

EN ROUTE	V338			(US)
EN ROUTE	V459			(US)
IAP	TACAN RWY 11L		KFAT	FRESNO
IAP	VOR/DME RWY 1		KJAQ	JACKSON
IAP	ILS RWY 25R		KLVK	LIVERMORE
IAP	LOC RWY 25R		KLVK	LIVERMORE
IAP	RNAV (GPS)-B	3	1Q3	LODI
IAP	ILS OR LOC RWY 28R	1	KMOD	MODESTO
IAP	RNAV (GPS) RWY 28	5	O27	OAKDALE
IAP	VOR-A		O27	OAKDALE
IAP	ILS OR LOC RWY 16		KMCC	SACRAMENTO
IAP	VOR/DME RWY 34		KMCC	SACRAMENTO
IAP	ILS OR LOC RWY 22L		KMHR	SACRAMENTO
IAP	ILS RWY 22L (SA CAT I - II)		KMHR	SACRAMENTO
IAP	RNAV (GPS) RWY 31		KCPU	SAN ANDREAS
IAP	ILS OR LOC RWY 29R (ALT MISS)	4	KSCK	STOCKTON
IAP	ILS RWY 29R (SA CAT II) (ALT MISS)	4	KSCK	STOCKTON
IAP	RNAV (GPS) RWY 11L		KSCK	STOCKTON
IAP	VOR RWY 26	2	KTCY	TRACY
STAR	PALISADES		KSUU	FAIRFIELD

REQUIRED CHARTING: DP, STAR, IAP, EN ROUTE LOW, EN ROUTE HIGH, CONTROLLER LOW, CONTROLLER HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 31

DATE OF REVISION: 08/10/2023

REASON FOR REVISION:

1. AIRSPACE DOCKET: ADDED 23-AWP-03.
2. PATTERNS: CHANGED PAT 3 TEMPLATES MAX FROM 8 TO 9.
3. CONTROLLING OBSTRUCTIONS: CHANGED PAT 1 200 KIAS COORDINATES.
4. CONTROLLING OBSTRUCTIONS: CHANGED PAT 2 COORDINATES, ELEVATION FROM 699 TO 702, AND ACCURACY CODE FROM 2C TO 4E.
5. CONTROLLING OBSTRUCTIONS: CHANGED PAT 5 230 KIAS OBSTRUCTION FROM TOWER (06-002421) TO AAO, COORDINATES, ELEVATION FROM 3154 TO 1703, AND ACCURACY CODE FROM 2C TO 4E.
6. CONTROLLING OBSTRUCTIONS: CHANGED PAT 5 310 KIAS OBSTRUCTION FROM TOWER (06-002421) TO AAO, COORDINATES, ELEVATION FROM 3154 TO 2405, AND ACCURACY CODE FROM 2C TO 4E.
7. FIX USE: CHANGED TACAN RWY 11 IAP @ KFAT TO TACAN RWY 11L IAP @ KFAT. CHANGED SQUAW VALLEY STAR @ KSUU TO PALISADES STAR @ KSUU.

INITIATED BY: **DATE:** **ORGANIZATION:** **NAME:**

OFFICE OF PRIMARY RESPONSIBILITY: AJV-A423 **NAME:** MICHAEL GARRITY

APPROVED BY: **DATE:** 08/10/2023 **OFFICE:** AJV-A423 **NAME:** ALLAN WILL

SIGNATURE:

RADIO FIX AND HOLDING DATA RECORD

NAME: NORMM

STATE: CA

COUNTRY: US

ICAO REGION CODE: K2

LATITUDE/LONGITUDE: 374312.75N/1223647.42W

TYPE: INT, DME

AIRSPACE DOCKET:

FIX TYPE OF ACTION: MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	SAN FRANCISCO	SFO	VOR/DME	VL	280.98	297.98	12.90	12.90		3000	17500
2	SAUSALITO	SAU	VOR/DME	VL	191.00	208.00		9.17		3000	17500

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

REMARKS:

SAN FRANCISCO (FAC 1) AND SAUSALITO (FAC 2) USED TO ESTABLISH FIX COORDINATES.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	GAP	1, 2		KSFO	SAN FRANCISCO	CA (US)
DP	SAN FRANCISCO	1, 2		KSFO	SAN FRANCISCO	CA (US)

REQUIRED CHARTING: DP, AREA

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 8

DATE OF REVISION: 07/11/2024

REASON FOR REVISION:

1. TYPE: REMOVED WAYPOINT
2. FIX MAKE-UP FACILITIES: FAC 1 AND FAC 2 CLASS CHANGED FROM L TO VL
3. FIX USE: REMOVED IAP RNAV (GPS) RWY 10L
4. REQUIRED CHARTING: REMOVED IAP

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A432

NAME: APRIL SARMENTO

APPROVED BY:

DATE: 11/02/2023

OFFICE: AJV-A432

NAME: CASIMIR TABAKA

SIGNATURE:

IAP	ILS OR LOC RWY 19L		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC RWY 28R		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS RWY 28R (CAT II & III)		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS RWY 28R (SA CAT I)		KSFO	SAN FRANCISCO	CA (US)
IAP	QUIET BRIDGE VISUAL RWYS 28L/R		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC RWY 30L	1	KSJC	SAN JOSE	CA (US)
IAP	ILS RWY 30L (SA CAT I & II)	1	KSJC	SAN JOSE	CA (US)
STAR	PANOCHÉ		KHWD	HAYWARD	CA (US)
STAR	VNYRD (RNAV)		KHES	HEALDSBURG	CA (US)
STAR	POINT REYES		KNUQ	MOUNTAIN VIEW	CA (US)
STAR	VNYRD (RNAV)		KAPC	NAPA	CA (US)
STAR	VNYRD (RNAV)		KDVO	NOVATO	CA (US)
STAR	PANOCHÉ		KOAK	OAKLAND	CA (US)
STAR	POINT REYES		KPAO	PALO ALTO	CA (US)
STAR	VNYRD (RNAV)		O69	PETALUMA	CA (US)
STAR	POINT REYES		KSQI	SAN CARLOS	CA (US)
STAR	BIG SUR		KSFO	SAN FRANCISCO	CA (US)
STAR	MODESTO		KSFO	SAN FRANCISCO	CA (US)
STAR	POINT REYES		KSFO	SAN FRANCISCO	CA (US)
STAR	POINT REYES		KRHV	SAN JOSE	CA (US)
STAR	POINT REYES		KSJC	SAN JOSE	CA (US)
STAR	VNYRD (RNAV)		KSTS	SANTA ROSA	CA (US)

REQUIRED CHARTING: DP, STAR, MILITARY IAP, IAP, AREA, EN ROUTE LOW, EN ROUTE HIGH, CONTROLLER LOW, CONTROLLER HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 41

DATE OF REVISION: 06/12/2025

REASON FOR REVISION:

1. CHANGED HOLDING PAT 3 CONTROLLING OBSTRUCTION FROM 2107 AAO 375300.00N/1221321.00W 4E TO 2107 AAO 375300.00N/1221318.00W 4B.
2. CHANGED KHWD LOC/DME RWY 28L TO LOC RWY 28L IN FIX USE.

INITIATED BY: **DATE:** **ORGANIZATION:** **NAME:**

OFFICE OF PRIMARY RESPONSIBILITY: AJV-A422 **NAME:** RALPH DUMAR

APPROVED BY: **DATE:** 05/08/2025 **OFFICE:** AJV-A420 **NAME:** BEV L BORDY

SIGNATURE:

RECORD REVISION NUMBER: 25

DATE OF REVISION: 05/14/2026

REASON FOR REVISION:

1. FIX USE: CHANGED IAP KRDD ILS OR LOC, RNAV (GPS), AND VOR FROM RWY 34 TO RWY 35 AND CHANGED LOC BC FROM RWY 16 TO RWY 17.

INITIATED BY:**DATE:****ORGANIZATION:****NAME:****OFFICE OF PRIMARY RESPONSIBILITY:**

AJV-A33

NAME: TAYLOR KENNEY**APPROVED BY:****DATE:** 04/09/2026**OFFICE:** AJV-A33**NAME:** ALLAN WILL**SIGNATURE:**

IAP	ILS Z RWY 22L (SA CAT I - II)		KMHR	SACRAMENTO	CA (US)
IAP	RNAV (GPS) RWY 22L	2	KMHR	SACRAMENTO	CA (US)
IAP	RNAV (GPS) RWY 22R	2	KMHR	SACRAMENTO	CA (US)
IAP	RNAV (GPS) RWY 4R		KMHR	SACRAMENTO	CA (US)
IAP	ILS OR LOC RWY 2	1	KSAC	SACRAMENTO	CA (US)
IAP	VOR RWY 2	1	KSAC	SACRAMENTO	CA (US)
IAP	ILS OR LOC RWY 17L	1	KSMF	SACRAMENTO	CA (US)
IAP	ILS OR LOC RWY 17R		KSMF	SACRAMENTO	CA (US)
IAP	ILS OR LOC RWY 35L		KSMF	SACRAMENTO	CA (US)
IAP	ILS RWY 17L (SA CAT II)	1	KSMF	SACRAMENTO	CA (US)
IAP	ILS RWY 17R (CAT II - III)		KSMF	SACRAMENTO	CA (US)
IAP	ILS RWY 17R (SA CAT I)		KSMF	SACRAMENTO	CA (US)
IAP	RNAV (GPS) RWY 20		KVCB	VACAVILLE	CA (US)
IAP	VOR-A		KVCB	VACAVILLE	CA (US)
STAR	SQUAW VALLEY		KSUU	FAIRFIELD	CA (US)
STAR	POINT REYES		KNUQ	MOUNTAIN VIEW	CA (US)
STAR	POINT REYES		KPAO	PALO ALTO	CA (US)
STAR	CONCORD		KSMF	SACRAMENTO	CA (US)
STAR	TUDOR		KSMF	SACRAMENTO	CA (US)
STAR	POINT REYES		KSQU	SAN CARLOS	CA (US)
STAR	POINT REYES		KSFO	SAN FRANCISCO	CA (US)
STAR	POINT REYES		KRHV	SAN JOSE	CA (US)
STAR	POINT REYES		KSJC	SAN JOSE	CA (US)
STAR	TARVR		KRNO	RENO	NV (US)

REQUIRED CHARTING: SECTIONAL, VFR TERMINAL AREA, DP, STAR, MILITARY IAP, MILITARY STAR, IAP, EN ROUTE LOW, EN ROUTE HIGH, CONTROLLER LOW, CONTROLLER HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 44

DATE OF REVISION: 09/05/2024

REASON FOR REVISION:

1. FAC 1 SAC VORTAC CLASS CHANGED FROM H TO VH.
2. ADDED DP YUBBA (OBSTACLE) TO FIX USE.
3. ADDED KEDU RANV (GPS) RWY 35 TO FIX USE.
4. KSUU ILS Z OR LOC Z RWY 21L REMOVED FROM FIX USE.
5. KSUU ILS Z RWY 21L (CAT II) REMOVED FROM FIX USE.
6. KRNO SIERRA REMOVED FROM FIX USE.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A422

NAME: BRITNEY ARMENTROUT

APPROVED BY:

DATE: 09/05/2024

OFFICE: AJV-A422

NAME: RAKE MCGRAW

SIGNATURE:

RADIO FIX AND HOLDING DATA RECORD

NAME: SAN FRANCISCO VOR/DME **STATE:** CA **COUNTRY:** US **ICAO REGION CODE:** K2

LATITUDE/LONGITUDE: 373710.15N/1222226.02W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM FEET	MRA	MAA
1	SAN FRANCISCO	SFO	VOR/DME	VL						17500

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME DME	HOLDING ALTITUDES MIN MAX	TEMPLATES MIN MAX
1	W	SFO	VOR/DME	287.00	107.00	R	1	4000 14500	6 15
2	W		WP	289.00	109.00	R	4	4000 6000	5 6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	230	AAO	373345.00N/1222851.00W	2077	4E
2	200	AAO	373439.00N/1222636.00W	1601	4E

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
ASSIGNED FACILITY MAG VAR E17/1975.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	SILENT			KOAK	OAKLAND	CA (US)
DP	GAP			KSFO	SAN FRANCISCO	CA (US)
DP	MOLEN			KSFO	SAN FRANCISCO	CA (US)
DP	SAN FRANCISCO			KSFO	SAN FRANCISCO	CA (US)
DP	TAKE OFF MINS			KSFO	SAN FRANCISCO	CA (US)
EN ROUTE	V150					(US)
EN ROUTE	V199					(US)
EN ROUTE	V25					(US)
EN ROUTE	V87					(US)
IAP	ILS OR LOC RWY 12			KOAK	OAKLAND	CA (US)
IAP	ILS RWY 12 (SA CAT I)			KOAK	OAKLAND	CA (US)
IAP	VOR RWY 10R			KOAK	OAKLAND	CA (US)
IAP	ILS OR LOC RWY 19L			KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC RWY 28L			KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC RWY 28R			KSFO	SAN FRANCISCO	CA (US)
IAP	ILS RWY 28L (SA CAT II)			KSFO	SAN FRANCISCO	CA (US)
IAP	ILS RWY 28R (CAT II/III)			KSFO	SAN FRANCISCO	CA (US)
IAP	ILS RWY 28R (SA CAT I)			KSFO	SAN FRANCISCO	CA (US)
IAP	QUIET BRIDGE VISUAL RWY 28L/R			KSFO	SAN FRANCISCO	CA (US)
IAP	TIPP TOE VISUAL RWY 28L/R			KSFO	SAN FRANCISCO	CA (US)
STAR	POINT REYES			KNUQ	MOUNTAIN VIEW	CA (US)
STAR	POINT REYES			KPAO	PALO ALTO	CA (US)
STAR	POINT REYES			KSFL	SAN CARLOS	CA (US)
STAR	MODESTO			KSFO	SAN FRANCISCO	CA (US)
STAR	POINT REYES			KSFO	SAN FRANCISCO	CA (US)
STAR	STINS			KSFO	SAN FRANCISCO	CA (US)
STAR	POINT REYES			KRHV	SAN JOSE	CA (US)
STAR	POINT REYES			KSJC	SAN JOSE	CA (US)

REQUIRED CHARTING: DP, STAR, IAP, AREA, EN ROUTE LOW, CONTROLLER LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 18 **DATE OF REVISION:** 07/11/2024

REASON FOR REVISION:

1. CHANGED FIX MAKE-UP FACILITIES FAC 1 SFO VOR/DME CLASS FROM L TO VL.
2. CHANGED HOLDING PAT 1 LEG TIME FROM "1-1 1/2" TO "1".
3. DELETED FIX USE DP OFFHSORE AND STAR RISTI (RNAV) AT KSFO.

INITIATED BY: **DATE:** **ORGANIZATION:** **NAME:**

OFFICE OF PRIMARY RESPONSIBILITY: AJV-A431 **NAME:** MICHAEL MCCARTNEY

APPROVED BY: **DATE:** 03/21/2024 **OFFICE:** AJV-A431 **NAME:** ERIC N SUSKI

SIGNATURE:

IAP	ILS RWY 28R (CAT II/III) (ALT MISS)	1	KSFO	SAN FRANCISCO	CA (US)
IAP	ILS RWY 28R (SA CAT I) (ALT MISS)	1	KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC RWY 32		KSTS	SANTA ROSA	CA (US)
IAP	RNAV (GPS) RWY 32		KSTS	SANTA ROSA	CA (US)
STAR	POINT REYES		KNUQ	MOUNTAIN VIEW	CA (US)
STAR	POINT REYES		KPAO	PALO ALTO	CA (US)
STAR	POINT REYES		KSQL	SAN CARLOS	CA (US)
STAR	POINT REYES		KSFO	SAN FRANCISCO	CA (US)
STAR	STINS		KSFO	SAN FRANCISCO	CA (US)
STAR	POINT REYES		KRHV	SAN JOSE	CA (US)
STAR	BRINY		KSJC	SAN JOSE	CA (US)
STAR	POINT REYES		KSJC	SAN JOSE	CA (US)

REQUIRED CHARTING: DP, STAR, IAP, EN ROUTE LOW, EN ROUTE HIGH, SPECIAL IAP, CONTROLLER LOW, CONTROLLER HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 22

DATE OF REVISION: 06/12/2025

REASON FOR REVISION:

1. CONTROLLING OBSTRUCTIONS: UPDATED PAT 1 200KTS COORDINATES, CHANGED ELEVATION FROM 2760 TO 2746, AND CHANGED ACCURACY CODE FROM 4E TO 4B.
2. CONTROLLING OBSTRUCTIONS: UPDATED PAT 1 310KTS COORDINATES, CHANGED ELEVATION FROM 2760 TO 2776, AND CHANGED ACCURACY CODE FROM 4E TO 4B.
3. CONTROLLING OBSTRUCTIONS: UPDATED PAT 2 200KTS COORDINATES, CHANGED ELEVATION FROM 2760 TO 2546, AND CHANGED ACCURACY CODE FROM 4E TO 4B.
4. CONTROLLING OBSTRUCTIONS: UPDATED PAT 2 310KTS COORDINATES, CHANGED ELEVATION FROM 2760 TO 2576, AND CHANGED ACCURACY CODE FROM 4E TO 4B.
5. PRECIPITOUS TERRAIN ADDITIONS: ADDED PAT 1 200KTS 100. CHANGED PAT 1 310KTS FROM 80 TO 100.
6. PRECIPITOUS TERRAIN ADDITIONS: ADDED PAT 2 200KTS 90. CHANGED PAT 2 310KTS FROM 80 TO 100.
7. PROCEDURES REQUIRING CLIMB-IN-HOLD: ADDED PAT 2 RNAV (RNP) Z RWY 30 KOAK.
8. PROCEDURES REQUIRING CLIMB-IN-HOLD: UPDATED PROCEDURE TITLE AT KOAK FROM "ILS OR LOC/DME RWY 28R (ALT MISS)" TO "ILS OR LOC RWY 28R (ALT MISS)".
9. REMARKS: CHANGED FROM "PAT 1 200K CONTROLLING OBSTACLE LOCATED 1,250 INTO SECONDARY AREA (2209 PRI EQ)" TO "PAT 1 200K CONTROLLING OBSTACLE SECONDARY AREA ADJUSTMENT (SA-557) (2189 PRI EQ)".
10. FIX USE: UPDATED TITLE AT KOAK FROM "ILS OR LOC/DME RWY 28R (ALT MISS)" TO "ILS OR LOC RWY 28R (ALT MISS)".
11. FIX USE: ADDED FAC 1 TO ILS OR LOC RWY 30, ILS RWY 30 (CAT II/III), ILS RWY 30 (SA CAT I).

INITIATED BY:	DATE:	ORGANIZATION:	NAME:
OFFICE OF PRIMARY RESPONSIBILITY:		AJV-A421	NAME: TIMOTHY JOHNSON
APPROVED BY:	DATE: 05/08/2025	OFFICE: AVJ-A421	NAME: DAVID DANNER
SIGNATURE:			