

**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
ILS STANDARD INSTRUMENT APPROACH PROCEDURE
TITLE 14 CFR PART 97.29**

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> KSAT	<u>PROCEDURE NAME</u> ILS OR LOC RWY 13R ILS RWY 13R (CAT II)	<u>ORIGINAL/AMENDMENT</u> 15	<u>CITY</u> SAN ANTONIO	<u>STATE</u> TX		
<u>AIRPORT ELEVATION</u> 809	<u>TDZE</u> 13R 809 13L 797	<u>SUPERSEDED</u> ILS OR LOC RWY 13R ILS RWY 13R (CAT II)	<u>ORIGINAL/AMENDMENT</u> 14D	<u>DATED</u> 11/04/2021	<u>MAG VAR</u> 4E	<u>EPOCH YEAR</u> 2020
<u>FACILITY</u> I-ANT	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 25 JANUARY 2024	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>		

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>
LDRON		RBNSN/I-ANT 18.66 DME		TF	FB	1.00	111.66	5.00	6000
SWUPZ		RBNSN/I-ANT 18.66 DME		TF	FB	1.00	171.68	5.00	6000
RBNSN/I-ANT 18.66 DME	IAF	WORMM/I-ANT 15.17 DME					127.60	3.49	5000
WORMM/I-ANT 15.17 DME		NCLDA/I-ANT 11.68 DME					127.60	3.49	4000
NCLDA/I-ANT 11.68 DME	IF	NUGIT/I-ANT 9.15 DME					127.60	2.53	3200
QUESO	IAF	NCLDA/I-ANT 11.68 DME		TF	FB	1.00	217.56	4.69	4000
SARAI	IAF	NCLDA/I-ANT 11.68 DME		TF	FB	1.00	037.54	4.75	4000
NUGIT/I-ANT 9.15 DME		ALAMO INT/I-ANT 5.75 DME					127.60	3.40	2200

MISSED APPROACH

MAP:

ILS: DA
LOC: 4.19 NM AFTER ALAMO INT/I-ANT 5.75 DME OR AT I-ANT 1.56 DME

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 3100 ON HEADING 128 AND SAT VORTAC R-160 TO EMBOW INT AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS (DO NOT CHART):

CLIMB TO 3100 DIRECT POYIG AND ON TRACK 170.57 TO EMBOW AND HOLD.



AIRPORT ID
KSAT

PROCEDURE NAME
ILS OR LOC RWY 13R
ILS RWY 13R (CAT II)

ORIGINAL/AMENDMENT
15

CITY
SAN ANTONIO

STATE
TX

PROFILE:

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

2. PROFILE STARTS AT NCLDA

3. FAF: 127.60 FAF: ALAMO INT/I-ANT 5.75 DME DIST FAF TO MAP: 4.19 DIST FAF TO THLD: 4.19

4. MIN ALT: NCLDA/I-ANT 11.68 DME 4000, NUGIT/I-ANT 9.15 DME 3200, ALAMO INT/I-ANT 5.75 DME 2200

5. DIST TO THLD FROM OM: MM: IM: 100 HAT: 909 150 HAT: GS ANT: 1195

6. MIN GS INCPT: 2200 GS ALT AT PFAF : ALAMO INT/I-ANT 5.75 DME 2200 OM: MM: IM:

7. GS ANGLE: 3.00 34:1: 20:1: TCH: 57.7

8. MSA FROM: SAT VORTAC 225-315 4100, 315-225 3300

PBN REQUIREMENTS NOTE:

RNP APCH-GPS. FROM LDRON, SWUPZ, SARAI, QUESO.

EQUIPMENT REQUIREMENTS NOTE:

RNAV 1-GPS OR RADAR REQUIRED FOR PROCEDURE ENTRY.
DME REQUIRED.

NOTES:

CAT II ILS - SPECIAL AIRCREW AND AIRCRAFT CERTIFICATION REQUIRED; S-ILS 13R: CAT A, B, C, D, RA 104, RVR 1200, HAT 100, DA 909 MSL.
CHART NOTE: CIRCLING NA NW OF RWYS 4 AND 13R.
CHART PROFILE NOTE: VGSI AND ILS GLIDEPATH NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}).
CHART SPEED ICON IN PLANVIEW AT RBNSN: MAX 210 KIAS.
CHART SPEED ICON IN PLANVIEW AT LDRON: MAX 210 KIAS.
CHART SPEED ICON IN PLANVIEW AT NCLDA: MAX 210 KIAS.
CHART SPEED ICON IN PLANVIEW AT SWUPZ: MAX 210 KIAS.
CHART SPEED ICON IN PLANVIEW AT QUESO: MAX 210 KIAS.
CHART SPEED ICON IN PLANVIEW AT SARAI: MAX 210 KIAS.

ADDITIONAL FLIGHT DATA:

HOLD S, RT, 340.00 INBOUND.
FAS OBST: 1210 AAO 293523N/0983155W.
1220 AAO 293531N/0983314W.
CHART A-635.
CHART VDP AT 3.36 DME.
DISTANCE VDP TO THLD 1.80 NM.



MINIMUMS:

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

ALTERNATE: NA ☐ ILS: STANDARD; LOC: STANDARD - CAT D 800-2 1/4

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
S-ILS 13R	1009	1800	200	1009	1800	200	1009	1800	200	1009	1800	200			
S-LOC 13R	1460	2400	651	1460	2400	651	1460	1 3/8	651	1460	1 3/8	651			
SIDESTEP 13L	1480	1	683	1480	1	683	1480	2	683	1480	2 1/4	683			
CIRCLING	1480	1	671	1480	1	671	1480	2	671	1520	2 1/4	711			

CHANGES - REASONS

1. TERMINAL ROUTES: REMOVED ROUTES FROM CSI VORTAC TO REUBE INT, SAT VORTAC TO ALAMO LOM, STV VORTAC TO REUBE INT, REUBE INT TO HASDO INT, AND HASDO INT TO ALAMO LOM - PER ATC REQUEST AND REDESIGN, ALAMO LOM DECOMMISSIONED, NEW FAF ALAMO ESTABLISHED.
2. TERMINAL ROUTES: ADDED LD RON TO RBNSN, SWUPZ TO RBNSN, RBNSN TO WORMM, WORMM TO NCLDA, NCLDA TO NUGIT, QUESO TO NCLDA, NUGIT TO ALAMO INT, AND SARAI TO NCLDA - PER ATC REQUEST AND REDESIGN.
3. CHANGED MAP FROM LOC: 5.87 NM AFTER ALAMO LOM/INT/I-ANT 7.43 DME OR AT I-ANT 1.56 DME TO LOC: 4.19 NM AFTER ALAMO INT/I-ANT 5.75 DME OR AT I-ANT 1.56 DME - 8260.19I 8-6-6.C(1).
4. CHANGED ALTERNATE MISSED APPROACH INSTRUCTIONS FROM CLIMB TO 1500 THEN CLIMBING RIGHT TURN TO 4000 ON HEADING 214 AND CSI VORTAC R-138 TO TRAGO INT/46.88 DME AND HOLD TO CLIMB TO 3100 DIRECT POYIG AND ON TRACK 170.57 TO EMBOW AND HOLD - PER FPT REPLACED ALTERNATE MISSED WITH RNAV MISSED.
5. PROFILE VIEW LINE 1: REMOVED ALL REFERENCE TO PROCEDURE TURN FROM ALAMO LOM - PER ATC REQUEST AND REDESIGN.
6. PROFILE VIEW LINE 2: ADDED PROFILE STARTS AT NCLDA - REDESIGN.
7. PROFILE VIEW LINE 3: FAF CHANGED FROM ALAMO LOM/INT/I-ANT 7.43 DME TO ALAMO INT/I-ANT 5.75 DME AND DIST FAF TO MAP AND DIST FAF TO THLD FROM 5.87 TO 4.19 - REDESIGN AND NEW FAF LOCATION.
8. PROFILE VIEW LINE 4: CHANGED MIN ALT FROM ALAMO LOM/INT/I-ANT 7.43 DME 2800, JUPAG/I-ANT 3.40 DME 1440* TO NCLDA/I-ANT 11.68 DME 4000, NUGIT/I-ANT 9.15 DME 3200, ALAMO INT/I-ANT 5.75 DME 2200 AND REMOVED *LOC ONLY - STEPDOWN REMOVED AND REDESIGN.
9. PROFILE VIEW LINE 5: REMOVED DIST TO THLD FROM OM 5.87 AND IM 775 AND CHANGED 100 F00T HAT FROM 805 TO 909 - REDESIGN AND CORRECTED TO MATCH CURRENT 100 FOOT HAT.
10. PROFILE VIEW LINE 6: MIN GS INCPT CHANGED FROM 2800 TO 2200 - PFAF RELOCATED AND REPLACED, PFAF ALTITUDE CHANGED FROM 2800 TO 2200.
11. PROFILE VIEW LINE 8: CHANGED MSA FROM AN LOM 329-229 3200, 229-329 4100 TO SAT VORTAC 225-315 4100, 315-225 3300 - NEW REDESIGN AND NEW MSA FACILITY LOCATION.
12. PBN REQUIREMENTS NOTE: ADDED RNP APCH-GPS. FROM LD RON, SWUPZ, SARAI, QUESO. - 8260.19I 8-6-8.B(3)1 - RNAV SEGMENTS ADDED WITH REDESIGN.
13. EQUIPMENT REQUIREMENT NOTES: ADDED RNAV 1-GPS OR RADAR REQUIRED FOR PROCEDURE ENTRY. DME REQUIRED - 8260.19I 8-6-8.C(2)D.
14. CHANGED CHART NOTE FROM CIRCLING NA W OF RWYS 4 AND 13R TO CIRCLING NW OF RWYS 4 AND 13R - 8260.19I 8-6-11.O(5)B.
15. REMOVED CHART NOTE: FOR INOPERATIVE ALS, INCREASE S-LOC 13R CATS C AND D VISIBILITY TO 1 3/4 SM - NEW EVAL, MINIMUMS UPDATED.
16. ADDITIONAL FLIGHT DATA: CHANGED CHART FAS OBST FROM CHART FAS OBST: 929 TOWER 293312N/0983009W TO FAS OBST: 1210 AAO 293523N/0983155W - NEW EVAL AND REDESIGN.
17. ADDITIONAL FLIGHT DATA: ADDED 1220 AAO 293531N/0983314W, - 7:1 OBSTACLES FOR LOC ADDED, NEW EVAL AND REDESIGN.
18. ADDITIONAL FLIGH DATA: CHANGED VDP AT 2.67 DME* TO 3.36 DME - NEW EVAL AND REDESIGN, LOWER MDA.
19. ADDITIONAL FLIGHT DATA: CHANGED DISTANCE VDP TO THLD FROM 1.11 NM TO 1.24 NM - NEW EVAL AND LOWER MINIMUMS.
20. JUPAG FIX MINIMUMS REMOVED: PER ATC/FPT AND REDESIGN, NEW FAF MOVED.
21. UPDATED S-LOC 13R MDA/VIS/HAT CATS A AND B FROM 1440/2400/631 TO 1460/2400/651, CATS C AND D FROM 1440/1 3/8/631 TO 1460/1 3/8/651 - REDESIGN, UPDATED OBSTACLES AND NEW VIS CALCULATIONS.
22. UPDATED CIRCLING MDA/VIS/HAA CAT A AND B FROM 1440/1/631 TO 1480/1/671, CAT C FROM 1440/1 3/4/631 TO 1480/2/671 - NEW EVAL, NEW OBSTACLES., TREE/VEGETATION HEIGHT CHANGED FROM 100 FT TO 75 FT PER FPT.
23. UPDATED SIDESTEP MINIMUMS MDA/VIS/HAT CAT A FROM 1600/1/803 TO 1480/1/683, CAT B FROM 1600/1 1/4/803 TO 1480/1/683, CAT C FROM 1600/2 1/2/803 TO 1480/2/683 AND CAT D FROM 1600/2 1/2/803 TO 1480/2 1/4/683 - REDESIGN AND NEW OBSTACLES.
24. PROFILE VIEW LINE 6: ADDED GS ALT AT: ALAMO INT/I-ANT 5.75 DME 2200, REMOVED OM: 2770 AND IM: 910 - REDESIGN REMOVING LOM.

COORDINATED WITH:

A4A ☒ ALPA ☒ AOPA ☒ APA ☒ HAI ☐ NBAA ☒ OTHER: AMGR, ZHU ARTCC, SAT APP CON

FLIGHT CHECKED BY
TERRY HESTER

Digitally signed by
MICHAEL GARRITY
Nov 13, 2023

<u>OFFICE</u> FPO	<u>DATE</u> 11/06/2023
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DEVELOPED BY
RAYMOND JOHNSON

Digitally signed by
MICHAEL GARRITY
Aug 29, 2023

<u>OFFICE</u> AJV-A423	<u>DATE</u> 04/10/2023
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APPROVED BY
ALLAN WILL

Digitally signed by
MICHAEL GARRITY
Aug 29, 2023

<u>OFFICE</u> AJV-A423	<u>DATE</u>	<u>TITLE</u> MANAGER
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