



06047

## INSTRUMENT APPROACH PROCEDURE CHARTS

**IFR TAKE-OFF 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 take-off minimums other than standard, are listed below. Take-off Minimums and Departure Procedures apply to all runways unless otherwise specified. Altitudes, unless otherwise indicated, are minimum altitudes in MSL.

DPs specifically designed for obstacle avoidance are described below in text, or published separately as a graphic procedure. If the (Obstacle) DP is published as a graphic procedure, its name will be listed below, and it can be found in either this volume (civil), or a separate Departure Procedure volume (military), as appropriate. Users will recognize graphic obstacle DPs by the term "(OBSTACLE)" included in the procedure title; e.g., TETON TWO (OBSTACLE). If not assigned another DP or radar vector by ATC, this procedure may be flown to ensure obstacle clearance.

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: FAR 91 prescribes standard take-off rules and establishes take-off minimums for certain operators as follows: (1) Aircraft having two engines or less - one statute mile. (2) Aircraft having more than two engines - one-half statute mile. These standard minima apply in the absence of any different minima listed below.

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

## NAME TAKE-OFF MINIMUMS

**ALTURAS, CA**

## ALTURAS MUNI

DEPARTURE PROCEDURE: **Rwys 3, 13**, Use CHOIR  
DEPARTURE, **Rwys 21, 31**, Use BACHS  
DEPARTURE.

**AMEDEE AAF (KAHC)**

## HERLONG, CA

Rwy 8, 26: 3900-3 for climb in visual conditions.  
Rwy 8, 26: Cross Amedee AAF at or above 7900  
before proceeding on course.

**ARCATA-EUREKA, CA**

## ARCATA

TAKE-OFF MINIMUMS: **Rwy 2**, 1200-2 or 300-1 with a  
min. climb of 320' per NM to 1600. **Rwy 14**, 400-2 or std.  
with a min. climb of 250' per NM to 700.

DEPARTURE PROCEDURE: **Rwys 2, 32**, turn left.  
**Rwys 14, 20**, turn right. All aircraft climb to 1500 via  
ACV R-250 to HOCUT Int. Continue climb to MEA on  
V27.

## NAME TAKE-OFF MINIMUMS

**ATWATER, CA**

## CASTLE

DEPARTURE PROCEDURE: **Rwy 13**, climb direct HYP  
VOR/DME. **Rwy 31**, climb to 800, then climbing right  
turn direct HYP VOR/DME. Aircraft departing HYP  
R-350 CW R-100 continue climb in HYP VOR/DME  
holding pattern (SE, right turns, 305° inbound) to cross  
HYP VOR/DME at or above 3500 before proceeding on  
course. All others climb on course.

**AUBURN, CA**

## AUBURN MUNI

TAKE-OFF MINIMUMS: **Rwy 7**, CAT A, B 600-2 or std.  
with a min. climb of 350' per NM to 2300. CAT C, D NA.  
**Rwy 25**, CAT A, B 300-1 or std. with a min. climb of 390'  
per NM to 1700. CAT C, D NA.

DEPARTURE PROCEDURE: **Rwy 7**, climbing left turn  
to 3000 heading 305°, intercept MYV R-089 to MYV  
VOR/DME, then via assigned routing. **Rwy 25**, climb  
runway heading to 3000, intercept and proceed via MYV  
R-098 to MYV VOR/DME, then via assigned heading.

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## BEALE AFB (KBAB)

MARYSVILLE, CA (KBAB) 04246

Runway 15 diverse departure not authorized. Use the following departure procedure for obstacle avoidance. Between 005° and 087° bearing from DER, standard with minimum climb rate 250 ft/NM to 4900.

Runway 33 diverse departure not authorized. Use the following departure procedures for obstacle avoidance. Between R-353 and R-066 bearing from DER, standard with minimum climb rate 250 ft/NM to 11,000.

## BECKWOURTH, CA

NERVINO

TAKE-OFF MINIMUMS: **Rwys 7, 25**, 3500-3 for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwys 7, 25**, for climb in visual conditions: east Nervino Airport at or above 8300 before proceeding on course.

NOTE: **Rwy 7**, road 58' from departure end of runway, 469' right of centerline, 15' AGL/4920' MSL. Pole 310' from departure end of runway, 522' right of centerline, 49' AGL/4925' MSL. Pole 528' from departure end of runway, 522' right of centerline, 39' AGL/4924' MSL. Tree 1.47 NM from departure end of runway, 727' right of centerline, 100' AGL/5193' MSL. Tree 1.9 NM from departure end of runway, 2534' right of centerline, 100' AGL/5499' MSL. Bush 2.03 NM from departure end of runway, 2126' right of centerline, 4' AGL/5406' MSL. **Rwy 25**, tree 5856' from departure end of runway, 1984' right of centerline, 100' AGL/5339' MSL. Tree 1.25 NM from departure end of runway, 2439' right of centerline, 100' AGL/5420' MSL. Tree 2.07 NM from departure end of runway, 3302' left of centerline, 100' AGL/5570' MSL.

## BISHOP, CA

EASTERN SIERRA REGIONAL

TAKE-OFF MINIMUMS: **Rwys 7, 12, 16**, NA. **Rwys 25, 30, 34**, 4000-2 or std. with a min. climb of 350' per NM to 9000.

DEPARTURE PROCEDURE: **Rwys 25, 30**, turn right. **Rwy 34**, turn left, climb northwestbound to 13000 via BIH R-322 to NIKOL Int.

## BYRON, CA

BYRON

TAKE-OFF MINIMUMS: **Rwy 23**, NA-obstacles. **Rwy 30**, 200-1 or std. with a min. climb of 240' per NM to 300. Alternatively, with standard take-off minimums and a normal 200'/NM climb gradient, take-off must occur no later than 2000' prior to departure end of runway.

DEPARTURE PROCEDURE: **Rwy 5**, climbing right turn via heading 120° and ECA VORTAC before proceeding on course. **Rwy 12**, climbing left turn via heading 050° and ECA VORTAC R-250 to ECA VORTAC before proceeding on course. **Rwy 30**, climbing right turn via heading 130° and ECA VORTAC R-250 to ECA VORTAC before proceeding on course.

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

## CHICO, CA

CHICO MUNI

DEPARTURE PROCEDURE: **Rwys 13L/R**, climbing right turn. **Rwys 31L/R**, climbing left turn. **All aircraft**, climb via CIC R-205 to JINGO Int. Aircraft departing JINGO Int 020° CW 350° climb on course. All others climb in JINGO Int holding pattern (SE, right turns, 320° inbound) to depart JINGO Int at or above 2800.

## CLOVERDALE, CA

CLOVERDALE MUNI

TAKE-OFF MINIMUMS: **Rwy 14**, 400-2 or std. with a min. climb of 280' per NM to 1500, then a min. climb of 260' per NM to 3900. **Rwy 32**, NA. DEPARTURE PROCEDURE: **Rwy 14**, climb direct STS VOR/DME. Continue climb in holding pattern (NW right turns, 140° inbound) to MEA for route of flight. NOTE: **Rwy 14**, tree 9337' from departure end of runway, 4633' right of centerline, 150' AGL/889' MSL.

## COLUMBIA, CA

COLUMBIA

TAKE-OFF MINIMUMS: **Rwy 17**, 300-1 with a min. climb rate of 300' per NM to 3000. **Rwy 35**, NA. DEPARTURE PROCEDURE: **Rwy 17**, use FICHU RNAV DEPARTURE. **Rwy 35**, NA. NOTE: **Rwy 17**, 51' AGL pole 502' from departure end of runway, 368' right of centerline, 90' AGL tree 483' from departure end of runway, 535' right of centerline; 100' AGL tree 1258' from departure end of runway, 494' left of centerline; 167' AGL tree 1644' from departure end of runway, 924' right of centerline.

## COLUSA, CA

COLUSA COUNTY

DEPARTURE PROCEDURE: Climb direct to ILA VORTAC.

## CONCORD, CA

BUCHANAN FIELD

TAKE-OFF MINIMUMS: **Rwys 14L/R, 19L/R**, 500-1. DEPARTURE PROCEDURE: Climb direct CCR VOR or comply with published CCR SIDs. Min. climb rate of 350' per NM to 1000 required.

## CRESCENT CITY, CA

JACK MCNAMARA FIELD

TAKE-OFF MINIMUMS: **Rwy 11**, 300-1. **Rwy 17**, 300-1 or std. with a min. climb of 240' per NM to 300. DEPARTURE PROCEDURE: **Rwys 11, 17**, climbing right turn. **Rwys 29, 35**, climbing left turn. **All aircraft**, climb direct CEC VORTAC. Aircraft departing CEC R-131 CW R-330 climb on course. All others continue climb in CEC holding pattern (S, left turns, 341° inbound) to cross CEC VORTAC at or above: R-331 CW R-010, 1100; R-011 CW R-050, 2200; R-051 CW R-090, 4100; R-091 CW R-130, 2700.

## DAVIS, CA

UNIVERSITY

DEPARTURE PROCEDURE: Eastbound climb to 2000 to SAC VORTAC via SAC R-277. Northbound climb to 5000 to ILA VORTAC via ILAR-142. Southbound and westbound climb to 3000 direct TZZ VOR.

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**DAVIS/WOODLAND/WINTERS, CA**YOLO COUNTY-DAVIS/WOODLAND/  
WINTERS

DEPARTURE PROCEDURE: **Rwy 16**, south, east, and westbound, climb to 3000 direct TZZ VOR. Northbound climbing left turn to 5000 via ILA R-146 to ILA VORTAC. **Rwy 34**, climb to 5000 via ILA R-146 to ILA VORTAC. South, east, and westbound climbing right turn to 3000 direct to TZZ VOR.

**EUREKA, CA**

MURRAY FIELD

TAKE-OFF MINIMUMS: **Rwy 11**, 1200-3 or std. with a min. climb of 400' per NM to 1400. **Rwy 29**, 300-1.

DEPARTURE PROCEDURE: **Rwy 11** turn right.

**Rwy 29**, turn left. All aircraft climb heading 265° to intercept FOT R-341 (V27).

NOTE: **Rwy 29**, 93' AGL 650' tree from departure end of runway, 390' right of centerline.

**FIREBAUGH, CA**

FIREBAUGH

DEPARTURE PROCEDURE: **Rwy 12**, climbing right turn. **Rwy 30**, climbing left turn. All aircraft climb via heading 150° and PNX R-061 to MENDO Int. Aircraft departing MENDO Int, heading 230° CW 150° climb on course. All others climb in MENDO holding pattern (NE, right turns, 241° inbound) to cross MENDO Int at or above 2000.

**FORTUNA, CA**

ROHNERVILLE

TAKE-OFF MINIMUMS: **Rwy 11**, NA.

DEPARTURE PROCEDURE: Climb direct FOT VORTAC. Continue climb in holding pattern (N, right turns, 161° inbound) to cross FOT VORTAC at or above 3000.

**FRESNO, CA**

FRESNO YOSEMITE INTL

DEPARTURE PROCEDURE: **Rwys 11L, 11R**, climbing left turn direct CZQ VORTAC. **Rwys 29L, 29R**, climbing right turn direct CZQ VORTAC. All aircraft climb in CZQ VORTAC holding pattern (SE, left turns, 322° inbound) to cross CZQ VORTAC at or above MEA/MCA for direction of flight before proceeding en route.

NOTE: **Rwy 11L**, pole 647' from departure end of runway, 543' left of centerline, 17' AGL/349' MSL. Sign 1693' from departure end of runway, 863' right of centerline, 53' AGL/383' MSL. **Rwy 11R**, transmissometer 432' from departure end of runway, 281' left of centerline, 19' AGL/349' MSL. Light, 1701' from departure end of runway, 293' right of centerline, 53' AGL/386' MSL. **Rwy 29L**, arresting sys, 124' from departure end of runway, 527' right of centerline, 2' AGL/334' MSL. Building 219' from departure end of runway, 296' left of centerline, 7' AGL, 336' MSL. **Rwy 29R**, trees 1076' from departure end of runway, 775' right of centerline, 63' AGL/397' MSL. Arresting sys, 95' from departure end of runway, 149' right of centerline, 3' AGL/336' MSL. Multiple trees beginning 1076' from departure end of runway, 775' right of centerline, up to 75' AGL/397' MSL.

**FRESNO, CA (CON'T)**

FRESNO-CHANDLER EXECUTIVE

DEPARTURE PROCEDURE: **Rwys 12L, 12R**, climb heading 165°. **Rwys 30L, 30R**, climb heading 345° to 1000 before proceeding on course.

**GRASS VALLEY, CA**

NEVADA COUNTY AIR PARK

TAKE-OFF MINIMUMS: **Rwy 7**, NA.

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

**GROVELAND, CA**

PINE MOUNTAIN LAKE

TAKE-OFF MINIMUMS: **Rwy 9**, 400-2 or std. with a min. climb of 400' per NM to 4000.

DEPARTURE PROCEDURE: **Rwy 9**, turn right.

**Rwy 27**, turn left. All aircraft climb direct LIN VORTAC. Cross LIN VORTAC at or above 5000.

**HALF MOON BAY, CA**

HALF MOON BAY

TAKE-OFF MINIMUMS: **Rwy 12**, 2600-2 or std. with a min. climb of 300' per NM to 3000. **Rwy 30**, NA.

DEPARTURE PROCEDURE: **Rwy 12**, climb runway heading to 3000, then climb direct OSI VORTAC, to cross OSI VORTAC at or above 3500 before proceeding on course.

**HANFORD, CA**

HANFORD MUNI

DEPARTURE PROCEDURE: **Rwy 14**, climbing left turn heading 050° to intercept V-23. **Rwy 32**, climbing right turn heading 050° to intercept V-23.

**HAYWARD, CA**

HAYWARD EXECUTIVE

TAKE-OFF MINIMUMS: **Rwys 10L, 10R**, 300-1.

DEPARTURE PROCEDURE: **Rwys 28L, 28R**, climb straight ahead. **Rwys 10L, 10R**, turn right, climb to 2500 via direct OAK VORTAC and OAK R-288. Aircraft southeastbound and capable of climbing 250' per NM to 4500 may proceed direct to MABRY Int via OAK R-114.

**HOLLISTER, CA**

HOLLISTER MUNI

TAKE-OFF MINIMUMS: **Rwy 6, 24**, NA.

DEPARTURE PROCEDURE: **Rwy 13**, right turn heading 325°. **Rwy 31**, climb runway heading.

All aircraft climb to 6000 to intercept and proceed via SJC R-121 direct SJC VOR/DME before proceeding on course.

**JACKSON, CA**

WESTOVER FIELD AMADOR COUNTY

DEPARTURE PROCEDURE: **Rwy 1**, turn left.

**Rwy 19**, turn right. All aircraft climb direct LIN VORTAC, continue climb on course.

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## LAKEPORT, CA

## LAMPSON FIELD

TAKE-OFF MINIMUMS: **Rwy 10**, 1700-3 or std. with a min. climb of 610' per NM to 3200. **Rwy 28**, 1500-3 or std. with a min. climb of 620' per NM to 2200.

DEPARTURE PROCEDURE: **Rwy 10**, climbing left turn to heading 275°. **Rwy 28**, climbing right turn to heading 035°. Intercept and climb northwestbound via the LOP NDB 336° bearing to 4000, then climbing left turn direct ENI VORTAC. Cross ENI VORTAC at or above 6000.

## LEMOORE NAS (REEVES FIELD) (NLC)

## LEMOORE, CA 04078

Rwy 32L: Standard with minimum climb of 240/NM to 4300 within sector 235° CW 278°.

Rwy 32R: Standard with minimum climb of 240/NM to 4100 within sector 231° CW 274°.

## LINCOLN, CA

## LINCOLN REGIONAL/KARL HARDER FIELD

DEPARTURE PROCEDURE: **Rwy 15**, climbing right turn. **Rwy 33**, climbing left turn. **All aircraft** climb direct MYV VOR/DME, then climb on course.

## LIVERMORE, CA

## LIVERMORE MUNI

TAKE-OFF MINIMUMS: **Rwys 7L, 7R**, 1500-2 or std. with a min. climb of 260' per NM to 2200.

**Rwys 25L, 25R**, 2300-2 or std. with a min. climb of 375' per NM to 3100.

DEPARTURE PROCEDURE: **Rwys 7L, 7R**, climb direct REIGA LOM, then climbing left turn via the 030° bearing from REIGA LOM to intercept V109, then proceed on course. **Rwys 25L, 25R**, climb runway heading to 1200, then climbing right turn via heading 020° and OAK R-060 to ALTAM Int, then proceed on course.

## LODI, CA

## LODI

DEPARTURE PROCEDURE: Climb direct to LIN VORTAC.

## LOS BANOS, CA

## LOS BANOS MUNI

DEPARTURE PROCEDURE: Aircraft departing 320° CW 120° climb on course. All others climb via heading 240° to intercept V109. Southeastbound via V109 requires a climb rate of 300' per NM to 4000.

## MADERA, CA

## MADERA MUNI

DEPARTURE PROCEDURE: **Rwy 30**, climbing right turn via FRA R-243 to BEREN Int/FRA 18.6 DME then via assigned route. **Rwy 12**, turn left, climb heading 095° to 1500, continue climb direct CZQ VORTAC, then via assigned route.

## MAMMOTH LAKES, CA

## MAMMOTH YOSEMITE

TAKE-OFF MINIMUMS: **Rwy 9**, 500-2 or std. with a min. climb of 400' per NM to 10700. **Rwy 27**, 5000-5 or std. with a min. climb of 450' per NM to 11800.

DEPARTURE PROCEDURE: **Rwy 9**, climbing left turn heading 050° to intercept BIHR-307. **Rwy 27**, climbing right turn to heading 095° to intercept BIHR-307. **All aircraft** proceed via BIHR-307 to BIH VOR/DME, then via BIHR-322 (V381) to NIKOL Int then via assigned route.

## MARINA, CA

## MARINA MUNI

TAKE-OFF MINIMUMS: **Rwy 11**, std. with a min. climb of 291' PER nm TO 4600, OR 2000-2½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 11**, for climb in visual conditions: cross Marina Municipal Airport at or above 2100, continue climb direct SNS VORTAC, thence... **Rwy 29**, climb via heading 288° to 1000', then climbing right turn direct SNS VORTAC, thence... **All aircraft** continue climb in SNS holding pattern (W, left turns, SNS VORTAC 084° inbound) to cross SNS VORTAC at or above MEA/MCA for direction of flight before proceeding enroute.

## MARIPOSA, CA

## MARIPOSA-YOSEMITE

TAKE-OFF 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.

NOTE: **Rwy 26**, tree 10' from departure end of runway, 313' left of centerline, 100' AGL/2265' MSL. Tree 1146' from departure end of runway, 303' left of centerline, 100' AGL/2298' MSL.

## MARYSVILLE, CA

## YUBA COUNTY

DEPARTURE PROCEDURE: **All runways**, climb direct ILA VORTAC.

## MERCED, CA

## MERCED MUNI-MACREADY FIELD

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.

## MODESTO, CA

## MODESTO CITY-COUNTY HARRY SHAM FIELD

TAKE-OFF MINIMUMS: **Rwys 10L, 28L**, 300-1 or std. with a min. climb of 300' per NM to 300. **Rwy 10R**, 300-1 or std. with a min. climb of 350' per NM to 300.

DEPARTURE PROCEDURE: **All runways**, climb to 1000 on runway heading before proceeding on course.

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**MONTAGUE, CA****SISKIYOU COUNTY**

TAKE-OFF 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 (N, right turns, 172° inbound). **Rwy 35**, climb to 7000 via runway heading and 352° 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 PENINSULA**

TAKE-OFF MINIMUMS: **Rwys 10L, 10R**, 1100-2 or std. with a min. climb of 360' per NM to 1100.

**Rwys 28L, 28R**, 600-2 or std. with a min. climb of 220' per NM to 900.

DEPARTURE PROCEDURE: **Rwys 10L, 10R**, climbing left turn heading 295°. **Rwys 28L, 28R**, climbing right turn heading 330°. **All aircraft** continue climb via the SNS R-260 to SNS VORTAC.

**MOUNTAIN VIEW, CA****MOFFETT FEDERAL AFLD**

TAKE-OFF MINIMUMS: **Rwy 14L**, std. with a min. climb of 489' per NM to 6100. **Rwy 14R**, std. with a min. climb of 495' per NM to 6100. **Rwy 32L**, std. with a min. climb of 429' per NM to 6100. **Rwy 32R**, std. with a min. climb of 424' per NM to 6100.

**NAPA, CA****NAPA COUNTY**

TAKE-OFF MINIMUMS: **Rwy 6**, 1800-2½, climb in visual conditions to cross Napa County Airport at or above 1700 MSL before proceeding direct SGD VORTAC or std. with a min. climb of 475' per NM to 1400.

**Rwys 36L, 36R**, 1800-2½, climb in visual conditions to cross Napa County Airport at or above 1700 MSL before proceeding direct SGD VORTAC or std. with a min. climb of 370' per NM to 1200.

DEPARTURE PROCEDURE: **Rwys 6, 18L, 18R**, turn right. **Rwys 24, 36L, 36R**, turn left. **All aircraft** climb direct SGD VORTAC. Aircraft departing SGD R-060 CWR-270 climb on course. All others continue climb via SGD R-165 to 2000, then climbing right turn direct SGD VORTAC, climb on course.

NOTE: **Rwy 6**, Flood light 90' from departure end of runway, 500' left of centerline, 30' AGL/64' MSL. Flood light 581' from departure end of runway, 485' left of centerline, 30' AGL/67' MSL. Railroad 1143' to 1236' from departure end of runway, on centerline to 500' left of centerline, 23' AGL/64' to 67' MSL. Pole 1396' from departure end of runway, 741' right of centerline, 33' AGL/77' MSL. Trees 1563' from departure end of runway, 575' left of centerline, 34' AGL/78' MSL. Trees 2331' from departure end of runway, 203' right of centerline, 53' AGL/106' MSL. Trees 3297' from departure end of runway, 476' left of centerline, 52' AGL/131' MSL. Obstruction light hopper 3440' from departure end of runway, 273' right of centerline, 50' AGL/133' MSL. Trees 4895' from departure end of runway, 1067' left of centerline, 108' AGL/198' MSL. **Rwy 18L**, tree 4982' from departure end of runway, 237' left of centerline, 58' AGL/92' MSL. **Rwy 24**, bridge 4964' from departure end of runway, 1716' right of centerline, 167' AGL/167' MSL. **Rwy 36R**, floodlight 462' from departure end of runway, 339' right of centerline, 29' AGL/53' MSL. Tree 8701' from departure end of runway, 1286' right of centerline, 70' AGL/289' MSL. Tree 8838' from departure end of runway, 2299' right of centerline, 64' AGL/383' MSL. **Rwy 36L**, terrain 1' from departure end of runway, 491' left of centerline, 34' MSL. Terrain 210' from departure end of runway, 417' left of centerline, 32' MSL. Trees 595' from departure end of runway, 517' right of centerline, 18' AGL/42' MSL. Trees 3182' from departure end of runway, 793' right of centerline, 81' AGL/117' MSL. Trees 4636' from departure end of runway, 345' right of centerline, 114' AGL/153' MSL. Trees 7061' from departure end of runway, 1800' right of centerline, 70' AGL/289' MSL. Pole 12845' from departure end of runway, 1471' right of centerline, 53' AGL/372' MSL. Pole 13005' from departure end of runway, 3483' right of centerline, 39' AGL/558' MSL. Tree 19688' from departure end of runway, 2155' right of centerline, 100' AGL/894' MSL.

**NOVATO, CA****GNOSS FIELD**

TAKE-OFF MINIMUMS: **Rwy 13**, NA. **Rwy 31**, 500-2 or std. with a min. climb of 250' per NM to 1000.

DEPARTURE PROCEDURE: **Rwy 31**, climbing right turn direct SGD VORTAC before proceeding on course.

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## OAKDALE, CA

## OAKDALE

DEPARTURE PROCEDURE: **Rwy 10**, climbing left turn via heading 020° and LIN VORTAC 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 VORTAC R-146 to LIN VORTAC cross LIN VORTAC at or above MEA for direction of flight.

NOTE: **Rwy 10**, terrain beginning 388' from departure end of runway, up to 279' MSL. **Rwy 28**, powerline 3447' from departure end of runway, 407' right of centerline, 115' AGL/329' MSL.

## OAKLAND, CA

## METROPOLITAN OAKLAND INTL

DEPARTURE PROCEDURE: **Rwys 9L, 9R, 11, 15, 29**, turn right. **Rwys 27L, 27R**, maintain runway heading. **Rwy 33**, turn left. **All aircraft** climb to 4000 or above via V107 to COMMO Int. If not at 4000 at COMMO Int, climb in holding pattern (E, right turns, 288° inbound) before proceeding on course.

## ORLAND, CA

## HAIGH FIELD

DEPARTURE PROCEDURE: **Rwy 15**, climbing left turn. **Rwy 33**, climbing right turn. **All aircraft** climb via CIC R-238 to GONGS Int. Aircraft departing GONGS Int 070° CW 240° or 290° CW 360° climb on course. All others climb in GONGS holding pattern (NE, right turns, 238° inbound) to depart GONGS Int at or above: 001° CW 069°, 3200; 241° CW 289°, 2300.

## OROVILLE, CA

## OROVILLE MUNI

TAKE-OFF MINIMUMS: **Rwy 1**, 1300-2 or std. with a min. climb of 260' per NM to 1700.  
DEPARTURE PROCEDURE: **Rwys 1, 30**, climbing left turn heading 170°. **Rwys 12, 19**, climbing right turn heading 290°. **All aircraft** climb via MXW R-052 to TALUM Int/MXW 16.9 DME. Continue climb on course.

## PALO ALTO, CA

PALO ALTO AIRPORT OF  
SANTA CLARA COUNTY

DEPARTURE PROCEDURE: **Rwy 13**, turn left. **Rwy 31**, turn right. **All aircraft** climb direct SJC VOR/DME before proceeding on course.

## PETALUMA, CA

## PETALUMA MUNI

DEPARTURE PROCEDURE: **Rwy 11**, climb to 2400 or above direct SGD VORTAC. **Rwy 29**, climb runway heading to 1500 then climbing left turn to 3000 direct SGD VORTAC. **All aircraft** continue climb to MEA for route of flight.

## PLACERVILLE, CA

## PLACERVILLE

TAKE-OFF MINIMUMS: **Rwy 5**, NA.  
DEPARTURE PROCEDURE: **Rwy 23**, climb to 5000 via HNW R-226 then climbing right turn HNW VOR. Aircraft departing HNW R-180 CW R-303 climb on course; all others climb to airway MCA/MEA in HNW holding pattern (Hold SW, right turns, 048° inbound).

## PORTERVILLE, CA

## PORTERVILLE MUNI

TAKE-OFF MINIMUMS: **Rwy 12**, 200-1 or std. with a min. climb rate of 220' per NM to 600.  
DEPARTURE PROCEDURE: **Rwy 12**, climbing right turn. **Rwy 30**, climbing left turn. **All aircraft** climb direct to TTE VOR/DME. Aircraft departing TTE R-146 CW R-330 climb on course. All others, continue climb in TTE holding pattern (NW, right turns, 143° inbound) to cross: TTE R-331 CW R-060, 8600; R-061 CW R-145, 7000.  
NOTE: 559' frost fan 3000' east southeast runway 12.

## RED BLUFF, CA

## RED BLUFF MUNI

TAKE-OFF MINIMUMS: **Rwy 33**, CATS C, D 2500-2 or std. with a min. climb of 300' per NM to 3300.  
DEPARTURE PROCEDURE: **Rwy 15**, climb direct RBL VORTAC. **Rwy 33**, climbing right turn direct RBL VORTAC. **All aircraft** departing RBL R-091 CW R-200 climb on course. All others climb in RBL holding pattern (S, right turns, 341° inbound) to depart RBL VORTAC at or above: R-021 CW R-060, 4500; R-061 CW R-090, 2100; R-201 CW R-270, 4000; R-271 CW R-020, 2400.

## REDDING, CA

## REDDING MUNI

DEPARTURE PROCEDURE: **Rwys 12, 16**, turn right. Climb via heading 285° and RDD R-256 to BEIRA Int climb in holding pattern (SE, right turns, 324° inbound) until reaching MEA for route of flight. **Rwys 30, 34**, turn right. Climb via heading 075° and RDD R-044 to ITMOR Int, climb in holding pattern (S, left turns, 357° inbound) until reaching MEA or MCA for route of flight.

## RIO VISTA, CA

## RIO VISTA MUNI

DEPARTURE PROCEDURE: **Rwy 7**, turn left. **Rwys 14, 25, 32** turn right. **All aircraft** climb direct SAC VORTAC.

## SACRAMENTO, CA

## MC CLELLAN AIRFIELD

TAKE-OFF MINIMUMS: **Rwys 16, 34**, Use KATSO DEPARTURE.

## SACRAMENTO MATHER

DEPARTURE PROCEDURE: **Rwys 4L, 4R**, climbing right turn direct SAC VORTAC. **Rwys 22L, 22R** climb direct SAC VORTAC.

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## TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES



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## TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES



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**SALINAS, CA****SALINAS MUNI**

TAKE-OFF MINIMUMS: **Rwys 3, 14, 21, 32**, NA. **Rwy 8**, CAT C,D 3600-2 or std. with a min. climb of 420' per NM to 4100. **Rwy 13**, CAT C,D 3600-2 or std. with min. climb of 500' per NM to 4000. **Rwy 31**, RVR/24, FAR 135.

DEPARTURE PROCEDURE: **Rwys 8, 13, 26**, turn right. **Rwy 31**, turn left. Climb on SNS R-275 to 2000, then climbing right turn to cross SNS VORTAC at or above 3000.

**SAN ANDREAS, CA****CALAVERAS CO-MAURY RASMUSSEN FIELD**

TAKE-OFF MINIMUMS: **Rwy 13**, 1800-5 or std. with a min. climb of 290' per NM to 3100.

DEPARTURE PROCEDURE: **Rwy 13**, climb runway heading to 3100, then climbing right turn via LIN R-085 to LIN VORTAC. **Rwy 31**, climb runway heading to 2300, then climbing left turn via LIN R-029 to LIN VORTAC.

**SAN CARLOS, CA****SAN CARLOS**

TAKE-OFF MINIMUMS: **Rwy 30**, NA.

DEPARTURE PROCEDURE: **Rwy 12**, climb via heading 113° and SJC VOR/DME R-276 to SJC VOR/DME before proceeding on course.

**SAN FRANCISCO, CA****SAN FRANCISCO INTL**

TAKE-OFF MINIMUMS: **Rwy 19L**, 2000-2 or std. with a min. climb of 520' per NM to 2300. **Rwy 19R**, 2000-2 or std. with a min. climb of 500' per NM to 2300.

**Rwys 28L, 28R**, 800-2 or std. with a min. climb of 270' per NM to 1000.

DEPARTURE PROCEDURE: **Rwys 1L, 1R, 28L, 28R**, climb runway heading to 2000. **Rwys 10L, 10R, 19L, 19R**, climbing left turn via heading 050° and SFO R-090. All aircraft continue climb on course.

**SAN JOSE, CA****NORMAN Y MINETA SAN JOSE INTL**

TAKE-OFF MINIMUMS: **Rwy 11, 12R**, 400-2½ or std. with a min. climb of 255' per NM to 500. **Rwy 12L**, 400-1¼ or std. with a min. climb of 278' per NM to 500.

DEPARTURE PROCEDURE: **Rwys 11, 12L, 12R**, climbing right turn via heading 315° to 2000, then via OAK R-135 to OAK VORTAC before proceeding on course. **Rwys 29, 30L, 30R**, Climb via heading 312° to 2000, then via OAK R-132 to OAK VORTAC before proceeding on course.

NOTE: **Rwy 11**, multiple trees beginning 1837' from departure end of runway, 230' right of centerline, up to 85' AGL/154' MSL. Crane 2.14 NM from departure end of runway, 1144' left of centerline, 305' AGL/389' MSL. **Rwy 12L**, multiple cranes, trees, and bldg beginning 286' from centerline, 69' right of centerline, up to 305' AGL/389' MSL. Multiple antennas, poles, bldg, and trees beginning 191' from departure end of runway, 48' left of centerline, up to 275' AGL/366' MSL. **Rwy 12R**, multiple antennas, bldg, cranes, poles, and trees beginning 1402' from departure end of runway, 194' left of centerline, up to 305' AGL/389' MSL. Multiple antennas, bldg, cranes, poles, and trees beginning 659' from departure end of runway, 150' right of centerline, up to 73' AGL/142' MSL. **Rwy 29**, tree 2252' from departure end of runway, 114' left of centerline, 86' AGL/125' MSL. OL on GS 821' from departure end of runway, 400' right of centerline, 35' AGL/74' MSL. **Rwy 30L**, multiple antennas, poles, towers, and trees beginning 1014' from departure end of runway, 350' left of centerline, up to 59' AGL/94' MSL. Multiple antennas, poles, and trees beginning 1279' from departure end of runway, 379' right of centerline, up to 52' AGL/88' MSL. **Rwy 30R**, multiple antennas, fences, and poles beginning 139' from departure end of runway, 40' right of centerline, up to 95' AGL/124' MSL. Multiple poles and trees beginning 185' from departure end of runway, 38' left of centerline, up to 51' AGL/85' MSL.

**REID-HILLVIEW OF SANTA CLARA COUNTY**

TAKE-OFF MINIMUMS: **Rwys 13L, 13R**, NA - environmental.

DEPARTURE PROCEDURE: Use DECOT DEPARTURE.

**SAN MARTIN, CA****SOUTH COUNTY AIRPORT OF SANTA CLARA COUNTY**

TAKE-OFF MINIMUMS: **Rwy 14**, NA. **Rwy 32**, 400-2 or std. with a min. climb of 350' per NM to 4000.

DEPARTURE PROCEDURE: **Rwy 32**, all aircraft climb runway heading to 2200, aircraft departing northwest via V-485, climbing left turn to 4600, heading 270° to intercept SJC R-121 (V-485) to SJC VOR/DME proceed on course; aircraft departing southeast via V-485, climbing left turn to 4600, heading 170° to intercept SJC R-121 (V485) southeast bound to GILRO Int and proceed on course.

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## SANTA ROSA, CA

CHARLES M. SCHULZ-SONOMA COUNTY

TAKE-OFF MINIMUMS: **Rwy 1**, std. with a min. climb of 267' per NM to 2400, or 1000-2½ for climb in visual conditions. **Rwy 32**, std. with a min. climb of 314' per NM to 2400, or 1000-2½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwys 1, 32**, climbing left turn heading 164°, thence...or climb in visual conditions to cross the STS VOR/DME southwestbound at or above 1100, thence...**Rwy 14**, climbing right turn heading 250°, thence...**Rwy 19**, climb on heading 190°, thence...  
...intercept and climb via STS R-202 to FREES INT, cross FREES at or above MEA for route of flight or continue climb in FREES holding pattern (SE, right turns, PYE VORTAC 334.73 inbound) to MEA for route of flight.

NOTE: **Rwy 1**, tree 739' from departure end of runway, 525' left of centerline, 40' AGL/141' MSL. **Rwy 14**, multiple trees beginning 321' from departure end of runway, 421' left of centerline up to 73' AGL/172' MSL. Tree 2113' from departure end of runway, 721' right of centerline, 77' AGL/176' MSL. **Rwy 19**, posts 39' from departure end of runway, 259' right of centerline, 7' AGL/126' MSL. Multiple trees beginning 1482' from departure end of runway, 461' right of centerline, up to 100' AGL/253' MSL. Multiple trees beginning 1666' from departure end of runway, 58' left of centerline, up to 55' AGL/257' MSL. **Rwy 32**, windsock 39' from departure end of runway, 341' left of centerline, 25' AGL/133' MSL. Multiple trees beginning 810' from departure end of runway, 87' right of centerline up to 50' AGL/205' MSL. Multiple trees beginning 2419' from departure end of runway, 167' left of centerline, up to 50' AGL/216' MSL.

## SOUTH LAKE TAHOE, CA

LAKE TAHOE

TAKE-OFF MINIMUMS: **Rwy 18**, 4000-3 or std. with min. climb of 700' per NM to 9800. **Rwy 36**, 2700-3 or std. with a min. climb of 400' per NM to 8300.

DEPARTURE PROCEDURE: **Rwy 18**, climb runway heading to 9800, then continue climbing right turn via heading 280° and SWR R-152 to SWR VOR/DME.

**Rwy 36**, climb runway heading to 8300, then continue climbing left turn via heading 340° and SWR R-102 to SWR VOR/DME. Then **all aircraft** proceed on course.

## SUSANVILLE, CA

SUSANVILLE MUNI

DEPARTURE PROCEDURE: Use AMEDEE DEPARTURE.

## TRACY, CA

TRACY MUNI

DEPARTURE PROCEDURE: **Rwys 25, 30**, turn right. **Rwys 7, 12**, turn left. Climb to 2000 direct ECA VORTAC.

## TRAVIS AFB (KSUU)

FAIRFIELD, CA

All Rwy: Comply with assigned SID or ATC radar vectors.

TAKE-OFF OBSTACLES: Rwy 21L: 81' MSL (25' AGL) poles 340 to 925 feet from departure end of runway, 545' to 660 left of centerline.

## TRUCKEE, CA

TRUCKEE-TAHOE

TAKE-OFF MINIMUMS: **Rwys 1, 28**, 3500-3 or std. with min. climb of 425' per NM to 8300. **Rwys 10, 19**, NA. DEPARTURE PROCEDURE: **Rwy 1**, climb runway heading to 7500, then climbing left turn via heading 280° to intercept SWR R-002. Proceed via SWR R-002 to TRUCK Int. **Rwy 28**, climbing right turn via heading 320° and SWR R-002 to TRUCK Int.

**All aircraft** climb in TRUCK holding pattern (S, left turns, 002° inbound) to cross TRUCK Int at or above 11500 before proceeding on course.

## TULARE, CA

MEFFORD FIELD

DEPARTURE PROCEDURE: **Rwy 13**, climbing right turn. **Rwy 31**, climbing left turn. **All aircraft** climb direct to VIS VOR/DME. Aircraft departing VIS R-001 CW R-140 continue climb in VIS holding pattern (E, right turns, 287° inbound) to cross VIS VOR/DME at or above 4000. All other aircraft climb on course.

## TUSI AHP (MGT)

HUNTER LIGGETT, CA

Rwy 14-32 climb to 3200 direct HGT NDB and hold SE, LT, 295 inbound.

## UKIAH, CA

UKIAH MUNI

TAKE-OFF MINIMUMS: **Rwy 15**, NA. **Rwy 33**, 300-1 and min. climb of 350' per NM to 4000.

DEPARTURE PROCEDURE: Climb to 4000 via heading 350° then climbing left turn to 6000 direct ENI.

## VACAVILLE, CA

NUT TREE

TAKE-OFF MINIMUMS: **Rwy 20**, std. with a min. climb of 474' per NM to 1400, or 1100-2½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 2**, climb to 2000 via right turn heading 120°, intercept SAC R-242 to SAC VORTAC, then proceed on course. **Rwy 20**, climb to 2000 via left turn heading 020°, intercept SAC R-242 to SAC VORTAC, then proceed on course, or for climb in visual conditions: cross Nut Tree Airport eastbound at or above 1200, then climb to 2000 via SAC R-242 to SAC VORTAC, proceed on course.

NOTE: **Rwy 2**, tree 2012' from departure end of runway, 846' left of centerline, 100' AGL/225' MSL. **Rwy 20**, windsock 7' from departure end of runway, 166' right of centerline, 16' AGL/127' MSL. Pole 163' from departure end of runway, 501' left of centerline, 125' AGL/236' MSL. Fence 194' from departure end of runway, 202' right of centerline, 11' AGL/122' MSL. Pole 778' from departure end of runway, 437' left of centerline, 127' AGL/238' MSL. Multiple trees beginning 1284' from departure end of runway, 449' left of centerline, up to 100' AGL/229' MSL. Multiple trees beginning 2759' from departure end of runway, 1211' right of centerline, up to 100' AGL/329' MSL. Tree 3897' from departure end of runway, 4' right of centerline, 100' AGL/358' MSL.

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**VISALIA, CA**

## VISALIA MUNI

DEPARTURE PROCEDURE: **Rwy 30**, turn left, **Rwy 12**, turn right, climb heading 230° to 2000 to intercept V23.

**WATSONVILLE, CA**

## WATSONVILLE MUNI

TAKE-OFF MINIMUMS: **Rwy 2**, 1100-2 CAT A,B, 1900-2 CAT C,D or std. with a min. climb of: CAT A,B 330' per NM to 2200; CAT C,D 460' per NM to 2400. **Rwy 8**, std. with a min. climb of 290' per NM to 2200. **Rwy 20**, std. with a min. climb of 330' per NM to 2200. **Rwy 26**, std. with a min. climb of 330' per NM to 2200.

DEPARTURE PROCEDURE: **Rwy 2** climbing right turn. **Rwy 20**, climb runway heading. **Rwy 26**, climbing left turn. **All aircraft** intercept 212° bearing from PAJAR NDB and climb to cross MOVER Int at or above 2200. Climb in MOVER INT holding pattern (NE, right turns, 212° inbound) until reaching MEA or assigned altitude.

NOTE: **Rwy 2**, 40' AGL pole 17' from departure end of runway, 340' left of centerline. **Rwy 8**, 189' AGL tower 4696' from departure end of runway, 1200' right of centerline. **Rwy 20**, 106' AGL tree 954' from departure end of runway, 550' left of centerline. **Rwy 26**, 174' AGL tree 625' from departure end of runway, 580' left of centerline.

**WILLITS, CA**

## ELLS FIELD-WILLITS MUNI

DEPARTURE PROCEDURE: **Rwy 16**, use MENDOCINO RNAV DEPARTURE. **Rwy 34**, use FLUEN RNAV DEPARTURE.

**WILLOWS, CA**

## WILLOWS-GLENN COUNTY

DEPARTURE PROCEDURE: **Rwy 13**, climbing right turn. **Rwy 16**, climb runway heading. **Rwy 31, 34**, climbing left turn. **All aircraft** climb direct to MXW VORTAC. Aircraft departing MXW Vortac R-330 CW R-220, climb on course. All others continue climb in MXW holding pattern (S, 350° inbound, left turns) to depart MXW Vortac 220° CW 290°, 6500, 291° CW 330°, 5500.

NOTE: **Rwy 34**, 55' AGL pole 530' from departure end of runway, 430' right of centerline.

**WOODLAND, CA**

## WATTS-WOODLAND

DEPARTURE PROCEDURE: Eastbound climb to 2000 via SAC R-296 to SAC VORTAC. Southbound or westbound climb to 5000 via TZZ R-335 and SAC R-257 to RAGGS Int. Northbound climb to 5000 via ILA R-142 to ILA VORTAC.

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