U.S. Terminal Procedures Publication
Southwest (SW) Vol 2 of 4

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02 DEC 2021

Consult the Change Notice (CN) effective 04 NOV 2021 for revised Instrument Procedure Charts for this volume

Consult NOTAMs for latest information
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CORRECTIONS, COMMENTS AND/OR PROCUREMENT

FOR CHARTING ERRORS, OR FOR CHANGES, ADDITIONS, RECOMMENDATIONS
ON PROCEDURAL ASPECTS CONTACT:
FAA, Aeronautical Information Services
1305 East-West Highway
SSMC 4, Room 4531
Silver Spring, MD 20910-3281
Telephone: 1-800-638-8972
https://www.faa.gov/air_traffic/flight_info/aeronav/aero_data/

For inquiries regarding military charts, please contact aerohelp@nga.mil

FOR PROCUREMENT:
For digital products, visit our website at: https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/

For a list of approved FAA Print Providers, visit our website at: https://www.faa.gov/air_traffic/flight_info/aeronav/print_providers/

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

Request for the creation or revisions to Airport Diagrams should be in accordance with FAA Order 7910.4.
INOPERATIVE COMPONENTS OR VISUAL AIDS TABLE  
(For Civil Use Only)

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

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

(1) ILS, PAR, LPV, GLS minima

<table>
<thead>
<tr>
<th>Inoperative Component or Visual Aid</th>
<th>Increase Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>All ALS types (except ODALS)</td>
<td>¼ mile</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Inoperative Component or Visual Aid</th>
<th>Increase Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALSF 1 &amp; 2, MALSR, SSALR</td>
<td>To RVR 4000†</td>
</tr>
<tr>
<td></td>
<td>To RVR 4500*</td>
</tr>
<tr>
<td>TDZL or RCLS</td>
<td>To RVR 2400#</td>
</tr>
<tr>
<td>RVR</td>
<td>To ½ mile</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Inoperative Component or Visual Aid</th>
<th>Increase Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALSF 1 &amp; 2, MALSR, SSALR</td>
<td>½ mile</td>
</tr>
<tr>
<td>MALSF, MALS, SSALF, SSALS, SALSF, SALS</td>
<td>¼ mile</td>
</tr>
</tbody>
</table>

(4) Sidestep minima (CAT C-D)

<table>
<thead>
<tr>
<th>Inoperative Component or Visual Aid to Sidestep Runway</th>
<th>Increase Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALSF 1 &amp; 2, MALSR, SSALR</td>
<td>½ mile</td>
</tr>
</tbody>
</table>

(5) All Approach Types, All lines of minima

<table>
<thead>
<tr>
<th>Inoperative Component or Visual Aid</th>
<th>Increase Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODALS (CAT A-B)</td>
<td>¼ mile</td>
</tr>
<tr>
<td>ODALS (CAT C-D)</td>
<td>½ mile</td>
</tr>
</tbody>
</table>
**TERMS/LANDING MINIMA DATA**

**IFR LANDING MINIMA**

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

**LANDING MINIMA FORMAT**

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

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-ILS 27</td>
<td>1352/24</td>
<td>288</td>
<td>1440/50 (300-1/2)</td>
<td></td>
</tr>
<tr>
<td>S-LOC 27</td>
<td>1440/24</td>
<td>561 (600-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIRCLING</td>
<td>1540-1 (400-1)</td>
<td>1640-1 (500-1)</td>
<td>1740-2 (500-1/2)</td>
<td></td>
</tr>
</tbody>
</table>

**COPTER MINIMA ONLY**

<table>
<thead>
<tr>
<th>Copter Approach Direction</th>
<th>Height of MDA/DA Above Landing Area (HAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>680-1/2</td>
<td>363 (400-1/2)</td>
</tr>
</tbody>
</table>

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

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

**COLD TEMPERATURE AIRPORTS**

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

**COLD TEMPERATURE ERROR TABLE**

<table>
<thead>
<tr>
<th>HEIGHT ABOVE AIRPORT IN FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>+10</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>-10</td>
</tr>
<tr>
<td>-20</td>
</tr>
<tr>
<td>-30</td>
</tr>
<tr>
<td>-40</td>
</tr>
<tr>
<td>-50</td>
</tr>
</tbody>
</table>

**AIRCRAFT APPROACH CATEGORIES**

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

**MANEUVERING TABLE**

<table>
<thead>
<tr>
<th>Approach Category</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed (Knots)</td>
<td>0-90</td>
<td>91-120</td>
<td>121-140</td>
<td>141-165</td>
<td>Abv 165</td>
</tr>
</tbody>
</table>

**COLD TEMPERATURE ERROR TABLE**

<table>
<thead>
<tr>
<th>REPORTED TEMP °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>+10</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>-10</td>
</tr>
<tr>
<td>-20</td>
</tr>
<tr>
<td>-30</td>
</tr>
<tr>
<td>-40</td>
</tr>
<tr>
<td>-50</td>
</tr>
</tbody>
</table>

**COLD TEMPERATURE ERROR TABLE**

<table>
<thead>
<tr>
<th>HEIGHT ABOVE AIRPORT IN FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>+10</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>-10</td>
</tr>
<tr>
<td>-20</td>
</tr>
<tr>
<td>-30</td>
</tr>
<tr>
<td>-40</td>
</tr>
<tr>
<td>-50</td>
</tr>
</tbody>
</table>
CIRCLING APPROACH OBSTACLE PROTECTED AIRSPACE

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

STANDARD CIRCLING APPROACH MANEUVERING RADIUS

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

<table>
<thead>
<tr>
<th>Circling MDA in feet MSL</th>
<th>Approach Category and Circling Radius (NM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAT A</td>
</tr>
<tr>
<td>All Altitudes</td>
<td>1.3</td>
</tr>
</tbody>
</table>

C EXPANDED CIRCLING APPROACH MANEUVERING AIRSPACE RADIUS

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

<table>
<thead>
<tr>
<th>Circling MDA in feet MSL</th>
<th>Approach Category and Circling Radius (NM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAT A</td>
</tr>
<tr>
<td>1000 or less</td>
<td>1.3</td>
</tr>
<tr>
<td>1001-3000</td>
<td>1.3</td>
</tr>
<tr>
<td>3001-5000</td>
<td>1.3</td>
</tr>
<tr>
<td>5001-7000</td>
<td>1.3</td>
</tr>
<tr>
<td>7001-9000</td>
<td>1.4</td>
</tr>
<tr>
<td>9001 and above</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Comparable Values of RVR and Visibility

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

<table>
<thead>
<tr>
<th>RVR (feet)</th>
<th>Visibility (SM)</th>
<th>RVR (feet)</th>
<th>Visibility (SM)</th>
<th>RVR (feet)</th>
<th>Visibility (SM)</th>
<th>RVR (feet)</th>
<th>Visibility (SM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>1/2</td>
<td>2400</td>
<td>1/2</td>
<td>3500</td>
<td>3/8</td>
<td>5500</td>
<td>1</td>
</tr>
<tr>
<td>1800</td>
<td>1/2</td>
<td>3000</td>
<td>1/2</td>
<td>4500</td>
<td>3/8</td>
<td>6000</td>
<td>1/4</td>
</tr>
<tr>
<td>2200</td>
<td>1/2</td>
<td>3200</td>
<td>1/2</td>
<td>5000</td>
<td>1</td>
<td>1100</td>
<td>1/4</td>
</tr>
</tbody>
</table>

RADAR MINIMA

Rwy—GP/TCH/RPI | DA/MDA-VIS | HAA | CEIL-VIS | CAT  | DA/MDA-VIS | HAA | CEIL-VIS |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PAR 10 2.5°/42/1000</td>
<td>ABCDE</td>
<td>195/16</td>
<td>100</td>
<td>(100-1/4)</td>
<td>ABCDE</td>
<td>187/16</td>
<td>100</td>
</tr>
<tr>
<td>ASR 10 2.5°/48/1068</td>
<td>abc</td>
<td>560/40</td>
<td>463</td>
<td>(500-1/4)</td>
<td>d</td>
<td>560/50</td>
<td>463</td>
</tr>
<tr>
<td>CIR 10</td>
<td>ab</td>
<td>560/1</td>
<td>463</td>
<td>(500-1/4)</td>
<td>c</td>
<td>560/1</td>
<td>463</td>
</tr>
</tbody>
</table>

Radar Minima:
1. Minima shown are the lowest permitted by established criteria. Pilots should consult applicable directives for their category of aircraft.
2. The circling MDA and weather minima to be used are those for the runway to which the final approach is flown— not the landing runway. In the above RADAR MINIMA example, a category C aircraft flying a radar approach to runway 10, circling to land on runway 28, must use an MDA of 560 feet with weather minima of 500-1/4.
3. NOTE: Military RADAR MINIMA may be shown with communications symbology that indicates emergency frequency monitoring capability by the radar facility as follows:
(A) VHF emergency frequency (121.5) monitored
(B) UHF emergency frequency (243.0) monitored

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

Alternate Minimums not standard. Civil users refer to tabulation. USA/USN/USA pilots refer to appropriate regulations.

Visibility in Statute Miles:

All minima in parentheses not applicable to Civil Pilots. Military Pilots refer to appropriate regulations.

Note: Military RADAR MINIMA may be shown with communications symbology that indicates emergency frequency monitoring capability by the radar facility as follows:

- (E) VHF and UHF emergency frequencies monitored
- (U) VHF emergency frequency (121.5) monitored
- (L) UHF emergency frequency (243.0) monitored

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

Alternate Minimums not standard. Civil users refer to tabulation. USA/USN/USA pilots refer to appropriate regulations.

Alternate Minimums are Not Authorized due to unmonitored facility or absence of weather reporting service.

Airport is published in the Takeoff Minimums, (Obstacle) Departure Procedures, and Diverse Vector Area (Radar Vectors) tabulation.
GENERAL INFORMATION

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

The FAA uses an internal numbering system on all charts in the TPP. This Approach and Landing (AL) number is located on the top center margin of the chart followed by the organization responsible for the procedure in parentheses, e.g., AL-18 (FAA), AL-227 (USAF).

CHART CURRENCY INFORMATION

Date of Latest Revision                  09365

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

FAA Procedure Amendment Number Orig 31DEC09 Procedure Amendment Effective Date Amdt 2B 12MAR09

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

MISCELLANEOUS

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

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

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

Terrain is scaled within the neat lines (planview boundaries) and does not accurately underlie not-to-scale distance depictions or symbols.
GENERAL INFO 20142

STANDARD TERMINAL ARRIVALS AND DEPARTURE PROCEDURES

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

PROCEDURE PBN/EQUIPMENT REQUIREMENTS

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

IAP PBN/Equipment Requirements Notes Box

PBN Requirements Box - From WINRZ, LIBGE: RNAV-1 GPS, RNAV-1 GPS from MAP to YARKU.
Equipment Requirements Box - DME required for LOC only.
Standard Procedure Notes Box - Circling to Rwy 25 NA at night. # For inop MALSR increase S-ILS 16R all cats visibility to 21/2 SM.

RNAV STAR and DP PBN/Equipment Requirements Notes Box

PBN Requirements Box - RNAV 1 - DME/DME/IRU or GPS
Equipment Requirements Box - RADAR required

PILOT CONTROLLED AIRPORT LIGHTING SYSTEMS

Available pilot controlled lighting (PCL) systems are indicated as follows:
1. Approach lighting systems that bear a system identification are symbolized using negative symbology, e.g., . , ., .
2. Approach lighting systems that do not bear a system identification are indicated with a negative “ ” beside the name. A star ( *) indicates non-standard PCL, consult Chart Supplement, e.g., *
To activate lights, use frequency indicated in the communication section of the chart with a or the appropriate lighting system identification e.g., UNICOM 122.8 , ,

KEY MIKE

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

FUNCTION

环节

环节
ABBREVIATIONS

AAUP………………… Attention All Users Page
ADF………………….. Automatic Direction Finder
ADIZ…………………. Air Defense Identification Zone
AFIS………………….. Automatic Flight Information Service
ALS…………………. Approach Light System
ALSF…………………. Approach Light System with Sequenced Flashing Lights
AOB…………………… At or Below
AP……………….. Autopilot System
APCH………………… Approach
APP CON……….. Authorization Required
ARR…………………… Arrival
ASOS…………………. Automated Surface Observing System
ASR/PAR………… Published Radar Minimums at this Airport
ASSC………………… Airport Surface Surveillance Systems
ATIS………………… Automated Terminal Information Service
AUNICOM………… Automated UNICOM
AWOS……………… Automated Weather Observing System
AZ…………………… Azimuth
BC…………………… Back Course
BND…………………… Bound
C…………………… Circling
CAT…………………… Category
CCW…………………… Counter Clockwise
CDI…………………… Course Deviation Indicator
Chan…………………… Channel
CIFP…………………… Coded Instrument Flight Procedures
CIR…………………… Circling
CLNC DEL………… Computer Navigation Fix
CNF…………………… Controller Pilot Data Link
CPDLC………………. Communication
CTAF………………… Common Traffic Advisory Frequency
CW…………………… Clockwise
D-ATIS……………… Digital-Automated Terminal Information Service
DA…………………… Decision Altitude
DER………………….. Departure End of Runway
DH…………………… Decision Height
DME………………….. Distance Measuring Equipment
DTHR………………… Displaced Threshold
DVA…………………… Diverse Vector Area
ELEV…………………… Elevation
EMAS………………… Engineered Material Arresting System
FAF…………………… Final Approach Fix
FD…………………… Flight Director System
FM…………………… Fan Marker
FMS…………………… Flight Management System
GBAS………………… Ground Based Augmentation System
GCO…………………… Ground Communications Outlet
GLS………………… Ground based Augmentation System Landing System
GP…………………… Glidepath
GPI…………………… Ground Point of Interception
GPS…………………… Global Positioning System
GS…………………… Glide Slope
HAA…………………… Height above Airport
HAL…………………… Height above Landing
HAT…………………… Height above Touchdown
HATh………………… Height above Threshold
HCH…………………… Heliport Crossing Height
HGS…………………… Heads-up Guidance System
HIRL………………… High Intensity Runway Lights
HUD………………… Head-up Display
IAF…………………… Initial Approach Fix
ICAO………………… International Civil Aviation Organization
IF…………………… Intermediate Fix
IM…………………… Inner Marker
INOP………………… Inoperative
INT…………………… Intersection
K…………………… Knots
KIAS………………… Knots Indicated Airspeed
KIA…………………… Knots Indicated Airspeed
LAAS………………… Local Area Augmentation System
LDA…………………… Localizer Type Directional Aid
Ldg…………………… Landing
LIRL…………………. Low Intensity Runway Lights
LNAV……………….. Lateral Navigation
LOC…………………… Localizer
LP…………………… Localizer Performance
LPV…………………… Localizer Performance with Vertical Guidance
LR…………………… Lead Radial. Provides at least 2 NM (Copter 1 NM) of lead to assist in turning onto the intermediate/final course.
MAA…………………… Maximum Authorized Altitude
MALS……………… Medium Intensity Approach Light System
MALSF……………… Medium Approach Lighting System with Sequenced Flashers
MALSР.……………… Medium Intensity Approach Light System with RAIL
MDA…………………… Minimum Decent Altitude
MDIRL……………… Medium Intensity Runway Lights
MM………………… Minimum Reception Altitude
MRA…………………… Not Applicable
N/A………………… Not Authorized
NA…………………… Non-directional Radio Beacon
NDB…………………… Nautical Mile
NoPT…………………… No Procedure Turn Required (Procedure Turn shall not be executed without ATC clearance)
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ODALS</td>
<td>Omnidirectional Approach Light System</td>
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<tr>
<td>ODP</td>
<td>Obstacle Departure Procedure</td>
</tr>
<tr>
<td>OM</td>
<td>Outer Marker</td>
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<tr>
<td>PAR</td>
<td>Precision Approach Radar</td>
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<tr>
<td>PDC</td>
<td>Pre-Departure Clearance</td>
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<tr>
<td>PRM</td>
<td>Precision Runway Monitor</td>
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<tr>
<td>R</td>
<td>Radial</td>
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<td>RA</td>
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<td>RAIL</td>
<td>Runway Alignment Indicator Lights</td>
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<td>RCLS</td>
<td>Runway Centerline Light System</td>
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<td>Runway End Identifier Lights</td>
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<td>RLLS</td>
<td>Runway Lead-in Light System</td>
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<tr>
<td>RNAV</td>
<td>Area Navigation</td>
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<td>RNP</td>
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<td>Runway Point of Intercept(ion)</td>
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<td>RRL</td>
<td>Runway Remaining Lights</td>
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<td>Straight-in</td>
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<tr>
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<td>Short Approach Lighting System with Sequenced Flashing Lights</td>
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<td>Simplified Directional Facility</td>
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<td>SM</td>
<td>Statute Mile</td>
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<td>SOIA</td>
<td>Simultaneous Offset Instrument Approach</td>
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<td>SR-SS</td>
<td>Sunrise-Sunset</td>
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<td>TAA</td>
<td>Terminal Arrival Area</td>
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<td>TAC</td>
<td>TACAN</td>
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<td>TCH</td>
<td>Threshold Crossing Height</td>
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<td>(height in feet above ground level)</td>
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<td>TDZ</td>
<td>Touchdown Zone</td>
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<td>VASI</td>
<td>Visual Approach Slope Indicator</td>
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<td>VCOA</td>
<td>Visual Climb over Airport</td>
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<td>Visual Descent Point</td>
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<td>VGS1</td>
<td>Visual Glide Slope Indicator</td>
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</tbody>
</table>
INSTRUMENT APPROACH PROCEDURES (CHARTS)

TERMINAL ROUTES
- Procedure Track
- Missed Approach
- Visual Flight Path

PLANVIEW SYMBOLS

HOLDING PATTERNS
-Hold-in-lieu of Procedure Turn
- Procedure Turn Holding Patterns will be shown.

FIXES/ATC REPORTING REQUIREMENTS
- WAYPOINT
- WAYPOINT
-WAYPOINT
- FLYOVER POINT
- MAP WP
- Computer Navigation Fix (CNF) - No ATC Function
- x (NAME) - "x" omitted when it conflicts with runway pattern

INDICATED AIRSPEED
- 175K
- 120K
- 230K
- 180K

RADIO AIDS TO NAVIGATION

LEGEND 20086
Three different methods are used to depict either electronic or vertical guidance: "GS", "GP", or "VDA".
1. "GS" indicates that an Instrument Landing System (ILS) electronic glide slope (a ground antenna) provides vertical guidance. The profile section of ILS procedures depict a GS angle and TCH in the following format: GS 3.00°.

2. "GP" on GLS and RNAV procedures indicates that either electronic vertical guidance (via Wide Area Augmentation System - WAAS or Ground Based Augmentation System - GBAS) or barometric vertical guidance is provided. GLS and RNAV procedures with a published decision altitude (DA/H) depict a GP angle and TCH in the following format: GP 3.00°.

3. An advisory vertical descent angle (VDA) is provided on non-vertically guided conventional procedures and RNAV procedures with only a minimum descent altitude (MDA) to assist in preventing controlled flight into terrain. On Civil (FAA) procedures, this information is placed above or below the procedure track following the fix it is based on. Absence of a VDA or a note that the VDA is not authorized indicates that the prescribed obstacle clearance surface is not clear and the VDA must not be used below MDA. VDA is depicted in the following format: 3.00°.

On Copter procedures this is depicted in the following format: 3.00°.

Profile View

ILS or LOC APPROACH

RNAV and GLS PROCEDURES WITH VERTICAL GUIDANCE

RNAV and GLS PROCEDURES WITH VERTICAL GUIDANCE

NON-VERTICALLY GUIDED CONVENTIONAL PROCEDURES AND RNAV PROCEDURES WITH MDA ONLY

Descent from Holding Pattern

Altitudes

Legend

Legend 21112
**LEGEND**

**RADIO AIDS TO NAVIGATION**

- **Compulsory:**
  - VOR
  - VORTAC
  - DME
  - NDB/DME

- **Non-Compulsory:**
  - VOR
  - VORTAC
  - DME
  - NDB/DME

- LMM, LOM (Compass locator)
- Localizer Front Course
- SDF Course

**(T)** indicates frequency protection range

Underline indicates no voice transmitted on this frequency

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

**FIXES/ATC REPORTING REQUIREMENTS**

- Reporting Points
- Fix-Compulsory and Non-Compulsory Position Report
- DME fix

- Obvious DME
- DME Mileage (when not obvious)
- WAYPOINT
- FLYOVER POINT

**AIRPORTS**

- Civil
- Military
- Joint (Civil-Military)

Airports not served by the procedure shown in screened color

**CONTENTS**

- **STANDARD TERMINAL ARRIVAL (STAR) CHARTS**
  - MAA FL200
  - 4500 MEA-Minimum Enroute Altitude
  - *3500 MOCA-Minimum Obstruction Clearance Altitude
  - 270° Arrival Route
  - (65) Mileage between Radio Aids, Reporting Points, and Route Breaks
  - R-275 Transition Route
  - Radial line and value
  - Lost Communications Track

- **FIXES/ATC REPORTING REQUIREMENTS**
  - Non-Compulsory Position Report
  - DME fix
  - Obvious DME
  - DME Mileage (when not obvious)
  - WAYPOINT
  - FLYOVER POINT

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

- **ALTIMETRY**
  - **ALTIMETRY**
    - Optional Altitude
    - Minimum Altitude
    - Maximum Altitude

- **INFLUENTIAL AIRSPACES**
  - R-Restricted
  - W-Warning
  - P-Prohibited
  - A-Alert

- **AIRCRAFT SPEED**
  - **MISCELLANEOUS**
  - Changeover Point
  - Air Defense Identification Zone

- **INDEX**
  - Ldg KLAS and KHND
  - Ldg Rwys 16L/C/R

**NOTES**

- Indicates True North is not aligned to the top of the page
- Terminus identifier
## DEPARTURE PROCEDURE (DP) CHARTS

### RADIO AIDS TO NAVIGATION

**Compulsory:**
- VOR
- VORTAC
- DME
- NDB
- LOC
- VOR/DME
- TACAN
- NDB/DME

**Non-Compulsory:**
- VOR
- VORTAC
- DME
- LOC
- VOR/DME
- TACAN
- NDB
- LOC/DME
- Marker Beacon
- LMM, LOM (Compass locator)

**Localizer Front Course**

**SDF Course**

**Enroute Chart Reference**

**Geographic Position**

**Identifiers**
- ORLANDO
- Chan 59 (Y)
- N28°32.56' - W81°20.10'

**Frequency**

**Underline indicates no voice transmitted on this frequency**

**Enroute Chart Reference**

**Identifier**

**BACK COURSE**

**DISTANCE INFORMATION**

**Frequency**

**Obvious DME**

**DME Mileage**

**WAYPOINT**

**WAYPOINT**

**FLYOVER POINT**

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

**MINIMUM SAFE ALTITUDE (MSA)**

**LOC/DME**

**LOC**

**DME or TACAN**

**NDB or NDB/DME**

**LOC/DME or TACAN (shown when installation is offset from its normal position off the end of the runway.)**

**Marker Beacon**

**Geographic Position**

**Distance not to scale**

**International Boundary**

**Takeoff Minimums and (Obstacle) Departure Procedures entry published.**

**Takeoff Minimums**

**Obstacle Departure**

**270° Departure Route**

**Transition Route**

**Lost Communications Track**

**Visual Flight Path**

**Airway/Jet Route Identification**

**SPECIAL USE AIRSPACE**

**R**-Restricted

**W**-Warning

**P**-Prohibited

**A**-Alert

**MOA**-Military Operations Area

**MINIMUM ALTITUDE (Cross at or below)**

**Maximum Altitude (Cross at or above)**

**MEA**-Minimum Enroute Altitude

**MOCA**-Minimum Obstruction Clearance Altitude

**INDICATED AIRSPEED**

**175K**

**120K**

**250K**

**Mandatory Airspeed**

**Minimum Airspeed**

**Maximum Airspeed**

**AIRPORTS**

**Facility Identifier**

**Airport Identifier**

**Air Defense Identification Zone**

**International Boundary**

**Sector Boundary**

**MEMORANDUM**

**For use only with charts published after January 1, 2020.**

**Prohibited**

**Alert**

**Restricted**

**Warning**

**Military**

**Civil**

**Heliport**

**Joint (Civil-Military)**

**Coordinates**

**4500 [LATITUDE] 2500 [LATITUDE]**

**5500 [LATITUDE] 2300 [LATITUDE]**

**4800 [LATITUDE] 15000 [LATITUDE]**

**12000 [LATITUDE]**

**T**-Takeoff Minimums and (Obstacle) Departure Procedures entry published.
INSTRUMENT APPROACH PROCEDURES (CHARTS)

AIRPORT DIAGRAM/AIRPORT SKETCH

Runways
- Hard Surface
- Other Than Hard Surface
- Stopways, Taxiways, Parking Areas
- Metal Surface
- Closed Runway
- Closed Surface
- Under Construction
- Water Runway

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

ARRESTING SYSTEM (EMAS)

REFERENCE FEATURES
- Displaced Threshold
- Hot Spot
- Runway Holding Position Markings
- Buildings
- 24-Hour Self-Serve Fuel
- Tanks
- Obstructions
- Airport Beacon
- Radar Reflectors
- Control Tower
- # When Control Tower and Rotating Beacon are co-located, Beacon symbol will be used and further identified as TWR.
- ## A fuel symbol is shown to indicate 24-hour self-serve fuel available, see appropriate Chart Supplement for information.

NOTE:
- All new and revised airport diagrams are shown referenced to the World Geodetic System (WGS) (noted on appropriate diagram), and may not be compatible with local coordinates published in FLIP. (Foreign Only)
- Runway Weight Bearing Capacity/or PCN Pavement Classification Number is shown as a codified expression. Refer to the appropriate Supplement/Directory for applicable codes e.g., RWY 14-32 PCN B0 F/D/X/U S-75, D-185, 25-175, 2D-325

Helicopter Alighting Areas

Negative Symbols used to identify Copter Procedures landing points.

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

Runway TDZ elevation
- 0.3% DOWN

Runway Slope
- 0.8% UP

Approach light symbols are shown in the Flight Information Handbook.

Airport diagram scales are variable.

True/magnetic North orientation may vary from diagram to diagram.

Coordinate values are shown in 1 or ½ minute increments. They are further broken down into 6 second ticks, within each 1 minute increments.

Positional accuracy within ±600 feet unless otherwise noted on the chart.

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

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

SCOPE
- Airport diagrams are specifically designed to assist in the movement of ground traffic at locations with complex runway/taxiway configurations. Airport diagrams are not intended to be used for approach and landing or departure operations. For revisions to Airport Diagrams: Consult FAA Order 7910.4.
**Approach lighting and visual glide slope systems are indicated on the airport sketch by an identifier, e.g., \( \odot, \odot \), etc.**

A dot \( \odot \) portrayed with approach lighting letter identifier indicates sequenced flashing lights (F) installed with the approach lighting system e.g., \( \odot \). Negative symbology, e.g., \( \odot \), \( \odot \) indicates Pilot Controlled Lighting (PCL).

### RUNWAY TOUCHDOWN ZONE AND CENTERLINE LIGHTING SYSTEMS

**TDZ/CL**

**CL**

**TDZL**

**TDZL**

Availability of TDZ/CL will be shown by note in sketch e.g., "TDZ/CL Rwy 15".

### APPROACH LIGHTING SYSTEM

**ALSF-2**

![Diagram of ALSF-2](image)

- **Red**
- **White**
- **Sequence flashing lights**

Note: Civil ALSF-2 may be operated as SSALR during favorable weather conditions.

(High Intensity)

Length 2400/3000 feet

### SHORT APPROACH LIGHTING SYSTEM

**SALS/SALSF**

(High Intensity)

Same as inner 1500’ of ALSF-1

### SIMPLIFIED SHORT APPROACH LIGHTING SYSTEM

**SSALR**

(High Intensity)

Length 2400/3000 feet

### MEDIUM INTENSITY (MALS and MALSF) OR SIMPLIFIED SHORT (SSALS and SSALF) APPROACH LIGHTING SYSTEMS

**MALS**

**MALSF**

Length 1400 feet

### OMNIDIRECTIONAL APPROACH LIGHTING SYSTEM

**ODALS**

Threshold 36

Sequence flashing lights

Length 1500 feet

### VISUAL APPROACH SLOPE INDICATOR

**VASI**

Visual approach slope indicator with standard threshold clearance provided.

- All lights white — too high
- Far lights red near lights white — on glide slope
- All lights red — too low

**VASI 2**

**VASI 4**

**VASI 12**

**VASI 16**

Threshold 36

3-bar, 6 or 16 box, visual approach slope indicator that provides 2 glide angles and 2 threshold crossing heights.
Approach lighting and visual glide slope systems are indicated on the airport sketch by an identifier, \( \text{\textbullet} \), \( \text{\textbullet} \) etc.

A dot \( * * \) portrayed with approach lighting letter identifier indicates sequenced flashing lights (F) installed with the approach lighting system e.g., \( \text{\textbullet} \). Negative symbology, e.g., \( \text{\textbullet} \), \( \text{\textbullet} \) indicates Pilot Controlled Lighting (PCL).

**LEGEND**

**INSTRUMENT APPROACH PROCEDURES (CHARTS)**

**APPROACH LIGHTING SYSTEM - UNITED STATES**

**P**

**PRECISION APPROACH PATH INDICATOR**

- PAPI

- **Too low**
- **Slightly low**
- **On correct approach path**
- **Slightly high**
- **Too high**

Legend: ◦ White □ Red

**V1**

**"T"-VISUAL APPROACH SLOPE INDICATOR**

"T"-VASI

"T" ON BOTH SIDES OF RWY
ALL LIGHTS VARIABLE WHITE.
CORRECT APPROACH SLOPE
ONLY CROSS BAR VISIBLE.
UPRIGHT "T"- FLY UP.
INVERTED "T"- FLY DOWN.
RED "T"- GROSS
UNDERSHOOT.

**V2**

**PULSATING VISUAL APPROACH SLOPE INDICATOR**

PVASI

- **Steady White**
- **Steady Red**
- **Red/White**
- **Alternating**
- **Steady White**
- **Steady Red**
- **Above Glide Path**
- **On Glide Path**
- **Below Glide Path**
- **Slightly Below Glide Path**

**CAUTION:** When viewing the pulsating visual approach slope indicators in the pulsating white or pulsating red sectors, it is possible to mistake this lighting aid for another aircraft or a ground vehicle. Pilots should exercise caution when using this type of system.

**V4**

**TRI-COLOR VISUAL APPROACH SLOPE INDICATOR**

TRCV

- **Above Glide Path**
- **On Glide Path**
- **Below Glide Path**
- **Slightly Below Glide Path**
- **Green**
- **Amber**
- **Red**

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

**V5**

**ALIGNMENT OF ELEMENTS SYSTEMS**

APAP

- Above glide path
- On Glide Path
- Below Glide Path

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

<table>
<thead>
<tr>
<th>TACAN CHANNEL</th>
<th>VHF FREQUENCY</th>
<th>TACAN CHANNEL</th>
<th>VHF FREQUENCY</th>
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TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

IFR TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

Civil Airports and Selected Military Airports

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

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

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

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

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

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

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

ALTURAS, CA
ALTURAS MUNI (AAT)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 10APR08 (08101) (FAA)
DEPARTURE PROCEDURE:
Use BACHS DEPARTURE.

AMEDEE AAF (KAHC)
HERLONG, CA
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 30JAN20 (20030)
TAKEOFF MINIMUMS:
Rwy 9, std. w/min. climb of 350’ per NM to 9500, or 4100-3 for VCOA.
Rwy 27, std. w/min. climb of 390’ per NM to 8500, or 4100-3 for VCOA.
DEPARTURE PROCEDURE:
Rwy 9, climbing right turn on a heading between 086° CW to 266° from DER.
Rwy 27, climbing left turn on a heading between 086° CW 266° from DER.
VCOA:
All runways, obtain ATC approval for VCOA When requesting IFR clearance. Climb in visual Conditions to cross AMDEEE AAF at or above 8000 before proceeding on course.
SW-2, 07 OCT 2021 to 02 DEC 2021

ARCAHT-4EURIKA, CA
CALIFORNIA REDWOOD COAST—HUMBOLDT COUNTY (ACV)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 8  12OCT17  (17285)  (FAA)
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND
DIVERSE VECTOR AREA (RADAR VECTORS)

TAKEOFF MINIMUMS:
Rwy 1, std. w/min. climb of 360’ per NM to 500 or 1100-2½ for VCOA.
Rwy 14, 400-2½ or std. w/min. climb of 382’ per NM to 600.

DEPARTURE PROCEDURE:
Rwy 1, 32, climbing left turn to intercept ACV R-250 to HOCUT INT and continue climb to MEA on V27.
Rwy 14, 19, climbing right turn to intercept ACV R-250 to HOCUT INT and continue climb to MEA on V27.
VCOA:
Rwy 1, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross California Redwood Coast-Humboldt County airport westbound at or above 1200 to intercept ACV R-250 to HOCUT INT and continue climb to MEA on V27.

TAKEOFF OBSTACLE NOTES:

**Rwy 1,** runway lights 10’ from DER, 54’ left and right of centerline, 1’ AGL/209’ MSL.
Trees beginning 150’ from DER, 397’ right of centerline, up to 9’ AGL/217’ MSL.
Tree, fence, pole beginning 222’ from DER, 158’ right of centerline, up to 260’ MSL.
Tree 276’ from DER, 491’ left of centerline, 245’ MSL.
Trees beginning 310’ from DER, 198’ left of centerline, up to 248’ MSL.
Tree 383’ from DER, 408’ right of centerline, 316’ MSL.
Trees beginning 385’ from DER, 0’ left of centerline, up to 179’ AGL/325’ MSL.
Trees beginning 423’ from DER, 11’ left of centerline, up to 118’ AGL/260’ MSL.
Trees beginning 583’ from DER, 6’ left of centerline, up to 178 AGL/278’ MSL.
Trees beginning 1922’ from DER, 179’ right of centerline, up to 344’ MSL.
Trees beginning 2291’ from DER, 266’ right of centerline, up to 124 AGL/356’ MSL.
Tree 3390’ from DER, 164’ left of centerline, 150’ AGL/335’ MSL.
Trees beginning 4000’ from DER, 108’ left of centerline, up to 175’ AGL/357’ MSL.
Trees beginning 3478’ from DER, 12’ left of centerline, up to 187 AGL/364’ MSL.
Tree 3602’ from DER, 725’ right of centerline, 358’ MSL.
Trees beginning 3603’ from DER, 1’ right of centerline, up to 177’ AGL/365’ MSL.
Trees beginning 3714’ from DER, 34’ left of centerline, up to 192’ AGL/369’ MSL.
Trees beginning 3722’ from DER, 51’ left of centerline, up to 197’ AGL/372’ MSL.
Trees beginning 3763’ from DER, 1’ left of centerline, up to 202 AGL/375’ MSL.
Tree 4016’ from DER, 567’ right of centerline, 367’ MSL.
Trees beginning 4017’ from DER, 67’ right of centerline, up to 197’ AGL/373’ MSL.
Trees beginning 6044’ from DER, 852’ left of centerline, up to 163’ AGL/379’ MSL.
Tree 1.1 NM from DER, 48’ right of centerline, 385’ MSL.
Trees beginning 1.2 NM from DER, 1220’ right of centerline, up to 416’ MSL.
Trees beginning 1.7 NM from DER, 2648’ right of centerline, up to 602’ MSL.
Tree 1.8 NM from DER, 3460’ right of centerline, 605’ MSL.

**Rwy 14,** runway lights 9’ from DER, 54’ left and right of centerline, 1’ AGL/223’ MSL.
Tree 621’ from DER, 591’ left of centerline, 256’ MSL.
Tree, antenna, pole, beginning 733’ from DER, 376’ left of centerline, up to 262’ MSL.
Tree 1086’ from DER, 716’ right of centerline, 277’ MSL.
Trees beginning 1110’ from DER, 717’ right of centerline, up to 290’ MSL.
Tree 1701’ from DER, 860’ left of centerline, 283’ MSL.
Trees beginning 1843’ from DER, 875’ left of centerline, up to 307’ MSL.
Trees, beginning 2568’ from DER, 801’ left of centerline, up to 321’ MSL.
Trees beginning 3065’ from DER, 565’ left of centerline, up to 329’ MSL.
Tree 3807’ from DER, 1200’ left of centerline, 374’ MSL.
Trees, beginning 3827’ from DER, 794’ left of centerline, up to 392’ MSL.
Trees, beginning 4152’ from DER, 813’ left of centerline, up to 420’ MSL.
Trees, beginning 4514’ from DER, 1245’ left of centerline, up to 443’ MSL.
Trees, beginning 4707’ from DER, 860’ left of centerline, up to 446’ MSL.
Trees, beginning 5176’ from DER, 1028’ left of centerline, up to 447’ MSL.
Trees, beginning 5712’ from DER, 1337’ left of centerline, up to 467’ MSL.
Trees, beginning 1.1 NM from DER, 1618’ left of centerline, up to 515’ MSL.
Trees, beginning 1.2 NM from DER, 1929’ left of centerline, up to 565’ MSL.
Tree 1.7 NM from DER, 3238’ left of centerline, 568’ MSL.
Trees beginning 1.8 NM from DER, 1864’ left of centerline, up to 588’ MSL.

**Rwy 19,** runway lights 9’ from DER, 55’ left and right of centerline, 189’ MSL.
Vegetation 15’ from DER, 270’ right of centerline, 191’ MSL.
Tree 776’ from DER, 696’ right of centerline, 77’ AGL/215’ MSL.

**Rwy 32,** fence, beginning 91’ from DER, 476’ right of centerline, up to 196’ MSL.
Fence 132’ from DER, 221’ left of centerline, 8’ AGL/188’ MSL.
Tree, fence, bush beginning 183’ from DER, 202’ left of centerline, up to 195’ MSL.
Fence, beginning 268’ from DER, 176’ right of centerline, up to 13’ AGL/197’ MSL.
Obs light DME, NAVAID, beginning 580’ from DER, 258’ right of centerline, up to 29’ AGL/203’ MSL.
Tree 1022’ from DER, 624’ right of centerline, 256’ MSL.
Trees, beginning 1036’ from DER, 448’ right of centerline, up to 267’ MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

ATWATER, CA
CASTLE (MER)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1A  15DEC11 (11349) (FAA)
TAKEOFF MINIMUMS:
Rwy 13, std. w/ min. climb of 250’ per NM to 2500 or 2200-3 for climb in visual conditions.
DEPARTURE PROCEDURE:
Rwy 13, climb heading 126° to 2500 before turning left. For climb in visual conditions, cross Castle Airport at or above 2200 before proceeding on course.
Rwy 31, climb heading 306° to 1100 before turning right.
TAKEOFF OBSTACLE NOTES:
Rwy 13, tree 2539' from DER, 1005' right of centerline, 89' AGL/261' MSL.
Rwy 31, tree 1274' from DER, 829' left of centerline, 20' AGL/224' MSL.
Trees beginning 2909' from DER, 542' right of centerline, 65' AGL/269' MSL.

AUBURN, CA
AUBURN MUNI (AUN)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1A  15DEC11 (11349) (FAA)
TAKEOFF MINIMUMS:
Rwy 7, 300-1 w/ min. climb of 387' per NM to 2500, or 1100-3 for climb in visual conditions.
DEPARTURE PROCEDURE:
Rwy 7, climbing left turn to 5000 heading 310°, and MYV VOR/DME R-083 to MYV VOR/DME R-263 to YUBBA INT before proceeding on course, or for climb in visual conditions: cross Auburn Muni airport at or above 2500, continue climb to 5000 via heading 275° and MYV VOR/DME R-094 to MYV VOR/DME, then via MYV VOR/DME R-263 to YUBBA INT before proceeding on course.
Rwy 25, climbing right turn to 5000 via heading 310° and MYV VOR/DME R-083 to MYV VOR/DME, then via MYV VOR/ DME R-263 to YUBBA INT before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 7, trees beginning 1117' from DER, 504' right of centerline, up to 40' AGL/1708' MSL.
Pole 1365' from DER, 600' right of centerline, 59' AGL/1679' MSL.
Tree 379' from DER, 700' right of centerline, 40' AGL/1639' MSL.
Rwy 25, tree 37' from DER, 479' left of centerline, 40' AGL/1528' MSL.
Tree 86' from DER, 461' right of centerline, 40' AGL/1532' MSL.
Fence 101' from DER, 244' right of centerline, 8' AGL/1508' MSL.
Trees beginning 660' from DER, 249' right of centerline, up to 40' AGL/1559' MSL.

BEALE AFB (KBAB)
MARYSVILLE, CA
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2,  29MAY14 (14149)
DEPARTURE PROCEDURE:
Rwy 15, Climb on a heading between 100° CW to 325° from DER.
Rwy 33, Climb on a heading between 146° CW to 344° from DER.
TAKEOFF OBSTACLE NOTES:
Rwy 33, terrain 118' MSL, 62' from DER, 500' right of centerline.
Terrain 118' MSL, 3' from DER, 517' right of centerline.
Aircraft tail 16' GL/134' MSL, 39' from DER, 533' right of centerline.
Aircraft tail 16' AGL/134' MSL, 129' from DER, 525' right of centerline.

BECKWOURTH, CA
NERVINO (O02)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG-A  17OCT13 (13290) (FAA)
TAKEOFF MINIMUMS:
Rwy 8, 26, 3500-3 for climb in visual conditions.
DEPARTURE PROCEDURE:
Rwys 8, 26, for climb in visual conditions: cross Nervino Airport at or above 8300 before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 8, road 58' from DER, 469' right of centerline, 15' AGL/4920' MSL.
Pole 310' from DER, 522' right of centerline, 49' AGL/4925' MSL.
Pole 528' from DER, 522' right of centerline, 39' AGL/4924' MSL.
Tree 1.47 NM from DER, 727' right of centerline, 100' AGL/6193' MSL.
Tree 1.9 NM from DER, 2534' right of centerline, 100' AGL/5499' MSL.
Bush 2.03 NM from DER, 2126' right of centerline, 4' AGL/5406' MSL.
Rwy 26, tree 5856' from DER, 1984' right of centerline, 100' AGL/5339' MSL.
Tree 1.25 NM from DER, 2439' right of centerline, 100' AGL/5420' MSL.
Tree 2.07 NM from DER, 3302' left of centerline, 100' AGL/5570' MSL.
BISHOP, CA
BISHOP (BIH)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4A 29MAR18 (18088) (FAA)
TAKEOFF MINIMUMS:
Rwy 8, 12, 17, 9000-3 for VCOA.
Rwy 26, std. w/ min. climb of 280' per NM to 10400', or 9000-3 for VCOA.
Rwys 30, 35, std. w/ min. climb of 285' per NM to 10500', or 9000-3 for VCOA.

DEPARTURE PROCEDURE:
Rwys 26, 30, climbing right turn on heading 360, thence...
Rwy 35, climbing left turn on heading 290, thence...
All aircraft intercept BIH R-322 to NIKOL INT/BIH 36.46 DME. Aircraft departing NIKOL on V244 westbound cross NIKOL at or above 13100; aircraft departing NIKOL on V381 southeast bound cross NIKOL at or above 13000; all other aircraft cross NIKOL at or above 11000.

VCOA:
All Rwys, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Bishop airport at or above 13000' before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 26, trees and bushes beginning 69' from DER, 150' right of centerline, up to 4197' MSL. Trees beginning 925' from DER, 32' left of centerline, up to 4167' MSL.
Rwy 35, trees beginning 238' from DER, 31' left of centerline, up to 4146' MSL. Trees beginning 215' from DER, 146' right of centerline, up to 4146' MSL.

BYRON, CA
BYRON (C83)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 17AUG17 (17229) (FAA)
TAKEOFF MINIMUMS:
Rwy 23, NA - obstacles.
Rwy 30, 200-1½ or std. with a min. climb of 245' per NM to 300, or alternatively, with standard takeoff minimums and normal 200' per NM climb gradient, takeoff must occur no later than 1900' prior to DER.

DEPARTURE PROCEDURE:
Rwy 5, climbing left turn heading 010°, thence...
Rwy 12, climbing left turn heading 360°, thence...
Rwy 30, climbing right turn heading 065°, thence...
...on LIN VOR/DME R-227 to LIN VOR/DME before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 5, bush 17' from DER, 67' right of centerline, 6' AGL/52' MSL.
Rwy 12, multiple trees and bush beginning 240' from DER, 286' right of centerline, up to 39' AGL/76' MSL.
Rwy 30, multiple poles, building, and terrain beginning 66' from DER, 228' left of centerline, up to 65' AGL/225' MSL. Multiple poles beginning 949' from DER, 28' right of centerline, up to 42' AGL/103' MSL.

CHICO, CA
CHICO MUNI (CIC)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 7 21MAY20 (20142) (FAA)
DEPARTURE PROCEDURE:
Rwys 13L/R, climbing right turn heading 230° to intercept V-23/T-261.
Rwys 31L/R, climbing left turn heading 230° to intercept V-23/T-261.

TAKEOFF OBSTACLE NOTES:
Rwy 13L, terrain 298' from DER, 537' left of centerline, 216' MSL.
Rwy 13R, vehicles on road beginning 947' from DER, 560' left of centerline, up to 241' MSL.
Rwy 13R, vehicles on road beginning at DER, left and right of centerline, up to 225' MSL.
Rwy 31L, vehicles on road beginning at DER, left and right of centerline, up to 235' MSL. Tower 611' from DER, 349' right of centerline, 35' AGL/267' MSL.
Rwy 31R, tree 1124' from DER, 612' right of centerline, 282' MSL. Tree 1363' from DER, 788' left of centerline, 280' MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

CLOVERDALE, CA
CLOVERDALE MUNI (O60)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 17JUN21 (21168) (FAA)
TAKEOFF MINIMUMS:
Rwy 14, 300-1 w/min. climb of 475' per NM to 1400, or 3900-3 for VCOA.
Rwy 32, 3900-3 for VCOA.
DEPARTURE PROCEDURE:
Rwy 14, climb on a heading between 120° CW to 150° from DER to 4500 before proceeding on course.
VCOA:
All runways, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Cloverdale Muni airport at or above 4000 before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 14, tree 38' from DER, 411' right of centerline, 305' MSL.
Vegetation 61' from DER, 307' left of centerline, 276' MSL.
Vegetation beginning 80' from DER, 90' left of centerline, up to 9' AGL/279' MSL.
Trees beginning 95' from DER, 18' right of centerline, up to 43' AGL/310' MSL.
Tree 391' from DER, 29' left of centerline, 31' AGL/291' MSL.
Tree 396' from DER, 154' left of centerline, 40' AGL/298' MSL.
Tree 416' from DER, 80' left of centerline, 37' AGL/299' MSL.
Trees beginning 419' from DER, 20' left of centerline, up to 43' AGL/303' MSL.
Tree 448' from DER, 207' left of centerline, 58' AGL/329' MSL.
Trees, pole, beginning 611' from DER, 30' right of centerline, up to 314' MSL.
Trees, ag equip beginning 662' from DER, 20' left of centerline, up to 369' MSL.
Trees beginning 1046' from DER, 325' right of centerline, up to 352' MSL.
Trees, stack, buildings beginning 1483' from DER, 41' right of centerline, up to 373' MSL.
Buildings, pipeline pipes, poles, trees, ag equip, beginning 1907' from DER, 8' right of centerline, up to 142' AGL/427' MSL.
Ag equip, tree beginning 2902' from DER, 37' left of centerline, up to 5' AGL/371' MSL.
Tree 2970' from DER, 291' left of centerline, 48' AGL/380' MSL.
Ag equip beginning 2979' from DER, 87' left of centerline, up to 5' AGL/386' MSL.
Antenna, trees, ag equip, pole beginning 3082' from DER, 70' left of centerline, up to 19' AGL/403' MSL.
Tree, buildings beginning 4785' from DER, 503' left of centerline, up to 31' AGL/426' MSL.
Tree 4878' from DER, 415' left of centerline, 37' AGL/428' MSL.
Tree 4916' from DER, 511' left of centerline, 52' AGL/446' MSL.
Ag equip beginning 1 NM from DER, 1806' right of centerline, up to 6' AGL/448' MSL.
Tree 1 NM from DER, 1969' right of centerline, 496' MSL.
Trees beginning 1.1 NM from DER, 1127' right of centerline, up to 534' MSL.
Tree 1.5 nm from DER, 2973' right of centerline, 549' MSL.
Tree 1.6 NM from DER, 2150' right of centerline, 529' MSL.
Trees beginning 1.6 NM from DER, 1753' right of centerline, up to 719' MSL.
Trees beginning 1.7 NM from DER, 393' right of centerline, up to 814' MSL.
Trees beginning 2.2 NM from DER, 8' right of centerline, up to 772' MSL.
Tree 2.2 NM from DER, 59' left of centerline, 620' MSL.
Tree 2.5 NM from DER, 1452' right of centerline, 780' MSL.
Rwy 32, tree 32' from DER, 497' right of centerline, 288' MSL.
Ag equip 35' from DER, 371' left of centerline, 6' AGL/283' MSL.
Tree 51' from DER, 252' left of centerline, 297' MSL.
Tree, fences beginning 71' from DER, 67' right of centerline, up to 313' MSL.
Trees, ag equip, fences beginning 96' from DER, 62' left of centerline, up to 30' AGL/322' MSL.
Tree 419' from DER, 477' right of centerline, 329' MSL.
Tree 450' from DER, 372' left of centerline, 341' MSL.
Trees beginning 806' from DER, 505' right of centerline, up to 331' MSL.
Trees beginning 889' from DER, 293' left of centerline, up to 363' MSL.
Tree 2915' from DER, 965' right of centerline, 348' MSL.
Tree, building beginning 2967' from DER, 1241' left of centerline, up to 393' MSL.
Trees beginning 3274' from DER, 173' right of centerline, up to 374' MSL.
Trees beginning 1.6 NM from DER, 292' right of centerline, up to 581' MSL.
Tree, building beginning 2.2 NM from DER, 221' right of centerline, up to 652' MSL.
Tree 2.3 NM from DER, 276' right of centerline, 672' MSL.
Tank 2.4 NM from DER, 3970' left of centerline, 680' MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

COLUMBIA, CA
COLUMBIA (O22)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 30JAN20 (20030) (FAA)
TAKEOFF MINIMUMS:
Rwys 11, 29, NA - Environmental.
Rwy 35, NA - ATC.
DEPARTURE PROCEDURE:
Rwy 17, use FICHU RNAV DEPARTURE.
TAKEOFF OBSTACLE NOTES:
Rwy 17, bush 31' from DER, 196' right of centerline, 2083' MSL.
Tree 146' from DER, 387' right of centerline, 2108' MSL.
Trees beginning 180' from DER, 287' left of centerline, up to 2126' MSL.
Tree 262' from DER, 527' right of centerline, 2163' MSL.
Trees beginning 354' from DER, 240' left of centerline, up to 2127' MSL.
Tree, rd (n), pole, grd, bush beginning 414' from DER, 46' right of centerline, up to 2188' MSL.
Tree 456' from DER, 325' left of centerline, 2130' MSL.
Trees beginning 492' from DER, 109' left of centerline, up to 2133' MSL.
Trees beginning 725' from DER, 26' left of centerline, up to 2171' MSL.
Trees beginning 1260' from DER, 56' left of centerline, up to 2181' MSL.
Tree 1527' from DER, 893' right of centerline, 2205' MSL.
Tree 1619' from DER, 860' right of centerline, 2220' MSL.
Trees beginning 1664' from DER, 896' right of centerline, up to 2238' MSL.
Tree 2152' from DER, 982' left of centerline, 2212' MSL.
Tree 2195' from DER, 988' left of centerline, 2262' MSL.
Tree 2195' from DER, 987' left of centerline, 2273' MSL.
Tree, tower beginning 5842' from DER, 410' left of centerline, up to 2339' MSL.

COLUSA, CA
COLUSA COUNTY (O08)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG-A 10NOV16 (16315) (FAA)
TAKEOFF MINIMUMS:
Rwy 31, 300-1 or std. w/min. climb of 310' per NM to 400.
DEPARTURE PROCEDURE:
Rwy 31, climbing left turn direct ILA VORTAC before proceeding on course.
Rwy 13, climbing right turn direct ILA VORTAC before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 13, fence 1' from DER, 234 right of centerline, 49' MSL.
Tree 138' from DER, 346' left of centerline, 77' MSL.
Bldg 255' from DER, 496' right of centerline, 62' MSL.
Trees beginning 543' from DER, 146' right of centerline, up to 85' MSL.
Bldg 1476' from DER, 428' right of centerline, 61'AFL/107' MSL.
Tree 1396' from DER, 92' right of centerline, 55' AGL/105' MSL.
Tree 4958' from DER, 1916' right of centerline, 190' AGL/240' MSL.

CONCORD, CA
BUCHANAN FLD (CCR)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 22JUN17 (21112) (FAA)
TAKEOFF MINIMUMS:
Rwys 1L/R, std. w/min. climb of 330' per NM to 1000 or 3700-3 for VCOA.
Rwys 14L/R, std. w/min. climb of 420' per NM to 2700 or 3700-3 for VCOA.
Rwys 19L/R, std. w/min. climb of 490' per NM to 3900 or 3700-3 for VCOA.
Rwys 32L/R, std. w/min. climb of 330' per NM to 1000 or 3700-3 for VCOA.
DEPARTURE PROCEDURE:
Rwys 1L/R, 14L/R, 19L/R, climbing left turn direct CCR VOR/DME, thence...
Rwys 32L/R, climbing right turn direct CCR VOR/DME, thence...
...aircraft departing on CCR VOR/DME R-150 clockwise R-110, climb on course.
All others, climb in CCR VOR/DME holding pattern (hold N, left turns, 191° inbound) to cross CCR VOR/DME at or above 3400 before proceeding on course.
VCOA:
All Rwys, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Buchanan Fld airport at or above 3600 before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 1L, fence 116' from DER, 1' right of centerline, 29' MSL.
Building 639' from DER, 381' right of centerline, 25' AGL/48' MSL.
Vegetation 675' from DER, 96' left of centerline, 38' MSL.
Tree and poles beginning 1261' from DER, 19' right of centerline, up to 78' MSL.
Flagpole 1520' from DER, 753' left of centerline, 71' MSL.
Tree, camera, and general utility beginning 1860' from DER, 48' right of centerline, up to 98' MSL.
Pole 1906' from DER, 120' left of centerline, 51' AGL/72' MSL.
CONCORD, CA (CON’T)
BUCHANAN FLD (CON’T)

Rwy 1L (CON’T), sign 1996’ from DER, 612’ left of centerline, 78’ MSL.
Tree 2392’ from DER, 8’ left of centerline, 83’ MSL.
Pole 1551’ from DER, 97’ right of centerline, 43’ AGL/67’ MSL.
Pole 1864’ from DER, 357’ right of centerline, 96’ MSL.
Tree 1927’ from DER, 222’ right of centerline, 131’ MSL.
Tree 2110’ from DER, 981’ right of centerline, 133’ MSL.

Rwy 14L, vehicles on road and fences beginning 82’ from DER, 29’ left of centerline, up to 40’ MSL.
Building and trees beginning 731’ from DER, 191’ left of centerline, up to 51’ MSL.
Trees and building beginning 840’ from DER, 93’ left of centerline, up to 77’ MSL.
Trees, poles, and buildings beginning 942’ from DER, 13’ left of centerline, up to 102’ MSL.
Trees, buildings, and poles beginning 1116’ from DER, 10’ right of centerline, up to 40’ AGL/71’ MSL.
Tree 1465’ from DER, 112’ right of centerline, 73’ MSL.
Trees beginning 1486’ from DER, 121’ right of centerline, up to 84’ MSL.
Trees beginning 1648’ from DER, 62’ right of centerline, up to 91’ MSL.
Trees and building beginning 1750’ from DER, 30’ left of centerline, up to 105’ MSL.
Tree 2570’ from DER, 93’ right of centerline, 92’ MSL.
Buildings beginning 5413’ from DER, 99’ left of centerline, up to 177’ MSL.
Building 5456’ from DER, 138’ left of centerline, 146’ AGL/179’ MSL.

Rwy 14R, windsock 411’ from DER, 451’ right of centerline, 31’ AGL/51’ MSL.
Control tower 1140’ from DER, 315’ right of centerline, 61’ AGL/84’ MSL.
Electrical system, tree, pole, and antenna beginning 1140’ from DER, 167’ right of centerline, up to 98’ MSL.
Tree 2744’ from DER, 886’ left of centerline, 102’ MSL.
Building 3149’ from DER, 946’ right of centerline, 92’ AGL/125’ MSL.
Buildings beginning 3253’ from DER, 946’ right of centerline, up to 103’ AGL/136’ MSL.

Rwy 19L, tree 2132’ from DER, 376’ left of centerline, 90’ MSL.
Tree 2257’ from DER, 27’ left of centerline, 97’ MSL.
Tree 2543’ from DER, 384’ right of centerline, 87’ MSL.
Tree 3111’ from DER, 946’ right of centerline, 106’ MSL.

Rwy 19R, terrain 43’ from DER, 397’ left of centerline, 25’ MSL.
Fence 123’ from DER, 502’ left of centerline, 30’ MSL.
Tree 603’ from DER, 489’ right of centerline, 44’ MSL.
Pole and trees beginning 844’ from DER, 152’ right of centerline, up to 94’ MSL.
Tree 1023’ from DER, 81’ left of centerline, 59’ MSL.
Pole and trees beginning 1201’ from DER, 568’ left of centerline, up to 77’ MSL.
Building and trees beginning 1275’ from DER, 114’ left of centerline, up to 97’ MSL.
Tree 2129’ from DER, 447’ left of centerline, 106’ MSL.
Tree 2755’ from DER, 216’ left of centerline, 108’ MSL.

Rwy 32L, building 7’ from DER, 321’ left of centerline, 18’ AGL/35’ MSL.
Vehicles on road and hangar beginning 259’ from DER, 300’ left of centerline, up to 37’ MSL.
Vehicles on road beginning 560’ from DER, 3’ right of centerline, up to 34’ MSL.
Vehicles on road 627’ from DER, 609’ left of centerline, 38’ MSL.
Vehicles on road beginning 631’ from DER, 63’ left of centerline, up to 38’ MSL.
Building 633’ from DER, 253’ right of centerline, 17’ AGL/35’ MSL.
Vehicles on road 699’ from DER, 8’ right of centerline, 38’ MSL.
Vehicles on road beginning 715’ from DER, 37’ right of centerline, up to 39’ MSL.
Vehicles on road beginning 720’ from DER, 2’ left of centerline, up to 39’ MSL.
Vehicles on road beginning 730’ from DER, 137’ right of centerline, up to 40’ MSL.
Vehicles on road beginning 751’ from DER, 261’ right of centerline, up to 41’ MSL.
Vehicles on road beginning 792’ from DER, 493’ right of centerline, up to 42’ MSL.
Vehicles on road beginning 798’ from DER, on centerline, up to 42’ MSL.
Trees 824’ from DER, 135’ left of centerline, 40’ MSL.
Vehicles on road beginning 891’ from DER, 488’ right of centerline, up to 43’ MSL.
Vehicles on road 920’ from DER, 642’ right of centerline, 44’ MSL.
Transmission towers beginning 6014’ from DER, 1332’ left of centerline, up to 173’ MSL.
Tank 1 NM from DER, 1927’ right of centerline, 213’ MSL.
Chimney 1.4 NM from DER, 2458’ right of centerline, 355’ AGL/378’ MSL.
Refinery 1.6 NM from DER, 2534’ right of centerline, 308’ AGL/322’ MSL.

Rwy 32R, terrain 81’ from DER, 481’ right of centerline, 21’ MSL.
Vehicles on road 559’ from DER, 3’ right of centerline, 34’ MSL.
Vehicles on road 585’ from DER, 496’ left of centerline, 34’ MSL.
Building 632’ from DER, 246’ left of centerline, 35’ MSL.
Building 653’ from DER, 236’ right of centerline, 41’ MSL.
Flagpole, signs, and vehicles on road beginning 654’ from DER, 55’ right of centerline, up to 21’ AGL/43’ MSL.
Vehicles on road beginning 677’ from DER, 491’ left of centerline, up to 38’ MSL.
Vehicles on road beginning 714’ from DER, 374’ left of centerline, up to 39’ MSL.
Vehicles on road beginning 730’ from DER, 243’ left of centerline, up to 40’ MSL.
Vehicles on road and trees beginning 750’ from DER, 6’ left of centerline, up to 41’ MSL.
Vehicles on road beginning 820’ from DER, 285’ right of centerline, up to 45’ MSL.
Vehicles on road beginning 824’ from DER, 234’ right of centerline, up to 47’ MSL.
Vehicles on road 828’ from DER, 624’ right of centerline, 48’ MSL.
Vehicles on road beginning 829’ from DER, on centerline, up to 50’ MSL.
Vehicles on road beginning 867’ from DER, 43’ left of centerline, up to 42’ MSL.
Vehicles on road 899’ from DER, 11’ left of centerline, 43’ MSL.

TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)
CONCORD, CA (CONT')
BUCHANAN FLD (CONT')

Rwy 32R (CONT'), vehicles on road beginning 932' from DER, 269' right of centerline, up to 52' MSL.
Agricultural equipment 2109' from DER, 600' right of centerline, 78' AGL/99' MSL.

Pole 1700' from DER, 1431' right of centerline, up to 40' AGL/150' MSL.
Pole 4067' from DER, 1531' right of centerline, 43' AGL/161' MSL.

Tank 4527' from DER, 1675' right of centerline, 57' AGL/170' MSL.
Transmission tower 6013' from DER, 1840' left of centerline, 173' MSL.

Tank 1 NM from DER, 1423' right of centerline, 126' AGL/213' MSL.
Chimney 1.4 NM from DER, 1954' right of centerline, 355' AGL/378' MSL.

Refinery 1.6 NM from DER, 2429' right of centerline, 308' AGL/322' MSL.

CRESCENT CITY, CA
JACK MC NAMARA FLD (CEC)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2A 03JAN19 (21280) (FAA)

TAKEOFF MINIMUMS:
Rwy 12, 300-2½ or std. w/min. climb of 254' per NM to 300, or alternatively, with std. takeoff minimums and a normal 200' per NM climb gradient, takeoff must occur no later than 2200' prior to DER.
Rwy 18, 300-1 or std. w/min. climb of 308' per NM to 400.
Rwy 36, 300-1 or std. w/min. climb of 443' per NM to 300.

DEPARTURE PROCEDURE:
Rwys 12, 18, climbing right turn, thence...
Rwys 30, 36, climbing left turn, thence...
...Climb direct CEC VORTAC. Aircraft departing CEC R-144 CW R-350 climb on course. All others continue climb in CEC VORTAC holding pattern (hold south, left turn, 346° inbound) to cross CEC VORTAC at or above:
R-351 CW R-048, 2900;
R-049 CW R-113, 4300;
R-114 CW R-143, 2900.

TAKEOFF OBSTACLE NOTES:
Rwy 12, terrain 7' from DER, 6' right of centerline, 54' MSL.

Terrain 9' from DER, 15' left of centerline, 54' MSL.
NAVAID and tree beginning 12' from DER, 117' left of centerline, up to 4' AGL/57' MSL.

Tree 798' from DER, 378' left of centerline, 149' MSL.

Trees beginning 828' from DER, 437' left of centerline, up to 151' MSL.

Tree 1078' from DER, 390' right of centerline, 101' MSL.

Trees beginning 1162' from DER, 75' left of centerline, up to 163' MSL.

Trees beginning 1185' from DER, 156' right of centerline, up to 123' MSL.

Tree and pole beginning 1332' from DER, 215' right of centerline, up to 149' MSL.

Trees beginning 1458' from DER, 2' left of centerline, up to 169' MSL.

Trees beginning 1523' from DER, 93' right of centerline, up to 150' MSL.

Trees beginning 1914' from DER, 83' right of centerline, up to 152' MSL.

Trees beginning 2058' from DER, 155' right of centerline, up to 156' MSL.

Trees beginning 2353' from DER, 182' right of centerline, up to 159' MSL.

Trees beginning 2549' from DER, 604' right of centerline, up to 173' MSL.

Trees beginning 2656' from DER, 108' right of centerline, up to 175' MSL.

Trees beginning 2986' from DER, 73' right of centerline, up to 189' MSL.

Tree 5151' from DER, 211' right of centerline, 216' MSL.

Tree 5184' from DER, 47' left of centerline, 195' MSL.

Antenna 1.8 NM from DER, 2439' left of centerline, 320' AGL/333' MSL.

Rwy 18, terrain 27' from DER, 12' left of centerline, 52' MSL.

Structure 35' from DER, 113' right of centerline, 7' AGL/57' MSL.

Structure 35' from DER, 116' left of centerline, 4' AGL/54' MSL.

Trees beginning 183' from DER, 384' right of centerline, up to 59' MSL.

Vehicles on road 319' from DER, 570' left of centerline, 60' MSL.

Tree 412' from DER, 166' left of centerline, 64' MSL.

Trees beginning 445' from DER, 188' right of centerline, up to 66' MSL.

Trees beginning 543' from DER, 411' left of centerline, up to 68' MSL.

Terrain 4897' from DER, 1653' right of centerline, 202' MSL.

Terrain 4973' from DER, 1722' right of centerline, 242' MSL.

Rwy 30, NAVAID and terrain beginning 4' from DER, 5' right of centerline, up to 1' AGL/58' MSL.

Trees beginning 29' from DER, 374' right of centerline, up to 65' MSL.

Tree 153' from DER, 332' left of centerline, 65' MSL.

Tree 164' from DER, 439' left of centerline, 73' MSL.

Rwy 36, terrain six' from DER, 317' left of centerline, 77' MSL.

Tree 104' from DER, 467' right of centerline, 77' MSL.

Tree 143' from DER, 201' left of centerline, 84' MSL.

Tree and vegetation beginning 185' from DER, 92' right of centerline, up to 86' MSL.

Tree and vegetation beginning 405' from DER, 197' right of centerline, up to 97' MSL.

Tree 663' from DER, 30' left of centerline, 86' MSL.

Tree 762' from DER, 97' left of centerline, 94' MSL.

Tree 791' from DER, 155' left of centerline, 96' MSL.

Tree 843' from DER, 227' left of centerline, 105' MSL.

Trees beginning 981' from DER, 100' left of centerline, up to 117' MSL.

CON'T
CRESSENT CITY, CA (CON’T)

JACK MC NAMARA FLD (CEC) (CON’T)

Rwy 36 (CON’T), trees beginning 1081’ from DER, 35’ left of centerline, up to 135’ MSL.

Tree 1135’ from DER, 226’ right of centerline, 104’ MSL.

Tree 1273’ from DER, 60’ right of centerline, 111’ MSL.

Trees beginning 1352’ from DER, 100’ right of centerline, up to 112’ MSL.

Trees beginning 1550’ from DER, 25’ right of centerline, up to 129’ MSL.

Tree 1629’ from DER, 425’ left of centerline, 149’ MSL.

Trees beginning 1654’ from DER, 473’ left of centerline, up to 151’ MSL.

Trees beginning 1824’ from DER, 192’ left of centerline, up to 159’ MSL.

Trees beginning 1961’ from DER, 78’ left of centerline, up to 164’ MSL.

Trees beginning 2056’ from DER, 978’ right of centerline, up to 150’ MSL.

Tree 2322’ from DER, 757’ right of centerline, 155’ MSL.

Trees beginning 2322’ from DER, 35’ right of centerline, up to 176’ MSL.

Tree 2590’ from DER, 908’ right of centerline, 179’ MSL.

Tree 2591’ from DER, 1044’ right of centerline, 189’ MSL.

Trees beginning 2644’ from DER, 367’ right of centerline, up to 192’ MSL.

Trees beginning 2696’ from DER, 70’ right of centerline, up to 195’ MSL.

Trees beginning 2928’ from DER, 135’ left of centerline, up to 174’ MSL.

Trees beginning 2933’ from DER, 37’ right of centerline, up to 196’ MSL.

Trees beginning 3318’ from DER, 75’ left of centerline, up to 181’ MSL.

Trees beginning 3587’ from DER, 132’ left of centerline, up to 182’ MSL.

DAVIS, CA

UNIVERSITY (EDU)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 3 07MAY09 (09127) (FAA)

DEPARTURE PROCEDURE:

Rwy 17, climbing right turn via heading 200° and ILA R-151 to EMBER INT/ILA 48 DME before proceeding on course.

Rwy 35, climbing left turn via heading 320° and ILA R-145 to ILA VORTAC before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 17, trees beginning 1353’ from DER, 31’ right of centerline, up to 40’ AGL/109’ MSL.

Rwy 35, tree 24’ from DER, 433’ left of centerline, 40’ AGL/104’ MSL.

Vehicle 288’ from DER, on centerline, 15’ AGL/74’ MSL.

DAVIS/WOODLAND/WINTERS, CA

YOLO COUNTY (DWA)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 19JUL18 (18200) (FAA)

DEPARTURE PROCEDURE:

Rwy 16, climb heading 164° to 2200 before turning right.

Rwy 34, climb heading 344° to 1500 before turning left.

TAKEOFF OBSTACLE NOTES:

Rwy 16, tree 462’ from DER, 543’ right of centerline, 139’ MSL.

Tree 733’ from DER, 566’ right of centerline, 147’ MSL.

Trees beginning 1182’ from DER, 434’ left of centerline, up to 195’ MSL.

Tree 2760’ from DER, 217’ right of centerline, 197’ MSL.

Rwy 34, tree 367’ from DER, 574’ right of centerline, 135’ MSL.

Tree, pole beginning 544’ from DER, 473’ left of centerline, up to 166’ MSL.

Tree 1010’ from DER, 541’ left of centerline, 206’ MSL.

EUREKA, CA

MURRAY FLD (EKA)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 4 27AUG09 (21196) (FAA)

TAKEOFF MINIMUMS:

Rwy 12, std. w/min. climb of 465’ per NM to 1800 or 3800-3 for climb in visual conditions.

DEPARTURE PROCEDURE:

Rwy 12 climbing right turn heading 265° to intercept V27. For climb in visual conditions: cross Murray Fld airport at or above 3700 before proceeding on course.

Rwy 30, climbing left turn heading 265° to intercept V27.

TAKEOFF OBSTACLE NOTES:

Rwy 12, bush 50’ from DER, 82’ left of centerline, 6’ AGL/16’ MSL.

Multiple trees beginning 1.5 NM from DER, 2933’ left of centerline.

Multiple trees beginning 1.6 NM from DER, 2318’ right of centerline.

Rwy 30, multiple trees, beginning 443’ from DER, 389’ right of centerline, up to 93’ AGL/103’ MSL.

Trunk 664’ from DER, 587’ left of centerline, 46’ AGL/56’ MSL.

Pole 753’ from DER, 155’ right of centerline 27’ AGL/ 37’ MSL.

Railroad 786’ from DER, 4’ left of centerline 23’ AGL/31’ MSL.

Road beginning 602’ from DER, 4’ left of centerline up to 15’ AGL/23’ MSL.

Bush 566’ from DER, 69’ left of centerline, 8’ AGL/18’ MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

FIREBAUGH, CA
FIREBAUGH (F34)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 20SEP12 (12264) (FAA)
DEPARTURE PROCEDURE:
Rwy 12, climbing right turn heading 134° to intercept the PXN VORTAC R-061 to MENDO INT. Aircraft departing MENDO INT heading 230° CW 150', climb on course. All others, climb in MENDO INT holding pattern (hold NE, right turns, 241° inbound) to cross MENDO INT at or above 3000 before proceeding on course.
Rwy 30, climbing left turn heading 180° to intercept PXN VORTAC R-061 to PXN VORTAC, continue climb in PXN VORTAC holding pattern (SW, right turns, 049° inbound) to cross PXN VORTAC at or above airway MEA/MCA for route of flight.
TAKEOFF OBSTACLE NOTES:
Rwy 30, poles beginning 921' from DER, 525' left of centerline, up to 65' AGL/203' MSL. Elevator 1941' from DER, 739' right of centerline, 97' AGL/242' MSL.

FORTUNA, CA
ROHNERVILLE (FOT)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 23OCT86 (86296) (FAA)
TAKEOFF MINIMUMS:
Rwy 11, NA.
DEPARTURE PROCEDURE:
Climb direct FOT VORTAC. Continue climb in holding pattern (hold N, right turns, 161° inbound) to cross FOT VORTAC at or above 3000.

FRESNO, CA
FRESNO CHANDLER EXEC (FCH)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 10OCT19 (21168) (FAA)
DEPARTURE PROCEDURE:
Rwy 12, climb on a heading between 101° CW to 290° from DER.
Rwy 30, climb on a heading between 111° CW to 338° from DER.
TAKEOFF OBSTACLE NOTES:
Rwy 12, sign 9' from DER, 125' left of centerline, 3' AGL/282' MSL. Pole, traverse way, vegetation, trees beginning 32' from DER, 125' right of centerline, up to 20' AGL/300' MSL. Tree 94' from DER, 310' right of centerline, 317' MSL. Trees, traverse way, vegetation, fence beginning 95' from DER, 60' right of centerline, up to 323' MSL. Trees, poles, traverse ways, fence, transmission line, building beginning 154' from DER, right of centerline, up to 326' MSL. Vegetation, fence beginning 250' from DER, 14' left of centerline, up to 292' MSL. Trees, vegetation, traverse way beginning 344' from DER, 14' left of centerline, up to 294' MSL. Traverse way, tree beginning 390' from DER, 10' left of centerline, up to 296' MSL. Pole, trees, vegetation, traverse way beginning 408' from DER, 9' left of centerline, up to 31' AGL/311' MSL. Trees, poles, transmission line, building beginning 476' from DER, 93' right of centerline, up to 341' MSL. Trees, traverse ways, vegetation beginning 499' from DER, 47' left of centerline, up to 323' MSL. Trees, poles, traverse way, transmission line, building beginning 615' from DER, 36' left of centerline, up to 332' MSL. Trees, poles, buildings beginning 630' from DER, 4' right of centerline, up to 346' MSL. Trees beginning 904' from DER, 15' left of centerline, up to 340' MSL. Trees, poles beginning 934' from DER, 38' left of centerline, up to 346' MSL. Trees, pole beginning 966' from DER, 7' right of centerline, up to 347' MSL. Poles, tree beginning 1093' from DER, 263' left of centerline, up to 63' AGL/348' MSL. Trees, poles beginning 1118' from DER, 12' left of centerline, up to 349' MSL. Trees, poles beginning 1133' from DER, 2' right of centerline, up to 355' MSL. Trees, poles beginning 1349' from DER, 13' left of centerline, up to 363' MSL. Trees, pole beginning 1640' from DER, 88' left of centerline, up to 372' MSL. Trees beginning 1756' from DER, 57' left of centerline, up to 375' MSL. Trees beginning 1816' from DER, 31' right of centerline, up to 376' MSL. Tree 3089' from DER, 146' left of centerline, 377' MSL. Tree 3792' from DER, 172' left of centerline, 378' MSL. Trees beginning 3938' from DER, 356' left of centerline, up to 391' MSL.
Rwy 30, traverse way 7' from DER, 341' right of centerline, 294' MSL. Sign 21' from DER, 120' left of centerline, 2' AGL/279' MSL. Pole, traverse way beginning 72' from DER, 374' left of centerline, up to 28' AGL/305' MSL. Tree, fences, traverse way beginning 114' from DER, 122' right of centerline, up to 296' MSL. Pole 140' from DER, 427' left of centerline, 38' AGL/315' MSL. Trees, vegetation, traverse way, poles beginning 174' from DER, 43' left of centerline, up to 326' MSL. Electrical system, traverse way beginning 377' from DER, 7' right of centerline, up to 19' AGL/297' MSL. Tree 1412' from DER, 799' left of centerline, 358' MSL. Poles beginning 1419' from DER, 158' right of centerline, up to 41' AGL/320' MSL. Tree 1539' from DER, 644' left of centerline, 389' MSL.
FRESNO, CA (CON’T)
FRESNO YOSEMITE INTL (FAT)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 9  10OCT19  (19283)  (FAA)
TAKEOFF MINIMUMS:
Rwys 11L/R, 29L/R, std. w/min. climb of 250’ per NM to 5000 or 5800 - 3 for VCOA.

DEPARTURE PROCEDURE:
Rwys 11L/R, climb heading 112° to 2500, then climbing left turn heading 040° to intercept FRA VORTAC R-150 to FRA VORTAC. Cross FRA VORTAC at or above 6000, then...
Rwys 29L/R, climb heading 292° to 2500, then climbing right turn heading 350° to intercept FRA VORTAC R-230. Cross FRA VORTAC at or above 6000, then...
...continue climb in FRA VORTAC holding pattern (hold south, left turn, 350° inbound) to cross FRA VORTAC at or above MEA/ MCA for route of flight.

VCOA:
All runways, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Fresno Yosemite Intl airport at or above 6000, then on FRA R-180 to FRA VORTAC before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 11L, lighting beginning 109’ from DER, on centerline, up to 4’ AGL/336’ MSL.
   Pole 648’ from DER, 542’ left of centerline, 16’ AGL/349’ MSL.
   Electrical system 1223’ from DER, 662’ right of centerline, 30’ AGL/363’ MSL.
   Pole 1229’ from DER, 664’ right of centerline, 33’ AGL/365’ MSL.
   Tree, pole beginning 1414’ from DER, 668’ right of centerline, up to 377’ MSL.
   Sign, transmission line beginning 1694’ from DER, 862’ right of centerline, up to 51’ AGL/383’ MSL.
Rwy 11R, lighting 10’ from DER, 55’ right of centerline, 1’ AGL/331’ MSL.
   General utility 664’ from DER, 274’ left of centerline, 3’ AGL/334’ MSL.
   Pole 1205’ from DER, 569’ right of centerline, 29’ AGL/364’ MSL.
   Pole 1458’ from DER, 280’ left of centerline, 21’ AGL/349’ MSL.
   Tower 1598’ from DER, 294’ right of centerline, 55’ AGL/385’ MSL.
   Electrical system, pole beginning 1598’ from DER, 262’ right of centerline, up to 57’ AGL/386’ MSL.
   Tree 2648’ from DER, 442’ right of centerline, 398’ MSL.
Rwy 29L, lighting 9’ from DER, 55’ left of centerline, 1’ AGL/331’ MSL.
   Lighting 10’ from DER, 54’ right of centerline, 1’ AGL/331’ MSL.
   Transmission line, pole beginning 997’ from DER, 620’ left of centerline, up to 55’ AGL/385’ MSL.
   Tree 648’ from DER, 176’ right of centerline, 3093’ MSL.
   Trees beginning 698’ from DER, 175’ right of centerline, up to 3094’ MSL.
   Tree 748’ from DER, 138’ right of centerline, 3102’ MSL.
   Tree 773’ from DER, 167’ right of centerline, 3102’ MSL.

GRASS VALLEY, CA
NEVADA COUNTY (GOO)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1A  29MAR18  (18088)  (FAA)
TAKEOFF MINIMUMS:
Rwy 7, NA.

DEPARTURE PROCEDURE:
Rwy 25, climb via MYV R-058 to 6000 then continue climb on course.

TAKEOFF OBSTACLE NOTES:
Rwy 25, multiple trees and bushes beginning 40’ from DER, 78’ right of centerline, up to 3087’ MSL.
   Trees beginning 68’ from DER, 312’ left of centerline, up to 3137’ MSL.
   Trees beginning 593’ from DER, 149’ right of centerline, up to 3088’ MSL.
   Tree 648’ from DER, 176’ right of centerline, 3093’ MSL.
   Trees beginning 698’ from DER, 175’ right of centerline, up to 3094’ MSL.
   Tree 748’ from DER, 138’ right of centerline, 3096’ MSL.
   Tree 773’ from DER, 167’ right of centerline, 3102’ MSL.

GROVELAND, CA
PINE MOUNTAIN LAKE (E45)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1  10NOV16  (16315)  (FAA)
TAKEOFF MINIMUMS:
Rwy 9, 600-2½ or std. w/min. climb of 400’ per NM to 4000.

DEPARTURE PROCEDURE:
Rwy 9, turn right.
Rwy 27, turn left.
All aircraft climb direct LIN VOR/DME. Cross LIN VOR/DME at or above 5000.
HALF MOON BAY, CA
HALF MOON BAY (HAF)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1  15SEP16  (16259)  (FAA)
TAKEOFF MINIMUMS:
Rwy 12, 2600-2 or std. with a min. climb of 306' per NM to 3400.
Rwy 30, NA.
DEPARTURE PROCEDURE:
Rwy 12, climb runway heading to 3000, then climb direct OSI VOR/DME, to cross OSI VOR/DME at or above 3500 before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 12, tree 2556’ from DER, 212’ left of centerline, 90’ AGL/104’ MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)
ORIG 16OCT14  (14289)  (FAA)
Rwy 12, heading as assigned by ATC.

HANFORD, CA
HANFORD MUNI (HJO)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1A  15SEP16  (16259)  (FAA)
DEPARTURE PROCEDURE:
Rwy 14, climbing left turn heading 050° to intercept V-23.
Rwy 32, climbing right turn heading 050° to intercept V-23.
TAKEOFF OBSTACLE NOTES:
Rwy 14: fence 9’ from DER, 298’ left of centerline, 244’ MSL.
Catenary 1293’ from DER, 1293’ left of centerline, 39’ AGL/287’ MSL.
Poles beginning 1679’ from DER, crossing centerline, up to 52’ AGL/296’ MSL.
Trees beginning 2224’ from DER, 391’ left of centerline up to 313’ MSL.
Rwy 32: fence 168’ from DER, 9’ left of centerline, 245’ MSL.
Pole 588’ from DER, 588’ left of centerline, 25’ AGL/278’ MSL.
Sign 614’ from DER, 151’ right of centerline, 9’ AGL/261’ MSL.
Trees and poles beginning 592’ from DER, 3’ left of centerline, up to 300’ MSL.
Poles beginning 1127’ from DER, 222’ right of centerline, up to 40’ AGL/293’ MSL.
Tree 2159’ from DER, 434’ right of centerline, 299’ MSL.

HAYWARD, CA
HAYWARD EXEC (HWD)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1  13JAN11  (21140)  (FAA)
DEPARTURE PROCEDURE:
Rwys 10L, 10R, climbing right turn direct OSI VORTAC.
Rwys 28L, 28R, climbing left turn direct OSI VORTAC.
TAKEOFF OBSTACLE NOTES:
Rwy 10L, hangars, trees and buildings beginning 625’ from DER, 67’ left of centerline, up to 100’ AGL/155’ MSL.
Trees beginning 2050’ from DER, 1’ right of centerline, up to 60’ AGL/107’ MSL.
Rwy 10R, trees, poles, and buildings beginning 21’ from DER, 61’ left of centerline, up to 100’ AGL/155’ MSL.
Windsock, blast fence, trees, buildings and pole beginning 23’ from DER, 38’ right of centerline, up to 74’ AGL/119’ MSL.
Rwys 28L, trees beginning 899’ from DER, 141’ left of centerline, up to 93’ AGL/108’ MSL.
Antennas, road, and trees beginning 108’ from DER, 68’ right of centerline, up to 87’ AGL/102’ MSL.
Rwys 28R, antenna and trees beginning 729’ from DER, 28’ left of centerline, up to 87’ AGL/102’ MSL.
Trees beginning 391’ from DER, 4’ right of centerline, up to 95’ AGL/125’ MSL.

HAYWARD EXECUTIVE (HWD)
DIVERSE VECTOR AREA (RADAR VECTORS)
AMDT 1  07JAN16  (16007)  (FAA)
Rwys 10L/R, heading as assigned by ATC.
Rwys 28L/R, heading as assigned by ATC; requires min. climb of 310’ per NM to 4600.
HOLLISTER, CA
HOLLISTER MUNI (CVH)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1  05JUN08 (08157) (FAA)
TAKEOFF MINIMUMS:
Rwy 6, NA-obstacles.
Rwy 24, NA-ATC.
Rwy 13, std. w/ min. climb of 391' per NM to 3500, or 3100-3 for climb in visual conditions.
Rwy 31, std. w/ min climb of 209' per NM to 2300, or 3100-3 for climb in visual conditions.
DEPARTURE PROCEDURE:
Rwy 13, climbing right turn to heading 332° and via SJC R-121 direct SJC VOR/DME to 6000 before proceeding on course or for climb in visual conditions: cross Hollister Muni Airport at or above 3100 MSL before proceeding on course.
Rwy 31, climb heading 307° and via SJC R-121 direct SJC VOR/DME to 6000 before proceeding on course or for climb in visual conditions: cross Hollister Muni Airport at or above 3100 MSL before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 13, terrain beginning 992' from DER, 348' left of centerline, up to 289' MSL.
Terrain beginning 2467' from DER, 154' right of centerline, up to 309' MSL.
Trees beginning 1277' from departure end of runway, 348' left of centerline, up to 309' MSL.
Trees beginning 2467' from DER, 153' right of centerline, up to 270' MSL.
Rwy 31, terrain beginning 76' from DER, 392' left of centerline, up to 247' MSL.
Terrain beginning 14' from DER, 179' right of centerline, up to 231' MSL.

JACKSON, CA
WESTOVER FLD AMADOR COUNTY (JAQ)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1  10NOV16 (21112) (FAA)
DEPARTURE PROCEDURE:
Rwy 1, turn left.
Rwy 19, turn right.
All aircraft climb direct LIN VOR/DME, continue climb on course.

LAKEPORT, CA
LAMPSON FIELD (1O2)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1  08APR10 (10098) (FAA)
TAKEOFF MINIMUMS:
Rwy 10, std. with a min. climb of 400' per NM to 4500, do not exceed 210 Knots until intercepting the ENI R-073 or 3200-3 for climb in visual conditions.
Rwy 28, NA-Rapidly rising terrain.
DEPARTURE PROCEDURE:
Rwy 10, climbing left turn to 6000 via heading 310° and ENI R-073 to ENI VORTAC before proceeding on course, or for climb in visual conditions: cross Lampson Field at or above 4400 MSL before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 10, vehicle on road 347' from DER, 7' right of centerline, 15' AGL/1394' MSL.
Trees beginning 280' from DER, 201' left of centerline, up to 100' AGL/1479' MSL.
Trees beginning 494' from DER, 219' right of centerline, up to 100' AGL/1479' MSL.

LEMOORE NAS (REEVES FIELD) (KNLC)
LEMOORE, CA
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG  27SEP07 (07270) (USN)
Rwy 14L, cross DER at or above 15' AGL/235' MSL.
Rwy 14R, cross DER at or above 15' AGL/245' MSL.
Rwy 32L, cross DER at or above 15' AGL/234' MSL, departure headings 142° CW 283°, min. military climb 220'/NM to 6400, min. civil climb 220'/NM to 6600.
Rwy 32R, cross DER at or above 15' AGL/239' MSL, departure headings 142° CW 281° min. military climb 220'/NM to 6400, min. civil climb 220'/NM to 6600.

DIVERSE VECTOR AREA (RADAR VECTORS)
ORIG  17JUN21 (21168) (USN)
Rwys 14L/R, 32L/R, hdgs as assigned by ATC.
LINCOLN, CA
LINCOLN RGNL/KARL HARDER FLD (LHM)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3  20JUL95 (21140) (FAA)
DEPARTURE PROCEDURE:
Rwy 15, climbing right turn.
Rwy 33, climbing left turn.
All aircraft climb direct LIN R-290 to LIN VOR/DME, then climb on course.

DIVERSE VECTOR AREA (RADAR VECTORS)
ORIG  05FEB15 (15036) (FAA)
  Rwys 15,33, headings as assigned by ATC.

LITTLE RIVER, CA
LITTLE RIVER (LLR)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG  03JUN10 (10154) (FAA)
DEPARTURE PROCEDURE:  Use LITTLE RIVER DEPARTURE.

LIVERMORE, CA
LIVERMORE MUNI (LVK)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4  22JUN17 (17173) (FAA)
DEPARTURE PROCEDURE:
Use LIVERMORE DEPARTURE.

DIVERSE VECTOR AREA (RADAR VECTORS)
ORIG  02APR15 (15092) (FAA)
Rwys 7L, 7R, 25L, 25R, headings as assigned by ATC; requires minimum climb of 375' per NM to 5000.

LODI, CA
LODI (103)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2A  10NOV16 (16315) (FAA)
TAKEOFF MINIMUMS:
Rwys 12, 30, NA-Environmental.
DEPARTURE PROCEDURE:
Rwy 8, climb heading 076° to 600 then climbing right turn on LIN R-290 to LIN VOR/DME, thence...
Rwy 26, climb heading 256° to 800 climbing right turn on heading 080° to intercept LIN R-290 to LIN VOR/DME, thence...
...continue climb in hold (hold Southeast, right turns, 326° inbound) to MCA or MEA for route of flight.
TAKEOFF OBSTACLE NOTES:
Rwy 8, hangars, buildings, and vehicles on roadways beginning at DER, left and right of centerline, up to 25' AGL/84' MSL.
Power lines beginning at 4.9 NM from DER, left and right of centerline, up to 160' AGL/220' MSL.
Rwy 26, vehicles on roadway beginning 7' from DER, 265' right of centerline, up to 15' AGL/69' MSL.
Trees beginning 15' from DER, left and right of centerline, up to 100' AGL/154' MSL.
Power lines beginning at 4.6 NM from DER, left and right of centerline, up to 160' AGL/220' MSL.

LOS BANOS, CA
LOS BANOS MUNI (LSN)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2  17DEC09 (09351) (FAA)
DEPARTURE PROCEDURE:
Rwy 14, climb on a heading between 318° CW to 151° from DER, or minimum climb of 320' per NM to 5100 for all other courses.
Rwy 32, climb on a heading between 260° CW to 137° from DER, or minimum climb of 273' per NM to 5200 for all other courses.
TAKEOFF OBSTACLE NOTES:
Rwy 14, multiple trees, poles, buildings beginning 3' from DER, 24' left of centerline, up to 73' AGL/194' MSL.
Multiple trees, poles, buildings beginning 20' from DER, 21' right of centerline, up to 85' AGL/206' MSL.
Rwy 32, multiple trees beginning 220' from DER, 453' right of centerline, up to 40' AGL/160' MSL.
Multiple poles, beginning 1120' from DER, 173' left of centerline, up to 60' AGL/181' MSL.
MADERA, CA
MADERA MUNI (MAE)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5A 31DEC20 (20366) (FAA)
TAKEOFF MINIMUMS:
Rwy 12, std. w/ min. climb of 250’ per NM to 2000.
DEPARTURE PROCEDURE:
Rwy 12, climbing left turn heading 080° to intercept V-230.
Rwy 30, climbing right turn heading 110° to intercept V-230.

MAMMOTH LAKES, CA
MAMMOTH YOSEMITE (MMH)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 05MAR15 (15064) (FAA)
DEPARTURE PROCEDURE:
Use NIKOL DEPARTURE.

MARINA, CA
MARINA MUNI (OAR)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 11FEB10 (10042) (FAA)
TAKEOFF MINIMUMS:
Rwy 11, std. with a min. climb of 307’ per NM to 4500, or 2000-2½ for climb in visual conditions.
DEPARTURE PROCEDURE:
Rwy 11, climb heading 108° and SNS VORTAC R-252 to SNS VORTAC, thence,...,
or for climb in visual conditions: cross Marina Muni Airport at or above 2100, then proceed on SNS VORTAC R-261 to SNS
VORTAC, thence...
Rwy 29, climb via heading 288° to 1200’, then climbing right turn direct SNS VORTAC, thence...
All aircraft continue climb in SNS holding pattern (West, left turns , 084° inbound) to cross SNS VORTAC at or above
MEA/MCA for direction of flight before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 11, windsock 32’ from DER, 386’ left of centerline, 8’ AGL/148’ MSL.
Rwy 29, bush 158’ from DER, 272’ right of centerline, 10’ AGL/142’ MSL.

MARIPOSA, CA
MARIPOSA-YOSEMITE (MPI)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 20JAN05 (05020) (FAA)
TAKEOFF MINIMUMS:
Rwy 8, N/A-Obstacles
DEPARTURE PROCEDURE:
Rwy 26, climb via heading 265° to 3000, then climbing left turn to 7000 direct FRA VORTAC before proceeding on
course.
TAKEOFF OBSTACLE NOTES:
Rwy 26, tree 10’ from DER, 313’ left of centerline, 100’ AGL/2265’ MSL.
Tree 1146’ from DER, 303’ left of centerline, 100’ AGL/2298’ MSL.
Rwy 23, railroad 822’ from DER, 1’ right of centerline, 23’ AGL/83’ MSL.
Building 903’ from DER, 387’ right of centerline, 29’ AGL/89’ MSL.
Rwy 32, pole 1040’ from DER, 717’ left of centerline, 32’ AGL/94’ MSL.
Tree 2487’ from DER, 607’ left of centerline, 75’ AGL/134’ MSL.
Tree 3135’ from DER, 672’ right of centerline, 93’ AGL/157’ MSL.

MARYSVILLE, CA
YUBA COUNTY (MYV)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1A 27JUN13 (13178) (FAA)
DEPARTURE PROCEDURE:
All runways, climb direct ILA VORTAC.
TAKEOFF OBSTACLE NOTES:
Rwy 5, tree 750’ from DER, 239’ right of centerline, 44’ AGL/109’ MSL.
Tower 986’ from DER, 258’ left of centerline, 46’ AGL/108’ MSL.
Tree 1737’ from DER, 191’ left of centerline, 70’ AGL/134’ MSL.
Tree 2792’ from DER, 607’ left of centerline, 81’ AGL/145’ MSL.
Rwy 23, railroad 822’ from DER, 1’ right of centerline, 23’ AGL/85’ MSL.
Building 903’ from DER, 387’ right of centerline, 29’ AGL/89’ MSL.
Rwy 32, pole 1040’ from DER, 717’ left of centerline, 32’ AGL/94’ MSL.
Tree 2487’ from DER, 607’ left of centerline, 75’ AGL/134’ MSL.
Tree 3135’ from DER, 672’ right of centerline, 93’ AGL/157’ MSL.

SW-2, 07 OCT 2021 to 02 DEC 2021
SW-2, 07 OCT 2021 to 02 DEC 2021
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

MERCED, CA
MERCED RGNL/MACREADY FLD (MCE)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5B 10DEC15 (21280) (FAA)
DEPARTURE PROCEDURE:
Rwy 12, climbing right turn to 3000 via heading 330° and MOD R-120 to MOD.
Rwy 30, climb to 3000 via heading 300° and MOD R-120 to MOD.
TAKEOFF OBSTACLE NOTES:
Rwy 12, tree 1321' from DER, 785' left of centerline, 50' AGL/190' MSL.
Rwy 30, bush 486' from DER, 604' left of centerline, 20' AGL/170' MSL.
Tree 2457' from DER, 263' left of centerline, 50' AGL/220' MSL.

MODESTO, CA
MODESTO CITY-COUNTY-HARRY SHAM FLD (MOD)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5A 10JAN13 (21168) (FAA)
DEPARTURE PROCEDURE:
Rwys 28L/R, climb on a heading between 256° CW to 109° from DER, or min. climb of 230' per NM to 5000 for all other courses.
TAKEOFF OBSTACLE NOTES:
Rwy 10R, trees beginning 169' from DER, 37' right of centerline, up to 91' AGL/195' MSL.
Sign 57' from DER, 211' right of centerline, 15' AGL/148' MSL.
Sign 16' from DER, 135' left of centerline, 4' AGL/87' MSL.
Trees beginning 823' from DER, 79' left of centerline, up to 89' AGL/148' MSL.
Rwy 10L, trees beginning 15' from DER, 65' right of centerline, up to 68' AGL/72' MSL.
Vehicles on road beginning 178' from DER, 17' left of centerline, up to 15' AGL/86' MSL.
Trees beginning 1413' from DER, 184' left of centerline, up to 63' AGL/126' MSL.
Rwy 28R, vehicles on road beginning 47' from DER, 332' right of centerline, up to 15' AGL/114' MSL.
Pole 754' from DER, 699' right of centerline, 34' AGL/133' MSL.
Building 979' from DER, 697' right of centerline, 29' AGL/128' MSL.
Tree 1330' from DER, 516' right of centerline, 37' AGL/136' MSL.
Trees beginning 2077' from DER, 379' left of centerline, up to 79' AGL/173' MSL.
Rwy 28L, multiple poles, trees, and buildings beginning 128' from DER, 34' left of centerline, up to 102' AGL/196' MSL.
Vehicles on road beginning 448' from DER, 219' left of centerline, up to 15' AGL/112' MSL.
Multiple poles and building beginning 1021' from DER, 350' right of centerline, up to 57' AGL/154' MSL.
Trees beginning 1112' from DER, 20' right of centerline, up to 70' AGL/164' MSL.

MONTAGUE, CA
SISKIYOU COUNTY (SIY)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2A 09JAN14 (14009) (FAA)
TAKEOFF MINIMUMS:
Rwy 17, CAT A,B 2400-2 or std. with a min. climb of 350' per NM to 5500. CAT C,D 4100-2 or std. with a min. climb of 350' per NM to 7400.
Rwy 35, 4000-2 or std. with a min. climb of 300' per NM to 7000.
DEPARTURE PROCEDURE:
Rwy 17, climb direct MOG NDB. Continue climb to 10000 in MOG holding pattern (hold N, right turns, 176° inbound).
Rwy 35, climb to 7000 via runway heading and 356° bearing from MOG NDB, then climbing right turn to 10000 direct MOG NDB.
All aircraft depart MOG NDB at or above MEA for route of flight.

MONTEREY, CA
MONTEREY RGNL (MRY)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 8 10DEC15 (15344) (FAA)
TAKEOFF MINIMUMS:
Rwy 10L, std. w/min. climb of 449' per NM to 1800, or 1700-2½ for climb in visual conditions.
Rwy 10R, std. w/min. climb of 459' per NM to 1800, or 1700-2½ for climb in visual conditions.
Rwy 28L, std. w/min. climb of 218' per NM to 3300, or 1700-2½ for climb in visual conditions.
Rwy 28R, std. w/min. climb of 205' per NM to 3300, or 1700-2½ for climb in visual conditions.
DEPARTURE PROCEDURE:
Rwy 10L, climbing left turn heading 045.00 and SNS VORTAC R-225 to SNS VORTAC, climb in SNS holding pattern (hold W, LT, 084° inbound) to cross SNS VORTAC at or above MEA/MCA for route of flight.
Rwy 10R, climbing left turn heading 045° and SNS VORTAC R-225 to SNS VORTAC, climb in SNS holding pattern (hold W, LT, 084° inbound) to cross SNS VORTAC at or above MEA/MCA for route of flight.
Rwy 28L, climbing right turn heading 045° and SNS VORTAC R-260 to SNS VORTAC, climb in SNS holding pattern (hold W, LT, 084° inbound) to cross SNS VORTAC at or above MEA/MCA for route of flight.
Rwy 28R, climbing right turn heading 045° and SNS VORTAC R-260 to SNS VORTAC, climb in SNS holding pattern (hold W, LT, 084° inbound) to cross SNS VORTAC at or above MEA/MCA for route of flight.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

MONTEREY, CA (CON’T)
MONTEREY RGNL (MRY) (CON’T)

VCOA:
Obtain ATC approval for climb in visual conditions when requesting IFR clearance. Climb in visual conditions to cross Monterey RGNL at or above 1800, then on SNS VORTAC R-231 to SNS VORTAC. Climb in SNS holding pattern (hold W, LT, 084° inbound) to cross SNS VORTAC at or above MEA/MCA for route of flight.

TAKEOFF OBSTACLE NOTES:

Rwy 10L, NAVAL 556’ from DER, 217’ right of centerline, 20’ AGL/272’ MSL.
Bushes beginning 1.6 NM from DER, 1188’ left of centerline up to 9’ AGL/729’ MSL.
Trees beginning 1.7 NM from DER, 923’ left of centerline up to 102’ AGL/764’ MSL.
Trees beginning 1.6 NM from DER, 1993’ right of centerline up to 90’ AGL/923’ MSL.
Bushes beginning 1.9 NM from DER, 2497’ right of centerline up to 9’ AGL/781’ MSL.
Tower 2 NM from DER 3305’ left of centerline, 27’ AGL/767’ MSL.

Rwy 10R, ground 11’ from DER, 358’ left of centerline 258’ MSL.
Tree 230’ from DER 388’ left of centerline 21’ AGL/265’ MSL.
NAVAL 240’ from DER, 292’ left of centerline, 20’ AGL/272’ MSL.
Bushes beginning 1.5 NM from DER, 2381’ left of centerline, up to 9’ AGL/648’ MSL.
Trees beginning 1.7 NM from DER, 2381’ left of centerline, up to 9’ AGL/648’ MSL.
Trees beginning 1.8 NM from DER, 2005’ right of centerline up to 9’ AGL/741’ MSL.
Trees beginning 1.5 NM from DER, 1749’ right of centerline up to 90’ AGL/843’ MSL.

Rwy 10L, terrain abeam DER, 198’ left of centerline, up to 163’ MSL.
Tress beginning 797’ from DER, 678’ left of centerline, 21’ AGL/265’ MSL.
Tree 1008’ from DER, 616’ left of centerline, 100’ AGL/195’ MSL.
Pole 1128’ from DER, 716’ left of centerline, 54’ AGL/195’ MSL.
Tree 1372’ from DER, 755’ left of centerline, 93’ AGL/227’ MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)
AMDT 1 23JUN16 (16175) (FAA)

Rwy 10L, heading as assigned by ATC; requires min. climb of 360’ per NM to 2900.
Rwy 10R, heading as assigned by ATC; requires min. climb of 370’ per NM to 2800.
Rwy 28L, heading as assigned by ATC; requires min. climb of 310’ per NM to 1100.
Rwy 28R, heading as assigned by ATC; requires min. climb of 250’ per NM to 1100.

MOUNTAIN VIEW, CA
MOFFETT FEDERAL AIRFIELD (NUQ)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 18OCT12 (21188) (FAA)

TAKEOFF MINIMUMS:
Rwys 14L/R, std. w/min. climb of 550’ per NM to 4000 or 1700-2½ for climb in visual conditions.
Rwys 32L/R, std. w/min. climb of 285’ per NM to 3500 or 1700-2½ for climb in visual conditions.

DEPARTURE PROCEDURE:
Rwys 14L/R, climbing right turn direct OSI VORTAC, thence… or for climb in visual conditions cross Moffett Federal Airfield at or above 1600 then on OSI R-066 to OSI VORTAC, thence… When executing VCOA notify ATC prior to departure.
Rwys 32L/R, climbing heading 322° to 700, then climbing left turn heading 230° until receiving OSI VORTAC, then direct OSI VORTAC, thence… or for climb in visual conditions cross Moffett Federal Airfield at or above 1600 then on OSI R-066 to OSI VORTAC, thence… When executing VCOA notify ATC prior to departure.
...continue climb in OSI VORTAC holding pattern (hold southeast, left turns, 321° inbound) to cross OSI VORTAC at or above MEA for route of flight.

TAKEOFF OBSTACLE NOTES:

Rwys 14L/R, light support structures abeam DER, 76’ left and 76’ right of centerline, up to 3’ AGL/7’ MSL.
Vehicles on road beginning 5’ from DER, 92’ left of centerline, up to 15’ AGL/20’ MSL.
Vehicles on road beginning 512’ from DER, 158’ right of centerline, up to 15’ AGL/20’ MSL.
Fence 134’ from DER, left and right of centerline, up to 8’ AGL/12’ MSL.

Rwys 32L/R, light support structures abeam DER, 76’ left and 76’ right of centerline, up to 1’ AGL/5’ MSL.
NAVAL 449 from DER, 315’ right of centerline, up to 17’ AGL/21’ MSL.
Tree 1632’ from DER, 934’ left of centerline, up to 100’ AGL/129’ MSL.

Rwy 14L, light support structure 13’ from DER, 126’ right of centerline, up to 4’ AGL/34’ MSL.
Vehicles on road beginning 770’ from DER, 547’ right of centerline, 15’ AGL/53’ MSL.
Rail car on railroad beginning 774’ from DER, 261’ right of centerline, up to 23’ AGL/60’ MSL.
Trees beginning 1191’ from DER, 71’ right of centerline, up to 100’ AGL/171’ MSL.
Trees beginning 1922’ from DER, 109’ left of centerline, up to 100’ AGL/153’ MSL.

Rwy 14R, light support structures abeam DER, 77’ right and 77’ left of centerline, up to 3’ AGL/37’ MSL.
Fence, 187’ from DER, 488’ right of centerline, up to 8’ AGL/48’ MSL.
Vehicles on road beginning 207’ from DER, 520’ right of centerline, 15’ AGL/55’ MSL.
Rail car on railroad beginning 955’ from DER, 342’ left of centerline, up to 23’ AGL/60’ MSL.
Vehicles beginning 1066’ from DER, 34’ left of centerline, up to 100’ AGL/153’ MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

NAPA, CA
NAPA COUNTY (APC)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4 03JUN10 (10154) (FAA)
DEPARTURE PROCEDURE: Use NAPAA DEPARTURE.

NOVATO, CA
GNSSO FLD (DVO)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 02MAY13 (21224) (FAA)
TAKEOFF MINIMUMS:
Rwy 13, 400-2½ or std. w/min. climb of 580' per NM to 500.
Rwy 31, 600-2½ w/min. climb of 285' per NM to 1500 or std. w/min. climb of 679' per NM to 800 or 2000-2½ for climb in visual conditions...

DEPARTURE PROCEDURE:
Rwy 13, climb heading 132° to 600 then turn left direct SGD VORTAC before proceeding on course.
Rwy 31, climbing right turn direct SGD VORTAC before proceeding on course.
... For climb in visual conditions, cross Gnoss Fld at or above 1900' MSL then proceed direct SGD VORTAC before proceeding on course. When executing VCOA, notify ATC prior to departure.
TAKEOFF OBSTACLE NOTES:
Rwy 13, trees beginning 2633' from DER, 627' left of centerline, up to 50' AGL/346' MSL.
Trees beginning 3630' from DER, 1274' right of centerline, up to 50' AGL/369' MSL.
Power line 1.7 NM from DER, 1980' left of centerline, 121' AGL/360' MSL.
Rwy 31, trees beginning 3237' from DER, 321' left of centerline, up to 50' AGL/369' MSL.

OAKDALE, CA
OAKDALE (O27)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1 10NOV16 (16315) (FAA)
DEPARTURE PROCEDURE:
Rwy 10, climbing left turn via heading 020° and LIN VOR/DME R-124 to WRAPS INT/LIN 16.66 DME. Climb in WRAPS holding pattern (Northwest, right turn, 124° inbound) to cross WRAPS INT at or above MEA for direction of flight.
Rwy 28, climb via heading 276° and LIN VOR/DME R-146 to LIN VOR/DME to cross LIN VOR/DME at or above MEA for direction of flight.

TAKEOFF OBSTACLE NOTES:
Rwy 10, terrain beginning 388' from DER, up to 279' MSL.
Rwy 28, power line 3447' from DER, 407' right of centerline, 115' AGL/329' MSL.

OAKLAND, CA
METRO OAKLAND INTL (OAK)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 7 17OCT13 (21168) (FAA)
DEPARTURE PROCEDURE:
Rwys 10L/R, 12, 15, 30, climbing right turn to intercept V107-301, thence...
Rwys 28L/R, climb heading 278° to intercept V107-301, thence...
Rwy 33, climbing left turn to intercept V107-301, thence...
... to cross COMMO INT at or above 4000, continue climb-in-hold (hold E, right turns, 288° inbound) to 4000 before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 10L, building, hanger and road beginning 225' from DER, 554' left of centerline, up to 37' AGL/42' MSL.
Trees beginning 1644' from DER, 309' left of centerline, up to 59' AGL/67' MSL.
Rwy 10R, Runway lights 9' from DER, 26' left and right of centerline, 1' AGL/9' MSL.
Sign 63' from DER, 251' left of centerline, 4' AGL/10' MSL.
Signs and poles beginning 1160' from DER, 177' right of centerline, up to 36' AGL/50' MSL.
Rwy 12, Runway end and ALS lights beginning 11' from DER, 9' left and right of centerline, 1' AGL/10' MSL.
Rwy 13, ATCT 3613' from DER, 1017' left of centerline, 88' AGL/101' MSL.
Obstruction light on WSK 813' from DER, 577' right of centerline, 24' AGL/27' MSL.
Rwy 28L, rising terrain beginning 8' from DER, crossing centerline, up to 9' MSL.
Multiple trees beginning 105' from DER, 35' left of centerline, up to 64' AGL/80' MSL.
Traffic lights and poles beginning 895' from DER, 164' left of centerline, up to 29' AGL/37' MSL.
Substation 1593' from DER, 871' left of centerline, 37' AGL/53' MSL.
Fence 95' from DER, 410' left of centerline, 6' AGL/13' MSL.
Multiple trees beginning 994' from DER, 55' right of centerline, up to 91' AGL/96' MSL.
Rwy 28R, multiple trees beginning 1745' from DER, 23' left of centerline, up to 91' AGL/96' MSL.
Multiple trees beginning 2053' from DER, 88' right of centerline, up to 109' AGL/111' MSL.
Rwy 30, light pole 582' from DER, 483' left of centerline, 16' AGL/26' MSL.
Rwy 33, multiple trees, buildings and poles beginning 256' from DER, 497' left of centerline, up to 41' AGL/45' MSL.
Multiple trees, buildings, poles and towers beginning 762' from DER, 267' right of centerline, up to 39' AGL/51' MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

OAKLAND, CA (CON’T)
METRO OAKLAND INTL (OAK) (CON’T)
DIVERSE VECTOR AREA (RADAR VECTORS)
ORIG 16OCT14 (14289) (FAA)

Rwy 10L, headings as assigned by ATC; requires min. climb of 340’ per NM to 2300.
Rwy 10R, headings as assigned by ATC; requires min. climb of 330’ per NM to 2300.
Rwys 12, 15, headings as assigned by ATC.
Rwys 28L/R, 30, headings as assigned by ATC; requires min. climb of 240’ per NM to 2400.
Rwy 33, headings as assigned by ATC; requires min. climb of 210’ per NM to 2400.

ORLAND, CA
HAIGH FIELD (O37)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 21MAY20 (20142) (FAA)
DEPARTURE PROCEDURE:
Rwy 15, climb to 1000 then climbing left turn heading 100° to intercept RBL VORTAC R-140 to 5000 before proceeding on course.
Rwy 33, climb to 1000, then climbing right turn heading 020° to intercept RBL VORTAC R-140 to 5000 before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 15, fence 6’ from DER, 383’ right of centerline, 6’ AGL/214’ MSL.
Fence 15’ from DER, 397’ left of centerline, 6’ AGL/214’ MSL.
Pole 88’ from DER, 443’ left of centerline, 29’ AGL/237’ MSL.
Pole 1198’ from DER, 661’ right of centerline, 35’ AGL/247’ MSL.
Pole beginning 1262’ from DER, 173’ right of centerline, up to 45’ AGL/258’ MSL.
Tree 1370’ from DER, 824’ left of centerline, 270’ MSL.
Tree 1464’ from DER, 390’ right of centerline, 273’ MSL.
Trees beginning 1480’ from DER, 399’ right of centerline, up to 313’ MSL.
Rwy 33, tree, traverse way beginning 78’ from DER, 224’ left of centerline, up to 237’ MSL.
Pole beginning 358’ from DER, 298’ right of centerline, up to 24’ AGL/241’ MSL.
Pole 955’ from DER, 256’ left of centerline, 31’ AGL/249’ MSL.
Tree 1202’ from DER, 791’ left of centerline, 308’ MSL.
Tree 1807’ from DER, 595’ right of centerline, 273’ MSL.
Tree 2388’ from DER, 383’ right of centerline, 324’ MSL.

OROVILLE, CA
OROVILLE MUNI (OVE)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4 22JUN17 (17173) (FAA)
TAKEOFF MINIMUMS:
Rwy 2, std. w/ min. climb of 280’ per NM to 1500, or 1000-2½ for VCOA.
Rwy 31, 300-1½ or std. w/ min. climb of 245’ per NM to 600.
DEPARTURE PROCEDURE:
Rwy 2, 31, climbing left turn to 5000 on heading 200° direct ILA VORTAC before proceeding on course.
Rwys 13, 20, climbing right turn to 5000 on heading 210° direct ILA VORTAC before proceeding on course.
VCOA:
Obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Oroville Municipal airport south-westbound at or above 1000, then direct ILA VORTAC before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 2, ground 170’ from DER, 475’ right of centerline, 189’ MSL.
Ground 191’ from DER, 489’ right of centerline, 190’ MSL.
Tree 511’ from DER, 600’ left of centerline, 231’ MSL.
Tree 513’ from DER, 603’ left of centerline, 236’ MSL.
NAVAID 1143’ from DER, 348’ right of centerline, 215’ MSL.
Pole 1364’ from DER, 740’ right of centerline, 255’ MSL.
Poles beginning 1365’ from DER, 537’ right of centerline, up to 256’ MSL.
Rwy 13, poles beginning 128’ from DER, 292’ right of centerline, up to 29’ AGL/203’ MSL.
Vertical structure 177’ from DER, 493’ left of centerline, 184’ MSL.
Vehicles on road 210’ from DER, 515’ left of centerline, 189’ MSL.
Tree 312’ from DER, 554’ left of centerline, 205’ MSL.
Rwy 20, vehicles on road 819’ from DER, 376’ left of centerline, 203’ MSL.
Poles beginning 902’ from DER, 655’ right of centerline, up to 36’ AGL/217’ MSL.
Rwy 31, sign 32’ from DER, 325’ left of centerline, 195’ MSL.
Ground beginning 100’ from DER, 410’ right of centerline, up to 200’ MSL.
Trees beginning 641’ from DER, 621’ left of centerline, up to 244’ MSL.
Tree 1380’ from DER, 466’ left of centerline, 264’ MSL.
T-L tower 1.3 NM from DER, 1826’ right of centerline, 144’ AGL/444’ MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

PALO ALTO, CA
PALO ALTO (PAO)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG-B 15OCT15 (15288) (FAA)
DEPARTURE PROCEDURE:
Rwy 13, turn left.
Rwy 31, turn right.
All aircraft climb direct SJC VOR/DME before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 13, building with ship mast 1325' from DER, 60' left of centerline, 60' AGL/67' MSL.

PETALUMA, CA
PETALUMA MUNI (O69)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 13NOV14 (14317) (FAA)
DEPARTURE PROCEDURE:
Rwy 11, std. w/min. climb of 235' per NM to 1500.
Rwy 29, 300-1/2 or std. w/min. climb of 276' per NM to 400.
DEPARTURE PROCEDURE:
Rwy 11, climb heading 108° to 1500 then continue climb direct SGD VORTAC.
Rwy 29, climb heading 289° to 1500 then climbing left turn to 3000 direct SGD VORTAC.
All aircraft continue climb to MEA for route of flight.
TAKEOFF OBSTACLE NOTES:
Rwy 11, tree 1095' from DER, 779' right of centerline, 55' AGL/116' MSL.
Sign 69' from DER, 141' right of centerline, 9' AGL/80' MSL.
Vertical structure 8' from DER, 248' left of centerline, 10' AGL/81' MSL.
Trees 172' from DER, beginning 399' left of centerline, up to 46' AGL/117' MSL.
Trees 40' from DER, beginning 465' left of centerline, up to 40' AGL/111' MSL.
Rwy 29, trees 1091' from DER, beginning 151' right of centerline, up to 91' AGL/172' MSL.
Vertical structure 194' from DER, 248' right of centerline, up to 19' AGL/98' MSL.
Trees 121' from DER, beginning 282' right of centerline, up to 51' AGL/132' MSL.
Trees and buildings 88' from DER, beginning 292' left of centerline, up to 40' AGL/121' MSL.
Trees 1363' from DER, 462' left of centerline, up to 96' AGL/177' MSL.
Pole 1262' from DER, 90' left of centerline, 41' MSL/122' AGL.
Poles 2508' from DER, beginning 292' left of centerline, up to 40' AGL/121' MSL.
Pole 292' from DER, 90' left of centerline, 41' MSL/122' AGL.
Poles 2508' from DER, beginning 87' left of centerline, up to 94' AGL/175' MSL.

PLACERVILLE, CA
PLACERVILLE (PVF)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 15NOV12 (12320) (FAA)
DEPARTURE PROCEDURE:
Rwy 23, climb to 5000 on HNW R-226 then climbing right turn on HNW R-276 to HNW VOR/DME. Aircraft departing HNW VOR/DME R-180 CW R-330 climb on course; all others climb in HNW VOR/DME holding pattern (hold SW, right turns, 048° inbound) to cross HNW VOR/DME at or above MEA/MCA for direction of flight before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 23, hangar 20' from DER, 340' right of centerline, 27' AGL/2586' MSL.

PORTERVILLE, CA
PORTERVILLE MUNI (PTV)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2A 06DEC18 (18340) (FAA)
TAKEOFF MINIMUMS:
Rwy 12, std. w/min. climb of 220' per NM to 600.
DEPARTURE PROCEDURE:
Rwy 12, climbing right turn thence . . .
Rwy 30, climbing left turn thence . . .
...climb direct TTE VOR/DME. Aircraft departing TTE VOR/DME R-146 CW R-330 climb on course. All other aircraft climb in TTE VOR/DME holding pattern (hold northwest, right turn, 143° inbound) to cross TTE R-331 CW R-060, 8600; R-061 CW R-145, 7000.
TAKEOFF OBSTACLE NOTES:
Rwy 12, tree 618' from DER, 241' right of centerline, 460' MSL.
Trees beginning 776' from DER, 193' left of centerline, up to 467' MSL.
Pole 906' from DER, 588' left of centerline, 43' AGL/491' MSL.
Rwy 30, fence 176' from DER, 499' right of centerline, 6' AGL/436' MSL.
RED BLUFF, CA

RED BLUFF MUNI (RBL)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4 10FEB11 (11041) (FAA)
DEPARTURE PROCEDURE:
Rwy 15, climb direct RBL VORTAC, thence...
Rwy 33, climbing left turn direct RBL VORTAC, thence...
...continue climb in RBL holding pattern (S, right turns, 341° inbound) to cross RBL VORTAC at or above MEA for route of flight.
TAKEOFF OBSTACLE NOTES:
Rwy 15, WSK 5’ from DER, 258’ right of centerline, 18’ AGL/361’ MSL.
Tree 2065’ from DER, 879’ left of centerline, 100’ AGL/449’ MSL.
Rwy 33, trees beginning 468’ from DER, 563’ left of centerline, up to 54’ AGL/387’ MSL.
Trees beginning 587’ from DER, 493’ right of centerline, up to 73’ AGL/393’ MSL.

REDDING, CA

REDDING MUNI (RDD)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5C 30JAN20 (20030) (FAA)
DEPARTURE PROCEDURE:
Rwy 12, climb on heading 126° and RBL R-344 to RBL VORTAC to 3000 before proceeding on course.
Rwy 16, climbing left turn heading 114° and RBL R-344 to RBL VORTAC to 3000 before proceeding on course.
Rwys 30, 34, climbing right turn heading 114° and RBL R-344 to RBL VORTAC to 3000 before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 12, trees beginning 45’ from DER, 359’ left of centerline, up to 23’ AGL/515’ MSL.
Trees, fence, general utility, transmission line beginning 281’ from DER, 314’ left of centerline, up to 49’ AGL/542’ MSL.
Transmission line 1920’ from DER, 431’ right of centerline, up to 69’ AGL/572’ MSL.
Tree 3470’ from DER, 547’ left of centerline, 109’ AGL/590’ MSL.
Rwy 16, tree 152’ from DER, 463’ right of centerline, 12’ AGL/495’ MSL.
Tree 347’ from DER, 584’ right of centerline, 46’ AGL/527’ MSL.
Rwy 30, terrain 27’ from DER, 249’ right of centerline, 502’ MSL.
Aircraft on taxiway, pole, and trees beginning 32’ from DER, 68’ right of centerline, up to 44’ AGL/544’ MSL.
Aircraft on taxiway, pole, and building beginning 223’ from DER, 13’ left of centerline, up to 44’ AGL/544’ MSL.
Tree 1410’ from DER, 211’ left of centerline, 44’ AGL/545’ MSL.
Tree 1556’ from DER, 417’ right of centerline, 57’ AGL/558’ MSL.
Building and trees beginning 1584’ from DER, 267’ right of centerline, up to 60’ AGL/563’ MSL.
Tree 1588’ from DER, 65’ left of centerline, 50’ AGL/553’ MSL.
Trees beginning 1672’ from DER, 431’ right of centerline, up to 69’ AGL/572’ MSL.
Trees beginning 1793’ from DER, 4’ right of centerline, up to 74’ AGL/576’ MSL.
Trees beginning 1794’ from DER, 78’ left of centerline, up to 60’ AGL/561’ MSL.
Trees beginning 1882’ from DER, 95’ right of centerline, up to 74’ AGL/577’ MSL.
Trees beginning 2093’ from DER, 227’ right of centerline, up to 82’ AGL/583’ MSL.
Trees, building beginning 2340’ from DER, 399’ right of centerline, up to 99’ AGL/600’ MSL.
Tree 2788’ from DER, 984’ left of centerline, 113’ AGL/613’ MSL.
Tree 3256’ from DER, 912’ right of centerline, 94’ AGL/601’ MSL.
Rwy 34, electrical system 37’ from DER, 130’ right of centerline, 2’ AGL/506’ MSL.
Sign 38’ from DER, 125’ right of centerline, 4’ AGL/508’ MSL.
Sign 39’ from DER, 123’ left of centerline, 4’ AGL/508’ MSL.
Signs beginning 98’ from DER, 252’ left of centerline, up to 5’ AGL/510’ MSL.
Tree 2322’ from DER, 1015’ left of centerline, 67’ AGL/576’ MSL.
Tree 2386’ from DER, 934’ left of centerline, 74’ AGL/583’ MSL.
Tree 2455’ from DER, 1120’ left of centerline, 83’ AGL/593’ MSL.
Trees beginning 2662’ from DER, 767’ left of centerline, up to 83’ AGL/594’ MSL.
Trees beginning 2817’ from DER, 479’ left of centerline, up to 86’ AGL/596’ MSL.
Trees beginning 2906’ from DER, 828’ left of centerline, up to 87’ AGL/598’ MSL.
Trees beginning 2967’ from DER, 794’ left of centerline, up to 89’ AGL/600’ MSL.
Trees beginning 3137’ from DER, 867’ left of centerline, up to 96’ AGL/608’ MSL.
Trees beginning 3188’ from DER, 792’ left of centerline, up to 103’ AGL/615’ MSL.
Tower 3312’ from DER, 1032’ left of centerline, 106’ AGL/622’ MSL.
Antenna 3312’ from DER, 1031’ left of centerline, 105’ AGL/619’ MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

REEDLEY, CA
REEDLEY MUNI (O32)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 03JAN19 (19003) (FAA)
DEPARTURE PROCEDURE:
- Rwy 16, climb on a heading between 132° CW to 323° from DER.
- Rwy 34, climb on a heading between 156° CW to 320° from DER.
TAKEOFF OBSTACLE NOTES:
- Rwy 16, vehicles on road, terrain, building and vegetation beginning 26' from DER, 309' left of centerline, up to 15' AGL/402' MSL.
- Tree 155' from DER, 778' right of centerline, 431' MSL.
- Tree 1648' from DER, 893' left of centerline, 461' MSL.
- Tree 1737' from DER, 210' right of centerline, 434' MSL.
- Tree 2010' from DER, 189' left of centerline, 453' MSL.
- Trees beginning 2033' from DER, 615' left of centerline, up to 482' MSL.
- Tree 2894' from DER, 630' left of centerline, 483' MSL.
- Rwy 34, tree 116' from DER, 376' right of centerline, 403' MSL.
- Tree 166' from DER, 499' right of centerline, 406' MSL.
- Vehicles on road and tree beginning 289' from DER, 329' right of centerline, up to 407' MSL.

RIO VISTA, CA
RIO VISTA MUNI (O88)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 05DEC19 (19339) (FAA)
DEPARTURE PROCEDURE:
- Rwy 7, climbing left turn direct SAC VORTAC. Continue climb in SAC VORTAC holding pattern (hold, south, right turn, 016° inbound) to cross SAC VORTAC at or above MEA for route of flight.
- Rwy 15, climb to 800 then climbing left turn direct SAC VORTAC. Continue climb in SAC VORTAC holding pattern (hold, south, right turn, 016° inbound) to cross SAC VORTAC at or above MEA for route of flight.
- Rwy 25, climbing right turn direct SAC VORTAC. Continue climb in SAC VORTAC holding pattern (hold, south, right turn, 016° inbound) to cross SAC VORTAC at or above MEA for route of flight.
- Rwy 33, climbing right turn direct SAC VORTAC. Continue climb in SAC VORTAC holding pattern (hold, south, right turn, 016° inbound) to cross SAC VORTAC at or above MEA for route of flight.
TAKEOFF OBSTACLE NOTES:
- Rwy 7, lighting 10' from DER, 107' right of centerline, 2' AGL/24' MSL.
- Terrain 111' from DER, 491' left of centerline, 27' MSL.
- Rwy 15, pole 9' from DER, 19' left of centerline, 2' AGL/22' MSL.
- Terrain 42' from DER, 270' right of centerline, 23' MSL.
- Pole, vehicles on road, building beginning 112' from DER, 438' right of centerline, up to 33' AGL/55' MSL.
- Poles, vehicles on road beginning 292' from DER, 25' left of centerline, up to 52' MSL.
- Wind indicator, tree, vehicles on road, buildings, pole beginning 345' from DER, 1' right of centerline, up to 35' AGL/58' MSL.
- Pole 1462' from DER, 99' left of centerline, 33' AGL/60' MSL.
- Rwy 25, terrain, lighting beginning 0' from DER, 79' left of centerline, up to 26' MSL.
- Poles, vehicles on road, trees beginning 287' from DER, 186' left of centerline, up to 54' MSL.
- Tree 940' from DER, 201' right of centerline, 26' AGL/55' MSL.
- Poles beginning 957' from DER, 3' right of centerline, up to 27' AGL/56' MSL.
- Pole 1015' from DER, 308' right of centerline, 47' MSL.
- Rwy 33, lighting 10' from DER, 100' right of centerline, 3' AGL/24' MSL.
- Trees beginning 124' from DER, 252' right of centerline, up to 24' AGL/30' MSL.
- Pole 1601' from DER, 846' left of centerline, 43' AGL/66' MSL.
- Pole 1639' from DER, 891' left of centerline, 44' AGL/68' MSL.
- Trees, building beginning 1912' from DER, 792' left of centerline, up to 66' AGL/92' MSL.

SACRAMENTO, CA
SACRAMENTO EXEC (SAC)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG-A 20JUN19 (21112) (FAA)
TAKEOFF OBSTACLE NOTES:
- Rwy 2, multiple trees 1128' from DER, 108' left of centerline, up to 76' AGL/96' MSL.
- Antenna 1376' from DER, 663' left of centerline, 51' AGL/71' MSL.
- Trees 1858' from DER, 137' right of centerline, 73' AGL/93' MSL.
- Rwy 12, multiple trees 518' from DER, 26' left of centerline, up to 83' AGL/98' MSL.
- Light pole 507' from DER, 336' left of centerline, 37' AGL/52' MSL.
- Transmission pole 3971' from DER, 647' left of centerline, 130' AGL/154' MSL.
- Multiple trees beginning 711' from DER, 241' right of centerline, up to 97' AGL/112' MSL.
- Antenna on building 1543' from DER, 442' left of centerline, 47' AGL/67' MSL.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

SACRAMENTO, CA (CON’T)
SACRAMENTO INTL (SMF)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1A 21MAY20 (20142) (FAA)
DEPARTURE PROCEDURE:
Rwy 17L, climb heading 168° to 700 before turning east.
TAKEOFF OBSTACLE NOTES:
Rwy 17L vehicles on road, 225’ from DER, crossing runway centerline, 10’ AGL/31’ MSL.
Rwy 35L tree 3656’ from DER, 1296’ left of centerline, 98’ AGL/123’ MSL.
Rwy 35R pole 1786’ from DER, 945’ right of centerline, 46’ AGL/73’ MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)
ORIG-A 21MAY20 (20142) (FAA)
Rwy 17L, heading as assigned by ATC; requires min. climb of 220’ per NM to 700.

SACRAMENTO MATHER (MHR)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 06JAN94 (94006) (FAA)
DEPARTURE PROCEDURE:
Rwys 4L,4R, climbing right turn direct SAC VORTAC.
Rwys 22L,22R climb direct SAC VORTAC.

SALINAS, CA
SALINAS MUNI (SNS)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4 17NOV11 (11321) (FAA)
TAKEOFF MINIMUMS:
Rwy 8, std. w/min climb of 243’ per NM to 800 or 1800-2½ for climb in visual conditions.
DEPARTURE PROCEDURE:
Rwy 8, climbing right turn to intercept SNS VORTAC R-124 to 5500 before proceeding on course or for climb in visual conditions: cross Salinas Muni Airport at or above 1700 then intercept SNS VORTAC R-124 to 5500 before proceeding on course.
Rwy 13, climbing left turn to intercept SNS VORTAC R-124 to 5500 before proceeding on course.
Rwy 26, climbing right turn to intercept SNS VORTAC R-264 to 5000 before proceeding on course.
Rwy 31, climbing left turn to intercept SNS VORTAC R-264 to 5500 before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 8, trees beginning 1967’ from DER, 900’ left of centerline, up to 100’ AGL/199’ MSL.
Rwy 26, tree, light pole and road beginning 109’ from DER, 266’ left of centerline, up to 38’ AGL/98’ MSL.
Rwy 31, building, road, and trees beginning 170’ from DER, 1’ right of centerline, up to 79’ AGL/159’ MSL.
Road and trees 205’ from DER, 200’ left of centerline, up to 63’ AGL/119’ MSL.
Pole and trees beginning 1042’ from DER, 5’ left of centerline up to 102’ AGL/172’ MSL.
Pole and trees 1109’ from DER, 202’ right of centerline, up to 78’ AGL/158’ MSL.
Pole and trees 195’ from DER, 200’ left of centerline, up to 63’ AGL/119’ MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)
ORIG 05MAR15 (15064) (FAA)
Rwys 8, 13, heading as assigned by ATC; requires minimum climb of 330’ per NM to 5000.
Rwys 26, 31, heading as assigned by ATC.

SAN ANDREAS, CA
CALAVERAS CO-MAURY RASMUSSEN FIELD (CPU)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1 10NOV16 (16315) (FAA)
TAKEOFF MINIMUMS:
Rwy 13, 1800-5 or std. w/min. climb of 300’ per NM to 3700.
DEPARTURE PROCEDURE:
Rwy 13, climb runway heading to 3100, then climbing right turn via LIN R-085 to LIN VOR/DME.
Rwy 31, climb via heading 311° to 3000, then climbing left turn via Linden (LIN) VOR/DME R-029 to LIN VOR/DME.
TAKEOFF OBSTACLE NOTES:
Rwy 13, windsock 4’ from DER, 129’ right of centerline, 14’ AGL/1341’ MSL.
Lights 4’ from DER, 68’ right of centerline, up to 2’ AGL/1330’ MSL.
Bush 24’ from DER, 140’ right of centerline, 3’ AGL/1331’ MSL.
Tree 43’ from DER, 287’ right of centerline, up to 8’ AGL/1336’ MSL.
Bush 26’ from DER, 96’ left of centerline, up to 1’ AGL/1329’ MSL.
Rwy 31, tree 19’ from DER, 242’ left of centerline, up to 30’ AGL/1335’ MSL.
Trees 220’ from DER, 375’ right of centerline, up to 40’ AGL/1345’ MSL.
Pole 667’ from DER, 653’ left of centerline, 23’ AGL/1326’ MSL.
Trees 1010’ from DER, 651’ right of centerline, up to 46’ AGL/1351’ MSL.
SAN CARLOS, CA
SAN CARLOS (SQL)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 1A 19JUL18 (18200) (FAA)
TAKEOFF MINIMUMS:
Rwy 30, N/A- obstacles and ATC.
Rwy 12, 300-1 ½ or std. w/min. climb of 240’ per NM to 300.

DEPARTURE PROCEDURE:
Rwy 12, climb heading 120° to intercept SJC VOR/DME R-281 to SJC VOR/DME before proceeding on course.

TAKEOFF OBSTACLE NOTES:
Rwy 12, terrain 1’ from DER, 149’ left of centerline, 11’ MSL.
Dam beginning 117’ from DER, 58’ left of centerline, up to 3’ AGL/12’ MSL.
Pole 716’ from DER, 294’ right of centerline, 38’ MSL.
Transmission line beginning 1676’ from DER, 735’ right of centerline, 92’ AGL/94’ MSL.

TRANSMISSION LINE BEGINNING 1676’ FROM DER, 735’ RIGHT OF CENTERLINE, 92’ AGL/94’ MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)
ORIG 26MAY16 (16147) (FAA)
Rwy 12, headings as assigned by ATC; requires minimum climb of 470’ per NM to 3400.

SAN FRANCISCO, CA
SAN FRANCISCO INTL (SFO)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 9 24JUL14 (14205) (FAA)
TAKEOFF MINIMUMS:
Rwy 19L, 19R, std. w/min. climb of 575’ per NM to 2000.
Rwy 28L, 28R, std. w/min. climb of 351’ per NM to 1300.

DEPARTURE PROCEDURE:
Rwy 28L, 28R, climb heading 014° to 2000, thence …
Rwy 19L, 19R, multiple poles beginning 548’ from DER, 46’ left of centerline, up to 20’ AGL/480’ MSL.

TAKEOFF OBSTACLE NOTES:
Rwy 19L, multiple poles, trees, signs, electrical system beginning 887’ from DER, 61’ right of centerline, up to 100’ AGL/128’ MSL.
Multiple buildings, transmission towers, trees beginning 3831’ from DER, 1138’ left of centerline, up to 100’ AGL/167’ MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)
ORIG 26MAY16 (16147) (FAA)
Rwy 12, headings as assigned by ATC; requires minimum climb of 470’ per NM to 3400.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

SAN JOSE, CA
NORMAN Y MINETA SAN JOSE INTL (SJC)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 6C 21JUL16 (16203) (FAA)
TAKEOFF MINIMUMS:
Rwys 12L/R, 400-2½ or std. w/min. climb of 261' per NM to 500.
DEPARTURE PROCEDURE:
Rwys 12L/R, climbing right turn to 2000 on Heading 318° and on OAK R-135 to OAK VOR/DME before proceeding on course.
Rwys 30L/R, climb via heading 315° to 2000, then via OAK R-132 to OAK VOR/DME before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 12L, fence 156' from DER, 57' left of centerline, 14' AGL/73' MSL.
Ol on blast fence, 156' from DER, 57' left of centerline, 73' MSL.
Pole 191' from DER, 81' left of centerline, 34' AGL/93' MSL.
Trees beginning 286' from DER, 161' right of centerline, up to 107' MSL.
T-L twr, pole beginning 466' from DER, 228' left of centerline, up to 46' AGL/105' MSL.
Tree 1281' from DER, 529' left of centerline, 117' MSL.
T-L twr 1731' from DER, 729' left of centerline, 86' AGL/156' MSL.
Tree 1799' from DER, 273' left of centerline, 144' MSL.
Tree 1887' from DER, 68' right of centerline, 124' MSL.
T-L twr 3047' from DER, 543' left of centerline, 73' AGL/147' MSL.
Building 1.2 NM from DER, 630' left of centerline, 170' AGL/250' MSL.
Building 1.3 NM from DER, 1051' left of centerline, 265' MSL.
Building 1.3 NM from DER, 445' left of centerline, 217' AGL/301' MSL.
Building 1.3 NM from DER, 51' left of centerline, 228' AGL/309' MSL.
Buildings beginning 1.3 NM from DER, 81' left of centerline, up to 312' MSL.
Building 1.5 NM from DER, 975' left of centerline, 262' AGL/351' MSL.
Building 1.5 NM from DER, 1591' left of centerline, 268' AGL/358' MSL.
Buildings beginning 1.5 NM from DER, 82' left of centerline, up to 365' MSL.
Buildings beginning 1.6 NM from DER, 280' right of centerline, up to 346' MSL.
Buildings beginning 1.6 NM from DER, 350' right of centerline, up to 260' AGL/350' MSL.
Building 1.6 NM from DER, 1977' left of centerline, 286' AGL/368' MSL.
Buildings beginning 1.6 NM from DER, 640' left of centerline, up to 274' AGL/370' MSL.
Building 1.9 NM from DER, 313' right of centerline, 284' AGL/373' MSL.
Building 1.9 NM from DER, 282' right of centerline, 281' AGL/372' MSL.
Rwy 12R, ol on loc 10' from DER, on centerline, 68' MSL.
Fence 45' from DER, 115' right of centerline, 14' AGL/75' MSL.
Tree 269' from DER, 149' left of centerline, 100' MSL.
Trees, beginning 285' from DER, 193' left of centerline, up to 107' MSL.
Rd 338' from DER, 2' right of centerline, 82' MSL.
Tree, pole beginning 519' from DER, 279' right of centerline, up to 122' MSL.
Trees beginning 1758' from DER, 631' left of centerline, up to 144' MSL.
Poles beginning 1948' from DER, 688' right of centerline, up to 59' AGL/128' MSL.
Tree 2604' from DER, 551' right of centerline, 133' MSL.
T-L twr 3046' from DER, 1243' left of centerline, 73' AGL/147' MSL.
Tree 3079' from DER, 873' right of centerline, 142' MSL.
Building 1.3 NM from DER, 1145' left of centerline, 217' AGL/301' MSL.
Building 1.3 NM from DER, 751' left of centerline, 228' AGL/309' MSL.
Building 1.3 NM from DER, 1371' left of centerline, up to 312' MSL.
Building 1.5 NM from DER, 1676' left of centerline, 262' AGL/351' MSL.
Building 1.5 NM from DER, 2291' left of centerline, 268' AGL/358' MSL.
Buildings beginning 1.5 NM from DER, 134' left of centerline, up to 365' MSL.
Building 1.6 NM from DER, 2678' left of centerline, 286' AGL/368' MSL.
Building 1.6 NM from DER, 1340' left of centerline, up to 274' AGL/370' MSL.
Building 1.6 NM from DER, 345' right of centerline, 320' MSL.
Building 1.9 NM from DER, 386' left of centerline, 284' AGL/373' MSL.
Building 1.9 NM from DER, 417' left of centerline, 281' AGL/372' MSL.
Rwy 30L, poles beginning 166' from DER, 494' left of centerline, up to 69' MSL.
NAVAID 174' from DER, on centerline, 7' AGL/44' MSL.
Fence 184' from DER, 369' right of centerline, 15' AGL/51' MSL.
Tree 308' from DER, 424' left of centerline, 71' MSL.
Tree, pole beginning 473' from DER, 118' right of centerline, up to 72' MSL.
Poles beginning 711' from DER, 544' right of centerline, up to 75' MSL.
NAVAID 782' from DER, 350' left of centerline, 47' AGL/83' MSL.
Pole 1227' from DER, 607' left of centerline, 48' AGL/86' MSL.
Pole 1315' from DER, 548' right of centerline, 49' AGL/80' MSL.
Pole 1329' from DER, 743' left of centerline, 57' AGL/94' MSL.
Tree 1852' from DER, 179' right of centerline, 85' MSL.
Tree 2561' from DER, 738' right of centerline, 108' MSL.
Transmitter, t-l twr, beginning 2616' from DER, 1130' left of centerline, up to 120' MSL.
Pole 2806' from DER, 1215' left of centerline, 135' MSL.
Pole 2897' from DER, 614' left of centerline, 113' MSL.
Pole, t-l twr, beginning 4145' from DER, 1329' left of centerline, up to 152' MSL.

CON’T
SAN JOSE, CA (CON’T)
NORMAN Y MINETA SAN JOSE INTL (SJC) (CON’T)
Rwy 30R, pole 100’ from DER, 449’ right of centerline, 40’ AGL/75’ MSL.
Fence 138’ from DER 243’ right of centerline, 13’ AGL/47’ MSL.
Fence 184’ from DER, 329’ left of centerline, 15’ AGL/51’ MSL.
Tree 411’ from DER, 37’ left of centerline, 70’ MSL.
Tree 473’ from DER, 319’ left of centerline, 72’ MSL.
Pole 526’ from DER, 580’ left of centerline, 26’ AGL/61’ MSL.
Pole 657’ from DER, 369’ right of centerline, 53’ AGL/84’ MSL.
Vehicle on rd beginning 688’ from DER, on centerline, up to 68’ MSL.
Poles beginning 711’ from DER, 57’ left of centerline, up to 25’ AGL/75’ MSL.
Pole 961’ from DER, 133’ right of centerline, 56’ AGL/88’ MSL.
Pole 1315’ from DER, 150’ left of centerline, 85’ MSL.
Tree 2561’ from DER, 39’ right of centerline, 108’ MSL.
Building 3424’ from DER, 146’ right of centerline, 96’ AGL/124’ MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)
AMDT 1 21JUL16 (16203) (FAA)
Rwys 12L/R, heading as assigned by ATC; requires min. climb of 470’ per NM to 5600.
Rwys 30L/R, heading as assigned by ATC; requires min. climb of 490’ per NM to 5600 and do not exceed 210 KTS until established on assigned heading.

REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
TAKEOFF MINIMUMS:
Rwys 13L, 13R, NA - environmental.
DEPARTURE PROCEDURE:
Use DECOL DEPARTURE.

SAN MARTIN, CA
SAN MARTIN (E16)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 05NOV20 (20310) (FAA)
TAKEOFF MINIMUMS:
Rwy 32, 3600-3 for VCOA.
DEPARTURE PROCEDURE:
Rwy 14, climb on heading 141° to 5000 and SNS R-355 to SNS VORTAC before proceeding on course.
VCOA:
Rwy 32, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross San Martin Airport at or above 3700 before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 14, traverse way, vegetation beginning 50’ from DER, 104’ left of centerline, up to 291’ MSL.
Pole, traverse way, fence, trees beginning 259’ from DER, 81’ left of centerline, up to 30’ AGL/308’ MSL.
Traverse way 344’ from DER, 17’ right of centerline, up to 286’ MSL.
Antenna 1568’ from DER, 620’ left of centerline, 55’ AGL/319’ MSL.
Trees beginning 1571’ from DER, 601’ right of centerline, up to 71’ AGL/338’ MSL.
Rwy 32, traverse way 73’ from DER, 429’ right of centerline, 300’ MSL.
Traverse way 127’ from DER, 321’ right of centerline, 301’ MSL.
Tree 169’ from DER, 537’ right of centerline, 303’ MSL.
Pole, traverse way, trees beginning 213’ from DER, 173’ right of centerline, up to 37’ AGL/321’ MSL.
Traverse way 387’ from DER, 575’ left of centerline, 300’ MSL.
Pole, traverse way beginning 545’ from DER, 46’ left of centerline, up to 321’ MSL.
Traverse way beginning 1171’ from DER, 71’ right of centerline, up to 323’ MSL.
Tree 1573’ from DER, 297’ left of centerline, up to 337’ MSL.
Tree 1708’ from DER, 55’ right of centerline, 330’ MSL.
Tree 1607’ from DER, 8’ right of centerline, 331’ MSL.
Tree 1637’ from DER, 328’ left of centerline, 342’ MSL.
Trees beginning 1880’ from DER, 177’ right of centerline, up to 340’ MSL.
Trees beginning 2045’ from DER, 331’ left of centerline, up to 350’ MSL.
Tree 2146’ from DER, 888’ right of centerline, 341’ MSL.
Trees beginning 2217’ from DER, 194’ right of centerline, up to 72’ AGL/364’ MSL.
Trees beginning 2319’ from DER, 342’ left of centerline, up to 357’ MSL.
Tree 2984’ from DER, 102’ left of centerline, 378’ MSL.
Tree 3137’ from DER, 946’ left of centerline, 381’ MSL.
SANTA ROSA, CA
CHARLES M SCHULZ-SONOMA COUNTY (STS)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 8 17JUN21 (21168) (FAA)
TAKEOFF MINIMUMS:
Rwy 2, std. w/min. climb of 300’ per NM to 2100 or 1500-3 for VCOA.
Rwy 14, std. w/min. climb of 285’ per NM to 2500 or 1500-3 for VCOA.
Rwy 20, std. w/min. climb of 265’ per NM to 2200 or 1500-3 for VCOA.
Rwy 32, std. w/min. climb of 375’ per NM to 2200 or 1500-3 for VCOA.

DEPARTURE PROCEDURE:
Rwy 2, climbing left turn to 2100 on a heading between 200° CW to 305° from DER before proceeding on course.
Rwy 14, climb to 2500 on a heading between 110° CW to 315° from DER before proceeding on course.
Rwy 20, climbing left turn to 2200 on a heading between 145° CW to 315° from DER before proceeding on course.
Rwy 32, climbing left turn to 2200 on a heading between 145° CW to 315° from DER before proceeding on course.

VCOA:
Obtain ATC approval for VCOA when requesting IFR clearance.
Rwys 2, 14, 20, 32 climb in visual conditions to cross Charles M Schulz- Sonoma County airport at or above 1400 before proceeding southbound on PYE R-349 to PYE VOR/DME.

TAKEOFF OBSTACLE NOTES:
Rwy 2, tree 515’ from DER, 561’ right of centerline, 145’ MSL.
Tree, pole beginning 629’ from DER, 19’ right of centerline, up to 156’ MSL.
Tree 971’ from DER, 369’ left of centerline, 42’ AGL/148’ MSL.
Trees beginning 1053’ from DER, 215’ left of centerline, up to 150’ MSL.
Trees beginning 1153’ from DER, 146’ left of centerline, up to 156’ MSL.
Trees beginning 1328’ from DER, 478’ right of centerline, up to 168’ MSL.
Trees beginning 1604’ from DER, 639’ left of centerline, up to 166’ MSL.
Trees beginning 1638’ from DER, 163’ right of centerline, up to 184’ MSL.
Trees beginning 1846’ from DER, 619’ left of centerline, up to 65’ AGL/174’ MSL.
Trees beginning 2145’ from DER, 344’ right of centerline, up to 190’ MSL.
Trees beginning 2299’ from DER, 342’ right of centerline, up to 191’ MSL.
Tree 2679’ from DER, 443’ right of centerline, 196’ MSL.
Rwy 14, pole 6’ from DER, 40’ left of centerline, 121’ MSL.
Tree 409’ from DER, 602’ left of centerline, 138’ MSL.
Tree 778’ from DER, 649’ left of centerline, 146’ MSL.
Tree 972’ from DER, 629’ left of centerline, 147’ MSL.
Trees beginning 1202’ from DER, 599’ left of centerline, up to 155’ MSL.
Tree 1336’ from DER, 759’ left of centerline, 167’ MSL.
Tree 2136’ from DER, 778’ right of centerline, 174’ MSL.
Tree 2194’ from DER, 1033’ right of centerline, 180’ MSL.
Tree 5322’ from DER, 1543’ left of centerline, 255’ MSL.
Rwy 20, tree 107’ from DER, 461’ left of centerline, 40’ AGL/162’ MSL.
Trees beginning 1497’ from DER, 731’ right of centerline, up to 248’ MSL.
Tree 1595’ from DER, 482’ left of centerline, 171’ MSL.
Tree 1679’ from DER, 404’ left of centerline, 187’ MSL.
Tree 1693’ from DER, 934’ right of centerline, 137’ AGL/269’ MSL.
Trees beginning 1705’ from DER, 566’ right of centerline, up to 144’ AGL/274’ MSL.
Tree 2840’ from DER, 1174’ left of centerline, 228’ MSL.
Rwy 32, tree 88’ from DER, 472’ left of centerline, 147’ MSL.
Trees beginning 263’ from DER, 425’ left of centerline, up to 153’ MSL.
Tree 642’ from DER, 450’ right of centerline, 143’ MSL.
Tree 700’ from DER, 548’ right of centerline, 158’ MSL.
Trees beginning 797’ from DER, 470’ left of centerline, up to 154’ MSL.
Trees beginning 902’ from DER, 609’ right of centerline, up to 172’ MSL.
Tree 1298’ from DER, 370’ left of centerline, 155’ MSL.
Trees beginning 1701’ from DER, 140’ left of centerline, up to 174’ MSL.
Tree 3187’ from DER, 139’ left of centerline, 167’ AGL/257’ MSL.

SOUTH LAKE TAHOE, CA
LAKE TAHOE (TVL)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 8 13SEP18 (18256) (FAA)
TAKEOFF MINIMUMS:
Rwy 18, std. w/min. climb of 810’ per NM to 10800, or alternatively, 1600-3 w/min. climb of 765’ per NM to 10800, or 5100-5 for VCOA.
Rwy 36, 300-1% or std. w/min. climb of 755’ per NM to 6500.

DEPARTURE PROCEDURE:
Rwy 18, climbing heading 177° to 7900 then climbing right turn to intercept and climb on SWR R-133 to SWR VOR/DME thence...
Rwy 36, climbing heading 357° to intercept and climb on SWR R-113 to SWR VOR/DME thence...
...Proceed on course.

VCOA:
Rwy 18, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross South Lake Tahoe Airport at or above 11200’ MSL then intercept and proceed on SWR R-127 to SWR VOR/DME.

CON’T

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

SOUTH LAKE TAHOE, CA (CON’T)
LAKE TAHOE (TVL) (CON’T)

TAKEOFF OBSTACLE NOTES:

**Rwy 18**, pole 10’ from DER, 40’ left of centerline, 2’ AGL/6270’ MSL.

Vehicles on road, sign beginning 16’ from DER, 247’ right of centerline, up to 6282’ MSL.

Trees beginning 19’ from DER, 378’ left of centerline, up to 88’ AGL/6354’ MSL.

Trees, vehicles on road, vegetation, terrain, pole beginning 140’ from DER, 20’ right of centerline, up to 88’ AGL/6355’ MSL.

Pole, trees beginning 263’ from DER, 4’ left of centerline, up to 102’ AGL/6369’ MSL.

Trees beginning 917’ from DER, 1’ left of centerline, up to 111’ AGL/6388’ MSL.

Trees beginning 1095’ from DER, 8’ right of centerline, up to 107’ AGL/6392’ MSL.

Trees beginning 1702’ from DER, on centerline, up to 6403’ MSL.

Trees beginning 1960’ from DER, 6’ left of centerline, up to 6419’ MSL.

Trees, buildings on road, poles, vegetation, terrain beginning 2712’ from DER, on centerline, up to 91’ AGL/6420’ MSL.

Pole 2.5 NM from DER, 1451’ left of centerline, 7837’ MSL.

**Rwy 36**, sign 9’ from DER, 212’ left of centerline, 4’ AGL/6256’ MSL.

Vehicle on road 18’ from DER, 6266’ MSL.

Trees, vehicle on road beginning 51’ from DER, 330’ right of centerline, up to 47’ AGL/6296’ MSL.

Tree, pole, terrain, fence beginning 142’ from DER, 236’ right of centerline, up to 50’ AGL/6302’ MSL.

Trees beginning 175’ from DER, 210’ right of centerline, up to 44’ AGL/6312’ MSL.

Trees beginning 225’ from DER, 173’ right of centerline, up to 47’ AGL/6319’ MSL.

Trees beginning 453’ from DER, 181’ right of centerline, up to 58’ AGL/6328’ MSL.

Trees, vehicles on road beginning 933’ from DER, 52’ right of centerline, up to 59’ AGL/6330’ MSL.

Trees, vehicles on road beginning 768’ from DER, 84’ right of centerline, up to 71’ AGL/6340’ MSL.

Trees, vehicles on road, resulting in NAS/DER, 50’ right of centerline, up to 67’ AGL/6348’ MSL.

Trees, vehicles on road beginning 1116’ from DER, 104’ right of centerline, up to 54’ AGL/6355’ MSL.

Tree 1324’ from DER, 664’ right of centerline, 62’ AGL/6370’ MSL.

Tree 1331’ from DER, 761’ right of centerline, 61’ AGL/6379’ MSL.

Trees, vehicles on road beginning 1382’ from DER, 142’ right of centerline, up to 45’ MSL.

Buildings beginning 424’ from DER, 369’ left of centerline, up to 61’ MSL.

Buildings beginning 424’ from DER, 369’ left of centerline, up to 61’ MSL.

Build 29’ from DER, 1215’ left of centerline, 102’ MSL.

Build 29’ from DER, 1203’ left of centerline, 97’ AGL/117’ MSL.

Stack, building beginning 558’ from DER, 1600’ right of centerline, up to 150’ AGL/171’ MSL.

**Rwy 29R**, fence, trees beginning 181’ from DER, 5’ right of centerline, up to 18’ AGL/41’ MSL.

Fence, trees, traverse way, pole beginning 208’ from DER, 1’ left of centerline, up to 17’ AGL/41’ MSL.

Poles, traverse way beginning 255’ from DER, 35’ right of centerline, up to 32’ AGL/55’ MSL.

Poles beginning 528’ from DER, 305’ left of centerline, up to 31’ AGL/54’ MSL.

Pole 653’ from DER, 515’ left of centerline, 32’ AGL/55’ MSL.

Pole 834’ from DER, 693’ left of centerline, 38’ AGL/60’ MSL.

Pole 1587’ from DER, 857’ left of centerline, 48’ AGL/69’ MSL.

Elevator 4480’ from DER, 868’ right of centerline, 122’ AGL/141’ MSL.

Stack, buildings beginning 4599’ from DER, 827’ right of centerline, up to 150’ AGL/171’ MSL.

Elevator, building beginning 1 NM from DER 1878’ left of centerline, up to 174’ AGL/191’ MSL.

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

SUSANVILLE, CA
SUSANVILLE MUNI (SVE)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG 25DEC03 (03359) (FAA)
DEPARTURE PROCEDURE:
Use AMEDEE DEPARTURE.

TRACY, CA
TRACY MUNI (TCY)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 22OCT09 (09295) (FAA)
TAKEOFF MINIMUMS:
Rwy 26, 700-3 or std. w/ a min. climb of 320’ per NM to 1000.
DEPARTURE PROCEDURE:
Rwy 8, climb to 3000 via heading 073° and MOD VOR/DME R-264 to MOD VOR/DME before proceeding on course.
Rwy 12, climbing left turn to 3000 to intercept MOD VOR/DME R-264 to MOD VOR/DME before proceeding on course.
Rwy 26, climbing right turn to 3000 via heading 150° and MOD VOR/DME R-264 to MOD VOR/DME before proceeding on course.
Rwy 30, climbing right turn to 3000 via heading 150° to intercept MOD VOR/DME R-264 to MOD VOR/DME before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 8, tree 472’ from DER, 198’ left of centerline, 50’ AGL/194’ MSL.
Fence 167’ from DER, 8’ right of centerline, 25’ AGL/176’ MSL.
Vehicle on road 241’ from DER, 412’ left of centerline, 15’ AGL/183’ MSL.
Vehicles on roads starting 241’ from DER, 7’ right of centerline, up to 15’ AGL/189’ MSL.
Poles starting 403’ from DER, 204’ left of centerline, up to 54’ AGL/208’ MSL.
Poles starting 727’ from DER, 54’ right of centerline, up to 54’ AGL/212’ MSL.
Rwy 12, trees starting 436’ from DER, 251’ right of centerline, up to 72’ AGL/253’ MSL.
Conveyor 1995’ from DER, 504’ left of centerline, 66’ AGL/270’ MSL.
Poles starting 832’ from DER, 396’ right of centerline, up to 56’ AGL/240’ MSL.
Obstruction light on hopper 1934’ from DER, 724’ right of centerline, 74’ AGL/255’ MSL.
Vehicles on road starting 133’ from DER, 272’ left of centerline, up to 15’ AGL/206’ MSL.
Fence 32’ from DER 405’ left of centerline, 25’ AGL/194’ MSL.
Rwy 26, tree 1173’ from DER, 180’ right of centerline, 35’ AGL/234’ MSL.
Trees starting 106’ from DER, 125’ left of centerline, up to 35’ AGL/194’ MSL.
Vehicle on road 236’ from DER, 150’ left of centerline, 15’ AGL/214’ MSL.
Fence 69’ from DER, 133’ right of centerline, 23’ AGL/203’ MSL.
Rising terrain 11105’ from DER, 2814’ left of centerline, up to 739’ MSL.
Rwy 30, trees starting 438’ from DER, 30’ right of centerline, up to 35’ AGL/209’ MSL.
Tree 1079’ from DER, 82’ left of centerline, 35’ AGL/214’ MSL.
Obstruction light on hopper 985’ from DER, 353’ right of centerline, 72’ AGL/236’ MSL.
Bush 195’ from DER, 364’ left of centerline, 25’ AGL/189’ MSL.
Light pole 1149’ from DER, 160’ left of centerline, 47’ AGL/211’ MSL.
Obstruction light on building 2289’ from DER, 65’ right of centerline, 74’ AGL/238’ MSL.

TRAVIS AFB (KSUU)
FAIRFIELD, CA
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
23APR20 (2014)
TAKEOFF MINIMUMS:
All Rwys, std. w/min climb of 305’ per NM to 4000, or 2400-3 for VCOA
VCOA
All Rwys, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Travis AFB airport at or above 2300 before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 3L, potential acft 23’ to 1290’ from DER, 500’ left of cntrln, 65’ AGL/120’ MSL.
Potential acft 620’ to 1925’ from DER, 600’ right of cntrln, 65’ AGL/125’ MSL.
Parked acft 860’ to 1780’ from DER, 770’ left of cntrln, 58’ AGL/125’ MSL.
Potential acft 1925’ from DER, 385’ left and right of cntrln, 65’ AGL/125’ MSL.
Rwy 3R, pylon 5508’ from DER, 1641’ left of cntrln, 105’ AGL/154’ MSL.
Rwy 21L, potential acft 210’ from DER, 650’ right of cntrln, 65’ AGL/118’ MSL.
Light pole 140’ to 920’ from DER, 550’ to 670’ left of cntrln, 50’ AGL/82’ MSL.

TRUCKEE, CA
TRUCKEE-TAHOE (TRK)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5 08JAN15 (15008) (FAA)
TAKEOFF MINIMUMS:
Rwys 11, 20, NA - obstacles.
DEPARTURE PROCEDURE:
Rwys 2, 29, use TRUCK DEPARTURE.
TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

TULARE, CA
MEFFORD FIELD (TLR)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
ORIG-A 19JUL18 (18200) (FAA)

DEPARTURE PROCEDURE:

Rwy 13, climbing right turn direct VIS VOR/DME. Aircraft departing VIS VOR/DME R-001 CW R-140 continue climb in VIS VOR/DME holding pattern (hold east, RT, 287° inbound) to cross VIS VOR/DME at or above 5400 before proceeding on course. All other aircraft climb on course.

Rwy 31, climbing left turn direct VIS VOR/DME. Aircraft departing VIS VOR/DME R-001 CW R-140 continue climb in VIS VOR/DME holding pattern (hold east, RT, 287° inbound) to cross VIS VOR/DME at or above 5400 before proceeding on course. All other aircraft climb on course.

TAKEOFF OBSTACLE NOTES:

Rwy 13, hangsar 120' from DER, 525' right of centerline, up to 28' AGL/287 MSL.
Trees beginning 371' from DER, 323' right of centerline, 60' AGL/334' MSL.
Trees beginning 530' from DER, left and right of centerline, up to 60' AGL/334 MSL.

Rwy 31, traverse way 83' from DER, 340' right of centerline, 279' MSL.
Traverse ways beginning 210' from DER, 376' right of centerline, up to 280' MSL.
Traverse way 343' from DER, 415' left of centerline, 280' MSL.
Traverse way 492' from DER, 395' left of centerline, 281' MSL.
Traverse way 544' from DER, 416' right of centerline, 281' MSL.
Traverse way 684' from DER, 458' left of centerline, 283' MSL.
Sign 793' from DER, 424' left of centerline, 13' AGL/288' MSL.

Point 1141' from DER, 547' left of centerline, 26' AGL/298' MSL.
Sign 1422' from DER, 542' right of centerline, 37' AGL/311' MSL.
Tower 3586' from DER, 580' left of centerline, 110' AGL/383' MSL.

UKIAH, CA

UKIAH MUNI (UKI)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2A 25FEB21 (21056) (FAA)

TAKEOFF MINIMUMS:

Rwy 15, std. w/ min. climb of 681' per NM to 3800 or 3300-3 for climb in visual conditions.

Rwy 33, std. w/ min. climb of 350' per NM to 5000 or 3300-3 for climb in visual conditions.

DEPARTURE PROCEDURE:

Rwy 15, climb heading 151° to 3800 before proceeding on course.

Rwy 33, climb heading 345° to 5000, then left turn direct to cross ENI VORTAC at or above 6000.

VOCA: All Rwy's, obtain ATC approval for visual climb over airport when requesting IFR clearance. Climb in visual conditions to cross Ukiah Muni Airport at or above 3800 before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 15, general utilities 13' from DER, left and right of centerline, 6' AGL/610' MSL.
Road and building beginning 34' from DER, 245' right of centerline, up to 16' AGL/625' MSL.
Tree and road beginning 112' from DER, 124' left of centerline, up to 100' AGL/629' MSL.
Sign, road and building beginning 116' from DER, 246' right of centerline, up to 628' MSL.
Pole 275' from DER, 357' right of centerline, 28' AGL/634' MSL.
Pole, road and building beginning 294' from DER, 4' right of centerline, up to 30' AGL/636' MSL.
Pole and tree beginning 527' from DER, 283' left of centerline, up to 100' AGL/647' MSL.
Pole, tree and building beginning 530' from DER, 150' right of centerline, up to 40' AGL/645' MSL.
Pole, tree and building beginning 555' from DER, 28' right of centerline, up to 100' AGL/696' MSL.

Trees beginning 1026' from DER, 339' left of centerline, up to 100' AGL/670' MSL.

Trees beginning 2193' from DER, 33' left of centerline, up to 100' AGL/674' MSL.

Trees beginning 2543' from DER, 418' right of centerline, up to 100' AGL/712' MSL.

Tree 1.1 NM from DER, 2023' right of centerline, 801' MSL.

Trees beginning 3.2 NM from DER, 1559' right of centerline, up to 100' AGL/961' MSL.

Trees and terrain beginning 3.3 NM from DER, 1205' right of centerline, up to 100' AGL/1073' MSL.

Trees and terrain beginning 1.3 NM from DER, 1295' right of centerline, up to 100' AGL/1160' MSL.

Trees beginning 1.5 NM from DER, 1335' right of centerline, up to 100 AGL/1167' MSL.

Trees and roads beginning 1.6 NM from DER, 1053' right of centerline, up to 100' AGL/1214' MSL.

Trees beginning 1.7 NM from DER, 874' right of centerline, up to 100' AGL/1307' MSL.

Trees beginning 1.8 NM from DER, 2248' right of centerline, up to 100' AGL/1341' MSL.

Trees beginning 1.9 NM from DER, 624' right of centerline, up to 100' AGL/1345' MSL.

Rwy 33, general utility 1' from DER, 137' left of centerline, 3' AGL/621' MSL.

Pole, road, tree beginning 27' from DER, 157' right of centerline, up to 27' AGL/635' MSL.

Terrain 130' from DER, 471' left of centerline, 623' MSL.

Pole, road, beginning 269' from DER, 154' right of centerline, up to 36' AGL/645' MSL.
Pole, road, trees beginning 461' from DER, 12' left of centerline, up to 53' AGL/679' MSL.
Pole 572' from DER, 505' right of centerline, up to 42' AGL/647' MSL.
Transmission line, sign, tree beginning 894' from DER, 288' left of centerline, up to 65' AGL/891' MSL.

Transmission line, building, tree beginning 931' from DER, 411' right of centerline, up to 61' AGL/667' MSL.
Pole, tree, building beginning 961' from DER, 9' left of centerline, 693' MSL.

Trees beginning 1670' from DER, 407' right of centerline, up to 679' MSL.

Trees beginning 2593' from DER, 878' left of centerline, up to 709' MSL.

Tree 5383' from DER, 1848' left of centerline, 752' MSL.

Tower, trees beginning 5773' from DER, 734' left of centerline, up to 124' AGL/773' MSL.

DIVERSE VECTOR AREA (RADAR VECTORS)

L30
VACAVILLE, CA
NUT TREE (VCB)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 5 17AUG17 (17229) (FAA)
TAKEOFF MINIMUMS:
Rwy 20, std. w/ min. climb of 410' per NM to 1600, or 1200-2½ for VCOA .
DEPARTURE PROCEDURE:
Rwy 20, climbing right turn to intercept SAC R-242 to SAC VORTAC to 2000 before proceeding on course.
Rwy 20, climbing left turn to intercept SAC R-242 to SAC VORTAC to 2000 before proceeding on course.
VCOA:
Rwy 20, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Nut Tree airport eastbound at or above 1300 then climb to 2000 on SAC R-242 TO SAC VORTAC, proceed on course.
TAKEOFF OBSTACLE NOTES:
Rwy 20, parking lot, pole beginning 51' from DER, 290' right of centerline, up to 15' AGL/119' MSL.
Fence beginning 99' from DER, 210' left of centerline, up to 118' MSL.
Pole, parking lot, tree beginning 137' from DER, 417' left of centerline, up to 148' MSL.
Tree 948' from DER, 732' right of centerline, 141' MSL.
Pole 1099' from DER, 612' left of centerline, 149' MSL.
Rwy 20, terrain beginning 8' from DER, 253' right of centerline, up to 117' MSL.
Tree 61' from DER, 411' left of centerline, 51' AGL/163' MSL.
Terrain 140' from DER, 432' right of centerline, 124' MSL.
Tree 144' from DER, 538' left of centerline, 85' AGL/197' MSL.
Pole, terrain, fence beginning 206' from DER, 167' right of centerline, up to 12' AGL/130' MSL.
Tree 259' from DER, 506' left of centerline, 211' MSL.
Pole, ant, tree beginning 362' from DER, 497' left of centerline, up to 125' AGL/239' MSL.
Tree 544' from DER, 454' right of centerline, 135' MSL.
Tree, road (north) beginning 710' from DER, 393' right of centerline, up to 164' MSL.
Tree, pole, ant, terrain, chimney/smokestack, sign beginning 825' from DER, 22' left of centerline, up to 264' MSL.
Tree, pole beginning 1576' from DER, 344' right of centerline, up to 190' MSL.
T-tower, pole beginning 1860' from DER, 82' right of centerline, up to 55' AGL/191' MSL.
Terrain 2985' from DER, 1295' right of centerline, 195' MSL.
Terrain 3087' from DER, 1146' right of centerline, 198' MSL.
Terrain 3090' from DER, 1303' right of centerline, 210' MSL.
Terrain beginning 3155' from DER, 1128' right of centerline, up to 217' MSL.
Tree, terrain beginning 3252' from DER, 535' right of centerline, up to 241' MSL.
Terrain beginning 3635' from DER, 54' right of centerline, up to 248' MSL.
Terrain 4058' from DER, 110' right of centerline, 254' MSL.
Terrain, tree beginning 4104' from DER, 18' right of centerline, up to 263' MSL.
Tree 5765' from DER, 1605' right of centerline, 284' MSL.

VISALIA, CA
VISALIA MUNI (VIS)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 4 15AUG19 (19227) (FAA)
DEPARTURE PROCEDURE:
Rwy 12, climbing right turn to heading 230° to intercept VIS VOR/DME R-151 to PIXEY INT to 3000 before proceeding on course.
Rwy 30, climbing left turn to heading 230° to intercept VIS VOR/DME R-151 to PIXEY INT to 3000 before proceeding on course.
TAKEOFF OBSTACLE NOTES:
Rwy 12, vehicle on road 175' from DER, 252' right of centerline, 307' MSL.
Vehicle on road 178' from DER, 248' left of centerline, 308' MSL.
Tree 758' from DER, 616' right of centerline, 62' AGL/356' MSL.
Tree 1302' from DER, 817' left of centerline, 61' AGL/356' MSL.
Tree 3155' from DER, 737' left of centerline, 85' AGL/380' MSL.
Rwy 30, sign 17' from DER, 249' left of centerline, 3' AGL/292' MSL.
Fence beginning 59' from DER, 416' left of centerline, up to 7' AGL/296' MSL.
Trees, vehicle on road beginning 186' from DER, 269' left of centerline, up to 40' AGL/330' MSL.
Building 291' from DER, 249' right of centerline, 15' AGL/305' MSL.
Trees, vehicle on road beginning 791' from DER, 232' left of centerline, up to 332' MSL.
Building 849' from DER, 663' right of centerline, 327' MSL.
Tree 2663' from DER, 341' left of centerline, 370' MSL.
Tree 3035' from DER, 415' left of centerline, 379' MSL.
**WATSONVILLE, CA**

**WATSONVILLE MUNI (WVI)**

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

**AMDT 5A 13SEP18 (18256) (FAA)**

**TAKEOFF MINIMUMS:**

Rwy 27, NA - airport obstacles.

**DEPARTURE PROCEDURE:**

Rwys 2, 9, 20, use WATSONVILLE DEPARTURE.

**TAKEOFF OBSTACLE NOTES:**

Rwy 2, lighting 8' from DER, 84' left of centerline, 1' AGL/159' MSL.

Pole 14' from DER, 349' left of centerline, 205' MSL.

Pole, building, vehicles on road, tree and fence beginning 15' from DER, 322' left of centerline, up to 50' AGL/213' MSL.

Trees beginning 278' from DER, 414' right of centerline, up to 188' MSL.

Pole, vehicles on road, stack, tree and building beginning 429' from DER, 157' left of centerline, up to 58' AGL/220' MSL.

Pole, building and tree beginning 808' from DER, 22' right of centerline, up to 40' AGL/198' MSL.

Tree and transmission line beginning 1021' from DER, 137' right of centerline, up to 222' MSL.

Pole 1174' from DER, 328' right of centerline, 57' AGL/224' MSL.

Trees beginning 1275' from DER, 298' right of centerline, up to 242' MSL.

Tree 1345' from DER, 320' left of centerline, 236' MSL.

Tree 2249' from DER, 371' left of centerline, 264' MSL.

Rwy 9, tree and pole beginning 1' from DER, 152' left of centerline, up to 157' MSL.

Pole 65' from DER, 31' right of centerline, 31' AGL/148' MSL.

Tree, fence, building, vehicles on road and pole beginning 74' from DER, 251' left of centerline, up to 160' MSL.

Pole, tree, building, tank and stack beginning 210' from DER, 139' left of centerline, up to 177' MSL.

Pole 231' from DER, 250' right of centerline, 32' AGL/153' MSL.

Trees beginning 312' from DER, 560' right of centerline, up to 173' MSL.

Tower, pole and tree beginning 828' from DER, 136' left of centerline, up to 177' MSL.

Pole 915' from DER, 250' right of centerline, up to 197' MSL.

Tree 1815' from DER, 365' left of centerline, 215' MSL.

Tower 4697' from DER, 1365' right of centerline, 189' AGL/292' MSL.

Rwy 20, tree 57' from DER, 500' left of centerline, 153' MSL.

Fence 57' from DER, 268' right of centerline, 7' AGL/143' MSL.

Pole 95' from DER, 467' left of centerline, 175' MSL.

Pole, vehicles on road and tree beginning 96' from DER, 377' left of centerline, up to 50' AGL/183' MSL.

Transmission line 848' from DER, 505' left of centerline, 44' AGL/184' MSL.

Tree and transmission line beginning 919' from DER, 520' left of centerline, up to 190' MSL.

Tree 1153' from DER, 288' right of centerline, 169' MSL.

Tree 1207' from DER, 615' left of centerline, 197' MSL.

Tree, building and transmission line beginning 1267' from DER, 318' left of centerline, up to 203' MSL.

Tree 1336' from DER, 7' right of centerline, 177' MSL.

Tree 1337' from DER, 46' right of centerline, 192' MSL.

Tree 2201' from DER, 776' right of centerline, 240' MSL.

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**WEED, CA**

**WEED (O46)**

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

**ORIG 22JUN17 (17173) (FAA)**

**DEPARTURE PROCEDURE:**

Use FOBRO (RNAV) DEPARTURE.

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**WILLITS, CA**

**ELLS FLD-WILLITS MUNI (O28)**

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

**AMDT 1 05AUG04 (21196) (FAA)**

**DEPARTURE PROCEDURE:**

Rwy 16, use MENDOCINO RNAV DEPARTURE.

Rwy 34, use FLUEN RNAV DEPARTURE.
WILLOWS, CA
WILLOWS-GLENN COUNTY (WLW)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 2 22JUN17 (17173) (FAA)
DEPARTURE PROCEDURE:
- Rwy 13, climbing right turn heading 150 to 1000 thence...
- Rwy 16, climbing left turn heading 145 to 1000 thence...
- Rwy 31, climbing left turn heading 140 to 1000 thence...
- Rwy 34, climbing right turn heading 150 to 1000 thence...
...all aircraft continue climb direct ILA VORTAC before proceeding on course.
TAKEOFF OBSTACLE NOTES:
- Rwy 13, vehicles beginning 325' from DER, 563' left of centerline, up to 17' AGL/146' MSL.
- Rwy 16, poles beginning 14' from DER, 409' right of centerline, up to 35' AGL/172' MSL.
- Tree 232' from DER, 436 left of centerline, 149' MSL.
- Rwy 34, tower 869' from DER, 434' right of centerline, 55' AGL/196 MSL.
- Pole 909' from DER, 305 right of centerline, 24' AGL/165' MSL.

WOODLAND, CA
WATTS-WOODLAND (O41)
TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES
AMDT 3 07MAY09 (09127) (FAA)
DEPARTURE PROCEDURE:
- Rwy 18, climb heading 185° and ILA R-151 to EMBER INT/ILA 48 DME before proceeding on course.
- Rwy 36, climbing left turn via heading 320° and ILA R-145 to ILA VORTAC before proceeding on course.
TAKEOFF OBSTACLE NOTES:
- Rwy 18, tree 2478' from DER, 283' right of centerline, 100' AGL/249' MSL.
- Vehicle on road 192' from DER, on centerline, 15' AGL/144' MSL.
- Rwy 36, tree 453' from DER, 69' left of centerline, 100' AGL/224' MSL.
- Vehicle on road 350' from DER, on centerline, 15' AGL/134' MSL.
- Tree 4489' from DER, 1688' left of centerline, 100' AGL/234' MSL.
### IFR ALTERNATE AIRPORT MINIMUMS

Standard alternate minimums for non-precision approaches and approaches with vertical guidance [NDB, VOR, LOC, TACAN, LDA, SDF, VOR/DME, ASR, RNAV (GPS) or RNAV (RNP)] are 800-2. Standard alternate minimums for precision approaches (ILS, PAR, or GLS) are 600-2. Airports within this geographical area that require alternate minimums other than standard or alternate minimums with restrictions are listed below. "NA - means alternate minimums are not authorized due to unmonitored facility, absence of weather reporting service, or lack of adequate navigation coverage. Civil pilots see FAR 91. IFR Alternate Minimums: Ceiling and Visibility Minimums not applicable to USA/USN/USAF. Pilots must review the IFR Alternate Minimums Notes for alternate airfield suitability.

#### NAME | ALTERNATE MINIMUMS
---|---
**ALTURAS, CA**<br>MUNI (AAT)....................RNAV (GPS) Rwy 31 Category B, 900-2.  
**ARCATA/EUREKA, CA**<br>CALIFORNIA REDWOOD COAST-HUMBOLDT COUNTY (ACV)..................RNAV (GPS) Rwy 1\(^1\) RNAV (GPS) Rwy 32\(^2\)  
1Categories A, B, 900-2; Category C, 900-2½; Category D, 900-2¾.  
2Category D, 800-2¼.  
**ATWATER, CA**<br>CASTLE (MER)....................ILS or LOC Rwy 31  
NA when local weather not available.  
NA when control tower closed.  
**AUBURN, CA**<br>AUBURN MUNI (AUN)........RNAV (GPS) Rwy 7 Category B, 900-2.  
**BISHOP, CA**<br>BISHOP (BII)....................LDA Rwy 17\(^1\) RNAV (GPS) Y Rwy 12\(^2\) RNAV (GPS) Z Rwy 12\(^3\)  
1Categories A, B, 2300-2; Category C, D, 2300-3.  
2Categories A, B 2500-2; Category C, 2500-3.  
3Categories A, B, 2300-2; Category C, 2300-3.  
**BYRON, CA**<br>BYRON (C83)....................RNAV (GPS) Rwy 30 Category D, 800-2¾.  
**CHICO, CA**<br>CHICO MUNI (CIC)............ILS or LOC Rwy 13L RNAV (GPS) Rwy 13L  
NA when local weather not available.  
**CONCORD, CA**<br>BUCHANAN FLD (CCR)..................LDA Rwy 19R\(^1\) RNAV (GPS) Rwy 19R\(^2\) VOR Rwy 19R\(^3\)  
1NA when control tower closed.  
2Category C, 1000-2¾; Category D, 1300-3.  
3Categories A, B, 1000-2; Category C, 1000-3; Category D, 1300-3.  
**COLUMBIA, CA**<br>COLUMBIA (O22) ..........RNAV (GPS) Rwy 35  
NA when local weather not available.  
Categories A, B, 1100-2; Category C, 1100-3.  
**CRESCENT CITY, CA**<br>JACK MC NAMARA FLD (CEC)..................RNAV (GPS) Rwy 12 RNAV (GPS) Rwy 36  
VOR Rwy 12  
VOR/DME Rwy 12  
VOR/DME Rwy 36  
NA when local weather not available.  
**FRESNO, CA**<br>FRESNO CHANDLER EXEC (FCH) ..................RNAV (GPS) Rwy 12  
NA when local weather not available.  
**FRESNO YOSEMITE INTL (FAT) .................ILS Y or LOC Y Rwy 29R\(^1\) LOC Y Rwy 11L\(^2\) TACAN Rwy 11L\(^3\) TACAN Rwy 29R\(^4\)  
1LOC, Category E, 900-2½.  
2Category E, 900-2¾.  
3Category E, 900-2.  
**GRASS VALLEY, CA**<br>NEVADA COUNTY (G00)........RNAV (GPS) Rwy 7  
NA when local weather not available.  
Category D, 800-2¾.
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<td>1 NA when local weather not available.</td>
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<td>2 NA when control tower closed.</td>
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<td>3 NA when tower closed.</td>
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<td>2 LOC, Categories C, D, 1300-3.</td>
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<td>3 Categories A, B, 1100-2; Categories C, D, 1200-3.</td>
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<tr>
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<td>RNAV (GPS) Z Rwy 31(^1)</td>
</tr>
<tr>
<td></td>
<td>VOR Rwy 13(^3)</td>
</tr>
<tr>
<td></td>
<td>1NA when local weather not available.</td>
</tr>
<tr>
<td></td>
<td>2Category D, 1600-3.</td>
</tr>
<tr>
<td></td>
<td>3Category D, 1000-3.</td>
</tr>
<tr>
<td><strong>SAN ANDREAS, CA</strong></td>
<td>RNAV (GPS) Y Rwy 30(^1)</td>
</tr>
<tr>
<td>CALAVERAS CO-MAURY RASMUSSEN FIELD (CPU)</td>
<td>RNAV (GPS) Z Rwy 30(^2)</td>
</tr>
<tr>
<td></td>
<td>NA when local weather not available.</td>
</tr>
<tr>
<td></td>
<td>1Categories A, B, 1300-2.</td>
</tr>
<tr>
<td></td>
<td>2Categories A, B, 900-2.</td>
</tr>
<tr>
<td><strong>SAN CARLOS, CA</strong></td>
<td>RNAV (GPS) Z Rwy 19L(^1)</td>
</tr>
<tr>
<td>SAN CARLOS (SQL)</td>
<td>RNAV (GPS) Y Rwy 28L(^2)</td>
</tr>
<tr>
<td></td>
<td>RNAV (GPS) Z Rwy 28R(^3)</td>
</tr>
<tr>
<td></td>
<td>RNAV (GPS) Z Rwy 10R(^4)</td>
</tr>
<tr>
<td></td>
<td>1LOC, Categories A, B, 1800-2; Categories C, D, 1800-3.</td>
</tr>
<tr>
<td></td>
<td>2ILS, Categories A, B, C, D, 800-2; LOC, Category A, 900-2; Category B, 1000-2; Category C, 1600-3.</td>
</tr>
<tr>
<td></td>
<td>3Categories A, B, 1200-2, Categories C, D, 1200-3.</td>
</tr>
<tr>
<td></td>
<td>4Categories A, B, 1100-2; Category C, 1600-3; Category D, 1100-2().</td>
</tr>
<tr>
<td></td>
<td>5Category B, 1000-2; Category C, 1600-3.</td>
</tr>
<tr>
<td></td>
<td>6Categories A, B, C, D, 1100-4.</td>
</tr>
<tr>
<td>NAME</td>
<td>ALTERNATE MINIMUMS</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>SAN JOSE, CA</td>
<td>NORMAN Y MINETA SAN JOSE INTL (SJC)....................</td>
</tr>
<tr>
<td></td>
<td>ILS or LOC Rwy 12 R</td>
</tr>
<tr>
<td></td>
<td>ILS or LOC Rwy 30 L</td>
</tr>
<tr>
<td></td>
<td>NA when control tower closed.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>SAN MARTIN, CA</td>
<td>SAN MARTIN (E16).........................RNAV (GPS) Rwy 32</td>
</tr>
<tr>
<td></td>
<td>NA when local weather not available. Category B, 900-2</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>SANTA ROSA, CA</td>
<td>CHARLES M SCHULZ-SONOMA COUNTY (STS)....................</td>
</tr>
<tr>
<td></td>
<td>ILS or LOC Rwy 32^23</td>
</tr>
<tr>
<td></td>
<td>RNAV (GPS) Rwy 14^4</td>
</tr>
<tr>
<td></td>
<td>RNAV (GPS) Rwy 32^14</td>
</tr>
<tr>
<td></td>
<td>^1NA when local weather not available.</td>
</tr>
<tr>
<td></td>
<td>^2NA when control tower closed.</td>
</tr>
<tr>
<td></td>
<td>^3LOC, Category C, 1000-3; Category D, 1300-3.</td>
</tr>
<tr>
<td></td>
<td>^4Category C, 1000-3; Category D, 1300-3.</td>
</tr>
<tr>
<td>STOCKTON, CA</td>
<td>STOCKTON METRO (SCK)....................................</td>
</tr>
<tr>
<td></td>
<td>ILS or LOC Rwy 29 R</td>
</tr>
<tr>
<td></td>
<td>NA when control tower closed.</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>SUSANVILLE, CA</td>
<td>SUSANVILLE..............................................</td>
</tr>
<tr>
<td></td>
<td>RNAV (GPS) Rwy 29</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>VACAVILLE, CA</td>
<td>NUT TREE (VCB)............................................</td>
</tr>
<tr>
<td></td>
<td>RNAV (GPS)-A^1</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
LEMOORE NAS (REEVES FIELD)(KNLC), Leemore, CA Amdt 7

**RADAR INSTRUMENT APPROACH MINIMUMS**

<table>
<thead>
<tr>
<th>RWY</th>
<th>GS/TCH/RPI</th>
<th>CAT</th>
<th>DH/MDA-VIS</th>
<th>HAT/HATH/VIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14L</td>
<td>3.0°/54/983</td>
<td>ABCDE</td>
<td>327/12</td>
<td>100</td>
</tr>
<tr>
<td>14R</td>
<td>3.0°/46/870</td>
<td>ABCDE</td>
<td>321/24</td>
<td>100</td>
</tr>
<tr>
<td>32R</td>
<td>3.0°/52/977</td>
<td>ABCDE</td>
<td>328/24</td>
<td>100</td>
</tr>
<tr>
<td>ASR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32L</td>
<td>3.0°/40/743</td>
<td>ABCDE</td>
<td>319/24</td>
<td>100</td>
</tr>
<tr>
<td>14L</td>
<td>3.0°/54/983</td>
<td>ABCDE</td>
<td>321/24</td>
<td>100</td>
</tr>
<tr>
<td>14R</td>
<td>3.0°/46/870</td>
<td>ABCDE</td>
<td>328/24</td>
<td>100</td>
</tr>
<tr>
<td>32R</td>
<td>3.0°/52/977</td>
<td>ABCDE</td>
<td>328/24</td>
<td>100</td>
</tr>
<tr>
<td>CIR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14L</td>
<td>3.0°/40/743</td>
<td>ABCDE</td>
<td>319/24</td>
<td>100</td>
</tr>
<tr>
<td>14R</td>
<td>3.0°/46/870</td>
<td>ABCDE</td>
<td>321/24</td>
<td>100</td>
</tr>
<tr>
<td>32R</td>
<td>3.0°/52/977</td>
<td>ABCDE</td>
<td>328/24</td>
<td>100</td>
</tr>
</tbody>
</table>

2. When ALS inop, increase CAT ABCDE RVR to 24 and vis to 1/2 mile.
3. When ALS inop, increase CAT ABCDE RVR to 55 and vis to 1 mile.
4. Simultaneous approaches authorized.
5. Pattern at 2800 ft.
6. Caution: WCH group 4: 15 ft less than required 20 ft.
7. Step Down Fix at 3 NM from thld, 1100 min.
8. Circling authorized only from ASR.
**LAND AND HOLD-SHORT OPERATIONS (LAHSO)**

LAHSO is an acronym for "Land and Hold-Short Operations." These operations include landing and holding short of an intersection runway, an intersecting taxiway, or other predetermined points on the runway other than a runway or taxiway. Measured distance represents the available landing distance on the landing runway, in feet.

Specific questions regarding these distances should be referred to the air traffic manager of the facility concerned. The Aeronautical Information Manual contains specific details on hold-short operations and markings.

<table>
<thead>
<tr>
<th>CITY/AIRPORT</th>
<th>LDG RWY</th>
<th>HOLD-SHORT POINT</th>
<th>AVBL LDG DIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAPA, CA</td>
<td>24</td>
<td>01L-19R</td>
<td>3,700 feet</td>
</tr>
<tr>
<td>NAPA COUNTY (APC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SANTA ROSA, CA</td>
<td>02</td>
<td>14-32</td>
<td>4,608 feet</td>
</tr>
<tr>
<td>CHARLES M SCHULZ - SONOMA COUNTY (STS)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
An "airport surface hot spot" is a location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

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

<table>
<thead>
<tr>
<th>CITY/ AIRPORT</th>
<th>HOT SPOT</th>
<th>DESCRIPTION*</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATWATER, CA</td>
<td>HS 1</td>
<td>Twy A, Twy A1, Twy B, and Twy G complex int.</td>
</tr>
<tr>
<td>CASTLE (MER)</td>
<td>HS 2</td>
<td>Twy A and southeast ramp, traffic congestion.</td>
</tr>
<tr>
<td>BEALE AFB, CA</td>
<td>HS 1</td>
<td>Twy B, high-speed U-2 mobile traffic when Rwy 15 in use.</td>
</tr>
<tr>
<td>BEALE AFB (BAB)</td>
<td>HS 2</td>
<td>Twy E, high-speed U-2 mobile traffic when Rwy 33 in use.</td>
</tr>
<tr>
<td></td>
<td>HS 3</td>
<td>Twy F, in the vicinity of Twy C, Twy L, and Twy K. Frequent U-2 and high speed mobile traffic, slope of the twy limits visibility in both directions.</td>
</tr>
<tr>
<td>CONCORD, CA</td>
<td>HS 1</td>
<td>Rwy 32L and run-up area, Twy J.</td>
</tr>
<tr>
<td>BUCHANAN FLD (CCR)</td>
<td>HS 2</td>
<td>Complex int at Rwy 01R-19L, Twy J, Twy A, Twy C, and Twy K.</td>
</tr>
<tr>
<td></td>
<td>HS 3</td>
<td>Rwy 32L apch, Twy A.</td>
</tr>
<tr>
<td></td>
<td>HS 4</td>
<td>Rwy 32R, Twy B, Twy J, and the run up area.</td>
</tr>
<tr>
<td>HAYWARD, CA</td>
<td>HS 1</td>
<td>Rwy 10L-28R, Twy E and Twy A.</td>
</tr>
<tr>
<td>HAYWARD EXEC (HWD)</td>
<td>HS 2</td>
<td>Area not visible from ATCT.</td>
</tr>
<tr>
<td></td>
<td>HS 3</td>
<td>Area not visible from ATCT.</td>
</tr>
<tr>
<td></td>
<td>HS 4</td>
<td>Area not visible from ATCT.</td>
</tr>
<tr>
<td></td>
<td>HS 5</td>
<td>Rwy 28L hold bars on Twy A1 and Twy Z1.</td>
</tr>
<tr>
<td>LIVERMORE, CA</td>
<td>HS 1</td>
<td>Rwy 25R, Twy B.</td>
</tr>
<tr>
<td>LIVERMORE MUNI (LVK)</td>
<td>HS 2</td>
<td>Rwy 25L, Twy C.</td>
</tr>
<tr>
<td></td>
<td>HS 3</td>
<td>Rwy 07L, Twy H.</td>
</tr>
<tr>
<td></td>
<td>HS 4</td>
<td>Rwy 07R, Twy G.</td>
</tr>
<tr>
<td></td>
<td>HS 5</td>
<td>Rwy 25R, Twy G.</td>
</tr>
<tr>
<td></td>
<td>HS 6</td>
<td>Ints of Twy J, Twy A, and Twy G.</td>
</tr>
<tr>
<td>NAPA, CA</td>
<td>HS 1</td>
<td>Twy A, Twy C, Twy E and the ramp.</td>
</tr>
<tr>
<td>NAPA COUNTY (APC)</td>
<td>HS 2</td>
<td>Rwy 24, Twy A.</td>
</tr>
<tr>
<td></td>
<td>HS 3</td>
<td>Rwy 24 and Rwy 01L.</td>
</tr>
<tr>
<td>OAKLAND, CA</td>
<td>HS 1</td>
<td>Rwy 28R, Twy A and Twy B.</td>
</tr>
<tr>
<td>METRO OAKLAND INTL (OAK)</td>
<td>HS 2</td>
<td>Rwy 10L-28R, Twy H, Twy G, Twy C and Twy D.</td>
</tr>
<tr>
<td>SACRAMENTO, CA</td>
<td>HS 1</td>
<td>Inbound Twy A and outbound Twy B.</td>
</tr>
<tr>
<td>SACRAMENTO EXEC (SAC)</td>
<td>HS 2</td>
<td>Portion of Twy E not visible from twr.</td>
</tr>
<tr>
<td>SACRAMENTO, CA</td>
<td>HS 1</td>
<td>Area not visible from the twr.</td>
</tr>
<tr>
<td>SACRAMENTO INTL (SMF)</td>
<td>HS 2</td>
<td>Concentrated north/south ground vehicle traffic crossing Twy W and Twy Y at Twy Y2.</td>
</tr>
<tr>
<td></td>
<td>HS 3</td>
<td>Pilots taxiing south on Twy A sometimes miss the turn onto Twy A13.</td>
</tr>
</tbody>
</table>
### HOT SPOTS

(CONTINUED)

<table>
<thead>
<tr>
<th>CITY/AIRPORT</th>
<th>HOT SPOT</th>
<th>DESCRIPTION*</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAN FRANCISCO, CA</td>
<td>HS 1</td>
<td>Complex int Twy B and Twy F.</td>
</tr>
<tr>
<td>SAN FRANCISCO INTL (SFO)</td>
<td>HS 2</td>
<td>Rwy 01L-19R, Twy C and Twy E.</td>
</tr>
<tr>
<td></td>
<td>HS 3</td>
<td>Rwy 28R and Twy T.</td>
</tr>
<tr>
<td>SAN JOSE, CA</td>
<td>HS 1</td>
<td>Rwy 30L and Twy D &quot;Run-up Area&quot; near Active rwy.</td>
</tr>
<tr>
<td>NORMAN Y. MINETA SAN JOSE INTL (SJC)</td>
<td>HS 2</td>
<td>Numerous inbounds and outbounds at twy intersections Twy D, Twy Z, and Twy Y.</td>
</tr>
<tr>
<td></td>
<td>HS 3</td>
<td>Numerous aircraft maneuvering at twy int of Twy Y, Twy Z, Twy A and the Rwy 31R run-up area. Aircraft sometimes confuse Twy Y for Rwy 13L-31R.</td>
</tr>
<tr>
<td>SAN JOSE, CA</td>
<td>HS 3</td>
<td>Aircraft sometimes confuse Twy Y for Rwy 13L-31R.</td>
</tr>
<tr>
<td>REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)</td>
<td>HS 1</td>
<td>Twy A, Twy A5, Twy Z complex int in close proximity to Rwy 14-32.</td>
</tr>
<tr>
<td></td>
<td>HS 2</td>
<td>South run-up area not visible from the twr.</td>
</tr>
<tr>
<td></td>
<td>HS 3</td>
<td>North run-up area east of Twy A and Twy H int in close proximity of Rwy 20 Apch Hold.</td>
</tr>
<tr>
<td></td>
<td>HS 4</td>
<td>Wrong rwy departure risk.</td>
</tr>
<tr>
<td>SANTA ROSA, CA</td>
<td>HS 1</td>
<td>Area not visible from control twr.</td>
</tr>
<tr>
<td>CHARLES M SCHULZ-SONOMA COUNTY (STS)</td>
<td>HS 2</td>
<td>Closely spaced rwys on Twy H.</td>
</tr>
<tr>
<td>STOCKTON, CA</td>
<td>HS 1</td>
<td>Simultaneous ops on Rwy 11-29 and Rwy 02-20.</td>
</tr>
<tr>
<td>STOCKTON METRO (SCK)</td>
<td>HS 2</td>
<td>Closely spaced rwys on Twy H.</td>
</tr>
<tr>
<td>TRUCKEE, CA</td>
<td>HS 1</td>
<td>Simultaneous ops on Rwy 11-29 and Rwy 02-20.</td>
</tr>
<tr>
<td>TRUCKEE-TAHOE (TRK)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*See appropriate Chart Supplement HOT SPOT table for additional information.*
ARIVAL ROUTE DESCRIPTION

RBUCL TRANSITION (RBUCL.AANET1)

SPAMY TRANSITION (SPAMY.AANET1)

From WNDSR on track 171° to cross AANET at or above 13000.

LANDING RUNWAY 12: From AANET on track 171° to cross RAIDR at 5000. Expect assigned instrument approach procedure.

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION

From over TULE (TTE) VOR/DME on TTE R-323 and FRIANT (FRA) VORTAC R-142 to ALTTA. Expect ILS or LOC RWY 29R approach. For Rwy 11L operations: Depart ALTTA heading 310° and expect RADAR vectors to LOC Y RWY 11L.

LOST COMMUNICATIONS: Rwy 11L: Proceed to FRA VORTAC on V459, then on V230, execute the LOC Y RWY 11L approach.
NOTE: Radar required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect "descend via" clearance from Oakland Center.
Northern California TRACON will assign landing runway.

(Continued on following page)
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect "descend via" clearance from Oakland Center. Northern California TRACON will assign landing runway.

NOTE: Chart not to scale.

**ARRIVAL ROUTE DESCRIPTION**

**LANDING RUNWAYS 19L/R:** From ALWYS on track 269° to cross HEFLY between 14000 and FL190 and at 250K, then on track 269° to cross ARRTU at 10000 and at 240K, then on track 269° to cross ADDMM at 9000 and at 240K, then on track 269° to cross COGGR between 7000 and 9000 and at 210K, then on track 269° to cross BERKS at or above 5000 and at 210K, then on track 269°. Expect ILS or RNAV (GPS) approach to Rwy 19L or RADAR vectors to final approach course.
ARRIVAL ROUTE DESCRIPTION

ADWAT TRANSITION (ADWAT.AMRVR2)

MINA TRANSITION (MVA.AMRVR2)

. . . From AMRVR on track 249° to cross GEKNE at or above 12200, then on track 250° to cross SAKOC at or above 9500, then on track 250° to cross JACII at or above 8000, then on track 249° to cross HNW VOR/DME at or above 7000. Expect ILS approach Runway 22L or visual approach.

NOTE: Chart not to scale.
MRLET TRANSITION (MRLET.BANND2)
RPARK TRANSITION (RPARK.BANND2)
RUSME TRANSITION (RUSME.BANND2)

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.

(OAK)
127.2 256.9 (Rwy 12)
GND CON 121.75 (Rwy 12)

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION

LANDING RUNWAY 12: From BANND on track 277° to cross SULRR at or below 13000, then on track 264° to cross KEENR at 8000, then on track 262° to cross LOHGN at 6000 and at 230K, then on track 261° to cross WHYEE at or above 5000, then on track 261° to cross HIRMO at 4000, then on track 261°. Expect RADAR vectors to final approach course.

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.
BDEGA THREE ARRIVAL (RNAV)

ARRIVAL ROUTE DESCRIPTION

AMAKR TRANSITION (AMAKR.BDEGA3)
LEGGS TRANSITION (LEGGS.BDEGA3)
MLBEC TRANSITION (MLBEC.BDEGA3)
MRRLO TRANSITION (MRRLO.BDEGA3)
PEENO TRANSITION (PEENO.BDEGA3)

From LOZIT on track 126° to cross BDEGA at or below 13000, then on track 126° to cross CORKK at 11000 and at 250K, then on track 126° to BRIXX, then on track 140°. Expect RADAR vectors to final approach course.

NOTE: Chart not to scale.
NOTE: Turbojet aircraft only.

NOTE: Chart not to scale.
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: GPS required.
NOTE: Turbojet and turboprop aircraft only.
NOTE: Landing KSUU: Expect RADAR vectors to Rwy 21L or 3L unless otherwise assigned by ATC.
NOTE: Landing KCCR: Expect Rwy 19R, unless otherwise assigned by ATC.

(NARRATIVE ON FOLLOWING PAGE)
ARRIVAL ROUTE DESCRIPTION

NURAY TRANSITION (NURAY.BMBER1)
PEMKE TRANSITION (PEMKE.BMBER1)
RPARK TRANSITION (RPARK.BMBER1)

LANDING KSUU, KCCR: From BMBER on track 265° to cross JOSBA between 10000 and 11000, then on track 267° to cross RAAAF at 6000 and at or below 230K, then on heading 303° or as assigned by ATC. Expect RADAR vectors to final approach course.

LOST COMMUNICATIONS
KSUU: From RAAAF, proceed on track 318° to cross SEATO at 6000. Execute ILS or LOC RWY 21L or TACAN RWY 3L approach. If unable, hold at SEATO as depicted, maintain 6000 feet.
KCCR: From RAAAF, proceed on track 312° to cross REJOY at 6000 and execute RNAV, LDA, or VOR RWY 19R approach.
ARRIVAL ROUTE DESCRIPTION

MENDOCINO TRANSITION (ENI.BRINY2): From over ENI VORTAC via ENI R-146 and PYE R-325 to PYE VOR/DME. Thence . . . .

MUSTANG TRANSITION (FMG.BRINY2): From over FMG VORTAC via FMG R-241 to ILA VORTAC then via ILA R-251 to ENI VORTAC, then via ENI R-146 to PYE VOR/DME. Thence . . . .

RED BLUFF TRANSITION (RBL.BRINY2): From over RBL VORTAC via RBL R-200 and ENI R-146 to PYE VOR/DME. Thence . . . .

...From over PYE VOR/DME via PYE R-151 to BRINY INT/DME, then via OSI R-237 to OSI VOR/DME. Expect RADAR vectors to Rwy 12R final approach course.
ARRIVAL ROUTE DESCRIPTION

CHBLI TRANSITION (CHBLI.BRIXX3)

From BRIXX on track 144° to LUYTA, then on track 141° to JILNA, then on heading 105° or as assigned by ATC. Expect RADAR vectors to final approach course.
From over CCR VOR/DME via CCR R-020 to ISYOH INT, then via MYV R-174 to ELKOE INT, then on heading 340°. Expect RADAR vectors to final approach course.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect to receive "descend via" clearance
from Oakland Center, Northern California
TRACON will assign landing runway.
NOTE: RADAR required for non-GPS equipped aircraft.
ARRIVAL ROUTE DESCRIPTION

From DYAMD on track 248° to cross LAANE between FL220 and FL260 and at 280K, then on track 247° to ALWYS.

LANDING RUNWAYS 28L/R: From ALWYS on track 247° to cross FLOWZ between 14000 and FL190 and at 280K, then on track 248° to cross CEDES between 10000 and 12000 and at 250K, then on track 239° to cross FRELY at or above 8000 and at 230K, then on track 239° to cross ARCHI at 7000. Expect assigned instrument approach procedure.

NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect to receive "descend via" clearance from Oakland Center. Northern California TRACON will assign landing runway.
NOTE: RADAR required for non-GPS equipped aircraft.

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION
RGOOD TRANSITION (RGOOD.EMZOH3)
From EMZOH on track 304° to cross MYJAW at or above FL220 and at 280K, then on track 304° to cross SKIZM between 15000 and FL190.

LANDING RUNWAYS 28L/R: From SKIZM on track 303° to cross MYRIB between 9000 and 10000 and at 240K, then on track 304° to MYHIP, then on track 292° to cross MYNEE at 7000, then on track 292° to cross MYSHN at or above 6200, then on track 292° to cross CYMBL at 5300. Expect assigned instrument approach procedure.

LANDING RUNWAY 30: From SKIZM on track 303° to cross MYRIB between 9000 and 10000 and at 240K, then on track 304° to MYHIP, then on track 292° to cross MYNEE at 7000, then on track 292° to cross MYSHN at or above 6200, then on track 264° to cross FIXME at or above 5200, then on track 264° to cross MYCAF at or above 5000, then on track 264° to cross BIGPD at or above 4500, then on track 264° to cross FRNNY at or above 4100. Expect assigned instrument approach procedure.

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect to receive "descend via" clearance from Oakland Center. Northern California TRACON will assign landing runway.
ARRIVAL ROUTE DESCRIPTION

GGULF TRANSITION (GGULF.FRLON2)

From FRLON on track 145° to cross STLER at 12000 and at 250K, then on track 145° to MNTNA, then on track 105° to cross MISSS at 7000, then on track 105° to cross PPEGS at 5500 and at 210K, then on track 140°. Expect RADAR vectors to final approach course.
ARRIVAL ROUTE DESCRIPTION

COALDALE TRANSITION (OAL.MOD9): From over OAL VORTAC on OAL R-246 and MOD R-064 to MOD VOR/DME. Thence . . .

MINA TRANSITION (MVA.MOD9): From over MVA VORTAC on MVA R-204 and OAL R-246 and MOD R-064 to MOD VOR/DME. Thence . . .

MUSTANG TRANSITION (FMG.MOD9): From over FMG VORTAC on FMG R-182 and MOD R-064 to MOD VOR/DME. Thence . . .

. . . From over MOD VOR/DME on MOD R-245 to LEEFF, then on MOD R-245 to GROAN, then on MOD R-245 to CEDES, then on OSI VOR/DME R-056 to ARCHI, then on OSI R-056 to MEHTA. Expect RADAR vectors to final approach course.

LOST COMMUNICATIONS: Intercept and proceed on SFO RWY 28R localizer to CEPIN.

NOTE: DME required.
NOTE: Chart not to scale.
OAKLAND CENTER
134.37 281.5
NORCAL APP CON
124.8 263.15
D-ATIS
133.775
OAKLAND TOWER
118.3 291.65 (Rwys 28L/R)
127.2 256.9 (Rwy 30)
GND CON
121.9 (Rwys 28L/R)
121.75 (Rwy 30)

NOTE: Chart not to scale.

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.

[CONTINUED ON FOLLOWING PAGE]
ARRIVAL ROUTE DESCRIPTION

From OAKES on track 244° to cross GRUDG between FL200 and FL230 and at 280K, then on track 244° to cross BANND at or below FL190.

LANDING RUNWAYS 28L/R: From BANND on track 244° to cross TOOOL between 11000 and 17000 and at 280K, then on track 250° to cross EVOLV between 7000 and 9000, then on track 249° to cross BBUBB at 5000. Expect assigned instrument approach procedure.

LANDING RUNWAY 30: From BANND on track 244° to cross TOOOL between 11000 and 17000 and at 280K, then on track 238° to cross FFIST between 7000 and 9000, then on track 251° to cross PRFC at or above 5000, then on track 256° to cross PARBB at 4500, then on track 243°. Expect assigned instrument approach procedure.
ARRIVAL ROUTE DESCRIPTION

LIBBO TRANSITION (LIBBO.OSVEE1)
ROVUE TRANSITION (ROVUE.OSVEE1)
ZONSO TRANSITION (ZONSO.OSVEE1)

From MOLEN on track 055° to OCOVA, thence . . . .

. . . LANDING RUNWAYS 3L, 21R: From OCOVA on track 054° to cross OSVEE at 7000, then on heading 020°, expect RADAR vectors to final approach course.

LOST COMMUNICATIONS: From OVSEE, proceed direct SEATO. Execute ILS or LOC RWY 21R or TACAN RWY 3L approach. If unable, hold at SEATO as depicted, maintain 6000.

NOTE: RNAV 1.
NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION

AVENAL TRANSITION (AVE.PXN6): From over AVE VOR/DME on AVE R-313 and PXN R-133 to PXN VORTAC. Thence. . . .

GORMAN TRANSITION (GMN.PXN6): From over GMN VORTAC on GMN R-305 and PXN R-124 to SRENA, then on PXN R-124 to PXN VORTAC. Thence. . . .

. . . . From over PXN VORTAC on PXN R-301 to SUNOL. Expect RADAR vectors to final approach course.

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

PANOCHI SIX ARRIVAL

(PXN.PXN6) 15AUG19

OAKLAND, CALIFORNIA
NOTE: Chart not to scale.

ARRIVAL ROUTE DESCRIPTION

From PEBLL on track 098° to cross WOMAS at/above 13000, thence . . .

. . . LANDING RUNWAY 3L: From WOMAS on track 098° to cross SEATO at 6000, then right turn heading 210°, expect RADAR vectors to final approach course.

. . . LANDING RUNWAY 21R: From WOMAS on track 098° to cross SEATO at 6000, at 210K, then on heading 100°, expect RADAR vectors to final approach course.

LOST COMMUNICATIONS: From SEATO, execute ILS or LOC RWY 21R or TACAN RWY 3L approach. If unable hold at SEATO as depicted, maintain 6000.
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: GPS required.
NOTE: Turbojet and turboprop aircraft only.
NOTE: Landing SFO expect Runway 28L/R unless otherwise assigned by ATC.
NOTE: Landing OAK expect Runway 28L/R or 30 unless otherwise assigned by ATC.

ARRIVAL ROUTE DESCRIPTION

ALCOA TRANSITION (ALCOA.PIRAT2)
CINNY TRANSITION (CINNY.PIRAT2)
HUNTS TRANSITION (HUNTS.PIRAT2)
PAINT TRANSITION (PAINT.PIRAT2)
PASIF TRANSITION (PASIF.PIRAT2)
WUSES TRANSITION (WUSES.PIRAT2)

LANDING KOAK/KSFO: From PIRAT on track 060° to cross BRINY at or below 12000 and at 250K, then on track 060° to cross ARGGG at 8000 and at 230K, then on track 060°. Expect RADAR vectors to assigned instrument approach.

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION

MENDOCINO TRANSITION (ENI.PYE3): From over ENI VORTAC on ENI R-146 and PYE R-325 to PYE VOR/DME. Thence...

SACRAMENTO TRANSITION (SAC.PYE3): From over SAC VORTAC on SAC R-257 and PYE R-028 to PYE VOR/DME. Thence...

....From over PYE VOR/DME on PYE R-144 to HADLY, then on OSI R-256 to OSI VOR/DME. Expect RADAR vectors to final approach course.

NOTE: Chart not to scale.
RAZRR FOUR ARRIVAL (RNAV) Transition Routes

Note: Chart not to scale.

Note: Radar required.
Note: RNAV 1.
Note: DME/DME/IRU or GPS required.
Note: Expect to receive transition (east/west) and "Descend via" clearance from Oakland Center.
Northern California TRACON will assign landing runway.
Note: West transition indicates Rwy 30L/R.
Note: East transition indicates Rwy 12L/R.
Note: Expect west transition unless otherwise advised.

FAANG Transition (FAANG.RAZRR4)
KNGRY Transition (KNGRY.RAZRR4)
MDOWS Transition (MDOWS.RAZRR4)
RUSME Transition (RUSME.RAZRR4)
ARRIVAL ROUTE DESCRIPTION

From STUBL on track 250° to cross RAZRR between FL200 and FL220, then on track 249° to cross OUCHH between 16000 and FL190, then on track 249° to cross NIKK between 10000 and 14000.

WEST TRANSITION RUNWAYS 30L/R: From NIKK on track 265° to cross SEKKO at or above 8000 and at 250K, then on track 265° to cross SCOPR at or above 5000, then on track 265° to cross KLIDE at or above 4000 and at 230K. Expect assigned instrument approach procedure.

EAST TRANSITION RUNWAYS 12L/R: From NIKK on track 240° to cross GOTE at or below 12000 and at 280K, then on track 240° to SHIKK, then on track 281° to cross TRCOT at or above 9000 and at 240K, then on track 281° to cross GGUGL between 7000 and 8000, then on track 318° to cross GAARY at or above 5800, then on track 318° to cross EDMND at or above 5600, then on track 318° to cross JESEN at or above 4100, then on track 306° to cross HITIR at 4000, then on track 306° to ZORS, then on track 306°. Expect RADAR vectors to final approach course.
**ARRIVAL ROUTE DESCRIPTION**

**ORRCA TRANSITION (ORRCA.RISTI1)**

**TIPRE TRANSITION (TIPRE.RISTI1)**

**LANDING KSFO/KSJC:** From RISTI on track 218° to cross CEDES at 9000, then on heading 220° or as assigned by ATC. Expect RADAR vectors to final approach course.

**NOTE:** Chart not to scale.

**NOTE:** RADAR required.

**NOTE:** RNAV 1.

**NOTE:** GPS required.
ARRIVAL ROUTE DESCRIPTION

AVENAL TRANSITION (AVE.ROBIE5): From over AVE VOR/DME on AVE R-276 to ROBIE. Thence . . . .

SAN MARCUS TRANSITION (RZS.ROBIE5): From over RZS VORTAC on RZS R-312 and SNS R-128 to ROBIE. Thence . . . .

. . . . From over ROBIE on SNS R-128 to SNS VORTAC. Then on SNS R-347 to GILRO. Expect the ILS RWY 30L approach.

FOR RUNWAY 12 OPERATIONS: Expect routing SNS direct SJC VOR/DME and RADAR vectors to final approach course.
ARRIVAL ROUTE DESCRIPTION

MENDOCINO TRANSITION (ENI.SEATO4): From over ENI VORTAC via ENI R-103 to SEATO INT. Thence . . . .

RED BLUFF TRANSITION (RBL.SEATO4): From over RBL VORTAC via RBL R-153 and ILA R-333 to ILA VORTAC, then via ILA R-157 to SEATO INT. Thence . . . .

SCAGGS ISLAND TRANSITION (SGD.SEATO4): From over SGD VORTAC via SGD R-030 to SEATO INT. Thence . . . .

. . . . . . . . From over SEATO INT:

RWY 3L/R: Expect RADAR vectors for ILS or LOC RWY 3L approach.
RWY 21L/R: Expect RADAR vectors for ILS or LOC RWY 21L approach.

LOST COMMUNICATIONS:

RWY 3L via SEATO then TACAN RWY 3L
RWY 21R via SEATO then TACAN RWY 21R.
ARRIVAL ROUTE DESCRIPTION

From SERFR on track 314° to cross NRRU at or above FL200 and at 280K, then on track 313° to cross WWAVS between 15000 and FL190 and at 280K, then on track 333° to cross EPICK between 10000 and 15000 and at 280K, then on track 329° to cross FOLET at or above 8000 and at 240K, then on track 329° to cross EDDYY at 6000 and at 240K. Expect assigned instrument approach (Rwy 28L/R).
ARRIVAL ROUTE DESCRIPTION

MRLET TRANSITION (MRLET.SHARR1)
RPARK TRANSITION (RPARK.SHARR1)
RUSME TRANSITION (RUSME.SHARR1)

LANDING OAK: From SHARR on track 232° to LOCKE, then on track 232° to cross CATTY at 8000, then on heading 280° or as assigned by ATC. Expect RADAR vectors to final approach course.

LANDING HWD: From SHARR on track 232° to LOCKE, then on track 232° to cross CATTY at 8000, then on heading 232° or as assigned by ATC. Expect RADAR vectors to final approach course.

NOTE: RADAR required.
NOTE: RNAV required.
NOTE: DME/DME/IRU or GPS required.
NOTE: Turbojet and turboprop aircraft only.
NOTE: Landing OAK expect runway 10L/R and 12 unless otherwise assigned by ATC.
NOTE: Landing HWD expect runway 28L/R unless otherwise assigned by ATC.
SILCN FIVE ARRIVAL (RNAV)

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)
ARRIVAL ROUTE DESCRIPTION

TROXX TRANSITION (TROXX.SILCN5)

From SILCN on track 309° to cross VLLEY between 15000 and FL190 and at 280K.

NORTH TRANSITION LANDING RUNWAYS 30L/R: From VLLEY on track 328° to cross GUUYY at or above 11000, then on track 328° to cross WLSSN at or above 8000 and at 250K, then on track 328° to cross GSTEE at or above 4200, then on track 328° to cross KLIDE at or above 4000 and at 230K. Expect assigned instrument approach procedure.

SOUTH TRANSITION LANDING RUNWAYS 12L/R: From VLLEY on track 318° to cross BAXBE at or above 12000, then on track 318° to cross APLLE at or above 9000 and at 240K, then on track 318° to cross GGUGL between 7000 and 8000, then on track 318° to cross GAARY at or above 5800, then on track 318° to cross EDMND at or above 5600, then on track 318° to cross JESEN at or above 4100, then on track 306° to cross HITIR at 4000, then on track 306° to ZORSA, then on track 306°. Expect RADAR vectors to final approach course.
ARRIVAL ROUTE DESCRIPTION

MYJAW TRANSITION (MYJAW.SKIZM2)

RGOOD TRANSITION (RGOOD.SKIZM2)

LANDING RUNWAY 12: From SKIZM on track 322° to cross EMAAAA between 11000 and 14000, then on track 322° to cross WNDML between 9000 and 10000 and at 240K, then on track 322° to cross FOOTO between 7000 and 8000, then on track 303° to cross BRRZI at 7000, then on track 279° to cross LOHGN at 6000 and at 230K, then on track 261° to cross WHYEE at or above 5000, then on track 261° to cross HIRMO at 4000, then on track 261°. Expect RADAR vectors to final approach course.

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION

ANAHO TRANSITION (ANAHO.SLMMR4)
CARVV TRANSITION (CARVV.SLMMR4)
CRASY TRANSITION (CRASY.SLMMR4)
DONNR TRANSITION (DONNR.SLMMR4)
WEBGO TRANSITION (WEBGO.SLMMR4)

From SLMMR on track 239° to cross POZUR at or above 8000.

SOUTH TRANSITION RUNWAYS 17L/R: From POZUR on track 238° to cross TENCO at or above 4500 and at 210K, then on track 223° to cross ZIMAM at or above 3000 and at 210K. Expect assigned instrument approach procedure.

NORTH TRANSITION RUNWAYS 35L/R: From POZUR on track 240° to RICEE, then on track 219° to cross PKAAY at or above 6000 and at 210K, then on track 221° to THANN, then on track 168° to cross BANZA at 4000 and at 210K, then on track 168° to ZITUL, then on track 168°. Expect RADAR vectors to final approach course.

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Expect to receive transition (south/north) and "descend via" clearance from Oakland Center. Northern California Tracon will assign landing runway.

NOTE: South transition indicates Rwy 17L/R.
NOTE: North transition indicates Rwy 35L/R.
NOTE: WEBGO and CARVV transition ATC assigned only.

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION

MINA TRANSITION (MVA.SWR3): From over MVA VORTAC on MVA R-273 and SWR R-093 to SWR VOR/DME then on SWR R-236 to PEELS INT. Thence.

MUSTANG TRANSITION (FMG.SWR3): From over FMG VORTAC on FMG R-218 and SWR R-037 to SWR VOR/DME then on SWR R-236 to PEELS INT. Thence.

LANDING RUNWAYS 3L/R

. . . . .Depart PEELS INT heading 200° expect RADAR vectors to final approach course.

LANDING RUNWAYS 21L/R

. . . . .Depart PEELS INT heading 175° expect RADAR vectors to final approach course.

LOST COMMUNICATIONS

RUNWAY 3L: From over PEELS INT proceed direct SGD VORTAC. Expect ILS or LOC RWY 3L.

RUNWAY 21L: From over PEELS INT proceed direct SAC VORTAC. Expect ILS or LOC RWY 21L.
ARRIVAL ROUTE DESCRIPTION

FORTUNA TRANSITION (FOT.STINS4): From over FOT VORTAC on FOT R-138 and PYE R-321 to LETHH, then on PYE R-321 to PYE VOR/DME. Thence . . . .

MENDOCINO TRANSITION (ENI.STINS4): From over ENI VORTAC on ENI R-146 and PYE R-325 to PYE VOR/DME. Thence . . . .

MUSTANG TRANSITION (FMG.STINS4): From over FMG VORTAC on FMG R-241 and ILA R-057 to ILA VORTAC, then on ILA R-196 and PYE R-016 to PYE VOR/DME. Thence . . . .

RED BLUFF TRANSITION (RBL.STINS4): From over RBL VORTAC on RBL R-176 and PYE R-357 to GOWCH, then on PYE R-357 to PYE VOR/DME. Thence . . . .

ROSEBURG TRANSITION (RGB.STINS4): From over RGB VOR/DME on RGB R-159 and ENI R-343 to ENI VORTAC, then on ENI R-146 and PYE R-325 to PYE VOR/DME. Thence . . . .

. . . . From over PYE VOR/DME on PYE R-144 to STINS, then on SFO R-287 to SFO VOR/DME. Expect RADAR vectors to final approach course.
ARRIVAL ROUTE DESCRIPTION

AMAKR TRANSITION (AMAKR.STLER3)
LEGGS TRANSITION (LEGGS.STLER3)
MLBEC TRANSITION (MLBEC.STLER3)
MRRLO TRANSITION (MRRLO.STLER3)
PEENO TRANSITION (PEENO.STLER3)

From LOZIT on track 175° to cross STLER at or above 8000.

LANDING RUNWAYS 19L/R: From STLER on track 087° to cross WESLA, then on track 002° to cross MVRKK at 7000 and at 210K, then on track 360°. Expect RADAR vectors to final approach course.

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: PEENO transition ATC-assigned only.

STLER THREE ARRIVAL (RNAV) (LOZIT.STLER3) 13SEP18

SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)
OKNIE TRANSITION (OKNIE.SUTHU1)

From SUTHU on track 150° to EGUYU, thence. . . .

. . . . LANDING RUNWAY 3L: From EGUYU on track 150° to cross SEATO at 6000, then on heading 210°, expect RADAR vectors to final approach course.

. . . . LANDING RUNWAY 21R: From EGUYU on track 150° to cross SEATO at 6000, at 210K, then on heading 100°, expect RADAR vectors to final approach course.

LOST COMMUNICATIONS: From SEATO, execute ILS or LOC RWY 21R or TACAN RWY 3L approach. If unable hold at SEATO as depicted, maintain 6000.
SUUTR THREE ARRIVAL (RNAV)

ARRIVAL ROUTE DESCRIPTION

NURAY TRANSITION (NURAY.SUUTR3)

From SUUTR on track 308° to cross FOOLZ at or below FL210, then on track 308° to cross GLDDD at or below FL190, then on track 308° to cross PNNEN between 12000 and FL190 and at 280K, then on track 298° to cross MYNRR at or above 9000 and at 240K.

SOUTH TRANSITION RUNWAYS 17L/R: From MYNRR on track 302° to cross NGGET between 7000 and 10000, then on track 309° to cross ELKOE at or above 5000, then on track 341° to cross OVOME at 4000 and at 210K, then on track 348° to FIKAN, then on track 348°. Expect RADAR vectors to final approach course.

NORTH TRANSITION RUNWAY 35L: From MYNRR on track 299° to cross ELMAC at or above 3400 and at 210K. Expect assigned instrument approach procedure.

NORTH TRANSITION RUNWAY 35R: From MYNRR on track 302° to cross FIPIN at or above 3400 and at 210K. Expect assigned instrument approach procedure.

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION

KLAMATH FALLS TRANSITION (LMT.TUDOR2): From over LMT VORTAC via LMT R-163 and SAC R-339 to PIECH INT. Thence . . . .

LAKEVIEW TRANSITION (LKV.TUDOR2): From over LKV VORTAC via LKV R-185 and SAC R-339 to PIECH INT. Thence . . . .

RED BLUFF TRANSITION (RBL.TUDOR2): From over RBL VORTAC via RBL R-133 to PIECH INT. Thence . . . .

. . . . From PIECH INT via SAC R-339 to TUDOR INT/DME. Expect RADAR vectors.
ARRIVAL ROUTE DESCRIPTION

ANAHO TRANSITION (ANAHO.WEBGO1)

From WEBGO on track 224° to cross HOLDS at/above FL260, then on track 224° to cross NAMOE at/below FL210, then on track 224° to cross GHEER at/above 10000 and at/below 12000, then on track 180° to cross IKARE at/below 9000, thence. . . .

. . . . LANDING RUNWAY 3L: From IKARE on track 180° to cross SEATO at 6000, then on heading 202°, expect RADAR vectors to final approach course.

. . . . LANDING RUNWAY 21R: From IKARE on track 180° to cross SEATO at 6000, at 210K, then on heading 100°, expect RADAR vectors to final approach course.

LOST COMMUNICATIONS: From SEATO, execute ILS or LOC RWY 21R or TACAN RWY 3L approach. If unable hold at SEATO as depicted, maintain 6000.
ARRIVAL ROUTE DESCRIPTION

RBUCI TRANSITION (RBUCI.WNDSR2)
SPAMY TRANSITION (SPAMY.WNDSR2)

From WNDSR on track 159° to cross WEBRR between 9000 and 13000, then on track 159° to cross BOYYS at 7000, then on track 129° to cross HOPTA at 5000.

LANDING RUNWAYS 28L/R: From HOPTA on track 090° to cross AAAME at 5000 and at 210K, then on track 090°. Expect RADAR vectors to final approach course.

LANDING RUNWAY 30: From HOPTA on track 114° to cross ALLXX at 5000 and at 210K, then on track 114° to CRSEN, then on track 112°. Expect RADAR vectors to final approach course.

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Corresponding STAR is AANET. Expect AANET when KOAK is landing Rwy 12.
ARRIVAL ROUTE DESCRIPTION

From SERFR on track 314° to cross NRRLI at or above FL200 and at 280K, then on track 313° to cross WWAVS between 15000 and FL190 and at 280K.

LANDING RUNWAYS 19L/R: From WWAVS on track 306° to cross WPOUT at 11000 and at 250K, then on track 331° to cross THEEZ at or above FL200 and 240K, then on track 331° to cross WESLA at 6000 and at 210K, then on track 002° to MVRKK, then on track 360°. Expect RADAR vectors to final approach course.

NOTE: Chart not to scale.

NOTE: RADAR required.

NOTE: RNAV 1.

NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.
ARRIVAL ROUTE DESCRIPTION

From YOSEM on track 248° to SNORA, then on track 248° to cross ZOMER at/above FL270 and at 280K.

LANDING RUNWAYS 28L/R: From ZOMER on track 247° to cross FRIGG at/below FL190, then on track 249° to cross SOOIE between 11000 and 13000 and at 250K, then on track 248° to cross FAITH at 8000. Expect assigned instrument approach procedure, or expect RADAR vectors to final.

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: YOSEM3 STAR ATC assigned only.

NOTE: Chart not to scale.
RNAV (GPS) RWY 31

ALTURAS MUNI (AAT)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -23°C (9°F) or above 54°C (130°F). Rwy 31 helicopter visibility reduction below 1 SM NA. 
DME/DME RNP: 0.3 NA. Procedure NA at night.

**Procedure NA for arrivals at BACHS via V452 northwest bound.**

**RNAV (GPS) RWY 31**

**For arrivals at BACHS**

- **Adjustments**
  - LPV DA: 4830-1 3/8, 452 (500-1 3/8), NA
  - LNAV/VNAV DA: 4880-1 3/8, 502 (600-1 3/8), NA
  - LNAV MDA: 5120-1, 742 (800-1 3/4), 742 (800-1 3/4), 5120-1 1/4, 742 (800-1 3/4), NA
  - CIRCLING: 5120-1, 742 (800-1 3/4), 5200-1 1/4, 822 (900-1 3/4), NA

- **Reinhold RWys 3 and 31**
  - MiRl Rwy 13-31
  - LIRL Rwy 3-21

- **RNAV (GPS) RWY 31**
  - 312° to RW31
**Takeoff Minimums**

- Rwy 3: Standard with minimum climb of 340° per NM to 5900.
- Rwy 13: Standard with minimum climb of 230° per NM to 8200.
- Rwy 21: Standard with minimum climb of 365° per NM to 6000.
- Rwy 31: Standard with minimum climb of 450° per NM to 5800.

**Note:** GPS required.

**Takeoff Obstacle Notes**

- Rwy 3: Trees, buildings, poles and a road with vehicles beginning 1' from DER, right and left of centerline, up to 100' AGL/4659' MSL.
- Rwy 21: Trees and road with vehicles beginning 1' from DER, right and left of centerline, to 100' AGL/4469' MSL.
- Rwy 13: Trees and a road with vehicles beginning 1' from DER, right and left of centerline, up to 100' AGL/4519' MSL.
- Rwy 31: Trees and road with vehicles beginning 1' from DER, right and left of centerline, up to 100' AGL/4469' MSL.

**Departure Route Description**

**Takeoff Runway 3:** Climb to 9000 direct NARIC, then climbing left turn direct BACHS.

**Takeoff Runway 13:** Climb to 9000 direct RUCOR, turn right via 226° track to BACHS.

**Takeoff Runway 21:** Climb to 9000 direct MOMPE, then via 221° track to BACHS.

**Takeoff Runway 31:** Climb to 9000 direct SIDTO, turn left via 215° track to BACHS.
**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 3:** Climb to 11000 direct NARIC and via 030° track to NILIY and via 092° track to CHOIR, thence...

**TAKEOFF RUNWAY 13:** Climb to 11000 direct RUCOR and via 056° track to CHOIR, thence...

....climb in holding, (if required) before proceeding on course.
Missed Approach: Climb to 800 then climbing left turn to 3000 direct FOT VORTAC and hold.

Use I-ACV DME when on the localizer course.

VGSI and ILS glidepath not coincident (VGSI Angle 3.00°/TCH 43).

Circling NA northeast of Rwy 14-32.
DME required.

SW-2, 07 OCT 2021 to 02 DEC 2021

Amdt 3 12OCT17

1405 885 251
5484 5259 4410
3729 3690 3578
3404 3300 3200
316° (18.7) 316° (12.4) 316° (7.5)
5700 to VOMAC 5700 to VO R/DM

ELEV 222  TDZE 221

Revised 3 12OCT17

Circling NA northeast of Rwy 14-32.
DME required.
RNAV (GPS) RWY 1
CALIFORNIA REDWOOD COAST-HUMBOLDT COUNTY (ACV)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C (29°F) or above 54°C (130°F). Circling NA northeast of Rwy 14-32. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 3200 direct HIPGI and on track 295° to CULDU and hold.

ASOS
118.525

SEATTLE CENTER
124.85 306.3

UNICOM
123.0 (CTAF)

---

MISSED APCH FIX
4 NM
CULDU

---

CULDU

---

RNAV (GPS) RWY 1
CALIFORNIA REDWOOD COAST-HUMBOLDT COUNTY (ACV)

---

ARCATA/EUREKA, CALIFORNIA
AL-519 (FAA)

---

ARCATA/EUREKA, CALIFORNIA
Amdt 2 12OCT17

---

CALIFORNIA REDWOOD COAST-HUMBOLDT COUNTY (ACV)
40°59’N-124°07’W
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C (29°F) or above 54°C (130°F). Circling NA northeast of Rwy 14-32. DME/DME RNP-0.3 NA. Rwy 14 helicopter visibility reduction below ½ SM NA.

MISSED APPROACH: Climbing right turn to 3000 direct SEGVE and hold.
**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAYS 1 and 32:** Climbing left turn on ACV R-250, thence. . . .

**TAKEOFF RUNWAYS 14 and 19:** Climbing right turn on ACV R-250, thence. . . .

. . . on (transition) or (assigned route).

**CRESCENT CITY TRANSITION (HOCUT5.CEC):** From over HOCUT INT on FOT R-341 and CEC R-166 to CEC VORTAC.

**FORTUNA TRANSITION (HOCUT5.FOT):** From over HOCUT INT on ACV R-250 to SEVLY INT, then via FOT R-326 to FOT VORTAC.
ILS or LOC RWY 31

CASTLE (MER)

ATWATER, CALIFORNIA

LOC I-MER 109.5

APP CRS 306°

Rwy Idg 11802

TDZE 181

Apt Elev 190

DME required for LOC only.

V CIRCLING NA southwest of Rwy 13-31. DME from HYP VOR/DME. Simultaneous reception of I-MER and HYP DME required.

ATIS 124.475

NORCAL APP CON 120.95 269.45

CASTLE TOWER * 118.175 (CIAF) 235.775

GND CON 133.575

UNICOM 122.95

ILS or LOC RWY 31

CASTLE (MER)

ELEV 190

TDZE 181

ALTERNATE MISSED APCH FIX

MODESTO MOD 114.6

Chan 93

FRIANT 115.6 FRA

Channel 103

ATWATER, CALIFORNIA

Amdt 3 05DEC19

37°23'N-120°34'W

AMS 21280

ILS or LOC RWY 31

CASTLE (MER)

ELEV 190

TDZE 181

ALTERNATE MISSED APCH FIX

MODESTO MOD 114.6

Chan 93

FRIANT 115.6 FRA

Channel 103

ATWATER, CALIFORNIA

Amdt 3 05DEC19

37°23'N-120°34'W
RNAV (GPS) RWY 13
CASTLE (MER)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. For inoperative ALS, increase LNAV/VNAV all Cats visibility to 1 3/4 SM, increase LNAV Cats A/B visibility to 1 SM, and increase LNAV Cat C/D visibility to 1 3/4 SM.

ATIS 124.475 NORCAL APP CON 120.95 269.45 CASTLE TOWER * 118.175 (CTAF) 235.775 GND CON 133.575 UNICOM 122.95 123.0

Procedure NA for arrivals at AWALI on V23 southeast bound.

Procedure NA for arrivals at PATYY on V111-113 southwest bound and on V13 northwest bound.

Procedure NA for arrivals at VOLTA on V113 southeast bound.

ATWATER, CALIFORNIA

Amdt 1A 30JAN20

37°23'N-120°34'W

RNAV (GPS) RWY 13
CASTLE (MER)
RNAV (GPS) RWY 31

CASTLE (MER)

ATWATER, CALIFORNIA

WAAS
CH 87110 W31A
APP CRS 306°
Rwy Idg 11802
TDZE 181
Apt Elev 190

RNP APCH.

- Circling NA southwest of Rwy 13-31. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. For inoperative ALS, increase LNAV/VNAV all Cats visibility to ½ SM and LNAV Cats C/D visibility to 1 SM.

- MISSED APCH FIX

  4 NM 031° NEBBY

  Procedure NA for arrivals at VOLTA on V113 northwest bound.

- Procedure NA for arrival on PXN VORTAC airway radials 296 CW 061.

ATIS 124.475
NORCAL APP CON 120.95 269.45
CASTLE TOWER* 118.175 (CTAF) 235.775
GND CON 133.575
UNICOM 122.95
123.0

- ATWATER, CALIFORNIA

Amdt 1 05DEC19
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES. READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

JANUARY 2020
ANNUAL RATE OF CHANGE 0.1° W

R W Y  1 3 - 3 1
S-155, D-200, 2S-175, 2D/415, 2D/2D2-720

ELEV 178

OPERATIONAL RAMP

SOUTH RAMP

ENGINE RUN AREA

BLAST PAD 1000 X 150

FIELD ELEV 190

BLAST PAD 1000 X 150

ATIS 124.475
CASTLE TOWER* 118.175  235.775
GND CON 133.575

AIRPORT DIAGRAM
AL-568 (FAA)
CASTLE (MER)
ATWATER, CALIFORNIA

AIRPORT DIAGRAM
20086
AUBURN, CALIFORNIA

RNAV (GPS) RWY 7
AUBURN MUNI (AUN)

**WAAS**
CH 90515
W07A

**APP CRS**
068°

**Rwy Idg**
1532

**Apt Elev**
1538

**TDZE**

**Category**
A
B
C
D

**LPV**
DA 1848-1 1/4 316 (400-1 1/4) NA

**LNAV/VNAV**
DA 1968-1 1/4 436 (500-1 1/4) NA

**LNAV MDA**
2100-1 568 (600-1) NA

**Circling**
2200-1 662 (700-1) 2400-1 1/4 862 (900-1 1/4) NA

**NORCAL APP CON**
125.4
317.5

**UNICOM**
122.7 (CTAF)

**RNAV (GPS) RWY 7**

MISSED APPROACH: Climb to 5000 direct AVPEY and left turn on track 311° to EKUJA and on track 289° to MRGGO and hold.

**V** Circled Rwy 25 NA at night. Rwy 7 helicopter visibility reduction below 1/2 SM NA. For uncompensated BARO-VNAV systems, LNAV/VNAV NA below -18°C or above 54°C.

**AWOS-3**
119.375

**ELEV**
1538

**TDZE**
1532

**Elev**
3000

**NoPT**
3000 (11.8)

**HOLD**
17500 (6)

**GP 3.00° TCH 45**

**4 NM Holding Pattern**

**CITXU**

**VGS1 and RNAV Glidepath not coincident (VGS1 Angle 3.00/TCH 21).**

**5000**

**AVPEY**

**EKUJA**

**MRGGO**

**YADFY**

**LNAV only**

**1.8 NM to RW07**

**HOLD**
3000

**17500**

**3000**

**248°**

**6 NM**

**2.7 NM**

**1.8 NM**

**SW-2, 07 OCT 2021 to 02 DEC 2021**
**PYNUN-SIX DEPARTURE**  (PYNUN6 • PYNUN)  MARYSVILLE, CALIFORNIA

ATIS *
124.55 273.5
GND CON
121.6 257.75
BEALE TOWER *
119.4 284.75
NORCAL DEP CON
125.4 259.1

SHL-771 [USAF]  6768

**FOR USE BY 9 RW AIRCRAFT ONLY**

CAUTION: Pave Paws Radar site located
BAB TACAN R-072/4.2 DME

CAUTION: Pave Paws Phased Array
Radar SFC-6000

SACRAMENTO
115.2 SAC
Chan 99

BEALE
Chan 23 BAB

DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF RWY 15:** Fly heading 145° until BAB TACAN 2.5 DME, turn left intercept SAC VORTAC R-345 to PYNUN. Cross BAB R-086 at or above 6000. Then via assigned route.

**TAKE-OFF RWY 33:** Fly heading 325° intercept SAC VORTAC R-345 to PYNUN. Then via assigned route.
Procedure NA at night. Use Reno/Stead altimeter setting; when not received, use Reno/Tahoe Intl altimeter setting and increase all MDA 180 feet. DME/DME RNP- 0.3 NA. 8, 26 Rwy helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climbing left turn to 10000 direct FITUN and hold.

Procedure NA for arrivals at RAROC on V452 northwest bound.
Use Reno/Stead altimeter setting; when not received, use Reno/Tahoe Intl altimeter setting and increase DA 180 feet.
DME/DME RNP -0.3 NA.
Helicopter visibility reduction below 1/2 SM not authorized.

MISSED APPROACH: Climb to 10000 direct SIDOY and right turn on track 354° to CUGTI and right turn on track 091° to HALLE and hold.

Transition on V452 northwest bound does not require holding.

VGS and RNAV glidepath not coincident (VGS Angle 3.50/ TCH 50).

MIRL Rwy 8-26
Helicopter visibility reduction below 1/2 SM not authorized.

Reno/Tahoe Intl altimeter setting and increase DA 180 feet.
DME/DME RNP -0.3 NA.
RNAV (RNP) RWY 30
BISHOP (BIH)

MISSSED APPROACH: Climb to 13000 via 301° track to CASPU, right turn to GULSE, 350° track to HARVU, left turn to JARUT, 323° track to KIPSE, right turn to MOTSE, 345° track to NUBIC, left turn to GULSE, 278° track to NIKOL and hold.

For uncompensated Baro-VNAV systems, procedure NA below -12°C or above 54°C.

Procedure NA for arrivals at EVERR via V381 northwest bound.

RNP 0.30 DA

Authorization Required

BISHOP, CALIFORNIA
Orig 'D 20JUN19

37°22'N-118°22'W
RNAV (GPS) Y RWY 12
BISHOP (BIH)

ASOS

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OAKLAND CENTER

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UNICOM

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<td>1472</td>
<td>7981</td>
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Procedure NA for arrivals at NIKOL on V244-T298 westbound and V381 northwest bound.

MISSED APPROACH: (Do not exceed 250 KIAS until NEBSE) Climb to 13000 direct KUPLE and on track 160° to ROCOS and on track 115° to PULIE and on track 051° to WEBAT and on track 341° to TEVOC and on track 322° to NEBSE and on track 264° to BIH VOR/DME and hold.

Visual Segment - Obstacles.

LNAV MDA

<table>
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<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
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BISHOP, CALIFORNIA

Orig E 15AUG19

37°22'N-118°22'W
CHICO, CALIFORNIA

ILS or LOC RWY 13L

CHICO MUNI (CIC)

LOC/DME I-CIC
111.3

APP CRS
131°

Rwy Idg
240

TDZE
240

Apt Elev
240

DME required.

Circling NA east of Rwy 13L/31R.

MALS R

MISSING APPROACH: Climb to 1000 then climbing right turn to 6000 on heading 155° and RBL R-122 to DURHA INT/ RBL 34.2 DME and hold, continue climb-in-hold to 6000.

MAL SR

Circling NA east of Rwy 13L/31R.

ATIS
119.675

OAKLAND CENTER
132.2 350.3

CHICO TOWER *
121.0 (CTAF) 239.3

GND CON
121.9

UNICOM
122.95

**Procedure NA for arrival on Red Bluff VORTAC airway radials 122 CW 140.**

**Procedure NA for arrival on Red Bluff VORTAC airway radials 122 CW 140.**

**Procedure NA for arrival on Red Bluff VORTAC airway radials 122 CW 140.**

**Procedure NA for arrival on Red Bluff VORTAC airway radials 122 CW 140.**

**Procedure NA for arrival on Red Bluff VORTAC airway radials 122 CW 140.**
RNAV (GPS) RWY 13L
CHICO MUNI (CIC)

Circling NA east of Rwy 13L-31R. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to ½ SM, and increase LNAV Cats C/D visibility to 1 SM.

Procedure NA for arrival on Red Bluff VORTAC airway radials 122 CW 185.

RNAV (GPS) RWY 13L

CHICO, CALIFORNIA

Amdt 1  21MAY20

CHICO MUNI (CIC)

39°48’N-121°52’W

RNAV (GPS) RWY 13L

CHICO MUNI (CIC)

Amdt 1  21MAY20

CHICO MUNI (CIC)

39°48’N-121°52’W
**RNAV (GPS) RWY 31R**

**RNAV (GPS) RWY 31R**

**CHICO MUNI (CIC)**

**ATIS**
119.675

**OAKLAND CENTER**
132.2 350.3

**CHICO TOWER** *
121.0 (CTAF) 239.3

**GND CON**
121.9

**UNICOM**
122.95

**MISSED APCH FIX**

**TWR**
312

**TDZE**
226

**ELEV**
240

**TDZE**
226

**Category**

**A**

**B**

**C**

**D**

**Procedure NA for arrivals at GRIDD on V23 and T261 southeast bound.**

**MISSED APPROACH:** Climb to 3000 direct ZOTWY and hold.

**For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 48°C.**

**For uncompensated Baro-VNAV systems, RNP APCH.**
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

39°47.5'N 121°51.5'W
6724 X 150
3000 X 60
TERMINAL
ELEV
FIELD
240
31L
13R
13L
31R
AIRPORT DIAGRAM
CHICO, CALIFORNIA (CIC)
CHICO MUNI
AL-557 (FAA)
0.4% UP
A

HANGARS
227
ELEV
215
ELEV
207
ELEV
313°
192°
207°
ELEV
207
ELEV
215
ELEV
227
HANGARS
312
TWRC
133.7°
S-12.5
RWY 13R-31L
S-63, D-100, 2S-127, 2D-170
PCN 20 F/B/X/T
RWY 13L-31R
PCN 20 F/B/X/T
ATIS
119.675
CHICO TOWER
121.0 239.3
GND CON
121.9
CHICO TOWER
CHICO MUNI
ATIS
119.675
CHICO TOWER
121.0 239.3
GND CON
121.9
CHICO TOWER
CHICO MUNI
ATIS
119.675
CHICO TOWER
121.0 239.3
GND CON
121.9
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 13L/R: Climb on a heading between 140° CW 310° from departure end of runway to assigned altitude. Thence. . . .

TAKEOFF RUNWAYS 31L/R: Climb on a heading between 320° CCW 132° from departure end of runway to assigned altitude. Thence. . . .

. . . . RADAR vectors to assigned route. Maintain assigned altitude, expect filed altitude/flight level 10 minutes after departure.

LOST COMMUNICATIONS
For aircraft assigned a heading between 120° CW through 250°: if not in contact with Oakland Center after reaching 3000, continue climb to 5000 or higher assigned altitude and proceed to ILA VORTAC, thence. . . .

For aircraft assigned a heading between 255° CW through 320°: if not in contact with Oakland Center after reaching 3000, continue climb to 5000 or higher assigned altitude and proceed to RBL VORTAC, thence. . . .

. . . . Proceed on assigned route.
CLOVERDALE, CALIFORNIA

APP CRS
Rwy Idg 2909
TDZE 276
Apt Elev 276

<table>
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<tr>
<th>RNP APCH-GPS.</th>
<th>Misssed Approach: Climbing left turn to 6000 direct NATIC and hold, continue climb-in-hold to 6000.</th>
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</thead>
<tbody>
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STS ASOS
120.55

OAKLAND CENTER
127.8 353.5

UNICOM
122.8 (CTAF)

UNICOM
(6)

RNAV (GPS) RWY 32
CLOVERDALE MUNI (O6)

HOTIN CIRCLING

Category
A
B
C
D

LNAV MDA
1320-2
1044 (1100-2)
1320-3
1044 (1100-3)
NA

CIRCLING
1500-2
1224 (1300-2)
2180-2
1904 (2000-2)
2180-3
1904 (2000-3)
NA

MIRL Rwy 14-32
REIL Rwy 14 and 32

CLOVERDALE MUNI (O6)

RNAV (GPS) RWY 32

38°47'N-123°00'W

CLOVERDALE, CALIFORNIA

Amdt 1 12AUG21

36

SW-2, 07 OCT 2021 to 02 DEC 2021
RNAV (GPS) RWY 35
COLUMBIA (O22)

RNP APCH:

- Circling NA to Rwy 11 and 29. Circling NA east of Rwy 17-35. Procedure NA at night. Rwy 35 helicopter visibility reduction below 1 NM NA.
- MISSED APPROACH: Climbing left turn to 7000 direct HABXU and hold, continue climb-in-hold to 7000.

<table>
<thead>
<tr>
<th>AWOS-3</th>
<th>NORCAL APP CON</th>
<th>OAKLAND CENTER</th>
<th>UNICOM</th>
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<tr>
<td>124.65</td>
<td>125.1 363.2 (NORTH/WEST)</td>
<td>121.25 327.0 (EAST/SOUTH)</td>
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**Category**

- **A**: 3140-1 1/4 1035 (1100-1/4)
- **B**: 3140-1 1/2 1035 (1100-1/2)
- **C**: 3140-3 1035 (1100-3)
- **D**: NA

- **CIRCLING**
  - **A**: 3140-1 1/4 1019 (1100-1/4)
  - **B**: 3140-1 1/2 1019 (1100-1/2)
  - **C**: 3140-3 1019 (1100-3)
  - **D**: NA

**RNAV (GPS) RWY 35**

- 354° to RW35

**Visual Segment - Obstacles**

- 354° 6.1 NM
- 340° 4.0 NM
- 2595±
- 3897±
- 5282
- 5449
- 5835

**Categories**

- **A**: 3140-1 1/4 1035 (1100-1/4)
- **B**: 3140-1 1/2 1035 (1100-1/2)
- **C**: 3140-3 1035 (1100-3)
- **D**: NA

**RNP APCH**

- Circling NA to Rwy 11 and 29. Circling NA east of Rwy 17-35. Procedure NA at night. Rwy 35 helicopter visibility reduction below 1 NM NA.
- MISSED APPROACH: Climbing left turn to 7000 direct HABXU and hold, continue climb-in-hold to 7000.

**RNAV (GPS) RWY 35**

- 354° to RW35

**Visual Segment - Obstacles**

- 354° 6.1 NM
- 340° 4.0 NM
- 2595±
- 3897±
- 5282
- 5449
- 5835

**Categories**

- **A**: 3140-1 1/4 1035 (1100-1/4)
- **B**: 3140-1 1/2 1035 (1100-1/2)
- **C**: 3140-3 1035 (1100-3)
- **D**: NA
NOTE: RNAV 1.
NOTE: GPS required.

TAKEOFF MINIMUMS
Rwy 11, 29: NA-Environmental.
Rwy 35: NA-ATC.
Rwy 17: 300-1 or standard with a minimum climb
gradient of 766' per NM to 2300.

TAKEOFF OBSTACLE NOTES
Rwy 17: Bush 31' from DER, 196' right of centerline, 2083' MSL.
  Tree 148' from DER, 387' right of centerline, 2108' MSL.
  Trees beginning 180' from DER, 287' left of centerline, up to 2126' MSL.
  Tree 262' from DER, 527' right of centerline, 2163' MSL.
  Trees beginning 354' from DER, 240' left of centerline, up to 2127' MSL.
  Tree, road (N), pole, ground, bush beginning 414' from DER, 46' right of
  centerline, up to 2188' MSL.
  Tree 456' from DER, 325' left of centerline, 2130' MSL.
  Trees beginning 492' from DER, 109' left of centerline, up to 2133' MSL.
  Trees beginning 725' from DER, 26' left of centerline, up to 2171' MSL.
  Trees beginning 1260' from DER, 56' left of centerline, up to 2181' MSL.
  Tree 1527' from DER, 893' right of centerline, 2205' MSL.
  Tree 1619' from DER, 860' right of centerline, 2220' MSL.
  Trees beginning 1664' from DER, 896' right of centerline, up to 2238' MSL.
  Tree 2152' from DER, 982' left of centerline, 2212' MSL.
  Tree 2195' from DER, 988' left of centerline, 2262' MSL.
  Tree 2195' from DER, 987' left of centerline, 2273' MSL.
  Tree, tower beginning 5842' from DER, 410' left of centerline, up to 2339' MSL.
  Tree 5936' from DER, 557' left of centerline, 2239' MSL.

DEPARTURE ROUTE DESCRIPTION
TAKEOFF RUNWAY 17: Climb on heading 174° to 2621, then climb direct to FICHU,
then on track 174° to GONAQ, then on track 250° to HABXU. Continue climb in hold
in HABXU holding pattern to cross HABXU at or above MEA for route of flight.
Procedure NA for arrivals at JINGO on V23 northbound.

Procedure NA for arrival on IIA VORTAC airway radials 251 CW 057.
MISSED APPROACH: Climb to 600 then right turn to 2600 and hold.
To 2600 direct VACIA climbing right turn
MISSED APPROACH: Climb to 600 then right turn to 2600 direct VACIA climbing right turn...

RNAV (GPS) RWY 31

COLUSA COUNTY (OKB)

LNAV/VNAV DA to 550 feet and all visibilities SM; increase all MDAs 100 feet and LNAV Cat C CTAF; when not received, use Sacramento Intl altimeter setting: increase LPV DA to 382 feet, increase (130°F). Rwy 31 helicopter visibility reduction below 1 SM NA. Obtain local altimeter setting on For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C...
COLUSA, CALIFORNIA

VOR-A

VORAC ILA 114.4 Chan 91
APP CRS 356° N/A
Rwy Idg TDZE Apt Elev N/A

NA

Obtain local altimeter setting on CTAF; when not received, use Sacramento Intl altimeter setting. Circling Rwy 31 NA at night.

MISSED APPROACH: Climb to 1400 then climbing left turn to 3500 direct ILA VORTAC.

OAKLAND CENTER 132.2 350.3
UNICOM 122.8 (CTAF) 0

DME REQUIRED

...2091

DALON ILA 11.2
4000 071° (11.2)

...2805

RUMSY ILA 17.3
5000 090° (17.3)

...3038

ILA VORTAC

Remain within 10 NM

ILA 3500

353°

2200 NoPT

353° (10)

(17.3)

2000 NoPT

353° (10)

(17.3)

IGIXE ILA 6.5

WILLIAMS ILA 114.4 Chan 91

11.2

268

IGIXE ILA 6.5

ZAKUL ILA 10

MIRL Rwy 13-31

180°

6.5 NM

from FAF

SACRAMENTO INTL ALTIMETER SETTING MINIMUMS

651 (700-1)

671 (700-2)

720-2

720-2

NG

FAC to MAP 6.5 NM

Knots 60 90 120 150 180
Min:Sec 6:30 4:20 3:15 2:36 2:10

COLUSA, CALIFORNIA
Amdt 5A 03JAN19

39°11'N-122°00'W
**RNAV (GPS) RWY 19R**  
**BUCHANAN FLD (CCR)**

**ATIS** 124.7  
**TRAVIS APP CON** 119.9 322.325  
**CONCORD TOWER** 119.7 (CTAF) 257.8  
**GND CON** 121.9  
**CLNC DEL** 118.75  
**UNICOM** 122.95

---

**CIRCLING**

Circling to Rwys 1L, 1R, 32L, 32R and 19L NA at night.  Circling NA west of Rwys 1L and 19R.  Rwy 19R helicopter visibility reduction below ¾ SM NA.  DME/DME RNP-0.3 NA.  Inop table does not apply to LPV.  For inop ALS, increase LNAV Cat C and D visibility to 3 SM.

**MISSPIED APPROACH:** (Do not exceed 190K until HASPS) Climb to 500 then climbing right turn to 3000 direct HASPS then on track 057° direct REJOY and hold.

---

**RNAV (GPS) RWY 19R**

**BUCHANAN FLD (CCR)**

**ATIS** 124.7  
**TRAVIS APP CON** 119.9 322.325  
**CONCORD TOWER** 119.7 (CTAF) 257.8  
**GND CON** 121.9  
**CLNC DEL** 118.75  
**UNICOM** 122.95

---

**CIRCLING**

Circling to Rwys 1L, 1R, 32L, 32R and 19L NA at night.  Circling NA west of Rwys 1L and 19R.  Rwy 19R helicopter visibility reduction below ¾ SM NA.  DME/DME RNP-0.3 NA.  Inop table does not apply to LPV.  For inop ALS, increase LNAV Cat C and D visibility to 3 SM.

**MISSPIED APPROACH:** (Do not exceed 190K until HASPS) Climb to 500 then climbing right turn to 3000 direct HASPS then on track 057° direct REJOY and hold.

---

**RNAV (GPS) RWY 19R**

**BUCHANAN FLD (CCR)**

**ATIS** 124.7  
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**CONCORD TOWER** 119.7 (CTAF) 257.8  
**GND CON** 121.9  
**CLNC DEL** 118.75  
**UNICOM** 122.95

---

**CIRCLING**

Circling to Rwys 1L, 1R, 32L, 32R and 19L NA at night.  Circling NA west of Rwys 1L and 19R.  Rwy 19R helicopter visibility reduction below ¾ SM NA.  DME/DME RNP-0.3 NA.  Inop table does not apply to LPV.  For inop ALS, increase LNAV Cat C and D visibility to 3 SM.

**MISSPIED APPROACH:** (Do not exceed 190K until HASPS) Climb to 500 then climbing right turn to 3000 direct HASPS then on track 057° direct REJOY and hold.

---

**RNAV (GPS) RWY 19R**

**BUCHANAN FLD (CCR)**

**ATIS** 124.7  
**TRAVIS APP CON** 119.9 322.325  
**CONCORD TOWER** 119.7 (CTAF) 257.8  
**GND CON** 121.9  
**CLNC DEL** 118.75  
**UNICOM** 122.95

---

**CIRCLING**

Circling to Rwys 1L, 1R, 32L, 32R and 19L NA at night.  Circling NA west of Rwys 1L and 19R.  Rwy 19R helicopter visibility reduction below ¾ SM NA.  DME/DME RNP-0.3 NA.  Inop table does not apply to LPV.  For inop ALS, increase LNAV Cat C and D visibility to 3 SM.

**MISSPIED APPROACH:** (Do not exceed 190K until HASPS) Climb to 500 then climbing right turn to 3000 direct HASPS then on track 057° direct REJOY and hold.

---

**RNAV (GPS) RWY 19R**

**BUCHANAN FLD (CCR)**

**ATIS** 124.7  
**TRAVIS APP CON** 119.9 322.325  
**CONCORD TOWER** 119.7 (CTAF) 257.8  
**GND CON** 121.9  
**CLNC DEL** 118.75  
**UNICOM** 122.95

---

**CIRCLING**

Circling to Rwys 1L, 1R, 32L, 32R and 19L NA at night.  Circling NA west of Rwys 1L and 19R.  Rwy 19R helicopter visibility reduction below ¾ SM NA.  DME/DME RNP-0.3 NA.  Inop table does not apply to LPV.  For inop ALS, increase LNAV Cat C and D visibility to 3 SM.

**MISSPIED APPROACH:** (Do not exceed 190K until HASPS) Climb to 500 then climbing right turn to 3000 direct HASPS then on track 057° direct REJOY and hold.
VOR RWY 19R
BUCHANAN FLD (CCR)

Inap table does not apply. Circling NA west of Rwy 1L-19R. Circling Rwy 1L, 32R NA at night. Rwy 19R helicopter visibility reduction below ½ SM NA. DME Required.

ATIS 124.7
TRAVIS APP CON 119.9 322.325
CONCORD TOWER * 119.7 (CTAF) 257.8
GND CON 121.9
CLNC DEL 118.75
UNICOM 122.95

Procedure NA for arrivals at REJOY on V6 northbound.

Procedure NA for arrivals at COLLI on V6 southbound.

Missed approach requires minimum climb of 320 feet per NM to 1700.

Concord, California

Amdt 14A 31DEC20

37°59’N-122°03’W
INSTRUCTIONS IS REQUIRED.
READBACK OF ALL RUNWAY HOLDING CROSSING CLEARANCES.
CAUTION: BE ALERT TO RUNWAY PARKING TRANSIENTS.

AIRPORT DIAGRAM
BUCHANAN FLD (CCR)
CONCORD, CALIFORNIA

ATIS
124.7
CONCORD TOWER *
119.7 257.8
GND CON
121.9
CLNC DEL
118.75

APPROPRIATE NAVIGATION AIDS ARE REQUIRED.

SW-2, 07 OCT 2021 to 02 DEC 2021

AIRPORT DIAGRAM
BUCHANAN FLD (CCR)
CONCORD, CALIFORNIA

ATIS
124.7
CONCORD TOWER *
119.7 257.8
GND CON
121.9
CLNC DEL
118.75

APPROPRIATE NAVIGATION AIDS ARE REQUIRED.

SW-2, 07 OCT 2021 to 02 DEC 2021
TOP ALTITUDE: ASSIGNED BY ATC

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L, 14L, 19R: Climbing left turn direct CCR VOR/DME, thence. . . .
TAKEOFF RUNWAY 32R: Climbing right turn direct CCR VOR/DME, thence. . . .

. . . . on (transition) or (assigned route).

CROIT TRANSITION (BCHN2.CROIT): From over CCR VOR/DME on CCR R-259 to CROIT INT.
PITTS TRANSITION (BCHN2.PITTS): From over CCR VOR/DME on CCR R-071 to PITTS INT.
REJOY TRANSITION (BCHN2.REJOY): From over CCR VOR/DME on CCR R-071 and SAC R-195 to REJOY INT.
SABLO TRANSITION (BCHN2.SABLO): From over CCR VOR/DME on CCR R-229 to SABLO INT.
SCAGGS ISLAND TRANSITION (BCHN2.SGD): From over CCR VOR/DME on CCR R-281 and SGD R-100 to SGD VORTAC.

BUCHANAN TWO DEPARTURE

CONCORD, CALIFORNIA
BUCHANAN FLDF (CCR)
DME required. S-ILS 12: ½ mile visibility authorized with use of FD or AP or HUD to DA. Inop table does not apply to S-ILS 12, except with use of FD or AP or HUD to DA. For inop MALSR, increase S-LOC 12 all Cats visibility ½ mile. When local altimeter setting not received, use Brookings altimeter setting and increase DA to 407 feet and all MDA 100 feet; increase S-LOC 12 Cat C/D, and Circling Cat D visibilities ¼ mile. For inop MALSR, when using Brookings altimeter setting, increase S-ILS 12 all Cats visibility to 1 mile. Night Landing: Rwy 36 operational VGSI required, remain on or above VGSI glidepath until threshold. Circling to Rwy 18, 30 NA at night.

**MISSED APPROACH:**
Climb to 700 then climbing right turn to 3000 on CEC VORTAC R-166 to CHIDE/CEC 11 DME and hold, continue climb-in-hold to 3000.
Inop table does not apply to LPV all Cats. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Brookings altimeter setting and increase LPV DA to 407 feet, LNAV/VNAV NA to 484 feet and all MDA 100 feet; increase LPV all Cats visibility to 3/4 mile, LNAV/VNAV all Cats visibility to 1 1/2 miles, and Circling cat C to 2 miles, Cat D to 2 1/2 miles. For inop MALSR, increase LNAV/VNAV all Cats visibility to 1 mile and LNAV Cat A/B visibility to 1 mile, Cat C/D to 1 1/2 mile. For inop MALSR, when using Brookings altimeter setting, increase LPV all Cats visibility to 1 1/2 miles, LNAV/VNAV all Cats visibility to 1 1/2 miles, and LNAV Cat A/B to 1 mile, Cat C/D to 1 1/2 mile. VDP and Baro-VNAV NA when using Brookings altimeter setting. Night landing: Rwy 18, 30 NA. Night landing: Rwy 36, operational VGS required, remain on or above VGS glidepath until threshold.

**ASOS** 119.925  
**SEATTLE CENTER** 124.85 306.3  
**UNICOM** 122.8 (CTAF)

**Inop Approach Fix**

**Misssed Approach:** Climb to 600 then climbing right turn to 3000 direct CHIDE and hold, continue climb-in-hold to 3000.
Baro-VNAV NA when using Brookings altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. When local altimeter setting not received, use Brookings altimeter setting and increase LPV DA to 406 and LNAV/VNAV DA to 505 and all MDA 100 feet; increase LPV all Cats and LNAV Cat C/D and Circling Cat visibilities 1/2 SM, increase LNAV/VNAV all Cats visibility 1/2 SM, and Circling Cat C visibility 1/2 SM. Rwy 36 helicopter visibility reduction below 1 SM NA. Straight-In Rwy 36 at night, operational VGSI required, remain on or above VGSI glideslope until threshold. Circling Rwy 18, 30 NA at night.

**MISSED APPROACH:** Climb to 1300 then climbing left turn to 2400 direct CIGCA and hold.
MISSED APPROACH: Climbing right turn to 3000 on CEC VORTAC R-166 then right turn direct CEC VORTAC and hold.

ASOS 119.925
SEATTLE CENTER 124.85 306.3
UNICOM 122.3 (CTAF)

VOR/DME RWY 12
JACK MC NAMARA FLD (CEC)

MALS R

OPERATIONAL VGSIs

Cats C/D visibilty to 1 mile. Night Landing: Rwy 18, 30 NA. Night Landing: Rwy 36 operational VGSI required, remain on or above VGSI glideslope until threshold.

For inop MALSR, increase S-12 Cats C/D visibility 1 mile, and Circling Cat C visibility ½ mile. For inop MALSR when using Brookings altimeter setting, increase S-12 Cats A/B visibility to 1 mile, Cats C/D visibility to 1 ½ miles. Night Landing: Rwy 18, 30 NA. Night Landing: Rwy 36 operational VGSI required, remain on or above VGSI glideslope until threshold.

SW-2, 07 OCT 2021 to 02 DEC 2021
When local altimeter setting not received, use Brookings altimeter setting and increase all MDA 100 feet; increase S-36 Cat C/D and Circling Cat D visibilities ½ mile and Circling Cat C visibility ½ mile. Helicopter visibility reduction below 1 SM NA.

Night landing: Rwy 36 operational VGSI required, remain on or above VGSI glidepath until threshold. Night landing: Rwy 18, 30 NA.

When local altimeter setting not received, use Brookings altimeter setting and increase all MDA 100 feet; increase S-36 Cat C/D and Circling Cat D visibilities ½ mile and Circling Cat C visibility ½ mile. Helicopter visibility reduction below 1 SM NA.

Night landing: Rwy 36 operational VGSI required, remain on or above VGSI glidepath until threshold. Night landing: Rwy 18, 30 NA.

### ASOS
- **CRESCENT CITY, CALIFORNIA**
  - **119.925**

### SEATTLE CENTER
- **124.85**
- **306.3**

### UNICOM
- **122.8** (CTAF)

---

**MISSED APPROACH:** Climb to 1000 then climbing left turn to 3000 direct CEC VORTAC and hold, continue climb-in-hold to 3000.

---

**CATEGORY**
- **A**
- **B**
- **C**
- **D**

**S-36**
- 500-1
- 441 (500-1)
- 500-1 1/₇
- 441 (500-1 1/₇)

**CIRCLING**
- 540-1
- 479 (500-1)
- 640-1 1/₇
- 579 (600-1 1/₇)
- 640-2
- 579 (600-2)

---

**CRESCENT CITY, CALIFORNIA**

**AL-34 (FAA)**

---

**VOR/DME RWY 36**

**JACK MC NAMARA FLD (CEC)**

---

**51**
When localizer not received, use Brooking altimeter setting and increase all MDA 100 feet; increase S-12 Cat C/D visibility ¾ mile, Circling Cat D visibility ¼ mile and Circling Cat C visibility ½ mile. For inop MALSR increase S-12 Cat A/B visibility to 1 mile, and Cat C/D visibility to 1½ mile. For inop MALSR when using Brooking altimeter setting, increase S-12 Cat A/B visibility to 1 mile, and Cat C/D visibility to 1½ mile. Night landing: Rwy 36 operational VGSI required, remain on or above VGSI glidepath until threshold. Night landing: Rwy 18, 30 NA.

MISSED APPROACH: Climbing right turn to 3000 on CEC VORTAC R-166 then right turn direct CEC VORTAC and hold.

Uncertainty in CEAS.

Category

<table>
<thead>
<tr>
<th>Category</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tbody>
<tr>
<td>S-12</td>
<td>520-¾</td>
<td>460 (500-¾)</td>
<td>520-1</td>
<td>460 (500-1)</td>
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<tr>
<td>Circling</td>
<td>540-1</td>
<td>479 (500-1)</td>
<td>640-1½</td>
<td>579 (600-1½)</td>
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</tbody>
</table>

Night landing: Rwy 18, 30 NA, operational VGSI required, remain on or above VGSI glidepath until threshold. Night landing: Rwy 36.

For inop MALSR when using Brookings altimeter setting, increase S-12 Cat A/B visibility to 1 mile, and Cat C/D visibility to 1½ mile. For inop MALSR when using Brookings altimeter setting, increase S-12 Cat A/B visibility to 1 mile, and Cat C/D visibility to 1½ mile. Night landing: Rwy 36 operational VGSI required, remain on or above VGSI glidepath until threshold. Night landing: Rwy 18, 30 NA.

Uncertainty in CEAS.
RNAV (GPS) RWY 17
UNIVERSITY (EDU)

AWOS-3 119.025
TRAVIS APP CON 126.6 281.45
UNICOM 123.075 (CTAF)

DME/DME RNP -0.3 NA. When local altimeter setting not received, use Travis AFB altimeter setting and increase all MDA 60 feet. Helicopter visibility reduction below 1 SM not authorized. Procedure NA at night.

MISSING APPROACH: Climbing right turn to 2000 direct CODRU and hold.

Procedure NA for arrivals at ILA VORTAC via V195 northbound.

Procedure NA for arrivals on SAC VORTAC airway radials 257 CW 329.

Visual Segment - Obstacles.

CATEGORY
A  B  C  D
LNAV MDA   520-1 456 (500-1)  NA
CIRCLING   580-1 511 (600-1)  NA
RNAV (GPS) RWY 16
YOLO COUNTY (DWA)

When local altimeter setting not received, use Travis AFB altimeter setting and increase all DA 50 feet and all MDA 60 feet, and increase LNAV/VNAV all Cats and LNAV Cat C and D visibility 1/4 mile. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 43°C (109°F). Baro-VNAV NA when using Travis AFB altimeter setting.

Procedure NA for arrivals at ILA VORTAC airway radials 057 CW 210.

Procedure NA for arrivals at COUPS on V6 southbound.

RNAV (GPS) RWY 16
YOLO COUNTY (DWA)

AWOS-3P
125.775

TRAVIS APP CON
126.6 281.45

UNICOM
123.0 (CTAF)

MISSED APPROACH: Climb to 3600 direct PROAP and hold, continue climb-in-hold to 3600.
RNAV (GPS) RWY 34

YOLO COUNTY (DWA)

When local altimeter setting not received, use Travis AFB altimeter setting and increase all DA 50 feet and all MDA 60 feet, and increase LPV visibility all Cats ½ mile, LNAV/VNAV visibility all Cats ½ mile, and LNAV Cat C and D visibility ½ mile. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 42°C (107°F). Baro-VNAV NA when using Travis AFB altimeter setting.

MISSED APPROACH: Climb to 3000 direct GHEER and hold.

Procedure NA for arrivals at OAKEY on V334-392 southbound, for arrivals at COUPS on V6 northbound and for arrivals at EMBER on V330 southwest bound.

Procedure NA for arrivals at OAKEY on V334-392 southbound, for arrivals at COUPS on V6 northbound and for arrivals at EMBER on V330 southwest bound.

When local altimeter setting not received, use Travis AFB altimeter setting and increase all DA 50 feet and all MDA 60 feet, and increase LPV visibility all Cats ½ mile, LNAV/VNAV visibility all Cats ½ mile, and LNAV Cat C and D visibility ½ mile. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 42°C (107°F). Baro-VNAV NA when using Travis AFB altimeter setting.

MISSED APPROACH: Climb to 3000 direct GHEER and hold.

Procedure NA for arrivals at OAKEY on V334-392 southbound, for arrivals at COUPS on V6 northbound and for arrivals at EMBER on V330 southwest bound.

Procedure NA for arrivals at OAKEY on V334-392 southbound, for arrivals at COUPS on V6 northbound and for arrivals at EMBER on V330 southwest bound.

MISSED APPROACH: Climb to 3000 direct GHEER and hold.

Procedure NA for arrivals at OAKEY on V334-392 southbound, for arrivals at COUPS on V6 northbound and for arrivals at EMBER on V330 southwest bound.

Procedure NA for arrivals at OAKEY on V334-392 southbound, for arrivals at COUPS on V6 northbound and for arrivals at EMBER on V330 southwest bound.

Procedure NA for arrivals at OAKEY on V334-392 southbound, for arrivals at COUPS on V6 northbound and for arrivals at EMBER on V330 southwest bound.

Procedure NA for arrivals at OAKEY on V334-392 southbound, for arrivals at COUPS on V6 northbound and for arrivals at EMBER on V330 southwest bound.

Procedure NA for arrivals at OAKEY on V334-392 southbound, for arrivals at COUPS on V6 northbound and for arrivals at EMBER on V330 southwest bound.
ACV ASOS 118.525
SEATTLE CENTER 124.85 306.3
UNICOM 122.7 (CTAF)
Procedure NA for arrival on PXN VORTAC airway radials 318 CW 133.

Procedure NA at night. Use Madera altimeter setting, when not received, use Merced Rgnl/Macready Fld altimeter setting.

MISSED APPROACH: Climb to 2000 then climbing right turn to 3000 direct MENDO and hold.

Procedure NA for arrival on PXN VORTAC airway radials 318 CW 133.

Procedure NA at night. Use Madera altimeter setting, when not received, use Merced Rgnl/Macready Fld altimeter setting.

MISSED APPROACH: Climb to 2000 then climbing right turn to 3000 direct MENDO and hold.
When local altimeter setting not received, use Arcata altimeter setting. Circling NA for Cat D north of Rwy 11-29.

MISSED APPROACH: Climbing right turn to 3000 direct FOT VORTAC and hold.

AWOS-3  133.8  SEATTLE CENTER  124.85  306.3  CTAF  122.9

110° to RW11

GPS RWY 11
ROHNERVILLE (FOT)

ULINN
JAYEF

3000

Procedure
Turn NA

CATEGORY

S-11
1140-1  1160-1½  1200-2½
758 (800-1)  778 (800-1½)  818 (900-2½)

CIRCLING
1140-1  1360-1½
747 (800-1)  967 (1000-1½)

110° to RW11

GPS RWY 11
ROHNERVILLE (FOT)

AWOS-3  133.8  SEATTLE CENTER  124.85  306.3  CTAF  122.9

110° to RW11

GPS RWY 11
ROHNERVILLE (FOT)

ULINN
JAYEF

3000

Procedure
Turn NA

CATEGORY

S-11
1140-1  1160-1½  1200-2½
758 (800-1)  778 (800-1½)  818 (900-2½)

CIRCLING
1140-1  1360-1½
747 (800-1)  967 (1000-1½)

110° to RW11

GPS RWY 11
ROHNERVILLE (FOT)

AWOS-3  133.8  SEATTLE CENTER  124.85  306.3  CTAF  122.9

110° to RW11

GPS RWY 11
ROHNERVILLE (FOT)

ULINN
JAYEF

3000

Procedure
Turn NA

CATEGORY

S-11
1140-1  1160-1½  1200-2½
758 (800-1)  778 (800-1½)  818 (900-2½)

CIRCLING
1140-1  1360-1½
747 (800-1)  967 (1000-1½)

110° to RW11

GPS RWY 11
ROHNERVILLE (FOT)

AWOS-3  133.8  SEATTLE CENTER  124.85  306.3  CTAF  122.9

110° to RW11

GPS RWY 11
ROHNERVILLE (FOT)

ULINN
JAYEF

3000
<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
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<th>C</th>
<th>D</th>
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<tbody>
<tr>
<td>S-29</td>
<td>1160-1</td>
<td>1160-1(1/4)</td>
<td>1160-2(1/4)</td>
<td>1160-2(1/2)</td>
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<tr>
<td></td>
<td>768 (800-1)</td>
<td>768 (800-1(1/4))</td>
<td>768 (800-2(1/4))</td>
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<td>CIRCLING</td>
<td>1160-1</td>
<td>1360-1(1/2)</td>
<td>1720-3</td>
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<td>767 (800-1)</td>
<td>967 (1000-1(1/2))</td>
<td>1327 (1400-3)</td>
<td>1387 (1400-3)</td>
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</tbody>
</table>

When local altimeter setting not received, use Arcata altimeter setting. Circling NA for Cat D north of Rwy 11-29.

3.2 NM to IZPUH

Missed Approach: Climb to 1500 then climbing right turn to 3000 direct FOT VORTAC and hold.

AWOS-3 133.8

SEATTLE CENTER 124.85 306.3

CTAF 122.9

3000 direct FOT VORTAC and hold.

MISSED APPROACH: Climb to 1500 then climbing right turn to 3000 direct FOT VORTAC and hold.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1° C or above 54° C.

Rwy 12 helicopter visibility reduction below ½ SM NA. Circling Rwy 30 NA at night.

**MISSED APPROACH:** Climb to 800 then climbing right turn to 2000 direct FRAME and hold.

- **AWOS-3**: 135.225
- **FRESNO APP CON**: 119.0 323.25
- **CLNC DEL**: 119.0
- **UNICOM**: 123.0 (CTAF)

---

**RNAV (GPS) RWY 12**

**FRESNO CHANDLER EXEC (FCH)**

**ELEV 280**

**TDZE 280**

**HOLD**

6000

---

**CATEGORY**

- **A**: LPV DA 530-3/4 250 (300-3/4) NA
- **B**: LNAV/VNAV DA 809-11/2 529 (600-11/2) NA
- **C**: LNAV MDA 780-1 500 (500-1) 780-1 1/8 500 (500-1/8) NA
- **D**: CIRCLING 960-1 680 (700-1) 960-2 680 (700-2) NA
### RNAV (GPS) RWY 30

#### FRESNO CHANDLER EXEC (FCH)

**APP CRS 291°**
- Rwy Ldg 3089
- TDZE 280
- Apt Elev 280

**RNP APCH.**
- Straight-in Rwy 30 NA at night, Circling Rwy 30 NA at night.
- Rwy 30 helicopter visibility reduction below 1 SM NA.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
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<th>D</th>
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</thead>
<tbody>
<tr>
<td>LNAV MDA</td>
<td>800-1</td>
<td>520 (600-1)</td>
<td>800-1 520 (600-1%)</td>
<td>NA</td>
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<tr>
<td>CIRCLING</td>
<td>960-1</td>
<td>680 (700-1)</td>
<td>960-2 680 (700-2)</td>
<td>NA</td>
</tr>
</tbody>
</table>

**AWOS-3**
- 135.225

**FRESNO APP CON**
- 119.0 323.25

**CLNC DEL**
- 119.0

**UNICOM**
- 123.0 (CTAF)

**ELEV 280**

**TDZE 280**

**RNAV (GPS) RWY 30**

**FRESNO, CALIFORNIA**

**Amdt 1 10OCT19**

**36°44'N-119°49'W**

**RNAV (GPS) RWY 30**

**FRESNO CHANDLER EXEC (FCH)**

**SW-2, 07 OCT 2021 to 02 DEC 2021**
FRESNO, CALIFORNIA

ILS Y RWY 29R (SA CAT I)
FRESNO YOSEMITE INTL (FAT)

DME required.

Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.

MISSED APPROACH: Climb to 800 then climbing right turn to 5500 on heading 330° and FRA VORTAC R-222 to NIVEE INT/FRA 8 DME and hold, continue climb-in-hold to 5500.

ATIS 121.35 273.6
FRESNO APP CON 119.6 351.95
FRESNO TOWER 118.2 251.1
GND CON 121.7 348.6
CLNC DEL 124.35 348.6

MISSED APCH FIX
NIVEE INT
FRA 8

Localizer
111.3 I-FAT
Chan 50

ALTERNATE MISSP APCH FIX
BLEAR PXN
112.6 PXN
R-061
Chan 73

LOCALIZER 111.3 I-FAT
Chan 50

STORI
I-FAT 6.1

FRA 155°

Procedure NA for arrivals at FRA VORTAC on V230 northeast bound.

STORI
I-FAT 6.1

VGS1 and ILS glidepath not coincident (VGS1 Angle 3.00°/TCH 76).

STORI
I-FAT 6.1

ALTERNATE MISSAPCH FIX

FRA 155°

REIL Rwys 11L and 11R
HIRL Rwy 11L-29R
MIRL Rwy 11R-29L
TDZ/CL Rwy 29R

FRESNO, CALIFORNIA

Amdt 39 10OCT19

Sa CATEGORY I ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED
ILS Y RWY 29R (CAT II & III)
FRESNO YOSEMITE INTL (FAT)

DME required.

MISSED APPROACH: Climb to 800 then climbing right turn to 5500 on heading 330° and FRA VORTAC R-222 to NIVEE INT/FRA B DME and hold, continue climb-in-hold to 5500.

ATIS
FRESNO APP CON 119.6 351.95
FRESNO TOWER 118.2 251.1
GND CON 121.7 348.6
CLNC DEL 124.35 348.6

MISS APCH FIX
NIVEE INT FRA B

FRIANT 115.6 FRA
Chan 103

STORI I-FAT 6.1

Procedure NA for arrivals at FRA VORTAC on V230 northeast bound.

ALTERNATE MISS APCH FIX
BLEAR PXN 29.5
Chan 73

ELEV 336 TDZE 333

ILS and ILS glidepath not coincident (VGS Angle 3.00/TCH 76).

SANG0 I-FAT 12.6

One Minute Holding Pattern

112° 6000
292° 2800
800 5500

CATEGORIES II & III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED
RNAV (GPS) RWY 11L
FRESNO YOSEMITE INTL (FAT)

ATIS 121.35 273.6
FRESNO APP CON 119.6 351.95
FRESNO TOWER 118.2 251.1
GND CON 121.7 348.6
CLNC DEL 124.35 348.6

Proceedure NA for arrivals at SIBOC on V459 southeast bound.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1°C or above 54°C.

ATIS 121.35 273.6
FRESNO APP CON 119.6 351.95
FRESNO TOWER 118.2 251.1
GND CON 121.7 348.6
CLNC DEL 124.35 348.6

**RNAV (GPS) RWY 11L**
FRESNO YOSEMITE INTL (FAT)

**ATIS** 121.35 273.6
**FRESNO APP CON** 119.6 351.95
**FRESNO TOWER** 118.2 251.1
**GND CON** 121.7 348.6
**CLNC DEL** 124.35 348.6

**RNAV (GPS) RWY 11L**
FRESNO YOSEMITE INTL (FAT)

**ATIS** 121.35 273.6
**FRESNO APP CON** 119.6 351.95
**FRESNO TOWER** 118.2 251.1
**GND CON** 121.7 348.6
**CLNC DEL** 124.35 348.6

**RNAV (GPS) RWY 11L**
FRESNO YOSEMITE INTL (FAT)

**ATIS** 121.35 273.6
**FRESNO APP CON** 119.6 351.95
**FRESNO TOWER** 118.2 251.1
**GND CON** 121.7 348.6
**CLNC DEL** 124.35 348.6
RNAV (GPS) RWY 11R
FRESNO YOSEMITE INTL (FAT)

ATIS
121.35 273.6

FRESNO APP CON
119.6 351.95

FRESNO TOWER
118.2 251.1

GND CON
121.7 348.6

CLNC DEL
124.35 348.6

MISSED APPROACH: Climb to 2600 direct IPUJE and hold.

Procedure NA for arrivals at SIBOC on V459 southeast bound.

Baro-VNAV systems, LNAV/VNAV NA below -1°C or above 54°C. For uncompensated direct IPUJE and hold.

MISSED APPROACH: Climb to 2600 direct IPUJE and hold.

LPV DA 584-¾ 251 (300-¾)
LNAV/ VNAV DA 620-¾ 287 (300-¾)
LNAV MDA 700-1 367 (400-1)
CIRCLING 820-1 484 (500-1) 920-1½ 584 (600-1½) 920-2 584 (600-2)
RNAV (GPS) RWY 29L

FRESNO YOSEMITE INTL (FAT)

ATIS
121.35 273.6

FRESNO APP CON
119.6 351.95

FRESNO TOWER
118.2 251.1

GND CON
121.7 348.6

CLNC DEL
124.35 348.6

RNAV (GPS) RWY 29L

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1/2 SM NA.

MISSED APPROACH: Climb to 2000 direct WOSIM and hold.

Procedure NA for arrivals at FRA VORTAC on V230 northeast bound.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1/2 SM NA.

MISSED APPROACH: Climb to 2000 direct WOSIM and hold.

RNAV (GPS) RWY 29L

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1/2 SM NA.

MISSED APPROACH: Climb to 2000 direct WOSIM and hold.

RNAV (GPS) RWY 29L

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Helicopter visibility reduction below 1/2 SM NA.

MISSED APPROACH: Climb to 2000 direct WOSIM and hold.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.

**RNAV (GPS) RWY 29R**
FRESNO YOSEMITE INTL (FAT)

**ATIS**
121.35 273.6

**FRESNO APP CON**
119.6 351.95

**FRESNO TOWER**
118.2 251.1

**GND CON**
121.7 348.6

**CLNIC DEL**
124.35 348.6

**Procedure NA for arrivals at FRA VORTAC on V230 northbound.**

**For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.**
TACAN RWY 11L
FRESNO YOSEMITE INTL (FAT)

ATIS 121.35 273.6
FRESNO APP CON 119.6 351.95
FRESNO TOWER 118.2 251.1
GND CON 121.7 348.6
CLNC DEL 124.35 348.6

Rwy 11L helicopter visibility reduction below 3/4 SM NA.

MISSING APCH FIX: Climbing left turn to 2000 on CZQ TACAN R-124 to SELMA/CZQ 18.6 DME and hold.

ELEV 336
TDZE 11R 336
TDZE 111 336

Remain within 15 NM

CATEGORY
A
B
C
D
E
S-11L
760/55 424 (500-1)
760-1/4 424 (500-1/4)
SIDESTEP 11R
760-1 427 (500-1)
760-1½ 427 (500-1½)
760-2 427 (500-2)
CIRCLING
820-1 484 (500-1)
920-1½ 584 (600-1½)
920-2 584 (600-2)
1140-2½ 804 (900-2½)

TACAN CZQ
Chn 76
(112.9)

DME required.

MAR 121L 3030
TDZE 3030
Apt Elev 3030

FRESNO, CALIFORNIA

Amdt 3 10OCT19
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

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

**TAKEOFF RUNWAYS 11L/R:** Climb heading 112° thence.

**TAKEOFF RUNWAYS 29L/R:** Climb heading 292° thence.

...maintain ATC assigned altitude; expect clearance to filed altitude five minutes after departure.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 11L/R: Climb on heading 112° to 2000', then climbing left turn to intercept FRA R-160 to FRA VORTAC, thence. . . .

TAKEOFF RUNWAYS 29L/R: Climb on heading 292° to 2000', then climbing right turn to intercept FRA R-205 to FRA VORTAC, thence. . . .

. . . . continue climb to 14300 on FRA VORTAC R-023 and MVA VORTAC R-204 to NIKOL INT and on OAL VORTAC R-250 to OAL VORTAC. Maintain ATC assigned altitude.
NOTE: Chart not to scale.

TOP ALTITUDE: ASSIGNED BY ATC

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 11L/R: Climb heading 112°, thence. . . .

TAKEOFF RUNWAYS 29L/R: Climb heading 292°, thence. . . .

. . . maintain ATC assigned altitude; expect clearance to filed altitude five minutes after departure.

LOST COMMUNICATIONS: If not in contact with Fresno Departure Control within two minutes of takeoff, aircraft enroute to FRA, MVA, FMG and OAL proceed direct FRA VORTAC, cross FRA VORTAC at or above 9000, thence via assigned route to filed altitude.
RNAV (GPS) RWY 7
NEVADA COUNTY (GOO)

MISSED APPROACH: (Do not exceed 250K until MRGGO) Climb to 3900 then climbing right turn to 6000 direct MRGGO and hold.

Procedure NA for arrivals at MRGGO on V332 northwest bound and V200 westbound.

AWOS-3
121.325

NORCAL APP CON
125.4 259.1

UNICOM
122.725 [CTAF] 0

GRASS VALLEY, CALIFORNIA
Orig-D 22APR21

39°13’N-121°00’W

RNAV (GPS) RWY 7
NEVADA COUNTY (GOO)

GRASS VALLEY, CALIFORNIA
AL-6659 (FAA) 21112
MISSED APPROACH: Climbing right turn to 7000 direct HOFED and hold, continue climb-in-hold to 7000.

Procedure NA at night. Rwy 9 helicopter visibility reduction below 1 SM NA. Use Columbia altimeter setting.

VGSI and RNAV glidepath not coincident (VGSI Angle 4.50/TCH 24).

RNAV (GPS) RWY 9
PINE MOUNTAIN LAKE (E45)

GROVELAND, CALIFORNIA
Orig-D 12AUG21

37°52'N-120°11'W
Obtain local altimeter setting on CTAF; when not received, use Columbia altimeter setting.

MISSED APPROACH: Climb to 4500 on 275° course to UPCIM and hold.

COLUMBIA ALTIMETER SETTING MINIMUMS

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-27</td>
<td>3560-1</td>
<td>630 (700-1)</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

COLUMBIA ALTIMETER SETTING MINIMUMS

| S-27     | 3700-1 | 3700-1½ | 770 (800-1) | 770 (800-1½) | NA |

37°52'N-120°11'W
### RNAV (GPS) RWY 12

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>LPV DA</th>
<th>LNAV/VNAV DA</th>
<th>LNAV MDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>360-7°</td>
<td>652-1°3/4</td>
<td>660-1</td>
</tr>
<tr>
<td>B</td>
<td>301 (300-3°)</td>
<td>593 (600-1°3/4)</td>
<td>601 (600-1)</td>
</tr>
<tr>
<td>C</td>
<td>301 (300-3°)</td>
<td>593 (600-1°3/4)</td>
<td>601 (600-1)</td>
</tr>
<tr>
<td>D</td>
<td>301 (300-3°)</td>
<td>593 (600-1°3/4)</td>
<td>601 (600-1)</td>
</tr>
</tbody>
</table>

**Rwy 12 helicopter visibility reduction below 3/4 SM NA.** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15° C or above 54° C.

**MISSED APPROACH:** Climb to 700 then climbing right turn to 4000 direct SEEMS and hold, continue climb-in-hold to 4000.

- **AWOS:** 127.275
- **NORCAL APP CON:** 135.1 307.2
- **UNICOM:** 122.8 (CTAF)

**RNAV (GPS) RWY 12**

**HALF MOON BAY (HAF')**

**HALF MOON BAY, CALIFORNIA**

**SW-2, 07 OCT 2021 to 02 DEC 2021**
**RNAV (GPS) RWY 30**

**HALF MOON BAY (HAF')**

**AWOS-3**

127.275

**NORCAL APP CON**

135.1 307.2

**UNICOM**

122.8 (CTAF)

**MISSED APPROACH:** Climb to 4000 direct LAYKI and on track 267° to SEEMS and hold, continue climb-in-hold to 4000.

**LNAV only**

- **1.8 NM to RW30**
- **3.4 NM**
- **3.4 NM**
- **5.9 NM**

**LPV DA**

381-1 327 (400-1)

**LNAV MDA**

620-1 566 (600-1) 620-1.5% 566 (600-1.5%)

**ELEV 66**

**TDZE 54**

**4000**

**LAYKI**

tr 267°

**SEEMS**

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 24).

**V**

**4500**

HALF MOON BAY, CALIFORNIA

Amdt 1A  18JUL19

AL-6675 (FAA)

WAAS CH 50302

W30A

APP CRS

302°

Rwy Idg 4238

TDZE 54

Apt Elev 66

**HALF MOON BAY, CALIFORNIA**

**37°31'N-122°30'W**

**83**

**RNAV (GPS) RWY 30**

**HALF MOON BAY (HAF')**
HANFORD, CALIFORNIA

RNAV (GPS) RWY 32

HANFORD MUNI (HJO)

**RNAV (GPS) RWY 32**

**HANFORD MUNI (HJO)**

**ASOS**
- 134.75

**FRESNO APP CON**
- 123.9

**CLNC DEL**
- 123.9

**UNICOM**
- 122.8 (CTAF)

**HOLD**
- 2000

**APP CRS**
- 318°

**Rwy Idg**
- 5179

**TDZE**
- 238

**Apt Elev**
- 240

---

**Rwy 32 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C.**

**MISSED APPROACH:** Climb to 700 then climbing right turn to 2000 direct OYUGO and hold, continue climb-in-hold to 2000.

---

**NOVIC**

**MAXKA**

**HANFORD, CALIFORNIA**

**AMdt 2A 07NOV19**

---

**ELEV**
- 240

**TDZE**
- 238

---

**VAAP CRS**
- 318°

**Rwy Idg**
- 5179

**TDZE**
- 238

**Apt Elev**
- 240

---

**SW-2, 07 OCT 2021 to 02 DEC 2021**
MISSED APPROACH: Climb to 3100 direct MAXKA and on track 122° to PIXEY and hold.
Circling Rwy 14 NA at night.

**MISSING APPROACH:** Climb to 1300 then climbing left turn to 2000 direct VIS VOR/DME and hold.

**ASOS**
- **HANFORD MUNI (HJO)**
  - 134.75

**FRESNO APP CON**
- **HANFORD MUNI (HJO)**
  - 123.9

**CLINC DEL**
- **HANFORD MUNI (HJO)**
  - 123.9

**UNICOM**
- **HANFORD MUNI (HJO)**
  - 122.8 (CTAF)

---

**VOR-DME**
- **HANFORD MUNI (HJO)**
  - 109.4
  - **Channel 31**

**Rwy Idg**
- **HANFORD MUNI (HJO)**
  - **TDZE**

**Apt Elev**
- **HANFORD MUNI (HJO)**
  - **240**

---

**DUKAY FIX MINIMUMS**
- **VIS**
  - **5.5**
  - **230°**

**EXTRA**
- **265°**
- **3800**

**FAF to MAP 7.6 NM**
- **from FAF** 230° 7.6 NM

**HOLD**
- **6000**
- **2000**

**VIS**
- **2000**
- **VISALIA**
- **109.4 VIS**
- **Chan 31**

---

**ELEV 240**

---

**Amdt 10 15AUG19**

---

**36°19'N-119°38'W**
Circling NA north of Rwy 10L-28R. When local altimeter setting not received, use Oakland altimeter setting; increase all MDA 20 feet and Circling Cat D visibility ½ SM. Rwy 28L helicopter visibility reduction below ½ SM NA.

**MISSING APPROACH:** Climb to 2100 direct OAK VOR/DME and hold.

**Procedure NA** for arrivals at SJC VOR/DME on V334 and T259.

**VGSI and descent angles not coincident (VGSI Angle 4.00/TCH 35).**

**MISRROUTED:** Climb to 2100 direct OAK VOR/DME and hold.

**HAYWARD EXEC (HWD)**
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES. READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
MISSED APPROACH: Climbing left turn to 3000 via LIN R-012 to LIN VOR/DME.

If local altimeter not received, use Sacramento Exec altimeter setting. Circling Rwy 19 NA at night.
Circling NA south of Rwy 10-28. DME/DME RNP-0.3 NA.
Procedure NA at night. When local altimeter setting not received, use Ukiah altimeter setting and increase all MDA 500 feet.

MISSED APPROACH:
Climbing left turn to 8000 direct WEPLO and hold.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIRCLING</td>
<td>2580-1¼</td>
<td>2580-1½</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

LAKEPORT, CALIFORNIA
Orig-C 01FEB18

38°59'N-122°54'W
NOTE: GPS required.
NOTE: RNAV 1.
NOTE: Takeoff Rwy 10: Do not exceed 175K until passing HEBLU.

TAKEOFF MINIMUMS
Rwy 10: Standard with minimum climb of 496' per NM to 4500.
Rwy 28: NA- Rapidly rising terrain.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 10: Climb heading 103° to 1880, then climb on 033° course to CEVLA, then via 304° track to HEBLU, then via 238° track to ENI VORTAC, thence . . . .

. . . . via assigned route, expect clearance to filed altitude 10 minutes after departure.
Simultaneous approaches authorized.
LNAV procedure NA during simultaneous operations.
Use of FD or AP providing RNAV track guidance required during simultaneous operations.

For uncompensated Baro-VNAV systems, LNAV/VNAV procedure NA below -15° C(5° F) and above 54° C(129° F).
Simultaneous approaches authorized.
LNAV procedure NA during Simultaneous operations.
Use of FD or AP providing RNAV track guidance required
during simultaneous operations.

For uncompensated Baro-VNAV systems, LNAV/VNAV
procedure NA below -1.5° C (5° F) and above 54° C (129° F).

EMERG SAFE ALT 100 NM 16,500

LEMOORE, CALIFORNIA

Amdt 6 17JUN21

RNAV (GPS) RWY 14R

LEMOORE NAS (REEVES FIELD) (KNLC)
RNAV (GPS) RWY 32L

For uncompensated Baro-VNAV systems, LNAV/VNAV procedure NA below -15° C (-5° F) and above 56° C (132° F).

Simultaneous approaches authorized. LNAV procedure NA during Simultaneous operations. Use of FD or AP providing RNAV track guidance required during simultaneous operations.

EMERG SAFE ALT 100 NM 16,500
RNAV (GPS) RWY 32R

LEMOORE, CALIFORNIA

98

DME/DME RNP-0.3 NA

ATIS * 121.575 327.15  
LEMOORE APP CON 124.1N 118.155 269.025
LEMOORE TOWER * 128.3 340.2
GND CON 121.65 305.2
CLNC DEL 124.1 371.9
ASR/PAR

Simultaneous approaches authorized.
LNAV procedure NA during simultaneous operations.
Use of FD or AP providing RNAV track guidance required
during simultaneous operations.

For uncompensated Baro-VNAV systems, LNAV/VNAV
procedure NA below -15°C (-5°F) and above 54° C (129° F)

EMER SAFE ALT 100 NM 16,500

ELEV 228  TDZE 221

LEMOORE NAS (REEVES FIELD) (KNLCl)
ATIS
121.575 327.15
LEMOORE APP CON
LEMOORE TOWER
124.1N 118.15S 269.025
128.3 340.2
GND CON
121.65 305.2
CLNC DEL
124.1 371.9
ASR/PAR

MISSED APPROACH: Climb to 700 then climbing left turn to 2000 via heading 142°, intercept NLC TACAN R-118 to STRAT and hold.

CLOVIS
Chan 76 CZQ
PANOCE
112.6 PXN
Chan 73

HAYEN
NLC 13

LEMOORE
Chan 80 NLC

AVENAL
(AVE transition requires VOR)

EMERG SAFE ALT 100 NM 16,500

HAYEN
13

FLEET
7

LEMOORE, CALIFORNIA
Amdt 5 17JUN21
LEMOORE-ONE DEPARTURE (NLC1 • NLC)

LEMOORE NAS (REEVES FIELD) (KNLC)

ATIS * 121.575 327.15
CLNC DEL
124 1 371.9
GND CON
121 65 305.2
LEMOORE TOWER *
128 3 340.2
(Rwy 14L, 32L)
128 3 360.2
(Rwy 14R, 32R)
LEMOORE DEP CON
124 1 318.8 (N)
118 15 318.8 (S)

RADAR REQUIRED
EMERG SAFE ALT 100 NM 16,500

NOTE: Chart not to scale

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 32L/32R: Climb to 2000 via heading 322° then radar vectors to join assigned transition or route.

CETTA TRANSITION (NLC1•CETTA): From over EOCIN direct CETTA thence as filed. Cross CETTA at or above 15,000.

COALDALE TRANSITION (NLC1•OAL): From over EOCIN direct CETTA, direct CANDA, direct COALDALE VORTAC. Cross CETTA at or above 15,000.

WADDE TRANSITION (NLC1•WADDE): From over WADDE thence as filed. Cross WADDE at or above 11,000.

LOST COMMUNICATIONS: If no transmissions are received within 8 DME of NLC TACAN, fly departure heading to intercept NLC 10 DME arc, arc to respective departure radial then via departure radial to assigned departure fix. Then via assigned route. Once established on departure radial climb to filed altitude.
REEVES-FOUR DEPARTURE (REVES4 • NLC)

ATIS 121.575 327.15
CLNC DEL 124.1 371.9
GND CON 121.65 305.2
LEMOORE TOWER* 128.3 340.2
Rwy 14L 32L
128.3 360.2
Rwy 14R 33R
LEMOORE DEP CON 124.1 318.8 (N)
118.15 318.8 (S)

LEMOORE NAS (REEVES FIELD) (KNLC)
LEMOORE, CALIFORNIA

<table>
<thead>
<tr>
<th>Rwy</th>
<th>Knots 60</th>
<th>120</th>
<th>180</th>
<th>240</th>
<th>300</th>
<th>360</th>
</tr>
</thead>
<tbody>
<tr>
<td>†14L/R V/V(Lpm)</td>
<td>320</td>
<td>640</td>
<td>960</td>
<td>1280</td>
<td>1600</td>
<td>1920</td>
</tr>
<tr>
<td>† †14L/R V/V(Lpm)</td>
<td>364</td>
<td>728</td>
<td>1092</td>
<td>1456</td>
<td>1820</td>
<td>2184</td>
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</tbody>
</table>

† ATC Climb Rate to 15,000 OMEGA
† † ATC Climb Rate to 11,000 CARRL

EMERG SAFE ALT 100 NM 16,500
NOTE: Chart not to scale

↓ DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 14L/14R: Climb to 2000 via heading 142° then radar vectors to
join assigned transition or route.

CARRL TRANSITION (REVES4 CARRL): From over CARRL thence as filed. Cross CARRL at or
above 11,000.

COALDALE TRANSITION (REVES4 OAL): From over BUMPI direct OMEGA, direct CANDA,
direct COALDALE VORTAC. Cross OMEGA at or above 15,000.

OMEGA TRANSITION (REVES4 OMEGA): From over BUMPI direct OMEGA thence as filed.

LOST COMMUNICATIONS: If no transmissions are received within 8 DME of NLC TACAN,
fly departure heading to intercept NLC 10 DME arc, arc to respective departure radial then
via departure radial to assigned departure fix. Then via assigned route. Once established on
departure radial climb to filed altitude.

REEVES-FOUR DEPARTURE (REVES4 • NLC)
Amdt 2 17JUN21
RNAV (GPS) RWY 15

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 48°C. VDP and Baro-VNAV NA when using Beale AFB altimeter setting. When local altimeter setting not received, use Beale AFB altimeter setting and increase LPV DA to 361 feet; increase LNAV/VNAV DA to 492 feet; increase all MDAs 40 feet and increase Circling Cat D visibility ¾ SM. For inop ALS when using Beale AFB altimeter setting, increase LNAV Cat D visibility to ¼.

**AWOS** 3
124.25

**NORCAL APP CON**
125.4
259.1

**UNICOM**
123.0 (CTAF)

**MISSED APPROACH:**
Climb to 2500 direct MUCGU and on track 131° to ROZZY and hold.

**Procedure NA for arrival at YUBBA on V200 southwest bound and V23 northwest bound.**
RNAV (GPS) RWY 33

LINCOLN RGNL/KARL HARDER FLD (LHM)

MISSED APPROACH: Climb to 2000 direct WILLD and on track 300° to MYV VOR/DME and hold.

Rwy 33 helicopter visibility reduction below ½ SM NA. When local altimeter setting not received, use Beale AFB altimeter setting and increase all MDA 40 feet, and increase LNAV Cat C/D visibility ½ mile. VDP NA with Beale AFB altimeter setting.

Procedure NA for arrival at GRIME on V23 northwest bound.

Procedure NA for arrival at FOLLY on V6 northeast bound.

LNAV MDA 480-1 359 (400-1)

CATEGORY A   B   C   D

Lincoln, California
Orig-B 07NOV19

38°55'N-121°21'W

107
RNAV (GPS) RWY 29
LITTLE RIVER (L.L.R.)

AWOS AV
121.125

OAKLAND CENTER
132.2 350.3

AUNICOM
122.7 (CTAF)

ELEV 574
TDZE 574

Circling NA northeast of Rwy 11-29.
Procedure NA at night.
Rwy 29 helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climbing left turn to 6000 direct
AMAKR and hold, continue climb-in-hold to 6000.

Procedure NA for arrivals at ENI VORTAC on airway radials 305 CW 330.
NOTE: GPS required.
NOTE: RNAV 1.

TAKEOFF OBSTACLE NOTES
Rwy 11: Trees beginning 273' from DER, left and right of centerline up 200' AGL/799' MSL. Vehicles on road 383' from DER, 2' right of centerline, up to 15' AGL/587' MSL.
Rwy 29: Multiple trees beginning 95' from DER, 18' left and right of centerline up to 200' AGL/719' MSL.

TAKEOFF MINIMUMS
Rwy 11: 300-1 with minimum climb of 330’ per NM climb to 2100’.
Rwy 29: 300-1.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION
TAKEOFF RUNWAY 11: Climb to 6000 direct CETNI and via track 171° to AMAKR and left turn via track 067° to ENI VORTAC, thence . . . .
TAKEOFF RUNWAY 29: Climb to 6000 direct EBYIB and left turn via track 190° to VECEM and via track 126° to AMAKR and via track 067° to ENI VORTAC, thence . . . .
. . . . via assigned route.
Missed approach: Climb to 1200 then climbing right turn to 5000 on heading 020° and OAK VOR/DME R-060 to ALTAM/OAK VOR/DME 23.3 DME and hold, continue climb-in-hold to 5000.  
*Missed approach requires a minimum climb of 358 feet per NM to 3600, if unable to meet climb gradient, see LOC RWY 25R.
Circling to Rwy 25L NA at night. Inop table does not apply to S-25R Cats C/D.
Circling NA north of Rwy 7L-25R.
DME required.

Procedure NA for arrivals at UNV VOR/DME on V108 eastbound.

MISSED APPROACH: Climb to 2000 then climbing right turn to 5000 on heading 020° and OAK VOR/DME R-060 to ALTAM/OAK VOR/DME 23.3 DME and hold, continue climb-in-hold to 5000.
*Missed approach requires minimum climb of 235 feet per NM to 3600.

SW-2, 07 OCT 2021 to 02 DEC 2021

Amdt 1 07DEC17
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES. READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 7L/R: Climb heading 075° to 1000, then climbing left turn heading 340° and on SAC VORTAC R-177 to ALTAM, thence . . . .

TAKEOFF RUNWAYS 25L/R: Climb heading 255° to 1200, then climbing right turn heading 020° and on OAK VOR/DME R-060 to ALTAM, thence . . . .

VCOA ALL RUNWAYS: Obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Livermore Airport at or above 3100, thence . . . .

. . . . continue climb on course to the MEA/MCA for route of flight.

TAKEOFF MINIMUMS
Rwys 7L/R: Standard with minimum climb of 375' per NM to 3500 or 2900-3 for VCOA.
Rwys 25L/R: Standard with minimum climb of 295' per NM to 3400 or 2900-3 for VCOA.

NOTE: Chart not to scale.
TAKEOFF OBSTACLE NOTES

Rwy 7L: Sign 20’ from DER, 475’ right of centerline, up to 3’ AGL/403’ MSL. Bush 48’ from DER, 501’ left of centerline, 403’ MSL. Poles, buildings, electrical system, antenna on building, tree, and tanks beginning 447’ from DER, 567’ right of centerline, up to 42’ AGL/445’ MSL. Hangar and building beginning 459’ from DER, 558’ left of centerline, up to 414’ MSL. Tree 708’ from DER, 603’ left of centerline, 421’ MSL. Trees beginning 711’ from DER, 567’ left of centerline, up to 439’ MSL. Trees beginning 1623’ from DER, 690’ left of centerline, up to 450’ MSL. Tree 1626’ from DER, 796’ left of centerline, 455’ MSL. Trees beginning 1732’ from DER, 528’ right of centerline, up to 461’ MSL. Tree 1767’ from DER, 816’ left of centerline, 463’ MSL. Tree 2217’ from DER, 1040’ right of centerline, 465’ MSL. Tree 2368’ from DER, 1027’ right of centerline, 466’ MSL. Tree 3922’ from DER, 1480’ left of centerline, 528’ MSL.

Rwy 7R: Building 3’ from DER, 287’ right of centerline, 411’ MSL. Terrain 3’ from DER, 9’ left of centerline, 396’ MSL. Buildings beginning 29’ from DER, 287’ right of centerline, up to 412’ MSL. Buildings and hangar beginning 137’ from DER, 287’ right of centerline, up to 413’ MSL. Tower and navaid beginning 308’ from DER, 249’ left of centerline, up to 39’ AGL/432’ MSL. Building 435’ from DER, 287’ right of centerline, 414’ MSL. Buildings beginning 463’ from DER, 287’ right of centerline, up to 416’ MSL. Building 668’ from DER, 287’ right of centerline, 417’ MSL. Building 701’ from DER, 403’ right of centerline, 418’ MSL. Buildings beginning 799’ from DER, 287’ right of centerline, up to 436’ MSL. Tree 1146’ from DER, 399’ right of centerline, 438’ MSL. Buildings and trees beginning 1169’ from DER, 344’ right of centerline, up to 445’ MSL. Hangar and pole beginning 1402’ from DER, 66’ right of centerline, up to 446’ MSL. Trees beginning 2349’ from DER, 672’ right of centerline, up to 467’ MSL. Tree 3980’ from DER, 1563’ right of centerline, 497’ MSL.

Rwy 25L: Tree 388’ from DER, 532’ left of centerline, 442’ MSL.

Rwy 25R: Sign 34’ from DER, 203’ right of centerline, 5’ AGL/376’ MSL. Terrain beginning 43’ from DER, 486’ right of centerline, up to 378’ MSL. Fences beginning 169’ from DER, 413’ right of centerline, up to 379’ MSL. Tree 305’ from DER, 298’ right of centerline, 385’ MSL. Tree 349’ from DER, 580’ right of centerline, 411’ MSL. Tree 464’ from DER, 509’ right of centerline, 417’ MSL. Trees beginning 477’ from DER, 426’ right of centerline, up to 424’ MSL. Pole 662’ from DER, 411’ left of centerline, 33’ AGL/400’ MSL. Trees beginning 805’ from DER, 248’ right of centerline, up to 427’ MSL. Trees beginning 1405’ from DER, 747’ right of centerline, up to 432’ MSL. Tree 1426’ from DER, 186’ left of centerline, 411’ MSL. Tree 1596’ from DER, 244’ left of centerline, 413’ MSL. Tree 1719’ from DER, 127’ left of centerline, 421’ MSL. Trees beginning 1946’ from DER, 50’ right of centerline, up to 436’ MSL.
NoPT for arrival on LIN VOR/DME airway radials 124 CW 158.
**RNAV (GPS) RWY 14**  
**LOS BANOS MUNI (LSN)**

**RNP APCH:**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tr>
<td>LPV DA</td>
<td>455-1 1/4</td>
<td>334 (400-1 1/4)</td>
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<tr>
<td>LNAV/VNAV DA</td>
<td>519-1 1/2</td>
<td>398 (400-1 1/2)</td>
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<tr>
<td>LNAV MDA</td>
<td>520-1 399 (400-1)</td>
<td>520-1 1/4 399 (400-1 1/4)</td>
<td>520-1 1/4 399 (400-1 1/4)</td>
<td>399 (400-1 1/4)</td>
</tr>
</tbody>
</table>

**MISSED APPROACH:** Climb to 6500 direct GEZJO and on track 154° to PXN VORTAC and hold, continue climb-in-hold to 6500.

- **AWOS-3** 118.675
- **NORCAL APP CON** 120.95 269.45
- **UNICOM** 122.8 (CTAF)

**Procedure NA for arrivals at PATYY on V111 northbound and V113 northwest bound.**

**Rwy 14** helicopter visibility reduction below 3/4 SM NA. Baro-VNAV and VDP NA when using Merced Rgnl/Macready Fld altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. When local altimeter setting not received, use Merced Rgnl/Macready Fld altimeter setting and increase all DA/MDA 60 feet, and all visibility 1/4 SM.

**Los Banos, California (LSN)**

**Orig-D 18JUL19**

37°04'N-120°52'SW
RNAV (GPS) RWY 32

LOS BANOS MUNI (LSN)

RNP APCH.

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<td>399 (400-1)</td>
<td>520-1\frac{1}{8}</td>
<td>399 (400-1\frac{1}{8})</td>
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NA

RNAV (GPS) RWY 32

**Missed Approach:** Climb to 3000 direct COGIS and on track 323° to VOLTA and hold.

**Procedure NA for arrival on PXN VORTAC airway radials 296 CW 328.**

**AWOS-3 118.675**

**NORCAL APP CON 120.95 269.45**

**UNICOM 122.8 (CTAF)**

**Los Banos, California**

**LOM-5819 (FAA)**

**Los Banos Muni (LSN)**

**Amdt 1A 18JUL19**

**SW-2, 07 OCT 2021 to 02 DEC 2021**

**37°04'N-120°52'W**

**Los Banos, California**
RNAV (GPS) RWY 12
MADERA MUNI (MAE)

RNP APCH:

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C.

MISSED APPROACH:
- Climb to 800 then climbing right turn to 2000 direct KITBY and hold.

<table>
<thead>
<tr>
<th>ASOS</th>
<th>FRESNO APP CON</th>
<th>CLNC DEL</th>
<th>UNICOM</th>
</tr>
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<tbody>
<tr>
<td>134.725</td>
<td>119.45</td>
<td>119.45</td>
<td>122.8 (CTAF)</td>
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ELEV 255  TDZE 253

122° to RW12

Procedure NA for arrivals at BLEAR on V230 northeast bound.

MISSED APCH FIX

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<th>D</th>
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<tr>
<td>LPV</td>
<td>DA</td>
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<td>250 (300-3/4)</td>
<td>NA</td>
</tr>
<tr>
<td>LNAV/VNAV</td>
<td>DA</td>
<td>503-3/4</td>
<td>250 (300-3/4)</td>
<td>NA</td>
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<tr>
<td>LNAV MDA</td>
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<td>580-1</td>
<td>327 (400-1)</td>
<td>NA</td>
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</tbody>
</table>

CIRCLING

- 465 (500-1)
- 485 (500-1½)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C.

MISSED APPROACH:
- Climb to 800 then climbing right turn to 2000 direct KITBY and hold.

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ELEV 255  TDZE 253

122° to RW12

Procedure NA for arrivals at BLEAR on V230 northeast bound.

MISSED APCH FIX

<table>
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<td>LNAV MDA</td>
<td></td>
<td>580-1</td>
<td>327 (400-1)</td>
<td>NA</td>
</tr>
</tbody>
</table>

CIRCLING

- 465 (500-1)
- 485 (500-1½)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C.
RNAV (GPS) RWY 30
MADERA MUNI (MAE)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C. Inop table does not apply to LPV and LNAV/VNAV Cat A/B/C.

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DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 9: Climb on heading 094° to 9500, then climbing left turn heading 054° to intercept BIH R-322 to NIKOL INT. Maintain 13000.

TAKEOFF RUNWAY 27: Climb on heading 274° to 8600, then climbing right turn heading 054° to intercept BIH R-322 to NIKOL INT. Maintain 13000.

NOTE: Chart not to scale.
**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 27:** Climb heading 274° to 8600, then right turn direct to cross OGISE at or above 12300, then on track 113° to cross DUVBE at or above 14000, then on track 202° to cross TEPME at or above 16000, then on track 257° to cross CROLI at or above 16000 and at or below FL190, thence. . .

. . . on (transition) maintain 16000, expect filed altitude 10 minutes after departure.

**SHAFTER TRANSITION (CROLI1.EHF)**

**FRIANT TRANSITION (CROLI1.FRA)**

**RBRTS TRANSITION (CROLI1.RBRTS)**

**NOTE:** GPS required.

**NOTE:** RNAV-1

**NOTE:** Chart not to scale.

**TAKEOFF MINIMUMS**

Rwy 9: NA - Air Traffic.
Rwy 27: Standard with minimum climb of 500' per NM to 12300.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 9: Climb heading 094° to 7635, then direct to cross SEDOC at or above 9300, then on depicted route to cross OENNS at or above 13100. Thence . . . .

. . . on (transition), maintain 16200, expect filed altitude 10 min after departure.

COALDALE TRANSITION (OENNS1.OAL)
FRIANT TRANSITION (OENNS1.FRA)
RBRTS TRANSITION (OENNS1.RBRTS)
SHAFTER TRANSITION (OENNS1.EHF)
RNAV (GPS) RWY 11
MARINA MUNI (OAR)

APP CRS
108°

Rwy Idg 3483
TDZE 137
Apt Elev 137

CIRCLING
640-1
503 (600-1)
NA

600 2700 FOMET

MISSED APPROACH: Climb to 600, then climbing left turn to 2700 direct FOMET and hold, continue climb-in-hold to 2700.

108° to RW11

SW-2, 07 OCT 2021 to 02 DEC 2021

Procedure NA for arrivals at PENNI on V27 northwest bound.

Procedure NA for arrivals at MOVER on V25-87 northwest bound.
RNAV (GPS) RWY 29
MARINA MUNI (OAR)

APP CRS
288°
Rwy Idg 3483
TDZE 137
Apt Elev 137

RNP APCH

NA

AWOS-3PT
134.025

NORCAL APP CON
133.0 251.15

UNICOM
122.7 [CTAF]

MARINA, CALIFORNIA
AL-5271 (FAA)
20254

MISSED APPROACH: Climb to 2700 direct FOMET and hold, continue climb in-hold to 2700.

Procedure NA for arrivals at HAGRO on V25 southeast bound.

MIRL Rwy 11-29

SW-2, 07 OCT 2021 to 02 DEC 2021

Amdt 2 10SEP20

36°41'N-121°46'W

RNAV (GPS) RWY 29
Procedure NA for arrival at COGOL via V459 southeast bound.

Procedure NA for arrival at COGOL via V459 southeast bound.

Procedure NA for arrival at COGOL via V459 southeast bound.

Procedure NA for arrival at COGOL via V459 southeast bound.
DME/DME RNP-0.3 NA. Circling NA north of Rwy 8-26. Procedure NA at night. When local altimeter setting not received, procedure NA.

**Procedure NA for arrivals at HOFED via V459 northwestbound.**

**MISSING APPROACH:** Climb to 7000 direct TOTOY and via 127° track to COGOL and hold.
Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.

Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.

Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.

Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.

Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.

Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.

Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.

Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.

Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.

Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.

Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.

Circling Rwy 5, 23 NA at night. Autopilot coupled approach NA below 695.
RNAV (GPS) RWY 14
YUBA COUNTY (MYV)

MALSR

UNICOM

MARYSVILLE, CALIFORNIA
Orig-D 12NOV15

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Helicopter visibility reduction below ⅝ SM NA. Baro-VNAV and VDP NA when using Lincoln altimeter setting. When local altimeter setting not received, use Lincoln altimeter setting and increase LPV DA to 308 feet, LNAV/VNAV DA to 514 feet and all MDA 60 feet; increase LNAV/VNAV all Cats visibility ⅛ mile, LNAV Cats C/D visibility ⅛ mile. Inop table does not apply to LPV all Cats. For inop MALSR increase LNAV Cats A/B visibility ¼ mile. Night landing: Rwy 5, 23 NA.

ASOS

118.475

NORCAL APP CON

125.4  259.1

UNICOM

123.05 (CTAF)

MISSED APPROACH:
Climb to 4000 direct TUXUY and via track 251° to RADNE and via track 318° to TUXUY and hold.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Lincoln altimeter setting and increase LPV DA to 357 feet, LNAV/VNAV DA to 418 feet and all MDA 60 feet; increase LPV and LNAV/VNAV all Cats visibility ½ mile, LNAV Cats C/D visibility ¾ mile. Night landing: Rwy 5, 23 NA. Baro-VNAV and VDP NA when using Lincoln altimeter setting.

MISSED APPROACH: Climb to 4000 direct HALOW and via track 295° to GRIDD and hold.

<table>
<thead>
<tr>
<th>Category</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPV DA</td>
<td>313-½</td>
<td>250 (300-½)</td>
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<tr>
<td>LNAV/ VNAV DA</td>
<td>374-1½</td>
<td>311 (400-½)</td>
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<tr>
<td>LNAV MDA</td>
<td>480-1</td>
<td>417 (500-1)</td>
<td>480-1½</td>
<td>417 (500-1½)</td>
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<tr>
<td>CIRCLING</td>
<td>540-1</td>
<td>476 (500-1)</td>
<td>540-1½</td>
<td>476 (500-1½)</td>
</tr>
</tbody>
</table>

MARYSVILLE, CALIFORNIA
Orig D 12NOV15

YUBA COUNTY (MYV)
ILS or LOC RWY 30

MERCEDE, CALIFORNIA

APP CRS 304° 5914
Rwy Idg 155
Apt Elev 155

MALSR

For inap ALS, increase S-LOC visibility to 1 SM.

ASOS 132.175
NORCAL APP CON 120.95 269.45
UNICOM 122.7 (CTAF)

RIPME I-MCE 3.9
COOPE INT I-MCE 6.7

RIPME (7) 335°
IF CHOWA INT I-MCE 13.7

EL NIDO 114.2 HYP

LOCALIZER 109.3
I-MCE Chan 30

R -229°
R -100°
255°
R -255°

(IAF)
TEENY INT PXN 25.4

M5A HYP 25 NM

5000
2000
080°
260°
3300
2200

025°
112°
115.6 FRA

255°

Procedure NA for arrivals at TURLO on V23 northwest bound.

Procedure NA for arrival on FRA VORTAC airway radials 202 CW 302.

Procedure NA for arrivals at TURLO on V23 northwest bound.

Procedure NA for arrivals at TURLO on V23 northwest bound.

*LOC only
I-MCE 3.9

I-MCE 6.7

GS 3.00° TCH 33

ELEV 155
PDZE 155

REIL Rwy 12
HIRL Rwy 12-30

FAF to MAP 5.6 NM

Knots 60 90 120 150 180
Min:Sec 5:36 3:44 2:48 2:14 1:52

RIPME FIX MINIMUMS

S-LOC 30 640-3/4 485 (500-3/4) 640-1 485 (500-1)

S-LOC 30

S-LOC 30 500-3/4 345 (400-3/4)

RIPME 30°

TURLO 0.9 NM

MALSR 485 (500-1)

For inop ALS, increase S-LOC visibility to 1 SM.

PROBE ONLY

I-MCE 109.3
 Chan 30

R -229°
R -100°
255°
R -255°

(IAF)
TEENY INT PXN 25.4

M5A HYP 25 NM

5000
2000
080°
260°
3300
2200

025°
112°
115.6 FRA

255°

Procedure NA for arrivals at TURLO on V23 northwest bound.

Procedure NA for arrival on FRA VORTAC airway radials 202 CW 302.

Procedure NA for arrivals at TURLO on V23 northwest bound.

Procedure NA for arrivals at TURLO on V23 northwest bound.

*LOC only
I-MCE 3.9

I-MCE 6.7

GS 3.00° TCH 33

ELEV 155
PDZE 155

REIL Rwy 12
HIRL Rwy 12-30

FAF to MAP 5.6 NM

Knots 60 90 120 150 180
Min:Sec 5:36 3:44 2:48 2:14 1:52

RIPME FIX MINIMUMS

S-LOC 30 640-3/4 485 (500-3/4) 640-1 485 (500-1)

S-LOC 30

S-LOC 30 500-3/4 345 (400-3/4)

RIPME 30°

TURLO 0.9 NM

MALSR 485 (500-1)
**RNAV (GPS) RWY 12**

**MERCED RGNL/MACREADY FLD (MCE)**

**ASOS**
132.175

**NORCAL APP CON**
120.95 269.45

**UNICOM**
122.7 (CTAF)

**Rwy 12**
Helicopter visibility reduction below 3/4 SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C.

**RNAV (GPS) RWY 12**

**MISSED APPROACH:** Climb to 3600 direct CHOWA and hold.

**ASI**

**WICKK**

**CHOWA**

**MISSED APCH FIX**

**MERCE RGNL/MACREADY FLD (MCE)**

**MERCED, CALIFORNIA**

Amdt 1 15AUG19

37°17’N-120°31’W
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C. For inoperative ALS, increase LNAV Cats C/D visibility to 1.5 SM. Circling NA northeast of Rwy 12-30.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C. For inoperative ALS, increase LNAV Cats C/D visibility to 1.5 SM. Circling NA northeast of Rwy 12-30.

Procedure NA for arrivals at EBTUW on V23 northwest bound.

Procedure NA for arrival on PXN VORTAC airway radials 296 CW 061.
MERCED, CALIFORNIA

LOC/DMC I-MCE
109.3
Chans 30

APP CRS
123°
Rwy Ldg
5914
TDZE
155
Apt Elev
155

DME or RADAR required.

V NA Rwy 12 helicopter visibility reduction below 3/4 SM NA.

Circling NA northeast of Rwy 12-30.

MISSED APPROACH: Climb to 1000 then climbing right turn to 3000 direct MOD VOR/DME and hold.

ASOS
132.175

NORCAL APP CON
120.95 269.45

UNICOM
122.7 (CTAF)

MERCED RGNL/MACREADY FLD (MCE)

BACK COURSE

ELEV 155
TDZE 155

Alg 797

LOCALIZER 109.3
I-MCE MOD 114.6
IF AJOJO
M-115 MOD 17.5
RADAR

MODESTO
MOD 114.6
Chan 93

Disregard glide slope indications.

MODESTO MOD 114.6 Chan 93

123° 5.6 NM from FAF

123°

5.6 NM from FAF

S-12
640-1 485 (500-1)

640-1/3 485 (500-1/3)

640-1/2
720-2

640-1 485 (500-1)

640-1/2
720-2

640-1 485 (500-1)

640-1/2
720-2

640-1 485 (500-1)

640-1/2
720-2

640-1 485 (500-1)

640-1/2
720-2

640-1 485 (500-1)

640-1/2
720-2

37°17’N-120°31’W
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES. READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
Use Siskiyou County altimeter setting; when not available, use Montague-Yreka Rohrer Fld altimeter setting; when neither received, procedure not authorized. Circling NA for Cats C and D west of Rwy 17-35.

MISSED APPROACH: Climbing right turn to 6800 direct MOG NDB and hold.

---

**ASOS**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIRCLING</td>
<td>3760-1/4</td>
<td>3760-1 1/2</td>
<td>3980-3</td>
<td>4220-3</td>
</tr>
<tr>
<td>Knots</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td>150</td>
</tr>
<tr>
<td>Min:Sec</td>
<td>2:42</td>
<td>1:48</td>
<td>1:21</td>
<td>1:05</td>
</tr>
</tbody>
</table>

**SEATTLE CENTER** | 124.85 | 306.3

**UNICOM** | 123.0 (CTAF)
**ILS or LOC RWY 10R**

**MONTEREY RGNL (MRY)**

**DME required.**

<table>
<thead>
<tr>
<th>ATIS</th>
<th>NORCAL APP CON</th>
<th>MONTEREY TOWER</th>
<th>GND CON</th>
<th>CLNC DEL</th>
<th>UNICOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>119.25</td>
<td>133.0 251.15 (340°-144°)</td>
<td>118.4 (CTAF) 257.8</td>
<td>120.875 348.6</td>
<td>135.45</td>
<td>122.95</td>
</tr>
</tbody>
</table>

**MISSING APPROACH:** Climb to 5000 then climbing to 5000.

For inop ALS, increase S-ILS 10R all Cats visibility to RVR 6000, and increase S-LOC 10R Cat C and D visibility to 2 SM.

Circling NA south of Ryw 10R-28L.

Procedure NA for arrival on SNS VORTAC airway radials 167 CW 293.

**ILS unusable from 1.7 DME inbound.**

One Minute Holding Pattern

- **ZEBED I-MRY 9.6**
- **MINCK I-MRY 5.9**
- **STENO I-MRY 1.7**

**CATEGORY**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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</thead>
<tbody>
<tr>
<td>S-ILS 10R #</td>
<td>398/24</td>
<td>200 (200-1/2)</td>
<td></td>
<td></td>
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<tr>
<td>S-ILS 10R</td>
<td>583/35</td>
<td>385 (400-1/2)</td>
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<tr>
<td>S-LOC 10R</td>
<td>920/24 722 (700-1/2) 920-1 722 (700-1/2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIRCLING</td>
<td>920-1 663 (700-1) 1280-3 1023 (1100-3) NA</td>
<td></td>
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</table>

**MONTEREY, CALIFORNIA**

**Amdt 29A 10SEP20**

**AL-271 (FAA)**

**21112**

**SW-2, 07 OCT 2021 to 02 DEC 2021**

**36°35'N-121°51'W**

**ILS or LOC RWY 10R**

**MONTEREY RGNL (MRY)**

**MONTEREY, CALIFORNIA**

**Amdt 29A 10SEP20**

**AL-271 (FAA)**

**21112**

**SW-2, 07 OCT 2021 to 02 DEC 2021**

**36°35'N-121°51'W**
For uncompensated Baro-VNAV systems, procedure NA below 0°C (32°F) or above 48°C (120°F). RF required. GPS required.

MISSED APPROACH: Climb to 5500 on track 278° to URUYU, right turn to CUGVU, and on track 101° to SNS VORTAC and hold.

ATIS 119.25
NORCAL APP CON 133.0 251.15 (340°-144°) 127.15 307.125 (145°-339°)
MONTEREY TOWER 118.4 (CTAF) 257.8
GND CON 120.875 348.6
CLNC DEL 135.45
UNICOM 122.95

Procedure NA for arrivals at JEJMA on V111 northbound.

Procedure NA for arrivals at BASEC on V230 eastbound.

Procedure NA for arrivals at CUGVU.

APP CRS
278°
Rwy Idg 7000
TDZE 257
Apt Elev 257

Amdt 1 30APR15

MONTEREY, CALIFORNIA AL-271 (FAA)
RNAV (RNP) Z RWY 28L
MONTEREY RGNL (MRY)

AUTHORIZATION REQUIRED

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNP 0.10 DA</td>
<td>527/45</td>
<td>270 (300-350)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>RNP 0.15 DA</td>
<td>767-1½</td>
<td>510 (600-1½)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>RNP 0.20 DA</td>
<td>1236-3</td>
<td>979 (1000-3)</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

MONTEREY, CALIFORNIA
Amdt 1 30APR15

36°35'N-121°51'W
RNAV (RNP) Z RWY 28L
MONTEREY RGNL (MRY)
Circling NA south of Rwy 10R and 28L. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C or above 54°C. For inop ALS, increase LPV visibility all Cats to 1 SM, LNAV/VNAV visibility all Cats and LNAV Cat C/D to 2 1/2 SM.

**ATIS**

**NORCAL APP CON**

**MONTEREY TOWER**

**GND CON**

**CLNC DEL**

**UNICOM**

- **119.25**
- **133.0 251.15** (340°-144°)
- **127.15 307.125** (145°-339°)
- **118.4 (CTAF)**
- **120.875 348.6**
- **135.45**
- **122.95**

**RNAV (GPS) RWY 10R**

**MONTEREY RGNL (MRY)**

**MONTEREY, CALIFORNIA**

**AL-271 (FAA)**

**RNAV (GPS) RWY 10R**

**MONTEREY RGNL (MRY)**

**MONTEREY, CALIFORNIA**

**Amdt 1A 10SEP20**

**36°35'N-121°51'W**

**143**
RNAV (GPS) Y RWY 28L
MONTEREY RGNL (MRY)

Circling NA South of Rwy 28L-10R. DME/DME RNP-0.3 NA. Helicopter visibility reduction below RVR 4000 NA.

Procedure NA for arrivals at SNS VORTAC airway radials 068 CW 167.

Final approach course offset 16.76°

Procedure NA for arrivals at WIGGL on V23 southeast bound.

 CATEGORY | A | B | C | D
---|---|---|---|---
LP MDA | 1080/55 | 1080/60 | 1080-2\(\frac{1}{2}\) | NA
| 823 (900-1) | 823 (900-1 ¼) | 823 (900-1 ½) | |
LNAV MDA | 1120/55 | 1120/60 | 1120-2\(\frac{1}{2}\) | NA
| 863 (900-1) | 863 (900-1 ¼) | 863 (900-1 ½) | |
CIRCLING | 1120-1\(\frac{1}{4}\) | 863 (900-1 ¼) | 1260-3 | NA
| 1003 (1100-3) | | | |

MONTEREY, CALIFORNIA
Amdt 1 30APR15
Circling NA south of Rwy 10R-28L. Rwy 28L helicopter visibility reduction below 3/4 SM NA.

MISSED APPROACH: Climb to 3000 then climbing right turn to 5000 on heading 360° and SNS VORTAC R-264 to SNS VORTAC and hold.

Procedure NA for arrival on SNS VORTAC airway radials 083 CW 188.

Localizer 110.7
Channel 44

SALINAS
Chan 120

117.3 SNS
Chan 120

R-264 to SNS VORTAC and hold.

HDG 360° and SNS VORTAC

One Minute

- LOC RWY 28L
- MONTEREY RGNL (MRY)
- 36°35'N-121°51'W

Amdt 5  30JAN20
RADAR REQUIRED

Weather Minimums: 3000 foot ceiling and 3 SM visibility.

Vertical Guidance Navaid and Angle: Rwy 28L PAPI (GS 3.50°)

RACEWAY VISUAL APPROACH RWY 28L

PROCEDURE NOT AUTHORIZED AT NIGHT.

From the east, proceed to Salinas Municipal Airport, then proceed southwest, remaining east of State Highway 68 until abeam Laguna Seca Raceway.

From the southeast, proceed from CHRLE on 278° course to HUTAD (1 mile south of Laguna Seca Raceway).

RACEWAY VISUAL RWY 28L

MONTEREY RGNL (MRY)

MONTEREY, CALIFORNIA

Amdt 1 31DEC20

MONTEREY BAY

CARMEL BAY

CARMEL VALLEY ROAD

LAGUNA SECA RACEWAY

OKUPE

PUNTO PINOS LIGHTHOUSE

LOCALIZER 110.7 I-MTB 17.5

Chan 44

HUTAD 1500

MARINA JUMP ZONE

MARINA MUNI

SALINAS MUNI 4500

SALINAS 117.3 SNS 120

Chan 120

ROUTE 101

ROUTE 1

SW-2, 07 OCT 2021 to 02 DEC 2021

SW-2, 07 OCT 2021 to 02 DEC 2021

SW-2, 07 OCT 2021 to 02 DEC 2021

SW-2, 07 OCT 2021 to 02 DEC 2021
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
MONTEREY FIVE DEPARTURE

**TOP ALTITUDE:**

7000

**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF MINIMUMS**

Rwy 10L: Standard with minimum climb of 360' per NM to 1300.
Rwy 10R: Standard with minimum climb of 390' per NM to 1200.
Rwy 28L: Standard with minimum climb of 310' per NM to 1100.
Rwy 28R: Standard.

**NOTE:** Chart not to scale.

**TAKEOFF RUNWAYS 10L/R:** Climbing left turn heading 329°. Thence.

**TAKEOFF RUNWAYS 28L/R:** Climb heading 278° until leaving 1100 or as directed by Monterey Tower. Then climbing right turn heading 329°. Thence.

. . . . intercept SNS R-264 westbound to SHOEY intersection. Maintain 7000 or assigned altitude. Expect clearance to filed altitude five minutes after departure.
TORO SEVEN DEPARTURE

**TOP ALTITUDE:**
7000

**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAYS 10L/R:** Climbing left turn heading 060°. Expect vectors to filed route after passing SNS R-210. Maintain 7000 or assigned altitude. Expect clearance to filed altitude five minutes after departure.

**LOST COMMUNICATIONS:** If no transmissions are received within one minute after departure, climb direct SNS VORTAC, then via assigned fix/route. Maintain 7000.

NOTE: Chart not to scale.
RNAV (GPS) RWY 14L
MOUNTAIN VIEW, CALIFORNIA

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C or above 54°C.

Procedure NA for arrivals at OAK VOR/DME on V25 and V87 northwest bound.

ATIS
124.175 283.0

NORCAL APP CON
120.1 290.25

MOFFETT TOWER *
119.55 (CTAF) 259.65

GND CON
121.85 278.95

CLNC DEL
296.75

RNAV (GPS) RWY 14L
MOUNTAIN VIEW, CALIFORNIA

ATIS
124.175 283.0

NORCAL APP CON
120.1 290.25

MOFFETT TOWER *
119.55 (CTAF) 259.65

GND CON
121.85 278.95

CLNC DEL
296.75

RNAV (GPS) RWY 14L
MOUNTAIN VIEW, CALIFORNIA

ATIS
124.175 283.0

NORCAL APP CON
120.1 290.25

MOTTRE TOWER *
119.55 (CTAF) 259.65

GND CON
121.85 278.95

CLNC DEL
296.75

RNAV (GPS) RWY 14L
MOUNTAIN VIEW, CALIFORNIA

ATIS
124.175 283.0

NORCAL APP CON
120.1 290.25

MOTTRE TOWER *
119.55 (CTAF) 259.65

GND CON
121.85 278.95

CLNC DEL
296.75

RNAV (GPS) RWY 14L
MOUNTAIN VIEW, CALIFORNIA

ATIS
124.175 283.0

NORCAL APP CON
120.1 290.25

MOTTRE TOWER *
119.55 (CTAF) 259.65

GND CON
121.85 278.95

CLNC DEL
296.75
RNAV (GPS) RWY 14R
MOUNTAIN VIEW, CALIFORNIA

ATIS 124.175 283.0
NORCAL APP CON 120.1 290.25
MOFFETT TOWER 119.55 (CTAF) 259.65
GND CON 121.85 278.95
CLNC DEL 296.75

MIssed Approach: Climb to 540 then climbing left turn to 3200 direct PEYIC and hold.

Procedure NA for arrivals at OAK VOR/DME on V25 and V87 northwest bound.
RNAV (GPS) RWY 32R
MOFFETT FEDERAL AIRFIELD (NUQ)

ATIS
124.175 283.0
NORCAL APP CON
120.1 290.25
MOFFETT TOWER *
119.55 (CTAF) 259.65
GND CON
121.85 278.95
CLNC DEL
296.75

MISSED APCH FIX
4 NM PEYIC

ATIS
124.175 283.0
NORCAL APP CON
120.1 290.25
MOFFETT TOWER *
119.55 (CTAF) 259.65
GND CON
121.85 278.95
CLNC DEL
296.75

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C or above 34°C . For inop ALS, increase LNAV/VNAV all Cats visibility to 1/8 SM and LNAV Cat C/D visibility to 1/8 SM.

MISSED APPROACH: Climb to 3200 direct PEYIC and hold.

37°25'N-122°03'W

MOFFETT FEDERAL AIRFIELD (NUQ)
RNAV (GPS) RWY 32R

RNAV (GPS) RWY 32R
MOFFETT FEDERAL AIRFIELD (NUQ)

RNAV (GPS) RWY 32R
MOFFETT FEDERAL AIRFIELD (NUQ)
MISSED APPROACH: Climb to 500 then climbing left turn to 3200 on heading 285° and on NUQ TACAN R-321 to PEVIC/NUQ TACAN 18 DME and hold.

DME required. RADAR required for procedure entry. TACAN required.

LOC/DME I-MNQ 110.35 Chan 40 (Y) DME required. RADAR required for procedure entry. TACAN required.

ATIS 124.175 283.0

NORCAL APP CON 120.1 290.25

MOFFETT TOWER * 119.55 (CTAF) 259.65

GND CON 121.85 278.95

CLNC DEL 296.75

MOFFETT FEDERAL AIRFIELD (NUQ)

LOC RWY 14L

MOUNTAIN VIEW, CALIFORNIA

AL-410 (FAA)

SW-2, 07 OCT 2021 to 02 DEC 2021

Amdt 1 20JUN19

155
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF MINIMUMS
Rwy 14R/L: Standard with the following minimum climb gradients:
  Rwy 14R: Obstacle climb of 314' per NM to 4900, ATC climb of 332' per NM to 6000.
  Rwy 14L: Obstacle climb of 314' per NM to 4900, ATC climb of 328' per NM to 6000.
Rwy 32R/L: NA, ATC.

NOTE: Chart not to scale.

TAKEOFF RUNWAYS 14L/R: Climb via NUQ R-141 to cross HOOKS/NUQ 20 DME at 6000, thence . . .

. . . via transition.

VALLEY TRANSITION (HOOKS2.SNS): From over HOOKS DME on SNS R-316 to SNS VORTAC.
NOTE: TACAN required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 14L/R: Climb on NUQ R-140 to MEPVE/NUQ 7 DME, then climbing left turn on heading 080° to intercept OAK R-121 at 5000, then on OAK R-121 to cross MOONY INT at or above 5300, thence . . . .

TAKEOFF RUNWAYS 32L/R: Climb on NUQ R-321 to EDOYE/NUQ 3 DME, then climbing right turn on heading 090° to intercept OAK R-121 at 4100, then on OAK R-121 to cross NOCIP/OAK 29 DME at 5000, then on OAK R-121 to cross MOONY INT at or above 5300, thence . . . .

. . . . on (transition), maintain ATC assigned altitude.

AVENAL TRANSITION (SOLN3.AVE): From over MOONY INT on OAK R-121 and AVE R-304 to AVE VOR/DME.

PANOCHE TRANSITION (SOLN3.PXN): From over MOONY INT on PXN R-288 to PXN VORTAC.

SOUTHLAND THREE DEPARTURE (SOLN3.MOONY) 20JUN19

MOFFETT FEDERAL AIRFIELD (NUQ)

MOUNTAIN VIEW, CALIFORNIA

ATIS
121.3 270.35
119.55 259.65
NORCAL DEP CON
121.3 270.35

MOFFETT TOWER
121.85 279.95

CLNC DEL
296.75

GND CON

MOFFETT FEDERAL AIRFIELD (NUQ)

MOUNTAIN VIEW, CALIFORNIA

ATIS
124.175 283.0

MOFFETT FEDERAL AIRFIELD (NUQ)

MOUNTAIN VIEW, CALIFORNIA

ATIS
124.175 283.0
TOP ALTITUDE: ASSIGNED BY ATC

NOTE: TACAN required.

TAKEOFF MINIMUMS

Rwy 14L/R: Standard with minimum climb of 402’ per NM to 5000.
Rwy 32L: Standard with minimum climb of 402’ per NM to 5000.
Rwy 32R: Standard with minimum climb of 250’ per NM to 4000.
Rwy 32L: Standard with minimum climb of 246’ per NM to 4000.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 14L/R: Climb via NUQ R-140 to MEPVE/NUQ 7 DME, then right turn direct to cross OSI VOR/DME at 5000, thence . . . .

TAKEOFF RUNWAYS 32L/R: Climb via NUQ R-321 to EDOYE/NUQ 3 DME, then turn left direct to cross OSI VOR/DME at 4000, thence . . . .

. . . . via RADAR vectors or assigned route.
Autopilot coupled approach NA below 530. Inop table does not apply to S-ILS 1L. Circling Cats A/B/C NA northeast of Rwys 19R and 24. Circling Cat D NA east of Rwy 19L-1R. Circling Rwy 6 NA at night.

MISSED APPROACH: Climb to 500 then climbing left turn to 3200 direct SGD VORTAC and on SGD VORTAC R-230 to BURDE INT/SGD 11.3 DME and hold, continue climb-in-hold to 3200.

ATIS  OAKLAND CENTER  NAPA TOWER  GND CON  CLNC DEL  UNICOM
124.05  127.8  353.5  118.7 (CTAF)  257.8  121.7  127.85  122.95

MALS

SCAGGS ISLAND
112.1 SGD  Rwy 1L
Chan 58

CONCORD
360°  3800

Amdt 1  10OCT19

SW-2, 07 OCT 2021 to 02 DEC 2021

NAPA, CALIFORNIA
AL-281 (FAA)   19283

ILS or LOC Z RWY 1L
NAPA COUNTY (APC)
RNAV (GPS) RWY 6
NAPA COUNTY (APC)

Rwy 6 helicopter visibility reduction below 1 SM NA.
Circling Cats A/B/C NA northeast of Rwy 19R and 24.
Circling Cat D NA east of Rwy 19L-1R.
Straight-in Rwy 6 NA at night, Circling Rwy 6 NA at night.

Procedure NA for arrivals at ROZZA on V301 north bound.
V108 northwest bound and V494 west bound.

Procedure NA for arrivals at SAU VOR/DME on V150.

Procedure NA for arrivals at PYE VOR/DME airway radials 335 CW 144.

Category NA for arrivals at SAU VOR/DME on V150 southwest bound.

ATIS
OAKLAND CENTER
NAPA TOWER
GND CON
CLNC DEL
UNICOM
124.05
127.8 353.5
118.7 (CTAF) 257.8
121.7
127.85
122.95

*2259
*1690
*1041
A490
*1129
*1170

2800
HABAP

057° (6.9)

SIBME

090° (16.4)

2800

(IAF)

HABAP

2600

(IAF)

SAUSALITO

SAU

2800

057°

1700

3.00°

TCH 50

ZAPIX

4200

HABAP

WHTLE

CEBAN

NAPA, CALIFORNIA

Amdt 2 12AUG21

RNP APCH-GPS.

Rwy Idg
TDZE
Apt Elev

5008
21
36

Cisco

0.4% UPL 0.2% UP 0.4% UPL 0.2% UP

34°13'N-122°17'W

NAPA, CALIFORNIA

AIR ROUTE TERMINAL WASHINGTON D.C.

LNAV MDA

480-1 459 (500-1)

1120-1/4 1099 (1100-1/4)

1120-1/2 1099 (1100-1/2)

1120-3 1099 (1100-3)

1180-3 1144 (1200-3)

1180-3 1144 (1200-3)

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1180-3 1144 (1200-3)
RNAV (GPS) Z RWY 1L
NAPA COUNTY (APC)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C. Inop table does not apply to LPV minimums. For inop ALS, increase visibility LNAV/VNAV to ½SM. Missed approach requires minimum climb of 420 feet per NM to 2200. If unable to meet climb gradient see RNAV (GPS) Y RWY 1L.

MISSED APPROACH: Climb to 5000 direct CIVDA and on track 326° to POPES and hold, continue climb-in-hold to 5000.

Category A

LPV DA  217  200 (200-3/4)
LNAV/ VNAV DA  330  313 (300-3/4)
LNAV MDA  560-3/4  543 (600-3/4)  560-1/8  543 (600-1/8)
Rwy 6 helicopter visibility reduction below 1 SM NA. Straight-in Rwy 6 NA at night, Circling Rwy 6 NA at night. Circling Cats A/B/C NA northeast of Rwys 19R and 24. Circling Cat D NA east of Rwy 19L-1R.

**VOR RWY 6**

**NAPA COUNTY (APC)**

**VOR**: SGD 112.1

**APP CRS**: 050°

**Rwy Idg**: 5008

**TDZE**: 21

**Apt Elev**: 36

**ATIS**: 124.05

**OAKLAND CENTER**: 127.8 353.5

**NAPA TOWER**: 118.7 (CTAF) 257.8

**GND CON**: 121.7

**CLNC DEL**: 127.85

**UNICOM**: 122.95

**Procedure NA for arrivals at PYE VOR/DME on V107-301 westbound.**

**MISSED APPROACH**: Climbing left turn to 3200 on heading 193° and SGD VORTAC R-230 to BURDE INT/SGD 11.3 DME and hold, continue climb-in-hold to 3200.
TAKEOFF MINIMUMS
Rwy 19L/R: Standard.
Rwy 1L: Standard with minimum climb of 310’ per NM to 900 or 2400-3 for VCOA.
Rwy 1R: Standard with minimum climb of 360’ per NM to 700 or 2400-3 for VCOA.
Rwy 6: Standard with minimum climb of 440’ per NM to 1700 or 2400-3 for VCOA.
Rwy 24: 300-1½ or standard with minimum climb of 255’ per NM to 300, or alternatively, with standard takeoff minimums and a normal 200’ per NM climb gradient, takeoff must occur no later than 2100’ prior to DER.

SCAGGS ISLAND
112.1 SGD
Chan 58
N38°10.76’-W122°22.39’
L-2-3

TAKEOFF MINIMUMS

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 6: Climb on heading 062° to 700, then turn right direct SGD VORTAC, thence.

TAKEOFF RUNWAYS 1L/R, 24: Turn left direct SGD VORTAC, thence.

TAKEOFF RUNWAYS 19L/R: Turn right direct SGD VORTAC, thence.

VCOA RUNWAYS 1L/R, 6: Obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Napa County Airport at or above 2300, then direct SGD VORTAC, thence.

.. aircraft departing SGD VORTAC on R-165 climb on course. All other aircraft continue climb on SGD VORTAC R-165 to 3000, then turn right direct SGD VORTAC before proceeding on course.
TAKEOFF OBSTACLE NOTES

Rwy 1L: Terrain beginning 7' from DER, 340' left of centerline, up to 37' MSL.
Lighting 10' from DER, 51' right of centerline, 1' AGL/30' MSL.
Vehicles on road beginning 105' from DER, 317' right of centerline, up to 41' MSL.
Vehicles on road and terrain, beginning 105' from DER, 298' left of centerline, up to 43' MSL.
Vehicles on road 203' from DER, 300' left of centerline, 44' MSL.
Vehicles on road beginning 363' from DER, 302' left of centerline, up to 45' MSL.
Vehicles on road 559' from DER, 544' right of centerline, 44' MSL.
Trees beginning 3205' from DER, 790' right of centerline, up to 124' MSL.
Trees beginning 4610' from DER, 306' right of centerline, up to 168' MSL.
Tree 1.1 NM from DER, 2025' right of centerline, 226' MSL.
Trees beginning 1.1 NM from DER, 1674' right of centerline, up to 249' MSL.
Tree 1.1 NM from DER, 1839' right of centerline, 253' MSL.
Trees and terrain beginning 1.1 NM from DER, 1648' right of centerline, up to 282' MSL.
Trees, terrain and fence beginning 1.1 NM from DER, 1634' right of centerline, up to 298' MSL.
Tree and fence 1.7 NM from DER, 3269' right of centerline, up to 345' MSL.
Electrical system, terrain, fence and tree beginning 1.8 NM from DER, 606' right of centerline, up to 129' AGL/446' MSL.
Trees and terrain beginning 2 NM from DER, 542' right of centerline, up to 526' MSL.
Terrain, fence and tree beginning 2 NM from DER, 1089' right of centerline, up to 528' MSL.
Fence, trees, terrain and building beginning 2.1 NM from DER, 2007' right of centerline, up to 5' AGL/554' MSL.
Terrain and trees beginning 2.1 NM from DER, 2139' right of centerline, up to 581' MSL.
Tree 2.2 NM from DER, 3913' right of centerline, 585' MSL.
Trees, terrain, fence, and terrain beginning 2.2 NM from DER, 2013' right of centerline, up to 587' MSL.
Trees and terrain beginning 2.3 NM from DER, 2566' right of centerline, up to 599' MSL.

Rwy 1R: Lighting 43' from DER, 493' right of centerline, 1' AGL/25' MSL.
Sign 51' from DER, 420' left of centerline, 2' AGL/23' MSL.
Poles and vehicles on road beginning 262' from DER, 63' right of centerline, up to 36' AGL/59' MSL.
Vehicles on road 639' from DER, 436' left of centerline, 38' MSL.
Vehicles on road beginning 640' from DER, 95' left of centerline, up to 39' MSL.
Tree 812' from DER, 673' right of centerline, 70' MSL.
Tree 1870' from DER, 470' right of centerline, 71' MSL.
Tree 1.2 NM from DER, 2507' right of centerline, 240' MSL.
Tree 1.2 NM from DER, 2314' right of centerline, 243' MSL.
Trees beginning 1.2 NM from DER, 2143' right of centerline, up to 286' MSL.
Trees, fence and terrain beginning 1.3 NM from DER, 2073' right of centerline, up to 309' MSL.
Tree 1.3 NM from DER, 2552' right of centerline, 322' MSL.
Trees and terrain beginning 1.3 NM from DER, 1204' right of centerline, up to 368' MSL.
Trees, terrain and fence beginning 1.4 NM from DER, 1286' right of centerline, up to 391' MSL.
Trees beginning 1.4 NM from DER, 1312' right of centerline, up to 400' MSL.
Trees, terrain, building and fence beginning 1.4 NM from DER, 2008' right of centerline, up to 417' MSL.
Electrical system, fence and terrain beginning 2.1 NM from DER, 2329' right of centerline, up to 129' AGL/446' MSL.
Transmission line 2.2 NM from DER, 3214' right of centerline, 123' AGL/542' MSL.
Electrical system, fence, pole, terrain and trees beginning 2.2 NM from DER, 1515' right of centerline, up to 116' AGL/544' MSL.
Terrain and fence beginning 2.3 NM from DER, 2076' right of centerline, up to 551' MSL.
Trees, fence, terrain and building beginning 2.3 NM from DER, 1494' right of centerline, up to 561' MSL.
Terrain and tree beginning 2.4 NM from DER, 1626' right of centerline, up to 581' MSL.
Terrain and tree beginning 2.4 NM from DER, 2067' right of centerline, up to 612' MSL.
Terrain and trees beginning 2.4 NM from DER, 2564' right of centerline, up to 643' MSL.
Tree 2.4 NM from DER, 3917' right of centerline, 671' MSL.
Trees beginning 2.5 NM from DER, 1954' right of centerline, up to 687' MSL.

(CONTINUED ON FOLLOWING PAGE)
TAKEOFF OBSTACLE NOTES

Rwy 6: Pole 1' from DER, 59' left of centerline, 3' AGL/37' MSL.
Pole 2' from DER, 60' right of centerline, 2' AGL/36' MSL.
Pole 98' from DER, 480' left of centerline, 34' AGL/67' MSL.
Pole 333' from DER, 476' left of centerline, 34' AGL/68' MSL.
Pole and vehicles on road beginning 573' from DER, 0' left of centerline, up to 33' AGL/69' MSL.
Building 773' from DER, 660' right of centerline, 29' AGL/70' MSL.
Buildings and pole beginning 1104' from DER, 472' right of centerline, up to 37' AGL/80' MSL.
Trees beginning 1288' from DER, 516' left of centerline, up to 98' MSL.
Trees beginning 2082' from DER, 98' right of centerline, up to 113' MSL.
Trees beginning 2306' from DER, 53' right of centerline, up to 130' MSL.
Tree 4681' from DER, 1103' left of centerline, 180' MSL.
Trees beginning 4859' from DER, 1063' left of centerline, up to 187' MSL.
Terrain 5855' from DER, 2050' right of centerline, 195' MSL.
Trees and fence beginning 5865' from DER, 1761' left of centerline, up to 211' MSL.
Trees, terrain and fence beginning 6068' from DER, 1419' right of centerline, up to 281' MSL.
Tree 1 NM from DER, 2035' left of centerline, 212' MSL.
Trees beginning 1 NM from DER, 1796' left of centerline, up to 224' MSL.
Tree 2 NM from DER, 2933' left of centerline, 340' MSL.
Tree 2 NM from DER, 2803' left of centerline, 359' MSL.
Trees beginning 2.1 NM from DER, 3827' right of centerline, up to 386' MSL.
Terrain 2.2 NM from DER, 3202' right of centerline, up to 405' MSL.
Terrain beginning 2.3 NM from DER, 911' right of centerline, up to 464' MSL.
Fence and terrain beginning 2.4 NM from DER, 3273' left of centerline, up to 4' AGL/452' MSL.
Terrain 2.4 NM from DER, 3353' left of centerline, 457' MSL.
Terrain and trees beginning 2.4 NM from DER, 61' left of centerline, up to 525' MSL.
Fence beginning 2.5 NM from DER, 100' right of centerline, up to 6' AGL/519' MSL.

Rwy 19L: Sign and terrain beginning 14' from DER, 125' left of centerline, up to 2' AGL/14' MSL.
Lighting 15' from DER, 429' right of centerline, 1' AGL/14' MSL.
Terrain 49' from DER, 483' left of centerline, 17' MSL.
Navaid 1278' from DER, 816' left of centerline, 35' AGL/52' MSL.
Tree 3852' from DER, 1304' left of centerline, 111' MSL.

Rwy 19R: Lighting 9' from DER, 4' left of centerline, 1' AGL/15' MSL.
Pole 10' from DER, 44' right of centerline, 1' AGL/15' MSL.
Lighting 10' from DER, 96' left of centerline, 3' AGL/17' MSL.
Vehicles on road beginning 350' from DER, 584' left of centerline, up to 34' MSL.
Tree 3158' from DER, 764' left of centerline, 101' MSL.
Tree 3503' from DER, 1006' left of centerline, 104' MSL.

Rwy 24: Vehicles on road and general utility beginning 56' from DER, 125' right of centerline, up to 21' MSL.
General utility 59' from DER, 122' left of centerline, 4' AGL/17' MSL.
Vehicles on road beginning 60' from DER, 18' left of centerline, up to 25' MSL.
Vehicles on road beginning 167' from DER, 9' right of centerline, up to 22' MSL.
Vehicles on road beginning 354' from DER, 259' right of centerline, up to 26' MSL.
Trees beginning 1455' from DER, 776' left of centerline, up to 76' MSL.
Trees beginning 2324' from DER, 540' left of centerline, up to 90' MSL.
Tree 2650' from DER, 527' left of centerline, 93' MSL.
Tree 4535' from DER, 554' left of centerline, 135' MSL.
Vehicles on road and bridge beginning 4943' from DER, 1631' right of centerline, up to 165' AGL/170' MSL.

NAPA, CALIFORNIA
NAPA COUNTY (APC)

NAPA, CALIFORNIA
NAPA COUNTY (APC)
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/ R: Climbing left turn direct SGD VORTAC, proceed outbound on the SGD R-127 to LIZRD INT. Cross LIZRD INT at or above 3200. Thence. . . .

TAKEOFF RUNWAYS 19L/ R: Climb on heading 180° to intercept and proceed outbound on the SGD R-127 to LIZRD INT. Cross LIZRD INT at or above 3200. Thence. . . .

TAKEOFF RUNWAY 24: Climbing left turn on heading 180° to intercept and proceed outbound on the SGD R-127 to LIZRD INT. Cross LIZRD INT at or above 3200. Thence. . . .

. . . . on (transition) or (assigned route). Maintain ATC assigned altitude.

CROIT TRANSITION (LIZRD5.CROIT): From over LIZRD on PYE R-075 to CROIT.

OAKLAND TRANSITION (LIZRD5.OAK): From over LIZRD on SGD R-127 and OAK R-347 to OAK VOR/DME.

POINT REYES TRANSITION (LIZRD5.PYE): From over LIZRD on PYE R-075 to PYE VOR/DME.
NOTE: RADAR required.

**TOP ALTITUDE: ASSIGNED BY ATC**

**MERLOT THREE DEPARTURE**

**CHART NOT TO SCALE.**

**NOTE:** Chart not to scale.

**TAKEN OFF MINIMUMS**

- **Rwy 1L:** Standard with minimum climb of 420’ per NM to 2900.
- **Rwy 1R:** Standard with minimum climb of 460’ per NM to 3000.
- **Rwy 6:** Standard with minimum climb of 430’ per NM to 1600.
- **Rwy 19L:** Standard with minimum climb of 320’ per NM to 1500.
- **Rwy 19R:** Standard with minimum climb of 330’ per NM to 1600.
- **Rwy 24:** Standard with minimum climb of 255’ per NM to 1300.

- **RED BLUFF**
  - **N40°05.93'|| W122°14.18’**
  - **L2, H-3**

- **WILLAMS**
  - **N39°04.27'|| W112°01.63’**
  - **L2-3, H-3**

- **MENDOCINO**
  - **N39°03.19'|| W123°16.46’**
  - **L2, H-3**

- **SCAGGS ISLAND**
  - **N38°10.76’|| W122°52.07’**
  - **L2-3, H-3**

- **POINT REYES**
  - **N38°04.79’|| W122°31.37’**
  - **L2-3, H-3**

- **SAUSALITO**
  - **N37°51.32’|| W122°31.37’**
  - **L2-3**

- **OAKLAND**
  - **N37°43.56’|| W122°13.42’**
  - **L2-3, H-3**

- **CONCORD**
  - **N38°02.70’|| W122°02.71’**
  - **L2-3**

- **WILLAMS**
  - **N38°04.79’|| W122°31.37’**
  - **L2-3, H-3**

**ASSIGNED BY ATC**

**TOP ALTITUDE:**

- **SW-2, 07 OCT 2021 to 02 DEC 2021**

**NARRATIVE ON FOLLOWING PAGE**

**MERLOT THREE DEPARTURE**

**(MER3.SGD) 20310**

**AL-281 (FAA)**

**NAPA COUNTY (APC)**

**NAPA, CALIFORNIA**
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climb on heading 006° (or climbing left turn on ATC assigned heading 186° CW 006°); thence.

TAKEOFF RUNWAY 6: Climbing right turn on assigned heading between 130° CW 242°; thence.

TAKEOFF RUNWAYS 19L/R: Climb on heading 186° (or ATC assigned heading 130° CW 270°); thence.

TAKEOFF RUNWAY 24: Climb on heading 242° (or ATC assigned heading 130° CW 270°); thence.

. . . . expect vectors to join assigned route. Maintain ATC assigned altitude; expect filed altitude/flight level ten minutes after departure.

LOST COMMUNICATIONS

If not in contact with Oakland Center after reaching 4000, proceed to the SGD VORTAC and hold.
TOP ALTITUDE: ASSIGNED BY ATC

NOTE: RNAV 1.

NOTE: DME/DME/IRU or GPS required.

NOTE: RADAR required.

NOTE: For non-GPS equipped aircraft, PYE, MOD, FMG, MVA, HZN, and OAL DMEs must be operational for JSICA transition.

NOTE: For non-GPS equipped aircraft, PYE, MVA, and HZN DMEs must be operational for INSLO transition.

NOTE: For non-GPS equipped aircraft, PYE and SWR DMEs must be operational for MUSTANG transition.

NOTE: Chart not to scale.

( NARRATIVE ON FOLLOWING PAGE)
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1L: Climb on heading 006° to intercept course 290° to FIRTO at or above 2700, then on track 350° to OZIEE at or above 6000, thence. . . .

TAKEOFF RUNWAY 1R: Climb on heading 006° to intercept course 291° to FIRTO at or above 2700, then on track 350° to OZIEE at or above 6000, thence. . . .

TAKEOFF RUNWAY 19L: Climb on heading 186° to intercept course 269° to KLARK, then on track 342° to FIRTO at or above 2700, then on track 350° to OZIEE at or above 6000, thence. . . .

TAKEOFF RUNWAY 19R: Climb on heading 186° to intercept course 272° to KLARK, then on track 342° to FIRTO at or above 2700, then on track 350° to OZIEE at or above 6000, thence. . . .

TAKEOFF RUNWAY 24: Climb on heading 242° to intercept course 265° to KLARK, then on track 342° to FIRTO at or above 2700, then on track 350° to OZIEE at or above 6000, thence. . . .

. . . . . . on (transition). Maintain ATC assigned altitude. Expect filed altitude 10 minutes after departure.

COALDALE TRANSITION (OZIEE4.OAL)
INSLO TRANSITION (OZIEE4.INSLO)
JSICA TRANSITION (OZIEE4.JSICA)
MUSTANG TRANSITION (OZIEE4.FMG)
RED BLUFF TRANSITION (OZIEE4.RBL)
RNAV (GPS) RWY 13
GNOSS FLD (DVO)


Procedure NA for arrivals at ROZZA on V301 northbound, V108 northwest bound and V494 westbound.

Final approach course offset 6.56°.

ORIBY

3000

140°

2000

3.69° TCH 35

3.1 NM to GOVLE

EYEJI

1379

471±

416±

A1365±

A838

A1483

1280 1920 1920

51532 (4.8)

554±

471±

3.1 NM to SCAGGS ISLAND VORTAC and hold,
continue climb-in-hold to 4200.

AWOS-3P

120.675

OAKLAND CENTER

127.8 353.5

UNICOM

123.075 (CTAF)


Procedure NA for arrivals at ROZZA on V301 northbound, V108 northwest bound and V494 westbound.

Final approach course offset 6.56°.

ORIBY

3000

140°

2000

3.69° TCH 35

3.1 NM to GOVLE

EYEJI

1379

471±

416±

A1365±

A838

A1483

1280 1920 1920

51532 (4.8)

554±

471±

3.1 NM to SCAGGS ISLAND VORTAC and hold,
continue climb-in-hold to 4200.

AWOS-3P

120.675

OAKLAND CENTER

127.8 353.5

UNICOM

123.075 (CTAF)


Procedure NA for arrivals at ROZZA on V301 northbound, V108 northwest bound and V494 westbound.

Final approach course offset 6.56°.

ORIBY

3000

140°

2000

3.69° TCH 35

3.1 NM to GOVLE

EYEJI

1379

471±

416±

A1365±

A838

A1483

1280 1920 1920

51532 (4.8)

554±

471±

3.1 NM to SCAGGS ISLAND VORTAC and hold,
continue climb-in-hold to 4200.
RNAV (GPS) RWY 10

OAKDALE (027)

MOD ASOS 127.7
NORCAL APP CON 125.1 363.2
UNICOM 122.8 (CTAF)

HOLD 3000 2000

Procedure NA for arrivals at MOD VOR/DME on V113 southbound.

VGSI and RNAV glidepath not coincident (VGSI Angle 2.50/TCH 26).

4 NM Holding Pattern

Moter

OAKDALE, CALIFORNIA

Amdt 2A 07OCT21
RNAV (GPS) RWY 28

OAKDALE, CALIFORNIA

Amdt 2 22JUN17

37°45'N-120°48'W

OAKDALE (O27)
DME required. Use Modesto altimeter setting, when not received, use Stockton altimeter setting and increase all MDA 40 feet. 

MISSED APPROACH: Climb to 3000 on heading 027° and LIN R-124 to WRAPS INT/LIN 16.7 DME and hold, continue climb-in-hold to 3000.
ILS or LOC RWY 12
METRO OAKLAND INTL (OAK)

DME required. From RAIDR: RNAV 1-GPS required.

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

D-ATIS 133.775
NORCAL APP CON 125.35 263.15

OAKLAND TOWER
(Owys 10L/R-28L/R, 15-33)
121.9
(Rwys 10L/R-28L/R, 15-33)
121.75 (Rwy 12-30)

OAKLAND, CALIFORNIA
AL-294 (FAA)

OAKLAND, CALIFORNIA
OAKLAND, CALIFORNIA

MISSING APPROACH: Climb on heading 116° and on OAK VOR/DME R-131 to cross HISIS/OAK 2.8 DME or at below 1600 then climb to 5100 on heading 090° and on OAK VOR/DME R-114 to DECOT INT/OAK 11 D/MD/RADAR and hold, continue climb-in-hold to 5100.

LOCALIZER 111.9
I-IAAZ 114.1

ALTERNATE MISSED APCH FIX
SAN JOSE SJC 114.1
Chan 88

GS 2.75°
TCH 55

6.1 NM
6 NM

CATEGORY

S-ILS 12
S-LOC 12
CIRCLING

209/24
200 (200-1/2)
460/24 451 (500-1/2)
460/45 451 (500-1/2)
560-1 551 (600-1)

111.9
116°

2900

OAKLAND INTL
OAK

PLAZA INT
OAK

OAK

HISIS
OAK

OAK

DECOT

116.8 OAK
Chan 115

SAN FRANCISCO
115.8 SFO
Chan 105

156°

1800

REIL Rwy 10R
TDZ/CL Rwy 30
MIRL Rwy 15-33
HIRL Rwy 12-30, 10L-28R, 10R-28L

FAD to MAP 6 NM

Knots
Min:Sec

180
2:24

2:00
150
3:00
120
4:00
90
6:00

1294°

1953°

2029°

2212°

114°

116°

1569°

1814°

1974°

21168°

2268°

105°

2600°

286°

308°

340°

380°

289°

296°

113.9 OSI
Chan 86

116° 6 NM from FAF

from FAF

OAKLAND TOWER
(Owys 10L/R-28L/R, 15-33)
121.9
(Rwys 10L/R-28L/R, 15-33)
121.75 (Rwy 12-30)

OAKLAND, CALIFORNIA
OAKLAND, CALIFORNIA

AL-294 (FAA)

OAKLAND, CALIFORNIA
OAKLAND, CALIFORNIA

ALCAT INT
OAK

12.5

116°

1800

VGS1 and ILS glidepath not coincident [VGS1 Angle 2.75/TCH 70].
ILS RWY 12 (SA CAT I)
METRO OAKLAND INTL (OAK)

DME required. From RAIRD: RNAV 1-GPS required.

MISSED APPROACH: Climb on heading 116° and on OAK VOR/DME R-131 to cross HISIS/OAK 2.8 DME at or below 1600 then climb to 5100 on heading 090° and on OAK VOR/DME R-114 to DECOT INT/OAK 11 DME/RADAR and hold, continue climb-in-hold to 5100.
RNAV (RNP) Z RWY 12
METRO OAKLAND INTL (OAK)

For uncompensated Baro-VNAV systems, procedure NA below
0°C or above 54°C. For inop ALS increase RNP 0.15 visibility
all Cats to RVR 4500, RNP 0.30 visibility all Cats to RVR 5500.

See planview for multiple IF locations.

VGS and RNAV glidepath not coincident
(VGS Angle 2.75°/TCH 70).

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNP 0.15 DA</td>
<td>289/24</td>
<td>280 (300-½)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RNP 0.30 DA</td>
<td>386/35</td>
<td>377 (400-½)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AUTHORIZATION REQUIRED

METRO OAKLAND INTL (OAK)

37°43'N-122°13'W

RNAV (RNP) Z RWY 12

OAKLAND, CALIFORNIA

Appr Crs
116°

RNAV (RNP) Z RWY 12

ADTIS 133.775
NorCal App Con 125.35 263.15

OAKLAND TOWER
118.3 291.65
(Revys 10L/R 28L/R, 15-33)

GND Con
121.9 (Revys 10L/R 28L/R, 15-33)
121.75 (Revys 12-30)

CLNC Del
121.1

CPDLC

MALS Report

OAKLAND, CALIFORNIA

Amdt 2 13SEP18

RNAV (RNP) Z RWY 12

METRO OAKLAND INTL (OAK)

37°43'N-122°13'W

RNAV (RNP) Z RWY 12

OAKLAND, CALIFORNIA

Appr Crs
116°

RNAV (RNP) Z RWY 12

ADTIS 133.775
NorCal App Con 125.35 263.15

OAKLAND TOWER
118.3 291.65
(Revys 10L/R 28L/R, 15-33)

GND Con
121.9 (Revys 10L/R 28L/R, 15-33)
121.75 (Revys 12-30)

CLNC Del
121.1

CPDLC
GPS required. below 0°C (32°F) or above 54°C (130°F).

For uncompensated Baro-VNAV systems, procedure NA to OPLIE and on track 348° to REBAS and hold.

MISSED APPROACH: Climb to 3000 on track 278° to OPLIE and on track 348° to REBAS and hold.
RNAV (GPS) RWY 10L

METRO OAKLAND INTL (OAK)

OAKLAND, CALIFORNIA

APP CRS
109°

Rwy Idg
5336

TDZE
6

Apt Elev
9

DME/DME RNP-0.3 NA.
Helicopter visibility reduction below 3/4 SM not authorized.

OAKLAND TOWER

118.3  291.65 (Rwy 10L/R 28L/R, 15-33)
127.2  256.9 (Rwy 12-30)

GND CON

121.9 (Rwy 10L/R 28L/R, 15-33)
121.75 (Rwy 12-30)

CLNC DEL

121.1

CPDLC

125.35  263.15

DATTS

MISSED APPROACH: Climbing left turn to 5200 direct HAYZE and hold, continue climb-in-hold to 5200.

D-ATIS

133.775

NORCAL APP CON

12168

METRO OAKLAND INTL (OAK)

RNAV (GPS) RWY 10L

Final approach course offset 11.16°.

Header:

OAKLAND, CALIFORNIA

AL-294 (FAA)

190

SW-2, 07 OCT 2021 to 02 DEC 2021

OAKLAND, CALIFORNIA

Amdt 2  18SEP14

37°43′N-122°13′W

RNAV (GPS) RWY 10L

METRO OAKLAND INTL (OAK)

RNAV (GPS) RWY 10L

Procedure NA for arrivals at MICRA on V107-301 westbound.
RNAV (GPS) RWY 10R

MISSED APPROACH: Climbing left turn to 5200 direct HAYZE and hold, continue climb-in-hold to 5200.

Procedure NA for arrivals at MICRA on V107-301 westbound.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F), DME/DME RNP-0.3 NA. #RVR 1800 authorized with use of FD or AP or HUD to DA.

MALSR: Climb direct HISIS to cross HISIS at or below 1600, then climb to 5400 on track 111° to DECOT and hold, continue climb-in-hold to 5400.

MISSED APPROACH: Climb direct HISIS to cross HISIS * at or below 1600, then climb to 5400 on track 111° to DECOT and hold, continue climb-in-hold to 5400.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F), DME/DME RNP-0.3 NA. #RVR 1800 authorized with use of FD or AP or HUD to DA.

MALSR: Climb direct HISIS to cross HISIS at or below 1600, then climb to 5400 on track 111° to DECOT and hold, continue climb-in-hold to 5400.

MISSED APPROACH: Climb direct HISIS to cross HISIS * at or below 1600, then climb to 5400 on track 111° to DECOT and hold, continue climb-in-hold to 5400.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F), DME/DME RNP-0.3 NA. #RVR 1800 authorized with use of FD or AP or HUD to DA.

MALSR: Climb direct HISIS to cross HISIS at or below 1600, then climb to 5400 on track 111° to DECOT and hold, continue climb-in-hold to 5400.

MISSED APPROACH: Climb direct HISIS to cross HISIS * at or below 1600, then climb to 5400 on track 111° to DECOT and hold, continue climb-in-hold to 5400.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F), DME/DME RNP-0.3 NA. #RVR 1800 authorized with use of FD or AP or HUD to DA.

MALSR: Climb direct HISIS to cross HISIS at or below 1600, then climb to 5400 on track 111° to DECOT and hold, continue climb-in-hold to 5400.

MISSED APPROACH: Climb direct HISIS to cross HISIS * at or below 1600, then climb to 5400 on track 111° to DECOT and hold, continue climb-in-hold to 5400.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 0°C (32°F) or above 54°C (130°F), DME/DME RNP-0.3 NA. #RVR 1800 authorized with use of FD or AP or HUD to DA.

MALSR: Climb direct HISIS to cross HISIS at or below 1600, then climb to 5400 on track 111° to DECOT and hold, continue climb-in-hold to 5400.

MISSED APPROACH: Climb direct HISIS to cross HISIS * at or below 1600, then climb to 5400 on track 111° to DECOT and hold, continue climb-in-hold to 5400.
RNAV (GPS) Y RWY 28R
METRO OAKLAND INTL (OAK)

D-ATIS
NORCAL APP CON 125.35 263.15

OAKLAND TOWER 118.3 291.65 (Rwy 10L/R-28L/R, 15-33)
127.2 256.9 (Rwy 12-30)

DME/DME RNP-0.3 NA. For uncompensated Baro-NAV systems,
LNAV/VNAV NA below 1°C (34°F) or above 54°C (130°F).
# RVR 1800 authorized with use of FD or AP or HUD to DA.

MISSED APPROACH: Climb to 3000 direct
ZERMO and on track 335° to REBAS and hold.

 CATEGORY  A  B  C  D
LPV DA #  207/24 200 (200-½)
LNAV/ VNAV DA  387/40 380 (400-¾)
LNAV MDA  440/24 433 (500-½) 440/40 433 (500-½)
CIRCLING  560-1 551 (600-1) 660-1½ 1400-3
651 (700-¼) 1391 (1400-3)

RNAV (GPS) Y RWY 28R
METRO OAKLAND INTL (OAK)

OAKLAND, CALIFORNIA
Amdt 3A 07DEC17

37°43'N-122°13'W
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES. READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

AIRPORT DIAGRAM

OAKLAND, CALIFORNIA

21168

METRO OAKLAND INTL (OAK)

OAKLAND, CALIFORNIA

21168

AIRPORT DIAGRAM

AL-294 (FAA)
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L, 28R: Climb on heading 278° to 520, then direct to cross LEJAY at or below 2000, then on track 296° to CNDEL, then left turn direct to cross PORTE at or below 10000. Thence...

TAKEOFF RUNWAY 30: Climb on heading 296° to 520, then direct to cross LEJAY at or below 2000, then on track 296° to CNDEL, then left turn direct to cross PORTE at or below 10000. Thence...

...on (transition). Maintain 10000, expect filed altitude 10 minutes after departure.

KAYEX TRANSITION (CNDEL5.KAYEX)
KTINA TRANSITION (CNDEL5.KTINA)
NTELL TRANSITION (CNDEL5.NTELL)
SUSEY TRANSITION (CNDEL5.SUSEY)
YYUNG TRANSITION (CNDEL5.YYUNG)

TAKEOFF MINIMUMS
Rwys 10L/R, 12, 15, 33: NA - ATC.
Rwys 28L/R, 30: Standard with minimum climb of 500' per NM to 520.

NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: RADAR required for non-GPS equipped aircraft.

NOTE: Chart not to scale.
NOTE: Chart not to scale.

OAKLAND, CALIFORNIA

NOTE: RADAR required.
NOTE: DME required.

TAKEOFF MINIMUMS
Rwys 10L, 10R, 12, 15, 33: NA - Air Traffic

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L/R: Climb heading 278° for RADAR vectors to PYE R-151, cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000. Thence . . . .

TAKEOFF RUNWAY 30: Climb heading 296° for RADAR vectors to PYE R-151, cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000. Thence . . . .

. . . . intercept and proceed on the PYE R-151 to SEGUL INT, then on PYE R-151 to CYPRS INT, then on MQO R-295 to MCKEY INT, then on assigned (transition). Maintain FL220. Expect clearance to filed altitude ten minutes after departure.

LOST COMMUNICATIONS: After reaching 3000, turn left heading 200° to intercept and proceed on PYE R-151, then resume own navigation.

FELLOWS TRANSITION (COAST9.FLW): From over MCKEY INT on MQO R-295 to MQO VORTAC, then on MQO R-086 and FLW R-266 to FLW VOR/DME.

GAVIOTA TRANSITION (COAST9.GVO): From over MCKEY INT on MQO R-295 to MQO VORTAC, then on MQO R-126 and GVO R-307 to GVO VORTAC.

SAN MARCUS TRANSITION (COAST9.RZS): From over MCKEY INT on MQO R-295 to MQO VORTAC, then on MQO R-116 and RZS R-299 to RZS VORTAC.

SANTA CATALINA TRANSITION (COAST9.SXC): From over MCKEY INT on BSR R-131 to DAISY INT, then on SXC R-287 to SXC VORTAC.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 30: Climb heading 296° to at or above 520, then left turn direct HUSSH, then on depicted route, maintain FL190. Expect filed altitude 10 minutes after departure.

DEDHD TRANSITION (HUSSH2.DEDHD)
GOBBS TRANSITION (HUSSH2.GOBB5)
GRTFL TRANSITION (HUSSH2.GRTFL)
MOGEE TRANSITION (HUSSH2.MOGE5)
ORRCA TRANSITION (HUSSH2.ORRCA)
SYRAH TRANSITION (HUSSH2.SYRAH)
TIPRE TRANSITION (HUSSH2.TIPRE)

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 10L, 10R: Climb on heading 098° to 520, then right turn direct to cross ROWLY at or below 3000, then on track 150° to cross VYYDA at or below 4000, then on track 150° to cross KATFH at or above 6000. Thence . . . .

TAKEOFF RUNWAY 12: Climb on heading 116° to 520, then direct to cross ROWLY at or below 3000, then on track 150° to cross VYYDA at or below 4000, then on track 150° to cross KATFH at or above 6000. Thence . . . .

. . . . on (transition). Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

KAYEX TRANSITION (KATFH3.KAYEX)

KTINA TRANSITION (KATFH3.KTINA)

NTELL TRANSITION (KATFH3.NTELL)

SUSEY TRANSITION (KATFH3.SUSEY)

TAKEOFF MINIMUMS

Rwys 15, 28L/R, 30, 33: NA-ATC.

Rwys 10L/R, 12: Standard with minimum climb of 500’ per NM to 520.

NOTE: RNAV 1.

NOTE: DME/DME/IRU or GPS required.

NOTE: RADAR required for non-GPS equipped aircraft.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L/R and 30: Climbing right turn heading 31.5° for RADAR vectors to assigned route/fix. Maintain ATC assigned altitude. Expect filed altitude ten minutes after departure.

LOST COMMUNICATIONS: If not in contact with departure control after reaching 4000, proceed direct to SAU VOR/DME and hold on SAU R-035. Climb in holding pattern to assigned altitude, then proceed to assigned fix/route.
NOTE: Chart not to scale.

TOP ALTITUDE: ASSIGNED BY ATC

NOTE: RADAR required.
NOTE: DME required.

TAKEOFF MINIMUMS
Rwys 10L, 10R, 12, 15, 33: NA- Air traffic.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L/R: Climb heading 278° for RADAR vectors to SAU R-168, cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000. Thence . . . .

TAKEOFF RUNWAY 30: Climb heading 296° for RADAR vectors to SAU R-168, cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000. Thence . . . .

. . . . . intercept and proceed on the SAU R-168 to SAPLY INT and on BSR R-309 to EUGEN INT, then via assigned (transition). Expect clearance to filed altitude ten minutes after departure.

LOST COMMUNICATIONS: After reaching 3000, turn left heading 200° to intercept and proceed via SAU R-168, then resume own navigation.

SALINAS TRANSITION (NUEVO8.SNS): From over EUGEN INT on SNS R-286 to SNS VORTAC.

SHOEY TRANSITION (NUEVO8.SHOEY): From over EUGEN INT on BSR R-309 to SHOEY INT.
TOP ALTITUDE: ASSIGNED BY ATC

NOTE: Chart not to scale.

NOTE: Use the SILENT, HUSSH, or SUNNE DEPARTURE during the periods of 2200-0700 local in lieu of the OAKLAND DEPARTURE.

NOTE: RADAR required.
NOTE: DME required.

(RNARRATIVE ON FOLLOWING PAGE)
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 10L/R: Climb on heading 098° for RADAR vectors to assigned route/fix, thence.

TAKEOFF RUNWAY 12: Climb on heading 116° for RADAR vectors to assigned route/fix, thence.

TAKEOFF RUNWAYS 28L/R: Climb on heading 278° for RADAR vectors to assigned route/fix. Cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000, thence.

TAKEOFF RUNWAY 30: Climb on heading 296° for RADAR vectors to assigned route/fix. Cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000, thence.

. . . . maintain ATC assigned altitude. Expect filed altitude ten minutes after departure.

LOST COMMUNICATIONS: If not in contact with departure control after reaching 5000’, continue climb to assigned altitude and proceed direct to assigned route/fix.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 10L/R, 12: Climbing right turn heading 270° for RADAR vectors to assigned route/fix, thence. . . .
TAKEOFF RUNWAYS 28L/R: Climb on heading 278° for RADAR vectors to assigned route/fix. Cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000, thence. . . .
TAKEOFF RUNWAY 30: Climb on heading 296° for RADAR vectors to assigned route/fix. Cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000, thence. . . .

. . . .maintain ATC assigned altitude. Expect filed altitude ten minutes after departure.

NOTE: RADAR required.
NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28 L/R: Climbing right turn heading 097° to intercept OAK VOR/DME R-060 to cross SALAD/OAK 13 DME at or above 4000, thence . . . .

. . . . on ALTAM transition. Maintain ATC assigned altitude. Expect filed altitude 10 minutes after departure.

ALTAM TRANSITION (SALAD5.ALTAM): From over SALAD on OAK R-060 to ALTAM.
(SLNT2.REBAS) 21MAY20

SILENT TWO DEPARTURE

(SLNT2.REBAS) 21168

NOTE: Chart not to scale.

TOP ALTITUDE: ASSIGNED BY ATC

D-ATIS
133.775
CLNC DEL
121.1
CPDLC
NORCAL DEP CON
120.9 323.2

RED BLUFF
115.7 RBL
Chan 104
N40°05.93’-W122°14.18’
L-2, H-3

MENDOCINO
112.3 ENI
Chan 70
N39°03.19’-W123°16.46’
L-2, H-3

SAWNA
N38°52.11’-W122°24.11’

WILLIAMS
114.4 IIA
Chan 91

TAKEOFF MINIMUMS
Rwys 10L/R, 12, 15, 28L, 33: NA-ATC.
Rwy 30: Standard with minimum climb of 405’ per NM to 6000.

RED BLUFF
N40°05.93’-W122°14.18’
L-2, H-3

METRO OAKLAND INTL (OAK)
OAKLAND, CALIFORNIA

SILENT TWO DEPARTURE

(SLNT2.REBAS) 21MAY20

SAN FRANCISCO
115.8 SFO
Chan 105

(SLNT2.REBAS) 21168

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 30: Climbing left turn heading 270° to V87 (commence right turn at SFO R-360) to REBAS INT/SFO 19 DME. Cross REBAS INT at or above 6000. Thence . . . .

. . . . (transition). Expect filed altitude 10 minutes after departure.

LINDEN TRANSITION (SLNT2.LIN): From over REBAS INT on LIN R-246 to LIN VOR/DME.

MENDOCINO TRANSITION (SLNT2.ENI): From over REBAS INT on SFO R-342 to SASSU INT, then on ENI R-118 to ENI VORTAC.

RED BLUFF TRANSITION (SLNT2.RBL): From over REBAS INT on SFO R-342 to SAWNA INT, then on RBL R-168 to RBL VORTAC.

SACRAMENTO TRANSITION (SLNT2.SAC): From over REBAS INT on SAC R-216 to SAC VORTAC.
**SKYLINE ONE DEPARTURE**

**NOTE:** Chart not to scale.

**TOP ALTITUDE:**
**ASSIGNED BY ATC**

**TAKEOFF MINIMUMS**
- Rwys 15, 33: NA-ATC.
- Rwys 10L/R, 12: Standard

**NOTE:** RADAR required for Rwys 12, 28L/R, and 30 departures.
**NOTE:** DME required.

**SKYLINE ONE DEPARTURE**

**NOTE:** (SKYL1.WAGES) 15AUG19

**OAKLAND, CALIFORNIA**

**METRO OAKLAND INTL (OAK)**
DEPARTURE ROUTE DESCRIPTION

**TAKEOFF RUNWAYS 10L/R:** Climbing right turn to intercept OAK R-125, to cross SIXDY/OAK VOR/DME 6 DME at or above 1900 and at or below 3000, then climbing right turn to intercept and proceed on the OAK R-135 to cross SIWBI/OAK 15 DME at or above 5000 and to cross SIZXO/OAK 25 DME at or above 9000 and to cross WAGES INT/OAK 50 DME at or above FL200, thence. . . .

**TAKEOFF RUNWAY 12:** Climb on heading 116° for vectors to assigned route/fix, thence. . . .

**TAKEOFF RUNWAYS 28L/R:** Climb on heading 278° for vectors to PYE R-135 to cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000. Intercept and proceed on the PYE R-135 to cross PORTE INT/PYE 40 DME at or above 9000, then on OSI R-285 to OSI VOR/DME, then on OSI R-116 to cross WAGES INT/OSI 35 DME at or above FL200, thence. . . .

**TAKEOFF RUNWAY 30:** Climb on heading 296° for vectors to assigned route/fix. Cross 4 DME northwest of OAK VOR/DME at or above 1400 and at or below 2000, thence. . . .

... on (transition) or (assigned route) maintain ATC assigned altitude. Expect filed altitude 10 minutes after departure.

**LOST COMMUNICATIONS**

**TAKEOFF RUNWAYS 28L/R and 30:** After reaching 3000, turn left heading 200°, intercept and proceed via the PYE R-135. Resume your own navigation.

**AVENAL TRANSITION (SKYL1.AVE):** From over WAGES INT on OSI R-116 and AVE R-298 to AVE VOR/DME.

**FELLOWS TRANSITION (SKYL1.FLW):** From over WAGES INT on FLW R-306 to FLW VOR/DME.

**PANOCHÉ TRANSITION (SKYL1.PXN):** From over WAGES INT on PXN R-274 to PXN VORTAC.
TAKEOFF MINIMUMS
Rwys 10L/R, 12, 15, 33: NA-Air Traffic.

NOTE: RADAR required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L/R, 30: Climbing left turn on heading 120° for vectors to SUNNE. Maintain 5000. Expect higher altitude five minutes after departure.
RNAV (GPS)-A

HAIGH FIELD (O37)

ORLAND, CALIFORNIA

132.2 350.3

UNICOM 122.7 (CTAF) 0

Use Chico altimeter setting; when not received, use Redding altimeter setting and increase all MDA 120 feet. Increase visibility Cat C and D 1/4 SM.

MISSED APPROACH: Climbing left turn to 4800 direct JITIM and hold, continue climb-in-hold to 4800.

Procedure NA for arrivals at TALUM on V23-195 southeast bound.

39°43'N-122°09'W

215
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C (29°F) or above 54°C (130°F). Circling NA northeast of Rwy 13-31. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 650 then climbing right turn to 6000 direct MRGGO and hold, continue climb-in-hold to 6000.

For arrivals at YUBBA on V23 southbound.

VGSI and RNAV glidepath angles not coincident (VGSI Angle 3.00°/TCH 44).

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C (29°F) or above 54°C (130°F). Circling NA northeast of Rwy 13-31. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 650 then climbing right turn to 6000 direct MRGGO and hold, continue climb-in-hold to 6000.

For arrivals at YUBBA on V23 southbound.

VGSI and RNAV glidepath angles not coincident (VGSI Angle 3.00°/TCH 44).

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C (29°F) or above 54°C (130°F). Circling NA northeast of Rwy 13-31. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 650 then climbing right turn to 6000 direct MRGGO and hold, continue climb-in-hold to 6000.

For arrivals at YUBBA on V23 southbound.

VGSI and RNAV glidepath angles not coincident (VGSI Angle 3.00°/TCH 44).

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C (29°F) or above 54°C (130°F). Circling NA northeast of Rwy 13-31. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 650 then climbing right turn to 6000 direct MRGGO and hold, continue climb-in-hold to 6000.

For arrivals at YUBBA on V23 southbound.

VGSI and RNAV glidepath angles not coincident (VGSI Angle 3.00°/TCH 44).
Circling NA northeast of Rwy 13-31. DME required.

MISSED APPROACH: Climbing left turn to 3000 on MYV VOR/DME R-338 to HAZED/MYV 11.6 DME and hold.

DME REQUIRED

Circling NA northeast of Rwy 13-31. DME required.

MISSED APPROACH: Climbing left turn to 3000 on MYV VOR/DME R-338 to HAZED/MYV 11.6 DME and hold.
Circling NA southwest of Rwy 13-31. Rwy 31 helicopter visibility reduction below 1 SM NA. Procedure NA at night. When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase all MDAs 40 feet.

MISSED APPROACH: Climb to 1400 then climbing right turn to 3000 direct SJC VOR/DME and hold.
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

37°27.5'N 122°06.5'W

2443 X  70

13 31

37°28'N

ELEV

AIRPORT DIAGRAM

W 122° 07'W

AL-9216 (FAA)

125.0

GND CON

Palo Alto Tower

ATIS 135.275

Patrol Civil Air

Terminal Run-up Area

Hangars

FBO Hangar

FBO

Helicopter Parking

Palo Alto, California

0.1° W ANNUAL RATE OF CHANGE

JANUARY 2020

VAR 13.3° E

ANNUAL RATE OF CHANGE

JANUARY 2020

VAR 13.3° E

219

AIRPORT DIAGRAM

Palo Alto, California

20086

Palo Alto, California

SW-2, 07 OCT 2021 to 02 DEC 2021

SW-2, 07 OCT 2021 to 02 DEC 2021
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.5°C (5°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Night landing: Rwy 11 NA.

MISSING APPROACH: Climb to 3500 direct XIKIY and on track 216° to HIRUV.

Procedure NA for arrivals at HABAP on V108 northwest bound.

Procedure NA for arrivals at REBAS on V87 southbound.

Procedure NA for arrivals at CROIT on V195 southbound and V108 southeast bound.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
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<tbody>
<tr>
<td>LPV DA</td>
<td>356-1/2</td>
<td>270 (300-3/4)</td>
<td>NA</td>
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<tr>
<td>LNAV/ VNAV DA</td>
<td>701-2/3</td>
<td>621 (701-2/3)</td>
<td>NA</td>
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<td>LNAV MDA</td>
<td>820-1</td>
<td>734 (800-1)</td>
<td>NA</td>
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<tr>
<td>CIRCLING</td>
<td>820-1</td>
<td>730 (800-1)</td>
<td>940-1/4</td>
<td>850 (900-1/4)</td>
</tr>
</tbody>
</table>
VOR RWY 29

PETALUMA MUNI (O69)

Night landing: Rw 11 NA, Rw 29 operational VGSI required, remain on or above VGSI glidepath until threshold. Helicopter visibility reduction below 1 SM NA.

MISSED APPROACH: Climb to 2000 via SGD R-276 then climbing left turn to 3500 direct PYE VOR/DME.

AWOS-3P
132.325

OAKLAND CENTER
127.8 353.5

UNICOM
122.7 (CTAF)

PTA 29

MISA SGD 25 NM

IF/IAF SCAGGS ISLAND
113.7 PYE
Chan 84

POINT REYES
113.7 PYE
Chan 84

AFTIN INT SGD [7]

VORTAC SGD
112.1

AOI

ELEV 90

TDZE 86

DME unusable from SGD VORTAC 11.1 DME to MAP.

REIL Rwy 29 C
MiRl Rwy 11 C

FAF to MAP 4.7 NM

S-29
1260-1½ 1260-1½
1174 (1200-1½) 1174 (1200-1½)

CIRCLING
1260-1½ 1260-1½
1170 (1200-1½) 1170 (1200-1½)

Knots
60 90 120 150 180

Min:Sec
4:42 3:08 2:21 1:53 1:34

Category
A B C D

1260-1½ 1260-1½ 1260-1½ 1260-1½
1174 (1200-1½) 1174 (1200-1½) 1174 (1200-1½) 1174 (1200-1½)

112.1  SGD

Rwy 1dg 3600

VOR RWY 29

UNICOM
122.7 (CTAF)

PETALUMA, CALIFORNIA
AL-6838 (FAA)

20310

38°15’N 122°36’W

221
PLACERVILLE, CALIFORNIA

RNAV (GPS) RWY 5
PLACERVILLE (PVF)

Night landing: Rwy 23 NA. Baro-VNAV NA when using Auburn altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -20°C (-4°F) or above 54°C (130°F). Circling NA northwest of Rwy 5-23. DME/DME RNP-0.3 NA. VDP NA with Auburn altimeter setting. When local altimeter setting not received, use Auburn altimeter setting and increase all DA/MDA 200 feet, and all visibilities 1/4 mile.

AWOS-3 128.125
NORCAL APP CON 127.4 317.5
UNICOM 122.8 (CTAF)

Miscellaneous:
- Misassessment: Climb to 3050 then climbing right turn to 4500 direct TRIPP and hold.

Diagram:
- WAAS CH 78324 W05A
- APP CRS 049° Rwy Idg 3914 TDZE 2585 Apt Elev 2586
- RNAV (GPS) RWY 5
- MSA RW05 25 NM
- 049° Holding Pattern
- 4 NM Holding Pattern
- VGS and RNAV glidepath not coincident (VGS Angle 3.00/TCH 22).
- Category
  - LPV DA 2835 - 1/2 250 (300 - 1/2) NA
  - LNAV/ VNAV DA 2874 - 1 289 (300 - 1) NA
  - LNAV MDA 3040 - 1 455 (500 - 1) NA
  - Circling 3200 - 1 614 (700 - 1) 3440 - 1 4/4 854 (900 - 1 1/4) NA

Amdt 2B 09SEP21

PLACERVILLE (PVF)

RNAV (GPS) RWY 5

38°43'N-120°45'W

SW-2. 07 OCT 2021 to 02 DEC 2021
GPS RWY 12
PORTERVILLE MUNI (PTV)

AWOS: 3PT 134.625

MISSED APPROACH: Climbing right turn to 3100 direct TTE VOR/DME and hold.

One Minute Holding Pattern

CATEGORY A B C D
S-12 800-1 363 (400-1) 800-1 1/2 363 (400-1 1/2)
CIRCLING 880-1 900-1 900-1 1/2 1000-2
438 (500-1) 458 (500-1) 458 (500-1 1/2) 558 (600-2)

Porterville, California
Orig 13AUG98

36°02'N-119°04'W

Porterville, California
AL-569 (FAA)
**GPS RWY 30**

**PORTERVILLE MUNI (PTV)**

**APP CRS**
- **314°**

**AWOS-3PT**
- **134.625**

**UNICOM**
- **122.8 (CTAF)**

**APRT ELEV**
- **442**

**Rwy Idg**
- **5960**

**TDZE**
- **442**

**IAF**
- ARM APPROACH MODE PRIOR TO IAF.
- Helicopter visibility reduction below ¾ SM NA.
- MISSED APPROACH: Climbing left turn to 3100 direct TTE VOR/DME and hold.

**DIRECTIVES**
- ARM APPROACH MODE PRIOR TO IAF.
- Helicopter visibility reduction below ¾ SM NA.
- MISSED APPROACH: Climbing left turn to 3100 direct TTE VOR/DME and hold.

**IAF**
- TURN PROCEDURE
  - **SA**
  - **AR**
  - **RW**
  - **30**

**S-30**
- **900-1 458 (500-1)**

**CIRCLING**
- **900-1 458 (500-1)**

**HELICOPTER VISIBILITY REDUCTION**
- Below ¾ SM NA.

**SW-2**
- **07 OCT 2021 to 02 DEC 2021**

**PORTERVILLE, CALIFORNIA**
- **Orig**
- **01MAY14**
Amdt 1B 08OCT20

Circling to Rwy 33 NA at night. Baro-VNAV and VDP NA when using Redding altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C or above 54°C. When local altimeter setting not received; use Redding altimeter setting and increase LPV DA to 674 feet and increase LNAV/VNAV DA to 860 feet and increase visibility all Cats ½ SM; increase all MDAs 80 feet and LNAV visibility Cats C/D ½ SM and Circling visibility Cats C/D ¾ SM.

MISSED APCH: Climb to 3500 direct TOWAN and hold.

---

**Category**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LPV DA</strong></td>
<td>602-7/8</td>
<td>250 (300-7/8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LNAV/VNAV DA</strong></td>
<td>788-1/4</td>
<td>436 (500-1/4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LNAV MDA</strong></td>
<td>780-1</td>
<td>428 (500-1)</td>
<td>780-1/4</td>
<td>428 (500-1/4)</td>
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<tr>
<td><strong>CIRCLING</strong></td>
<td>860-1</td>
<td>508 (600-1)</td>
<td>900-1/2</td>
<td>548 (600-1/2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1060-2/4</td>
<td>708 (800-2/4)</td>
</tr>
</tbody>
</table>

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C or above 54°C. When local altimeter setting not received; use Redding altimeter setting and increase LPV DA to 674 feet and increase LNAV/VNAV DA to 860 feet and increase visibility all Cats ½ SM; increase all MDAs 80 feet and LNAV visibility Cats C/D ½ SM and Circling visibility Cats C/D ¾ SM.

MISSED APCH: Climb to 3500 direct TOWAN and hold.
RNAV (GPS) RWY 33
RED BLUFF MUNI (RBL)

Baro-VNAV NA when using Redding altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 1.5°C (5°F) or above 48°C (118°F). DME/DME RNP-0.3 NA.

When local altimeter setting not received, use Redding altimeter setting and increase all DA/MDA 80 feet and increase LPV all Cats visibility 1/4 SM, LNAV/VNAV all Cats visibility 1/4 SM, LNAV Cat C visibility 1/4 SM and Circling Cats C and D visibility 1/2 SM.

**MISSED APPROACH:**
Climb to 4000 direct PUVGE and track 028° to HOMAN and hold.

**ASOS**
120.775

**UNICOM**
123.0 (CTAF)

151° (13.6)

3500 to TOWAN

TOWAN Holding Pattern

151°

3500

GONGS on T261 southbound.

Procedure NA for arrivals at GONGS on T261 southbound.

Procedure NA for arrivals on RBL VORTAC airway radials 122 CW 185.
When local altimeter setting not received, use Redding altimeter setting and increase all MDAs and all Cat C/D visibility 1/2 SM. VDP NA with Redding altimeter setting.

MISSED APPROACH: Climb to 2000 direct RBL VORTAC and hold.

**ASOS** 120.775  
**OAKLAND CENTER** 132.2 350.3  
**UNICOM** 123.0 (CTAF)

---

**One Minute Holding Pattern**

- **CABBE RBL 9**
- **JABGU RBL 5.8**
- **RBL 5.2**
- **RBL 3.6**

---

**CIRCLING**

- **RED BLUFF** 115.7 RBL  
  Chan 104  
  **RED BLUFF MUNI (RBL)**

---

RED BLUFF, CALIFORNIA  
Amdt 55 25APR20  
40°09'N-122°15'W
When local altimeter setting not received, use Redding altimeter setting and increase all MDAs 80 feet and all Cat C/D visibilities ¼ SM.

**MISSED APPROACH:** Climb to 1500, then climbing right turn to 2000 direct RBL VORTAC and hold.

<table>
<thead>
<tr>
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<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-33</td>
<td>740-1 388 (400-1)</td>
<td>740-1½ 388 (400-1¼)</td>
<td>900-1½ 548 (600-1½)</td>
<td>1060-2½ 708 (800-2½)</td>
</tr>
</tbody>
</table>

**Notes:**
- Red Bluff, California
- Amdt 8B 23APR20
- Altimeter settings and increase all MDAs 80 feet and all Cat C/D visibilities ¼ SM.
For inop ALS, increase S-ILS 34 Cat E visibility to 3 SM and S-LOC 34 Cat C/D/E visibility to 1 SM.
Rwy 16 helicopter visibility reduction below ¾ SM NA.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 53°C.

Procedure NA for arrivals at SAVOE on T263 northwest bound.

**RNAV (GPS) RWY 16**

**REDDING MUNI (RDD)**

**ATIS**
124.1

**OAKLAND CENTER**
132.2 350.3

**REDDING TOWER**
*119.8 (CTAF) 269.25*

**GND CON**
121.7

**UNICOM**
122.95

**LANV (GPS) RWY 16**

**REDWOOD, CALIFORNIA**

**APP CRS**
166°

**Rwy Idg**

**TDZE**

**Apt Elev**

**W16A**

**WAAS CH 86443**

**W16A**

**REDWOOD, CALIFORNIA**

**APP CRS**
166°

**Rwy Idg**

**TDZE**

**Apt Elev**

**W16A**

**WAAS CH 86443**
**RNAV (GPS) RWY 34**

REDDING MUNI (RDD)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to ½ SM and LNAV Cat C, D visibility to 1 SM.

MISSED APPROACH: Climb to 1700 then climbing right turn to 5000 direct ITMOR, continue climb-in-hold to 5000.

### Category

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<th>C</th>
<th>D</th>
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<td>LPV DA</td>
<td>699½</td>
<td>200 (200½)</td>
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<tr>
<td>LNAV/ VNAV DA</td>
<td>754½</td>
<td>255 (300½)</td>
<td></td>
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</tr>
<tr>
<td>LNAV MDA</td>
<td>860½</td>
<td>361 (400½)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNAV MDA</td>
<td>860½</td>
<td>361 (400½)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIRCLING</td>
<td>940-1</td>
<td>1000-1</td>
<td>1120-1½</td>
<td>1340-2½</td>
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<tr>
<td></td>
<td>435 (500-1)</td>
<td>495 (500-1)</td>
<td>615 (700-14)</td>
<td>835 (900-2¾)</td>
</tr>
</tbody>
</table>

**REDWOOD, CALIFORNIA**

Amdt 2 30JAN20
MISSED APPROACH: Climb to 2000 then climbing left turn to 5000 on heading 015° and RDD VOR/DME R-044 to ITMOR INT/RDD 12 DME and hold, continue climb-in-hold to 5000.

Rwy 16 helicopter visibility reduction below 3/4 SM NA.
**VOR RWY 34**

**REDDING MUNI (RDD)**

**ATIS**
- **124.1**

**OAKLAND CENTER**
- **132.2 350.3**

**REDDING TOWER**
- **119.8 (CTAF) 269.25**

**GND CON**
- **121.7**

**UNICOM**
- **122.95**

**RSR**
- **108.4**

**APR**
- **132.2 350.3**

**REDDING MUNI**
- **108.4**

**RED BLUFF**
- **115.7 RBL**

**APCH FIX**
- **REDemy**
- **R-175 (7200-1) 108.4 Chan 21**

**APCH FIX**
- **REDY**
- **R-175 (7200-1) 108.4 Chan 21**

**MISSED APPROACH**
- Climb to 2100 then climbing right turn to 5300 on heading 090° and on RDD VOR/DME R-044 to ITMOR INT and hold, continue climb-in-hold to 5300.

**REDING, CALIFORNIA**

**Amdt 11 30JAN20**

**20030**

**234**

**AL-688 (FAA)**
HOMAN THREE DEPARTURE

DEPARTURE ROUTE DESCRIPTION

TAKEOFF MINIMUMS:
Rwys 12, 16, 30, 34: Standard with minimum climb of 400' per NM to 4000.

NOTE: Chart not to scale.

TAKEOFF RUNWAYS 12, 16: Climbing left turn within 1 NM, thence . . .
TAKEOFF RUNWAYS 30, 34: Climbing right turn within 1 NM, thence . . .

. . . . Intercept the RDD R-111, to HOMAN INT/RDD 10 DME, cross
HOMAN INT/RDD 10 DME at or above 4000'; then on (transition) or
(assigned route). Expect filed altitude 10 minutes after departure.

RED BLUFF TRANSITION (HOMAN3.RBL): From over HOMAN INT/RDD 10 DME
on RBL R-357 to RBL VORTAC.
REDDING, CALIFORNIA
REDDING MUNI (RDD)

DEPARTURE ROUTE DESCRIPTION

TAKEOFF ROUTES 12 and 16: Climbing right turn heading 264° to intercept RDD VOR/DME R-217 to KENDL, cross KENDL at or above 3000, thence . . .
TAKEOFF ROUTES 30 and 34: Climbing right turn direct RDD VOR/DME then on RDD VOR/DME R-217 to KENDL, cross KENDL at or above 3000, thence . . .
. . . . via (transition) or (assigned route) maintain ATC assigned altitude.

FORTUNA TRANSITION (KENDL4.FOT): From over KENDL on RDD R-217 to TOMAD, thence on RBL R-273 and FOT R-091 to FOT VORTAC.
RED BLUFF TRANSITION (KENDL4.RBL): From over KENDL on RBL R-324 to RBL VORTAC.
TOMAD TRANSITION (KENDL4.TOMAD): From over KENDL on RDD R-217 to TOMAD.
KREST THREE DEPARTURE
REDDING MUNI (RDD)

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 12 and 16: Turn left immediately after departure to intercept and proceed on the RDD R-355 to KREST DME Fix. Cross KREST DME Fix at or above 4000, thence on (transition) or (assigned route).

TAKEOFF RUNWAYS 30 and 34: Turn right immediately after departure to intercept and proceed on RDD R-355 to KREST DME Fix. Cross KREST DME Fix at or above 4000, thence on (transition) or (assigned route).

ITMOR TRANSITION (KREST3.ITMOR): From over KREST DME Fix on RDD 12 DME Arc clockwise to ITMOR INT.

SHATA TRANSITION (KREST3.SHATA): From over KREST DME Fix on RDD 12 DME Arc counterclockwise to SHATA INT.

TOMAD TRANSITION (KREST3.TOMAD): From over KREST DME Fix on RDD 12 DME Arc counterclockwise to RDD R-217, thence on RDD R-217 to TOMAD INT.

NOTE: Rwys 12, 16 and 30 departures require minimum climb of 300' per NM to 4000'.

NOTE: Rwy 34 departure requires minimum climb of 320' per NM to 4000'.

NOTE: DME required.
SHASTA FOUR DEPARTURE

TAKING OFF RUNWAY 12: Climb heading 126° (or ATC assigned 344° CW 234°), thence . . .

TAKING OFF RUNWAY 16: Climb heading 166° (or ATC assigned 354° CW 234°), thence . . .

TAKING OFF RUNWAY 30: Climb heading 306° (or ATC assigned 134° CW 004°), thence . . .

TAKING OFF RUNWAY 34: Climb heading 346° (or ATC assigned 174° CW 004°), thence . . .

. . . expect vectors to join assigned route. Maintain ATC assigned altitude; expect filed altitude/flight level ten minutes after departing.

LOST COMMUNICATIONS: If no contact with Oakland Center after reaching 4000 proceed to RBL VORTAC and hold.

NOTE: RADAR required.

NOTE: Chart not to scale.
RNAV (GPS) RWY 16

REEDLEY MUNI (032)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.5°C (5°F) or above 54°C (130°F). Circling NA east of Rwy 16-34. Baro-VNAV and VDP NA when using Fresno Yosemite Intl altimeter setting. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Fresno Yosemite Intl altimeter setting: increase all DAs 41 feet and all visibilities ½ SM; increase all MDAs 60 feet.

MISSED APPROACH: Climb to 3100 direct DEICE and hold, continue climb-in-hold to 3100.
**RNAV (GPS) RWY 34**

**REEDLEY MUNI (O32)**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C (130°F). Circling NA east of Rwy 16-34. Baro-VNAV and VDP NA when using Fresno Yosemite Intl altimeter setting. Rwy 34 helicopter visibility reduction below 3/4 SM NA. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Fresno Yosemite Intl altimeter setting: increase all DAs 41 feet and all visibilities ½ SM; increase all MDAs 60 feet.

**AWOS-3PT** 120.175  
**FRESNO APP CON** 132.35 323.25  
**UNICOM** 122.7 (CTAF)

### Diagram

- **NA**: For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 54°C (130°F). Circling NA east of Rwy 16-34. Baro-VNAV and VDP NA when using Fresno Yosemite Intl altimeter setting. Rwy 34 helicopter visibility reduction below 3/4 SM NA. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Fresno Yosemite Intl altimeter setting: increase all DAs 41 feet and all visibilities ½ SM; increase all MDAs 60 feet.

### Table

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<td>CIRCLING</td>
<td>860</td>
<td>474 (500-1)</td>
<td>NA</td>
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RNAV (GPS) RWY 25
RIO VISTA MUNI (O88)

AWOS-AV 127.075
TRAVIS APP CON 119.9 322.325
UNICOM 122.725 (CTAF) 0

Circling Rwy 33 NA at night. DME/DME RNP-0.3 NA. VDP NA when using Concord altimeter setting. When local altimeter setting not received, use Concord altimeter setting and increase all MDA 60 feet and increase LP and LNAV Cat C visibility ½ mile and Circling Cat C visibility ⅛ mile.

**MISSED APPROACH:** Climb to 500 then climbing right turn to 3100 direct JIRAG and hold, continue climb-in-hold to 3100.

**AWOS-AV**

RIO VISTA, CALIFORNIA

Amdt 3D 22JUN17
DME or RADAR REQUIRED

FAF to MAP 4.3 NM

MISSED APPROACH: Climb to 1200 then climbing right turn to 2200 via MCC VOR/DME R-344 to BONDZ/MCC B DME/RADAR and hold.

AWOS-3 125.975 NORCAL APP CON 127.4 317.5 CLNC DEL 119.825 UNICOM 122.975 (CTAF)

3900

SW-2, 07 OCT 2021 to 02 DEC 2021

MC CLELLAN AIRFIELD (MCC)
VOR/DME RWY 34
MC CLELLAN AIRFIELD (MCC)

AWOS-3 125.975
NORCAL APP CON 127.4 317.5
CLNC DEL 119.825
UNICOM 122.975 (CTAF)

MISSED APPROACH: Climbing right turn to 2200 via MCC R-344 to BONDZ/MCC 8 DME/RADAR and hold.

WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE SACRAMENTO INTERNATIONAL ALTIMETER SETTING.

WHEN USING SACRAMENTO INTERNATIONAL ALTIMETER SETTING, INCREASE ALL MINIMUMS 40 FEET.

1.4

3.20° TCH 52

5.0 NM

4.9 NM

0.7

0.5

MC CLELLAN
109.2 MCC
Chan 29

BONDZ MCC 8 RADAR

ARDEN MCC 7

KUZIE MCC 12

HIRL Rwy 16-34

ELEV 77

VDPA NA when using Sacramento Intl altimeter setting. When local altimeter setting not received, use Sacramento Intl altimeter setting and increase all MDAs 40 feet.

20310

SACRAMENTO, CALIFORNIA
AL-357 (FAA)

244

SACRAMENTO, CALIFORNIA
Orig C 10NOV16

38°40’N-121°24’W

244

SW-2, 07 OCT 2021 to 02 DEC 2021
AIRPORT DIAGRAM

SACRAMENTO, CALIFORNIA

MC CLELLAN AIRFIELD (MCC)

AL-357 (FAA)

FIELD ELEV 77

FIRE STATION

FBO

AWOS-3
125.975
CTAF/UNICOM
122.975
CLNC DEL
119.825

RWY 16-34
S-155, D-300, 2S-175,
2D-500, 2D/D1-620, C5-840

JANUARY 2020
ANNUAL RATE OF CHANGE
0.1° W

0.1° W

ELEV 70

ELEV 100 X 200

ELEV 70

1000 X 200

20086

20086

38°41’N

38°40’N

38°39’N

38°38’N

38°37’N

38°36’N

38°35’N

38°34’N

38°33’N

38°32’N

38°31’N

38°30’N

38°29’N

38°28’N

38°27’N

38°26’N

38°25’N

38°24’N

38°23’N

38°22’N

38°21’N

38°20’N

38°19’N

38°18’N

38°17’N

38°16’N

38°15’N

38°14’N

38°13’N

38°12’N

38°11’N

38°10’N

38°09’N

38°08’N

38°07’N

38°06’N

38°05’N

38°04’N

38°03’N

38°02’N

38°01’N

38°00’N

20086
When local altimeter setting not received, use Sacramento Intl altimeter setting and increase DA to 322 feet, increase all MDAs 40 feet and Circling C/D visibility ½ SM. Autopilot coupled approach NA below 335 feet. For inop MALSR, increase S-ILS 2 all Cats visibility to ½ SM and S-LOC 2 C/D visibility to 1 SM. For inop MALSR when using Sacramento Intl altimeter setting, increase S-ILS 2 all Cats visibility to ½ SM.

**ATIS**
125.5

**NORCAL APP CON**
125.25 257.9

**EXEC TOWER**
119.5 (CTAF) 278.8

**GND CON**
125.0

**UNICOM**
122.95

---

### Categories

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<tr>
<td>S-LOC 2</td>
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**ATIS**
125.5

**NORCAL APP CON**
125.25 257.9

**EXEC TOWER**
119.5 (CTAF) 278.8

**GND CON**
125.0

**UNICOM**
122.95

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**Category**

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**ATIS**
125.5

**NORCAL APP CON**
125.25 257.9

**EXEC TOWER**
119.5 (CTAF) 278.8

**GND CON**
125.0

**UNICOM**
122.95

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**Category**

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### SACRAMENTO EXEC (SAC) RNAV (GPS) RWY 2

**Data for the Approach**

- **Rwy Idg**: 5503
- **App Crs**: 019°
- **Tdz**: 21
- **Apt Elev**: 24

**App CRS**

<table>
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<tr>
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<th>NORCAL APP CON</th>
<th>EXEC TOWER*</th>
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<td>119.5 (CTAF) 278.8</td>
<td>125.0</td>
<td>122.95</td>
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**RNP APCH-GPS**

- For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1°C or above 54°C. For inop ATIS, increase LNAV/VNAV all. Cat visibility to 3 SM, increase LNAV all. Cat visibility to 1 SM.

**MISSED APPROACH**: Climb to 440 then climbing left turn to 2000 direct JIRAG and hold.

**ATIS**

- 125.5

**NORCAL APP CON**

- 125.25 257.9

**EXEC TOWER**

- 119.5 (CTAF) 278.8

**GND CON**

- 125.0

**UNICOM**

- 122.95

**ASD**

- 6 NM
- 2.5 NM
- 1 NM
- 1 NM

**CATGORY**

<table>
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<tr>
<th>LPV DA</th>
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<th>LNAV MDA</th>
<th>CIRCLING</th>
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<td>221½  200 (200½)</td>
<td>304½ 283 (300½)</td>
<td>400½ 379 (400½)</td>
<td>500-1 476 (500-1)</td>
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<tr>
<td>520-1</td>
<td>560-½ 536 (600-½)</td>
<td>800-2½ 776 (800-2½)</td>
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**Elev**

- 24

**Tdz**

- 21

**MISA RW02 25 NM**

- 3900

**はもちろん、他の飛行機の姿勢を調査してください。**

**CRP**

- 019°

**Procedure NA for arrivals at EMBER on V150 southwest bound.**

- (IAF) EMBER △

**Procedure NA for arrivals at COUPS on V6 southbound.**

- (IAF) COUPS 230K

**Procedure NA for arrivals at VISTO on V334-392 southbound.**

- (IAF) VISTO △

**MISSED APPROACH**

- Climb to 440 then climbing left turn to 2000 direct JIRAG and hold.
When local altimeter setting not received, use Sacramento Intl altimeter setting and increase all MDAs 40 feet and Circling. Cat D visibility 1/2 SM.

MISSED APPROACH: Climbing left turn to 1600 direct SAC VORTAC and hold.

One Minute Holding Pattern

CATEGORY

A
B
C
D
S-2
520-1/2
499 (500-1/2)
520-1
499 (500-1)
CIRCLING
520-1
496 (500-1)
560-1/2
536 (600-1/2)
800-2/2
776 (800-2/2)
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
ILS or LOC RWY 17L
SACRAMENTO INTL (SMF)
ILS or LOC RWY 17R
SACRAMENTO INTL (SMF)

**Missed Approach**: Climb to 500 then climbing right turn to 2000 on heading 350° and SAC VORTAC R-329 to GRIME INT/SAC 35.2 DME and hold.

**RNAV 1-GPS or RADAR required for procedure entry.**
From TECNO: RNAV 1-GPS required. DME or RADAR required.

**Simultaneous approach authorized. Circling NA east of Rwy 17R-35L.**

### D-ATS
- 126.75

### NORCAL APP CON
- 125.4 259.1 (W-NE)
- 125.25 257.9 (SW)
- 127.4 317.5 (E-SE)

### CAPITOL TOWER
- 125.7 256.7

### GND CON
- 121.7 256.7

### CLINC DEL
- 121.1 256.7

### MSA SAC 25 NM
- 111°
- 4100
- 2700
- 3100

### ALTERNATE MISSED APCH FIX
- WILLIAMS
- IIA
- 114.4
- Chan 91

### LOCALIZER
- 111.1
- Chan 91

### APP CRS
- 168°

### TDZE
- 25

### Rwy Ldg
- 8598

### Apt Elev
- 27

### Rwy Idg
- 116.4

### R-086
- SAC
- Chan 91

### R-329
- I-SMF 18.6

### IAF
- 115.2
- SAC
- Chan 99

### I-SMF
- 18

### Chan 99

### TDZE
- 237°
- (10.6)

### I-SMF
- 9.3

### FAPIN
- 111.1
- Chan 91

### CDC
- 35.2

### GND CON
- 125.7 256.7

### CAPITOL TOWER
- 125.7 256.7

### GND CON
- 121.7 256.7

### CLINC DEL
- 121.1 256.7

### CPDLC
- 115.2

### SAC 35.2

### GRIME
- 1800

### I-SMF
- 18.6

### Chan 91

### IAT
- 35.2

### Chan 99

### IM
- 134°

### I-SMF
- 3.2

### KAYEG
- 1800

### I-SMF
- 7.3

### RADAR

### I-SMF
- 9.3

### FAPIN

### S-LOC 17R
- 480/24
- 453 (500-1)
- 480-1

### CIRCLING
- 413 (500-1)
- 480-1
- 480-1/2
- 580-2

### ILS or LOC RWY 17R

### CATEGORY
- A
- B
- C
- D

### S-ILS 17R
- 225/18
- 200 (200-1/2)

### S-LOC 17R
- 480/24
- 455 (500-1/2)
- 480/45
- 455 (500-1/2)

### CIRCLING
- 480-1
- 453 (500-1)
- 480-1/2
- 580-2

### KAYEG FIX MINIMUMS (DME REQUIRED)
- 480/24
- 375 (400-1/2)
- 400/35
- 375 (400-1/2)

### S-LOC 17R
- 400/24
- 375 (400-1/2)
- 400/35
- 375 (400-1/2)

### CIRCLING
- 440-1
- 480-1
- 480-1/2
- 553 (600-2)

### HIRL Rwys 17R-35L and 17L-35R

### TDZ/CL Rwys 17L and 17R

### FAF to MAP 5.4 NM

### ELEV
- 27

### Knocks
- 60
- 90
- 120
- 150
- 180

### Min:Sec
- 5:24
- 3:36
- 2:42
- 2:10
- 1:48

---

**Notices**

**Amdt 16D 16JUL20**

**38°42'N-121°35'W**

**SACRAMENTO INTL (SMF)**

---

**SACRAMENTO, CALIFORNIA**

**AL-5490 (FAA) 20198**

---

**ILS or LOC RWY 17R**

**SACRAMENTO INTL (SMF)**
Procedural NA for arrivals on SAC VORTAC airway radials 257 CW 329.

ILS or LOC RWY 35L
SACRAMENTO INTL (SMF)

PROCEDURE NA:

- Enter the procedure at the IAF (224/24) with a MDA of 200 (200-1/2).
- Follow the VGS and ILS glidepath not coincident (VGS Angle 3.00/TCH 76).
- 7.3 NM to the ground control point (GCP).
- 4100 feet from the FAF to the MAP.

CAUTION:
- HIRL Rwys 17R-35L and 17L-35R.
- TDZ/CL Rwys 17L and 17R.
- S-LOC 35L
- S-ILS 35L

PROCEDURE:

- Enter the procedure at the IAF (224/24) with a MDA of 200 (200-1/2).
- Follow the VGS and ILS glidepath not coincident (VGS Angle 3.00/TCH 76).
- 7.3 NM to the GCP.
- 4100 feet from the FAF to the MAP.

NOTES:

- HIRL Rwys 17R-35L and 17L-35R.
- TDZ/CL Rwys 17L and 17R.
- S-LOC 35L
- S-ILS 35L

PROCEDURE:

- Enter the procedure at the IAF (224/24) with a MDA of 200 (200-1/2).
- Follow the VGS and ILS glidepath not coincident (VGS Angle 3.00/TCH 76).
- 7.3 NM to the GCP.
- 4100 feet from the FAF to the MAP.

NOTES:

- HIRL Rwys 17R-35L and 17L-35R.
- TDZ/CL Rwys 17L and 17R.
- S-LOC 35L
- S-ILS 35L

PROCEDURE:

- Enter the procedure at the IAF (224/24) with a MDA of 200 (200-1/2).
- Follow the VGS and ILS glidepath not coincident (VGS Angle 3.00/TCH 76).
- 7.3 NM to the GCP.
- 4100 feet from the FAF to the MAP.

NOTES:

- HIRL Rwys 17R-35L and 17L-35R.
- TDZ/CL Rwys 17L and 17R.
- S-LOC 35L
- S-ILS 35L

PROCEDURE:

- Enter the procedure at the IAF (224/24) with a MDA of 200 (200-1/2).
- Follow the VGS and ILS glidepath not coincident (VGS Angle 3.00/TCH 76).
- 7.3 NM to the GCP.
- 4100 feet from the FAF to the MAP.

NOTES:

- HIRL Rwys 17R-35L and 17L-35R.
- TDZ/CL Rwys 17L and 17R.
- S-LOC 35L
- S-ILS 35L

PROCEDURE:

- Enter the procedure at the IAF (224/24) with a MDA of 200 (200-1/2).
- Follow the VGS and ILS glidepath not coincident (VGS Angle 3.00/TCH 76).
- 7.3 NM to the GCP.
- 4100 feet from the FAF to the MAP.

NOTES:

- HIRL Rwys 17R-35L and 17L-35R.
- TDZ/CL Rwys 17L and 17R.
- S-LOC 35L
- S-ILS 35L

PROCEDURE:

- Enter the procedure at the IAF (224/24) with a MDA of 200 (200-1/2).
- Follow the VGS and ILS glidepath not coincident (VGS Angle 3.00/TCH 76).
- 7.3 NM to the GCP.
- 4100 feet from the FAF to the MAP.

NOTES:

- HIRL Rwys 17R-35L and 17L-35R.
- TDZ/CL Rwys 17L and 17R.
- S-LOC 35L
- S-ILS 35L

PROCEDURE:

- Enter the procedure at the IAF (224/24) with a MDA of 200 (200-1/2).
- Follow the VGS and ILS glidepath not coincident (VGS Angle 3.00/TCH 76).
- 7.3 NM to the GCP.
- 4100 feet from the FAF to the MAP.
**ILS RWY 17R (SA CAT I)**

**SACRAMENTO INTL (SMF)**

**LOC/DME I-SMF**

<table>
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<tr>
<th>LOC/DME</th>
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**APP CRS**

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**RNAV 1-GPS or RADAR required for procedure entry. From TECNO: RNAV 1-GPS required. DME or RADAR required.**

**Simultaneous approach authorized. Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.**

**D-ATIS**

| 126.75 |

**NORCAL APP CON**

<table>
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<tr>
<th>125.4</th>
<th>259.1 (W-NE)</th>
<th>125.25</th>
<th>257.9 (SW)</th>
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<td>127.4</td>
<td>317.5 (E-SE)</td>
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**CAPITOL TOWER**

| 125.7 | 256.7 |

**GND CON**

| 121.7 | 256.7 |

**CLNC DEL**

| 121.1 | 256.7 |

**CPDLC**

**ALTERNATE MISSED APCH FIX**

**GRAIN**

**SAC 35.2**

**MISSED APPROACH: Climb to 500 then climbing right turn to 2000 on heading 350° and SAC VORTACR-329 to GRIME INT/SAC 35.2 DME and hold.**

**MSPEC, or LOA approval and use of HUD to DH.**

**SACRAMENTO, CALIFORNIA**

**AL-5490 (FAA)**

Amdt 16D 16JUL20

**38°42'N-121°35'W**

**ILS RWY 17R (SA CAT I)**

**SACRAMENTO INTL (SMF)**

**SW-2, 07 OCT 2021 to 02 DEC 2021**

**253**
ILS RWY 17R (CAT II & III)
SACRAMENTO INTL (SMF)

RNAV 1-GPS or RADAR required for procedure entry. From Tenco: RNAV 1-GPS required. DME or RADAR required.

Simultaneous approach authorized.

**D-ATIS**
126.75

**NORCAL APP CON**
125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)

**CAPITOL TOWER**
125.7 256.7

**GND CON**
121.7 256.7

**CPDLC**
121.1 256.7

**RD**

**ALTERNATE MISSED APCH FIX**

**SAFETY INDEX**

**CATEGORY**

**AIRCRAFT CERTIFICATION REQUIRED**

**ILS RWY 17R**
SACRAMENTO INTL (SMF)

Simultaneous approach authorized.

**D-ATIS**
126.75

**NORCAL APP CON**
125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE)

**CAPITOL TOWER**
125.7 256.7

**GND CON**
121.7 256.7

**CPDLC**
121.1 256.7

**RD**

**ALTERNATE MISSED APCH FIX**

**SAFETY INDEX**

**CATEGORY**

**AIRCRAFT CERTIFICATION REQUIRED**

**ILS RWY 17R**
SACRAMENTO INTL (SMF)
ILS RWY 17L (SA CAT II)
SACRAMENTO INTL (SMF')

RNAN 1-GPS or RADAR required for procedure entry. From TENCO: RNAN 1-GPS required. DME or RADAR required.

SIMULTANEOUS APPROACH AUTHORIZED. REDUCED LIGHTING: Requires specific OPSEC, MSPEC, or LOA approval and use of autoland or HUD to touchdown.

MISSED APPROACH: Climb to 500 then climbing left turn to 3000 direct SAC VORTAC and hold.

D-ATIS
126.75
125.4  259.1 (W-NE)  125.25  257.9 (SW)  127.4  317.5 (E-SE)

CAPITOL TOWER
GND CON
CLNC DEL
CPDLC
125.7  256.7
121.7  256.7
121.1  256.7

5.7 NM
2 NM

TCH 55

SACRAMENTO, CALIFORNIA
AL-5490 (FAA)

LOC/DME I-MDK
111.75
Chan 54 (Y)
168°
Rwy Idg 8605
TDZE 27
Apt Elev 27

MISSING APCH FIX
SACRAMENTO INTL
S-ILS 17L
RA 108/12 100 DA 127

Alt 115.2
Chan 99

SA CATEGORY II ILS-SPECIAL AIRCREW
& AIRCRAFT CERTIFICATION REQUIRED

38°42'N-121°35'W

SACRAMENTO INTL (SMF')

ILS RWY 17L (SA CAT II)

SW-2, 07 OCT 2021 to 02 DEC 2021
RNAV (RNP) Z RWY 17L
SACRAMENTO INTL (SMF)

For uncompensated Baro-VNAV systems, procedure NA below 
-4°C or above 54°C.

-4°C or above 54°C.

See planview for multiple IF locations.

VGSI and RNAV glidepath not coincident 
(VGSI Angle 3.00°/TCH 64).

MALSR

MISSDE APPROACH: Climb to 3000 then right 
turn direct GRIME and hold.

D-ATIS
126.75
NORCAL APP CON
125.4 259.1 (W-NE) 125.25 257.9 (SW)
127.4 317.5 (E-SE)
CAPITOL TOWER
GND CON
CLNC DEL
CPDLC

168°

RW17L

UZIZY

JULUK

MUKVY

3200°

4000 210K
(RF REQD)

(IF)

OVOME

348° (3)

(IF)

WENUD

1100 168° [4] 3200° (3) 348° (3)

1100 168° (3)

322° 1/2 295 (300-1/2)

7

MALSR

RNAV (RNP) Z RWY 17L
RNAV (RNP) Z RWY 17L

RNP 0.30 DA

AUTHORIZATION REQUIRED

VAH CR2
168°

Apt Elev

27

27

27

27

322° 1/2 295 (300-1/2)

27

27

27

27

825 ± A
RNP AR APCH.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C. For inop ALS, increase RNP 0.10 all Cats visibility to RVR 4500 and RNP 0.30 all Cats visibility to RVR 6000.

MISSED APPROACH: Climb to 500 then climbing right turn to 2000 direct GRIME and hold.

D-ATIS
126.75

NORCAL APP CON
125.4  259.1 (W-NE)  125.25  257.9 (SW)  127.4  317.5 (E-SE)

CAPITOL TOWER
125.7  256.7

GND CON
121.7  256.7

CLNC DEL
121.1  256.7

CPDLC

GRIME

116°

TUDOR

5000

(IAF)

1800

(6.5)

WAXIX

(3.2)

WIPEB

(4)

714

(5)

ZIMAAM

3000

210K

(RF REQD)

RW17R

(4.3)

ZOLOV

1100

(2.1)

348°

(3)

3200

4000

210K

(RF REQD)

3.2 NM

Apt Elev

TDZE

TWR

663

125.4

714

168°

-3.0°

125°

0°

33.5°

-3.5°

116°

2000

3000

GRIME

VGSi and RNAV glideslope not coincident (VGSi Angle 3.00°/TCH 72).

ZOLOV

See planview for multiple IF locations.

CATEGORY
A
B
C
D

RNP 0.10 DA
323/24  298 (300-½)

RNP 0.30 DA
388/40  363 (400-¾)

AUTHORIZATION REQUIRED

SACRAMENTO, CALIFORNIA

AL-5490 (FAA)

20142

RNAV (RNP) Z RWY 17R

SACRAMENTO INTL (SMF)

38°42'N-121°35'W

257
For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C. For inop ALS, increase RNP 0.30 all Cats visibility to RVR 5000.

TDZ/CL Rwys 17L and 17R
HIRL Rwys 17R-35L and 17L-35R

VGSi and RNAV glidepath not coincident (VGSi Angle 3.00/TCH 76).

See planview for multiple IF locations.
RNAV (RNP) Z RWY 35R
SACRAMENTO INTL (SMF*)

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

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For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.

For uncompensated Baro-VNAV systems, procedure NA below -4°C or above 54°C.

MISSED APPROACH: Climb to 2000 on track 348° to ZUNEG and on track 315° to GRIME and hold.
RNAV (GPS) Y RWY 17L

SACRAMENTO INTL (SMF)

Circling NA west of RWY 17L-35R. Simultaneous approach authorized. LNAV procedure NA during simultaneous operations. Use of FD or AP required during simultaneous operations. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to RVR 4000 and LNAV C/D visibility to RVR 5500.

D-ATIS 126.75 NORCAL APP CON 125.4 259.1 (W-NE) 125.25 257.9 (SW) 127.4 317.5 (E-SE) CAPITOL TOWER 125.7 256.7 GND CON 121.7 256.7 CLNC DEL 121.1 256.7 CPDLC

MISSED APPROACH: Climb to 500 then climbing left turn to 3000 direct ORRCA and hold.

RNAV (GPS) Y RWY 17L

SACRAMENTO INTL (SMF)

RNAV (GPS) Y RWY 17L

SACRAMENTO INTL (SMF)

RNAV (GPS) Y RWY 17L

SACRAMENTO INTL (SMF)
RNAV (GPS) Y RWY 17R

SACRAMENTO INTL (SMF')

RNP APCH.

Circling NA east of Rwy 17R-35L. Simultaneous approach authorized. Use of FD or AP required during simultaneous operations. LNAV procedure NA during simultaneous operations. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to RVR 4500 and LNAV all Cats visibility to RVR 5500.

<table>
<thead>
<tr>
<th>D-ATIS</th>
<th>126.75</th>
<th>NORCAL APP CON</th>
<th>125.4 259.1(W-NE)</th>
<th>125.25 257.9(SW)</th>
<th>127.4 317.5(E-SE)</th>
<th>CAPITOL TOWER</th>
<th>125.7 256.7</th>
<th>GND CON</th>
<th>121.7 256.7</th>
<th>CLNC DEL</th>
<th>121.1 256.7</th>
<th>CPDLC</th>
</tr>
</thead>
</table>

**RNAV (GPS) Y RWY 17R**

**SACRAMENTO INTL (SMF')**

**ELEV 27**

**TDZE 25**

**GRIME (IAF)**

**TUDOR**

**FAPIN**

**JARNU**

**AMUNE**

**3.2 NM to RW17R**

**134 ±**

**RW17R**

**1800**

**168°**

**1100°**

**500**

**2000**

**GRIME**

**VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 72).**

**JARNU**

**FAPIN**

**533**

**569**

**500**

**2000**

**GRIME**

**IV NAV only**

**1 NM to RW17R**

**1800**

**168°**

**1100°**

**GP 3.00° TCH 75**

**CATEGORY**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
</table>

**LPV DA**

| 225/18 | 200 (200-1/2) |

**LNAV/VNAV DA**

| 323/24 | 298 (300-1/2) |

**LNAV MDA**

| 400/24 | 375 (400-1/2) |

**CIRCLING**

| 440/1 | 480/1 |

**413 (500-1) | 453 (500-1) | 480-1/2 | 453 (500-1/2) | 553 (600-2)**

**SACRAMENTO, CALIFORNIA**

Amdt 2C 21MAY20

38°42'N-121°35'W

261
RNAV (GPS) Y RWY 35L
SACRAMENTO INTL (SMF)

20142

RNP APCH.

- Circling NA east of RW 17R-35L. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C or above 54°C. For inop ALS, increase LPV all CATs visibility to RVR 4000 and LNAV Cat C/D visibility to RVR 5500.
- RVR 1800 authorized with use of FD or AP or HUD to DA.

D-ATIS

- 125.4 259.1 (W-NE)
- 125.25 257.9 (SW)
- 127.4 317.5 (E-SE)
- 125.7 256.7

NORCAL APP CON

- 125.4 259.1 (W-NE)
- 125.25 257.9 (SW)
- 127.4 317.5 (E-SE)
- 125.7 256.7

CAPTOL TOWER

- 125.7 256.7

GND CON

- 121.7 256.7

CLNC DEL

- 121.1 256.7

CPDLC

- 126.75

MISSED APCH FIX

- GRIME 4 NM

MALSR

- 15° to 30°

CDIR

- 327°

MALSR

- 540

- 569

- 586

MSA RW35L 25 NM

ELEV 27

- TDZE 24

NMD

- 4300

RNAV (GPS) Y RWY 35L
SACRAMENTO INTL (SMF)

Amdt 2B 21MAY20

38°42'N-121°35'W

SACRAMENTO, CALIFORNIA

38°42'N-121°35'W

SACRAMENTO, CALIFORNIA

AL-5490 (FAA)
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
TAKING MINIMUMS

Rwys 17R, 35L/R: Standard.
Rwy 17L: Standard with minimum climb of 220' per NM to 700.

NOTE: RADAR required.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 17L/R: Climbing left turn heading 120°, or as assigned by ATC, for RADAR vectors to assigned route/fix, thence...
TAKEOFF RUNWAYS 35L/R: Climbing right turn heading 090°, or as assigned by ATC, for RADAR vectors to assigned route/fix, thence...

...maintain ATC assigned altitude. Expect filed altitude ten minutes after departure.
NOTE: RNAV-1.
NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.

TAKEOFF MINIMUMS
Rwys 17L/R, 35L/R: Standard with minimum climb of 500’ per NM to 540.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 17L/R: Climb on heading 168° to 540, then left turn direct FTHIL. Thence . . .
TAKEOFF RUNWAYS 35L/R: Climb on heading 348° to 540, then right turn direct FTHIL. Thence . . .

. . . on transition. Maintain FL190. Expect filed altitude 10 minutes after departure.

FRIANT TRANSITION (FTHIL3.FRA)
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 35L/R: Climb on heading 348° to 540, then right turn direct RVRCT. Thence . . . .

. . . . on transition. Maintain FL190. Expect filed altitude 10 minutes after departure.

KENNO TRANSITION (RVRCT3.KENNO)
MACUS TRANSITION (RVRCT3.MACUS)
RALEY TRANSITION (RVRCT3.RALEY)

NOTE: RNAV-1.
NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.
TAKING MINIMUMS
Rwys 17L/R: Standard with minimum climb of 500' per NM to 540.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 17L/R: Climb on heading 168° to 540,
then left turn direct SCTWN. Thence . . . .

. . . . on transition. Maintain FL190. Expect filed altitude
10 minutes after departure.

KENNO TRANSITION (SCTWN3.KENNO)
MACUS TRANSITION (SCTWN3.MACUS)
RALEY TRANSITION (SCTWN3.RALEY)

NOTE: RNAV-1.
NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.

NOTE: Chart not to scale.
RNAV (GPS) RWY 4R

SACRAMENTO MATHER (MHR)

**ATIS**
118.325

**NORCAL APP CON**
127.4 317.5

**W04A**

**Rwy Idg** 11301

**TDZE** 81

**Apt Elev** 98

**APP CRS** 041°

**APR CRS**

**CH** 45601

**WAAS**

**MATHER TOWER** *

**GND CON**

**CLNC DEL**

**UNICOM**

**SACRAMENTO, CALIFORNIA**

**AL-356 (FAA)**

**MISSPED APPROACH:** Climb to 3300 direct STNGR and hold.

**Procedures**

- **RNAV (GPS) RWY 4R**
- **RNAV (GPS) RWY 22L**
- **LNAV/VNAV**

**Categories**

- **LPV**
- **DA**
- **LNAV/VNAV**
- **MDA**

**GALTS**

**STNGR**

**TDZE** 81

**ELEV** 98

**LPV**

**DA**

**LNAV/VNAV**

**MDA**

**CIRCLING**

**STNGR**

**HOLD**

**4 NM**

**221°**

**LOGYE**

**3300**

**GP 3.00°**

**TCH 50°**

**113°**

**CA**

**B**

**C**

**D**

**294 (300-1)**

**250 (300-3/4)**

**375-1**

**294 (300-1)**

**480-1**

**399 (400-1)**

**462 (500-1)**

**482 (500-1)**

**560-1**

**580-1**

**600-11/2**

**502 (600-11/2)**

**800-21/4**

**702 (800-21/4)**

**LNAV only**

**1.1 NM to RW04R**

SW-2, 07 OCT 2021 to 02 DEC 2021
RNAV (GPS) RWY 22L
SACRAMENTO MATHER (MHR)

**MISSING APPROACH:** Climb to 3000 direct XAKBE and on track 233° to SAC VORTAC and hold.

**ATIS**
118.325

**NORCAL APP CON**
127.4 317.5

**MATHER TOWER**
120.65 (CTAF) 282.25

**GND CON**
121.85 307.9

**CLNC DEL**
121.85 307.9

**UNICOM**
122.95

**MALSR**

**1000**

**1000**

**1000**

**1000**

**2000**

**2000**

**2000**

**2000**

**MISSING APPROACH FIX**

Procedure NA for arrivals at HAGAN on V392-494 northbound.

**3000**

**XAKBE**

23°

**SAC**

**VGS1 and RNAV glidepath not coincident**

(VGS1 Angle 3.00/TCH 50).

**RNP APCH.**

- **Circling NA northwest of Rwy 4R-22L.** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to 1 1/2 SM and LNAV Cat C/D visibility to 1 1/2 SM.

**ATIS**
118.325

**NORCAL APP CON**
127.4 317.5

**MATHER TOWER**
120.65 (CTAF) 282.25

**GND CON**
121.85 307.9

**CLNC DEL**
121.85 307.9

**UNICOM**
122.95

**MALSR**

**1000**

**1000**

**1000**

**1000**

**2000**

**2000**

**2000**

**2000**

**2000**

**MISSING APPROACH FIX**

Procedure NA for arrivals at HAGAN on V392-494 northbound.

**3000**

**XAKBE**

23°

**SAC**

**VGS1 and RNAV glidepath not coincident**

(VGS1 Angle 3.00/TCH 50).

**RNP APCH.**

- **Circling NA northwest of Rwy 4R-22L.** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to 1 1/2 SM and LNAV Cat C/D visibility to 1 1/2 SM.
RNAV (GPS) RWY 22R
SACRAMENTO MATHER (MHR)

Circling NA northwest of Rwy 4L-22R. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C.

Procedure NA for arrivals at HAGAN on V392-494 northbound.

 Procedure NA for arrival on HNW VOR/DME airway radials 180 CW 303.

 Procedure NA for arrivals at HAGAN on V392-494 northbound.

Procedure NA for arrivals at HAGAN on V392-494 northbound.
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES. READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
Procedure NA for arrivals at SHOEY via V230 west bound.

Procedure NA for arrivals at MOVER via V25-V87 northwest bound.

Procedure NA for arrivals at ISIFU via T257 Southeast bound.

**RNAV (GPS) RWY 13**

**SALINAS MUNI (SNS)**

**APP CRS**

<table>
<thead>
<tr>
<th>Rwy Idg</th>
<th>TDZE</th>
<th>Apt Elev</th>
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</thead>
<tbody>
<tr>
<td>4825</td>
<td>84</td>
<td>84</td>
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</tbody>
</table>

**DME/DME RNP-0.3 NA.** Visibility reduction by helicopters NA. Circling NA for Cats C and D northeast of Rwy 13 and north of Rwy 26. When local altimeter setting not received, use Monterey Rgnl altimeter setting and increase all MDAs 60 feet and increase LNAV Cats C/D and Circling Cat C visibility ½ SM.

**MISSED APPROACH:**

Climbing right turn to 3000 direct MARNA and hold.

<table>
<thead>
<tr>
<th>ATIS</th>
<th>NORCAL APP CON</th>
<th>SALINAS TOWER</th>
<th>GND CON</th>
<th>UNICOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>124.85</td>
<td>133.0</td>
<td>251.15</td>
<td>119.525 (CTAF)</td>
<td>239.5</td>
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</tbody>
</table>

**Category**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNAV MDA</td>
<td>540-1</td>
<td>456 (500-1)</td>
<td>540-1½</td>
<td>540-1½</td>
</tr>
<tr>
<td>CIRCLING</td>
<td>540-1</td>
<td>456 (500-1)</td>
<td>780-2</td>
<td>1680-3</td>
</tr>
</tbody>
</table>

**MARNA**

36°40'N-121°36'W
SAVINAS, CALIFORNIA
AL-363 (FAA) 20310

Baro-VNAV NA when using Monterey Rngl altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 50°C (122°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Monterey Rngl altimeter setting and increase all DA 53 feet and LNAV/VNAV all Caps visibility to RVR 5000.

MISSING APPROACH: Climb to 3000 direct MAFAF and left turn via track 267° to MARNA and hold.

SAVINAS MUNI (SNS)
For inoperative MALSR increase S-LOC 31 Cat D visibility to RVR 5000. Simultaneous reception of I-SNS and SNS DME required.

Circling NA for Cat C and D northeast of Rwy 13 and north of Rwy 26.

MALSR

MISSING APPROACH: Climb to 800, then climbing left turn to 3000 via SNS R-275 to MARNA INT/10.9 DME and hold.

HIRL Rwys 13-31
HIRL Rwys 8-26
REIL Rwys 13 and 26

Procedure Turn NA

S-31 420/24 341 (400-1/2) 420/40 341 (400- 1/2)
CIRCLING 560-1 580-1 780-2 1680-3
476 (500-1) 496 (500-1) 696 (700-2) 1596 (1600-3)

SALINAS, CALIFORNIA

Amdt 4E 07 OCT 2021 to 02 DEC 2021
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
CHALONE THREE DEPARTURE

TAKENOFF MINIMUMS
Rwys 8, 13: Standard with minimum climb of 360' per NM to 6000.
Rwys 26, 31: Cats A/B standard with minimum climb of 380' per NM to 6000.
Cats C/D standard with minimum climb of 550' per NM to 6000.

NOTE: Cat A/B aircraft departing Rwy 26 and 31 - Do not exceed 210 K until passing SARDO INT.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 8: Climb heading 081° to 500 then climbing right turn heading 144° to intercept SNS R-114 (V248) southeast bound to SARDO INT. Thence . . . .

TAKEOFF RUNWAY 13: Climb heading 132° to 500 then climbing left turn to intercept SNS R-114 (V248) southeast bound to SARDO INT. Thence . . . .

TAKEOFF RUNWAY 26: Climb heading 261° to 500 then climbing right turn heading 144° to intercept SNS R-114 (V248) southeast bound to SARDO INT. Thence . . . .

TAKEOFF RUNWAY 31: Climb heading 312° to 500 then climbing left turn heading 084° to intercept SNS R-114 (V248) southeast bound to SARDO INT. Thence . . . .

. . . Proceed on assigned route. Expect clearance to filed altitude 5 minutes after departure.
DEPARTURE ROUTE DESCRIPTION

All aircraft expect vectors to assigned route. Maintain 6000'. Expect clearance to filed altitude five minutes after departure.

TAKEOFF RUNWAYS 8 and 13: Turn right within one mile to intercept and climb via SNS R-255 for vector.

TAKEOFF RUNWAYS 26 and 31: Climb on SNS R-255 for vector.
**RNAV (GPS) RWY 31**

**CALAVERAS COUNTY-MAURY RASMUSSEN FIELD (CPU)**

**SAN ANDREAS, CALIFORNIA**

### WAAS
- CH 81842
- W31A
- APP CRS 311°
- Rwy Idg 3602
- TDZE 1328
- Apt Elev 1328

### RNP APCH.

- Circling NA southwest of Rwy 31-13.

### MISSED APCH FIX

- 5 NM to ZEDEX

### AWOS-3P
- 118.525

### NORCAL APP CON
- 125.1
- 363.2

### UNICOM
- 123.0 (CTAF)

---

**MISSED APPROACH:**

- Climb to 4400 direct ZEGEX and hold, continue climb-in-hold to 4400.

---

**ELEV 1328**

**TDZE 1328**

---

**MAP:**

- MSA RW31 25 NM
- 8800

---

**Apt Elev**

**TDZE**

**RW31**

---

**CATEGORY**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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</thead>
<tbody>
<tr>
<td>LP MDA</td>
<td>1600-1</td>
<td>272 (300-1)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>LNAV MDA</td>
<td>1860-1</td>
<td>532 (600-1)</td>
<td>1860-1½</td>
<td>532 (600-1½)</td>
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<td>2040-1</td>
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</table>

---

**SAN ANDREAS, CALIFORNIA**

Amdt 1A 20JUN19
RNAV (GPS) Y RWY 30
SAN CARLOS (SQL)

DME/DME RNP-0.3 NA. When local altimeter setting not received, use San Francisco Intl altimeter setting and increase all MDA 40 feet. Rwy 30 visibility reduction by helicopters below 1 SM NA. 

Circling NA west of Rwy 12-30.

ATIS
125.9

NORCAL APP CON
133.95 317.6

SAN CARLOS TOWER *
119.0 (CTAF) 326.2

GND CON
121.6

UNICOM
122.95

Final approach course offset by 5.53°

Procedure NA for arrivals at OSI VOR/DME on T261 southwest bound.

MISSED APPROACH: Climbing left turn to 5400 direct AMEBY and hold, continue climb-in-hold to 5400.

VGSi and descent angles not coincident
(VGSi Angle 3.00/TCH 25).

CATEGORY
A  B  C  D
LNAV MDA
1260-1½ 1255 (1300-1¼) NA
CIRCLING
1260-1½ 1255 (1300-1¼) 1255 (1300-1½) NA
RNAV (GPS) Z RWY 30
SAN CARLOS (SQL)

ATIS
125.9
NORCAL APP CON
133.95 317.6
SAN CARLOS TOWER
119.0 (CTAF) 326.2
GND CON
121.6
UNICOM
122.95

MISSED APPROACH: Climbing left turn to 5400 direct AMEBY and hold, continue climb-in-hold to 5400. Missed approach requires minimum climb of 302 feet per NM to 5400.

Procedures NA for arrivals at OSI VOR/DME on T261 southwest bound.

If unable to comply with climb gradient, use RNAV (GPS) Y RWY 30.

VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 25).

RNAV (GPS) Z RWY 30

SAN CARLOS (SQL)
Amdt 1B 27APR17

SAN CARLOS, CALIFORNIA
AL-9219 (FAA) 20310

RNAV (GPS) Z RWY 30
SAN CARLOS (SQL)

RNAV (GPS) Z RWY 30
SAN CARLOS (SQL)

RNAV (GPS) Z RWY 30
SAN CARLOS (SQL)

RNAV (GPS) Z RWY 30
SAN CARLOS (SQL)
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
Simultaneous approach authorized. Simultaneous operations require use of vertical guidance; maintain last assigned altitude until established on the glideslope. Sidestep NA until passing ROGGE INT. For inop ALS, increase S-ILS 19L all Cats visibility to RVR 4500. Inop table does not apply to Sidestep 19R or S-LOC 19L Cats C/D.

MISSED APPROACH: Climb to 520 then climbing left turn to 4000 on SFO VOR/DME R-101 to DUMBA INT/SFO 15 DME and hold.
SAN FRANCISCO, CALIFORNIA

SA CATEGORY I ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

Amdt 15A 03JAN21

SW-2, 07 OCT 2021 to 02 DEC 2021
RNAV (RNP) Y RWY 28R
SAN FRANCISCO INTL (SFO)

SAN FRANCISCO, CALIFORNIA

221
TWR
P
A

4
A
P
P
A

P
P
X

A

19L
19R
28L
28R
1R
1L
8650 X 200

10L
10R
11870 X 200
7650 X 200
11381 X 200

1800

M
S
A
R
W

2
8
R

2
5
N
M

(2.1)

APP CRS
284°
Rwy Idg
11236
TDZE
13
Apt Elev
13

RNAV (RNP) Y RWY 28R
SAN FRANCISCO INTL (SFO)

SAN FRANCISCO, CALIFORNIA

AL-375 (FAA)

21224

ELEV
13
TDZE
13

MISSING APPROACH: Climb to 3000 on track 284° to VIKYU and hold.
* Missed approach requires minimum climb of 250 feet per NM to 1600.
# Missed approach requires minimum climb of 350 feet per NM to 2100.

D-ATIS
113.7 115.8 118.85

NORCAL APP CON
134.5 338.2

SAN FRANCISCO TOWER
120.5 269.1

GND CON
121.8

CLNC DEL
118.2

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

284° to RW28R

SW-2, 07 OCT 2021 to 02 DEC 2021
For uncompensated Baro-VNAV systems, procedure NA below 2°C (36°F) or above 54°C (130°F). GPS required. When VGSi inop, procedure NA at night.

**For Arrivals at STINS**

- Climb to 3600 on track 104° to IGUKE and on track 103° to DUMBA and hold.
- Procedure NA for arrivals at STINS on V25-199 and V27 northwest bound.

**VGSi and RNAV glidepath not coincident (VGSi Angle 3.00/TCH 68).**

- Climb to 3600 on track 104° to IGUKE and on track 103° to DUMBA and hold.

**AUTHORIZATION REQUIRED**

- RNP 0.20 DA: 396-1/4 386 (400-1/4)
- RNP 0.30 DA: 1108-4 1098 (1100-4)
SAN FRANCISCO, CALIFORNIA

RNAV (GPS) RWY 10L
SAN FRANCISCO INTL (SFO)

Amdt 2A  26JUN14

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

104° to RW10L

San Francisco, California

37°37'N-122°23'W

San Francisco, California

allele 13  TDZE  7

104°

RNAV (GPS) RWY 10L

Amdt 2A  26JUN14

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

San Francisco, California

37°37'N-122°23'W

San Francisco, California

allele 13  TDZE  7
**RNAV (GPS) RWY 19L**

**SAN FRANCISCO INTL (SFO)**

**Helicopter visibility reduction below 1 SM NA.** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 3°C or above 54°C. For inop ALS, increase LPV Cat A/B visibility to RVR 4500, LNAV/VNAV all Cats visibility to RVR 6000 and LNAV Cat A/B to RVR 5500. Inop table does not apply to LPV Cat C/D.

**D-ATIS** 113.7 115.8 118.85

**NORCAL APP CON** 134.5 338.2

**SAN FRANCISCO TOWER** 120.5 269.1

**GND CON** 121.8

**CLNC DEL** 118.2

**CPDLC**

---

**XPND**

**RNAV (GPS) RWY 19L**

**SAN FRANCISCO INTL (SFO)**

**Helicopter visibility reduction below 1 SM NA.** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 3°C or above 54°C. For inop ALS, increase LPV Cat A/B visibility to RVR 4500, LNAV/VNAV all Cats visibility to RVR 6000 and LNAV Cat A/B to RVR 5500. Inop table does not apply to LPV Cat C/D.

**D-ATIS** 113.7 115.8 118.85

**NORCAL APP CON** 134.5 338.2

**SAN FRANCISCO TOWER** 120.5 269.1

**GND CON** 121.8

**CLNC DEL** 118.2

**CPDLC**

---

**XPND**

**RNAV (GPS) RWY 19L**

**SAN FRANCISCO INTL (SFO)**

**Helicopter visibility reduction below 1 SM NA.** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 3°C or above 54°C. For inop ALS, increase LPV Cat A/B visibility to RVR 4500, LNAV/VNAV all Cats visibility to RVR 6000 and LNAV Cat A/B to RVR 5500. Inop table does not apply to LPV Cat C/D.
**RNAV (GPS) RWY 19R**

**SAN FRANCISCO INTL (SFO)**

**D-ATIS**

<table>
<thead>
<tr>
<th>113.7</th>
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<td>CPDLC</td>
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</table>

**ELEV** 13

**TDZE** 11

**LNAV procedure NA during simultaneous operations.** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 3°C or above 42°C. Simultaneous approach authorized. Simultaneous operations require use of vertical guidance; maintain last assigned altitude until established on glidepath. Simultaneous approach NA below 28°C (52°F).

**MISSING APCH FIX**

**SAN FRANCISCO, CALIFORNIA**

**SW-2, 07 OCT 2021 to 02 DEC 2021**

**TDZ/CL Rwys 19L and 28R**

**REIL Rwys 1L, 1R and 10L**

**HIRL all Rwys**

**RNAV MDA**

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<th>LPV</th>
<th>DA</th>
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<tr>
<td>LNAV MDA</td>
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</table>

**RNAV (GPS) RWY 19R**

**SAN FRANCISCO, CALIFORNIA**

**Amdt 3 13SEP18**

**37°37'N-122°23'W**

**SAN FRANCISCO INTL (SFO)**

**RNAV (GPS) RWY 19R**
Runway 28L and 28R separated by 750 feet centerline to centerline. DME/DME RNP-0.3 NA. When executing a missed approach or go-around, unless otherwise instructed by ATC, initially turn right to 030° utilizing heading mode. Inoperative table does not apply. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 2°C (36°F) or above 54°C (130°F).

*If a go-around executed after passing DARNE, go-around requires a minimum climb of 380 feet per NM to 1800.

Final approach course offset 2.95°.

**D-ATIS**

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

**ELEV**

- **13**

**TDZE**

- **13**

**TDZ/CL Rwys 19L and 28R**

**REIL Rwys 1L, 1R, and 10L**

**HIRL all Rwys**
RNAV (GPS) Y RWY 10R
SAN FRANCISCO INTL (SFO)

DME/DME RNP-0.3 NA. When VGSI inop, procedure NA at night. Helicopter visibility reduction below RVR 5000 NA.

MISSED APPROACH: Climb to 4000 direct DUMBA and hold.

Procedure NA for arrivals at STINS on V25-199 and V27 northwest bound.

MISSED APPROACH: Climb to 4000 direct DUMBA and hold.

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

TDZE 10

VGS1 and descent angles not coincident (VGS1 Angle 3.00/TCH 68).

SAN FRANCISCO, CALIFORNIA
Amdt 2A 26JUN14

RNAV (GPS) Y RWY 10R
SAN FRANCISCO INTL (SFO)

37°37'N-122°23'W
301
Circling NA to Rwys 10L, 10R, 19L, and 19R. Circling Rwy 1L, 1R NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below 3°C or above 54°C. If inop ALS, increase LNAV/VNAV all Cats visibility to 1¾ SM, increase LNAV Cat C/D visibility to 2 SM.

MISSED APPROACH: Climb to 3200 direct VIKYU and hold, continue climb-in-hold to 3200.

LNAV only

* LNAV only

**2.1 NM to RW28R

2.1 NM

3.3 NM

4.6 NM

284°

3000

GP 3.00°

TCH 55

CEPIN

3200

VIKYU

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00°/TCH 68).

MISSING APCH FIX

VIKYU

10.4°

4 NM

0.3°

284°

284° to RW28R

284°

302
Vertical Guidance Navaid and Angle: LOC I-GWQ (GS 3.00°)

Weather Minimums: SFO 2500'/5 or SFO 1000'/3 with 5 mile visibility in eastern quadrant (030° to 120°) and San Mateo AWOS 2400'/5 (if AWOS inoperative, SQL 2400'/5).

NOTE: Closely spaced parallel visual approaches may be in progress to Runway 28L utilizing I-SFO. In the event of a go-around on Runway 28L, turn left heading 265° or on Runway 28R, heading 280°, climb and maintain 3000 or as directed by ATC.
RADAR REQUIRED

Vertical Guidance Navaid and Angle: LOC I-SFO (GS 2.85°)

Weather Minimums: SFO 2500'/5 or SFO 1000'/3, with 5 mile visibility in eastern quadrant (030° to 120°) and San Mateo AWOS 2400'/5 (If AWOS inoperative, SQL 2400'/5)

TIPP TOE VISUAL APPROACH RUNWAY 28L/R

NOTE: Closely spaced parallel visual approaches may be in progress. In the event of a go-around on Runway 28L, turn left heading 265° or on Runway 28R, heading 280°, climb and maintain 3000 or as directed by ATC.
ASSC in use. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

Runway Status Lights in Operation.

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

TAKEOFF RUNWAY 10L: Climb heading 104° to 520, then direct ORYAN, then on track 102° to SAHEY, then on track 101° to cross CIITY at or above 5000. Thence... . . .

TAKEOFF RUNWAY 10R: Climb heading 104° to 520, then direct URRSA, then on track 101° to SAHEY, then on track 101° to cross CIITY at or above 5000. Thence... . . .

TAKEOFF RUNWAYS 19L/19R: Climb heading 194° to 520, then left turn direct to cross CIITY at or above 5000. Thence... . . .

... on (transition). Maintain FL190. Expect filed altitude 10 minutes after departure.

DEDHD TRANSITION (CIITY3.DEDHD)

GRTFL TRANSITION (CIITY3.GRTFL)

MOGEE TRANSITION (CIITY3.MOGEE)

ORRCA TRANSITION (CIITY3.ORRCA)

SYRAH TRANSITION (CIITY3.SYRAH)

TIPRE TRANSITION (CIITY3.TIPRE)

TAKEOFF MINIMUMS

Rwys 10L/R: Standard with minimum climb of 500' per NM to 520.

Rwys 19L/R: Standard with minimum climb of 575' per NM to 2000.

TOP ALTITUDE: FL190
GAP SEVEN DEPARTURE

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climb on SFO R-350 (or as assigned) for vectors to assigned route/fix. Thence . . . .

TAKEOFF RUNWAYS 10L/R and 19L/R: Turn left and climb on the SFO R-090 and OSI R-028 to OSI VOR/DME; expect vector to assigned route/fix after OSI VOR/DME. Thence . . . .

TAKEOFF RUNWAYS 28L/R: Climb on the SFO VOR/DME R-281 to NORMM INT/ SFO VOR/DME 13 DME; expect vector to assigned route/fix after NORMM INT. Thence . . . .

. . . . expect further clearance to filed altitude 10 minutes after departure.

NOTE: Radar required.
NOTE: Rwys 19L/R departures turn left due to steeply rising terrain to 2000’ immediately south of airport.

NOTE: Chart not to scale.
T A K E O F F  R U N W A Y S  2 8 L / R :  C l i m b  h e a d i n g  2 8 4 ° o f 5 0 0 ’ p e r N M  t o  8 2 0 .  R w y s  2 8 L / R :  S t a n d a r d  w i t h  a  m i n i m u m  c l i m b 3 0 0 0 T O P  A L T I T U D E :  N O T E :  G P S  r e q u i r e d . N O T E :  R N A V - 1 .
**DEPARTURE ROUTE DESCRIPTION**

TAKEOFF RUNWAYS 10L/R: Climbing left turn to intercept SFO R-090 to cross SIPLY 7 DME FIX at or above 2500, then climbing right turn to 5000 on heading 233° to intercept and proceed on PYE R-144 to STINS INT/SFO 22 DME, then on SFO VOR/DME R-287 to MOLEN INT/SFO 41 DME. Thence . . . .

TAKEOFF RUNWAYS 19L/R: Climbing left turn to heading 053° to intercept SFO R-090 to cross SIPLY 7 DME FIX at or above 2500, then climbing right turn to 5000 heading 233° to intercept and proceed on PYE R-144 to STINS INT/SFO VOR/DME 22 DME, then on SFO VOR/DME R-287 to MOLEN INT/SFO 41 DME. Thence . . . .

TAKEOFF RUNWAYS 28 L/R: Climb on SFO VOR/DME R-281 to cross WESLA INT/SFO VOR/DME 6 DME at or above 1800 then turn right to intercept SFO R-287 to MOLEN INT/SFO 41 DME. Thence . . . . (transition). Expect clearance to filed altitude 10 minutes after departure.

MENDOCINO TRANSITION (MOLEN8.ENI): From over MOLEN INT on ENI R-156 to ENI VORTAC.

**NOTE:** Rapidly rising terrain to 2000’ immediately south of airport.
NIITE THREE DEPARTURE (RNAV)

**NOTE:** Chart not to scale.

**NOTE:** RNAV 1.

**NOTE:** RADAR required.

**NOTE:** DME/DME/IRU or GPS required.

**TAKEOFF MINIMUMS**

- Rwys 1L/R: Standard with a minimum climb of 500' per NM to 520.
- Rwy 28L: Standard with minimum climb of 535' per NM to 2100.
- Rwy 28R: Standard with minimum climb of 560' per NM to 2100.

**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAYS 1L/R:** Climb heading 014° to 520, then right turn direct MDBAY, then on track 323° to HUSSH, then on track 324° to NIITE. Thence.

**TAKEOFF RUNWAYS 28L/R:** Climb heading 284° to 520 and at or below 220K, then right turn direct GALOO, then on track 325° to NIITE. Thence.

...on (transition). Maintain FL190, expect filed altitude 10 minutes after departure.

**DEDHD TRANSITION (NIITE3.DEDHD)**

**GOBBS TRANSITION (NIITE3.GOBBS)**

**GRTFL TRANSITION (NIITE3.GRTFL)**

**MOGEE TRANSITION (NIITE3.MOGEE)**

**orreca TRANSITION (NIITE3.ORRCA)**

**SYRAH TRANSITION (NIITE3.SYRAH)**

**TIPRE TRANSITION (NIITE3.TIPRE)**
SAN FRANCISCO, CALIFORNIA

OFFSHORE TWO DEPARTURE

NOTE: Chart not to scale.

TAKEOFF MINIMUMS

Rwys 1L/R: Standard with minimum climb of 460' per NM to 1900.
Rwys 28L/R: Standard with minimum climb of 351' per NM to 1300.

(NARRATIVE ON FOLLOWING PAGE)
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climbing left turn heading 333° to intercept SFO VOR/DME R-350 to cross SEPDY INT/SFO VOR/DME 4 DME at or above 1600. Thence . . . .

TAKEOFF RUNWAYS 28L/R: Climb on SFO VOR/DME R-281 to cross SENZY INT/SFO VOR/DME 6 DME at or above 2500. Thence . . . .

. . . . climbing left turn heading 203° to intercept PYE R-151 to cross SEGUL INT/PYE 68 DME at or above 16000, then on PYE R-151 to cross CYPRS INT/PYE 101 DME at or above FL220. Then on MQO R-295 to MCKEY INT/MQO 21 DME, then on assigned (transition). Maintain ATC assigned altitude. Expect filed altitude 10 minutes after departure.

FELLOWS TRANSITION (OFFSH2.FLW): From over MCKEY INT on MQO R-295 to MQO VORTAC, then on MQO R-086 and FLW R-266 to FLW VOR/DME.

GAVIOTA TRANSITION (OFFSH2.GVO): From over MCKEY INT on MQO R-295 to MQO VORTAC, then on MQO R-126 and GVO R-307 to GVO VORTAC.

SAN MARCUS TRANSITION (OFFSH2.RZS): From over MCKEY INT on MQO R-295 to MQO VORTAC, then on MQO R-116 and RZS R-299 to RZS VORTAC.

SANTA CATALINA TRANSITION (OFFSH2.SXC): From over MCKEY INT on BSR R-131 to DAISY INT then on SXC R-287 to SXC VORTAC.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 10L: Climb on heading 104° to 520, then climb direct ORYAN, then on track 102° to SAHEY, thence . . . .

TAKEOFF RUNWAY 10R: Climb on heading 104° to 520, then climb direct URRSA, then on track 101° to SAHEY, thence . . . .

TAKEOFF RUNWAYS 19L/R: Climb on heading 194° to 520, then climbing left turn direct to SAHEY, thence . . . .

. . . . on (transition). Maintain FL190, expect filed altitude 10 minutes after departure.

KAYEX TRANSITION (SAHEY4.KAYEX)
KTINA TRANSITION (SAHEY4.KTINA)
NTELL TRANSITION (SAHEY4.NTELL)
SUSEY TRANSITION (SAHEY4.SUSEY)

NOTE: Chart not to scale.
SAN FRANCISCO FOUR DEPARTURE

**TOP ALTITUDE:**

**ASSIGNED BY ATC**

RED BLUFF

115.7

RBL

104

N40°05.93’-W122°14.18’

L-2, H-3

**TAKEOFF MINIMUMS**

 Rwys 1L/R: Standard.
 Rwys 28L/R: Standard with a minimum climb of 351’ per NM to 1300.

**NOTE:** RADAR required.
**NOTE:** Rwys 1L/R: DME required.

**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAYS 1L/R:** Climbing right turn heading 033° or ATC assigned heading to cross SFO 6 DME at or above 3000 for RADAR vectors to assigned route/fix. Expect further clearance to filed altitude 10 minutes after departure.

**TAKEOFF RUNWAYS 28L/R:** Climb on SFO VOR/DME R-281 to NORMM INT/SFO 13 DME; then expect RADAR vectors to assigned route/fix. Expect further clearance to filed altitude 10 minutes after departure.

**LOST COMMUNICATIONS:**
If not in contact with departure control after reaching 3000, continue climb to filed altitude and proceed direct to assigned route/fix.
TOP ALTITUDE: 3000

NOTE: RNAV 1.
NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L/R: Climb heading 284° to 520, then direct KYNNG, then on depicted route to SNTNA. Thence . . . .

. . . .on (transition). Maintain 3000. Expect filed altitude 10 minutes after departure.

DEDHD TRANSITION (SNTNA2.DEDHD)
GRTFL TRANSITION (SNTNA2.GRTFL)
MOGEE TRANSITION (SNTNA2.MOGEE)
ORRCA TRANSITION (SNTNA2.ORRCA)
SYRAH TRANSITION (SNTNA2.SYRAH)
TIPRE TRANSITION (SNTNA2.TIPRE)

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climb on heading 014° to 520 and at or below 210K, then climbing left turn direct SSTIK, then climbing left turn direct to cross PORTE at or below 10000. Thence . . . . . . on (transition). Maintain FL190, expect filed altitude 10 minutes after departure.

KAYEX TRANSITION (SSTIK5.KAYEX)
KTINA TRANSITION (SSTIK5.KTINA)
NTELL TRANSITION (SSTIK5.NTELL)
SUSEY TRANSITION (SSTIK5.SUSEY)
YYUNG TRANSITION (SSTIK5.YYUNG)

TAKEOFF MINIMUMS
Rwys 10L/R, 19L/R, 28L/R: NA-ATC.
Rwys 1L/R: Standard with minimum climb of 500’ per NM to 1600.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L, 1R: Climb heading 014° to 520, then right turn direct TYDYE, cross TYDYE at or above 3000, then on track 043° to TRUKN. Thence . . .

TAKEOFF RUNWAYS 28L, 28R: Climb heading 284° to 520 and at or below 210K, then right turn direct TRUKN. Thence . . .

. . . .on (transition). Maintain FL190. Expect filed altitude 10 minutes after departure.

DEDHD TRANSITION (TRUKN2.DEDHD)

GRFTL TRANSITION (TRUKN2.GRFTL)

MOGEE TRANSITION (TRUKN2.MOGEE)

ORRCA TRANSITION (TRUKN2.ORRCA)

SYRAH TRANSITION (TRUKN2.SYRAH)

TIpre TRANSITION (TRUKN2.TIpre)

NOTE: RNAV 1.
NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.
NOTE: Rwys 28L/R do not exceed 210K until leaving 520’.

NOTE: Chart not to scale.
NOTE: RNAV 1.

NOTE: DME/DME/IRU or GPS required.

NOTE: RADAR required for non-GPS equipped aircraft.

NOTE: Do not exceed 210K until leaving 520 feet.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 28L/R: Climb on heading 284° to 520, then climb direct to cross WESLA at or above 2000 at or below 230K, then climbing left turn direct PORTE, thence . . .

. . . on (transition). Maintain 3000, expect filed altitude 10 minutes after departure.

KAYEX TRANSITION (WESLA5.KAYEX)

KTINA TRANSITION (WESLA5.KTINA)

NTELL TRANSITION (WESLA5.NTELL)

SUSEY TRANSITION (WESLA5.SUSEY)

YYUNG TRANSITION (WESLA5.YYUNG)
ILS or LOC RWY 12R
NORH HILS MINA NABC LN INTL (SJ C)

DME required.
For inoperative MALSR, increase S-LOC 12R
Cat C/D visibility to 1 mile.

MALSR
Rwy 12R

MISSPED APPROACH: Climb to 500 then climb to 4000
on SJC VOR/DME R-121 to GILRO/SJC 26.7 DME
and hold.

D-ATIS
126.95
NORCAL APP CON
120.1
SAN JOSE TOWER *
124.0 [CTAF] 3 257.6
GND CON
121.7
CLNC DEL
118.0
CPDLC
122.95
UNICOM

Radar Required

VGSi and ILS glidepath not coincident
(VGSi Angle 3.00°/LOC 75).

 CATEGORY  A  B  C  D  
 S-ILS 12R  251-1/2  205 (200-1/2)  
 S-LOC 12R  420-1/2  374 (400-1/2)  420-1/2  374 (400-1/2)  
 SIDESTEP  RWY 12L  600-1  556 (600-1)  600-1  556 (600-1)  600-2  556 (600-2)  600-2  556 (600-2)
ILS or LOC RWY 30L
NORMAN Y MINETA SAN JOSE INTL (SJC)

SAN JOSE, CALIFORNIA
AL-693 (FAA)

LOC/DME  I-SJC
110.9
Chan 46

APP CRS
306°

30L 30R
Rwy Idg  7614  7597
TDZE  57  55
Apt Elev  62  62

D-ATIS 126.95
NORCAL APP CON 120.1 290.25
SAN JOSE TOWER * 124.0 (CTAF) 0 257.6
GND CON 121.7
CLNC DEL 118.0
CPDLC
UNICOM 122.95

AIRTRAQ INT
SJC

LOCALIZER
SJC

113.9 OSI
R-053
Chan 86

SAN JOSE
114.1 SJC
Chan 88

ARTQA INT
SJC

112°

γ

706

207

284

60°

396

713°

2700

306° (2)

3960

3600

306°

126°

4000

284

13.4

1.6 NM

1.2 NM

2 NM

1.8 NM

3.3 NM

CATEGORY
A
B
C
D

S-ILS 30L#
257/24
200 (200-½)

S-LOC 30L
640/24  583 (600-½)
640-1½  583 (600-1½)
640-1½  585 (600-1½)
640-2  585 (600-2)

SIDESTEP 30R
640-1  585 (600-1)
585 (600-1½)
585 (600-2)

SAN JOSE, CALIFORNIA
Amdt 26 10SEP20

110.9
Chan 46

306°

112°

γ

706

207

284

60°

396

713°

2700

306° (2)

3960

3600

306°

126°

4000

284

13.4

1.6 NM

1.2 NM

2 NM

1.8 NM

3.3 NM

CATEGORY
A
B
C
D

S-ILS 30L#
257/24
200 (200-½)

S-LOC 30L
640/24  583 (600-½)
640-1½  583 (600-1½)
640-1½  585 (600-1½)
640-2  585 (600-2)

SIDESTEP 30R
640-1  585 (600-1)
585 (600-1½)
585 (600-2)
For uncompensated Baro-VNAV systems, procedure NA below 0°C (32°F) or above 54°C (130°F). GPS required.

MISSED APPROACH: Climb to 4600 on track 126° to COKOR and on track 124° to GILRO and hold.

See planview for multiple IF locations.

For uncompensated Baro-VNAV systems, procedure NA below 0°C (32°F) or above 54°C (130°F). GPS required.

MISSED APPROACH: Climb to 4600 on track 126° to COKOR and on track 124° to GILRO and hold.

See planview for multiple IF locations.

For uncompensated Baro-VNAV systems, procedure NA below 0°C (32°F) or above 54°C (130°F). GPS required.

MISSED APPROACH: Climb to 4600 on track 126° to COKOR and on track 124° to GILRO and hold.

See planview for multiple IF locations.
RNAV (RNP) Z RWY 30L
NORMAN Y MINETA SAN JOSE INTL (SJC)

For uncompensated Baro-VNAV systems, procedure NA below 1°C or above 54°C. For inoperative ALS, increase RNP 0.10 all Cats visibility to RVR 5500 and increase RNP 0.30 all Cats visibility to 1 SM.

MISSED APPROACH: Climb to 2000 on track 306° to ARTAQ and hold.

See planview for multiple IF locations.
RNAV (RNP) Z RWY 30R
NORMAN Y MINETA SAN JOSE INTL (SJJC)

For uncompensated Baro-VNAV systems, procedure NA below 1°C or above 54°C.

MISSED APPROACH: Climb to 600 then climb to 2000 direct ARTAQ and hold.

See planview for multiple IF locations.

AUTHORIZATION REQUIRED
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1°C (31°F) or above 54°C (130°F). DME/DME RNP 0.3 NA.

**MISSING APPROACH:** Climb to 4600 direct COKOR and on track 124° to GILRO and hold.

**VGS and RNAV glides path not coincident (VGS Angle 3.00°/TCH 70).**
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1°C (31°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. For inoperative MALSR, increase LNAV/VNAV all Cats visibility to 1 mile and LNAV Cats C/D visibility to 1½ mile.

**RADAR REQUIRED**

VGSi and RNAV glidepath not coincident (VGSi Angle 3.00°/TCH 75).

**CATEGORIES**

- **A**
  - LPV DA
  - LNAV/VNAV DA
  - LNAV MDA
  - SIDESTEP 12L

- **B**
  - 246°
  - 200 (200-½)

- **C**
  - 1.3 NM to RW12R

- **D**
  - 2 NM
  - 4.1 NM
  - 1.3 NM

**MISSED APPROACH:** Climb to 4600 direct HIVAK and on track 124° to GILRO and hold.

**ARTAQ**

- 126° to RW12R
- 126° (2)
- 126° (2)
- 246° (2)

**UNICOM**

- 122.95 (CTAF)

**GPS 3.00° TCH 5B**

- 371-½ 474 (500-½)
- 371-1 325 (400-1)
- 520-1/2 474 (500-½)
- 520-1 474 (500-1)
- 520-1 474 (500-1)
- 520-2 474 (500-2)

**MALSR**

- 126° 4600

**MISSED APCH FIX**

- 5 NM
FAIRGROUNDS VISUAL APPROACH RUNWAYS 30L/R

FROM WEST-NORTHWEST: From over Lexington Reservoir northeast to shopping mall at Hi-ways 85/87 then to a turn onto final southeast fairgrounds and adjoining memorial park.
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

AIRPORT DIAGRAM

SAN JOSE, CALIFORNIA

NORMAN Y MINETA SAN JOSE INTL (SJC)

AL-693 (FAA)

AIRPORT DIAGRAM

21056

NORMAN Y MINETA SAN JOSE INTL (SJC)

SAN JOSE, CALIFORNIA

21056

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

AIRPORT DIAGRAM

21056

NORMAN Y MINETA SAN JOSE INTL (SJC)

SAN JOSE, CALIFORNIA

21056

SW-2, 07 OCT 2021 to 02 DEC 2021

FIELD ELEV 62

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

AIRPORT DIAGRAM

21056

NORMAN Y MINETA SAN JOSE INTL (SJC)

SAN JOSE, CALIFORNIA

21056

SW-2, 07 OCT 2021 to 02 DEC 2021

FIELD ELEV 62

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

TAKING OFF RUNWAYS 12L/R: Climb heading 126°
to 570, then direct to NEVSE, then on track 039° to
KIELY, then on track 348° to cross ALMDN at or below
12000. Thence...

. . . . . . . . . . on (transition). Maintain 15000 or lower filed
altitude, expect higher altitude 10 minutes after departure.

HRNER TRANSITION (ALMDN4.HRNER)
MOGEE TRANSITION (ALMDN4.MOGEE)
ORRCA TRANSITION (ALMDN4.ORRCA)
SYRAH TRANSITION (ALMDN4.SYRAH)
TIPRE TRANSITION (ALMDN4.TIPRE)

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 12L/R: Climb heading 126° or as assigned by ATC, expect RADAR vectors to cross GRRIF at or above 13000, then on track 343° to BMRNG, thence . . . . on (transition). Maintain 15000. Expect filed altitude 10 minutes after departure.

HRNER TRANSITION (BMRNG4.HRNER)
MOGEE TRANSITION (BMRNG4.MOGEE)
ORRCA TRANSITION (BMRNG4.ORRCA)
SYRAH TRANSITION (BMRNG4.SYRAH)
TIPRE TRANSITION (BMRNG4.TIPRE)

NOTE: Chart not to scale.
LOUPE FIVE DEPARTURE

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 30L/R: Climb heading 306°, at SJC VOR/DME 1.8 DME northwest turn right heading 090° to intercept OAK R-120 to BLNCH, then turn right heading 180° for RADAR vectors to SJC VOR/DME, then on SJC R-340 to BMRNG INT. Maintain 5000, expect filed altitude 10 minutes after departure.

LOST COMMUNICATIONS

RUNWAYS 30L/R: If not in contact with departure control upon reaching BLNCH, depart BLNCH heading 180°. When able turn right direct SJC VOR/DME, cross SJC VOR/DME at or above 12000, then on SJC R-340 to BMRNG INT before proceeding on course.

NOTE: Do not turn direct SJC VOR/DME or intercept SJC R-340 until instructed to do so by ATC.

NOTE: RADAR and DME required.

TOP ALTITUDE: 5000
**NOTE:** DME and RADAR required.

**NOTE:** Chart not to scale.

### DEPARTURE ROUTE DESCRIPTION

**TAKEOFF RUNWAYS 30L/R:** Climb heading 306° to SJC 1.8 DME NW of SJC VOR/DME, then turn right to intercept and proceed on OAK R-121 to MOONY INT, thence . . .

. . . .on (transition) or (assigned route). Maintain 5000, expect clearance to filed altitude ten minutes after departure.

**AVENAL TRANSITION (SJC3.AVE):** From over MOONY INT on OAK R-121 and AVE R-304 to AVE VOR/DME.

**PANOCHE TRANSITION (SJC3.PXN):** From over MOONY INT on PXN R-288 to PXN VORTAC.
TOP ALTITUDE: ASSIGNED BY ATC

NOTE: Chart not to scale.

NOTE: DME required for Rwys 30L/R departures.
NOTE: RADAR required.
NOTE: SUNOL DEPARTURE restricted to prop aircraft only.

TAKEOFF MINIMUMS
Rwys 12L/R: Standard with a minimum climb of 330’ per NM to 4500.
Rwys 30L/R: Standard with a minimum climb of 480’ per NM to 4000.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 12L/R: Climb heading 126° to intercept and proceed on OAK R-129 to 4500, then turn left heading 303° for RADAR vectors to intercept and proceed on SJC R-009 to cross SUNOL at 5000, thence...

TAKEOFF RUNWAYS 30L/R: Climb heading 306° at SJC 1.8 DME northwest of SJC VOR/DME, turn right heading 043° to intercept and proceed on SJC R-009 to cross SUNOL at 5000, thence...

...then on (transition) or (assigned route). Maintain ATC assigned altitude.

LINDEN TRANSITION (SUNOL1.LIN): From over SUNOL on LIN R-217 to LIN VOR/DME.

SACRAMENTO TRANSITION (SUNOL1.SAC): From over SUNOL on SAC R-177 to SAC VORTAC.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 12L, 12R: Climb heading 126° to 570, then direct NEVSE, then on track 115° to cross TECKY at or above 13000, thence. . . .

TAKEOFF RUNWAY 30L: Climb heading 306° to 570, then direct to cross STCLR at or above 900 or below 230K, then right turn direct to cross SPTNS at 5000, then on track 125° to cross TECKY at or above 13000, thence. . . .

TAKEOFF RUNWAY 30R: Climb heading 306° to 570, then direct to cross MLPTS at or above 900 or below 230K, then right turn direct to cross SPTNS at 5000, then on track 125° to cross TECKY at or above 13000, thence. . . .

. . . .on (transition), maintain FL190. Expect filed altitude 10 minutes after departure.

EBAYE TRANSITION (TECKY3.EBAYE)
LOSHN TRANSITION (TECKY3.LOSHN)
RNAV (GPS) RWY 13L
REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)

**RNP APCH.**

\[ \triangle \text{NA} \]

Circling RWY 13L NA at night. RWY 13L helicopter visibility reduction below 3/4 SM NA. VDP NA with Norman Y Mineta San Jose Intl altimeter setting. When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase all DAs 25 feet and all MDAs 40 feet; increase LPV# visibility to 1 1/2 SM. Circling east of RWY 13L-31R NA at night.

**ATIS** 125.2

**NORCAL APP CON** 120.1 290.25

**REID-HILLVIEW TOWER**

- (Rwy 13L-31R)
- (Rwy 13R-31L)

**119.8 (CTAF) 126.1**

**GND CON** 121.65

**UNICOM** 122.95

**Procedure NA for arrivals at DECOT on V107 northwest bound.**

**MISSED APPROACH:** Climb to 1900 then climbing right turn to 5000 direct GILRO and hold.

# Missed approach requires minimum climb of 300 feet per NM to 2800.
**RNAV (GPS) Y RWY 31R**

**REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)**

### MISSED APPROACH

Climb to 4000 direct DECOT and hold.

**Final approach course offset 5.01°.**

**Procedure NA for arrivals at CATHE on V107 southeast bound.**

**Procedure NA for arrivals at GILRO on T333 southeast bound.**

**RNLP APCH.**

- **Circling Rwy 31L NA at night. RW31R helicopter visibility reduction below 3/4 SM NA. VDP NA when using Norman Y Mineta San Jose Intl altimeter setting. Circling east of Rwy 13L-31R NA at night. When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase all MDAs 40 feet.**

### ATIS

<table>
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<tr>
<th>ATIS</th>
<th>NORCAL APP CON</th>
<th>REID-HILLVIEW TOWER</th>
<th>GND CON</th>
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<tr>
<td>125.2</td>
<td>120.1</td>
<td>119.8 (CTAF)</td>
<td>126.1</td>
<td>122.95</td>
</tr>
</tbody>
</table>

### RNAV (GPS) Y RWY 31R

- **ECYON**: 4000
- **UBIPE**: 4084
- **SIKEW**: 312°
- **TCH 45°**: 303°

### LNAV MDA

- **A**: 1300-1 1/4, 1167 (1200-1 1/4)
- **B**: 1300-1 1/2, 1167 (1200-1 1/4)
- **C**: NA
- **D**: NA

### CATEGORY

- **A**: 1300-1 1/4, 1167 (1200-1 1/4)
- **B**: 1300-1 1/2, 1165 (1200-1 1/4)
- **C**: NA

**SW-2, 07 OCT 2021 to 02 DEC 2021**

**SAN JOSE, CALIFORNIA**

**Amdt 1 10SEP20**
RNAV (GPS) Z RWY 31R
REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

Procedure NA for arrivals at CATHE on W173 southeast bound.

Procedure NA for arrivals at GILRO on T333 southeast bound.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

RNAV (GPS) Z RWY 31R
REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)

Procedure NA for arrivals at CATHE on W173 southeast bound.

Procedure NA for arrivals at GILRO on T333 southeast bound.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

RNAV (GPS) Z RWY 31R
REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)

Procedure NA for arrivals at CATHE on W173 southeast bound.

Procedure NA for arrivals at GILRO on T333 southeast bound.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

RNAV (GPS) Z RWY 31R
REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)

Procedure NA for arrivals at CATHE on W173 southeast bound.

Procedure NA for arrivals at GILRO on T333 southeast bound.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

RNAV (GPS) Z RWY 31R
REID-HILLVIEW OF SANTA CLARA COUNTY (RHV)

Procedure NA for arrivals at CATHE on W173 southeast bound.

Procedure NA for arrivals at GILRO on T333 southeast bound.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.

When control tower closed, use Norman Y Mineta San Jose Intl altimeter setting and increase DA to 558 feet and visibility to 1½ SM. RWy 31R helicopter visibility reduction below 3/4 SM NA.
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF MINIMUMS
Rwys 31L/R: Standard.
Rwys 13L/R: NA- environmental.

TAKEOFF OBSTACLE NOTES
Rwys 31L/R: Trees 1070’ from DER, 500’ right and left of centerline, 173’ and 169’ MSL.
Rwy 31R: Light 125’ from DER, 370’ right of centerline, 159’ MSL.

NOTE: Chart not to scale.

NOTE: RNAV 1.
NOTE: GPS required.

SW-2. 07 OCT 2021 to 02 DEC 2021
RNAV (GPS) RWY 32
SAN MARTIN (E16)

Circling NA southwest of Rwy 14-32. Rwy 32 helicopter visibility reduction below 3/4 SM NA.

Procedures for NA for arrivals at ULEY on T333 southeast bound.

AWOS-3P 118.35
NORCAL APP CON 124.525 348.675
UNICOM 122.7 (CTAF) 0

MISSED APPROACH: Climb to 1700 then climbing left turn to 3500 direct ACETY and hold.

Procedure NA for arrivals at ULEY on T333 southeast bound.

Procedure NA for arrival on SNS VORTAC airway radials 264 CW 068.

1.8 NM to RW32

ACETY 3500

GELVY 4.00° TCH 40

RNAV (GPS) RWY 32
SAN MARTIN (E16)

Amdt 1 05NOV20

37°05'N-121°36'W

SAN MARTIN, CALIFORNIA
AL-9260 (FAA)

SW-2, 07 OCT 2021 to 02 DEC 2021
**ILS or LOC RWY 32**

**CHARLES M SCHULZ-SONOMA COUNTY (STS)**

**DME required.**

- Autopilot coupled approach NA below 1038’ MSL. DME from STS DME. DME use requires simultaneous reception of I-STS and STS DME. For inop ALS increase S-ILS 32 visibility all Cats to RVR 4500, S-LOC 32 Cats A/B to RVR 5500.

**MISSED APPROACH:** Climb to 1020 then climb to 6000 on ENI VORTAC R-131 to CABEX/ENI VORTAC 18 DME and hold, continue climb-in-hold to 6000.

**ATS**

- 120.55

**GND CON**

- 122.95

**UNICOM**

- 122.95

**ATIS**

- 120.55

**Rwy Idg**

- 6000

**TWRZE**

- 122

**Apt Elev**

- 129

**MALSR**

- 201

**APP CRS**

- 321°

**TPW**

- 0.3%

**UP**

- 201

**TWR**

- 321°

**MALSR**

- 201

**ILS or LOC RWY 32**

- 321°

**S-ILS 32**

- 580/24

**S-LOC 32**

- 580/45

**GS 3.0°**

- 53

**CABEX**

- 111.1

**SAUSALITO**

- 116.2

**LOCALIZER**

- 109.3

**LOCALIZER**

- 122.95

**LOCALIZER**

- 142.0

**LOCALIZER**

- 150.0

**LOCALIZER**

- 151.0

**LOCALIZER**

- 177.0

**LOCALIZER**

- 194.0

**LOCALIZER**

- 197.0

**LOCALIZER**

- 201.0

**LOCALIZER**

- 202.0

**LOCALIZER**

- 208.0

**LOCALIZER**

- 212.0

**LOCALIZER**

- 218.0

**LOCALIZER**

- 220.0

**LOCALIZER**

- 222.0

**LOCALIZER**

- 228.0

**LOCALIZER**

- 230.0

**LOCALIZER**

- 238.0

**LOCALIZER**

- 242.0

**LOCALIZER**

- 247.0

**LOCALIZER**

- 250.0

**LOCALIZER**

- 255.0

**LOCALIZER**

- 259.0

**LOCALIZER**

- 261.0

**LOCALIZER**

- 264.0

**LOCALIZER**

- 266.0

**LOCALIZER**

- 268.0

**LOCALIZER**

- 270.0

**LOCALIZER**

- 272.0

**LOCALIZER**

- 275.0

**LOCALIZER**

- 280.0

**LOCALIZER**

- 281.0

**LOCALIZER**

- 285.0

**LOCALIZER**

- 291.0

**LOCALIZER**

- 296.0

**LOCALIZER**

- 300.0

**LOCALIZER**

- 301.0

**LOCALIZER**

- 302.0

**LOCALIZER**

- 303.0

**LOCALIZER**

- 321.0
Procedure NA for arrivals at BOARS on V199 southeast bound.

Procedure NA for arrivals on PYE VOR/DME airway radials 335 CW 349.

MISSED APPROACH: Climb to 6000 direct UVNOQ and on track 291° to CABEX and hold, continue climb-in-hold to 6000.
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
NOTE: Chart not to scale.

NOTE: RADAR required.

TAKEOFF MINIMUMS
Rwy 2: Standard with minimum climb of 300’ per NM to 2100.
Rwy 14: Standard with minimum climb of 285’ per NM to 2500.
Rwy 20: Standard with minimum climb of 265’ per NM to 2200.
Rwy 32: Standard with minimum climb of 375’ per NM to 2200.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 2: Climbing left turn on a heading between 200° CW to 305° from DER, thence . . . .

TAKEOFF RUNWAY 14: Climb on a heading between 110° CW to 315° from DER, thence . . . .

TAKEOFF RUNWAY 20: Climb on a heading between 100° CW to 250° from DER, thence . . . .

TAKEOFF RUNWAY 32: Climbing left turn on a heading between 145° CW to 315° from DER, thence . . . .

. . . . expect RADAR vectors to join assigned route. Maintain ATC assigned altitude; expect filed altitude/flight level ten minutes after departure.

LOST COMMUNICATIONS: If not in contact with Oakland Center after reaching 4000, proceed direct to the PYE VOR/DME. Thence via assigned route.
RNAV (GPS) RWY 18
LAKE TAHOE (TVL)

Circling NA at night. RWy 18 helicopter visibility reduction below 1/2 SM NA. When local altimeter setting not received, procedure NA. Circling NA east of RWy 18-36.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 36: Climbing left turn on heading 343° to intercept the SWR VOR/DME R-117 northwest bound. Cross RICHY/SWR 16 DME at or above 8300, cross SWR at or above 11000. Thence . . . .

. . . .on assigned route (Aircraft cleared on a transition turn left to intercept the SWR R-117 southeast bound to cross RICHY at or above 13000). Maintain ATC assigned altitude.

GENNE TRANSITION (RICHY7.GENNE): From over RICHY INT on SWR R-117 to GENNE.

MARRI TRANSITION (RICHY7.MARRI): From over RICHY INT on SWR R-117 to MARRI.

SPOOK TRANSITION (RICHY7.SPOOK): From over RICHY INT on FMG R-192 to SPOOK INT.

TILTS TRANSITION (RICHY7.TILTS): From over RICHY INT on SWR R-117 to TILTS.

NOTE: DME required.
NOTE: Chart not to scale.
Reduced lighting: requires specific OPSPEC, MSPEC, or LOA approval and use of autoland or HUD to touchdown. Procedure NA when tower closed.

Procedure NA for arrivals at LIN VOR/DME on V28-244 northeast bound.
RNAV (GPS) RWY 29R
STOCKTON METRO (SCK)

**ATIS**
118.25

**APRC CRS**
SE-NW 123.85 278.3
N-S 125.1 363.2

**STOCKTON TOWER**
120.3 (CTAF) 239.0

**GND CON**
121.9

**UNICOM**
122.95

**Apt Elev**
33

**TDZE**
32

**MALSR**
33

**Amdt 2  20JUN19**

---

**37°54' N-121°14' W**

**STOCKTON, CALIFORNIA**

**AIRWAY**

30 NM to RW29R

**WIGBI**
1.4 NM to RW29R

**IPDEW**
(IF/IAF) OXJEF
2000
6000

**Holding Pattern**

**2700**

**HAXEK**

**OXJEF**

**VGSi and RNAV glidepath not coincident**
(VGSi Angle 3.00/TCH 71).

**LPV**

**DA**

232/24 200 (200-½)

**LNAV/ VNAV**

**DA**

320/24 288 (300-½)

**LNAV MDA**

420/24 388 (400-½)

420/35 388 (400-¾)

**CIRCLING**

500-1 467 (500-1)

507 (600-1)

640-1¾ 607 (700-1¾)

607 (700-2)

**STOCKTON METRO (SCK)**

**RNAV (GPS) RWY 29R**
### RNAV (GPS) RWY 29

**SUSANVILLE MUNI (SVE)**

**APP CRS** 297°

<table>
<thead>
<tr>
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<th>C</th>
<th>D</th>
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<tr>
<td>LNAV MDA</td>
<td>5760-1 1/4</td>
<td>5760-1 1/2</td>
<td>5760-3</td>
<td>1614 (1700-1 1/2)</td>
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<tr>
<td>CIRCLING</td>
<td>5760-1 1/4</td>
<td>5760-1 1/2</td>
<td>5760-3</td>
<td>1611 (1700-1 1/2)</td>
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**AWOS-3**

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**OAKLAND CENTER**

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**UNICOM**

<table>
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<tr>
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<th>TDZE</th>
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</thead>
<tbody>
<tr>
<td>122.8 (CTAF)</td>
<td>122.8</td>
</tr>
</tbody>
</table>

**DME/DME RNP-0.3 NA. When local altimeter setting not received, use Reno/Stead altimeter setting and increase all MDA 720 feet. Circling to Rwy 7/25 NA. Rwy 29 helicopter visibility reduction below 3/4 SM NA.**

**MISSING APPROACH:** Climbing right turn to 14000 direct AHC VOR/DME and hold, continue climb-in-hold to 14000.
Circling NA for Cat D southwest of Rwy 11-29. When local altimeter setting not received, procedure NA. Circling NA to Rwy 7/25.

Misplaced Approach: Climbing left turn to 14000 direct AHC VOR/DME and hold, continue climb-in-hold to 14000.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 11: Climb via 112° heading and AHC R-267 to AHC VOR/DME, then clearance. Or climb in visual conditions to cross Susanville Muni Airport eastbound at or above 6000', then via AHC R-272 to AHC VOR/DME, then clearance. Or climb in visual conditions to cross Susanville Muni Airport eastbound at or above 8900'. Climb in AHC holding pattern to depart AHC VOR/DME at or above 14000 before proceeding on course.
**RNAV (GPS) RWY 12**

**TRACY MUNI (TCY)**

### RNP APCH

For uncompensated Baro-VNAV systems, UNAV/VNAV NA below -15°C or above 54°C. Circling NA southwest of RW 12-30. Baro-VNAV and VDP NA when using Stockton altimeter setting. Circling Rwy 30 NA at night. Rwy 12 helicopter visibility reduction below 4/8 SM NA. When local altimeter setting not received, use Stockton altimeter setting: increase all MDAs 507 feet; increase all DAs 60 feet and visibilities LNAV Cat C 1/8 SM NA.

### MISSED APPROACH:

Climb to 700 then climbing left turn to 3200 direct HAIRE and hold.

### AWOS-3

- **Category**: 3583
- **NORCAL APP CON**: 118.375
- **UNICOM**: 123.075

### Procedure NA for arrivals at ALTAM on V334-392 southbound.

### Holding Pattern

- 4 NM: OYOSO
- 296°: 116°
- 3100: 116°
- GP 3.00°: TCH 41

### Category

- **DP**: 443-7/8
- **LPV**: 250 (300-7/8)
- **RNAV/VNAV**: 254 (300-7/8)
- **RNAV MDA**: 327 (400-1)
- **CIRCLING**: 467 (500-1/2)

### Holding Pattern

- **ELEV**: 193
- **TDZE**: 193

### MIRL Rwys 8-26 and 12-30

- **15.5**: 017°
- **8.9**: 222°

### SW-2, 07 OCT 2021 to 02 DEC 2021

### AMENDMENT:

Amdt 2B 07NOV19
Baro-VNAV NA when using Stockton altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.5°C or above 54°C. Circling NA southwest of Rwy 12-30. Circling Rwy 30 NA at night. Rwy 26 helicopter visibility reduction below 3/4 SM NA. When local altimeter setting not received, use Stockton altimeter setting: increase LPV DA to 496 feet, increase LNAV/VNAV DA to 553 feet; increase all MDAs 60 feet and visibility LNAV Cat C 1/2 SM.

Procedure NA for arrivals at ALTAM on V28 southwest bound and V334 northbound.

Procedure NA for arrivals at PATYY on V111-113 southbound.

VRP APCH.

<table>
<thead>
<tr>
<th>WAAS CH 49040</th>
<th>APP CRS 255°</th>
<th>Rwy Idg 3438</th>
<th>TDZE 186</th>
<th>Apt Elev 193</th>
</tr>
</thead>
</table>

AWOS-3 118.375 NORCAL APP CON 123.85 278.3 UNICOM 123.075 (CTAF) 0

MISSED APPROACH: (Do not exceed 210K until OMWAP) Climb to 640 then climbing right turn to 3000 direct OMWAP and hold.

Baro-VNAV NA when using Stockton altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.5°C or above 54°C. Circling NA southwest of Rwy 12-30. Circling Rwy 30 NA at night. Rwy 26 helicopter visibility reduction below 3/4 SM NA. When local altimeter setting not received, use Stockton altimeter setting: increase LPV DA to 496 feet, increase LNAV/VNAV DA to 553 feet; increase all MDAs 60 feet and visibility LNAV Cat C 1/2 SM.

Procedure NA for arrivals at ALTAM on V28 southwest bound and V334 northbound.

Procedure NA for arrivals at PATYY on V111-113 southbound.
TRACY, CALIFORNIA

AWOS-3 118.375
NORCAL APP CON 123.85 278.3

UNICOM 123.075 (CTAF) ☎

MISSED APPROACH: Climbing right turn to 3000 direct LIN VOR/DME and hold.

UNICOM

VOR/RWY 26
TRACY MUNI (TCY)

DME required.

Circling NA southwest of Rwy 12-30. Circling Rwy 30 NA at night. Rwy 26 helicopter visibility reduction below ¾ SM NA. When local altimeter setting not received, use Stockton altimeter setting: increase all MDAs 60 feet and visibility Cat C ½ SM.

SW-2, 07 OCT 2021 to 02 DEC 2021
When Rwy 3R VGSI inop, circling to Rwy 3L not authorized at night. Circling not authorized NW of Rwy 3L-21R.

Missed Approach: Climb to 4400 direct WUNSU, track 316° to SEATO and hold, continue climb-in-hold to 4400.

Circling visibility reduction by helicopters not authorized.

DME/DME RNP-0.3 NA

For uncompensated Baro-VNAV systems, procedure NA below 15°F (59°F) or above 54°F (130°F).

HABAL

RNAV (GPS) Rwy 3L
lowercase
- When Rwy 3R VGS1 inop, circling to Rwy 3R not authorized at night. Circling not authorized NW of Rwy 3L-21R.

**MISSING APPROACH:** Climb to 2100 then climbing right turn to 4400 direct SEATO and hold, continue climb-in-hold to 4400.

**ATIS**
- 135.55 292.125
- TRAVIS APP CON
- 119.9 (S) 126.6 (N) 281.45
- TRAVIS TOWER
- 120.75 254.4
- GND CON
- 121.8 289.4
- CLNC DEL
- 127.55 335.8

Circling visibility reduction by helicopters not authorized.

For uncompensated Baro-VNAV systems, procedure NA below 2°C (36°F) or above 54°C (130°F).

DME/DME RNP 0.3 NA

**Radar Required**

**Emerg Safe Alt 100 NM 12,600 from RW21R**

<table>
<thead>
<tr>
<th>ELEV</th>
<th>TDZE</th>
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<tbody>
<tr>
<td>63</td>
<td>51</td>
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</table>

RNAV (GPS) RWY 21R

**FAIRFIELD, CALIFORNIA**

**Amdt 3 06DEC18**

**TRAVIS AFB (KSUU)**

**RNAV (GPS) RWY 21R**

**Missed Approach:** Climb to 2100 then climbing right turn to 4400 direct SEATO and hold, continue climb-in-hold to 4400.

**ATIS:**
- 135.55 292.125
- TRAVIS APP CON
- 119.9 (S) 126.6 (N) 281.45
- TRAVIS TOWER
- 120.75 254.4
- GND CON
- 121.8 289.4
- CLNC DEL
- 127.55 335.8

**Radar Required**

**Emerg Safe Alt 100 NM 12,600 from RW21R**

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<td>51</td>
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</table>

**RNAV (GPS) RWY 21R**

**Missed Approach:** Climb to 2100 then climbing right turn to 4400 direct SEATO and hold, continue climb-in-hold to 4400.

**ATIS:**
- 135.55 292.125
- TRAVIS APP CON
- 119.9 (S) 126.6 (N) 281.45
- TRAVIS TOWER
- 120.75 254.4
- GND CON
- 121.8 289.4
- CLNC DEL
- 127.55 335.8

**Radar Required**

**Emerg Safe Alt 100 NM 12,600 from RW21R**

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RNAV (GPS) RWY 21R

**FAIRFIELD, CALIFORNIA**

**Amdt 3 06DEC18**

**TRAVIS AFB (KSUU)**

**RNAV (GPS) RWY 21R**

**Missed Approach:** Climb to 2100 then climbing right turn to 4400 direct SEATO and hold, continue climb-in-hold to 4400.

**ATIS:**
- 135.55 292.125
- TRAVIS APP CON
- 119.9 (S) 126.6 (N) 281.45
- TRAVIS TOWER
- 120.75 254.4
- GND CON
- 121.8 289.4
- CLNC DEL
- 127.55 335.8

**Radar Required**

**Emerg Safe Alt 100 NM 12,600 from RW21R**

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</table>

RNAV (GPS) RWY 21R

**FAIRFIELD, CALIFORNIA**

**Amdt 3 06DEC18**

**TRAVIS AFB (KSUU)**

**RNAV (GPS) RWY 21R**

**Missed Approach:** Climb to 2100 then climbing right turn to 4400 direct SEATO and hold, continue climb-in-hold to 4400.

**ATIS:**
- 135.55 292.125
- TRAVIS APP CON
- 119.9 (S) 126.6 (N) 281.45
- TRAVIS TOWER
- 120.75 254.4
- GND CON
- 121.8 289.4
- CLNC DEL
- 127.55 335.8

**Radar Required**

**Emerg Safe Alt 100 NM 12,600 from RW21R**

<table>
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<th>ELEV</th>
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<tbody>
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<td>63</td>
<td>51</td>
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</table>

RNAV (GPS) RWY 21R

**FAIRFIELD, CALIFORNIA**

**Amdt 3 06DEC18**

**TRAVIS AFB (KSUU)**

**RNAV (GPS) RWY 21R**

**Missed Approach:** Climb to 2100 then climbing right turn to 4400 direct SEATO and hold, continue climb-in-hold to 4400.

**ATIS:**
- 135.55 292.125
- TRAVIS APP CON
- 119.9 (S) 126.6 (N) 281.45
- TRAVIS TOWER
- 120.75 254.4
- GND CON
- 121.8 289.4
- CLNC DEL
- 127.55 335.8

**Radar Required**

**Emerg Safe Alt 100 NM 12,600 from RW21R**

<table>
<thead>
<tr>
<th>ELEV</th>
<th>TDZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td>51</td>
</tr>
</tbody>
</table>
### TACAN RWY 3L

**ATIS**
- **135.55**
- **292.125**

**TRAVIS APP CON**
- **119.9 (S)**
- **126.6 (N)**
- **281.45**

**TRAVIS TOWER**
- **120.75**
- **254.4**

**GND CON**
- **121.8**
- **289.4**

**CLNC DEL**
- **127.55**
- **335.8**

**MISSED APPROACH**: Climb to 5000 via SUU TACAN R-042 to LAVNE, then turn left via 295° course to intercept SUU R-339 to SEATO and hold, continue climb in hold to 5000.

---

**FAIRFIELD, CALIFORNIA**

**ELEV 63**

**TDZE 34**

---

**EMERG SAFE ALT 100 NM 12,600 FROM SUU TACAN**

---

**CATEGORY**

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<tr>
<td>S-3L</td>
<td><strong>740/55</strong> 706 (700-1)</td>
<td><strong>740-2</strong> 706 (700-2)</td>
<td><strong>740-1</strong> 677 (700-1)</td>
<td><strong>740-2</strong> 677 (700-2)</td>
<td><strong>1200-3</strong> 1137 (1200-3)</td>
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---

**SW-2, 07 OCT 2021 to 02 DEC 2021**

**TRAVIS AFB** (KSSU)

---

**FAIRFIELD, CALIFORNIA**

**Amdt 5 18JUN20**
** Circling not authorized NW of Rwy 3L-21R.

ATC RADAR REQUIRED

EMERG SAFE ALT 100 NM 12,600 FROM SUU TACAN
°CIRCLING* 700-1 637 (700-1) 740-2 677 (700-2) 1200-3 1137 (1200-3)

† NON-STANDARD CLIMB GRADIENT

S-21R

<table>
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<td>S-21R</td>
<td>700-1 649 (700-1)  700-1 649 (700-1%)</td>
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FAIRFIELD, CALIFORNIA

Emerg Safe Alt 100 NM 12,600 From SUU TACAN

Airway T-2 07 OCT 2021 to 02 DEC 2021

TACAN RWY 21R

TRAVIS AFB (KSUU)

38°16'N-121°56'W

TRAVIS AFB (KSUU)

SW-2, 07 OCT 2021 to 02 DEC 2021
REJOY ONE DEPARTURE (RNAV) (REJOY1 • REJOY)

ATIS 135.55 292.125
CLNC DEL
127.55 335.8
GND CON
121.8 289.4
TOWER
120.75 254.4
TRAVIS DEP CON
126.6 306.9

[USAF] AL-488 (CIV)

YOGIE 175K
LINDEN TRANSITION
LINDEN LIN
HAIRE 5000
PANOCE PXN
7000

RNAV - GPS
ATC RADAR REQUIRED

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RWY 3 L/R: Climb on heading 035° to 2000, expect ATC RADAR vectors to YOGIE, then track 115° to cross REJOY at or above 3000. Thence...

TAKEOFF RWY 21L/R: Climb on heading 215° to 2000, expect ATC RADAR vectors to cross REJOY at or above 3000. Thence...

...via assigned transition. Maintain ATC assigned altitude. Expect further clearance to filed altitude within 10 minutes after departure.

AVENAL TRANSITION: (REJOY1 • AVE)
LINDEN TRANSITION: (REJOY1 • LIN)

REJOY ONE DEPARTURE (RNAV) (REJOY1 • REJOY)
Orig 07OCT21

FAIRFIELD, CALIFORNIA
TRAVIS AFB (KSUU)
Circling to Rwy 2, 11, 29 NA at night. Circling NA for Cat C south of Rwy 29 and east of Rwy 2. Rwy 20 Climb right turn to 12000 direct GRIOT and on track 016° to AWEGA and hold, continue climb-in-hold to 12000.

*Missed approach requires minimum climb of 270 feet per NM to 7700.

Final approach course offset 14.51°.

VGS and descent angles not coincident (VGS Angle 3.50/TCH 25).

Procedure NA for arrival on FMG VORTAC airway radials 218 CW 332.

Category A

**LP MDA** 6480-1 582 (600-1) 6480-1/4 582 (600-1/4) NA

**LP MDA** 6780-1 882 (900-1) 6780-1 882 (900-1) NA

**LNAV MDA** 7120-1 1222 (1300-1) 7120-1 1222 (1300-1) NA

**CIRCLING** 7120-1 1216 (1300-1) 7220-1 1316 (1400-1) 7700-3 1796 (1800-3) NA

Missed approach: (Do not exceed 200K until GRIOT)
Circling NA for Cat C south of Rwy 29 and east of Rwy 2. Procedure NA at night. When local altimeter setting not received, procedure NA.

Procedure NA for arrivals at SIGNA on V200-392 southwest bound.
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES. READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.
**TRUCK FOUR DEPARTURE (OBSTACLE)**

**NOTE:** Chart not to scale.

**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 2:** Climbing left turn to 11500 on heading 275° and SWR R-002 to TRUCK INT, thence. . . ., or for climb in visual conditions cross Truckee-Tahoe Airport heading 290° at or above 9100, then proceed on SWR R-002 to TRUCK INT. When executing VCOA, notify ATC prior to departure. Thence. . . .

**TAKEOFF RUNWAY 29:** Climbing right turn to 11500 on heading 320° and SWR R-002 to TRUCK INT, thence. . . ., or for climb in visual conditions cross Truckee-Tahoe Airport heading 290° at or above 9100, then proceed on SWR R-002 to TRUCK INT. When executing VCOA, notify ATC prior to departure. Thence. . . .

. . . .continue climb in TRUCK INT holding pattern to cross TRUCK INT at or above 11500 before proceeding on course.

**TAKEOFF MINIMUMS**

Rwys 11, 20: NA - Obstacles.

Rwy 2: Standard with minimum climb of 415’ per NM to 11500, or 3300-3 for climb in visual conditions.

Rwy 29: Standard with minimum climb of 500’ per NM to 11500, or 3300-3 for climb in visual conditions.

**TAKEOFF OBSTACLE NOTES**

Rwy 2: Trees beginning 2' from DER, 288' left of centerline, up to 60' AGL/5939' MSL.

Trees beginning 420' from DER, 312' right of centerline, up to 60' AGL/5939' MSL.

Rwy 29: Trees beginning 679' from DER, 507' left of centerline, up to 60' AGL/5997' MSL.

Trees beginning 116' from DER, 412' right of centerline, up to 60' AGL/5971' MSL.

**NOTE:** Chart not to scale.
TAHOE ONE DEPARTURE (RNAV) 

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 2: Climb heading 016° to 6420, then climbing left turn direct PWWDR. Thence . . . .

TAKEOFF RUNWAY 29: Climb heading 286° to 6420, then climbing right turn direct PWWDR. Thence . . . .

. . . . on track 322° to TAHOE, cross TAHOE at or above 11000. Continue climb in hold to 12000 before proceeding on assigned transition.

MUSTANG TRANSITION (TAHOE1.FMG)

SIGNA TRANSITION (TAHOE1.SIGNA)

TAKEOFF MINIMUMS

Rwys 11, 20: NA - Obstacles.
Rwy 2: Standard with minimum climb of 500’ per NM to 6420 then minimum climb of 425’ per NM to 11000.
Rwy 29: Standard with minimum climb of 500’ per NM to 10200.

NOTE: GPS required.
NOTE: RNAV 1.
NOTE: Chart not to scale.
RNAV (GPS) RWY 13
MEFFORD FIELD (TLR)

**APP CRS**
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<tbody>
<tr>
<td>Rwy Idg</td>
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<tr>
<td>TDZE</td>
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<tr>
<td>Apt Elev</td>
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**CATEGORY**

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<th>C</th>
<th>D</th>
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<tbody>
<tr>
<td>LNAV MDA</td>
<td>740-1</td>
<td>475 (500-1)</td>
<td>740-1/8</td>
</tr>
<tr>
<td>NA</td>
<td></td>
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</tbody>
</table>

| CIRCLING | 760-1 | 495 (500-1) | 760-1/2 | 495 (500-1/2) |
| NA       |       |       |       |       |

**RNAV (GPS) RWY 13**

**MISSED APPROACH:** Climbing right turn to 3000 direct JIRTA and hold, Continue climb-in-hold to 3000.

| AWOS-3PT | 120.0 |
| FRESNO APP CON | 118.5 268.7 |
| UNICOM    | 122.7 (CTAF) |

---

**Procedures:**

- **Circling Rwy 31 NA at night. Rwy 13 helicopter visibility reduction below 1/4 SM NA. When local altimeter setting not received, use Visalia altimeter setting and increase all MDA 40 feet.**
- **Procedure NA for arrivals at LATON on V23 northwest bound.**
- **Procedure NA for arrivals at LATON on V459 northwest bound.**
- **Procedure NA for arrivals at ALTTA on V459 northwest bound.**
- **Procedure NA for arrivals at LATON on V23 northwest bound.**

---

** Holding Pattern**

- 4 NM
- Holding Pattern
- 10000 3000
- 315°
- 3000
- 135°
- 3000
- 135°
- 135°
- 2000
- 3.04° to TCH 42
- 3.9 NM
- 6.1 NM
- 1.4 NM to RW13

---

**MOA:**

- **LEMOORE C MOA**
- **LEMOORE E MOA**

---

**MOAs:**

- **FOOTHILL 2 MOA**
- **8600**
- **MA RW13 25 NM**
- **1611**

---

**Regarding ATPL:**

- **RNAV (GPS) RWY 13**
- **MEFFORD FIELD (TLR)**
- **TULARE, CALIFORNIA**
- **AL-9107 (FAA)**

---

**Amdt 1 28FEB19**

**36°09’N-119°20’W**
DME required.

Circling Rwy 31 NA at night. Rwy 13 helicopter visibility reduction below 3/4 SM NA. When local altimeter setting not received, use Visalia altimeter setting and increase all MDA 40 feet and increase Cat C visibilities 1/8 SM. VDP NA with Visalia altimeter setting.

Procedure NA for arrivals at LATON on V23 northwest bound.

Procedure NA for arrivals at ALTTA on V459 northwest bound.

MISSED APPROACH: Climbing right turn to 2000 direct VIS VOR/DME and hold.
Circling NA west of Rwy 15-33. DME/DME RNAV 0.3 NA.
When local altimeter setting not received, procedure NA.

MISSING APPROACH: Climb to 6700 direct
AKGIC and via track 289° to MERRI and
hold, continue climb-in-hold to 6700.
Circling NA west of Rwy 15-33. When local altimeter setting not received, procedure NA.

MISSED APPROACH: Climbing left turn to 4000 via heading 140°, then climbing right turn to 6000 direct ENI VORTAC.
Circling NA west of Rwy 15-33.
When local altimeter setting not received, procedure NA.

Procedure NA for arrival at ENI VORTAC via V494 southeast bound.

Remain within 10 NM

When local altimeter setting not received, procedure NA.

Continue climb-in-hold to 6000 direct ENI VORTAC and hold.

MISSED APPROACH: Climbing left turn to 6000 direct ENI VORTAC and hold, continue climb-in-hold to 6000.

When local altimeter setting not received, procedure NA.

Procedure NA for arrival at ENI VORTAC via V494 southeast bound.
TAKEOFF MINIMUMS
Rwy 33: MENSE TRANSITION, minimum climb of 500’ per NM to 1120’, then minimum climb of 316’ per NM to 8200.
LAPED TRANSITION, minimum climb of 500’ per NM to 1120’, then minimum climb of 316’ per NM to 6000.
FLUEN/MENDOCINO TRANSITION, minimum climb of 500’ per NM to 1120’, then minimum climb of 316’ per NM to 8200.

NOTE: Do not exceed 230K until passing WAGUP.
NOTE: Do not exceed 230K until passing TRSAK.
NOTE: GPS required.
NOTE: RNAV-1.

DEPARTURE ROUTE DESCRIPTION
TAKEOFF RUNWAY 33: Climb heading 331° to 1120, then right turn direct to cross RONHU at or above 4000, thence . . . .
. . . . on assigned transition, maintain assigned altitude, expect filed altitude/flight level ten minutes after departure.

FLUEN TRANSITION (RONHU1.FLUEN)
LAPED TRANSITION (RONHU1.LAPED)
MENDOCINO TRANSITION (RONHU1.ENI)
MENSE TRANSITION (RONHU1.MENSE)
TAKING MINIMUMS
Rwy 15: Standard with minimum climb of 678' per NM to 3100.

NOTE: MERRI and SABBY TRANSITIONS:
Do not exceed 230K until passing BEYTT.

NOTE: GPS required.
NOTE: RNAV 1
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 15: Climb heading 151° to 3100', then left turn direct to cross RYPAX at or above 3500', thence...

.... on assigned transition, maintain assigned altitude, expect filed altitude/flight level ten minutes after departure.

GETER TRANSITION (RYPAX1.GETER)
LAPED TRANSITION (RYPAX1.LAPED)
MERRI TRANSITION (RYPAX1.MERRI)
SABBY TRANSITION (RYPAX1.SABBY)
RNAV (GPS) RWY 20
NUT TREE (VCB)

**Amdt 1B  12AUG21**

**Category** | A | B | C | D
--- | --- | --- | --- | ---
LPV DA# | 367-3/4 | 250 (300-3/4) |
LPV DA | 384-7/8 | 267 (300-3/4) |
LNAV/VNAV DA | 614-1 3/8 | 497 (500-1 3/8) |
LNAV MDA | 720-1 | 603 (700-1) |
CIRCLING | 720-1 | 603 (700-1) |

MISSED APPROACH: (Do not exceed 220K until IPENE) Climb to 580 then climbing left turn to 2100 direct IPENE and hold.

# Missed approach requires minimum climb of 229 feet per NM to 1300.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C.

Circling NA west of Rwy 2-20. Circling Rwy 2 NA at night.

Procedure NA for arrivals at SAC VORTAC on airway radials 195 CW 329.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -3°C or above 54°C.

LPV DA# 367-3/4 250 (300-3/4)
LPV DA 384-7/8 267 (300-3/4)
LNAV/VNAV DA 614-1 3/8 497 (500-1 3/8)
LNAV MDA 720-1 603 (700-1) 720-1 3/4 603 (700-1 3/4)
CIRCLING 720-1 603 (700-1) 960-2 1/2 843 (900-2 1/2) 1480-3 1363 (1400-3)
### VOR-A

**NUT TREE (VCB)**

**VORAC SAC**

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<td>803 (900-1)</td>
<td>960-2½</td>
<td>1360-3</td>
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<td>843 (900-2½)</td>
<td>1243 (1300-3)</td>
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**App CRS**

- SAC 115.2
- Chan 99
- SAC 115.2
- Chan 99

**Approach CRs**

- SAC 115.2
- Chan 99

**Approach IDG**

- SAC 115.2
- Chan 99

**Alt Elevation**

- VACAVILLE, CALIFORNIA
- NUT TREE (VCB)

**Rwy Idg**

- SAC 115.2
- Chan 99

**Circling NA**

- Circling Rwy 2 NA at night.
- Circling NA west of Rwy 2-20.

**MISSED APPROACH**

- Climbing right turn to 2200 on heading 100° and SAC R-241 to DOLCE/14 DME and hold.

**CTAF**

- 122.85

**ASOS**

- 134.75

**TRAVIS APP CON**

- 128.4 281.45

**VORTAC SAC**

- SAC 25 NM

**MISSED APPROACH**

- Climbing right turn to 2200 on heading 100° and SAC R-241 to DOLCE/14 DME and hold.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 2: Climb via heading 022°, intercept SAC R-251 to SOKOY/SAC 13 DME.

TAKEOFF RUNWAY 20: Turn left heading 032°, intercept ILA R-149 to SOKOY/ILA 39 DME.

SACRAMENTO TRANSITION (SOKOY3.SAC): From over SOKOY on SAC R-251 to SAC VORTAC.

WILLIAMS TRANSITION (SOKOY3.ILA): From over SOKOY on ILA R-149 to ILA VORTAC.
DME required.

DME from VIS VOR/DME. Simultaneous reception of I-VIS and VIS DME required. For inop ALS, increase S-LOC 30 Cat C/D visibility to 1 SM.

MISSED APPROACH: Climb to 1000 then climbing left turn to 3000 direct VIS VOR/DME and hold, continue climb-in-hold to 3000.

AWOS-3PT 119.925  
FRESNO APP CON 118.5  
CLNC DEL 118.5  
UNICOM 123.05 (CTAF)

procedure NA for arrivals at TTE VOR/DME on V165-459 southeast bound.
RNAV (GPS) RWY 12
VISALIA MUNI (VIS)

**AWOS-3PT**
119.925

**FRESNO APP CON**
118.5

**CLNC DEL**
118.5

**UNICOM**
123.05 (CTAF)

**Procedure NA for arrival at FRAME on V23 northwest bound.**

**Procedure NA for arrival at ALTTA on V459 northwest bound.**

**MISSED APPROACH:** Climb to 2900 direct PANES and hold.

**For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C.**

**AWOS-3PT**
119.925

**FRESNO APP CON**
118.5

**CLNC DEL**
118.5

**UNICOM**
123.05 (CTAF)

**Procedure NA for arrival at FRAME on V23 northwest bound.**

**Procedure NA for arrival at ALTTA on V459 northwest bound.**

**MISSED APPROACH:** Climb to 2900 direct PANES and hold.

**For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C or above 54°C.**
RNAV (GPS) RWY 30
VISALIA MUNI (VIS)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -1.5°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to ¾ SM, LNAV Cats C/D to 1 SM.

AWOS-3PT
119.925

FRESNO APP CON
118.5

CLNC DEL
118.5

UNICOM
123.05 (CTAF)

MISSED APPROACH: Climb to 3000 direct INOCI and on track 267° to LATON and hold, continue climb-in-hold to 3000.

LNAV/VNAV all Cats visibility to ½ SM, LNAV Cats C/D to 1 SM.

LNAV/VNAV NA below -1.5°C or above 54°C. For inop ALS, increase LNAV/VNAV all Cats visibility to ¾ SM, LNAV Cats C/D to 1 SM.
VOR RWY 12
VISALIA MUNI (VIS)

MISSED APPROACH: Climbing right turn to 1900 direct VIS VOR/DME and hold.

AWOS-3PT 119.925
FRESNO APP CON 118.5
CLNC DEL 118.5
UNICOM 123.05 (CTAF)

VOR/DME VIS 109.4
APP CRS 107°
Rwy Idg TDZE
Apt Elev 5635
293
295

Rwy 12 helicopter visibility reduction below ¾ SM NA.

Smith 7, 15AUG19

SW-2, 07 OCT 2021 to 02 DEC 2021

© 2021 Smith
RNAP APCH.

Circling Rwy 27 NA at night. Rwy 2 helicopter visibility reduction below ½ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C or above 54°C. Circling NA west of Rwy 2-20.

Misssed Approach: (Do not exceed 185K until SHOEY) Climb to 700 then climbing left turn to 6000 direct SHOEY and hold, continue climb-in-hold to 6000.

Procedure NA for arrival on SNS VORTAC airway radials 264 CW 293.

ASOS
132.275

NORCAL APP CON
127.15 307.125

UNICOM
122.8 (CTAF)
Circling Rwy 27 NA at night. When local altimeter setting not received, use Monterey altimeter setting and increase all MDAs 80 feet and visibility Cat C 1/8 SM and S-2 Cat D 1/8 SM. Circling NA west of Rwy 2-20. Rwy 2 helicopter visibility below 3/4 SM NA.

ASOS
132.275

NORCAL APP CON
127.15 307.125

UNICOM
122.8 (CTAF)

LOCALIZER 108.3
I-AYN

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WATSONVILLE, CALIFORNIA
AL-805 (FAA)

LOC RWY 2
WATSONVILLE MUNI (WVI)

LOC I-AYN
108.3
APP CRS
018°
Rwy ldg
4501
TDZE
152
Apt Elev
163

MisSED APPROACH: Climbing right turn to 5000 dired SNS VORTAC and hold, continue climb-in-hold to 5000.

ASOS
132.275

NORCAL APP CON
127.15 307.125

UNICOM
122.8 (CTAF)

LOCALIZER 108.3
I-AYN

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WATSONVILLE, CALIFORNIA
AL-805 (FAA)

LOC RWY 2
WATSONVILLE MUNI (WVI)

LOC I-AYN
108.3
APP CRS
018°
Rwy ldg
4501
TDZE
152
Apt Elev
163

MisSED APPROACH: Climbing right turn to 5000 dired SNS VORTAC and hold, continue climb-in-hold to 5000.
Circling NA west of Rwy 2-20. When local altimeter setting not received, use Monterey altimeter setting and increase all MDAs 80 feet. DME required. Circling Rwy 27 NA at night.

**MISSED APPROACH**: Climbing left turn to 5000 direct SNS VORTAC and hold, continue climb-in-hold to 5000.

**ASOS**

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<td>1300-3</td>
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4.4 NM from FAF

**REIL Rwy 2**

**MIRL Rwy 2**

**36°56'N-121°47'W**
**TAKEOFF ROUTE DESCRIPTION**

**TAKEOFF MINIMUMS**

Rwy 27: NA - Airport Obstacles.

Rwy 20: Standard.

Rwy 2: Standard with minimum climb of 500' per NM to 2600.

Rwy 9: 300-1 or standard with minimum climb of 270’ per NM to 400.

**TAKEOFF OBSTACLE NOTES**

Rwy 2: Lighting 8' from DER, 84' left of centerline, 1’ AGL/159’ MSL. Lighting 9’ from DER, 84’ right of centerline, 158’ MSL. Pole 14’ from DER, 349’ left of centerline, 205’ MSL. Pole, building, vehicles on road, tree and fence beginning 15’ from DER, 322’ left of centerline, up to 50’ AGL/213’ MSL. Trees beginning 278’ from DER, 414’ right of centerline, up to 188’ MSL. Pole, vehicles on road, stack, tree and building beginning 429’ from DER, 157’ left of centerline, up to 58’ AGL/220’ MSL. Pole, building and tree beginning 280’ from DER, 22’ right of centerline, up to 40’ AGL/198’ MSL. Tree and transmission line beginning 321’ from DER, 137’ right of centerline, up to 222’ MSL. Pole, building and tree beginning 309’ from DER, 328’ right of centerline, 57’ AGL/224’ MSL. Trees beginning 1275’ from DER, 298’ right of centerline, up to 242’ MSL. Tree 1345’ from DER, 320’ left of centerline, 236’ MSL. Tree 2249’ from DER, 371’ left of centerline, 264’ MSL.

Rwy 9: Tree and pole beginning 1’ from DER, 152’ left of centerline, up to 157’ MSL. Pole 65’ from DER, 301’ right of centerline, 31’ AGL/148’ MSL. Tree, fence, building, vehicles on road, pole and beginning 74’ from DER, 251’ left of centerline, up to 160’ MSL. Pole, tree, building, tank and stack beginning 210’ from DER, 139’ left of centerline, up to 177’ MSL. Pole 231’ from DER, 250’ right of centerline, 32’ AGL/153’ MSL. Trees beginning 312’ from DER, 560’ left of centerline, up to 173’ MSL. Tower, pole and tree beginning 828’ from DER, 136’ left of centerline, up to 52’ AGL/181’ MSL. Trees beginning 915’ from DER, 146’ right of centerline, up to 197’ MSL. Tree 1815’ from DER, 365’ left of centerline, 215’ MSL. Tower 4697’ from DER, 1365’ right of centerline, 189’ AGL/292’ MSL.

Rwy 20: Tree 57’ from DER, 500’ left of centerline, 153’ MSL. Fence 57’ from DER, 268’ right of centerline, 7’ AGL/143’ MSL. Pole 95’ from DER, 467’ left of centerline, 175’ MSL. Pole, vehicles on road and tree beginning 96’ from DER, 377’ left of centerline, up to 50’ AGL/183’ MSL. Transmission line 848’ from DER, 505’ left of centerline, 44’ AGL/184’ MSL. Tree and transmission line beginning 919’ from DER, 520’ left of centerline, up to 190’ MSL. Tree 1153’ from DER, 286’ right of centerline, 169’ MSL. Tree 1207’ from DER, 615’ left of centerline, 197’ MSL. Tree, building and transmission line beginning 1267’ from DER, 318’ left of centerline, up to 203’ MSL. Tree 1336’ from DER, 7’ right of centerline, 177’ MSL. Tree 1337’ from DER, 46’ right of centerline, 192’ MSL. Tree 2201’ from DER, 776’ right of centerline, 240’ MSL.

**DEPARTURE ROUTE DESCRIPTION**

TAKEOFF RUNWAYS 2 and 9: Climbing right turn on heading 175° to intercept SNS VORTAC R-309 to SNS VORTAC, thence . . . .

TAKEOFF RUNWAY 20: Climb heading 213° to 1000, then climbing left turn to intercept SNS VORTAC R-293 to SNS VORTAC, thence . . . .

. . . . continue climb in SNS holding pattern to cross SNS VORTAC at or above MEA/MCA for route of flight.
WATSONVILLE MUNI (WVI)

GARLK ONE DEPARTURE (RNAV)

NOTE: Chart not to scale.

GARLK ONE DEPARTURE (RNAV) (GARLK1.GARLK) WATSONVILLE MUNI (WVI)

GARLK ONE DEPARTURE (RNAV) (GARLK1.GARLK) WATSONVILLE MUNI (WVI)

DEPARTURE ROUTE DESCRIPTION

TAKEOFF MINIMUMS
Rwy 2, 27: NA - ATC.
Rwy 20: Standard.
Rwy 9: 300-1 or standard with minimum climb of 270’ per NM to 400’.

NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: For non-GPS equipped aircraft, SNS and OSI DMEs must be operational.
NOTE: RADAR required for non-GPS equipped aircraft.

TAKEOFF RUNWAY 9: Climb heading 086° to 700, then right turn direct CHAAN, thence... . .
TAKEOFF RUNWAY 20: Climb heading 198° to 700, then direct CHAAN, thence...

... on track 207° to cross GARLK at or above 5000, then on (transition).

CHAWZ TRANSITION (GARLK1.CHAWZ)
DUBSS TRANSITION (GARLK1.DUBSS)
SALINAS TRANSITION (GARLK1.SNS)
SAPID TRANSITION (GARLK1.SAPID)
WIGGL TRANSITION (GARLK1.WIGGL)
RNAV (GPS) RWY 14
WEED (O46)

Circling NA southwest of Rwy 14-32.
DME/DME RNP-0.3 NA.
Use Siskiyou County altimeter setting.

MISSED APPROACH: (Do not exceed 185K until GRENA) Climbing left turn 9100 direct GRENA then right turn on track 001* to ISAVE then left turn on track 307* direct KLAMA and hold. *Missed approach requires a minimum climb of 325 feet per NM to 4000.

Use Siskiyou County altimeter setting.
DME/DME RNP-0.3 NA.

CATEGORY
A
B
C
D
LNAV MDA*
3380-1 446 (500-1)
3580-1 646 (700-1)
3580-1 766 (800-2)
LNAV MDA
3420-1 3480-1 3780-1 3820-1
486 (500-1) 546 (600-1) 846 (900-2) 886 (900-2)
CIRCLING
3680-1 3840-1 4080-3 4340-3
737 (800-1) 897 (900-1) 1137 (1200-3) 1397 (1400-3)
FOBRO ONE DEPARTURE (OBSTACLE) (RNAV)

TAKEOFF MINIMUMS
Rwy 14: NA-obstacles.
Rwy 32: Standard with minimum climb of 325' per NM to 12000.

NOTE: GPS required.
NOTE: RNAV 1.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 32: Climb heading 324° to 3443, then right turn direct DIMGE, then on track 329° to cross FOBRO at or above 12000 or as assigned by ATC.
RNAV (GPS) RWY 34

WILLITS, CALIFORNIA

APPROACH

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<th>TDZE</th>
<th>Apt Elev</th>
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RNAV (GPS) RWY 34

WILLITS, CALIFORNIA

ELEVATION 2066

TDZE 2066

UKI ASOS 119.275

OAKLAND CENTER 132.2 350.3

UNICOM 122.8 (CTAF)

Circling NA west of Rwy 16-34. Rwy 34 helicopter visibility reduction below 1 SM NA. Procedure NA at night. Use Ukiah altimeter setting; when not received, procedure NA.

MISSED APPROACH: Climbing right turn to 6000 direct ENI VORTAC and hold.

UKI ASOS

119.275

OAKLAND CENTER

132.2 350.3

UNICOM

122.8 (CTAF)
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 34: Climb heading 339° to 2580, then left turn direct OOLEY, and on track 239° to cross FLUEN at or above 6700.

TAKEOFF OBSTACLE NOTES
Rwy 34: Trees beginning 92’ from DER, left and right of centerline, up to 100’ AGL/2139’ MSL.

TAKEOFF MINIMUMS
Rwy 16: NA-air traffic.
Rwy 34: Standard with minimum climb of 360’ per NM to 6700.

NOTE: Chart not to scale.

NOTE: RNAV 1.
NOTE: GPS required.

MAXWELL 3 MOA

OAKLAND CENTER
132.2 350.3

2580
339°

FLUEN
6700

239°

(5)

NOTE: SW-2, 07 OCT 2021 to 02 DEC 2021
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 16: Climb to 6000 direct VICOR WP, then via 153° track to ENI VORTAC, thence proceed on course.

TAKEOFF MINIMUMS
Rwy 16: Standard
Rwy 34: N/A Obstacles

TAKEOFF OBSTACLE NOTES
Rwy 16: Trees 1812’ from DER, 844’ left of centerline, 100’ AGL/2139’ MSL.

NOTE: GPS required.
NOTE: RNAV 1

OAKLAND CENTER
132.2 350.3
UNICOM 122.8 (CTAF)

MENDOCINO ONE DEPARTURE
(ENI1. ENI) 21196

AL-9480 (FAA)

ELL S FLD-WILLITS MUNI (O28)
WILLITS, CALIFORNIA

MENDOCINO ENI

VICTOR

159°

153°

Rwy 34: N/A Obstacles

Rwy 16: Trees 1812’ from DER, 844’ left of centerline, 100’ AGL/2139’ MSL.

NOTE: GPS required.
NOTE: RNAV 1

MENDOCINO ENI

TAKEOFF MINIMUMS
Rwy 16: Standard
Rwy 34: N/A Obstacles

TAKEOFF OBSTACLE NOTES
Rwy 16: Trees 1812’ from DER, 844’ left of centerline, 100’ AGL/2139’ MSL.

NOTE: GPS required.
NOTE: RNAV 1

OAKLAND CENTER
132.2 350.3
UNICOM 122.8 (CTAF)

MENDOCINO ONE DEPARTURE
(ENI1. ENI) 21196

AL-9480 (FAA)

ELL S FLD-WILLITS MUNI (O28)
WILLITS, CALIFORNIA
RNAV (GPS) RWY 34
WILLOWS-GLENN COUNTY (WLW)

MISSED APPROACH: Climb to 3000 direct ZOKOP and hold.

When Oroville Muni altimeter setting not received, procedure NA. Baro-VNAV NA. DME/DME RNP-0.3 NA. Use Oroville altimeter setting.

OVE ASOS 121.425
OAKLAND CENTER 132.2 350.3
UNICOM 122.8 (CTAF)

ELEV 141
TDZE 138

Elev 141
TDZE 138

WILLOWS-GLENN COUNTY
WLW

39°31'N-122°13'W

Category A
LPV DA 460-1 322 (400-1) NA
LNAV/ VNAV DA 460-1 322 (400-1) NA
LNAV MDA 540-1 402 (400-1) 540-1 402 (400-1) NA
CIRCLING 680-1 539 (600-1) 680-1 539 (600-1) NA

SW-2, 07 OCT 2021 to 02 DEC 2021
When Oroville Muni altimeter setting not received, procedure NA. Use Oroville Muni altimeter setting.

**MISSING APPROACH**: Climbing right turn to 3000 on heading 200° and on IIA VORTAC R-323 to WUNIP/ILA 1.5.3 DME and hold.

**DME REQUIRED**

- **ILA 304**
- **UVXUZ IIA 27.3**
- **WETEM IIA 22.1**
- **ILA 15.3**
- **WUNIP**

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<td>1000-2/2</td>
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**RNAV (GPS) RWY 36**

**WOODLAND, CALIFORNIA**

**APP CRS**

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**UNICOM**

122.8 (CTAF) (O41)

**ELEV**

125

**TDZE**

125

**TRAVIS APP CON**

126.6 281.45

**MISSED APPROACH:** Climbing left turn to 3000 direct CEVIT and hold.

**DME/DME RNP-0.3 NA.**

Procedure NA at night. Use Sacramento Intl altimeter setting; when not received, use Sacramento Exec altimeter setting and increase all MDA 20 feet.

** Use Sacramento Intl altimeter setting; when not received, use Sacramento Exec altimeter setting and increase all MDA 20 feet.**

**WOODLAND, CALIFORNIA**

Orig 07MAY09

38°40'N-121°52'W

**SW-2, 07 OCT 2021 to 02 DEC 2021**

**RNAV (GPS) RWY 36**

**WOODLAND, CALIFORNIA**

AL-6353 (FAA)
A rate of climb/descent table is provided for use in planning and executing climbs or descents under known or approximate ground speed conditions. It will be especially useful for approaches when the localizer only is used for course guidance. A best speed, power, altitude combination can be programmed which will result in a stable glide rate and altitude favorable for executing a landing if minimums exists upon breakout. Care should always be exercised so that minimum descent altitude and missed approach point are not exceeded.

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