

**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> TUCSON INTL	<u>AIRPORT ID</u> KTUS	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 21	<u>ORIGINAL/AMENDMENT</u> ORIG-C	<u>CITY</u> TUCSON	<u>STATE</u> AZ
<u>AIRPORT ELEVATION</u> 2643	<u>TDZE</u> 2572	<u>SUPERSEDED</u> RNAV (GPS) RWY 21	<u>ORIGINAL/AMENDMENT</u> ORIG-B	<u>DATED</u> 12/07/2017	<u>MAG VAR</u> 12E
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 30 JANUARY 2020	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>	<u>EPOCH YEAR</u> 1995

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>
ALMON/TFD 36.67 DME		SASME		TF	FB	1.00	075.52	25.87	7600
MAVVA/TUS 27.00 DME		SASME		TF	FB	1.00	071.18	18.07	7600
SASME	IAF	ARERE		TF	FB	1.00	123.03	7.20	7600
ARERE		GALKE		TF	FB	1.00	123.09	2.90	6300
GALKE		OPRAE		TF	FB	1.00	123.11	2.90	5000
RYN NDB		OBISE		TF	FB	1.00	097.48	23.64	8500
OBISE		RANAE		TF	FB	1.00	016.82	7.57	8500
RANAE	IAF	AVOME		TF	FB	1.00	303.21	5.00	7500
AVOME		OPRAE		TF	FB	1.00	303.13	6.00	5000
OPRAE	IF	HEVIN		TF	FB	1.00	213.13	5.02	4200
HEVIN	FAF	RW21	MAP	TF	FO	0.30	213.10	4.88	
RW21	MAP	WADSO		CF	FO	1.00	213.06		
WADSO		LIKLE		TF	FO	1.00	203.00	7.00	
LIKLE		RYN NDB		DF	FO	1.00			6000



MISSED APPROACH

MAP:
LNAV/VNAV: DA
LNAV: RW21

MISSED APPROACH INSTRUCTIONS:
CLIMB TO 6000 ON COURSE 213.06 TO WADSO AND TRACK 203.00 TO LIKLE AND RIGHT TURN DIRECT RYN NDB AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS:

PROFILE:

1. PT	SIDE OF COURSE	OUTBOUND	FT WITHIN	MILES OF (IAF)	
2.	PROFILE STARTS AT OPRAE				
3. FAC:	213.10	FAF: HEVIN	DIST FAF TO MAP: 4.88	DIST FAF TO THLD: 4.88	
4. MIN ALT:	OPRAE 5000, HEVIN 4200, RW21				
5. DIST TO THLD FROM OM:	MM:	IM:	150 HAT:	573 HAT: 1.65	GS ANT:
6. MIN GP INCPT:	4200	GP ALT AT FAF : HEVIN 4200		OM:	MM: IM:
7. GP ANGLE:	3.00	34:1: IS NOT CLEAR	20:1: IS CLEAR	TCH: 50.0	
8. MSA FROM:	RW21 10700				

PBN REQUIREMENTS NOTE:

RNP APCH.

NOTES:

CHART NOTE: RWY 21 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -20°C OR ABOVE 54°C.
PROCEDURE NA FOR ARRIVALS AT ALMON ON V66-105 NORTHWEST BOUND AND ARRIVALS AT OBISE ON V66-T310 SOUTHEAST BOUND.

ADDITIONAL FLIGHT DATA:

CHART VDP AT 1.69 NM TO RW21*
*LNAV ONLY
CHART FAS OBST: 2858 STACK 320935N/1105418W.
HOLD W, RT, 090.00 INBOUND

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

ALTERNATE: NA ☐ STANDARD

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
LNAV/VNAV DA	3145	2	573	3145	2	573	3145	2	573	3145	2	573			
LNAV MDA	3160	1	588	3160	1	588	3160	1 1/2	588	3160	1 3/4	588		QUALITY 24 CHECKED	
CIRCLING	3160	1	517	3220	1	577	3220	1 1/2	577	3220	2	577			

CHANGES - REASONS

- 1. CHART NOTE: DME/DME RNP-0.3 NA REMOVED. PBN REQUIREMENTS NOTE: RNP APCH ADDED. - IAW 8260.19H 8-6-8 B(1).
- 2. DELETED CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT. - VGSI EQUIPMENT UPDATED. 8260.19H, CHAPTER 8-6-9M.
- 3. ADDED 20:1 IS CLEAR TO PROFILE VIEW. - 8260.19H CHAPTER 8-6-9, G3.
- 4. UPDATED FAS OBST FROM 2829 TOWER TO CHART FAS OBST: 2858 STACK 320935N/1105418W. IN ADDITIONAL FLIGHT DATA. - INCORPORATE NOTAM FDC 7/7573.
- 5. ADDED PROCEDURE NA FOR ARRIVALS AT ALMON ON V66-105 NORTHWEST BOUND AND ARRIVALS AT OBISE ON V66-T310 SOUTHEAST BOUND TO ADDITIONAL FLIGHT DATA. - TURNS EXCEED 90 DEGREES.
- 6. CHANGED MISSED APPROACH FROM "CLIMB TO 6000 ON 213 COURSE TO WADSO THEN ON 203 COURSE TO LIKLE THEN CLIMBING RIGHT TURN DIRECT RYAN NDB AND HOLD" TO "CLIMB TO 6000 ON COURSE 213.06 TO WADSO AND TRACK 203.00 TO LIKLE AND RIGHT TURN DIRECT RYN NDB AND HOLD". - 8260.19H, 8-6-6 D11.
- 7. ADDED DIST FAF TO MAP 4.88 AND DISTANCE TO THLD FROM 573 HAT: 1.65 NM TO ADDITIONAL FLIGHT DATA. - 8260.19H 8-6-10.
- 8. CHANGED CHART NOTE CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -20°C OR ABOVE 43°C TO CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -20°C OR ABOVE 54°C. - TARGETS CALCULATION.
- 9. CHANGED TDZE FROM 2573 MSL TO 2572 MSL. - CURRENT AIRNAV DATA.
- 10. CHANGED LNAV/VNAV DA/HAT FROM 3141/568 TO 3145/573. - CURRENT TDZE DATA AND OBSTACLE EVALUATION.
- 11. CHANGED LNAV HAT FROM 587 TO 588. CURRENT TDZE DATA.
- 12. AUTHORIZED ALTERNATE MINIMUMS. - 8260.3D, 3-4-1.

COORDINATED WITH:

A4A ☒ **ALPA** ☒ **AOPA** ☒ **APA** ☒ **HAI** ☐ **NBAA** ☒ **OTHER:** ZAB, TUS ATCT, AZ AERO, AMGR, NGB/A306 (ANG)

FLIGHT CHECKED BY

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

OFFICE *Digitally signed by* **DATE**

WARDELL HENNING

Dec 20, 2019

DEVELOPED BY

WARDELL HENNING (THOR CORNELL)

Digitally signed by

WARDELL HENNING

Dec 20, 2019

OFFICE

AJV-A432

DATE

08/30/2019

APPROVED BY

LONNIE EVERHART

Digitally signed by

WARDELL HENNING

Dec 20, 2019

OFFICE

AJV-A430

DATE

TITLE
MANAGER

