

U.S. DEPARTMENT OF TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION
TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURES (ODP)

Bearings, headings, courses, tracks and radials are magnetic. Elevation 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.

City, State	Airport	Effective Date	Amdt. No.
DENVER, CO	DENVER INTL	11/15/12	3

FLIGHT INSPECTED BY:

REQUIRED EFFECTIVE DATE:

11/15/12

DEVELOPED BY:

CHARLES ERICKSON AJV-354 01/24/12

APPROVED BY:

DEZ SILAGYI AJV-354

COORDINATED WITH:

ATA, ALPA, APA, AOPA, NBAA, ZDV, DEN ATCT, DEN APP CON, CO AERO MGR

CHANGES:

1. ADDED 3 DEGREES TO ALL HEADINGS AND RADIALS.
2. UPDATED CONTROLLING OBSTACLES.
3. AFTER APPLICATION OF MAGVAR CHANGE, MOVED SW HEADING OFF RWY 8 TO 220 DEGREES.
4. REMOVED TAKEOFF OBSTACLE NOTES.

REASONS:

1. DENVER AIRPORT AND DENVER VOR/DME MAGVAR ROTATION FROM 11E TO 8E.
2. UPDATED MAP COVERAGE.
3. MAINTAIN 20 DEGREE FROM TERRAIN THAT WOULD HAVE CAUSED CLIMB GRADIENT GREATER THAN 200 FT PER NM.
4. PREVIOUS BUILDS USED 100 FT TREE HEIGHTS, CURRENT BUILD USES 50 FT TREE HEIGHT PER AIRPORT/FPT GUIDANCE. ASSUMED TREE GROWTH WAS PLACED AT LOCATIONS WHERE TREES COULD REASONABLY BE EXPECTED TO GROW. MOST OF THE TERRAIN AROUND DEN AIRPORT IS DOWN SLOPING AWAY FROM AIRPORT AND DOES NOT GENERALLY ALLOW FOR VEGETATION RELATED OCS PENETRATIONS WITHIN 20,000 FT OF LANDING SURFACES.

06/14/12: THIS IS A CORRECTED COPY OF THE FORM DEVELOPED ON 01/24/12.

1. ADDED THE FOLLOWING TAKEOFF OBSTACLE NOTES:

NOTE: RWY 7, SIGN 21 FT FROM DER, 337 FT LEFT OF CENTERLINE, 5 FT AGL/5357 FT MSL.

NOTE: RWY 16L, MULTIPLE SIGNS BEGINNING 126 FT FROM DER, 490 FT LEFT OF CENTERLINE, UP TO 7 FT AGL/5359 FT MSL.

COMMUNICATION TWR 4749 FT FROM DER, 1358 FT LEFT OF CENTERLINE, 107 FT AGL/5478 FT MSL.

NOTE: RWY 25, SIGN 48 FT FROM DER, 450 FT RIGHT OF CENTERLINE, 6 FT AGL/5354 FT MSL.

NOTE: RWY 26, SIGN 50 FT FROM DER, 339 FT LEFT OF CENTERLINE, 5 FT AGL/5354 FT MSL.

2. ADDED EFFECTIVE DATE OF 11/15/12.

9/10/12. THIS IS A CORRECTED COPY OF THE FORM DEVELOPED ON 6/14/2012. CHANGED INTERNATIONAL TO INTL.



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DENVER, CO	DENVER INTL	11/15/12	3

TAKEOFF MINIMUMS:

RWY 7, 8, 16L, 16R, 17L, 17R, 25, 26, 34L, 34R, 35L, 35R, STANDARD.

TEXTUAL DEPARTURE PROCEDURES:

- RWY 7 - CLIMB ON A HEADING BETWEEN 315 CW TO 218 FROM DEPARTURE END OF RUNWAY. ALL OTHER COURSES: CLIMBING RIGHT TURN, THENCE...
- RWY 8 - CLIMB ON A HEADING BETWEEN 310 CW TO 220 FROM DEPARTURE END OF RUNWAY. ALL OTHER COURSES: CLIMBING RIGHT TURN, THENCE...
- RWY 16L, 16R - CLIMB ON A HEADING BETWEEN 213 CCW TO 353 FROM DEPARTURE END OF RUNWAY. ALL OTHER COURSES: CLIMBING LEFT TURN, THENCE...
- RWY 17L, 17R - CLIMB ON A HEADING BETWEEN 222 CCW TO 353 FROM DEPARTURE END OF RUNWAY. ALL OTHER COURSES: CLIMBING RIGHT TURN, THENCE...
- RWY 25 - CLIMB ON A HEADING BETWEEN 317 CW TO 083 OR 206CCW TO 083 FROM DEPARTURE END OF RUNWAY. ALL OTHER COURSES: CLIMBING LEFT TURN, THENCE...
- RWY 26 - CLIMB ON A HEADING BETWEEN 313 CW TO 083 OR 219 CCW TO 083 FROM DEPARTURE END OF RUNWAY. ALL OTHER COURSES: CLIMBING LEFT TURN, THENCE...
- RWY 34L, 34R - CLIMB ON A HEADING BETWEEN 313 CW TO 172 FROM DEPARTURE END OF RUNWAY. ALL OTHER COURSES: CLIMBING RIGHT TURN, THENCE...
- RWY 35L, 35R - CLIMB ON A HEADING BETWEEN 313 CW TO 172 FROM DEPARTURE END OF RUNWAY. ALL OTHER COURSES: CLIMBING RIGHT TURN, THENCE...

...DIRECT DEN VOR/DME, CLIMB IN DEN VOR/DME HOLDING PATTERN (HOLD S, RT, 343.00 INBOUND) TO 16500 BEFORE PROCEEDING ON COURSE.

TAKEOFF OBSTACLE NOTES:

- NOTE: RWY 7, SIGN 21 FT FROM DER, 337 FT LEFT OF CENTERLINE, 5 FT AGL/5357 FT MSL.
- NOTE: RWY 16L, MULTIPLE SIGNS BEGINNING 126 FT FROM DER, 490 FT LEFT OF CENTERLINE, UP TO 7 FT AGL/5359 FT MSL. COMMUNICATION TWR 4749 FT FROM DER, 1358 FT LEFT OF CENTERLINE, 107 FT AGL/5478 FT MSL.
- NOTE: RWY 25, SIGN 48 FT FROM DER, 450 FT RIGHT OF CENTERLINE, 6 FT AGL/5354 FT MSL.
- NOTE: RWY 26, SIGN 50 FT FROM DER, 339 FT LEFT OF CENTERLINE, 5 FT AGL/5356 FT MSL.

CONTROLLING OBSTACLES:

- OBSTACLES MANDATING ROUTE DEVELOPMENT:
- RWY 7 - 14464 FT MSL AAO 393517.70N/1053838.00W, 13159 FT MSL AAO 401514.40N/1053527.19W, 12645 FT MSL AAO 393223.56N/1053612.62.
 - RWY 8 - 14464 FT MSL AAO 393517.70N/1053838.00W, 13323 FT MSL AAO 401513.05N/1053535.77W, 13159 FT MSL AAO 393312.16N/1053548.04W
 - RWY 16R - 14464 FT MSL AAO 393517.70N/1053838.00W, 11518 FT MSL AAO 393317.99N/1052815.71W, 13323 FT MSL AAO 401513.05N/1053535.77W.
 - RWY 16L - 14464 FT MSL AAO 393517.70N/1053838.00W, 11682 FT MSL AAO 393319.18N/1052823.53W, 13323 FT MSL AAO 401513.05N/1053535.77W.
 - RWY 17L, 17R - 14464 FT MSL AAO 393517.70N/1053838.00W, 14455 FT MSL AAO 401511.20N/1053651.40W.
 - RWY 25 - 14464 FT MSL AAO 393517.70N/1053838.00W, 12502 FT MSL AAO 401518.08N/1053504.82W., 10862 FT MSL AAO 393159.79N/1052314.81W.
 - RWY 26 - 14464 FT MSL AAO 393517.70N/1053838.00W, 12502 FT MSL AAO 393312.08N/1053509.40W, 12831 FT MSL AAO 401516.53N/1053516.03W,
 - RWY 34L/R, 35L - 14464 FT MSL AAO 393517.70N/1053838.00W, 12503 MSL AAO 401518.08N/1053504.82W.
 - RWY 35R - 14464 FT MSL AAO 393517.70N/1053838.00W, 12995 FT MSL AAO 401516.09/1053523.50W.

REMARKS:

THIS PROCEDURE IS A SECTORIZED DIVERSE DEPARTURE FOR NORTH, SOUTH AND EAST DEPARTURES, FOR WEST DEPARTURES (ALL OTHER COURSES) THIS IS A ROUTE FROM RWY TO DENVER VOR/DME WITH A CLIMB-IN-HOLD TO 16500 BEFORE HEADING WEST OVER THE MOUNTAINS. THIS RESTRICTION IS MANDATED BY FLIGHT INSPECTION ON PREVIOUS AMENDMENT DUE TO MOUNTAIN WAVE TURBULENCE.

TERRAIN PLUS AAO OUTSIDE 46 NM TAKEN INTO CONSIDERATION WHEN SELECTING DIVERSE HEADINGS. TERRAIN WOULD HAVE AFFECTED CLIMB GRADIENT BEYOND 46 NM WITHOUT THIS CONSIDERATION.



RADIO FIX AND HOLDING DATA RECORD

NAME: DENVER VOR/DME

STATE: CO

COUNTRY: US

LATITUDE/LONGITUDE: 394845.05N/1043938.66W

TYPE:

AIRSPACE DOCKET:

FIX TYPE OF ACTION: MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	DENVER	DEN	VOR/DME	H							45000

HOLDING:

HOLDING TYPE OF ACTION: MODIFY

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG TIME	LENGTH DME	HOLDING MIN	ALTITUDES MAX	TEMPLATES MIN	MAX
1	S	DEN	VOR/DME	163.00	343.00	R	1-1 1/2		8100	17500	9	20

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	230	AAO	393300.00N/1043427.00W	6437	4E
1	310	TOWER (08-000111)	392514.47N/1043916.71W	7048	2B

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	TAKE-OFF MINIMUMS	KAPA	DENVER	CO (US)
1	TAKE-OFF MINIMUMS	KFTG	DENVER	CO (US)
1	TAKE-OFF MINIMUMS	KBJC	DENVER	CO (US)
1	TAKE-OFF MINIMUMS	KDEN	DENVER	CO (US)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	DENVER			KBKF	AURORA	CO (US)
DP	PIKES			KBKF	AURORA	CO (US)
DP	PLAINS			KBKF	AURORA	CO (US)
DP	ROCKIES			KBKF	AURORA	CO (US)
DP	YELLOWSTONE			KBKF	AURORA	CO (US)
DP	DENVER			KAPA	DENVER	CO (US)
DP	PIKES			KAPA	DENVER	CO (US)
DP	PLAINS			KAPA	DENVER	CO (US)
DP	ROCKIES			KAPA	DENVER	CO (US)
DP	TAKE-OFF MINIMUMS		1	KAPA	DENVER	CO (US)
DP	YELLOWSTONE			KAPA	DENVER	CO (US)
DP	DENVER			KBJC	DENVER	CO (US)
DP	PIKES			KBJC	DENVER	CO (US)
DP	PLAINS			KBJC	DENVER	CO (US)
DP	ROCKIES			KBJC	DENVER	CO (US)
DP	TAKE-OFF MINIMUMS		1	KBJC	DENVER	CO (US)
DP	YELLOWSTONE			KBJC	DENVER	CO (US)
DP	DENVER			KDEN	DENVER	CO (US)
DP	PIKES			KDEN	DENVER	CO (US)
DP	PLAINS			KDEN	DENVER	CO (US)
DP	ROCKIES			KDEN	DENVER	CO (US)
DP	TAKE-OFF MINIMUMS		1	KDEN	DENVER	CO (US)
DP	YELLOWSTONE			KDEN	DENVER	CO (US)
DP	DENVER			KFTG	DENVER	CO (US)
DP	PIKES			KFTG	DENVER	CO (US)
DP	PLAINS			KFTG	DENVER	CO (US)
DP	ROCKIES			KFTG	DENVER	CO (US)
DP	TAKE-OFF MINIMUMS		1	KFTG	DENVER	CO (US)
DP	YELLOWSTONE			KFTG	DENVER	CO (US)
DP	TAKE-OFF MINIMUMS			KEIK	ERIE	CO (US)
DP	DENVER			KFNL	FORT COLLINS/LOVELAND	CO (US)
DP	PIKES			KFNL	FORT COLLINS/LOVELAND	CO (US)
DP	PLAINS			KFNL	FORT COLLINS/LOVELAND	CO (US)
DP	ROCKIES			KFNL	FORT COLLINS/LOVELAND	CO (US)
DP	YELLOWSTONE			KFNL	FORT COLLINS/LOVELAND	CO (US)
DP	DENVER			KGXY	GREELEY	CO (US)
DP	PIKES			KGXY	GREELEY	CO (US)
DP	PLAINS			KGXY	GREELEY	CO (US)
DP	ROCKIES			KGXY	GREELEY	CO (US)
DP	YELLOWSTONE			KGXY	GREELEY	CO (US)
IAP	ILS OR LOC Z RWY 29R			KBJC	DENVER	CO (US)
IAP	ILS OR LOC RWY 16L			KDEN	DENVER	CO (US)
IAP	ILS OR LOC RWY 16R			KDEN	DENVER	CO (US)

QUALITY
5
CHECKED

IAP	ILS OR LOC RWY 17L	KDEN	DENVER	CO (US)
STAR	DANDD	KDEN	DENVER	CO (US)
STAR	LANDR	KDEN	DENVER	CO (US)
STAR	LARKS	KDEN	DENVER	CO (US)
STAR	POWDR	KDEN	DENVER	CO (US)
STAR	QUAIL	KDEN	DENVER	CO (US)
STAR	RAMMS	KDEN	DENVER	CO (US)
STAR	SAYGE	KDEN	DENVER	CO (US)
STAR	TOMSN	KDEN	DENVER	CO (US)

REQUIRED CHARTING: DP, STAR, IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2

DATE OF REVISION: 05/31/2012

REASON FOR REVISION:

UPDATED FIX COORDINATES TO REFLECT MOST RECENT SURVEY.
 CHANGED HOLDING PAT 1 COURSE INBOUND FROM 340 TO 343 TO REFLECT FACILITY MAGVAR ROTATION FROM 11E TO 8E.
 UPDATED PAT 1 310KT CONTROLLING OBSTACLE COORDINATES AND ACCURACY CODE TO CURRENT DATA.
 MOVED LIMITED HOLDING NOTE FROM REMARKS TO HOLDING RESTRICTIONS.
 UPDATED PRECIPITOUS TERRAIN NOTE TO CURRENT FORMAT.
 ADDED STAR TO REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 11/14/2011 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (STEPHEN PETERSON)

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION: **NFDC**
 FPO: WST
 ARTCC: ZDV
 ATC FACILITY: DEN APP CON
 OTHER:

