

**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURES (ODP)
TITLE 14 CFR PART 97.37**

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL. Altitudes are minimum altitudes unless otherwise indicated.
Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statute miles or feet RVR unless otherwise indicated.

<u>AIRPORT ID</u>	<u>CITY</u>	<u>STATE</u>	<u>AMDT NO</u>	<u>ACTUAL EFFECTIVE DATE</u>
KTUS	TUCSON	AZ	6	11/30/2023

TAKEOFF MINIMUMS:

RWY 12, 22, 30: STANDARD.

RWY 4: 300-2 OR STANDARD WITH MINIMUM CLIMB OF 230 FT/NM TO 3000.

TEXTUAL DEPARTURE PROCEDURES:

RWY 4: CLIMB ON HEADING 036.05 TO 3000 THEN CLIMBING RIGHT TURN ON HEADING 172.00 AND TUS R-018 TO TUS VORTAC, CONTINUE CLIMB IN TUS VORTAC HOLDING PATTERN (HOLD NORTHWEST, RIGHT TURNS, 128.00 INBOUND) TO 9000 BEFORE PROCEEDING ON COURSE.

RWY 12: CLIMB ON HEADING 126.00 TO 4000 THEN CLIMBING LEFT TURN DIRECT TUS VORTAC, CONTINUE CLIMB IN TUS VORTAC HOLDING PATTERN (HOLD NORTHWEST, RIGHT TURNS, 128.00 INBOUND) TO 9000 BEFORE PROCEEDING ON COURSE.

RWY 22: CLIMB ON HEADING 216.04 TO 3000 THEN CLIMBING LEFT TURN ON HEADING 078.00 AND TUS VORTAC R-227 TO TUS VORTAC, CONTINUE CLIMB IN TUS VORTAC HOLDING PATTERN (HOLD NORTHWEST, RIGHT TURNS, 128.00 INBOUND) TO 9000 BEFORE PROCEEDING ON COURSE.

RWY 30: CLIMBING RIGHT TURN DIRECT TUS VORTAC, CONTINUE CLIMB IN TUS VORTAC HOLDING PATTERN (HOLD NORTHWEST, RIGHT TURNS, 128.00 INBOUND) TO 9000 BEFORE PROCEEDING ON COURSE.

VISUAL CLIMB OVER AIRPORT:

TAKEOFF OBSTACLE NOTES:

NOTE: RWY 4: LIGHT POLES BEGINNING 5 FT FROM DER, 52 FT RIGHT OF CENTERLINE, UP TO 2 FT AGL/2570 FT MSL.

LIGHT POLE 9 FT FROM DER, 149 FT LEFT OF CENTERLINE, 4 FT AGL/2570 FT MSL.

LIGHT POLES, TERRAIN BEGINNING 10 FT FROM DER, 149 FT RIGHT OF CENTERLINE, UP TO 3 FT AGL/2571 FT MSL.

SIGN 35 FT FROM DER, 445 FT RIGHT OF CENTERLINE, 3 FT AGL/2573 FT MSL.

SIGNS, UTILITY BUILDING BEGINNING 70 FT FROM DER, 378 FT RIGHT OF CENTERLINE, UP TO 5 FT AGL/2575 FT MSL.

SIGN 189 FT FROM DER, 509 FT RIGHT OF CENTERLINE, 2578 FT MSL.

BUILDING 557 FT FROM DER, 647 FT LEFT OF CENTERLINE, 17 FT AGL/2583 FT MSL.

BUILDING, POLES BEGINNING 795 FT FROM DER, 609 FT LEFT OF CENTERLINE, UP TO 2607 FT MSL.

POLE, TREE BEGINNING 993 FT FROM DER, 436 FT LEFT OF CENTERLINE, UP TO 2609 FT MSL.

TREES, BUILDING, POLE BEGINNING 1104 FT FROM DER, 550 FT RIGHT OF CENTERLINE, UP TO 2611 FT MSL.

POLES, SIGNS, TREES BEGINNING 1131 FT FROM DER, 133 FT LEFT OF CENTERLINE, UP TO 2611 FT MSL.

POLES BEGINNING 1475 FT FROM DER, 704 FT RIGHT OF CENTERLINE, UP TO 35 FT AGL/2613 FT MSL.

POLE 1688 FT FROM DER, 915 FT RIGHT OF CENTERLINE, 34 FT AGL/2617 FT MSL.

POLES BEGINNING 1691 FT FROM DER, 585 FT RIGHT OF CENTERLINE, UP TO 38 FT AGL/2618 FT MSL.

POLE 1725 FT FROM DER, 948 FT RIGHT OF CENTERLINE, 36 FT AGL/2620 FT MSL.

POLES BEGINNING 1749 FT FROM DER, 503 FT RIGHT OF CENTERLINE, UP TO 2621 FT MSL.

TREE 1863 FT FROM DER, 852 FT LEFT OF CENTERLINE, 2628 FT MSL.

POLES BEGINNING 1886 FT FROM DER, 437 FT RIGHT OF CENTERLINE, UP TO 2625 FT MSL.

TREE 1955 FT FROM DER, 771 FT LEFT OF CENTERLINE, 2630 FT MSL.

POLES, TREE BEGINNING 1991 FT FROM DER, 331 FT RIGHT OF CENTERLINE, UP TO 2626 FT MSL.

POLES BEGINNING 2080 FT FROM DER, 414 FT RIGHT OF CENTERLINE, UP TO 2627 FT MSL.

POLES BEGINNING 2321 FT FROM DER, 560 FT RIGHT OF CENTERLINE, UP TO 2632 FT MSL.

POLE 2397 FT FROM DER, 905 FT RIGHT OF CENTERLINE, 2634 FT MSL.

TREE 2532 FT FROM DER, 715 FT RIGHT OF CENTERLINE, 2635 FT MSL.

POLE 2613 FT FROM DER, 959 FT RIGHT OF CENTERLINE, 49 FT AGL/2642 FT MSL.

POLES BEGINNING 2668 FT FROM DER, 951 FT RIGHT OF CENTERLINE, UP TO 55 FT AGL/2647 FT MSL.

TREE 3078 FT FROM DER, 700 FT RIGHT OF CENTERLINE, 2650 FT MSL.

TREES BEGINNING 3095 FT FROM DER, 738 FT RIGHT OF CENTERLINE, UP TO 2654 FT MSL.

TOWER, ANTENNA, BUILDING BEGINNING 3224 FT FROM DER, 853 FT RIGHT OF CENTERLINE, UP TO 77 FT AGL/2670 FT MSL.

TOWER 1.5 NM FROM DER, 1690 FT LEFT OF CENTERLINE, 246 FT AGL/2831 FT MSL.

NOTE: RWY 12: LIGHT POLES, SIGN BEGINNING 9 FT FROM DER, 150 FT LEFT OF CENTERLINE, UP TO 2 FT AGL/2645 FT MSL.

LIGHT POLE 10 FT FROM DER, 151 FT RIGHT OF CENTERLINE, 4 FT AGL/2644 FT MSL.

VEGETATION 36 FT FROM DER, 349 FT RIGHT OF CENTERLINE, 2653 FT MSL.

VEGETATION, UTILITY BUILDING BEGINNING 53 FT FROM DER, 152 FT RIGHT OF CENTERLINE, UP TO 2656 FT MSL.

VEGETATION, POLE BEGINNING 100 FT FROM DER, 146 FT LEFT OF CENTERLINE, UP TO 2652 FT MSL.

VEGETATION BEGINNING 190 FT FROM DER, 355 FT RIGHT OF CENTERLINE, UP TO 2657 FT MSL.

VEGETATION 358 FT FROM DER, 507 FT LEFT OF CENTERLINE, 2655 FT MSL.

VEGETATION 398 FT FROM DER, 590 FT LEFT OF CENTERLINE, 2657 FT MSL.

VEGETATION BEGINNING 419 FT FROM DER, 328 FT RIGHT OF CENTERLINE, UP TO 2658 FT MSL.

TREE, VEGETATION BEGINNING 445 FT FROM DER, 394 FT LEFT OF CENTERLINE, UP TO 2665 FT MSL.

VEGETATION BEGINNING 523 FT FROM DER, 347 FT RIGHT OF CENTERLINE, UP TO 2661 FT MSL.

VEGETATION BEGINNING 593 FT FROM DER, 393 FT RIGHT OF CENTERLINE, UP TO 2662 FT MSL.

VEGETATION BEGINNING 631 FT FROM DER, 423 FT RIGHT OF CENTERLINE, UP TO 2663 FT MSL.

TREE, VEGETATION BEGINNING 650 FT FROM DER, 411 FT LEFT OF CENTERLINE, UP TO 2668 FT MSL.



TREE, VEGETATION BEGINNING 679 FT FROM DER, 395 FT LEFT OF CENTERLINE, UP TO 2671 FT MSL.
VEGETATION 742 FT FROM DER, 662 FT RIGHT OF CENTERLINE, 2664 FT MSL.
VEGETATION 832 FT FROM DER, 583 FT RIGHT OF CENTERLINE, 2665 FT MSL.
VEGETATION 841 FT FROM DER, 693 FT RIGHT OF CENTERLINE, 2666 FT MSL.
VEGETATION BEGINNING 892 FT FROM DER, 677 FT RIGHT OF CENTERLINE, UP TO 2669 FT MSL.
TREES, VEGETATION BEGINNING 893 FT FROM DER, 412 FT LEFT OF CENTERLINE, UP TO 2674 FT MSL.
TREES BEGINNING 1046 FT FROM DER, 527 FT LEFT OF CENTERLINE, UP TO 2677 FT MSL.
TREE 1573 FT FROM DER, 909 FT RIGHT OF CENTERLINE, 2684 FT MSL.
TREE 1708 FT FROM DER, 899 FT RIGHT OF CENTERLINE, 2686 FT MSL.
TREE 1726 FT FROM DER, 705 FT LEFT OF CENTERLINE, 2687 FT MSL.
TREE 1756 FT FROM DER, 918 FT RIGHT OF CENTERLINE, 2690 FT MSL.
TRANSMISSION LINES BEGINNING 4721 FT FROM DER, 984 FT LEFT OF CENTERLINE, UP TO 66 FT AGL/2765 FT MSL.
TRANSMISSION LINE 4969 FT FROM DER, 997 FT LEFT OF CENTERLINE, 77 FT AGL/2775 FT MSL.

NOTE: RWY 22: VEGETATION, LIGHT POLES BEGINNING 8 FT FROM DER, 53 FT RIGHT OF CENTERLINE, UP TO 10 FT AGL/2568 FT MSL.
LIGHT POLES 10 FT FROM DER, 51 FT LEFT OF CENTERLINE, 2 FT AGL/2561 FT MSL.
TREE 30 FT FROM DER, 380 FT RIGHT OF CENTERLINE, 2572 FT MSL.
VEHICLE ON ROAD, TREE, FENCE BEGINNING 32 FT FROM DER, 324 FT RIGHT OF CENTERLINE, UP TO 2580 FT MSL.
TREES, VEGETATION, FENCE BEGINNING 45 FT FROM DER, 255 FT LEFT OF CENTERLINE, UP TO 2573 FT MSL.
VEHICLE ON ROAD, TREES, VEGETATION, POLES BEGINNING 60 FT FROM DER, 74 FT RIGHT OF CENTERLINE, UP TO 2581 FT MSL.
TREES BEGINNING 267 FT FROM DER, 479 FT LEFT OF CENTERLINE, UP TO 2577 FT MSL.
TREES, VEGETATION, VEHICLE ON ROAD, POLE BEGINNING 288 FT FROM DER, 8 FT LEFT OF CENTERLINE, UP TO 2590 FT MSL.
VEHICLE ON ROAD 357 FT FROM DER, 140 FT RIGHT OF CENTERLINE, 2582 FT MSL.
POLE, TREES, VEHICLE ON ROAD BEGINNING 362 FT FROM DER, 17 FT RIGHT OF CENTERLINE, UP TO 33 FT AGL/2585 FT MSL.
POLES, TREES, VEHICLE ON ROAD BEGINNING 401 FT FROM DER, 42 FT RIGHT OF CENTERLINE, UP TO 34 FT AGL/2586 FT MSL.
TREE, POLES BEGINNING 580 FT FROM DER, 35 FT RIGHT OF CENTERLINE, UP TO 2600 FT MSL.
POLES, TREE BEGINNING 1029 FT FROM DER, 84 FT LEFT OF CENTERLINE, UP TO 46 FT AGL/2599 FT MSL.
POLE 1282 FT FROM DER, 781 FT LEFT OF CENTERLINE, 43 FT AGL/2602 FT MSL.
POLES, BUILDINGS BEGINNING 1298 FT FROM DER, 138 FT LEFT OF CENTERLINE, UP TO 57 FT AGL/2616 FT MSL.
BUILDINGS, POLES BEGINNING 1301 FT FROM DER, 158 FT RIGHT OF CENTERLINE, UP TO 2611 FT MSL.

CONTROLLING OBSTACLES:

RWY 4: 2831 FT MSL TOWER 320907.00N/1105533.00W.
OBSTACLES MANDATING ODP ROUTE DEVELOPMENT: RWY 4, 12, 22, 30: 9072 FT MSL AAO 322621.00N/1104724.00W.

REMARKS:

LACK OF RADAR COVERAGE TO THE SOUTH, ATC REQUEST AIRCRAFT TO CLIMB TO 4000 FOR RWY 12 DEPARTURES.
AFS APPROVAL LETTER FOR RWY 12 CONSTRUCTION.
55FT VEGETATION USED PER FPT.

FLIGHT INSPECTED BY
PENDING

Digitally signed by **OFFICE** **DATE**
CASIMIR L TABAKA
Aug 28, 2023

DEVELOPED BY
TYLER MITCHELL

Digitally signed by **OFFICE** **DATE**
TYLER D MITCHELL
Aug 16, 2023
AJV-A432 06/08/2023

APPROVED BY
CASIMIR L. TABAKA

Digitally signed by **OFFICE** **DATE** **TITLE**
CASIMIR L TABAKA
Aug 28, 2023
AJV-A432 11/30/2023
MANAGER

REQUIRED EFFECTIVE DATE:
11/30/2023

COORDINATED WITH:

A4A ☒ **ALPA** ☒ **AOPA** ☐ **APA** ☒ **HAI** ☐ **NBAA** ☒
OTHER: **ZAB, TUS ATCT, AMGR**

CHANGES - REASONS:

1. RWY 3/21 CHANGED TO RWY 4/22, RWY 11L/29R CHANGED TO RWY 12/30, RWY 11R/29L REMOVED. - AIRPORT MAGVAR CHANGED FROM 12E/1995 TO 9E/2025, RUNWAYS RENUMBERED, RUNWAY DECONSTRUCTED.
2. RWY 4 TEXTUAL DEPARTURE PROCEDURE CHANGED FROM "CLIMBING RIGHT TURN DIRECT TO TUS VORTAC CONTINUE CLIMB IN TUS VORTAC HOLDING PATTERN (HOLD NORTHWEST, RIGHT TURNS, 128.00 INBOUND) TO 9000 BEFORE PROCEEDING ON COURSE." TO ": CLIMB ON HEADING 036.05 TO 3000 THEN CLIMBING RIGHT TURN ON HEADING 172.00 AND TUS R-018 TO TUS VORTAC, CONTINUE CLIMB IN TUS VORTAC HOLDING PATTERN (HOLD NORTHWEST, RIGHT TURNS, 128.00 INBOUND) TO 9000 BEFORE PROCEEDING ON COURSE." - CRITERIA WAS NO LONGER ABLE TO SUSTAIN PREVIOUS DESIGN, NEW DESIGN IAW CRITERIA.
3. RWY 22 TEXTUAL DEPARTURE PROCEDURE CHANGED FROM "CLIMBING LEFT TURN DIRECT TO TUS VORTAC CONTINUE CLIMB IN TUS VORTAC HOLDING PATTERN (HOLD NORTHWEST, RIGHT TURNS, 128.00 INBOUND) TO 9000 BEFORE PROCEEDING ON COURSE." TO ": CLIMB ON HEADING 216.04 TO 3000 THEN CLIMBING LEFT TURN ON HEADING 078.00 AND TUS VORTAC R-227 TO TUS VORTAC, CONTINUE CLIMB IN TUS VORTAC HOLDING PATTERN (HOLD NORTHWEST, RIGHT TURNS, 128.00 INBOUND) TO 9000 BEFORE PROCEEDING ON COURSE" -CRITERIA WAS NO LONGER ABLE TO SUSTAIN PREVIOUS DESIGN, NEW DESIGN IAW CRITERIA.
4. TAKEOFF OBSTACLES UPDATED. - IAW 8260.46J