

RADIO FIX AND HOLDING DATA RECORD

NAME: ALTAM

STATE: CA

COUNTRY: US

ICAO REGION CODE: K2

LATITUDE/LONGITUDE: 374843.82N/1214449.54W

TYPE: WP, 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 NM	FAC FEET	MRA	MAA
1	OAKLAND	OAK	VOR/DME	H	060.01	077.01	23.25	23.25		5000	17500
2	SACRAMENTO	SAC	VORTAC	H	176.80	193.80	38.97	38.97		4500	17500
3	LINDEN	LIN	VOR/DME	H	229.20	246.20		38.62		4500	17500

FIX RESTRICTIONS:

MCA T298 4600 WESTBOUND

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

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	N	SAC	VORTAC	176.80	176.80	L	1-1 1/2		5000	17500	7	18
2	NE	OAK	VOR/DME	060.01	240.01	L	1		5000	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	374851.80N/1214830.60W	2799	2C
2	200	AAO	374851.80N/1214830.60W	2799	2C
2	310	AAO	375254.10N/1215451.55W	4079	2C

REASON FOR NONSTANDARD HOLDING:

PAT 1 ATC REQUEST.
PAT 2 AVOID HIGH TERRAIN

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
2	ILS Z RWY 25R	KLVK	LIVERMORE	CA (US)
2	LOC Y RWY 25R	KLVK	LIVERMORE	CA (US)

REMARKS:

OAKLAND (FAC 1) AND SACRAMENTO (FAC 2) USED TO ESTABLISH FIX COORDINATES
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
PAT 2, 310 KIAS CONTROLLING OBSTACLE LIES IN SECONDARY AREA 6222 FT FROM EDGE OF PRIMARY (3323.01 PRIMARY EQUIVALENT).
LIN DME UNUSABLE 191 DEGREES TO 235 DEGREES.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	LIVERMORE	1, 2, 3		KLVK	LIVERMORE	CA (US)
DP	SALAD	1, 2		KOAK	OAKLAND	CA (US)
DP	SUNOL	1, 2, 3		KSJC	SAN JOSE	CA (US)
EN ROUTE	T298					(US)
EN ROUTE	V244	1, 2, 3				(US)
EN ROUTE	V28	1, 2, 3				(US)
EN ROUTE	V334	1, 2	1			(US)
EN ROUTE	V392	1, 2	1			(US)
IAP	ILS Z RWY 25R	1	2	KLVK	LIVERMORE	CA (US)
IAP	LOC Y RWY 25R	1	2	KLVK	LIVERMORE	CA (US)
IAP	RNAV (GPS) RWY 11L			KSCK	STOCKTON	CA (US)
IAP	RNAV (GPS) RWY 12			KTCY	TRACY	CA (US)
IAP	RNAV (GPS) RWY 26			KTCY	TRACY	CA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 14

DATE OF REVISION: 06/22/2017

REASON FOR REVISION:

1. ADDED AIRSPACE DOCKET: 16-AWP-01.
2. AMENDED FAC 2 (SAC VORTAC) MRA FROM 5000 TO 4500 - SUPPORT INTERSECTION MAKE-UP ON V28 AND V244.
3. DELETED FAC 3 (ECA VOR/DME) - ECA VOR BEING DECOMMISSIONED.
4. DELETED FIX MAKE-UP FACILITIES FAC 4, WOODSIDE, OSI, VOR/DME, CLASS L, MAG BRG 028.20, TRUE BRG 045.20, DME 35.80, DIST FROM FAC 35.80 NM, MRA 6000, MAA 17500 - FACILITY WAS ONLY USED ON THE MARINA DP.
5. DELETED FIX MAKE-UP FACILITIES FAC 5, RED BLUFF, RBL, VORTAC, CLASS H, MAG BRG 152.36, TRUE BRG 170.36, DME 138.97, DIST FROM FAC 138.97 NM, MRA 1700, MAA 20000 - FACILITY WAS ONLY USED ON THE MARINA DP.
6. ADDED NEW FIX MAKE-UP FACILITIES FAC 3, LINDEN, LIN, VOR/DME, CLASS H, MAG BRG 229.20, TRUE BRG 246.20, DIST FROM FAC 38.62 NM, MRA 4500, MAA 17500 - FACILITY REQUIRED FOR V28.
7. DELETED EXPANDED SERVICE VOLUME (ESV) RBL VORTAC, R-152, DISTANCE 139, MIN ALT 17000, MAX ALT 20000.
8. DELETED FIX RESTRICTIONS OSI VOR/DME AND RBL VORTAC MRA RESTRICTIONS - FACILITIES DELETED FROM FIX MAKE-UP.
9. ADDED FIX RESTRICTION MCA T298 4600 WESTBOUND.
10. ADDED PAT 2 HOLDING PATTERN AND ASSOCIATED DATA.
11. ADDED PAT 2 REASON FOR NONSTANDARD HOLDING: AVOID HIGH TERRAIN.
12. ADDED ILS Z RWY 25R AND LOC Y RWY 25R AT KLVK TO PROCEDURES REQUIRING CLIMB-IN-HOLD.
13. CHANGED REMARK "OAKLAND (FAC 1) USED TO ESTABLISH FIX COORDINATES" TO READ: OAKLAND (FAC 1) AND SACRAMENTO (FAC 2) USED TO ESTABLISH FIX COORDINATES.
14. UPDATED FIX USE: DELETED DP MARINA AT KOAK, OAKLAND, CA (US), DELETED DP BYRON AT KVLK, LIVERMORE, CA (US), DELETED EN ROUTE T261, AND DELETED V109 FROM FIX USE.
15. UPDATED FIX USE: AMENDED ILS RWY 25R TO ILS Z RWY 25R AT KLVK.
16. UPDATED FIX USE: ADDED LOC Y RWY 25R AT KLVK, LIVERMORE, CA (US), ADDED RNAV (GPS) RWY 26 AT KTCY, TRACY, CA (US), AND ADDED EN ROUTE T298.

DEVELOPED BY: **DATE:** 02/16/2017 **OFFICE:** AJV-5422 **NAME:** JOHN THORNTON

APPROVED BY: **DATE:** **OFFICE:** AJV-5420 **NAME:** JULIE MORGAN

SIGNATURE:

DISTRIBUTION: **NFDC**
 FPO: WST
 ARTCC: ZOA
 ATC FACILITY: NORCAL APP CON
 OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: BYRON

STATE: CA

COUNTRY: US

ICAO REGION CODE: K2

LATITUDE/LONGITUDE: 374922.31N/1212809.73W

TYPE: WP

AIRSPACE DOCKET:

FIX TYPE OF ACTION: MODIFY

HOLDING:

HOLDING TYPE OF ACTION: CANCEL

FIX USE:

USE TYPE
STAR

USE TITLE
RISTI (RNAV)

FAC

PAT

AIRPORT IDENT
KSFO

CITY
SAN FRANCISCO

STATE
CA (US)

REQUIRED CHARTING: STAR, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 8

DATE OF REVISION: 06/22/2017

REASON FOR REVISION:

1. REMOVED DME AND INT FROM FIX TYPE.
2. DELETED FAC 1 (ECA VOR/DME) AND FAC 2 (SAC VORTAC).
3. CANCELED HOLDING PAT 1 AND ASSOCIATED HOLDING DATA.
4. DELETED IAP AND DP FROM REQUIRED CHARTING.
5. DELETED BYRON DP AT KLVK FROM FIX USE.
6. DELETED STOCKTON DP AT KSCK FROM FIX USE.
7. DELETED V109-244 FROM FIX USE.
8. DELETED RNAV (GPS) RWY 30 AT KTCY FROM FIX USE.
9. AMENDED RISTI STAR AT KSFO TO READ RISTI (RNAV) STAR IN FIX USE.

DEVELOPED BY:

DATE: 01/10/2017

OFFICE: AJV-5422

NAME: PETER GUIMOND

APPROVED BY:

DATE:

OFFICE: AJV-5420

NAME: JULIE MORGAN

SIGNATURE:

DISTRIBUTION:

NFDC
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: DARYL

STATE: CA

COUNTRY: US

ICAO REGION CODE: K2

LATITUDE/LONGITUDE: 374936.53N/1211954.30W

TYPE: INT, DME

AIRSPACE DOCKET:

FIX TYPE OF ACTION: CANCEL

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	MODESTO	MOD	VOR/DME	H	287.00	304.00	21.00			2000	17500
2	MANTECA	ECA	VORTAC	H	250.00	267.00	7.00			2000	17500

REMARKS:

ASSOCIATED WITH MODESTO AIRPORT FOR TRANSITION FROM V244.
HOLDING NOT AUTHORIZED DUE TO FIX DIVERGENCE ANGLE.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	SUNOL SID				SAN JOSE	CA (US)

REQUIRED CHARTING: DP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG

DATE OF REVISION: 09/26/1980

DEVELOPED BY: DATE: 08/18/1980 OFFICE: NAME:

APPROVED BY: DATE: 09/29/1980 OFFICE: AVN-200 NAME:

SIGNATURE:

DISTRIBUTION:

NFDC
FPO: LAX
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: OAKLAND VOR/DME

STATE: CA

COUNTRY: US

ICAO REGION CODE: K2

LATITUDE/LONGITUDE: 374333.32N/1221324.91W

TYPE:

AIRSPACE DOCKET: 16-AWP-01

FIX TYPE OF ACTION:

Cordinated with
Liam for the
removal of V109.

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	T B	FAC FEET	MRA	MAA
1	OAKLAND	OAK	VOR/DME	H					45000

HOLDING:

HOLDING TYPE OF ACTION:

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG TIME	LENGTH DME	HOLDING ALTITUDES MIN	MAX	TEMPLATES MIN	MAX
1	NW	OAK	VOR/DME	300.00	120.00	R	1		2000	4000	4	4
2	NW		WP	302.00	122.00	R		4	2000	4000	4	5
3	SW		WP	243.00	063.00	R		4	3000	5000	5	6
4	SW	OAK	VOR/DME	240.01	060.01	R	1		3000	5000	4	5

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	200	AAO	374857.00N/1220348.00W	2225	4E
1	200	AAO	374906.00N/1221036.00W	1821	4E
2	200	AAO	374906.00N/1221036.00W	1821	4E
3	200	AAO	374041.52N/1222520.98W	1399	2C
4	200	T-L TWR (06-000098)	374030.38N/1222427.51W	1123	1A

HOLDING RESTRICTIONS:

UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 5000
PRIOR COORDINATION REQUIRED WITH ZOA WHEN HOLDING ABOVE FL370 DUE TO W513 AND W285 A & B
HOLDING LIMITED TO ESTABLISHED PATTERNS

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
(PAT 1 AND 2) CONTROLLING OBSTACLE LOCATED 11586.67 FT. INTO SECONDARY.
PAT 2 MAG COURSE BASED ON KHWL 15E MAGVAR.
PAT 3 MAG COURSE BASED ON KSFO 14E MAGVAR.
ASSIGNED FACILITY MAGVAR: 17 DEGREES EAST.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BUCHANAN			KCCR	CONCORD	CA (US)
DP	KANAN			KCCR	CONCORD	CA (US)
DP	BYRON			KLVK	LIVERMORE	CA (US)
DP	LIVERMORE			KLVK	LIVERMORE	CA (US)
DP	TAKEOFF MINIMUMS			KLVK	LIVERMORE	CA (US)
DP	SOUTHLAND			KNUQ	MOUNTAIN VIEW	CA (US)
DP	LIZRD			KAPC	NAPA	CA (US)
DP	MERLOT			KAPC	NAPA	CA (US)
DP	COAST			KOAK	OAKLAND	CA (US)
DP	NUEVO			KOAK	OAKLAND	CA (US)
DP	OAKLAND			KOAK	OAKLAND	CA (US)
DP	SALAD			KOAK	OAKLAND	CA (US)
DP	SILENT			KOAK	OAKLAND	CA (US)
DP	SKYLINE			KOAK	OAKLAND	CA (US)
DP	GAP			KSFO	SAN FRANCISCO	CA (US)
DP	OFFSHORE			KSFO	SAN FRANCISCO	CA (US)
DP	SAN FRANCISCO			KSFO	SAN FRANCISCO	CA (US)
DP	SAN JOSE			KSJC	SAN JOSE	CA (US)
DP	SUNOL			KSJC	SAN JOSE	CA (US)
DP	TAKE OFF MINIMUMS			KSJC	SAN JOSE	CA (US)
DP	CHARLIE			KSTS	SANTA ROSA	CA (US)
EN ROUTE	J1					(US)
EN ROUTE	J110					(US)
EN ROUTE	J3					(US)
EN ROUTE	J32					(US)
EN ROUTE	J58					(US)
EN ROUTE	J80					(US)
EN ROUTE	J84					(US)
EN ROUTE	J94					(US)
EN ROUTE	T298					(US)
EN ROUTE	V107					(US)
EN ROUTE	V109					(US)
EN ROUTE	V195					(US)
EN ROUTE	V244					(US)
EN ROUTE	V28					(US)
EN ROUTE	V301					(US)
EN ROUTE	V392					(US)
EN ROUTE	V6					(US)
IAP	VOR RWY 19R			KCCR	CONCORD	CA (US)

IAP	HI-LOC/DME RWY 11L		KFAT	FRESNO	CA (US)
IAP	LOC/DME RWY 28L	1	KHWD	HAYWARD	CA (US)
IAP	RNAV (GPS) RWY 28L	2	KHWD	HAYWARD	CA (US)
IAP	VOR/DME-A	1	KHWD	HAYWARD	CA (US)
IAP	ILS OR LOC RWY 12		KOAK	OAKLAND	CA (US)
IAP	ILS OR LOC RWY 30(ALT MA)	1	KOAK	OAKLAND	CA (US)
IAP	ILS OR LOC/DME RWY 28R		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 12 (SA CAT I)		KOAK	OAKLAND	CA (US)
IAP	ILS RWY 30 (CAT II - III)(ALT MA)	1	KOAK	OAKLAND	CA (US)
IAP	ILS RWY 30 (SA CAT I)(ALT MA)	1	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 OR LOC RWY 28R (CAT II/III)		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC RWY 28R (SA CAT I)		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS PRM RWY 28L		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS RWY 28L (SA CAT II)		KSFO	SAN FRANCISCO	CA (US)
IAP	LDA PRM RWY 28R (SIM CLOSE PAR)	4	KSFO	SAN FRANCISCO	CA (US)
IAP	LDA/DME RWY 28R	4	KSFO	SAN FRANCISCO	CA (US)
IAP	QUIET BRIDGE VISUAL RWYS 28L/R		KSFO	SAN FRANCISCO	CA (US)
IAP	RNAV (GPS) PRM X RWY 28R	3	KSFO	SAN FRANCISCO	CA (US)
IAP	RNAV (GPS) X RWY 28R	3	KSFO	SAN FRANCISCO	CA (US)
IAP	TIPP TOE VISUAL RWY 28L		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS OR LOC/DME RWY 30L (ALT MA)		KSJC	SAN JOSE	CA (US)
IAP	ILS RWY 30L (SA CAT I) (ALT MA)		KSJC	SAN JOSE	CA (US)
STAR	MADWIN	1	KHWD	HAYWARD	CA (US)
STAR	PANOCH		KHWD	HAYWARD	CA (US)
STAR	MADWIN	1	KOAK	OAKLAND	CA (US)
STAR	MANTECA		KOAK	OAKLAND	CA (US)
STAR	PANOCH		KOAK	OAKLAND	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	RISTI		KSFO	SAN FRANCISCO	CA (US)
STAR	JAWWS		KSJC	SAN JOSE	CA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 27

DATE OF REVISION:

REASON FOR REVISION:

1. ADDED AIRSPACE DOCKET: 16-AWP-01
2. ADDED REMARK: ASSIGNED FACILITY MAGVAR: 17 DEGREES EAST.
3. UPDATED FIX USE: ADDED EN ROUTE T298 (US).
4. DELETED TAKEOFF MINIMUMS AT KHWD FROM FIX USE.
5. DELETED MARINA, SCAGGS ISLAND, SIDS AND VOR/DME RWY 28L AT KOAK FROM FIX USE.
6. DELETED HADLY STAR AND PORTE SID AT KSFO FROM FIX USE.

DEVELOPED BY: **DATE:** **OFFICE:** AJV-5422 **NAME:**

APPROVED BY: **DATE:** **OFFICE:** **NAME:**

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL/SFO
OTHER: OAK ATCT

RADIO FIX AND HOLDING DATA RECORD

NAME: PATYY

STATE: CA

COUNTRY: US

ICAO REGION CODE: K2

LATITUDE/LONGITUDE: 372929.60N/1210259.93W

TYPE: WP, INT, DME

AIRSPACE DOCKET:

FIX TYPE OF ACTION: NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM NM	FAC FEET	MRA	MAA
1	MODESTO	MOD	VOR/DME	H	191.39	208.39	9.25	9.25		3000	17500
2	EL NIDO	HYP	VOR/DME	L	282.88	297.88		35.10		3000	17500

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V111	1, 2				(US)
IAP	RNAV (GPS) RWY 14			KLSN	LOS BANOS	CA (US)
IAP	RNAV (GPS) RWY 12			KMCE	MERCED	CA (US)
IAP	RNAV (GPS) RWY 13			KMER	MERCED	CA (US)
IAP	ILS OR LOC/DME RWY 28R	1, 2		KMOD	MODESTO	CA (US)
IAP	RNAV (GPS) RWY 26			KTCY	TRACY	CA (US)
IAP	RNAV (GPS) RWY 30			KTCY	TRACY	CA (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 11

DATE OF REVISION: 06/22/2017

REASON FOR REVISION:

UPDATED FIX USE -- REMOVED SOUTHLAND DP, V109, V113, V585, KTCY NDB RWY 12; ADDED KTCY RNAV (GPS) RWY 26.

DEVELOPED BY:

DATE: 01/31/2017

OFFICE: AJV-5421

NAME: JEFFREY ROBINSON

APPROVED BY:

DATE:

OFFICE: AJV-5420

NAME: JULIE MORGAN

SIGNATURE:

DISTRIBUTION:

NFDC
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON
OTHER: NASA

RADIO FIX AND HOLDING DATA RECORD

NAME: PANOCHE VORTAC STATE: CA COUNTRY: US ICAO REGION CODE: K2

LATITUDE/LONGITUDE: 364255.65N/1204643.26W TYPE:

AIRSPACE DOCKET: FIX TYPE OF ACTION: NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	MRA	MAA
1	PANOCHE	PXN	VORTAC	L						24000

FIX RESTRICTIONS:

MCA V113 5500 SOUTHBOUND

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

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	SW	PXN	VORTAC	229.00	049.00	R	1-1 1/2		5500	17500	5	16
2	SE		WP	154.88	334.88	R		7	6500	17500	9	17
3	SW		WP	229.00	049.00	R		5	5200	17500	6	17

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	230	AAO	362724.00N/1204915.00W	4357	4E
1	200	AAO	364110.60N/1205553.90W	3863	6A
1	310	AAO	362827.00N/1205403.00W	4223	4E
2	230	AAO	363230.00N/1204845.00W	3304	4E
2	310	AAO	362208.10N/1203830.10W	5441	6A
3	200	AAO	364110.60N/1205553.90W	3869	4E

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
UPN	230	182
1	200	154
1	310	262
2	230	121
2	310	254
3	200	258

HOLDING RESTRICTIONS:

UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 9000.
HOLDING LIMITED TO ESTABLISHED PATTERNS BELOW 9000.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY
1	TAKEOFF MINIMUMS	KF34	FIREBAUGH
2	RNAV (GPS) RWY 14	KLSN	LOS BANOS

Cordinated with
Liam for the
removal of V109.

STATE
CA (US)
CA (US)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	MEADOWS			KBFL	BAKERSFIELD	CA (US)
DP	TAKEOFF MINIMUMS		1	KF34	FIREBAUGH	CA (US)
DP	YOSEMITE			KFAT	FRESNO	CA (US)
DP	MONTEREY			KMRY	MONTEREY	CA (US)
DP	TORO			KMRY	MONTEREY	CA (US)
DP	SOUTHLAND			KNUQ	MOUNTAIN VIEW	CA (US)
DP	SKYLINE			KOAK	OAKLAND	CA (US)
DP	CHALONE			KSNS	SALINAS	CA (US)
DP	SAN JOSE			KSJC	SAN JOSE	CA (US)
EN ROUTE	T263					(US)
EN ROUTE	V107					(US)
EN ROUTE	V109					(US)
EN ROUTE	V113					(US)
EN ROUTE	V230					(US)
EN ROUTE	V301					(US)
EN ROUTE	V585					(US)
EN ROUTE	V87					(US)
IAP	RNAV (GPS)-B		3	KF34	FIREBAUGH	CA (US)
IAP	VOR/DME-A		1	KF34	FIREBAUGH	CA (US)
IAP	HI-VOR/DME OR TACAN RWY 11L			KFAT	FRESNO	CA (US)
IAP	LOC RWY 11L			KFAT	FRESNO	CA (US)
IAP	TACAN RWY 14L			KNLC	LEMOORE	CA (US)
IAP	TACAN RWY 14R			KNLC	LEMOORE	CA (US)
IAP	RNAV (GPS) RWY 14		2	KLSN	LOS BANOS	CA (US)

IAP	RNAV (GPS) RWY 32	KLSN	LOS BANOS	CA (US)
IAP	VOR/DME RWY 32	KLSN	LOS BANOS	CA (US)
IAP	ILS OR LOC RWY 30	KMCE	MERCED	CA (US)
IAP	RNAV (GPS) RWY 30	KMCE	MERCED	CA (US)
IAP	VOR RWY 30	KMCE	MERCED	CA (US)
IAP	RNAV (GPS) RWY 31	KMER	MERCED	CA (US)
IAP	ILS OR LOC/DME RWY 28R	KMOD	MODESTO	CA (US)
IAP	RNAV (GPS) RWY 28R	KMOD	MODESTO	CA (US)
IAP	VOR/DME RWY 28R	KMOD	MODESTO	CA (US)
STAR	PANOCHÉ	KOAK	OAKLAND	CA (US)
STAR	EL NIDO	KSJC	SAN JOSE	CA (US)
STAR	ROBIE	KSJC	SAN JOSE	CA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 25

DATE OF REVISION: 06/22/2017

REASON FOR REVISION:

1. DELETED MADWIN STAR AT KOAK/KHWD FROM FIX USE.
2. DELETED THE VOR/DME RWY 14 AT KLSN FROM FIX USE.

DEVELOPED BY: **DATE:** 01/19/2017 **OFFICE:** AJV-5431 **NAME:** LIAM DONAHUE

APPROVED BY: **DATE:** **OFFICE:** AJV-5430 **NAME:** PATRICK MULQUEEN

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: SALAD **STATE:** CA **COUNTRY:** US **ICAO REGION CODE:** K2

LATITUDE/LONGITUDE: 374625.92N/1215736.68W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: 16-AWP-01 **FIX TYPE OF ACTION:** NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	MRA	MAA
1	OAKLAND	OAK	VOR/DME	H	060.01	077.01	12.86	12.86	4000	17500
2	SCAGGS ISLAND	SGD	VORTAC	L	124.00	141.00		31.22	4000	17500

FIX RESTRICTIONS:

MCA V28-244-392 4700 NORTHEAST BOUND
MCA T298 4800 EASTBOUND

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

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	NE	OAK	VOR/DME	060.01	240.01	L	1-1 1/2		6000	17500	7	18
2	NE		WP	060.01	240.01	L		5	6000	6000	6	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	375254.00N/1215454.00W	4049	2C
1	310	AAO	375254.00N/1215454.00W	4049	2C
2	200	AAO	375254.00N/1215454.00W	4049	2C
2	310	AAO	375254.00N/1215454.00W	4049	2C

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
1	200	96
1	310	137
2	310	132

REASON FOR NONSTANDARD HOLDING:

PAT 1 TERRAIN
PAT 2 TERRAIN

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERNS

REMARKS:

OAKLAND (FAC 1) USED TO ESTABLISH FIX COORDINATES
DME HOLDING NA PAT 1
PRECIPITOUS TERRAIN EVALUATION COMPLETED
PAT 1, 200KT CONTROLLING OBSTACLE 9660 FT INTO SECONDARY (3244 PRI EQ)
PAT 2, 200KT CONTROLLING OBSTACLE 10860 FT INTO SECONDARY (3144 PRI EQ)

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	SALAD	1, 2		KOAK	OAKLAND	CA (US)
EN ROUTE	T298					(US)
EN ROUTE	V244	1, 2				(US)
EN ROUTE	V28	1, 2				(US)
EN ROUTE	V392	1, 2				(US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 10

DATE OF REVISION: 06/22/2017

REASON FOR REVISION:

1. ADDED AIRSPACE DOCKET 16-AWP-01.
2. FIX RESTRICTIONS: DELETED V109 FROM MCA V28-109-244-392 4700 NORTHEAST BOUND AND CHANGED TO READ: MCA V28-244-392 4700 NORTHEAST BOUND.
3. FIX RESTRICTIONS: ADDED MCA T298 4800 EASTBOUND.
4. DELETED IAP FROM REQUIRED CHARTING.
5. UPDATED FIX USE: DELETED IAP'S RNAV (GPS) Y RWY 19L, RNAV (GPS) Y RWY 19R, AND RNAV (GPS) Z RWY 19R, KSFO, SAN FRANCISCO, CA (US).
6. UPDATED FIX USE: DELETED ENROUTE V109 AND DELETED "CA" FROM V28.
7. UPDATED FIX USE: ADDED EN ROUTE T298 (US).

DEVELOPED BY:	DATE: 01/17/2017	OFFICE: AJV-5422	NAME: JOHN THORNTON
APPROVED BY:	DATE:	OFFICE: AJV-5420	NAME: JULIE MORGAN
	SIGNATURE:		
DISTRIBUTION:	NFDC FPO: WST ARTCC: ZOA ATC FACILITY: NORCAL/SFO OTHER:		

RADIO FIX AND HOLDING DATA RECORD

NAME: SHELI

STATE: CA

COUNTRY: US

ICAO REGION CODE: K2

LATITUDE/LONGITUDE: 373643.80N/1210533.49W

TYPE: WP

AIRSPACE DOCKET:

FIX TYPE OF ACTION: MODIFY

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

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	NW		WP	328.20	148.20	R	4	3000 14000	5 19

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (06-002381)	374344.00N/1210738.00W	566	6F
1	310	AAO	372948.00N/1211354.00W	1346	4E

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	RNAV (GPS) RWY 28R	KMOD	MODESTO	CA (US)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28R		1	KMOD	MODESTO	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 6

DATE OF REVISION: 06/22/2017

REASON FOR REVISION:

1. REMOVED DME FROM FIX TYPE.
2. REMOVED FAC 1.
3. REMOVED CONTROLLER AND EN ROUTE LOW FROM REQUIRED CHARTING.
4. UPDATED FIX USE - REMOVED KTCY RNAV (GPS) RWY 26.

DEVELOPED BY:

DATE: 02/01/2017

OFFICE: AJV-5421

NAME: JEFFREY ROBINSON

APPROVED BY:

DATE:

OFFICE: AJV-5420

NAME: JULIE MORGAN

SIGNATURE:

DISTRIBUTION:

NFDC
FPO: WST
ARTCC: ZOA
ATC FACILITY: NORCAL APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: MANTECA VOR/DME

STATE: CA

COUNTRY: US

ICAO REGION CODE: K2

LATITUDE/LONGITUDE: 375000.98N/1211016.96W

TYPE:

AIRSPACE DOCKET:

FIX TYPE OF ACTION: NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG	BRG	M FAC	MRA	MAA
1	MANTECA	ECA	VOR/DME	H					45000

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS	TURN	LEG LENGTH	HOLDING ALTITUDES	TEMPLATES
					INBOUND	(L OR R)	TIME DME	MIN MAX	MIN MAX
1	SE	ECA	VOR/DME	124.40	304.40	L	1-1 1/2	1600 17500	4 16
2	SE		WP	124.40	304.40	L	4	3000 17500	5 17

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (06-002381)	374345.74N/1210740.78W	559	3C
2	200	TOWER (06-002381)	374345.74N/1210740.78W	559	3C

REASON FOR NONSTANDARD HOLDING:

PAT 1 ATC REQUEST
PAT 2 HIGH TERRAIN

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETE.
ASSIGNED FACILITY MAG VAR 17 DEGREES EAST.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	TAKEOFF MINIMUMS			KC83	BYRON	CA (US)
DP	BUCHANAN			KCCR	CONCORD	CA (US)
DP	KANAN			KCCR	CONCORD	CA (US)
DP	BYRON			KLVK	LIVERMORE	CA (US)
DP	LIVERMORE			KLVK	LIVERMORE	CA (US)
DP	NIMITZ			KOAK	OAKLAND	CA (US)
DP	SALAD			KOAK	OAKLAND	CA (US)
DP	DUDES			KSMF	SACRAMENTO	CA (US)
DP	FROGO			KSMF	SACRAMENTO	CA (US)
DP	SUNOL			KSJC	SAN JOSE	CA (US)
DP	CHARLIE			KSTS	SANTA ROSA	CA (US)
EN ROUTE	J58					(US)
EN ROUTE	J80					(US)
EN ROUTE	J94					(US)
EN ROUTE	V109					(US)
EN ROUTE	V113					(US)
EN ROUTE	V195					(US)
EN ROUTE	V244					(US)
EN ROUTE	V585					(US)
IAP	VOR RWY 19R			KCCR	CONCORD	CA (US)
IAP	ILS RWY 25R			KLVK	LIVERMORE	CA (US)
IAP	VOR-A			K103	LODI	CA (US)
IAP	RNAV (GPS) RWY 10			KO27	OAKDALE	CA (US)
IAP	RNAV (GPS) RWY 28		2	KO27	OAKDALE	CA (US)
IAP	VOR-A			KO27	OAKDALE	CA (US)
IAP	RNAV (GPS) RWY 12		2	KTCY	TRACY	CA (US)
IAP	RNAV (GPS) RWY 26		2	KTCY	TRACY	CA (US)
IAP	RNAV (GPS) RWY 30		2	KTCY	TRACY	CA (US)
IAP	VOR/DME RWY 26		1	KTCY	TRACY	CA (US)
STAR	MADWIN			KHWD	HAYWARD	CA (US)
STAR	PANOCH			KHWD	HAYWARD	CA (US)
STAR	MADWIN			KOAK	OAKLAND	CA (US)
STAR	PANOCH			KOAK	OAKLAND	CA (US)
STAR	WRAPS			KSMF	SACRAMENTO	CA (US)
STAR	MODESTO			KSFO	SAN FRANCISCO	CA (US)
STAR	RISTI			KSFO	SAN FRANCISCO	CA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 27

DATE OF REVISION: 03/02/2017

REASON FOR REVISION:

REMOVED KSCK PROCEDURES FROM FIX USE.

DEVELOPED BY:**DATE:** 09/15/2016**OFFICE:** AJV-5423**NAME:** THOMAS KIRKPATRICK**APPROVED BY:****DATE:** 12/08/2016**OFFICE:** AJV-5420**NAME:** TONY LAWSON**SIGNATURE:****DISTRIBUTION:****NFDC****FPO:** WST**ARTCC:** ZOA**ATC FACILITY:** NORCAL APP CON**OTHER:**