

FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE
TITLE 14 CFR PART 97.33

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated.
 Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or feet RVR.

<u>AIRPORT</u> BREMERTON NATIONAL	<u>AIRPORT ID</u> KPWT	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 20	<u>ORIGINAL/AMENDMENT</u> 1B	<u>CITY</u> BREMERTON	<u>STATE</u> WA
<u>AIRPORT ELEVATION</u> 444	<u>TDZE</u> 442	<u>SUPERSEDED</u> RNAV (GPS) RWY 20	<u>ORIGINAL/AMENDMENT</u> 1A	<u>DATED</u> 01/08/2015	<u>MAG VAR</u> 16E
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u>	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>	<u>EPOCH YEAR</u> 2015

TERMINAL ROUTES

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>LEG TYPE</u>	<u>FO/FB</u>	<u>RNP</u>	<u>COURSE</u>	<u>DISTANCE</u>	<u>ALTITUDE</u>
LOFAL	IAF	GITRE		TF	FB	1.00	146.59	11.55	3400
GITRE	IF	WUMOX		TF	FB	1.00	196.90	5.89	2500
WUMOX	FAF	RW20	MAP	TF	FO	0.30	196.84	6.31	
RW20	MAP	642 MSL		CA			196.84		
642 MSL		CEBOD		DF	FB				
CEBOD		CARRO		TF	FO	1.00	170.40	7.19	4000

MISSED APPROACH

MAP:

LPV: DA
 LNAV/VNAV: DA
 LNAV: RW20

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 4000 DIRECT CEBOD AND ON TRACK 170.40 TO CARRO AND HOLD, CONTINUE CLIMB-IN-HOLD TO 4000.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



PROFILE:

1. PT	SIDE OF COURSE	OUTBOUND	FT WITHIN	MILES OF	(IAF)
2.	PROFILE STARTS AT GITRE				
3. FAC:	196.84	FAF: WUMOX	DIST FAF TO MAP: 6.31	DIST FAF TO THLD: 6.31	
4. MIN ALT:	GITRE 3400, WUMOX 2500				
5. DIST TO THLD FROM OM:	MM:	IM:	150 HAT:	200 HAT: 0.47	GS ANT:
6. MIN GP INCPT: 2500	GP ALT AT FAF : WUMOX 2500			OM:	MM: IM:
7. GP ANGLE: 3.00	34:1: IS CLEAR	20:1: IS CLEAR	TCH: 49.4		
8. MSA FROM:	RW20 8900				

PBN REQUIREMENTS NOTE:

RNP APCH.

NOTES:

CHART NOTE: CIRCLING NA FOR CATS C AND D W OF RWY 2-20.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -15°C OR ABOVE 54°C.
CHART NOTE: BARO-VNAV AND VDP NA WHEN USING SEATTLE-TACOMA INTL ALTIMETER SETTING.
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE SEATTLE-TACOMA INTL ALTIMETER SETTING AND INCREASE ALL DA 45 FT AND ALL MDA 60 FT; INCREASE LNAV CAT A AND INCREASE CIRCLING CATS C/D VISIBILITY 1/4 SM.
CHART NOTE: INOPERATIVE TABLE DOES NOT APPLY TO LNAV/VNAV ALL CATS.

ADDITIONAL FLIGHT DATA:

CHART CIRCLING ICON
CHART ARRIVAL HOLDING AT LOFAL: HOLD NW, RT, 146.59 INBOUND, 3400
CHART VDP AT 2.52 NM TO RW20*
*LNAV ONLY
WAAS CHANNEL #61106
REFERENCE PATH ID: W20A
CHART FAS OBST: 1096 TREE 473237N/1224403W.
HOLD SW, RT, 047.40 INBOUND
LTP HAE: 112.6 M

MINIMUMS:

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA ☐ CAT A, B, C, D 1000-4, NA WHEN LOCAL WEATHER NOT AVAILABLE.

CATEGORY:	A			B			C			D			E		
FINAL TYPE	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA
LPV DA	642	1/2	200	642	1/2	200	642	1/2	200	642	1/2	200			
LNAV/VNAV DA	1396	4	954	1396	4	954	1396	4	954	1396	4	954			
LNAV MDA	1300	1/2	858	1300	3/4	858	1300	2	858	1300	2	858			
CIRCLING	1300	1 1/4	856	1300	1 1/4	856	1300	2 1/2	856	1300	2 3/4	856			



CHANGES - REASONS

1. REMOVED CHART NOTE: NIGHT LANDING: RWY 2 NA. - 20:1 PENETRATION REMOVED.
2. DELETED NOTE: DME/DME RNP-0.3 NA - REPLACED BY PBN REQUIREMENTS NOTE.
3. ADDED PBN REQUIREMENTS NOTE: RNP APCH - IN ACCORDANCE WITH FAAO 8260.19H, PARA 8-6-8.
4. GITRE TO WUMOX RNP VALLUE CHANGED FROM .05 TO 1.00. - INCORRECT RNP VALUE.
5. MISSED CA LEG INCREASED FROM 641 TO 642. - TDZE INCREASED 1 FOOT.
6. ADDED CHART NOTE: INOPERATIVE TABLE DOES NOT APPLY TO LNAV/VNAV ALL CATS. - MDA AND VISIBILITY HIGHER THAN STANDARD.
7. LPV DA INCREASED FROM 641 TO 642, LNAV/VNAV DA INCREASED FROM 1395 TO 1396. - TDZE INCREASED 1 FOOT.
8. LNAV HAT DECREASED FROM 859 TO 858. - TDZE INCREASED 1 FOOT.
9. LNAV/VNAV VISIBILITY INCREASED FROM 3 TO 4 ALL CATS. - NEW VISIBILITY STANDARDS.

COORDINATED WITH:

A4A ☐ **ALPA** ☒ **AOPA** ☒ **APA** ☐ **HAI** ☐ **NBAA** ☒ **OTHER:** ZSE, WA AERO, ARPT MGR, SEA APP CON

FLIGHT CHECKED BY

PROCESSED IAW AIRCRAFT OPERATIONS GROUP (AJW-33) MEMO, OCTOBER 3, 2018, SUBJECT:
FLIGHT INSPECTION REVIEW NOT REQUIRED

OFFICE

DATE

Digitally signed by
ROBERT G HAMILTON
Feb 15, 2019

DEVELOPED BY

JIMMY S. HUGHES

OFFICE

AJV-A422

DATE

12/17/2018

Digitally signed by
ROBERT G HAMILTON
Feb 15, 2019

APPROVED BY

JULIE MORGAN

OFFICE

AJV-A42

DATE

TITLE
MANAGER

Digitally signed by
ROBERT G HAMILTON
Feb 15, 2019



FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KPWT
RUNWAY	RW20
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W20A
LTP/FTP LATITUDE	472949.7665N
LTP/FTP LONGITUDE	1224529.6860W
LTP/FTP ELLIPSOIDAL HEIGHT	+01126
FPAP LATITUDE	472834.8955N
FPAP LONGITUDE	1224640.8015W
THRESHOLD CROSSING HEIGHT (TCH)	00049.4
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0920
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	35.0
CRC REMAINDER	010A3B15

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K1
LTP ORTHOMETRIC HEIGHT	+01346
FPAP ORTHOMETRIC HEIGHT	+01346



FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

<u>AIRPORT</u> BREMERTON NATIONAL	<u>AIRPORT ID</u> KPWT	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 20	<u>AMDT NO.</u> 1B	<u>CITY</u> BREMERTON	<u>STATE</u> WA	<u>AIRPORT ELEVATION</u> 444	<u>FACILITY</u> RNAV
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PART A: OBSTRUCTION DATA SEGMENTS

INITIAL

FROM
LOFAL

TO
GITRE

RNP DISTANCE PAT MAP HAT HMAS
 11.55

<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
1.AAO	474800.00N/1223654.00W	719	500	125	5E	1000				AT1681	3400
2.TERRAIN	474800.00N/1223654.00W	519 (500)								AS1500	2000

COMPUTATIONS

ALT KIAS KTAS HAA VKTW TR BA DTA COURSE CHANGE DVEB VEB OCS RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

INTERMEDIATE

FROM
GITRE

TO
WUMOX

RNP DISTANCE PAT MAP HAT HMAS
 5.89

<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
3.AAO	473612.00N/1223703.00W	775	100	125	3E	500				AT1146 AC79	2500
4.TERRAIN	473612.00N/1223703.00W	575 (600)								AS1500	2100

COMPUTATIONS

ALT KIAS KTAS HAA VKTW TR BA DTA COURSE CHANGE DVEB VEB OCS RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



QUALITY
10
CHECKED

FINAL: LNAV

FROM

WUMOX

TO

RW20

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>				
	6.31		RW20			858					
<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
6.TREE (KPWT0111)	473236.93N/1224402.89W	1096	20	3	1A	250				XL16 SA-74	1300

COMPUTATIONS
ALT KIAS KTAS HAA VKTW TR BA DTA COURSE CHANGE DVEB VEB OCS RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

MISSED APPROACH : LPV

FROM

DA

TO

CARRO

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u> 476				
<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
							ASC				4000
7.TREE	473223.26N/1224441.38W	1219	50	20	2C	1000				SA-132	2100
8.TERRAIN	473229.50N/1224400.08W	883 (900)								AS1500	2400

COMPUTATIONS
ALT KIAS KTAS HAA VKTW TR BA DTA COURSE CHANGE DVEB VEB OCS RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



<u>AIRPORT</u> BREMERTON NATIONAL	<u>AIRPORT ID</u> KPWT	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 20	<u>AMDT NO.</u> 1B	<u>CITY</u> BREMERTON	<u>STATE</u> WA	<u>AIRPORT ELEVATION</u> 444	<u>FACILITY</u> RNAV
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MISSED APPROACH : LNAV/VNAV

FROM
DA

TO
CARRO

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>	<u>HMAS</u> 1234
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<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
							ASC				4000
7.TREE	473223.26N/1224441.38W	1219	50	20	2C	1000				SA-132	2100
8.TERRAIN	473229.50N/1224400.08W	883 (900)								AS1500	2400

COMPUTATIONS

<u>ALT</u>	<u>KIAS</u>	<u>KTAS</u>	<u>HAA</u>	<u>VKTW</u>	<u>TR</u>	<u>BA</u>	<u>DTA</u>	<u>COURSE CHANGE</u>	<u>DVEB</u>	<u>VEB OCS</u>	<u>RF CENTER FIX/DISTANCE</u>
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SEGMENT REMARKS:

MISSED APPROACH : LNAV

FROM
RW20

TO
CARRO

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>	<u>HMAS</u> 1184
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<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
							ASC				4000
7.TREE	473223.26N/1224441.38W	1219	50	20	2C	1000				SA-132	2100
8.TERRAIN	473229.50N/1224400.08W	883 (900)								AS1500	2400

COMPUTATIONS

<u>ALT</u>	<u>KIAS</u>	<u>KTAS</u>	<u>HAA</u>	<u>VKTW</u>	<u>TR</u>	<u>BA</u>	<u>DTA</u>	<u>COURSE CHANGE</u>	<u>DVEB</u>	<u>VEB OCS</u>	<u>RF CENTER FIX/DISTANCE</u>
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SEGMENT REMARKS:



CIRCLING

☐ ALL CATS

☒ CAT A

☒ CAT B

☒ CAT C

☒ CAT D

☐ CAT E

☐ NOT AUTHORIZED

OBSTRUCTION	COORDINATES	RADIUS	HAA	ELEV MSL	HORZ	VERT	AC	ROC	OCS	ADJUSTMENTS	MIN ALT
CATEGORY A											
9.TREE (KPWT0090)	472929.14N/1224425.84W	1.30	856	636	20	3	1A	300		SI	1300
CATEGORY B											
10.TREE (KPWT0100)	473012.57N/1224259.45W	1.82	856	653	20	3	1A	300		SI	1300
CATEGORY C											
11.TREE	473034.13N/1224250.08W	2.86	856	659	50	20	2C	300		SI	1300
CATEGORY D											
12.TOWER (53-000594)	473249.65N/1224233.28W	3.74	856	931	20	3	1A	300		SI	1300

CIRCLING REMARKS:

MSA

CENTER

RW20

RADIUS

25

SECTOR	OBSTRUCTION	COORDINATES	BEARING	DISTANCE	ELEV MSL	HORZ	VERT	AC	ROC	OCS	ADJUSTMENTS	MIN ALT
360-360	AAO	474848.00N/1231400.00W	299	27.1	7874	50	3	2A	1000			8900

MSA REMARKS:

NOTES/EXPLANATIONS FROM PROCEDURE SEGMENTS:



QUALITY
10
CHECKED

<u>AIRPORT</u>	<u>AIRPORT ID</u>	<u>PROCEDURE NAME</u>	<u>AMDT NO.</u>	<u>CITY</u>	<u>STATE</u>	<u>AIRPORT ELEVATION</u>	<u>FACILITY</u>
BREMERTON NATIONAL	KPWT	RNAV (GPS) RWY 20	1B	BREMERTON	WA	444	RNAV

PART C: GENERAL REMARKS:

OBS #6 LIES 539 FEET INTO SECONDARY.

HISTORICAL WEATHER DATA NOT AVAILABLE, -30 ISA DEVIATION USED.

TAA NOT DEVELOPED PER FPT REQUEST.

120' VEGETATION USED.

OBS #7 LIES 1586.28 FT INTO SECONDARY

ORDER 8260.3, VOLUME 1, CHAPTER 2, NEW CIRCLING CRITERIA APPLIED.



PART D: AIRSPACE

DOCKET #

ALL DISTANCES TO 1/100NM; ELEVATION TO NEAREST 100 FEET; COORDINATES TO 1/100 SECOND; DEG TO 1/100 DEGREE

DISTANCE FROM	THLD	TO 1000FT POINT	3.80
WIDTH OF	FINAL	SEGMENT AT 1000FT POINT	1.20
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1000FT POINT	212.84
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1000FT POINT	676
DISTANCE FROM	THLD	TO 1500FT POINT	5.71
WIDTH OF	FINAL	SEGMENT AT 1500FT POINT	1.20
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1500FT POINT	212.84
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1500FT POINT	676

THRESHOLD
COORDINATES (IF STR-IN) 472949.77N/1224529.69W

ARP COORDINATES 472924.90N/1224553.30W

RUNWAY APCH END
AND DIST FURTHEST FROM ARP RUNWAY 20 DISTANCE 0.49 NM

FAF
COORDINATES 473507.83N/1224026.84W

FIX NAME
COORDINATES

REMARKS

NO ADDITIONAL AIRSPACE REQUIRED.



