Addendum B

May 2012

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

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

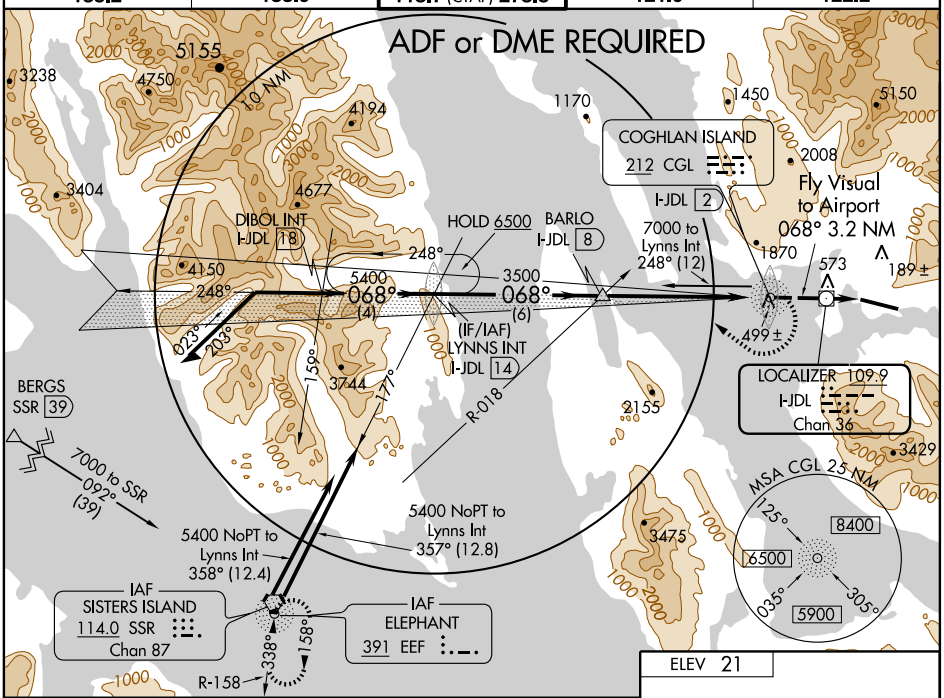
LDA X RWY 8
JUNEAU INTL (JNU)(PAJN)

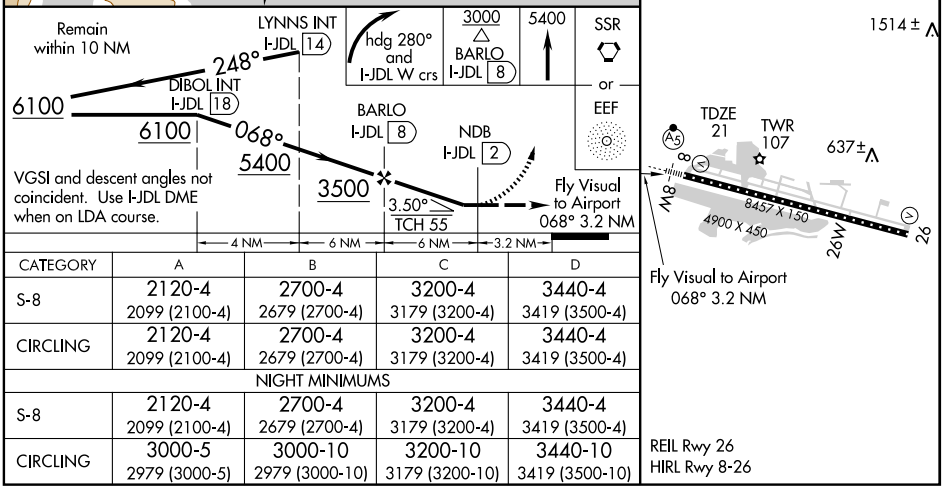
Circling NA north of Rwy 8/26. CAUTION: Any go-around after passing MAP will not provide standard obstruction clearance. For night circling, if runway lights not visible over MAP, execute missed approach.

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





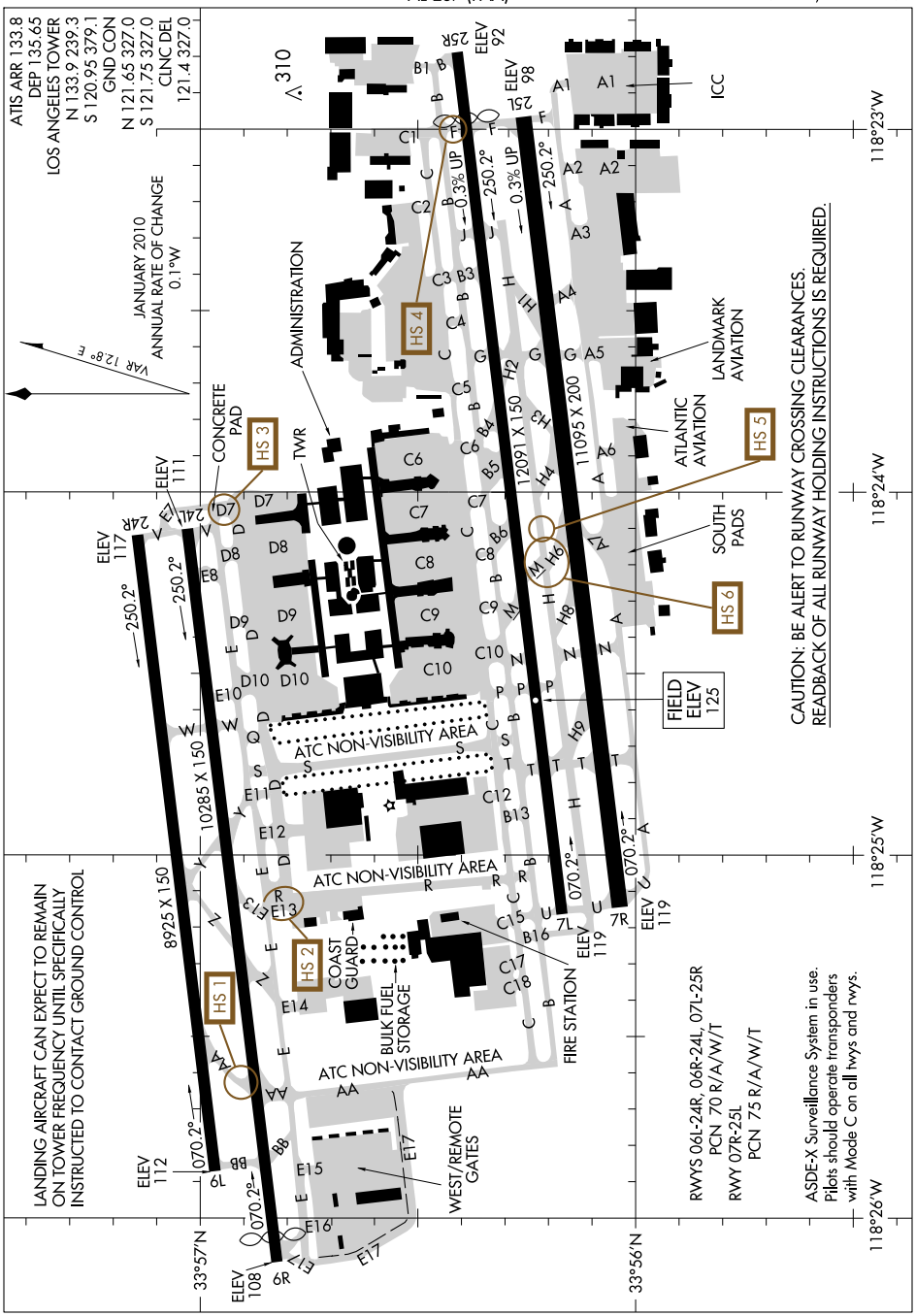
CATEGORY	A	B	C	D
S-8	2120-4 2099 (2100-4)	2700-4 2679 (2700-4)	3200-4 3179 (3200-4)	3440-4 3419 (3500-4)
CIRCLING	2120-4 2099 (2100-4)	2700-4 2679 (2700-4)	3200-4 3179 (3200-4)	3440-4 3419 (3500-4)
NIGHT MINIMUMS				
S-8	2120-4 2099 (2100-4)	2700-4 2679 (2700-4)	3200-4 3179 (3200-4)	3440-4 3419 (3500-4)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

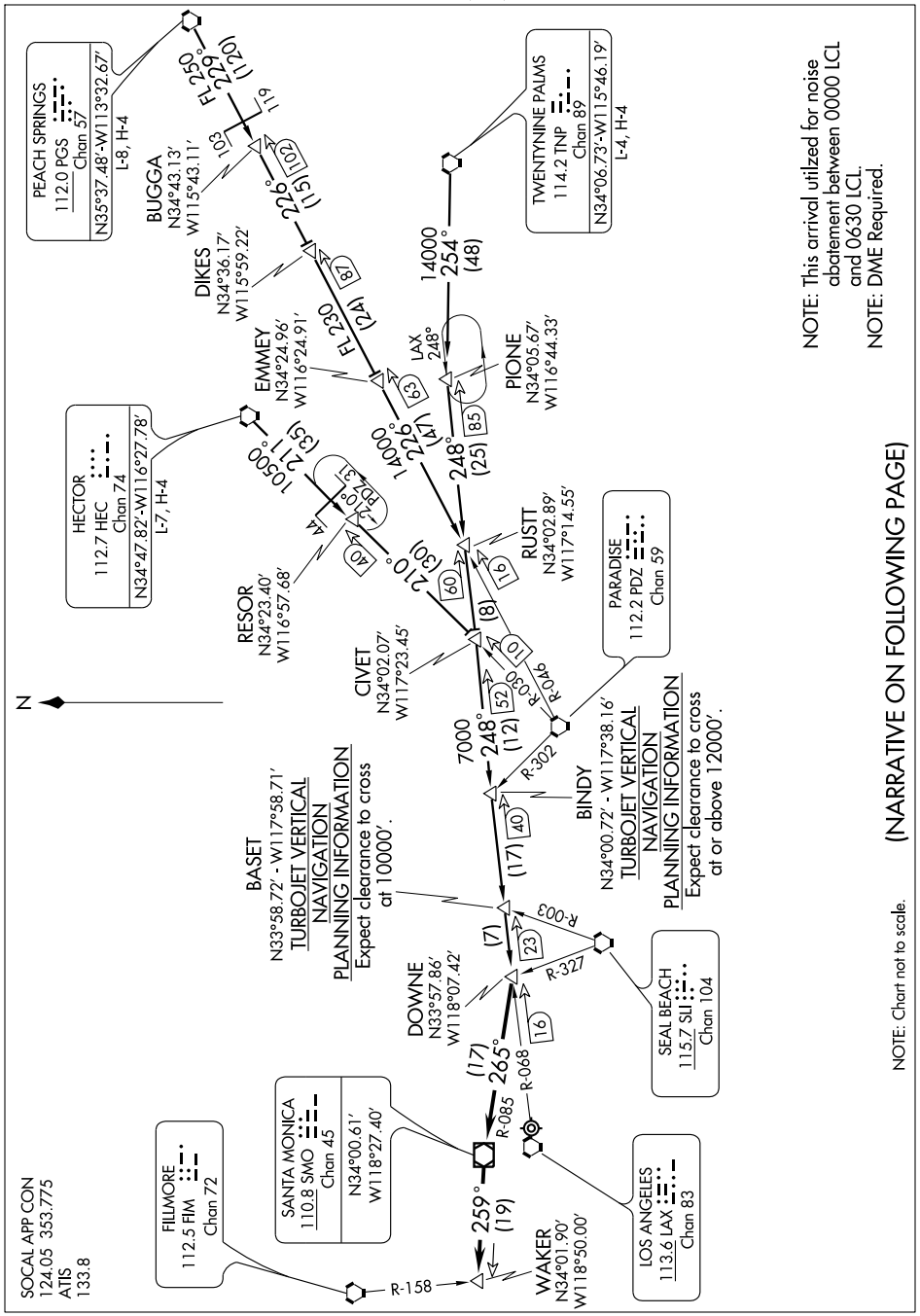

PEACH SPRINGS
112.0 PGS
Chan 57
N35°37.48'-W113°32.67'
L-8, H-4
BUGGA
N34°43.13'
W115°43.11'
DIKES
N34°36.17'
W115°59.22'
EMMEY
N34°24.96'
W116°24.91'
LAX
248°
PIONE
N34°05.67'
W116°44.33'
TWENTYNINE PALMS
114.2 TNP
Chan 89
N34°06.73'-W115°46.19'
L-4, H-4
HECTOR
112.7 HEC
Chan 74
N34°47.82'-W116°27.78'
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.

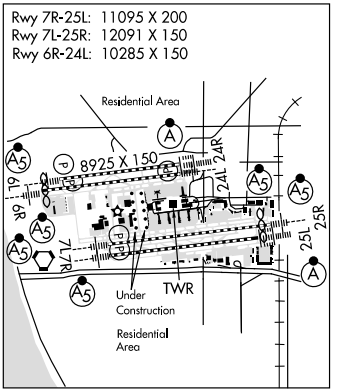
SW-3, 08 MAR 2012 to 05 APR 2012

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

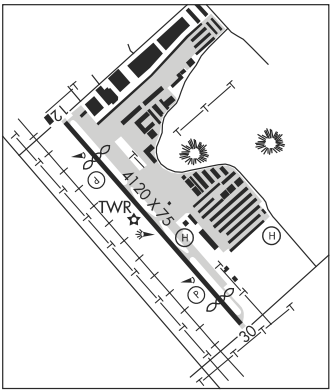
RADIO AIDS TO NAVIGATION: NOTAM FILE LAX.
(H) VORTACW 113.6 LAX Chan 83 N33°55.99´ W118°25.92´ 050° 1.3 NM to fld. 182/15E.
VOR portion unusable:
270°-277° byd 25 NM blo 8,000´
277°-300° byd 10 NM blo 8,000´
277°-300° byd 28 NM blo 12,000´
VOR portion unusable:
175°-205° byd 10 NM blo 3,000´

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.

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)

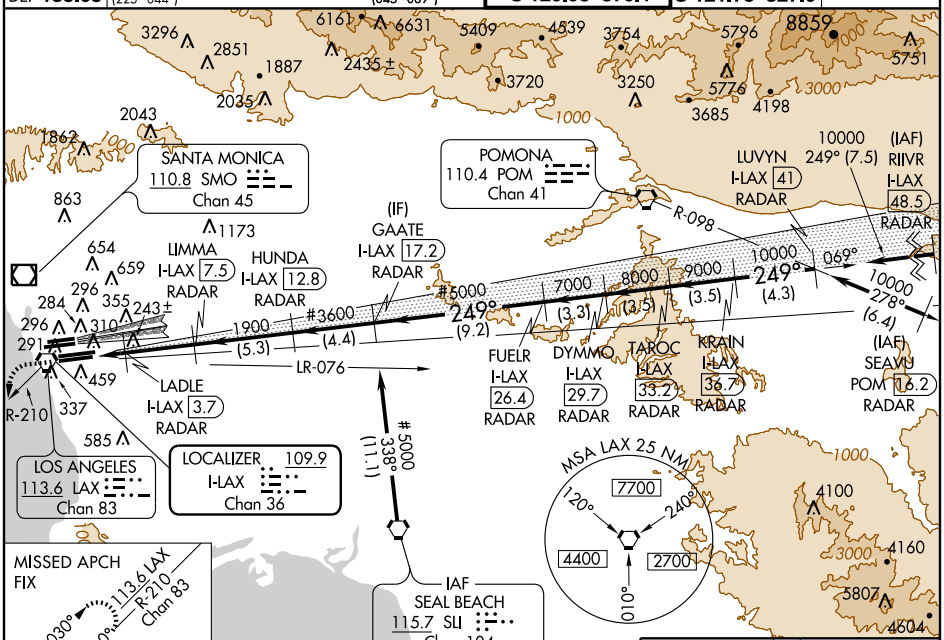
LOC/DME I-LAX	APP CRS	Rwy ldg	25L	25R
109.9	249°	THRE	98	94
Chan 36		Apt Elev	126	126

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.

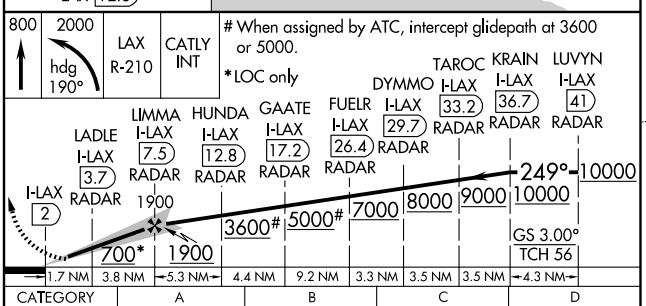
ALSF-2 Rwy 25L (A) | MALSR Rwy 25R (A5)

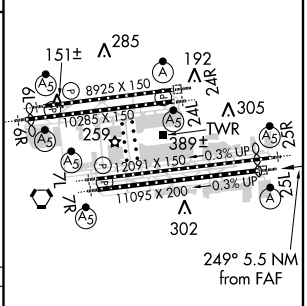
MISSED APPROACH: Climb to 800 then climbing left turn to 2000 on heading 190° and LAX VORTAC R-210 to CATLY INT/ LAX 12.8 DME and hold.

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

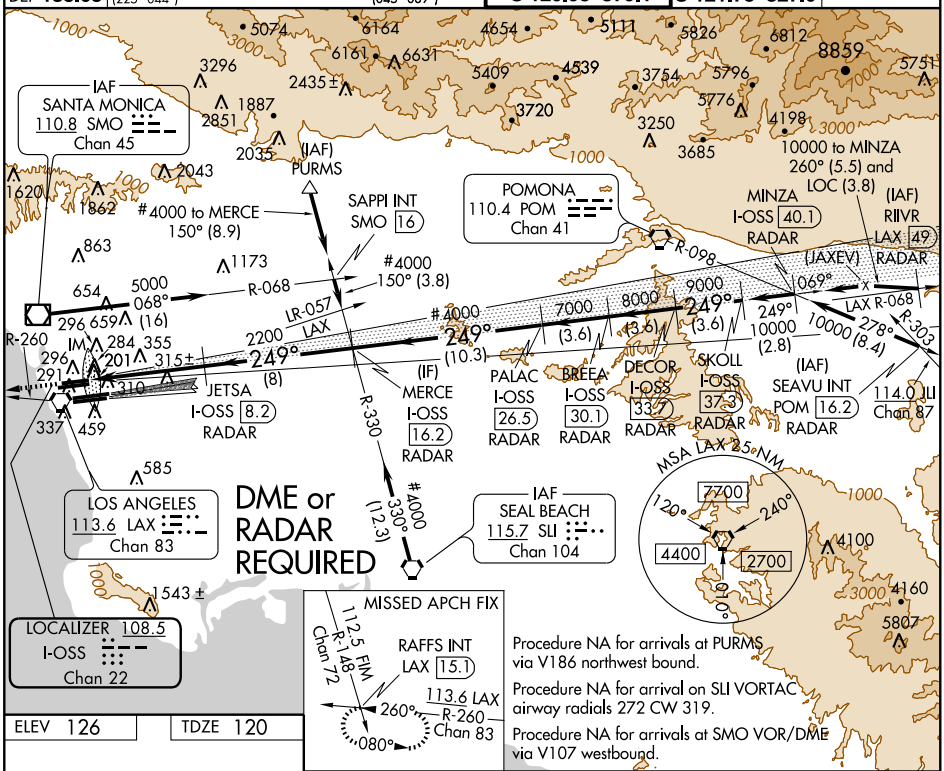
ILS RWY 24R (CAT II)
LOS ANGELES INTL (LAX)

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

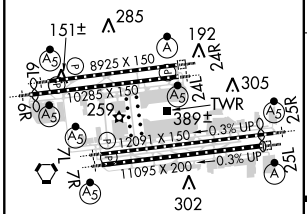


Procedure NA for arrivals at PURMS via V186 northwest bound.

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 TDZE 714 Apt Elev 728

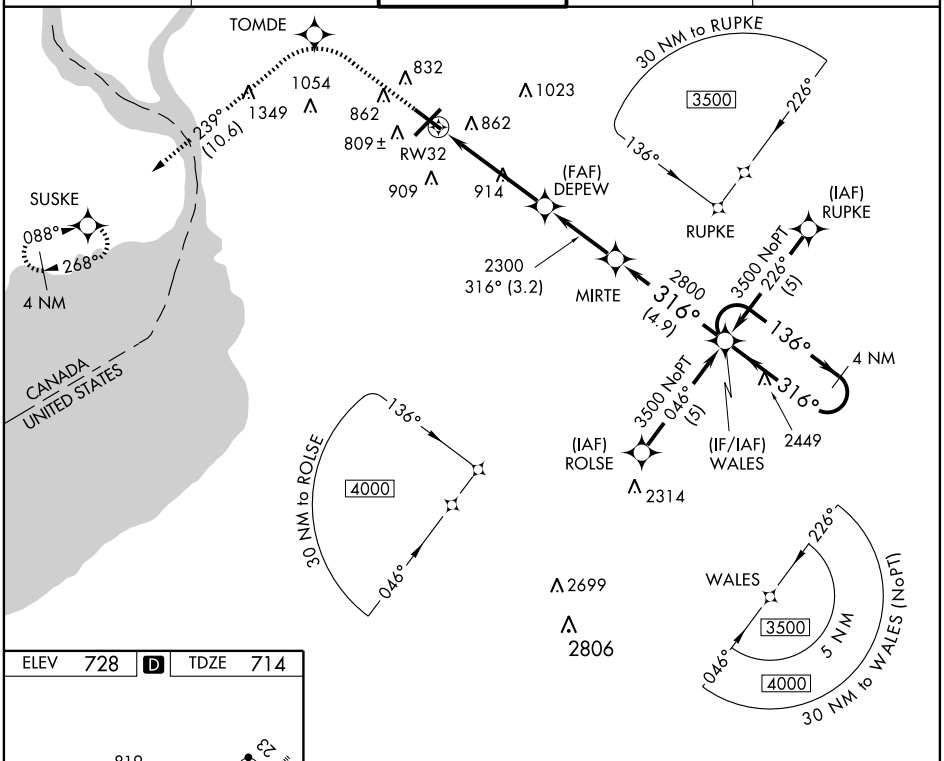
RNAV (GPS) RWY 32
BUFFALO NIAGARA INTL (BUF)

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.

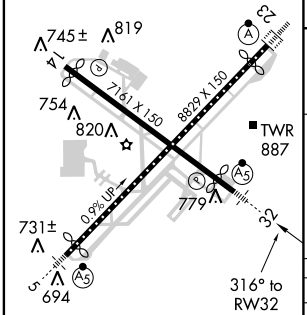
MALSR

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

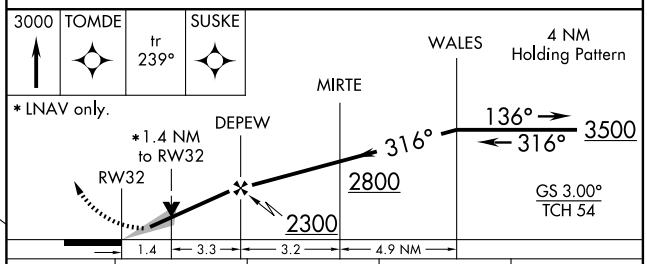
ATIS	BUFFALO APP CON	BUFFALO TOWER	GND CON	CLNC DEL
135.35	126.15 263.125	120.5 257.8	133.2 257.8	124.7 257.8



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)

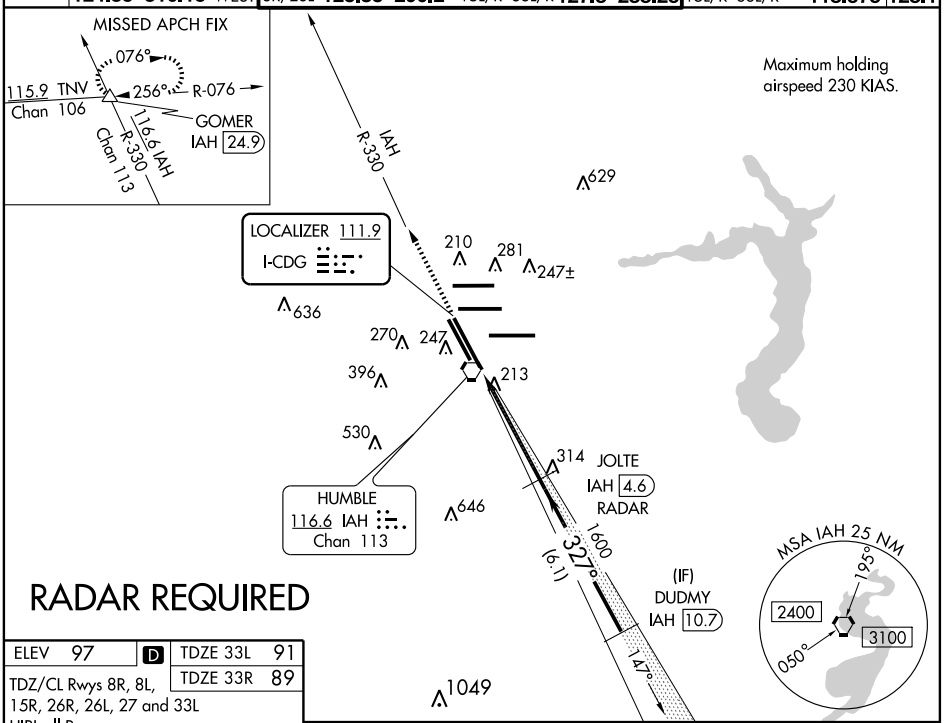
LOC I-CDG	APP CRS	Rwy 33R ldg	12001	Rwy 33L ldg	9999
111.9	327°	TDZE	89	TDZE	91
		Apt Elev	97	Apt Elev	97

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

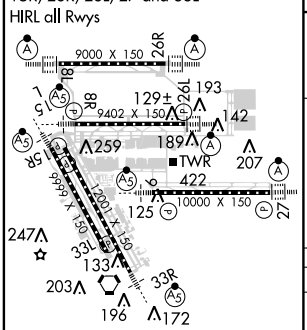
MISSED APPROACH: Climb to 2000 via IAH R-330 to GOMER INT / IAH 24.9 DME and hold.

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

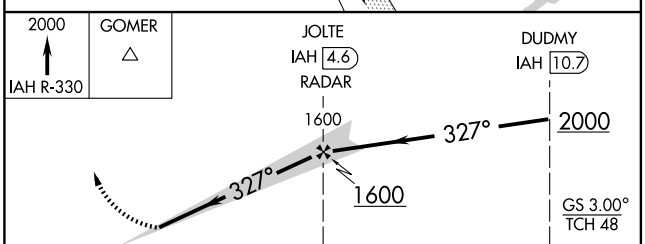


ELEV 97	D	TDZE 33L 91
		TDZE 33R 89

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.

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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.

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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....

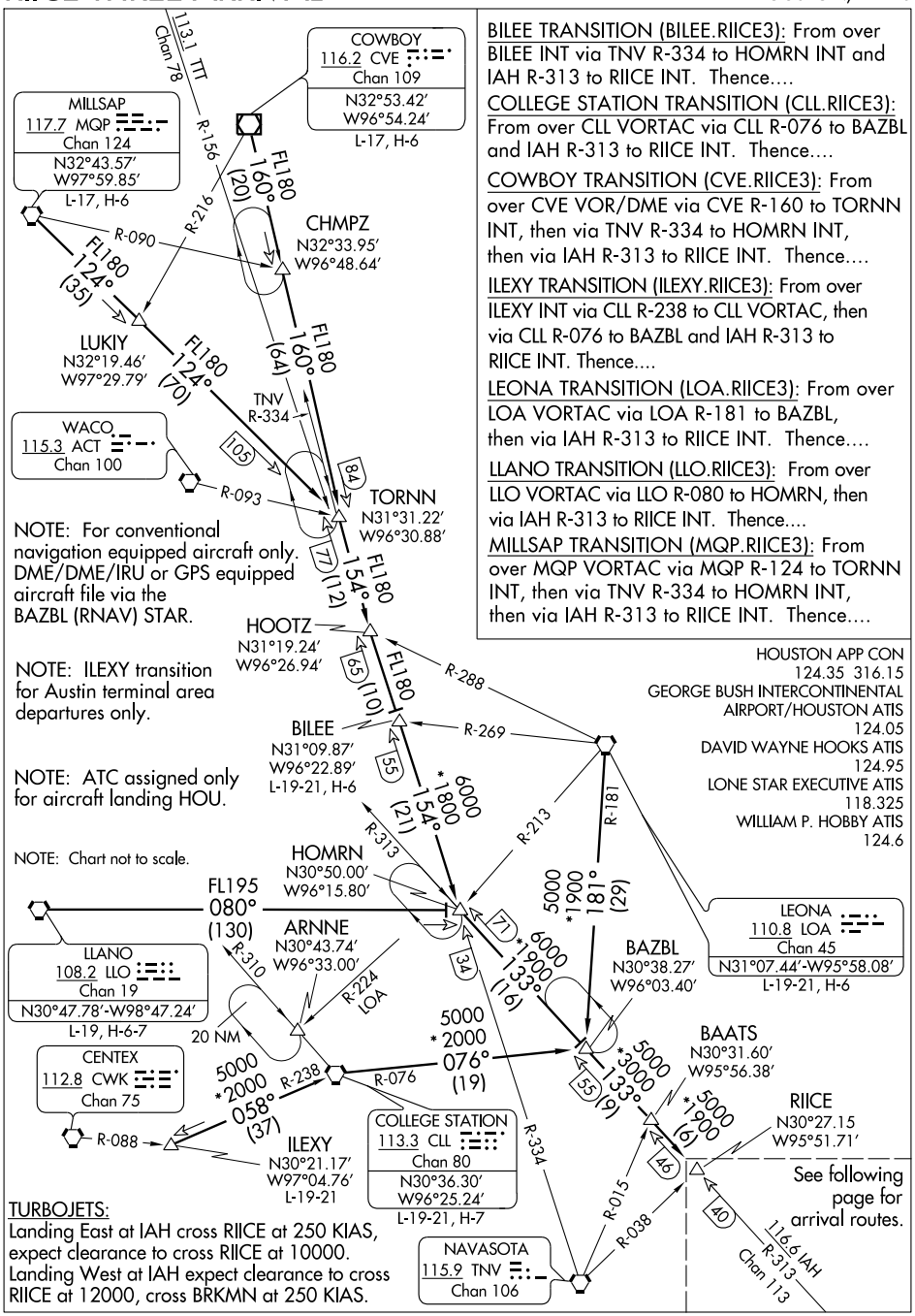
COWBOY TRANSITION (CVE.RIICE3): From over CVE VOR/DME via CVE R-160 to TORNN INT, then via TNV R-334 to HOMRN INT, then via IAH R-313 to RIICE INT. Thence....

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....



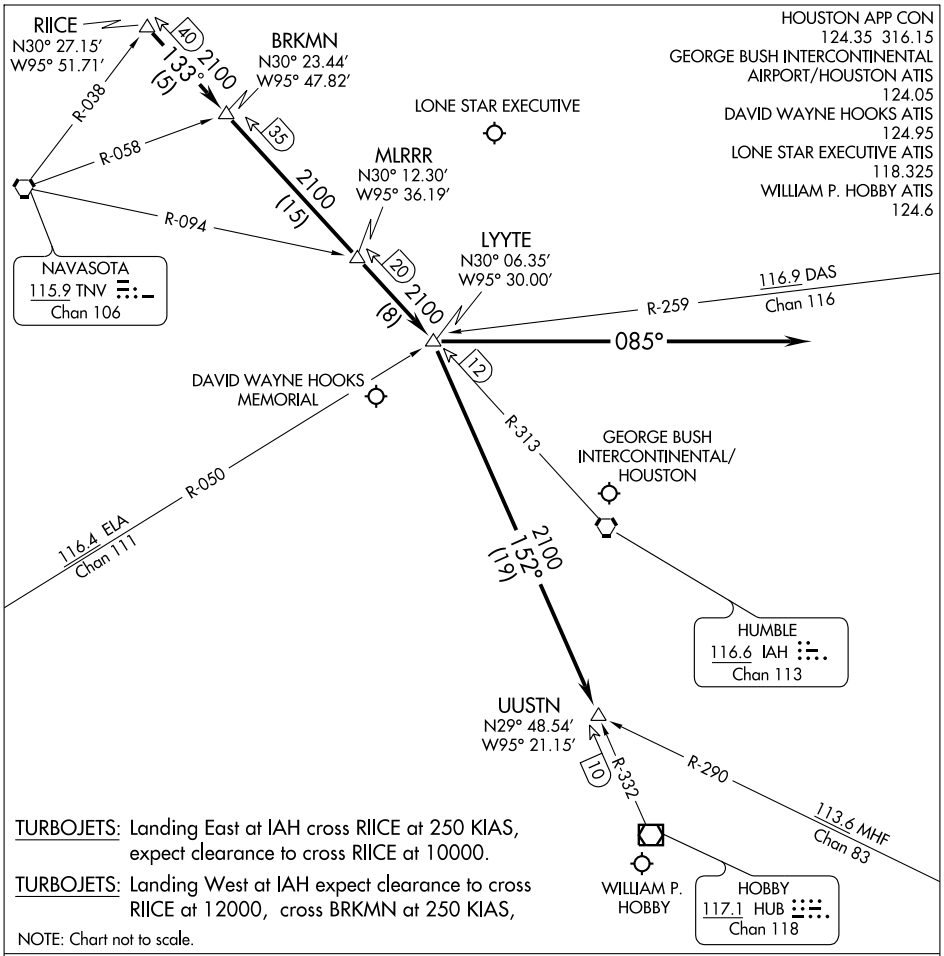
TURBOJETS:
Landing East at IAH cross RIICE at 250 KIAS, expect clearance to cross RIICE at 10000.
Landing West at IAH expect clearance to cross RIICE at 12000, cross BRKMN at 250 KIAS.

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.

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Figure 263

ILS or LOC RWY 8L

HOUSTON/GEORGE BUSH INTERCONTINENTAL/HOUSTON (IAH)

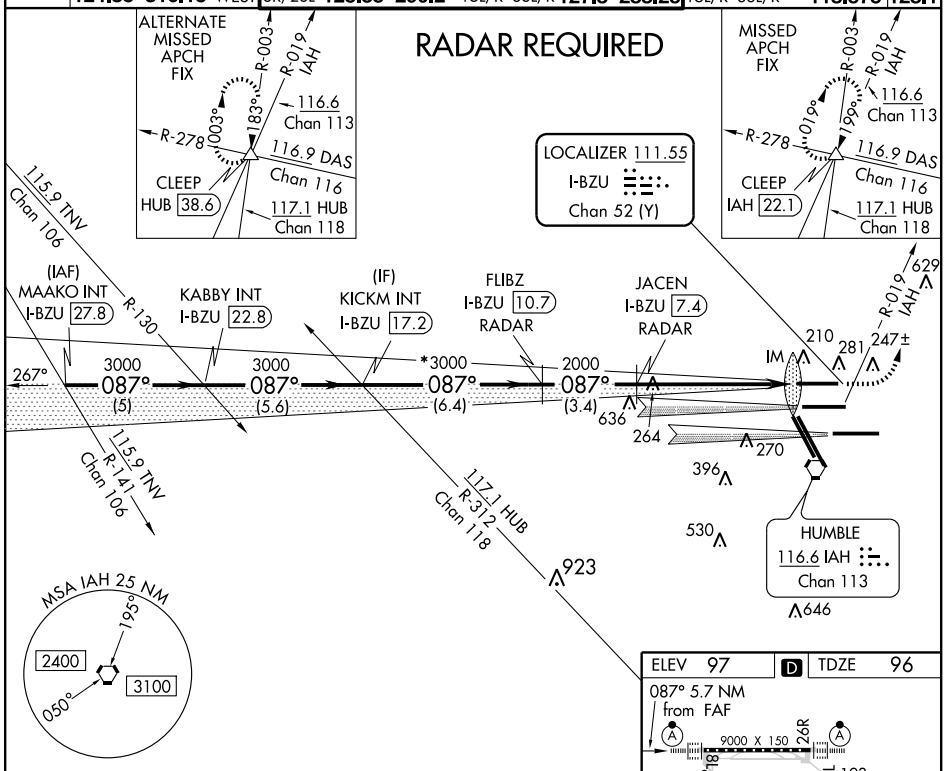
LOC/DME I-BZU	APP CRS	Rwy ldg	9000
111.55	087°	TDZE	96
Chan 52 (Y)		Apt Elev	97

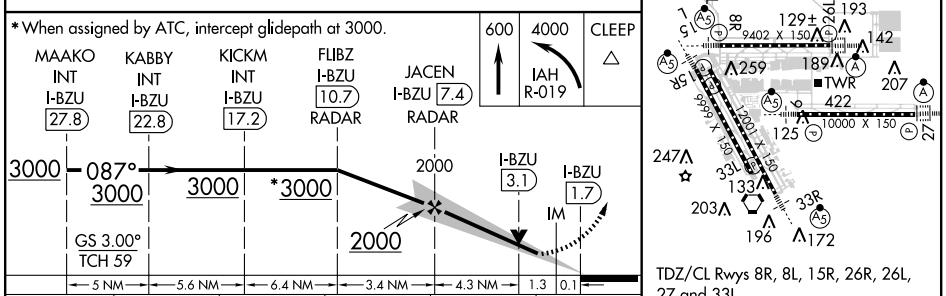
For inoperative ALSF increase S-ILS 8L Cat E visibility to RVR 4000, and S-LOC 8L Cat E visibility to 1¾. Simultaneous approach authorized with Rwy 8R and Rwy 9. LOC procedure NA during simultaneous operations.

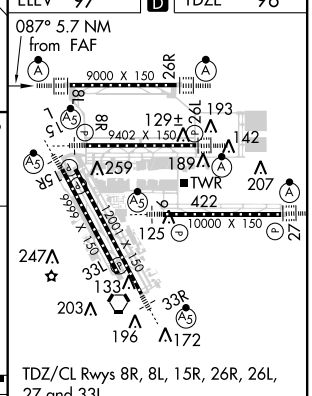
ALSF-2

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

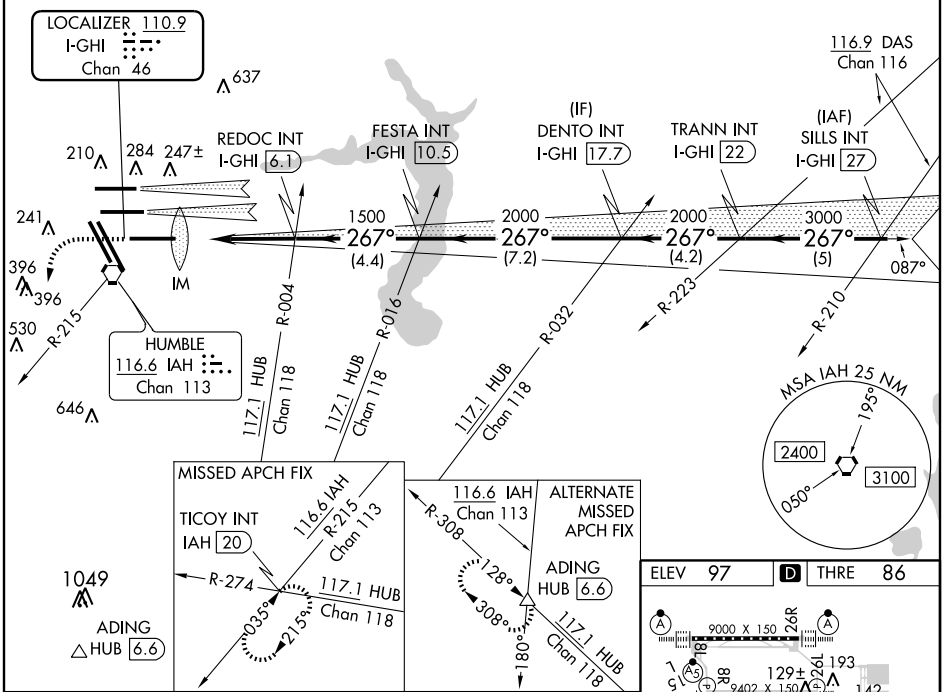
For inoperative ALSF, increase S-ILS 27 Cat E visibility to RVR 4000 and S-LOC 27 Cat C-E visibility to 1⅜. Simultaneous approach authorized with Rwy 26L/R. LOC procedure NA during simultaneous operations.

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 124.35 316.15 WEST	8L/26R 120.725 290.2 9/27 135.15 290.2 8R/26L 125.35 290.2 15L/R 33L/R 127.3 288.25	8L/R 26L/R, 9/27 121.7 15L/R 33L/R 118.575	128.1

RADAR REQUIRED



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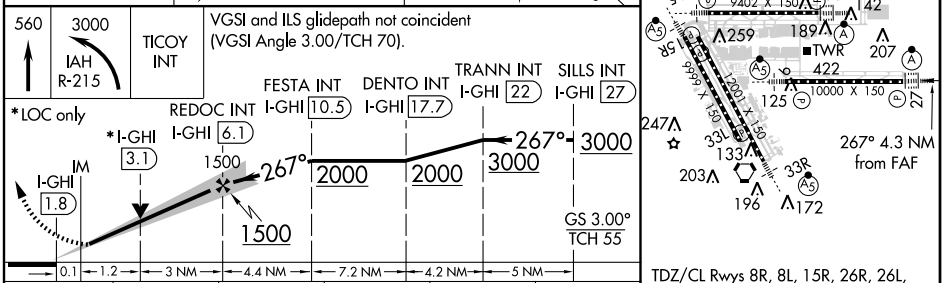
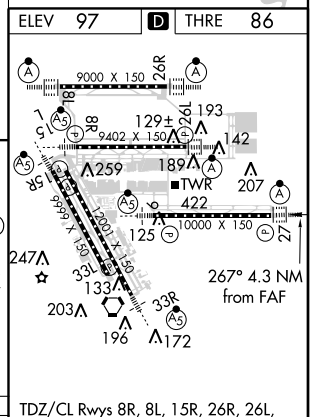




TDZ/CL Rwys 8R, 8L, 15R, 26R, 26L, 27 and 33L
HIRL all Rwys

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 THRE 95 Apt Elev 97

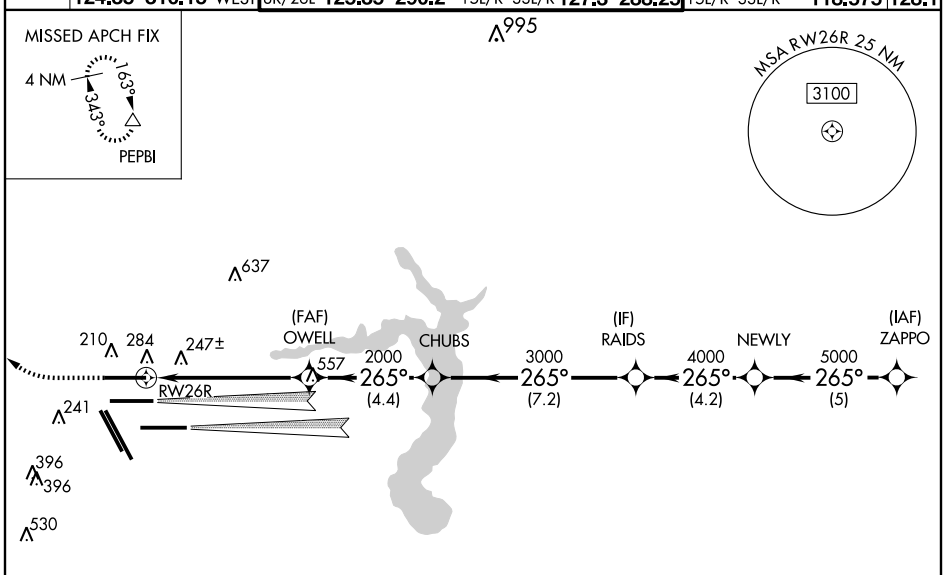
RNAV (GPS) Z RWY 26R
HOUSTON/GEORGE BUSH INTERCONTINENTAL/HOUSTON (IAH)

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.

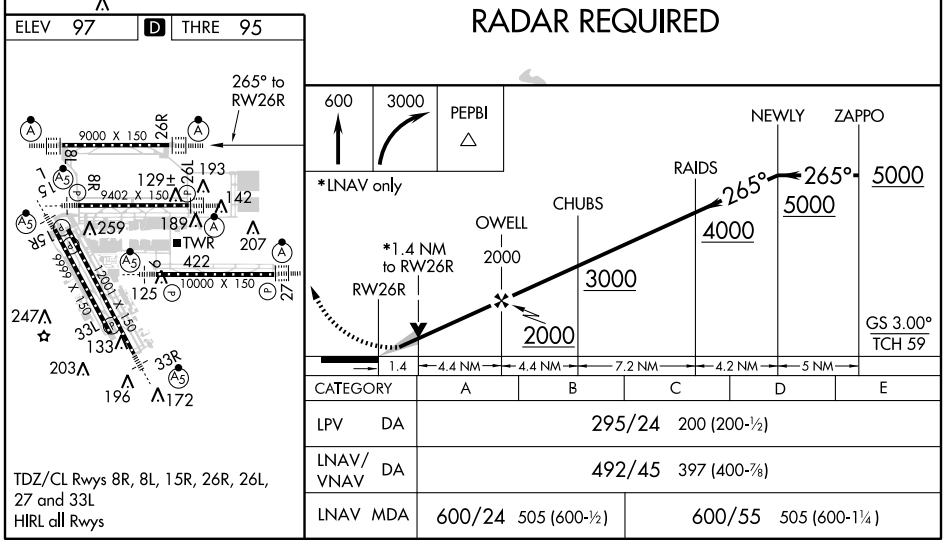
ALSF-2

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 124.35 316.15 WEST	8L/26R 120.725 290.2 9/27 135.15 290.2 8R/26L 125.35 290.2 15L/R 33L/R 127.3 288.25	8L/R 26L/R, 9/27 121.7 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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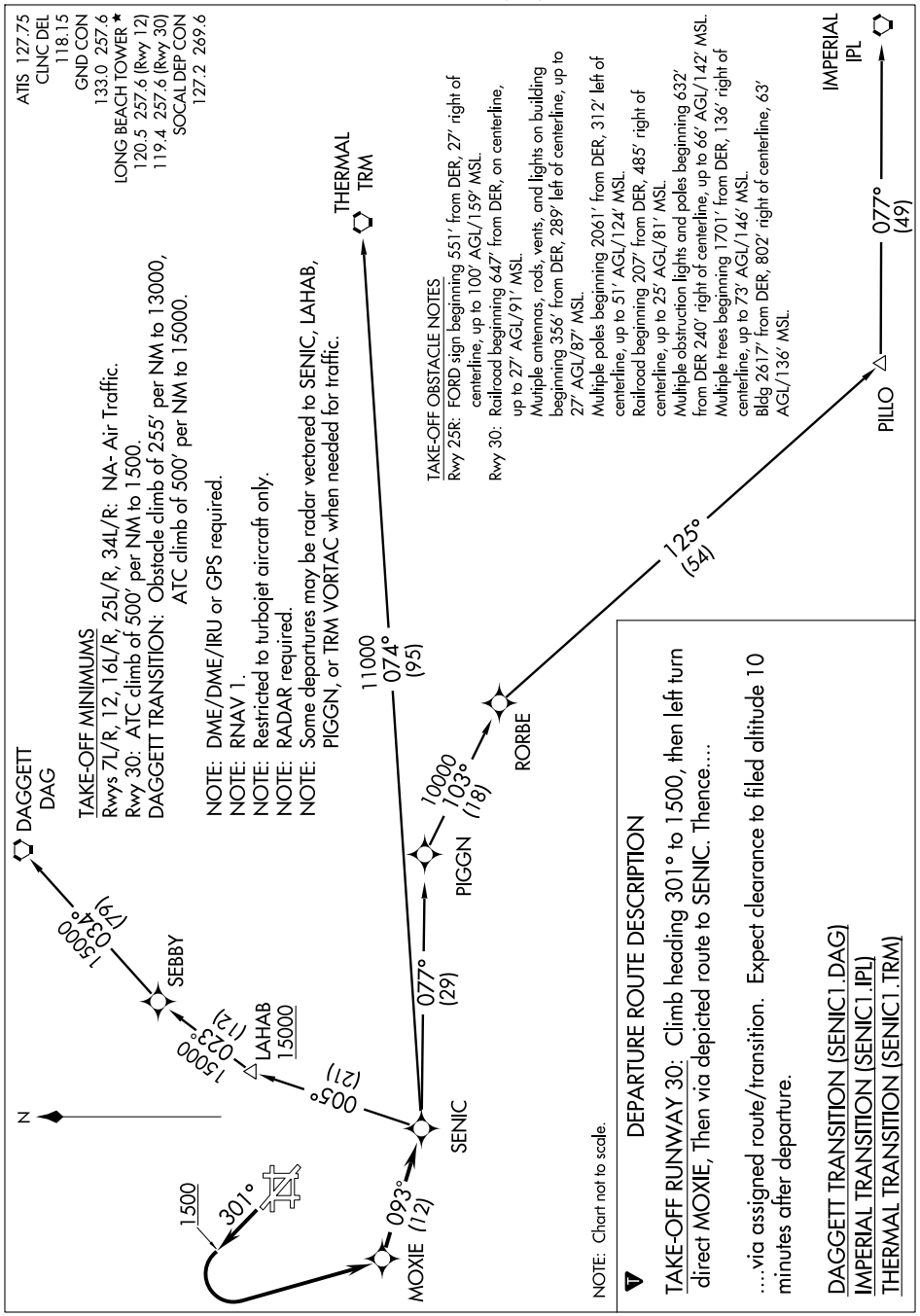
Figure 268

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 TDZE 38 Apt Elev 60

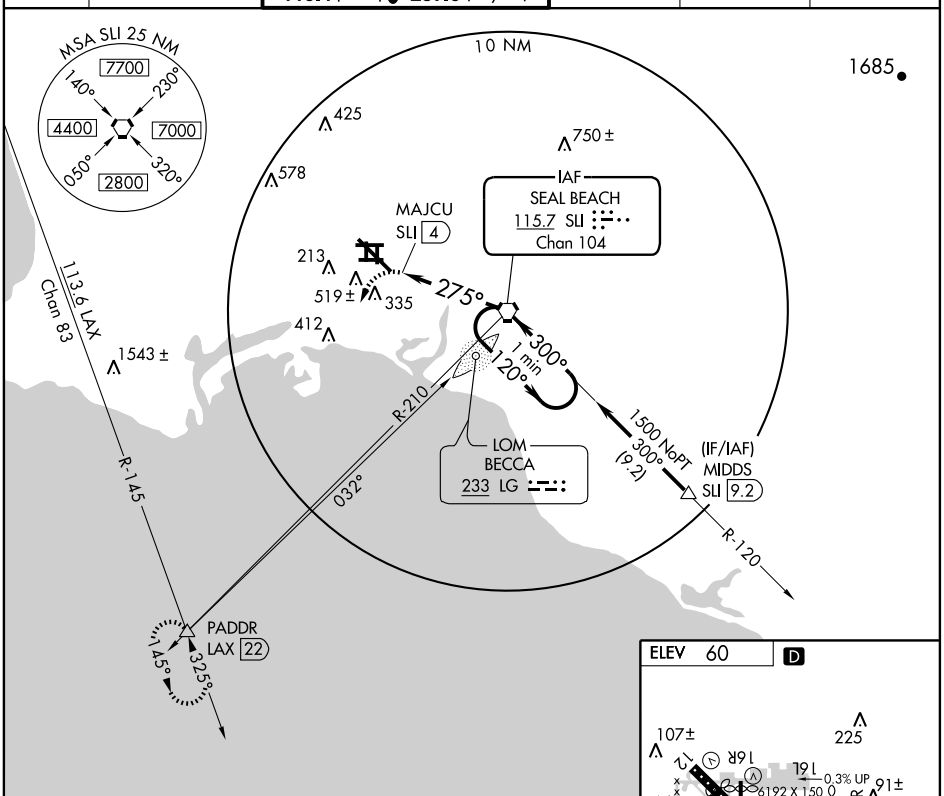
VOR or TACAN RWY 30
LONG BEACH (DAUGHERTY FIELD) (LGB)

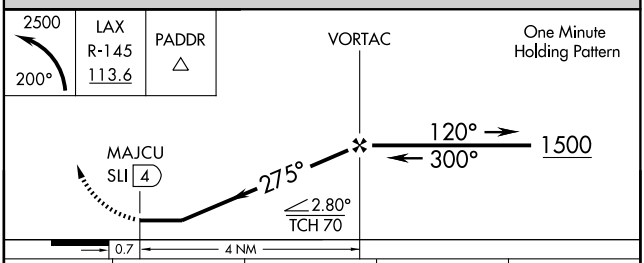
Inoperative table does not apply.
Visibility reduction by helicopters NA.

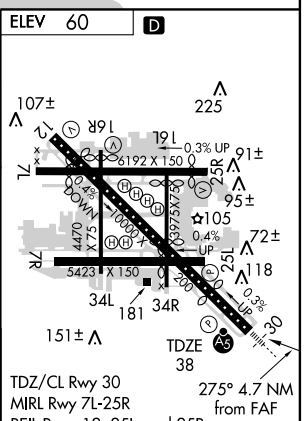
MALSR

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) 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 602 (600-1¾)	640-2 602 (600-2)
CIRCLING	880-1 820 (900-1)	880-1¼ 820 (900-1¼)	880-2½ 820 (900-2½)	880-2¾ 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

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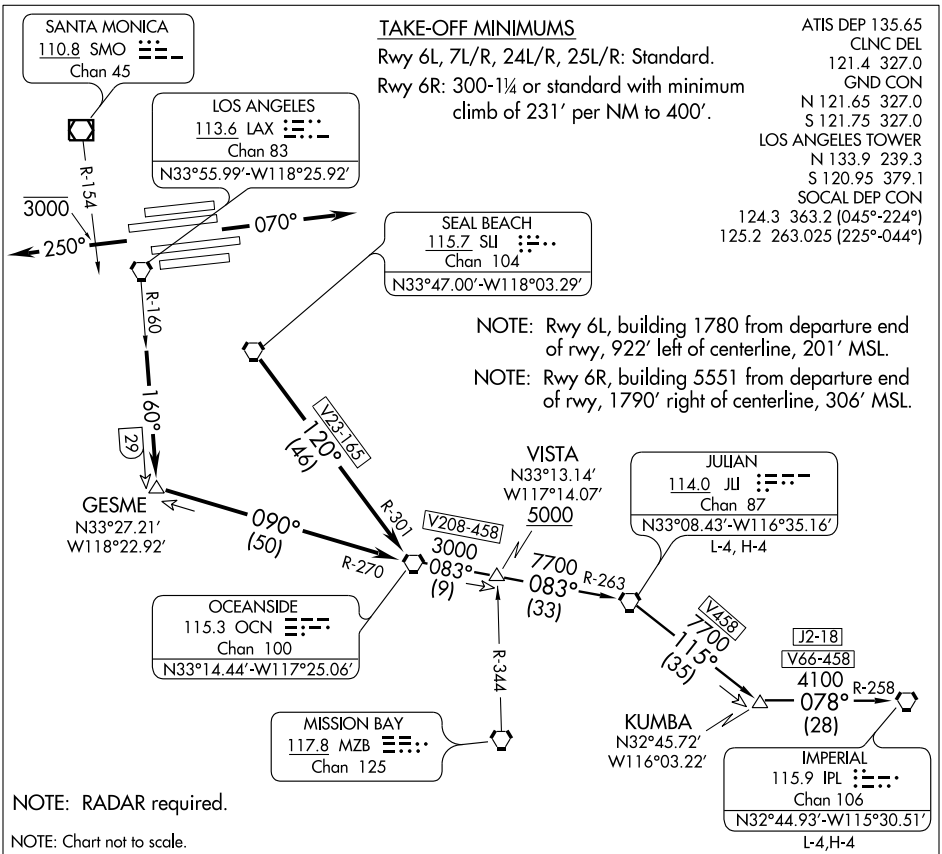
Figure 270

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....

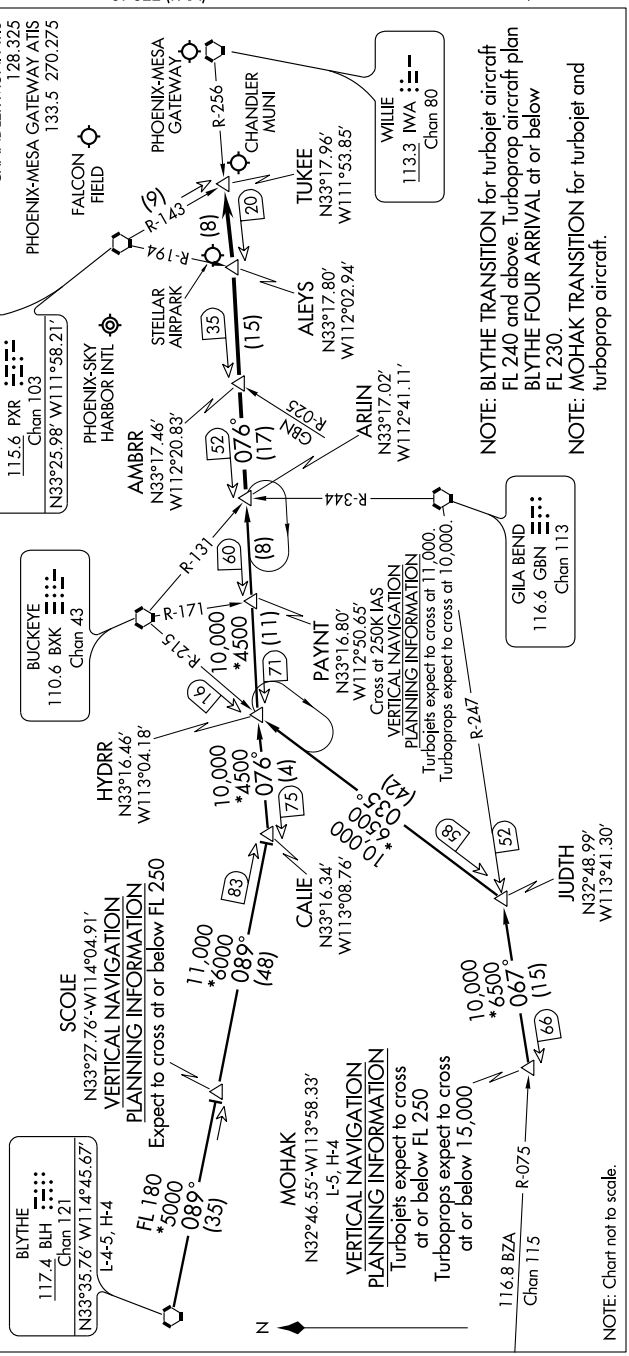
MOHAK TRANSITION (MOHAK.ARLIN3): From over MOHAK INT via GBN R-247 and BXK R-215 to HYDRR INT, then via IWA R-256 to ARLIN INT. Thence....

...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)

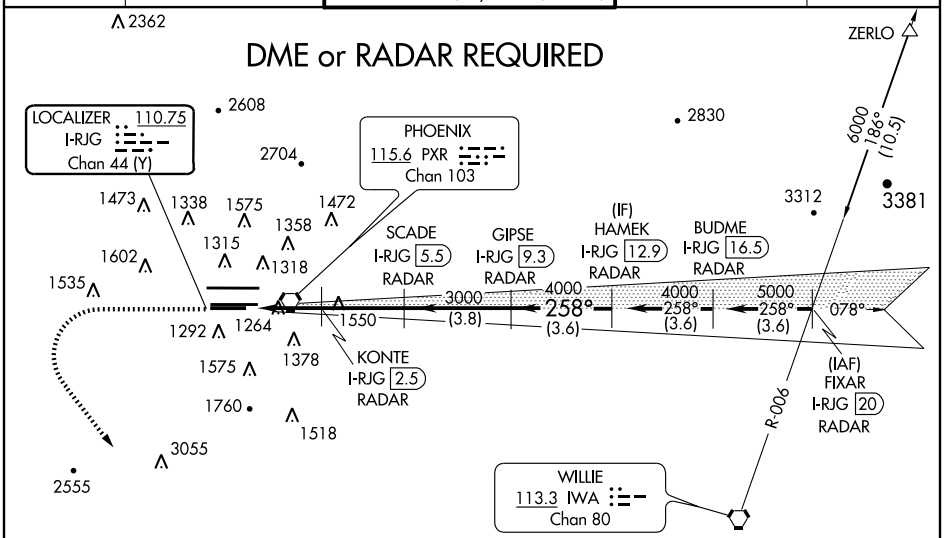
LOC/DME I-RJG	APP CRS	Rwy ldg	7800
110.75	258°	TDZE	1126
Chan 44 (Y)		Apt Elev	1135

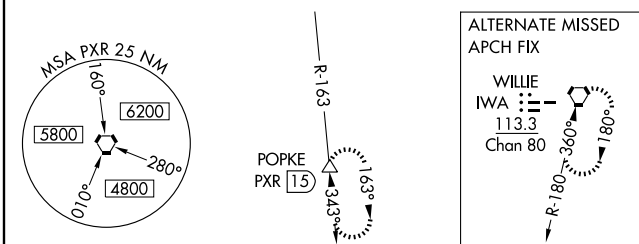
Autopilot coupled approach NA below 1925.
Simultaneous approach authorized with Rwy 26.

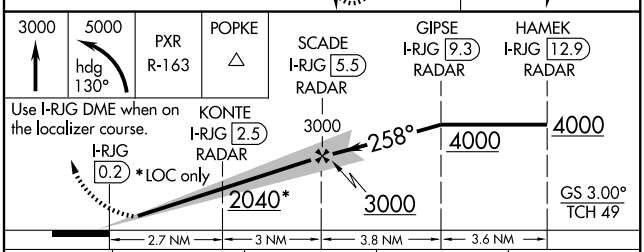
MALSR

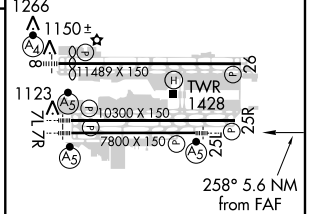
MISSED APPROACH: Climb to 3000 then climbing left turn to 5000 on heading 130° and PXR R-163 to POPKE/15 DME and hold.

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

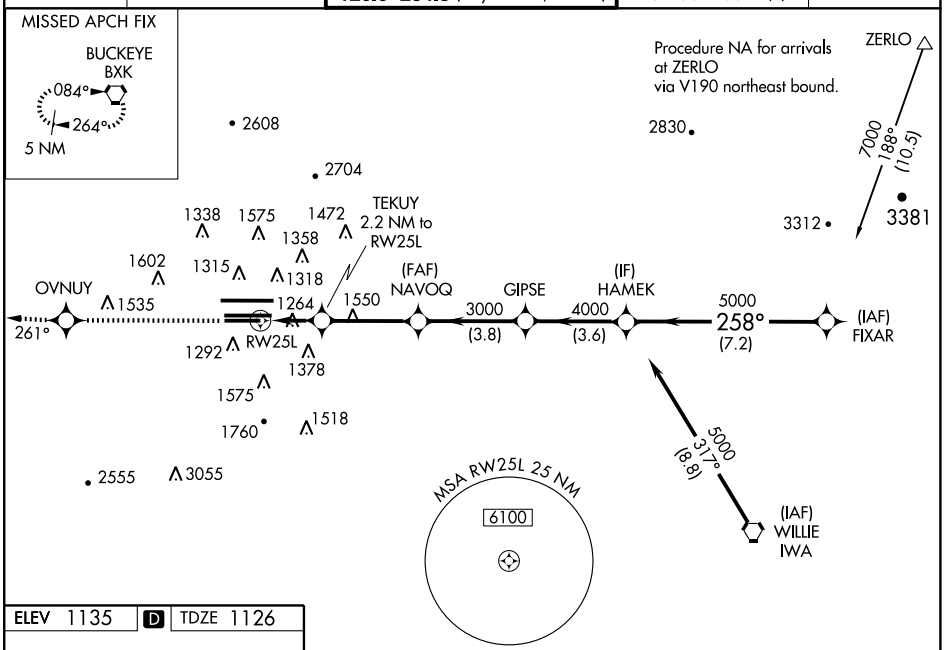
WAAS CH 82211 W25B	APP CRS 258°	Rwy ldg 7800 TDZE 1126 Apt Elev 1135

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.

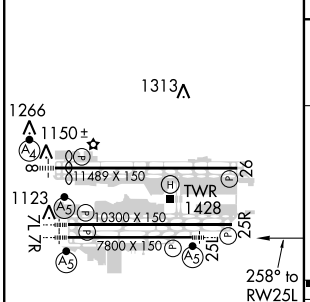
MALSR

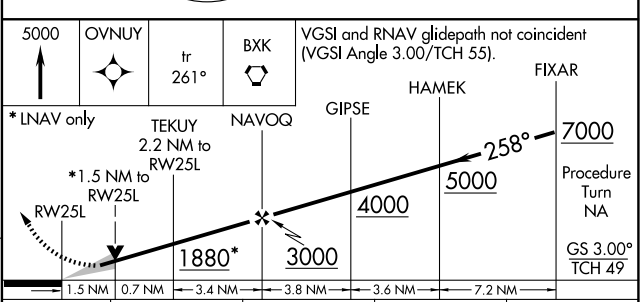
MISSED APPROACH: Climb to 5000 direct OVNUY and via 261° track to BXK VORTAC and hold.

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



ELEV 1135 | D | TDZE 1126





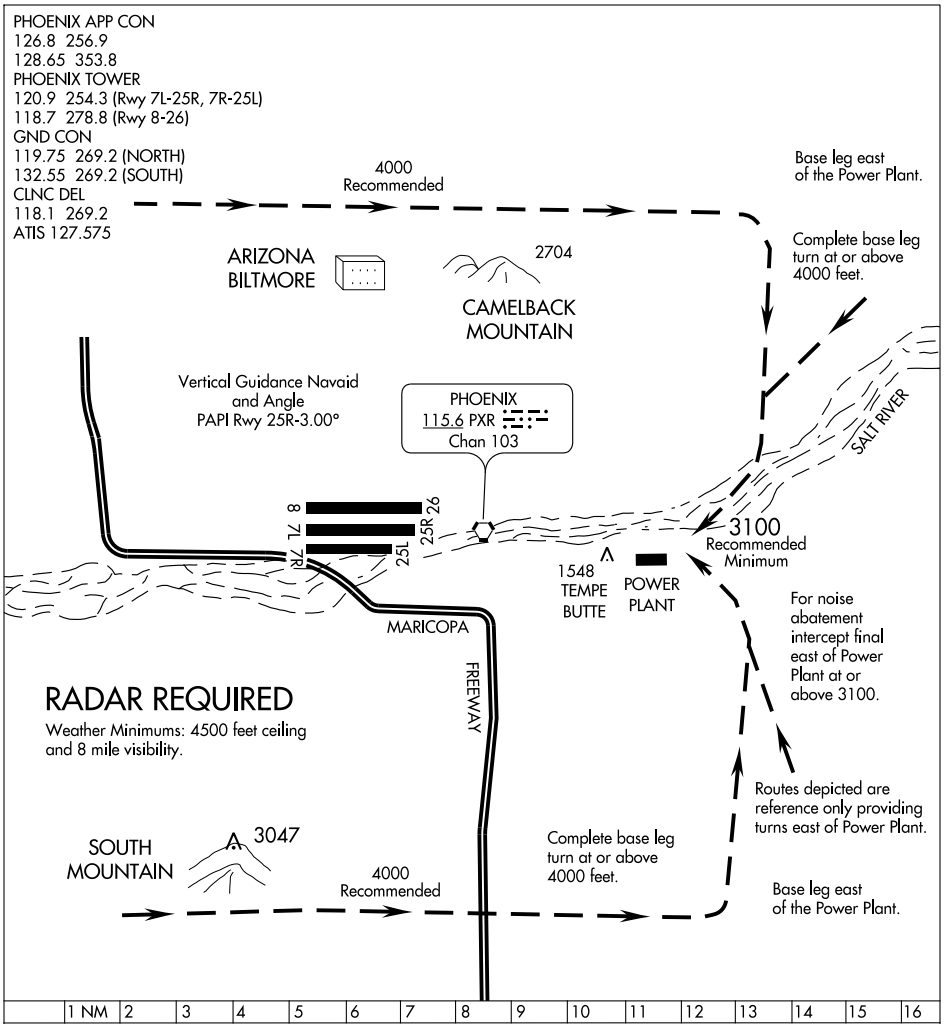
CATEGORY	A	B	C	D
LPV DA	1482-¾ 356 (400-¾)			
LNAV/VNAV DA	1613-1¼ 487 (500-1¼)			
LNAV MDA	1680-½ 554 (600-½)		1680-1 554 (600-1)	1680-1¼ 554 (600-1¼)
CIRCLING	1740-1 605 (700-1)		1740-1¾ 605 (700-1¾)	1920-2½ 785 (800-2½)

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

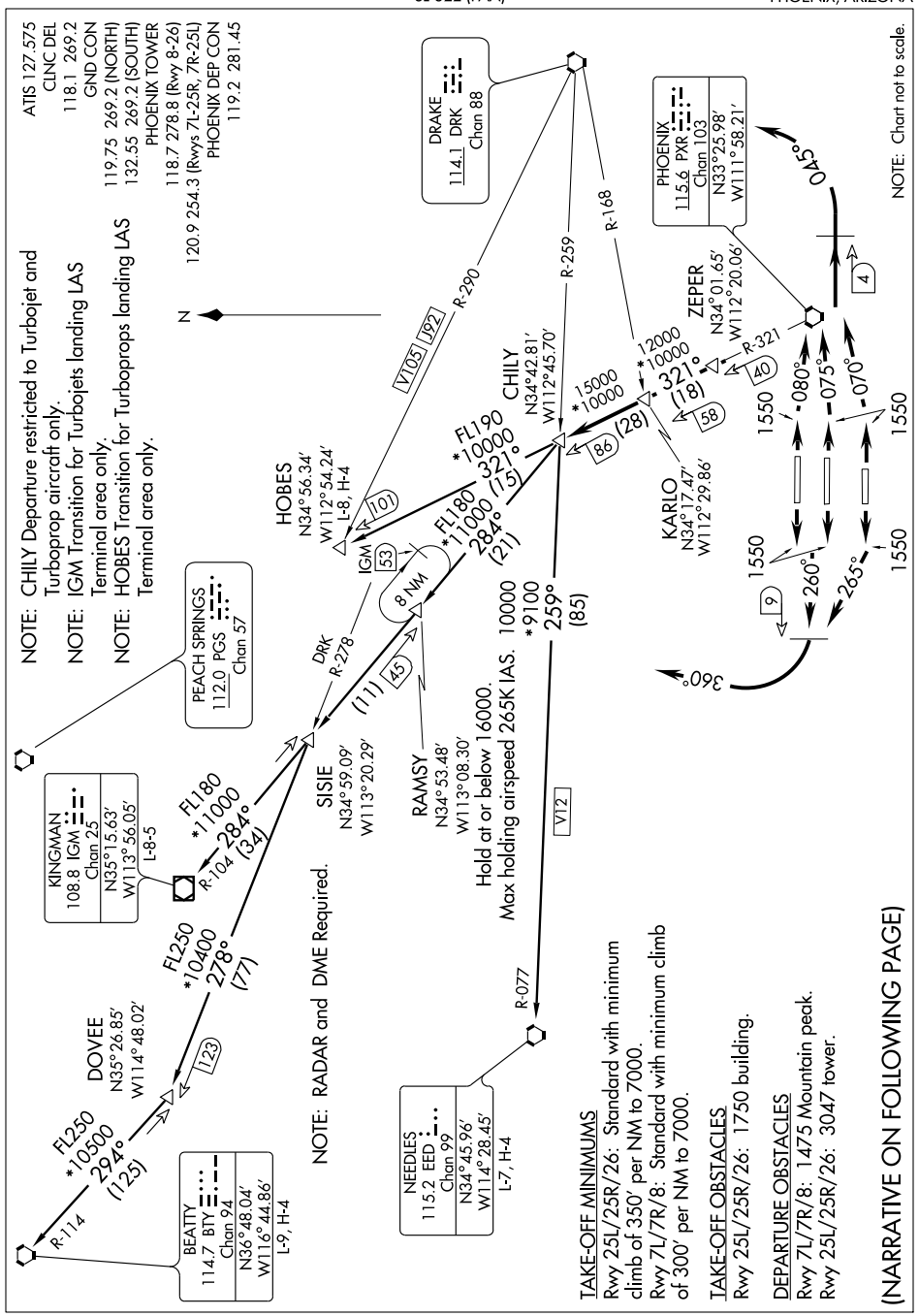

ATIS 127.575
CLNC DEL
118.1 269.2
GND CON
119.75 269.2 (NORTH)
132.55 269.2 (SOUTH)
PHOENIX TOWER
118.7 278.8 (Rwy 8-26)
120.9 254.3 (Rwys 7L-25R, 7R-25L)
PHOENIX DEP CON
119.2 281.45
NOTE: CHILY Departure restricted to Turbojet and Turboprop aircraft only.
NOTE: IGM Transition for Turbojets landing 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

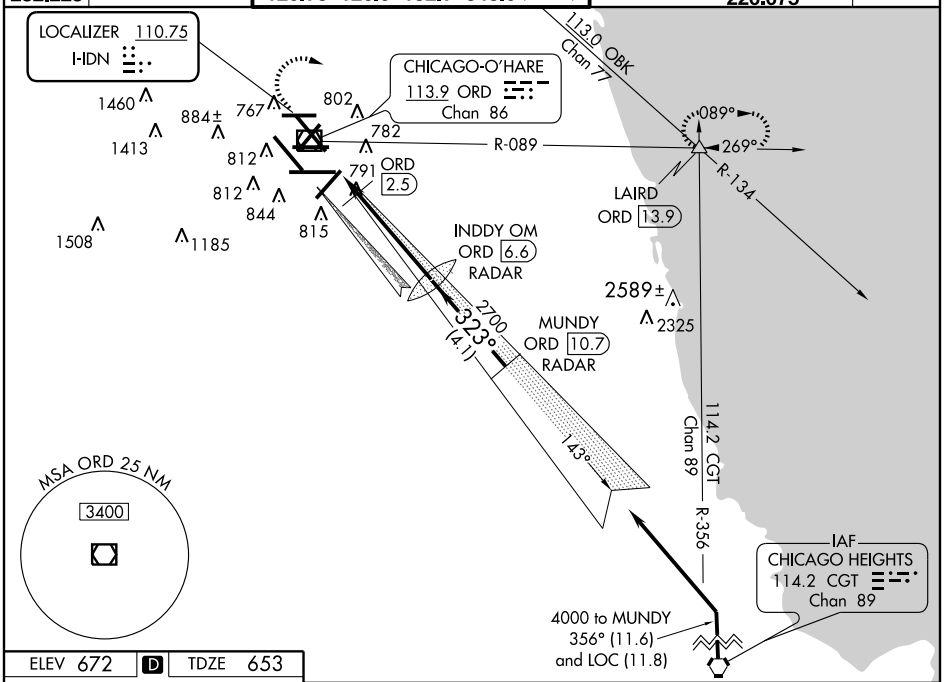
ILS or LOC RWY 32R
CHICAGO-O'HARE INTL (ORD)

DME from ORD VOR/DME.

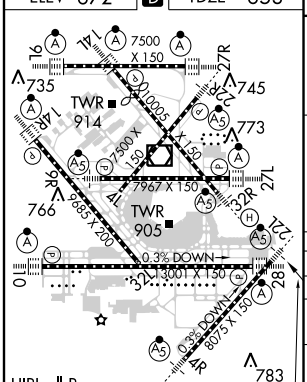
MALSR

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



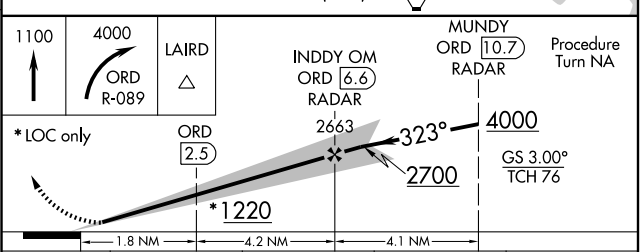
ELEV 672 | D | TDZE 653



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

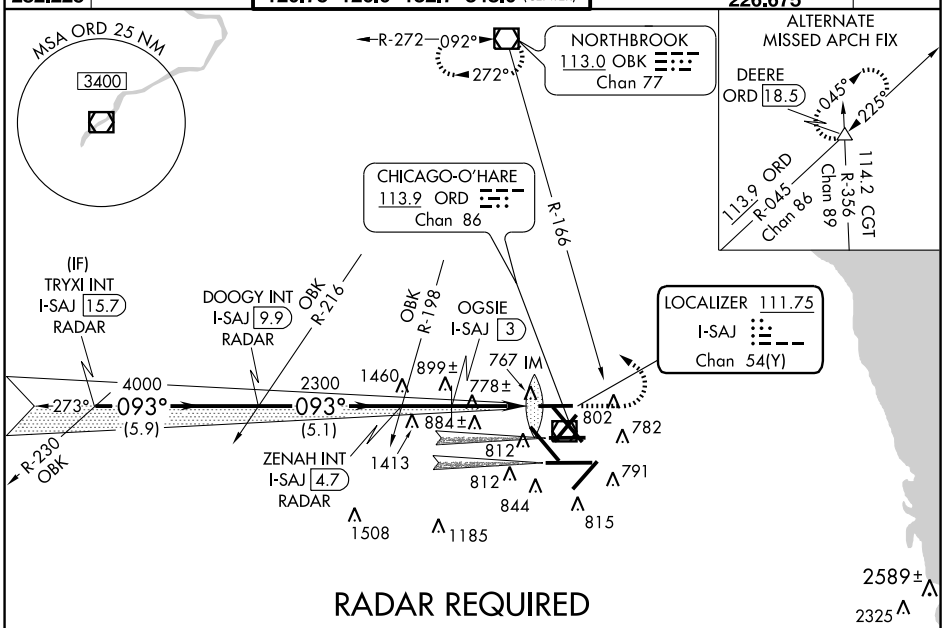
ILS or LOC RWY 9L
CHICAGO-O'HARE INTL (ORD)

Simultaneous approach authorized with Rwy 9R and 10.

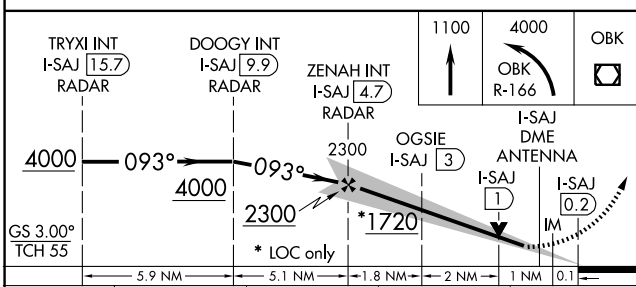
ALSF-2

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
135.4 282.225	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



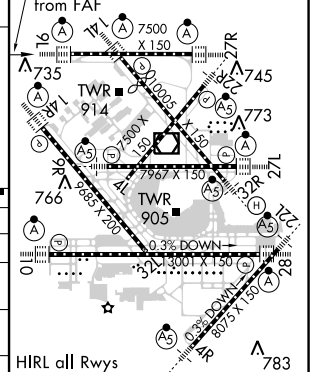
RADAR REQUIRED



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

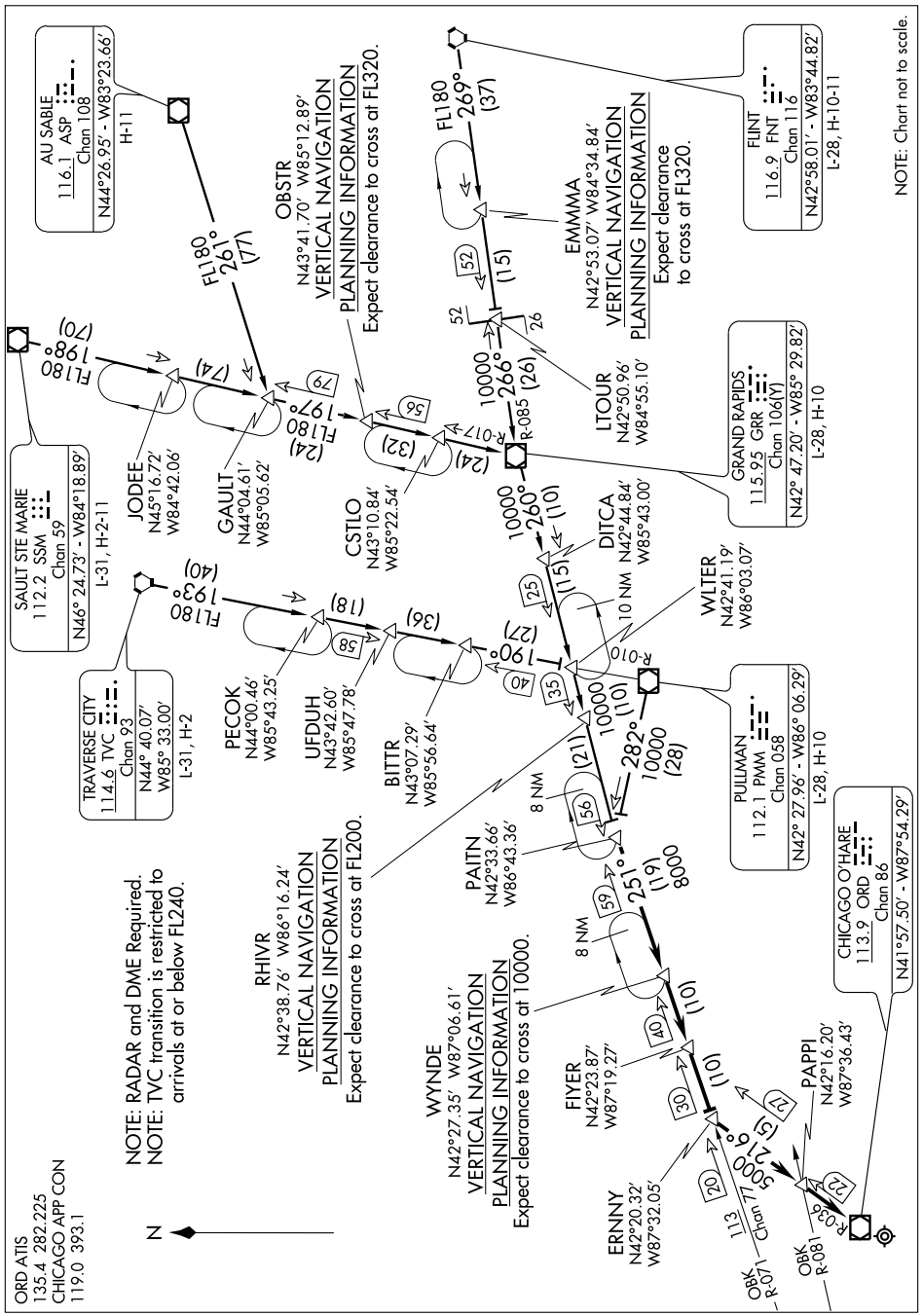
093° 4.9 NM from FAF



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 TDZE 24 Apt Elev 31

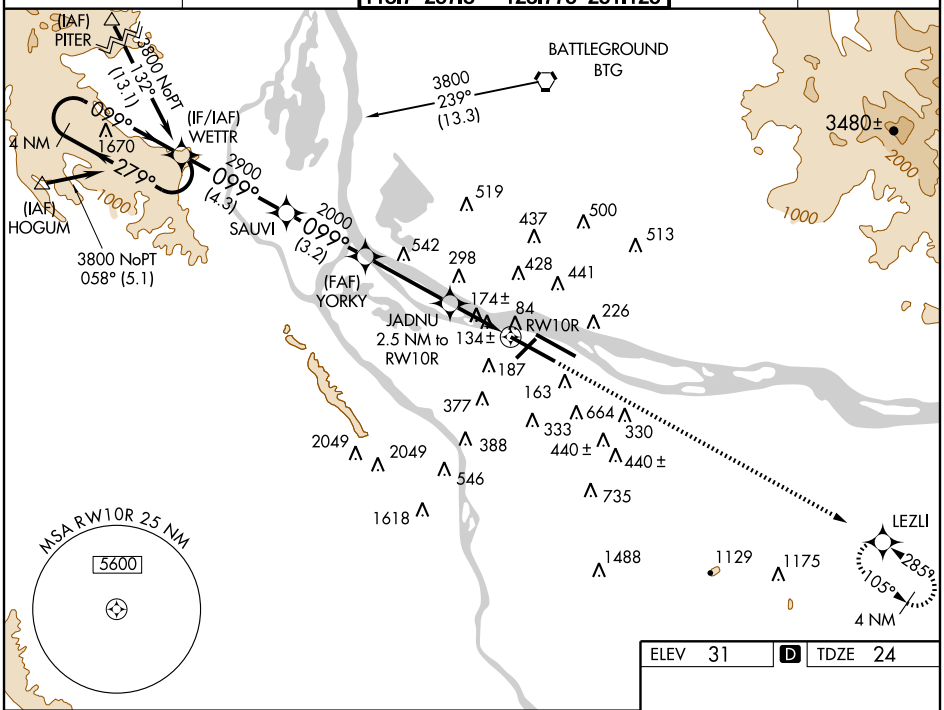
RNAV (GPS) RWY 10R
PORTLAND INTL (PDX)

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

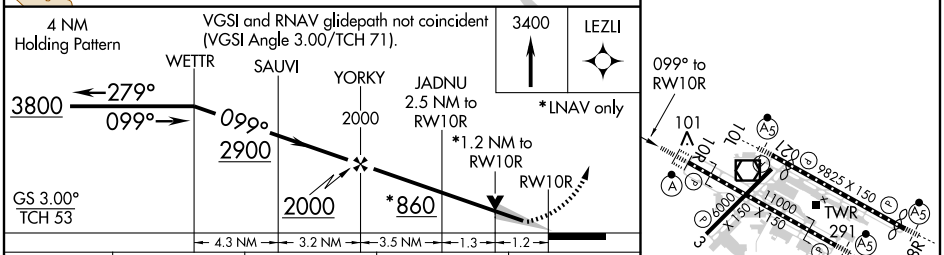
MISSED APPROACH: Climb to 3400 direct LEZLI and hold.

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

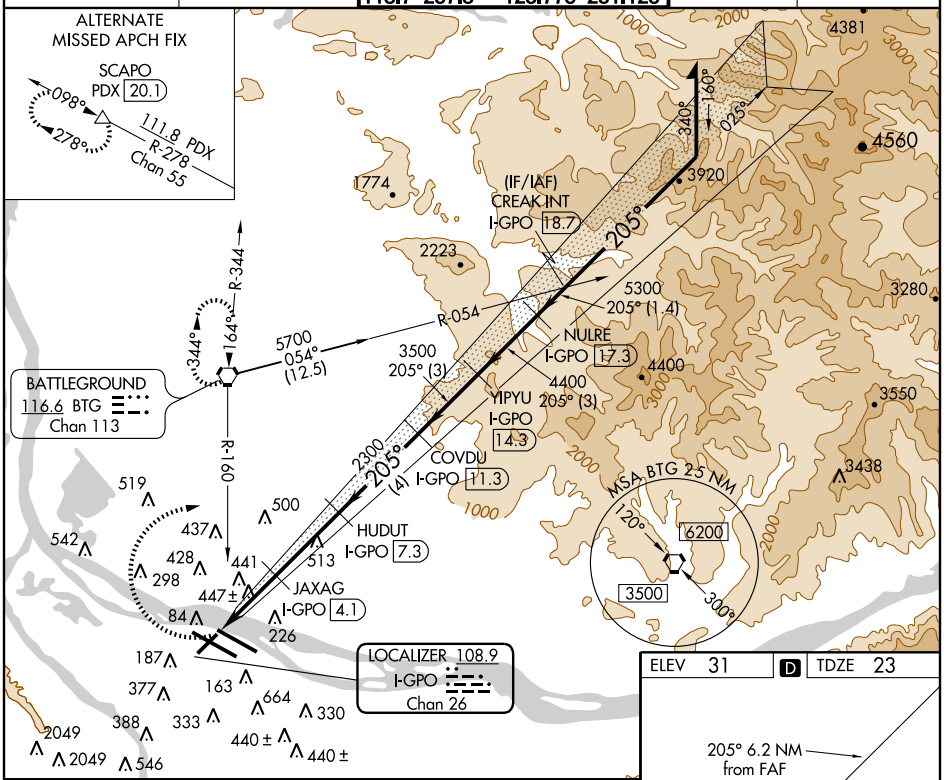
LOC/DME RWY 21
PORTLAND INTL (PDX)

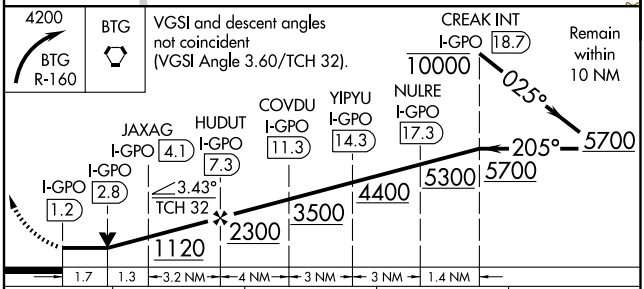
LOC/DME I-GPO	APP CRS	Rwy ldg	6000
108.9	205°	TDZE	23
Chan 26		Apt Elev	31

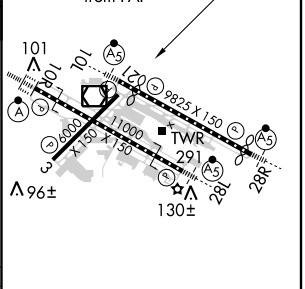
Visibility reduction by helicopters NA.

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)

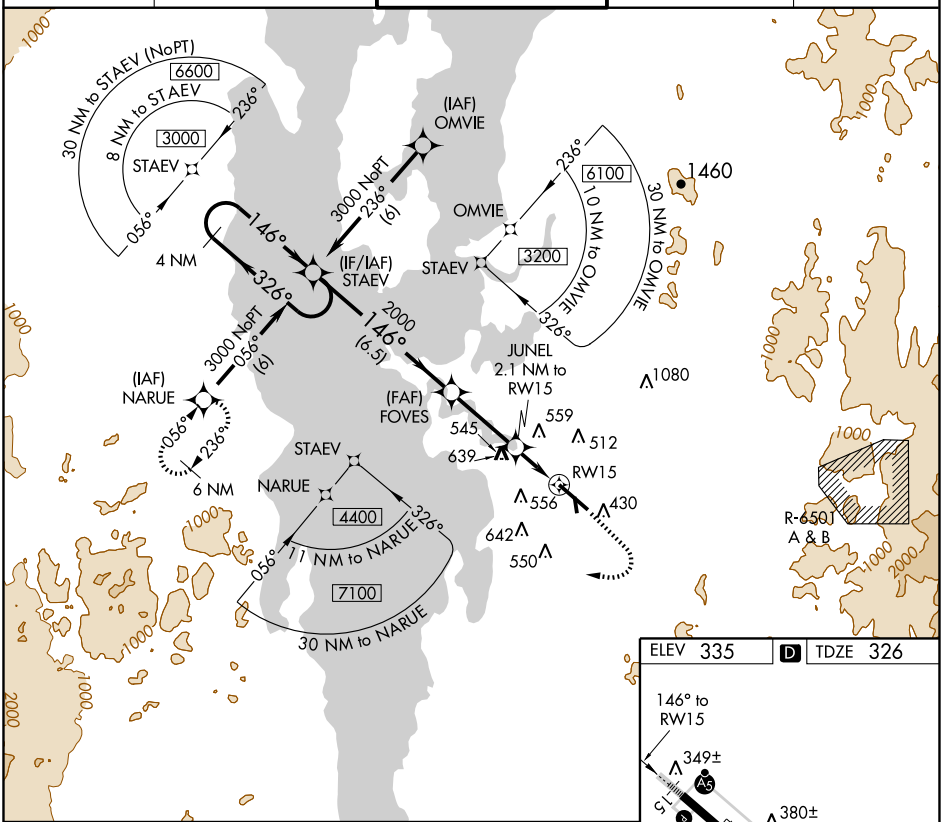
For inoperative MALSR, increase LNAV Cat A and B visibility to RVR 5000 and Cat E visibility to 1½. When VGSI inoperative, Circling Rwy 1 NA at night. DME/DME RNP-0.3 NA.

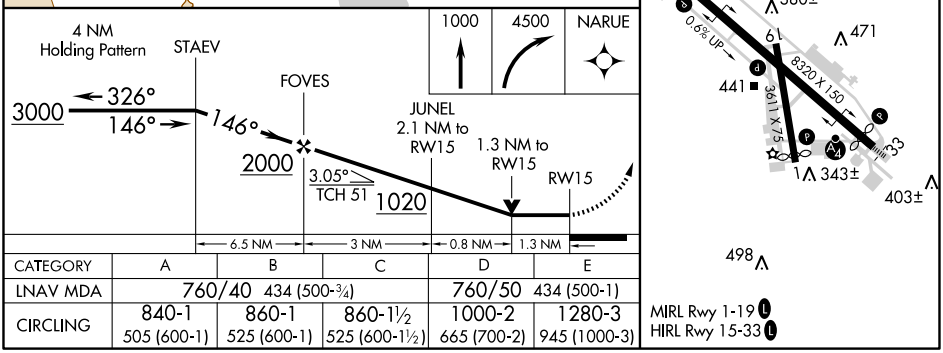
NA

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

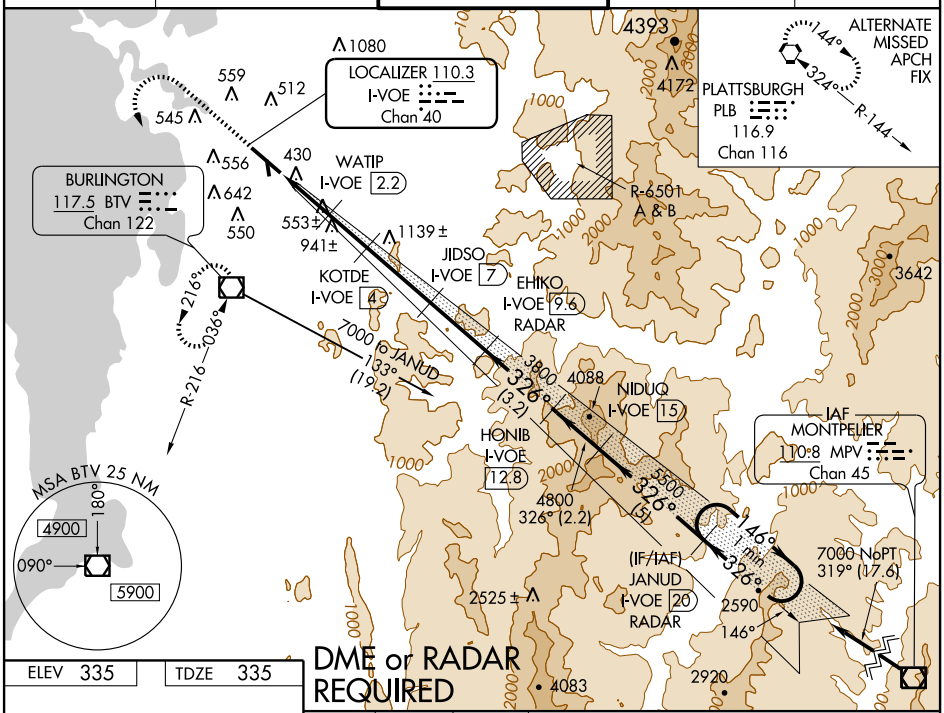
ILS or LOC/DME RWY 33
BURLINGTON INTL (BTV)

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

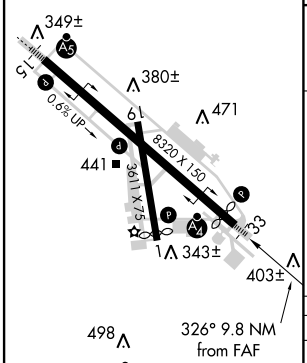
MISSED APPROACH: Climb to 1200 then climbing left turn to 2800 direct BTV VOR/DME and hold, continue climb-in-hold to 2800.

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



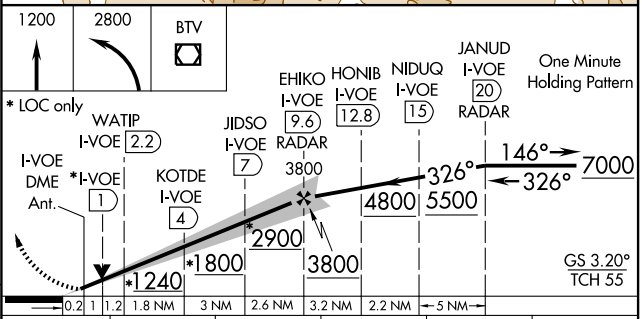
DME or RADAR REQUIRED

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)

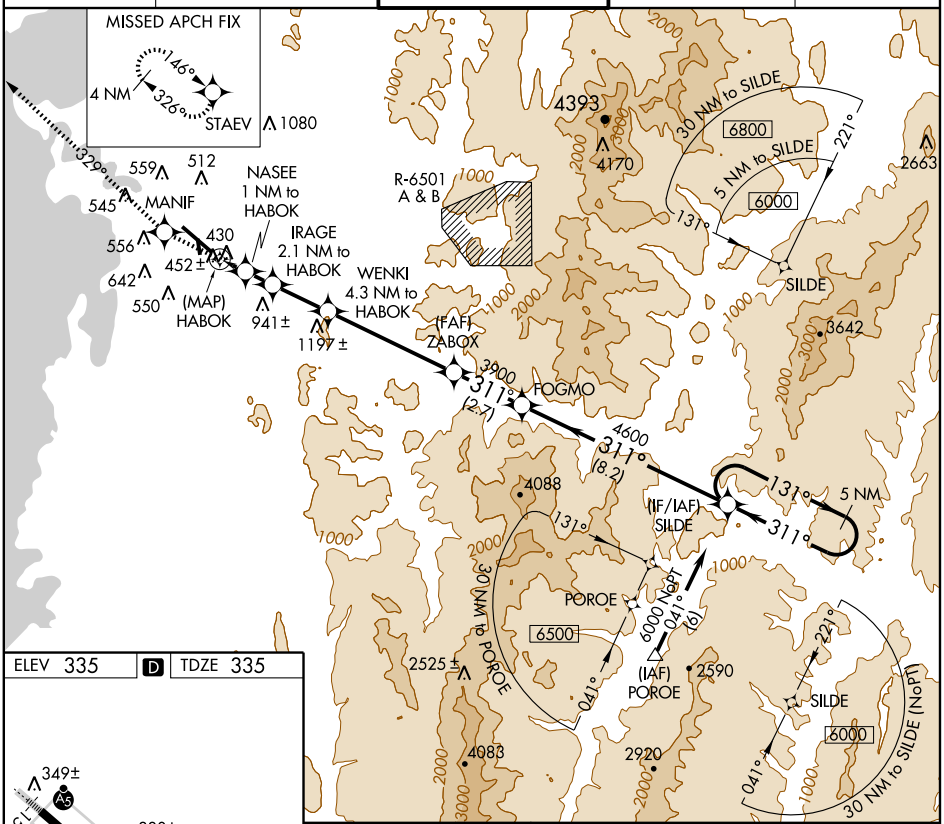
APP CRS	Rwy ldg	7820
311°	TDZE	335
	Apt Elev	335

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

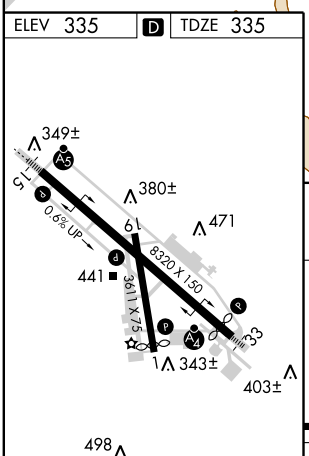
MALSF

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

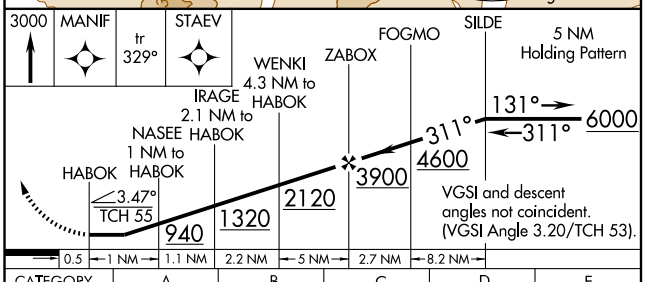
ATIS	BURLINGTON APP CON ★	BURLINGTON TOWER ★	BURLINGTON RADIO	GND CON
123.8 269.9	121.1 278.8	118.3 (CTAF) 257.8	122.6 255.4	119.15 348.6



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

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

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.

NE-1, 05 APR 2012 to 03 MAY 2012

Figure 289

PHILADELPHIA, PENNSYLVANIA

AL-320 (FAA)

ILS PRM RWY 26 (SIMULTANEOUS CLOSE PARALLEL)

PHILADELPHIA INTL (PHL)

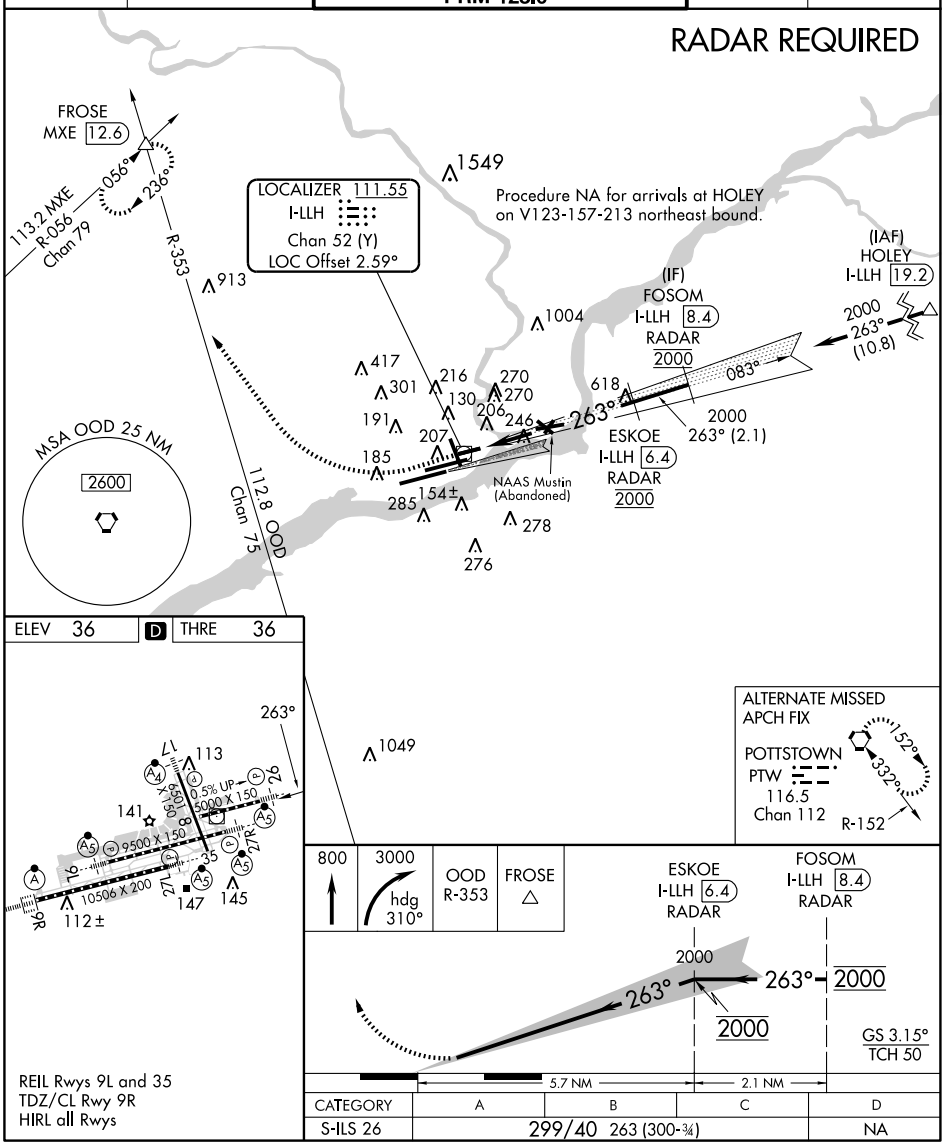
LOC/DME I-LLH	APP CRS	Rwy ldg	5000
111.55	263°	THRE	36
Chan 52 (Y)		Apt Elev	36

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 DEP 135.925	124.35 319.15	118.5 327.05 (Rwys 9L/27R, 8/26 and 17/35) 135.1 327.05 (Rwy 9R/27L) 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.

NE-4, 05 APR 2012 to 03 MAY 2012
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Figure 291

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

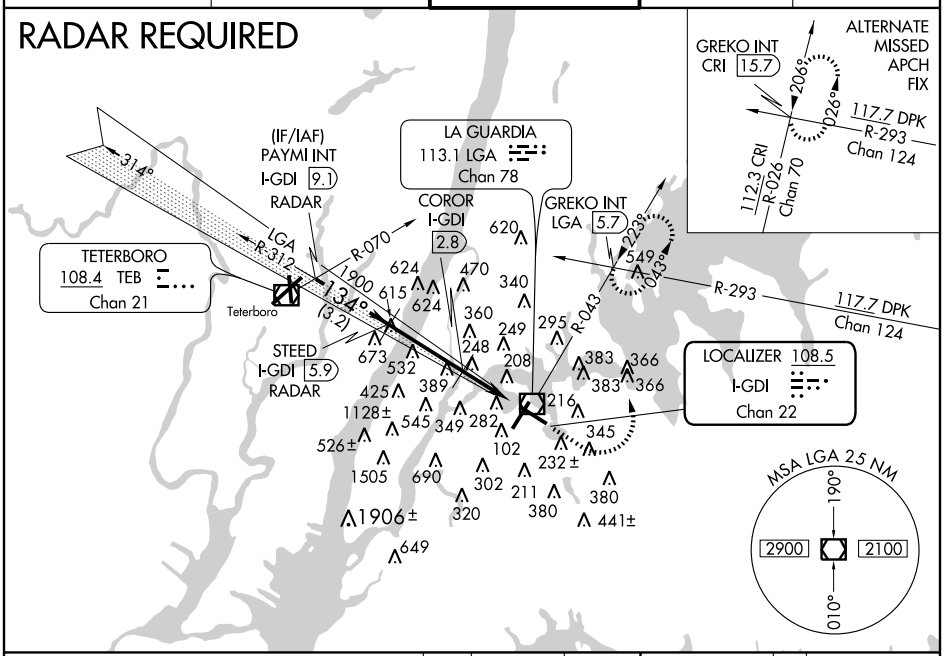
ILS or LOC RWY 13
NEW YORK/LA GUARDIA (LGA)

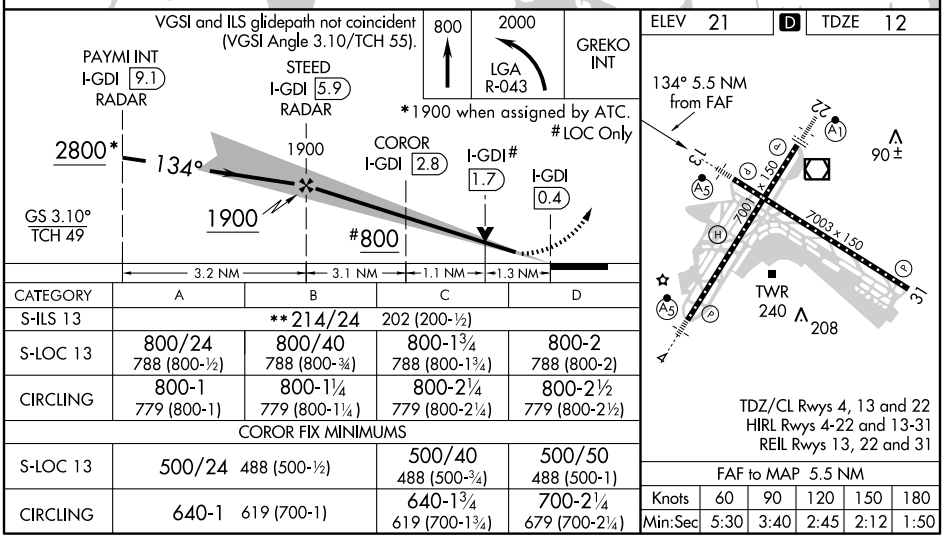
When VGSI inoperative, Circling Rwy 31 NA at night. DME or RADAR required.
** RVR 1800 authorized with use of FD or AP or HUD to DA.

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

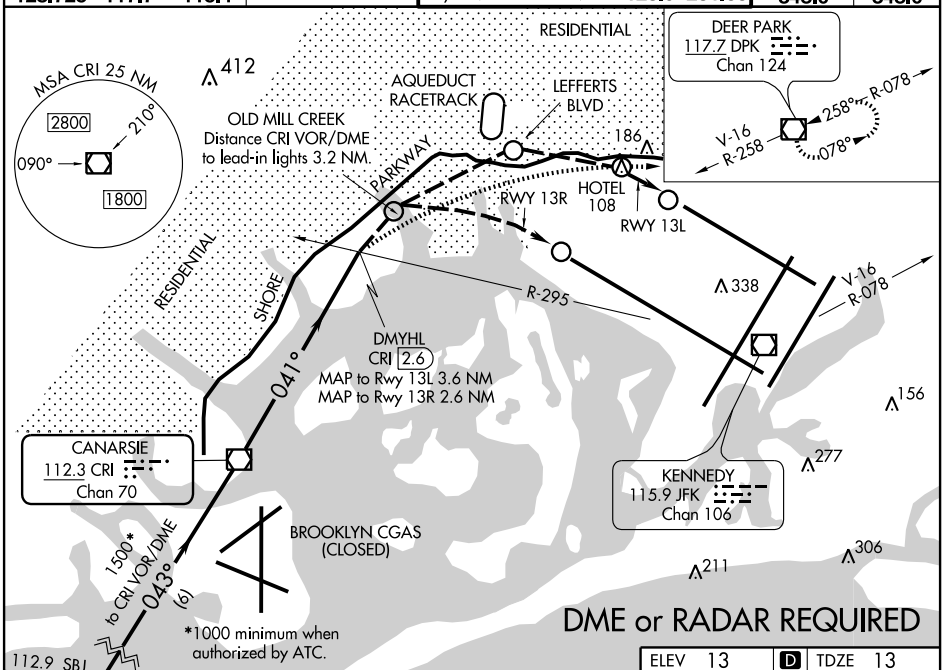
NEW YORK / JOHN F. KENNEDY INTL (JFK)

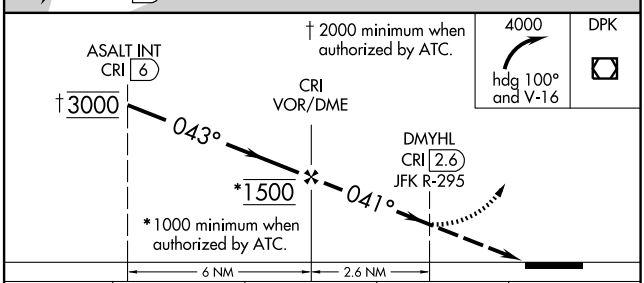
For inoperative LDIN, procedure not authorized.

Rwy13L ALSF-2

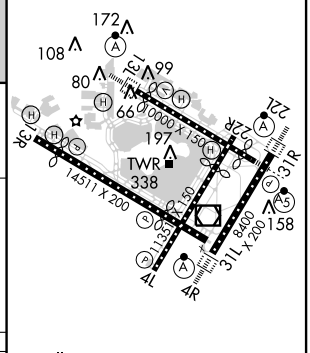
MISSED APPROACH: At or beyond MAP, climbing right turn to 4000 via heading 100° and V-16 to DPK VOR/DME and hold.

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 Rwys 4L/22R and 13R/31L 123.9 281.55	121.9 348.6	135.05 348.6





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

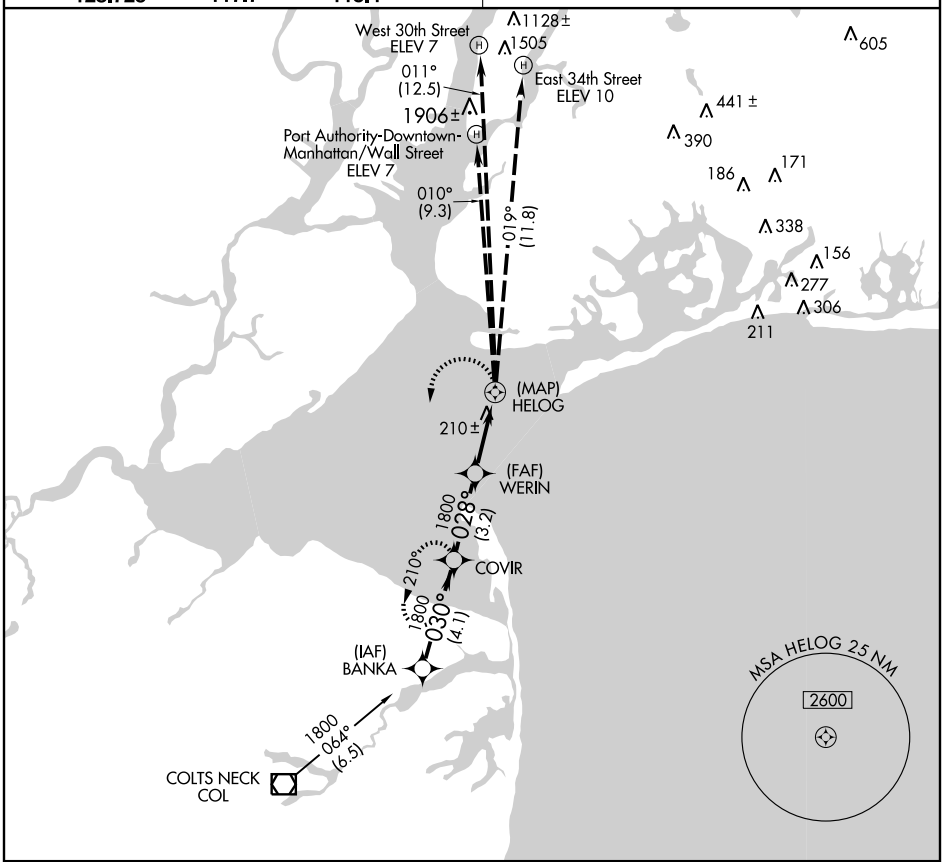
COPTER RNAV (GPS) 028°

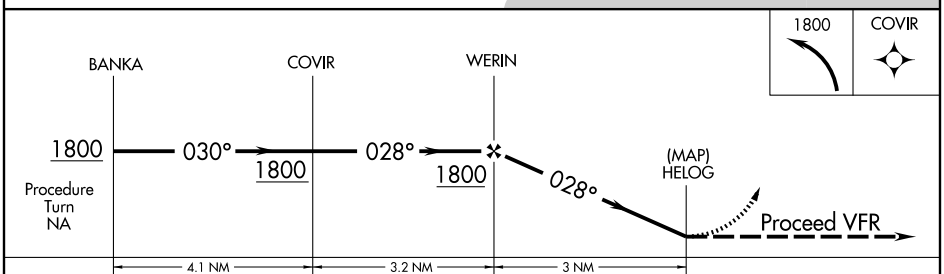
NEW YORK/ JOHN F. KENNEDY INTL (JFK)

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

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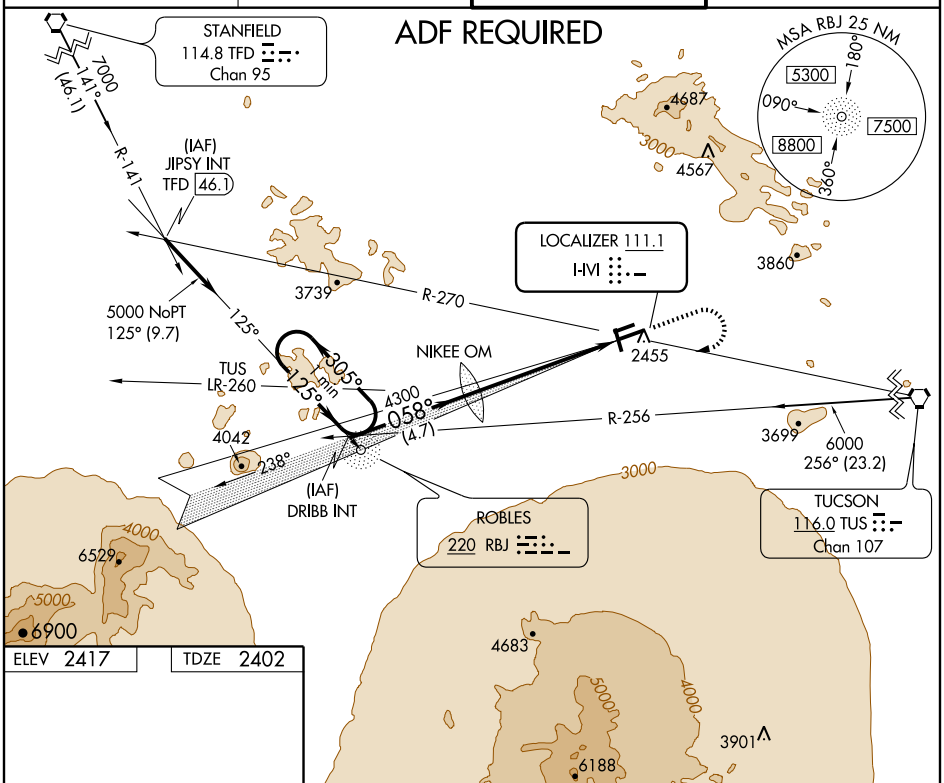
LOC I-IVI	APP CRS	Rwy ldg	5500
111.1	058°	TDZE	2402
		Apt Elev	2417

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.

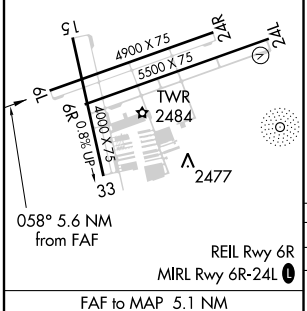
AWOS-3	TUCSON APP CON	RYAN TOWER*	GND CON
133.35	128.5 395.9	125.8 (CTAF) L	118.2



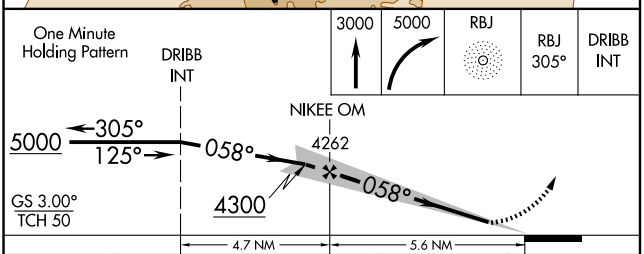
SW-4, 05 APR 2012 to 03 MAY 2012

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

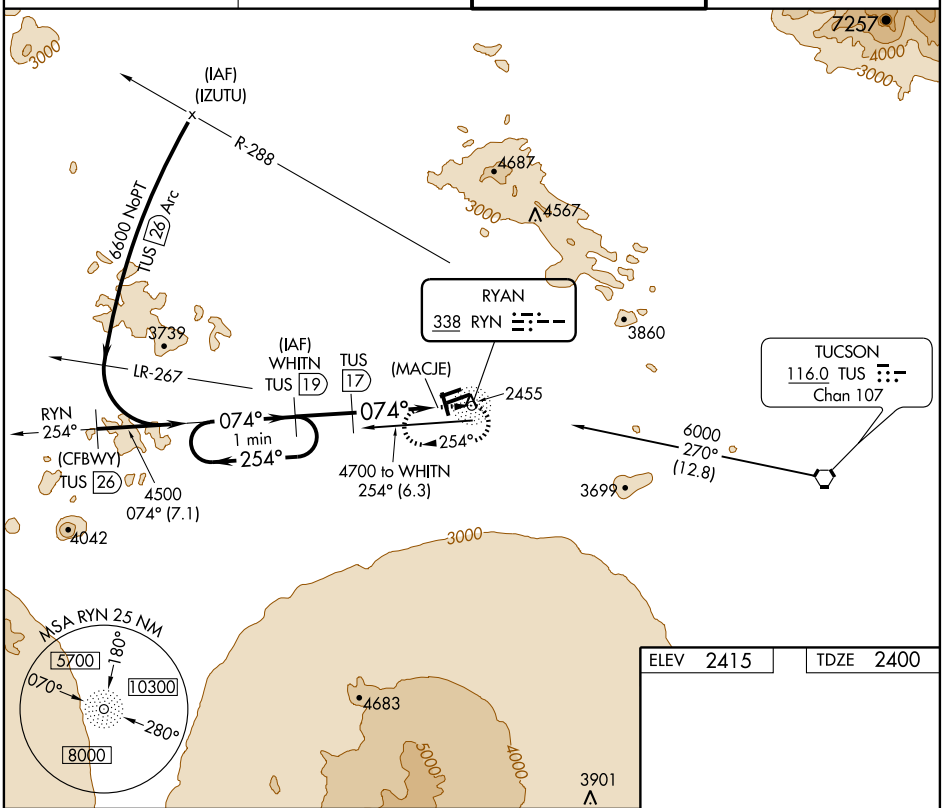
TUCSON/ RYAN FIELD (RYN)

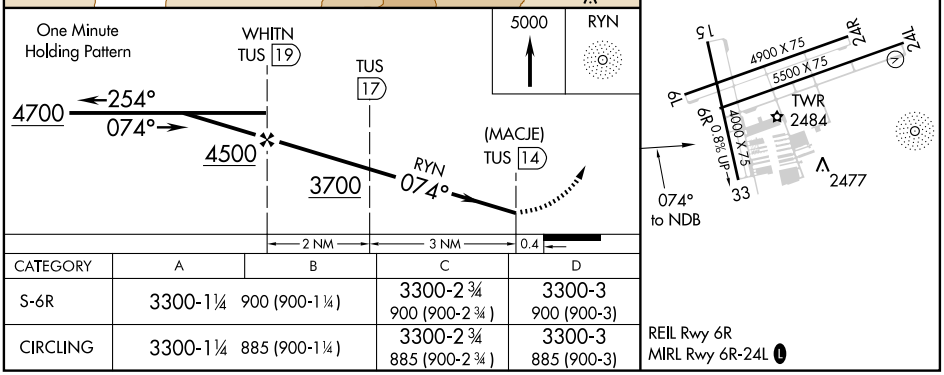
T
A NA

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

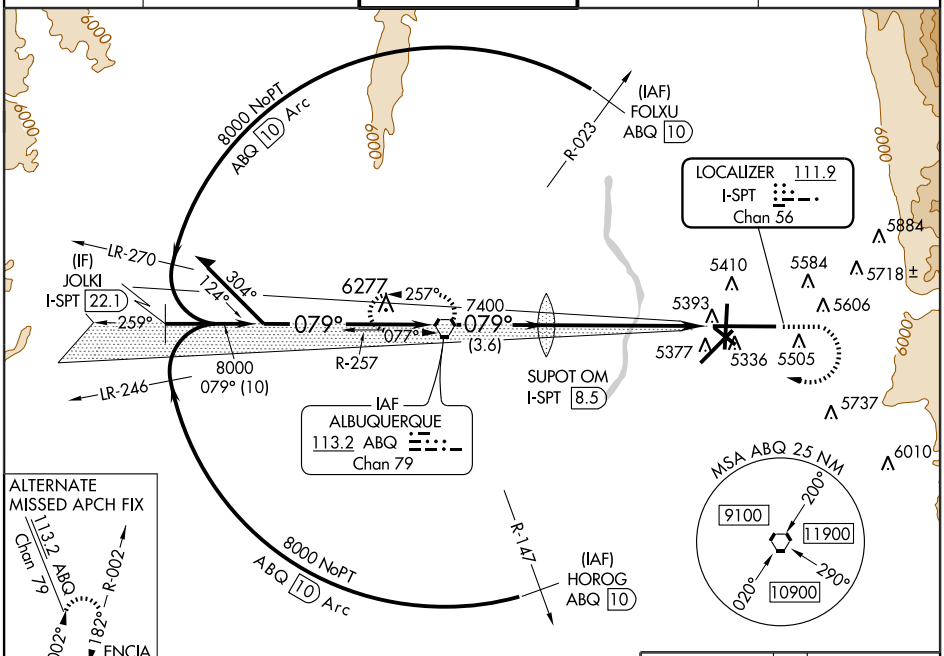
ILS or LOC RWY 8
ALBUQUERQUE INTL SUNPORT (ABQ)

ASR

MALSR

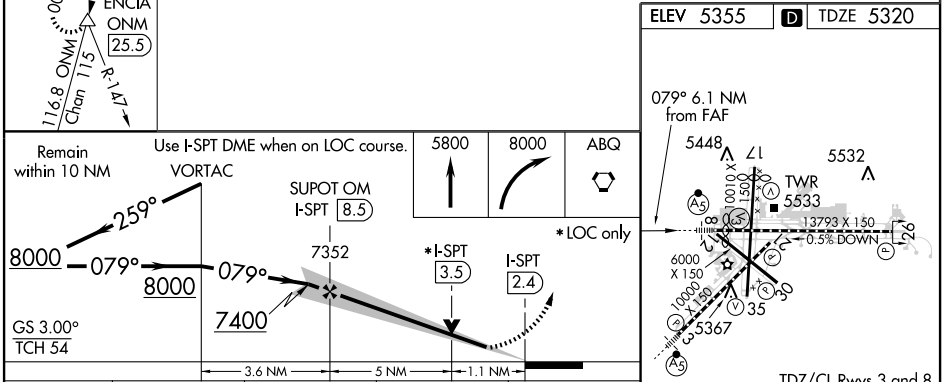
MISSED APPROACH: Climb to 5800 then climbing right turn to 8000 direct ABQ VORTAC and hold.

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

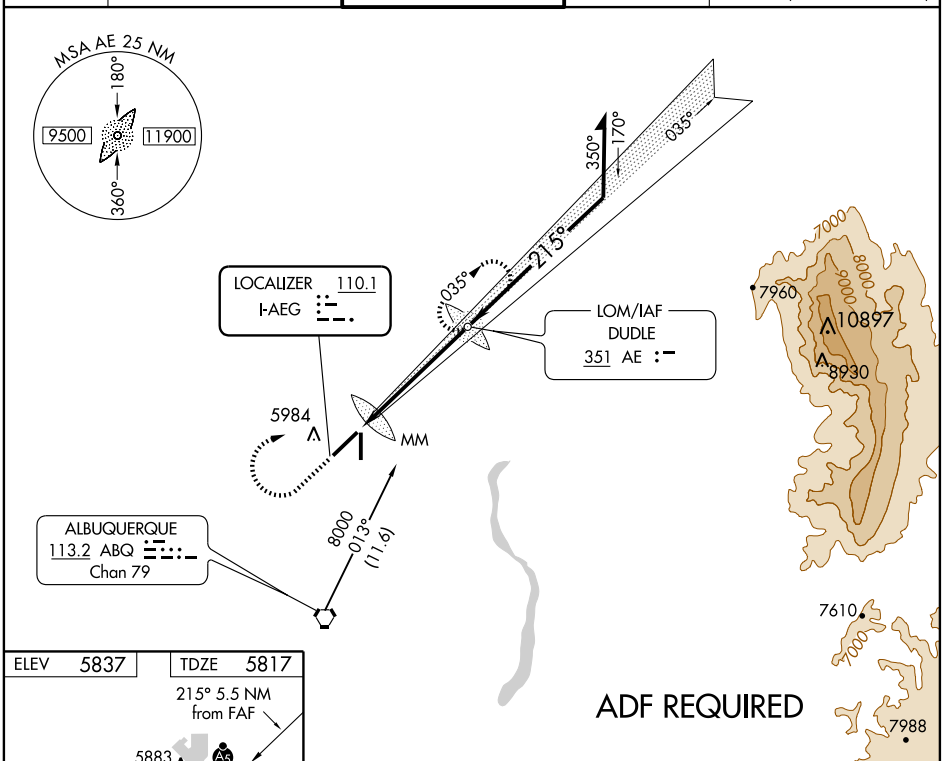
ILS RWY 22
ALBUQUERQUE/ DOUBLE EAGLE II (AEG)

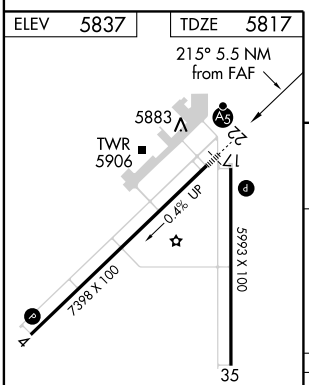
T NA Autopilot coupled approaches not authorized. For inoperative MALSR, increase S-LOC 22 Cat D visibility to 1.

MALSR A5

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

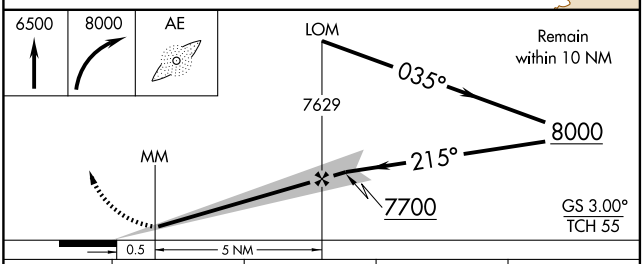
AWOS-3	ALBUQUERQUE APP CON	DOUBLE EAGLE II TOWER ★	GND CON	ALBUQUERQUE CLNC DEL
119.025	127.4 253.5	120.15 (CTAF) L	121.625	124.8 (When tower closed)





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

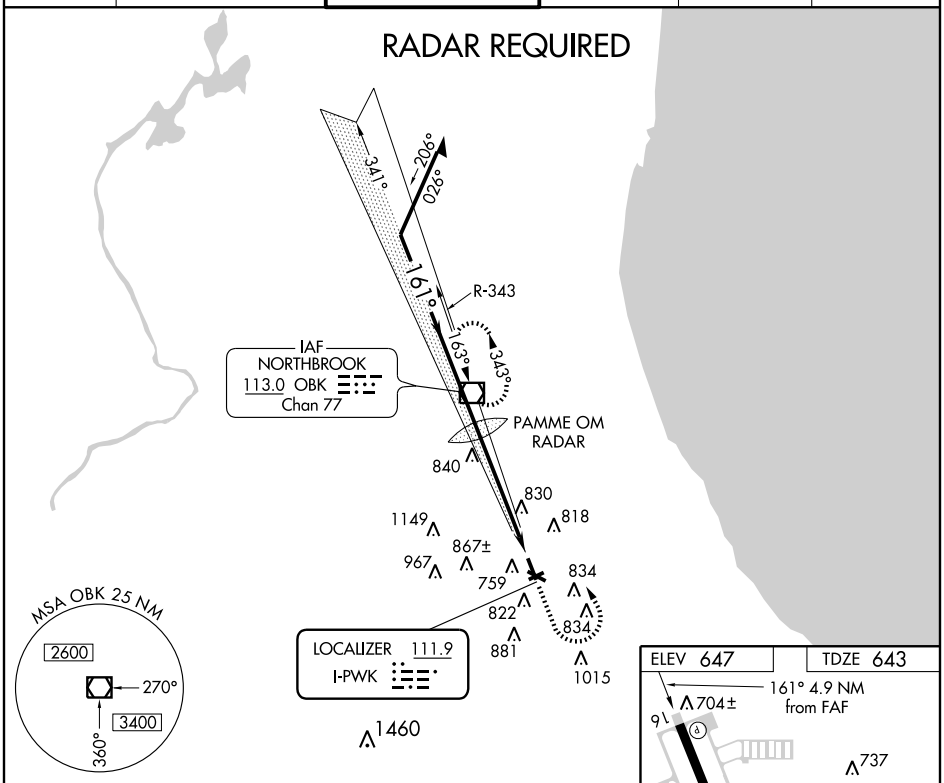
LOC I-PWK	APP CRS	Rwy ldg	5001
111.9	161°	TDZE	643
		Apt Elev	647

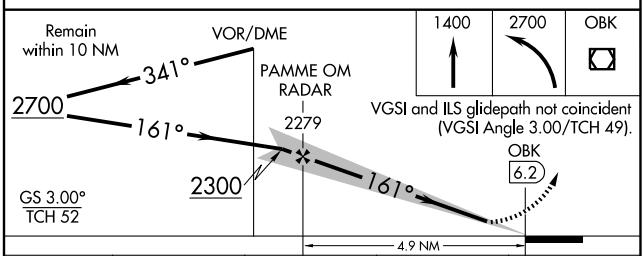
ILS or LOC RWY 16
CHICAGO EXECUTIVE (PWK)

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.

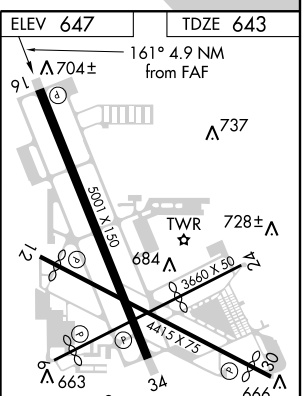
MISSED APPROACH: Climb to 1400 then climbing left turn to 2700 direct OBK VOR/DME and hold.

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

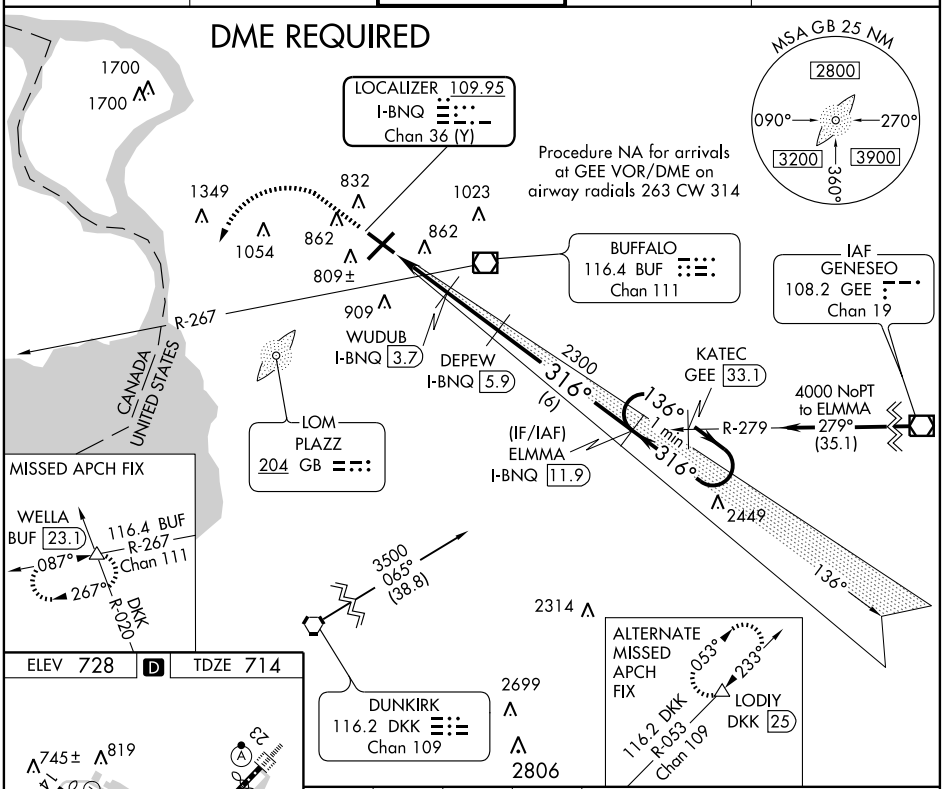
ILS or LOC/DME RWY 32
BUFFALO NIAGARA INTL (BUF)

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

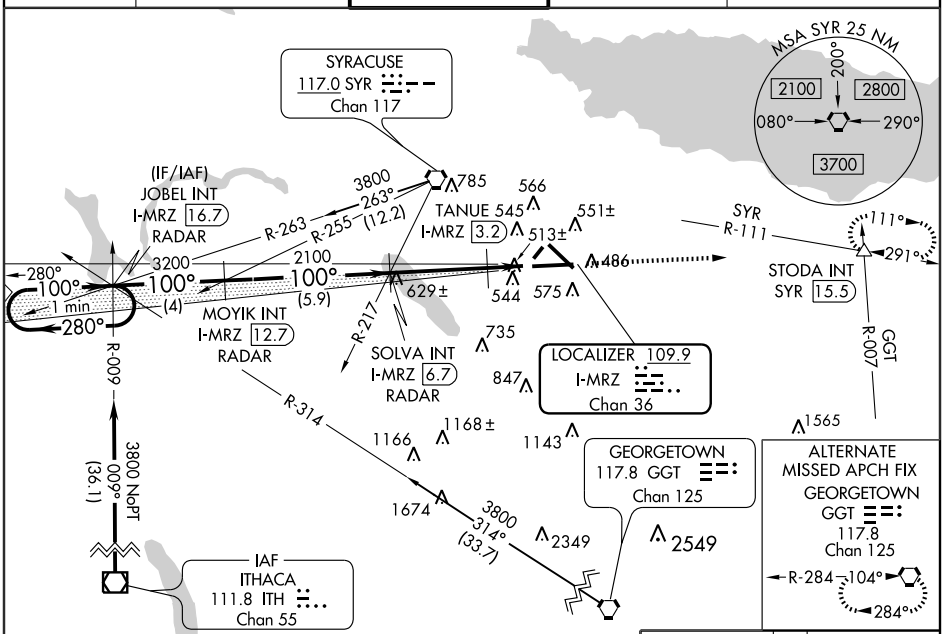
ILS or LOC RWY 10
SYRACUSE HANCOCK INTL (SYR)

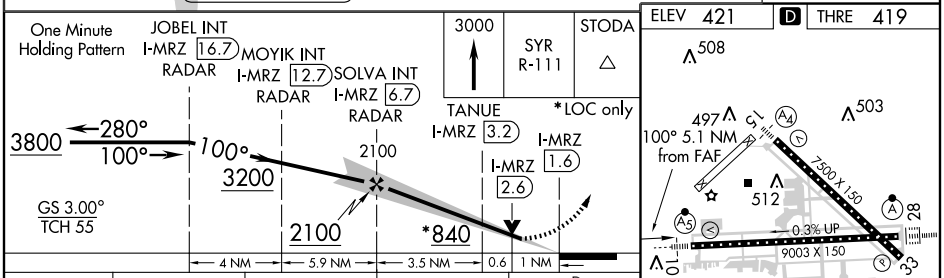
**RVR 1800 authorized with the use of FD or AP or HUD to DA.
For inoperative MALSR, increase S-LOC 10 Cats A and B visibility to RVR 5500 and Cats C and D visibility to 1¼. TANUE fix minimums, for inoperative MALSR, increase S-LOC 10 all Cats visibility to RVR 5500.

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





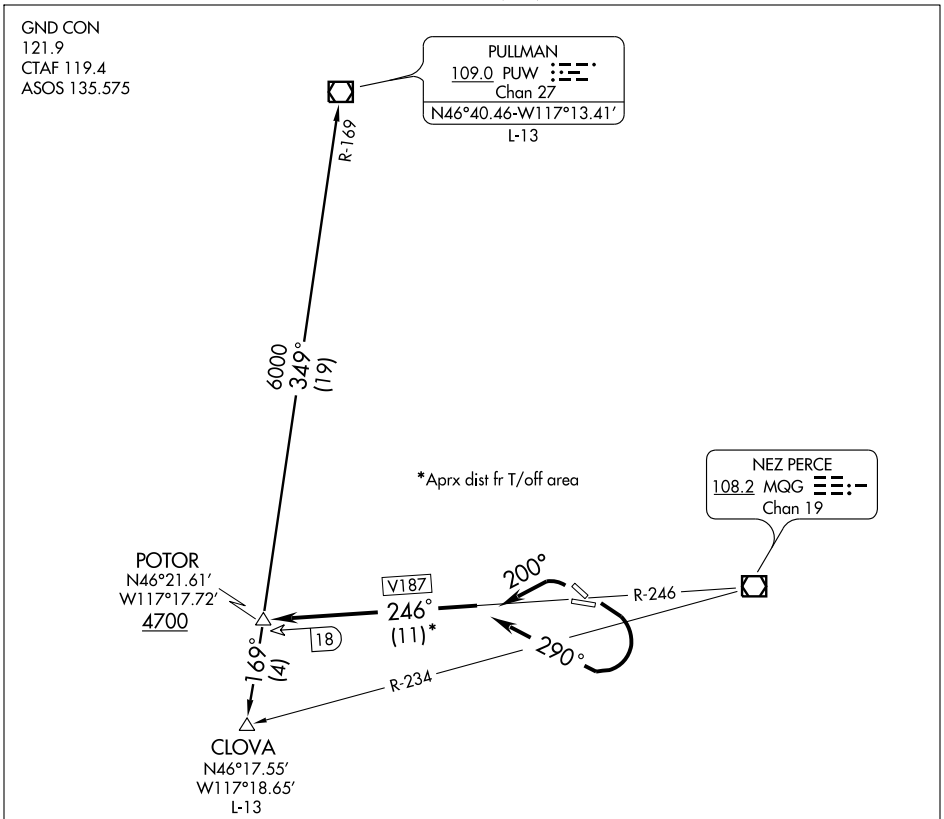
CATEGORY	A	B	C	D
S-ILS 10	**619/24 200 (200-½)			
S-LOC 10	840/24 421 (500-½)		840/40 421 (500-¾)	
CIRCLING	880-1 459 (500-1)		900-1½ 479 (500-1½)	980-2 559 (600-2)
TANUE FIX MINIMUMS				
S-LOC 10	780/24 361 (400-½)		780/35 361 (400-¾)	
CIRCLING	880-1 459 (500-1)		900-1½ 479 (500-1½)	980-2 559 (600-2)

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

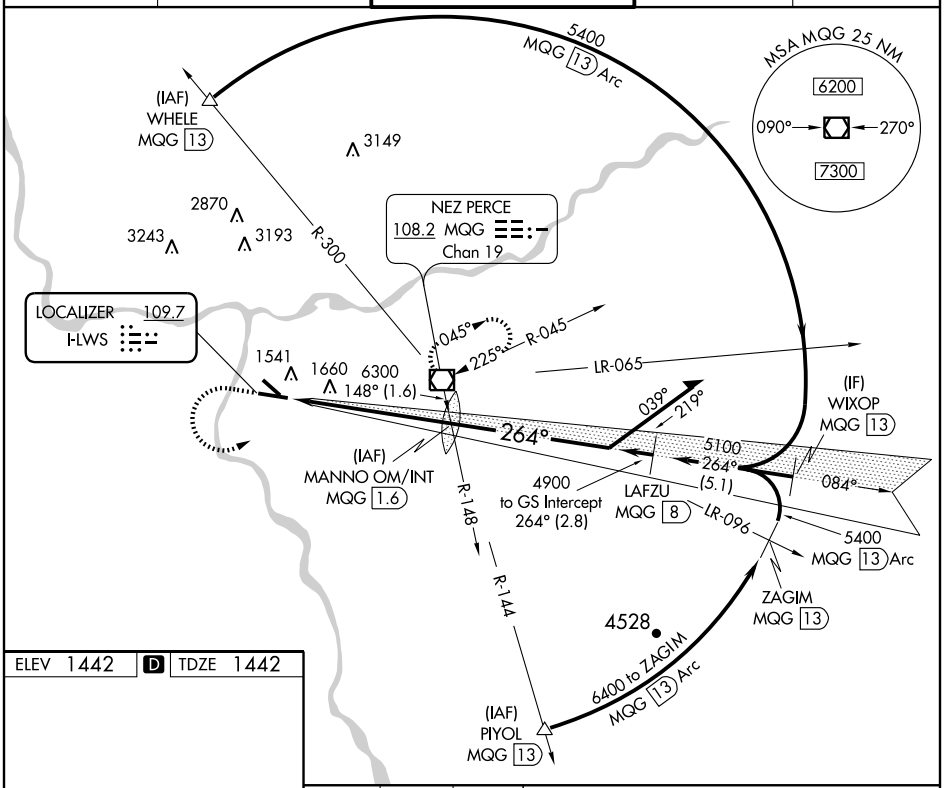
LEWISTON-NEZ PERCE COUNTY (LWS)

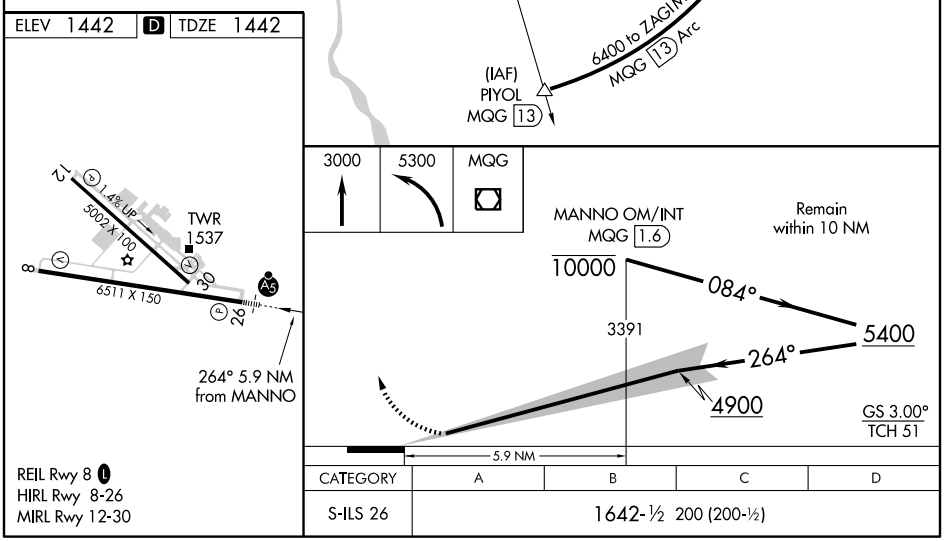
When local altimeter setting not received, procedure NA. Autopilot coupled approach NA below 2500.

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

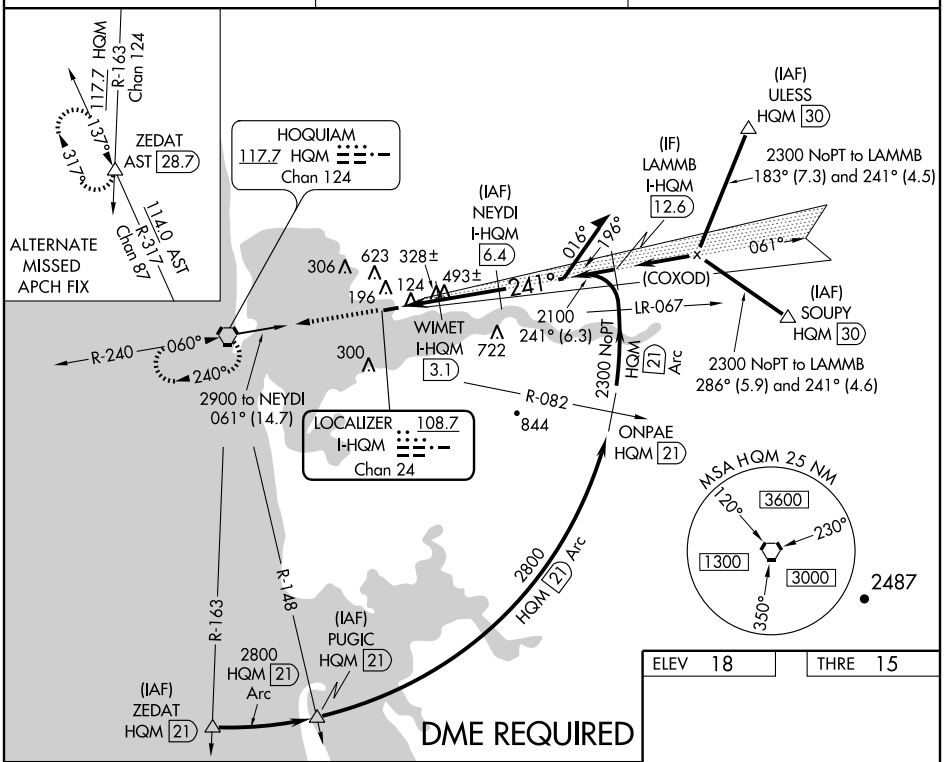
ILS or LOC/DME RWY 24
HOQUIAM/BOWERMAN (HQM)

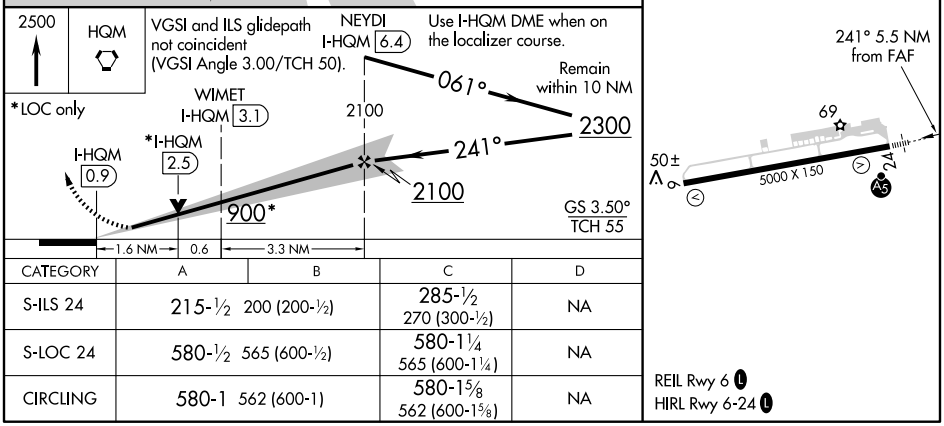
When local altimeter setting not received, procedure NA. For inop MALSR, increase S-ILS Cat C visibility to ⅞ mile and S-LOC Cat C visibility to 1⅝ mile. Circling NA northwest of Rwy 6-24.

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)

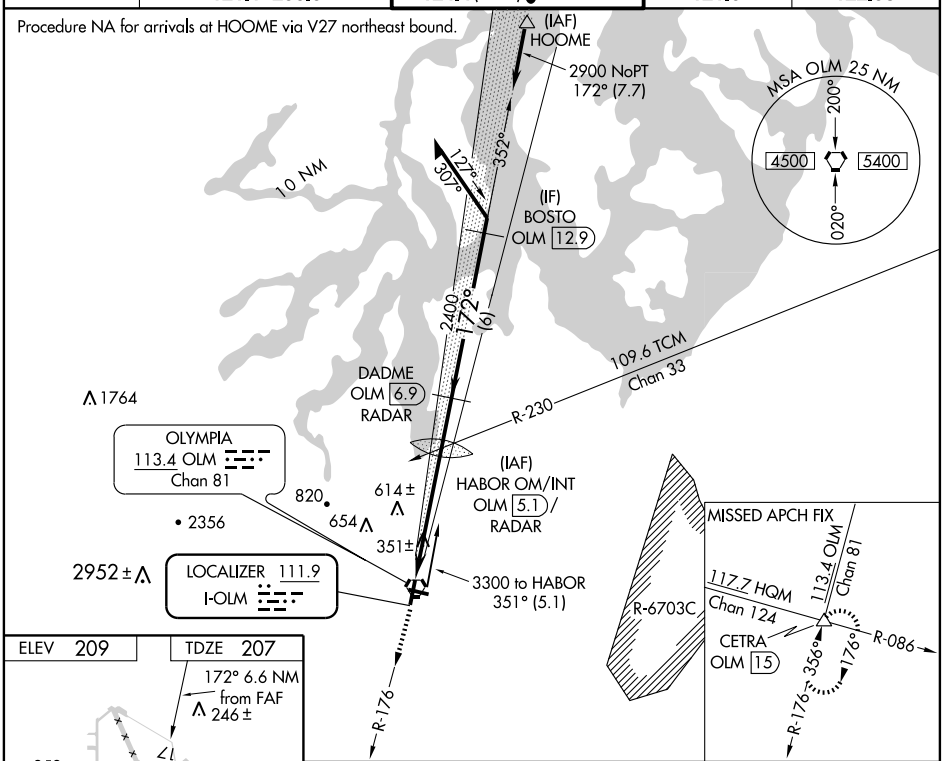
LOC I-OLM	APP CRS	Rwy ldg	5501
111.9	172°	TDZE	207
		Apt Elev	209

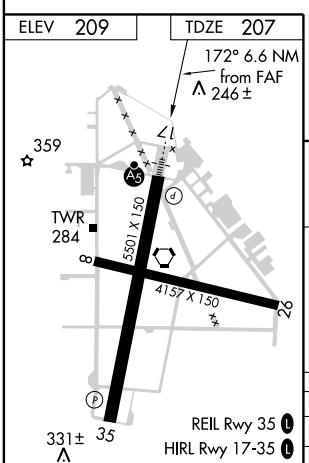
DME or RADAR required. When local altimeter setting not received, use Sanderson Field altimeter setting and increase all DA 53 feet and all MDA 60 feet, and increase circling Cats C and D visibility ¼ mile. For inoperative MALSR, when using Sanderson Field altimeter setting, increase S-ILS 17 all Cats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

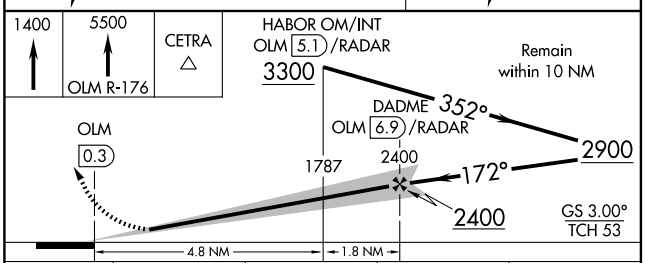
MALSR

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

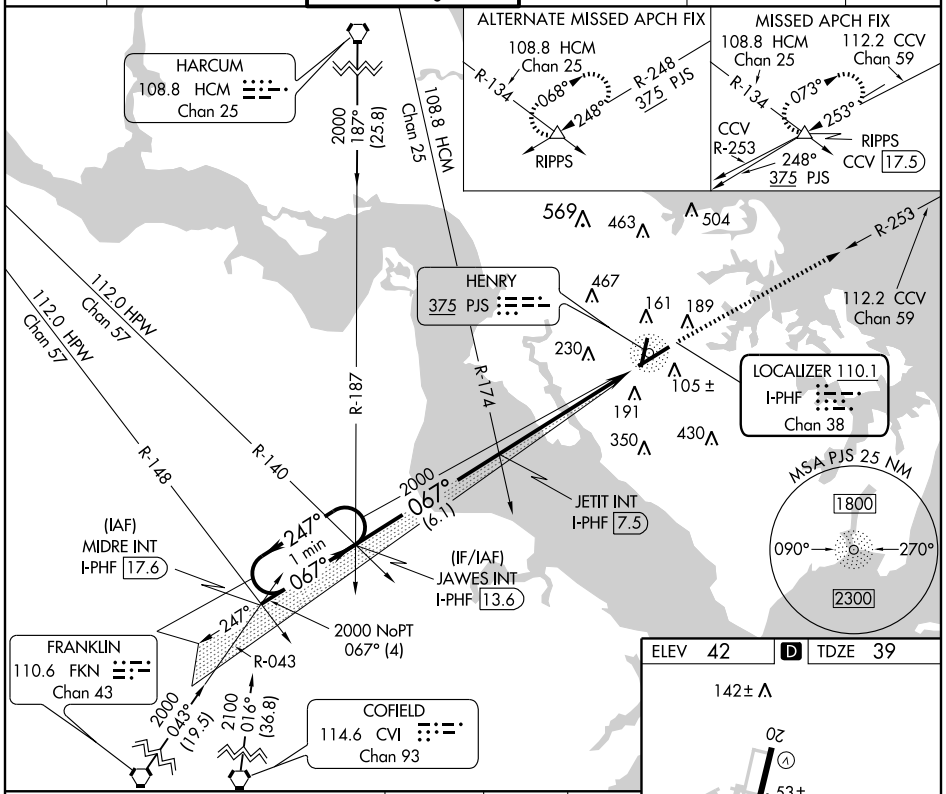
NEWPORT NEWS/ WILLIAMSBURG INTL (PHF)

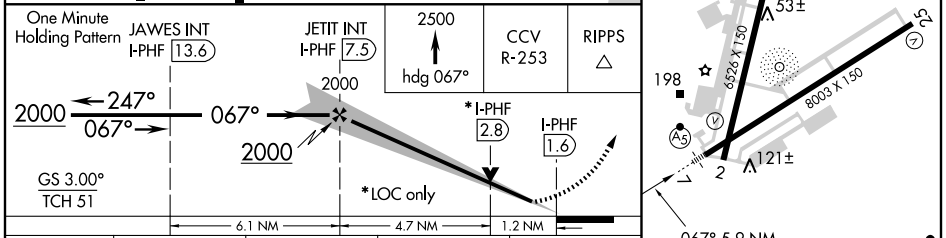
VDP NA with Norfolk Intl altimeter setting. When local altimeter not received, use Norfolk Intl altimeter setting and increase all DA 49 feet and all MDA 60 feet; increase S-LOC 7 Cat C visibility to RVR 5000. **RVR 1800 authorized with the use of FD or AP or HUD to DA.

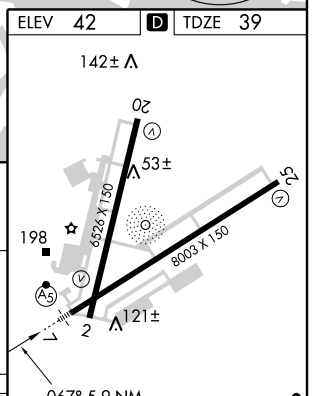
MALSR

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

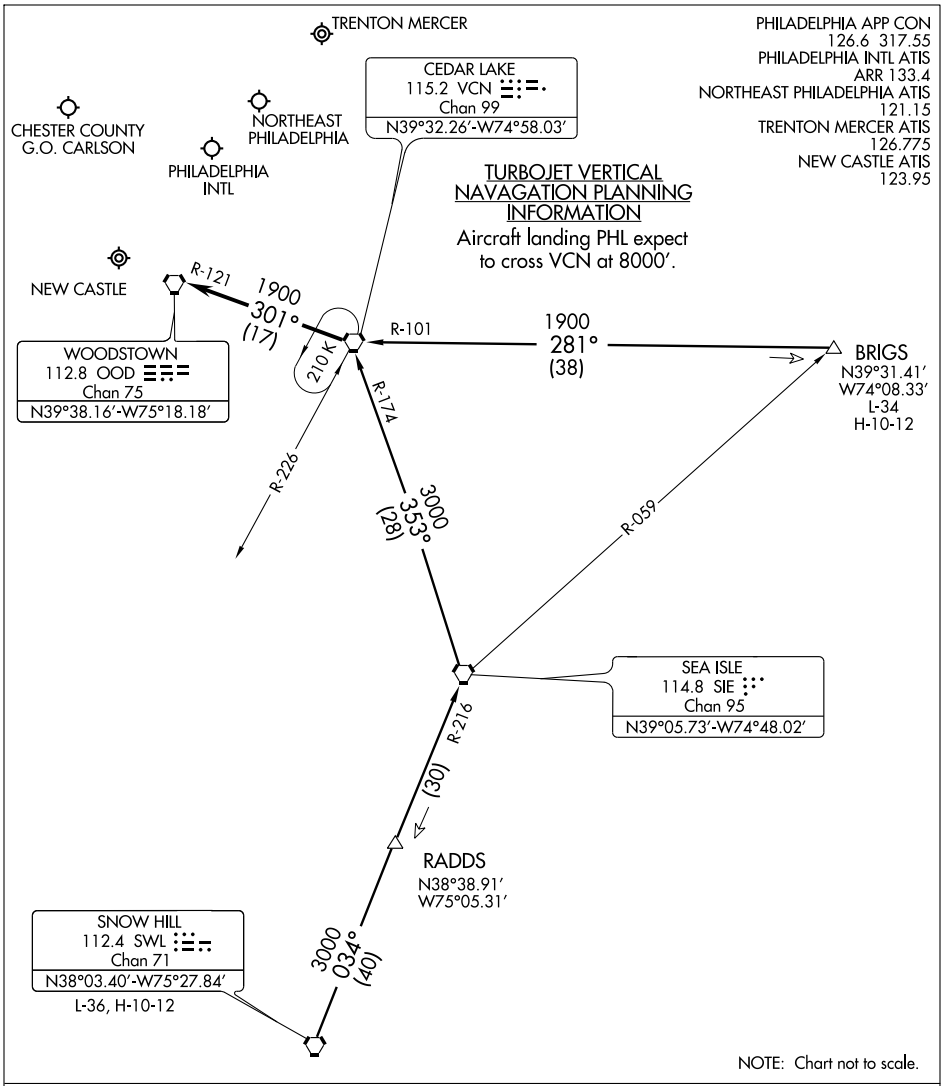
TAKE-OFF RUNWAY 2: Climb heading 022° to 2000, thence . . . .
TAKE-OFF RUNWAY 7: Climb heading 067° to 2000, thence . . . .
TAKE-OFF RUNWAY 20: Climbing right turn to 2000 via heading 250°, thence . . . .
TAKE-OFF RUNWAY 25: Climb heading 247° to 2000, thence . . . .
. . . . via vectors to assigned route/fix. 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

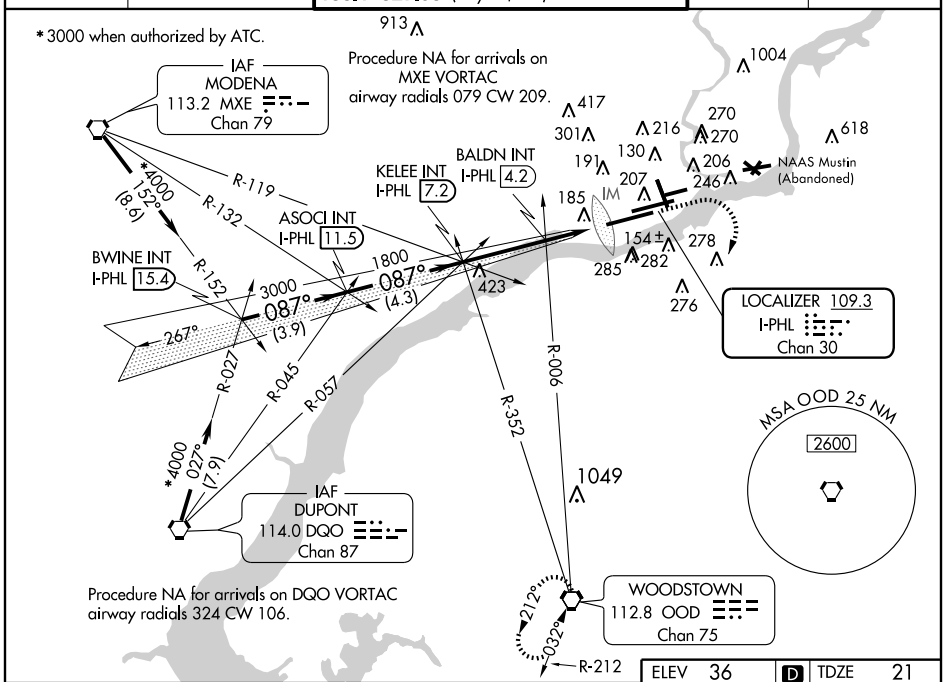
LOC/DME I-PHL	APP CRS	Rwy ldg	10506
109.3	087°	TDZE	21
Chan 30		Apt Elev	36

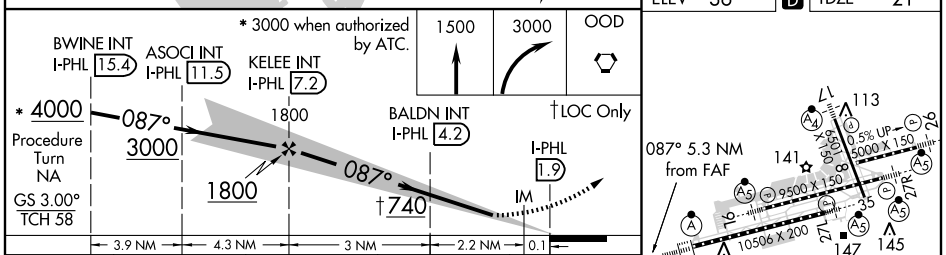
ILS or LOC RWY 9R
PHILADELPHIA INTL (PHL)

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 DEP 135.925	124.35 319.15	118.5 327.05 (Rwys 9L/27R, 8/26 and 17/35) 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 719 (800-1½)	740-1¾ 719 (800-1¾)
CIRCLING	740-1 704 (800-1)		740-2 704 (800-2)	740-2¼ 704 (800-2¼)
BALDN FIX MINIMUMS				
S-LOC 9R	580/24 559 (600-½)		580/50 559 (600-1)	580/60 559 (600-1¼)
CIRCLING	580-1 544 (600-1)	640-1 604 (700-1)	640-1¾ 604 (700-1¾)	640-2 604 (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)

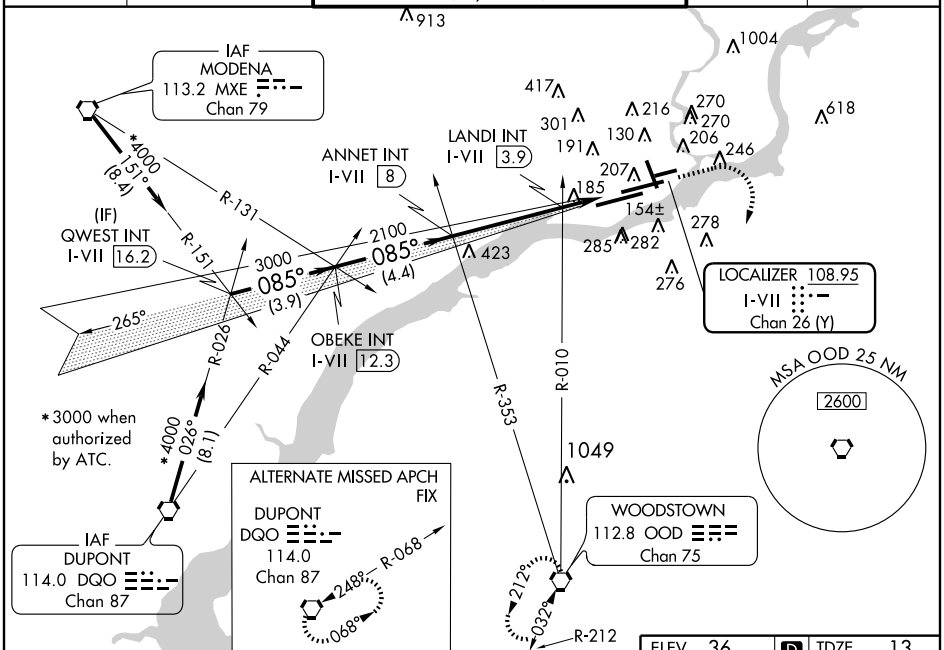
LOC/DME I-VII	APP CRS	Rwy ldg	9500
108.95	085°	TDZE	13
Chan 26 (Y)		Apt Elev	36

** 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.

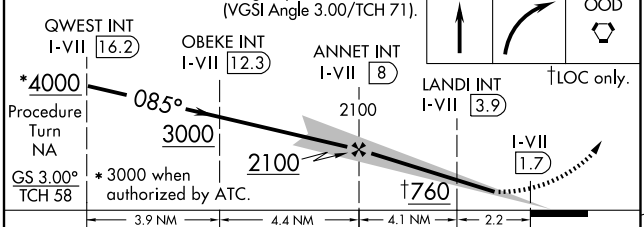
ATIS	PHILADELPHIA APP CON	PHILADELPHIA TOWER	GND CON	CLNC DEL
ARR 133.4 DEP 135.925	124.35 319.15	118.5 327.05 (Rwys 9L/27R, 8/26 and 17/35) 135.1 327.05 (Rwy 9R/27L)	121.9 348.6	118.85 348.6



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

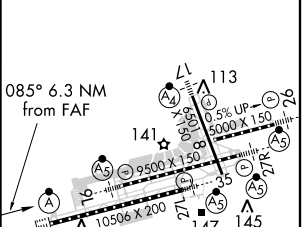
1500 | 3000 | OOD

†LOC only.



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

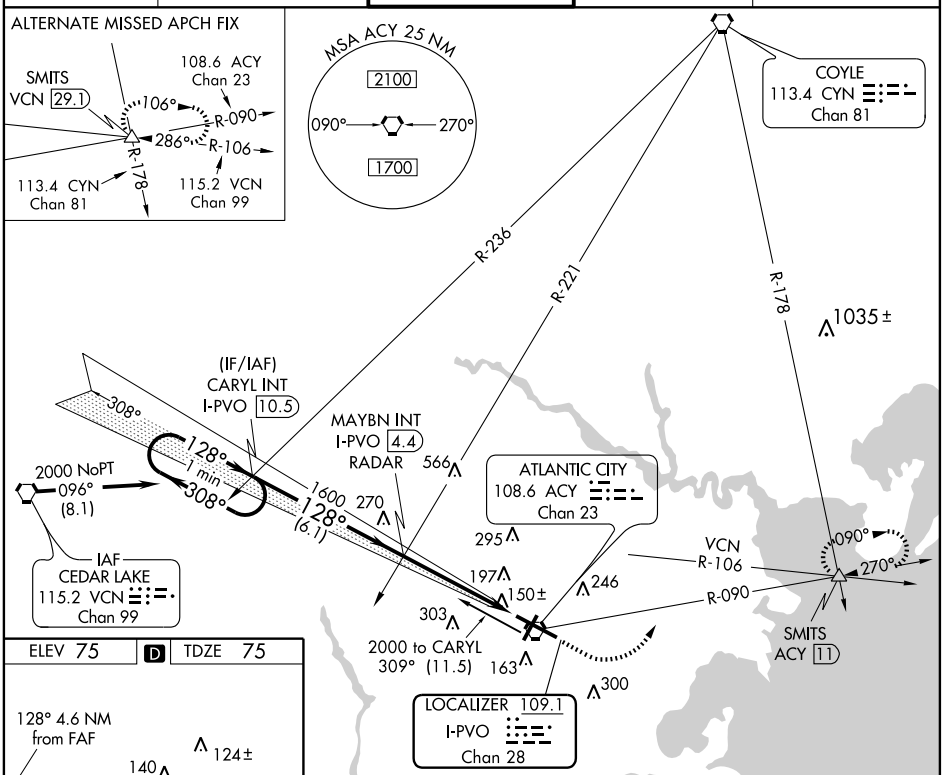
ILS or LOC RWY 13
ATLANTIC CITY INTL (ACY)

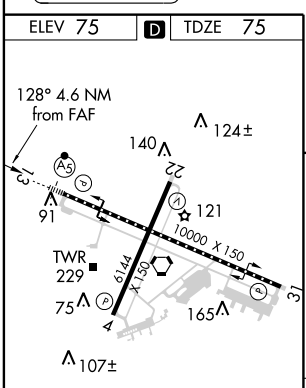
ASR: For inoperative MALSR, increase S-ILS 13 Cat E visibility to RVR 4000, increase S-LOC 13 Cat D visibility to RVR 5000, and Cat E to RVR 6000.

MALSR

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

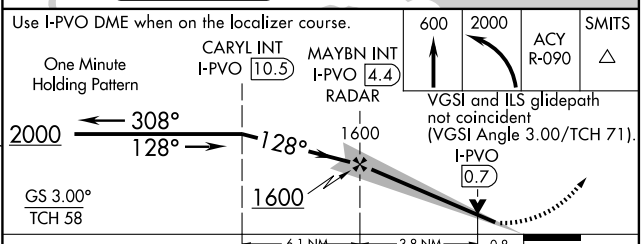
ATIS	ATLANTIC CITY APP CON	ATLANTIC CITY TOWER	GND CON	CLNC DEL
108.6 316.15	124.6 327.125	120.3 239.0	121.9 284.6	127.85 353.775





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

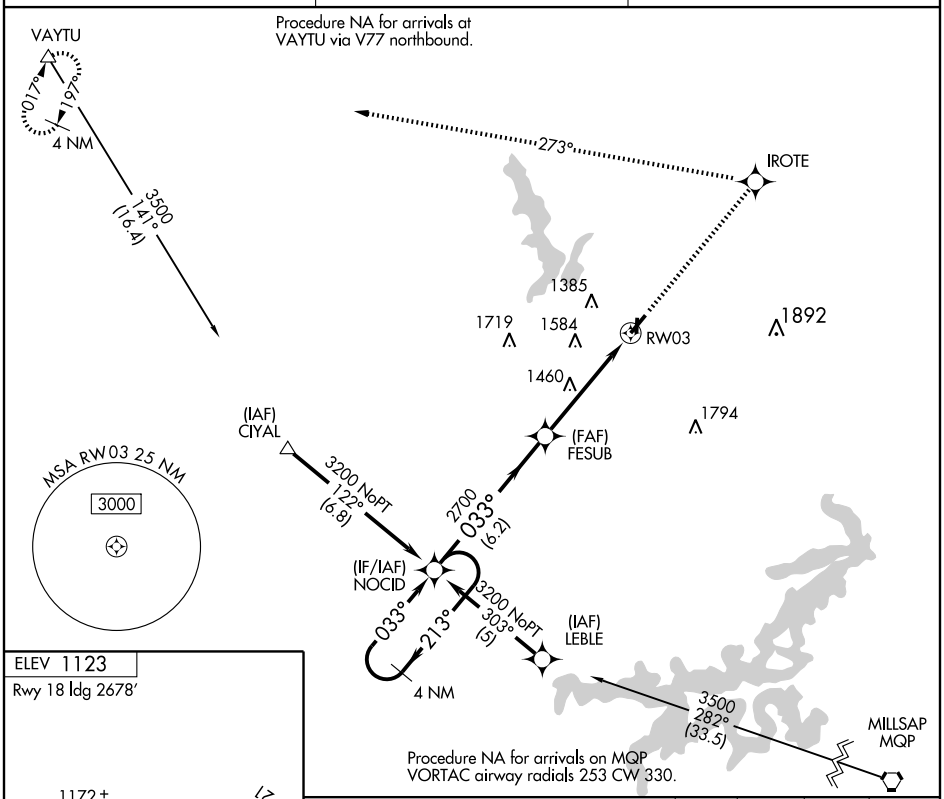
APP CRS	Rwy ldg	5000
033°	TDZE	1116
	Apt Elev	1123

RNAV (GPS) RWY 3
GRAHAM MUNI (RPH)

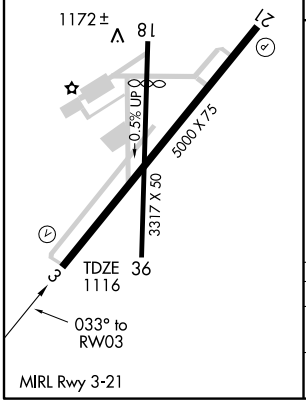
When local altimeter setting not received, use Mineral Wells altimeter setting and increase all MDAs 100 feet and increase LNAV and circling CAT B visibility ¼ mile. Visibility reduction by helicopters NA. DME/DME RNP-0.3 NA.

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)

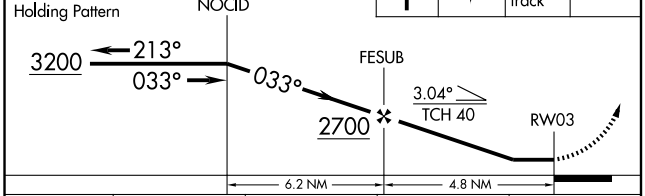


ELEV 1123
Rwy 18 ldg 2678′



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

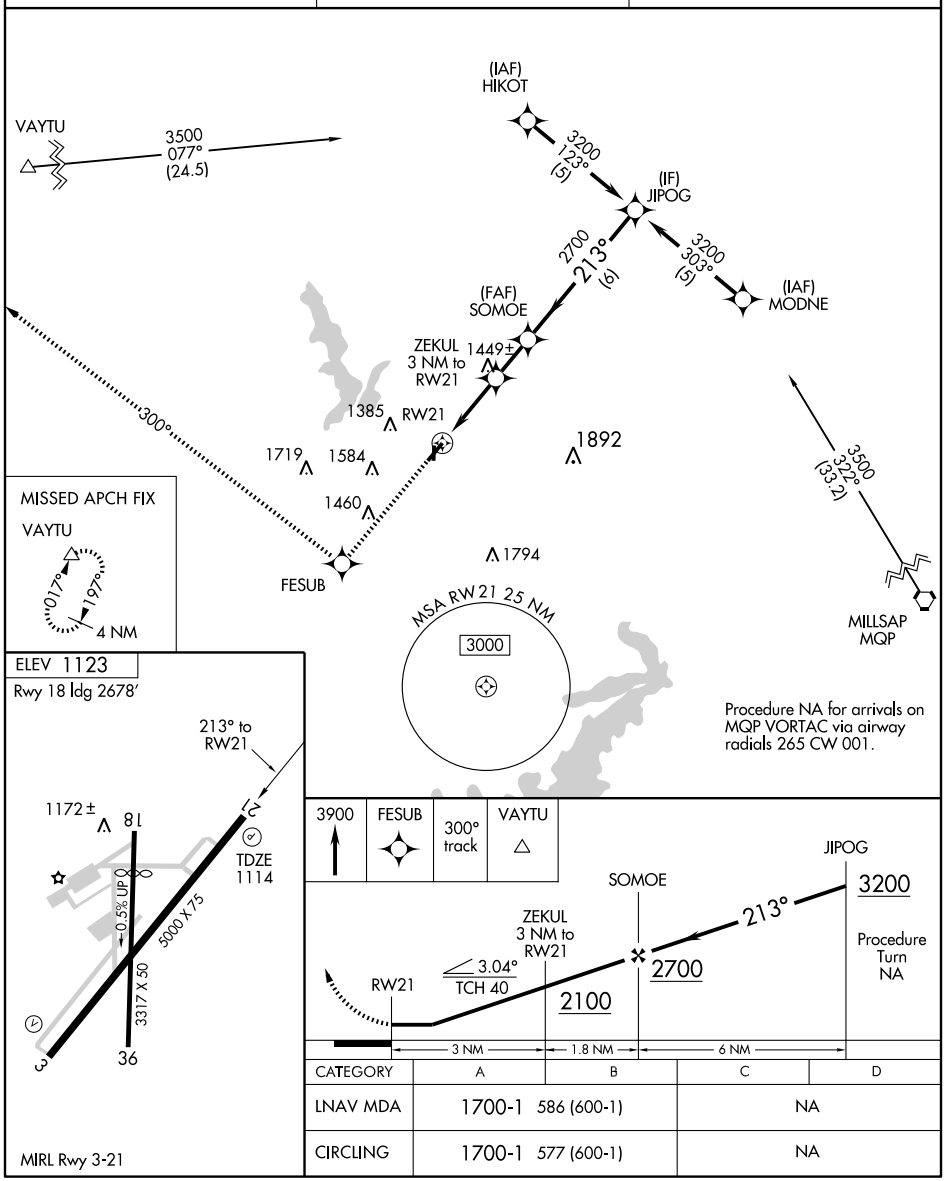
APP CRS	Rwy ldg	5000
213°	TDZE	1114
	Apt Elev	1123

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.

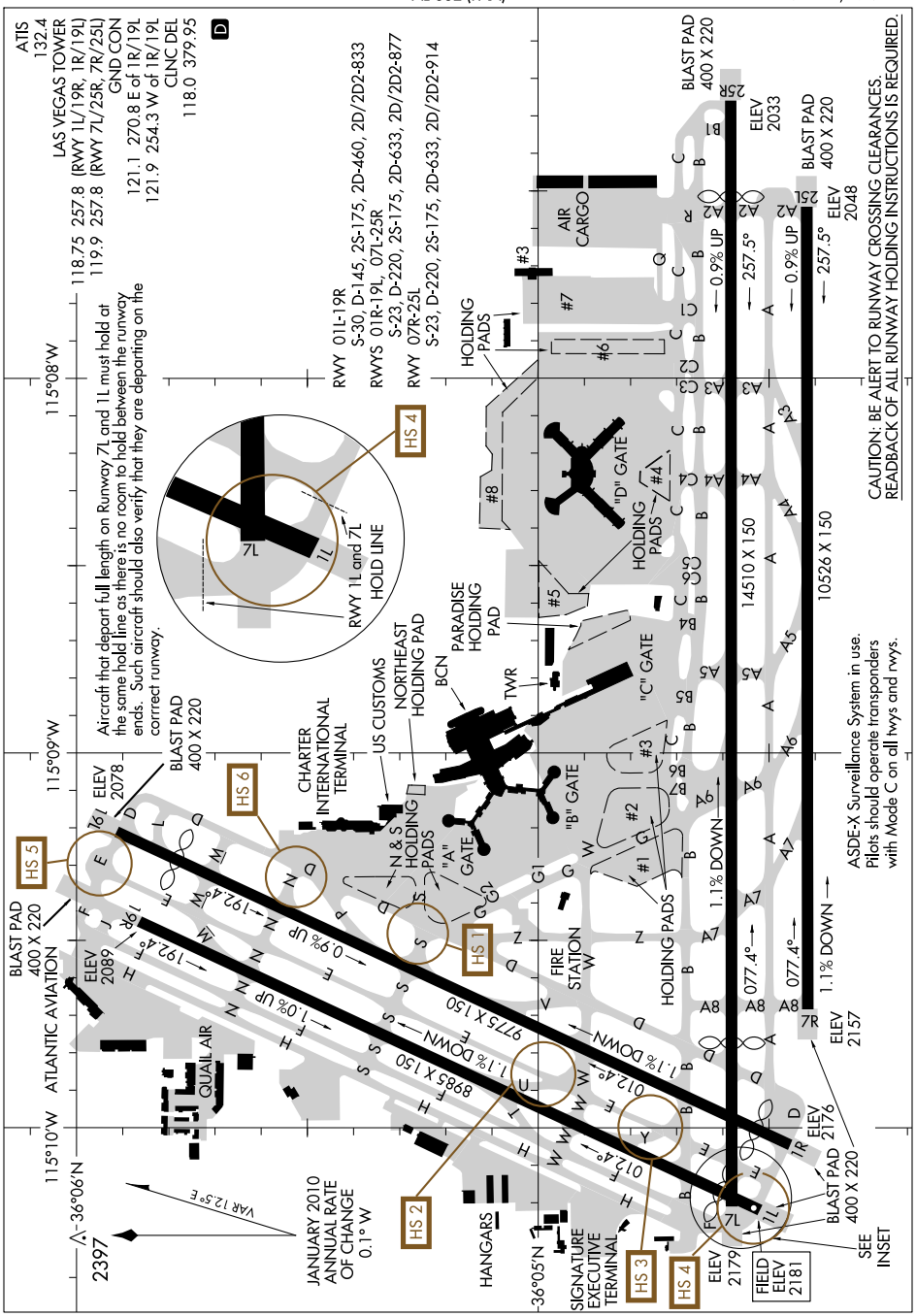
NOTE: **Rwy 17,** antenna 190' from DER, 456' right of centerline, 26' AGL/615' MSL. Road, multiple poles and signs beginning 570' from DER, 410' right of centerline, up to 31' AGL/620' MSL. Tree 1506' from DER, 517' right of centerline, 37' AGL/617' MSL.

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

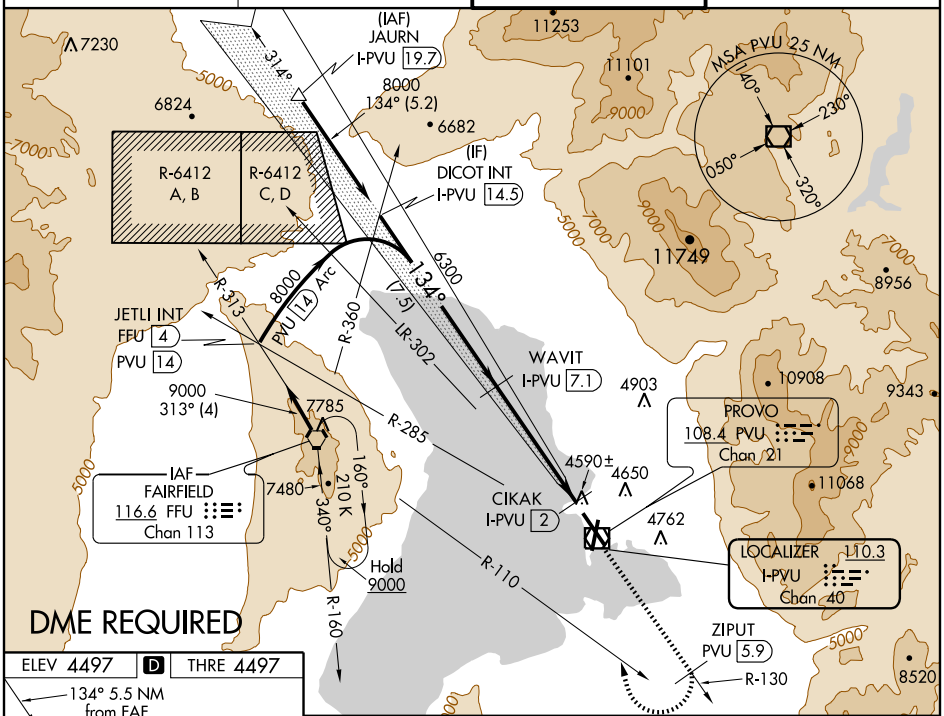
LOC/DME I-PVU	APP CRS	Rwy ldg	8599
110.3	134°	THRE	4497
Chan 40		Apt Elev	4497

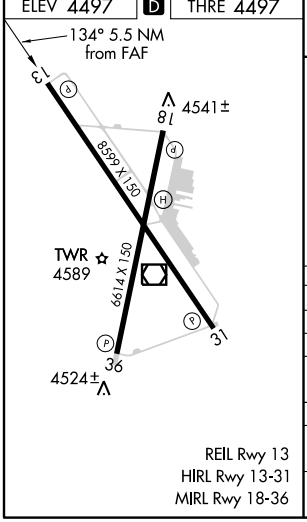
ILS or LOC/DME RWY 13
PROVO MUNI (PVU)

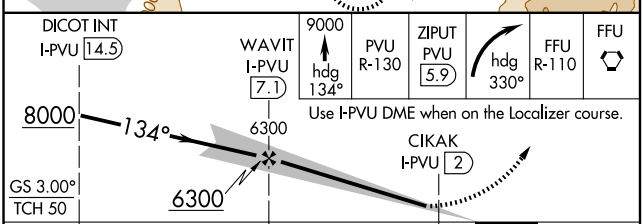
Circling NA east of Rwys 18 and 31.
*Missed approach requires minimum climb of 315 feet per NM to 8600.

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

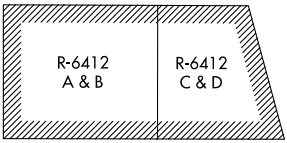
PROVO FOUR DEPARTURE (OBSTACLE)

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

TAKE-OFF MINIMUMS

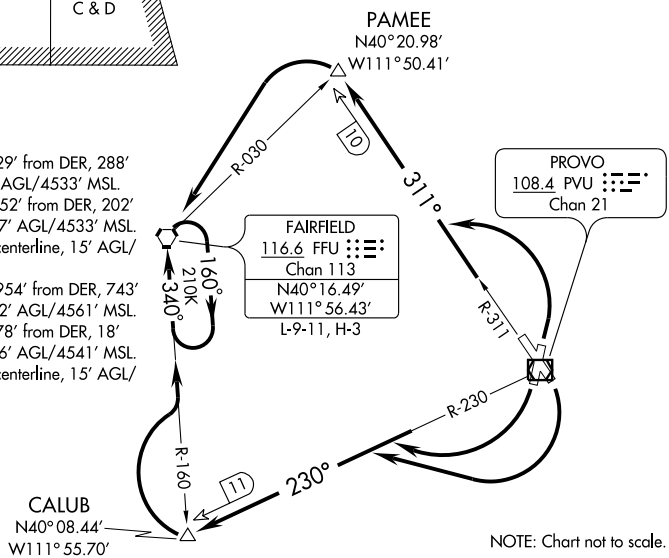
Rwy 13: Standard with a minimum climb of 400′ per NM to 9000, or 3100-3 for climb in visual conditions.
Rwy 18: Standard with a minimum climb of 350′ per NM to 9000, or 3100-3 for climb in visual conditions.
Rwy 31: Standard with a minimum climb of 380′ per NM to 9000, or 3100-3 for climb in visual conditions.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

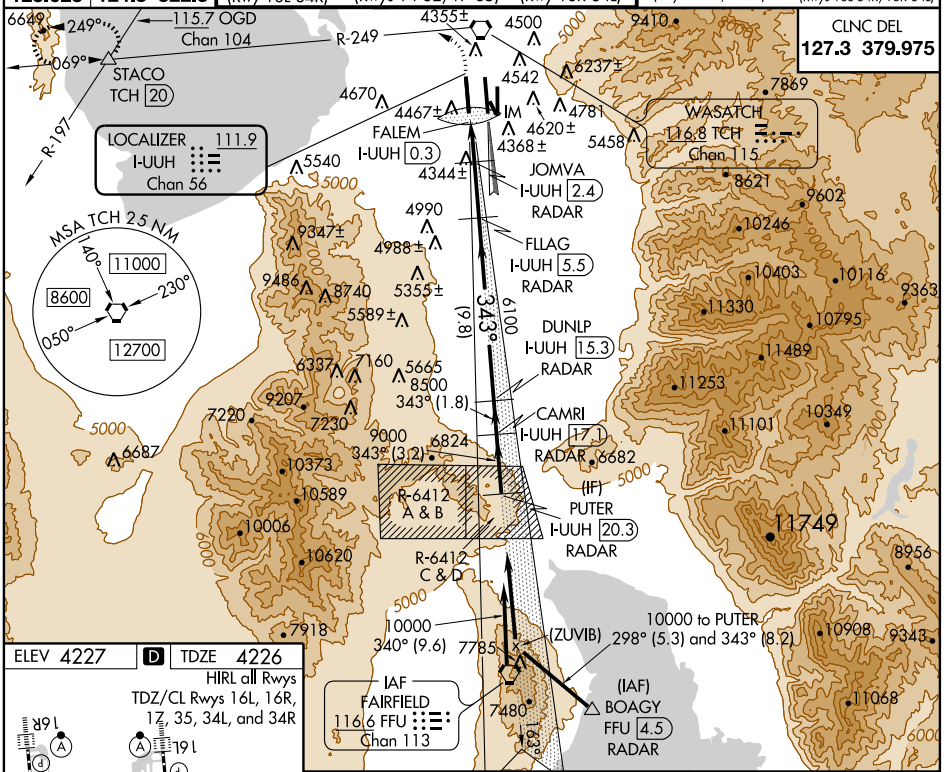
DME or RADAR required.
Simultaneous approach authorized with Rwy 34R and Rwy 35.

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.

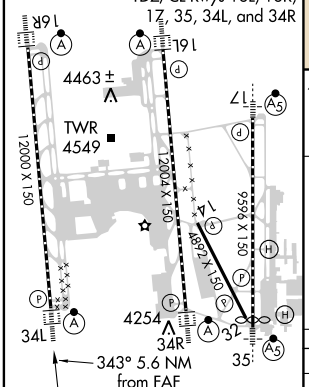
ATIS	SALT LAKE CITY APP CON	SALT LAKE CITY TOWER			GND CON	
124.75 125.625	124.3 322.3	119.05 257.8 (Rwy 16L-34R)	118.3 257.8 (Rwys 14-32, 17-35)	132.65 336.4 (Rwy 16R-34L)	121.9 348.6 (Rwys 14-32, 17-35)	133.65 348.6 (Rwys 16L-34R, 16R-34L)

CLNC DEL 127.3 379.975



ELEV 4227 | D | TDZE 4226

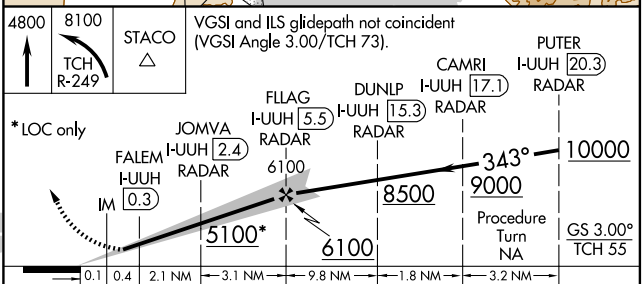
HIRL all Rwys
TDZ/CL Rwys 16L, 16R, 17, 35, 34L, and 34R



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)

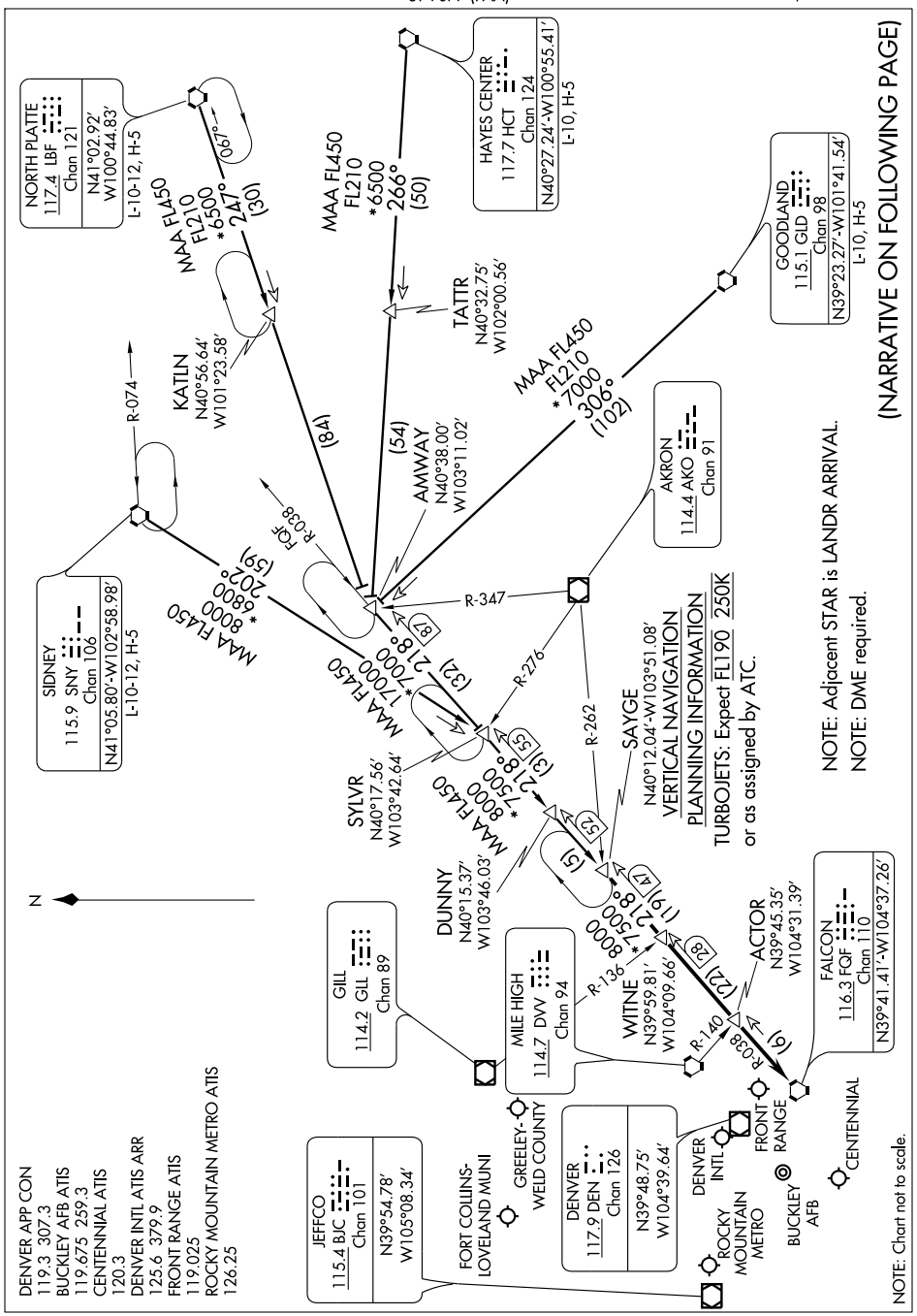
Figure 318

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

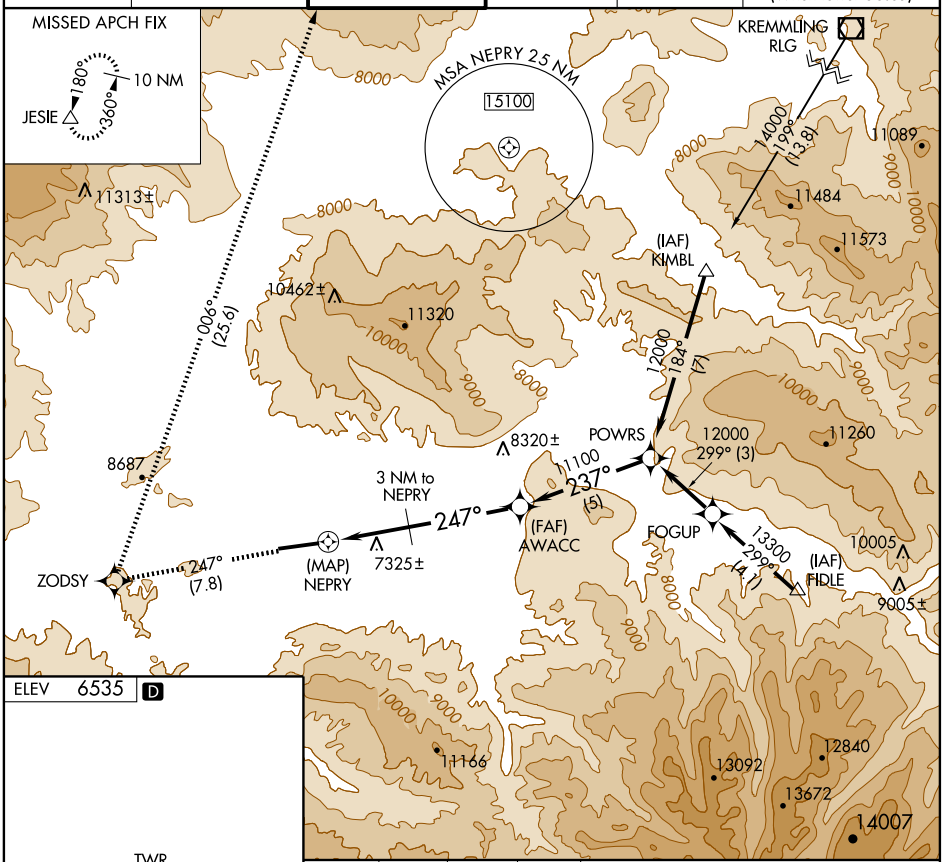
APP CRS	Rwy ldg	N/A
247°	TDZE	N/A
	Apt Elev	6535

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)

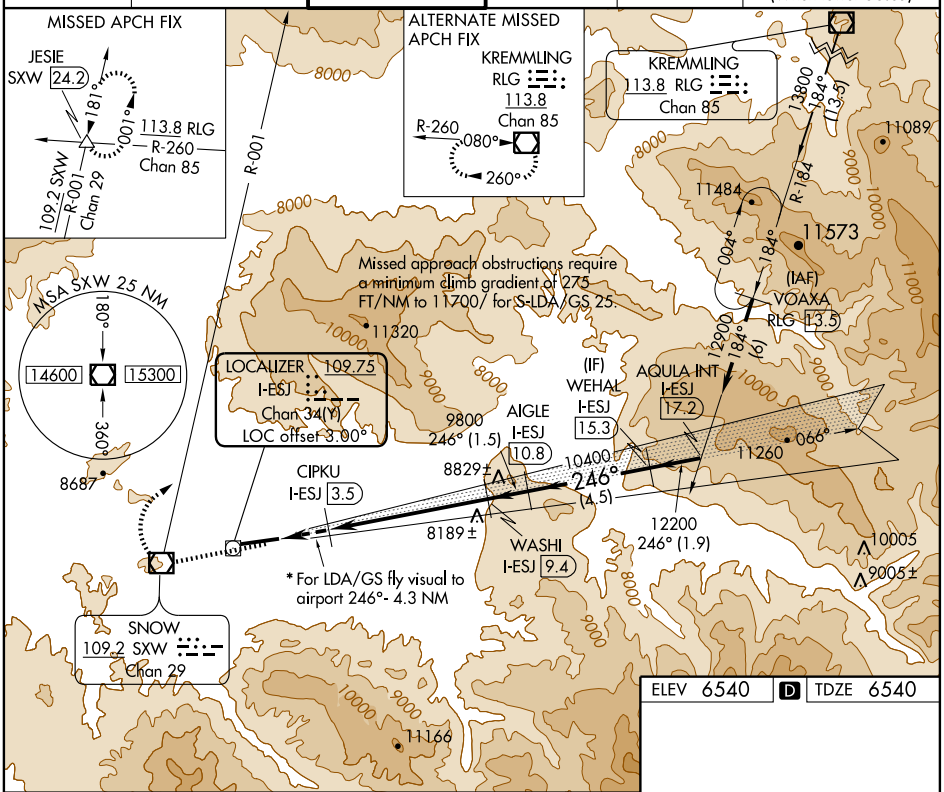
LOC/DME I-ESJ	APP CRS	Rwy ldg	8000
109.75	246°	TDZE	6540
Chan 34 (Y)		Apt Elev	6540

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

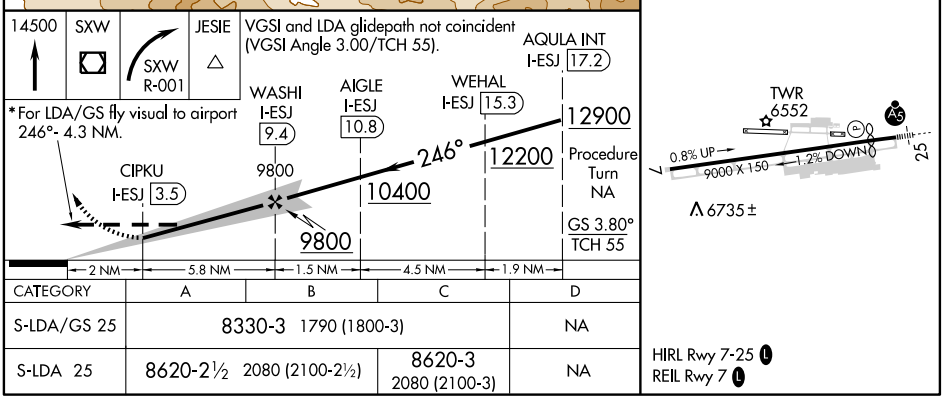
MALSR

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

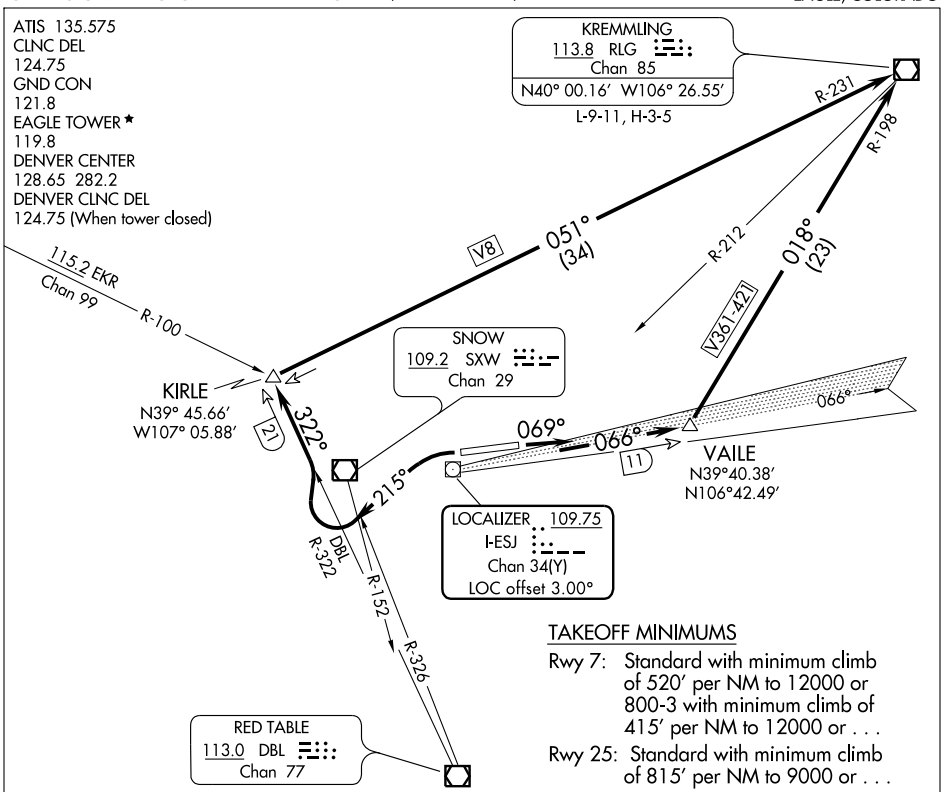
EAGLE, COLORADO
Orig-C 11293

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 . . .

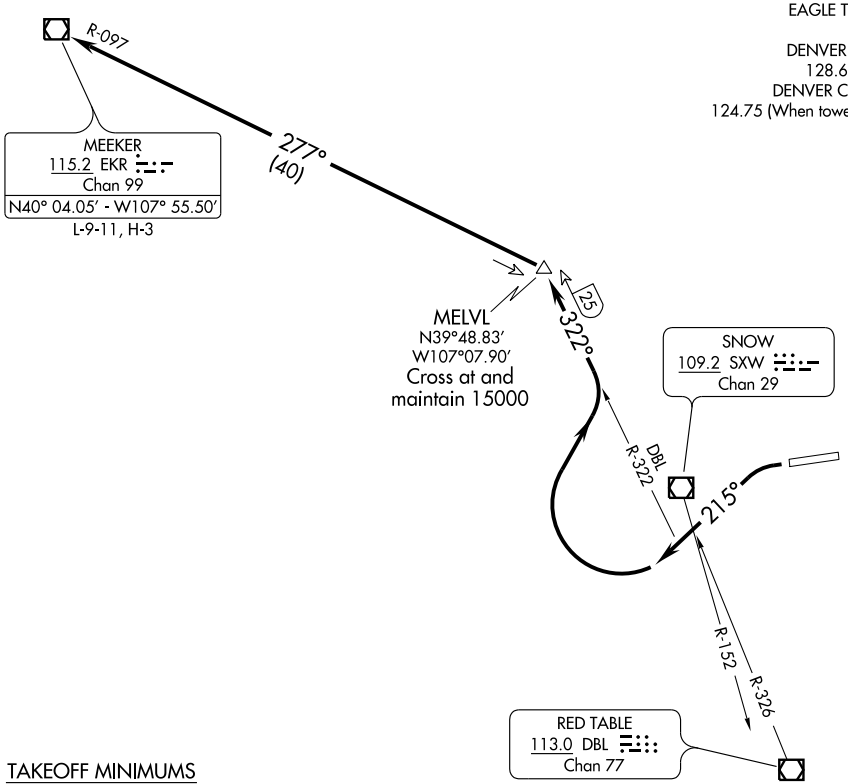
. . . Climb in visual conditions to cross Eagle County Rgnl Airport northeast bound at or above 10500, then via RLG R-212 to RLG VOR/DME.

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

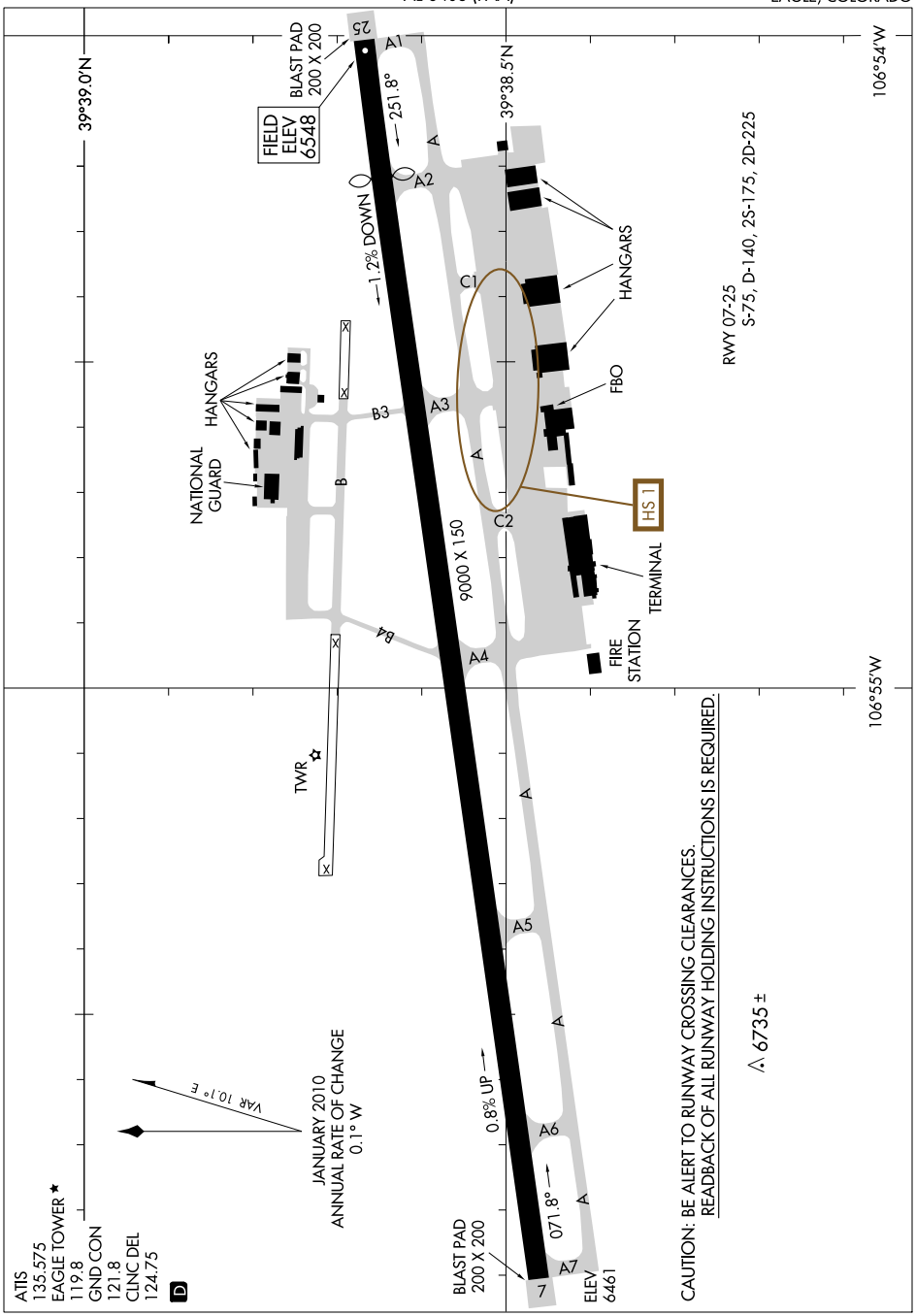
TAKEOFF RUNWAY 25: Climbing left turn heading 215°, upon crossing SXW R-152 or DBL R-326 turn right via DBL R-322 to MELVL INT/DBL 25 DME then turn left via EKR R-097 to EKR VOR/DME. Cross MELVL at and maintain 15000, expect filed altitude 10 minutes after departure.

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.

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Figure 326

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

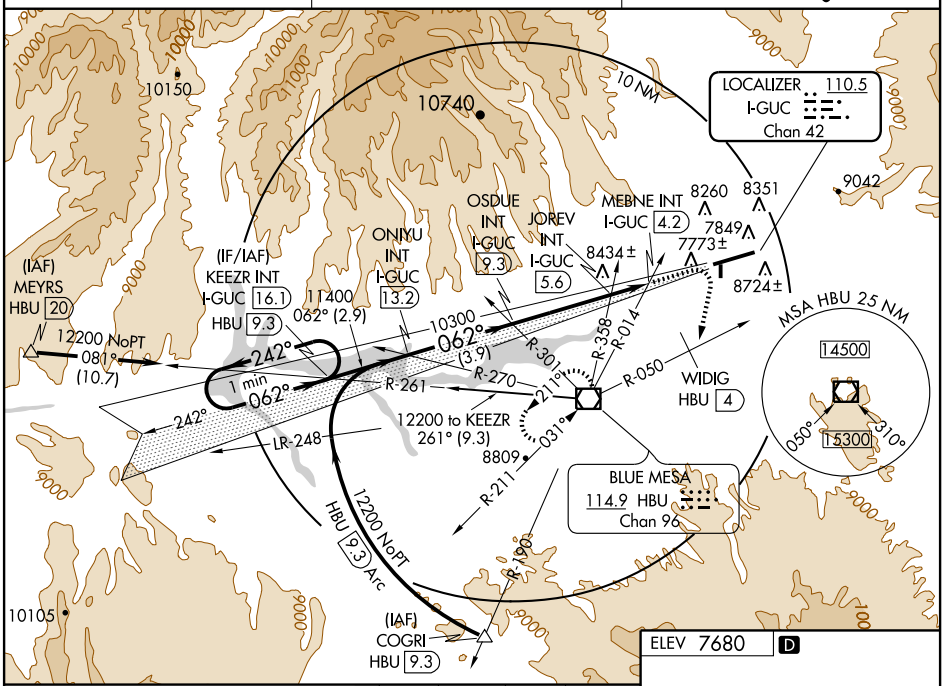
ILS or LOC RWY 6
GUNNISON-CRESTED BUTTE RGNL (GUC)

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.

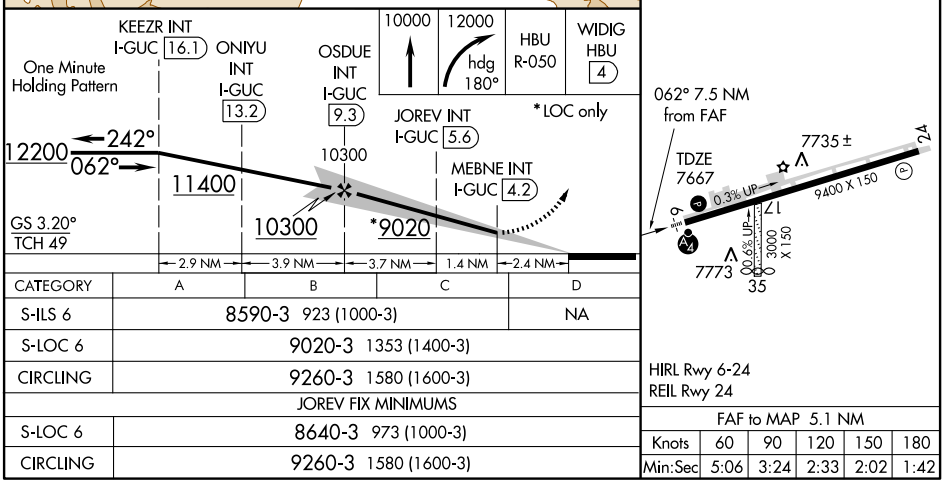
MALSF

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

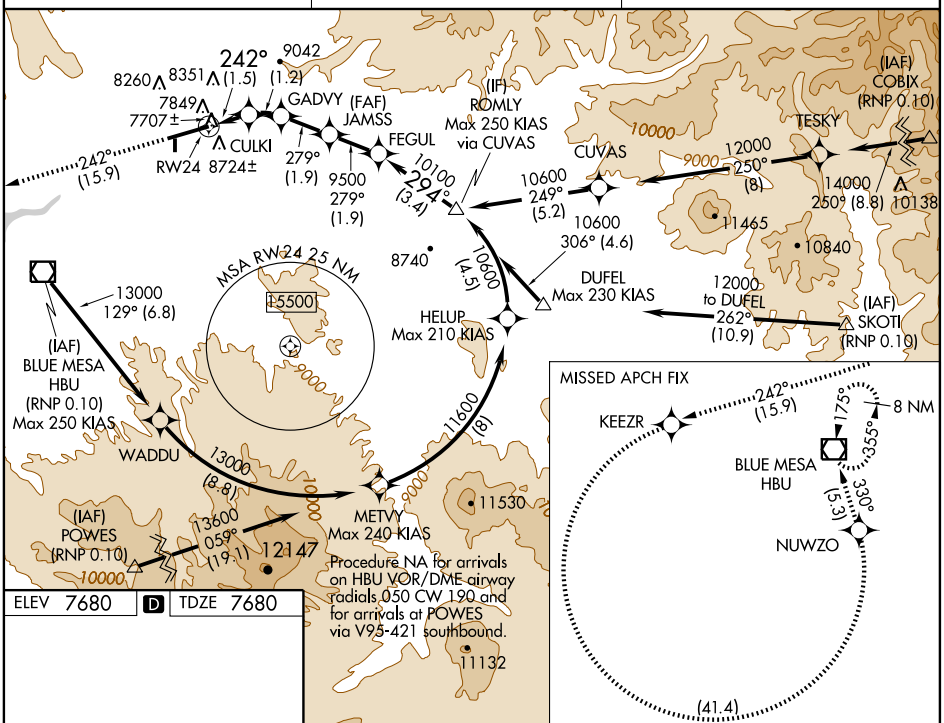
APP CRS	Rwy ldg	9400
242°	TDZE	7680
	Apt Elev	7680

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

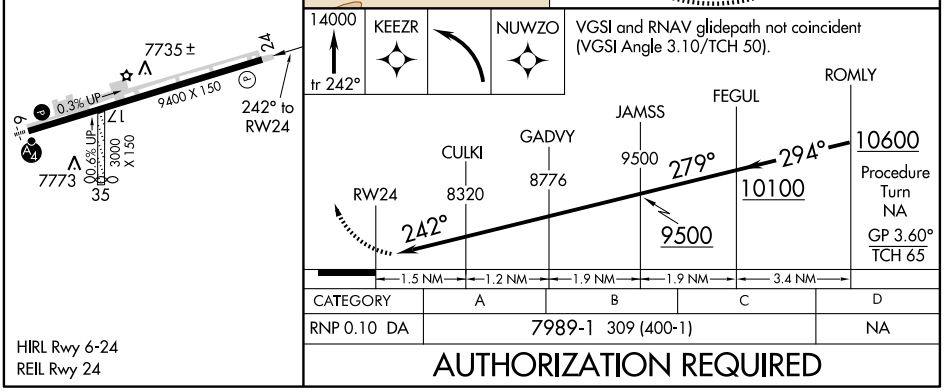
T RF and GPS required.
When local altimeter setting not received, procedure NA.
Procedure NA for aircraft with wingspan greater than 136 feet.
For uncompensated Baro-VNAV systems, procedure NA below -29°C (-20°F) or above 24°C (75°F).
When VGSI inoperative, procedure NA at night.
Missed approach requires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

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Figure 328

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

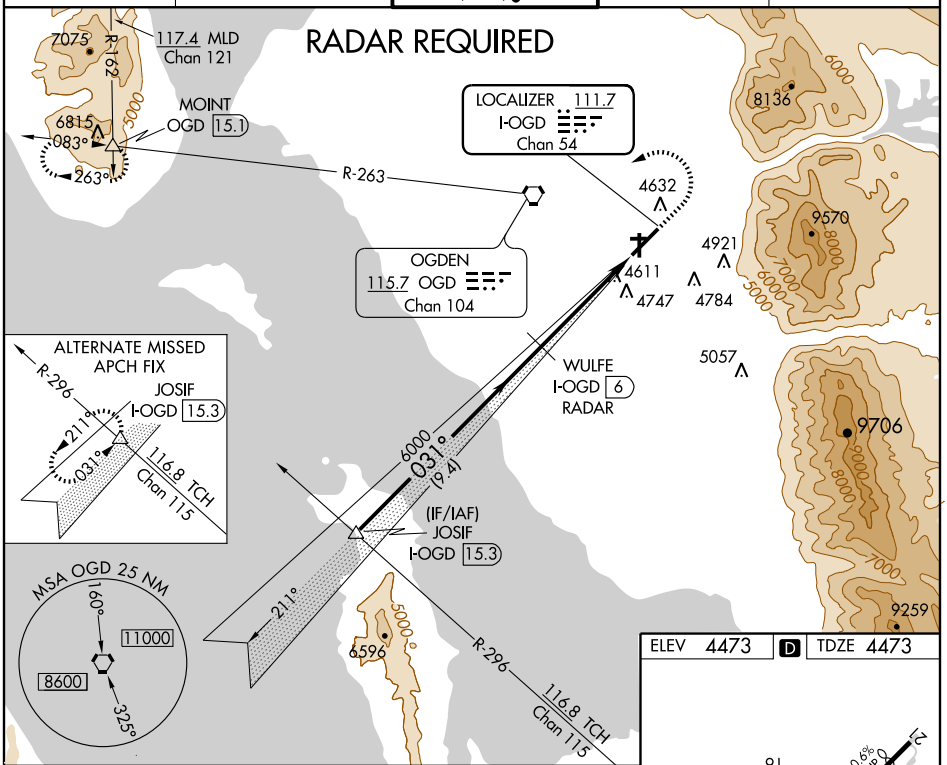
ILS or LOC RWY 3
OGDEN-HINCKLEY (OGD)

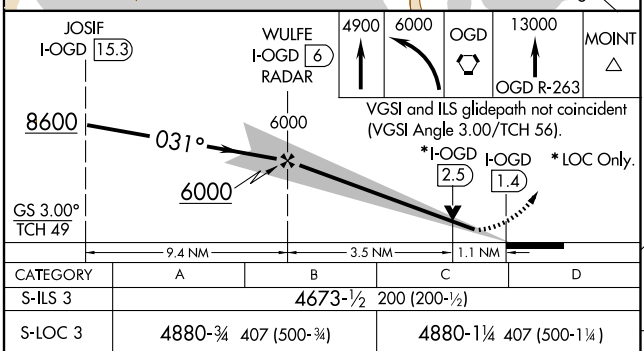
When local altimeter setting not received, use Hill AFB altimeter setting.
When VGSI inoperative, circling Rwy 7 and 16 NA at night.
Inoperative table does not apply to S-LOC 3 and Cat C.
DME or RADAR required.

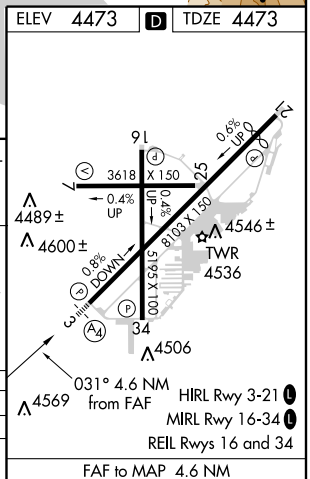
MALS

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

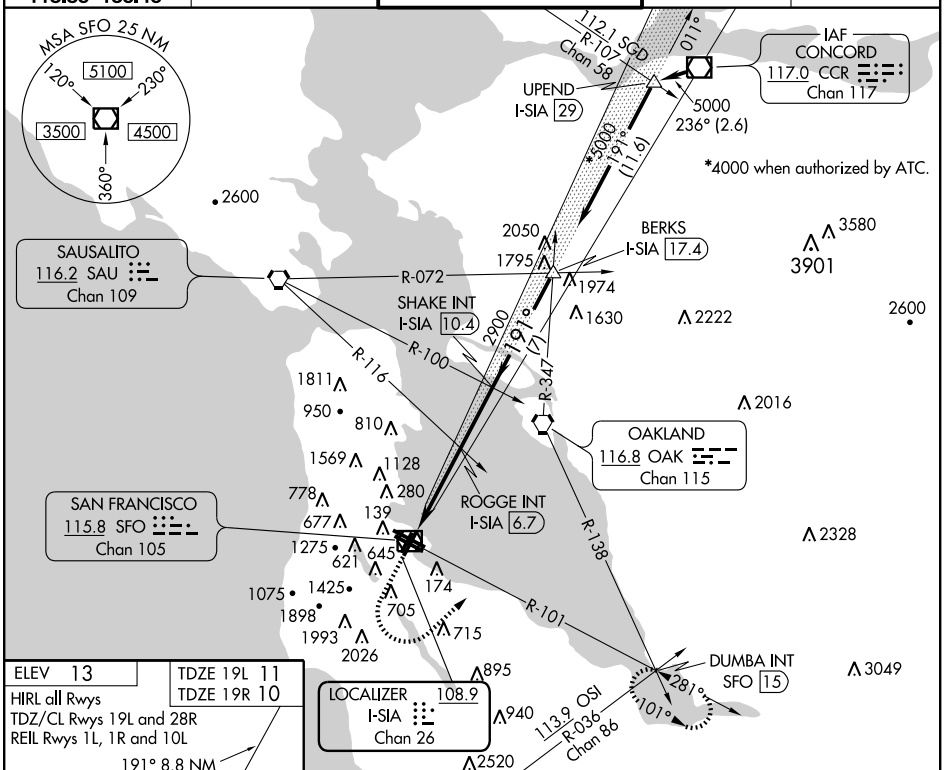
ILS or LOC RWY 19L
SAN FRANCISCO INTL (SFO)

Inoperative table does not apply.

MALSF Rwy 19L

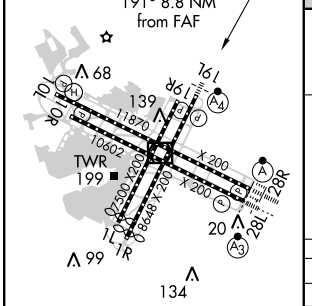
MISSED APPROACH: Climb to 420 then climbing left turn to 4000 via SFO VOR/DME R-101 to DUMBA INT and hold.

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

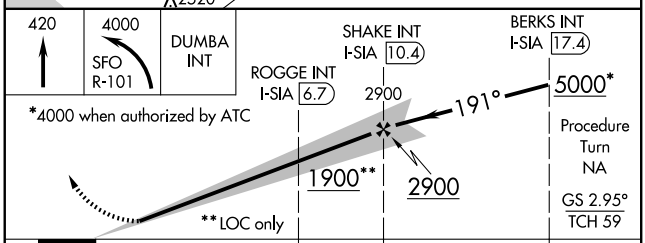


ELEV 13	TDZE 19L 11
HIRL all Rwys	TDZE 19R 10
TDZ/CL Rwys 19L and 28R	
REIL Rwys 1L, 1R and 10L	

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)

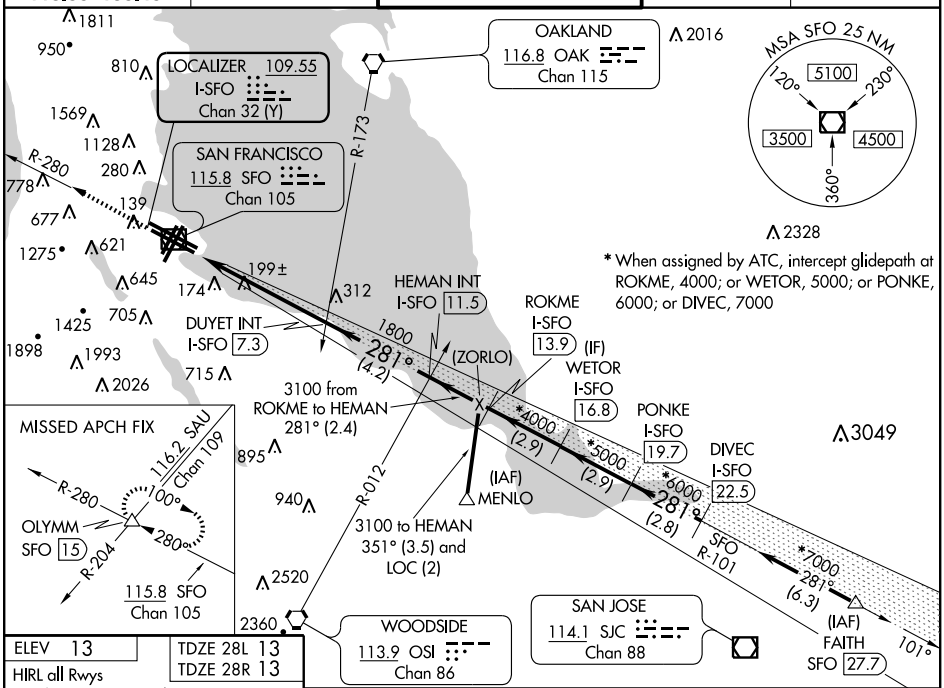
LOC/DME I-SFO	APP CRS	Rwy 28L ldg 10602	Rwy 28R ldg 11870
109.55 Chan 32 (Y)	281°	TDZE 13	TDZE 13
		Apt Elev 13	Apt Elev 13

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.

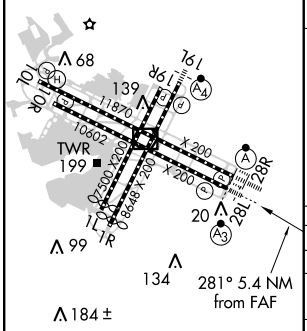
SSALR Rwy 28L (A3) ALSF-2 Rwy 28R (A)

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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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)

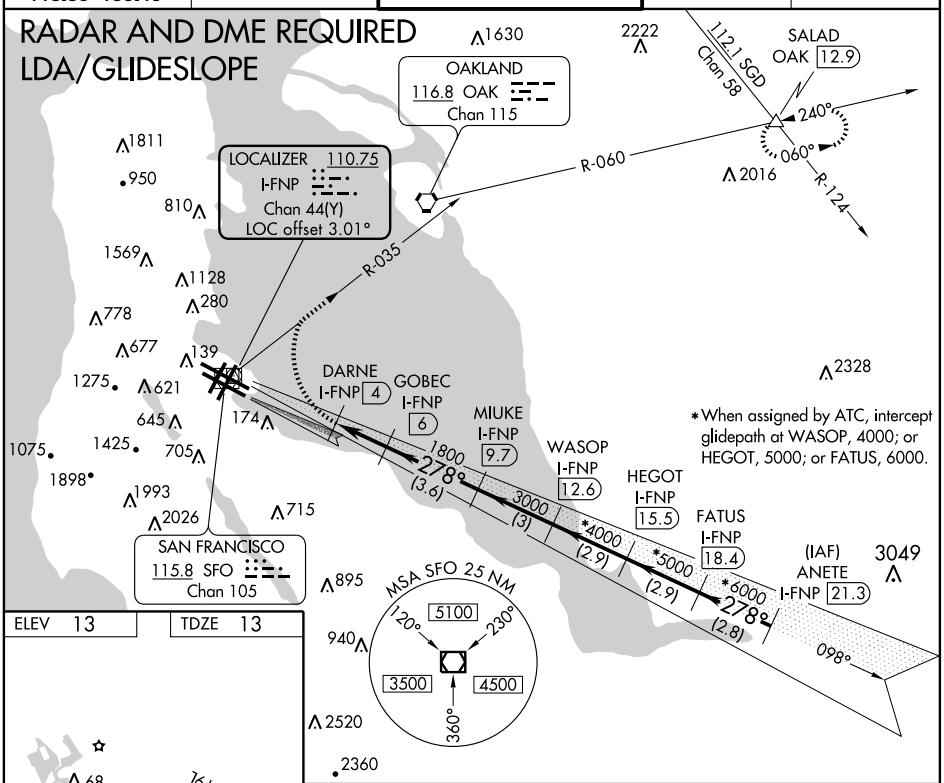
LOC/DME I-FNP	APP CRS	Rwy ldg	11870
110.75	278°	TDZE	13
Chan 44(Y)		Apt Elev	13

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.

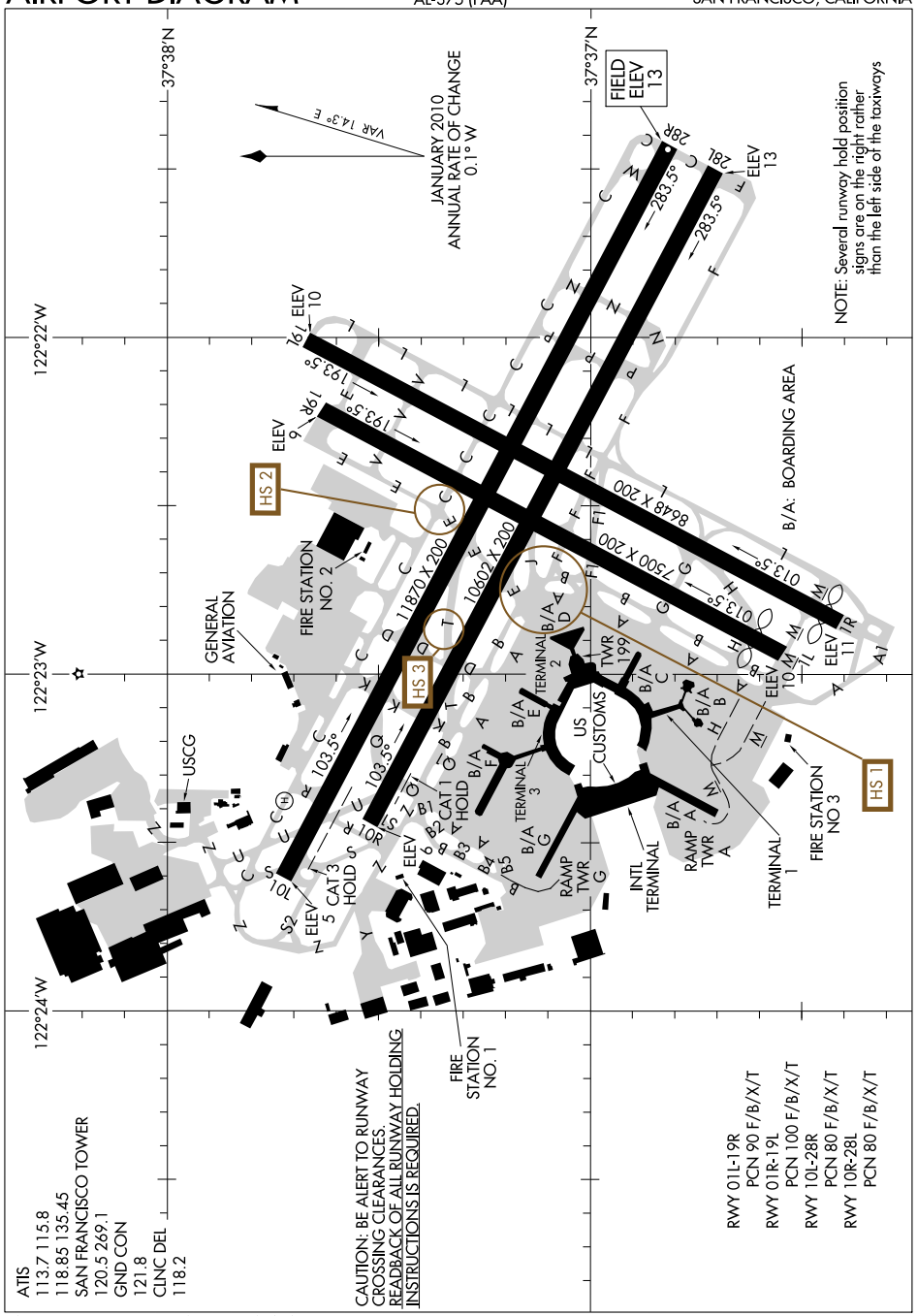
ATIS	NORCAL APP CON	SAN FRANCISCO TOWER	GND CON	CLNC DEL
113.7 115.8 118.85 135.45	134.5 338.2	120.5 269.1	121.8	118.2



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

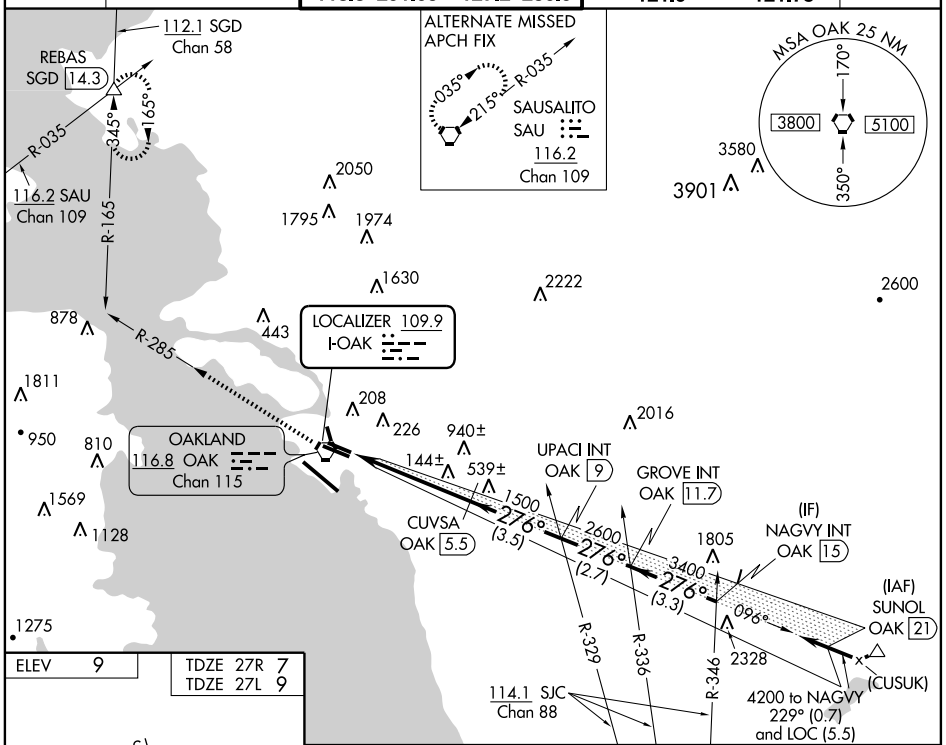
OAKLAND/METROPOLITAN OAKLAND INTL (OAK)

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

MALSR Rwy 27R (A5)

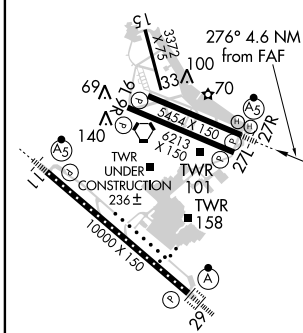
MISSED APPROACH: Climb to 3000 via OAK R-285 to intercept SGD R-165 to REBAS INT/SGD 14.3 and hold.

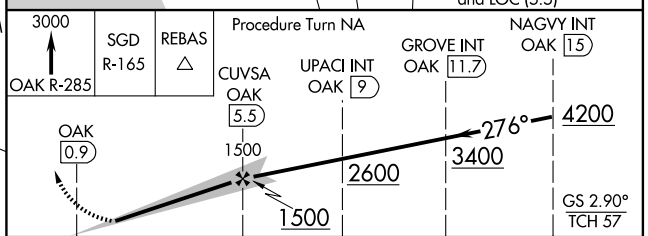
ATIS	NORCAL APP CON			OAKLAND TOWER (Rwys 9-27, 15-33)	OAKLAND TOWER (Rwy 11-29)	GND CON (Rwys 9-27, 15-33)	GND CON (Rwy 11-29)	CLNC DEL
133.775	125.35	310.8	354.1	118.3 291.65	127.2 256.9	121.9	121.75	121.1



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

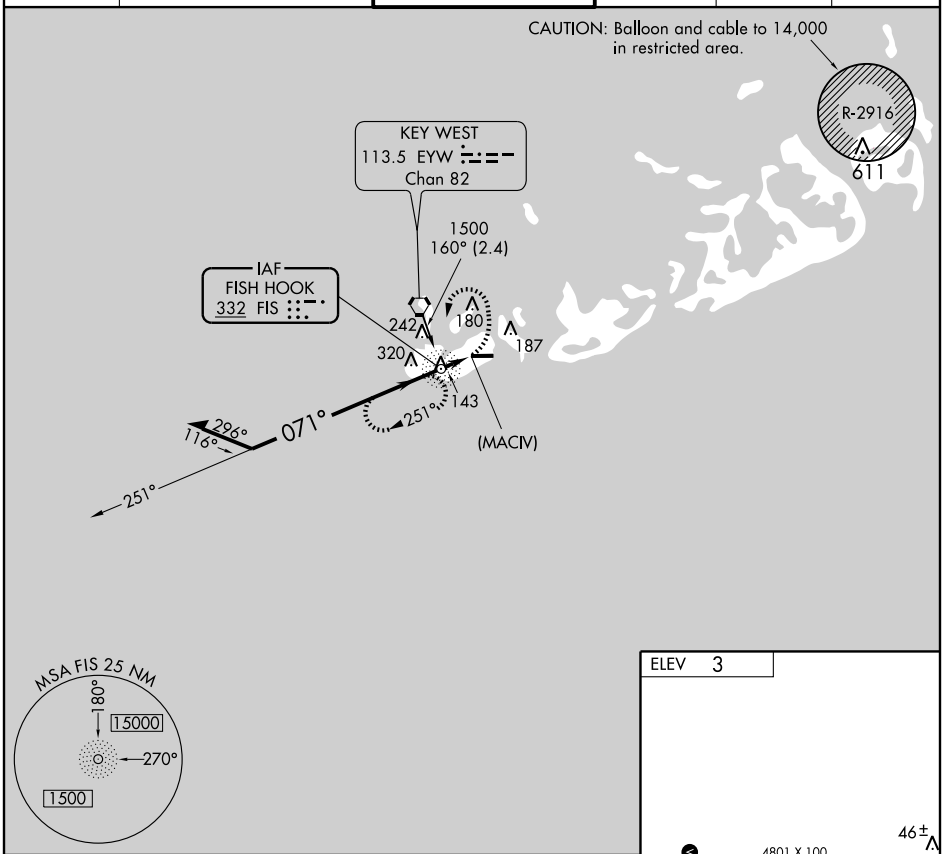
NDB FIS	APP CRS	Rwy ldg	N/A
332	071°	TDZE	N/A
		Apt Elev	3

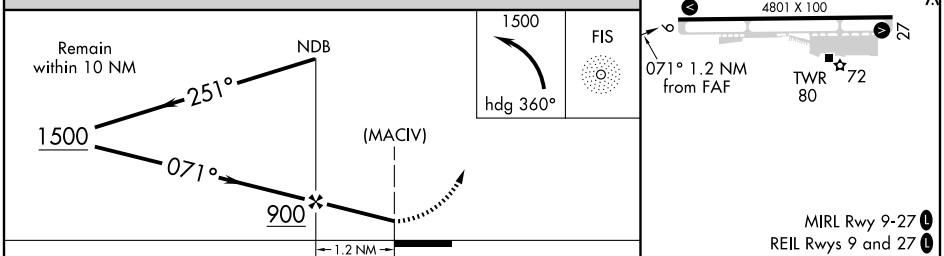
NDB or GPS-A
KEY WEST INTL (EYW)

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

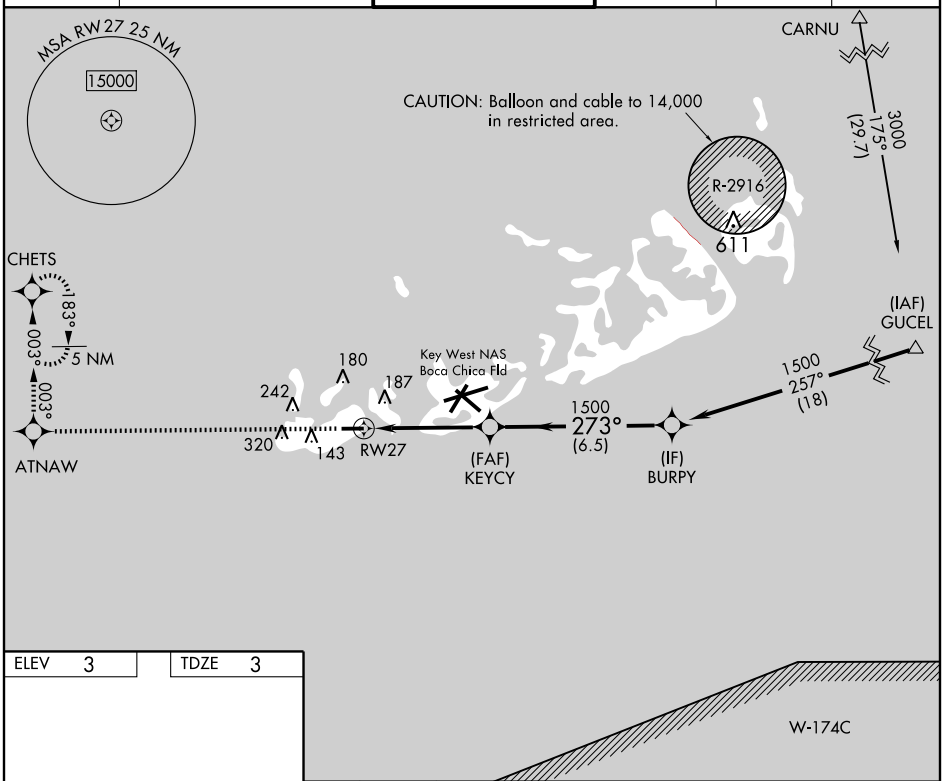
WAAS CH 82100 W27A	APP CRS 273°	Rwy ldg 4801 TDZE 3 Apt Elev 3

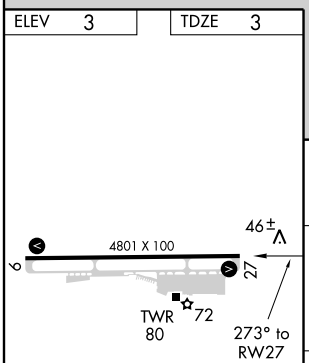
RNAV (GPS) RWY 27
KEY WEST INTL (EYW)

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.

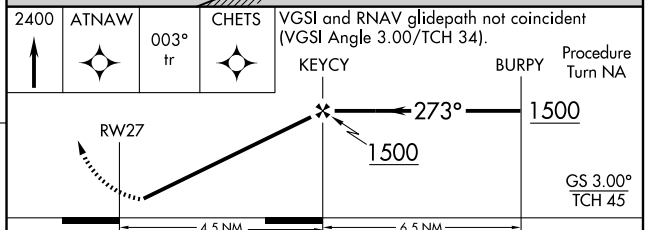
MISSED APPROACH: Climb to 2400 direct ATNAW and via 003° track to CHETS and hold.

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)

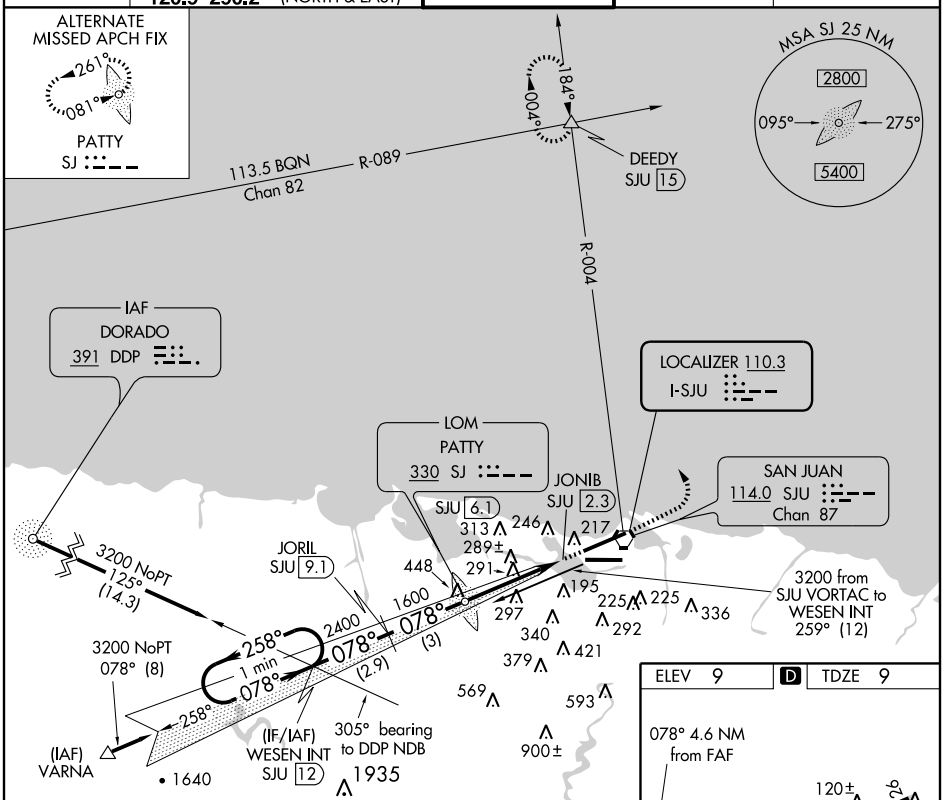
LOC I-SJU	APP CRS	Rwy ldg	9783
110.3	078°	TDZE	9
		Apt Elev	9

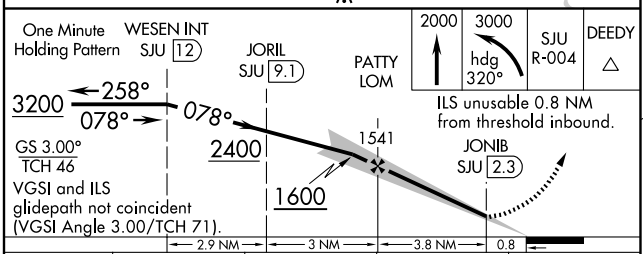
For inoperative MALSR, increase S-ILS 8 all Cats visibility to 1 mile. DME Required.

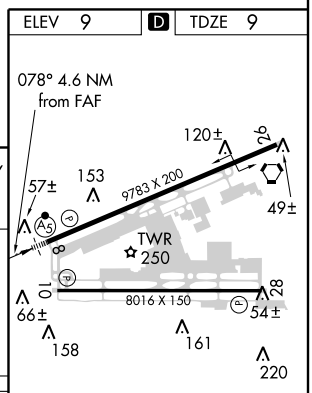
MALSR

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

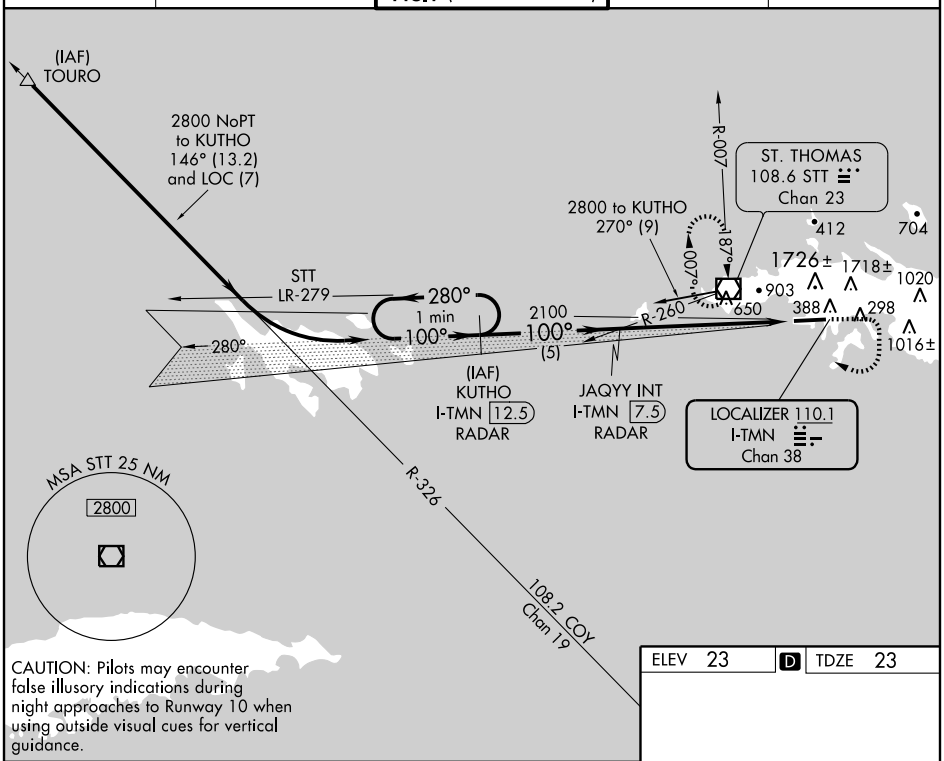
ILS RWY 10

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

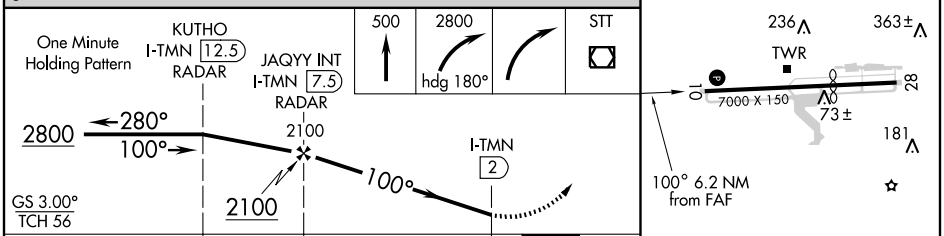
Procedure not authorized when control tower closed.
Circling not authorized north of Runway 10-28.
Circling not authorized at night.

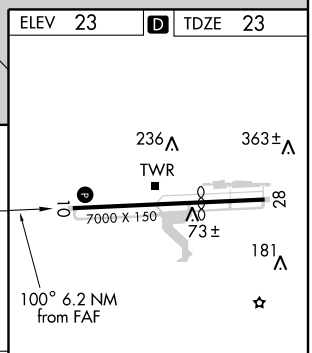
MISSED APPROACH: Climb to 500 then climbing right turn to 2800 via heading 180° then right turn direct STT VOR/DME and hold.

ATIS	SAN JUAN CENTER	ST. THOMAS TOWER ★	GND CON	UNICOM
124.0	128.65 279.6	118.8 (CTAF) L 257.6 118.1 (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 597 (600-1½)	620-1¾ 597 (600-1¾)
CIRCLING	660-1¼ 637 (700-1¼)		660-1¾ 637 (700-1¾)	660-2 637 (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

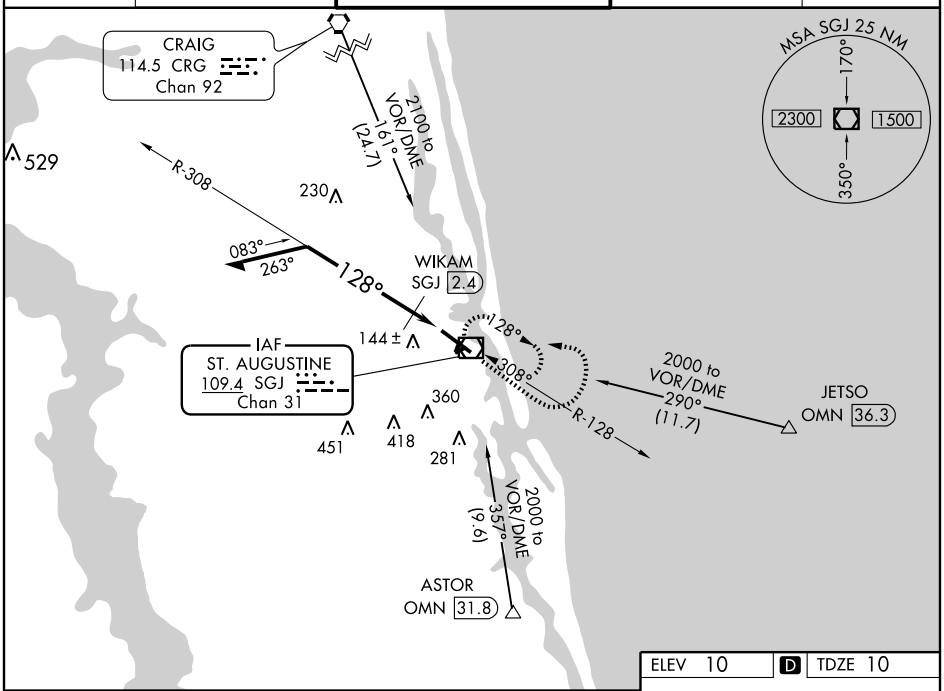
VOR RWY 13

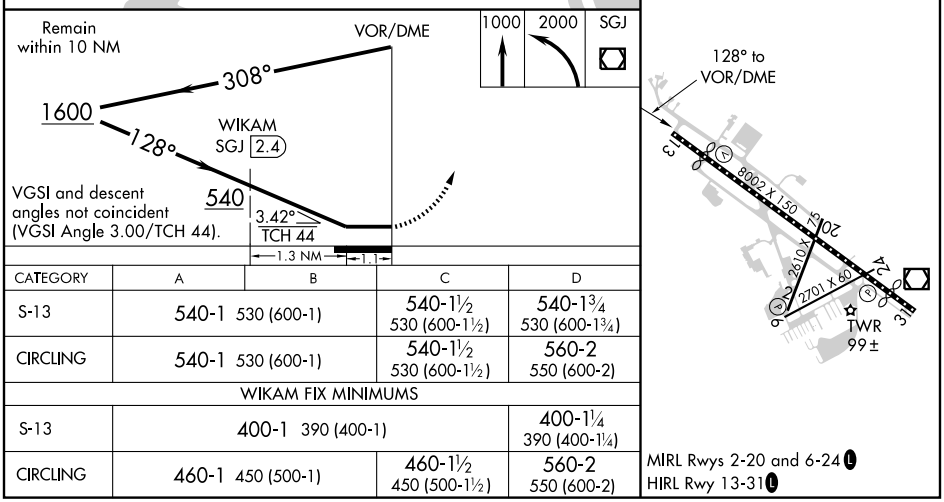
ST. AUGUSTINE / NORTHEAST FLORIDA RGNL (SGJ)

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 TDZE 10 Apt Elev 10

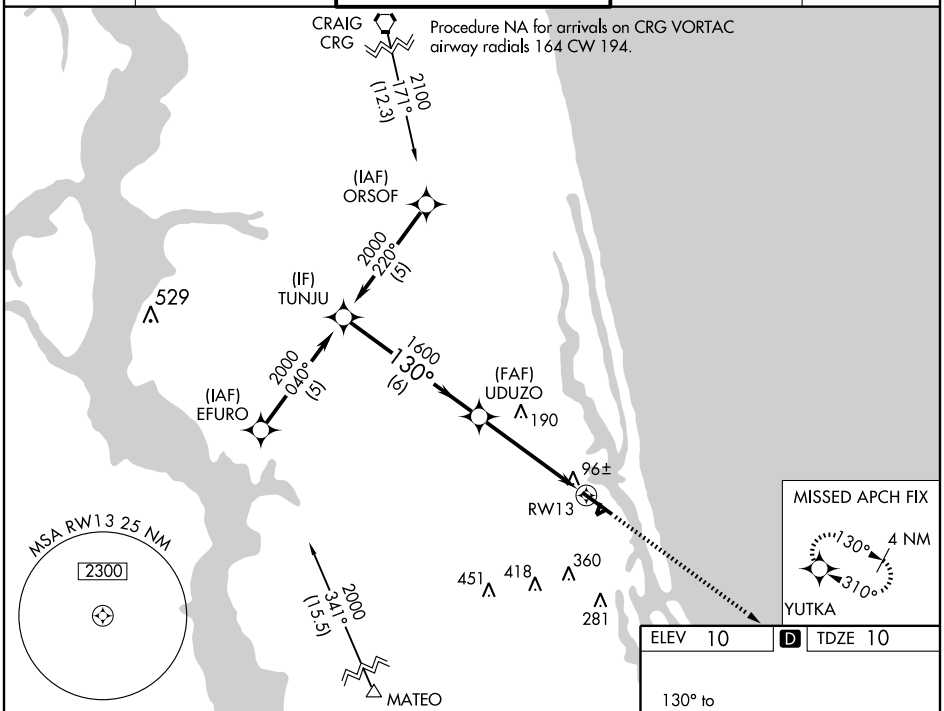
RNAV (GPS) RWY 13

ST. AUGUSTINE / NORTHEAST FLORIDA RGNL (SGJ)

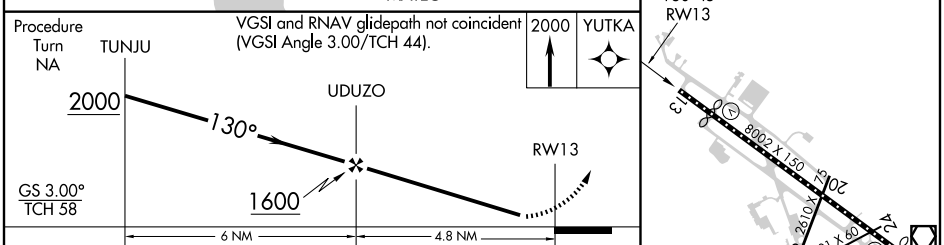
Baro-VNAV NA when using Jacksonville NAS/Towers Field altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 48°C (118°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Jacksonville NAS/Towers Field 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

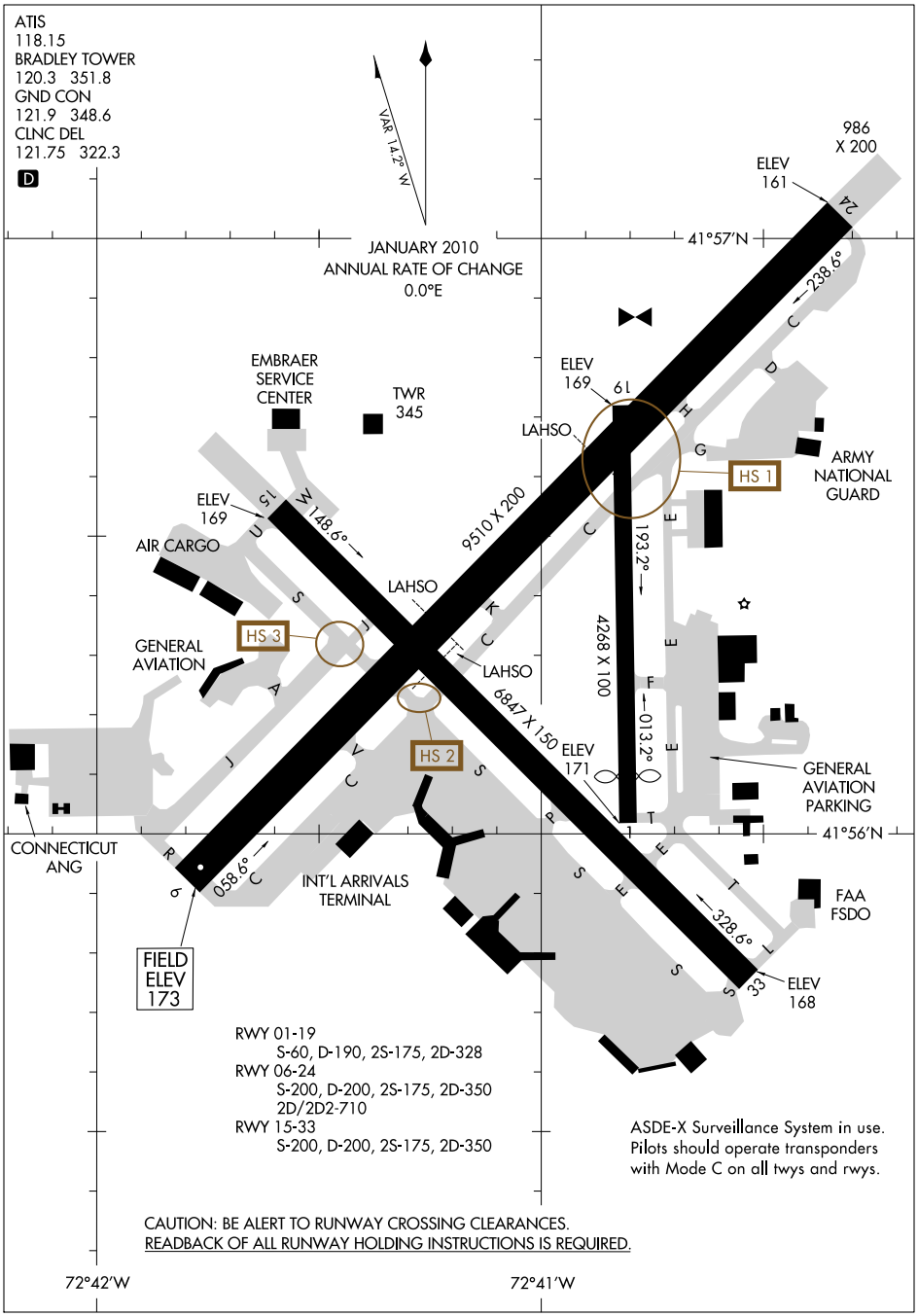


CATEGORY	A	B	C	D
LPV DA	357-1¼ 347 (400-1¼)			
LNAV/VNAV DA	391-1¼ 381 (400-1¼)			
LNAV MDA	440-1 430 (500-1)		440-1¼ 430 (500-1¼)	440-1½ 430 (500-1½)
CIRCLING	460-1 450 (500-1)		460-1½ 450 (500-1½)	580-2 570 (600-2)

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

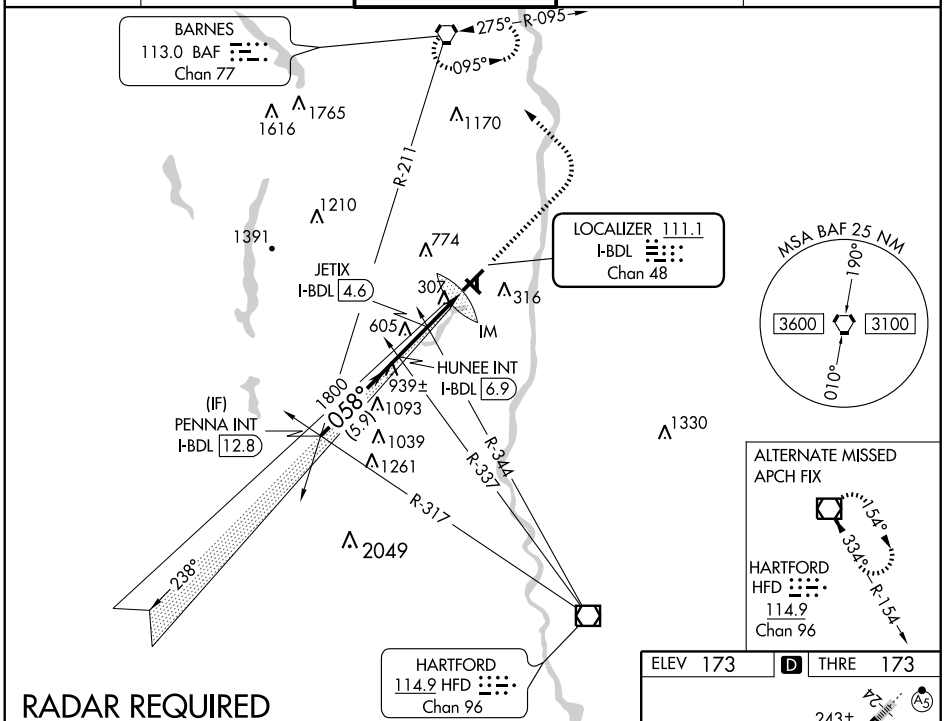
WINDSOR LOCKS / BRADLEY INTL (BDL)

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

ALSF-2

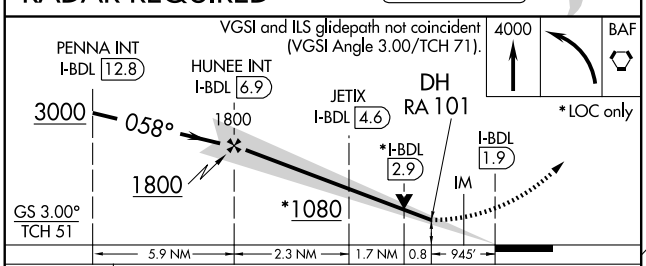
MISSED APPROACH: Climb to 4000 then left turn direct BAF VORTAC and hold.

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

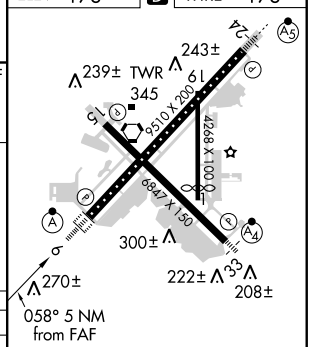
VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 71).



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

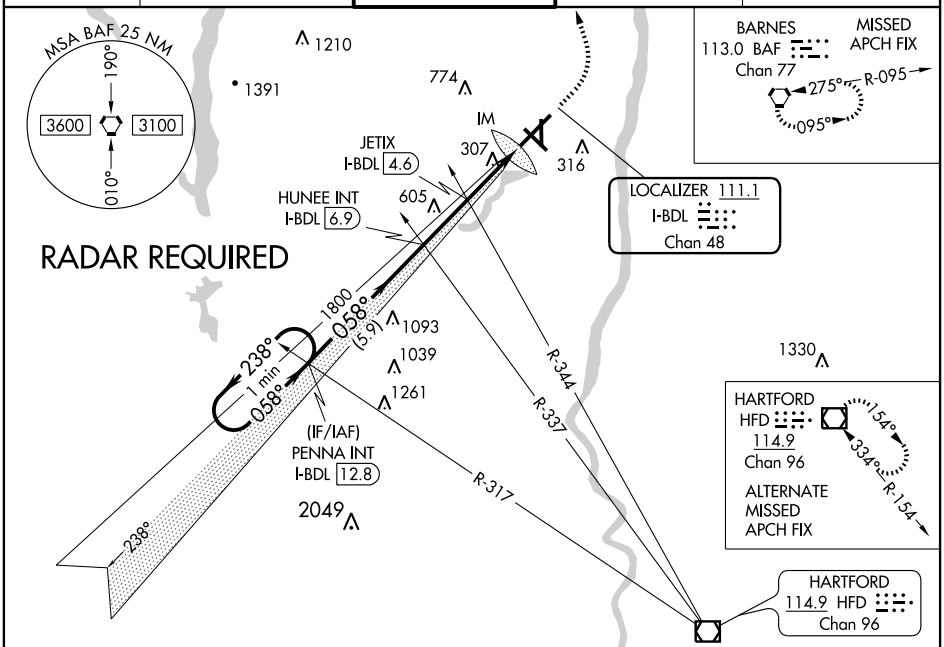
WINDSOR LOCKS / BRADLEY INTL (BDL)

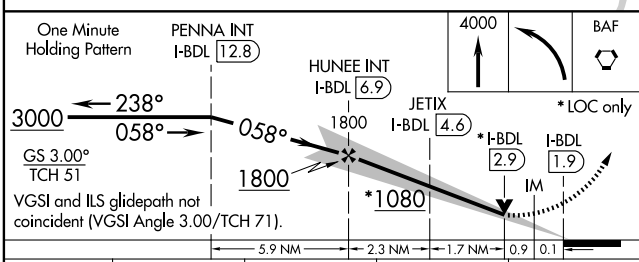
For inoperative ALSF-2, increase S-ILS 6 all Cats visibility to RVR 4000. JETIX Fix Minimums: For inoperative ALSF-2, increase S-LOC 6 Cat C, D visibility to RVR 6000.

ALSF-2

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

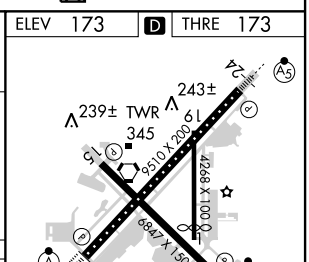
ATIS	BRADLEY APP CON	BRADLEY TOWER	GND CON	CLNC DEL
118.15	127.225 323.2	120.3 351.8	121.9 348.6	121.75 322.3





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



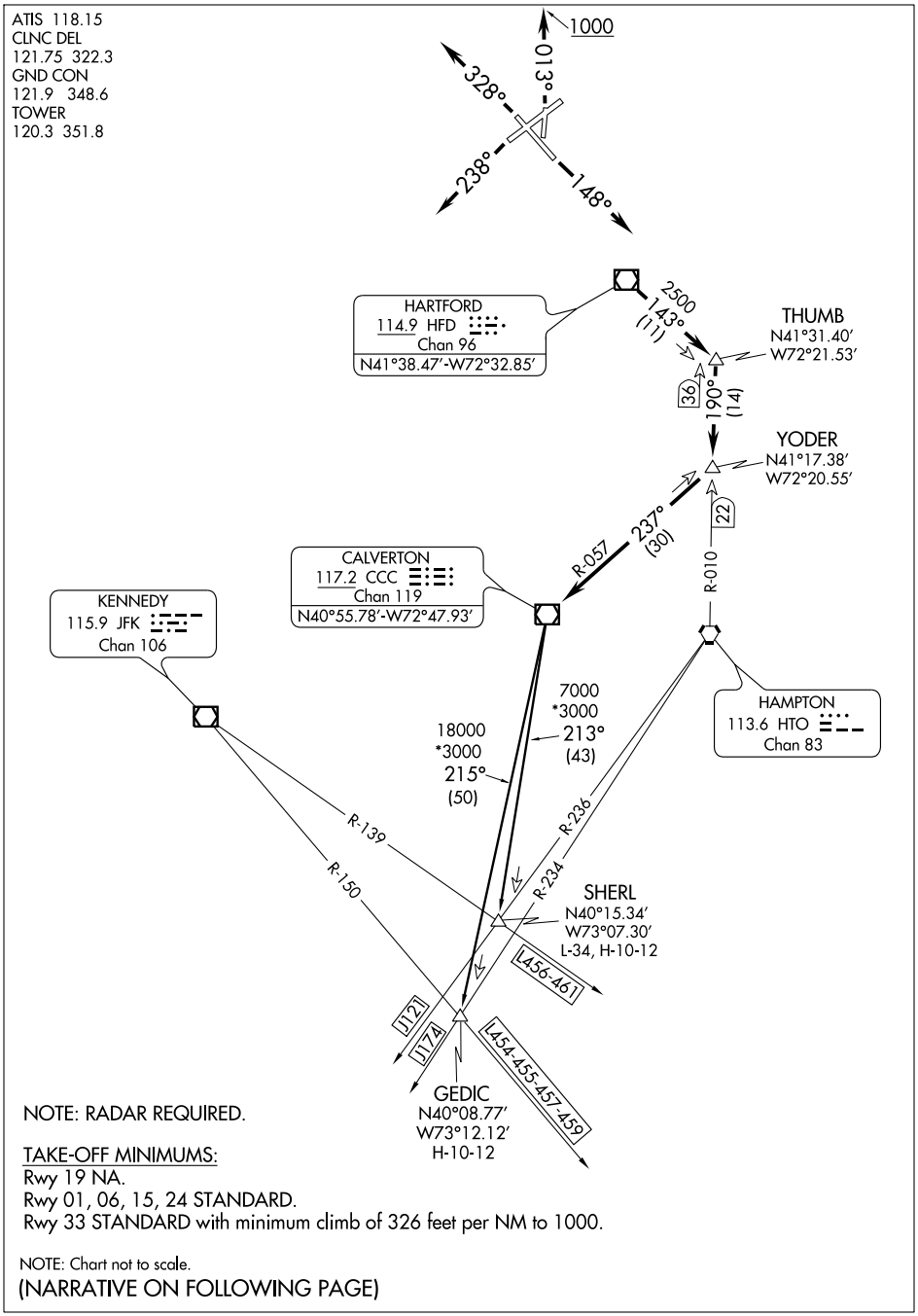
TDZ/CL Rwy 6 and 24
HIRL Rwys 6-24 and 15-33
MIRL Rwy 1-19
REIL Rwy 15

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.

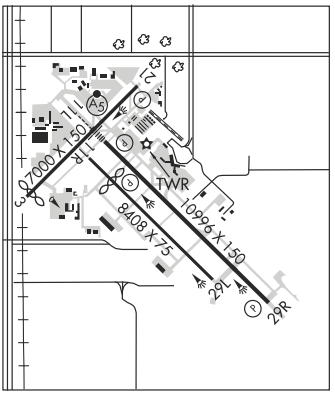
TAKE-OFF RWY 1: Climb heading 013° to 1000 or as assigned for radar vectors to HFD VOR/DME, thence . . .
TAKE-OFF RWY 6: Fly assigned heading for radar vectors to HFD VOR/DME, thence . . .
TAKE-OFF RWY 15: Climb heading 148° or as assigned for radar vectors to HFD VOR/DME, thence . . .
TAKE-OFF RWY 24: 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 TDZE 2599 Apt Elev 2643

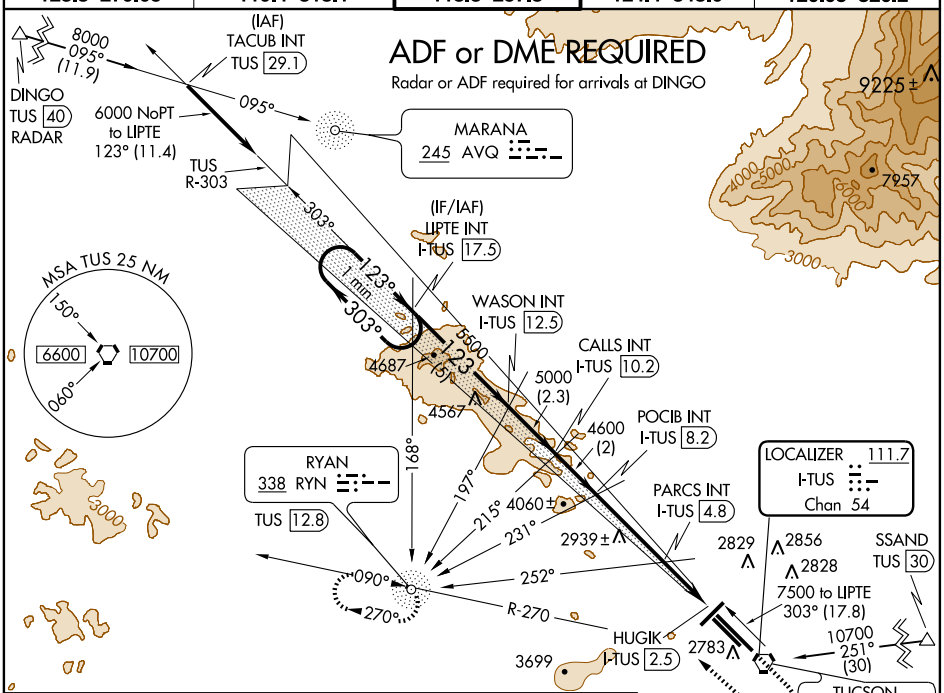
ILS or LOC RWY 11L
TUCSON INTL (TUS)

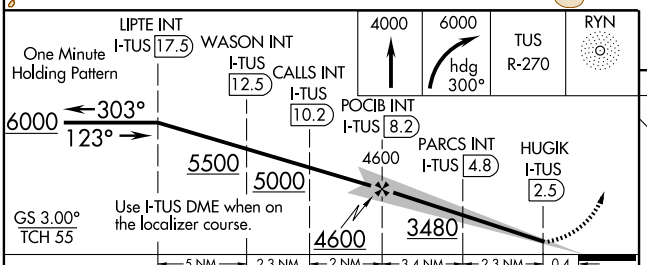
For inoperative MALSR, increase S-ILS 11L Cat E visibility to RVR 5000, S-LOC 11L Cat D and Cat E visibility to RVR 5000. ADF or DME required.

MALSR A5

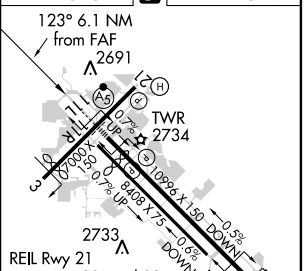
MISSED APPROACH: Climb to 4000 then climbing right turn to 6000 via heading 300° and TUS R-270 to RYN NDB/TUS 12.8 DME and hold.

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

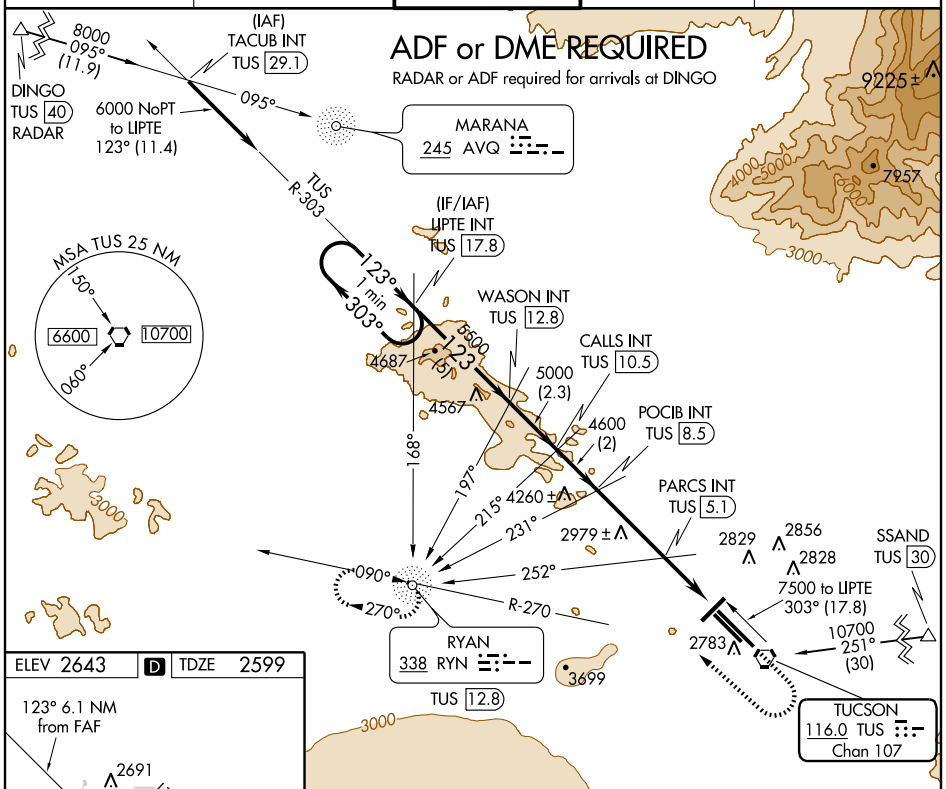
VOR or TACAN RWY 11L
TUCSON INTL (TUS)

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

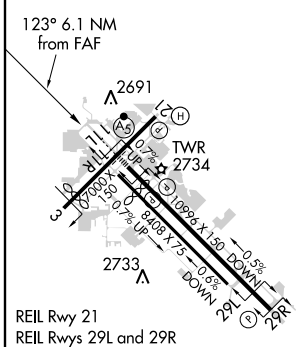
MALSR

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

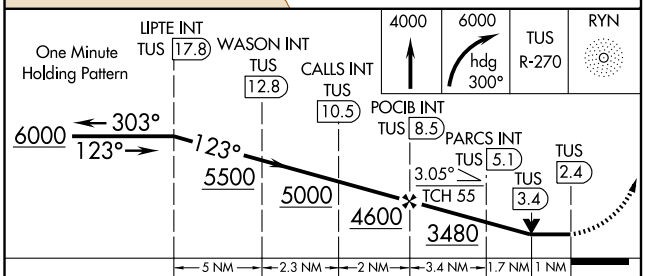


ELEV 2643 | D | TDZE 2599



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

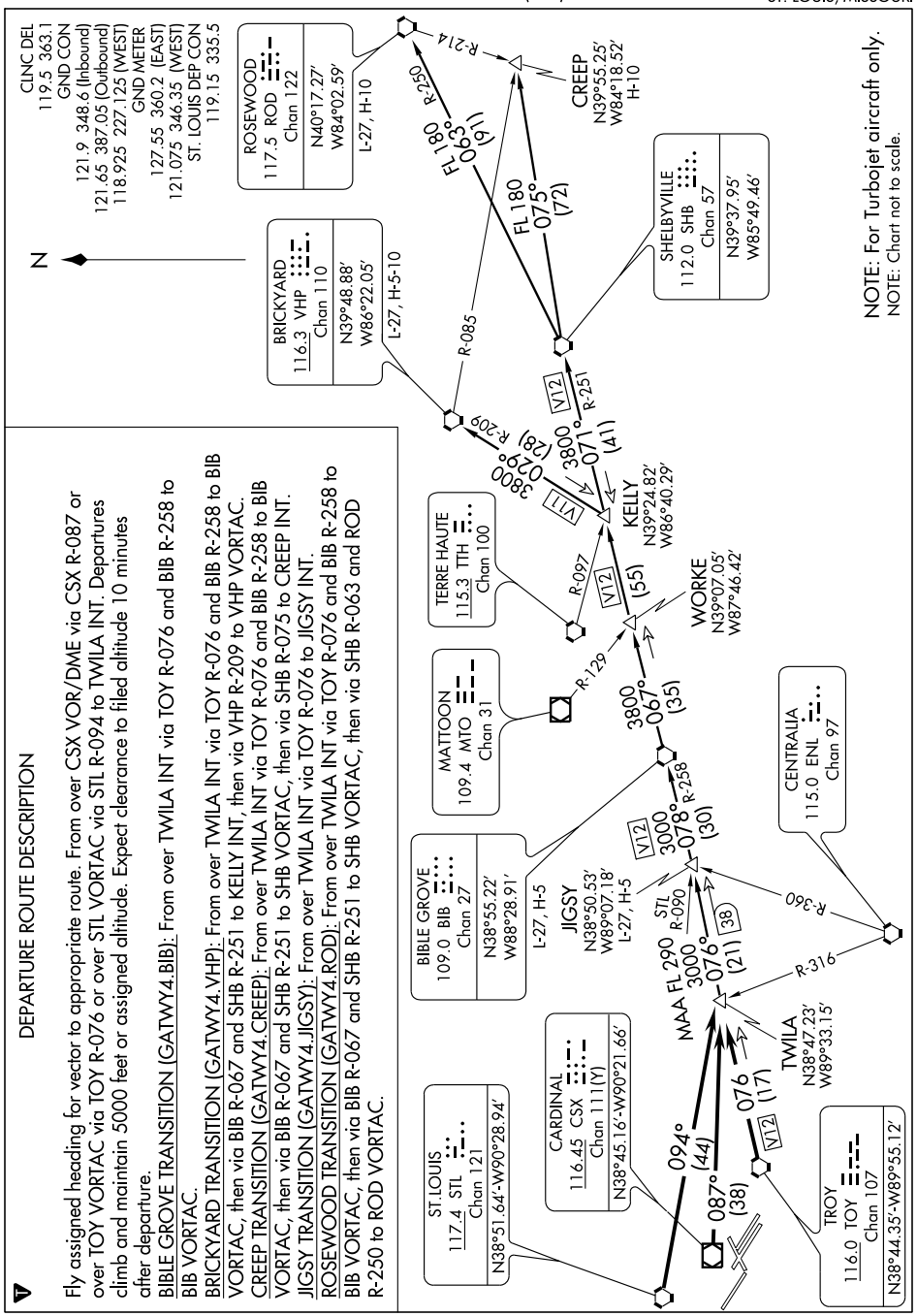
FAF to MAP 6.1 NM					
Knots	60	90	120	150	180
Min:Sec	6:06	4:04	3:03	2:26	2:02



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

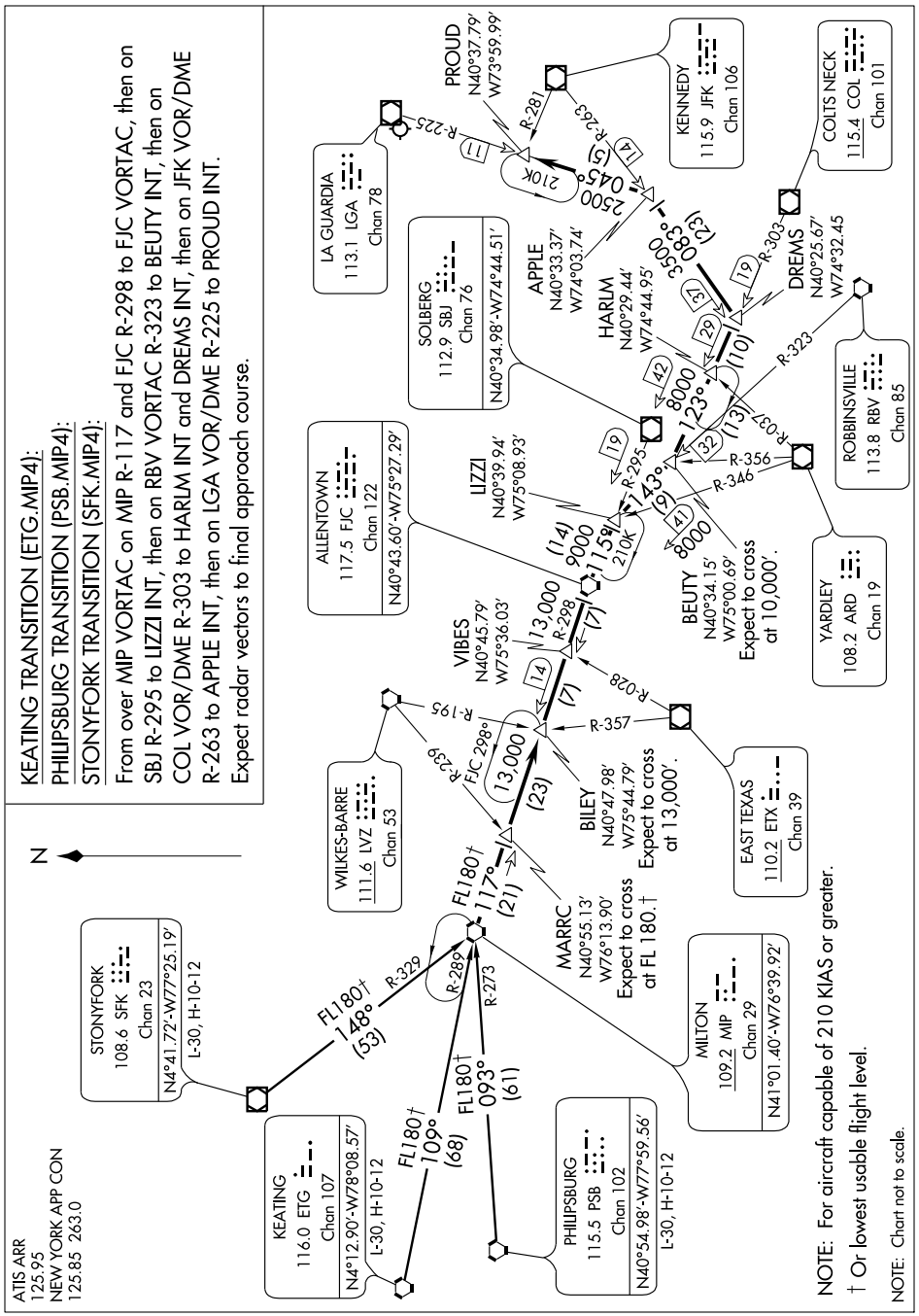
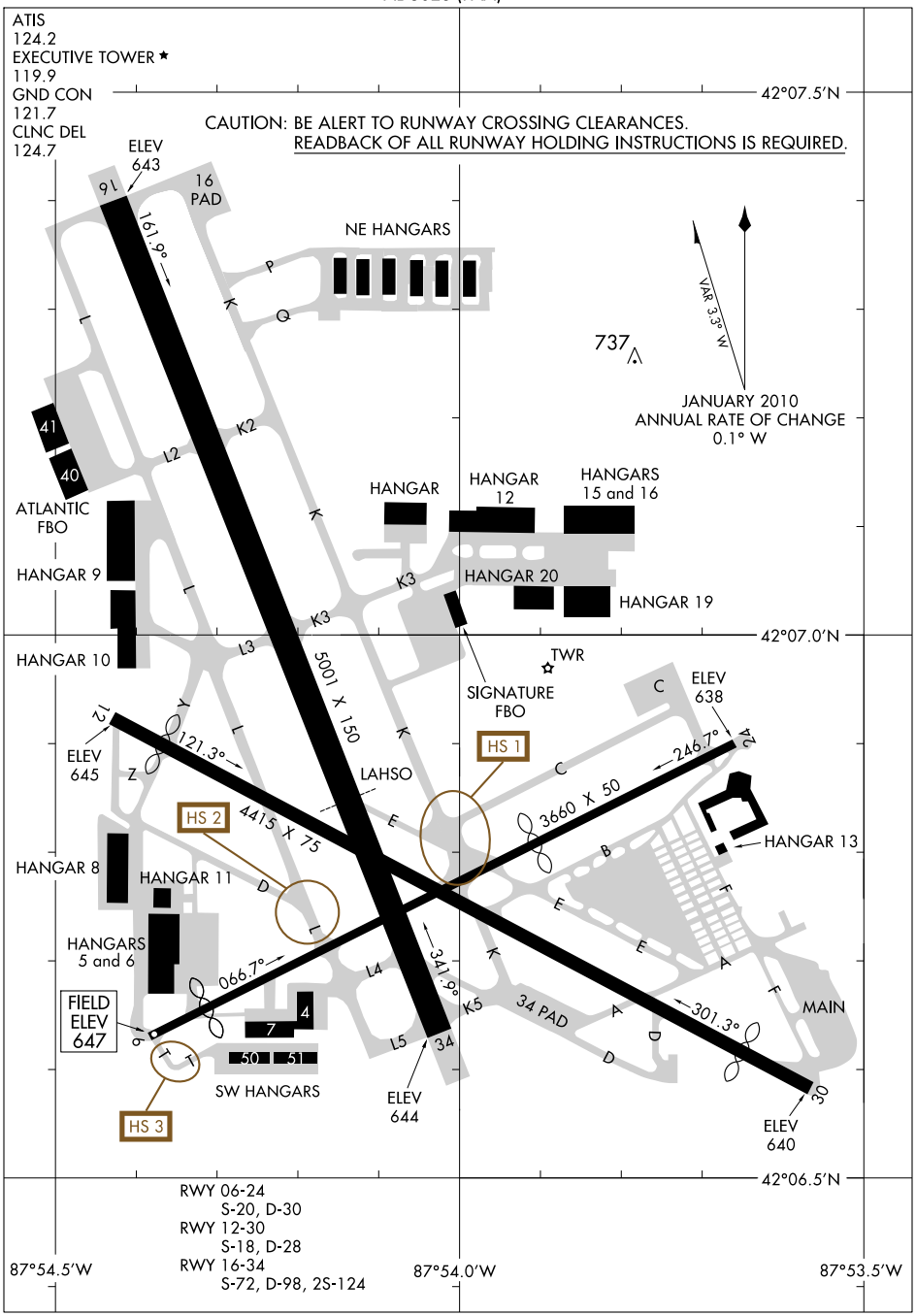


Figure 352



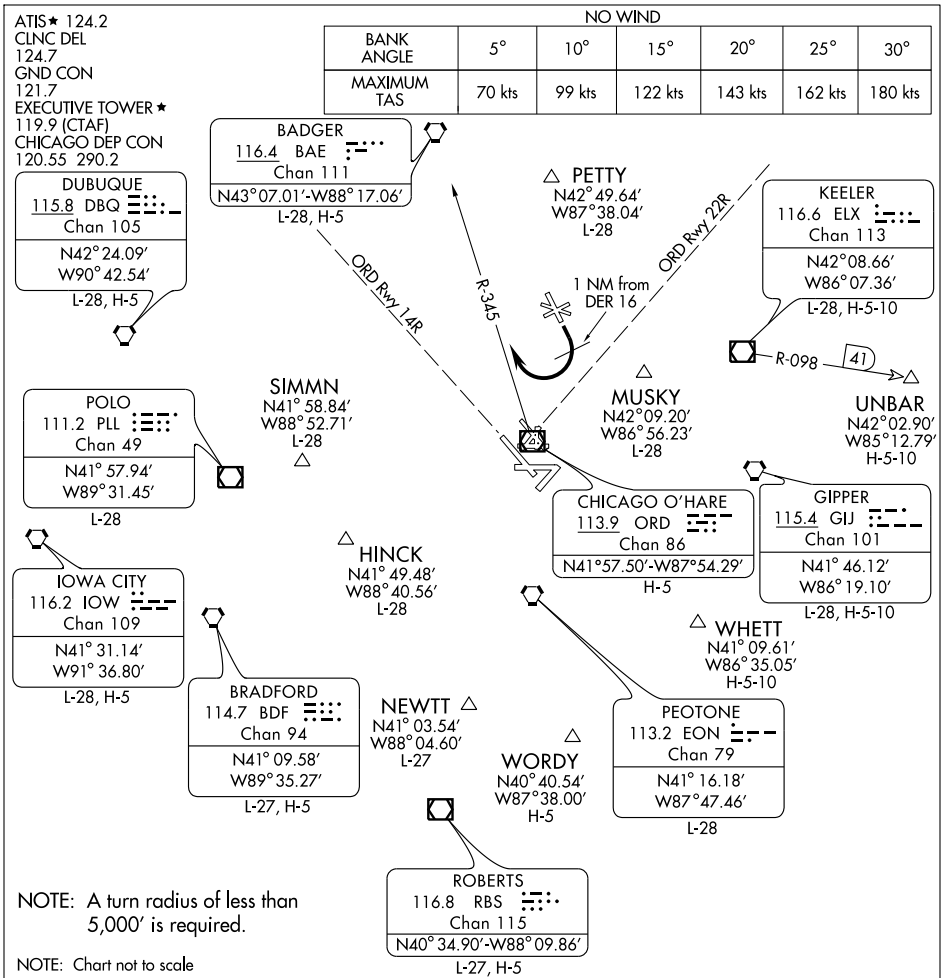
EC-3, 05 APR 2012 to 03 MAY 2012

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

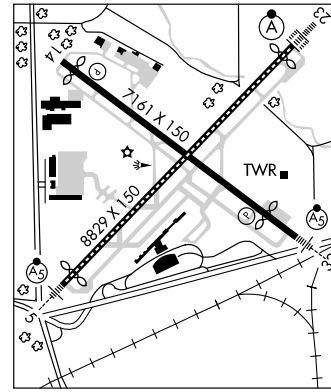
78° 43′W

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

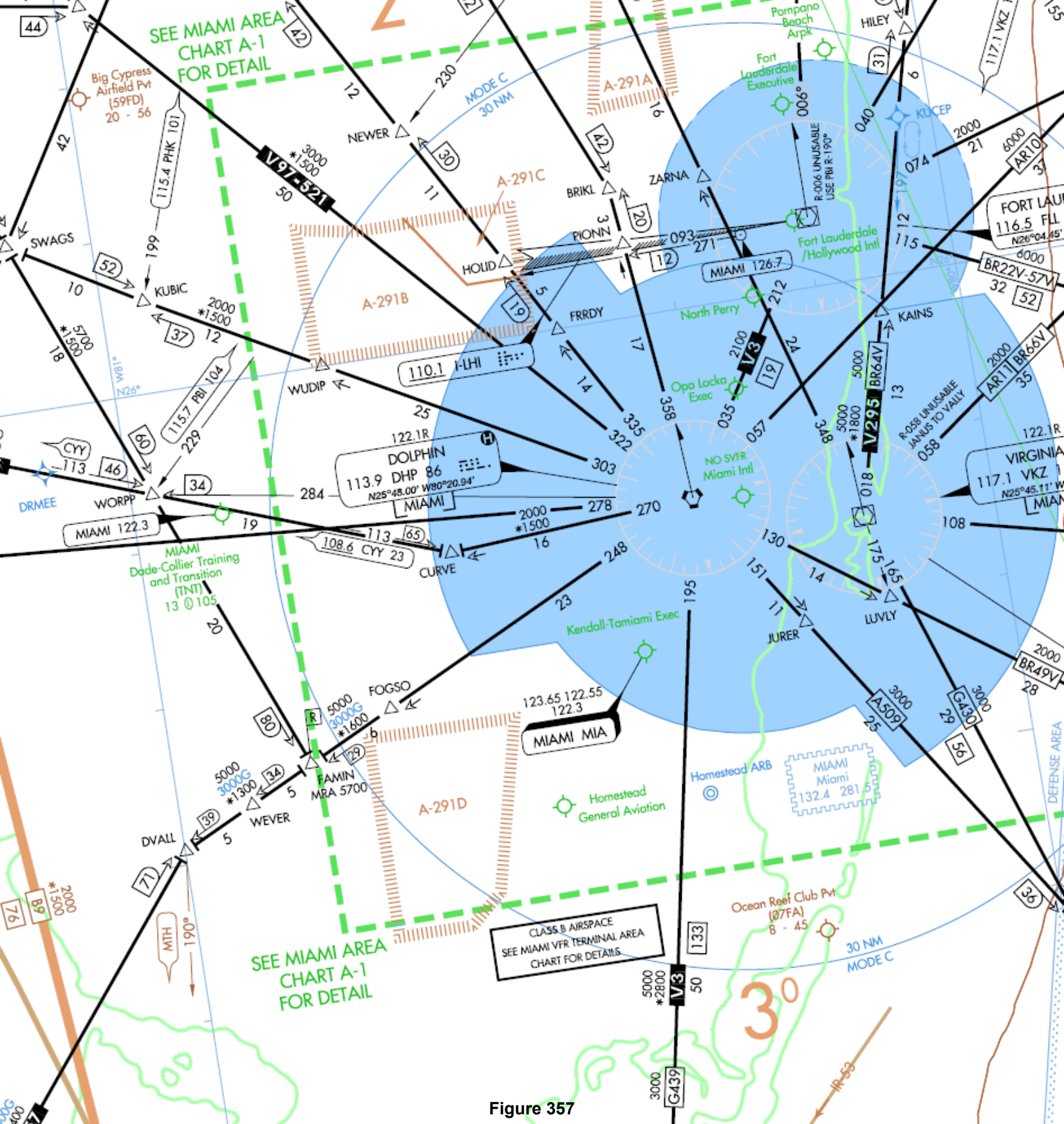

SEE MIAMI AREA CHART A-1 FOR DETAIL
Big Cypress Airfield Pvt (59FD) 20 - 56
115.4 PHK 101
V97-521
NEWER
MODE C 30 NM
A-291A
A-291C
A-291B
A-291D
BRIKL
ZARNA
PIONN
HOLID
SWAGS
KUBIC
FRRDY
WUDIP
115.7 PBI 104
110.1 I-LHI
DOLPHIN
113.9 DHP 86
N25°48.00' W80°20.94'
MIAMI
122.1R
WORPP
DRMEE
MIAMI 122.3
MIAMI 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

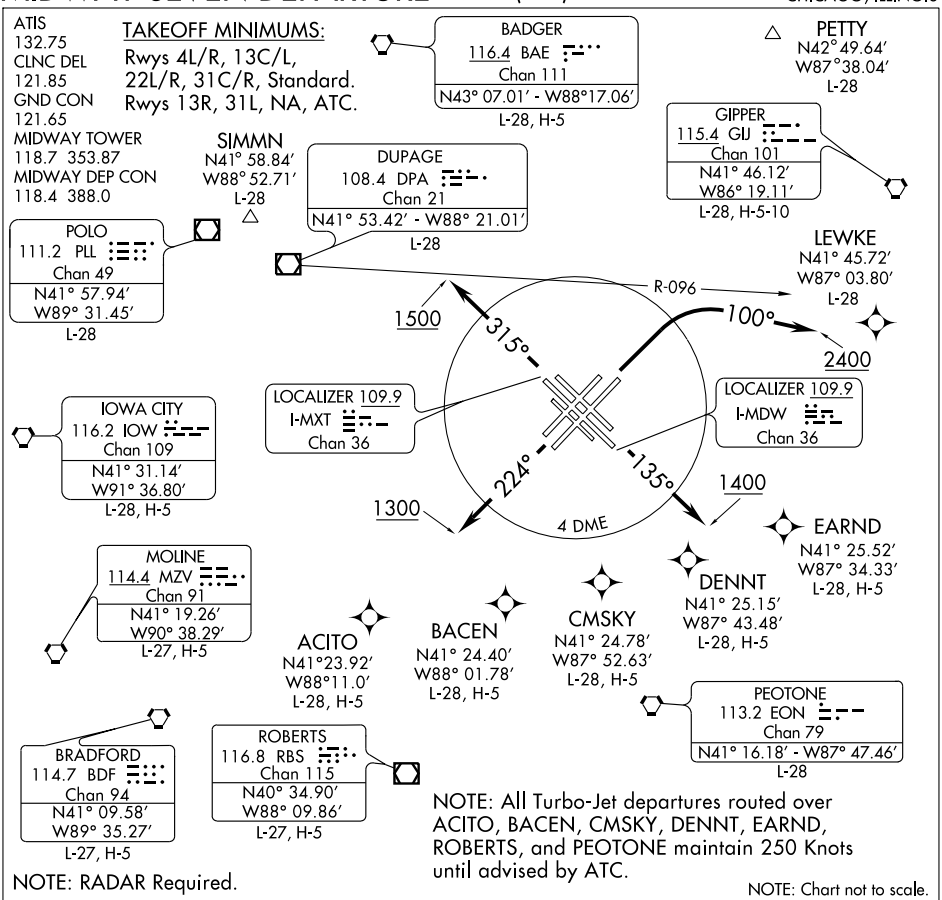
Figure 357

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

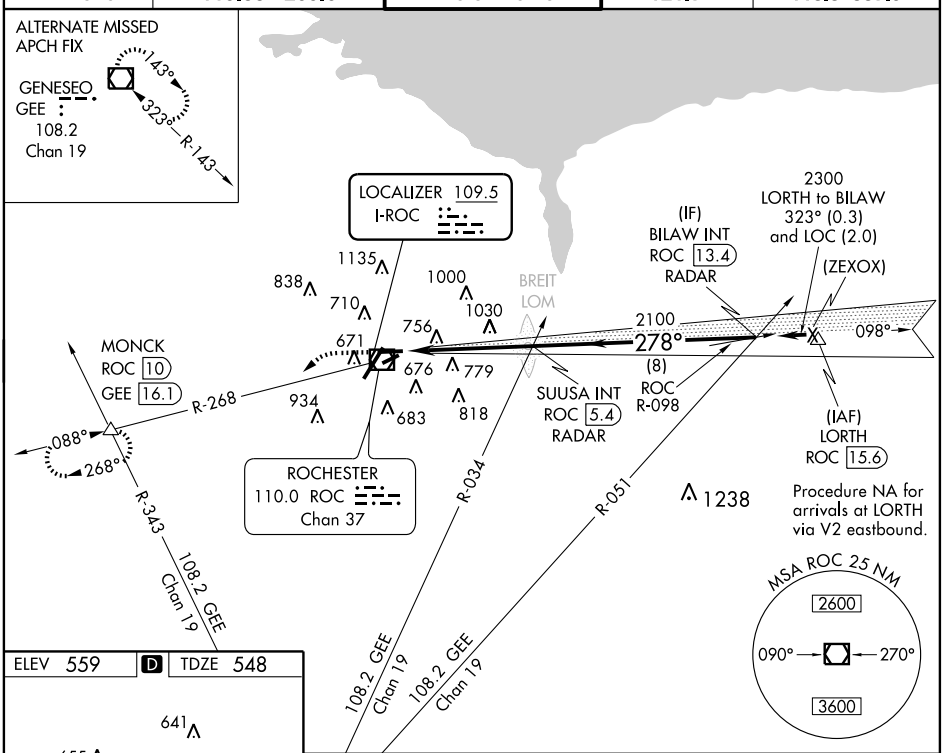
ROCHESTER / GREATER ROCHESTER INTL (ROC)

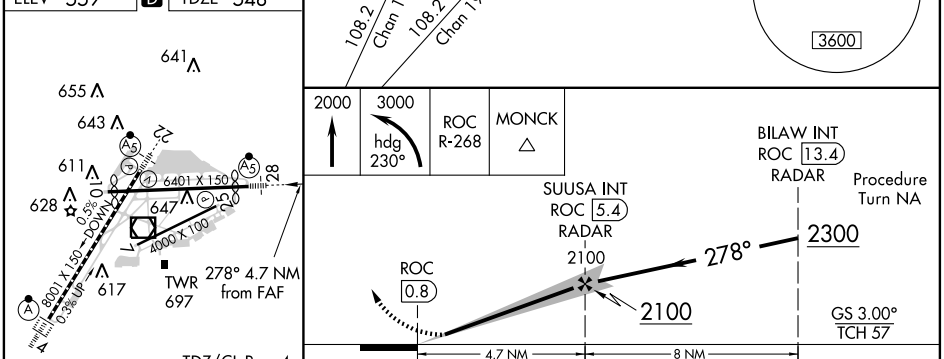
Inoperative table does not apply to S-ILS 28 all Cats and S-LOC 28 Cats A and B.
Visibility reduction by helicopters NA.
Multiple unshielded lights in final approach area.

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.

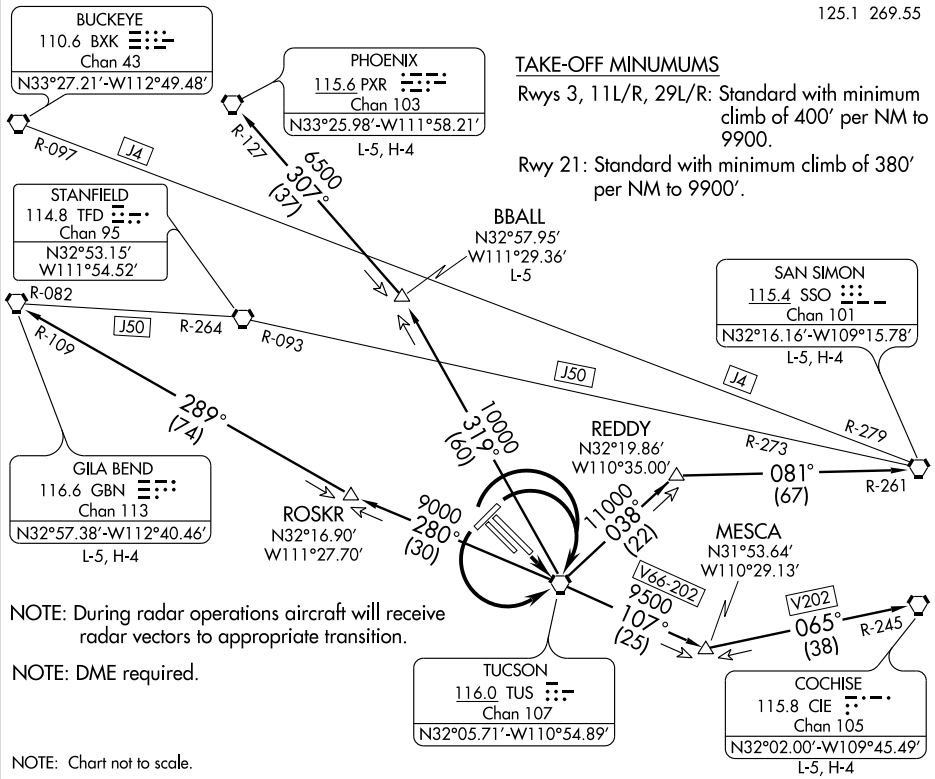
RWY 21: Multiple bushes, poles, lights, railroad cars, and trees beginning 104′ from DER, 594′ left of centerline to 330′ right of centerline, up to 48′ AGL/2616′ MSL.

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

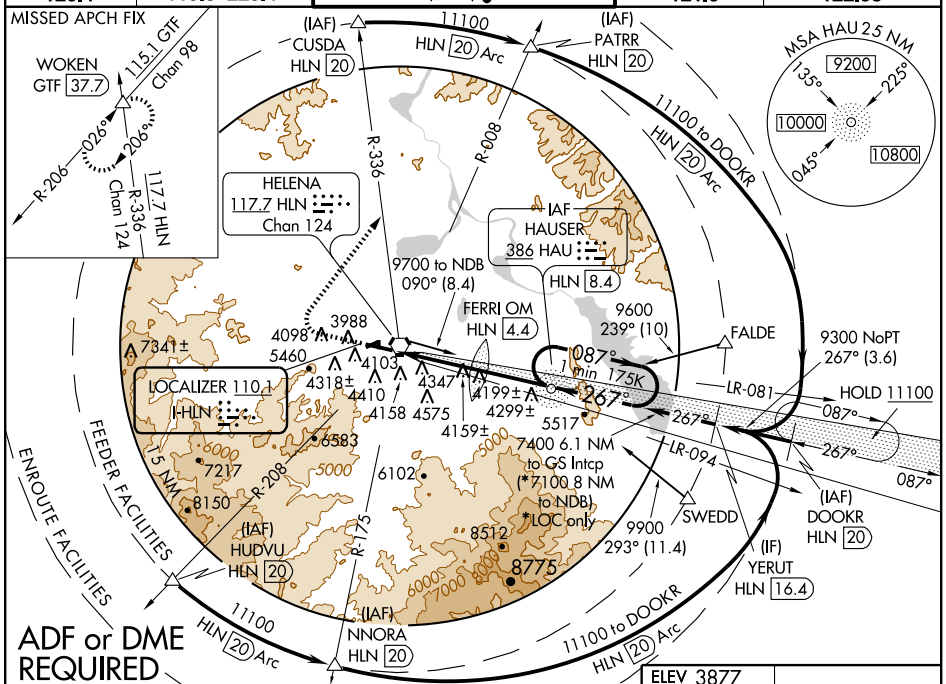
ILS or LOC Y RWY 27
HELENA RGNL (HLN)

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.

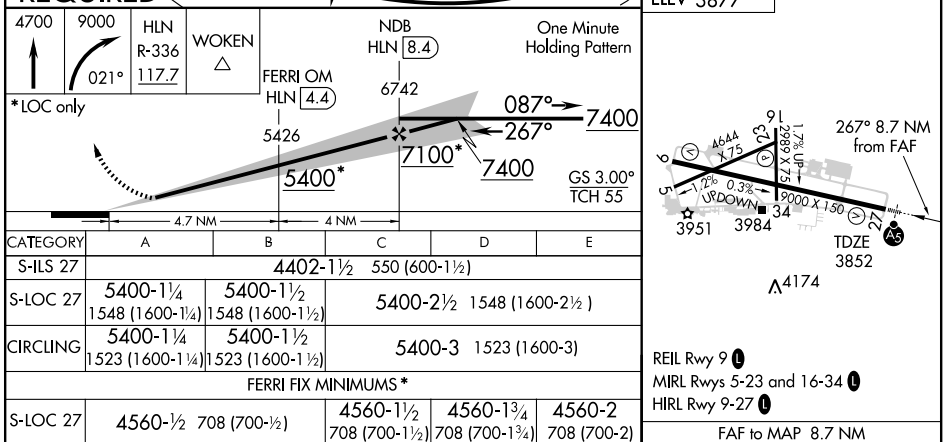
MALSR A5

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)

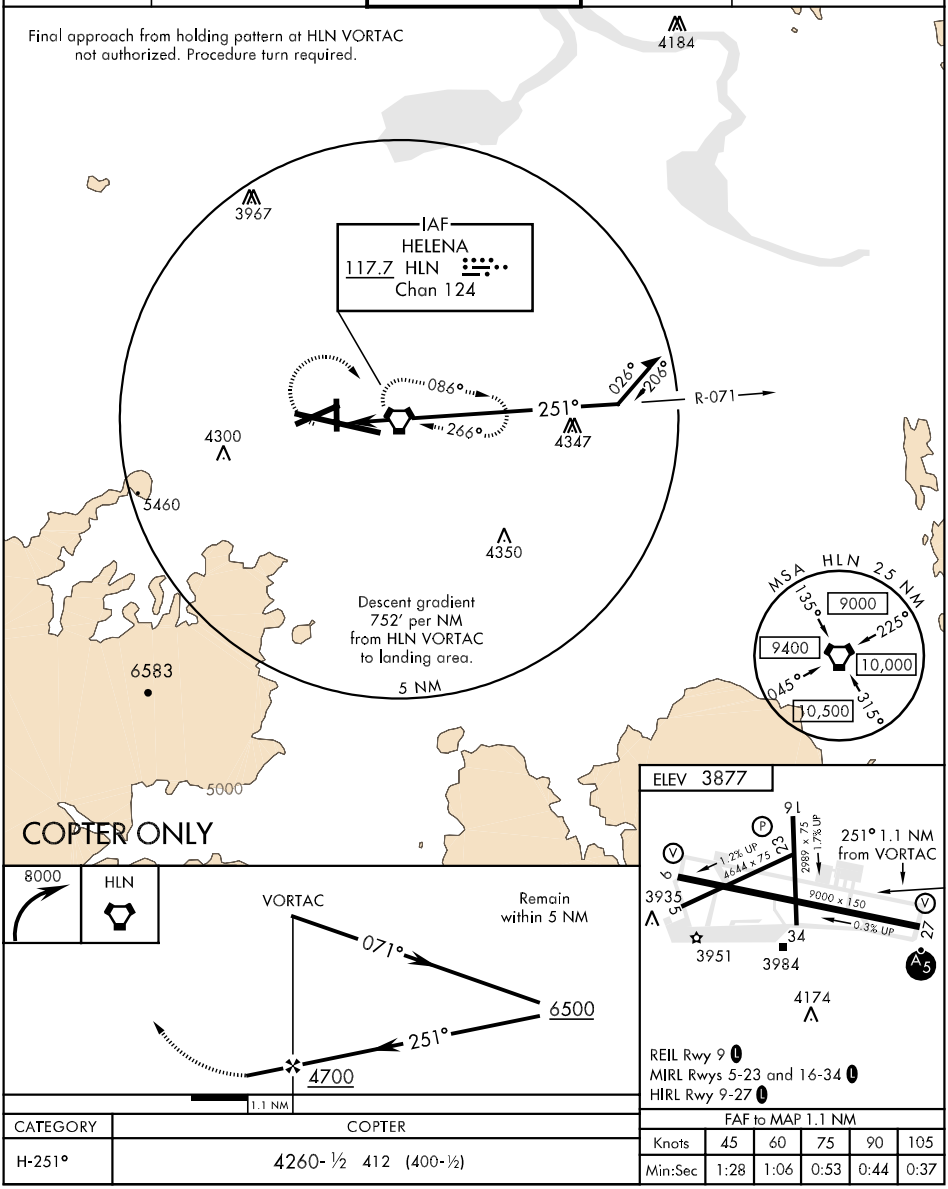
VORTAC HLN 117.7 Chan 124	APCH CRS 251°	Rwy ldg N/A TDZE N/A Arpt Elev 3877

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

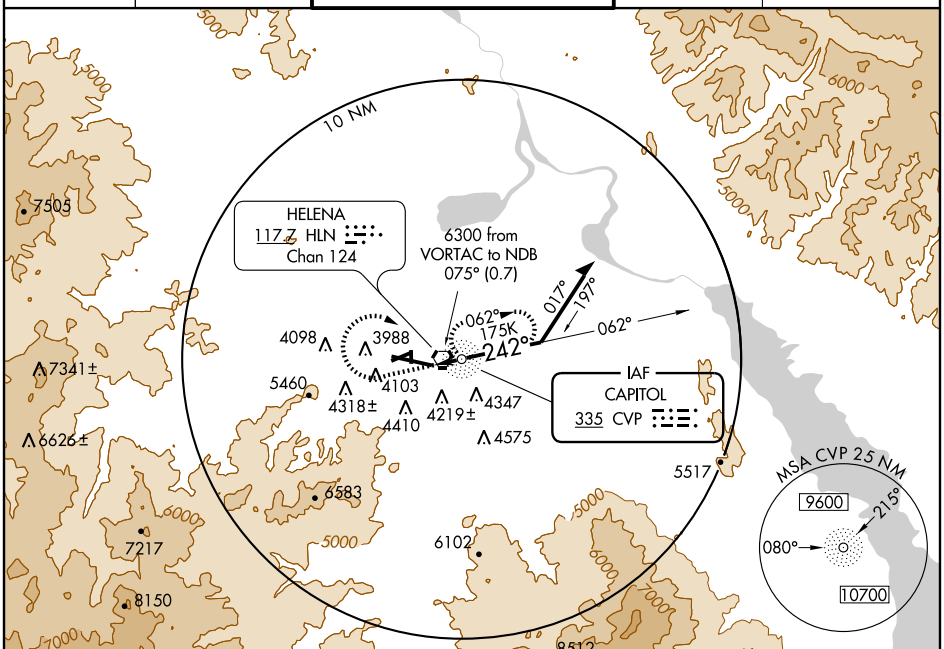
Figure 364

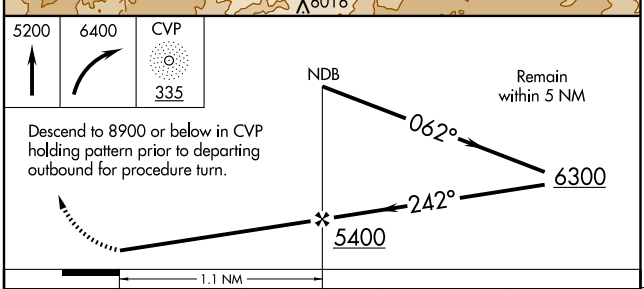
NDB CVP	APP CRS	Rwy ldg	N/A
335	242°	TDZE	N/A
		Apt Elev	3877

NDB-D
HELENA RGNL (HLN)

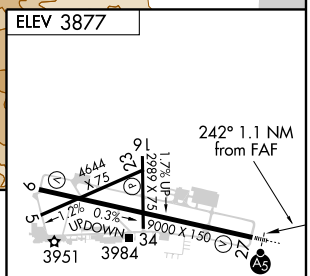
MISSED APPROACH: Climb to 5200, then climbing right turn to 6400 direct CVP NDB and hold.

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

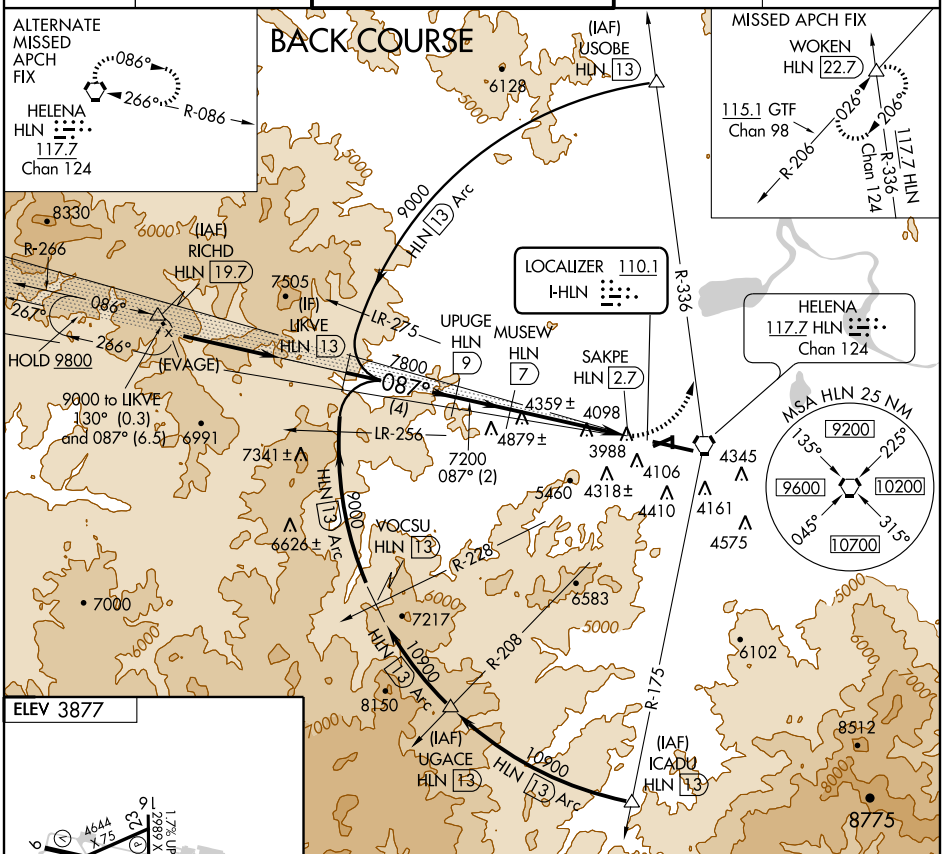
LOC I-HLN	APP CRS	Rwy ldg	N/A
110.1	087°	TDZE	N/A
		Apt Elev	3877

LOC/DME BC-C
HELENA RGNL (HLN)

Circling to Rwy 5, 34 NA at night. When local altimeter setting not received, procedure NA. Visibility reduction by helicopters NA. DME from HLN VORTAC simultaneous reception of I-HLN and HLN DME required. When VGSI inop, circling to Rwy 9, 23 NA at night.

MISSED APPROACH: Climbing left turn to 9300 on 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



CATEGORY	A	B	C	D
CIRCLING	5140-1¼ 1263 (1300-1¼)	5140-1½ 1263 (1300-1½)	5140-3 1263 (1300-3)	NA

NW-1, 05 APR 2012 to 03 MAY 2012

NW-1, 05 APR 2012 to 03 MAY 2012

Figure 366

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

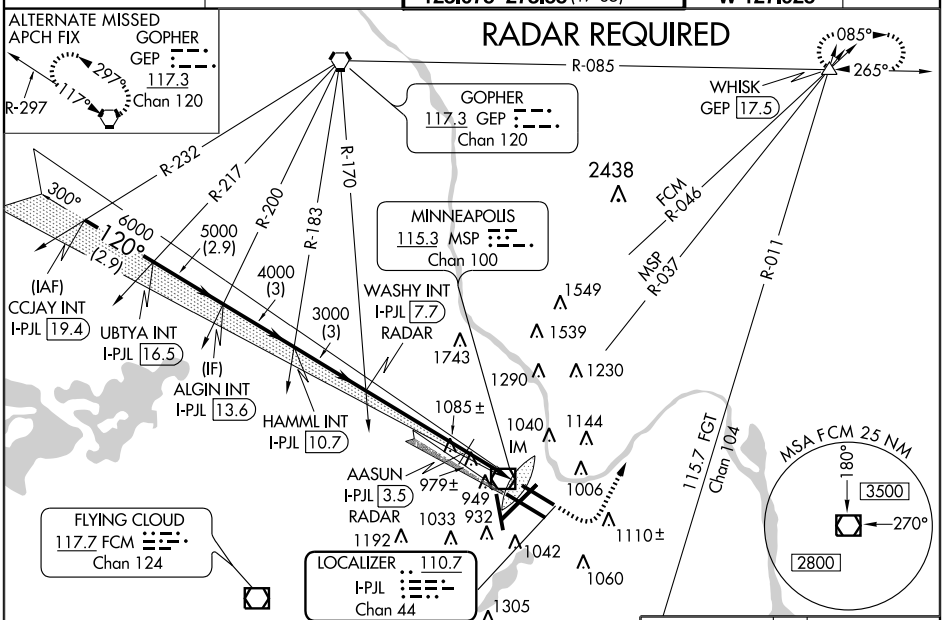
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

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.

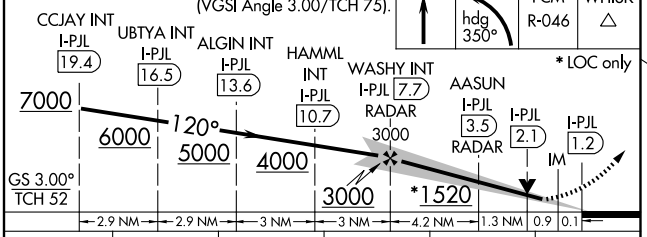
ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2



NC-1, 05 APR 2012 to 03 MAY 2012

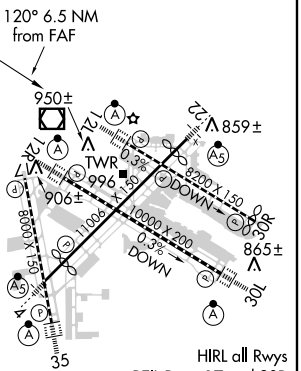
VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 75).

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

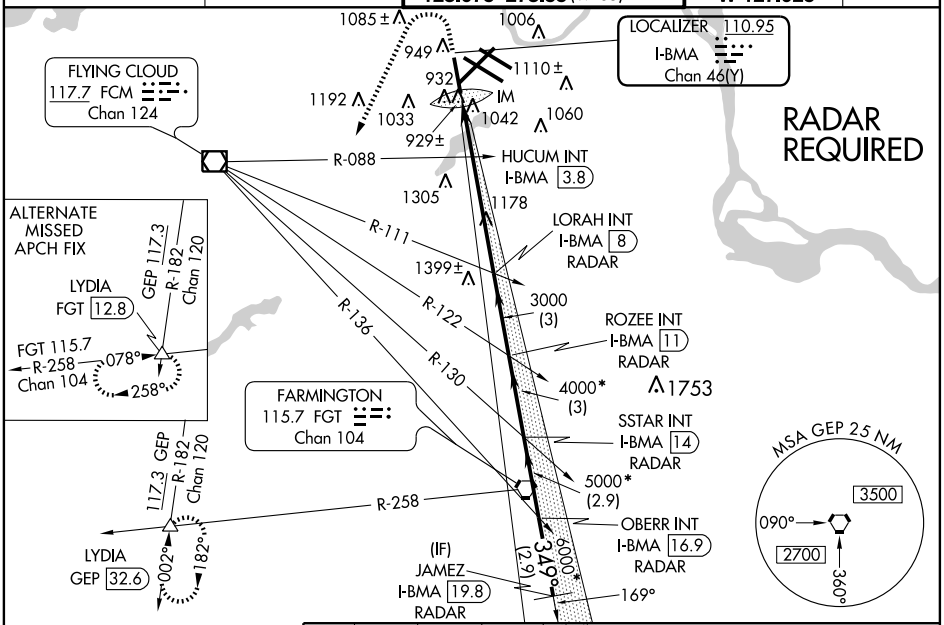
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

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

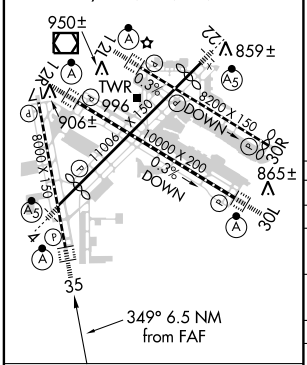
MISSED APPROACH: Climb to 1600 then climbing left turn to 5000 via heading 240° and GEP R-182 to LYDIA INT/ GEP 32.6 DME and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2



ELEV 841	D	TDZE 834

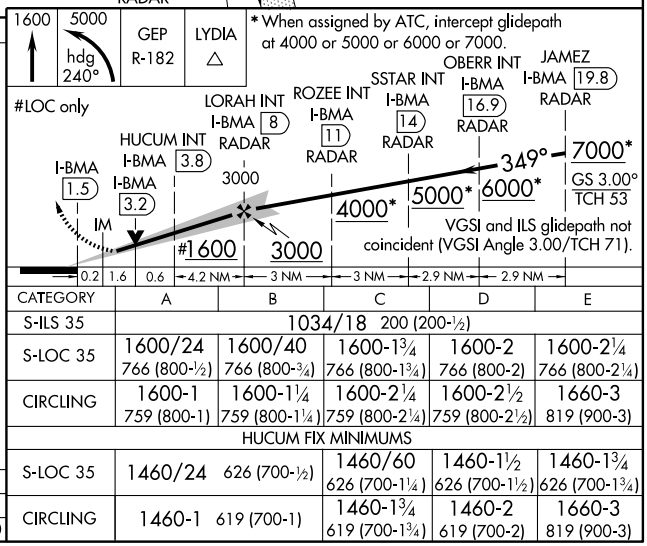
HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35



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	1600/24 766 (800-½)	1600/40 766 (800-¾)	1600-1¾ 766 (800-1¾)	1600-2 766 (800-2)	1600-2¼ 766 (800-2¼)
CIRCLING	1600-1 759 (800-1)	1600-1¼ 759 (800-1¼)	1600-2¼ 759 (800-2¼)	1600-2½ 759 (800-2½)	1660-3 819 (900-3)
HUCUM FIX MINIMUMS					
S-LOC 35	1460/24 626 (700-½)		1460/60 626 (700-1¼)	1460-1½ 626 (700-1½)	1460-1¾ 626 (700-1¾)
CIRCLING	1460-1 619 (700-1)		1460-1¾ 619 (700-1¾)	1460-2 619 (700-2)	1660-3 819 (900-3)

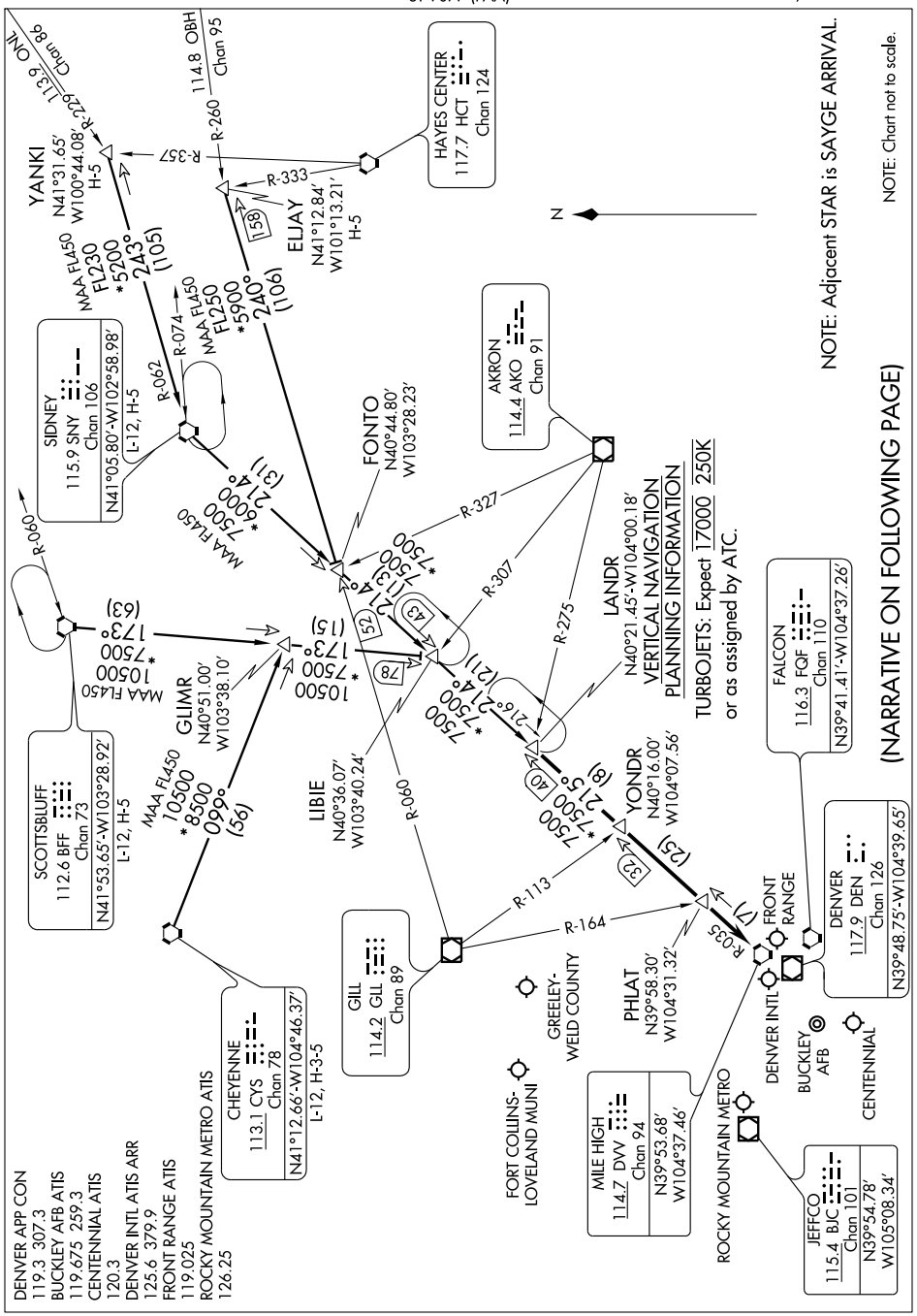
Figure 370

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

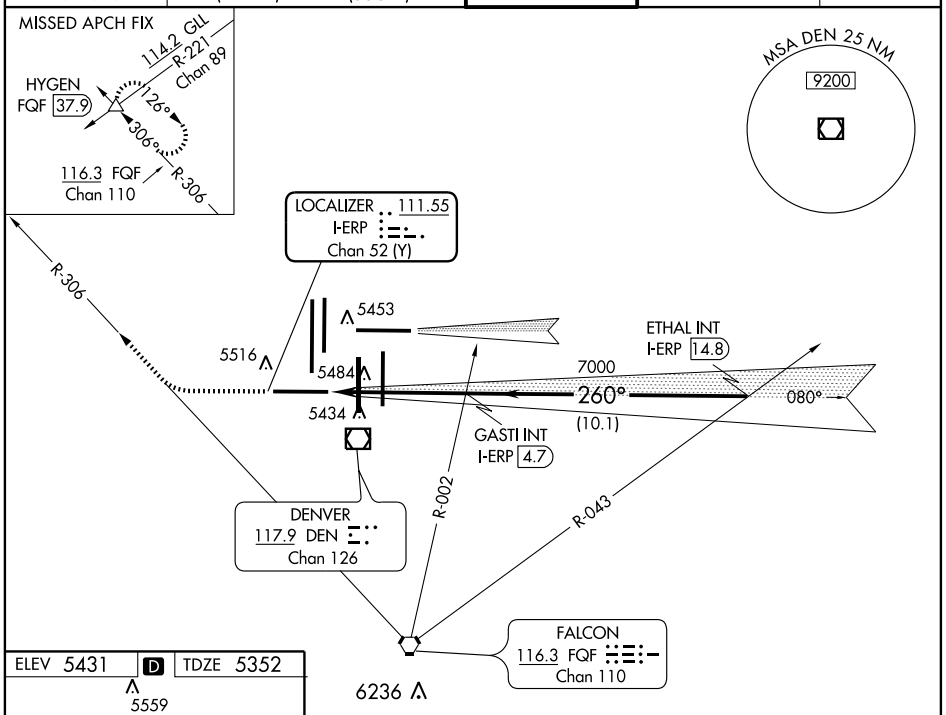
DENVER INTL (DEN)

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.

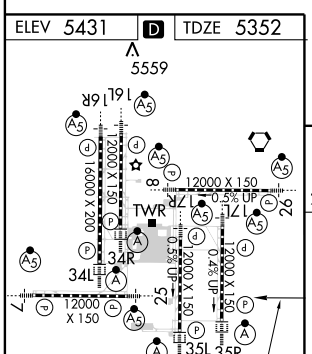
MALSR

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 DEP 134.025	119.3 307.3 (NORTH) 120.35 379.3 (SOUTH)	132.35 273.55	127.5 379.175	118.75



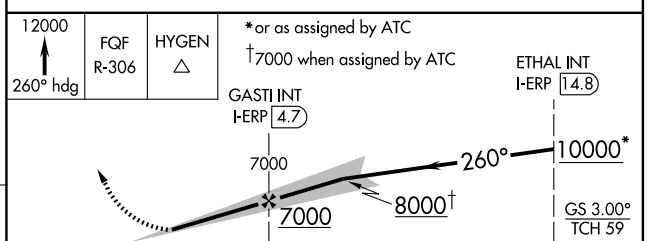
RADAR REQUIRED



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)

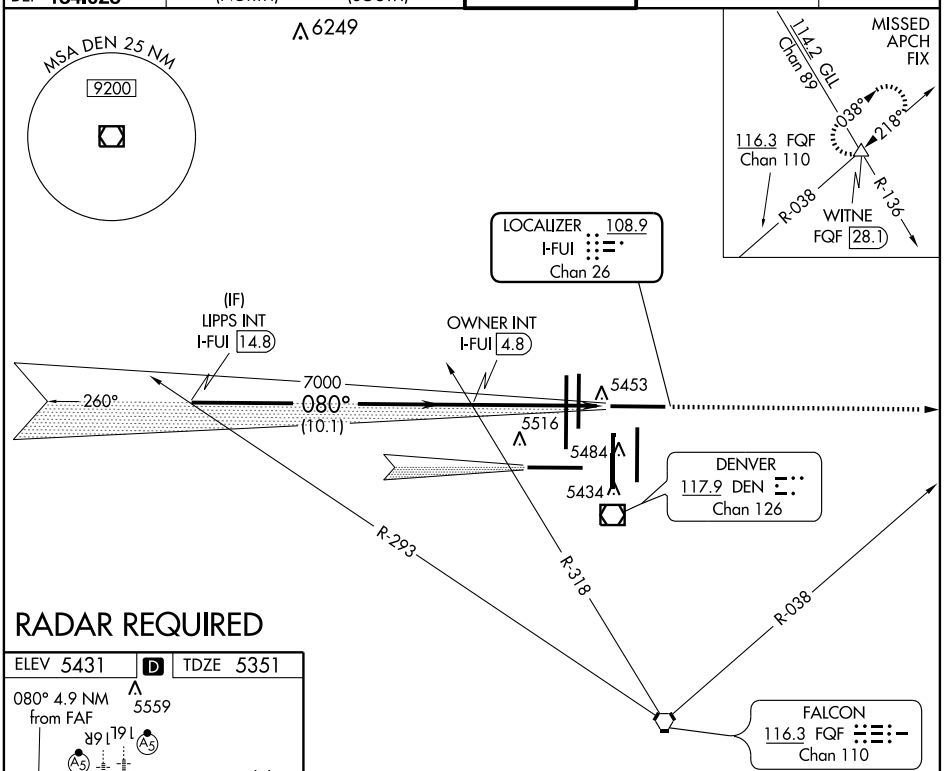
LOC/DME I-FUI	APP CRS	Rwy ldg	12000
108.9	080°	TDZE	5351
Chan 26		Apt Elev	5431

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.

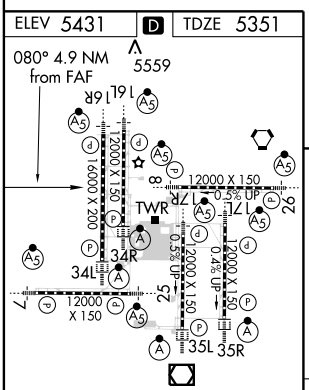
MALSR

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 DEP 134.025	119.3 307.3 (NORTH) 120.35 379.3 (SOUTH)	124.3 239.275	121.85 377.1	118.75

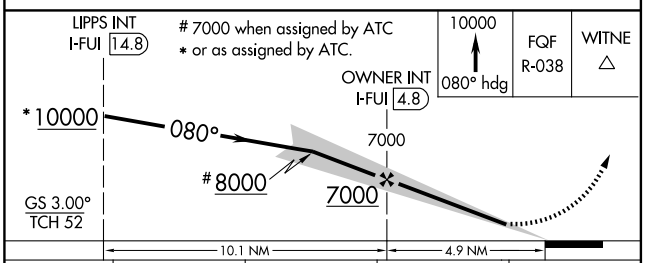


RADAR REQUIRED



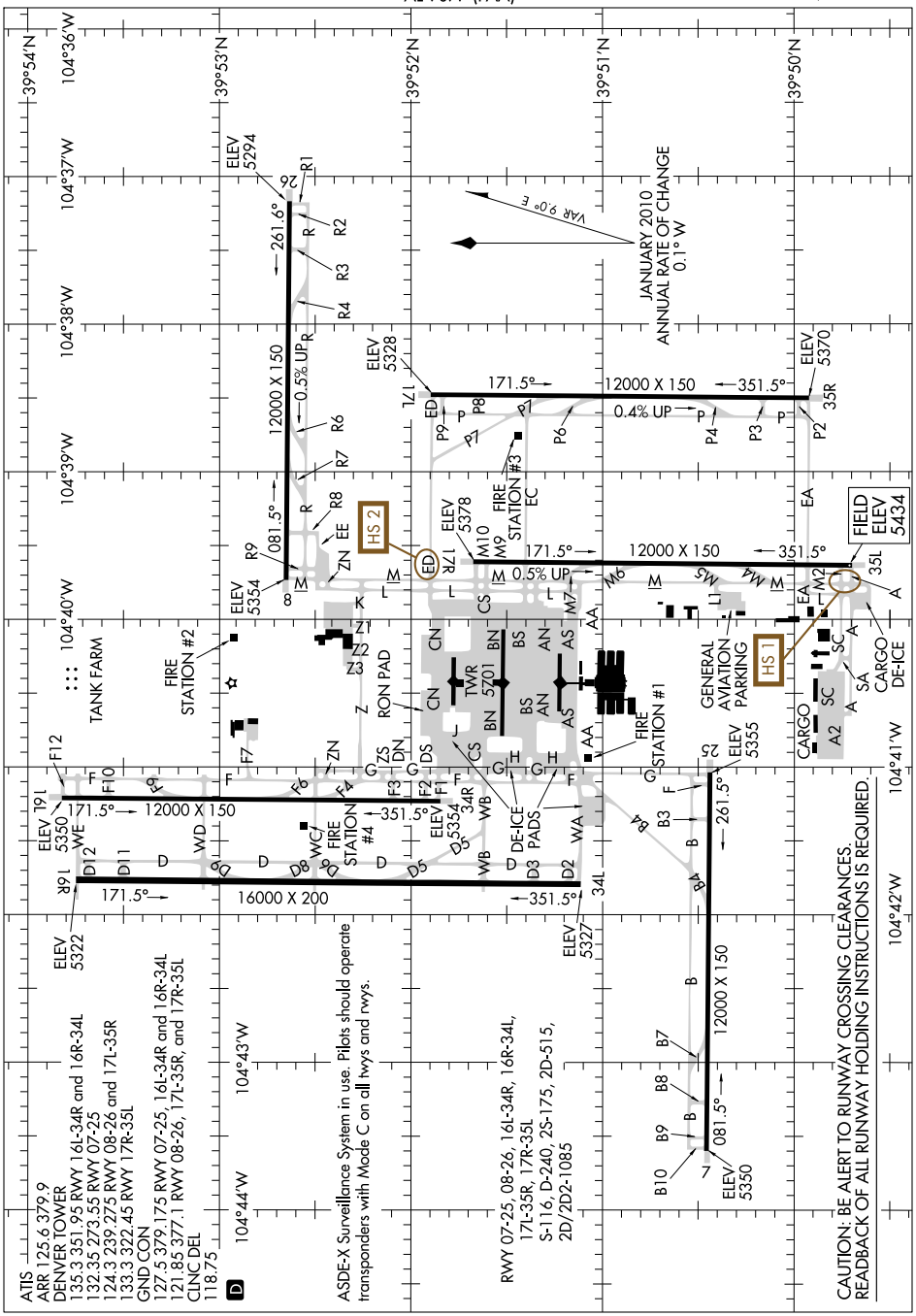
TDZ/CL Rwys 7, 16L, 16R, 17R, 26, 34L, 34R, 35L, 35R
HIRL all Rwys

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)

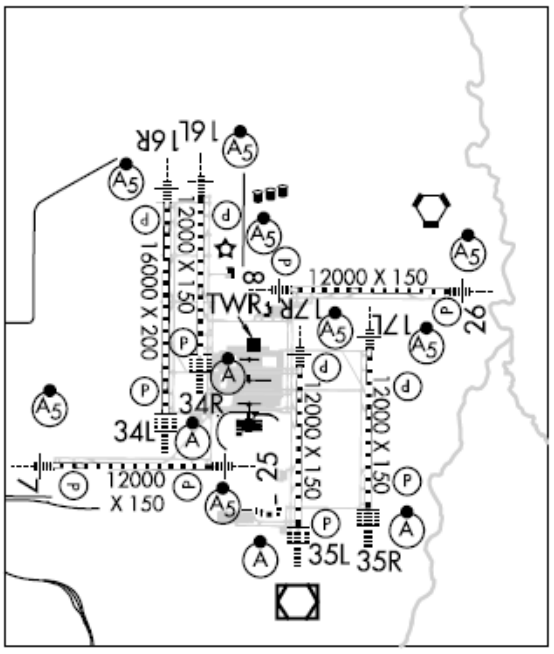


SW-1, 05 APR 2012 to 03 MAY 2012

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

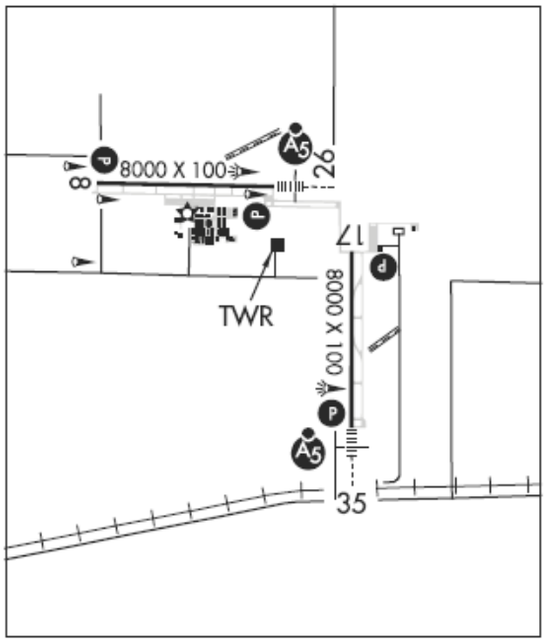
(H) VORW/DME 117.9 DEN Chan 126 N39°48.75′ W104°39.64′ 338° 3.0 NM to fld. 5452/11E.
ILS/DME 111.55 I-DZG Chan 52(Y) Rwy 07. Class IE.
ILS/DME 108.9 I-FUI Chan 26 Rwy 08.
ILS/DME 111.1 I-LTT Chan 48 Rwy 16L. Class IE.
ILS/DME 111.9 I-DQQ Chan 56 Rwy 16R.
ILS/DME 110.15 I-BXP Chan 38(Y) Rwy 17L. Class 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.

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.

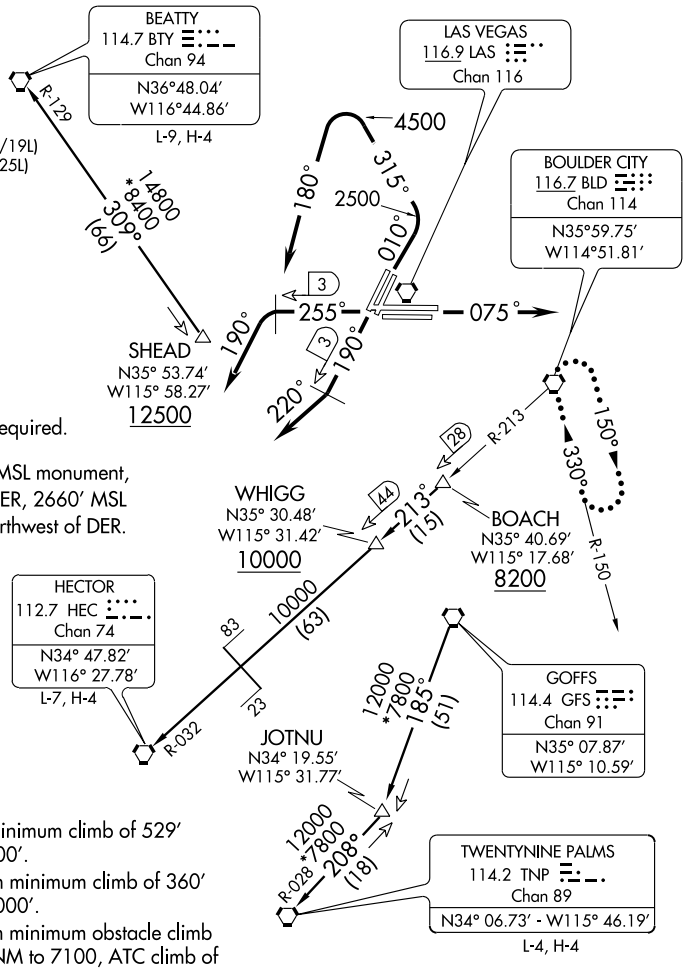


AIRPORT REMARKS: Attended 1400–0400Z‡. For svc after hrs call 303–208–8536. 24 hr credit card 100LL self fueling station. Be alert, intensive USAF student training invof Colorado Springs and Pueblo Colorado. Noise sensitive areas SE, S and SW of arpt. Avoid flights blo 1,000 ft over populated areas. 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.

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.

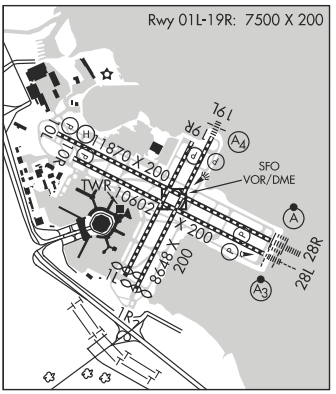
RWY 7R: Light on wind sock 102′ from DER, 300′ right of centerline, 30′ AGL/2051′ MSL.

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....

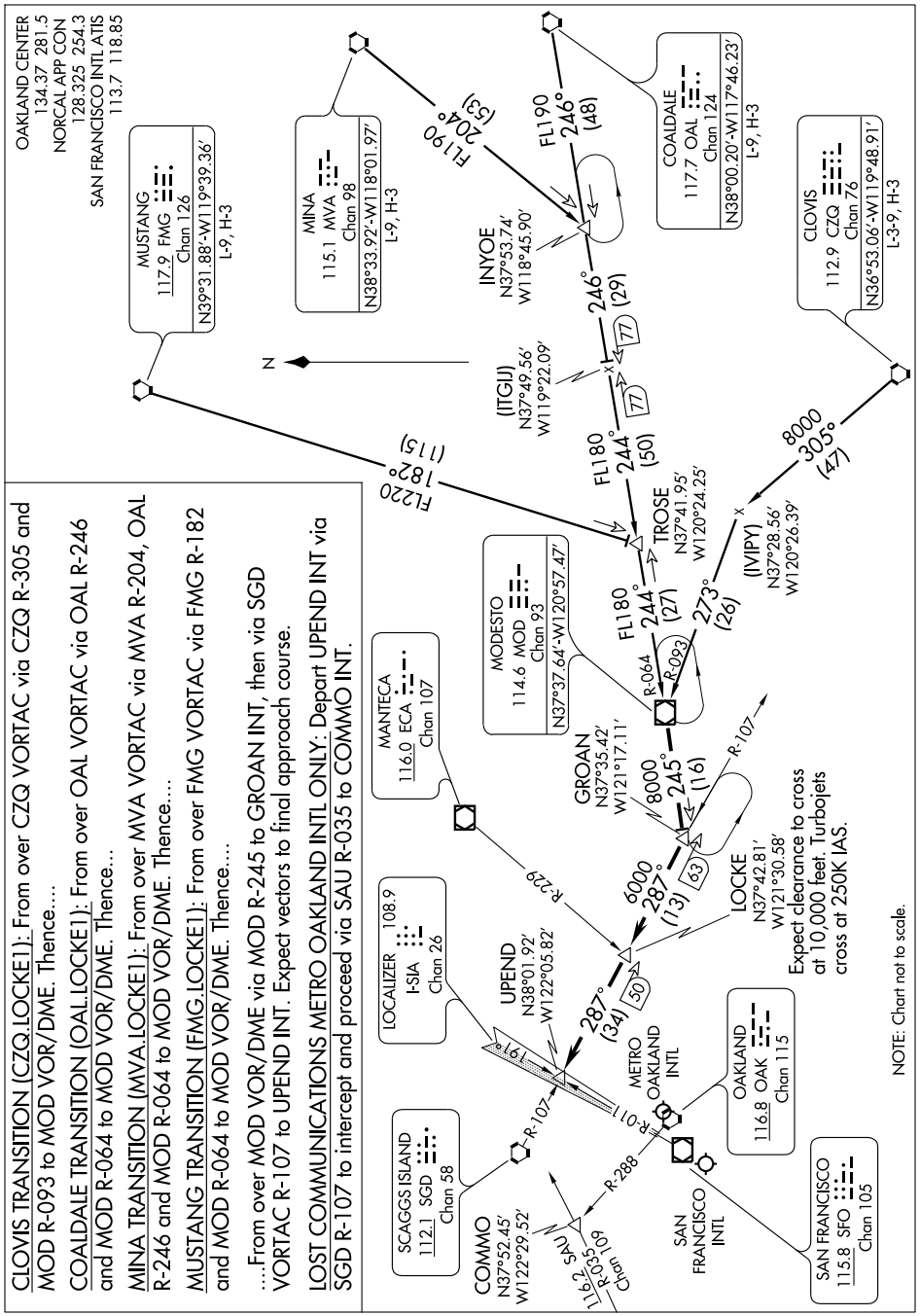
COALDALE TRANSITION (OAL.LOCKE1): From over OAL VORTAC via OAL R-246 and MOD R-064 to MOD VOR/DME. Thence...

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**

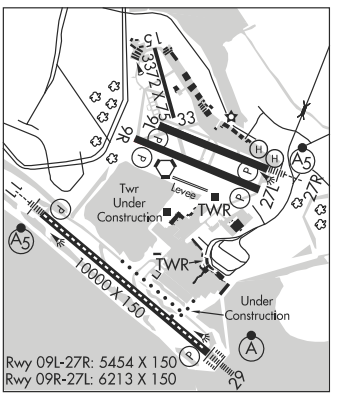
9 B S4 **FUEL** 100LL, JET A OX 1, 2, 3, 4 TPA—See Remarks LRA Class I, ARFF Index D
NOTAM FILE OAK

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.

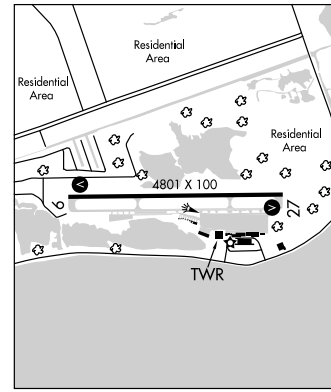
OAKLAND N37°43.56´ W122°13.42´ NOTAM FILE OAK. **SAN FRANCISCO H–3A, L–2F, 3B, A**

(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.

OCEAN RIDGE (See GUALALA on page 113)

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

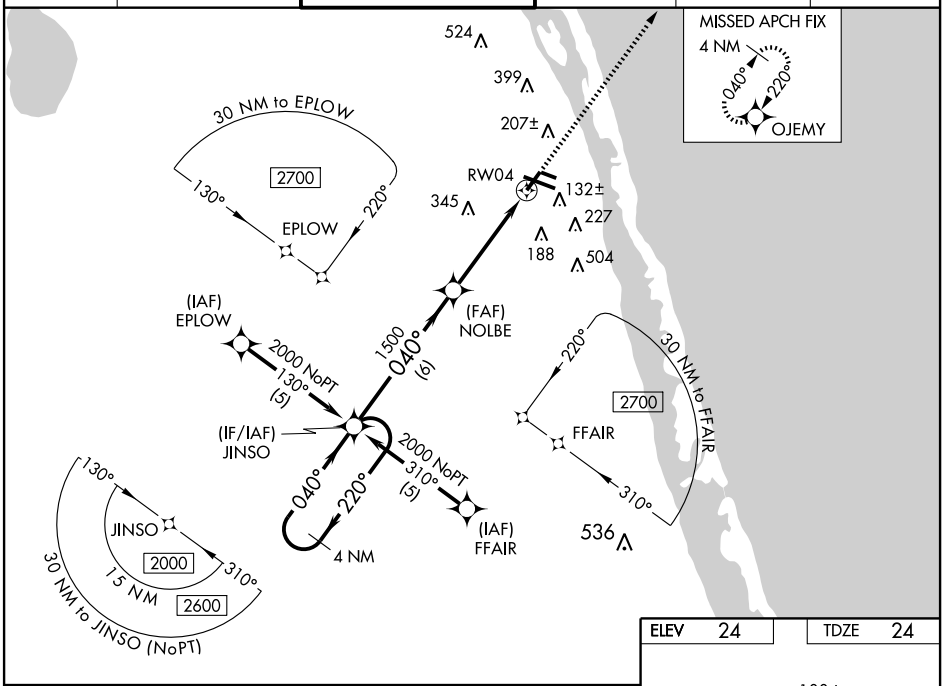
WAAS CH 61311 W04A	APP CRS 040°	Rwy ldg 4974 TDZE 24 Apt Elev 24

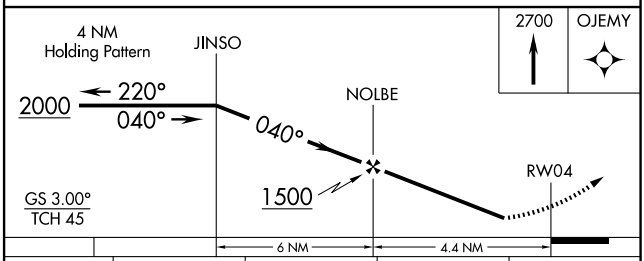
RNAV (GPS) RWY 4
VERO BEACH MUNI (VRB)

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.

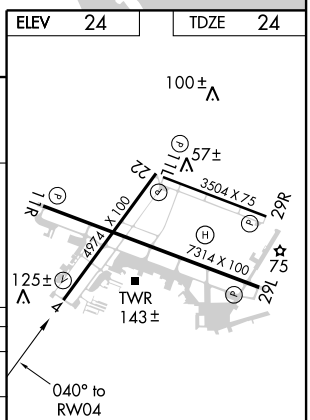
MISSED APPROACH: Climb to 2700 direct OJEMY and hold.

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



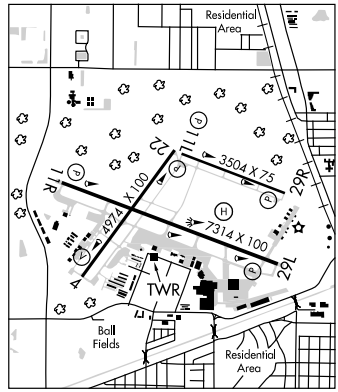


CATEGORY	A	B	C	D
LPV DA	323-1 299 (300-1)			
LNAV/VNAV DA	395-1¼ 371 (400-1¼)			
LNAV MDA	460-1 436 (500-1)		460-1¼ 436 (500-1¼)	460-1½ 436 (500-1½)
CIRCLING	560-1 536 (600-1)		560-1½ 536 (600-1½)	660-2 636 (700-2)



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.**

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)

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**

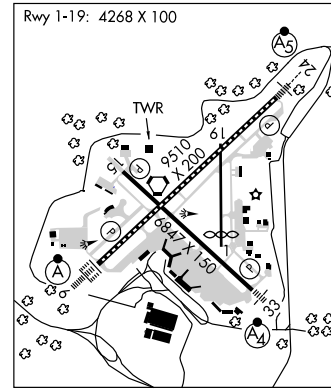
WAKULLA CO (See PANACEA)

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**

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

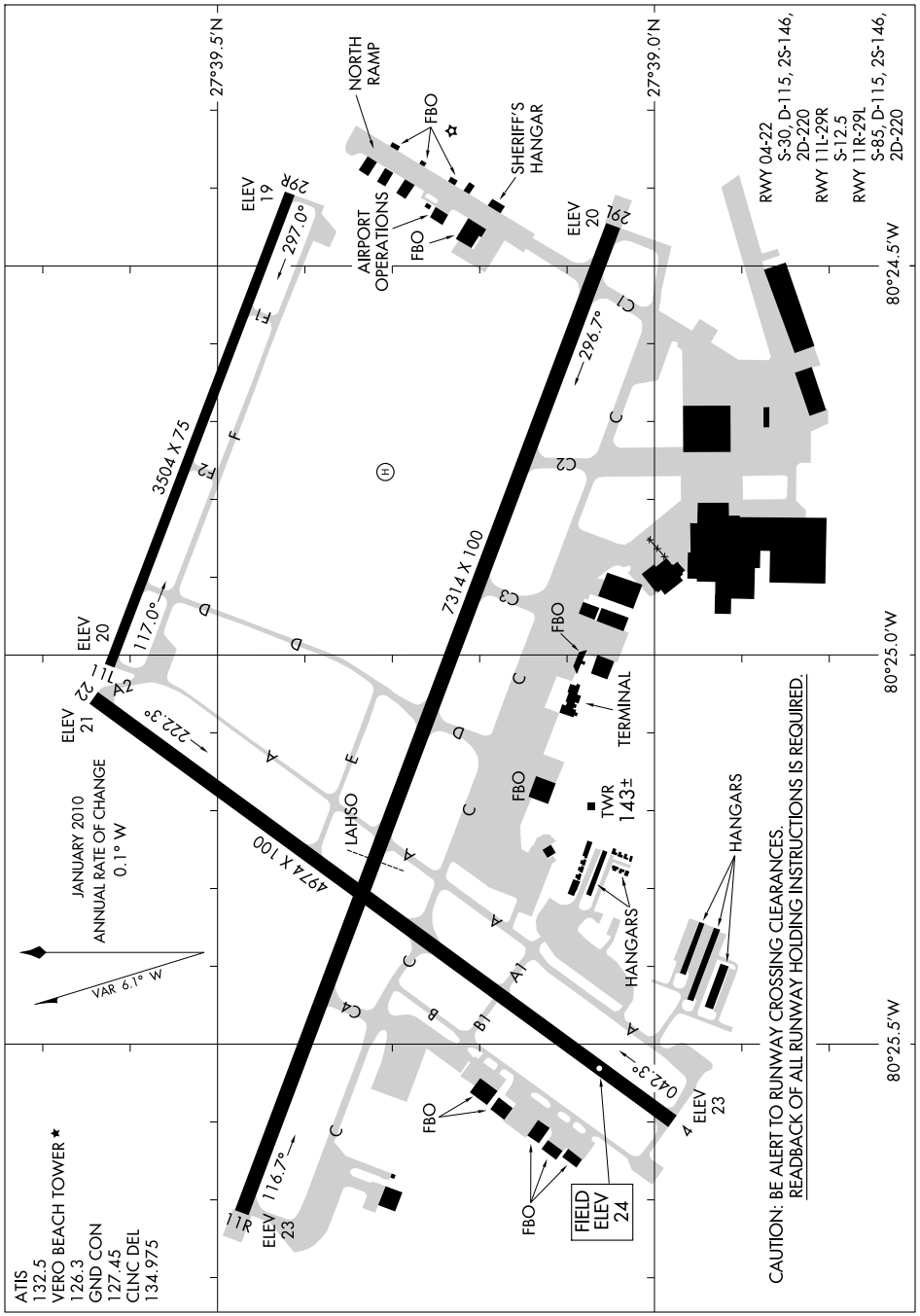
AIRPORT REMARKS: Attended continuously. Numerous birds frequently on or invof arpt. No training flights; no practice apchs; no touch and go ldgs between: Mon–Sat 0400–1200Z‡ and Sun 0400–1700Z‡. Rwy 01–19 open for acft with wingspan less than 79′. Rwy 01 CLOSED for arrivals to all fixed wing acft. Rwy 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