U.S. DEPARTMENT of TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION

GRAPHIC DEPARTURE PROCEDURE (DP)

Bearings, headings, courses, tracks, and radials are magnetic. Elevation and altitudes are in feet MSL. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statue miles or feet RVR unless otherwise indicated. Graphic depictions attached.

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
MOLEN	FOUR	MOLEN4.MOLEN	THREE	20MAY1999	20 SEP 2012

TYPE: SID

DP ROUTE DESCRIPTION:

TAKEOFF RWY 10L/R: CLIMBING LEFT TURN TO INTERCEPT SFO R-090 TO CROSS SIPLY 7.00 DME FIX AT OR ABOVE 2500, THEN CLIMBING RIGHT TURN TO 5000 ON HEADING 230 TO INTERCEPT AND PROCEED ON PYE R-144 TO CROSS STINS INT/SFO 21.95 DME AT 5000, THEN ON SFO VOR/DME R-287 TO MOLEN INT/SFO 40.78 DME. THENCE...
TAKEOFF RWY 19L/R: CLIMBING LEFT TURN HEADING 050 TO INTERCEPT SFO R-090 TO CROSS SIPLY 7.00 DME FIX AT OR ABOVE 2500, THEN CLIMBING RIGHT TURN TO 5000 HEADING 230 TO INTERCEPT AND PROCEED ON PYE R-144 TO CROSS STINS INT/SFO VOR/DME 21.95 DME AT 5000, THEN ON SFO VOR/DME R-287 TO MOLEN INT/SFO 40.78 DME. THENCE ...
TAKEOFF RWY 28L/R: CLIMB ON SFO VOR/DME R-281 TO CROSS WESLA INT/SFO VOR/DME 5.74 DME AT OR ABOVE 1800 THEN TURN RIGHT TO INTERCEPT SFO R-287 TO MOLEN INT/SFO 40.78 DME. THENCE...

.... ON (TRANSITION). EXPECT CLEARANCE TO FILED ALTITUDE TEN MINUTES AFTER DEPARTURE.

TRANSITION ROUTES (GRAPHIC DEPICTION ONLY):

Transition Name	Transition Computer Codes	From FIX/NAVAID	To FIX/NAVAID	Course	Distance	MEA	MOCA	Crossing Altitudes/Fixes
MENDOCINO	MOLEN4.ENI	MOLEN INT/SFO 40.78 DME	ENI VORTAC	335.99 (ENI R-156)	63.87	6000		

PROCEDURAL DATA NOTES/TAKEOFF MINIMUMS:

TAKEOFF MINIMUMS:
RWY 10L/R STANDARD WITH MINIMUM CLIMB OF 360 FT PER NM TO 2500.
RWY 19L/R STANDARD WITH MINIMUM CLIMB OF 565 FT PER NM TO 2000.
RWY 28L/R STANDARD WITH MINIMUM CLIMB OF 390 FT PER NM TO 1800.
NOTE: RADAR REQUIRED.
NOTE: DME REQUIRED.
NOTE: RAPIDLY RISING TERRAIN TO 2000 FT IMMEDIATELY SOUTH OF AIRPORT.

TAKEOFF OBSTACLES NOTES:

NOTE: RWY 1L, SIGN, FENCE BEGINNING 169 FT FROM DER, 226 FT LEFT OF CENTERLINE, UP TO 7 FT AGL/14 FT MSL. OBSTRUCTION LIGHT ON LEVEE AND FENCE BEGINNING 209 FT FROM DER, 2 FT LEFT OF CENTERLINE, UP TO 6 FT AGL/14 FT MSL.

NOTE: RWY 1R, FENCE 3 FT FROM DER, 329 FT LEFT OF CENTERLINE, 7 FT AGL/13 FT MSL. TERRAIN 62 FT FROM DER, 330 FT LEFT OF CENTERLINE, 12 FT MSL. TERRAIN 91 FT FROM DER, 515 FT RIGHT OF CENTERLINE, 14 FT MSL.

NOTE: RWY 10L, SIGN 62 FT FROM DER, 300 FT LEFT OF CENTERLINE, 4 FT AGL/15 FT MSL. BUILDING AND ROD ON BUILDING BEGINNING 257 FT FROM DER, 560 FT LEFT OF CENTERLINE, UP TO 12 FT AGL/24 FT MSL.

QUALITY CHECKED

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MOLEN	FOUR	MOLEN4.MOLEN	THREE	20MAY1999	20 SEP 2012

NOTE: RWY 19L, FENCE BEGINNING 55 FT FROM DER, 462 FT LEFT OF CENTERLINE, UP TO 6 FT AGL/15 FT MSL. SIGN 4 FT FROM DER, 168 FT RIGHT OF CENTERLINE, 5 FT AGL/12 FT MSL. MULTIPLE POLES BEGINNING 754 FT FROM DER, 47 FT LEFT OF CENTERLINE, UP TO 20 FT AGL/48 FT MSL. MULTIPLE POLES AND A SIGN BEGINNING 873 FT FROM DER, 337 FT RIGHT OF CENTERLINE, UP TO 20 FT AGL/38 FT MSL. MULTIPLE BUILDINGS, TRANSMISSION TOWERS, POLES, TREES, SIGN, ELECTRICAL SYSTEM BEGINNING 1078 FT FROM DER, 12 FT LEFT OF CENTERLINE, UP TO 100 FT AGL/127 FT MSL. MULTIPLE BUILDINGS, TRANSMISSION TOWERS, POLES, TREES, SIGN, ELECTRICAL SYSTEM BEGINNING 194 FT FROM DER, 61 FT RIGHT OF CENTERLINE, UP TO 100 FT AGL/128 FT MSL. MULTIPLE BUILDINGS, TREES BEGINNING 4027 FT FROM DER, 152 FT RIGHT OF CENTERLINE UP TO 100 FT AGL/167 FT MSL.

NOTE: RWY 19R, MULTIPLE POLES, TREES, ELECTRICAL SYSTEM BEGINNING 898 FT FROM DER, 82 FT RIGHT OF CENTERLINE, UP TO 40 FT AGL/60 FT MSL. MULTIPLE TRANSMISSION TOWERS, TREES BEGINNING 1638 FT FROM DER, 7 FT LEFT OF CENTERLINE, UP TO 80 FT AGL/96 FT MSL. MULTIPLE TRANSMISSION TOWERS, TREES BEGINNING 1851 FT FROM DER, 16 FT RIGHT OF CENTERLINE, UP TO 80 FT AGL/85 FT MSL.

NOTE: RWY 28L, SIGN 19 FT FROM DER, 500 FT RIGHT OF CENTERLINE, 5 FT AGL/9 FT MSL. OBSTRUCTION LIGHTS ON DME BEGINNING 277 FT FROM DER, 162 FT LEFT OF CENTERLINE, UP TO 16 FT AGL, 26 FT MSL. OBSTRUCTION LIGHT ON LOCALIZER BEGINNING ON CENTERLINE UP TO 10 FT AGL/17 FT MSL. MULTIPLE POLES, ELECTRICAL SYSTEM BEGINNING 824 FT FROM DER, 300 FT LEFT OF CENTERLINE, UP TO 40 FT AGL/56 FT MSL. MULTIPLE BUILDINGS, TRANSMISSION TOWERS, TANK AND POLE BEGINNING 1305 FT FROM DER, 370 FT LEFT OF CENTERLINE, UP TO 95 FT AGL/103 FT MSL.

NOTE: RWY 28R, MULTIPLE SIGNS, BEGINNING 23 FT FROM DER, 140 FT RIGHT OF CENTERLINE, UP TO 5 FT AGL/10 FT MSL. TERRAIN BEGINNING 58 FT FROM DER, 146 FT RIGHT OF CENTERLINE, UP TO 10 FT MSL. SIGN, 63 FT FROM DER, 250 FT LEFT OF CENTERLINE 5 FT AGL/8 FT MSL. TERRAIN BEGINNING 130 FT FROM DER, 235 FT LEFT OF CENTERLINE, UP TP 10 FT MSL. ANTENNA ON BUILDING, OBSTRUCTION LIGHT ON DME, TREE, BEGINNING 556 FT FROM DER, 268 FT RIGHT OF CENTERLINE, UP TO 35 FT AGL/43 FT MSL. MULTIPLE POLES BEGINNING 918 FT FROM DER, 598 FT LEFT OF CENTERLINE, UP TO 22 FT AGL/35 FT MSL. MULTIPLE BUILDINGS, TREES BEGINNING 1467 FT FROM DER, 683 FT RIGHT OF CENTERLINE, UP TO 60 FT AGL/68 FT MSL. MULTIPLE BUILDINGS, TRANSMISSION TOWERS, TREES AND ELECTRICAL SYSTEM BEGINNING 1826 FT FROM DER, 123 FT LEFT OF CENTERLINE, UP TO 95 FT AGL/103 FT MSL.

CONTROLLING OBSTACLES:

RWY 19L: 719 FT MSL TREE 373502.00N/1222400.00W, 1374 FT MSL AAO 373121.54N/1222305.21W.
RWY 19R: 719 FT MSL TREE 373502.00N/1222400.00W, 1374 FT MSL AAO 373121.54N/1222305.21W.
RWY 28L: 899 FT MSL TREE 373815.50N/1222748.11W, 949 FT MSL AAO 373906.44N/1222821.43W.
RWY 28R: 674 FT MSL TREE 373813.00N/1222644.00W, 949 FT MSL AAO 373906.44N/1222821.43W.

LOST COMMUNICATIONS PROCEDURES:

ADDITIONAL FLIGHT DATA:

CHART SAU R-243 & R-153. CHART PYE R-228

AIRPORTS SERVED:

SAN FRANCISCO INTL SAN FRANCISCO CA.

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MOLEN	FOUR	MOLEN4.MOLEN	THREE	20MAY1999	20 SEP 2012

COMMUNICATIONS:

ATIS, GND CON, SFO TWR, NORCAL DEP CON

FIXES AND/OR NAVAIDS:

SAU VORTAC

REMARKS:

RWY 10L/R AND RWY 28L/R CLIMB GRADIENTS DRIVEN BY MANDATORY CROSSING RESTRICTION OVER SIPLY AND WESLA DME FIXES. 390 CG OFF RWYS 28L/R RETAINED FROM MOLEN THREE, CG COULD BE REDUCED TO 380' PER NM.

DEPARTURE (DATA RECORD)

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
MOLEN	FOUR	MOLEN4.MOLEN	THREE	20MAY1999	20 SEP 2012

ARINC PACKET - 424-18 - SID

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                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        ENI   K2011230VTHA N39031158W123162758    N39031158W123162758E0160028852     NARMENDOCINO
        SUSAD        PYE   K2011370VTHA N38044712W122520418    N38044712W122520418E0170013402     NARPOINT REYES
        SUSAD        SFO   K2011580VDLA N37371014W122222602    N37371014W122222602E0170000071     NARSAN FRANCISCO

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   MOLEN K20    R   L N37595234W123051247                      E0142     NAR           MOLEN
        SUSAEAENRT   SIPLY K20    R     N37350720W122140060                      E0140     NAR           SIPLY
        SUSAEAENRT   STINS K20    C   L N37492524W122452406                      E0141     NAR           STINS
        SUSAEAENRT   WESLA K20    R     N37395174W122284905                      E0141     NAR           WESLA

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSFOK2ASFO     0     118YHN37370830W122222960E017000013         1800018000C    MNAR    SAN FRANCISCO INTL

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSFOK2DMOLEN41RW10B 010SIPLYK2EA0E       CF SFO K2      0900007009000070D   + 02500     18000
        SUSAP KSFOK2DMOLEN41RW10B 020         0    R   VIY                     2300
        SUSAP KSFOK2DMOLEN41RW10B 030STINSK2EA0E   R   CFYPYE K2      1440016232400250D     05000
        SUSAP KSFOK2DMOLEN41RW10B 040MOLENK2EA0EE      TF                      2870
        SUSAP KSFOK2DMOLEN41RW19B 010         0       CA                      1908        + 00413     18000
        SUSAP KSFOK2DMOLEN41RW19B 020         0    L   VIY                     0500
        SUSAP KSFOK2DMOLEN41RW19B 030SIPLYK2EA0E       CF SFO K2      0900007009000030D   + 02500
        SUSAP KSFOK2DMOLEN41RW19B 040         0    R   VIY                     2300
        SUSAP KSFOK2DMOLEN41RW19B 050STINSK2EA0E   R   CFYPYE K2      1440016232400250D     05000
        SUSAP KSFOK2DMOLEN41RW19B 060MOLENK2EA0EE      TF                      2870
        SUSAP KSFOK2DMOLEN41RW28B 010WESLAK2EA0E       CF SFO K2      2810005728100060D   + 01800     18000
        SUSAP KSFOK2DMOLEN41RW28B 020MOLENK2EA0EE      CF SFO K2      2870040828700350D
        SUSAP KSFOK2DMOLEN43ENI   010MOLENK2EA0E       IF                                         18000
        SUSAP KSFOK2DMOLEN43ENI   020ENI  K2D 0VE      TF                      33600639

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSFOK2GRW10L   0118701008 N37374346W122233621+0100    -0030900006000055200R
        SUSAP KSFOK2GRW10R   0113811008 N37373464W122233518+0000    -0030400007000060200R
        SUSAP KSFOK2GRW19L   0086461908 N37374018W122220044+0000    -0029600010000060200IISIA1
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DEPARTURE (DATA RECORD)

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
MOLEN	FOUR	MOLEN4.MOLEN	THREE	20MAY1999	20 SEP 2012

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SUSAP KSFOK2GRW19R   0075001908 N37373795W122221245+0000    -0030000009000047200R
SUSAP KSFOK2GRW28L   0113812808 N37364216W122213006+0000    -0028700013000057200IISFO1
SUSAP KSFOK2GRW28R   0118702808 N37364872W122212571-0100    -0028700013000055200IIGWQ3    IFNPL
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DEPARTURE (DATA RECORD)

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
MOLEN	FOUR	MOLEN4.MOLEN	THREE	20MAY1999	20 SEP 2012

ARINC SUMMARY - 424-18 - SID

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	RW10B	SIPLY	010		CF		FB		090.0()	007.0	AA 02500	
	RW10B		020		VI	R	FB		230.0()			
	RW10B	STINS	030		CF	R	FB		324.0()	025.0	AT 05000	
	RW10B	MOLEN	040		TF		FB		287.0()			
	RW19B		010		CA		FB		190.8()		AA 00413	
	RW19B		020		VI	L	FB		050.0()			
	RW19B	SIPLY	030		CF		FB		090.0()	003.0	AA 02500	
	RW19B		040		VI	R	FB		230.0()			
	RW19B	STINS	050		CF	R	FB		324.0()	025.0	AT 05000	
	RW19B	MOLEN	060		TF		FB		287.0()			
	RW28B	WESLA	010		CF		FB		281.0()	006.0	AA 01800	
	RW28B	MOLEN	020		CF		FB		287.0()	035.0		
	ENI	MOLEN	010		IF		FB					
	ENI	ENI	020		TF		FB		336.0()	063.9		

POINT DATA

WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
ENI	N390311.58	W1231627.58	N3903.193	W12316.460
PYE	N380447.12	W1225204.18	N3804.785	W12252.070
SFO	N373710.14	W1222226.02	N3737.169	W12222.434
MOLEN	N375952.34	W1230512.47	N3759.872	W12305.208
SIPLY	N373507.20	W1221400.60	N3735.120	W12214.010
STINS	N374925.24	W1224524.06	N3749.421	W12245.401
WESLA	N373951.74	W1222849.05	N3739.862	W12228.818
RW10L	N373743.46	W1222336.21	N3737.724	W12223.604
RW10R	N373734.64	W1222335.18	N3737.577	W12223.586
RW19L	N373740.18	W1222200.44	N3737.670	W12222.007
RW19R	N373737.95	W1222212.45	N3737.633	W12222.208
RW28L	N373642.16	W1222130.06	N3736.703	W12221.501
RW28R	N373648.72	W1222125.71	N3736.812	W12221.429

RUNWAY DATA

RWY	THRESHOLD ELEVATION	TCH
RW10L	00006	55
RW10R	00007	60
RW19L	00010	60
RW19R	00009	47
RW28L	00013	57
RW28R	00013	55