

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> CLEVELAND RGNL JETPORT	<u>AIRPORT ID</u> KRZR	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 21	<u>ORIGINAL/AMENDMENT</u> 2	<u>CITY</u> CLEVELAND	<u>STATE</u> TN
<u>AIRPORT ELEVATION</u> 860	<u>TDZE</u> 866	<u>SUPERSEDED</u> RNAV (GPS) RWY 21	<u>ORIGINAL/AMENDMENT</u> 1A	<u>DATED</u> 06/25/2015	<u>MAG VAR</u> 5W
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u>	<u>REQUIRED EFFECTIVE DATE</u> 11/08/2018	<u>CANCEL SUSPEND</u>	<u>EPOCH YEAR</u> 2015

TAA

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>ALTITUDE</u>
1. 154/30 CW 274/30	NOPT	154/8 CW 274/8		7100
2. 154/8 CW 274/8		KAYAC	IF/IAF	3700
3. 274/30 CW 034/30		274/10 CW 034/10		7800
4. 274/10 CW 034/10		HUVPO	IAF	5100
5. 034/30 CW 154/30		WITIV	IAF	5300

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>
HUVPO	IAF	KAYAC	NOPT	TF	FB	1.00	274.38	8.00	3700
WITIV	IAF	KAYAC	NOPT	TF	FB	1.00	154.24	8.00	3700
KAYAC	IF/IAF	HWSEE		TF	FB	1.00	214.29	6.63	2600
HWSEE	FAF	RW21	MAP	TF	FO	0.30	214.25	5.29	
RW21	MAP	1066 MSL		CA			214.25		
1066 MSL		MMARS		DF	FO	1.00			4100



MISSED APPROACH

MAP:
LPV: DA
LNAV/VNAV: DA
LNAV: RW21

MISSED APPROACH INSTRUCTIONS:
CLIMB TO 4100 DIRECT MMARS AND HOLD, CONTINUE CLIMB-IN-HOLD TO 4100.

ALTERNATE MISSED APPROACH INSTRUCTIONS:

PROFILE:

1. PT SIDE OF COURSE OUTBOUND FT WITHIN MILES OF (IAF)

2. HOLD NE KAYAC, RT, 214.29 INBOUND, 3700 FT. IN LIEU OF PT (IAF), MAX 6000.

3. FAC: 214.25 FAF: HWSEE DIST FAF TO MAP: 5.29 DIST FAF TO THLD: 5.29

4. MIN ALT: KAYAC 3700, HWSEE 2600

5. DIST TO THLD FROM OM: MM: IM: 150 HAT: 200 HAT: 0.47

6. MIN GP INCPT: 2600 GP ALT AT FAF : HWSEE 2600 OM: MM: IM:

7. GP ANGLE: 3.00 34:1: IS CLEAR 20:1: IS CLEAR TCH: 50.0

8. MSA FROM:

PBN REQUIREMENTS NOTE

RNP APCH

NOTES:
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -16C OR ABOVE 54C.

ADDITIONAL FLIGHT DATA:

CHART CIRCLING ICON
CHART VDP AT 1.39 NM TO RW21*
*LNAV ONLY
WAAS CHANNEL #45731
REFERENCE PATH ID: W21A
CHART FAS OBST: 1094 TREE 351342N/0844807W.
CHART: 1252 TOWER 351804N/0844425W.
HOLD SW, RT, 034.14 INBOUND
LTP HAE: 233.7 M

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

ALTERNATE: NA ☐ STANDARD - CAT D 1000-3



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	1066	3/4	200	1066	3/4	200	1066	3/4	200	1066	3/4	200			
LNAV/VNAV DA	1276	1 1/8	410	1276	1 1/8	410	1276	1 1/8	410	1276	1 1/8	410			
LNAV MDA	1360	1	494	1360	1	494	1360	1 3/8	494	1360	1 3/8	494			
CIRCLING	1460	1	600	1460	1	600	1580	2	720	1780	3	920			

CHANGES - REASONS

1. (CA) ALTITUDE CHANGED FROM 1260 TO 1066 - LPV DA 1066 IS THE LOWEST ALTITUDE.
2. TCH CHANGED FROM 40 TO 50 - IFP FIM.
3. FAF DISTANCE CHANGED FROM 5.34 TO 5.29 - TCH CHANGED FROM 40 TO 50.
4. DIST FAF TO MAP/THLD CHANGED FROM 5.34 TO 5.29 - TCH CHANGED FROM 40 TO 50.
5. FAS OBST CHANGED FROM 1100 AAO 351657N/0844421W TO 1094 TREE 351342N/0844807W - SURVEY
6. DISTANCE TO THLD FROM 200 HAT: 0.50 NM CHANGED TO DISTANCE TO THLD FROM 200 HAT: 0.47 NM - TCH CHANGED FROM 40 TO 50.
7. VDP DISTANCE CHANGED FROM 1.44 NM TO 1.39 NM - TCH CHANGED FROM 40 TO 50.
8. LPV DA CHANGED FROM 1060 TO 1066 ALL CATS - TDZE CHANGED FROM 860 TO 866.
9. LNAV/VNAV DA/HAT CHANGED FROM 1255/395 TO 1276/410 ALL CATS - QUAD MAP STUDY DONE PLACING 100 FT VEGETATION.
10. LNAV/VNAV VISIBILITY CHANGED FROM 1 3/8 TO 1 1/8 ALL CATS - AJV VALIDATED VISCHECK (NEW INOP TABLE) CALCULATOR.
11. LNAV HAT CHANGED FROM 500 TO 494 ALL CATS - TDZE CHANGED FROM 860 TO 866.
12. ALTERNATE MINIMUMS ADDED - KRZR WEATHER SERVICE IS ON SERVICE A.
13. UPDATED BARO LOW TEMP FROM -16C (4F) TO -16C - FAHRENHEIT NO LONGER REQUIRED.
14. UPDATED BARO HIGH TEMP FROM 54C (130F) TO 54C - FAHRENHEIT NO LONGER REQUIRED.
15. ADDED PBN REQUIREMENT NOTE: RNP APCH - EQUIPMENT NAVSPEC REQUIREMENTS.
16. DELETED CHART NOTE: DME/DME RNP-0.3 NA - REPLACED WITH PBN REQUIREMENT NOTE: RNP APCH.
17. DELETED ALL BACK UP ALTIMETER NOTES - CONTINGENCY ALTIMETER INFORMATION LISTED ON THE BACK OF THE 8260-9.
18. KRZR AND KCHA WEATHER SOURCE TRANSMITTED TO WMSCR.
19. ADDED 20:1 IS CLEAR - NO 20:1 OBSTACLES.
20. ADDED 7:1 OBSTACLE 1252 TOWER 351804N/0844425W - SURVEY

FAS DATA CHANGES AND REASONS:

21. LTP/FTP LATITUDE CHANGED FROM 351305.1270N TO 351311.1700N - AIRNAV DATA.
22. LTP/FTP LONGITUDE CHANGED FROM 0844742.9960W TO 0844738.8800W - AIRNAV DATA.
23. LTP/FTP ELLIPSOIDAL HEIGHT CHANGED FROM +02320 TO +02337 - AIRNAV DATA.
24. FPAP LATITUDE CHANGED FROM 351147.2390N TO 351153.2835N - TCH CHANGED FROM 40 TO 50.
25. FPAP LONGITUDE CHANGED FROM 0844836.0675W TO 0844831.9560W - TCH CHANGED FROM 40 TO 50.
26. THRESHOLD CROSSING HEIGHT (TCH) CHANGED FROM 00040.0 TO 00050.0 - IFP FIM
27. LENGTH OFFSET CHANGED FROM 1072 TO 864 - NEW RUNWAY LENGTH.
28. CRC REMAINDER CHANGED FROM 8338D88F TO 635F1011 - RESULT OF FAS DATA BLOCK INFORMATION CHANGES.

PREVIOUS P-NOTAM CHANGES AND REASONS INCORPORATED IN THIS AMENDMENT.

06/19/2018: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 04/18/2018.
REQUIRED EFFECTIVE DATE CHANGED FROM ROUTINE TO HARD DATE 11/08/2018

PDF EDIT:

- 9, REMOVED "ORDER 8260.3, VOLUME 1, CHAPTER 2, NEW CIRCLING CRITERIA APPLIED" FROM NOTES/EXPLANATIONS FROM PROCEDURE SEGMENTS.
- 9, CHANGED AVERAGE COLD TEMPERATURE DERIVED DEVIATION REMARK FROM 12C TO -30C.
- 9, CHANGED "MAP" TO "ARP" IN AIRSPACE.



COORDINATED WITH:

A4A ☐ ALPA ☒ AOPA ☒ APA ☐ HAI ☐ NBAA ☒ OTHER: ZTL, APRT MGR, CHA APP CON

FLIGHT CHECKED BY

PENDING

Digitally signed by

DEZ SILAGYI

Jun 20, 2018

OFFICE

DATE

DEVELOPED BY

DEANNA M. FIELDS

Digitally signed by

DEANNA M FIELDS

May 10, 2018

OFFICE

AJV-5421

DATE

04/18/2018

APPROVED BY

JULIE MORGAN

Digitally signed by

DEZ SILAGYI

Jun 20, 2018

OFFICE

AJV-5420

DATE

TITLE

MANAGER



FAS DATA BLOCK INFORMATION

DATA FIELD	DATA
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KRZR
RUNWAY	RW21
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W21A
LTP/FTP LATITUDE	351311.1700N
LTP/FTP LONGITUDE	0844738.8800W
LTP/FTP ELLIPSOIDAL HEIGHT	+02337
FPAP LATITUDE	351153.2835N
FPAP LONGITUDE	0844831.9560W
THRESHOLD CROSSING HEIGHT (TCH)	00050.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0864
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	35.0
CRC REMAINDER	635F1011
ADDITIONAL PATH POINT RECORD INFORMATION	
ICAO CODE	K7
LTP ORTHOMETRIC HEIGHT	+02638
FPAP ORTHOMETRIC HEIGHT	+02638



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

AIRPORT	AIRPORT ID	PROCEDURE NAME	AMDT NO.	CITY	STATE	AIRPORT ELEVATION	FACILITY
CLEVELAND RGNL JETPORT	KRZR	RNAV (GPS) RWY 21	2	CLEVELAND	TN	860	RNAV

PART A: OBSTRUCTION DATA SEGMENTS

STRAIGHT-IN AREA

FROM
154/30 CW 274/30

TO
154/8 CW 274/8

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>				
<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	351954.00N/0840148.00W	5063	50	125	2E	2000					7100
2.TERRAIN	351954.00N/0840148.00W	4863 (4900)								AS1500	6400

COMPUTATIONS

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

STRAIGHT-IN AREA

FROM
154/8 CW 274/8

TO
KAYAC

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>				
<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	352151.00N/0842933.00W	1592	50	125	2E	2000				XP108	3700
4.TERRAIN	352151.00N/0842933.00W	1392 (1400)								AS1500	2900

COMPUTATIONS

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

XP 108: TO RETAIN PREVIOUS INTERMEDIATE ATITUDE.



REMARKS:

Page 3 of 12

INITIAL

FROM

WITIV

TO

KAYAC

RNP	DISTANCE	PAT	MAP	HAT	HMAS							
	8.00											
OBSTRUCTION	COORDINATES	ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT	
11.AAO	353112.00N/0844400.00W	1431	50	125	2E	1000				XP1269	3700	
12.TERRAIN	353112.00N/0844400.00W	1231 (1200)								AS1500	2700	

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT

REMARKS:

XP 1269: TO RETAIN PREVIOUS INTERMEDIATE ATITUDE.

INTERMEDIATE

FROM

KAYAC (IF/IAF)

TO

HWSEE

RNP	DISTANCE	PAT	MAP	HAT	HMAS							
	6.63											
OBSTRUCTION	COORDINATES	ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT	
13.AAO	352315.00N/0843803.00W	1319	50	50	2D	500					1900	
14.TERRAIN	352315.00N/0843803.00W	1119 (1100)								AS1500	2600	

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT

REMARKS:



MISSED APPROACH : LNAV

FROM

RW21

TO

MMARS

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>				
			RW21					1260			
<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				4100
19.AAO	350215.00N/0845600.00W	1375	50	125	2E	1000					2400
20.TERRAIN	350215.00N/0845600.00W	1175 (1200)								AS1500	2700

COMPUTATIONS

ALT	KIAS	KTAS	HAA	VKTW	TR	BA	DTA	COURSE CHANGE	DVEB	VEB OCS	RF CENTER FIX/DISTANCE
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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											
21.TREE (47-059545)	351212.98N/0844944.19W	1.30	600	1147	20	10	1B	300			1460
CATEGORY B											
21.TREE (47-059545)	351212.98N/0844944.19W	1.84	600	1147	20	10	1B	300			1460
CATEGORY C											
22.TOWER (47-000343)	351055.00N/0845055.00W	2.89	720	1225	250	50	4D	300		AC50	1580
CATEGORY D											
23.TOWER (47-001276)	351559.00N/0845023.00W	3.77	920	1340	500	125	5E	300		AC125	1780

CIRCLING REMARKS:



CENTER

RADIUS

MSA REMARKS:

NOTES/EXPLANATIONS FROM PROCEDURE SEGMENTS:

PART B: SUPPLEMENTAL DATA

COMMUNICATIONS WITH

ZTL ARTCC, NASHVILLE FSS, CHA APP CON

WX SERVICE	LOCATION	HRS OPERATION	ALTIMETER SOURCE	DISTANCE	SERVICE-A	ADJUSTMENTS
AWOS-3	KRZR	24	KRZR	0	Y	0
BACK-UP WX SERVICE	LOCATION	HRS OPERATION	ALTIMETER SOURCE	DISTANCE	SERVICE-A	ADJUSTMENTS
ASOS-3	KCHA	24	KCHA	22.48	Y	77

WX REMARKS:

RASS PRESSURE PATTERNS THE SAME
KRZR 860, KCHA 682.5
RA = 76.6 (80 FT).

PRIMARY NAVAID

MONITOR POINT

HRS OPERATION

CAT

APPROACH AND RUNWAY LIGHTING SYSTEM	RUNWAY MARKINGS	RUNWAY VISUAL RANGE
RW03 - MIRL, REIL, PAPI-2L (PCL)	NPI-G	
RW21 - MIRL, REIL	NPI-G	

GLIDESLOPE ANGLE

ELEV RWY THRESHOLD

TCH

ELEV GS ANTENNA

DISTANCE FROM RWY

VGSI ANGLE

TCH

3.00

50.0

FINAL APPROACH COURSE AIMING

RUNWAY THRESHOLD

FT FROM THRESHOLD

DISPLACED THRESHOLD DISTANCE

ON CENTERLINE

FT FROM CENTERLINE



<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>
CLEVELAND RGNL JETPORT	KRZR	RNAV (GPS) RWY 21	2	CLEVELAND	TN	860	RNAV

CRITICAL TEMPERATURES

<u>CRITICAL LOW</u>	<u>CRITICAL HIGH</u>	<u>ACT</u>	<u>APT ISA</u>
-16C	+54C	-16C	+13.3C

CRITICAL TEMPERATURE REMARKS:

AVERAGE COLD TEMPERATURE DERIVED FROM STANDARD -30C ISA DEVIATION.
CRITICAL LOW TEMPERATURE BASED ON ACT.
DESCENT RATE (FPM): STANDARD TEMP 965 HIGH TEMP 1217.

"VISUAL PORTION OF FINAL" PENETRATIONS

HELICOPTER 'VISUAL PORTION OF FINAL' PENETRATIONS

and/or
5280-FT "PROCEED VFR" SEGMENT LEVEL SURFACE AREA PENETRATIONS

PART C: GENERAL REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

PER IFP CHECKLIST: 100 FT VEGETATION.

ORDER 8260.3, CHAPTER 2, NEW CIRCLING CRITERIA APPLIED.

CONTINGENCY ALTIMETER.
WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE CHATTANOOGA ALTIMETER SETTING AND INCREASE ALL DA 77 FEET AND ALL MDA 80 FEET AND INCREASE ALL VISIBILITY 1/4 MILE.
BAROVNAV AND VDP NA WHEN USING CHATTANOOGA ALTIMETER SETTING.

ORDER 8260.3 CHAPTER 2 APPLIED TO 1252 TOWER 351804N/0844425W.

SEE ATTACHED AIRSPACE LETTER.



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	3.41
WIDTH OF	FINAL	SEGMENT AT 1000FT POINT	1.20
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1000FT POINT	209.25
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1000FT POINT	980
DISTANCE FROM	THLD	TO 1500FT POINT	5.09
WIDTH OF	FINAL	SEGMENT AT 1500FT POINT	1.95
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1500FT POINT	209.25
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1500FT POINT	980

THRESHOLD
COORDINATES
(IF STR-IN) 351311.17N/0844738.88W

ARP COORDINATES 351241.40N/0844759.20W

RUNWAY APCH END
AND DIST FURTHEST
FROM ARP RUNWAY 3 DISTANCE 0.45 NM

FAF
COORDINATES 351748.53N/0844429.61W

FIX NAME
COORDINATES IAF HUVPO: 352341.84N/0843044.66W, IF/IAF KAYAC: 352336.28N/0844031.73W, IAF WITIV: 353029.5N/0844531.98W

REMARKS



<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>
CLEVELAND RGNL JETPORT	KRZR	RNAV (GPS) RWY 21	2	CLEVELAND	TN	860	RNAV
PART E: PREPARED BY							
<u>NAME</u>				<u>OFFICE</u>	<u>DATE</u>	<u>TITLE</u>	
DEANNA M. FIELDS				AJV-5421	04/18/2018	AERONAUTICAL INFORMATION SPECIALIST	

