

RADIO FIX AND HOLDING DATA RECORD

NAME: ASTORIA VOR/DME **STATE:** OR **COUNTRY:** US **ICAO REGION CODE:** K1

LATITUDE/LONGITUDE: 460942.11N/1235249.36W **TYPE:**

AIRSPACE DOCKET: 17-ANM-24 **FIX TYPE OF ACTION:** NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM FEET	MRA	MAA
1	ASTORIA	AST	VOR/DME	L						17500

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	W	AST	VOR/DME	259.00	079.00	R	1	2400 8000	4 8
2	W	AST	VOR/DME	249.98	069.98	R	1	2000 8000	4 8
3	SE	AST	VOR/DME	119.00	299.00	L	1	3000 8000	4 8

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	461100.14N/1234741.34W	899	2C
2	200	AAO	461100.49N/1234747.71W	850	4A
3	200	AAO	461712.00N/1235345.00W	1565	5E
3	310	AAO	462025.10N/1235222.30W	1915	4E

REASON FOR NONSTANDARD HOLDING:
PAT 3 TO ELIMINATE ADDITIONAL AIRSPACE

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
3	VOR RWY 8	KAST	ASTORIA	OR (US)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
ASSIGNED FACILITY MAGVAR: E15/2020.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	ASTORIA (OBSTACLE)			KAST	ASTORIA	OR (US)
DP	TAKE-OFF MINIMUMS			KAST	ASTORIA	OR (US)
DP	PORTLAND			KPDJ	PORTLAND	OR (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
EN ROUTE	T317					(US)
EN ROUTE	V112					(US)
EN ROUTE	V187					(US)
EN ROUTE	V27					(US)
IAP	COPTER LOC RWY 26		1	KAST	ASTORIA	OR (US)
IAP	COPTER VOR RWY 8		2	KAST	ASTORIA	OR (US)
IAP	ILS RWY 26		1	KAST	ASTORIA	OR (US)
IAP	RNAV (GPS) RWY 26			KAST	ASTORIA	OR (US)
IAP	VOR RWY 8		3	KAST	ASTORIA	OR (US)
IAP	RNAV (GPS) RWY 6			KTDO	TOLEDO	WA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 17 **DATE OF REVISION:** 01/30/2020

REASON FOR REVISION:

1. ADDED AIRSPACE DOCKET NUMBER.
2. FIX USE: REMOVED V7 AND ADDED T317.

INITIATED BY:	DATE:	ORGANIZATION:	NAME:
OFFICE OF PRIMARY RESPONSIBILITY:		AJV-A422	NAME: BARRY SMITH
APPROVED BY:	DATE: 11/15/2019	OFFICE: AVJ-A422	NAME: MARLON ROBINSON
SIGNATURE:			

DISTRIBUTION: **NFDC**
 FPO: WST
 ARTCC: ZSE
 ATC FACILITY:
 OTHER: MMV FSS

RADIO FIX AND HOLDING DATA RECORD

NAME: BATTLE GROUND VORTAC STATE: WA COUNTRY: US ICAO REGION CODE: K1
 LATITUDE/LONGITUDE: 454452.12N/1223529.53W 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	BATTLE GROUND	BTG	VORTAC	H						45000

FIX RESTRICTIONS:

MCA V182 5000 EASTBOUND
 MCA V112 5000 EASTBOUND
 MCA V448 9400 NORTHEAST BOUND
 MCA V468 5300 NORTHEAST BOUND
 MCA V520 4700 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	NW	BTG	VORTAC	329.16	149.16	R	1	4200 14000	5 18
2	N	BTG	VORTAC	343.83	163.83	R	1	4200 14000	5 18
3	S	BTG	VORTAC	163.00	343.00	R	1	5000 45000	5 29
4	N		WP	345.00	165.00	R		4200 14000	6 19
5	S		WP	163.00	343.00	R		24000 40000	23 31

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	455400.00N/1223512.00W	1132	4E
1	310	AAO	455936.00N/1223548.00W	3252	4E
2	200	AAO	455445.00N/1223451.00W	1277	4E
2	310	AAO	455936.00N/1223548.00W	3252	4E
3	200	AAO	454703.00N/1223106.00W	837	4E
4	200	AAO	455515.00N/1223427.00W	1615	4E
4	310	AAO	455936.00N/1223548.00W	3252	4E

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
4	310	200

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN(S)

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	VOR-A	KPDX	PORTLAND	OR (US)
1	TAKEOFF MINIMUMS	KPDX	PORTLAND	OR (US)
1	TAKEOFF MINIMUMS	KSPB	SCAPPOOSE	OR (US)
1	VOR/DME-A	KSPB	SCAPPOOSE	OR (US)
1	TAKEOFF MINIMUMS	KVUO	VANCOUVER	WA (US)
2	LOC/DME RWY 21	KPDX	PORTLAND	OR (US)
2	ILS OR LOC RWY 10L	KPDX	PORTLAND	OR (US)
2	ILS OR LOC RWY 28R	KPDX	PORTLAND	OR (US)
2	LDA-A	KVUO	VANCOUVER	WA (US)
4	RNAV (GPS)-A	KTTD	PORTLAND	OR (US)
4	RNAV (GPS) Y RWY 10L	KPDX	PORTLAND	OR (US)
4	RNAV (GPS) X RWY 28R	KPDX	PORTLAND	OR (US)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
 PAT 3 REQUESTED BY PDX APP CON AND ZSE.
 PAT 5 10 MILE LEG PER ATC REQUEST, MAX DME LEG LENGTH FOR TEMPLATE 23 IS 12 NM.
 BTG MAG VAR 1975/E21.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	EUGENE			KEUG	EUGENE	OR (US)
DP	CANBY			KHIO	PORTLAND	OR (US)
DP	SCAPO			KHIO	PORTLAND	OR (US)
DP	CASCADE (RNAV)			KPDX	PORTLAND	OR (US)
DP	HRMNS (RNAV)			KPDX	PORTLAND	OR (US)
DP	LAVAA (RNAV)			KPDX	PORTLAND	OR (US)
DP	PORTLAND			KPDX	PORTLAND	OR (US)
DP	TAKEOFF MINIMUMS		1	KPDX	PORTLAND	OR (US)
DP	WHAMY (RNAV)			KPDX	PORTLAND	OR (US)
DP	BLUE LAKE			KTTD	PORTLAND	OR (US)
DP	TAKEOFF MINIMUMS			KTTD	PORTLAND	OR (US)

DP	REDMOND		KRDM	REDMOND	OR (US)
DP	SALEM		KSLE	SALEM	OR (US)
DP	TAKEOFF MINIMUMS	1	KSPB	SCAPPOOSE	OR (US)
DP	YELM		KOLM	OLYMPIA	WA (US)
DP	KENT		KBFI	SEATTLE	WA (US)
DP	NEEDLE		KBFI	SEATTLE	WA (US)
DP	SEATTLE		KSEA	SEATTLE	WA (US)
DP	TAKEOFF MINIMUMS	1	KVUO	VANCOUVER	WA (US)
DP	NACHES		KYKM	YAKIMA	WA (US)
EN ROUTE	HIGH/LOW CHART	3			(US)
EN ROUTE	J1				(US)
EN ROUTE	J136				(US)
EN ROUTE	J15				(US)
EN ROUTE	J159				(US)
EN ROUTE	J16				(US)
EN ROUTE	J189				(US)
EN ROUTE	J67				(US)
EN ROUTE	J82				(US)
EN ROUTE	V112				(US)
EN ROUTE	V182				(US)
EN ROUTE	V23				(US)
EN ROUTE	V287				(US)
EN ROUTE	V448	3			(US)
EN ROUTE	V468				(US)
EN ROUTE	V495				(US)
EN ROUTE	V500				(US)
EN ROUTE	V520				(US)
IAP	LOC RWY 17		KUAO	AURORA	OR (US)
IAP	ILS OR LOC RWY 22		KMMV	MC MINNVILLE	OR (US)
IAP	RNAV (GPS) RWY 22		KMMV	MC MINNVILLE	OR (US)
IAP	ILS OR LOC RWY 13R		KHIO	PORTLAND	OR (US)
IAP	NDB-B		KHIO	PORTLAND	OR (US)
IAP	RNAV (GPS) RWY 13R		KHIO	PORTLAND	OR (US)
IAP	HI-ILS OR LOC RWY 28R		KPDX	PORTLAND	OR (US)
IAP	HI-ILS OR LOC/DME RWY 10R		KPDX	PORTLAND	OR (US)
IAP	HI-TACAN RWY 10R		KPDX	PORTLAND	OR (US)
IAP	ILS OR LOC RWY 10L	2	KPDX	PORTLAND	OR (US)
IAP	ILS OR LOC RWY 10R		KPDX	PORTLAND	OR (US)
IAP	ILS OR LOC RWY 28L		KPDX	PORTLAND	OR (US)
IAP	ILS OR LOC RWY 28R	2	KPDX	PORTLAND	OR (US)
IAP	ILS RWY 10R (CAT II - III)		KPDX	PORTLAND	OR (US)
IAP	ILS RWY 10R (SA CAT I)		KPDX	PORTLAND	OR (US)
IAP	LOC/DME RWY 21	2	KPDX	PORTLAND	OR (US)
IAP	RNAV (GPS) X RWY 28R	4	KPDX	PORTLAND	OR (US)
IAP	RNAV (GPS) Y RWY 10L	4	KPDX	PORTLAND	OR (US)
IAP	TACAN RWY 28L		KPDX	PORTLAND	OR (US)
IAP	VOR-A	1	KPDX	PORTLAND	OR (US)
IAP	RNAV (GPS)-A	4	KTTD	PORTLAND	OR (US)
IAP	LOC Y RWY 31		KSLE	SALEM	OR (US)
IAP	LOC/DME RWY 15		KSPB	SCAPPOOSE	OR (US)
IAP	RNAV (GPS) RWY 15		KSPB	SCAPPOOSE	OR (US)
IAP	VOR/DME-A	1	KSPB	SCAPPOOSE	OR (US)
IAP	LDA-A	2	KVUO	VANCOUVER	WA (US)
STAR	HELNS		KUAO	AURORA	OR (US)
STAR	HELNS		KHIO	PORTLAND	OR (US)
STAR	OCITY	3	KHIO	PORTLAND	OR (US)
STAR	HELNS		KPDX	PORTLAND	OR (US)
STAR	HHOOD (RNAV)		KPDX	PORTLAND	OR (US)
STAR	KRATR (RNAV)		KPDX	PORTLAND	OR (US)
STAR	OCITY	3	KPDX	PORTLAND	OR (US)
STAR	TMBRS (RNAV)		KPDX	PORTLAND	OR (US)
STAR	HELNS		KTTD	PORTLAND	OR (US)
STAR	OCITY	3	KTTD	PORTLAND	OR (US)
STAR	OLYMPIA	3	KPAE	EVERETT	WA (US)
STAR	OLYMPIA	3	KRNT	RENTON	WA (US)
STAR	OLYMPIA	3	KBFI	SEATTLE	WA (US)
STAR	HAWKZ (RNAV)	5	KSEA	SEATTLE	WA (US)
STAR	OLYMPIA	3	KSEA	SEATTLE	WA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 36

DATE OF REVISION: 06/17/2021

REASON FOR REVISION:

REMOVED KKLS DP FROM FIX USE.

ADDED MCAS FOR V468 AND V520 TO FIX RESTRICTIONS.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A432

NAME: GORDON LEMON

APPROVED BY:

DATE: 06/17/2021

OFFICE: AJV-A430

NAME: LONNIE EVERHART

SIGNATURE:

DISTRIBUTION: **NFDC**
 FPO: WST
 ARTCC: ZSE
 ATC FACILITY: PDX APP CON, SEA APP CON
 OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: ELLENSBURG VOR/DME **STATE:** WA **COUNTRY:** US **ICAO REGION CODE:** K1

LATITUDE/LONGITUDE: 470127.75N/1202730.29W **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	ELLENSBURG	ELN	VOR/DME	H						45000

FIX RESTRICTIONS:

MCA V25 6800 NORTHBOUND
MCA V187 6700 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	E	ELN	VOR/DME	110.00	290.00	L	1-1 1/2	4600 17500	5 16
2	E	ELN	VOR/DME	084.00	264.00	L	1	5700 10000	5 9
3	W	ELN	VOR/DME	267.41	087.41	R	1-1 1/2	7300 17500	8 16

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	465415.00N/1201703.00W	3527	4E
2	200	AAO	470136.00N/1201512.00W	3924	4E
2	230	AAO	470118.00N/1201533.00W	4117	4E
3	230	AAO	470321.00N/1205045.00W	4502	4E
3	310	AAO	465927.00N/1205645.00W	5827	4E

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
2	230	99
3	310	298
3	230	216

REASON FOR NONSTANDARD HOLDING:

PAT 1 TERRAIN
PAT 2 TERRAIN

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERNS.
PATTERNS 1 AND 2 OVERLIE R-6714; PRIOR COORDINATION REQUIRED FOR HOLDING.
PAT 2 EVALUATED FOR CLIMB IN HOLD TO 5700; MIN ENROUTE HOLDING 5700.
PAT 3 EVALUATED FOR CLIMB IN HOLD TO 7300; MIN ENROUTE HOLDING 7300.
PAT 2 CHART 175K ICON

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	VOR-A	KELN	ELLENSBURG	WA (US)
2	VOR-B	KELN	ELLENSBURG	WA (US)
3	TAKE OFF MINIMUMS	KELN	ELLENSBURG	WA (US)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
ASSIGNED FACILITY MAGVAR: 21E/1980.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	TAKE OFF MINIMUMS		3	KELN	ELLENSBURG	WA (US)
DP	PAINE			KPAE	EVERETT	WA (US)
DP	TRI-CITIES			KPSC	PASCO	WA (US)
DP	KENT			KBFI	SEATTLE	WA (US)
DP	NEEDLE			KBFI	SEATTLE	WA (US)
DP	MOUNTAIN			KSEA	SEATTLE	WA (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
DP	GROMO			KYKM	YAKIMA	WA (US)
DP	NACHES			KYKM	YAKIMA	WA (US)
DP	WENAS			KYKM	YAKIMA	WA (US)
DP	YAKIMA			KYKM	YAKIMA	WA (US)
EN ROUTE	LOW		3			(US)
EN ROUTE	V187					(US)
EN ROUTE	V2					(US)
EN ROUTE	V25					(US)
EN ROUTE	V336					(US)
EN ROUTE	V468					(US)
IAP	RNAV (GPS)-C			KELN	ELLENSBURG	WA (US)
IAP	VOR-A		1	KELN	ELLENSBURG	WA (US)

IAP	VOR-B	2	KELN	ELLENSBURG	WA (US)
IAP	RNAV (GPS) RWY 03		KEPH	EPHRATA	WA (US)
IAP	VOR/DME-C		KEAT	WENATCHEE	WA (US)
STAR	GLASR		KRNT	RENTON	WA (US)
STAR	GLASR		KBFI	SEATTLE	WA (US)
STAR	GLASR		KSEA	SEATTLE	WA (US)
STAR	ELLENSBURG (RNAV)		KTCM	TACOMA	WA (US)
STAR	GLASR		KTCM	TACOMA	WA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 17

DATE OF REVISION: 11/05/2020

REASON FOR REVISION:

UPDATED FIX USE, REMOVED MOSES DP.

9/10/20. THIS IS A CORRECTED COPY OF THE FORM APPROVED ON 8/7/20.

1. UPDATED FIX USE, ADDED EN ROUTE LOW WITH PAT 3 USAGE.

2. REMOVED REMARK CHART PATTERN 3 ON LOW ENROUTE CHART.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A423

NAME: PHILLIP BRANDENBURG

APPROVED BY:

DATE:

OFFICE: AJV-A420

NAME: MARLON ROBINSON

SIGNATURE:

DISTRIBUTION:

NFDC
FPO: WST
ARTCC: ZSE
ATC FACILITY:
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: EPHRATA VORTAC **STATE:** WA **COUNTRY:** US **ICAO REGION CODE:** K1

LATITUDE/LONGITUDE: 472240.51N/1192526.41W **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 FEET	MRA	MAA
1	EPHRATA	EPH	VORTAC	H						45000

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	EPH	VORTAC	022.00	202.00	R	1	4000 17500	4 16
2	NW	EPH	VORTAC	315.00	135.00	L	1	4000 17500	4 16
3	NE	EPH	VORTAC	066.00	246.00	R	1 1/2	18000 45000	16 29

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	472927.00N/1192645.00W	2277	4E
2	200	AAO	472659.50N/1193304.30W	2842	6A

REASON FOR NONSTANDARD HOLDING:

PAT 2 ATC

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN(S)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
ASSIGNED FACILITY MAGVAR: 21E/1975.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	EPHRATA (OBSTACLE) (RNAV)			KOMK	OMAK	WA (US)
DP	TRI-CITIES			KPSC	PASCO	WA (US)
DP	MOUNTAIN			KSEA	SEATTLE	WA (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
DP	SPOKANE			KGEG	SPOKANE	WA (US)
DP	FELTS			KSFF	SPOKANE	WA (US)
DP	OFARO (RNAV)			KEAT	WENATCHEE	WA (US)
DP	NACHES			KYKM	YAKIMA	WA (US)
DP	WENAS			KYKM	YAKIMA	WA (US)
EN ROUTE	J12					(US)
EN ROUTE	J70					(US)
EN ROUTE	V120					(US)
EN ROUTE	V336					(US)
EN ROUTE	V497					(US)
IAP	VOR RWY 21		1	KEPH	EPHRATA	WA (US)
IAP	ILS OR LOC RWY 32R (ALT MA)		2	KMWH	MOSES LAKE	WA (US)
IAP	NDB RWY 32R			KMWH	MOSES LAKE	WA (US)
IAP	RNAV (GPS) Y RWY 22			KMWH	MOSES LAKE	WA (US)
IAP	RNAV (RNP) Z RWY 22			KMWH	MOSES LAKE	WA (US)
IAP	VOR 1 RWY 14L			KMWH	MOSES LAKE	WA (US)
IAP	VOR 3 RWY 14L			KMWH	MOSES LAKE	WA (US)
IAP	VOR RWY 22			KMWH	MOSES LAKE	WA (US)
IAP	VOR RWY 32R			KMWH	MOSES LAKE	WA (US)
IAP	VOR RWY 4			KMWH	MOSES LAKE	WA (US)
IAP	HI TACAN RWY 14			KNUW	OAK HARBOR	WA (US)
IAP	HI TACAN RWY 32			KNUW	OAK HARBOR	WA (US)
IAP	HI TACAN RWY 7			KNUW	OAK HARBOR	WA (US)
IAP	HI TACAN Z RWY 25			KNUW	OAK HARBOR	WA (US)
IAP	GPS RWY 35			KOMK	OMAK	WA (US)
IAP	ILS X RWY 12			KEAT	WENATCHEE	WA (US)
IAP	ILS Y RWY 12			KEAT	WENATCHEE	WA (US)
IAP	RNAV (GPS) RWY 30			KEAT	WENATCHEE	WA (US)
IAP	RNAV (RNP) RWY 12			KEAT	WENATCHEE	WA (US)
SPECIAL IAP	GLS RWY 22			KMWH	MOSES LAKE	WA (US)
STAR	CHINS			KBFI	SEATTLE	WA (US)
STAR	CHINS			KSEA	SEATTLE	WA (US)
STAR	SKYKO		3	KSEA	SEATTLE	WA (US)
STAR	ZOOMR			KGEG	SPOKANE	WA (US)
STAR	ZOOMR			KSFF	SPOKANE	WA (US)
STAR	ZOOMR			KSKA	SPOKANE	WA (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: 21

DATE OF REVISION: 03/24/2022

REASON FOR REVISION:

1. REPLACED EPHRATA STAR WITH SKYKO STAR AT SEA IN FIX USE.
2. DELETED EPHRATA STAR AT BFI AND RNT IN FIX USE.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A431

NAME: LIAM DONAHUE

APPROVED BY:

DATE: 11/05/2011

OFFICE: AJV-A430

NAME: LONNIE EVERHART

SIGNATURE:

RADIO FIX AND HOLDING DATA RECORD

NAME: EUGENE VORTAC STATE: OR COUNTRY: US ICAO REGION CODE: K1
 LATITUDE/LONGITUDE: 440715.23N/1231322.19W 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	FEET	MRA	MAA
1	EUGENE	EUG	VORTAC	H							45000

FIX RESTRICTIONS:

MCA V121 9000 EASTBOUND
 MCA V269 3800 NORTHEAST BOUND

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	EUG	VORTAC	360.00	180.00	R	1	3400 17500	4 16
2	SW	EUG	VORTAC	209.00	029.00	R	1	4000 17500	4 16

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	440751.00N/1231845.00W	962	4E
1	310	AAO	441251.00N/1225915.00W	3307	4E
2	200	AAO	440057.00N/1232221.00W	1293	4E

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERNS.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	EUGENE	KEUG	EUGENE	OR (US)
1	TAKEOFF MINIMUMS	KEUG	EUGENE	OR (US)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
 THE CONTROLLING OBSTACLE IN THE PTN 1, CIH (HOLDING PATTERN 12) IS IN THE SECONDARY AREA (AAO 3307, 441251.00N/1225912.00W PRIMARY EQ ELEV 2335).
 EUG VORTAC MAGVAR: 15E, EPOCH YEAR 2020.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	SHEDD			KCVO	CORVALLIS	OR (US)
DP	HOBBY (OBSTACLE)			77S	CRESWELL	OR (US)
DP	EUGENE		1	KEUG	EUGENE	OR (US)
DP	TAKEOFF MINIMUMS		1	KEUG	EUGENE	OR (US)
DP	KINGSLEY			KLMT	KLAMATH FALLS	OR (US)
DP	BERNI (RNAV)			KHIO	PORTLAND	OR (US)
DP	PORTLAND			KPDX	PORTLAND	OR (US)
DP	REDMOND			KRDM	REDMOND	OR (US)
DP	SALEM			KSLE	SALEM	OR (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
EN ROUTE	J126					(US)
EN ROUTE	J143					(US)
EN ROUTE	V121					(US)
EN ROUTE	V23					(US)
EN ROUTE	V269					(US)
EN ROUTE	V448					(US)
EN ROUTE	V452					(US)
EN ROUTE	V481					(US)
IAP	ILS OR LOC RWY 17			KCVO	CORVALLIS	OR (US)
IAP	RNAV (GPS) RWY 35			KCVO	CORVALLIS	OR (US)
IAP	VOR RWY 17			KCVO	CORVALLIS	OR (US)
IAP	VOR RWY 35			KCVO	CORVALLIS	OR (US)
IAP	VOR-A			KCVO	CORVALLIS	OR (US)
IAP	ILS OR LOC RWY 16L			KEUG	EUGENE	OR (US)
IAP	ILS OR LOC RWY 16R			KEUG	EUGENE	OR (US)
IAP	ILS RWY 16R (CATII)			KEUG	EUGENE	OR (US)
IAP	ILS RWY 16R (CATIII)			KEUG	EUGENE	OR (US)
IAP	ILS RWY 16R (SA CAT I)			KEUG	EUGENE	OR (US)
IAP	RNAV (GPS) Y RWY 34L			KEUG	EUGENE	OR (US)
IAP	RNAV (GPS) Y RWY 34R			KEUG	EUGENE	OR (US)
IAP	VOR OR TACAN RWY 34L			KEUG	EUGENE	OR (US)
STAR	OCITY			KHIO	PORTLAND	OR (US)
STAR	OCITY			KPDX	PORTLAND	OR (US)
STAR	TMBRS (RNAV)			KPDX	PORTLAND	OR (US)
STAR	OCITY			KTTD	PORTLAND	OR (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 25

DATE OF REVISION: 08/13/2020

REASON FOR REVISION:

REMOVED FROM FIX USE, IAP VOR-A AND VOR OR TACAN RWY 16R AT KEUG.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A422

NAME: HEIDI SNIDER

APPROVED BY:

DATE:

OFFICE: AJV-A420

NAME: MARLON ROBINSON

SIGNATURE:

DISTRIBUTION:

NFDC

FPO: WST

ARTCC: ZSE

ATC FACILITY: EUG TOWER

OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: OLYMPIA VORTAC **STATE:** WA **COUNTRY:** US **ICAO REGION CODE:** K1

LATITUDE/LONGITUDE: 465817.90N/1225406.60W **TYPE:**

AIRSPACE DOCKET: 19-ANM-17 **FIX TYPE OF ACTION:** NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM FEET	MRA	MAA
1	OLYMPIA	OLM	VORTAC	H						45000

FIX RESTRICTIONS:

MCA V204 3200 WESTBOUND

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	S	OLM	VORTAC	176.00	356.00	R	1	3000 10000	4 9
2	SE	OLM	VORTAC	151.00	331.00	L	1	4000 17500	4 16
3	S	OLM	VORTAC	176.00	356.00	L	1	4000 14000	4 10

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	465039.00N/1225006.00W	1113	4E
1	310	AAO	470012.00N/1230309.00W	1995	4E
2	200	AAO	465039.00N/1225006.00W	1113	4E
3	200	AAO	470009.00N/1230312.00W	2002	4E
3	310	TOWER (53-023297)	465822.40N/1230822.10W	3047	5E

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
3	310	80

REASON FOR NONSTANDARD HOLDING:

PAT 2 TO AVOID R-6703
PAT 3 TO AVOID R-6703

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERNS.
PRIOR COORDINATION REQUIRED WITH CONTROLLING AGENCY FOR HOLDING OVER R-6703, AND RAINIER MOA, PAT 1 ALL ALTITUDES.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	TAKE-OFF MINIMUMS	KOLM	OLYMPIA	WA (US)
3	YELM	KOLM	OLYMPIA	WA (US)
3	VOR-A	KOLM	OLYMPIA	WA (US)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
PAT 3 200K OBSTACLE 1.80 NM INTO SECONDARY.
FACILITY MAG VAR: E19/1995

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	PORTLAND			KPDJ	PORTLAND	OR (US)
DP	PAINE			KPAE	EVERETT	WA (US)
DP	LEWIS			KGRF	FORT LEWIS	WA (US)
DP	TAKE-OFF MINIMUMS		1	KOLM	OLYMPIA	WA (US)
DP	YELM		3	KOLM	OLYMPIA	WA (US)
DP	CBAIN (RNAV)			KBFI	SEATTLE	WA (US)
DP	KENT			KBFI	SEATTLE	WA (US)
DP	NEEDLE			KBFI	SEATTLE	WA (US)
DP	NRVNA (RNAV)			KBFI	SEATTLE	WA (US)
DP	HAROB (RNAV)			KSEA	SEATTLE	WA (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
DP	SUMMA			KSEA	SEATTLE	WA (US)
DP	ALDER			KTCM	TACOMA	WA (US)
DP	MOCAA (RNAV)			KTCM	TACOMA	WA (US)
DP	OLYMPIC			KTCM	TACOMA	WA (US)
DP	PUGET			KTCM	TACOMA	WA (US)
DP	NARROWS			KTIW	TACOMA	WA (US)
DP	TAKE-OFF MINIMUMS			KTIW	TACOMA	WA (US)
EN ROUTE	J126					(US)
EN ROUTE	J34					(US)
EN ROUTE	J54					(US)
EN ROUTE	V165					(US)
EN ROUTE	V187					(US)
EN ROUTE	V204					(US)

EN ROUTE	V287	2			(US)
IAP	RNAV (GPS) RWY 26		KAST	ASTORIA	OR (US)
IAP	ILS OR LOC RWY 20		KPWT	BREMERTON	WA (US)
IAP	RNAV (GPS) RWY 2		KPWT	BREMERTON	WA (US)
IAP	RNAV (GPS) RWY 16		KCLS	CHEHALIS	WA (US)
IAP	ILS OR LOC RWY 15	2	KGRF	FORT LEWIS	WA (US)
IAP	RNAV (GPS) RWY 15		KGRF	FORT LEWIS	WA (US)
IAP	RNAV (GPS) RWY 33		KGRF	FORT LEWIS	WA (US)
IAP	ILS OR LOC RWY 17		KOLM	OLYMPIA	WA (US)
IAP	RNAV (GPS) RWY 17		KOLM	OLYMPIA	WA (US)
IAP	RNAV (GPS) RWY 35		KOLM	OLYMPIA	WA (US)
IAP	VOR RWY 35	3	KOLM	OLYMPIA	WA (US)
IAP	VOR-A	3	KOLM	OLYMPIA	WA (US)
IAP	ILS OR LOC RWY 32L		KBFI	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16C (ALT MISSED)		KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16L (ALT MISSED)		KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16R (ALT MISSED)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16C (SA CAT I, CAT II/III ALT MISSED)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (SA CAT I, CAT II/III ALT MISSED)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16R (SA CAT I, CAT II/III ALT MISSED)		KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) RWY 23		KSHN	SHELTON	WA (US)
IAP	ILS OR LOC RWY 34		KTCM	TACOMA	WA (US)
IAP	ILS RWY 34 (CAT II)		KTCM	TACOMA	WA (US)
IAP	TACAN RWY 34		KTCM	TACOMA	WA (US)
IAP	RNAV (GPS) RWY 35		KTIW	TACOMA	WA (US)
STAR	DEVYN (RNAV)		KPAE	EVERETT	WA (US)
STAR	OLYMPIA	2	KPAE	EVERETT	WA (US)
STAR	OLYMPIA	2	KRNT	RENTON	WA (US)
STAR	OLYMPIA	2	KBFI	SEATTLE	WA (US)
STAR	OLYMPIA	2	KSEA	SEATTLE	WA (US)
STAR	ARRIE		KTCM	TACOMA	WA (US)
STAR	WHYTE		KTCM	TACOMA	WA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 22

DATE OF REVISION: 02/25/2021

REASON FOR REVISION:

ADDED DEVYN (RNAV) TO FIX USE

ADDED AIRSPACE DOCKET #

LOWERED PATTERN 3 FROM 4200 TO 4000

UPDATED USE TITLE FOR KBFR FROM ILS RWY 32L TO ILS OR LOC RWY 32L

ADDED MILITARY DP TO REQUIRED CHARTING

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A431

NAME: CHRISTOPHER STEWART

APPROVED BY:

DATE: 11/04/2019

OFFICE: AJV-A430

NAME: GEORGE DAVIS

SIGNATURE:

DISTRIBUTION:

NFDC

FPO: WST

ARTCC: ZSE

ATC FACILITY: BOEING TOWER, SEA APP CON

OTHER: OLM ATCT, USAASA

RADIO FIX AND HOLDING DATA RECORD

NAME: PAINE VOR/DME STATE: WA COUNTRY: US ICAO REGION CODE: K1
 LATITUDE/LONGITUDE: 475511.40N/1221640.09W 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	FEET	MRA	MAA
1	PAINE	PAE	VOR/DME	L							17500

HOLDING: HOLDING TYPE OF ACTION: NO CHANGE

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	PAE	VOR/DME	329.04	149.04	R	1		2000	10000	4	9

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	ANTENNA (53-034715)	475144.15N/1221708.59W	817	1A
1	310	ANTENNA (53-034715)	475144.15N/1221708.59W	817	1A

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	TAKE-OFF MINIMUMS	KPAE	EVERETT	WA (US)
1	BELLEVUE	KRNT	RENTON	WA (US)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
 ASSIGNED FACILITY MAG VAR: 20E (1990).

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	ARLINGTON			KAWO	ARLINGTON	WA (US)
DP	PAINE			KPAE	EVERETT	WA (US)
DP	TAKE-OFF MINIMUMS			KPAE	EVERETT	WA (US)
DP	NASWI			KNUW	OAK HARBOR	WA (US)
DP	YELM			KOLM	OLYMPIA	WA (US)
DP	BELLEVUE		1	KRNT	RENTON	WA (US)
DP	CBAIN (RNAV)			KBFI	SEATTLE	WA (US)
DP	KENT			KBFI	SEATTLE	WA (US)
DP	NEEDLE			KBFI	SEATTLE	WA (US)
DP	NRVNA (RNAV)			KBFI	SEATTLE	WA (US)
DP	BANGR (RNAV)			KSEA	SEATTLE	WA (US)
DP	HAROB (RNAV)			KSEA	SEATTLE	WA (US)
DP	JEFPO (RNAV)			KSEA	SEATTLE	WA (US)
DP	MOUNTAIN			KSEA	SEATTLE	WA (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
DP	SUMMA			KSEA	SEATTLE	WA (US)
EN ROUTE	V23					(US)
EN ROUTE	V287					(US)
IAP	LOC RWY 34			KAWO	ARLINGTON	WA (US)
IAP	NDB RWY 34			KAWO	ARLINGTON	WA (US)
IAP	RNAV (GPS) RWY 34			KAWO	ARLINGTON	WA (US)
IAP	RNAV (GPS) RWY 29			KBVS	BURLINGTON/MOUNT VERNON	WA (US)
IAP	ILS Y OR LOC Y RWY 16R			KPAE	EVERETT	WA (US)
IAP	ILS Z OR LOC Z RWY 16R			KPAE	EVERETT	WA (US)
IAP	ILS Z RWY 16R (SA CAT II)			KPAE	EVERETT	WA (US)
IAP	RNAV (GPS) RWY 34L			KPAE	EVERETT	WA (US)
IAP	RNAV (GPS) Y RWY 16R			KPAE	EVERETT	WA (US)
IAP	RNAV (GPS) Z RWY 16R			KPAE	EVERETT	WA (US)
IAP	VOR-A			KPAE	EVERETT	WA (US)
IAP	RNAV (GPS) Y RWY 16			KRNT	RENTON	WA (US)
IAP	RNAV (GPS) Z RWY 16			KRNT	RENTON	WA (US)
IAP	ILS OR LOC RWY 32L			KBFI	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 14R			KBFI	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16C			KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16L			KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16R			KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 34C		1	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 34L		1	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 34R		1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16C (CAT II & III)			KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16C (SA CAT I)			KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (CAT II & III)			KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (SA CAT I)			KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16R (CAT II & III)			KSEA	SEATTLE	WA (US)

IAP	ILS RWY 16R (SA CAT I)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34C (SA CAT I & II)	1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34L (SA CAT I & II)	1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34R (SA CAT I & II)	1	KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16C		KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16L		KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16R		KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16C		KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16L		KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16R		KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS)-A		S43	SNOHOMISH	WA (US)
SPECIAL IAP	RNAV (RNP) M RWY 16R		KSEA	SEATTLE	WA (US)
STAR	MADEE (RNAV)		CYXX	ABBOTSFORD, BRITISH COLUMBIA	(CA)
STAR	MADEE (RNAV)		CZBB	DELTA, BC	(CA)
STAR	MADEE (RNAV)		KBLI	BELLINGHAM	WA (US)
STAR	GLASR		KRNT	RENTON	WA (US)
STAR	GLASR		KBFI	SEATTLE	WA (US)
STAR	GLASR		KSEA	SEATTLE	WA (US)
STAR	SKYKO		KSEA	SEATTLE	WA (US)
STAR	GLASR		KTCM	TACOMA	WA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 20

DATE OF REVISION: 03/24/2022

REASON FOR REVISION:

1. REPLACED EPHRATA STAR WITH SKYKO STAR AT SEA IN FIX USE.
2. DELETED EPHRATA STAR AT BFI AND RNT IN FIX USE.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A431

NAME: LIAM DONAHUE

APPROVED BY:

DATE: 11/05/2021

OFFICE: AJV-A430

NAME: LONNIE EVERHART

SIGNATURE:

RADIO FIX AND HOLDING DATA RECORD

NAME: SEATTLE VORTAC **STATE:** WA **COUNTRY:** US **ICAO REGION CODE:** K1

LATITUDE/LONGITUDE: 472607.34N/1221834.62W **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	SEATTLE	SEA	VORTAC	H						45000

FIX RESTRICTIONS:

MCA V120 6300 EASTBOUND
MCA V298 4300 EASTBOUND
MCA V2 4300 EASTBOUND
MCA V4 6200 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	E	SEA	VORTAC	110.00	290.00	L	1	3000 18000	4 16
2	SE	SEA	VORTAC	130.00	310.00	L	1	3000 18000	4 16

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	472357.00N/1220809.00W	765	4E
1	310	AAO	471854.00N/1215815.00W	1368	4E
2	200	AAO	472712.00N/1221709.00W	725	4E
2	310	AAO	470754.00N/1221003.00W	1073	4E

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN(S)

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	RENTN	KRNT	RENTON	WA (US)
1	TAKEOFF MINIMUMS	KRNT	RENTON	WA (US)
1	TAKEOFF MINIMUMS	KBFI	SEATTLE	WA (US)
2	TAKEOFF MINIMUMS	KSEA	SEATTLE	WA (US)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
ASSIGNED FACILITY MAG VAR E19/2000.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	PORTLAND			KPDJ	PORTLAND	OR (US)
DP	PAINE			KPAE	EVERETT	WA (US)
DP	YELM			KOLM	OLYMPIA	WA (US)
DP	WATTR			KCLM	PORT ANGELES	WA (US)
DP	RENTN		1	KRNT	RENTON	WA (US)
DP	TAKEOFF MINIMUMS		1	KRNT	RENTON	WA (US)
DP	KENT			KBFI	SEATTLE	WA (US)
DP	NEEDLE			KBFI	SEATTLE	WA (US)
DP	TAKEOFF MINIMUMS		1	KBFI	SEATTLE	WA (US)
DP	BANGR (RNAV)			KSEA	SEATTLE	WA (US)
DP	ELMAA			KSEA	SEATTLE	WA (US)
DP	HAROB (RNAV)			KSEA	SEATTLE	WA (US)
DP	MOUNTAIN			KSEA	SEATTLE	WA (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
DP	SUMMA			KSEA	SEATTLE	WA (US)
DP	TAKEOFF MINIMUMS		2	KSEA	SEATTLE	WA (US)
DP	NARROWS			KTIW	TACOMA	WA (US)
DP	TAKEOFF MINIMUMS			KTIW	TACOMA	WA (US)
DP	NACHES			KYKM	YAKIMA	WA (US)
EN ROUTE	J1					(US)
EN ROUTE	J12					(US)
EN ROUTE	J189					(US)
EN ROUTE	J20					(US)
EN ROUTE	J5					(US)
EN ROUTE	J502					(US)
EN ROUTE	J503					(US)
EN ROUTE	J505					(US)
EN ROUTE	J523					(US)
EN ROUTE	J65					(US)
EN ROUTE	J70					(US)
EN ROUTE	J90					(US)
EN ROUTE	Q902					(US)
EN ROUTE	V120					(US)

EN ROUTE	V2			(US)
EN ROUTE	V23			(US)
EN ROUTE	V27			(US)
EN ROUTE	V298			(US)
EN ROUTE	V4			(US)
EN ROUTE	V495			(US)
IAP	ILS OR LOC RWY 20	KPWT	BREMERTON	WA (US)
IAP	RNAV (GPS) RWY 34L	KPAE	EVERETT	WA (US)
IAP	ILS OR LOC RWY 15	KGRF	FORT LEWIS	WA (US)
IAP	RNAV (GPS) RWY 15	KGRF	FORT LEWIS	WA (US)
IAP	HI TACAN RWY 14	KNUW	OAK HARBOR	WA (US)
IAP	HI TACAN RWY 7	KNUW	OAK HARBOR	WA (US)
IAP	HI TACAN TWY 32	KNUW	OAK HARBOR	WA (US)
IAP	HI TACAN Z RWY 25	KNUW	OAK HARBOR	WA (US)
IAP	ILS OR LOC RWY 17	KOLM	OLYMPIA	WA (US)
IAP	RNAV (GPS) RWY 17	KOLM	OLYMPIA	WA (US)
IAP	ILS OR LOC RWY 8	KCLM	PORT ANGELES	WA (US)
IAP	HARBOR VISUAL RWY 14R	KBFI	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 14R	KBFI	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 32L	KBFI	SEATTLE	WA (US)
IAP	BAY VISUAL RWY 16 R/C/L	KSEA	SEATTLE	WA (US)
IAP	HUSKY VISUAL RWY 16 R/C/L	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16C	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16L	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16R	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 34C	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 34L	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 34R	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16C (CAT II - III)	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16C (SA CAT I)	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (CAT II - III)	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (SA CAT I)	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16R (CAT II - III)	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16R (SA CAT I)	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34C (SA CAT I - II)	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34L (SA CAT I - II)	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34R (SA CAT I - II)	KSEA	SEATTLE	WA (US)
IAP	MALL VISUAL RWY 34 R/C/L	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 17	KTIW	TACOMA	WA (US)
STAR	HELNS	KUAO	AURORA	OR (US)
STAR	HELNS	KHIO	PORTLAND	OR (US)
STAR	HELNS	KPDX	PORTLAND	OR (US)
STAR	KRATR (RNAV)	KPDX	PORTLAND	OR (US)
STAR	HELNS	KTTD	PORTLAND	OR (US)
STAR	CHINS	KPAE	EVERETT	WA (US)
STAR	OLYMPIA	KPAE	EVERETT	WA (US)
STAR	CHINS	KRNT	RENTON	WA (US)
STAR	GLASR	KRNT	RENTON	WA (US)
STAR	OLYMPIA	KRNT	RENTON	WA (US)
STAR	CHINS	KBFI	SEATTLE	WA (US)
STAR	GLASR	KBFI	SEATTLE	WA (US)
STAR	JAWBN	KBFI	SEATTLE	WA (US)
STAR	OLYMPIA	KBFI	SEATTLE	WA (US)
STAR	CHINS	KSEA	SEATTLE	WA (US)
STAR	GLASR	KSEA	SEATTLE	WA (US)
STAR	JAWBN	KSEA	SEATTLE	WA (US)
STAR	OLYMPIA	KSEA	SEATTLE	WA (US)
STAR	SKYKO	KSEA	SEATTLE	WA (US)
STAR	ARRIE	KTCM	TACOMA	WA (US)
STAR	GLASR	KTCM	TACOMA	WA (US)
STAR	JAWBN	KTCM	TACOMA	WA (US)
STAR	WHYTE	KTCM	TACOMA	WA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 29

DATE OF REVISION: 03/24/2022

REASON FOR REVISION:

1. REPLACED EPHRATA STAR WITH SKYKO STAR AT SEA IN FIX USE.
2. DELETED EPHRATA STAR AT BFI AND RNT IN FIX USE.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A431

NAME: LIAM DONAHUE

APPROVED BY:

DATE: 11/05/2021

OFFICE: AJV-A430

NAME: LONNIE EVERHART

SIGNATURE:

RADIO FIX AND HOLDING DATA RECORD

NAME: TATOOSH VORTAC **STATE:** WA **COUNTRY:** US **ICAO REGION CODE:** K1

LATITUDE/LONGITUDE: 481759.64N/1243737.36W **TYPE:**

AIRSPACE DOCKET: 17-ANM-24 **FIX TYPE OF ACTION:** NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	TATOOSH	TOU	VORTAC	H							45000

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	PORTLAND			KPDJ	PORTLAND	OR (US)
DP	YELM			KOLM	OLYMPIA	WA (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
EN ROUTE	J501					(US)
EN ROUTE	J523					(US)
EN ROUTE	J54					(US)
EN ROUTE	T257					(US)
EN ROUTE	T268					(US)
EN ROUTE	V4					(US)
IAP	ILS OR LOC RWY 8			KCLM	PORT ANGELES	WA (US)
STAR	JAWBN			KBFI	SEATTLE	WA (US)
STAR	JAWBN			KSEA	SEATTLE	WA (US)
STAR	MARNR (RNAV)			KSEA	SEATTLE	WA (US)
STAR	ARRIE			KTCM	TACOMA	WA (US)
STAR	JAWBN			KTCM	TACOMA	WA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 7 **DATE OF REVISION:** 01/30/2020

REASON FOR REVISION:

ADDED T268 IN FIX USE.
ADDED AIRSPACE DOCKET 17-ANM-24.

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

OFFICE OF PRIMARY RESPONSIBILITY: AJV-A422 **NAME:** BARRY SMITH

APPROVED BY: **DATE:** 11/15/2019 **OFFICE:** AJV-A422 **NAME:** MARLON ROBINSON

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZSE
ATC FACILITY: SEA APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: WHATCOM VORTAC **STATE:** WA **COUNTRY:** US **ICAO REGION CODE:** K1

LATITUDE/LONGITUDE: 485643.03N/1223445.32W **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	FEET	MRA	MAA
1	WHATCOM	HUH	VORTAC	H							45000

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	NW		WP	329.00	149.00	R		4	2000	14000	4	11
2	NW	HUH	VORTAC	329.00	149.00	R	1		2000	14000	4	10
3	S		WP	170.88	350.88	L		4	2000	6000	4	6
4	S	HUH	VORTAC	171.88	351.88	L	1		3800	6000	4	5

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (53-000195)	485947.00N/1223857.00W	870	3C
1	310	TOWER (53-000195)	485947.00N/1223857.00W	870	3C
2	200	TOWER (53-000195)	485947.00N/1223857.00W	870	3C
2	310	TOWER (53-000195)	485947.00N/1223857.00W	870	3C
3	200	TOWER (53-000195)	485947.00N/1223857.00W	870	3C
4	200	TOWER (53-000195)	485947.00N/1223857.00W	870	3C
4	310	TOWER (53-001166)	484049.67N/1225026.71W	2770	5D

REASON FOR NONSTANDARD HOLDING:

PAT 3 ATC REQUEST
PAT 4 ATC REQUEST

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERNS

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	RNAV (RNP) Z RWY 34	KBLI	BELLINGHAM	WA (US)
1	RNAV (GPS) Y RWY 34	KBLI	BELLINGHAM	WA (US)
2	T/O MINS AND DP	KBLI	BELLINGHAM	WA (US)
4	T/O MINS AND DP	KORS	EASTSOUND	WA (US)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	KIENO			KBLI	BELLINGHAM	WA (US)
DP	T/O MINS AND DP		2	KBLI	BELLINGHAM	WA (US)
DP	T/O MINS AND DP		4	KORS	EASTSOUND	WA (US)
DP	PAINE			KPAE	EVERETT	WA (US)
DP	KENT			KBFI	SEATTLE	WA (US)
DP	NEEDLE			KBFI	SEATTLE	WA (US)
DP	MOUNTAIN			KSEA	SEATTLE	WA (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
DP	SPOKANE			KGEG	SPOKANE	WA (US)
DP	FELTS			KSFF	SPOKANE	WA (US)
EN ROUTE	J534					(US)
EN ROUTE	J591					(US)
EN ROUTE	V165					(US)
EN ROUTE	V349					(US)
EN ROUTE	V495					(US)
EN ROUTE	V23					WA (US)
IAP	ILS OR LOC RWY 16		2	KBLI	BELLINGHAM	WA (US)
IAP	RNAV (GPS) Y RWY 34		1	KBLI	BELLINGHAM	WA (US)
IAP	RNAV (RNP) Z RWY 34		1	KBLI	BELLINGHAM	WA (US)
IAP	RNAV (GPS) RWY 16			KORS	EASTSOUND	WA (US)
IAP	RNAV (GPS)-A		3	KORS	EASTSOUND	WA (US)
STAR	MADDE (RNAV)		1	CYXX	ABBOTSFORD, BRITISH COLUMBIA	(CA)
STAR	MADEE (RNAV)		1	CZBB	DELTA, BC	(CA)
STAR	MADEE (RNAV)		1	KBLI	BELLINGHAM	WA (US)

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

COMPULSORY REPORTING POINT: NO**RECORD REVISION NUMBER: 21****DATE OF REVISION: 05/19/2022****REASON FOR REVISION:**

1. UPDATED HOLDING PATTERNS CONTROLLING OBSTRUCTION TOWER (53-000195) ELEVATION FROM 863 TO 870.
2. UPDATED REQUIRED CHARTING: REMOVED CONTROLLER. ADDED CONTROLLER HIGH AND CONTROLLER LOW.

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

AJV-A432

NAME: BARBARA GORMAN**APPROVED BY:****DATE:** 05/19/2022**OFFICE:** AJV-A430**NAME:** LONNIE EVERHART**SIGNATURE:**

RADIO FIX AND HOLDING DATA RECORD

NAME: YAKIMA VORTAC STATE: WA COUNTRY: US ICAO REGION CODE: K1
 LATITUDE/LONGITUDE: 463412.87N/1202640.69W 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	YAKIMA	YKM	VORTAC	H						45000

FIX RESTRICTIONS:

MCA V204 5300 WESTBOUND
 MCA V448 9500 SOUTHWEST BOUND

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

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	E	YKM	VORTAC	108.00	288.00	L	1		4600	12000	5	9
2	W	YKM	VORTAC	288.00	108.00	R	1		4400	12000	5	9

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (53-020852)	463804.47N/1202423.70W	3054	5E
1	310	AAO	463721.46N/1201528.54W	3848	6A
2	200	AAO	463751.00N/1202424.00W	2769	4E

REASON FOR NONSTANDARD HOLDING:

PAT 1 AVOID R-6714

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERNS.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	ILS OR LOC RWY 27	KYKM	YAKIMA	WA (US)
1	VOR/DME OR TACAN RWY 27	KYKM	YAKIMA	WA (US)
1	VOR-A	KYKM	YAKIMA	WA (US)
1	LOC/DME BC-B	KYKM	YAKIMA	WA (US)
1	ZILLA (OBSTACLE)	KYKM	YAKIMA	WA (US)

REMARKS:

PAT 2 USED BY ATC
 PAT 1 C-I-H OBSTACLE 4690 FEET INTO SECONDARY, PRIMARY EQUIVALENT 3559.
 PRECIPITOUS TERRAIN EVALUATION COMPLETED.
 ASSIGNED MAGVAR: E21/1995

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	LAVAA (RNAV)			KPDX	PORTLAND	OR (US)
DP	PORTLAND			KPDX	PORTLAND	OR (US)
DP	PAINE			KPAE	EVERETT	WA (US)
DP	YELM			KOLM	OLYMPIA	WA (US)
DP	TRI-CITIES			KPSC	PASCO	WA (US)
DP	KENT			KBFI	SEATTLE	WA (US)
DP	NEEDLE			KBFI	SEATTLE	WA (US)
DP	MOUNTAIN			KSEA	SEATTLE	WA (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
DP	SPOKANE			KGEG	SPOKANE	WA (US)
DP	FELTS			KSFF	SPOKANE	WA (US)
DP	WALLA WALLA			KALW	WALLA WALLA	WA (US)
DP	GROMO			KYKM	YAKIMA	WA (US)
DP	NACHES			KYKM	YAKIMA	WA (US)
DP	TAKEOFF MINIMUMS			KYKM	YAKIMA	WA (US)
DP	WENAS			KYKM	YAKIMA	WA (US)
DP	YAKIMA			KYKM	YAKIMA	WA (US)
DP	ZILLA (OBSTACLE)			KYKM	YAKIMA	WA (US)
EN ROUTE	J136					(US)
EN ROUTE	J20					(US)
EN ROUTE	T261					(US)
EN ROUTE	V204					(US)
EN ROUTE	V25					(US)
EN ROUTE	V298					(US)
EN ROUTE	V4					(US)
EN ROUTE	V448					(US)
EN ROUTE	V468					(US)
IAP	HI TACAN RWY 14			KNUW	OAK HARBOR	WA (US)
IAP	HI TACAN RWY 32			KNUW	OAK HARBOR	WA (US)

IAP	HI TACAN RWY 7		KNUW	OAK HARBOR	WA (US)
IAP	HI TACAN Z RWY 25		KNUW	OAK HARBOR	WA (US)
IAP	ILS OR LOC RWY 27	1	KYKM	YAKIMA	WA (US)
IAP	LOC/DME BC-B	1	KYKM	YAKIMA	WA (US)
IAP	RNAV (RNP) RWY 9		KYKM	YAKIMA	WA (US)
IAP	VOR-A	1	KYKM	YAKIMA	WA (US)
IAP	VOR/DME OR TACAN RWY 27	1	KYKM	YAKIMA	WA (US)
STAR	CHINS		KPAE	EVERETT	WA (US)
STAR	CHINS		KRNT	RENTON	WA (US)
STAR	CHINS		KBFI	SEATTLE	WA (US)
STAR	CHINS		KSEA	SEATTLE	WA (US)
STAR	ZOOMR		KGEG	SPOKANE	WA (US)
STAR	ZOOMR		KSFF	SPOKANE	WA (US)
STAR	ZOOMR		KSKA	SPOKANE	WA (US)
STAR	WHYTE		KTCM	TACOMA	WA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 18

DATE OF REVISION: 11/05/2020

REASON FOR REVISION:

UPDATED FIX USE, REMOVED MOSES DP.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A423

NAME: PHILLIP BRANDENBURG

APPROVED BY:

DATE:

OFFICE: AJV-A420

NAME: MARLON ROBINSON

SIGNATURE:

DISTRIBUTION:

NFDC

FPO: WST

ARTCC: ZSE

ATC FACILITY: YKM APP CON

OTHER: