7 348.6 | 125.05 257.775 |







| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 10 | **619/24 200 (200-½) | | | |
| S-LOC 10 | 840/24 421 (500-½) | | 840/40 421 (500-¾) | |
| CIRCLING | 880-1 459 (500-1) | | 900-1½ 479 (500-1½) | 980-2 559 (600-2) |
| TANUE FIX MINIMUMS | | | | |
| S-LOC 10 | 780/24 361 (400-½) | | 780/35 361 (400-¾) | |
| CIRCLING | 880-1 459 (500-1) | | 900-1½ 479 (500-1½) | 980-2 559 (600-2) |

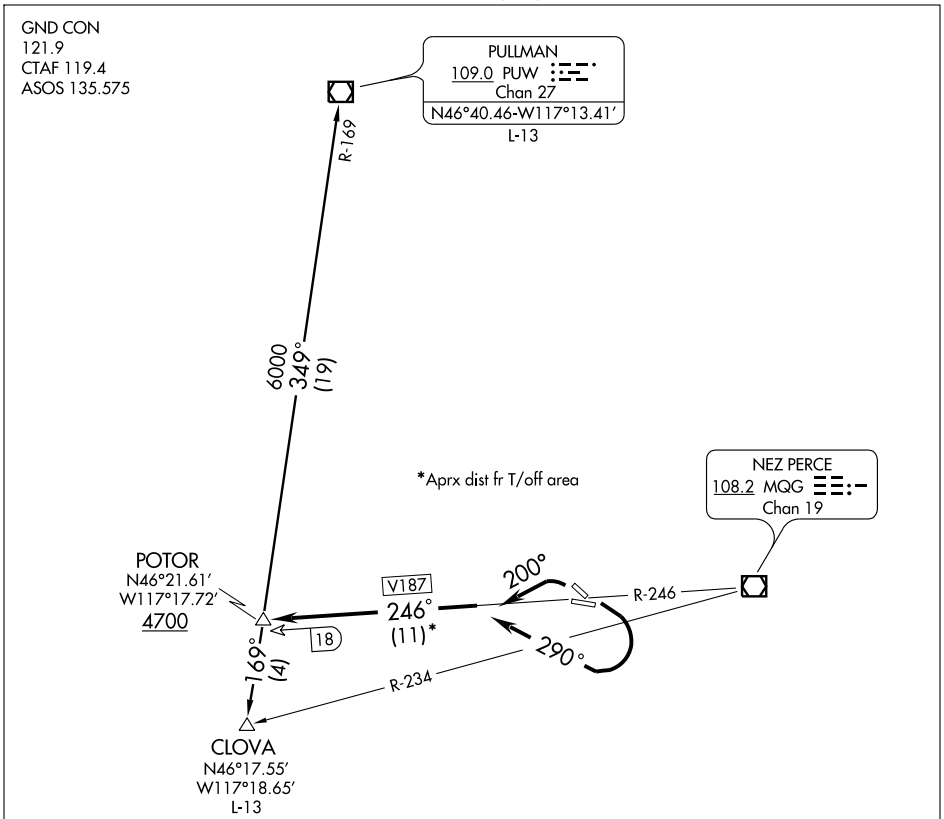
TDZ/CL Rwy 28
HIRL Rwys 10-28 and 15-33

| FAF to MAP 5.1 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:06 | 3:24 | 2:33 | 2:02 | 1:42 |



Figure 301

NE-2, 05 APR 2012 to 03 MAY 2012
NE-2, 05 APR 2012 to 03 MAY 2012




NOTE: Departures may be restricted to cross POTOR INT at 5000.

NOTE: Minimum climb required- Rwys 26 and 30-300′/NM to 4700′ (750 FPM/150K IAS, 1000 FPM/200K IAS).
Rwys 8 and 12-270′/NM to 4700′ (675 FPM/150K IAS, 900 FPM/200K IAS) or 4600′ ceiling and three miles visibility.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 8, 12: Turn right heading 290°. Thence....

TAKE-OFF RUNWAYS 26, 30: Turn left heading 200°. Thence....

....Intercept and proceed via MQG R-246 (V187) to POTOR INT. Thence via (assigned route) or (transition).

CLOVA TRANSITION (POTOR2.CLOVA): From over POTOR INT via PUW R-169 to CLOVA INT.

PULLMAN TRANSITION (POTOR2.PUW): From over POTOR INT via PUW R-169 to PUW VOR/DME.



NW-1, 05 APR 2012 to 03 MAY 2012
NW-1, 05 APR 2012 to 03 MAY 2012

Figure 302

| LOC I-LWS | APP CRS | Rwy ldg | 6511 |
|---|---|---|---|
| 109.7 | 264° | TDZE | 1442 |
| | | Apt Elev | 1442 |

# ILS RWY 26

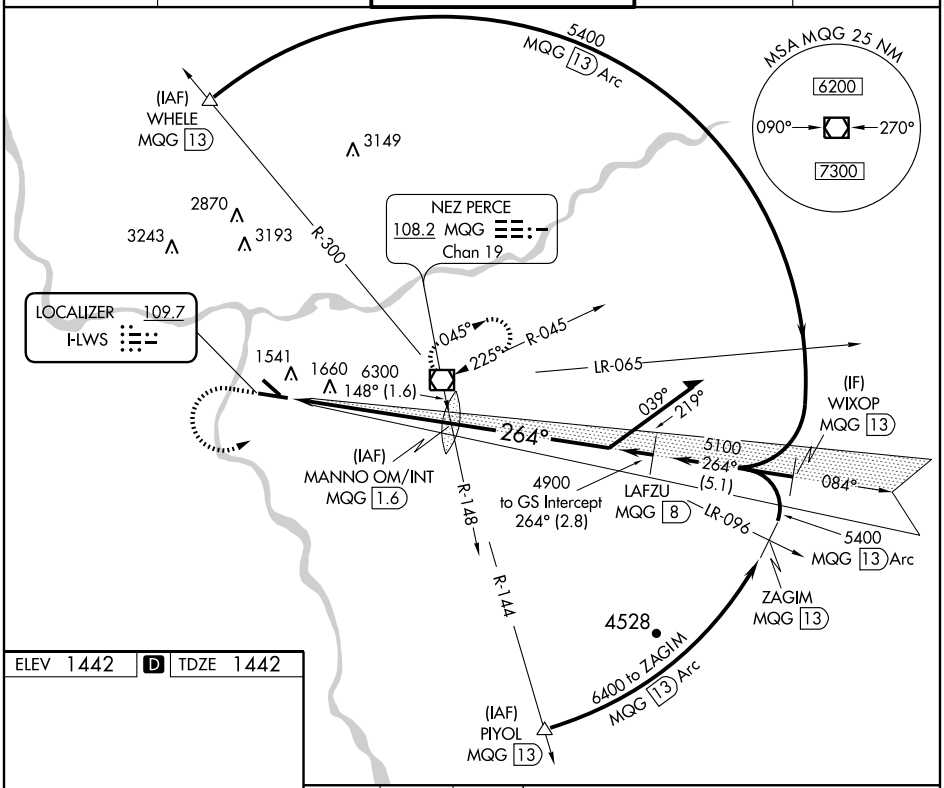
## LEWISTON-NEZ PERCE COUNTY (LWS)

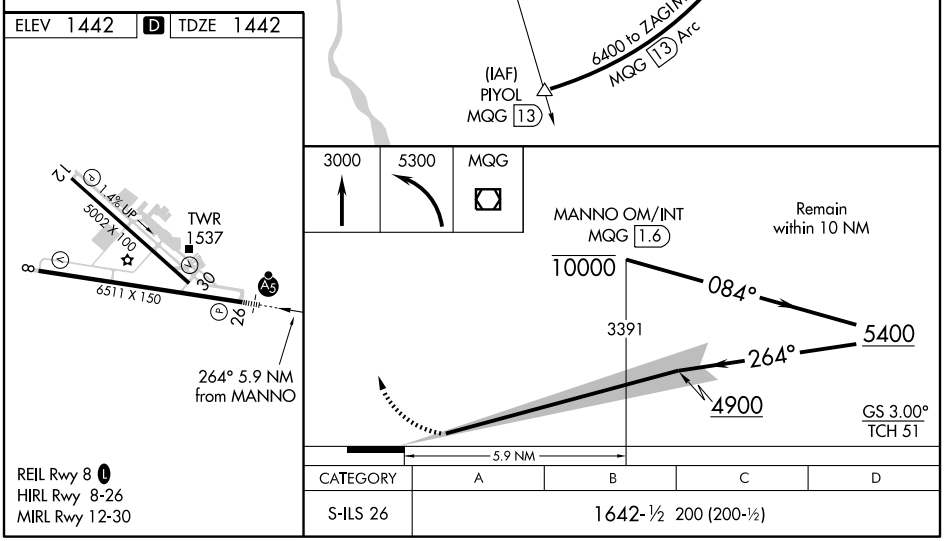
When local altimeter setting not received, procedure NA. Autopilot coupled approach NA below 2500.

MALSR

MISSED APPROACH: Climb to 3000 then climbing left turn to 5300 direct MQG VOR/DME and hold, continue climb-in-hold to 5300.

| ASOS | SEATTLE CENTER | LEWISTON TOWER ★ | GND CON | UNICOM |
|---|---|---|---|---|
| 135.575 | 123.95 290.55 | 119.4 (CTAF) L 318.8 | 121.9 | 122.95 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 26 | 1642-½ 200 (200-½) | | | |



Figure 303


NW-1, 05 APR 2012 to 03 MAY 2012

| LOC/DME I-HQM 108.7 Chan 24 | APP CRS 241° | Rwy ldg 5000 THRE 15 Apt Elev 18 |
|---|---|---|

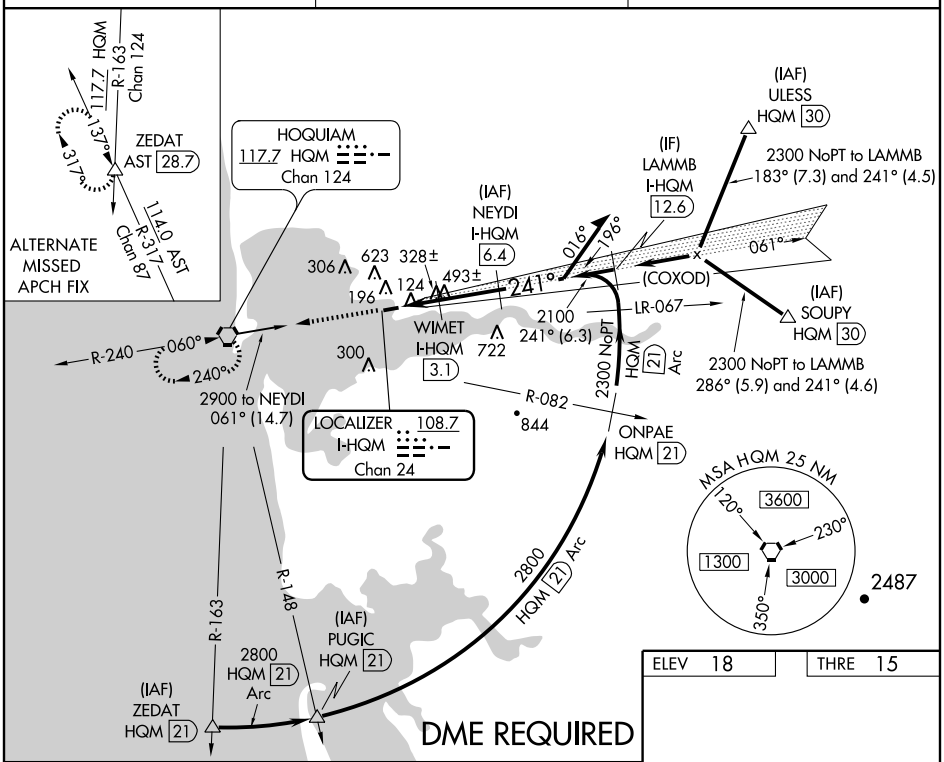
# ILS or LOC/DME RWY 24
## HOQUIAM/BOWERMAN (HQM)

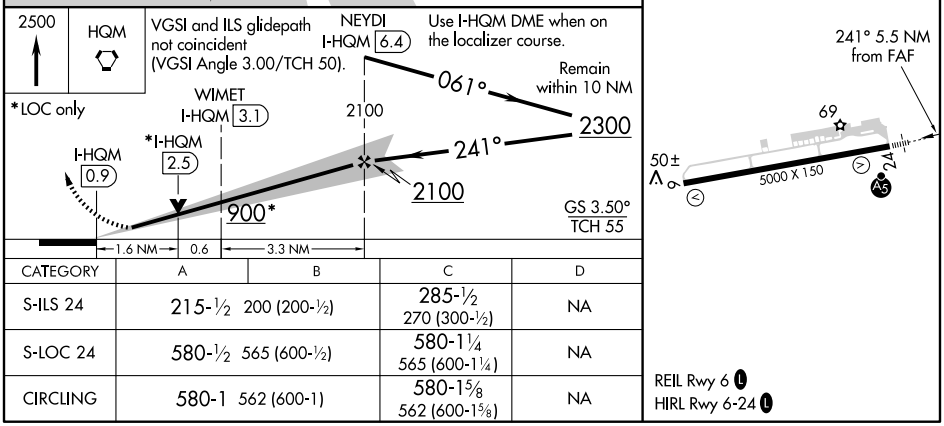
When local altimeter setting not received, procedure NA. For inop MALSR, increase S-ILS Cat C visibility to ⅞ mile and S-LOC Cat C visibility to 1⅝ mile. Circling NA northwest of Rwy 6-24.

MALSR A5

MISSED APPROACH: Climb to 2500 direct HQM VORTAC and hold.

| ASOS | SEATTLE CENTER | UNICOM |
|---|---|---|
| 135.775 | 128.3 269.0 | 122.7 (CTAF) L |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 24 | 215-½ 200 (200-½) | | 285-½ 270 (300-½) | NA |
| S-LOC 24 | 580-½ 565 (600-½) | | 580-1¼ 565 (600-1¼) | NA |
| CIRCLING | 580-1 562 (600-1) | | 580-1⅝ 562 (600-1⅝) | NA |



Figure 304


NW-1, 05 APR 2012 to 03 MAY 2012

# ILS or LOC RWY 17
## OLYMPIA RGNL (OLM)

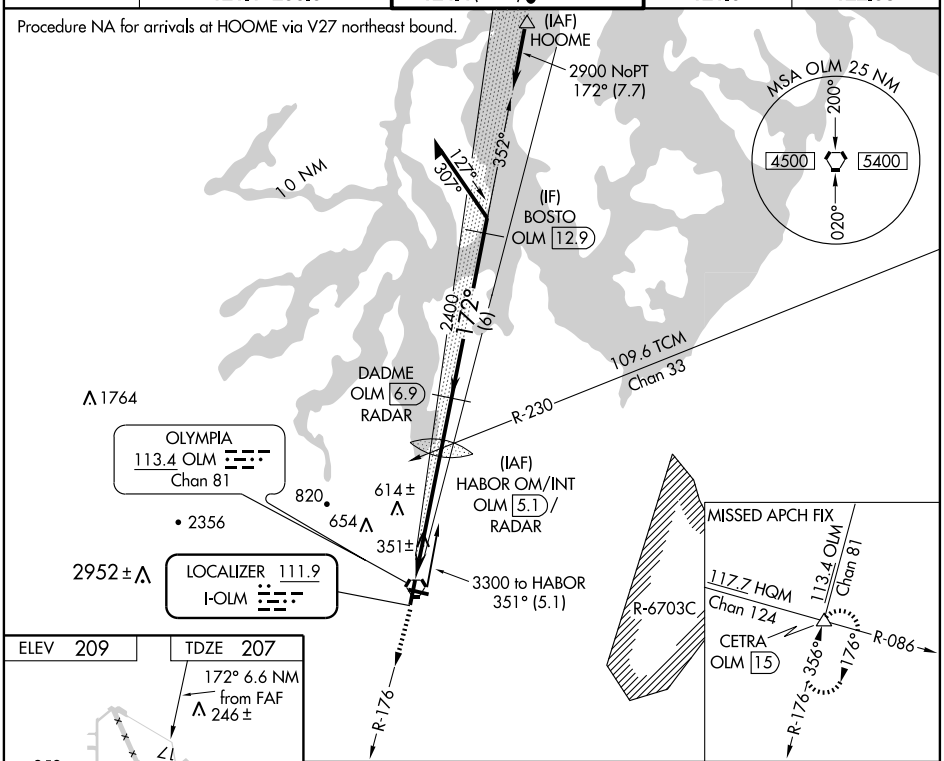
| LOC I-OLM | APP CRS | Rwy ldg | 5501 |
|---|---|---|---|
| 111.9 | 172° | TDZE | 207 |
| | | Apt Elev | 209 |

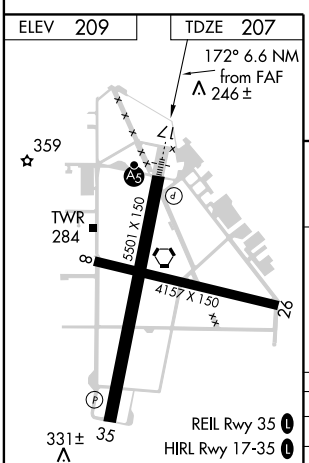
DME or RADAR required. When local altimeter setting not received, use Sanderson Field altimeter setting and increase all DA 53 feet and all MDA 60 feet, and increase circling Cats C and D visibility ¼ mile. For inoperative MALSR, when using Sanderson Field altimeter setting, increase S-ILS 17 all Cats visibility to 1 mile.

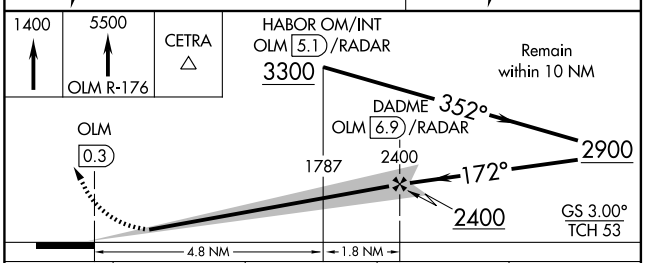
MALSR

MISSED APPROACH: Climb to 1400, then continue climb to 5500 via OLM VORTAC R-176 to CETRA INT/OLM VORTAC 15 DME and hold, continue climb-in-hold to 5500.

| ATIS | SEATTLE APP CON | OLYMPIA TOWER ★ | GND CON | UNICOM |
|---|---|---|---|---|
| 135.725 | 121.1 290.9 | 124.4 (CTAF) L 254.25 | 121.6 | 122.95 |




| FAF to MAP 6.6 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 6:36 | 4:24 | 3:18 | 2:38 | 2:12 |

| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 17 | 414-½ 207 (300-½) | | | |
| S-LOC 17 | 640-½ 433 (500-½) | | 640-¾ 433 (500-¾) | 640-1 433 (500-1) |
| CIRCLING | 720-1 511 (600-1) | | 820-1¾ 611 (700-1¾) | 860-2 651 (700-2) |

NW-1, 05 APR 2012 to 03 MAY 2012

NW-1, 05 APR 2012 to 03 MAY 2012



Figure 305

| LOC/DME I-PHF | APP CRS | Rwy ldg 8003 |
|---|---|---|
| 110.1 Chan 38 | 067° | TDZE 39 |
| | | Apt Elev 42 |

# ILS or LOC RWY 7

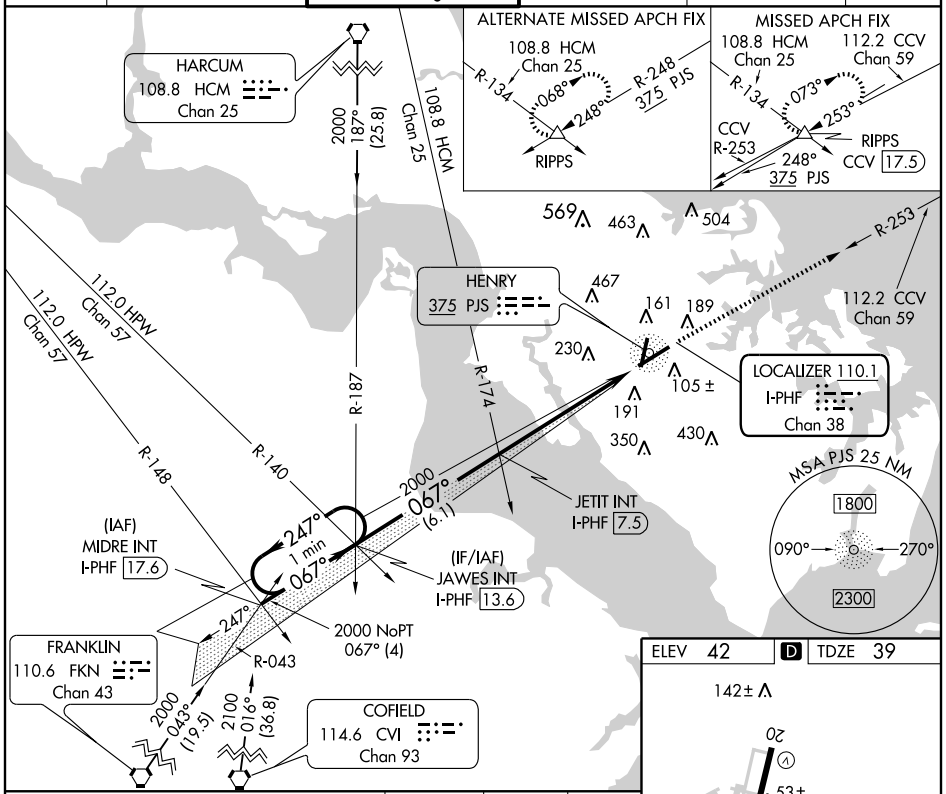
## NEWPORT NEWS/ WILLIAMSBURG INTL (PHF)

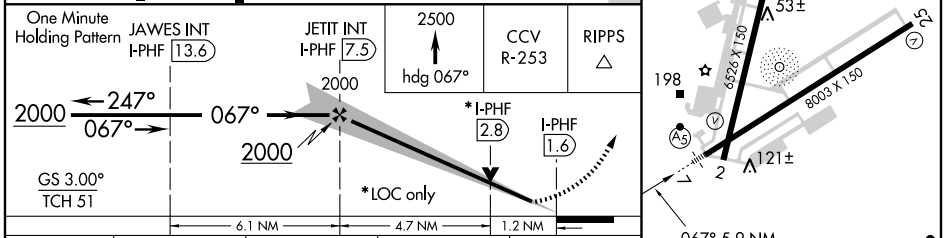
VDP NA with Norfolk Intl altimeter setting. When local altimeter not received, use Norfolk Intl altimeter setting and increase all DA 49 feet and all MDA 60 feet; increase S-LOC 7 Cat C visibility to RVR 5000. **RVR 1800 authorized with the use of FD or AP or HUD to DA.

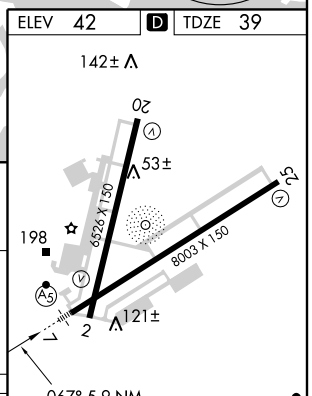
MALSR

MISSED APPROACH: Climb to 2500 on heading 067° and on CCV VORTAC R-253 to RIPPS INT/ CCV 17.5 DME and hold.

| ATIS | NORFOLK APP CON | NEWPORT NEWS TOWER ★ | GND CON | CLNC DEL | UNICOM |
|---|---|---|---|---|---|
| 128.65 | 125.7 | 118.7 (CTAF) L 257.9 | 121.9 348.6 | 121.65 225.4 | 122.95 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 7 | **239/24 200 (200-½) | | | |
| S-LOC 7 | 480/24 441 (500-½) | | 480/40 441 (500-¾) | 480/50 441 (500-1) |
| CIRCLING | 520-1 478 (500-1) | | 520-1½ 478 (500-1½) | 600-2 558 (600-2) |

FAF to MAP 5.9 NM

| Knots | 60 | 90 | 120 | 150 | 180 |
|---|---|---|---|---|---|
| Min:Sec | 5:54 | 3:56 | 2:57 | 2:22 | 1:58 |



Figure 306


NE-3, 05 APR 2012 to 03 MAY 2012

# HENRY TWO DEPARTURE

SL-957 (FAA)

NEWPORT NEWS/WILLIAMSBURG INTL (PHF)
NEWPORT NEWS, VIRGINIA



ATIS★128.65
CLNC DEL
121.65 225.4
GND CON
121.9 348.6
NEWPORT NEWS TOWER★
118.7 257.9
NORFOLK DEP CON
124.9

SALISBURY
111.2 SBY
Chan 49
N38°20.70′-W75°30.64′
L-34-36, H-10-12

SNOW HILL
112.4 SWL
Chan 71
N38°03.40′-W75°27.84′
L-36, H-10-12

FLAT ROCK
113.3 FAK
Chan 80
N37°31.71′-W77°49.69′
L-36, H-10-12

HARCUM
108.8 HCM
Chan 25
N37°26.92′-W76°42.68′
L-34-36, H-10-12

JAMIE
N37°36.34′
W75°57.81′
L-36

HOPEWELL
112.0 HPW
Chan 57
N37°19.73′-W77°06.96′
L-34-36, H-10-12

CAPE CHARLES
112.2 CCV
Chan 59
N37°20.85′-W75°59.86′
L-35-36, H-10-12

022°
067°
247°
250°

WAIKS
N37°03.03′
W77°04.13′
L-36, H-10-12

FRANKLIN
110.6 FKN
Chan 43
N36°42.85′-W77°00.74′
L-35-36, H-10-12

NORFOLK
116.9 ORF
Chan 116
N36°53.51′-W76°12.02′
L-35-36, H-10-12

## TAKE-OFF OBSTACLES

Rwy 2: Bush, 295′ from DER, 291′ right of centerline, 22′ AGL/62′ MSL.
Tree, 937′ from DER, 603′ left of centerline, 81′ AGL/131′ MSL.
Pole, 1221′ from DER, 487′ right of centerline, 31′ AGL/81′ MSL.
Tree, 1275′ from DER, 517′ left of centerline, 79′ AGL′132′ MSL.
Multiple Trees beginning 1554′ from DER, 298′ left of centerline, up to 88′ AGL/141′ MSL.
Tree, 1686′ from DER, 428′ right of centerline, 61′ AGL/114′ MSL.
Tree, 1849′ from DER, 598′ right of centerline, 72′ AGL/125′ MSL.
T-L Tower, 3351′ from DER, 1008′ left of centerline, 109′ AGL/161′ MSL.
Rwy 7: Tree, 371′ from DER, 588′ left of centerline, 36′ AGL/73′ MSL.
T-L Tower, 4120′ from DER, 1324′ right of centerline, 93′ AGL/116′ MSL.
T-L Tower, 5625′ from DER, 1345′ left of centerline, 133′ AGL/191′ MSL.
Rwy 20: Bush, 96′ from DER, 293′ left of centerline, 22′ AGL/52′ MSL.
Stack, 5977′ from DER, 598′ left of centerline, 186′ AGL/227′ MSL.
Rwy 25: Tree, 694′ from DER, 549′ right of centerline, 42′ AGL/65′ MSL.
Tree, 1020′ from DER, 703′ right of centerline, 23′ AGL/97′ MSL.
Tree, 1622′ from DER, 529′ left of centerline, 59′ AGL/79′ MSL.
Tree 2654′ from DER, 335′ right of centerline, 86′ AGL/106′ MSL.
Tree. 3435′ from DER, 1125′ right of centerline, 116′ AGL/139′ MSL.

## TAKE-OFF MINIMUMS

Rwys 2, 7, 25: STANDARD
Rwy 20: 300-1¼ or STANDARD with a minimum climb of 255 feet per NM to 300.

NOTE: RADAR required.
NOTE: Chart not to scale.

## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 2: Climb heading 022° to 2000, thence . . . .
TAKE-OFF RUNWAY 7: Climb heading 067° to 2000, thence . . . .
TAKE-OFF RUNWAY 20: Climbing right turn to 2000 via heading 250°, thence . . . .
TAKE-OFF RUNWAY 25: Climb heading 247° to 2000, thence . . . .
. . . . via vectors to assigned route/fix. Expect clearance to requested altitude 10 minutes after departure.

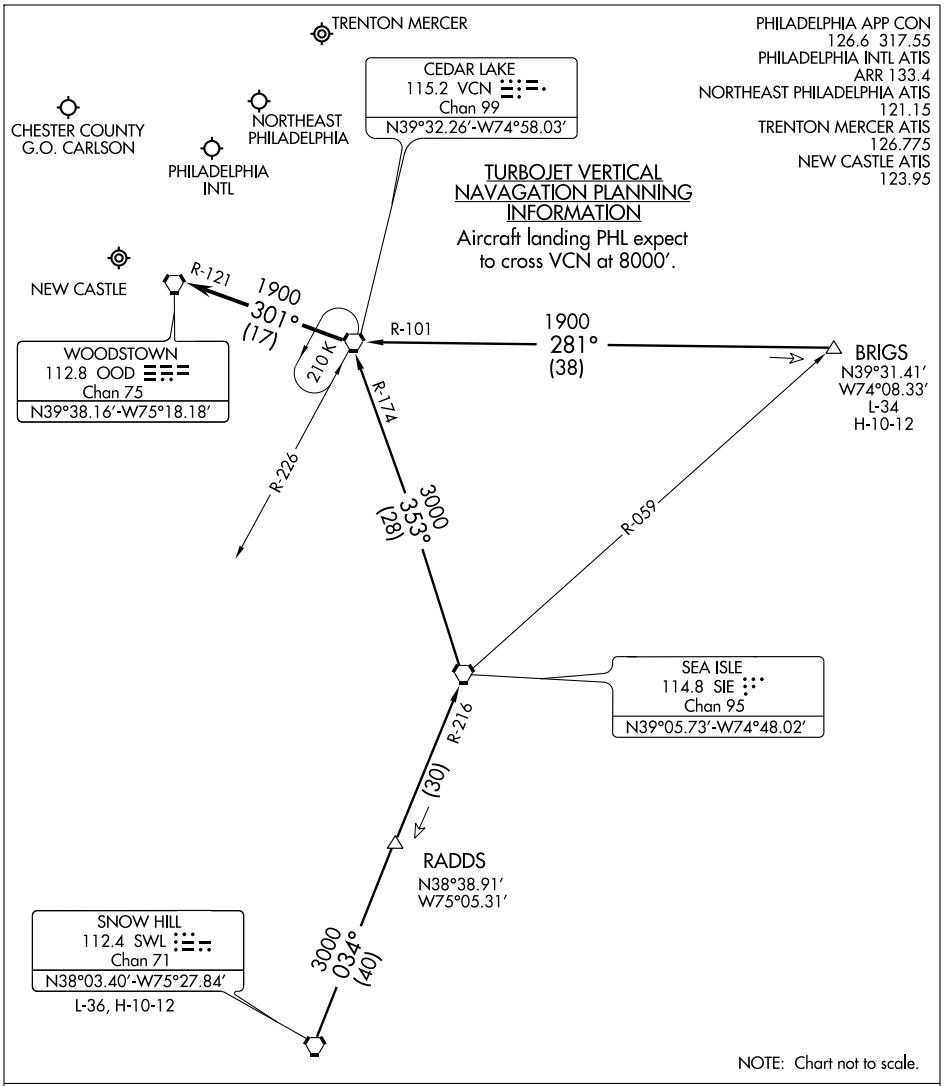


NE-3, 05 APR 2012 to 03 MAY 2012

Figure 307

# CEDAR LAKE EIGHT ARRIVAL

PHILADELPHIA, PENNSYLVANIA




BRIGS TRANSITION (BRIGS.VCN8): From over BRIGS INT via VCN R-101 to VCN VORTAC. Thence. . . .
SNOW HILL TRANSITION (SWL.VCN8): From over SWL VORTAC via SWL R-034 and SIE R-216 to SIE VORTAC, then via the SIE R-353 and VCN R-174 to VCN VORTAC. Thence. . . .

. . . .From over VCN VORTAC: Turbojets expect radar vectors to final approach course. Non-Turbojets continue via the VCN R-301and the OOD R-121 to OOD VORTAC; expect radar vectors to final approach course.




NE-4, 05 APR 2012 to 03 MAY 2012

Figure 308

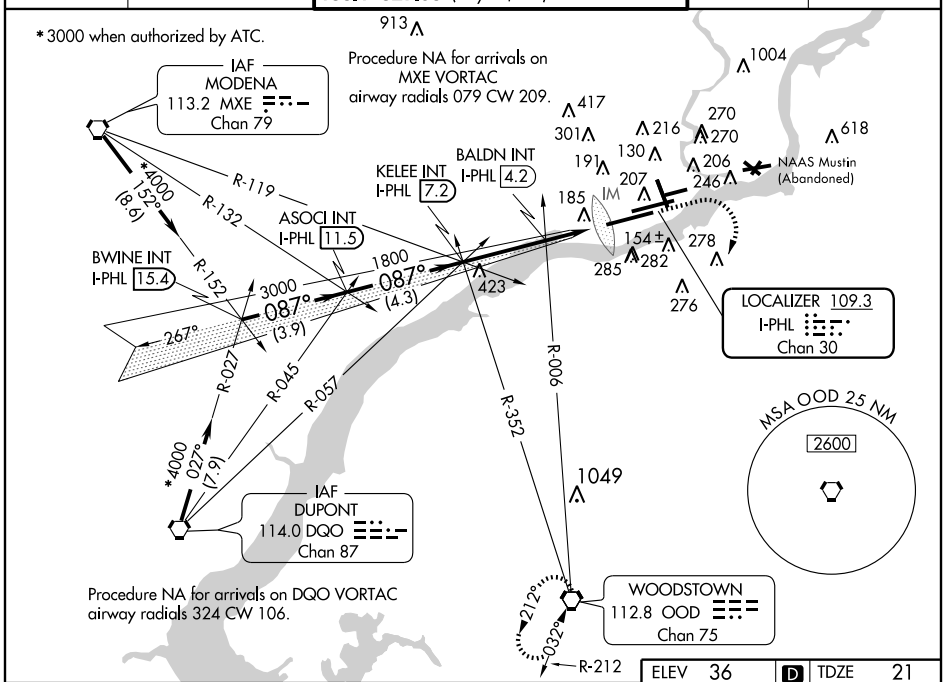
| LOC/DME I-PHL | APP CRS | Rwy ldg | 10506 |
|---|---|---|---|
| 109.3 | 087° | TDZE | 21 |
| Chan 30 | | Apt Elev | 36 |

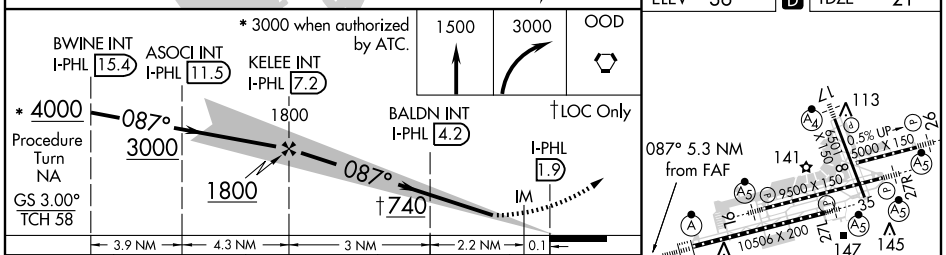
# ILS or LOC RWY 9R
## PHILADELPHIA INTL (PHL)

ALSF-2

MISSED APPROACH: Climb to 1500, then climbing right turn to 3000 direct OOD VORTAC and hold.

| ATIS | PHILADELPHIA APP CON | PHILADELPHIA TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| ARR 133.4<br>DEP 135.925 | 124.35 319.15 | 118.5 327.05 (Rwys 9L/27R, 8/26 and 17/35)<br>135.1 327.05 (Rwy 9R/27L) | 121.9 348.6 | 118.85 348.6 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 9R | 221/18 200 (200-½) | | | |
| S-LOC 9R | 740/24 719 (800-½) | | 740-1½<br>719 (800-1½) | 740-1¾<br>719 (800-1¾) |
| CIRCLING | 740-1 704 (800-1) | | 740-2<br>704 (800-2) | 740-2¼<br>704 (800-2¼) |
| BALDN FIX MINIMUMS | | | | |
| S-LOC 9R | 580/24 559 (600-½) | | 580/50<br>559 (600-1) | 580/60<br>559 (600-1¼) |
| CIRCLING | 580-1<br>544 (600-1) | 640-1<br>604 (700-1) | 640-1¾<br>604 (700-1¾) | 640-2<br>604 (700-2) |

ELEV 36 D TDZE 21




REIL Rwys 9L and 35
TDZ/CL Rwy 9R
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 |



Figure 309


NE-4, 05 APR 2012 to 03 MAY 2012

# ILS or LOC RWY 9L
## PHILADELPHIA INTL (PHL)

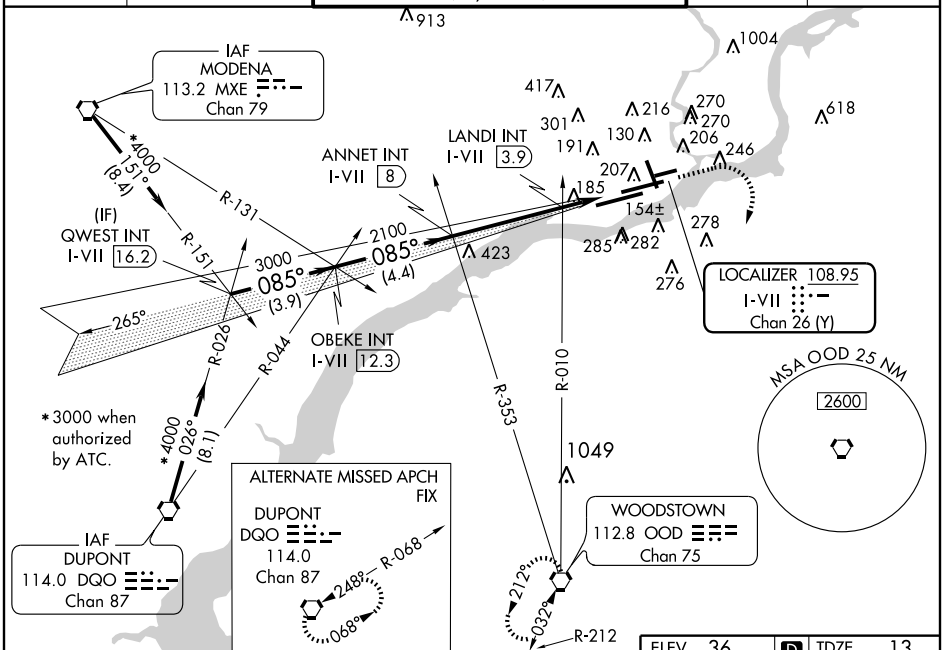
| LOC/DME I-VII | APP CRS | Rwy ldg | 9500 |
|---|---|---|---|
| 108.95 | 085° | TDZE | 13 |
| Chan 26 (Y) | | Apt Elev | 36 |

** RVR 1800 authorized with use of FD or AP or HUD to DA.

MALSR

MISSED APPROACH: Climb to 1500, then climbing right turn to 3000 direct OOD VORTAC and hold.

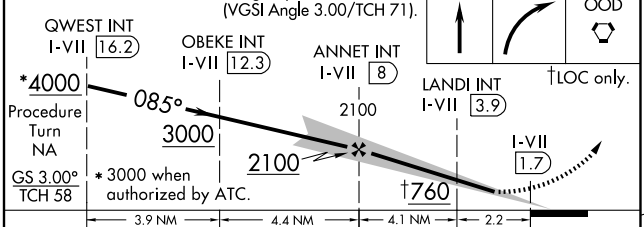
| ATIS | PHILADELPHIA APP CON | PHILADELPHIA TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| ARR 133.4<br>DEP 135.925 | 124.35 319.15 | 118.5 327.05 (Rwys 9L/27R, 8/26 and 17/35)<br>135.1 327.05 (Rwy 9R/27L) | 121.9 348.6 | 118.85 348.6 |




VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 71).

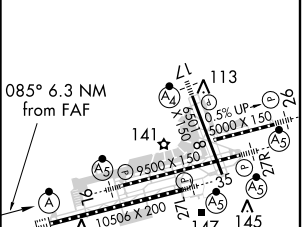
1500 | 3000 | OOD

†LOC only.




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 9L | ** 213/24 200 (200-½) | | | |
| S-LOC 9L | 760/24<br>747 (800-½) | 760/40<br>747 (800-¾) | 760-1¾<br>747 (800-1¾) | 760-2<br>747 (800-2) |
| CIRCLING | 760-1<br>724 (800-1) | 760-1¼<br>724 (800-1¼) | 760-2¼<br>724 (800-2¼) | 760-2½<br>724 (800-2½) |
| LANDI FIX MINIMUMS | | | | |
| S-LOC 9L | 440/24 427 (500-½) | | 440/40<br>427 (500-¾) | 440/50<br>427 (500-1) |
| CIRCLING | 540-1<br>504 (600-1) | 640-1<br>604 (700-1) | 640-1¾<br>604 (700-1¾) | 640-2<br>604 (700-2) |

ELEV 36 | D | TDZE 13




REIL Rwys 9L and 35
TDZ/CL Rwy 9R
HIRL all Rwys

| FAF to MAP 6.3 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 6:18 | 4:12 | 3:09 | 2:31 | 2:06 |


NE-4, 05 APR 2012 to 03 MAY 2012

| LOC/DME I-PVO | APP CRS | Rwy ldg 10000 |
|---|---|---|
| 109.1 | 128° | TDZE 75 |
| Chan 28 | | Apt Elev 75 |

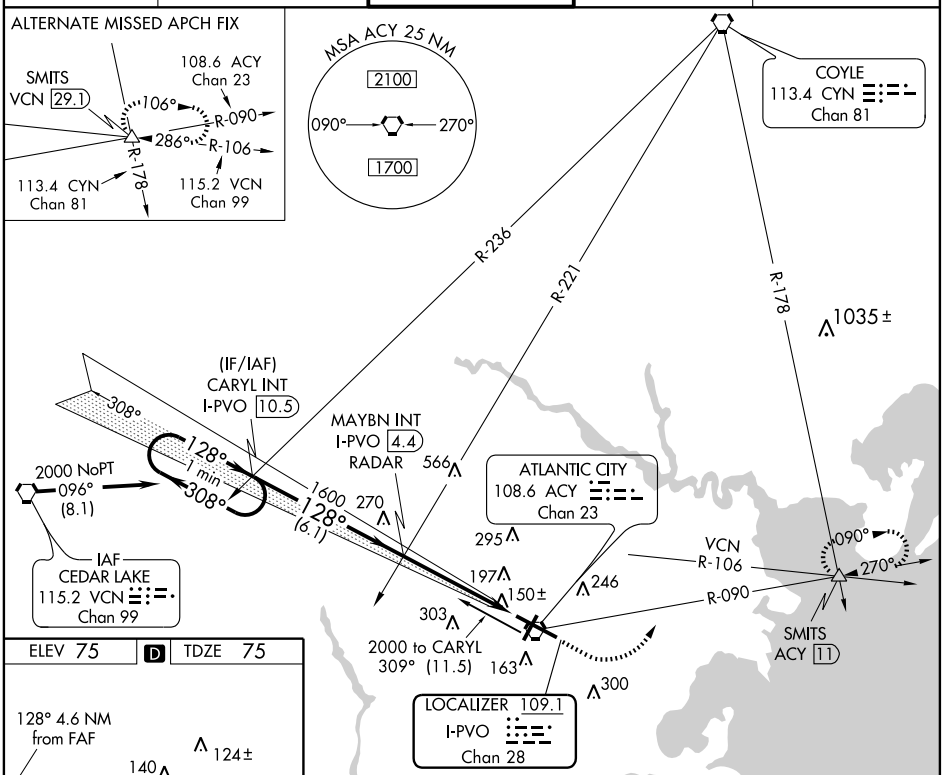
# ILS or LOC RWY 13
## ATLANTIC CITY INTL (ACY)

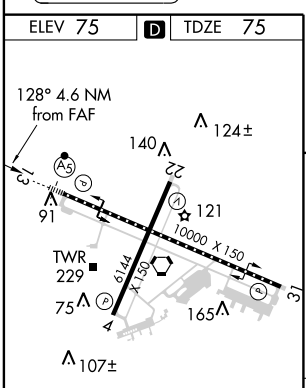
ASR: For inoperative MALSR, increase S-ILS 13 Cat E visibility to RVR 4000, increase S-LOC 13 Cat D visibility to RVR 5000, and Cat E to RVR 6000.

MALSR

MISSED APPROACH: Climb to 600 then climbing left turn to 2000 via ACY R-090 to SMITS INT/ACY 11 DME and hold.

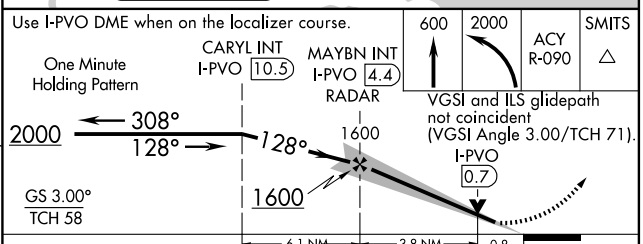
| ATIS | ATLANTIC CITY APP CON | ATLANTIC CITY TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 108.6 316.15 | 124.6 327.125 | 120.3 239.0 | 121.9 284.6 | 127.85 353.775 |




TDZ/CL Rwy 13
HIRL Rwys 4-22 and 13-31
REIL Rwy 31

| FAF to MAP 4.6 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:36 | 3:04 | 2:18 | 1:50 | 1:32 |




| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| S-ILS 13 | 275/18 200 (200-½) | | | | 275/24 200 (200-½) |
| S-LOC 13 | 400/24 325 (400-½) | | | 400/40 325 (400-¾) | |
| CIRCLING | 540-1 465 (500-1) | | 540-1½ 465 (500-1½) | 640-2 565 (600-2) | 760-2½ 685 (700-2½) |



Figure 311

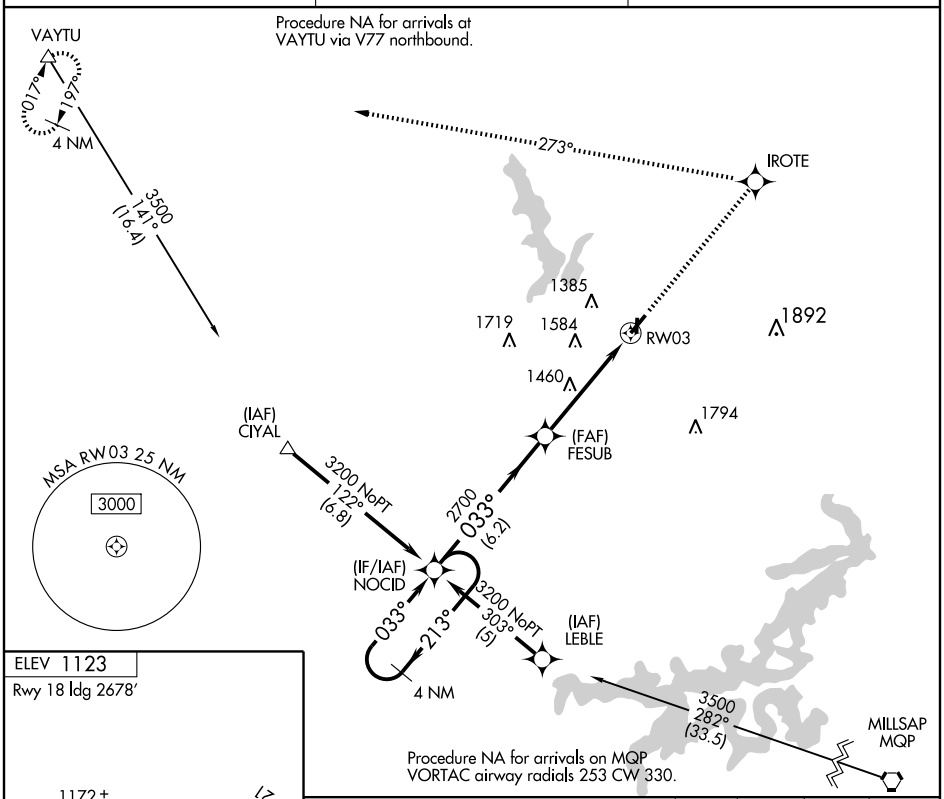
| APP CRS | Rwy ldg | 5000 |
|---|---|---|
| 033° | TDZE | 1116 |
| | Apt Elev | 1123 |

# RNAV (GPS) RWY 3
## GRAHAM MUNI (RPH)

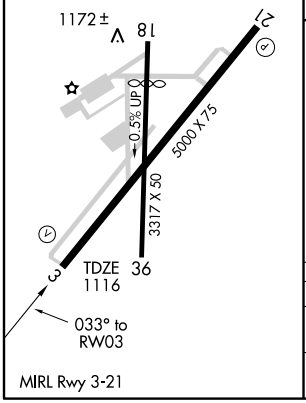
When local altimeter setting not received, use Mineral Wells altimeter setting and increase all MDAs 100 feet and increase LNAV and circling CAT B visibility ¼ mile. Visibility reduction by helicopters NA. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 3900 direct IROTE and left turn via 273° track to VAYTU and hold.

| AWOS-3 | FORT WORTH CENTER | UNICOM |
|---|---|---|
| 118.025 | 127.0 360.6 | 122.975 (CTAF) |

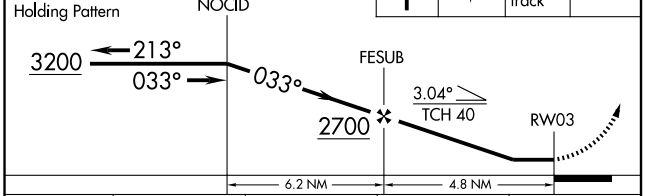



ELEV 1123
Rwy 18 ldg 2678′




VGSI and descent angles not coincident.

| 3900 | IROTE | 273° track | VAYTU |
|---|---|---|---|




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| LNAV MDA | 1760-1 644 (700-1) | | NA | |
| CIRCLING | 1760-1 637 (700-1) | | NA | |



Figure 312


SC-2, 05 APR 2012 to 03 MAY 2012

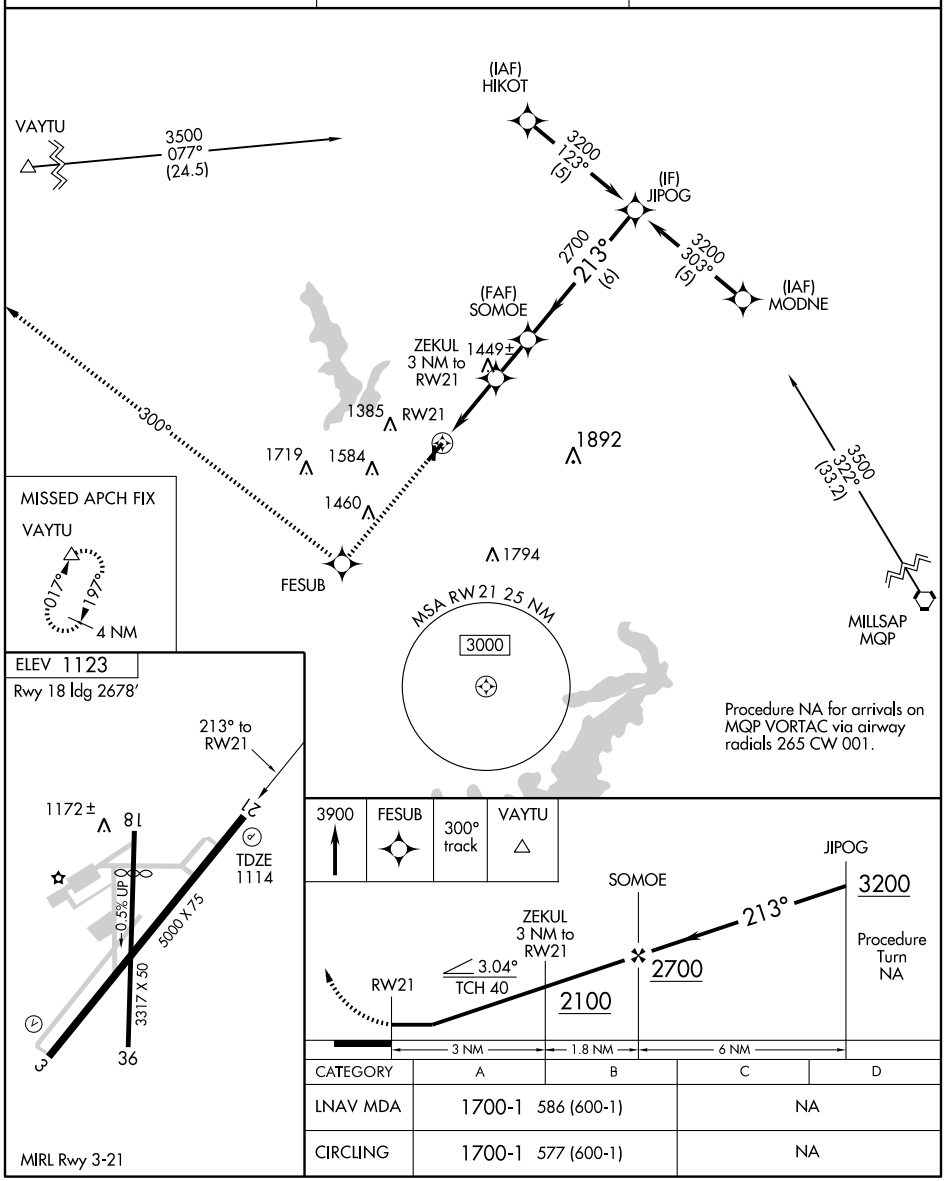
| APP CRS | Rwy ldg | 5000 |
|---|---|---|
| 213° | TDZE | 1114 |
| | Apt Elev | 1123 |

# RNAV (GPS) RWY 21
## GRAHAM MUNI (RPH)

When local altimeter setting not received, use Mineral Wells altimeter setting and increase all MDAs 100 feet.
Visibility reduction by helicopters NA. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 3900 direct FESUB and via 300° track to VAYTU and hold.

| AWOS-3 | FORT WORTH CENTER | UNICOM |
|---|---|---|
| 118.025 | 127.0 360.6 | 122.975 (CTAF) |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| LNAV MDA | 1700-1 586 (600-1) | | NA | |
| CIRCLING | 1700-1 577 (600-1) | | NA | |



Figure 313


SC-2, 05 APR 2012 to 03 MAY 2012

## FORT WORTH, TX (CON'T)

FORT WORTH SPINKS

TAKE-OFF MINIMUMS: **Rwys 17L,35R**, NA. (Environmental)

DEPARTURE PROCEDURE: **Rwy 17R** climb heading 173° to 1200 before turning right.

NOTE: **Rwy 17R,** tree 4909' from departure end of runway, 1556' left of centerline, 60' AGL/830' MSL.

## FORT WORTH NAS JRB (CARSWELL FLD)(KNFW)

FORT WORTH, TX . . . . . 10014

**Rwy 17,** Cross DER at or above 6' AGL/656' MSL.

TAKE-OFF OBSTACLES: **Rwy 17,** rising terrain up to 670' MSL, 200'-600' from DER, 500'-560' right of centerline.

## GAINESVILLE, TX

GAINESVILLE MUNI (GLE)

ORIG 09127 (FAA)

NOTE: **Rwy 17,** trees and poles beginning 1' from DER, 472' right and left of centerline, up to 25' AGL/819' MSL. **Rwy 30,** taxiways beginning 651' from DER, crossing centerline left to right 859' MSL. Trees and terrain beginning 2' from DER, 14' left and right of centerline, up to 64' AGL/890' MSL. **Rwy 35,** terrain, trees, poles, road, and vehicle beginning 149' from DER, 51' left of centerline, up to 95' AGL/940' MSL. Terrain and poles beginning 13' from DER, 85' right of centerline, up to 37' AGL/882' MSL.

## GILMER, TX

FOX STEPHENS FIELD-GILMER MUNI (JXI)

ORIG 11293 (FAA)

DEPARTURE PROCEDURE: **Rwy 18,** climb heading 177° to 1000 before turning left.

NOTE: **Rwy 18,** trees beginning abeam the DER left and right of centerline, up to 100' AGL/500' MSL. **Rwy 36,** trees beginning abeam the DER left and right of centerline, up to 50' AGL/505' MSL.

## GLADEWATER, TX

GLADEWATER MUNI (07F)

AMDT 1 11153 (FAA)

TAKE-OFF MINIMUMS: **Rwy 17,** 300-1¾ or std. w/min. climb of 285' per NM to 600. **Rwy 32,** 300-1. **Rwy 35,** Std. w/min. climb of 280' per NM to 1300 or 1100-2 ½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 32,** climb heading 320° to 1100 before turning right. **Rwy 35,** for climb in visual conditions cross Gladewater Municipal Airport at or above 1200 before proceeding on course.

NOTE: **Rwy 14,** vehicles on roadway beginning 450' from DER, left and right of centerline, up to 17' AGL/311' MSL. Trees beginning 770' from DER, left and right of centerline, up to 100' AGL/394' MSL. Power lines 3524' from DER, left to right of centerline, 150' AGL/420' MSL. **Rwy 17,** vehicles on roadway beginning 212' from DER, left and right of centerline, up to 17' AGL/311' MSL. Trees beginning 624' from DER, left and right of centerline, up to 100' AGL/509' MSL. Power lines 1807' from DER, left to right of centerline, 150' AGL/439' MSL. **Rwy 32,** trees beginning 12' from DER, left and right of centerline, up to 100' AGL/429' MSL. **Rwy 35,** trees beginning 47' from DER, left and right of centerline, up to 100' AGL/429' MSL. Power lines 1.4 NM from DER, 844' right of centerline, 75' AGL/520' MSL.

## GRAFORD, TX

POSSUM KINGDOM (F35)

ORIG-A 10154 (FAA)

TAKE-OFF MINIMUMS: **Rwy 20,** 400-2½ or std. w/ a min. climb of 212' per NM to 1500 or alternatively, with standard takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 1600' prior to DER.

DEPARTURE PROCEDURE: **Rwy 20,** climb heading 204° to 1500 before turning left.

NOTE: **Rwy 2,** trees beginning 31' from DER, 22' left of centerline, up to 100' AGL/1099' MSL. Trees beginning 1023' from DER, 114' right of centerline, up to 100' AGL/1129' MSL. **Rwy 20,** vehicle on roadway 116' from DER, 498' right of centerline, 15' AGL/1024' MSL. Trees beginning 494' from DER, 126' right of centerline, up to 100' AGL/1109' MSL. Trees beginning 977' from DER, 115' left of centerline, up to 100' AGL/1109' MSL. Trees beginning 2.29 miles from DER, 1679' left of centerline, up to 100' AGL/1329' MSL.

## GRAHAM, TX

GRAHAM MUNI

DEPARTURE PROCEDURE: **Rwys 17, 21,** climb runway heading to 2000 before proceeding on course.

NOTE: **Rwy 17,** light pole 21' from departure end of runway, 195' left of centerline, 30' AGL/1141' MSL. Light pole 86' from departure end of runway, 381' left of centerline, 50' AGL/1168' MSL.

## GRANBURY, TX

GRANBURY RGNL (GDJ)

AMDT 2 11125 (FAA)

TAKE-OFF MINIMUMS: **Rwy 14,** 300-1.

DEPARTURE PROCEDURE: **Rwy 14,** climb heading 144° to 1700 before turning right.

NOTE: **Rwy 14,** vehicles on road beginning 1020' from DER, on centerline, 15' AGL/814' MSL. Trees and power poles beginning at DER, 75' right of centerline, up to 100' AGL/879' MSL. Trees, power poles, light poles and vehicles on road beginning at DER, 251' left of centerline, up to 100' AGL/899' MSL. **Rwy 32,** train on railroad tracks, transmission poles and tree beginning 339' from DER, 107' right of centerline, 76'AGL/845' MSL. Trees, vehicles on road and bush beginning 14' from DER, 198' left of centerline, up to 46' AGL/815' MSL.

## GRAND PRAIRIE, TX

GRAND PRAIRIE MUNI (GPM)

AMDT 4 09295 (FAA)

DEPARTURE PROCEDURE: **Rwy 17,** climbing right turn to 2000 via heading 200° and TTT R-180 to NINAE/TTT 24 DME before proceeding on course. DME Required. **Rwy 35,** climb heading 356° to 1400 before turning south.

NOTE: **Rwy 17,** antenna 190' from DER, 456' right of centerline, 26' AGL/615' MSL. Road, multiple poles and signs beginning 570' from DER, 410' right of centerline, up to 31' AGL/620' MSL. Tree 1506' from DER, 517' right of centerline, 37' AGL/617' MSL.

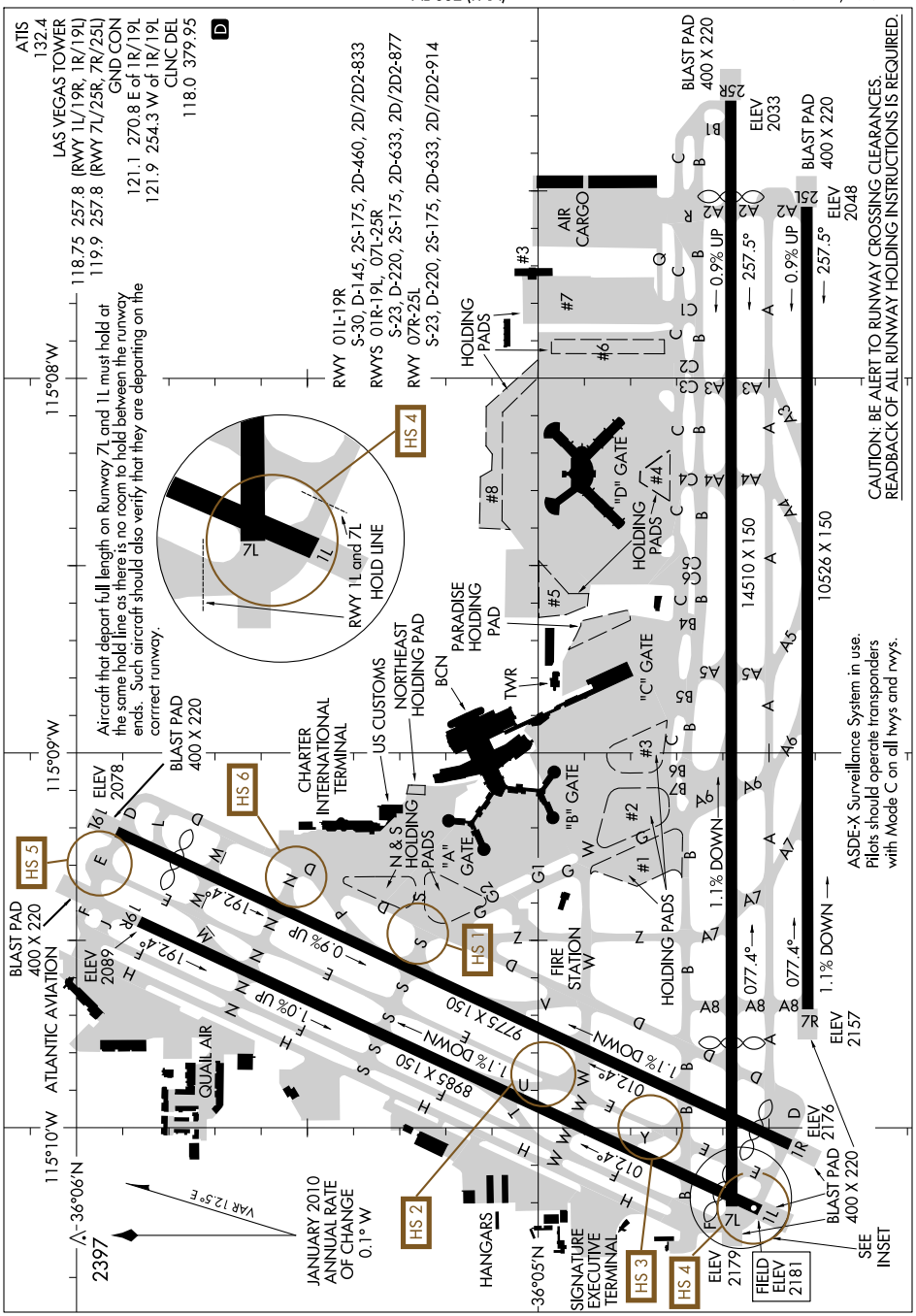
**Rwy 35,** tree 837' from DER, 204' left of centerline, up to 100' AGL/665' MSL. Pole 2687' from DER, 122' left of centerline, up to 75' AGL/653' MSL.

05 APR 2012 to 03 MAY 2012
05 APR 2012 to 03 MAY 2012



Figure 314

AL-662 (FAA)






SW-4, 05 APR 2012 to 03 MAY 2012

SW-4, 05 APR 2012 to 03 MAY 2012

Figure 315

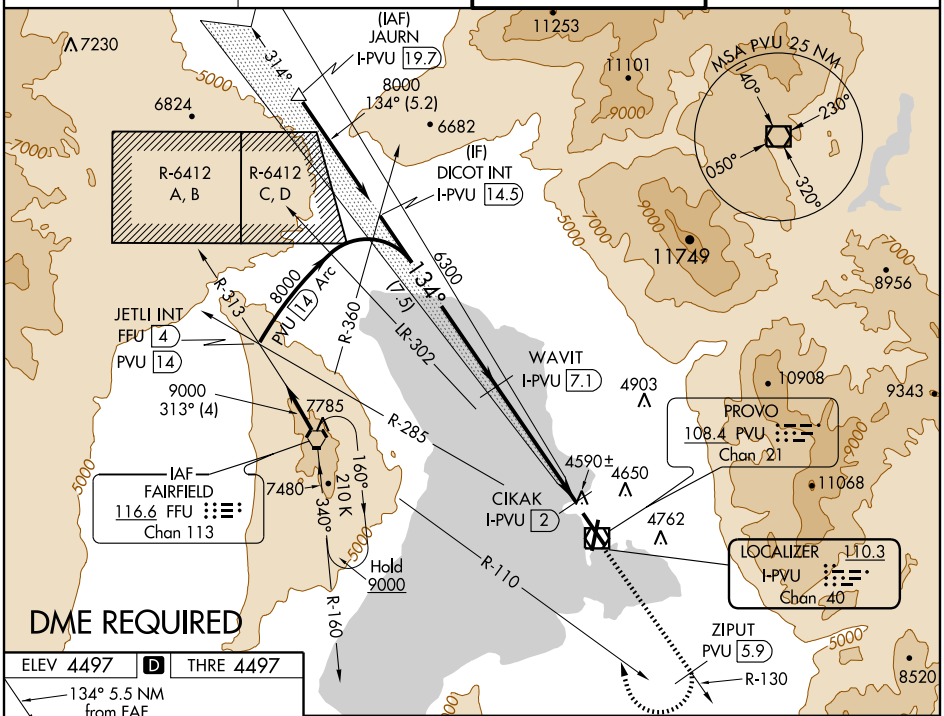
| LOC/DME I-PVU | APP CRS | Rwy ldg | 8599 |
|---|---|---|---|
| 110.3 | 134° | THRE | 4497 |
| Chan 40 | | Apt Elev | 4497 |

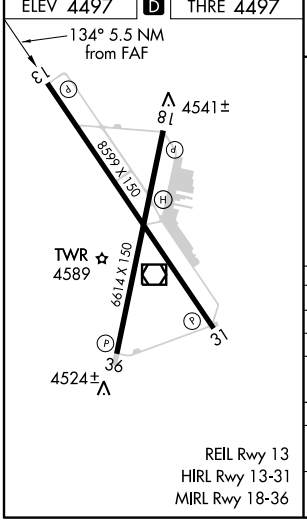
# ILS or LOC/DME RWY 13
## PROVO MUNI (PVU)

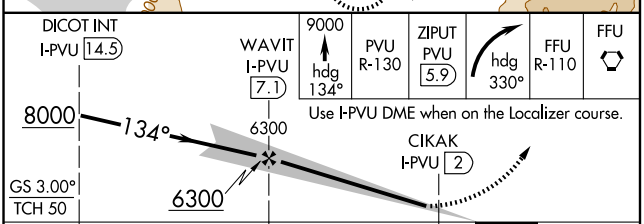
Circling NA east of Rwys 18 and 31.
*Missed approach requires minimum climb of 315 feet per NM to 8600.

MISSED APPROACH: Climb to 9000 on heading 134° to intercept PVU VOR/DME R-130 to ZIPUT/PVU 5.9 DME then climbing right turn on heading 330° and on FFU VORTAC R-110 to FFU VORTAC and hold.

| ATIS | SALT LAKE CITY APP CON | PROVO TOWER | GND CON |
|---|---|---|---|
| 135.175 | 124.3 322.3 | 125.3 (CTAF) | 119.4 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 13* | 4697-¾ 200 (200-¾) | | | |
| S-LOC 13* | 4820-1 323 (400-1) | | | |
| CIRCLING* | 4940-1 443 (500-1) | 4960-1 463 (500-1) | 4980-1½ 483 (500-1½) | 5060-2 563 (600-2) |
| S-ILS 13 | 4947-1½ 450 (500-1½) | | | |
| S-LOC 13 | 5100-1 603 (700-1) | | 5100-1¾ | 603 (700-1¾) |
| CIRCLING | 5100-1 603 (700-1) | | 5100-1¾ 603 (700-1¾) | 5100-2 603 (700-2) |



Figure 316


SW-4, 05 APR 2012 to 03 MAY 2012

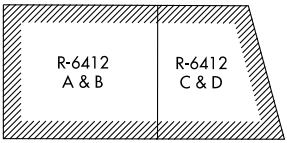
# PROVO FOUR DEPARTURE (OBSTACLE)

ATIS 135.175
GND CON 119.4
PROVO TOWER ★
125.3 (CTAF)
SALT LAKE CITY DEP CON
118.85

TAKE-OFF MINIMUMS

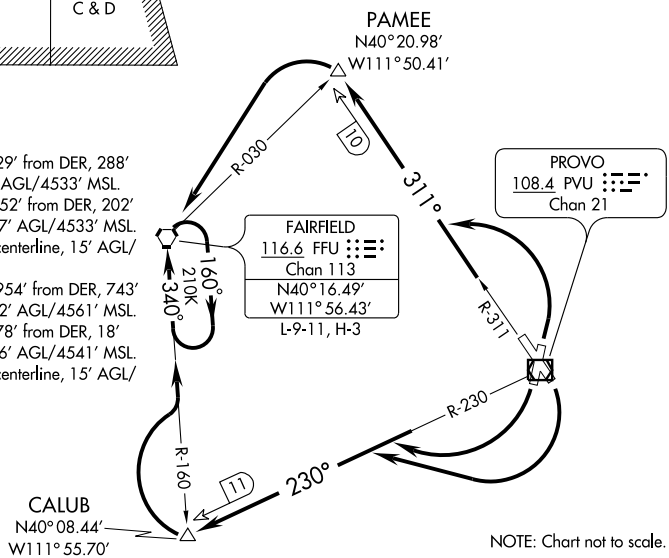
Rwy 13: Standard with a minimum climb of 400′ per NM to 9000, or 3100-3 for climb in visual conditions.
Rwy 18: Standard with a minimum climb of 350′ per NM to 9000, or 3100-3 for climb in visual conditions.
Rwy 31: Standard with a minimum climb of 380′ per NM to 9000, or 3100-3 for climb in visual conditions.
Rwy 36: Standard with a minimum climb of 365′ per NM to 9000, or 3100-3 for climb in visual conditions.

NOTE: Climb in visual conditions NA at night.




TAKE-OFF OBSTACLE NOTES

Rwy 18: Multiple trees beginning 429′ from DER, 288′ left of centerline, up to 57′ AGL/4533′ MSL. Multiple trees beginning 852′ from DER, 202′ right of centerline, up to 57′ AGL/4533′ MSL. Road 775′ from DER, on centerline, 15′ AGL/4518′ MSL.
Rwy 31: Multiple trees beginning 1954′ from DER, 743′ right of centerline, up to 72′ AGL/4561′ MSL.
Rwy 36: Multiple trees beginning 978′ from DER, 18′ right of centerline, up to 46′ AGL/4541′ MSL. Road 210′ from DER, on centerline, 15′ AGL/4516′ MSL.




NOTE: Chart not to scale.

## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 13, 18: Climbing right turn to 9000 via PVU VOR/DME R-230 to CALUB INT/PVU 11 DME and a right turn via FFU VORTAC R-160 to FFU VORTAC and hold. Thence.... or climb in visual conditions to cross Provo Muni Airport southwest bound at or above 7400, climb to 9000 via PVU R-230 to CALUB INT/PVU 11 DME and right turn via FFU R-160 to FFU VORTAC and hold. Thence...

TAKE-OFF RUNWAY 31: Climb to 9000 via PVU VOR/DME R-311 to PAMEE INT/PVU 10 DME and left turn direct FFU VORTAC and hold. Thence....
or climb in visual conditions to cross Provo Muni Airport northwest bound at or above 7400, climb to 9000 via PVU R-311 to PAMEE INT/PVU 10 DME and left turn direct FFU VORTAC and hold. Thence...

TAKE-OFF RUNWAY 36: Climbing left turn to 9000 via PVU VOR/DME R-311 to PAMEE INT/PVU 10 DME and left turn direct FFU VORTAC and hold. Thence....
or climb in visual conditions to cross Provo Muni Airport northwest bound at or above 7400, climb to 9000 via PVU R-311 to PAMEE INT/PVU 10 DME, and left turn direct FFU VORTAC and hold. Thence...

....Expect clearance for filed route and altitude within 10 minutes after departure.



Figure 317

# ILS or LOC RWY 34L
## SALT LAKE CITY INTL (SLC)

| LOC/DME I-UUH | APP CRS | Rwy ldg | 12000 |
|---|---|---|---|
| 111.9 | 343° | TDZE | 4226 |
| Chan 56 | | Apt Elev | 4227 |

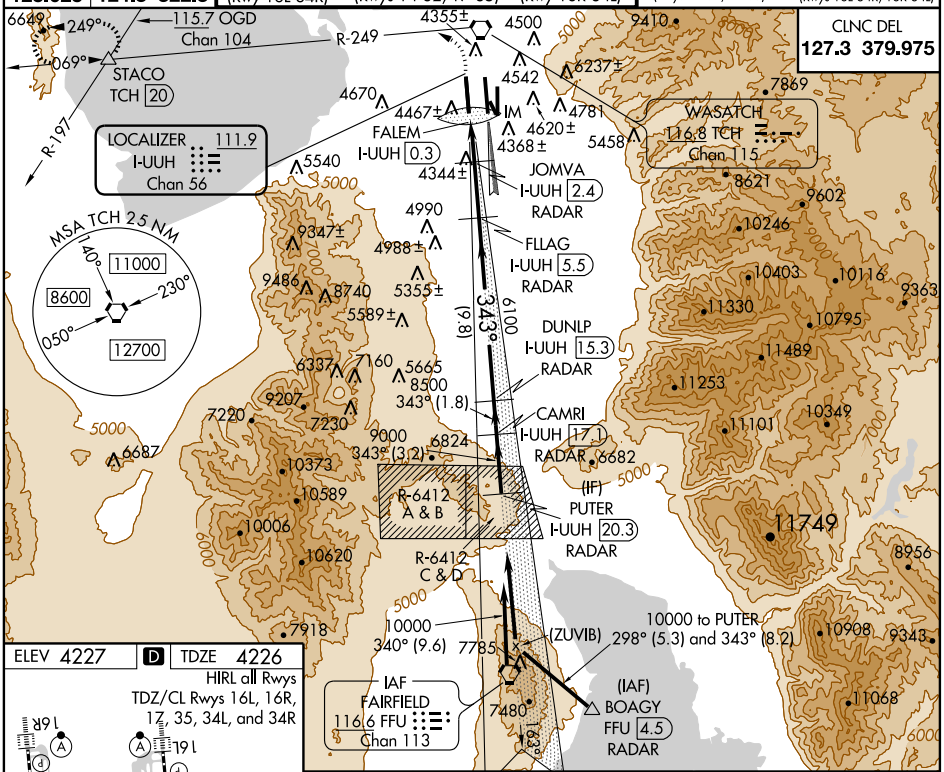
DME or RADAR required.
Simultaneous approach authorized with Rwy 34R and Rwy 35.

ALSF-2

MISSED APPROACH: Climb to 4800, then climbing left turn to 8100 via TCH VORTAC R-249 to STACO INT/ TCH VORTAC 20 DME and hold.

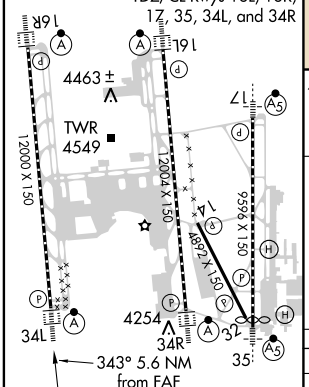
| ATIS | SALT LAKE CITY APP CON | SALT LAKE CITY TOWER | | | GND CON | |
|---|---|---|---|---|---|---|
| 124.75 125.625 | 124.3 322.3 | 119.05 257.8 (Rwy 16L-34R) | 118.3 257.8 (Rwys 14-32, 17-35) | 132.65 336.4 (Rwy 16R-34L) | 121.9 348.6 (Rwys 14-32, 17-35) | 133.65 348.6 (Rwys 16L-34R, 16R-34L) |

CLNC DEL 127.3 379.975




ELEV 4227 | D | TDZE 4226

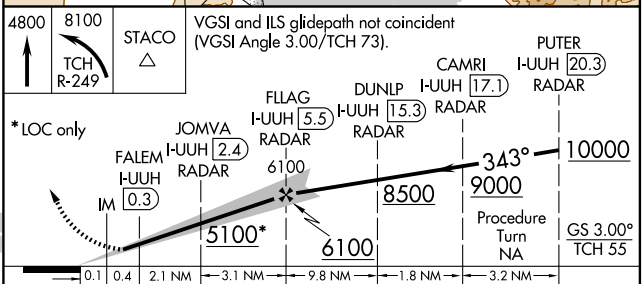
HIRL all Rwys
TDZ/CL Rwys 16L, 16R, 17, 35, 34L, and 34R




| FAF to MAP 5.2 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:12 | 3:28 | 2:36 | 2:05 | 1:44 |

4800 | 8100 TCH R-249 | STACO

VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 73).




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 34L | 4426/18 200 (200-½) | | | |
| S-LOC 34L | 4600/24 374 (400-½) | | | 4600/40 374 (400-¾) |



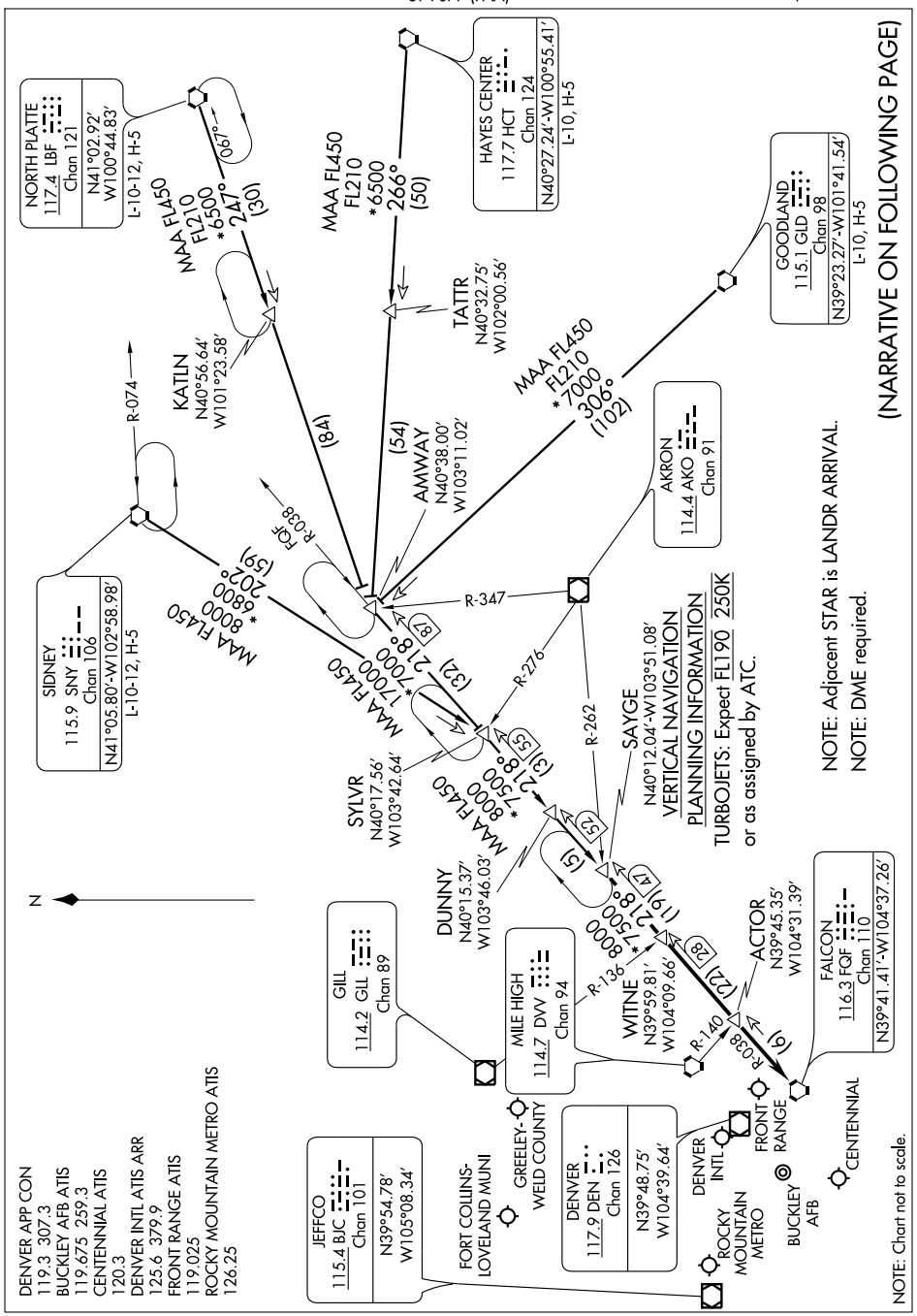
Figure 318


SW-4, 05 APR 2012 to 03 MAY 2012

# SAYGE SEVEN ARRIVAL

ST-9077 (FAA)

DENVER, COLORADO






SW-1, 05 APR 2012 to 03 MAY 2012

SAYGE SEVEN ARRIVAL

DENVER, COLORADO

(SAYGE.SAYGE7) 12096

Figure 319

ARRIVAL ROUTE DESCRIPTION

GOODLAND TRANSITION (GLD.SAYGE7): From over GLD VORTAC via GLD R-306 and FQF R-038 to SAYGE INT. Thence....

HAYES CENTER TRANSITION (HCT.SAYGE7): From over HCT VORTAC via HCT R-266 and FQF R-038 to SAYGE INT. Thence....

NORTH PLATTE TRANSITION (LBF.SAYGE7): From over LBF VORTAC via LBF R-247 and FQF R-038 to SAYGE INT. Thence....

SIDNEY TRANSITION (SNY.SAYGE7): From over SNY VORTAC via SNY R-202 and FQF R-038 to SAYGE INT. Thence....

....From over SAYGE INT via FQF R-038 to FQF VORTAC. Expect RADAR vectors to the final approach course at or before FQF VORTAC.

SW-1, 05 APR 2012 to 03 MAY 2012
SW-1, 05 APR 2012 to 03 MAY 2012



Figure 320

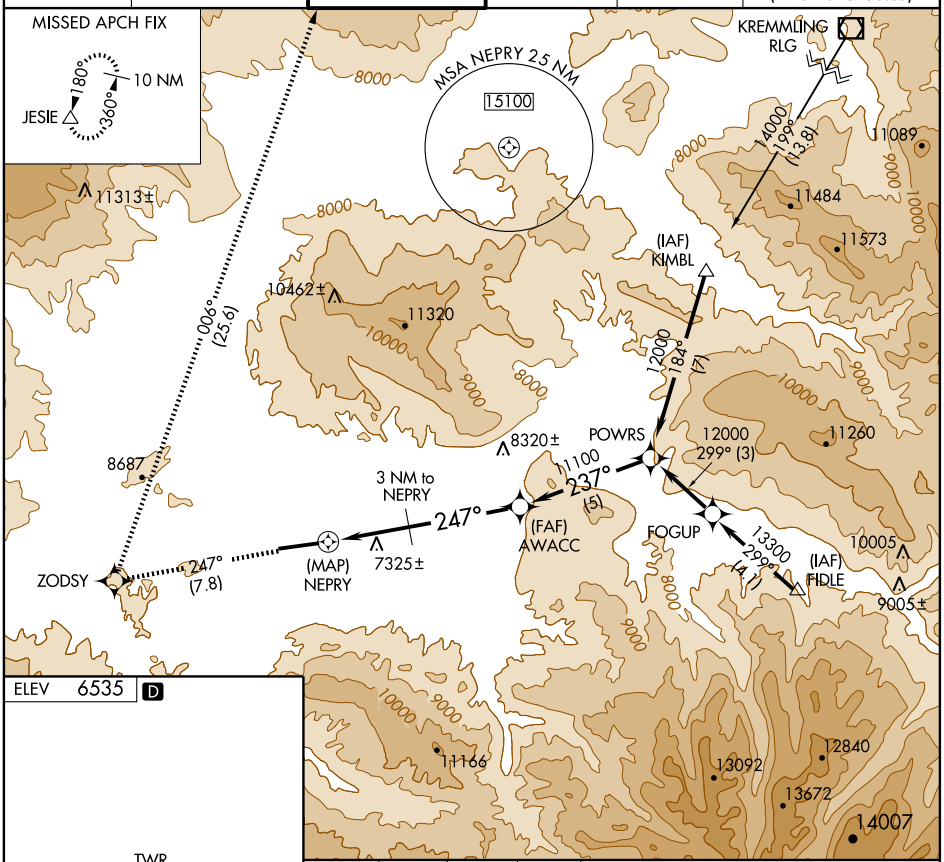
| APP CRS | Rwy ldg | N/A |
|---|---|---|
| 247° | TDZE | N/A |
| | Apt Elev | 6535 |

# RNAV (GPS) -D
## EAGLE COUNTY RGNL (EGE)

T NA GPS or RNP-0.3 required. DME/DME RNP- 0.3 NA. Circling south of Rwy 7-25 not authorized for Cat. C and D at night.

MISSED APPROACH: Climb to 14500 via 247° course to ZODSY WP, then via 006° course to JESIE WP and hold.

| ATIS | DENVER CENTER | EAGLE TOWER ★ | GND CON | CLNC DEL | DENVER CLNC DEL |
|---|---|---|---|---|---|
| 135.575 | 128.65 282.2 | 119.8 (CTAF) L | 121.8 | 124.75 | 124.75 (When tower closed) |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| CIRCLING | 8900-1¼ 2365 (2400-1¼) | 8900-1½ 2365 (2400-1½) | 8900-3 2365 (2400-3) | |

HIRL Rwy 7-25 L
REIL Rwy 7 L

SW-1, 05 APR 2012 to 03 MAY 2012

SW-1, 05 APR 2012 to 03 MAY 2012



Figure 321

EAGLE, COLORADO

AL-6403 (FAA)

# LDA/DME RWY 25

## EAGLE COUNTY RGNL (EGE)

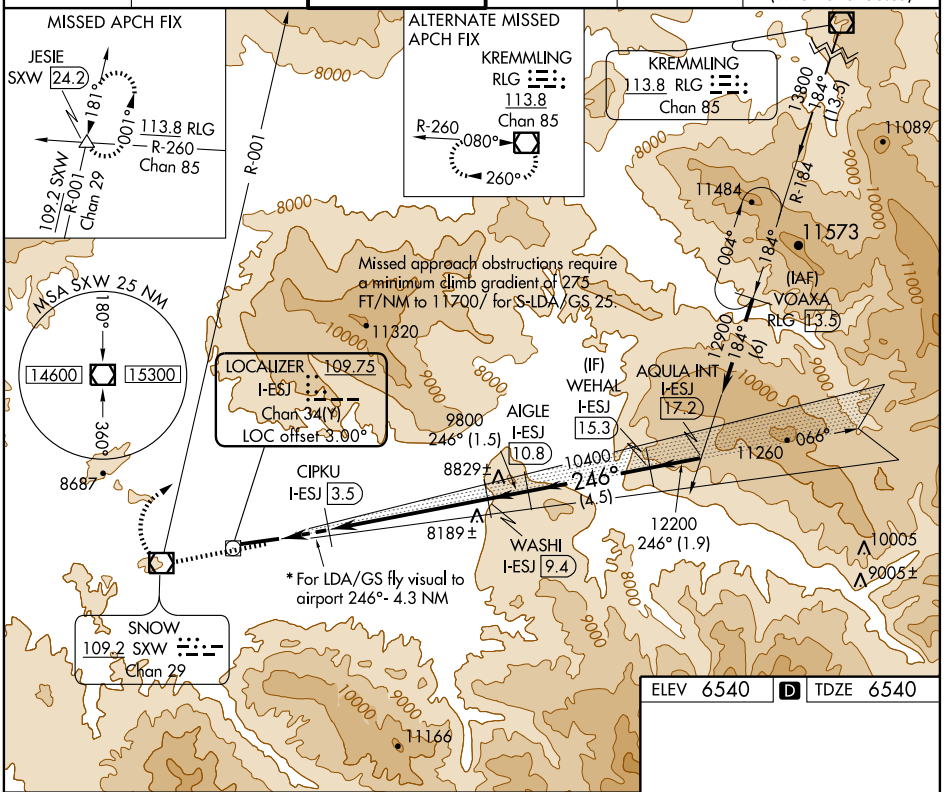
| LOC/DME I-ESJ | APP CRS | Rwy ldg | 8000 |
|---|---|---|---|
| 109.75 | 246° | TDZE | 6540 |
| Chan 34 (Y) | | Apt Elev | 6540 |

Inoperative table does not apply.
At night increase LDA/GS visibility to 5 miles.
* Fly visual to airport authorized during day only.

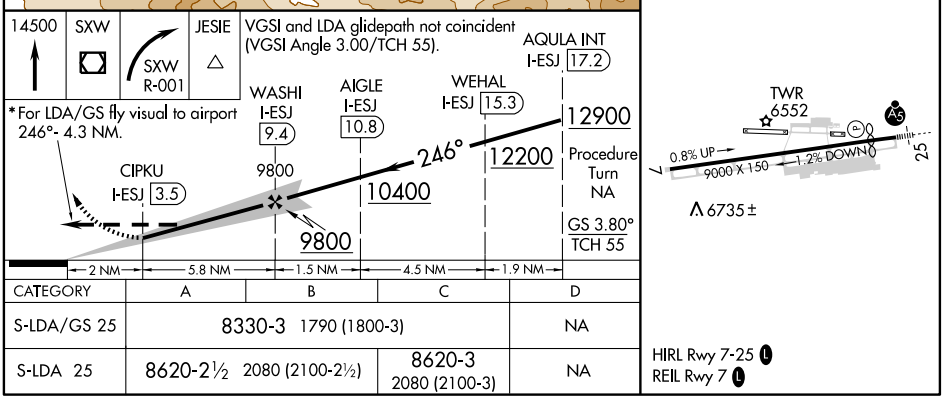
MALSR

MISSED APPROACH: Climb to 14500 direct SXW VOR/DME and climbing right turn via SXW R-001 to JESIE INT/SXW 24.2 DME and hold.

| ATIS | DENVER CENTER | EAGLE TOWER ★ | GND CON | CLNC DEL | DENVER CLNC DEL |
|---|---|---|---|---|---|
| 135.575 | 128.65 282.2 | 119.8 (CTAF) | 121.8 | 124.75 | 124.75 (When tower closed) |




| ELEV 6540 | D | TDZE 6540 |
|---|---|---|




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-LDA/GS 25 | 8330-3 1790 (1800-3) | | | NA |
| S-LDA 25 | 8620-2½ 2080 (2100-2½) | | 8620-3 2080 (2100-3) | NA |

HIRL Rwy 7-25
REIL Rwy 7

SW-1, 05 APR 2012 to 03 MAY 2012

SW-1, 05 APR 2012 to 03 MAY 2012

EAGLE, COLORADO
Orig-C 11293

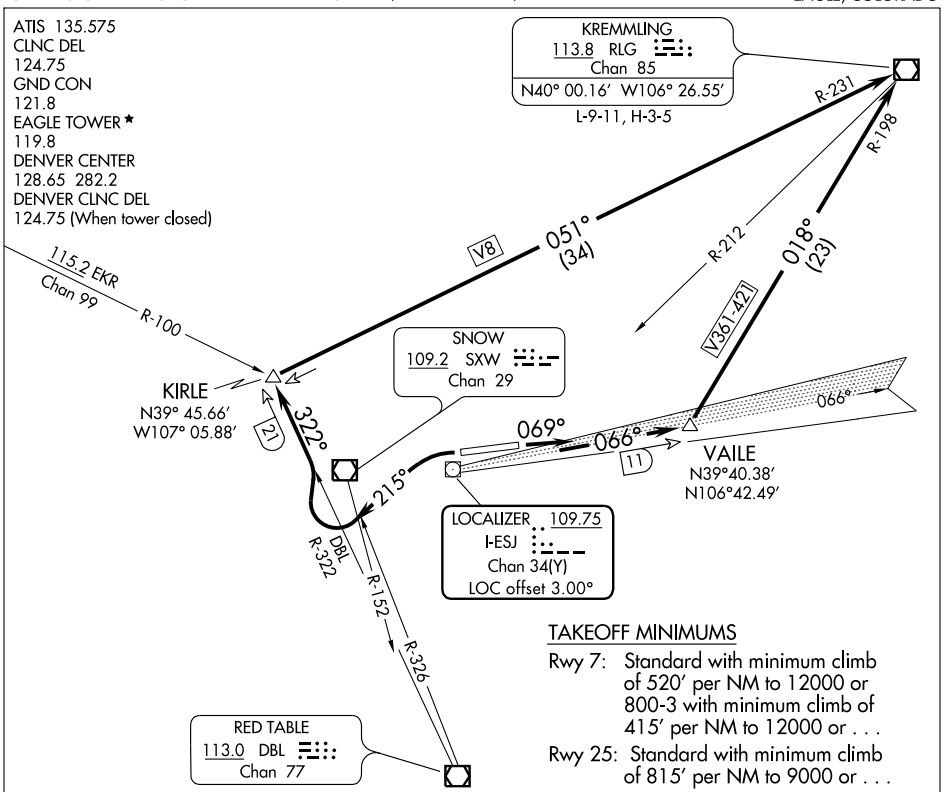
39°39′N-106°55′W

EAGLE COUNTY RGNL (EGE)
LDA/DME RWY 25

**Figure 322**

# GYPSUM FOUR DEPARTURE (OBSTACLE)






SW-1, 05 APR 2012 to 03 MAY 2012

SW-1, 05 APR 2012 to 03 MAY 2012

TAKEOFF MINIMUMS

Rwy 7: Standard with minimum climb of 520′ per NM to 12000 or 800-3 with minimum climb of 415′ per NM to 12000 or . . .

Rwy 25: Standard with minimum climb of 815′ per NM to 9000 or . . .

. . . 4100-3 for climb in visual conditions

TAKEOFF OBSTACLE NOTES

Rwy 7: Windsock 99′ from DER, 352′ left of centerline, 12′ AGL/6552′ MSL.
OL on tower 2.2 NM from DER, 1688′ right of centerline, 57′ AGL/7057′ MSL.
Trees beginning 1.1 NM from DER, 1945′ right of centerline, up to 18′ AGL/7017′ MSL.
Tree 2.2 NM from DER, 3227′ right of centerline, 27′ AGL/7252′ MSL.

Rwy 25: Multiple trees beginning 1.6 NM from DER, 233′ left of centerline, up to 15′ AGL/7694′ MSL.
Pole 2 NM from DER, 111′ left of centerline, 14′ AGL/7333′ MSL.
Multiple trees beginning 1.4 NM from DER, 795′ right of centerline, up to 16′ AGL/7615′ MSL.
Multiple poles, tank, and OL on tower beginning 1.4 NM from DER, 77′ right of centerline, up to 37′ AGL/7716′ MSL.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 7: Climb heading 069° and I-ESJ northeast course to VAILE INT/I-ESJ 11 DME then turn left via RLG R-198 to RLG VOR/DME or . . .

TAKEOFF RUNWAY 25: Climbing left turn heading 215°, upon crossing SXW R-152 or DBL R-326 turn right via DBL R-322 to KIRLE INT/DBL 21 DME then turn right via RLG R-231 to RLG VOR/DME or . . .

. . . Climb in visual conditions to cross Eagle County Rgnl Airport northeast bound at or above 10500, then via RLG R-212 to RLG VOR/DME.

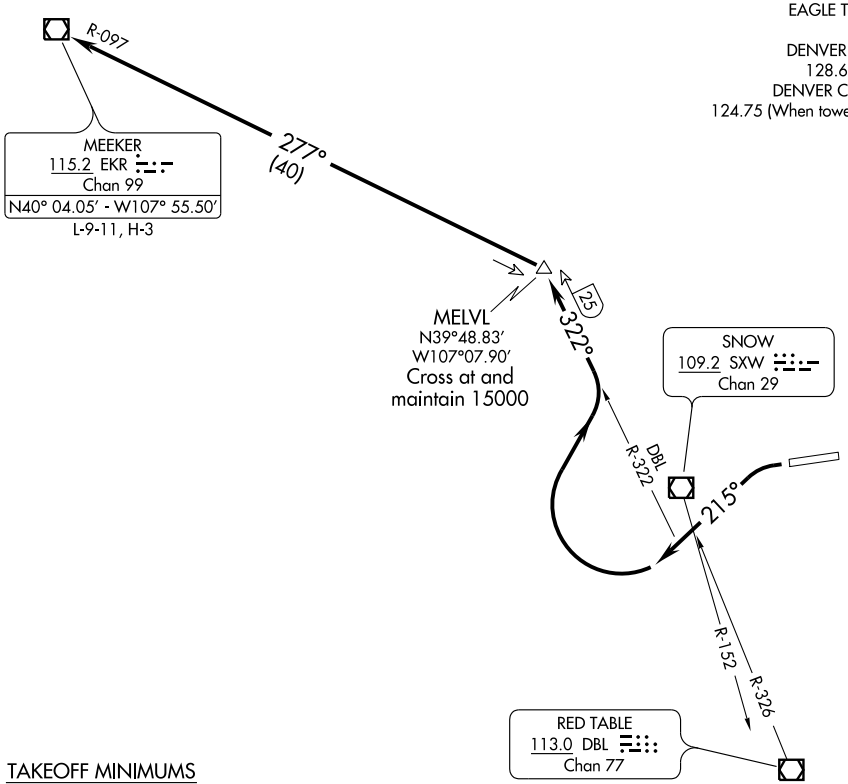


Figure 323

# MEEKER ONE DEPARTURE

EAGLE COUNTY RGNL (EGE)
EAGLE, COLORADO

ATIS 135.575
CLNC DEL
124.75
GND CON
121.8
EAGLE TOWER ★
119.8
DENVER CENTER
128.65 282.2
DENVER CLNC DEL
124.75 (When tower closed)




TAKEOFF MINIMUMS

Rwy 7: NA - ATC

Rwy 25: Standard with minimum climb of 815′ per NM to 15000.

TAKEOFF OBSTACLE NOTES

Rwy 25: Multiple trees beginning 1.6 NM from DER, 233′ left of centerline, up to 15′ AGL/7694′ MSL.
Pole 2 NM from DER, 111′ left of centerline, 14′ AGL/7333′ MSL.
Multiple trees beginning 1.4 NM from DER, 795′ right of centerline, up to 16′ AGL/7615′ MSL.
Multiple poles, tank and OL on tower beginning 1.4 NM from DER, 77′ right of centerline, up to 37′ AGL/7716′ MSL.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

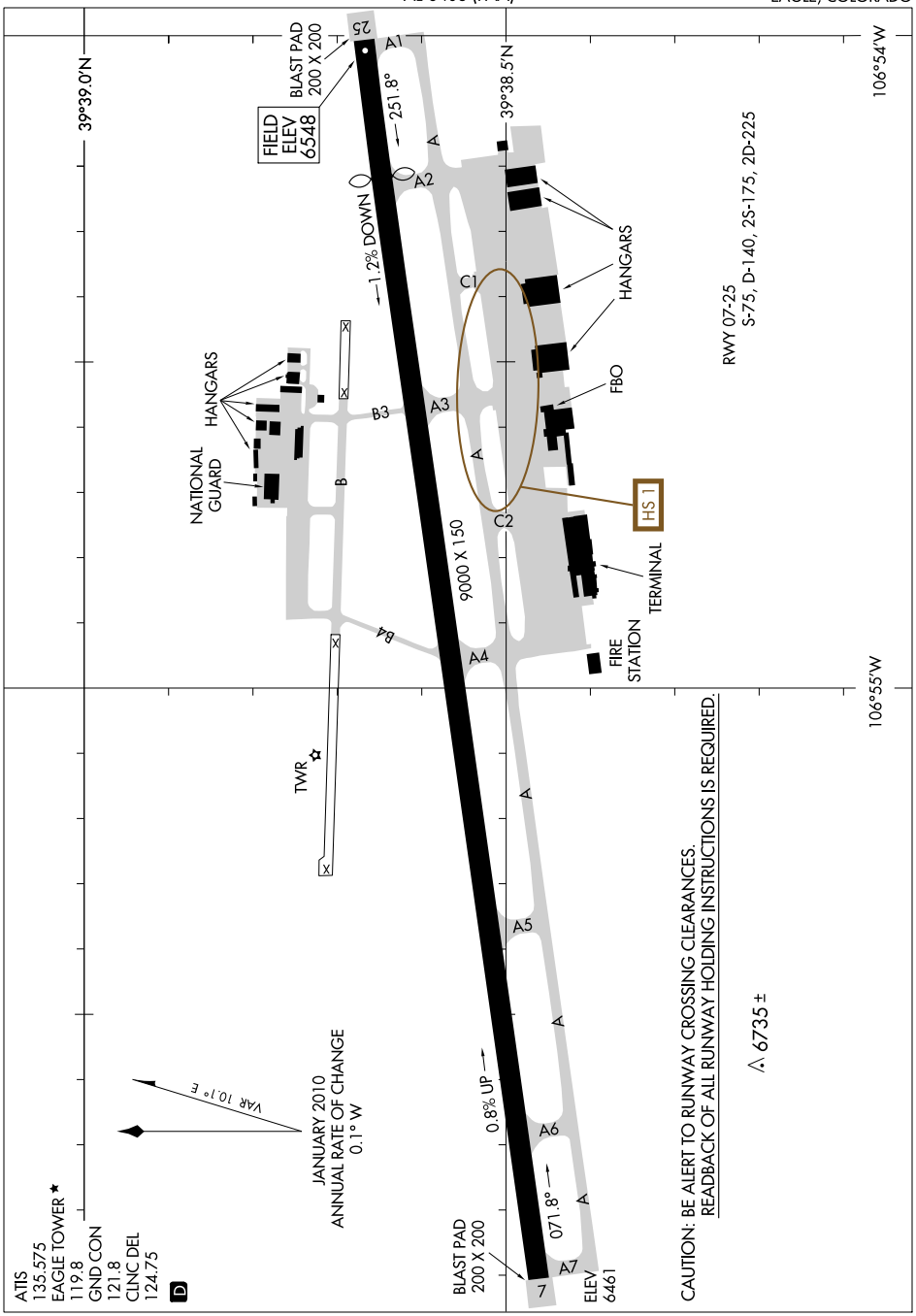
TAKEOFF RUNWAY 25: Climbing left turn heading 215°, upon crossing SXW R-152 or DBL R-326 turn right via DBL R-322 to MELVL INT/DBL 25 DME then turn left via EKR R-097 to EKR VOR/DME. Cross MELVL at and maintain 15000, expect filed altitude 10 minutes after departure.

MEEKER ONE DEPARTURE
(EKR1.EKR) 12096
EAGLE, COLORADO
EAGLE COUNTY RGNL (EGE)


SW-1, 05 APR 2012 to 03 MAY 2012

Figure 324

AL-6403 (FAA)







SW-1, 05 APR 2012 to 03 MAY 2012

Figure 325

NAME ALTERNATE MINIMUMS

**DENVER, CO**

CENTENNIAL (APA) ..... **ILS or LOC Rwy 35R[1]**
**NDB Rwy 35R[2]**
**RNAV (GPS) Rwy 28[34]**
**RNAV (GPS) Rwy 35R[14]**

[1]Categories A,B, 900-2; Category C, 900-2½, Category D, 900-2¾.
[2]Categories A,B, 1000-2; Categories C,D, 1000-3.
[3]Category D, 800-2¼.
[4]NA when local weather not available.

ROCKY MOUNTAIN METROPOLITAN (BJC) ..... **ILS or LOC Y Rwy 29R[123]**
**ILS or LOC Z Rwy 29R[23]**
**RNAV (GPS) Rwy 29L[3]**
**RNAV (GPS) Rwy 29R[3]**
**VOR/DME Rwy 29L/R[2]**

[1]ILS, Categories A, B, C, D, 700-2.
[2]NA when control tower closed.
[3]NA when local weather not available.

**EAGLE, CO**

EAGLE COUNTY RGNL (EGE) ..... **LDA/DME Rwy 25**

Categories A,B, 2100-2; Category C, 2100-3.
NA when control tower closed.
NA when local weather not available.

**FARMINGTON, NM**

FOUR CORNERS RGNL (FMN) ..... **ILS or LOC Rwy 25[12]**
**RNAV (GPS) Rwy 5[3]**
**RNAV (GPS) Rwy 7[3]**
**RNAV (GPS) Rwy 23[4]**
**RNAV (GPS) Rwy 25[3]**

[1]NA when control tower closed.
[2]ILS, Categories B,C,D, 700-2.
[3]NA when local weather not available.
[4]Category D, 800-2¼.

**FORT COLLINS/LOVELAND, CO**

FORT COLLINS-LOVELAND MUNI (FNL) ..... **RNAV (GPS) Rwy 15**
**RNAV (GPS) Rwy 33**
**VOR/DME-A**

NA when local weather not available.

**GALLUP, NM**

GALLUP MUNI (GUP) ..... **RNAV (GPS) Rwy 6[12]**
**RNAV (GPS) Rwy 24[3]**
**VOR Rwy 6[4]**

[1]Categories A, B, 900-2; Category C, 900-2½; Category D, 900-3.
[2]NA when local weather not available.
[3]Category D, 900-3.
[4]Category C, 800-2¼; Category D, 900-3.

NAME ALTERNATE MINIMUMS

**GRAND JUNCTION, CO**

GRAND JUNCTION RGNL (GJT) ..... **ILS or LOC Rwy 11[12]**
**LDA/DME Rwy 29[3]**
**RNAV (GPS) Y Rwy 11[3]**

[1]ILS, Category D, 700-2¼.
[2]NA when local weather not available.
[3]Category D, 800-2¼.

**GREELEY, CO**

GREELEY-WELD COUNTY (GXY) ..... **ILS or LOC Rwy 34**
**RNAV (GPS) Rwy 16**
**RNAV (GPS) Rwy 27**
**RNAV (GPS) Rwy 34**
**VOR-A**

NA when local weather not available.

**GUNNISON, CO**

GUNNISON-CRESTED BUTTE RGNL (GUC) ..... **ILS or LOC Rwy 6[1]**
**RNAV (RNP) Rwy 6,** 800-2¼
**VOR or GPS-A[23]**

[1]ILS,LOC, Categories A, B, C, 1600-3.
[2]Categories A,B,C, 1700-3;Cat D, 2300-3.
[3]NA when local altimeter setting not available except for operators with approved weather reporting service.

**HAYDEN, CO**

YAMPA VALLEY (HDN) .... **ILS or LOC/DME Y Rwy 10[12]**
**RNAV (GPS) Y Rwy 10[12]**
**RNAV (RNP) Z Rwy 10,** 800-2¼[1]
**VOR/DME-B[3]**

[1]NA when local weather not availalbe.
[2]Categories A, B, 1200-2; Categories C, D, 1200-3.
[3]Categories A, B, 1300-2; Categories C, D, 1300-3.

**HOBBS, NM**

LEA COUNTY RGNL (HOB) ..... **ILS or LOC Rwy 3[1]**
**LOC/DME BC Rwy 21[2]**
**RNAV (GPS) Rwy 3[3]**
**RNAV (GPS) Rwy 21[2]**
**RNAV (GPS) Rwy 30[2]**
**VOR/DME or TACAN Rwy 21[2]**
**VOR or TACAN Rwy 3[2]**

[1]NA when control tower closed.
[2]NA when control tower closed, except standard for operators with approved weather reporting service.
[3]NA when local weather not available.

05 APR 2012 to 03 MAY 2012

05 APR 2012 to 03 MAY 2012



Figure 326

| LOC/DME I-GUC | APP CRS | Rwy ldg | 9400 |
|---|---|---|---|
| 110.5 | 062° | TDZE | 7667 |
| Chan 42 | | Apt Elev | 7680 |

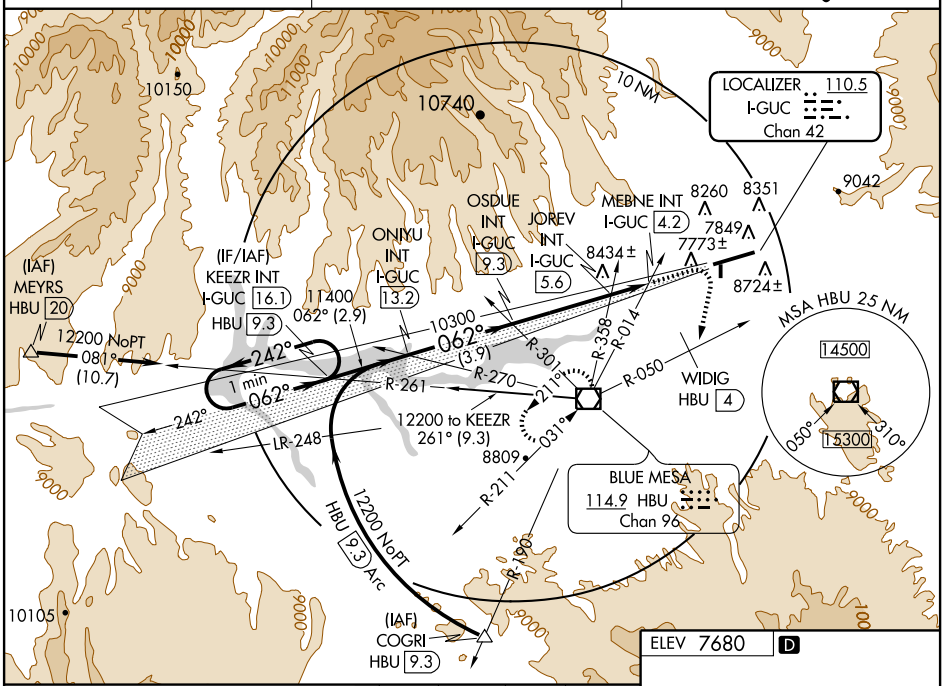
# ILS or LOC RWY 6
## GUNNISON-CRESTED BUTTE RGNL (GUC)

Circling NA at night. Inoperative table does not apply. When local altimeter setting not received, procedure NA. DME required. Visibility reduction by helicopters NA. Procedure NA when airport closed except by prior arrangement.

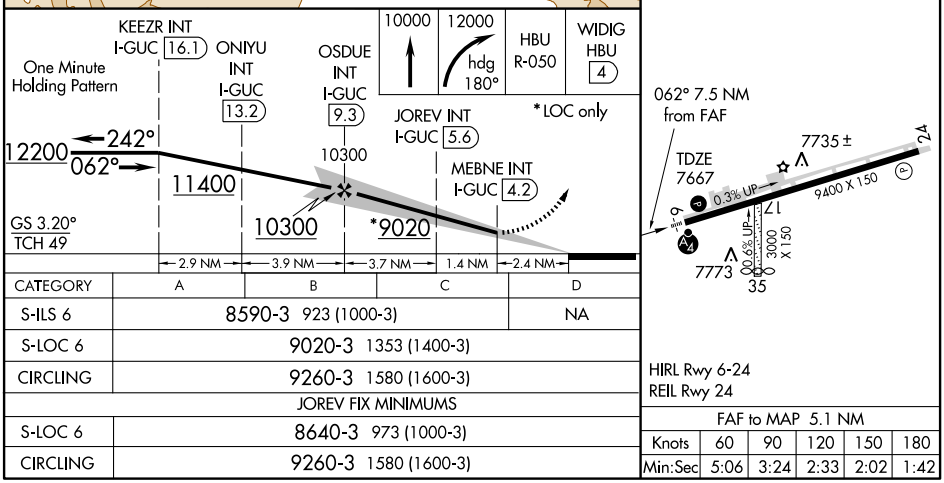
MALSF

MISSED APPROACH: Climb to 10000 then climbing right turn to 12000 via heading 180° and HBU VOR/DME R-050 to WIDIG/HBU 4 DME continue via HBU VOR/DME R-050 to HBU VOR/DME and hold.

| AWOS-3 | DENVER CENTER | UNICOM |
|---|---|---|
| 135.075 | 125.35 354.05 | 122.7 (CTAF) L |




ELEV 7680 D




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 6 | 8590-3 923 (1000-3) | | | NA |
| S-LOC 6 | 9020-3 1353 (1400-3) | | | |
| CIRCLING | 9260-3 1580 (1600-3) | | | |
| JOREV FIX MINIMUMS | | | | |
| S-LOC 6 | 8640-3 973 (1000-3) | | | |
| CIRCLING | 9260-3 1580 (1600-3) | | | |

FAF to MAP 5.1 NM

| Knots | 60 | 90 | 120 | 150 | 180 |
|---|---|---|---|---|---|
| Min:Sec | 5:06 | 3:24 | 2:33 | 2:02 | 1:42 |



Figure 327


SW-1, 05 APR 2012 to 03 MAY 2012

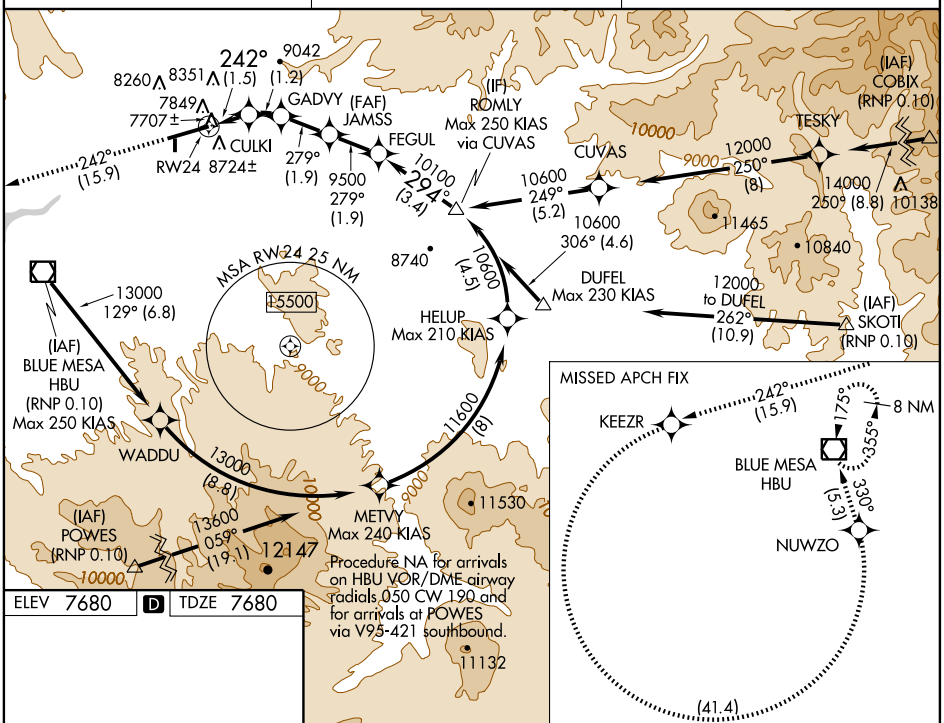
| APP CRS | Rwy ldg | 9400 |
|---|---|---|
| 242° | TDZE | 7680 |
| | Apt Elev | 7680 |

# RNAV (RNP) RWY 24
## GUNNISON-CRESTED BUTTE RGNL (GUC)

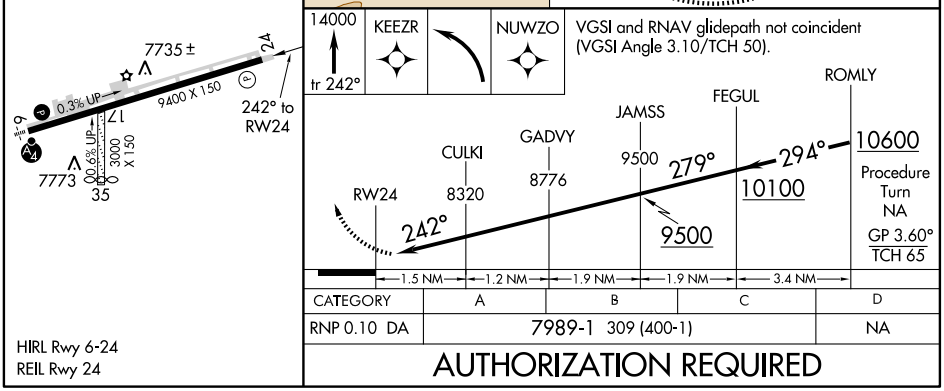
T RF and GPS required.
When local altimeter setting not received, procedure NA.
Procedure NA for aircraft with wingspan greater than 136 feet.
For uncompensated Baro-VNAV systems, procedure NA below -29°C (-20°F) or above 24°C (75°F).
When VGSI inoperative, procedure NA at night.
Missed approach requires minimum climb of 425 feet per NM to 9000.

MISSED APPROACH: Climb to 14000 on track 242° to KEEZR, and left turn to NUWZO, and on track 330° to HBU VOR/DME and hold.

| AWOS-3 | DENVER CENTER | UNICOM |
|---|---|---|
| 135.075 | 125.35 354.05 | 122.7 (CTAF) L |




ELEV 7680 D TDZE 7680




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| RNP 0.10 DA | 7989-1 309 (400-1) | | | NA |

**AUTHORIZATION REQUIRED**

HIRL Rwy 6-24
REIL Rwy 24

SW-1, 05 APR 2012 to 03 MAY 2012

SW-1, 05 APR 2012 to 03 MAY 2012



**Figure 328**

| LOC/DME I-OGD | APP CRS | Rwy ldg | 7252 |
|---|---|---|---|
| 111.7 | 031° | TDZE | 4473 |
| Chan 54 | | Apt Elev | 4473 |

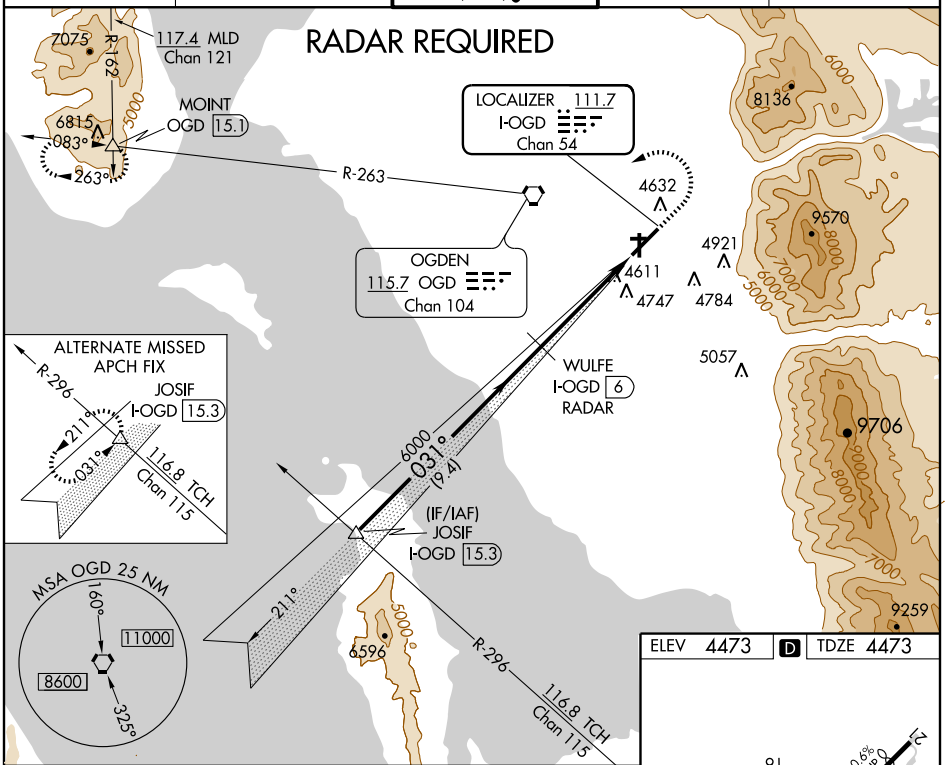
# ILS or LOC RWY 3
## OGDEN-HINCKLEY (OGD)

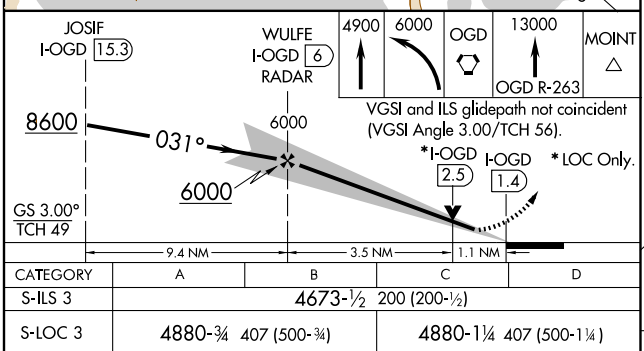
When local altimeter setting not received, use Hill AFB altimeter setting.
When VGSI inoperative, circling Rwy 7 and 16 NA at night.
Inoperative table does not apply to S-LOC 3 and Cat C.
DME or RADAR required.

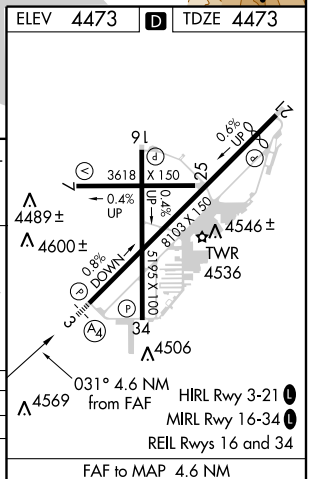
MALS

MISSED APPROACH: Climb to 4900, then climbing left turn to 6000 direct OGD VORTAC, then climb to 13000 on OGD R-263 to MOINT INT/OGD 15.1 DME and hold, continue climb-in-hold to 13000.

| ATIS | SALT LAKE CITY APP CON | OGDEN TOWER★ | GND CON | UNICOM |
|---|---|---|---|---|
| 125.55 | 121.1 319.25 | 118.7 (CTAF) L 253.5 | 121.7 | 122.95 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 3 | 4673-½ 200 (200-½) | | | |
| S-LOC 3 | 4880-¾ 407 (500-¾) | | 4880-1¼ 407 (500-1¼) | |
| CIRCLING | 4980-1 507 (600-1) | 5060-1 587 (600-1) | 5060-1½ 587 (600-1½) | 5100-2 627 (700-2) |

| FAF to MAP 4.6 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:36 | 3:04 | 2:18 | 1:50 | 1:32 |

SW-4, 05 APR 2012 to 03 MAY 2012

SW-4, 05 APR 2012 to 03 MAY 2012



Figure 329

| LOC/DME I-SIA | APP CRS | Rwy 19L ldg 8648 | Rwy 19R ldg 7500 |
|---|---|---|---|
| 108.9 | 191° | TDZE 11 | TDZE 10 |
| Chan 26 | | Apt Elev 13 | Apt Elev 13 |

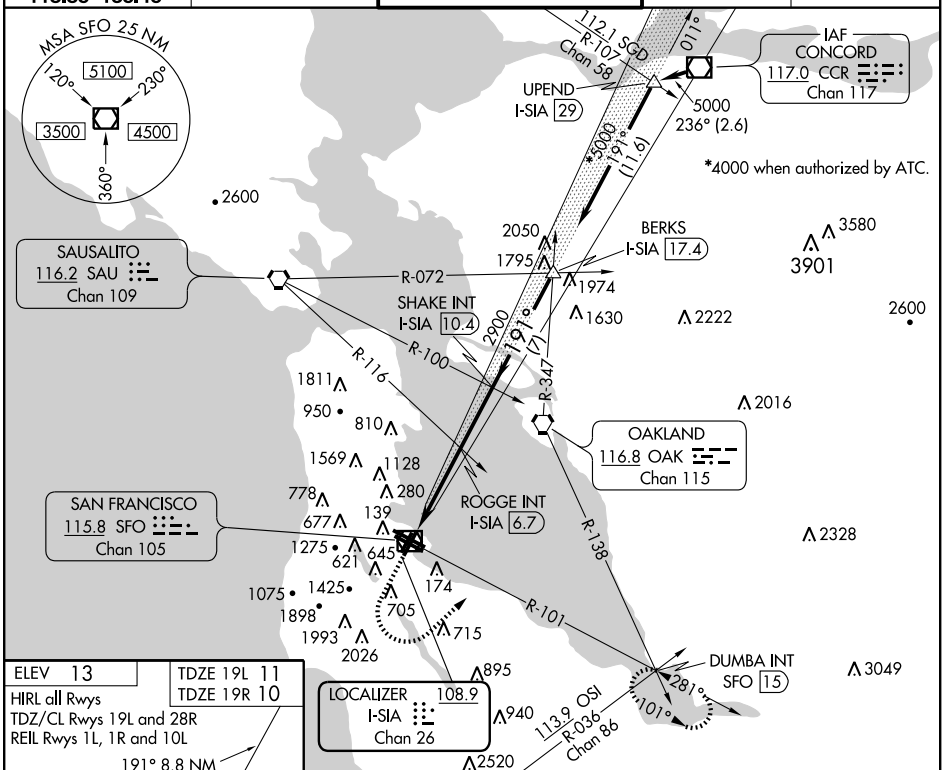
# ILS or LOC RWY 19L
## SAN FRANCISCO INTL (SFO)

Inoperative table does not apply.

MALSF Rwy 19L

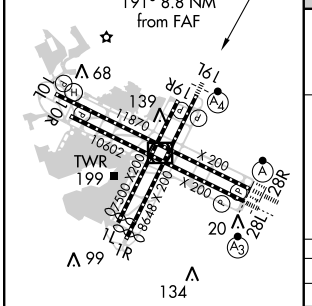
MISSED APPROACH: Climb to 420 then climbing left turn to 4000 via SFO VOR/DME R-101 to DUMBA INT and hold.

| ATIS | NORCAL APP CON | SAN FRANCISCO TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 113.7 115.8 118.85 135.45 | 134.5 338.2 | 120.5 269.1 | 121.8 | 118.2 |

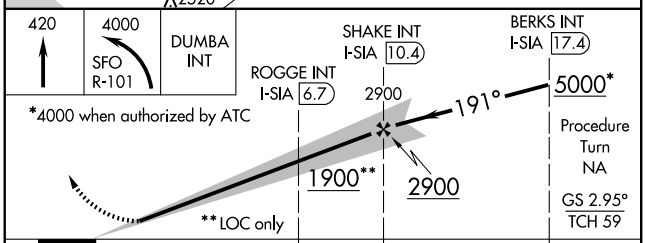



| ELEV 13 | TDZE 19L 11 |
|---|---|
| HIRL all Rwys | TDZE 19R 10 |
| TDZ/CL Rwys 19L and 28R | |
| REIL Rwys 1L, 1R and 10L | |

191° 8.8 NM from FAF




| FAF to MAP 8.2 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 8:12 | 5:28 | 4:06 | 3:17 | 2:44 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 19L | 211/40 200 (200-¾) | | | |
| S-LOC 19L | 340/50 329 (400-1) | | | |
| SIDESTEP RWY 19R | 340/50 330 (400-1) | | 340-1½ 330 (400-1½) | 340-2 330 (400-2) |
| CIRCLING | 760-1¼ 747 (800-1¼) | 940-1½ 927 (1000-1½) | 1040-3 1027 (1100-3) | 1160-3 1147 (1200-3) |



Figure 330


SW-2, 05 APR 2012 to 03 MAY 2012

# ILS or LOC RWY 28L
## SAN FRANCISCO INTL (SFO)

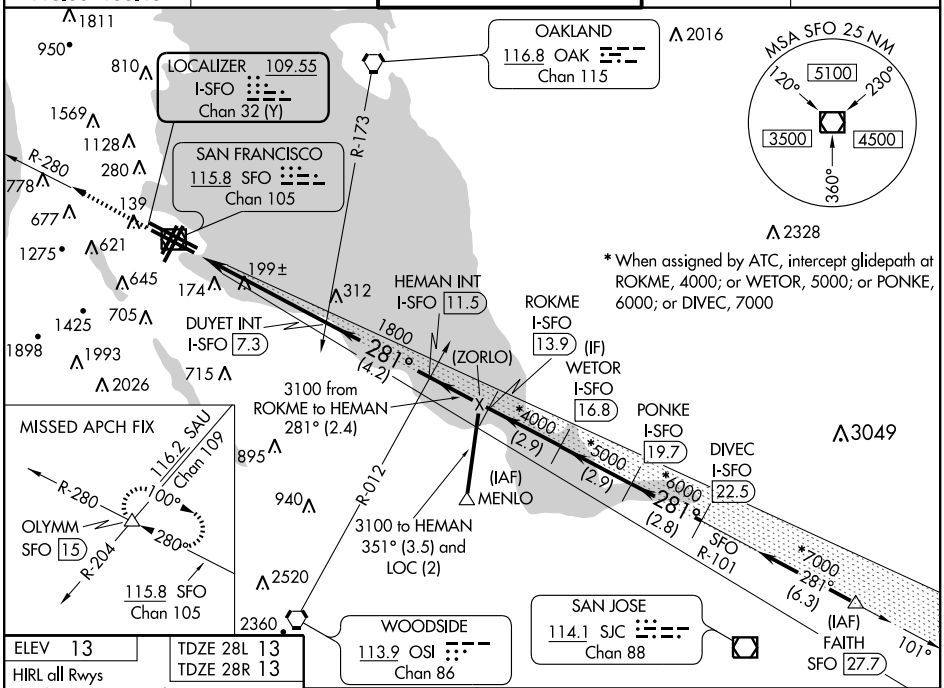
| LOC/DME I-SFO | APP CRS | Rwy 28L ldg 10602 | Rwy 28R ldg 11870 |
|---|---|---|---|
| 109.55 Chan 32 (Y) | 281° | TDZE 13 | TDZE 13 |
| | | Apt Elev 13 | Apt Elev 13 |

Inoperative table does not apply to sidestep 28R Cat A and B. Disregard IM and MM indications. #RVR 1800 authorized with the use of FD or AP or HUD to DA.

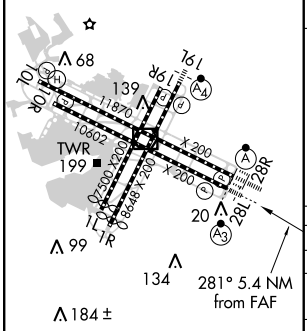
SSALR Rwy 28L (A3) ALSF-2 Rwy 28R (A)

MISSED APPROACH: Climb to 600 then climbing right turn to 3000 via heading 285° and SFO VOR/DME R-280 to OLYMM INT 15 DME and hold.

| ATIS | NORCAL APP CON | SAN FRANCISCO TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 113.7 115.8 118.85 135.45 | 134.5 338.2 | 120.5 269.1 | 121.8 | 118.2 |




| ELEV 13 | TDZE 28L 13 |
|---|---|
| HIRL all Rwys | TDZE 28R 13 |
| TDZ/CL Rwys 19L and 28R | |
| REIL Rwys 1L, 1R and 10L | |




| FAF to MAP 5.4 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:24 | 3:36 | 2:42 | 2:10 | 1:48 |

| 600 | 3000 | SFO | OLYMM |
|---|---|---|---|
| | hdg 285° | R-280 | △ |

* When assigned by ATC, intercept glidepath at ROKME, 4000; or WETOR, 5000; or PONKE, 6000; or DIVEC, 7000.

Procedure Turn NA

Use I-SFO DME when on the LOC course.

GS 3.00° TCH 57

I-SFO 1.9 — I-SFO 3.1 — DUYET INT I-SFO 7.3 — HEMAN INT I-SFO 11.5 — ROKME I-SFO 13.9 — WETOR I-SFO 16.8 — PONKE I-SFO 19.7 — DIVEC I-SFO 22.5

1800 — 3100 — 1800 — 281° — 4000* — 5000* — 6000* — 7000*

VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 75).

1.2 — 4.2 NM — 4.2 NM — 2.4 NM — 2.9 NM — 2.9 NM — 2.8 NM

| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 28L | #213/24 200 (200-½) | | | |
| S-LOC 28L | 460/24 447 (500-½) | | 460/40 447 (500-¾) | 460/50 447 (500-1) |
| SIDESTEP RWY 28R | 460/50 447 (500-1) | | | 460-1½ 447 (500-1½) |
| CIRCLING | 760-1 747 (800-1) | 940-1¼ 927 (1000-1¼) | 1040-3 1027 (1100-3) | 1160-3 1147 (1200-3) |



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SW-2, 05 APR 2012 to 03 MAY 2012

SAN FRANCISCO, CALIFORNIA

AL-375 (FAA)

# ILS PRM RWY 28L (SIMULTANEOUS CLOSE PARALLEL)

SAN FRANCISCO INTL (SFO)

| LOC/DME I-SFO | APP CRS | Rwy ldg | 10602 |
|---|---|---|---|
| 109.55 | 281° | TDZE | 13 |
| Chan 32 (Y) | | Apt Elev | 13 |

Simultaneous close parallel approach authorized with LDA PRM Rwy 28R.
Localizer only not authorized during close-parallel operations.
Dual VHF comm required. Disregard IM and MM indications.
See additional requirements on AAUP.
Runway 28L and 28R separated by 750′ centerline to centerline.

NA

SSALR

MISSED APPROACH: Climb to 600 then climbing right turn to 3000 via heading 285° and SFO VOR/DME R-280 to OLYMM INT/SFO VOR/DME 15 DME and hold.

| ATIS | NORCAL APP CON | SAN FRANCISCO TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 113.7 115.8 | 134.5 338.2 | 120.5 269.1 | 121.8 | 118.2 |
| 118.85 135.45 | | PRM 125.15 | | |

LOCALIZER 109.55 I-SFO Chan 32 (Y)

SAN FRANCISCO 115.8 SFO Chan 105

OAKLAND 116.8 OAK Chan 115

MSA SFO 25 NM: 120° 5100; 230° 4500; 360° 3500

* When assigned by ATC, intercept glidepath at ROKME, 4000; or WETOR, 5000; or PONKE, 6000; or DIVEC, 7000

RADAR AND DME REQUIRED

HEMAN INT I-SFO 11.5

NEPIC I-SFO 5.3

DUYET INT I-SFO 7.3

ROKME I-SFO 13.9

(IF) WETOR I-SFO 16.8

PONKE I-SFO 19.7

DIVEC I-SFO 22.5

SFO R-101

(IAF) FAITH SFO 27.7

MISSED APCH FIX

116.2 SAU Chan 109

OLYMM SFO 15

115.8 SFO Chan 105

WOODSIDE 113.9 OSI Chan 86

SAN JOSE 114.1 SJC Chan 88

ELEV 13 TDZE 13

TWR 199

TDZ/CL Rwys 19L and 28R
REIL Rwys 1L, 1R and 10L
HIRL all Rwys

| 600 | 3000 | SFO | OLYMM |
|---|---|---|---|
| | hdg 285° | R-280 | △ |

Use I-SFO DME when on the LOC course.

GS 3.00° TCH 57

* When assigned by ATC, intercept glidepath at ROKME, 4000; or WETOR, 5000; or PONKE, 6000; or DIVEC, 7000.

Procedure Turn NA

VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 75).

3.4 NM – 2 NM – 4.2 NM – 2.4 NM – 2.9 NM – 2.9 NM – 2.8 NM

| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 28L | 213/24 200 (200-½) | | | |

SW-2, 05 APR 2012 to 03 MAY 2012

SW-2, 05 APR 2012 to 03 MAY 2012



Figure 332

## ATTENTION ALL USERS PAGE (AAUP)

Condensed Briefing Points:

- Listen to the PRM monitor frequency when communicating with NORCAL approach control (135.65), no later than LOC intercept.
- Expect to be switched to SFO Tower (120.5) at NEPIC (I-SFO 5.3 DME).
- PRM monitor frequency may be de-selected after determining that the aircraft is on the tower frequency.

1. **ATIS.** When the ATIS broadcast advises that simultaneous ILS/PRM and LDA/PRM approaches are in progress, pilots should brief to fly the ILS/PRM 28L approach. If later advised to expect an ILS 28L approach, the ILS/PRM 28L chart may be used after completing the following briefing items:

   (a) Minimums and missed approach procedures are unchanged.
   (b) Monitor frequency no longer required.
   (c) A different glideslope intercept altitude may be assigned when advised to expect the ILS 28L approach.

Simultaneous parallel approaches will only be offered/conducted when the weather is at least 2100 feet (ceiling) and 4 miles (visibility).

2. **Dual VHF Communication required.** To avoid blocked transmissions, each runway will have two frequencies, a primary and a PRM monitor frequency. The NORCAL approach controller will transmit on both frequencies. The PRM Monitor controller's transmissions, if needed, will override both frequencies. Pilots will ONLY transmit on the approach controller's frequency (135.65), but will listen to both frequencies. Select the PRM monitor frequency audio only when in contact with NORCAL approach control (135.65). The volume levels should be set about the same on both radios so that the pilots will be able to hear transmissions on at least one frequency if the other is blocked. The PRM monitor frequency may be de-selected passing NEPIC.

3. **ALL "Breakouts"** are to be hand flown to assure that the maneuver is accomplished in the shortest amount of time. Pilots, when directed by ATC to break off an approach, must assume that an aircraft is blundering toward their course and a breakout must be initiated immediately.

   (a) ATC Directed "Breakouts:" ATC directed breakouts will consist of a turn and a climb or descent. Pilots must always initiate the breakout in response to an air traffic controller instruction. Controllers will give a descending breakout only when there are no other reasonable options available, but in no case will the descent be below minimum vectoring altitude (MVA) which provides at least 1000 feet required obstruction clearance. The MVA in the final approach segment is 1600 feet at San Francisco International Airport.

   (b) Phraseology - "TRAFFIC ALERT:" If an aircraft enters the "NO TRANSGRESSION ZONE" (NTZ), the controller will breakout the threatened aircraft on the adjacent approach. The phraseology for the breakout will be:

      "TRAFFIC ALERT, (aircraft call sign) TURN (left/right) IMMEDIATELY, HEADING (degrees), CLIMB/DESCEND AND MAINTAIN (altitude)".

4. Descending on (not above) the ILS glideslope ensures complying with any charted crossing restrictions and assists traffic on the LDA PRM 28R approach to mitigate possible wake turbulence encounters without destabilizing the LDA approach and creating a go-around.

5. **LDA Traffic:** While conducting this ILS/PRM approach to Runway 28L, other aircraft may be conducting the offset LDA/PRM approach to Runway 28R. These aircraft will approach from the right-rear and will re-align with 28R after making visual contact with the ILS traffic.

Special pilot training required. Pilots who are unable to participate will be afforded appropriate arrival services as operational conditions permit and must notify the controlling ARTCC as soon as practical, but at least 100 miles from destination.



Figure 333

# LDA/DME RWY 28R
## SAN FRANCISCO INTL (SFO)

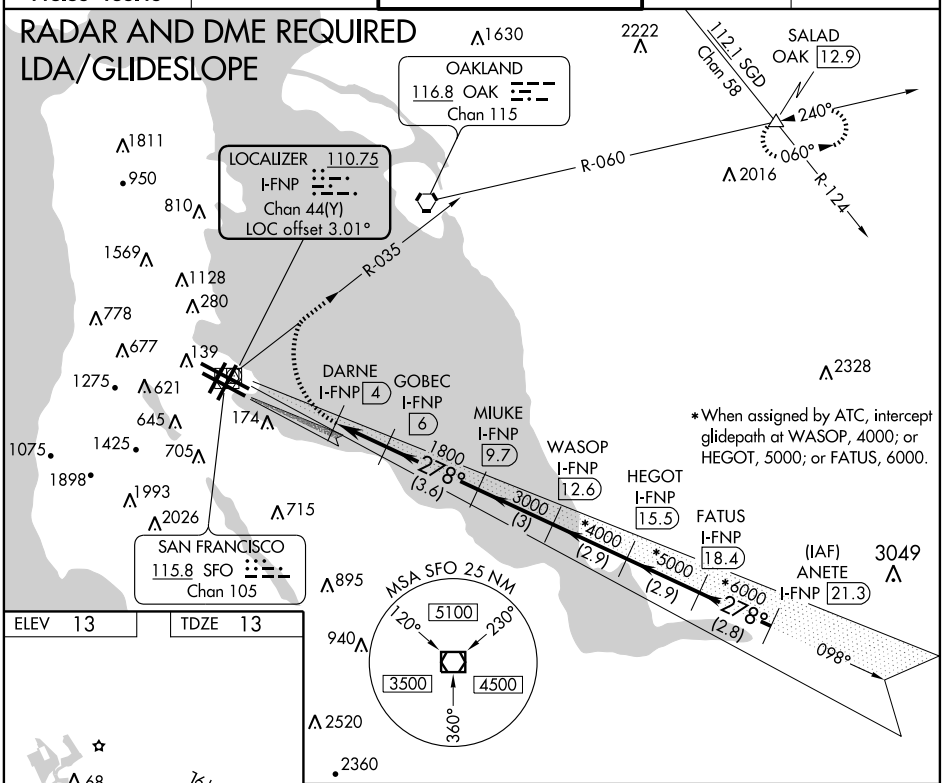
| LOC/DME I-FNP | APP CRS | Rwy ldg | 11870 |
|---|---|---|---|
| 110.75 | 278° | TDZE | 13 |
| Chan 44(Y) | | Apt Elev | 13 |

Runway 28L and 28R separated by 750 feet centerline to centerline.
Procedure NA when glideslope is not available.
Localizer course 1199′ right of Rwy 28R threshold.
Inoperative table does not apply.

ALSF-2

MISSED APPROACH: Climbing right turn to 6000 via heading 030° and SFO VOR/DME R-035 and OAK VORTAC R-060 to SALAD INT and hold, continue climb in hold to 6000.

| ATIS | NORCAL APP CON | SAN FRANCISCO TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 113.7 115.8<br>118.85 135.45 | 134.5 338.2 | 120.5 269.1 | 121.8 | 118.2 |

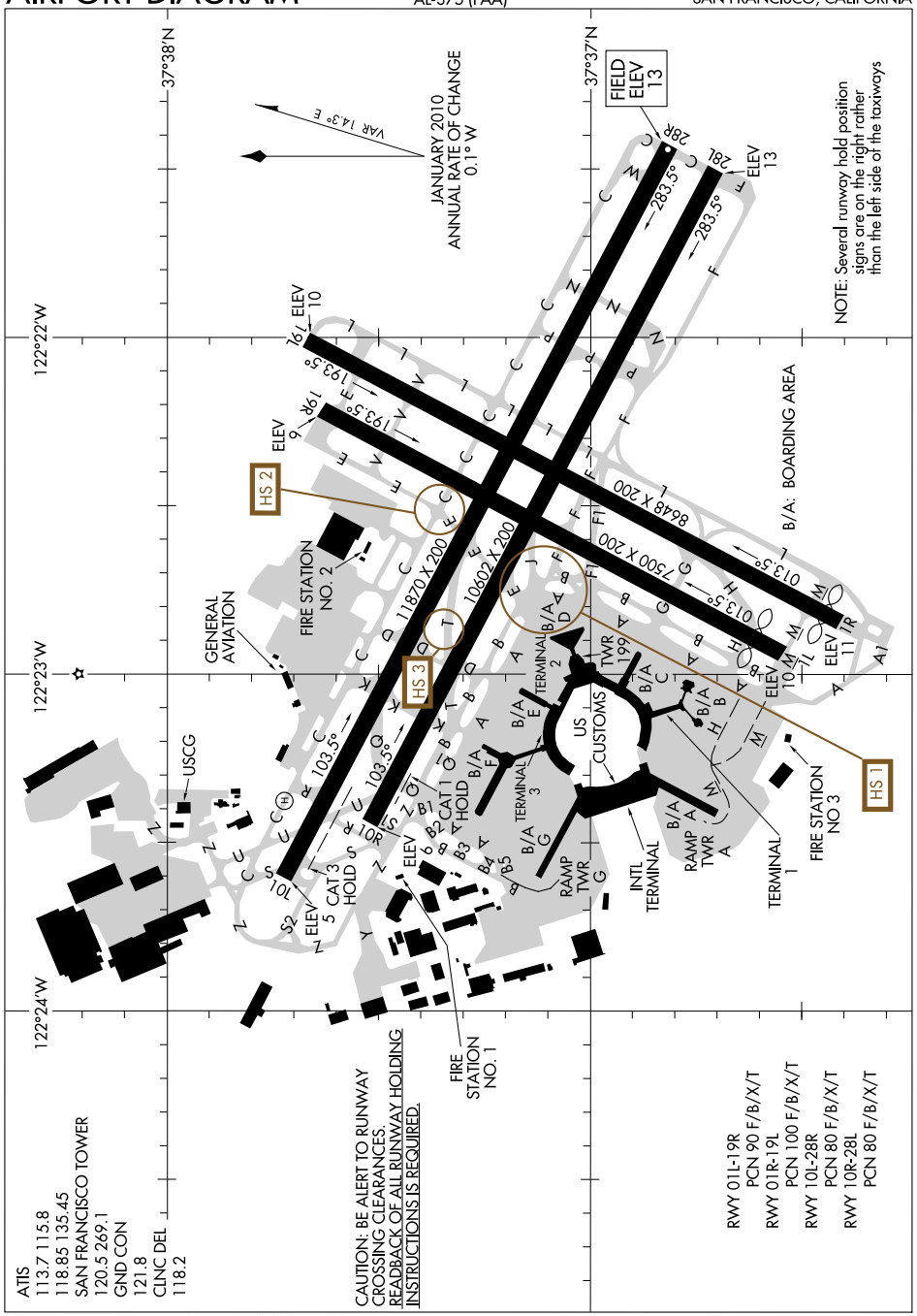



SW-2, 05 APR 2012 to 03 MAY 2012

SW-2, 05 APR 2012 to 03 MAY 2012



Figure 334







SW-2, 05 APR 2012 to 03 MAY 2012

Figure 335

| LOC I-OAK | APP CRS | Rwy ldg | 27R | 27L |
|---|---|---|---|---|
| 109.9 | 276° | | 5454 | 6213 |
| | | TDZE | 7 | 9 |
| | | Apt Elev | 9 | 9 |

# ILS or LOC/DME RWY 27R

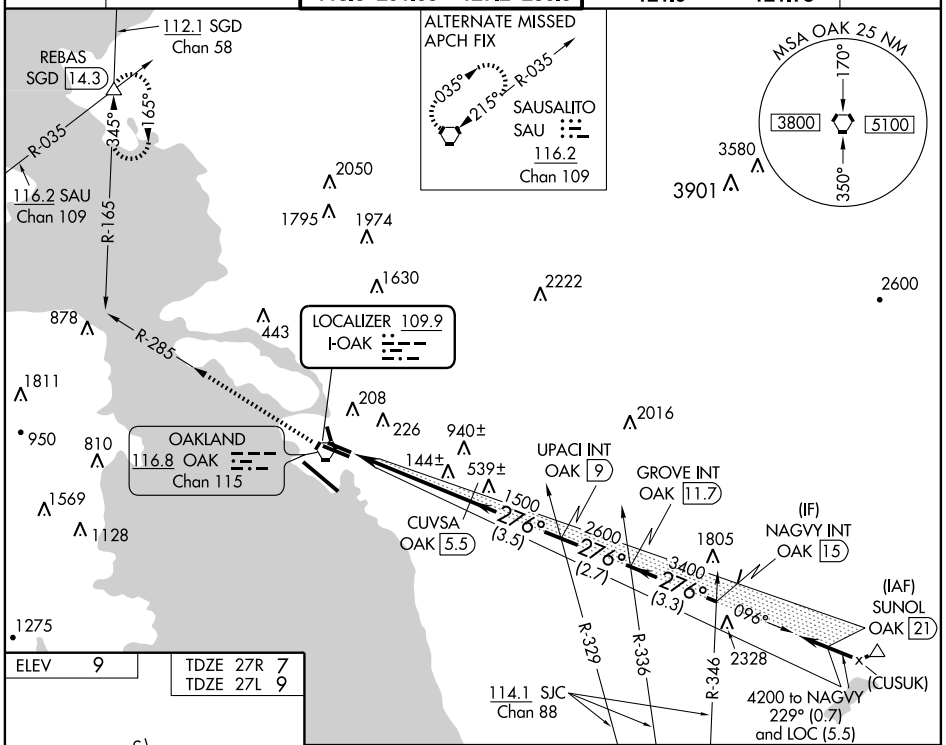
## OAKLAND/METROPOLITAN OAKLAND INTL (OAK)

*RVR 1800 authorized with the use of FD or AP or HUD to DA.

MALSR Rwy 27R (A5)

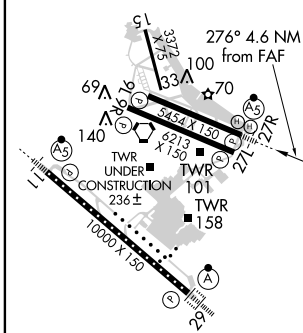
MISSED APPROACH: Climb to 3000 via OAK R-285 to intercept SGD R-165 to REBAS INT/SGD 14.3 and hold.

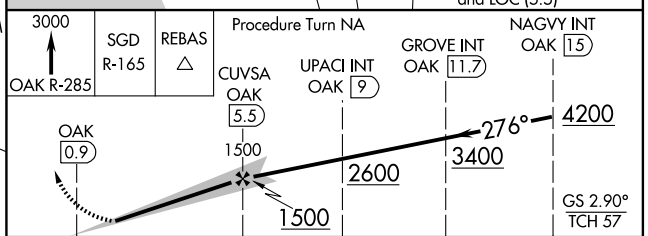
| ATIS | NORCAL APP CON | | | OAKLAND TOWER (Rwys 9-27, 15-33) | OAKLAND TOWER (Rwy 11-29) | GND CON (Rwys 9-27, 15-33) | GND CON (Rwy 11-29) | CLNC DEL |
|---|---|---|---|---|---|---|---|---|
| 133.775 | 125.35 | 310.8 | 354.1 | 118.3 291.65 | 127.2 256.9 | 121.9 | 121.75 | 121.1 |




| ELEV | 9 |
|---|---|

| TDZE 27R | 7 |
|---|---|
| TDZE 27L | 9 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 27R | *207/24 200 (200-½) | | | |
| S-LOC 27R | 400/24 393 (400-½) | | | 400/40 393 (400-¾) |
| SIDESTEP RWY 27L | 420/50 411 (500-1) | | 420-1½ 411 (500-1½) | 420-2 411 (500-2) |
| CIRCLING | 520-1 511 (600-1) | 540-1 531 (600-1) | 540-1½ 531 (600-1½) | 560-2 551 (600-2) |

TDZ/CL Rwy 29
MIRL Rwy 15-33
REIL Rwy 9R
HIRL Rwys 11-29, 9L-27R, and 9R-27L

SW-2, 05 APR 2012 to 03 MAY 2012

SW-2, 05 APR 2012 to 03 MAY 2012



Figure 336

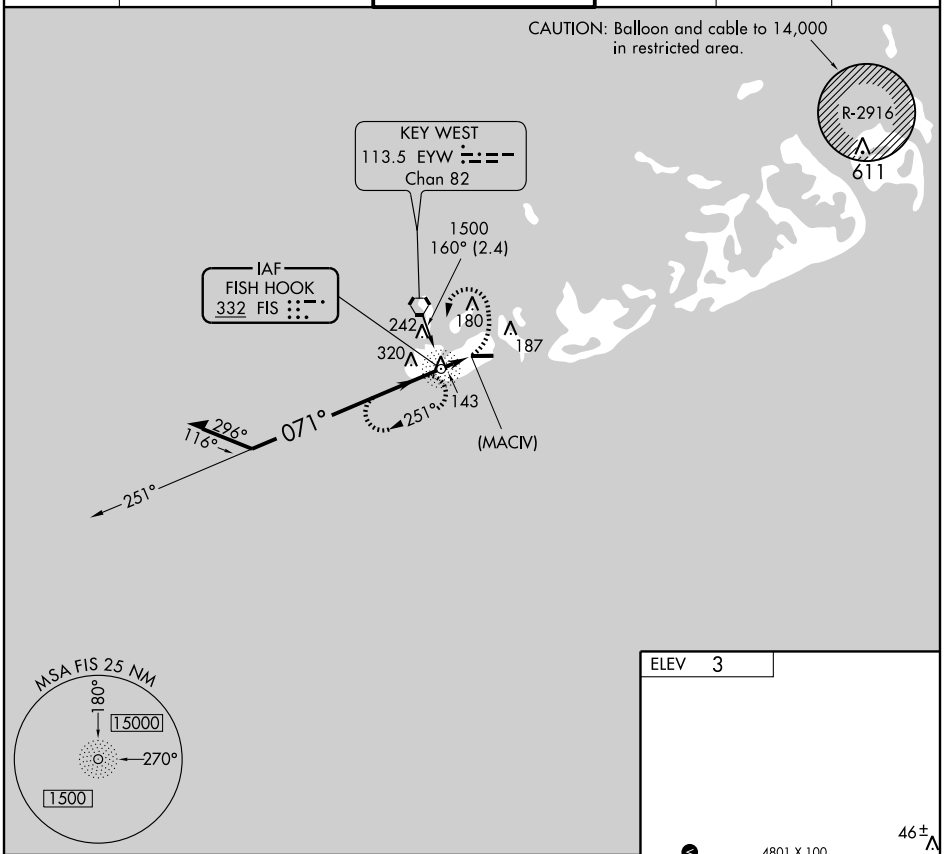
| NDB FIS | APP CRS | Rwy ldg | N/A |
|---|---|---|---|
| 332 | 071° | TDZE | N/A |
| | | Apt Elev | 3 |

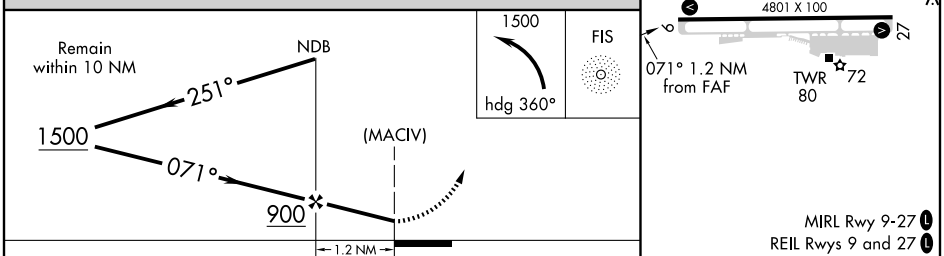
# NDB or GPS-A
## KEY WEST INTL (EYW)

ASR

MISSED APPROACH: Climbing left turn to 1500 via heading 360°, then left turn direct FIS NDB and hold.

| ATIS | NAVY KEY WEST APP CON ★ | KEY WEST TOWER ★ | GND CON | CLNC DEL | UNICOM |
|---|---|---|---|---|---|
| 119.675 | 124.025 313.7 | 118.2 (CTAF) L 257.8 | 121.9 | 121.9 | 122.95 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| CIRCLING | 500-1 497 (500-1) | | 500-1½ 497 (500-1½) | 620-2 617 (700-2) |

| FAF to MAP 1.2 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 1:12 | 0:48 | 0:36 | 0:29 | 0:24 |



Figure 337


SE-3, 05 APR 2012 to 03 MAY 2012

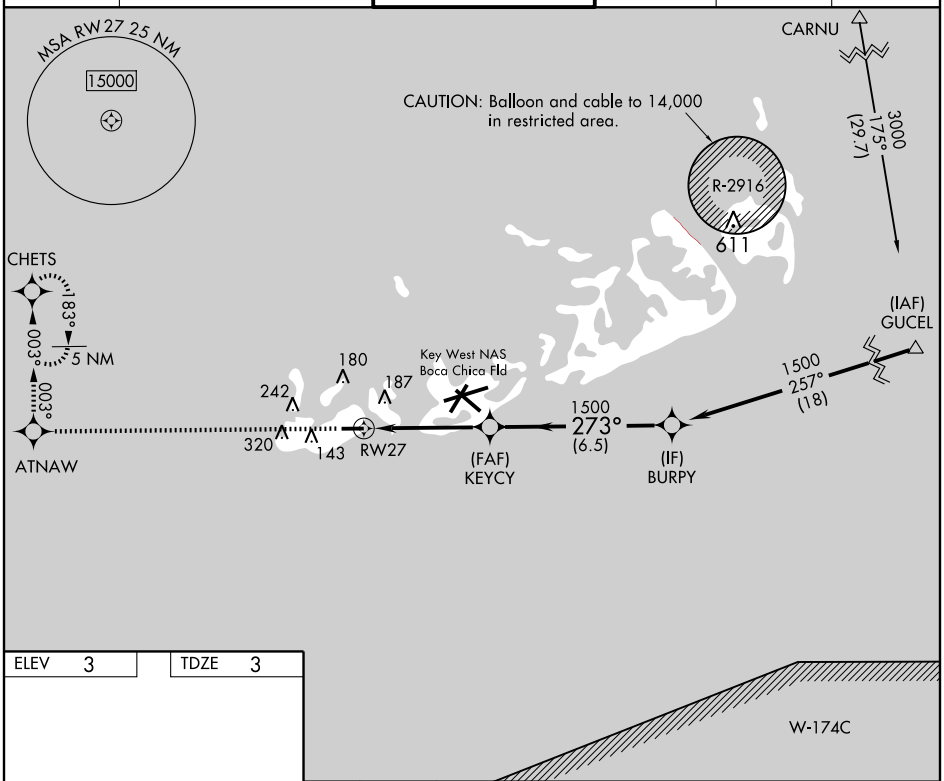
| WAAS CH 82100 W27A | APP CRS 273° | Rwy ldg 4801<br>TDZE 3<br>Apt Elev 3 |
|---|---|---|

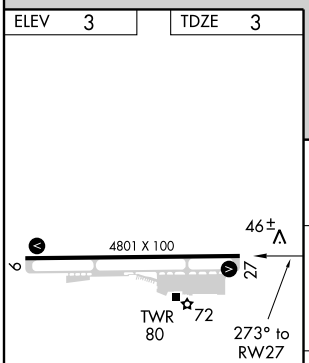
# RNAV (GPS) RWY 27
## KEY WEST INTL (EYW)

T W A ASR — DME/DME RNP-0.3 NA. If local altimeter setting not received, use Key West NAS/Boca Chica Fld altimeter setting.

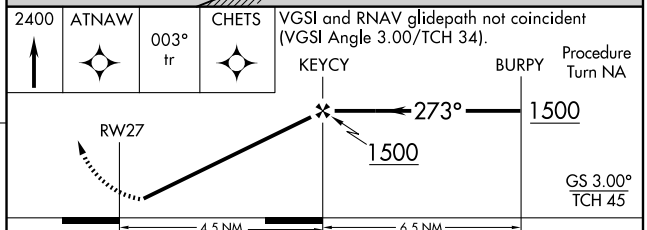
MISSED APPROACH: Climb to 2400 direct ATNAW and via 003° track to CHETS and hold.

| ATIS | NAVY KEY WEST APP CON ★ | KEY WEST TOWER ★ | GND CON | CLNC DEL | UNICOM |
|---|---|---|---|---|---|
| 119.675 | 124.025 313.7 | 118.2 (CTAF) L 257.8 | 121.9 | 121.9 | 122.95 |




MIRL Rwy 9-27 L
REIL Rwys 9 and 27 L




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| LPV DA | 253-1 250 (300-1) | | | |
| LNAV MDA | 420-1 417 (500-1) | | 420-1¼ 417 (500-1¼) | |
| CIRCLING | 500-1 497 (500-1) | | 500-1½ 497 (500-1½) | 620-2 617 (700-2) |



Figure 338

SE-3, 05 APR 2012 to 03 MAY 2012
SE-3, 05 APR 2012 to 03 MAY 2012

# ILS or LOC RWY 8

SAN JUAN/LUIS MUNOZ MARIN INTL (SJU)(TJSJ)

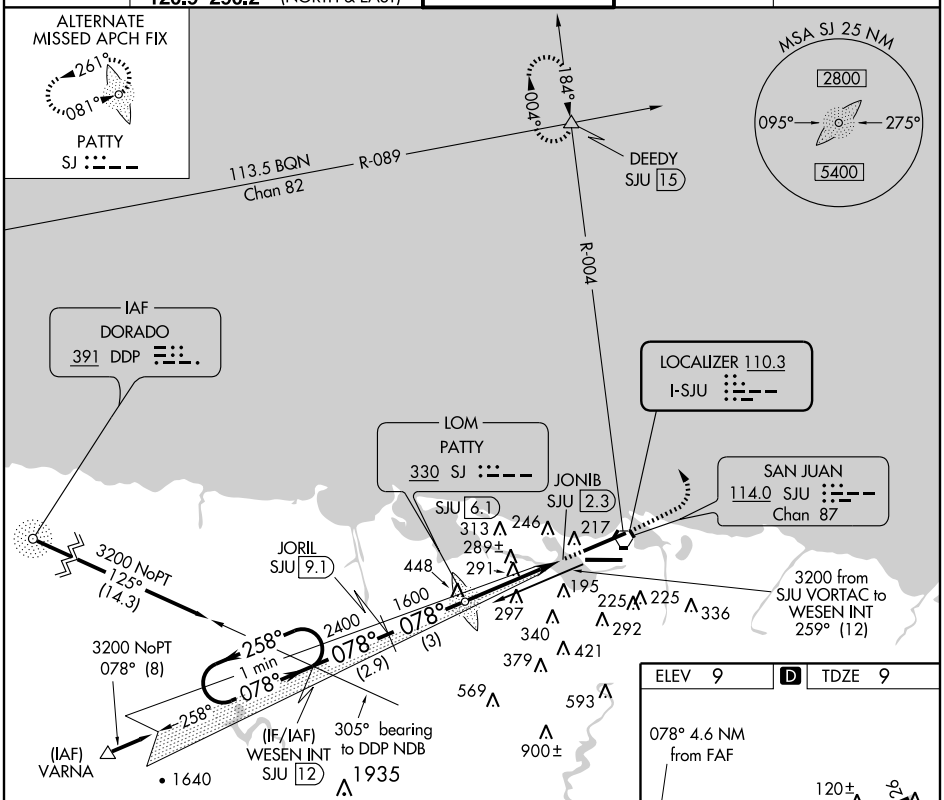
| LOC I-SJU | APP CRS | Rwy ldg | 9783 |
|---|---|---|---|
| 110.3 | 078° | TDZE | 9 |
| | | Apt Elev | 9 |

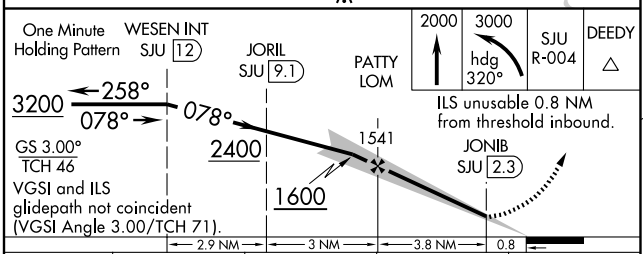
For inoperative MALSR, increase S-ILS 8 all Cats visibility to 1 mile. DME Required.

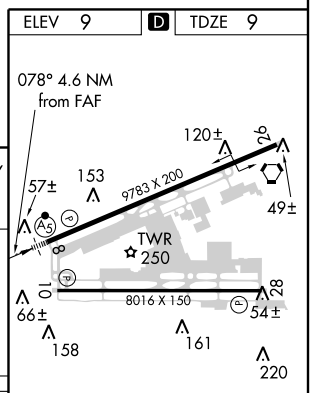
MALSR

MISSED APPROACH: Climb to 2000 then climbing left turn to 3000 on heading 320° and SJU VORTAC R-004 to DEEDY Int/SJU 15 DME and hold.

| ATIS | SAN JUAN APP CON | | SAN JUAN TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|---|
| 125.8 | 119.4 269.2 | (WEST & SW) | 132.05 257.8 | 121.9 348.6 | 126.4 284.6 |
| | 120.9 290.2 | (NORTH & EAST) | | | |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S- ILS-8 | 311-½ 302 (400-½) | | | |
| S- LOC-8 | 560-½ 551 (600-½) | | 560-1 551 (600-1) | 560-1¼ 551 (600-1¼) |
| CIRCLING | 600-1 591 (600-1) | | 600-1½ 591 (600-1½) | 600-2 591 (600-2) |

| FAF to MAP 3.8 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 3:48 | 2:32 | 1:54 | 1:31 | 1:16 |



Figure 339


SE-3, 05 APR 2012 to 03 MAY 2012

| LOC/DME I-TMN | APP CRS | Rwy ldg | 7000 |
|---|---|---|---|
| 110.1 | 100° | TDZE | 23 |
| Chan 38 | | Apt Elev | 23 |

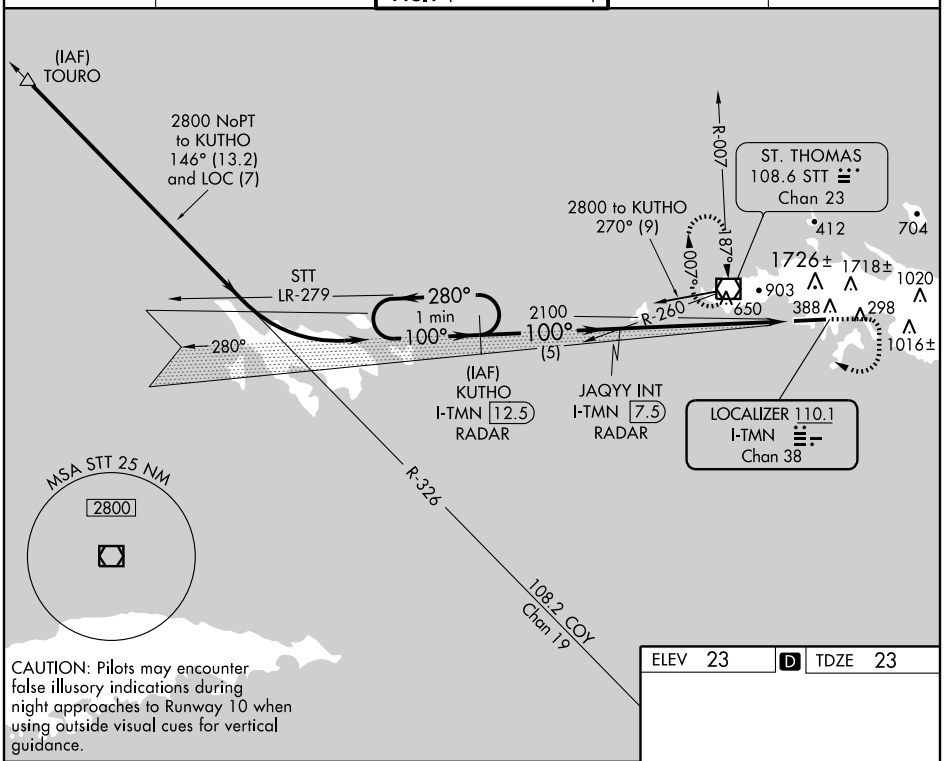
# ILS RWY 10

## CHARLOTTE AMALIE/ CYRIL E KING (STT)(TIST)

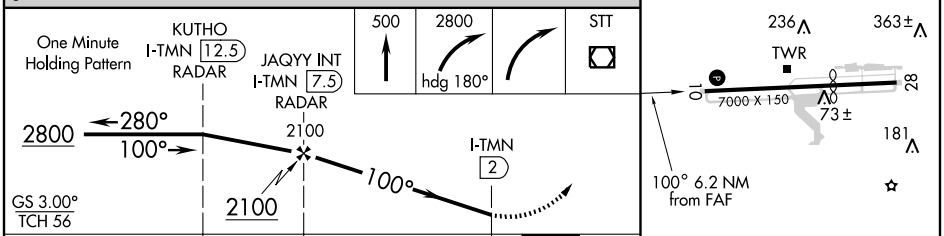
Procedure not authorized when control tower closed.
Circling not authorized north of Runway 10-28.
Circling not authorized at night.

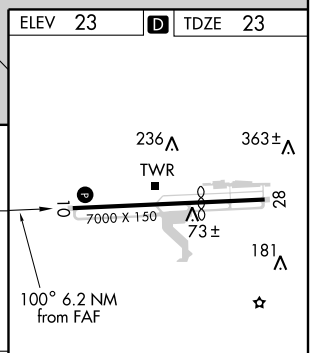
MISSED APPROACH: Climb to 500 then climbing right turn to 2800 via heading 180° then right turn direct STT VOR/DME and hold.

| ATIS | SAN JUAN CENTER | ST. THOMAS TOWER ★ | GND CON | UNICOM |
|---|---|---|---|---|
| 124.0 | 128.65 279.6 | 118.8 (CTAF) L 257.6<br>118.1 (NORTH OF ISLAND) | 121.9 | 122.95 |




CAUTION: Pilots may encounter false illusory indications during night approaches to Runway 10 when using outside visual cues for vertical guidance.




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 10 | 372-1¼ 349 (400-1¼) | | | |
| S-LOC 10 | 620-1 597 (600-1) | | 620-1½<br>597 (600-1½) | 620-1¾<br>597 (600-1¾) |
| CIRCLING | 660-1¼ 637 (700-1¼) | | 660-1¾<br>637 (700-1¾) | 660-2<br>637 (700-2) |

REIL Rwy 10
MIRL Rwy 10-28 L

| FAF to MAP 5.5 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:30 | 3:40 | 2:45 | 2:12 | 1:50 |

SE-3, 05 APR 2012 to 03 MAY 2012

SE-3, 05 APR 2012 to 03 MAY 2012



Figure 340

| VOR/DME SGJ | APP CRS | Rwy ldg 6144 |
|---|---|---|
| 109.4 | 128° | TDZE 10 |
| Chan 31 | | Apt Elev 10 |

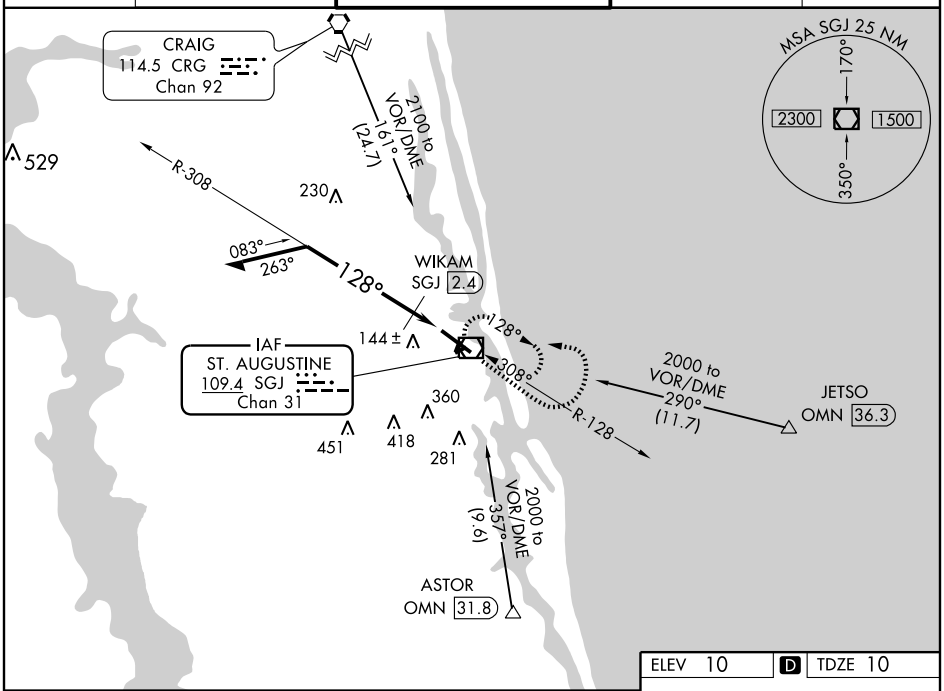
# VOR RWY 13

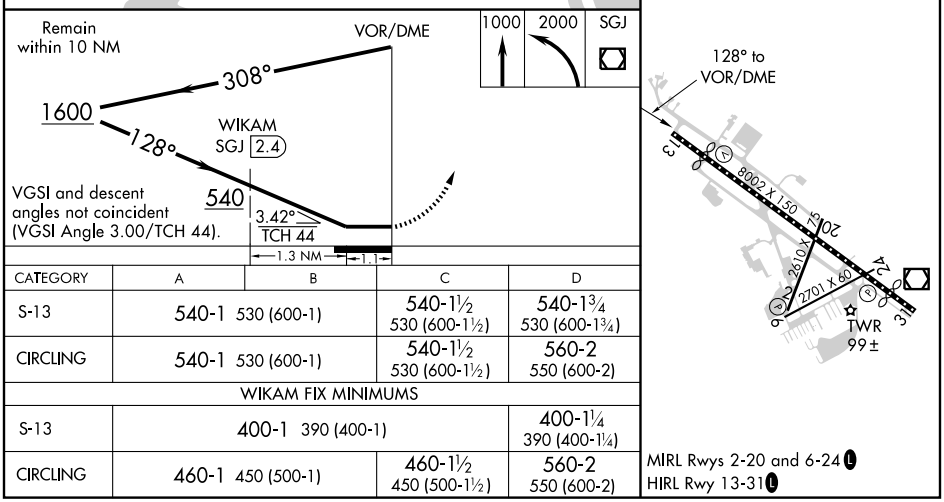
## ST. AUGUSTINE / NORTHEAST FLORIDA RGNL (SGJ)

Circling NA at night to Rwy 2,6,20,24.
Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 1000 then climbing left turn to 2000 direct SGJ VOR/DME and hold.

| ATIS | JACKSONVILLE APP CON | ST AUGUSTINE TOWER ★ | GND CON | UNICOM |
|---|---|---|---|---|
| 119.625 | 120.75 308.4 | 127.625 (CTAF) L 269.475 | 121.175 251.125 | 122.95 |




VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 44).

| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-13 | 540-1 530 (600-1) | | 540-1½ 530 (600-1½) | 540-1¾ 530 (600-1¾) |
| CIRCLING | 540-1 530 (600-1) | | 540-1½ 530 (600-1½) | 560-2 550 (600-2) |
| WIKAM FIX MINIMUMS | | | | |
| S-13 | 400-1 390 (400-1) | | | 400-1¼ 390 (400-1¼) |
| CIRCLING | 460-1 450 (500-1) | | 460-1½ 450 (500-1½) | 560-2 550 (600-2) |



Figure 341


SE-3, 05 APR 2012 to 03 MAY 2012

| WAAS CH 77711 W13A | APP CRS 130° | Rwy ldg 6144<br>TDZE 10<br>Apt Elev 10 |
|---|---|---|

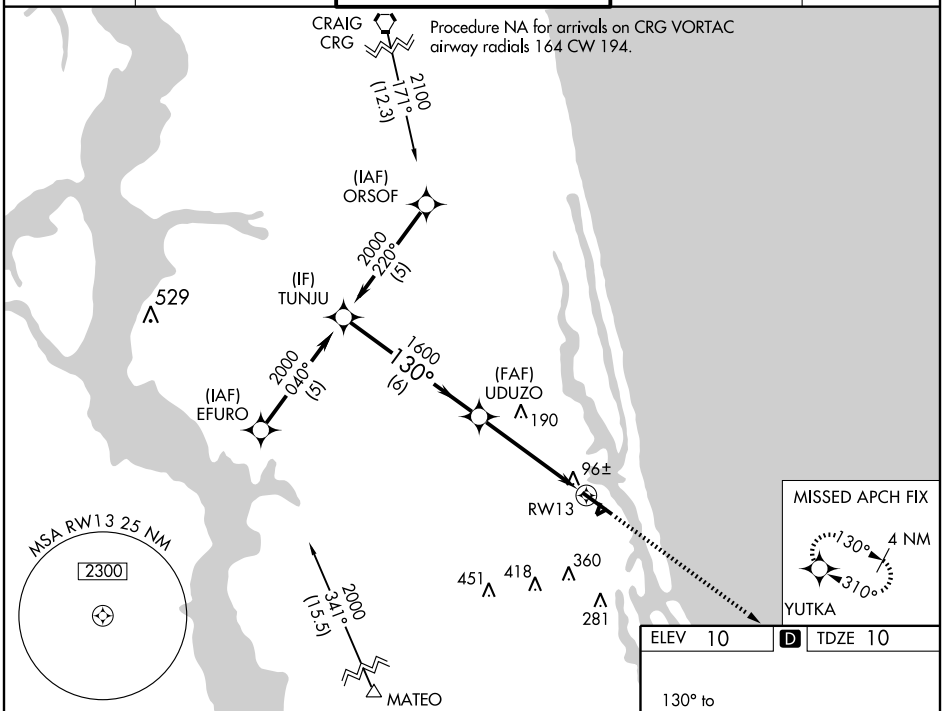
# RNAV (GPS) RWY 13

## ST. AUGUSTINE / NORTHEAST FLORIDA RGNL (SGJ)

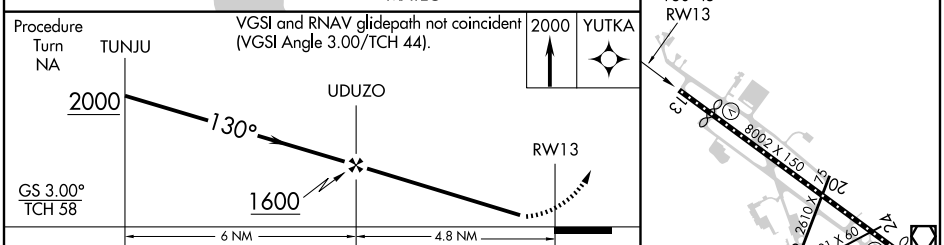
Baro-VNAV NA when using Jacksonville NAS/Towers Field altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 48°C (118°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Jacksonville NAS/Towers Field altimeter setting and increase all DA 57 feet and all MDA 60 feet, increase LPV and LNAV/VNAV all Cats. visibility ¼ mile.

MISSED APPROACH: Climb to 2000 direct YUTKA and hold.

| ATIS | JACKSONVILLE APP CON | ST AUGUSTINE TOWER ★ | GND CON | UNICOM |
|---|---|---|---|---|
| 119.625 | 120.75 308.4 | 127.625 (CTAF) L 269.475 | 121.175 251.125 | 122.95 |




ELEV 10 D TDZE 10



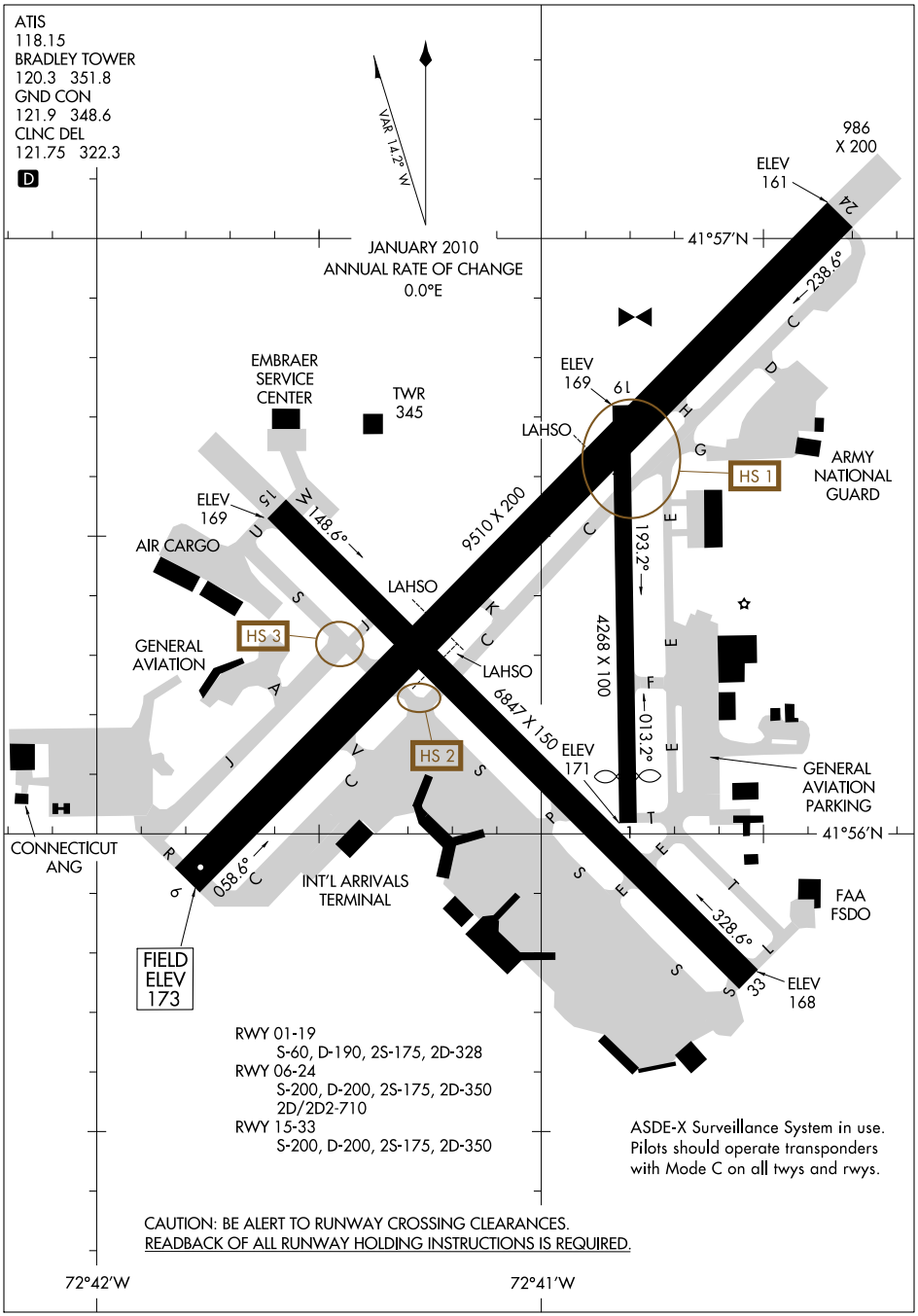

| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| LPV DA | 357-1¼ 347 (400-1¼) | | | |
| LNAV/VNAV DA | 391-1¼ 381 (400-1¼) | | | |
| LNAV MDA | 440-1 430 (500-1) | | 440-1¼ 430 (500-1¼) | 440-1½ 430 (500-1½) |
| CIRCLING | 460-1 450 (500-1) | | 460-1½ 450 (500-1½) | 580-2 570 (600-2) |

MIRL Rwys 2-20 and 6-24 L
HIRL Rwy 13-31 L



Figure 342


SE-3, 05 APR 2012 to 03 MAY 2012






NE-1, 05 APR 2012 to 03 MAY 2012
NE-1, 05 APR 2012 to 03 MAY 2012

Figure 343

| LOC/DME I-BDL | APP CRS | Rwy ldg | 9509 |
|---|---|---|---|
| 111.1 | 058° | THRE | 173 |
| Chan 48 | | Apt Elev | 173 |

# COPTER ILS or LOC RWY 6

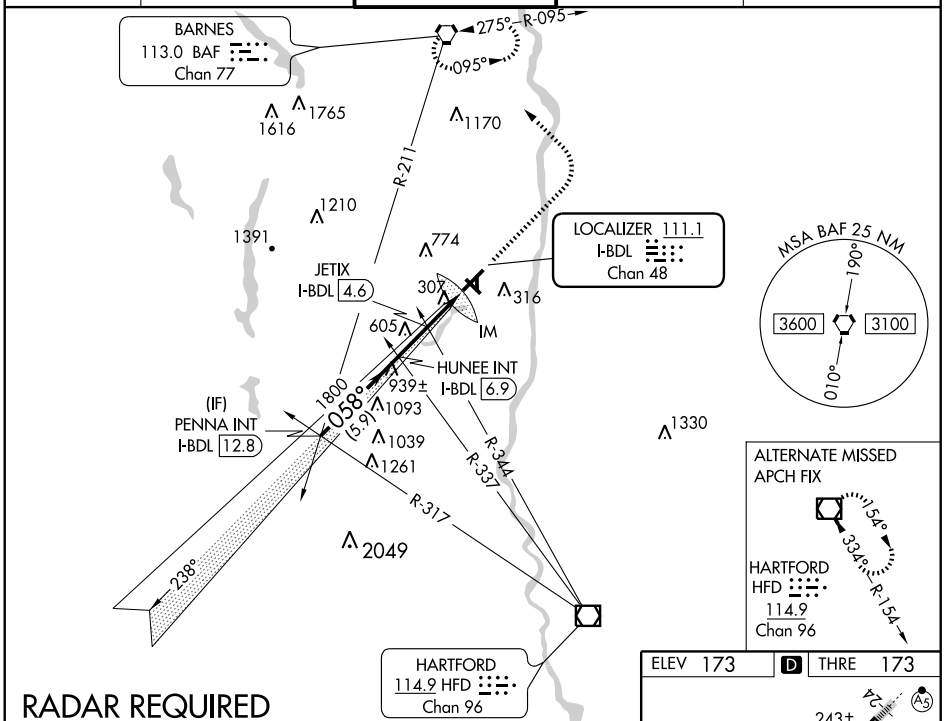
## WINDSOR LOCKS / BRADLEY INTL (BDL)

For inoperative ALSF-2, increase H-ILS 6 visibility to RVR 2400 and H-LOC 6 visibility to RVR 4000.

ALSF-2

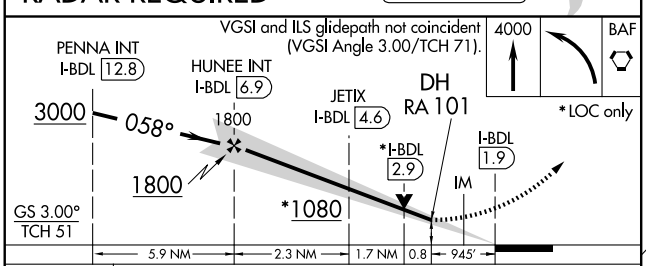
MISSED APPROACH: Climb to 4000 then left turn direct BAF VORTAC and hold.

| ATIS | BRADLEY APP CON | BRADLEY TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 118.15 | 127.225 323.2 | 120.3 351.8 | 121.9 348.6 | 121.75 322.3 |




RADAR REQUIRED

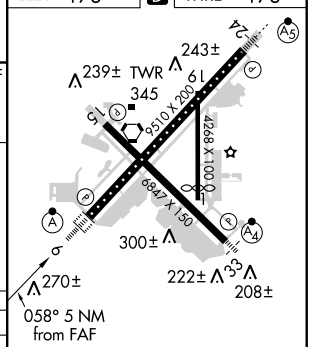
VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 71).




| CATEGORY | COPTER |
|---|---|
| H-ILS 6 | 273/12 100 (100-¼) |
| H-LOC 6 | 1080/24 907 (1000-½) |
| JETIX FIX MINIMUMS | |
| H-LOC 6 | 560/24 387 (400-½) |

COPTER ILS CATEGORY II - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

ELEV 173 D THRE 173




TDZ/CL Rwy 6 and 24
HIRL Rwys 6-24 and 15-33
MIRL Rwy 1-19
REIL Rwy 15

| FAF to MAP 5 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:00 | 3:20 | 2:30 | 2:00 | 1:40 |



Figure 344


NE-1, 05 APR 2012 to 03 MAY 2012

| LOC/DME I-BDL | APP CRS | Rwy ldg | 9509 |
|---|---|---|---|
| 111.1 | 058° | THRE | 173 |
| Chan 48 | | Apt Elev | 173 |

# ILS or LOC RWY 6

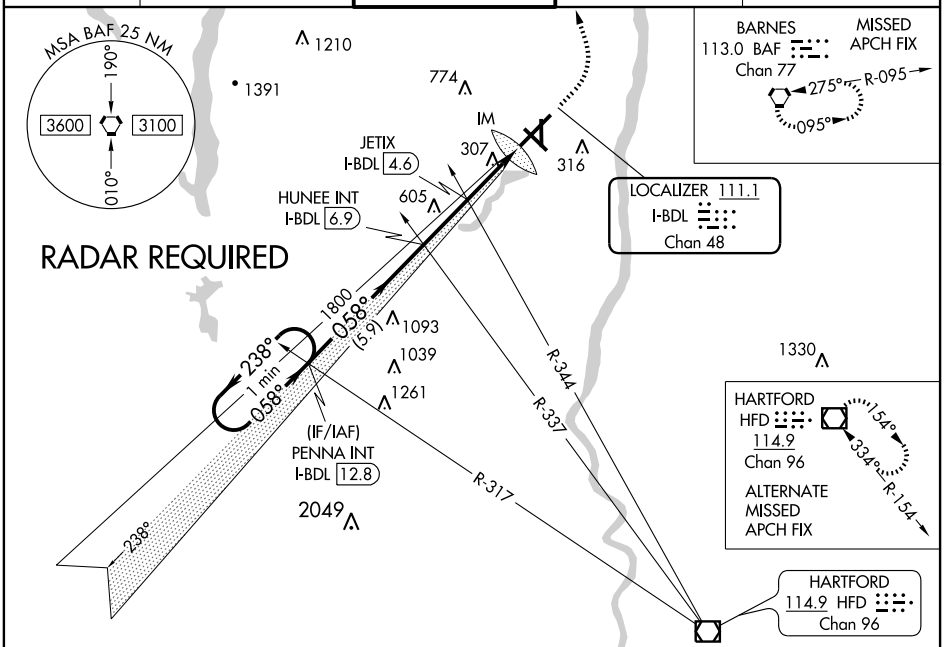
## WINDSOR LOCKS / BRADLEY INTL (BDL)

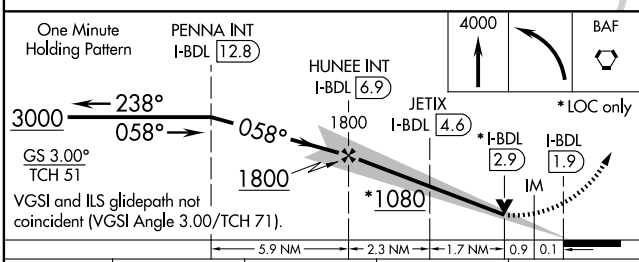
For inoperative ALSF-2, increase S-ILS 6 all Cats visibility to RVR 4000. JETIX Fix Minimums: For inoperative ALSF-2, increase S-LOC 6 Cat C, D visibility to RVR 6000.

ALSF-2

MISSED APPROACH: Climb to 4000 then left turn direct BAF VORTAC and hold.

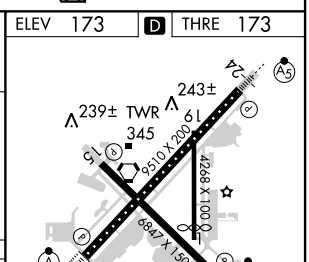
| ATIS | BRADLEY APP CON | BRADLEY TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 118.15 | 127.225 323.2 | 120.3 351.8 | 121.9 348.6 | 121.75 322.3 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 6 | 373/18 200 (200-½) | | | |
| S-LOC 6 | 1080/40 907 (1000-¾) | | 1080-2 907 (1000-2) | |
| CIRCLING | 1080-1¼ 907 (1000-1¼) | | 1080-2¾ 907 (1000-2¾) | 1080-3 907 (1000-3) |
| JETIX FIX MINIMUMS | | | | |
| S-LOC 6 | 560/24 387 (400-½) | | 560/35 387 (400-¾) | |
| CIRCLING | 680-1 507 (600-1) | | 680-1½ 507 (600-1½) | 940-2½ 767 (800-2½) |

ELEV 173 D THRE 173




TDZ/CL Rwy 6 and 24
HIRL Rwys 6-24 and 15-33
MIRL Rwy 1-19
REIL Rwy 15

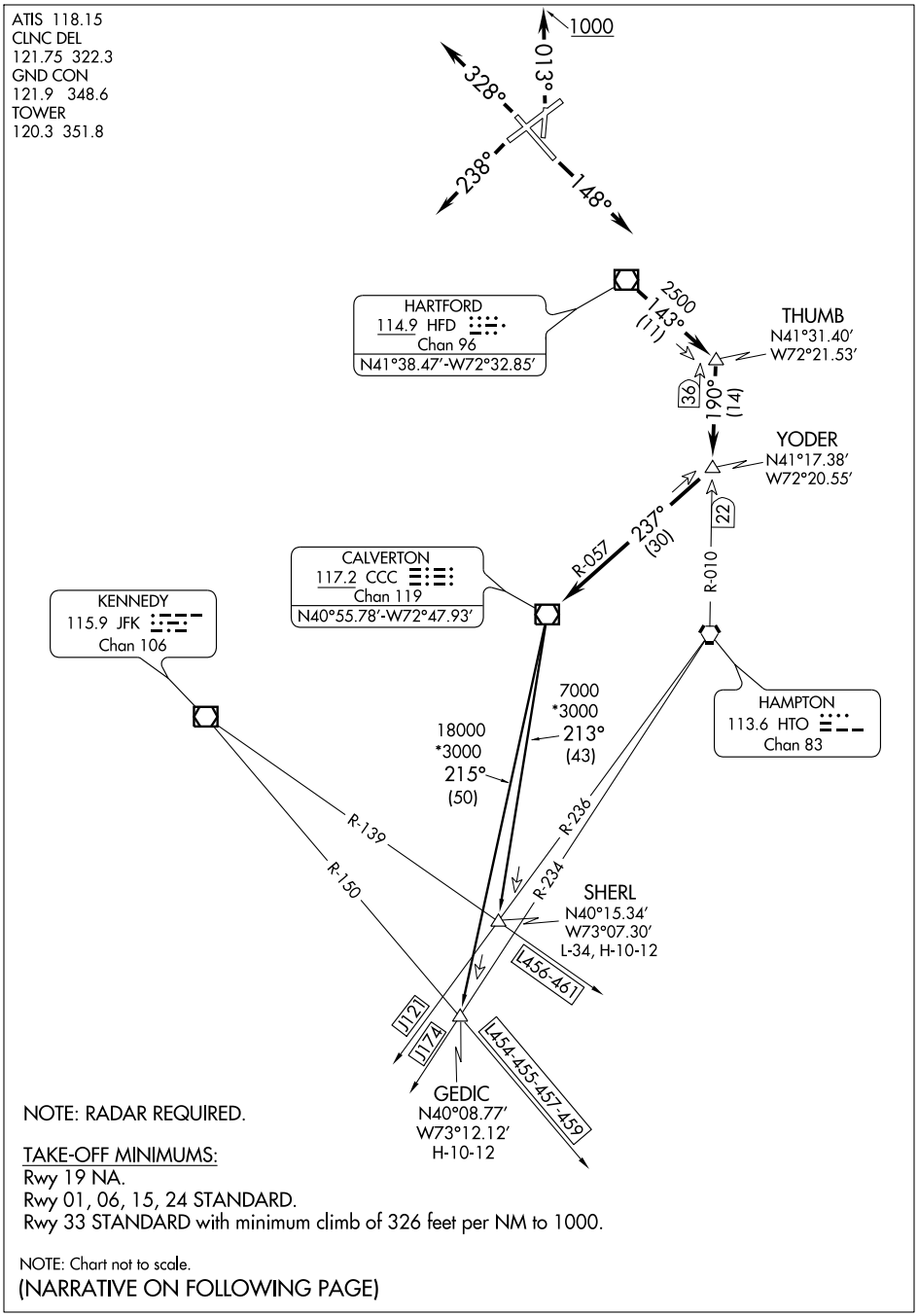
| FAF to MAP 5 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 5:00 | 3:20 | 2:30 | 2:00 | 1:40 |



Figure 345


NE-1, 05 APR 2012 to 03 MAY 2012

# COASTAL THREE DEPARTURE




NOTE: RADAR REQUIRED.

TAKE-OFF MINIMUMS:
Rwy 19 NA.
Rwy 01, 06, 15, 24 STANDARD.
Rwy 33 STANDARD with minimum climb of 326 feet per NM to 1000.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)


NE-1, 05 APR 2012 to 03 MAY 2012

COASTAL THREE DEPARTURE
(CSTL3.CCC) 11237
WINDSOR LOCKS, CONNECTICUT
WINDSOR LOCKS/ BRADLEY INTL (BDL)

Figure 346

## DEPARTURE ROUTE DESCRIPTION

NOTE: INITIAL DEPARTURE HEADINGS ARE PREDICATED ON AVOIDING NOISE SENSITIVE AREAS. FLIGHT CREW AWARENESS AND COMPLIANCE IS IMPORTANT IN MINIMIZING NOISE IMPACTS ON SURROUNDING COMMUNITIES.

NOTE: APPROPRIATE DEPARTURE CONTROL FREQUENCY TO BE ASSIGNED BY ATC.

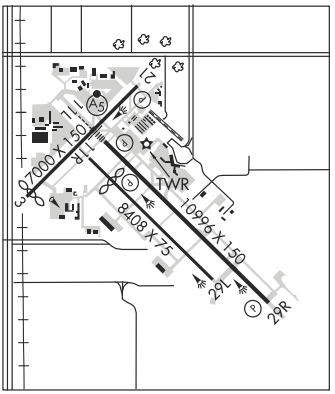
TAKE-OFF RWY 1: Climb heading 013° to 1000 or as assigned for radar vectors to HFD VOR/DME, thence . . .
TAKE-OFF RWY 6: Fly assigned heading for radar vectors to HFD VOR/DME, thence . . .
TAKE-OFF RWY 15: Climb heading 148° or as assigned for radar vectors to HFD VOR/DME, thence . . .
TAKE-OFF RWY 24: Climb heading 238° or as assigned for radar vectors to HFD VOR/DME, thence . . .
TAKE-OFF RWY 33: Climb heading 328° or as assigned for radar vectors to HFD VOR/DME, thence . . .
. . . . From over HFD VOR/DME proceed via HFD R-143 to THUMB INT, then proceed via HTO R-010 to YODER INT, then proceed via CCC R-057 to CCC VOR/DME. Then via (transition) or (assigned route). Maintain 4000 or assigned altitude. Expect clearance to requested flight level ten minutes after departure.

GEDIC TRANSITION (CSTL3.GEDIC): From over CCC VOR/DME via CCC R-215 to GEDIC.
SHERL TRANSITION (CSTL3.SHERL): From over CCC VOR/DME via CCC R-213 to SHERL.

TAKE-OFF OBSTACLE NOTES:
Rwy 1: Vehicle on road 342′ from DER, 564′ left of centerline, 15′ AGL/184′ MSL. Trees beginning 441′ from DER, 493′ left of centerline, up to 100′ AGL/269′ MSL. Trees beginning 1884′ from DER, 45′ right of centerline, up to 100′ AGL/299′ MSL.
Rwy 6: Trees beginning 21′ from DER, 464′ left of centerline, up to 100′ AGL/249′ MSL. Trees beginning 1956′ from DER, 921′ right of centerline, up to 100′ AGL/239′ MSL.
Rwy 15: Vehicle on roadway 531′ from DER, 606′ left of centerline, up to 15′ AGL/186′ MSL. Trees beginning 2341′ from DER, 767′ left of centerline, up to 100′ AGL/244′ MSL. Vehicle on roadway 429′ from DER, 572′ right of centerline, up to 15′ AGL/186′ MSL. Tree 1520′ from DER, 786′ right of centerline, up to 100′ AGL/259′ MSL.
Rwy 24: Trees beginning 3066′ from DER, 599′ left of centerline, up to 100′ AGL/269′ MSL. OL on fence 1239′ DER, 784′ left of centerline, up to 45′ AGL/215′ MSL. Trees beginning 2345′ from DER, 489′ right of centerline, up to 100′ AGL/299′ MSL.
Rwy 33: Trees beginning 1590′ from DER, 275′ left of centerline, up to 100′ AGL/256′ MSL. Tower 2.4 NM from DER, 3534′ left of centerline, 104′ AGL/774′ MSL. Trees beginning 1618′ from DER, 264′ right of centerline, up to 100′ AGL/263′ MSL.

**TUCSON INTL** (TUS) 6 S UTC–7 N32º06.97´ W110º56.46´ **PHOENIX**
2643 B S4 **FUEL** 100LL, JET A OX 1, 2, 3, 4 TPA—See Remarks AOE Class I, ARFF Index C **H–4J, L–5C**
NOTAM FILE TUS **IAP, AD**

**RWY 11L–29R:** H10996X150 (ASPH–GRVD) S–160, D–200, 2S–175, 2D–350, 2D/2D2–585 HIRL
**RWY 11L:** MALSR. PAPI(P4L)—GA 3.0º TCH 55´. 0.7% up..
**RWY 29R:** REIL. PAPI(P4L)—GA 3.0º TCH 76´. Ground. 0.5% down..
**RWY 11R–29L:** H8408X75 (ASPH) S–120, D–140, 2S–175, 2D–220 MIRL
**RWY 11R:** PAPI(P4L)—GA 3.0º Thld dsplcd 1410´. Rgt tfc. 0.7% up..
**RWY 29L:** REIL. Pole. 0.6% down..
**RWY 03–21:** H7000X150 (ASPH–GRVD) S–105, D–137, 2S–174, 2D–230, 2D/2D2–500 MIRL
**RWY 03:** Thld dsplcd 841´. Railroad.
**RWY 21:** REIL. PAPI(P4L)—GA 3.0º TCH 55´. Rgt tfc.
**RUNWAY DECLARED DISTANCE INFORMATION**
**RWY 03:** TORA–7000 TODA–7000 ASDA–7000 LDA–6160
**RWY 21:** TORA–6000 TODA–7000 ASDA–6000 LDA–6000
**ARRESTING GEAR/SYSTEM**
**RWY 03** ← HOOK E5 (403´)
**RWY 11L** HOOK BAK-12B(B) (1220´ OVRN) BAK-14 BAK-12B(B) (1000´)




BAK-14 BAK-12B(B) (1215´) HOOK BAK-12B(B) (128´ OVRN) **RWY 29L**

**AIRPORT REMARKS:** Attended continuously. Air carriers use Rwy 11L–29R. Rwy 11R–29L rstd to acft with wing span less than 73´ and ldg speed less than 120 kt. Acft dep Rwy 11R required to attain at least 400´AGL prior to starting turn. No B–747 training except PPR; no flight training 0500–1300Z except PPR, call Flightline Office 520–573–8128. Rwy 11L–29R gross weight limit: DC–10–10 315,000 lbs, DC–10–30/40 400,000 lbs, L–1011–1 325,000 lbs, L–1011–100/200 340,000 lbs. Rwy 03–21 gross weight limit: DC–10–10 300,000 lbs DC–10–30/40 375,000 lbs, L–1011–01 310,000 lbs, L–1011–100/200 315,000 lbs. Helicopter ops located south of Rwy 11R–29L and west of Twy A13. TPA–3443 (800) small acft, 4043 (1400) large/heavy turbojet acft. B–747 acft taxi with inboard engines only. Rwy 11L touchdown runway visual range avbl. Twy T-general aviation twy 30,000 lbs. or less. Portions of Twy D not visible from twr due to hangars. Twy A5 limited to 70,000 lbs or less. REIL Rwy 29L and Rwy 29R dalgt hrs only. Ldg fee. Flight Notification Service (ADCUS) avbl. NOTE: See Special Notices—Glider Operations Northwest of Tucson, Arizona, U.S. Special Customs Requirement.
**WEATHER DATA SOURCES:** ASOS (520) 889-7236. **HIWAS** 116.0 TUS.LLWAS.
**COMMUNICATIONS: ATIS** 123.8 520-741-1177 **UNICOM** 122.95
**TUCSON RCO** 122.2 (PRESCOTT RADIO)
**MOUNT LEMMON RCO** 122.4 (PRESCOTT RADIO)
Ⓡ**APP/DEP CON** 125.1 (Rwy 11 090°-285°) (Rwy 29 275°-065°) 119.4 (Rwy 11 286°-089°) (Rwy 29 066°-274°)
**TOWER** 118.3 119.0 **GND CON** 124.4 **CLNC DEL** 126.65
**AIRSPACE: CLASS C** svc ctc **APP CON**
**RADIO AIDS TO NAVIGATION:** NOTAM FILE TUS.
**(H) VORTACW** 116.0 TUS Chan 107 N32º05.71´ W110º54.89´ 301º 1.8 NM to fld. 2672/12E. **HIWAS.**
VORTAC unusable:
050º-080º byd 30 NM blo 13,000´
350º-020º byd 30 NM blo 13,000´
DME unusable:
155º-165º byd 35 NM blo 13,000´
**ILS/DME** 111.7 I-TUS Chan 54 Rwy 11L. Localizer backcourse unusable byd 15 NM blo 7,200´. Backcourse unusable byd 10º right of course.

**VALLE** (See GRAND CANYON on page 39)

**Figure 348**

| LOC/DME I-TUS 111.7 Chan 54 | APP CRS 123° | Rwy ldg 10996<br>TDZE 2599<br>Apt Elev 2643 |
|---|---|---|

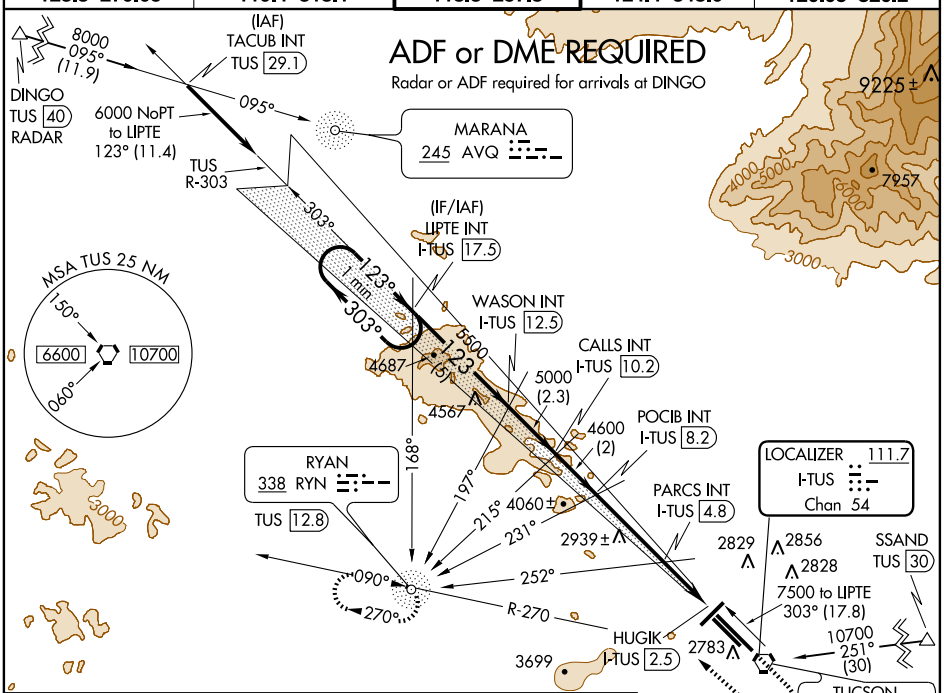
# ILS or LOC RWY 11L
TUCSON INTL (TUS)

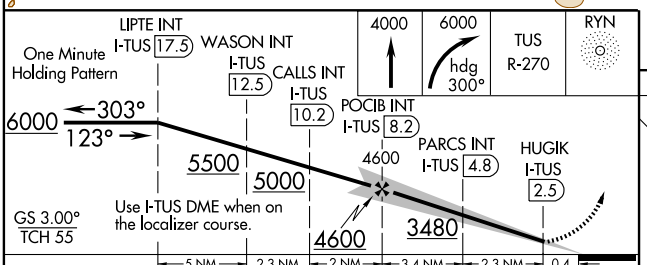
For inoperative MALSR, increase S-ILS 11L Cat E visibility to RVR 5000, S-LOC 11L Cat D and Cat E visibility to RVR 5000. ADF or DME required.

MALSR A5

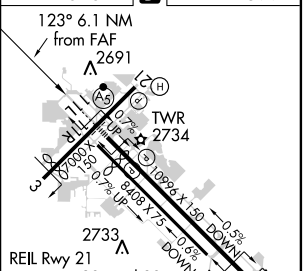
MISSED APPROACH: Climb to 4000 then climbing right turn to 6000 via heading 300° and TUS R-270 to RYN NDB/TUS 12.8 DME and hold.

| ATIS | TUCSON APP CON | TUCSON TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 123.8 279.65 | 119.4 318.1 | 118.3 257.8 | 124.4 348.6 | 126.65 326.2 |




ELEV 2643 | D | TDZE 2599




| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| S-ILS 11L | 2800/24 201 (200-½) | | | | |
| S-LOC 11L | 3480-1¼ 881 (900-1¼) | | 3480-2¾ 881 (900-2¾) | 3480-3 881 (900-3) | |
| CIRCLING | 3480-1¼ 837 (900-1¼) | | 3480-2¾ 837 (900-2¾) | 3480-3 837 (900-3) | 3740-3 1097(1100-3) |
| PARCS FIX MINIMUMS | | | | | |
| S-LOC 11L | 2900/24 301 (300-½) | | | 2900/40 301 (300-¾) | |
| CIRCLING | 3100-1 457 (500-1) | 3220-1 577 (600-1) | 3220-1½ 577 (600-1½) | 3220-2 577 (600-2) | 3740-3 1097(1100-3) |

FAF to MAP 5.7 NM

| Knots | 60 | 90 | 120 | 150 | 180 |
|---|---|---|---|---|---|
| Min:Sec | 5:42 | 3:48 | 2:51 | 2:17 | 1:54 |

| VORTAC TUS | APP CRS | Rwy ldg | 10996 |
|---|---|---|---|
| 116.0 | 123° | TDZE | 2599 |
| Chan 107 | | Apt Elev | 2643 |

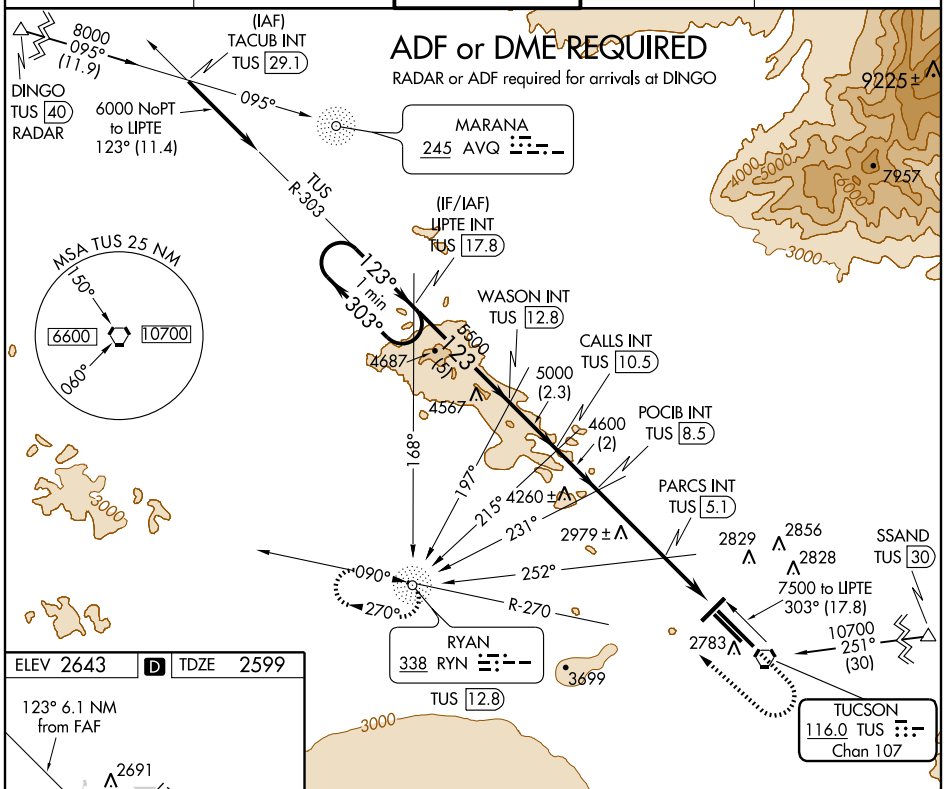
# VOR or TACAN RWY 11L
## TUCSON INTL (TUS)

For inoperative MALSR, increase S-11L Cats. D and E visibility to RVR 6000. ADF or DME required.

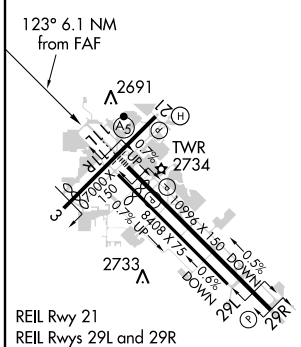
MALSR

MISSED APPROACH: Climb to 4000 then climbing right turn to 6000 (Cat. E 8000) via heading 300° and TUS R-270 to RYN NDB/TUS 12.8 DME and hold.

| ATIS | TUCSON APP CON | TUCSON TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 123.8 279.65 | 119.4 318.1 | 118.3 257.8 | 124.4 348.6 | 126.65 326.2 |

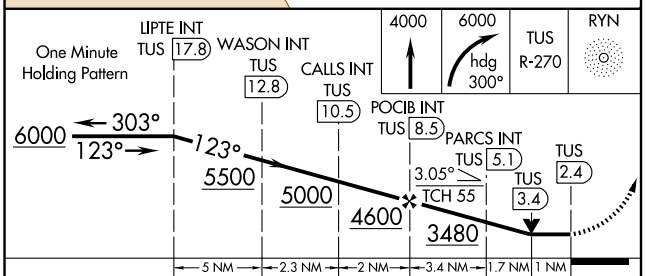



ELEV 2643 | D | TDZE 2599




REIL Rwy 21
REIL Rwys 29L and 29R
(Daylight hours only)
HIRL Rwy 11L-29R
MIRL Rwys 3-21 and 11R-29L.

| FAF to MAP 6.1 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 6:06 | 4:04 | 3:03 | 2:26 | 2:02 |

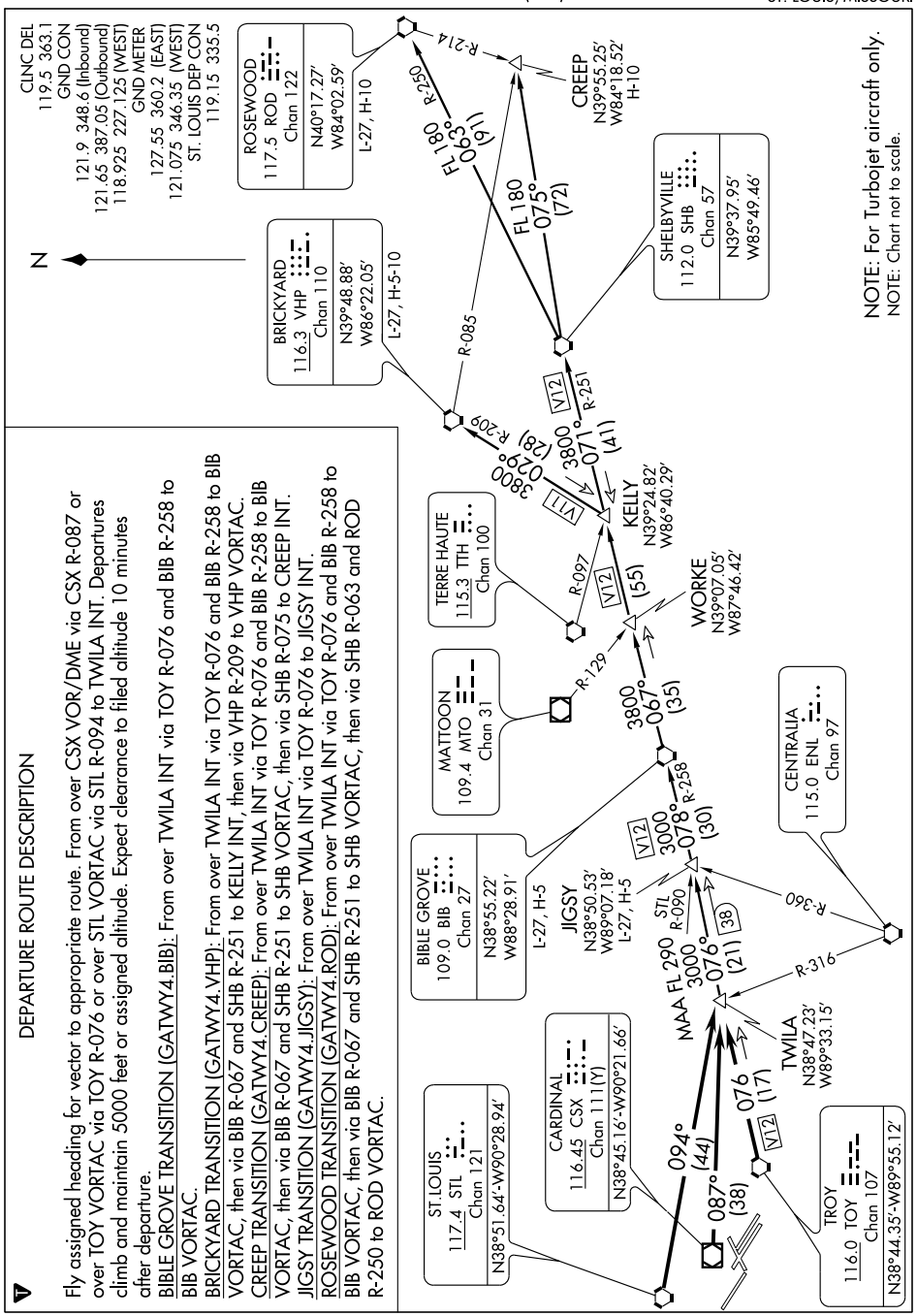



| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| S-11L | 2960/24 361 (400-½) | | | 2960/50 361 (400-1) | |
| CIRCLING | 3100-1 457 (500-1) | 3220-1 577 (600-1) | 3220-1½ 577 (600-1½) | 3220-2 577 (600-2) | 3740-3 1097 (1100-3) |



Figure 350


SW-4, 05 APR 2012 to 03 MAY 2012




DEPARTURE ROUTE DESCRIPTION

Fly assigned heading for vector to appropriate route. From over CSX VOR/DME via CSX R-087 or over TOY VORTAC via TOY R-076 or over STL VORTAC via STL R-094 to TWILA INT. Departures climb and maintain 5000 feet or assigned altitude. Expect clearance to filed altitude 10 minutes after departure.

BIBLE GROVE TRANSITION (GATWY4.BIB): From over TWILA INT via TOY R-076 and BIB R-258 to BIB VORTAC.

BRICKYARD TRANSITION (GATWY4.VHP): From over TWILA INT via TOY R-076 and BIB R-258 to BIB VORTAC, then via BIB R-067 and SHB R-251 to KELLY INT, then via VHP R-209 to VHP VORTAC.

CREEP TRANSITION (GATWY4.CREEP): From over TWILA INT via TOY R-076 and BIB R-258 to BIB VORTAC, then via BIB R-067 and SHB R-251 to SHB VORTAC, then via SHB R-075 to CREEP INT.

JIGSY TRANSITION (GATWY4.JIGSY): From over TWILA INT via TOY R-076 to JIGSY INT.

ROSEWOOD TRANSITION (GATWY4.ROD): From over TWILA INT via TOY R-076 and BIB R-258 to BIB VORTAC, then via BIB R-067 and SHB R-251 to SHB VORTAC, then via SHB R-063 and ROD R-250 to ROD VORTAC.



Figure 351

# MILTON FOUR ARRIVAL

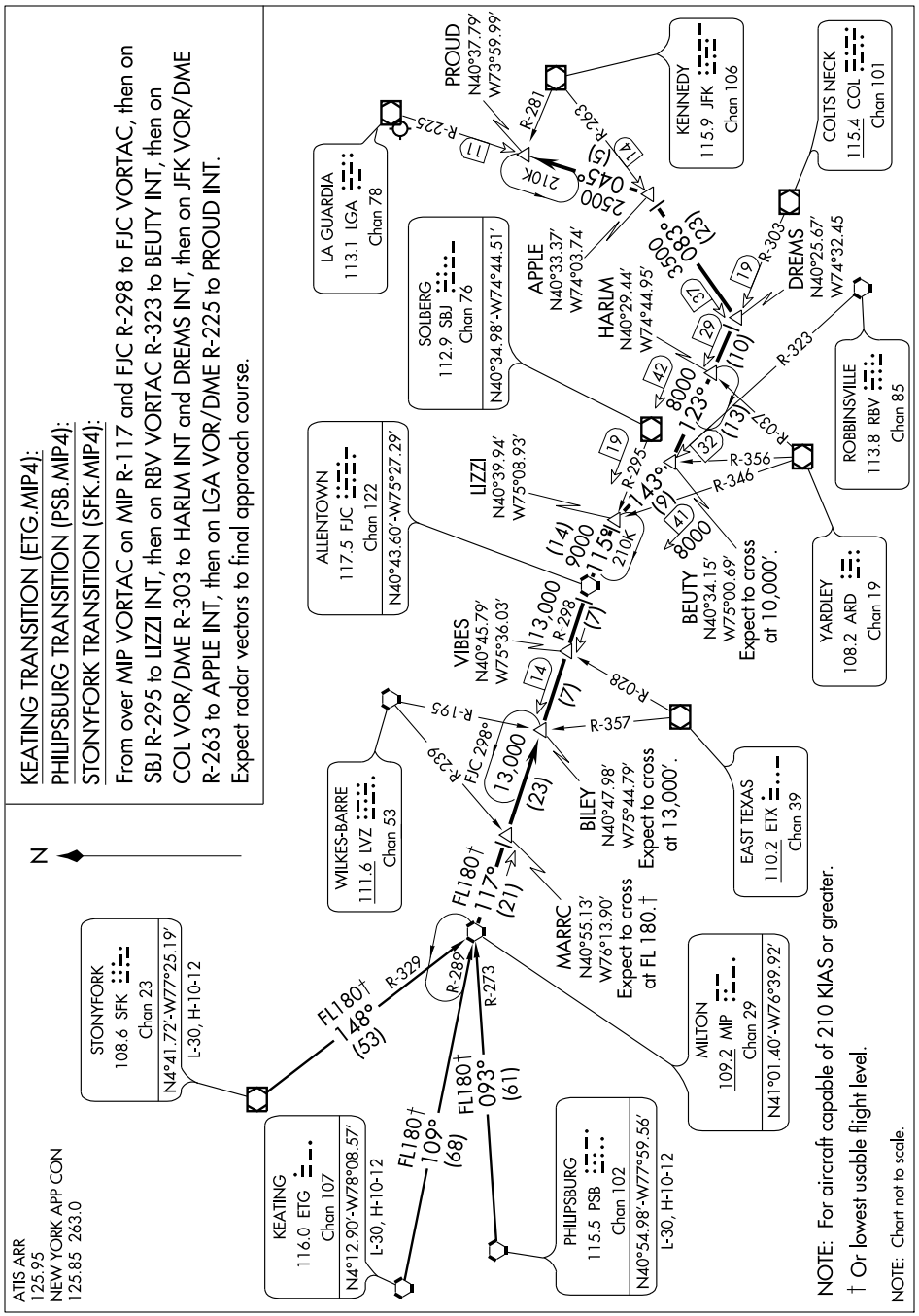
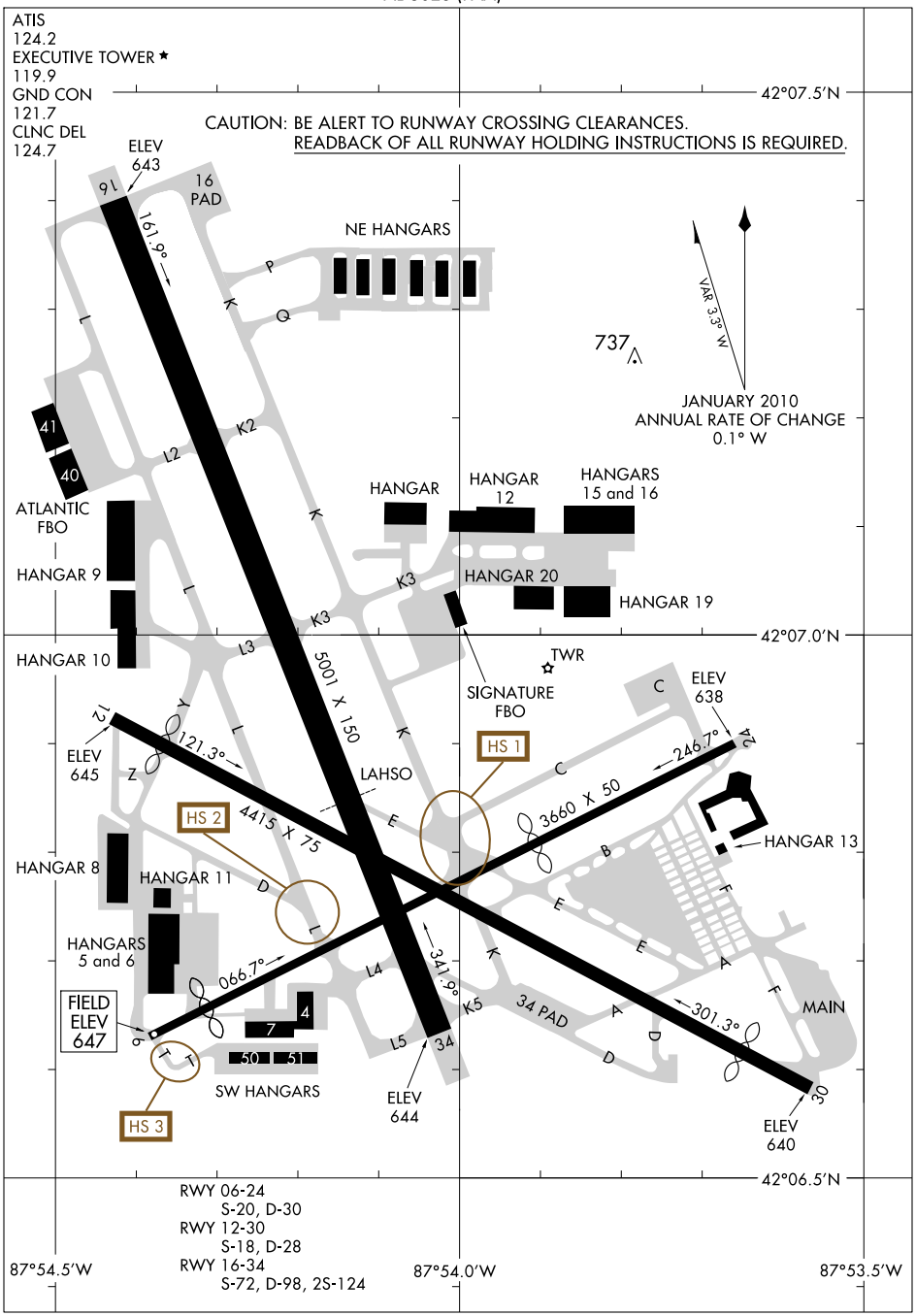





Figure 352




EC-3, 05 APR 2012 to 03 MAY 2012

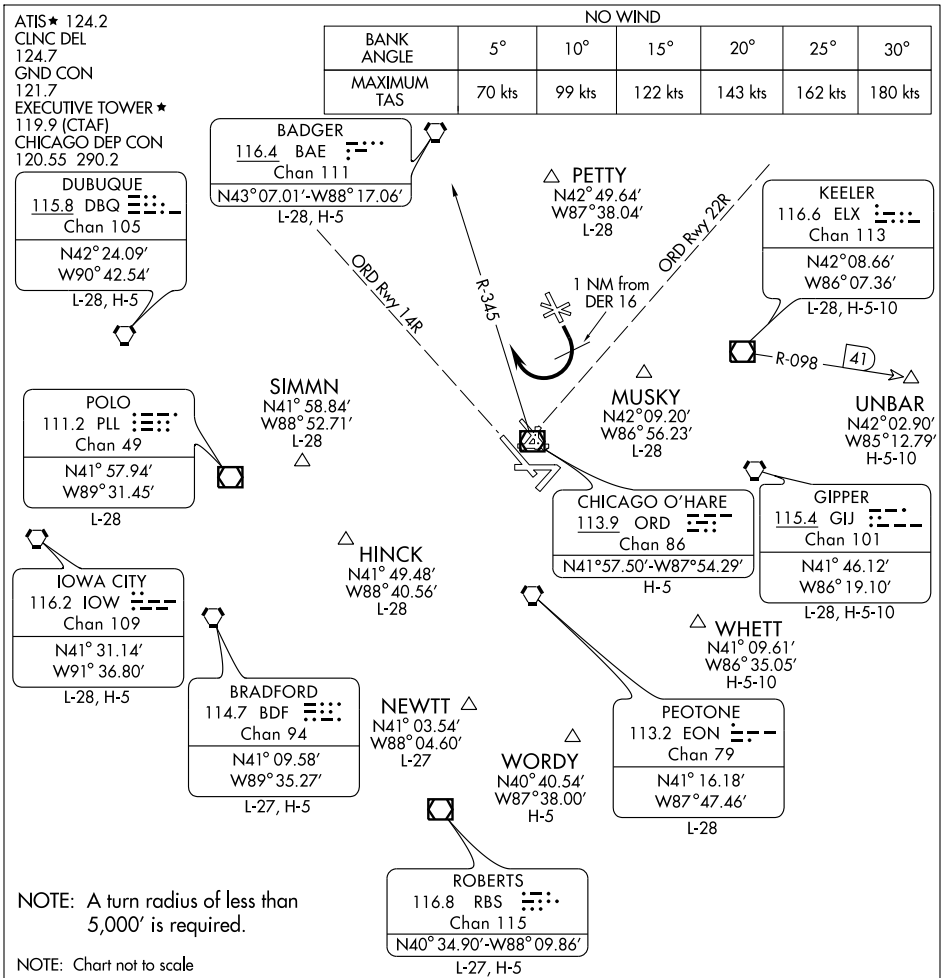
EC-3, 05 APR 2012 to 03 MAY 2012



Figure 353

# PAL-WAUKEE TWO DEPARTURE

CHICAGO EXECUTIVE (PWK)
CHICAGO/PROSPECT HEIGHTS/WHEELING, ILLINOIS




## DEPARTURE ROUTE DESCRIPTION

All aircraft expect radar vectors to appropriate navaid/fix; maintain 3000 feet or assigned altitude. Expect clearance to requested altitude/flight level (three minutes for jet/turbo engine or five minutes for piston engines) after departure.

TAKE-OFF RUNWAY 16: Start right turn within 1 NM of departure end of runway and complete turn to assigned heading east of R-345 of the ORD VOR/DME. This will insure separation from the runway 14R final approach course at O'Hare Intl. If unable to comply, advise Executive Tower prior to take-off.

PAL-WAUKEE TWO DEPARTURE
CHICAGO/PROSPECT HEIGHTS/WHEELING, ILLINOIS
CHICAGO EXECUTIVE (PWK)


EC-3, 05 APR 2012 to 03 MAY 2012
EC-3, 05 APR 2012 to 03 MAY 2012

Figure 354

AL-65 (FAA)

ATIS
135.35
BUFFALO TOWER
120.5 257.8
GND CON
133.2 257.8
CLNC DEL
124.7 257.8

D

VAR 10.8° W

JANUARY 2010
ANNUAL RATE OF CHANGE
0.0° W

42° 57′N

FIELD ELEV 727

23

14

ELEV 699

137.5°

234.8°

7161 X 150

8829 X 150

TWR 887

317.5°

32

ELEV 709

0.9% UP

42° 56′N

ELEV 674

054.7°

5

PASSENGER TERMINAL

RWY 05-23
S-75, D-195, 2S-175, 2D-450
RWY 14-32
PCN 47 F/A/X/T
S-75, D-150, 2D-240

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

78° 44′W

78° 43′W

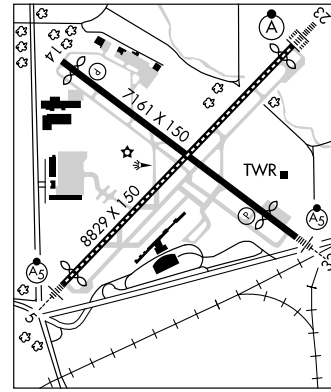
NE-2, 05 APR 2012 to 03 MAY 2012

NE-2, 05 APR 2012 to 03 MAY 2012



Figure 355

**BUFFALO NIAGARA INTL** (BUF) 5 E UTC−5(−4DT) N42°56.43′ W78°43.84′ **DETROIT**
727 B S4 **FUEL** 100LL, JET A OX 1, 2, 3, 4 LRA Class I, ARFF Index D **H–10H, 11B, L–31E**
NOTAM FILE BUF **IAP, AD**




**RWY 05–23:** H8829X150 (ASPH–GRVD) S–75, D–195, 2S–175, 2D–450 HIRL CL
**RWY 05:** MALSR. TDZL. Thld dsplcd 535′. Bldg. 0.9% up.
**RWY 23:** ALSF2. TDZL. Thld dsplcd 725′. Tree.
**RWY 14–32:** H7161X150 (ASPH–GRVD) S–75, D–150, 2D–240 PCN 47 F/A/X/T HIRL
**RWY 14:** REIL. PAPI(P4L)—GA 3.0° TCH 45′. Thld dsplcd 320′. Tree.
**RWY 32:** MALSR. REIL. PAPI(P4L)—GA 3.0° TCH 54′. Thld dsplcd 720′. Sign.
**RUNWAY DECLARED DISTANCE INFORMATION**
**RWY 05:** TORA–8827 TODA–8827 ASDA–8292 LDA–7757
**RWY 14:** TORA–7161 TODA–7161 ASDA–6441 LDA–6121
**RWY 23:** TORA–8827 TODA–8827 ASDA–8292 LDA–7567
**RWY 32:** TORA–7161 TODA–7161 ASDA–6841 LDA–6121
**AIRPORT REMARKS:** Attended continuously. Heavy concentration of gulls, blackbirds, and starlings up to 5000 ft on and invof arpt. Deer on and invof arpt. Twy K1 clsd 0200–1300Z‡ daily. Twy A SW runup area/holding bay marked design group 3 acft (generally B727 or smaller), unavbl design group 4 (includes but not limited to B757, DC8). For fixed–base operator svcs ctc 131.75; for cargo svcs ctc 122.95. Rwy 23 ALSF2 unmonitored. Ldg fee. Flight Notification Service (ADCUS) available.
**WEATHER DATA SOURCES:** ASOS (716) 635–0532. WSP.
**COMMUNICATIONS: D–ATIS** 135.35
**RCO** 122.6 122.2 122.1R (BUFFALO RADIO)
Ⓡ **APP DEP/CON** 126.15 (053°–233°) 126.5 (234°–052°)
**TOWER** 120.5 **GND CON** 133.2 **CLNC DEL** 124.7 **PRE–TAXI CLNC** 124.7
**AIRSPACE: CLASS C** svc continuous, ctc **APP CON**
**RADIO AIDS TO NAVIGATION:** NOTAM FILE BUF.
**(H) VOR/DME** 116.4 BUF Chan 111 N42°55.74′ W78°38.78′ 288° 3.8 NM to fld. 730/08W.
VOR/DME unusable:
036°–261° blo 11,000′ 276°–305° blo 6000′
262°–275° blo 2300′
**KLUMP NDB (LOM)** 231 BU N43°00.02′ W78°39.05′ 233° 5.0 NM to fld.
**PLAZZ NDB (LOM)** 204 GB N42°52.43′ W78°48.99′ 053° 5.5 NM to fld.
**ILS** 111.3 I–BUF Rwy 23. Class IE. LOM KLUMP NDB. Glideslope unusable byd 5° rgt of course.
**ILS** 108.5 I–GBI Rwy 05. Class IA. LOM PLAZZ NDB.
**ILS/DME** 109.95 I–BNQ Chan 36(Y) Rwy 32.

**CLARENCE AERODROME** (D51) 5 NE UTC−5(−4DT) N43°04.00′ W78°40.99′ **DETROIT**
589 NOTAM FILE BUF
**RWY 10–28:** 2500X67 (TURF) LIRL
**RWY 10:** Fence. **RWY 28:** Trees.
**AIRPORT REMARKS:** Unattended. Ultralights on and invof arpt. Rwy 10–28 outlined with cones. ACTIVATE LIRL Rwy 10–28—122.7.
**COMMUNICATIONS: CTAF/UNICOM** 122.7

**BUFFALO–LANCASTER RGNL** (See LANCASTER)

**BURRELLO–MECHANICVILLE** (See MECHANICVILLE)

**CALVERTON** N40°55.78′ W72°47.93′ NOTAM FILE ISP. **NEW YORK**
**(L) VORW/DME** 117.2 CCC Chan 119 219° 7.2 NM to Brookhaven. 85/13W. **COPTER**
VOR portion unusable 280°–290° byd 25 NM. **H–10I, L–33B, 34I**

**CAMBRIDGE** N42°59.66′ W73°20.64′ NOTAM FILE BTV. **NEW YORK**
**(L) VORW/DME** 115.0 CAM Chan 97 159° 7.5 NM to Bennington State, Vt. 1490/14W. **H–11C, 12J, L–32G, 34J**
**HIWAS.**
DME unusable 050°–130° beyond 20 NM below 9000′.

**Figure 356**

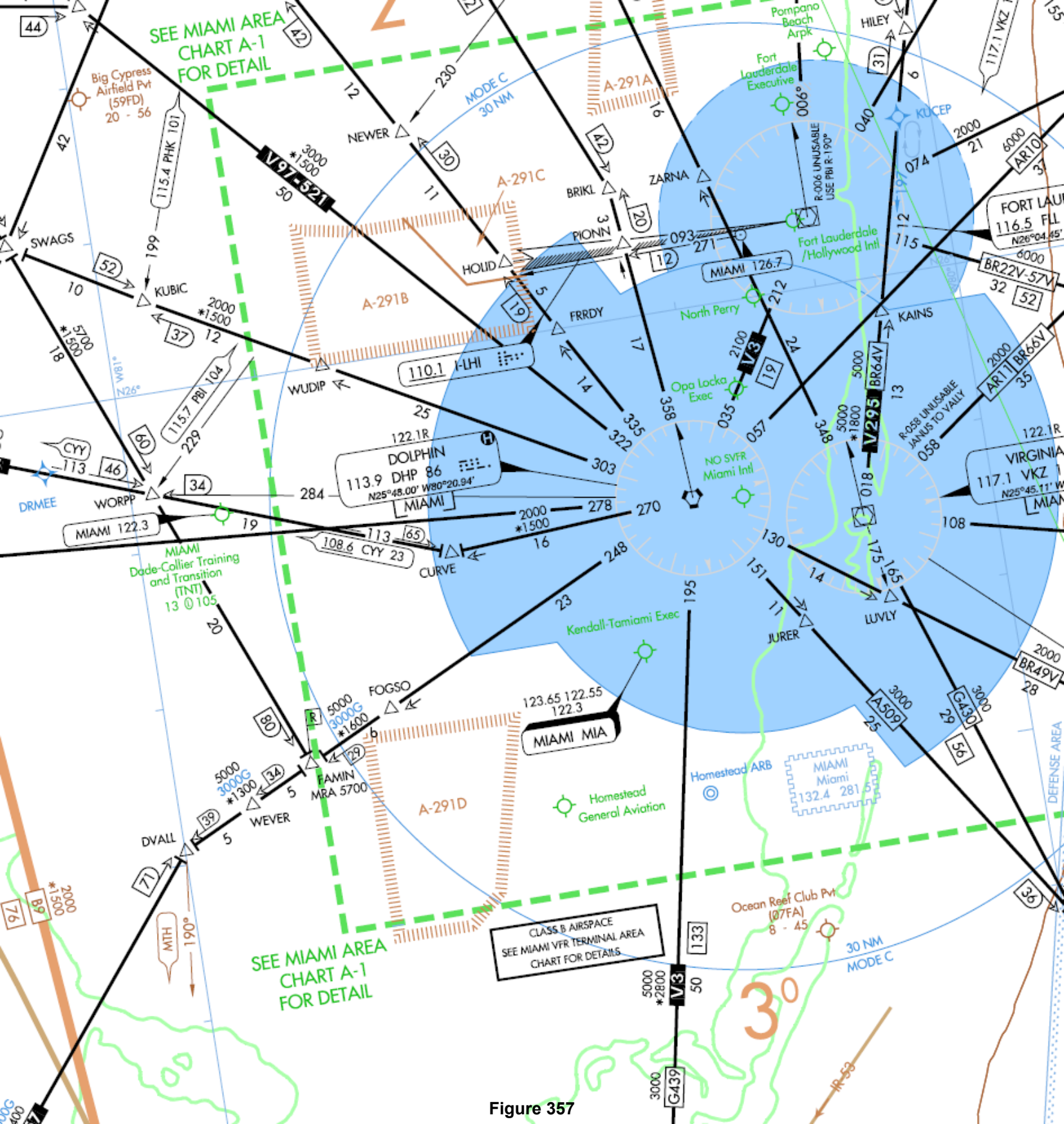

SEE MIAMI AREA CHART A-1 FOR DETAIL
Big Cypress Airfield Pvt (59FD) 20 - 56
115.4 PHK 101
V97-521
NEWER
MODE C 30 NM
A-291A
A-291C
A-291B
A-291D
BRIKL
ZARNA
PIONN
HOLID
SWAGS
KUBIC
FRRDY
WUDIP
115.7 PBI 104
110.1 I-LHI
DOLPHIN
113.9 DHP 86
N25°48.00' W80°20.94'
MIAMI
122.1R
WORPP
DRMEE
MIAMI 122.3
MIAMI Dade-Collier Training and Transition (TNT) 13 105
108.6 CYY 23
CURVE
FOGSO
FAMIN MRA 5700
WEVER
DVALL
MTH
Pompano Beach Arpk
Fort Lauderdale Executive
KUCEP
HILEY
R-006 UNUSABLE USE PBI R-190°
Fort Lauderdale /Hollywood Intl
MIAMI 126.7
North Perry
Opa Locka Exec
NO SVFR Miami Intl
KAINS
R-058 UNUSABLE JANUS TO YALLY
FORT LAUD 116.5 FLL
VIRGINIA 117.1 VKZ
LUVLY
JURER
Kendall-Tamiami Exec
123.65 122.55 122.3
MIAMI MIA
Homestead ARB
MIAMI Miami 132.4 281.5
Homestead General Aviation
Ocean Reef Club Pvt (07FA) 8 - 45
CLASS B AIRSPACE SEE MIAMI VFR TERMINAL AREA CHART FOR DETAILS
SEE MIAMI AREA CHART A-1 FOR DETAIL
30 NM MODE C
DEFENSE AREA
R-53

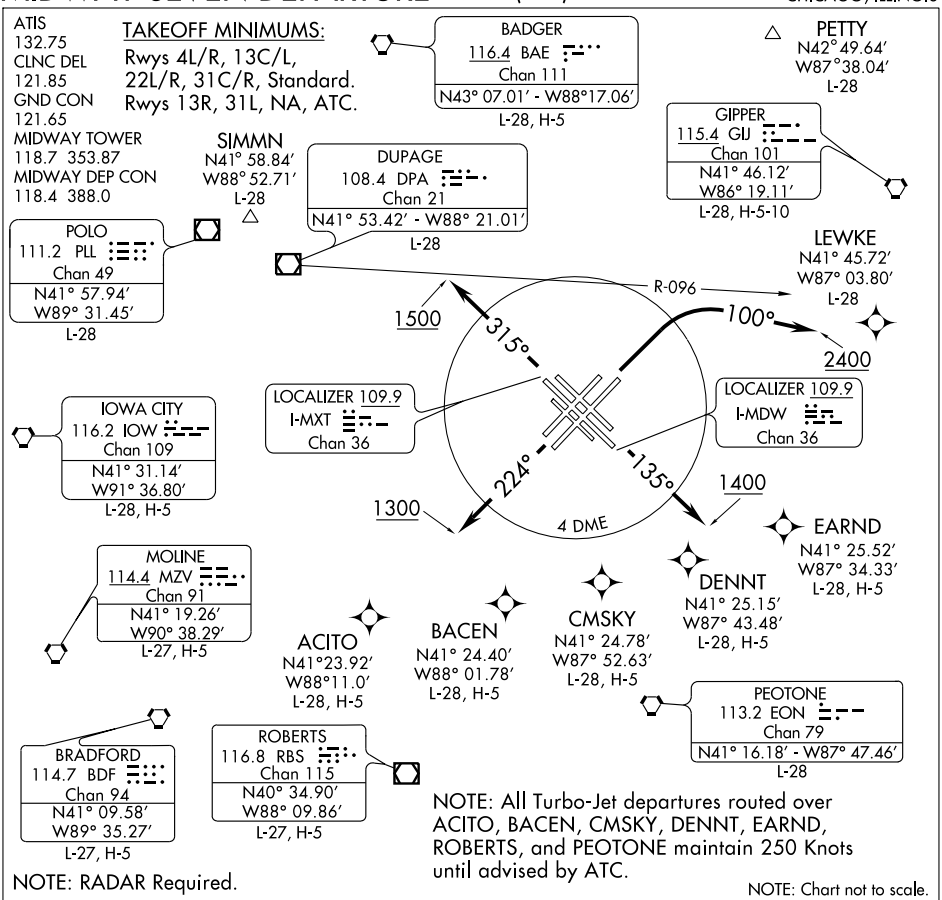
Figure 357

# MIDWAY SEVEN DEPARTURE

SL-81 (FAA)

ATIS
132.75
CLNC DEL
121.85
GND CON
121.65
MIDWAY TOWER
118.7 353.87
MIDWAY DEP CON
118.4 388.0

TAKEOFF MINIMUMS:
Rwys 4L/R, 13C/L, 22L/R, 31C/R, Standard.
Rwys 13R, 31L, NA, ATC.




NOTE: All Turbo-Jet departures routed over ACITO, BACEN, CMSKY, DENNT, EARND, ROBERTS, and PEOTONE maintain 250 Knots until advised by ATC.

NOTE: RADAR Required.

NOTE: Chart not to scale.

## DEPARTURE ROUTE DESCRIPTION

T

ALL AIRCRAFT:

TAKE-OFF RWYS 4L/R: Northbound departures assigned headings 360° (CW) thru 080°, climbing right turn to 2400 heading 100° before proceeding on course, thence. . . .

TAKE-OFF RWY 13C: Climb heading 135° to 1400 before turning, thence. . . .

TAKE-OFF RWY 13L: Climb heading 135° to 1400 before turning, thence. . . .

TAKE-OFF RWY 22L: Climb heading 224° to 1300 before turning, thence. . . .

TAKE-OFF RWY 22R: Climb heading 224° to 1300 before turning, thence. . . .

TAKE-OFF RWY 31C: Climb heading 315° to 1500 before turning, thence. . . .

TAKE-OFF RWY 31R: Climb heading 315° to 1500 before turning, thence. . . .

DME EQUIPPED AIRCRAFT: Complete initially assigned turn within 4 DME of Midway. Maintain 3000 feet or assigned lower altitude, thence. . . .

NON-DME EQUIPPED AIRCRAFT: Complete initially assigned turn south of DPA R-096, maintain 3000 feet or assigned lower altitude, thence. . . .

....expect radar vectors to first enroute fix. Expect clearance to requested altitude/flight level 10 (ten) minutes after departure.



EC-3, 05 APR 2012 to 03 MAY 2012

EC-3, 05 APR 2012 to 03 MAY 2012

Figure 358

## TAKEOFF OBSTACLE NOTES:

NOTE: RWY 4L, Fence 18 feet from DER, 257 feet left of centerline, 12 feet AGL/616 feet MSL. Vehicle plus road 143 feet from DER, 163 feet left of centerline, 16 feet AGL/620 feet MSL. Bldg 251 feet from DER, 217 feet left of centerline, 26 feet AGL/630 feet MSL. Sign 1,912 feet from DER, 330 feet left of centerline, 88 feet AGL/692 feet MSL. Multiple Lt poles and trees beginning 375 feet from DER, 98 feet right of centerline, up to 75 feet AGL/679 feet MSL.

NOTE: RWY 4R, LOC 300 feet from DER, on centerline, 10 feet AGL/614 feet MSL. Lt pole and multiple trees beginning 40 feet from DER, 369 feet left of centerline, up to 75 feet AGL/679 feet MSL. Blast fence 277 feet from DER, 45 feet left of centerline, 9 feet AGL/613 feet MSL. Tower 3,983 feet from DER, 1,142 feet left of centerline, 109 feet AGL/708 feet MSL. Multiple lt poles and trees beginning 96 feet from DER, 21 feet right of centerline, up to 53 feet AGL/657 feet MSL. Train beginning 1,483 feet from DER, 570 feet right of centerline, 48 feet AGL/654 feet MSL.

NOTE: RWY 13C, LOC 248 feet from DER, on centerline, 8 feet AGL/619 feet MSL. Bldg 101 feet from DER, 254 feet left of centerline, 14 feet AGL/625 feet MSL. Trees beginning 288 feet from DER, 459 feet left of centerline, up to 76 feet AGL/680 feet MSL. Trees beginning 109 feet from DER, 402 feet right of centerline, up to 86 feet AGL/700 feet MSL.

NOTE: RWY 13L, Multiple poles and trees beginning 362 feet from DER, 215 feet left of centerline, up to 71 feet AGL/675 feet MSL. Trees beginning 1,136 feet from DER, 54 feet right of centerline, up to 76 feet AGL/680 feet MSL.

NOTE: RWY 22L, Multiple poles and trees beginning 74 feet from DER, 375 feet left of centerline, up to 70 feet AGL/689 feet MSL. Multiple poles and trees beginning 465 feet from DER, 49 feet right of centerline, up to 60 feet AGL/679 feet MSL. Tank 4,100 feet from DER, 161 feet right of centerline, 109 feet AGL/728 feet MSL.

NOTE: RWY 22R, Multiple poles and trees beginning 575 feet from DER, 168 feet left of centerline, up to 58 feet AGL/677 feet MSL. Tank 4,100 feet from DER, 161 feet left of centerline, 109 feet AGL/728 feet MSL. Fence 198 feet from DER, 3 feet right of centerline, 12 feet AGL/630 feet MSL. Trees beginning 183 feet from DER, 65 feet right of centerline, up to 72 feet AGL/686 feet MSL.

NOTE: RWY 31C, LOC 239 feet from DER, on centerline, 10 feet AGL/617 feet MSL. Trees beginning 452 feet from DER, 454 feet left of centerline, up to 63 feet AGL/667 feet MSL. Spire 2,207 feet from DER, 699 feet left of centerline, 78 feet AGL/684 feet MSL. Multiple poles and trees beginning 142 feet from DER, 28 feet right of centerline, up to 73 feet AGL/672 feet MSL. DME 183 feet from DER, 309 feet right of centerline, 17 feet AGL/624 feet MSL. Sign 1,528 feet from DER, 270 feet right of centerline, 52 feet AGL/652 feet MSL. Tank 5,576 feet from DER, 1,430 feet right of centerline, 162 feet AGL/756 feet MSL.

NOTE: RWY 31R, Multiple poles and trees beginning 379 feet from DER, 49 feet left of centerline, up to 65 feet AGL/664 feet MSL. Pole and trees beginning 70 feet from DER, 50 feet right of centerline, up to 68 feet AGL/667 feet MSL.

| LOC I-ROC | APP CRS | Rwy ldg | 5801 |
|---|---|---|---|
| 109.5 | 278° | TDZE | 548 |
| | | Apt Elev | 559 |

# ILS or LOC RWY 28

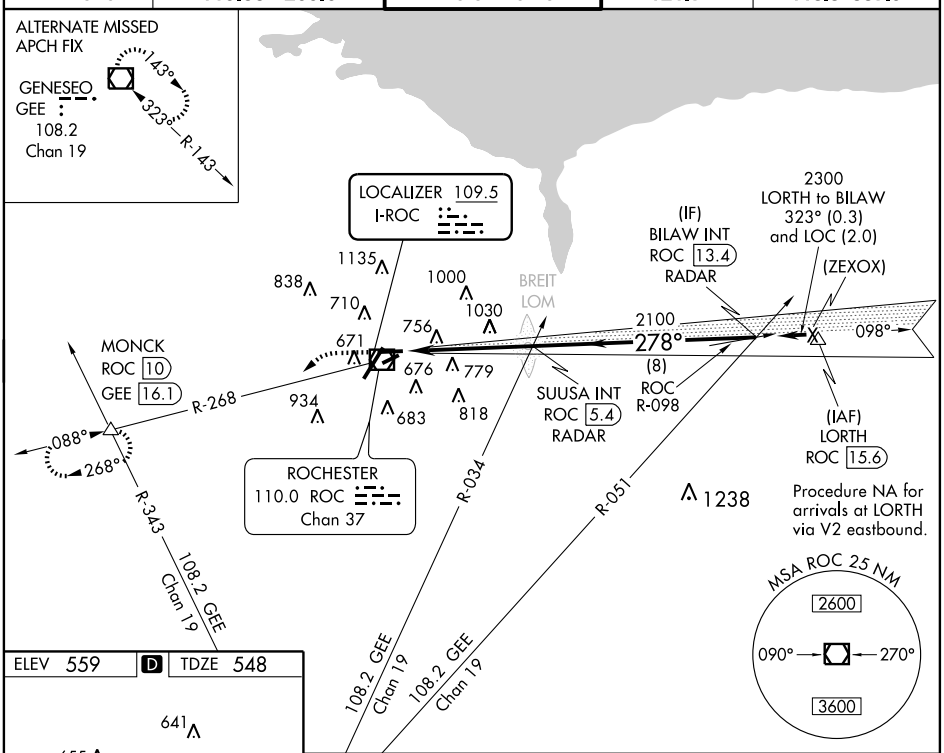
## ROCHESTER / GREATER ROCHESTER INTL (ROC)

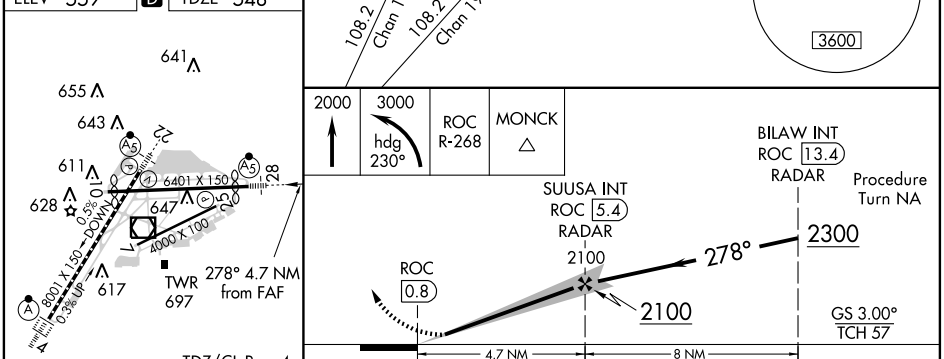
Inoperative table does not apply to S-ILS 28 all Cats and S-LOC 28 Cats A and B.
Visibility reduction by helicopters NA.
Multiple unshielded lights in final approach area.

MALSR

MISSED APPROACH: Climb to 2000 then climbing left turn to 3000 via heading 230° and ROC VOR/DME R-268 to MONCK INT/ROC 10 DME and hold.

| ATIS | ROCHESTER APP CON | ROCHESTER TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| 124.825 | 119.55 269.6 | 118.3 254.3 | 121.7 | 118.8 387.0 |




TDZ/CL Rwy 4
REIL Rwys 7, 10 and 25
MIRL Rwy 7-25
HIRL Rwys 10-28 and 4-22

| FAF to MAP 4.7 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:42 | 3:08 | 2:21 | 1:53 | 1:34 |

| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 28 | 798/50 250 (300-1) | | | |
| S-LOC 28 | 1280/50 732 (800-1) | | 1280-1½ 732 (800-1½) | 1280-1¾ 732 (800-1¾) |
| CIRCLING | 1280-1 721 (800-1) | | 1280-2 721 (800-2) | 1280-2¼ 721 (800-2¼) |



Figure 360

NE-2, 05 APR 2012 to 03 MAY 2012
NE-2, 05 APR 2012 to 03 MAY 2012

# TUCSON SEVEN DEPARTURE

SL-430 (FAA)



TAKE-OFF OBSTACLE NOTES

RWY 3: Multiple trees and a sign beginning 1385′ from DER, 322′ left of centerline to 333′ right of centerline, up to 45′ AGL/2626′ MSL.

RWY 11L: Multiple bushes and vents beginning 115′ from DER, 606′ left of centerline to 383′ right of centerline, up to 24′ AGL/2674′ MSL.

RWY 11R: Tree 584′ from DER, 176′ right of centerline, 25′ AGL/2645′ MSL.

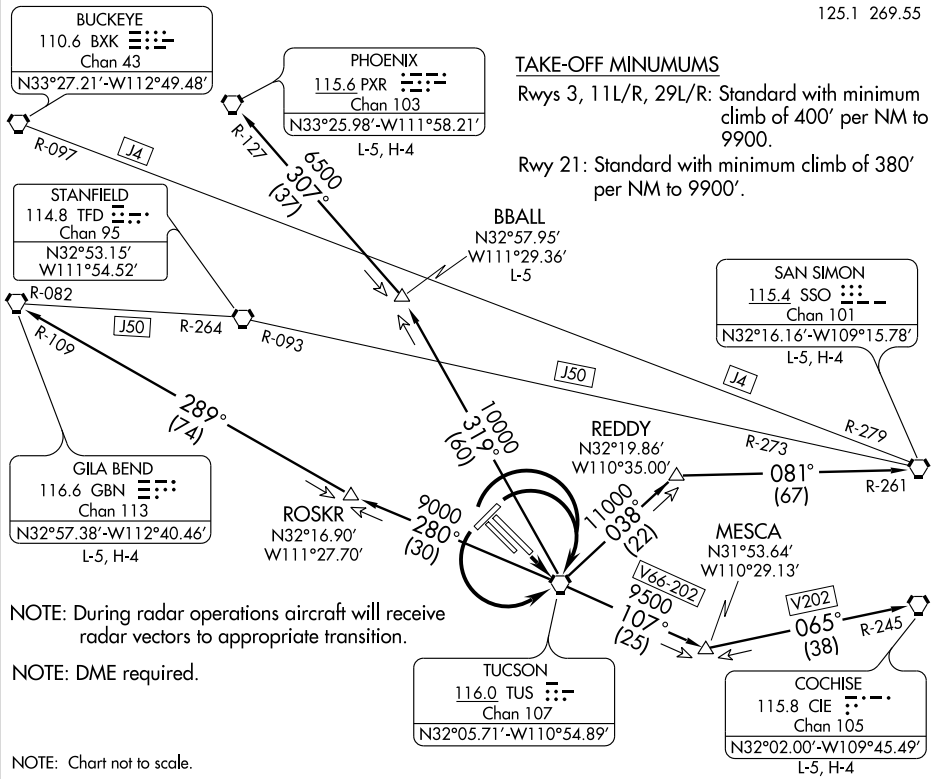
RWY 21: Multiple bushes, poles, lights, railroad cars, and trees beginning 104′ from DER, 594′ left of centerline to 330′ right of centerline, up to 48′ AGL/2616′ MSL.

ATIS
123.8 279.65
CLNC DEL
126.65 326.2
GND CON
124.4 348.6
TUCSON TOWER
118.3 257.8
TUCSON DEP CON
125.1 269.55

TAKE-OFF MINUMUMS

Rwys 3, 11L/R, 29L/R: Standard with minimum climb of 400′ per NM to 9900.

Rwy 21: Standard with minimum climb of 380′ per NM to 9900′.




NOTE: During radar operations aircraft will receive radar vectors to appropriate transition.

NOTE: DME required.

NOTE: Chart not to scale.

## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 11L/R: Climb direct TUS VORTAC. Thence. . . .

TAKE-OFF RUNWAYS 3, 29L/R: Climbing right turn direct TUS VORTAC. Thence. . . .

TAKE-OFF RUNWAY 21: Climbing left turn direct TUS VORTAC. Thence. . . .

. . . . via assigned transition. Maintain 17000, expect clearance to filed altitude 10 minutes after departure.

BBALL TRANSITION (TUS7.BBALL): From over TUS VORTAC via TUS R-319 to BBALL INT.

COCHISE TRANSITION (TUS7.CIE): From over TUS VORTAC via TUS R-107 and CIE R-245 to CIE VORTAC.

GILA BEND TRANSITION (TUS7.GBN): From over TUS VORTAC via TUS R-280 and GBN R-109 to GBN VORTAC.

PHOENIX TRANSITION (TUS7.PXR): From over TUS VORTAC via TUS R-319 and PXR R-127 to PXR VORTAC.

SAN SIMON TRANSITION (TUS7.SSO): From over TUS VORTAC via TUS R-038 and SSO R-261 to SSO VORTAC.






SW-4, 05 APR 2012 to 03 MAY 2012

## TONOPAH TEST RANGE (KTNX)

TONOPAH , NV. . . . . AMDT 1 12096

DEPARTURE PROCEDURE: **Rwy 14:** 1000-3 with minimum climb of 320 ft/NM to 10,700 or 2700-3 for Climb in Visual Conditions. Climb on a heading between 325º CW to 155º from departure end of runway or Climb in Visual Conditions to cross KZ - KTNX airport at or above 8100 MSL before proceeding on course. **Rwy 32:** 1000-3 with minimum climb of 260 ft/NM to 5900 or 2700-3 for Climb in Visual Conditions. Climb on a heading between 295º CW to 005º from departure end of runway or Climb in Visual Conditions to cross KZ-KTNX airport at or above 8100 MSL before proceeding on course.

TAKE-OFF OBSTACLES: **Rwy 14,** Terrain, 5582' MSL, 1204' from DER, 823' right of centerline. Terrain, 5565' MSL, 63' from DER, 517' right of centerline. Terrain, 5564' MSL, 46' from DER, 480' right of centerline. Terrain, 5561' MSL, 0' from DER, 353' right of centerline. Terrain, 5558' MSL, 62' from DER, 200' right of centerline. Terrain, 5561' MSL, 14' from DER, 292' right of centerline. Terrain, 5561' MSL, 0' from DER, 287' right of centerline. Terrain, 5559' MSL, 0' from DER, 222' right of centerline. Surveyed terrain, 5560' MSL, 215' from DER, 427' right of centerline. **Rwy 32,** Terrain, 5476' MSL, 0' from DER, 500' left of centerline. Terrain, 5476' MSL, 19' from DER, 465' left of centerline. Terrain, 5476' MSL, 110' from DER, 529' left of centerline.

## TOOELE, UT

BOLINDER FIELD-TOOELE VALLEY

TAKE-OFF MINIMUMS: **Rwy 17,** std. with a min. climb of 490' per NM to 11000. **Rwy 35,** std. with a min. climb of 360' per NM to 9000.

DEPARTURE PROCEDURE: Use STACO DEPARTURE.

NOTE: **Rwy 17,** tree 794' from departure end of runway, 277' right of centerline, 35' AGL/4380' MSL. Tree 967' from departure end of runway, 432' right of centerline, 35' AGL/4394' MSL. Tree 1023' from departure end of runway, 313' right of centerline, 35' AGL/4395' MSL.

## TUCSON, AZ

MARANA RGNL

TAKE-OFF MINIMUMS: **Rwys 3, 12,** N/A-Obstacles

DEPARTURE PROCEDURE: **Rwy 21,** climb to 6500 via heading 360° and TUS R-308 to TOTEC Int/TUS 57 DME, then as filed. **Rwy 30,** climb to 6500 via heading 303° intercept TUS R-308 above 3500, to TOTEC INT/TUS 57 DME, then as filed.

NOTE: **Rwy 21,** road 192' from departure end of runway, 527' left of centerline 15' AGL/2034' MSL.

RYAN FIELD (RYN)

AMDT 3 10210 (FAA)

TAKE-OFF MINIMUMS: **Rwys 6L, 15, 24R, 33,** NA, ATC.

DEPARTURE PROCEDURE: **Rwys 6R, 24L,** use ALMON DEPARTURE.

## TUCSON, AZ (CON'T)

TUCSON INTL (TUS)

AMDT 4A 08241 (FAA)

TAKE-OFF MINIMUMS: **Rwy 3,** 300-1¾ or std. w/ min. climb of 228' per NM to 3000.

DEPARTURE PROCEDURE: **Rwys 3, 29L,29R,** climbing right turn direct to TUS VORTAC. **Rwys 11L,11R** climb via runway heading to 4000 then climbing left turn direct TUS VORTAC. **Rwy 21,** climbing left turn direct to TUS VORTAC. **All aircraft** continue climbing in holding pattern (NW, right turns, 128° inbound) to depart TUS VORTAC at or above 9000.

NOTE: **Rwy 3,** tower 9215' from departure end of runway, 1689' left of centerline, 246' AGL/2831' MSL.

## VERNAL, UT

VERNAL RGNL

TAKE-OFF MINIMUMS: **Rwy 16**, 1500-2 or std with a min. climb of 250' per NM to 7000'. **Rwy 25**, 1500-2 or std. with a min. climb of 390' per NM to 7000. **Rwy 34**, 1600-2 pr std. with a min. climb of 330' per NM to 7000'.

DEPARTURE PROCEDURE: **Rwys 7,34**, turn right. **Rwys 16,25**, turn left. **All aircraft** climb direct VEL. Aircraft departing V391 S-bound climb on course. All others climb in holding pattern (SE, right turns, 322° inbound). Aircraft SW-bound V208 depart VEL at or above 8400', all others depart VEL at or above 9500'. Continue climb on course to MEA or assigned altitude.

## WENDOVER, UT

WENDOVER

TAKE-OFF MINIMUMS: **Rwy 26,** standard wit h a min. climb of 300' per NM to 7000. **Rwy 30**, NA.

DEPARTURE PROCEDURE: **Rwys 8,12, 26,** climbing left turn direct BVL VORTAC. Aircraft departing BVL VORTAC R-330 CW R-150 climb on course. All others continue climb in BVL VORTAC holding pattern (Hold NE right turns, 247° inbound) to cross at or above 7400, then climb on course.

## WILLCOX, AZ

COCHISE COUNTY

DEPARTURE PROCEDURE: **Rwy 3,** turn right. **Rwy 21,** turn left. **All aircraft** climb direct CIE VORTAC.

## WINDOW ROCK, AZ

WINDOW ROCK

TAKE-OFF MINIMUMS: **Rwy 2**, 700-2 or std. with a min. climb of 500' per NM to 8000. **Rwy 20,** 600-2 or std. with a min. climb of 260' per NM to 8200.

DEPARTURE PROCEDURE: **Rwy 2**, turn right. **Rwy 20,** turn left direct to GUP VORTAC before proceeding on course.

NOTE: **Rwy 2,** terrain 3832' from departure end of runway, 1025' right of centerline, 6926' MSL. Poles 5220' from departure end of runway, 245' right of centerline, 180' AGL/6922' MSL. Tower 7067' from departure end of runway, 3072' left of centerline, 71' AGL/7316' MSL. Terrain 7449' from departure end of runway, 1612' left of centerline, 6991' MSL. Terrain 8776' from departure end of runway, 1851' left of centerline, 7109' MSL. Tree 9665' from departure end of runway, 1326' right of centerline, 7340' MSL. Tree 11326' from departure end of runway, 355' left of centerline, 7351' MSL. **Rwy 20,** trees 1018' from departure end of runway, 620' left of centerline, 30' AGL/ 6768' MSL.



Figure 362

| LOC I-HLN | APP CRS | Rwy ldg | 9000 |
|---|---|---|---|
| 110.1 | 267° | TDZE | 3852 |
| | | Apt Elev | 3877 |

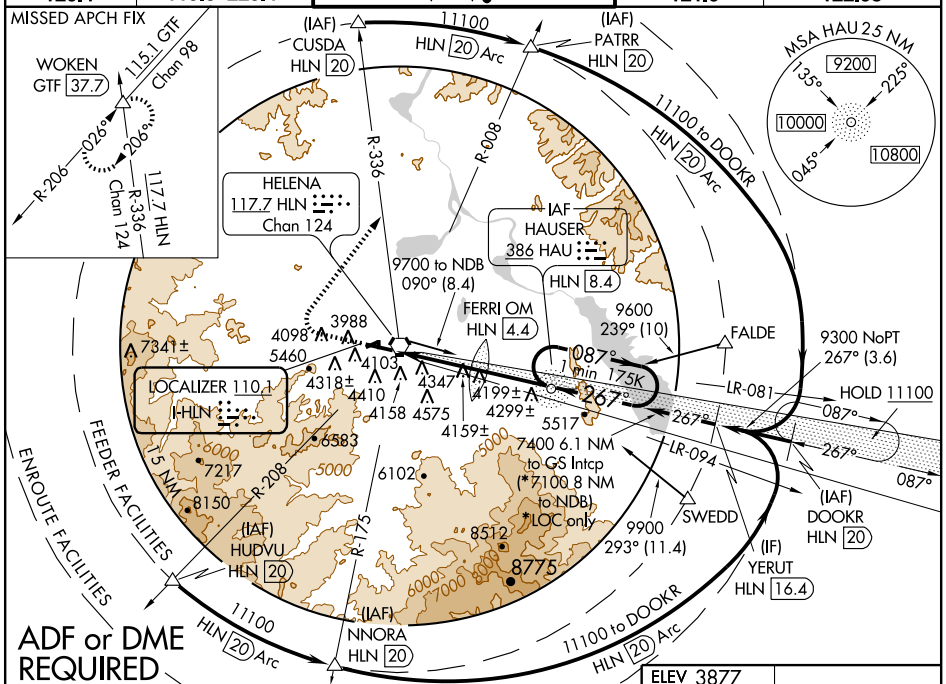
# ILS or LOC Y RWY 27
## HELENA RGNL (HLN)

Circling NA for Cats. D and E south of Rwy 9-27. Inoperative table does not apply to S-LOC 27 Cats. A-B. For inoperative MALSR, increase S-ILS 27 all Cats. visibility to 2 miles, S-LOC 27 Cat. E visibility to 3 miles, FERRI fix minimums: S-LOC 27 Cat E visibility to 2½ miles. DME arc to final approach required for turbojet aircraft. Holding at HAU NDB authorized for Category A and B aircraft only.

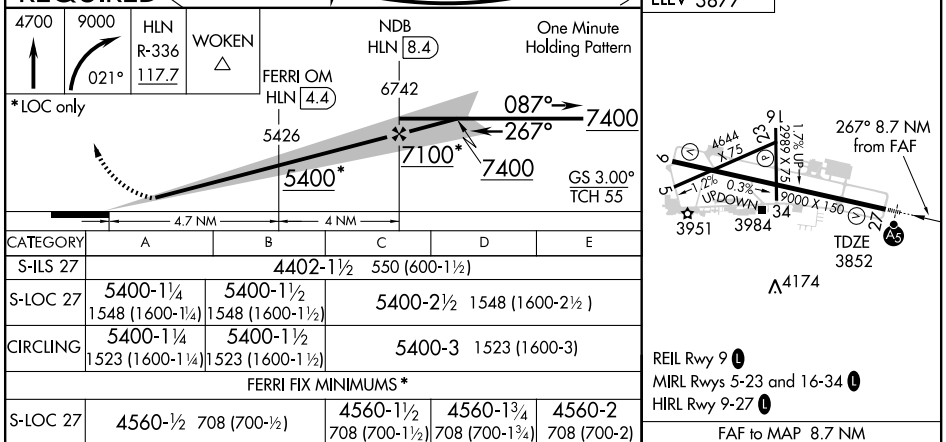
MALSR A5

MISSED APPROACH: Climb to 4700 then climbing right turn to 9000 via heading 021° and HLN VORTAC R-336 to WOKEN INT and hold.

| ATIS | HELENA APP CON * | HELENA TOWER * | GND CON | UNICOM |
|---|---|---|---|---|
| 120.4 | 119.5 229.4 | 118.3 (CTAF) L 257.8 | 121.9 | 122.95 |




NW-1, 05 APR 2012 to 03 MAY 2012




| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| S-ILS 27 | 4402-1½ 550 (600-1½) | | | | |
| S-LOC 27 | 5400-1¼ 1548 (1600-1¼) | 5400-1½ 1548 (1600-1½) | 5400-2½ 1548 (1600-2½) | | |
| CIRCLING | 5400-1¼ 1523 (1600-1¼) | 5400-1½ 1523 (1600-1½) | 5400-3 1523 (1600-3) | | |
| FERRI FIX MINIMUMS * | | | | | |
| S-LOC 27 | 4560-½ 708 (700-½) | | 4560-1½ 708 (700-1½) | 4560-1¾ 708 (700-1¾) | 4560-2 708 (700-2) |
| CIRCLING | 4640-1 763 (800-1) | | 4740-2½ 863 (900-2½) | 4740-2¾ 863 (900-2¾) | 4840-3 963 (1000-3) |

| FAF to MAP 8.7 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 8:42 | 5:48 | 4:21 | 3:29 | 2:54 |



Figure 363

HELENA, MONTANA

# COPTER VOR 251°

HELENA RGNL (KHLN)

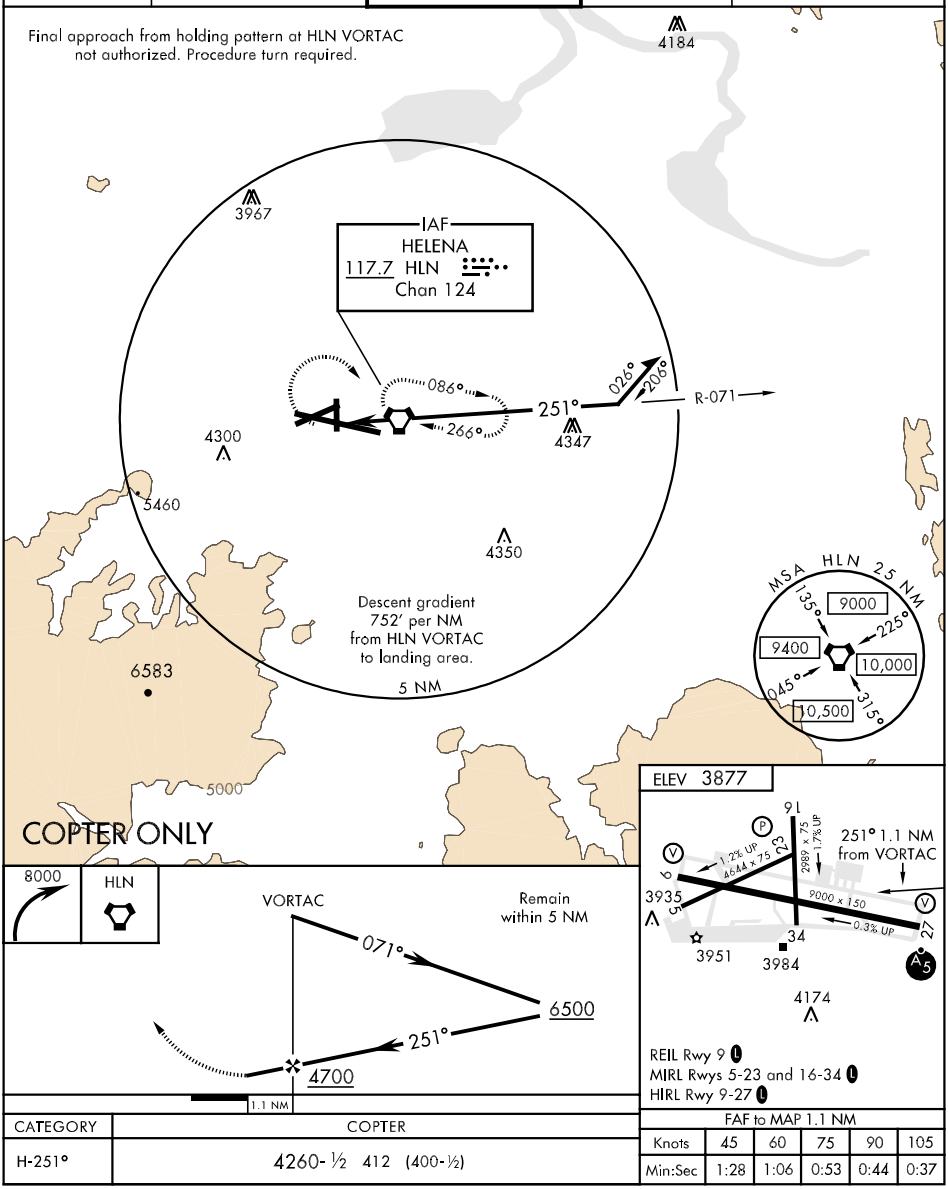
| VORTAC HLN 117.7 Chan 124 | APCH CRS 251° | Rwy ldg N/A TDZE N/A Arpt Elev 3877 |
|---|---|---|

AL-192 [USA]

NA when tower clsd.

MISSED APROACH: Climbing right turn to 8000 direct HLN VORTAC and hold.

| ATIS | HELENA APP CON | HELENA TOWER ★ | GND CON | UNICOM |
|---|---|---|---|---|
| 120.4 | 119.5 229.4 | 118.3 (CTAF) L 257.8 | 121.9 | 122.95 |




| CATEGORY | COPTER |
|---|---|
| H-251° | 4260-½ 412 (400-½) |

| FAF to MAP 1.1 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 45 | 60 | 75 | 90 | 105 |
| Min:Sec | 1:28 | 1:06 | 0:53 | 0:44 | 0:37 |

HELENA, MONTANA

Amdt 1 08MAR12

46°36′N-111°59′W

HELENA RGNL (KHLN)

COPTER VOR 251°

NW-1, 05 APR 2012 to 03 MAY 2012

NW-1, 05 APR 2012 to 03 MAY 2012

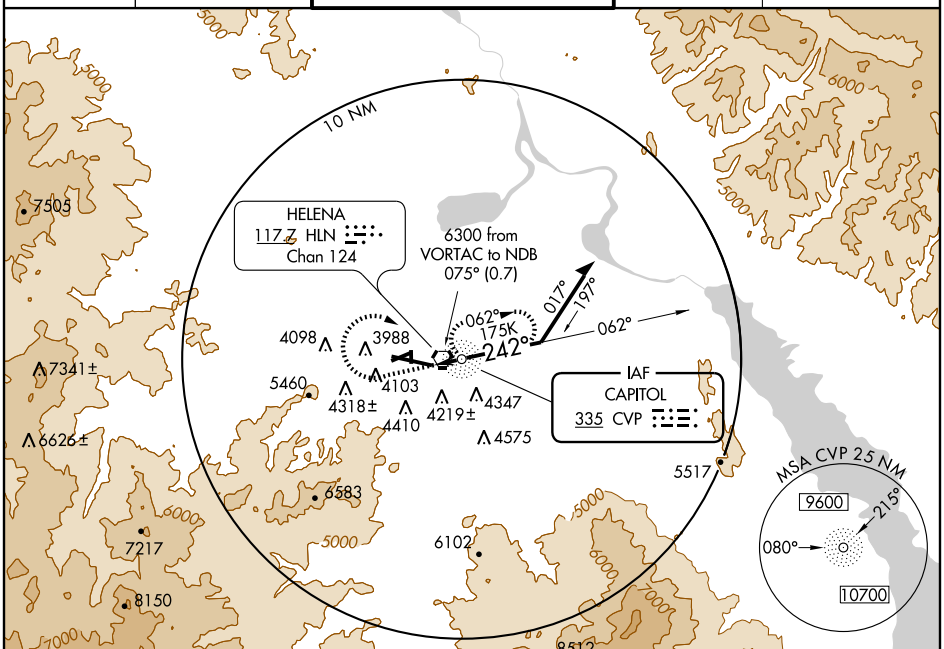
Figure 364

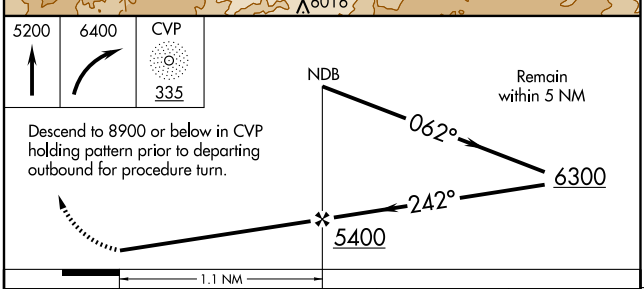
| NDB CVP | APP CRS | Rwy ldg | N/A |
|---|---|---|---|
| 335 | 242° | TDZE | N/A |
| | | Apt Elev | 3877 |

# NDB-D
## HELENA RGNL (HLN)

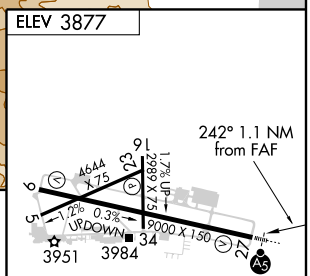
MISSED APPROACH: Climb to 5200, then climbing right turn to 6400 direct CVP NDB and hold.

| ATIS | HELENA APP CON ★ | HELENA TOWER ★ | GND CON | UNICOM |
|---|---|---|---|---|
| 120.4 | 119.5 229.4 | 118.3 (CTAF) L 257.8 | 121.9 | 122.95 |




Descend to 8900 or below in CVP holding pattern prior to departing outbound for procedure turn.




REIL Rwy 9 L
MIRL Rwys 5-23 and 16-34 L
HIRL Rwy 9-27 L

| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| CIRCLING | 4980-1¼ 1103 (1200-1¼) | NA | | |

| FAF to MAP 1.1 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 1:06 | 0:44 | 0:33 | 0:26 | 0:22 |



NW-1, 05 APR 2012 to 03 MAY 2012
NW-1, 05 APR 2012 to 03 MAY 2012

Figure 365

5000
6000
7000
8000
9000 X 150
34
16
2989 X 75
1.7% UP
23
4644
X 75
9
5
1.2%
0.3%
UPDOWN
3951
3984
A5
4174

# MINNEAPOLIS FIVE DEPARTURE

SL-264 (FAA) MINNEAPOLIS, MINNESOTA

ATIS DEP 120.8
CLNC DEL
133.2
MINNEAPOLIS DEP CON
SOUTH or EAST 124.7 357.4
NORTH or WEST 125.75 357.4
MINNEAPOLIS TOWER
123.95 273.55 (12L-30R)
126.7 273.55 (12R-30L, 4-22)
123.675 273.55 (17-35)

FARGO
116.2 FAR
Chan 109
N46°45.20′-W96°51.13′
L-14, H-2

DULUTH
112.6 DLH
Chan 73
N46°48.13′-W92°12.17′
L-14, H-2

BRAINERD
116.9 BRD
Chan 116
N46°20.89′-W94°01.55′
L-14, H-2

Rwy 17
(For assigned 230° CW 285°)
3500

FLYING CLOUD
117.7 FCM
Chan 124

MINNEAPOLIS
115.3 MSP
Chan 100

GREEN BAY
115.5 GRB
Chan 102
N44°33.31′-W88°11.69′
L-28-31, H-2

ABERDEEN
113.0 ABR
Chan 77
N45°25.04′-W98°22.12′
L-12-14, H-2

MSP 7

MSP 7

DME aircraft Rwy 12L/12R
(For assigned 060° CW 100°)
3500

RAPID CITY
112.3 RAP
Chan 70
N43°58.56′-W103°00.74′
L-12, H-2

Rwy 30L/30R
(For assigned 220° CW 360°)
3500

R-010

Non DME Aircraft
Rwy 12L/12R
(For assigned 060° CW 100°)
3500

NODINE
117.9 ODI
Chan 126
N43°54.74′-W91°28.05′
L-28, H-2

FARMINGTON
115.7 FGT
Chan 104

SIOUX FALLS
115.0 FSD
Chan 97
N43°38.97′-W96°46.87′
L-12, H-2-5

FORT DODGE
113.5 FOD
Chan 82
N42°36.67′-W94°17.69′
L-12, H-5

ROCHESTER
112.0 RST
Chan 57
N43°46.98′-W92°35.80′
L-12-28, H-2

DELLS
117.0 DLL
Chan 117
N43°33.05′-W89°45.82′
L-28, H-2-5

O'NEILL
113.9 ONL
Chan 86
N42°28.23′-W98°41.22′
L-12, H-5

OMAHA
116.3 OVR
Chan 110
N41°10.03′-W95°44.21′
L-10-12, H-5

DES MOINES
117.5 DSM
Chan 122
N41°26.26′-W93°38.91′
L-12-27, H-5

ST JOSEPH
115.5 STJ
Chan 102
N39°57.63′-W94°55.51′
L-10, H-5

KANSAS CITY
113.25 MCI
Chan 79 (Y)
N39°17.12′-W94°44.22′
L-10-27, H-5

NOTE: RADAR Required.

TAKE-OFF MINIMUMS:

Rwy 4, 12L/R, 17, 22: Standard.
Rwy 30L: Standard with minimum climb of 210′ per NM to 2100.
Rwy 30R: Standard with minimum climb of 220′ per NM to 2100.
Rwy 35: Standard with minimum climb of 219′ per NM to 2100.

DEPARTURE CROSSING RESTRICTIONS:

Runway 12L/R DME aircraft requires an ATC climb gradient of 546′ per NM to 3500.
Runway 12L/R Non-DME aircraft requires an ATC climb gradient of 594′ per NM to 3500.
Runway 17 requires an ATC climb gradient of 465′ per NM to 3500.
Runway 30L/R requires an ATC climb gradient of 380′ per NM to 3500.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.



NC-1, 05 APR 2012 to 03 MAY 2012

NC-1, 05 APR 2012 to 03 MAY 2012

Figure 367

## DEPARTURE ROUTE DESCRIPTION

ALL RUNWAYS: Fly assigned heading for radar vectors to join filed/assigned route. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude. Expect clearance to assigned altitude/flight level 10 (ten) minutes after departure.

DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: For assigned heading from 060° clockwise to 100°, cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply advise ATC as soon as possible prior to departure.

NON-DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: For assigned headings from 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure.

TAKE-OFF RWY 17 DEPARTURES: For assigned headings from 230° clockwise to 285° cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure.

TAKE-OFF RWYS 30L/30R DEPARTURES: For assigned headings from 220° clockwise to 360° cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure.

TAKE-OFF OBSTACLE NOTES:

RWY 04: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL.
Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL.
Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL.
Ant on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL.
LT poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL.
Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.

RWY 12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851′ MSL.
Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′ AGL/847′ MSL.
LT pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL.
Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/829′ MSL.
Pipe on bldg, 826′ from DER, 576′ left of centerline, 10′ AGL/825′ MSL.
OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

RWY 17: Antenna 1272′ from DER, 562′ right of centerline, 57′ AGL/891′ MSL.
Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL.
Wind direction indicator on bldg 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL.
Bldg 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL.
LT 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL.
Tree 2619′ from DER, on centerline, 79′ AGL/900′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL.
Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY 30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline, up to 80′ AGL/919′ MSL.
Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL.
Ground 28′ from DER, 490′ right of centerline, 0′ AGL/844′ MSL.

RWY 30R: Bldg 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL.
Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL.
LT pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL.
Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/857′ MSL.
Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/914′ MSL.
Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL.

RWY 35: Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL.
Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL.
Multiple buildings beginning 5.5 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.



NC-1, 05 APR 2012 to 03 MAY 2012
NC-1, 05 APR 2012 to 03 MAY 2012

Figure 368

| LOC/DME I-PJL | APP CRS | Rwy ldg | 7620 |
|---|---|---|---|
| 110.7 | 120° | TDZE | 839 |
| Chan 44 | | Apt Elev | 841 |

# ILS or LOC RWY 12L

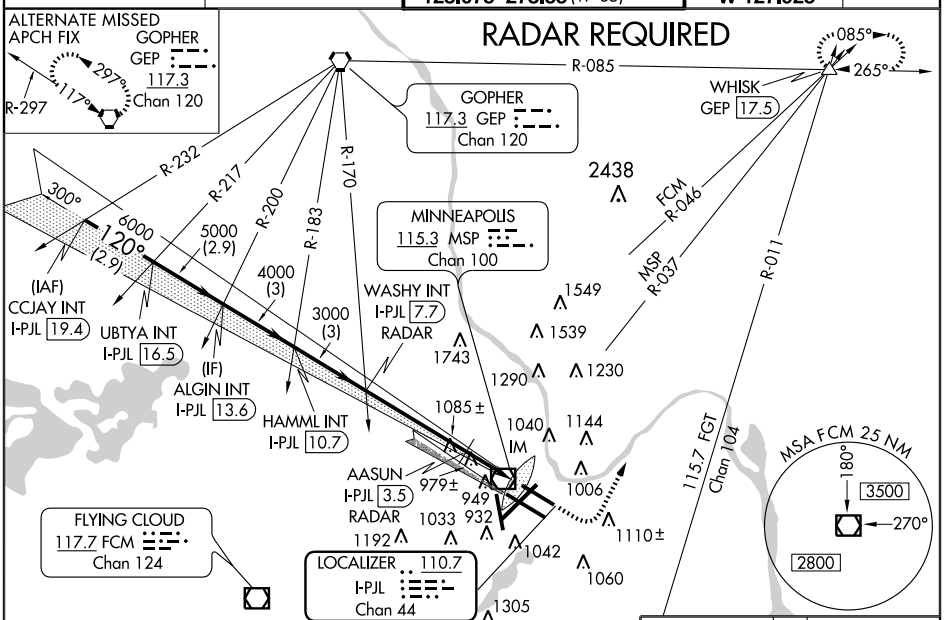
## MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

For inop ALSF, increase S-ILS 12L Cat E visibility to RVR 4000 and S-LOC 12L Cat E visibility to 2½ mile. For inop ALSF when using AASUN fix minimums, increase S-LOC Cat E visibility to 1½ mile. Simultaneous approach authorized with Rwy 12R.

ALSF-2

MISSED APPROACH: Climb to 1500, then climbing left turn to 4000 via heading 350° and FCM VOR/DME R-046 to WHISK INT/ GEP 17.5 DME and hold.

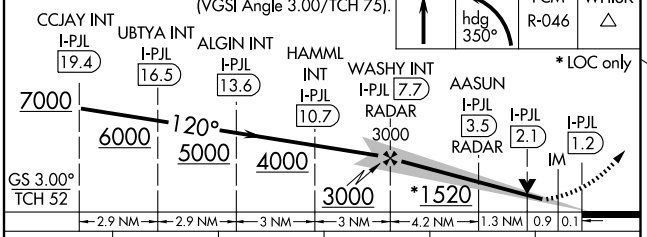
| ATIS | MINNEAPOLIS APP CON | MINNEAPOLIS TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| ARR 135.35 239.275<br>DEP 120.8 | 119.3 335.5 | 123.95 273.55 (12L-30R)<br>126.7 273.55 (12R-30L, 4-22)<br>123.675 273.55 (17-35) | N 121.8 348.6<br>S 121.9 348.6<br>W 127.925 | 133.2 |




NC-1, 05 APR 2012 to 03 MAY 2012

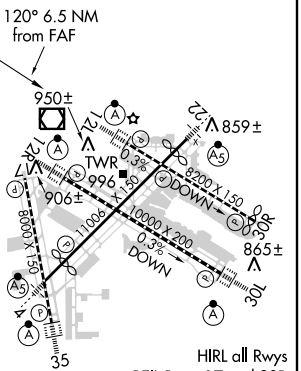
VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 75).

| 1500 | 4000 hdg 350° | FCM R-046 | WHISK △ |
|---|---|---|---|




* LOC only

ELEV 841 D TDZE 839




| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| S-ILS 12L | 1039/18 200 (200-½) | | | | |
| S-LOC 12L | 1520/24 681 (700-½) | | 1520-1½ 681 (700-1½) | 1520-1¾ 681 (700-1¾) | 1520-2 681 (700-2) |
| CIRCLING | 1520-1 679 (700-1) | | 1520-2 679 (700-2) | 1520-2¼ 679 (700-2¼) | 1660-3 819 (900-3) |
| AASUN FIX MINIMUMS | | | | | |
| S-LOC 12L | 1240/24 401 (400-½) | | 1240/40 401 (400-¾) | | 1240/50 401 (400-1) |
| CIRCLING | 1360-1 519 (600-1) | | 1360-1½ 519 (600-1½) | 1460-2 619 (700-2) | 1660-3 819 (900-3) |

| FAF to MAP 6.5 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 6:30 | 4:20 | 3:15 | 2:36 | 2:10 |

NC-1, 05 APR 2012 to 03 MAY 2012



Figure 369

| LOC/DME I-BMA | APP CRS | Rwy ldg | 8000 |
|---|---|---|---|
| 110.95 | 349° | TDZE | 834 |
| Chan 46 (Y) | | Apt Elev | 841 |

# ILS or LOC RWY 35

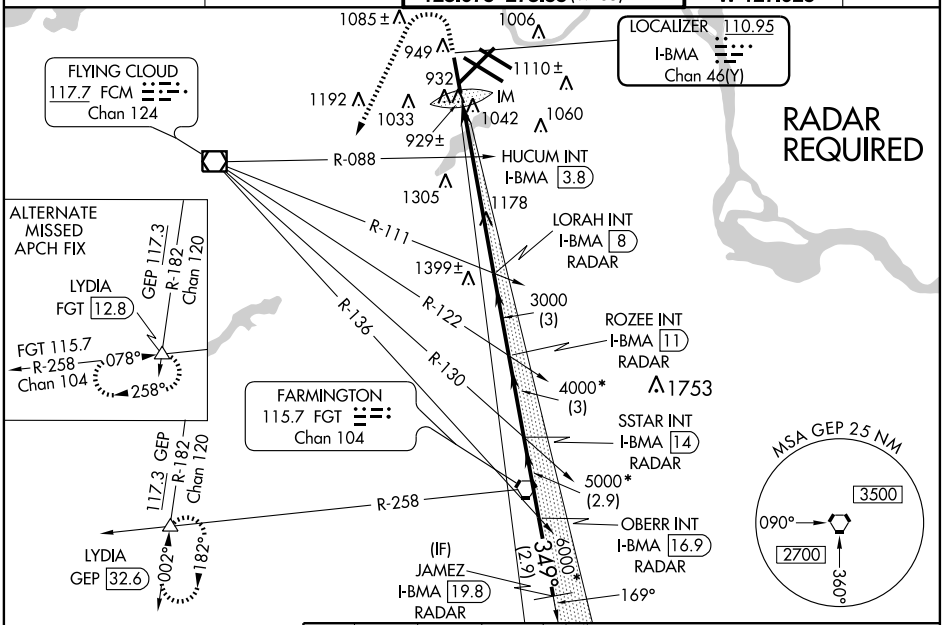
## MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

For inoperative ALSF, increase S-ILS 35 Cat E visibility to RVR 4000, increase all S-LOC 35 Cat E visibilities to ½ mile.

ALSF-2

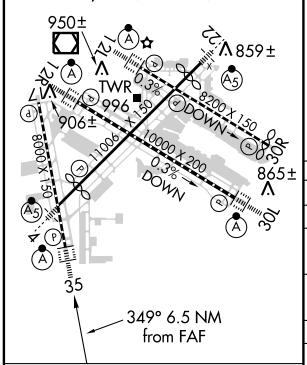
MISSED APPROACH: Climb to 1600 then climbing left turn to 5000 via heading 240° and GEP R-182 to LYDIA INT/ GEP 32.6 DME and hold.

| ATIS | MINNEAPOLIS APP CON | MINNEAPOLIS TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| ARR 135.35 239.275<br>DEP 120.8 | 119.3 335.5 | 123.95 273.55 (12L-30R)<br>126.7 273.55 (12R-30L, 4-22)<br>123.675 273.55 (17-35) | N 121.8 348.6<br>S 121.9 348.6<br>W 127.925 | 133.2 |




| ELEV 841 | D | TDZE 834 |
|---|---|---|

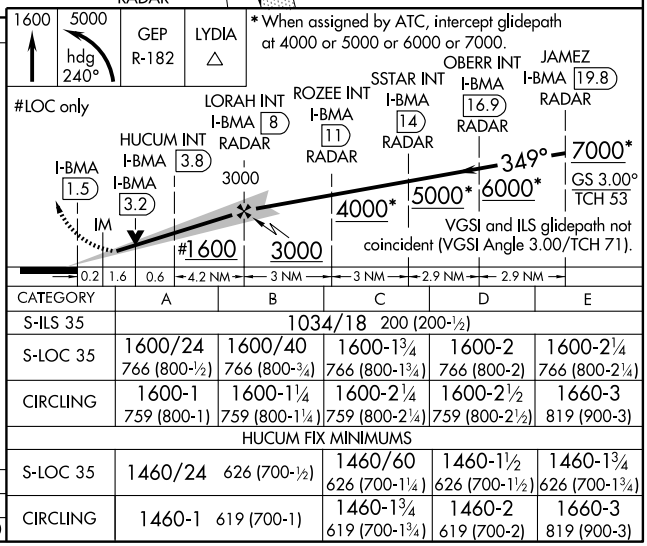
HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35




| FAF to MAP 6.5 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 6:30 | 4:20 | 3:15 | 2:36 | 2:10 |

| 1600 | 5000 hdg 240° | GEP R-182 | LYDIA △ |
|---|---|---|---|

* When assigned by ATC, intercept glidepath at 4000 or 5000 or 6000 or 7000.




| CATEGORY | A | B | C | D | E |
|---|---|---|---|---|---|
| S-ILS 35 | 1034/18 200 (200-½) | | | | |
| S-LOC 35 | 1600/24<br>766 (800-½) | 1600/40<br>766 (800-¾) | 1600-1¾<br>766 (800-1¾) | 1600-2<br>766 (800-2) | 1600-2¼<br>766 (800-2¼) |
| CIRCLING | 1600-1<br>759 (800-1) | 1600-1¼<br>759 (800-1¼) | 1600-2¼<br>759 (800-2¼) | 1600-2½<br>759 (800-2½) | 1660-3<br>819 (900-3) |
| HUCUM FIX MINIMUMS | | | | | |
| S-LOC 35 | 1460/24 626 (700-½) | | 1460/60<br>626 (700-1¼) | 1460-1½<br>626 (700-1½) | 1460-1¾<br>626 (700-1¾) |
| CIRCLING | 1460-1 619 (700-1) | | 1460-1¾<br>619 (700-1¾) | 1460-2<br>619 (700-2) | 1660-3<br>819 (900-3) |



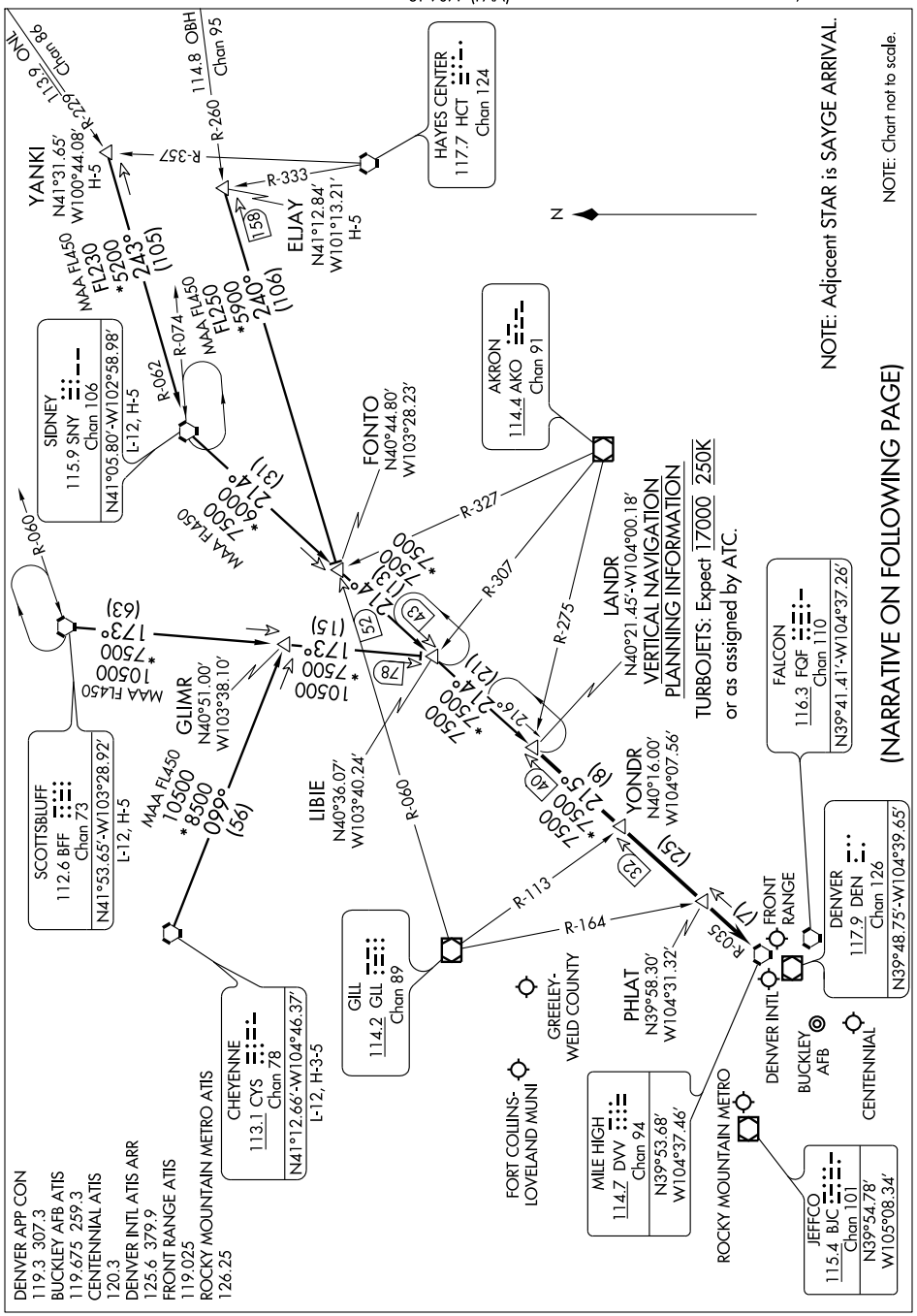
Figure 370

NC-1, 03 MAY 2012 to 31 MAY 2012
NC-1, 03 MAY 2012 to 31 MAY 2012

# LANDR SIX ARRIVAL

ST-9077 (FAA)

DENVER, COLORADO




SW-1, 05 APR 2012 to 03 MAY 2012

SW-1, 05 APR 2012 to 03 MAY 2012

LANDR SIX ARRIVAL

DENVER, COLORADO

(LANDR.LANDR6) 12096

Figure 371

ARRIVAL ROUTE DESCRIPTION

CHEYENNE TRANSITION (CYS.LANDR6): From over CYS VORTAC via CYS R-099 and BFF R-173 to LIBIE INT; then via SNY R-214 and DVV R-035 to LANDR INT. Thence . . . .

ELJAY TRANSITION (ELJAY.LANDR6): From over ELJAY INT via GLL R-060 to FONTO INT, then via SNY R-214 and DVV R-035 to LANDR INT. Thence . . . .

SCOTTSBLUFF TRANSITION (BFF.LANDR6): From over BFF VORTAC via BFF R-173 to LIBIE INT; then via SNY R-214 and DVV R-035 to LANDR INT. Thence . . . .

SIDNEY TRANSITION (SNY.LANDR6): From over SNY VORTAC via SNY R-214 to FONTO INT, then via SNY R-214 and DVV R-035 to LANDR INT. Thence . . . .

YANKI TRANSITION (YANKI.LANDR6): From over YANKI INT via SNY R-062 to SNY VORTAC; then via SNY R-214 and DVV R-035 to LANDR INT. Thence . . . .

. . . . From over LANDR INT via DVV R-035 to DVV VORTAC. Expect RADAR vectors to the final approach course at or before DVV VORTAC.


SW-1, 05 APR 2012 to 03 MAY 2012



Figure 372

| LOC/DME I-ERP | APP CRS | Rwy ldg | 12000 |
|---|---|---|---|
| 111.55 | 260° | TDZE | 5352 |
| Chan 52(Y) | | Apt Elev | 5431 |

# ILS or LOC RWY 25

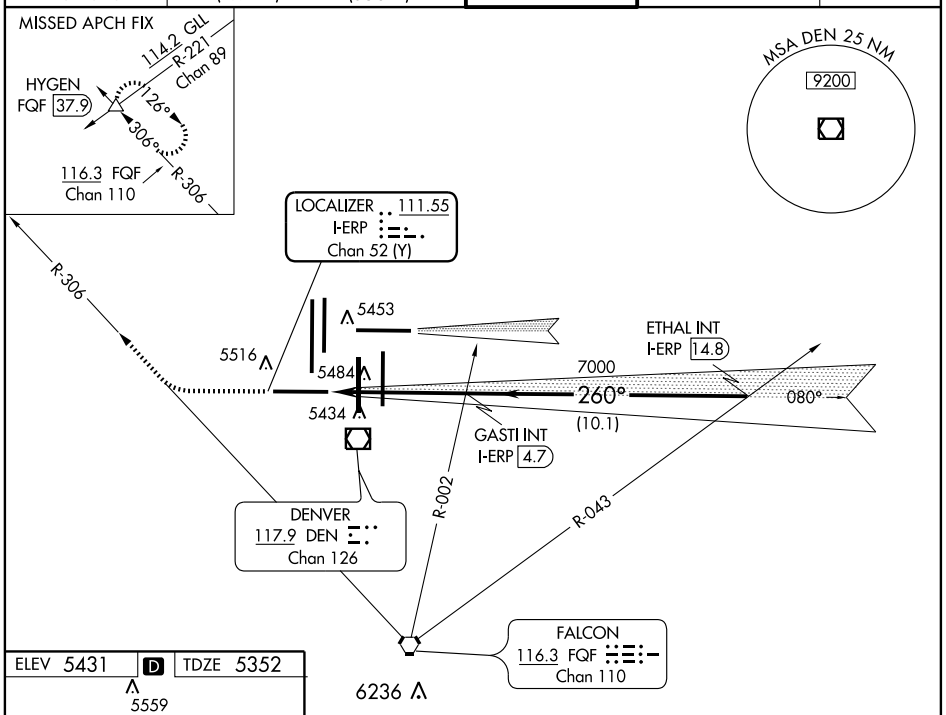
## DENVER INTL (DEN)

Simultaneous approach authorized with Rwy 26.
S-LOC minimums not authorized during simultaneous operations.
# RVR 1800 authorized with the use of FD or AP or HUD to DA.

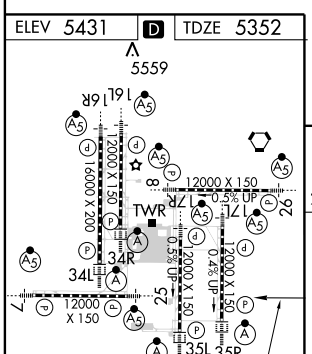
MALSR

MISSED APPROACH: Climb to 12000 via 260° heading and FQF VORTAC R-306 to HYGEN INT/FQF 37.9 DME and hold.

| ATIS | DENVER APP CON | DENVER TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| ARR 125.6 379.9<br>DEP 134.025 | 119.3 307.3 (NORTH)<br>120.35 379.3 (SOUTH) | 132.35 273.55 | 127.5 379.175 | 118.75 |



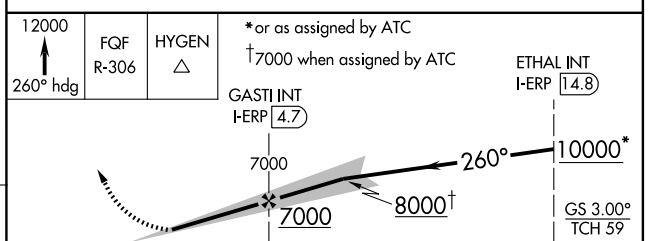

RADAR REQUIRED




TDZ/CL Rwys 7, 16L, 16R, 17R, 26, 34L, 34R, 35L, 35R
HIRL all Rwys

260° 4.9 NM from FAF

| FAF to MAP 4.9 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:54 | 3:16 | 2:27 | 1:58 | 1:38 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 25 | # 5552/24 200 (200-½) | | | |
| S-LOC 25 | 5720/24 368 (300-½) | | | 5720/40 368 (300-¾) |
| CIRCLING | NA | | | |

# ILS or LOC RWY 8
## DENVER INTL (DEN)

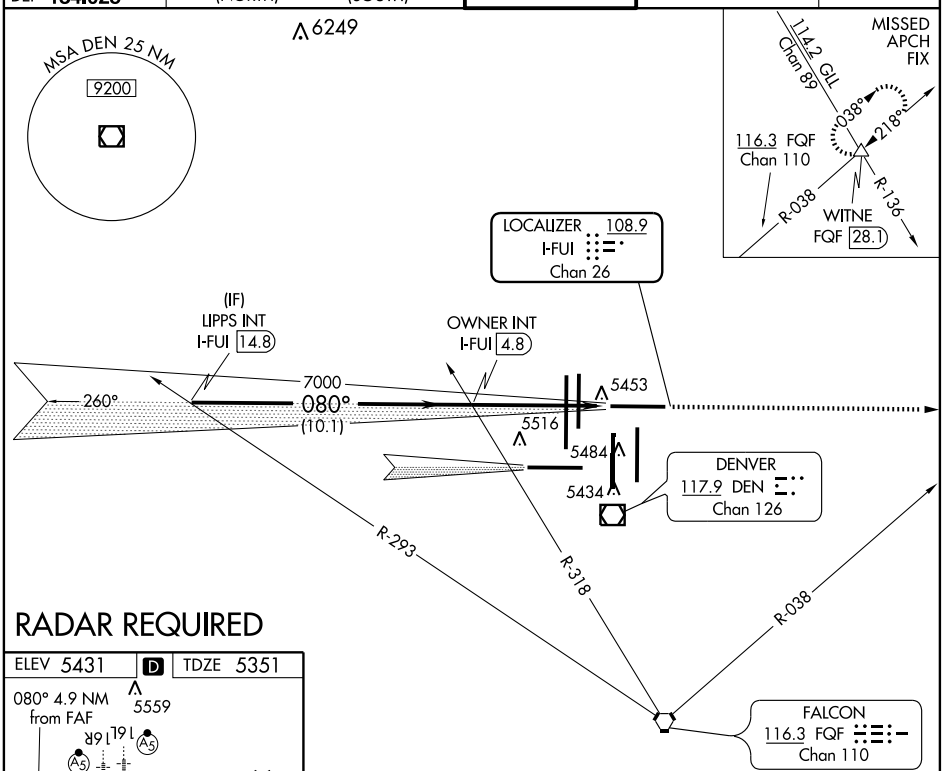
| LOC/DME I-FUI | APP CRS | Rwy ldg | 12000 |
|---|---|---|---|
| 108.9 | 080° | TDZE | 5351 |
| Chan 26 | | Apt Elev | 5431 |

Simultaneous approaches authorized with Rwy 7.
S-LOC minima not authorized during simultaneous operations.
** RVR 1800 authorized with the use of FD or AP or HUD to DA.

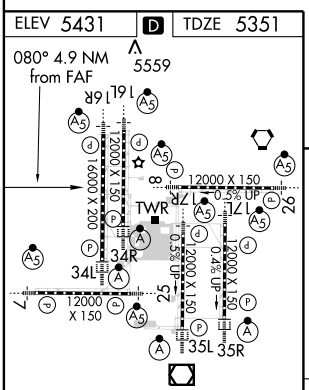
MALSR

MISSED APPROACH: Climb to 10000 via 080° heading and FQF VORTAC R-038 to WITNE INT/FQF 28.1 DME and hold.

| ATIS | DENVER APP CON | DENVER TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|
| ARR 125.6 379.9<br>DEP 134.025 | 119.3 307.3 (NORTH)<br>120.35 379.3 (SOUTH) | 124.3 239.275 | 121.85 377.1 | 118.75 |

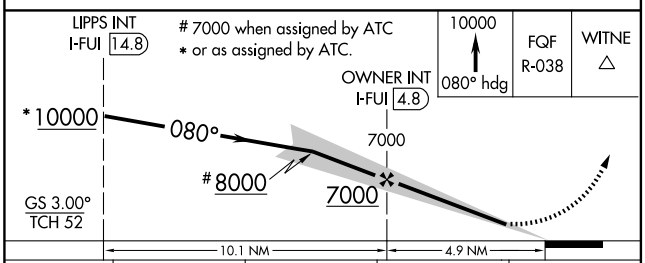



RADAR REQUIRED



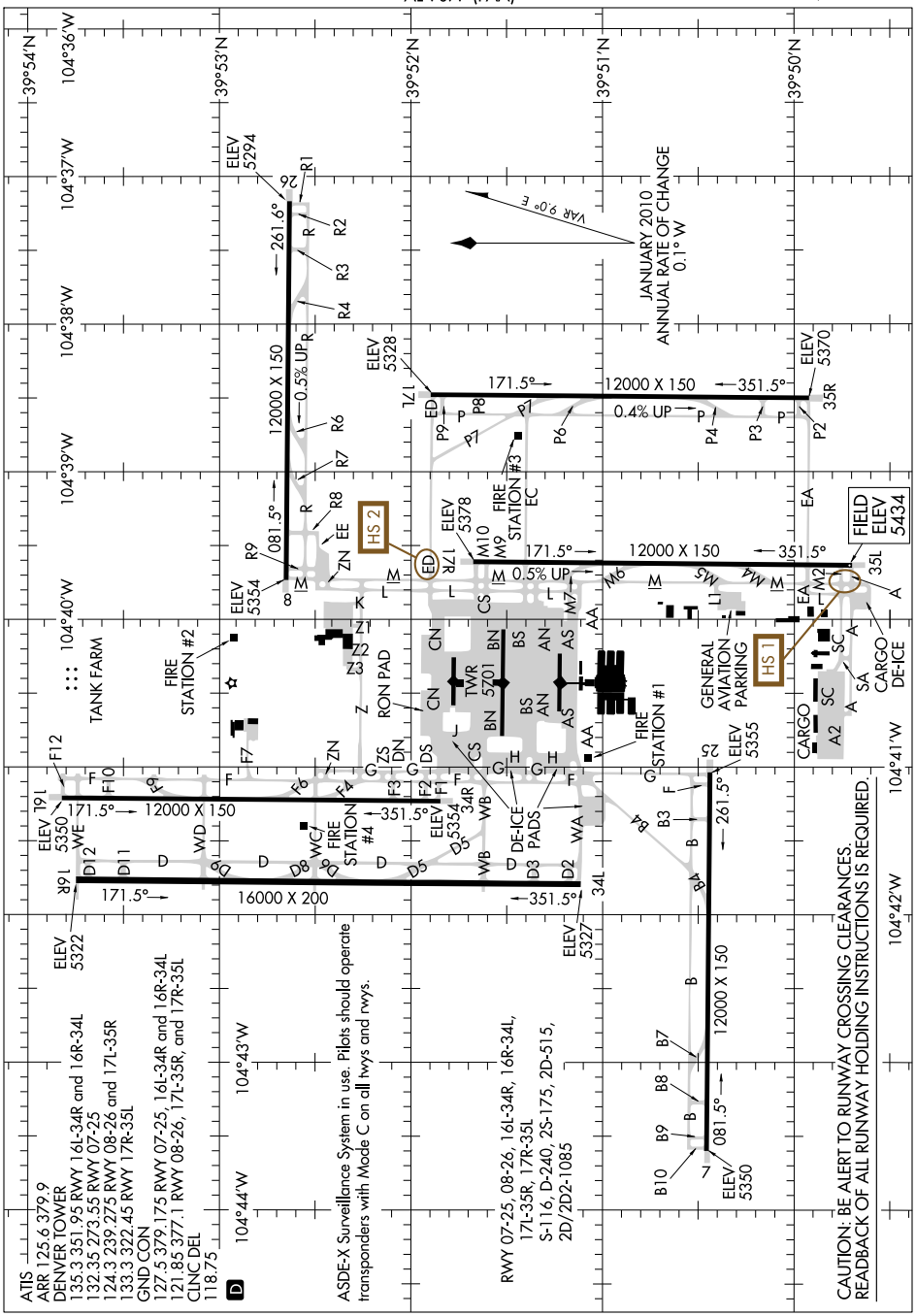

TDZ/CL Rwys 7, 16L, 16R, 17R, 26, 34L, 34R, 35L, 35R
HIRL all Rwys

| FAF to MAP 4.9 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 4:54 | 3:16 | 2:27 | 1:58 | 1:38 |




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| S-ILS 8 | ** 5551/24 200 (200-½) | | | |
| S-LOC 8 | 5700/24 349 (300-½) | | | 5700/40 349 (300-¾) |
| CIRCLING | NA | | | |

AL-9077 (FAA)



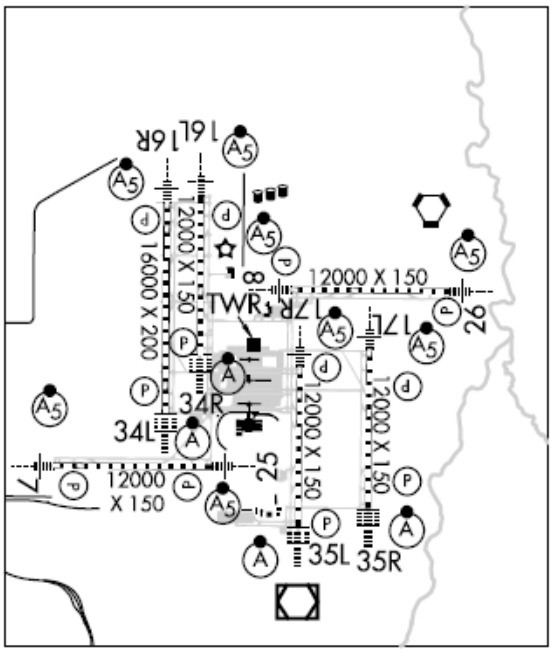

SW-1, 05 APR 2012 to 03 MAY 2012

SW-1, 05 APR 2012 to 03 MAY 2012



Figure 375

**DENVER INTL** (DEN) 16 NE UTC–7(–6DT) N39°51.70′ W104°40.39′ **DENVER**
5434 B S4 **FUEL** 100, 100LL, JET A, MOGAS OX 1, 3 Class I, ARFF Index E **H–3F, 5A, L–10F, A**
NOTAM FILE DEN **IAP, AD**




**RWY 16R–34L:** H16000X200 (CONC–GRVD) S–116, D–240, 2S–175, 2D–515, 2D/2D2–1085 PCN 92 R/B/W/T HIRL CL
**RWY 16R:** MALSR. TDZL. PAPI(P4R)—GA 3.0° TCH 55′.
**RWY 34L:** ALSF2. TDZL. PAPI(P4L)—GA 3.0° TCH 50′.
**RWY 07–25:** H12000X150 (CONC–GRVD) S–116, D–240, 2S–175, 2D–515, 2D/2D2–1085 PCN 92 R/B/W/T HIRL CL
**RWY 07:** MALSR. TDZL. PAPI(P4R)—GA 3.0° TCH 55′.
**RWY 25:** MALSR. PAPI(P4L)—GA 3.0° TCH 59′.
**RWY 08–26:** H12000X150 (CONC–GRVD) S–116, D–240, 2S–175, 2D–515, 2D/2D2–1085 PCN 92 R/B/W/T HIRL CL
**RWY 08:** MALSR. PAPI(P4L)—GA 3.0° TCH 52′.
**RWY 26:** MALSR. TDZL. PAPI(P4L)—GA 3.0° TCH 55′. 0.5% up.
**RWY 16L–34R:** H12000X150 (CONC–GRVD) S–116, D–240, 2S–175, 2D–515, 2D/2D2–1085 PCN 92 R/B/W/T HIRL CL
**RWY 16L:** MALSR. TDZL. PAPI(P4L)—GA 3.0° TCH 60′.
**RWY 34R:** ALSF2. TDZL. PAPI(P4L)—GA 3.0° TCH 59′.
**RWY 17L–35R:** H12000X150 (CONC–GRVD) S–116, D–240, 2S–175, 2D–515, 2D/2D2–1085 PCN 92 R/B/W/T HIRL CL
**RWY 17L:** MALSR. PAPI(P4L)—GA 3.0° TCH 55′. 0.4% up.
**RWY 35R:** ALSF2. TDZL. PAPI(P4R)—GA 3.0° TCH 59′.
**RWY 17R–35L:** H12000X150 (CONC–GRVD) S–116, D–240, 2S–175, 2D–515, 2D/2D2–1085 PCN 92 R/B/W/T HIRL CL
**RWY 17R:** MALSR. TDZL. PAPI(P4L)—GA 3.0° TCH 60′. 0.5% up.
**RWY 35L:** ALSF2. TDZL. PAPI(P4R)—GA 3.0° TCH 57′.

**RUNWAY DECLARED DISTANCE INFORMATION**

**RWY 07:** TORA–12000 TODA–12000 ASDA–12000 LDA–12000
**RWY 08:** TORA–12000 TODA–13000 ASDA–12000 LDA–12000
**RWY 16L:** TORA–12000 TODA–12000 ASDA–12000 LDA–12000
**RWY 16R:** TORA–16000 TODA–16000 ASDA–16000 LDA–16000
**RWY 17L:** TORA–12000 TODA–12000 ASDA–12000 LDA–12000
**RWY 17R:** TORA–12000 TODA–12000 ASDA–12000 LDA–12000
**RWY 25:** TORA–12000 TODA–13000 ASDA–12000 LDA–12000
**RWY 26:** TORA–12000 TODA–12000 ASDA–12000 LDA–12000
**RWY 34L:** TORA–16000 TODA–16000 ASDA–16000 LDA–16000
**RWY 34R:** TORA–12000 TODA–13000 ASDA–12000 LDA–12000
**RWY 35L:** TORA–12000 TODA–12000 ASDA–12000 LDA–12000
**RWY 35R:** TORA–12000 TODA–12000 ASDA–12000 LDA–12000

**AIRPORT REMARKS:** Attended continuously. Waterfowl and migratory bird activity invof arpt year round. ASDE–X Surveillance System in use: Pilots should opr transponders with Mode C on all twys and rwys. Arpt maintains clearways (500′ X 1000′). 1.25% slope) on departure Rwy 08, Rwy 26, and Rwy 34R. RVR Rwy 07 touchdown, rollout, RVR Rwy 25 touchdown, rollout, RVR Rwy 08 touchdown, rollout, RVR Rwy 26 touchdown, rollout, RVR Rwy 16L touchdown, midfield, rollout, RVR Rwy 34R touchdown, midfield, rollout, RVR Rwy 17L touchdown, midfield, rollout, RVR Rwy 35R touchdown, midfield, rollout, RVR Rwy 17R touchdown, midfield, rollout, RVR Rwy 35L touchdown, midfield, rollout. RVR Rwy 16R touchdown, midfield, rollout, RVR Rwy 34L touchdown, midfield, rollout. Overhead passenger bridge on South side of concourse `A′ provides 42 ft tail and 118 ft wingspan clearance when on twy centerline. Insufficient twy corner fillet pavement in the SE corner of the Twy M/M2 intersection for acft with wingspan over 107 ft. Informal rwy use program is in effect 24 hours a day. For additional noise abatement information contact airport management at 303–342–4200. Customs avbl with prior permission. Ldg fee. Flight Notification Service (ADCUS) avbl. NOTE: See Special Notices—Continuous Power Facilities.

**WEATHER DATA SOURCES:** ASOS (303) 342-0838 LLWAS-NE. TDWR.

**COMMUNICATIONS: D-ATIS ARR** 125.6 303-342-0819 **D-ATIS DEP** 134.025 303-342-0820 **UNICOM** 122.95
**RCO** 122.2 122.35 (DENVER RADIO)
**RCO** 123.65 (DENVER RADIO)
Ⓡ**APP CON** 119.3 124.95 (North) 120.35 126.55 (South) **FINAL CON** 120.8
**TOWER** 132.35 (Rwy 07-25) 135.3 (Rwy 16L-34R, Rwy 16R-34L) 133.3 (Rwy 17R-35L) 124.3 (Rwy 08-26 and 17L-35R)
**GND CON** 127.5 (Rwy 07-25, Rwy 16L-34R and Rwy 16R-34L) 121.85 (Rwys 08-26, 17L-35R and 17R-35L)
**CLNC DEL** 118.75
Ⓡ**DEP CON** 128.25 (East) 127.05 (North) 126.1 (West) 128.45 (South)

**AIRSPACE: CLASS B** See VFR Terminal Area Chart

**RADIO AIDS TO NAVIGATION:** NOTAM FILE DEN.

CONTINUED ON NEXT PAGE

Figure 376

CONTINUED FROM PRECEDING PAGE

**(H) VORW/DME** 117.9 DEN Chan 126 N39°48.75′ W104°39.64′ 338° 3.0 NM to fld. 5452/11E.
**ILS/DME** 111.55 I-DZG Chan 52(Y) Rwy 07. Class IE.
**ILS/DME** 108.9 I-FUI Chan 26 Rwy 08.
**ILS/DME** 111.1 I-LTT Chan 48 Rwy 16L. Class IE.
**ILS/DME** 111.9 I-DQQ Chan 56 Rwy 16R.
**ILS/DME** 110.15 I-BXP Chan 38(Y) Rwy 17L. Class IE.
**ILS/DME** 108.5 I-ACX Chan 22 Rwy 17R. Class IE.
**ILS/DME** 111.55 I-ERP Chan 52(Y) Rwy 25. Class IE.
**ILS/DME** 108.9 I-JOY Chan 26 Rwy 26. Class IE.
**ILS/DME** 111.9 I-DXU Chan 56 Rwy 34L. Class IIIE.
**ILS/DME** 111.1 I-OUF Chan 48 Rwy 34R. Class IIIE.
**ILS/DME** 108.5 I-AQD Chan 22 Rwy 35L.
**ILS/DME** 110.15 I-DPP Chan 38(Y) Rwy 35R. Class IIIE.
**COMM/NAV/WEATHER REMARKS:** Emerg frequency 121.5 not avbl at twr.

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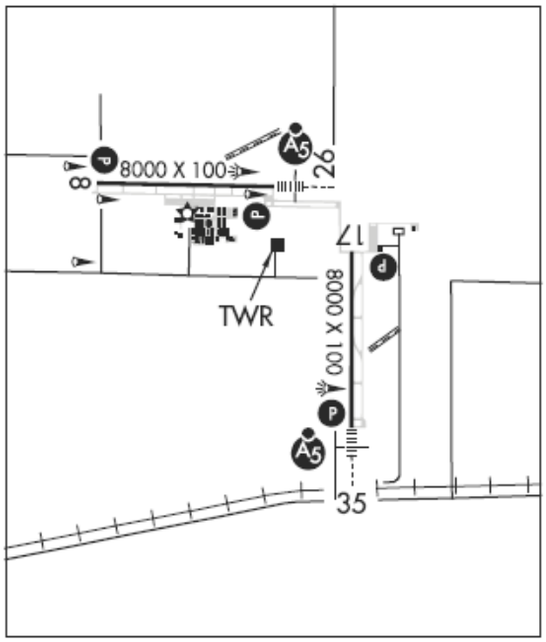
## FRONT RANGE (FTG) 19 E UTC–7(–6DT) N39°47.12′ W104°32.59′

**DENVER**
**H–5A, L–10F, A**
**IAP, AD**

5512 B S4 **FUEL** 100LL, JET A OX 1, 2 TPA—6500(988) NOTAM FILE FTG

**RWY 08–26:** H8000X100 (ASPH) S–28, D–40 HIRL
**RWY 08:** REIL. PAPI(P2L)—GA 3.0° TCH 50′. Rgt tfc. 0.5% up.
**RWY 26:** MALSR. PAPI(P2L)—GA 3.0° TCH 50′. 0.4% down.
**RWY 17–35:** H8000X100 (ASPH) S–34, D–75 MIRL
**RWY 17:** REIL. PAPI(P4L)—GA 3.0° TCH 50′. 0.5% up.
**RWY 35:** MALSR. PAPI(P4L)—GA 3.0° TCH 50′. Rgt tfc.




**AIRPORT REMARKS:** Attended 1400–0400Z‡. For svc after hrs call 303–208–8536. 24 hr credit card 100LL self fueling station. Be alert, intensive USAF student training invof Colorado Springs and Pueblo Colorado. Noise sensitive areas SE, S and SW of arpt. Avoid flights blo 1,000 ft over populated areas. Blue and yellow reflectors along Twy A, B, C, E edges. ACTIVATE MIRL Rwy 17–35, HIRL Rwy 08–26, PAPI Rwy 08, Rwy 26, Rwy 17 and Rwy 35 and REIL Rwy 08 and Rwy 17, MALSR Rwy 26 and Rwy 35—CTAF. See Special Notices—USAF 306 FTG Flight Training Areas, Vicinity of Colorado Springs and Pueblo Colorado.
**WEATHER DATA SOURCES:** AWOS-3 119.025 (303) 261-9104.
**COMMUNICATIONS: CTAF** 120.2 **ATIS** 119.025 **UNICOM** 122.95
**DENVER APP/DEP CON** 128.2
**TOWER** 120.2 (1400-0400Z‡) **GND CON** 124.7 **CLNC DEL** 124.7
**DENVER CLNC DEL** 121.75 (0400-1400Z‡)
**AIRSPACE: CLASS D** svc 1400-0400Z‡ other times CLASS G
**RADIO AIDS TO NAVIGATION:** NOTAM FILE DEN.
**DENVER (H) VORW/DME** 117.9 DEN Chan 126 N39°48.75′ W104°39.64′ 096° 5.7 NM to fld. 5452/11E.
**SKIPI NDB (LOM)** 321 FT N39°47.51′ W104°26.05′ 255° 5.1 NM to fld. Unmonitored.
**ILS/DME** 110.9 I-FZR Chan 46 Rwy 17.
**ILS/DME** 109.3 I-FTG Chan 30 Rwy 26. LOM SKIPI NDB. Unmonitored.
**ILS/DME** 110.9 I-VWT Chan 46 Rwy 35.

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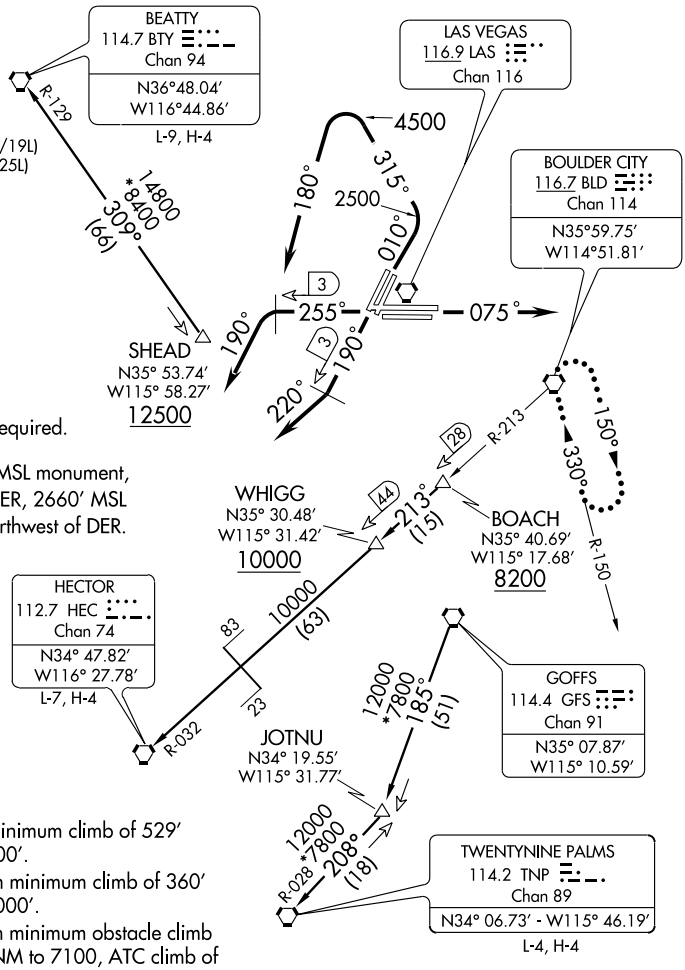
Figure 377

# MCCARRAN THREE DEPARTURE

ATIS 132.4
CLNC DEL
118.0 379.95
GND CON
121.1 270.8 E of 1R/19L
121.9 254.3 W of 1R/19L
LAS VEGAS TOWER
118.75 257.8 (Rwy 1L/19R, 1R/19L)
119.9 257.8 (Rwy 7L/25R, 7R/25L)
LAS VEGAS DEP CON
125.9 307.25




NOTE: RADAR and DME required.

NOTE: Rwys 1L/R 3189′ MSL monument, 2.7 NM north of DER, 2660′ MSL building, 1 NM northwest of DER.

TAKE-OFF MINUMUMS

Rwys 1L/R: 1100-3 with minimum climb of 529′ per NM to 7000′.

Rwys 19L/R: Standard with minimum climb of 360′ per NM to 7000′.

Rwys 25L/R: Standard with minimum obstacle climb of 324′ per NM to 7100, ATC climb of 360′ per NM to 7000.

Rwys 7L/R: Standard with minimum ATC climb of 440′ per NM to 7000′.

TAKE-OFF OBSTACLE NOTES

RWY 1L: Pole 450′ from DER, 283′ left of centerline, 38′ AGL/2118′ MSL.
Obstacle light on wind sock 248′ from DER, 224′ right of centerline, 50′ AGL/2104′ MSL.
Pole 1029′ from DER, 715′ left of centerline, 85′ AGL/2124′ MSL.
Tree 1536′ from DER, 502′ left of centerline, 100′ AGL/2132′ MSL.

RWY 1R: Sign 1331′ from DER, 448′ right of centerline, 60′ AGL/2120′ MSL
Building 599′ from DER, 541′ right of centerline, 70′ AGL/2096′ MSL

(NOTES CONTINUED ON FOLLOWING PAGE)

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.



Figure 378

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 1L/R: Climb via heading 010° to 2500′, then climbing left turn via heading 315° to 4500′, then climbing left turn heading 180°, thence ....

TAKE-OFF RUNWAYS 7L/R: Climb via heading 075°, thence ....

TAKE-OFF RUNWAYS 19L/R: Climb via heading 190° until LAS VORTAC 3 DME, then right turn via heading 220°, thence ....

TAKE-OFF RUNWAYS 25L/R: Climb via heading 255° until LAS VORTAC 3 DME, then left turn via heading 190°, thence ....

....via radar vectors to transition or assigned route, maintain 7000′, expect clearance to filed altitude 2 minutes after departure.

LOST COMMUNICATIONS: If no contact with ATC upon reaching 7000′, proceed direct BLD VORTAC, then climb in BLD VORTAC holding pattern to the appropriate MEA for route of flight.

BEATTY TRANSITION (MCCRN3.BTY): From over SHEAD INT via BTY R-129 to BTY VORTAC.

HECTOR TRANSITION (MCCRN3.HEC): From over BOACH INT via BLD R-213 and HEC R-032 to HEC VORTAC.

TWENTY NINE PALMS TRANSITION (MCCRN3.TNP): From over GFS VORTAC via GFS R-185 to JOTNU INT, then via TNP R-028 to TNP VORTAC.

TAKE-OFF OBSTACLE NOTES (CONTINUED)

RWY 25R: Light pole 3115′ from DER, 1033′ right of centerline, 109′ AGL/2301′ MSL.
Light on pole 1.5 NM from DER, 2836′ left of centerline, 124′ AGL/2457′ MSL.
Light pole 1.7 NM from DER, 2965′ left of centerline, 139′ AGL/2469′ MSL.
Light on pole 1100′ from DER, 508′ left of centerline, 47′ AGL/2226′ MSL.
Building 1822′ from DER, 652′ left of centerline, 46′ AGL/2238′ MSL.
Building 2202′ from DER, 596′ left of centerline, 44′ AGL/2246′ MSL.
Rod on building 534′ from DER, 369′ left of centerline, 33′ AGL/2202′ MSL.
Road 678′ from DER, 16′ right of centerline, 35′ AGL/2201′ MSL.
Light on localizer antenna 533′ from DER, 32′ AGL/2195′ MSL.

RWY 25L: Pole 2860′ from DER, 813′ left of centerline, 57′ AGL/2236′ MSL.
Sign 3672′ from DER, 1302′ left of centerline, 57′ AGL/2256′ MSL.
Antenna on building 1002′ from DER, 251′ left of centerline, 34′ AGL/2183′ MSL.
Pole 3677′ from DER, 145′ left of centerline, 67′ AGL/2249′ MSL.

RWY 7L: Tree 1257′ from DER, 789′ left of centerline, 85′ AGL/2077′ MSL.
Light pole 747′ from DER, 441′ right of centerline, 62′ AGL/2057′ MSL.
Tree 1007′ from DER, 557′ right of centerline, 70′ AGL/2062′ MSL.

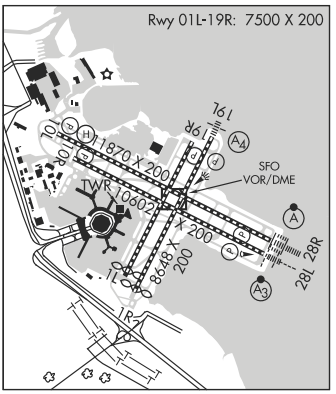
RWY 7R: Light on wind sock 102′ from DER, 300′ right of centerline, 30′ AGL/2051′ MSL.

RWY 19L: Pole 1394′ from DER, 533′ right of centerline, 36′ AGL/2236′ MSL.
Sign 2181′ from DER, 1062′ right of centerline, 50′ AGL/2256′ MSL.
Rod on building 2921′ from DER, 581′ right of centerline, 50′ AGL/2262′ MSL.
Pole 2633′ from DER, 319′ right of centerline, 40′ AGL/2246′ MSL.

RWY 19R: Pole 1135′ from DER, 619′ right of centerline, 65′ AGL/2249′ MSL.
Pole 756′ from DER, 618′ right of centerline, 50′ AGL/2231′ MSL.
Sign 2182′ from DER, 125′ right of centerline, 50′ AGL/2256′ MSL.
Pole 1396′ from DER, 403′ left of centerline, 55′ AGL/2236′ MSL.
Rod on building 197′ from DER, 441′ right of centerline, 30′ AGL/2202′ MSL.
Rod on building 2922′ from DER, 356′ left of centerline, 50′ AGL/2262′ MSL.

**SAN FRANCISCO INTL** (SFO) 8 SE UTC–8(–7DT) N37°37.14´ W122°22.49´ **SAN FRANCISCO**
13 B S4 **FUEL** 100, 100LL, JET A OX 1, 2, 3, 4 LRA Class I, ARFF Index E **H–3B, L–2F, 3B, A**
NOTAM FILE SFO **IAP, AD**

**RWY 10L–28R:** H11870X200 (ASPH–GRVD) PCN 80 F/B/X/T HIRL CL
**RWY 10L:** REIL. PAPI(P4L)—GA 3.0° TCH 80´. Tower.
**RWY 28R:** ALSF2. TDZL. PAPI(P4L)—GA 3.0° TCH 70´. Rgt tfc.
**RWY 10R–28L:** H10602X200 (ASPH–GRVD) PCN 80 F/B/X/T HIRL CL
**RWY 10R:** PAPI(P4L)—GA 3.0° TCH 75´. Tower. Rgt tfc.
**RWY 28L:** SSALR. PAPI(P4L)—GA 3.0° TCH 75´.
**RWY 01R–19L:** H8648X200 (ASPH–GRVD) PCN 100F/B/X/T HIRL CL
**RWY 01R:** REIL. Thld dsplcd 238´. Tree.
**RWY 19L:** MALSF. TDZL. PAPI(P4L)—GA 3.0° TCH 75´.
**RWY 01L–19R:** H7500X200 (ASPH-CONC–GRVD) PCN 90 F/B/X/T HIRL CL
**RWY 01L:** REIL. Thld dsplcd 491´.
**RWY 19R:** PAPI(P4L)—GA 3.0° TCH 73´.




**AIRPORT REMARKS:** Attended continuously. PAEW AER 28L, Rwy 28R and Rwy 19L indef. Flocks of birds feeding along shoreline adjacent to arpt, on occasions fly across various parts of arpt. Due to obstructed vision, SFO twr is able to provide only limited arpt tfc control svc on Twy A between gates 88 and 89. Twr personnel are unable to determine whether this area is clear of traffic or obstructions. Rwy 10 preferred rwy between 0900–1400Z‡ weather and flight conditions permitting. Simultaneous ops in effect all rwys. Helicopter ldg area marked on Twy (C) west of Twy (R) opr for civil and military use. Noise sensitive arpt. For noise abatement procedures ctc arpt noise office Monday–Friday 1600–0100Z‡ by calling 650–821–5100. Airline pilots shall strictly follow the painted nose gear lines and no oversteering adjustment is permitted. No grooving exists at arpt rwy intersections. Rwy 01L–19R, 01R–19L, Rwy 10R–28L, Rwy 10L–28R grooved full length except at rwy intersections. B747, B777, A330, A340 or larger acft are restricted from using Twy A1 when B747–400, A340–600 or larger acft are holding short of Rwy 01R on Twy A. 747–400´s shall taxi at a speed of less than 10 miles per hour on all non–restricted taxiways on the terminal side of the intersecting rwys. All outbound Twy Y heavy aircraft with a wingspan of 171´ or greater under power prohibited from entering westbound Twy Z. Ramp clsd to acft with wingspan over 117´ at Terminal 1, gate C41 indef. Movement speed of not more than 5 miles per hour is required when two 747–400´s pass or overtake each other on parallel taxiways A and B. Rwy 19L MALSF has a NSTD length of 1115´ with 3 sequenced flashers. Ldg fee. Flight Notification Service (ADCUS) available. NOTE: See Special Notices—Intersection Departures During Period of Darkness, Expanded Charted Visual Flight Procedures. Continuous Power Facilities, Special Noise Abatement Procedures, Special Noise Abatement Procedures—Preferential Runways.

**WEATHER DATA SOURCES:** ASOS (650) 872-0246 LLWAS.

**COMMUNICATIONS: D-ATIS** 135.45 118.85 115.8 113.7 650-877-3585/8422 **UNICOM** 122.95
Ⓡ**NORCAL APP CON** 135.65 (S) 133.95
**TOWER** 120.5 **GND CON** 121.8 **CLNC DEL** 118.2 **PRE TAXI CLNC** 118.2
Ⓡ**NORCAL DEP CON** 135.1 (SE-W) 120.9 (NW-E)

**AIRSPACE: CLASS B** See VFR Terminal Area Chart

**RADIO AIDS TO NAVIGATION:** NOTAM FILE SFO.
**(L) VORW/DME** 115.8 SFO Chan 105 N37°37.17´ W122°22.43´ at fld. 13/17E.
VOR DME unusable:
025°-065° byd 30 NM blo 18,000´
035°-055° byd 12 NM blo 6,500´
150°-190° byd 25 NM blo 4,500´
190°-260° byd 10 NM blo 4,500´
260°-295° byd 35 NM blo 3,000´
295°-330° byd 20 NM blo 8,000´
**BRIJJ NDB (LOM)** 379 GW N37°34.33´ W122°15.59´ 282° 6.2 NM to fld. LOM unusable 160°-195° byd 6 NM.
**ILS/DME** 108.9 I-SIA Chan 26 Rwy 19L. Class IE. Ry 19L glideslope deviations are possible when critical areas are not required to be protected. Acft operating invof glideslope transmitter. Pilots should be alert for momentary localizer course excursions due to large aircraft operating in vicinity of localizer antenna.
**ILS/DME** 109.55 I-SFO Chan 32(Y) Rwy 28L. Class IE.
**ILS/DME** 111.7 I-GWQ Chan 54 Rwy 28R. Class IIIE. LOM BRIJJ NDB. LOM unusable 160°-195° byd 6 NM.
**LDA/DME** 110.75 I-FNP Chan 44(Y) Rwy 28R.

**Figure 380**

CLOVIS TRANSITION (CZQ.LOCKE1): From over CZQ VORTAC via CZQ R-305 and MOD R-093 to MOD VOR/DME. Thence....

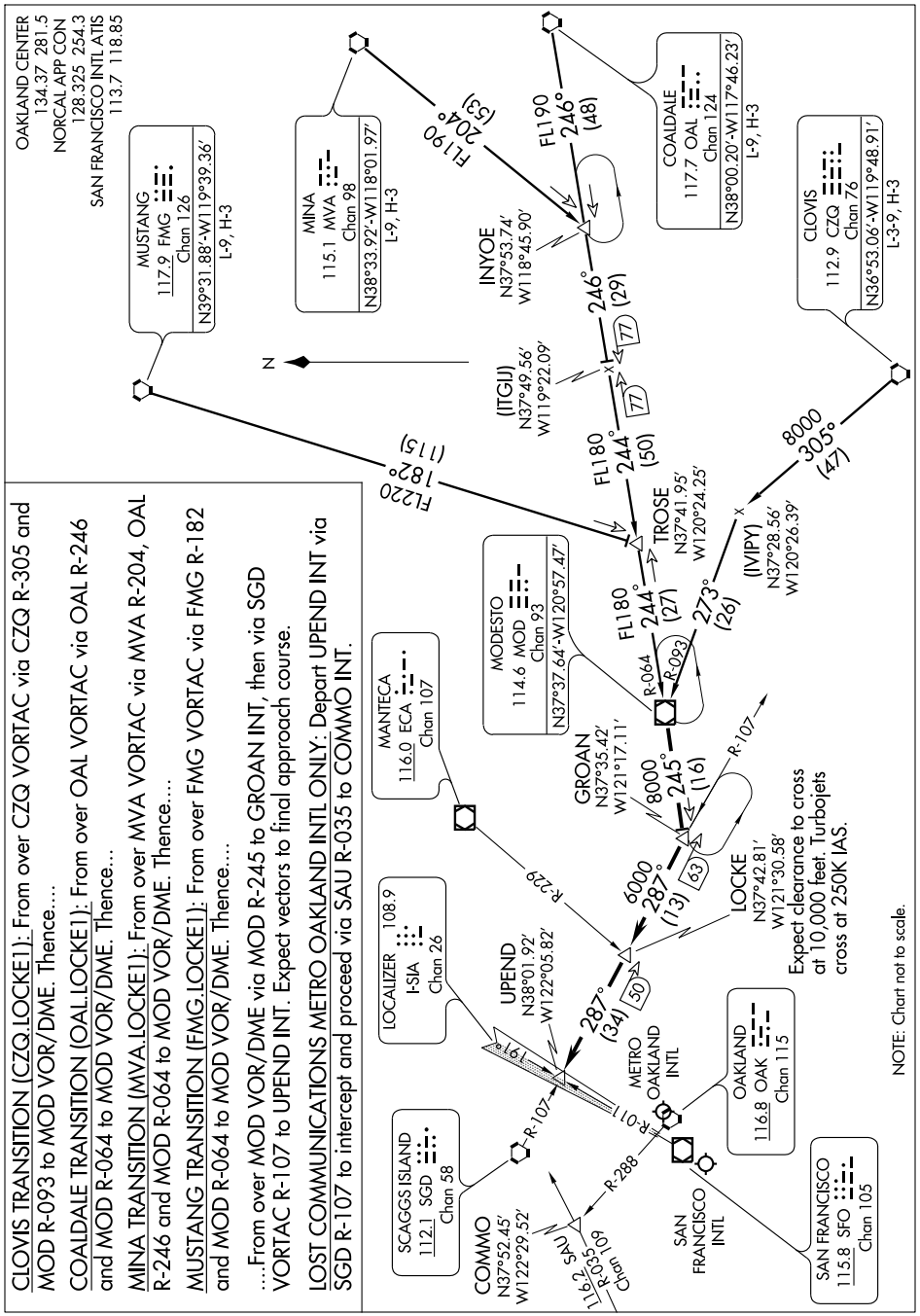
COALDALE TRANSITION (OAL.LOCKE1): From over OAL VORTAC via OAL R-246 and MOD R-064 to MOD VOR/DME. Thence...

MINA TRANSITION (MVA.LOCKE1): From over MVA VORTAC via MVA R-204, OAL R-246 and MOD R-064 to MOD VOR/DME. Thence....

MUSTANG TRANSITION (FMG.LOCKE1): From over FMG VORTAC via FMG R-182 and MOD R-064 to MOD VOR/DME. Thence....

....From over MOD VOR/DME via MOD R-245 to GROAN INT, then via SGD VORTAC R-107 to UPEND INT. Expect vectors to final approach course.

LOST COMMUNICATIONS METRO OAKLAND INTL ONLY: Depart UPEND INT via SGD R-107 to intercept and proceed via SAU R-035 to COMMO INT.






SW-2, 05 APR 2012 to 03 MAY 2012
SW-2, 05 APR 2012 to 03 MAY 2012

Figure 381

## OAKLAND

**METROPOLITAN OAKLAND INTL** (OAK) 4 S UTC–8(–7DT) N37°43.28´ W122°13.24´ **SAN FRANCISCO H–3B, L–2F, 3B, A IAP, AD**

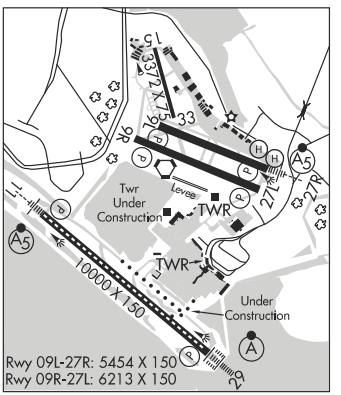
9 B S4 **FUEL** 100LL, JET A OX 1, 2, 3, 4 TPA—See Remarks LRA Class I, ARFF Index D
NOTAM FILE OAK

**RWY 11–29:** H10000X150 (ASPH–GRVD) PCN 71 F/A/W/T HIRL CL
**RWY 11:** MALSR. PAPI(P4L)—GA 2.75° TCH 65´. Rgt tfc.
**RWY 29:** ALSF2. TDZL. PAPI(P4L)—GA 3.0° TCH 71´.

**RWY 09R–27L:** H6213X150 (ASPH–GRVD) PCN 97 F/B/W/T HIRL
**RWY 09R:** REIL. PAPI(P4R)—GA 3.0° TCH 50´.
**RWY 27L:** PAPI(P4L)—GA 3.0° TCH 71´.

**RWY 09L–27R:** H5454X150 (ASPH–GRVD) PCN 69 F/C/W/T HIRL
**RWY 09L:** PAPI(P4R)—GA 3.0° TCH 49´.
**RWY 27R:** MALSR. PAPI(P4L)—GA 2.9° TCH 57´. Bldg. Rgt tfc.

**RWY 15–33:** H3372X75 (ASPH) S–12.5 MIRL
**RWY 33:** Rgt tfc.




**AIRPORT REMARKS:** Attended continuously. Rwy 15–33 CLOSED to air carrier acft. Birds on and invof arpt. Acft with experimental or limited certification having over 1,000 horsepower or 4,000 pounds are restricted to Rwy 11–29. 24 hr Noise abatement procedure–turbojet and turbofan powered acft, turborops over 17,000 lbs, four engine reciprocating powered acft, and surplus Military acft over 12,500 lbs should not depart Rwy 27L and Rwy 27R or land on Rwy 09L and Rwy 09R. For noise abatement information ctc noise abatement office at 510–563–6463. Intersection of Twy B, Twy W and Twy V not visible from twr. Twy K between Rwy 33 and Twy D and portions of Twy D not visible from twr. Twy A, Twy E, Twy G, Twy H between Rwy 27R and Twy C max acft weight 150,000 lbs. Twy G and Twy H between Rwy 27L and Rwy 27R, max acft weight 12,500 lbs. Twy P max acft weight 24,000 lbs single, 40,000 lbs dual. Twy C between Rwy 27R and Twy G and Twy B, Twy J, and Twy D max acft weight 9,000,000 lbs. Twy C between Twy G and Twy J max acft weight 25,000 lbs single, 175,000 lbs dual, 4,000,000 lbs tandem. Twy C between Twy J and Twy F max acft weight 25,000 lbs single, 150,000 lbs dual. 155,000 lbs tandem (dual tandem not authorized). Twy K between Twy D and intersection Twy F, Twy L, Twy K max acft weight 25,000 lbs single, 115,000 lbs dual, 140,000 lbs tandem. Twy K between Rwy 9R and intersection Twy F, Twy L, Twy K max acft weight 25,000 lbs single, 115,000 lbs dual, 140,000 lbs tandem. Twy K between Rwy 9R and intersection Twy F, Twy L, Twy K max acft weight 25,000 lbs single, 45,000 lbs dual, tandem not authorized. Preferential rwy use program in effect 0600–1400Z‡. North fld preferred arrival Rwy 27L, north fld preferred departure Rwys 09R or 27R. If these Rwys unacceptable for safety or twr instruction then Rwy 11–29 must be used. Noise prohibitions not applicable in emerg or whenever Rwy 11–29 is closed due to maintenance, safety, winds or weather. 400´ blast pad Rwy 29 and 500´ blast pad Rwy 11. Rwys 29, 27R and 27L distance remaining signs left side. TPA—Rwy 27L 606(597), TPA—Rwy 27R 1006(997). Ldg fee may apply for Rwy 11–29, rwy commercial ops and tiedown, ctc afld ops 510–563–3361. Flight Notification Service (ADCUS) avbl.

**WEATHER DATA SOURCES:** ASOS (510) 383-9514 **HIWAS** 116.8 OAK.

**COMMUNICATIONS: D-ATIS** 133.775 (510) 635-5850 (N and S Complex) **UNICOM** 122.95
**OAKLAND RCO** 122.2 122.5 (OAKLAND RADIO)
Ⓡ**NORCAL APP CON** 125.35 (East) 135.65 (South) 135.1 (West) 134.5 120.9
Ⓡ**NORCAL DEP CON** 135.1 (West) 120.9 (Northwest)
**OAKLAND TOWER** 118.3 (N Complex) 127.2 (S Complex) 124.9
**GND CON** 121.75 (S Complex) 121.9 (N Complex) **CLNC DEL** 121.1

**AIRSPACE: CLASS C** svc ctc **APP CON**

**RADIO AIDS TO NAVIGATION:** NOTAM FILE OAK.
**OAKLAND (H) VORTACW** 116.8 OAK Chan 115 N37°43.56´ W122°13.42´ at fld. 10/17E. **HIWAS.**
DME unusable:
335°-065° byd 30 NM blo 8,000´
**ILS** 111.9 I-AAZ Rwy 11. Class IE. Glideslope deviations are possible when critical areas are not required to be protected. Acft operating invof glideslope transmitter.
**ILS** 109.9 I-OAK Rwy 27R. Class IE.
**ILS** 108.7 I-INB Rwy 29. Class IIIE.

**COMM/NAV/WEATHER REMARKS:** Emerg frequency 121.5 not avbl at twr.

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**OAKLAND** N37°43.56´ W122°13.42´ NOTAM FILE OAK. **SAN FRANCISCO H–3A, L–2F, 3B, A**

**(H) VORTACW** 116.8 OAK Chan 115 at Metropolitan Oakland Intl. 10/17E. **HIWAS.**
DME unusable:
335°-065° byd 30 NM blo 8,000´
**RCO** 122.2 122.5 (OAKLAND RADIO)
ASOS OAK N37°43.28´ W122°13.24´. (510) 383-9514.

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**OCEAN RIDGE** (See GUALALA on page 113)

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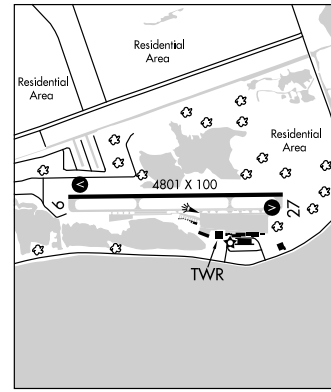
**Figure 382**

**KEY WEST INTL** (EYW) 2 E UTC−5(−4DT) N24°33.37′ W81°45.57′ **MIAMI**
3 B S4 **FUEL** 100, JET A AOE Class I, ARFF Index IB NOTAM FILE EYW **L–21D, 23C**
**RWY 09–27:** H4801X100 (ASPH–GRVD) S–75, D–125, 2D–195 MIRL **IAP, AD**
**RWY 09:** REIL. VASI(V4L)—GA 3.0° TCH 34′. Rgt tfc.
**RWY 27:** REIL. VASI(V4L)—GA 3.0° TCH 34′.
**ARRESTING GEAR/SYSTEM**
**RWY 09:** EMAS




**AIRPORT REMARKS:** Attended 1200–0400Z‡. Parachute Jumping. Numerous flocks of birds on and in the vicinity of airport. Departing VFR acft requested to maintain rwy heading until reaching fld boundary, then execute turns for N or S dep. Restricted area R–2916 located 14 NM NE of arpt has strobe–lgtd and marked balloon and cable to 14,000 ft. Extremely noise sensitive area. Urge no ops 0400–1200Z‡. Use NBAA close in noise abatement procedures other times. Local ordinance rqr engine runups in designated area on N side commercial ramp from 0400–1200Z‡ and fines. PPR for unscheduled air carrier operations with more than 30 passenger seats 0430–1045Z‡; Call arpt manager 305–809–5200. PPR for acft exceeding rwy weight bearing capacity; call arpt manager 305–809–5200. Intensive military jet tfc S and E of arpt; acft entering arpt tfc area from SE through W. Enter arpt tfc area blo 2000′; refer to MIAMI VFR Terminal Area Chart for suggested VFR flyway routes. Twy A5 and Twy A6 not visible from twr. ACTIVATE MIRL Rwy 09–27, VASI/REIL Rwys 09–27—CTAF. Flight Notification Service (ADCUS) available. NOTE: See Special Notices—U.S. Special Customs Requirement.
**WEATHER DATA SOURCES:** ASOS 119.65 (305) 292–4046. **HIWAS** 113.5 EYW.
**COMMUNICATIONS: CTAF** 118.2 **ATIS** 119.675 **UNICOM** 122.95
**RCO** 122.1R 113.5T (MIAMI RADIO)
**RCO** 123.65 122.2 (MIAMI RADIO)
Ⓡ **NAVY KEY WEST APP/DEP CON** 124.025 126.575 (1200–0300Z‡) Ⓡ**MIAMI CENTER APP/DEP CON** 133.5 (0300–1200Z‡)
**TOWER** 118.2 (1200–0200Z‡) **GND CON** 121.9 **CLNC DEL** 121.9
**AIRSPACE: CLASS D** svc 1200–0200Z‡ other times CLASS G.
**RADIO AIDS TO NAVIGATION:** NOTAM FILE EYW.
**(H) VORTAC** 113.5 EYW Chan 82 N24°35.15′ W81°48.03′ 127° 2.9 NM to fld. 10/01E.
**HIWAS**. VOR unusable 040°–050°, 210°–240°.
**FISH HOOK NDB (HW)** 332 FIS N24°32.90′ W81°47.18′ 076° 1.5 NM to fld.
**ASR** (1100–0300Z‡)
**COMM/NAV/WEATHER REMARKS:** FSS freqs 123.65 and 122.2 unusable 330°–015° beyond 20 NM below 1500′. VORTAC unusable 121°–139°. Acft overflying SIMPL, ACRUZ, CANOA, and MAXIM shall ctc Miami Center 10 minutes prior to crossing the Miami flight information region 132.2.

**Figure 383**

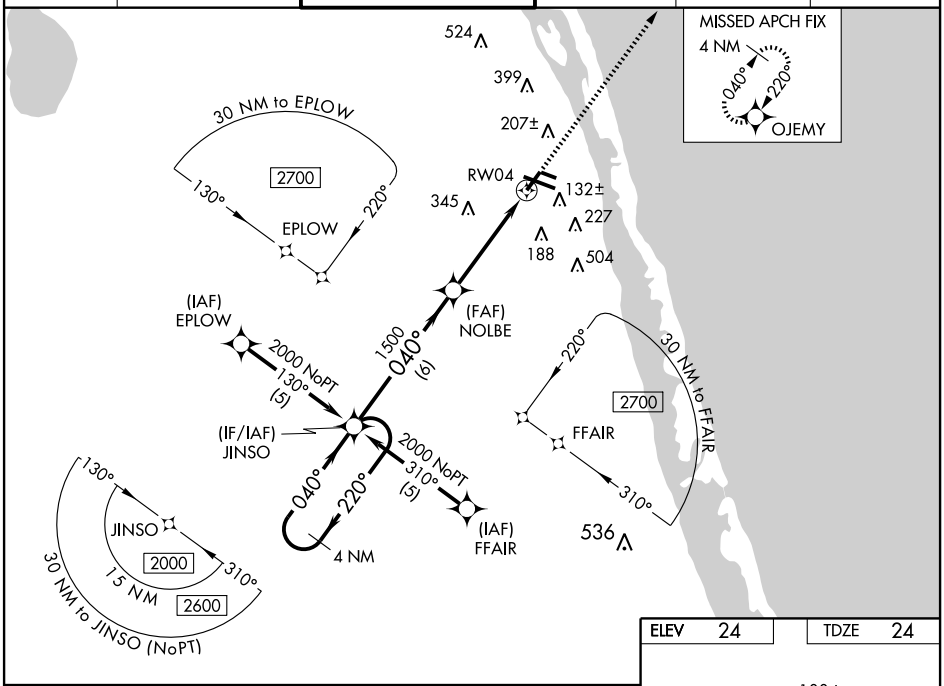
| WAAS CH 61311 W04A | APP CRS 040° | Rwy ldg 4974<br>TDZE 24<br>Apt Elev 24 |
|---|---|---|

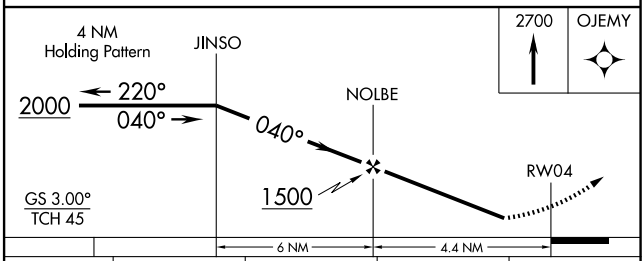
# RNAV (GPS) RWY 4
## VERO BEACH MUNI (VRB)

Baro-VNAV NA when using Fort Pierce altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15° C (5° F) or above 48° C (118° F). DME/DME RNP-0.3 NA. Procedure NA at night. Visibility reduction by helicopters NA. When local altimeter setting not received, use Fort Pierce altimeter setting and increase all DA 23 feet and all MDA 40 feet, increase LPV and LNAV/VNAV all Cats and Circling Cat D visibilities ¼ mile.

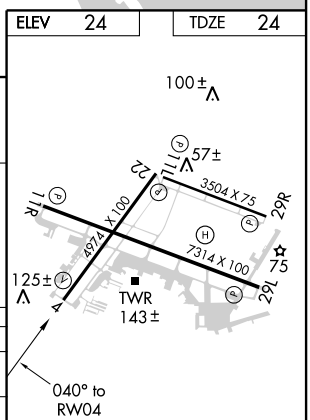
MISSED APPROACH: Climb to 2700 direct OJEMY and hold.

| ATIS | MIAMI CENTER | VERO BEACH TOWER★ | GND CON | CLNC DEL | UNICOM |
|---|---|---|---|---|---|
| 132.5 | 132.25 370.9 | 126.3 (CTAF) L | 127.45 | 134.975 | 122.95 |



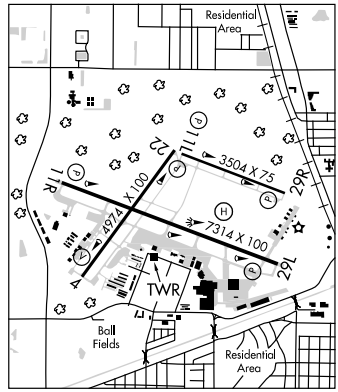




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| LPV DA | 323-1 299 (300-1) | | | |
| LNAV/VNAV DA | 395-1¼ 371 (400-1¼) | | | |
| LNAV MDA | 460-1 436 (500-1) | | 460-1¼ 436 (500-1¼) | 460-1½ 436 (500-1½) |
| CIRCLING | 560-1 536 (600-1) | | 560-1½ 536 (600-1½) | 660-2 636 (700-2) |




MIRL Rwys 4-22 and 11L-29R
REIL Rwys 11R and 29L L
MIRL Rwy 11R-29L L
REIL Rwys 4 and 22

**VERO BEACH MUNI** (VRB) 1 NW UTC−5(−4DT) N27°39.33′ W80°25.08′ **MIAMI**
24 B S4 **FUEL** 100, JET A OX 1, 2 TPA—See Remarks Class IV, ARFF Index A **H–8I, L–24F**
NOTAM FILE VRB **IAP, AD**




**RWY 11R–29L:** H7314X100 (ASPH–GRVD)
S–85, D–115, 2S–146, 2D–220 MIRL
**RWY 11R:** REIL. PAPI (P4L)—GA 3.0° TCH 41′. Trees.
**RWY 29L:** REIL. PAPI(P4L) TCH 58′.
**RWY 04–22:** H4974X100 (ASPH–GRVD) S–30, D–115, 2S–146, 2D–220 MIRL
**RWY 04:** REIL. VASI(V4L)—GA 3.0° TCH 45′.Trees.
**RWY 22:** REIL. PAPI(P4L)—GA 3.0° TCH 42′. Trees.
**RWY 11L–29R:** H3504X75 (ASPH) S–12.5 MIRL
**RWY 11L:** PAPI(P2L)—GA 3.0° TCH 37′. Tree.
**RWY 29R:** PAPI(P2L)—GA 3.5° TCH 35′. Poles.
**LAND AND HOLD SHORT OPERATIONS**

| LANDING | HOLD SHORT POINT | DIST AVBL |
|---|---|---|
| RWY 29L | 04/22 | 4700 |

**AIRPORT REMARKS:** Attended 1200–0200Z‡. Rwy 04–22 CLOSED when twr clsd. TPA 1024(1000) large acft 1524(1500). Rwy 11L–29R CLOSED when twr clsd. CLOSED to air carrier ops with more than 30 passenger seats except 24 hrs PPR, call arpt manager 772–978–4930. No intersection departures except by ATC req. Noise sensitive arpt. Jet acft use NBAA noise abatement procedures. Voluntary local noise abatement procedures in effect call 772–978–4930. No touch and go ops 0300–1200Z‡ except PPR. Extensive flight training. ACTIVATE MIRL Rwy 11R–29L and REIL Rwy 11R and Rwy 29L—CTAF.
**WEATHER DATA SOURCES:** ASOS (772) 978–9535. **HIWAS** 117.3 VRB.
**COMMUNICATIONS: CTAF** 126.3 **ATIS** 132.5 **UNICOM** 122.95
**RCO** 122.1R 117.3T (ST PETERSBURG RADIO)
**RCO** 122.5 122.2 (ST PETERSBURG RADIO)
® **MIAMI CENTER APP/DEP CON** 132.25
**TOWER** 126.3 133.15 (1200–0200Z‡) **GND CON** 127.45 **CLNC DEL** 134.975
**AIRSPACE: CLASS D** svc 1200–0200Z‡ other times CLASS E.
**RADIO AIDS TO NAVIGATION:** NOTAM FILE VRB.
**(H) VORTAC** 117.3 VRB Chan 120 N27°40.71′ W80°29.38′ 114° 4.1 NM to fld. 11/04W. **HIWAS.**

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**VIRGINIA KEY** N25°45.11′ W80°09.27′ NOTAM FILE MIA. **MIAMI**
**(H) VOR/DME** 117.1 VKZ Chan 118 293° 7.8 NM to Miami Intl. 12/04W. **H–8I, L–23C, A**
VOR portion unusable 020°–064° byd 20 NM blo 4500′, 091°–104° byd 30 NM blo 3000′, 279°–284° byd 25 NM blo 7500′, 285°–319° byd 15 NM blo 7500′, 320°–335° byd 25 NM blo 3000′.
**RCO** 122.1R 117.1T (MIAMI RADIO)

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**WAKUL** N30°19.57′ W84°21.50′ NOTAM FILE TLH. **JACKSONVILLE**
**NDB (HW/LOM)** 379 TL 007° 4.2 NM to Tallahassee Rgnl. **H–8G, L–21D, 22I**

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**WAKULLA CO** (See PANACEA)

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**WARRINGTON** N30°28.69′ W86°31.25′ NOTAM FILE CEW. **NEW ORLEANS**
**(T) TACAN** Chan 2 DWG (134.5) at Eglin AFB 118/00°E. **L–21C, 22H**

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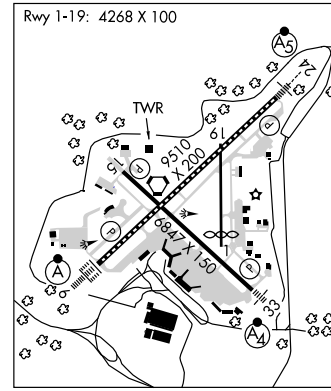
**Figure 385**

## WINDSOR LOCKS

**BRADLEY INTL** (BDL) 3 W UTC−5(−4DT) N41°56.35′ W72°41.00′ **NEW YORK**
173 B S4 **FUEL** 100LL, JET A OX 1, 2, 3, 4 TPA—See Remarks **H–10I, 11D, 12K, L–33C, 34I**
LRA Class I, ARFF Index D NOTAM FILE BDL **IAP, AD**




**RWY 06–24:** H9510X200 (ASPH–GRVD) S–200, D–200, 2S–175, 2D–350, 2D/2D2–710 HIRL CL
**RWY 06:** ALSF2. TDZL. PAPI(P4L)—GA 3.0° TCH 71′. Trees.
**RWY 24:** MALSR. TDZL. PAPI(P4L)—GA 3.0° TCH 71′. Trees.
**RWY 15–33:** H6847X150 (ASPH–GRVD) S–200, D–200, 2S–175, 2D–350 HIRL
**RWY 15:** REIL. PAPI(P4L)—GA 3.5°TCH 61′. Trees.
**RWY 33:** MALSF. PAPI(P4R)—GA 3.0°TCH 72′. Trees.
**RWY 01–19:** H4268X100 (ASPH) S–60, D–190, 2S–175, 2D–328 MIRL
**RWY 01:** Thld dsplcd 475′. Acft. **RWY 19:** Trees.

**LAND AND HOLD SHORT OPERATIONS**

| LANDING | HOLD SHORT POINT | DIST AVBL |
|---|---|---|
| RWY 06 | 01–19 | 6000 |
| RWY 24 | 15–33 | 5850 |
| RWY 33 | 06–24 | 4550 |

**RUNWAY DECLARED DISTANCE INFORMATION**

| | | | | |
|---|---|---|---|---|
| **RWY 01:** | TORA–4268 | TODA–4268 | ASDA–4268 | |
| **RWY 06:** | TORA–9509 | TODA–9509 | ASDA–9509 | LDA–9509 |
| **RWY 15:** | TORA–6847 | TODA–6847 | ASDA–6847 | LDA–6847 |
| **RWY 19:** | | | | LDA–4268 |
| **RWY 24:** | TORA–9509 | TODA–9509 | ASDA–9509 | LDA–9509 |
| **RWY 33:** | TORA–6847 | TODA–6847 | ASDA–6847 | LDA–6847 |

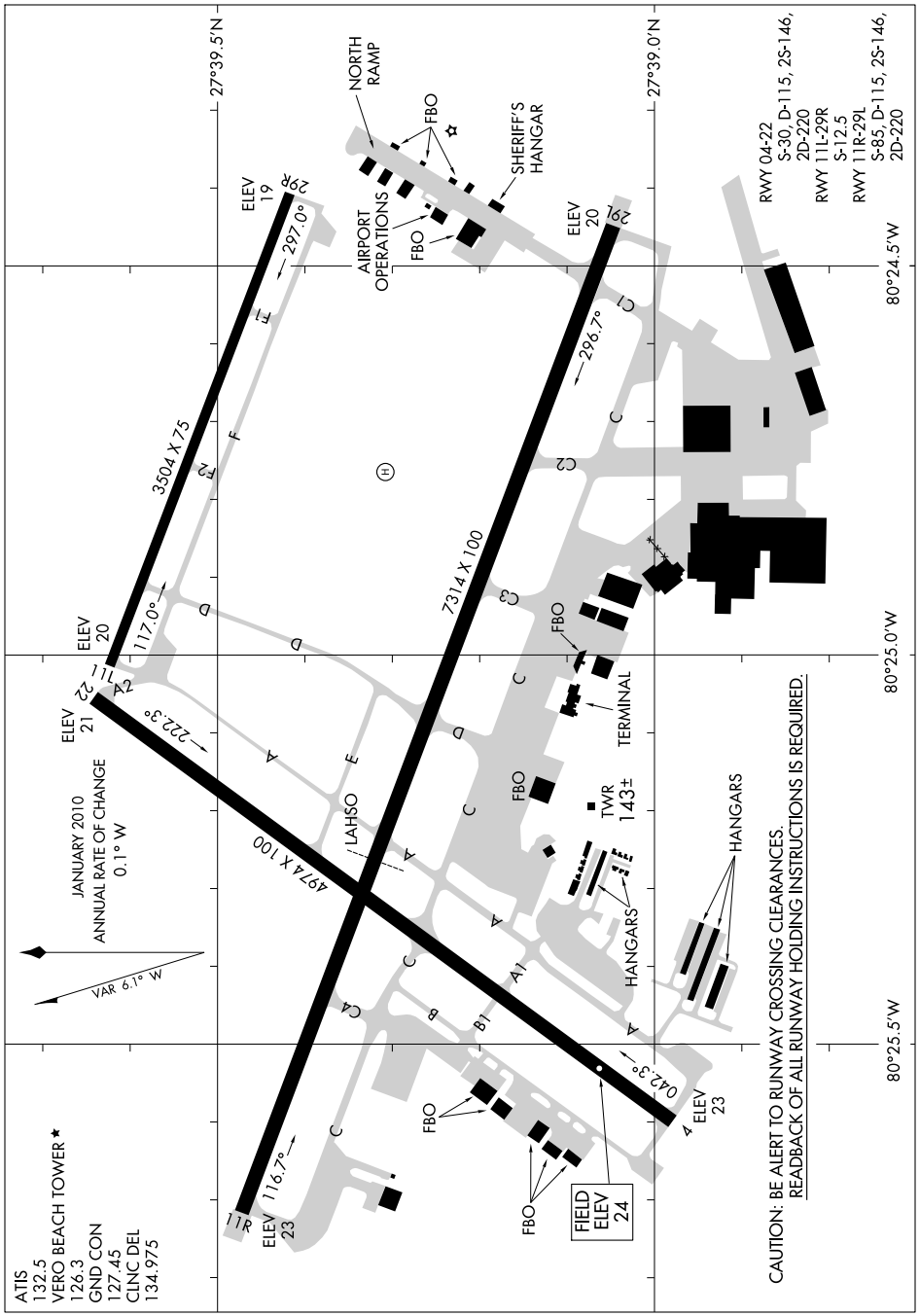
**AIRPORT REMARKS:** Attended continuously. Numerous birds frequently on or invof arpt. No training flights; no practice apchs; no touch and go ldgs between: Mon–Sat 0400–1200Z‡ and Sun 0400–1700Z‡. Rwy 01–19 open for acft with wingspan less than 79′. Rwy 01 CLOSED for arrivals to all fixed wing acft. Rwy 19 CLOSED for departures to all fixed wing acft. Twy J clsd between S and R to acft with wing spans in excess of 171 ft. Air National Guard ramp PAEW barricaded adjacent northeast side. ASDE–X Surveilance System in Use. Pilots should operate transponders with Mode C on all twys and rwys. Rwy 33 touchdown RVR avbl. TPA—1873(1700) heavy acft. Rwy 06 visual glideslope indicator and glidepath not coincident. Rwy 24 visual glideslope indicator and glidepath not coincident. Rwy 33 visual glideslope indicator and glidepath not coincident. Ldg fee for business, corporate and revenue producing acft. Flight Notification Service (ADCUS) available. NOTE: See Special Notices–Land and Hold Short Lights.

**WEATHER DATA SOURCES:** ASOS (860) 627–9732. WSP.
**COMMUNICATIONS: D-ATIS** 118.15 (860–386–3570) **UNICOM** 122.95
**WINDSOR LOCKS RCO** 122.3 (BRIDGEPORT RADIO)
® **BRADLEY APP CON** 123.95 (176°–240°) 125.35 (241°–060°) 127.8 (061°–175° and HFD area)
® **BRADLEY DEP CON** 123.95 (176°–240°) 125.35 (241°–060°) 127.8 (061°–175° and HFD area)
**TOWER** 120.3 **GND CON** 121.9 **CLNC DEL** 121.75
**AIRSPACE: CLASS C** svc continuous ctc **APP CON**
**RADIO AIDS TO NAVIGATION:** NOTAM FILE BDL.
**(T) VORTACW** 109.0 BDL Chan 27 N41°56.46′ W72°41.32′ at fld. 160/14W.
**ILS/DME** 111.1 I–BDL Chan 48 Rwy 06. Class IIIE.
**ILS/DME** 108.55 I–IKX Chan 22(Y) Rwy 33. Class IE.
**ILS/DME** 111.1 I–MYQ Chan 48 Rwy 24. Class IT. DME unusable from .4 NM inbound to Rwy 24.

## YALESVILLE HELIPORT (4C3) 2 N UTC−5(−4DT) N41°29.51′ W72°48.67′

65 B **FUEL** 100LL, JET A NOTAM FILE BDR
**HELIPAD H1:** H65X65 (CONC)
**HELIPORT REMARKS:** Attended 1400–2300Z‡. Pilots unfamiliar with heliport ctc 203–294–8800 prior to arrival for a briefing on current procedures. ACTIVATE rotating bcn—123.5
**COMMUNICATIONS: CTAF/UNICOM** 123.05

**Figure 386**







SE-3, 05 APR 2012 to 03 MAY 2012

Figure 387

NAME ALTERNATE MINIMUMS

**ROCHESTER, NY**

GREATER ROCHESTER INTL (ROC) ..... **ILS or LOC Rwy 4[1]**
**ILS or LOC Rwy 22[1]**
**ILS or LOC Rwy 28[2]**
**RNAV (GPS) Rwy 4[3]**
**RNAV (GPS) Rwy 22[3]**
**RNAV (GPS) Rwy 25[3]**
**RNAV (GPS) Rwy 28[4]**
**VOR Rwy 4[3]**
**VOR/DME Rwy 4[3]**

[1]ILS, Category D, 700-2¼. LOC, Category D, 800-2¼.
[2]ILS, Categories A,B,C, 800-2; Category D, 800-2¼. LOC, Category D, 800-2¼.
[3]Category D, 800-2¼.
[4]Category C, 800-2¼; Category D, 800-2½.

**ROME, NY**

GRIFFISS INTL (RME) .... **ILS or LOC Rwy 33[12]**
**RNAV (GPS) Rwy 15[3]**
**RNAV (GPS ) Rwy 33[3]**

NA when local weather not available.
[1]NA when control tower closed.
[2]ILS, Categories A, B, 700-2; Category C, 800-2; Category D, 800-2½. LOC, Category D, 800-2½.
[3]Category D, 800-2½.

**SARANAC LAKE, NY**

ADIRONDACK RGNL (SLK) ..... **VOR/DME Rwy 5[1]**
**VOR or GPS Rwy 9[2]**

[1]Category A, 1100-2; Category B, 1200-2; Categories C,D, 1200-3.
[2]Categories A,B, 1400-2; Categories C,D, 1400-3.

**SHIRLEY, NY**

BROOKHAVEN (HWV) ..... **RNAV (GPS) Rwy 6**
**RNAV (GPS) Rwy 15**
**RNAV (GPS) Y Rwy 24**
**RNAV (GPS) Z Rwy 24**
**RNAV (GPS) Rwy 33**
**VOR Rwy 6**

NA when local weather not available.

**SUSSEX, NJ**

SUSSEX (FWN) ..... **RNAV (GPS) Rwy 3[1]**
**VOR-A[2]**

NA when local weather not available.
[1]Categories A, B, 900-2; Category C, 900-2½.
[2]Categories A, B, 1400-2; Category C, 1400-3.

NAME ALTERNATE MINIMUMS

**TETERBORO, NJ**

TETERBORO (TEB) ..... **ILS or LOC Rwy 6[1]**
**ILS RWY 19[1]**
**RNAV (GPS) Y Rwy 6[3]**
**RNAV (RNP) Z Rwy 6,** 800-2¼
**VOR/DME-A[2]**
**VOR/DME-B[2]**
**VOR/DME Rwy 6[3]**
**VOR Rwy 24[4]**

[1]ILS, Categories A,B, 800-2; Category C, 800-2¼; Category D, 900-2¾. LOC, Category C, 800-2¼; Category D, 900-2¾.
[2]Categories A,B, 1000-2; Categories C,D, 1000-3.
[3]Category C, 800-2¼; Category D, 900-2¾.
[4]Categories B,C,D, 1000-3.

**TRENTON, NJ**

TRENTON MERCER (TTN) ..... **ILS Rwy 6**
**NDB or GPS Rwy 6**
**VOR or GPS-A**
**VOR or GPS Rwy 24**

NA when control tower closed.

**WATERTOWN, NY**

WATERTOWN INTL (ART) ..... **ILS or LOC Rwy 7[1]**
**RNAV (GPS) Rwy 7[2]**
**RNAV (GPS) Rwy 10[3]**
**RNAV (GPS) Rwy 28[3]**
**VOR Rwy 7[2]**

[1]ILS, Categories A, B, C, 700-2; Category D 700-2¼. LOC, Category D, 800-2¼.
[2]Category D, 800-2¼.
[3]NA when local weather not available.

**WELLSVILLE, NY**

WELLSVILLE MUNI ARPT,TARANTINE FIELD (ELZ) ..... **RNAV (GPS) Rwy 10**
**RNAV (GPS) Rwy 28**
**VOR-A[1]**

NA when local weather not available.
[1]Categories A,B, 1100-2; Categories C,D, 1100-3.

**WESTHAMPTON BEACH, NY**

FRANCIS S. GABRESKI (FOK) ..... **ILS or LOC Rwy 24[1]**
**RNAV (GPS) Rwy 24**

NA when local weather not available.
[1]NA when control tower closed.
[2]NA when control tower closed.
[3]Category D, 800-2¼.

05 APR 2012 to 03 MAY 2012

05 APR 2012 to 03 MAY 2012



Figure 388