

**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 ID</u> KAOO	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 21	<u>ORIGINAL/AMENDMENT</u> 1E	<u>CITY</u> ALTOONA	<u>STATE</u> PA		
<u>AIRPORT ELEVATION</u> 1503	<u>TDZE</u> 1486	<u>SUPERSEDED</u> RNAV (GPS) RWY 21	<u>ORIGINAL/AMENDMENT</u> 1D	<u>DATED</u> 04/23/2020	<u>MAG VAR</u> 10W	<u>EPOCH YEAR</u> 2005
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 30 NOVEMBER 2023	<u>REQUIRED EFFECTIVE DATE</u> 11/30/2023	<u>CANCEL/SUSPEND</u>		

TAA

FROM	FIX TYPE	TO	FIX TYPE	ALTITUDE
1. 116/30 CW 296/30	NOPT	116/10 CW 296/10		5100
2. 116/10 CW 296/10		KEWER	IF/IAF	4500
3. 296/30 CW 116/30		296/10 CW 116/10		5400
4. 296/10 CW 116/10		KEWER	IF/IAF	4500

TERMINAL ROUTES

FROM	FIX TYPE	TO	FIX TYPE	LEG TYPE	FO/FB	RNP	COURSE	DISTANCE	ALTITUDE
KEWER	IF/IAF	ROBPO		TF	FB	1.00	206.03	5.88	3500
ROBPO	FAF	ZAVMA/3.00 NM TO RW21		TF	FB	0.30	206.00	3.21	
ZAVMA/3.00 NM TO RW21		RW21	MAP	TF	FO	0.30	206.00	3.00	
RW21	MAP	1903 MSL		CA			206.00		
1903 MSL		YOLUP		DF	FB	1.00			
YOLUP		CRYSS		TF	FO	1.00	223.25	10.42	5000



MISSED APPROACH**MAP:**

LPV: DA
LNAV/VNAV: DA
LNAV: RW21

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 5000 DIRECT YOLUP AND ON TRACK 223.25 TO CRYSS AND HOLD, CONTINUE CLIMB-IN-HOLD TO 5000.

ALTERNATE MISSED APPROACH INSTRUCTIONS:**PROFILE:**

1. PT	SIDE OF COURSE	OUTBOUND	FT WITHIN	MILES OF	(IAF)
2. HOLD NE KEWER, RT, 206.03 INBOUND, 4500 FT. IN LIEU OF PT (IAF), MAX 6000.					
3. FAC:	206.00	FAF: ROBPO	DIST FAF TO MAP: 6.21		DIST FAF TO THLD: 6.21
4. MIN ALT: KEWER 4500, ROBPO 3500, ZAVMA/3.00 NM TO RW21 2460					
5. DIST TO THLD FROM OM:	MM:	IM:	150 HAT:	491 HAT: 1.37	GS ANT:
6. MIN GP INCPT:	3500	GP ALT AT PFAF :	ROBPO 3500	OM:	MM:
7. GP ANGLE:	3.00	34:1: IS CLEAR	20:1: IS CLEAR	TCH: 52.0	IM:
8. MSA FROM:					

PBN REQUIREMENTS NOTE:

RNP APCH - GPS.

NOTES:

CHART NOTE: CIRCLING NA TO RWYS 12 AND 30.
CHART NOTE: CIRCLING NA FOR CATS C, D NW OF RWYS 12 AND 21.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -17°C OR ABOVE 54°C.
CHART NOTE: FOR INOPERATIVE ALS, INCREASE LPV VISIBILITY ALL CATS TO 1 3/8 SM.

ADDITIONAL FLIGHT DATA:

HOLD SW, RT, 040.88 INBOUND.
CHART FAS OBST: 1692 POLE (42-001763) 401936N/0781810W.
2219 AAO 402413N/0781801W, 1716 AAO 402112N/0781718W.
CHART VDP AT 2.01 NM TO RW21.
WAAS CHANNEL # 90105
REFERENCE PATH ID: W21A
CHART CIRCLING ICON.
LTP HAE: 414.8 M

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

ALTERNATE: NA ☐ STANDARD - CAT C 1300-3, CAT D 1400-3, 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	1977	1	491	1977	1	491	1977	1	491	1977	1	491			
LNAV/VNAV DA	1999	1	513	1999	1	513	1999	1	513	1999	1	513			
LNAV MDA	2160	1/2	674	2160	1/2	674	2160	1 1/2	674	2160	1 1/2	674			
CIRCLING	2240	1	737	2240	1	737	2800	3	1297	2840	3	1337			

CHANGES - REASONS

1. INCORPORATED AMDT 1A, 1B, 1C, AND 1D. - 8260.19I 8-3-4C(2).
2. PROFILE LINE 5: ADDED "DIST TO THLD FROM 491 HAT: 1.37" - 8260.19I 8-6-7E(3).
3. PROFILE LINE 7: ADDED 20:1 IS CLEAR - 8260.19I 8-6-7.G (3).
4. PBN REQUIREMENTS NOTE: CHANGED FROM "RNP APCH." TO "RNP APCH - GPS" - 8260.19I 8-6-8B.
5. ADDED "CIRCLING NA FOR CATS C, D NW OF RWYS 12 AND 21." - CIRCLING RESTRICTION REALIGNMENT
6. NOTES: CHANGED FROM "CHART NOTE: CIRCLING TO RWY 3, 12, 30 NA AT NIGHT." TO "CIRCLING NA TO RWYS 12 AND 30" - STANDARDIZED CIRCLING RESTRICTIONS BETWEEN RWYS AND RWY 3 NO LONGER REQUIRES A RESTRICTION.
7. NOTES: UPDATED CHART NOTE: FROM "FOR INOPERATIVE ALS, INCREASE LPV VISIBILITY ALL CATS TO 1 5/8 SM." TO "CHART NOTE: FOR INOPERATIVE ALS, INCREASE LPV VISIBILITY ALL CATS TO 1 3/8 SM." - 8260.3E TABLE 3-3-1
8. NOTES: MOVED TO PART C: GENERAL REMARKS AND UPDATED CHART NOTE: FROM "CHART NOTE: FOR INOPERATIVE ALS WHEN USING BEDFORD COUNTY ALTIMETER SETTING, INCREASE LPV AND LNAV/VNAV ALL CATS VISIBILITY TO 2 SM AND INCREASE LNAV CATS C, D VISIBILITY TO 2 1/2 SM." TO "NOTE: FOR INOPERATIVE ALS WHEN USING BEDFORD COUNTY ALTIMETER SETTING, INCREASE LPV ALL CATS VISIBILITY TO 1 5/8; INCREASE LNAV CATS C, D VISIBILITY TO 2 1/2 SM." - 8260.3E TABLE 3-3-1
9. RELOCATED BACKUP ALTIMETER NOTES FROM THIS FORM TO THE 8260-9 FOR CONTINGENCY PURPOSES - 8260.19I, 8-6-9.F (3).
10. ADDITIONAL FLIGHT DATA: UPDATED CHART FAS OBST: FROM "1693 POLE 401936N/0781810W. " TO "CHART FAS OBST: 1692 POLE (42-001763) 401936N/0781810W." - UPDATED OBSTACLE DATA, 8260.19I 8-6-10 C
11. VISIBILITY: LPV ALL CATS CHANGED FROM "1 1/8" TO "1"; LNAV/VNAV ALL CATS CHANGED FROM "1 1/4" TO "1"; CIRCLING CAT B CHANGED FROM "1 1/4" TO "1" - 8260.3E TABLE 3-3-1
12. CRC REMAINDER CHANGED FROM "FEB0E207" TO "16C9AD18" - FPAP LATITUDE CHANGED FROM "401645.5900N" TO "401645.5930N"; FPAP LONGITUDE CHANGED FROM "0781935.8900W" TO "0781935.8995W"
13. TERMINAL ROUTES: COURSE ZAVMA/3.00 NM TO RW21 AND RW21 TO 1903 MSL CHANGED FROM "205.99" TO "206.00" - PREVIOUS AMENDMENT DOCUMENTATION ERROR.
14. PROFILE LINE 2: ADDED "MAX 6000" - 8260.19I 8-6-7B (2).
15. PROFILE LINE 4: UPDATED FROM "KEWER 4500, ROBPO 3500, ZAVMA/3.00 NM TO RW21 2460*" TO "KEWER 4500, ROBPO 3500, ZAVMA/3.00 NM TO RW21 2460" AND DELETED "LNAV ONLY" FROM ADDITIONAL FLIGHT DATA. - NO LONGER REQUIRED.

COORDINATED WITH:

A4A ☒ ALPA ☒ AOPA ☒ APA ☒ HAI ☐ NBAA ☒ OTHER: ZOB, JOHNSTOWN APP CON, AMGR

FLIGHT CHECKED BY

PENDING

Digitally signed by

ERIC N SUSKI

OFFICE

DATE

Sep 19, 2023

Digitally signed by

ERIC N SUSKI

OFFICE

DATE

AJV-A431

07/03/2023

DEVELOPED BY

ERIC N SUSKI (COLE NESBITT)

Sep 19, 2023

APPROVED BY

ERIC N SUSKI

Digitally signed by

ERIC N SUSKI

OFFICE

DATE

AJV-A430

TITLE
MANAGER

Sep 19, 2023



FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KAOO
RUNWAY	RW21
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W21A
LTP/FTP LATITUDE	401811.3110N
LTP/FTP LONGITUDE	0781903.8430W
LTP/FTP ELLIPSOIDAL HEIGHT	+04148
FPAP LATITUDE	401645.5930N
FPAP LONGITUDE	0781935.8995W
THRESHOLD CROSSING HEIGHT (TCH)	00052.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1088
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	16C9AD18

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K6
LTP ORTHOMETRIC HEIGHT	+04478
FPAP ORTHOMETRIC HEIGHT	+04478

