



**Federal Aviation  
Administration**

**UNITED STATES GOVERNMENT SPECIFICATIONS**

**FLIGHT INFORMATION PUBLICATION  
GRAPHIC INSTRUMENT DEPARTURE  
PROCEDURE (DP) CHARTS**

**IACC 7  
6 October 2015**

**Prepared by the Interagency Air Cartographic Committee (IACC)**



**UNITED STATES GOVERNMENT SPECIFICATIONS  
FOR THE  
FLIGHT INFORMATION PUBLICATION  
GRAPHIC INSTRUMENT DEPARTURE PROCEDURE (DP) CHARTS**

**6 October 2015**

These specifications have been developed by the Interagency Air Cartographic Committee (IACC), composed of representatives of the Department of Defense and the Federal Aviation Administration, for use in the preparation of the United States Government Flight Information Publication Graphic Instrument Departure Procedure (DP) Charts. These specifications shall be complied with, without deviation, until such time as they are amended by formal IACC action.

Changes to these specifications will be provided when necessitated by new requirements or through development action of the IACC.

Questions of interpretation that arise in the use of these specifications shall be referred to the Chair, Interagency Air Cartographic Committee.

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**FAA/Aeronautical Information Services/Products**

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**DoD/NGA/MSRF**

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**FAA/Aeronautical Information Services/Data**

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**DoD/NGA/SFA**

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**CHANGES APPLIED TO CURRENT EDITION**

**REQUIREMENT DOCUMENTS**

- a. None applied in this edition.

**EDITORIAL CHANGES**

- a. EC 15-08 - Use of Flight Level (FL) in Top Altitude Notes.

**CHANGES APPLIED TO 13 JULY 2015 EDITION**

**REQUIREMENT DOCUMENTS**

- a. RD 745 - Air Defense Identification Zone (ADIZ) Symbology in the TPPs

**EDITORIAL CHANGES**

- a. None applied in this edition.

**CHANGES APPLIED TO 25 JUNE 2015 EDITION**

**REQUIREMENT DOCUMENTS**

- a. None applied in this edition.

**EDITORIAL CHANGES**

- a. EC 14-17 - Coincidental Airways on DPs

**CHANGES APPLIED TO 27 OCTOBER 2014 EDITION**

**REQUIREMENT DOCUMENTS**

- a. None applied in this edition.

**EDITORIAL CHANGES**

- a. EC 14-16 - Final Product Print Color Variation

**CHANGES APPLIED TO 3 OCTOBER 2014 EDITION**

**REQUIREMENT DOCUMENTS**

- a. RD 735 - The Addition of Top Altitude on Departure Procedures (DPs)

**EDITORIAL CHANGES**

- a. None applied in this edition.

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## AMENDMENT OF SPECIFICATIONS

### 1. PROCEDURE

- a. Recommendations for amendments to specifications from the Department of Defense shall be directed to:

National Geospatial-Intelligence Agency  
7500 GEOINT Drive  
Springfield, VA 22150-7500

- b. Recommendations for amendments to specifications from the Federal Aviation Administration shall be directed to:

Federal Aviation Administration /  
Aeronautical Information Services  
SSMC-4 Sta # 4503  
1305 East-West Highway  
Silver Spring, MD 20910

### 2. AMENDMENT SYSTEM

- a. Change to the specifications will be issued at the effective date of the latest Requirement Document (RD) and / or Editorial Change (EC).
- b. The Specification will be dated, indicated along the upper margin of each page, to reflect the most current change.

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## CHAPTER 1 GENERAL

### 1.1 PURPOSE AND SCOPE

#### 1.1.1 Purpose

The purpose of these specifications is to provide appropriate guidelines to effect uniformity and standardization of content and portrayal techniques in the preparation and production of charts for use by both civil and military pilots.

#### 1.1.2 Scope

Instrument Departure Procedures (DP) are preplanned Instrument Flight Rule (IFR) procedures which provide obstruction clearance from the terminal area to the appropriate en route structure. There are two types of DPs: Obstacle Departure Procedures (ODPs), printed either textually or graphically and Standard Instrument Departures (SIDs), always printed graphically. SIDS are primarily designed for system enhancement and to reduce pilot/controller workload, and require ATC clearance. ODPs provide obstruction clearance via the least onerous route from the terminal area and may be flown without ATC clearance. All DPs provide the pilot with a safe departure from the airport and transition to the en route structure.

These specifications address Graphic DPs only and are intended as a guide in their preparation. For simplicity, the generic term “DP” shall be used within this document to indicate both SIDs and graphic ODPs.

### 1.2 REQUIREMENTS

#### 1.2.1 General

DP charts shall be prepared, using one basic chart layout, for all civil, military, and civil/military airports for which DP procedures have been established and designated.

#### 1.2.2 Quality and Accuracy

The highest standard of accuracy in plotting, reproduction, and currency of information contained therein, shall be maintained.

Although the digital chart files are compiled in accordance with these specifications, the final product may vary slightly in appearance due to differences in printing techniques/processes and/or digital display techniques.

#### 1.2.3 Color

DP Charts and supplemental textual data, as required, regardless of format of presentation, shall be prepared for a one color presentation. All information, textual and graphics, shall be in solid color, unless otherwise specified.

#### 1.2.4 Scale

Generally, DP charts shall be depicted “not to scale” due to the great distances involved on some procedures or route segments. The portrayal may be distorted but angular integrity should be maintained whenever possible. A “to scale” portrayal may be used if the layout permits and readability is assured.

### **1.2.5 Projection**

Projection shall be Lambert Conformal, or Polyconic.

### **1.2.6 Horizontal Datum Reference**

Charts referenced to horizontal datum other than North American Datum 1983 (NAD 83) will show a note, e.g., Horizontal Datum: WGS 72, indicating the datum used in 7 pt. type centered above the bottom neatline in the planview.

### **1.2.7 Symbolization**

Symbolization shall be in accordance with the aeronautical information and chart symbols included in [Appendix 1](#).

These symbols have been developed through the United States Government Interagency Air Cartographic Committee (IACC) and its supporting technical groups for the purpose of standardization of the aeronautical symbols portrayed on charts and publications used by both military and civil aviation.

The symbols contained in these specifications have been developed for use in the preparation of U.S. Government Aeronautical Charts and Publications.

The configuration of the symbols contained herein shall be adhered to. The size and line weights, specified and/or indicated herein, should also be adhered to, but may be varied when absolutely necessary.

### **1.2.8 Type Styles**

The use of capital letters is intended, unless otherwise stated as C/L (capital and lower case letters).

All type, unless otherwise specified, shall be Futura Medium, as indicated on the various appendices.

Type sizes specified herein shall be adhered to. However, and only in those areas of extreme congestion, or where a specified type size would create unnecessary congestion, the size of type may be reduced to the next smaller size.

## **1.3 SPECIFICATION APPENDICES**

Specification Appendices are included within these specifications for use in layout, format and content. Appendices do not necessarily reflect all possible operational content.

## CHAPTER 2 FORMAT AND LAYOUT

### 2.1 FORMAT

The DP procedure, including all textual or type data, shall be aligned normally with true north at the top of the page. Predominately extensive east-west procedures shall be depicted in a landscape format in which North shall be toward the left side of the page. In such cases, the text will be oriented consistent with the geographic procedure and a North arrow shall be shown. The arrow may be placed in any open space.

Figure 2.1 North Arrow



DP charts shall be arranged so that the planview of the procedure is shown in the upper portion of the chart with the remaining lower portion containing the textual description of the procedure. These sections will be separated by a 6 wt line, so that the textual description will be “boxed” as illustrated in [Appendix 5](#). The box size can be adjusted to accommodate the size of the description.

### 2.2 LAYOUT

Size and dimensions shall be as annotated in [Appendix 2](#) and [Appendix 3](#).

Information shall be presented in textual, tabulated and graphic form, normally printed to read parallel to the top edge of the publication.

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## CHAPTER 3 CHART CONTENT

### 3.1 GENERAL

A DP is an air traffic control coded departure routing developed to simplify departures, the procedures and phraseology for issuing departure clearances and present pilots with a pre-planned departure clearance.

DP charts are designed to provide the pilot with all electronic aid information, together with procedural and other pertinent data required to execute the DP clearance.

The chart portrayal shall be limited to one procedure.

### 3.2 COMPILATION

#### 3.2.1 Centering

The DP procedure shall be plotted using, insofar as possible, the center of the graphic area for positioning of the first facility/fix after takeoff. However, it may not always be practicable to use the first facility/fix after takeoff as the chart center. Cartographic judgment must therefore be exercised in plotting the DP procedure, mindful of the intent of the DP program and the needs of the user. All turns, altitudes, NAVAIDs, including radio aids used in the formation of fixes, germane to the procedure, shall be positioned on the graphic in their relative geographic location.

#### 3.2.2 Scale

Every effort should be made to chart to scale or in relative geographic position. A ‘to scale’ graphic may be possible but, due to distances involved on some route segments, such a depiction may be the exception rather than the rule. On charts so affected, a general statement as follows shall be shown along the bottom border line of the planeview, using 7 point type, “NOTE: Chart not to scale.”

**Figure 3.1 Chart Not to Scale Note**

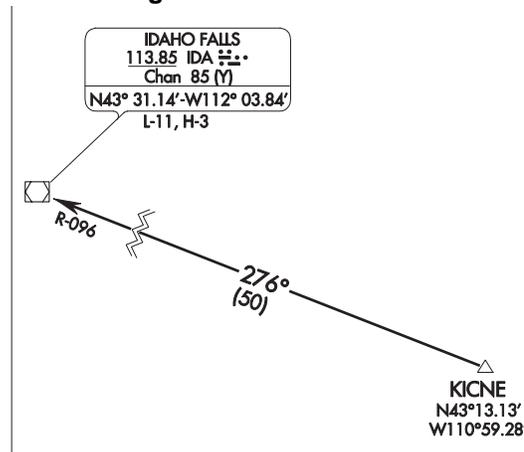


On charts that are able to be depicted to scale with the use of specific route segments, those segments may be broken by the Scale Break symbol.

**Figure 3.2 Scale Break Symbol**



Figure 3.3 Scale Break



### 3.2.3 Displacement

All information shall be plotted to indicate its true (or relative in not to scale presentations) geographic location. Should it become necessary to displace symbols because of their close proximity, preference shall be given to the airport, with full symbol representation, over the NAVAID.

### 3.2.4 Alignment

The DP procedure shall normally be aligned with true north at the top of the page. Exceptions to this shall be for predominately extensive east/west procedures which may be aligned with north to the left of the page. In such cases, the textual descriptions or type data shall read with the graphic procedure. East/West textual descriptions will be “boxed” wherever they are positioned in the planview. The box may be adjusted to accommodate the size of the description.

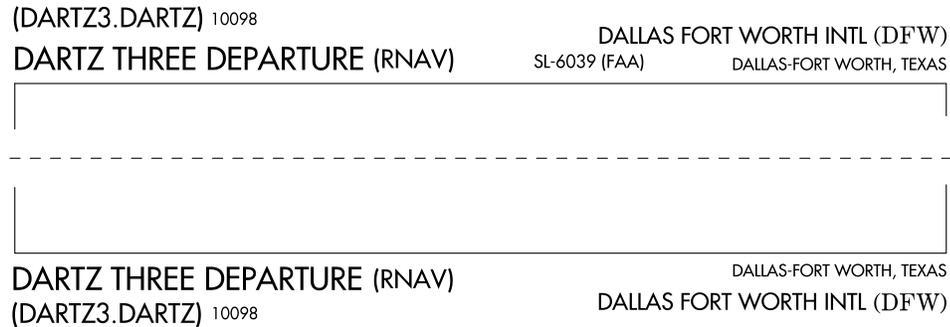
### 3.2.5 Placement of Identification and Notes

Identifications and data notes shall be positioned adjacent to or as near the symbol they pertain to as possible. When such placement would result in the obliteration of other detail, the information may be leadered.

### 3.3 MARGIN DATA

Margin Data is defined as that information required to be shown between the borderline of the DP chart and the trim. The margin data below is required to be shown positioned as illustrated.

**Figure 3.4 Margin Data (Top and Bottom)**



References:

[Appendix 4](#) - Margin Data

#### 3.3.1 Procedural Designation

The departure procedure name, number, form, type, and computer code assigned by the authority establishing the procedure, e.g., EAGLE SEVEN DEPARTURE (OBSTACLE) (RNAV) (EAGLE 7. EAGLE) shall be shown.

To distinguish between the number zero and the letter “0”, within the computer code, a slash shall be shown through the zero.

##### 3.3.1.1 Form and Type

Form indicates either no entry or (OBSTACLE) DP or SID.

Type indicates (HI), (LO), (VOR/DME RNAV), (RNAV), (COPTER), (STOL), (PROP), etc.

#### 3.3.2 Airport Name and Identifier

The FAA airport identifier shall be shown in parenthesis positioned immediately following the airport name at the top and bottom margins. Airports outside the contiguous United States will be shown with both the FAA airport identifier followed by the ICAO airport identifier.

References:

[Appendix 5](#) - DP With Routing

#### 3.3.3 Location

The geographic location, consisting of the city and state name associated with the airport.

#### 3.3.4 Julian Date

The Julian date will be placed above the top neatline and below the bottom neatline, adjacent and to the right of the computer code. If no computer code exists, the julian date will be left justified above the procedure name.

### 3.3.5 Chart Reference Number

The chart reference number consisting of “SL” for SID Low, “SH” for SID High or “SHL” for SID High/Low, followed by the chart number, followed by the abbreviated name of the appropriate authority for the procedure placed inside parentheses; e.g., SL-0000 (FAA), SH-0000 (USN). The chart number is a one to five digit number assigned by the charting proponent.

## 3.4 PLANVIEW

References:

[Appendix 2](#) - Page Layout

[Appendix 3](#) - East West Page Layout

### 3.4.1 General

The chart shall encompass the area required to effectively show the departure routing, including transitions to the appropriate enroute structure.

One procedure shall be shown on each chart. Takeoff portrayals from more than one runway or from opposite ends of a runway are not to be treated as separate procedures.

All routes, turns, altitudes, NAVAIDs, facilities forming intersections and fixes, and those facilities terminating the departure route (where the procedure joins the altitude structure for which the departure was established), shall be shown in the graphic depiction.

In congested areas the lightning bolt type leader lines may be used to reference a fix/intersection/way-point to its correlating point.

**Figure 3.5 Lightning Leader**



Ideally, both the graphic and textual description will be depicted on a single page. When this is not feasible, the textual description may be published on a 2nd “Continued Page.” On the first page, a planview note will direct users to the continued page. In rare cases where more continued pages are needed, each preceding page will have a note directing the user to the next page.

References:

[Appendix 12](#) - DP With Continued Page

[Appendix 25](#) - RNAV DP With Continued Page

### 3.4.2 Communications

References:

[Appendix 7](#) - DP With Frequency Sectorization

#### 3.4.2.1 General

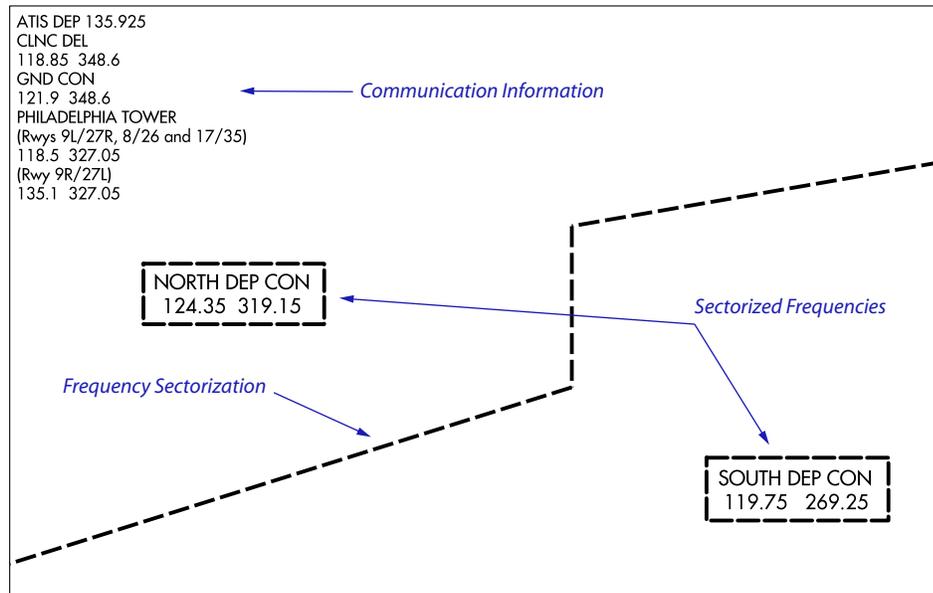
Communications information, when available, shall be shown in the upper left corner, as indicated on the appendices in such a manner so as not to interfere with significant items of the departure procedure. When necessary communications information may be shown in the upper right corner. Type size shall be 7 pt.

The typical format for communications is the name on the line followed by the frequency(ies) underneath it. All data shall be justified left or right as appropriate to the corner placement.

**3.4.2.2 Frequency Sectorization**

Frequency sectorization, as defined by the formulating agency, shall be shown. Sector boundaries shall be defined by a 6 wt dashed line. The sectorized frequency and call shall be enclosed within a box using the same dashed line, positioned within the appropriate sector using 8 point type. Sectorization will normally involve more than one set of departure control frequencies.

**Figure 3.6 Communications / Frequency Sectorization**



**3.4.2.3 Hours of Operation**

Hours of operation shall not be shown. A star, as illustrated in the example below, shall be used to indicate tower, ATIS or AFIS operates non-continuously.

**Figure 3.7 Non-Continuous Operation Depiction**

JUNEAU TOWER★  
 118.7 (CTAF) 278.3

**3.4.2.4 Terminal Communications**

Terminal communications information, when available and identified by the formulating agency, shall be shown by name; e.g., “Name DEP CON.” Terminal Communications shall be abbreviated.

### 3.4.2.5 Additional Communications

Additional communications, as identified, shall not exceed one VHF and one UHF primary frequency for each of the following:

**Table 3.1 Additional Communications**

Automatic Terminal Information Service	(ATIS)
Automatic Flight Information Service (AK Only)	(AFIS)
Clearance Delivery	(CLNC DEL)
Ground Control	(GND CON)
Tower	(TWR)
Center	(only when there is no terminal facility or DEP CON involved)
Flight Service Station	(RADIO)
Common Traffic Advisory Frequency	(CTAF)
Automated Weather Observing Systems	(AWOS/ASOS)

When available, ATIS or AFIS will be the only weather frequency/s published.

### 3.4.2.6 Automated Terminal Information Service (ATIS)

Automated Terminal Information Service shall be shown by the letters “ATIS” followed by the specific frequency/s.

When the service is provided on one frequency for both arrival and departure information, the single frequency shall be shown; e.g., ATIS 111.8.

When the service is provided on more than one frequency for both arrival and departure information, both (or all) frequencies shall be shown; e.g., ATIS 113.9 124.2.

When the service provided is either arrival and/or departure on different frequencies, only the departure frequency shall be shown; e.g., ATIS DEP 112.7.

### 3.4.2.7 (AK) Automated Flight Information Service (AFIS)

Automated Flight Information Service shall be shown by the letter “AFIS” followed by the specific frequency/s.

### 3.4.2.8 Automated Weather Systems (AWOS/ASOS)

Automated Weather Systems (AWOS/ASOS) shall be shown by the system type, followed by the level and the frequency; e.g., AWOS-3 124.65 or ASOS 118.975. If full time ATIS is available, it will be the only weather frequency published.

### 3.4.3 Flyover Symbology

Fixes, reporting points, intersections, NAVAIDs, and waypoints designated as flyover on RNAV DP's will be shown as indicated in [Appendix 1](#). Points used as holding fixes will be shown as flyby (without the circle around the symbol) unless they are designated elsewhere in the procedure as having flyover designation.

### 3.4.4 Compulsory Reporting Points

Fixes, reporting points, intersections, NAVAIDs, and waypoints designated as compulsory will be designated as indicated in [Appendix 1](#).

### 3.4.5 Airports

The airport of departure shall be shown by a 1 wt open outline pattern depicting all runways (including closed runways) to scale. The airport pattern may be resized in order to clearly depict the runways and departure routes/headings.

Secondary airports as designated by the approving authority shall be shown by symbol and airport name, in 7 point type.

### 3.4.6 Radio Aids to Navigation (NAVAIDs)

#### 3.4.6.1 General

NAVAIDs used in the procedure, including transitions and those shown only to establish fixes, intersections, etc., shall be shown, positioned in their relative geographical location with the following exceptions:

NAVAIDs that are located beyond the established limits of the chart area shall be brought or moved within the neatline of the planview, retaining its magnetic bearing and distance relationship. Mileage and bearing values, etc., shall, however, be accurate.

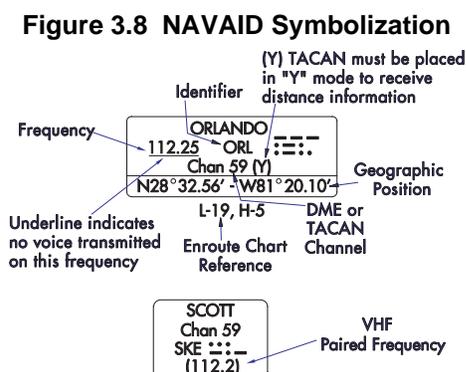
In congested areas, where a box depiction is not feasible, NAVAIDs that are located beyond the established limits of the chart area and used to establish fixes, intersections, etc., shall be identified by using a 2 weight (.005") radial line with the facility identifier, frequency and channel number positioned along and parallel to the radial line.

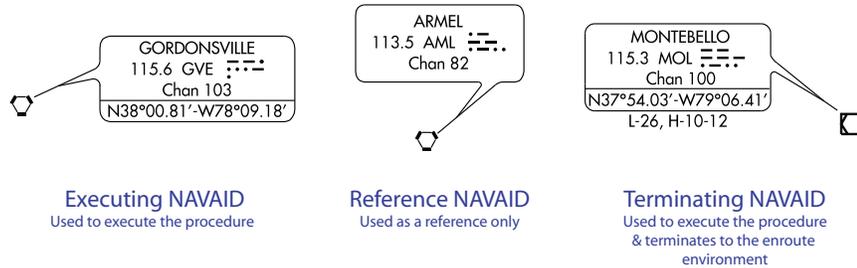
#### 3.4.6.2 Frequencies Without Voice

Frequencies without voice capability, except TACAN, shall be underlined using a 2 weight (.005") line, the length of the frequency numbers.

#### 3.4.6.3 Symbolization and Identification of NAVAIDs

NAVAIDs shown shall be appropriately symbolized and identified in 7 point type. The following information as appropriate for the type of NAVAID in the order listed shall be enclosed within an identification box: name, frequency, identifier, morse code, channel number and paired VHF frequency.



**Figure 3.9 NAVAID Use Identification**

The identification of the applicable Enroute Chart (s) (Low and High Altitude) required for enroute operations shall be positioned beneath the identification box of each terminating NAVAID.

- High Altitude Chart Reference - H-1, H-2, etc.
- Low Altitude Chart Reference - L-1, L-2, L-3, etc.
- Low-High Altitude Chart Reference - L-17, H-4, etc.
- Pacific Low Altitude Chart Reference - P-1, P-2, etc.
- Multiple Chart Formats - L-11, H-1-2; L-12-13, H-1; L-1-2, H-3-4

#### 3.4.6.3.1 Leader Lines

The leader line shall extend from the data box to and without touching the appropriate radio aid to navigation symbol.

#### 3.4.6.3.2 Line Weight

Line weight for boxes and leader lines shall be 3 weight (.006").

#### 3.4.6.3.3 NAVAID Boxes

Boxes shall be of a size consistent with the informational data contained therein.

#### 3.4.6.4 “Y” Mode NAVAIDs

NAVAIDs with a DME, when the DME operates in the “Y” mode, the “Y” will be enclosed in parenthesis and positioned immediately following the channel number, e.g., Chan 00(Y).

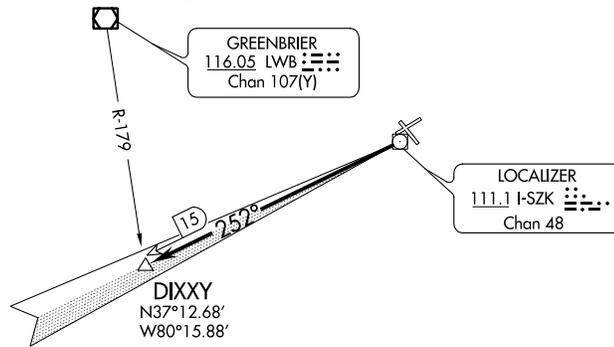
#### 3.4.6.5 Geographic Coordinates

Geographic coordinates (in degrees, minutes, and hundredths of minutes) shall be shown within the box for those NAVAIDs used to execute the procedure. NAVAIDs used strictly for fix make-up, or not flown to or from in the procedure, will not include geographic coordinates.

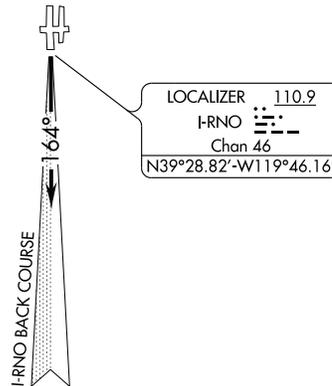
### 3.4.6.6 Instrument Landing System (ILS)

The Instrument Landing System (ILS) Localizer Course, either the front, back or both courses, shall be shown when identified and used in the procedure. The back course, when shown, shall be identified as “BACK COURSE” positioned along and parallel to the course using 7 point type.

**Figure 3.10 ILS Depiction**



**Figure 3.11 ILS Depiction - Back Course**

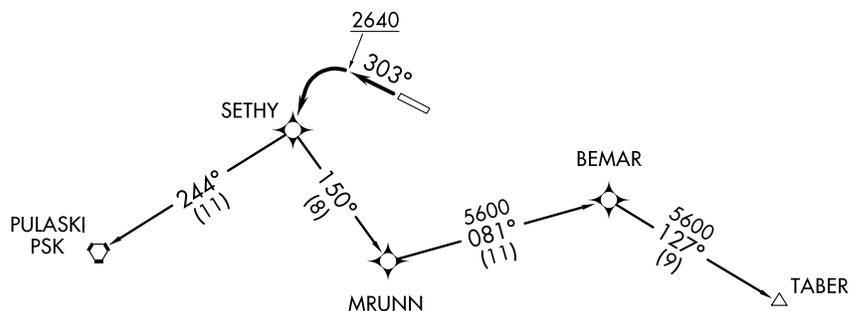


### 3.4.7 RNAV DP's

#### 3.4.7.1 RNAV Waypoints

Waypoints that are intended only for use by onboard database navigation systems, and have an ATC function, shall be charted. The assigned 5-letter waypoint name will be charted adjacent to the waypoint icon in 8 point type. When a waypoint is created at the same geolocation as an existing fix, NAVAID, or reporting point, then the waypoint symbol will not be charted. Only the fix, NAVAID, or reporting point and its associated data will be shown.

**Figure 3.12 Waypoint Depiction**



### 3.4.7.2 NAVAIDs

NAVAIDs on RNAV DPs shall show only the applicable NAVAID symbol, with NAVAID name and 3-letter identifier in 8 point type. NAVAID data shall not be boxed. Coordinates and enroute chart references will not be shown.

### 3.4.7.3 Legs

On RNAV DPs, leg type abbreviations VA = Heading to Altitude, VI = Heading to Intercept, FM = Fix to Manual Termination, VM = Heading to Manual Termination, DF = Direct to Fix, CF = Course to Fix, TF = Track to Fix, RF = (Constant) Radius to Fix, shown on the 8260-15C and -15B source documents, will be charted as follows:

**Table 3.2 Leg Types**

8260-15C	8260-15B	Charting
VA	Heading	No waypoints shown, heading shown (i.e. 092°), no mileage shown.
VI	Heading	No waypoints shown, heading shown (i.e. 092°), no mileage shown.
FM	Track	No waypoint at termination of leg and no mileage shown, track (i.e., 092°).
VM	Heading	No waypoint at termination of leg and no mileage shown, heading (i.e., 092°).
DF	Direct	Waypoint at termination of leg, no course shown, no mileage shown
CF	Course	Waypoint at termination of leg, course shown (i.e. 092°), mileage shown [(17)] only if first leg.
TF	Track	Waypoints at start and termination of leg, course shown (i.e. 092°), mileage shown[i.e., (45)].
RF	Turn Left/ Right	Waypoints shown at start and termination of leg, no course shown, mileage shown.[i.e., (45)].

### 3.4.8 DME Fixes, Intersections, Computer Navigation Fixes (CNF) and VOR/DME RNAV Waypoints

References:

[Appendix 1](#) - DP Chart Legend

#### 3.4.8.1 General

DME fixes, intersections (with both compulsory and non compulsory reporting function), CNFs and waypoints described in the DP shall be shown and illustrated as described in [Appendix 1](#). Identification shall be by name in 8 point type. Geographic coordinates (in degrees, minutes and hundredths of minutes) shall be shown beneath the name of those, intersections / reporting points and CNFs used to execute the procedure. The identification of the applicable Enroute Chart (s) (Low and High Altitude) required for enroute operations shall be positioned beneath the geographic coordinates of each terminating intersection or fix.

On RNAV DPs, intersections/fixes shall be symbolized as above, but shall only show the five letter identifier.

#### 3.4.8.2 Named DME Fixes

Named DME fixes shall be identified by the placement of small open arrowheads (.12" in length) pointing to the fix from the VHF/UHF radio aid to navigation forming the fix. These open arrowheads shall be positioned adjacent to the fix, along and parallel to the route or radial.

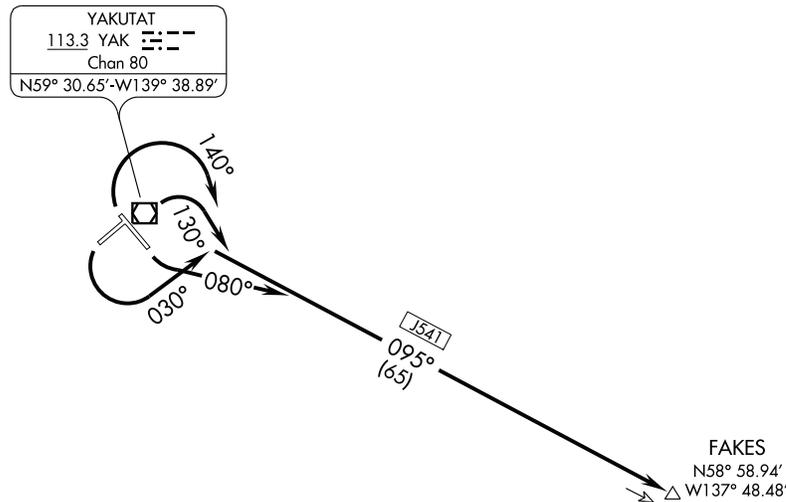
These open arrowheads will be supplemented with an open “D” attached to the shaft of the DME arrowhead, with the DME mileage centered therein when the mileage from the NAVAID is not obvious.

Fixes/Intersections with multiple DMEs will only depict DMEs from NAVAIDs that also form transition, departure or lost communication routes, unless others are requested by the procedure.

Fixes/Intersections requested for depiction on “VECTOR” type departures shall be shown without NAVAID makeup unless specifically requested on procedure.

Type size and style for the DME mileage shall be 7 point, expressed in whole miles except when less than one mile and when specified on a procedure.

**Figure 3.13 Named DME Fix**

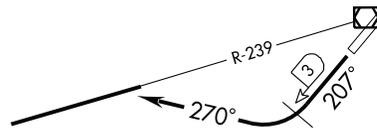


**3.4.8.3 Un-named DME Fixes**

Un-named DME fixes shall be shown by a 2 weight (.005") line, .2" long, centered across the appropriate radial or route line, supplemented by the open arrow and “D” symbol described above. The associated mileage figure for radar fixes shall be positioned adjacent to the line symbol and shall be identified in nautical miles.

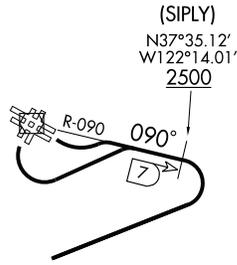
Type size and style for the DME mileage shall be 7 point, expressed in whole miles except when less than one mile and when specified on a procedure.

**Figure 3.14 Un-Named DME Fix**



If a CNF is colocated with a DME fix the “x” symbol will not be shown.

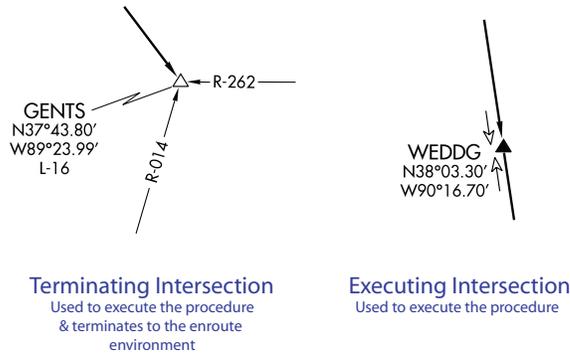
**Figure 3.15 Un-Named DME Fix with Colocated CNF**



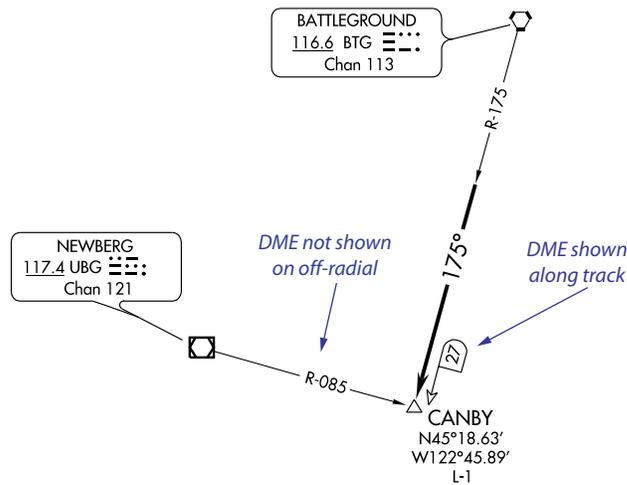
**3.4.8.4 Intersections**

Intersections are points in space formed by two or more NAVAIDs.

**Figure 3.16 Intersections**



**Figure 3.17 Off-Radial DME**



### 3.4.8.5 Computer Navigation Fix (CNF)

A CNF shall be shown with the symbol “x” at a dog-leg of the route when defined as part of the procedures in the DP. The 5-character CNF name shall be show in parentheses.

**Figure 3.18 Computer Navigation Fix (CNF)**



### 3.4.8.6 VOR/DME Area Navigation (RNAV) Waypoints

Only area navigation waypoints as designated and identified for use on DP procedures shall be shown.

When a waypoint is created at the same geolocation as an existing fix, NAVAID or reporting point, then the waypoint symbol will not be charted. Only the fix, NAVAID or reporting point and its associated data will be shown.

#### 3.4.8.6.1 VOR/DME Waypoint Data

RNAV waypoints, as designated, shall be identified by name; coordinates (degrees, minutes, and hundredths of minutes to nearest hundredths of a minute; e.g., N38°58.30' W89°51.50'; the frequency and identifier; e.g., 115.8 ABC, and the radial (to tenths) and distance (to tenths) from the referenced radio aid to navigation; e.g., 187.1° - 56.2; and the station elevation.

The radial value shall be shown using three digits, plus the tenths when designated, and the degree (°) sign.

When the waypoint and reference facility are colocated, the radial and distance of the reference facility shall be shown; e.g., 000° - 000.

The station (reference facility) elevation shall be shown immediately below the identification box, aligned with and breaking the bottom line. Elevation value shall always be in three (or more) digits; e.g., 001, 099, 999, 1999. Sea Level shall be shown as 000.

Waypoint identification data shall be in 7 point type and enclosed within a 3 wt identification box.

Identification boxes shall be of a size consistent with the informational data contained therein.

A 3 wt leader line shall be shown from the data box to, but without touching, the waypoint symbol.

### 3.4.9 Routes

Departure, lost communications and transition routes shall be shown, broken for all symbols, and for the insertion of bearing values or RNAV track angles. Directional arrowheads shall be positioned on the routes, near, but not touching the symbol.

A departure route that terminates at one NAVAID shall show the departure route from the airport to the terminal facility.

A departure route that terminates at two or more NAVAIDs shall show the departure route from the airport to the radio aid to navigation that is common to all the terminating facilities.

Transition routes are shown emanating from the common facility to all of the terminating facilities.

Depiction of departure and transition routes may be shown not to scale if it will depict the procedures more clearly. Such a depiction may be necessary due to distances involved on some route segments of the departure procedures. In such cases, either a scale break symbol or “NOTE: Chart not to scale” shall be shown in accordance with paragraph 3.2.2 of this chapter.

Departure routes with a course reversal (procedure turn) shall be shown by the barb symbol illustrated. The barb shall be a half arrowhead .010" long and .05" wide, positioned on the maneuvering side.



### 3.4.10 Route Data

All route data information applies to both RNAV and Non-RNAV DPs unless otherwise stated.

References:

[Appendix 1](#) - DP Chart Legend

#### 3.4.10.1 **Magnetic Headings/RNAV Track Angles**

Magnetic headings or RNAV track angles shall be shown in three digits (to the nearest degree) positioned on and breaking the route or transition line. A degree sign shall be shown with all headings. Type size shall be 9 point. When a route or track line would be obliterated by placement of the heading value, it may be placed above or below the line, as space permits.

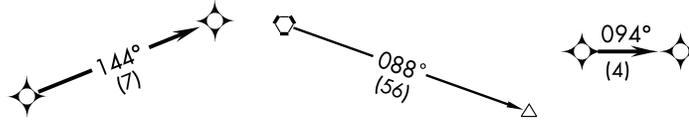
#### 3.4.10.2 **Mileages**

Nautical mile distances (mileages) between primary NAVAIDS, intersections, fixes, waypoints and from the takeoff runway to the first significant point shall be shown, rounded to the nearest whole nautical mile, within parentheses, normally positioned below the route heading.

When the departure can be made from two or more runways, the distance is measured from the center of the takeoff area to the first significant point. This distance, as established by the formulating agency shall be identified by note, “Aprx dist fr T/off area,” arrowed to the mileage value or referenced to the value using a reference symbol.

Type size shall be 8 point.

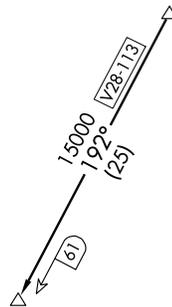
**Figure 3.20 Bearing Values, Track Angles and Mileages**



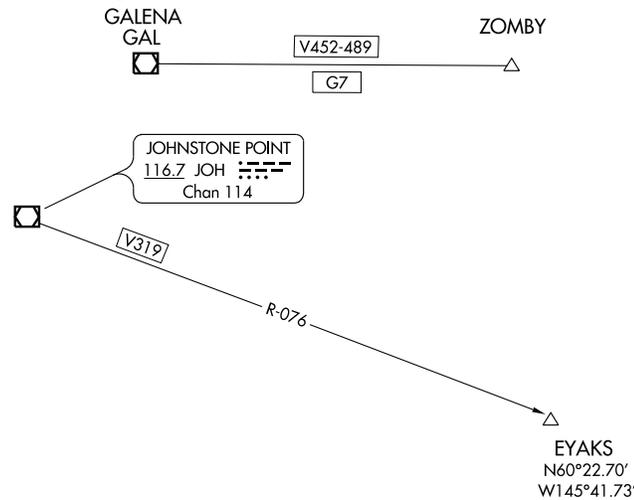
**3.4.10.3 Airways/Routes (Coincidental and Noncoincidental)**

When the departure or transition route on a non-RNAV DP coincides with an airway/route the airway/route identification shall be shown using 7 point type, enclosed in a 2 weight (.005") box. When an airway/route is requested that is not coincident with a departure or transition route, it will be shown with a 2 weight (.005") line in the same way, except non-RNAV will provide a radial, RNAV will not.

**Figure 3.21 Coincidental Routes**



**Figure 3.22 Non-Coincidental Routes**



**3.4.10.4 Restrictive Altitudes**

Restrictive altitudes along the departure route shall be shown using 8 point type.

Altitude values shall not include commas (15000).

Minimum, Maximum and Mandatory Altitudes shall be shown and be clearly identified with the fix to which they apply. The use of an overscore (line above text) and underscore (line below text) on altitudes of the procedure shall be as appropriate to the wording of the procedure, as depicted in [Table 3.3](#) below.

Restrictive altitudes at NAVAIDs, fixes and waypoints along the departure/transition route shall be shown, when specified by appropriate authority, without annotation and adjacent to the point with which they are associated and in accordance with established minimum/maximum/mandatory altitude charting conventions.

**Table 3.3 Restrictive Altitudes**

Type	Description	Example
Minimum Altitude	Minimum altitudes shall be depicted as an underlined number. This is an MSL altitude, vertical to a geographic location below which an aircraft may not descend. Cross at or above 2300 will be shown as depicted. Expect clearance to cross at or above an altitude will be shown as "Expect <u>2300</u> ".	<u>2300</u>
Maximum Altitude	Maximum altitudes shall be depicted as a number with a line above it. This is an MSL altitude, vertical to a geographic location, above which an aircraft may not be flown. Cross at or below 4800 will be shown as depicted. Expect clearance to cross at or below an altitude will be shown as "Expect <u>4800</u> ".	<u>4800</u>
Mandatory Altitude	Mandatory altitudes shall be depicted as a number with a line above and below. This is an MSL altitude, vertical to a geographic location which an aircraft must maintain. Cross at an altitude will be shown as depicted. Expect clearance to cross at an altitude will be shown as "Expect <u>5500</u> ".	<u>5500</u>
Block Altitudes	Block altitudes shall be depicted as the combination of Minimum and Maximum altitudes as depicted. Expect clearance for a block altitude will be shown as "Expect <u>7500</u> <u>5500</u> ".	<u>7500</u> <u>5500</u>

#### 3.4.10.5 Restrictive Airspeeds

Restrictive Airspeeds along the departure route shall be shown using 8 point type. The use of an overscore (line above text) and underscore (line below text) on airspeeds of the procedure shall be as appropriate to the wording of the procedure, as depicted in [Table 3.4](#) below.

**Table 3.4 Restrictive Airspeeds**

Type	Description	Example
Minimum Airspeed	Minimum airspeeds shall be depicted as an underlined number. Cross at or above 170K will be shown as depicted.	<u>170K</u>
Maximum Airspeed	Maximum airspeeds shall be depicted as a number with a line above it. Cross at or below 170K will be shown as depicted.	<u>170K</u>
Mandatory Airspeed	Mandatory airspeeds shall be depicted as a number with a line above and below. Cross at 170K will be shown as depicted.	<u>170K</u>

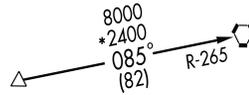
#### 3.4.10.6 Paired Restrictive Altitudes and Airspeeds

Paired restrictive altitudes and airspeeds shall be depicted individually as above. They are positioned side-by-side when space allows.

### 3.4.10.7 MEA, MOCA, etc.

MEA, MOCA, etc., as designated and specified in the procedure shall be shown, normally above the route heading, using 8 point type. MOCAs shall be preceded by a 9 pt asterisk. Altitude values shall not include commas. Altitudes of 18000 and above may be expressed as flight levels (18000 = FL180, 24000 = FL240, etc).

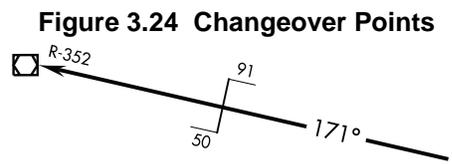
**Figure 3.23 MEA and MOCA Depiction**



### 3.4.10.8 Changeover Points (COPs)

COPs shall be shown when specified in the procedure.

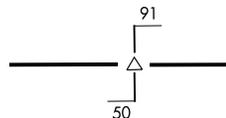
The heavy bar of the symbol shall be centered on and at a 90° angle to the route, when aligned with the route data, the symbol shall be positioned so that the short top line shall be parallel with the route and “point” to the right; the short bottom line shall also be parallel to the route and “point” to the left.



#### 3.4.10.8.1 Colocated Changeover Point & Fix

When a COP is located at a fix, except when colocated with a DME fix, the changeover point symbol shall be broken for the fix symbol. When colocated with a DME fix, the COP shall be offset from the fix. The COP symbol shall not touch the fix symbol.

**Figure 3.25 Colocated COP & Fix**



#### 3.4.10.8.2 Mileages on COP

Mileage figures from the COP to the next and preceding VHF/UHF NAVAID shall be positioned .02" above or below the short “pointer lines” of the symbol, parallel with the route using 7 point type. However, in areas where this placement is not in the best interest of clarity, the mileage figures may be centered .02" from the ends of the short “pointer lines” of the symbol, parallel with the route.

When the COP is located at a reporting point or a DME fix, the changeover mileage figure shall be omitted, provided there is no intervening mileage breakdown point between the COP and the NAVAID.

### 3.4.10.9 Explanatory Notes

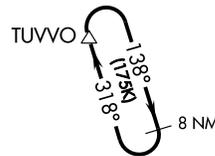
Appropriate explanatory notes may be shown, as required, positioned along the departure or transition route using 8 point C/L type and punctuations.

### 3.4.10.10 Holding Patterns

Holding patterns shall be shown using an 8 weight (.020") line broken for 8 pt headings with arrowheads indicating direction of turns.

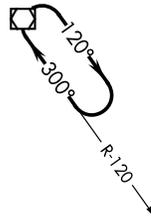
RNAV holding patterns shall be shown with appropriate leg length and type.

**Figure 3.26 RNAV Holding Patterns**



Non-RNAV holding patterns will include a holding radial when the pattern is not aligned on a departure or transition track.

**Figure 3.27 Non-RNAV Holding Patterns**



Holding patterns associated with lost communications shall be shown using the dotted line symbol.

Maximum restricted airspeeds when requested on source shall be depicted within the holding pattern symbol, with the restricted airspeed in parenthesis, as shown in [Appendix 1](#). As restricted airspeeds, 210K applies to altitudes above 6000 feet to and including 14000 feet and 175K applies to all altitudes.

### 3.4.11 Radial Lines

Those radials that are associated with the departure route, intersections, and mileage fixes shall be shown and identified.

Radial lines shall be shown by a 2 weight (.005") arrowed line emanating from the facility with the value positioned on and breaking the arrowed line, preceded by the letter "R". Radial values shall be in three digits; e.g., R-000. A degree sign shall not be shown with radial values. Type size shall be 7 point. Lead Radials, when identified and submitted with the procedure, shall be additionally identified with the letters "LR" preceding the numbered value; e.g., LR-053.

Radial lines shall stop just short of the applicable intersection or fix so as not to be in conflict or interfere with the route depiction.

In congested areas, radial values may be placed in a clear area and related to the radial by a 1 weight (.005") arrowed line.

When a radial line overlies a course/route/transition line, the radial value (i.e. R-322) shall be shown above the heavier weight line, adjacent to the NAVAID.

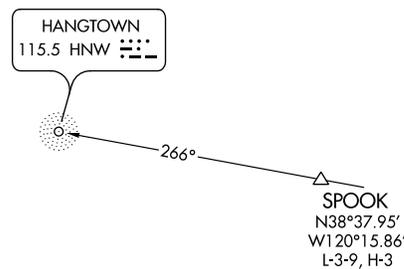
### 3.4.12 Bearing Lines

Those bearings associated with the departure route, intersections, and mileage fixes shall be shown and identified.

Bearing lines shall be shown by a 2 weight (.005") arrowed line from the fix to the radio aid to navigation, with the value positioned on and breaking the arrowed line. Bearing values shall be in three digits. A degree sign shall be shown with all bearing values. Type size shall be 7 point.

Bearing lines shall be shown through the applicable reporting point or fix and broken for symbol so as not to be in conflict or interfere with the route depiction.

**Figure 3.28 Bearing Lines**



In congested areas, values may be placed in a clear area and related to the bearing line by 1 weight (.005") arrowed line.

### 3.4.13 Special Use Airspace (SUA)

SUA shall be shown only when specifically requested by the formulating agency.

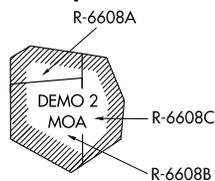
SUA shall be portrayed by a 2 weight (.005") diagonal line pattern, .10" in width, positioned so as to have the lines in a NE to SW direction. In no case will the portrayal of SUA obliterate the functional procedural data. Should an area be too small to portray the specified width, the width shall be proportionately reduced in size to adequately portray the area. In "not to scale" depictions, SUA may be resized but shall remain in its relative position to the rest of the portrayal.

SUA outer boundaries shall be depicted by a 3 weight (.006") line.

SUA internal boundaries shall be depicted by a 1 weight (.005") line to separate the individual SUA areas.

SUA shall be identified by the designated number and/or name of the area; e.g., P-1234, R-1235, YUKON 1 MOA, etc., using 7 pt type.

**Figure 3.29 Special Use Airspace**



### 3.4.14 Air Defense Identification Zone (ADIZ)

When designated on the procedure source document, ADIZ boundaries that fall within the area of coverage of the departure procedure chart shall be shown.

ADIZ boundaries shall be portrayed by a 4 weight line (.010"). The diameter of the dots is .015". The width of the symbol is .05". Identification shall be placed within or along the boundary. In no case, will the portrayal of the ADIZ obliterate the functional procedure data.

**Figure 3.30 Air Defense Identification Zone (ADIZ) Boundary**

CONTIGUOUS U.S. ADIZ  


### 3.4.15 International Boundaries

International boundaries shall be shown by a dashed 6 weight (.012") line when requested by the approving authority.

**Figure 3.31 International Boundary**

UNITED STATES  
 MEXICO  


International boundaries shall be identified with country name in 7 point type, positioned adjacent and parallel to the boundary, within the country area.

References:

[Appendix 11](#) - DP with International Boundary

### 3.4.16 Notes

Operational notes, when requested by the formulating agency, shall be shown. Notes shall be prefaced with "NOTE:". Exception will be for specific note categories such as TAKEOFF MINIMUMS, TAKEOFF OBSTACLES, CAUTION, etc. Type size shall be 8 pt C/L. Acronyms (DME, RADAR, VORTAC) shall be in all caps.

The negative ▼ symbol shall be shown in the upper left corner of the Departure Route Description box on all Departure charts except graphic "(OBSTACLE)" Departure Procedures, when an entry is published in the TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES section, regardless of what that entry contains.

Combine and locate notes in a single area to the greatest extent possible. Preferred location shall be in the lower left corner of the planview, moving clockwise when the lower left is not feasible. Notes that pertain to a specific fix, NAVAID, waypoint or runway end shall be located adjacent to that point.

If an extensive note cannot be accommodated in the planview it may be moved to a continued page. In this case, place a 9 point note "(NOTES CONTINUED ON FOLLOWING PAGE)" in the planview, preferably at the bottom of the chart.

References:

[Appendix 6](#) - DP With No Routing ("Vector" Type)

[Appendix 12](#) - DP With Continued Page

### 3.4.16.1 Top Altitude Note

When requested on the procedure source document, a boxed top altitude(s) note shall be shown on the top right corner of the planview. When planview configuration does not allow this positioning, suitable, placement may vary to the top left corner, then along the top neatline, and finally to where space allows. Altitudes of 18,000 feet and above shall be expressed as flight levels (18,000 = FL180, 24,000 = FL240, etc). Type size shall be 9 point bold text enclosed in a 3 weight (.006") box. When more than one top altitude is specified on the source document, the altitudes will be stacked within the same box.

References:

[Appendix 13](#) - Single Top Altitude

[Appendix 14](#) - Runway Specific Top Altitudes

[Appendix 15](#) - Aircraft Type Top Altitudes

[Appendix 16](#) - Transition Specific Top Altitudes

[Appendix 17](#) - ATC Assigned Top Altitude

### 3.4.17 Minimum Climb Rate

When established by source, a minimum rate of climb table, as determined by the controlling obstacles, shall be placed in the top right corner of the planview. Placement of the table will move clockwise if the top right corner is not suitable.

Minimum climb rates shall be shown as vertical velocity (V/V) in feet per minute (fpm) in 60 knot increments, from 60 knots to 240 knots for Low Altitude DPs, 120 knots to 360 knots for High Altitude DPs, and 60 knots to 360 knots for High/Low DPs.

Where multiple runway departures are required, provision shall be made in the minimum climb rate table to show the vertical velocity information for all runways involved.

The distance to the controlling obstacle, upon which the minimum climb rate is predicated, shall be depicted by the use of a footnote in the lower right hand corner of the planview. Placement of the table will move clockwise if the lower right corner is not suitable. Mileage distances shall be shown as follow: 1 NM or more, in tenths, e.g., 3.6NM, 4NM; less than 1 NM, in feet, e.g. 1735 ft.

When the departure requires a minimum climb rate, it must indicate the altitude and /or fix at which the climb gradient is no longer required.

### 3.4.18 ATC Climb Rate

Climb gradients that are required for ATC purposes shall be displayed when they are higher than the minimum climb rate. When the climb rate is premised on an ATC requirement, the following note will be shown immediately above or below the Vertical Velocity box, i.e., "ATC Climb Rate". ATC Climb Rates must indicate the altitude and/or fix that the ATC Climb Rate applies to. ATC Climb Rate boxes shall be portrayed the same as minimum climb rate boxes.

### 3.4.19 Minimum and ATC Climb Rates

The minimum climb rate will be followed by the ATC climb rate for that runway. The asterisk will be used to footnote all minimum climb rates and the dagger will be used to footnote all ATC climb rates.

The asterisk and dagger symbols will not be used to footnote other types of data in these specifications.

Runways in climb tables will be listed in numerical order and with L (left), R (right), or C (center) if appropriate, e.g., if more than one climb table is required, all data for a runway will be within one climb table.

### 3.5 DEPARTURE ROUTE TEXTUAL DESCRIPTION

**Figure 3.32 Departure Route Description**



#### DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 2: Climb direct MUSDE, then via depicted route to AKUMY. Thence proceed on course. Maintain 10000 or higher assigned altitude.

#### 3.5.1 General

The heading “DEPARTURE ROUTE DESCRIPTION” and the departure route text shall be printed below the planview. The preferred type size is 9 pt, C/L. If this does not accommodate the text, 8 pt may be used. Takeoff, transition, and lost communication description headings shall be in capital letters and underscored.

When the description is of such length that the provisions of the above paragraph cannot be met, then the following page shall be used for the textual description. A note; i.e., “(NARRATIVE ON FOLLOWING PAGE)” in 9 point type shall be shown preferably at the bottom of the chart. The following page shall have the same marginal information as its associated departure chart. The heading “DEPARTURE ROUTE DESCRIPTION” shall be centered inside the upper border in 9 point type.

If another continued page is needed, the marginal information will be the same but the first text page will contain the note “(CONTINUED ON THE FOLLOWING PAGE)” at the bottom and the second text page will be titled “(CONTINUED)” near the top.

References:

[Appendix 12](#) - DP With Continued Page

[Appendix 19](#) - Three-Page DP

#### 3.5.2 Text

References:

[Appendix 8](#) - DP With Lost Communication Routing

[Appendix 20](#) - RNAV DP With Departure Routing Only

##### 3.5.2.1 Departure Text

A description of the departure procedure (Takeoff to first/common point) will be written verbatim as provided by the SID procedure. Exception will be holding instructions provided within parentheses (e.g. hold E, right turns, 270 degrees inbound). These will be considered graphic instructions and not included in the written description.

When departures exist from multiple runways, any common verbiage may be offset below the departures in the “thence....” format.

A description of the Visual Climb Over Airport (VCOA), if applicable, will follow the departure procedure description. See [Appendix 10](#).

### 3.5.2.2 Lost Communication Text

Lost Communication procedure(s) will be written verbatim following the departure route description if provided by the procedure.

### 3.5.2.3 Transition Text (RNAV and non-RNAV)

For RNAV charts, transition text will consist of the transition name and associated computer code (caps/underscored). There shall be no following narrative, but instead, any restraint or restriction type notes specific to that transition, as provided by the procedure, shall be shown in parentheses.

#### Figure 3.33 RNAV Transition Text

EAKER TRANSITION (GRABE3.EAKER): (For aircraft inbound to the TUL Terminal Area).  
OKMULGEE TRANSITION (GRABE3.OKM): (For all aircraft overflying the OKM VOR/DME proceeding via J181 to BDF to destinations in the Chicago Terminal Area and north).

For non-RNAV charts, transition text will begin with the name and computer codes as outlined above. A narrative, created by the charting proponent, will follow. The narrative will describe all turns, altitudes, radials, bearings and facilities/fixes needed to guide the user from the common departure point to the terminating facility fix.

#### Figure 3.34 Non-RNAV Transition Text

DRAKE TRANSITION (HOOVR3.DRK): From over COWBY INT via PGS R-301 to PGS VORTAC then PGS R-088 and DRK R-349 to DRK VORTAC.  
PEACH SPRINGS TRANSITION (HOOVR3.PGS): From over COWBY INT via PGS R-301 to PGS VORTAC.

When multiple transitions exist, they shall be arranged alphabetically by transition name.

## 3.6 RNAV DEPARTURE ATTENTION ALL USERS PAGE (AAUP)

An RNAV Departure Attention All Users Page (AAUP) shall be published in accordance with the format in [Appendix 26](#) when published by appropriate authority.

The AAUP will appear following the Airport Diagram and preceding the individual Departure Procedures for a given airport.

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# APPENDIX 1 DP CHART LEGEND

00000  
**LEGEND**

## LEGEND

### STANDARD TERMINAL ARRIVAL (STAR) CHARTS DEPARTURE PROCEDURE (DP) CHARTS

Applies to both STAR and DP Charts unless otherwise noted.

#### RADIO AIDS TO NAVIGATION

VOR (Compulsory)	VORTAC (Compulsory)	NDB (Compulsory)
VOR/DME (Compulsory)	TACAN (Compulsory)	NDB/DME (Compulsory)
VOR (Non-Compulsory)	TACAN (Non-Compulsory)	NDB (Non-Compulsory)
VOR/DME (Non-Compulsory)	NDB/DME (Non-Compulsory)	
VORTAC (Non-Compulsory)		

LMM, LOM (Compass locator)  
 Marker Beacon

LOC (shown when installation is offset from its normal position off the end of the runway.) (DP)  
 LOC/DME

Localizer Course  
 SDF Course

(T) indicates frequency protection range (STAR)  
 (Y) TACAN must be placed in "Y" mode to receive distance information

**ORLANDO Example:**  
 Frequency: 112.25 (T) ORL Chan 59 (Y) N28°32.56' W81°20.10'  
 L-19, H-5 DME or TACAN Channel Reference  
 Underline indicates no voice transmitted on this frequency

**PRAYS Example:**  
 Coordinates: N38°58.30' W89°51.50'  
 Frequency: 112.7 CAP 187.1°-56.2  
 Identifier: 590 Reference Facility Elevation  
 Radial-Distance (Facility to Waypoint)

#### FIXES/ATC REPORTING REQUIREMENTS

Reporting Points  
 N00°00.00'  
 W00°00.00'

(75) → DME Mileage (when not obvious)

▲ Fix-Compulsory and  
 △ Non-Compulsory Position Report

→ DME fix

WAYPOINT (Compulsory)    WAYPOINT (Non-Compulsory)

FLYOVER POINT

X Computer Navigation Fix (CNF)  
 N00°00.00'  
 W00°00.00'

#### ROUTES

4500 MEA-Minimum Enroute Altitude  
 \*3500 MOCA-Minimum Obstruction Clearance Altitude

← 270° — Departure Route - Arrival Route  
 (65) Mileage between Radio Aids, Reporting Points, and Route Breaks

— Transition Route  
 — R-275 — Radial line and value  
 - - - - - Lost Communications Track

Airway/Jet Route Identification  
 DP Holding Pattern    STAR Holding Pattern

(IAS) Holding pattern with max. restricted airspeed (175K) applies to all altitudes (210K) applies to altitudes above 6000' to and including 14000'

#### SPECIAL USE AIRSPACE

R-352 R-Restricted    W-Warning  
 P-Prohibited    A-Alert  
 MOA-Military Operations Area

#### ALTITUDES

5500 Mandatory Altitude (Cross at)    2300 Minimum Altitude (Cross at or above)    4800 Maximum Altitude (Cross at or below)

15000  
12000 Block Altitude    → Altitude change at other than Radio Aids (STAR)

#### INDICATED AIRSPEED

175K Mandatory Airspeed    120K Minimum Airspeed    250K Maximum Airspeed

#### AIRPORTS

(DP) Joint  
 Civil    Military    Civil-Military

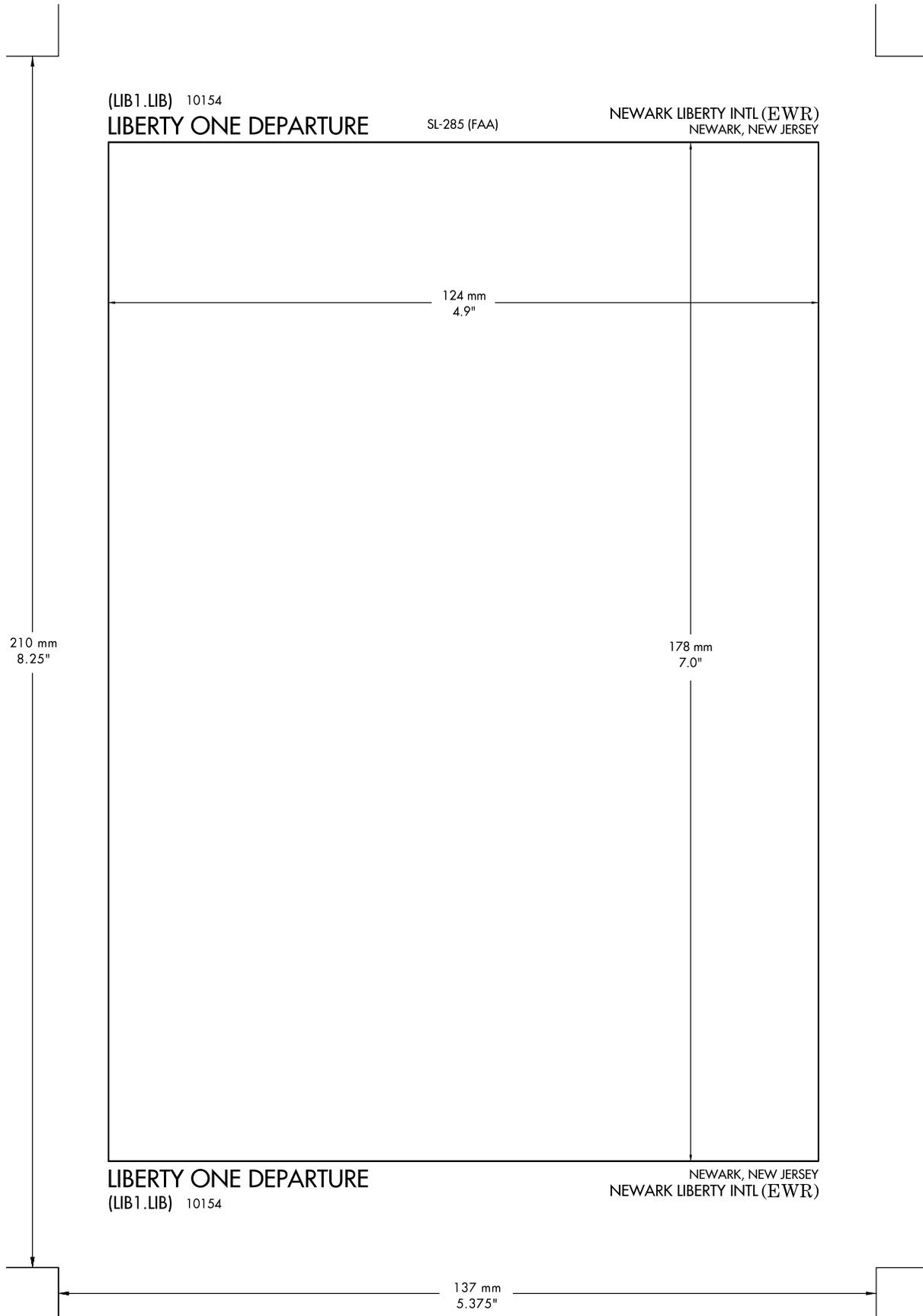
#### MISCELLANEOUS

Changeover Point  
 Distance not to scale (DP)  
 International Boundary (DP)  
 Air Defense Identification Zone

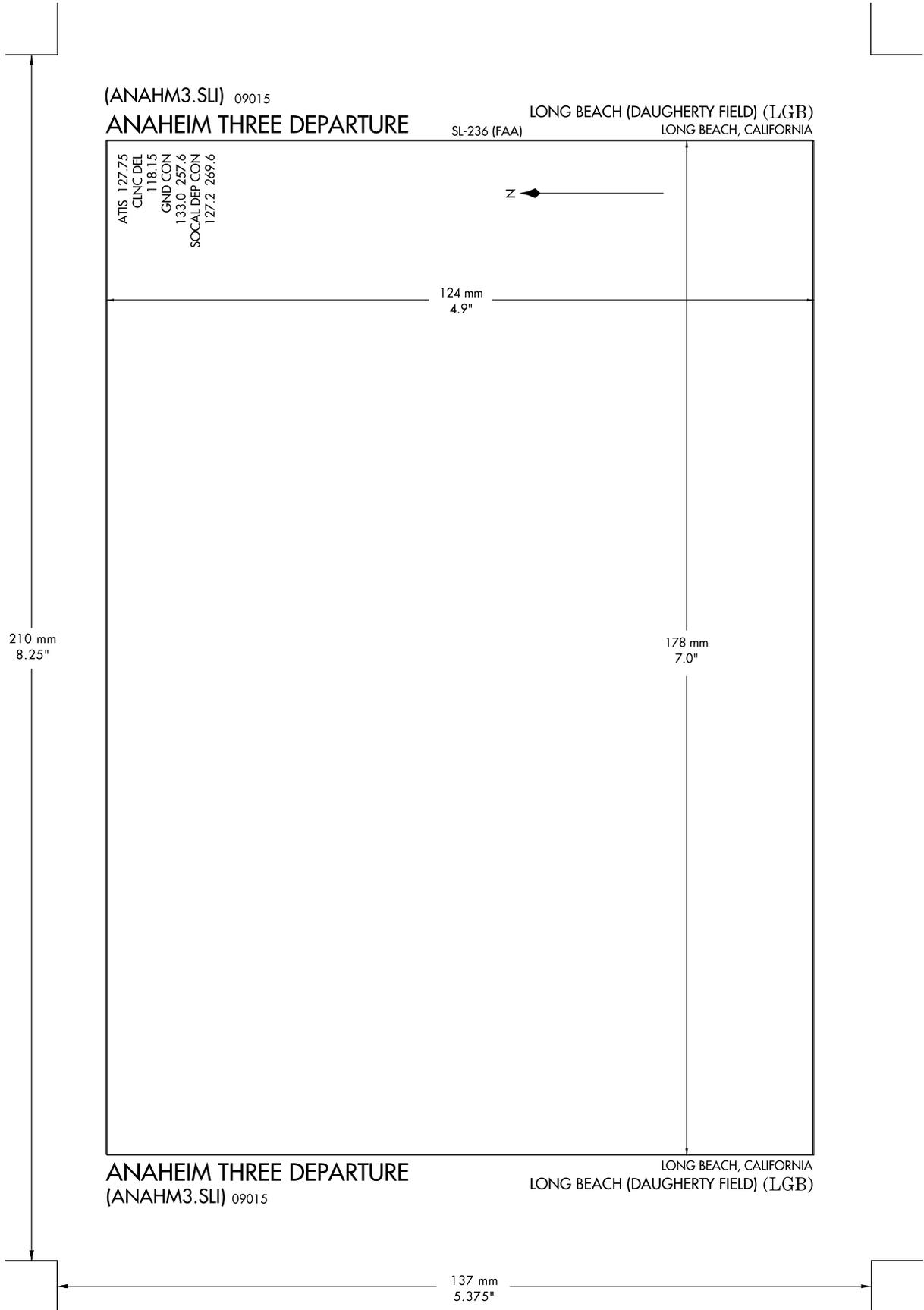
Takeoff Minimums and (Obstacle) Departure Procedures entry published. (DP)

**LEGEND**

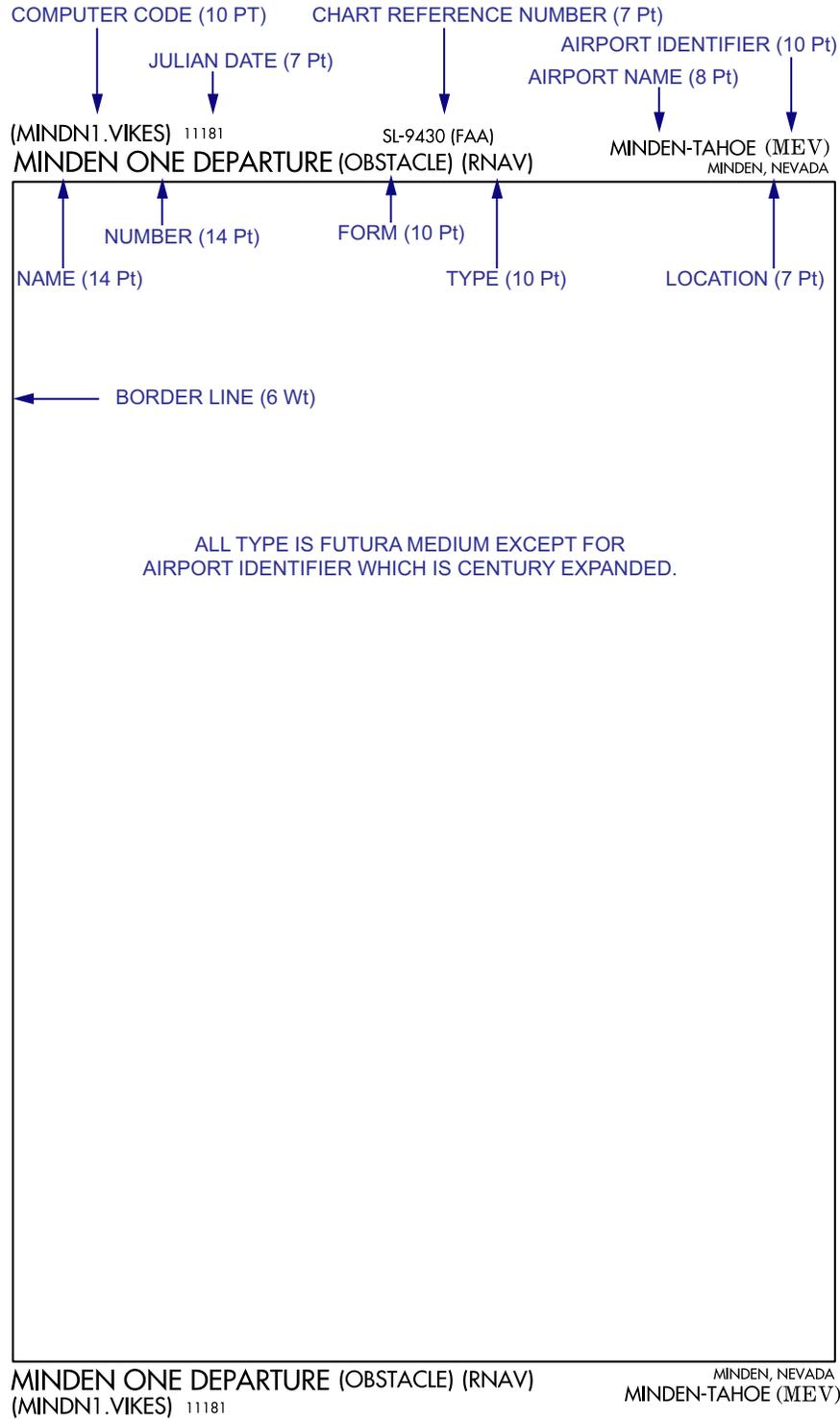
**APPENDIX 2  
PAGE LAYOUT**



### APPENDIX 3 EAST WEST PAGE LAYOUT



### APPENDIX 4 MARGIN DATA



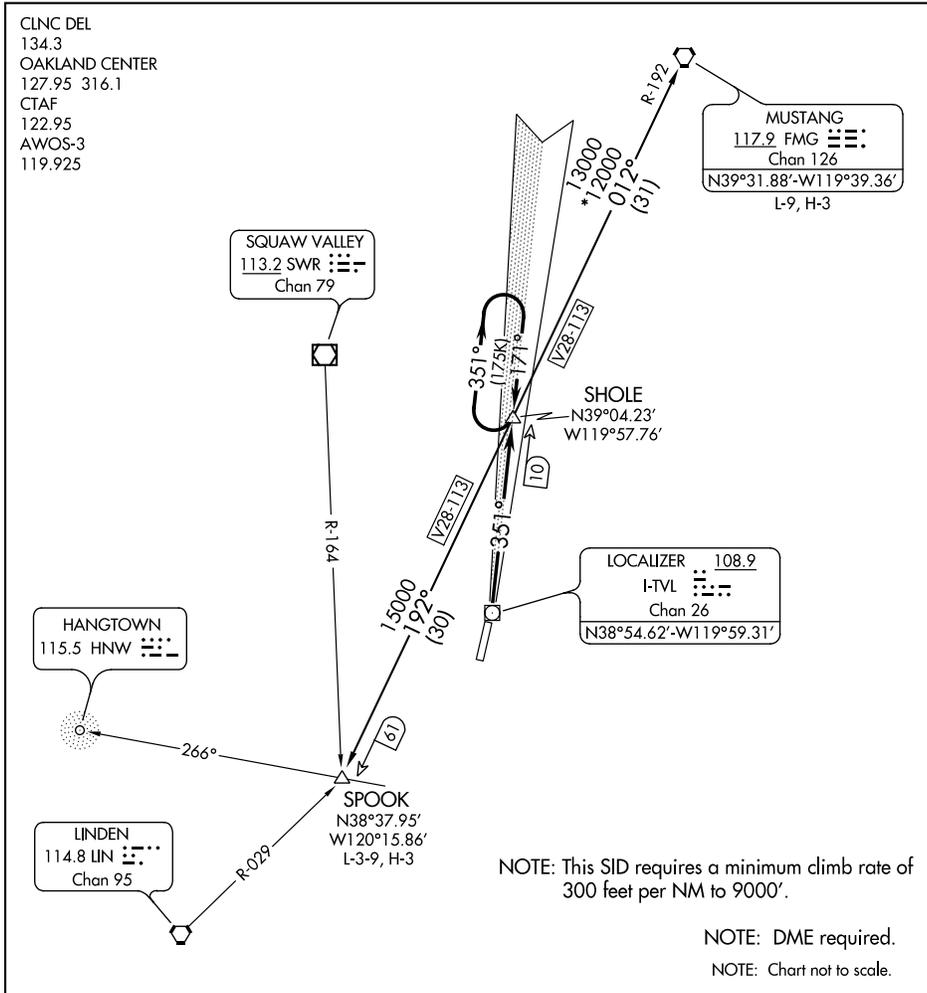
**APPENDIX 5  
DP WITH ROUTING**

(SHOLE1.SHOLE) 07298

**SHOLE ONE DEPARTURE**

SL-5416 (FAA)

LAKE TAHOE (TVL)  
SOUTH LAKE TAHOE, CALIFORNIA



**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 36:** Climb northbound via I-TVL localizer north course to SHOLE I-TVL 10 DME Fix. Continue climb in SHOLE 10 DME holding pattern inbound I-TVL localizer until reaching 13000', thence via (transition) or (assigned route).

**MUSTANG TRANSITION (SHOLE1.FMG):** From over SHOLE DME via FMG R-192 to FMG VORTAC.

**SPOOK TRANSITION (SHOLE1.SPOOK):** From over SHOLE DME via FMG R-192 to SPOOK INT.

**SHOLE ONE DEPARTURE**

(SHOLE1.SHOLE) 07298

SOUTH LAKE TAHOE, CALIFORNIA  
LAKE TAHOE (TVL)

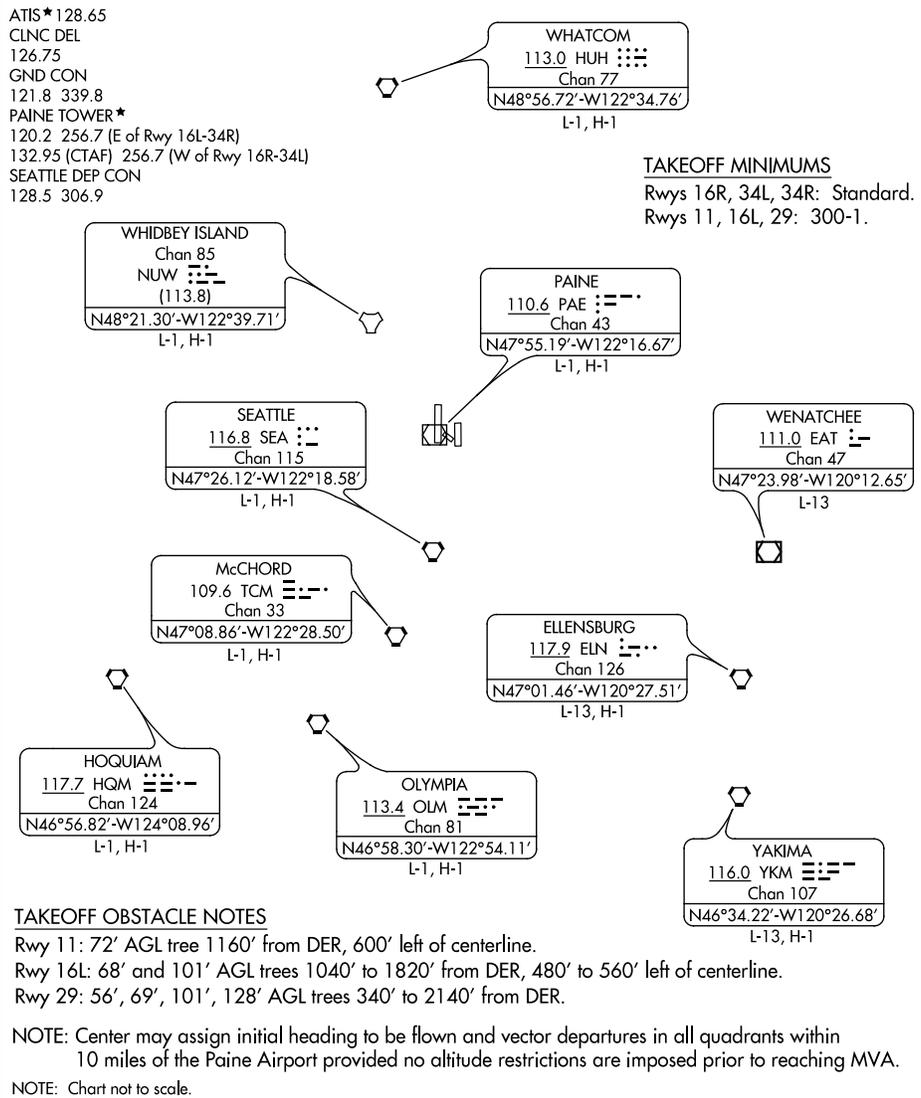
## APPENDIX 6 DP WITH NO ROUTING (“VECTOR” TYPE)

11293

### PAINÉ TWO DEPARTURE

SL-142 (FAA)

SNOHOMISH COUNTY (PAINÉ FIELD) (P.A.E)  
EVERETT, WASHINGTON



#### DEPARTURE ROUTE DESCRIPTION

Fly Runway heading or as assigned; expect vectors to join assigned route.

Maintain assigned altitude; expect filed altitude/flight level five minutes after departure.

**LOST COMMUNICATIONS:** If not in contact with SEATTLE CENTER upon reaching 2000', continue climb to assigned altitude and proceed direct to PAE VOR/DME. Thence via assigned route.

### PAINÉ TWO DEPARTURE

11293

EVERETT, WASHINGTON  
SNOHOMISH COUNTY (PAINÉ FIELD) (P.A.E)

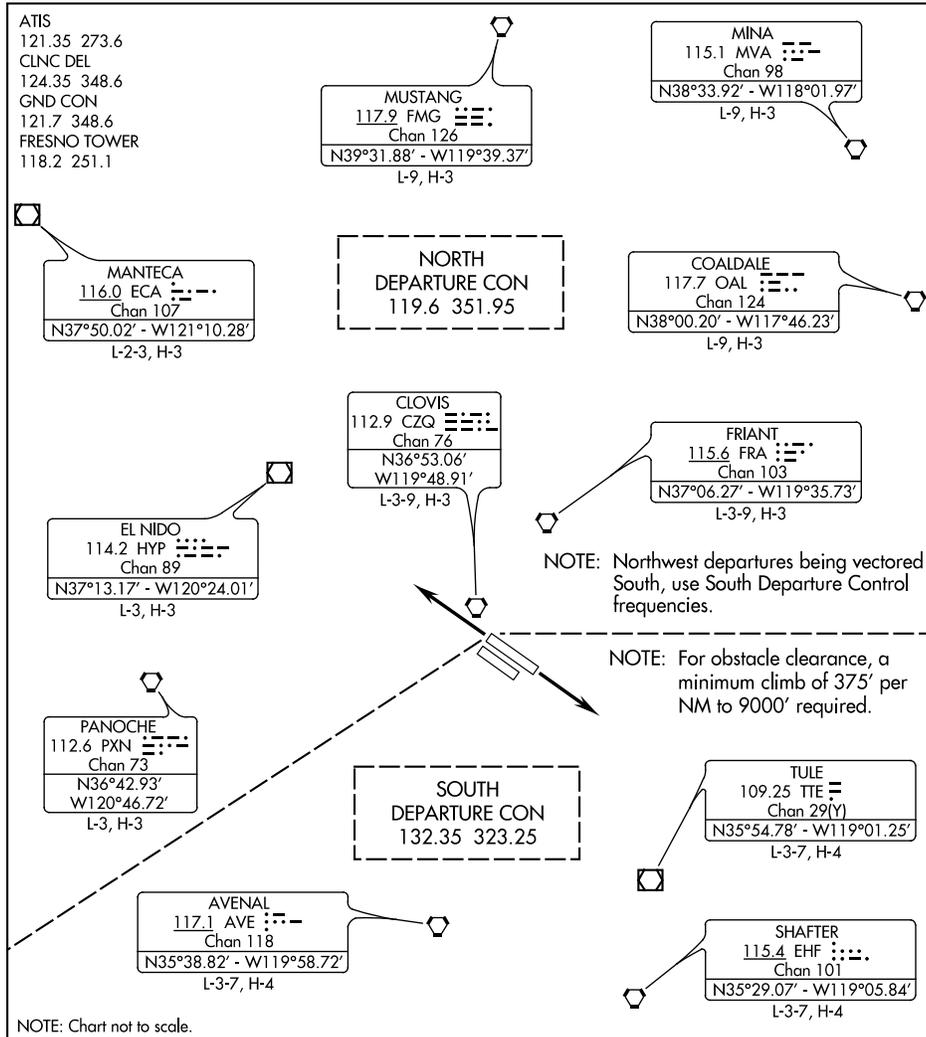
## APPENDIX 7 DP WITH FREQUENCY SECTORIZATION

(FRES5.FAT) 11125

SL-162 (FAA)

FRESNO YOSEMITE INTL (FAT)  
FRESNO, CALIFORNIA

### FRESNO FIVE DEPARTURE



**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAYS 11L/R AND 29L/R:** Fly runway heading for vectors to assigned route/fix. Expect clearance to filed altitude five minutes after departure.

**LOST COMMUNICATIONS:** If no radio contact for two minutes, aircraft enroute to FRA, MVA, FMG and OAL proceed direct CZQ VORTAC, then direct FRA VORTAC, cross FRA VORTAC at or above 9000', thence via (assigned route) to filed altitude.

**FRESNO FIVE DEPARTURE**  
(FRES5.FAT) 11125

FRESNO, CALIFORNIA  
FRESNO YOSEMITE INTL (FAT)

## APPENDIX 8 DP WITH LOST COMMUNICATION ROUTING

(PRCH9.LAX) 09239

### PERCH NINE DEPARTURE

SL-237 (FAA)

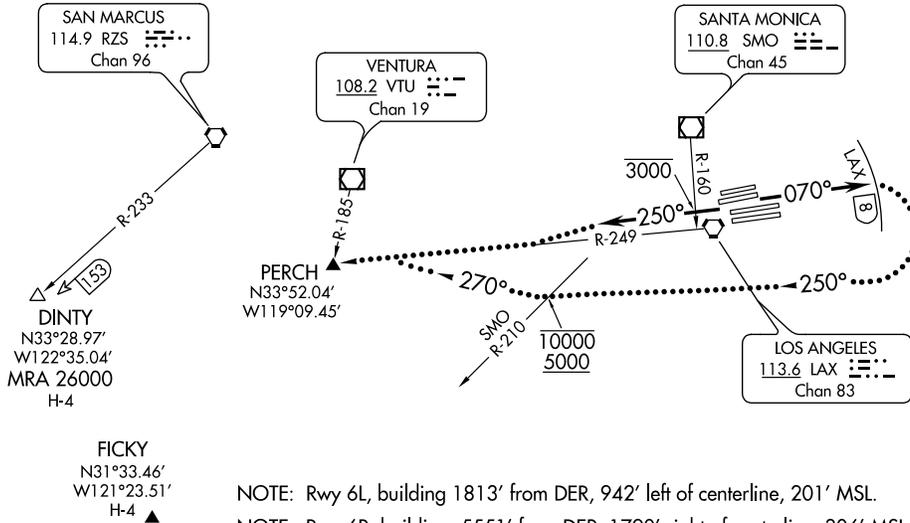
LOS ANGELES INTL (LAX)  
LOS ANGELES, CALIFORNIA

ATIS DEP 135.65  
CLNC DEL  
121.4 327.0  
GND CON  
N 121.65 327.0  
S 121.75 327.0  
LOS ANGELES TOWER  
N 133.9 239.3  
S 120.95 379.1  
SOCAL DEP CON  
124.3 363.2 (045°-224°)  
125.2 263.025 (225°-044°)

**TAKEOFF MINIMUMS**

Rwys 6L, 7L/R, 24L/R, 25L/R: Standard.  
Rwy 6R: 300-1¼ or standard with minimum climb of 231' per NM to 400'.

NOTE: MRA DINTY DME FL 310 to receive LAX and RZS DME.  
NOTE: RZS R-233/153 DME fix DINTY DME FIX MRA 26000.  
NOTE: Route depicted is a LOST COMMUNICATION PROCEDURE ONLY.  
NOTE: RADAR and DME required.



NOTE: Chart not to scale.

NOTE: Rwy 6L, building 1813' from DER, 942' left of centerline, 201' MSL.  
NOTE: Rwy 6R, building, 5551' from DER, 1790' right of centerline, 306' MSL.

#### DEPARTURE ROUTE DESCRIPTION

**TAKEOFF RUNWAYS 6L/R, 7L/R:** Climb via heading 070° for vector to DINTY INT or FICKY INT. Thence....

**TAKEOFF RUNWAYS 24L/R, 25L/R:** Climb via heading 250° to cross SMO R-160 at or below 3000, then via radar vectors to DINTY INT or FICKY INT. Thence ....

...via (assigned route). All aircraft expect further clearance to filed flight level three minutes after departure.

**LOST COMMUNICATIONS:**

**TAKEOFF RUNWAYS 6L/R, 7L/R:** If not in contact with Departure Control upon reaching LAX 8 DME, turn right heading 250°. Cross SMO R-210 at or above 5000' and at or below 10000'. After leaving 10000', turn right heading 270° to intercept and proceed via LAX R-249 to PERCH INT.

**TAKEOFF RUNWAYS 24L/R, 25L/R:** If not in contact with Departure Control within five minutes after departure, proceed to PERCH INT via LAX R-249.

Climb to FL230 or filed altitude whichever is lower. Aircraft filing FL240 or above climb to filed altitude ten minutes after departure.

### PERCH NINE DEPARTURE

(PRCH9.LAX) 09239

LOS ANGELES, CALIFORNIA  
LOS ANGELES INTL (LAX)

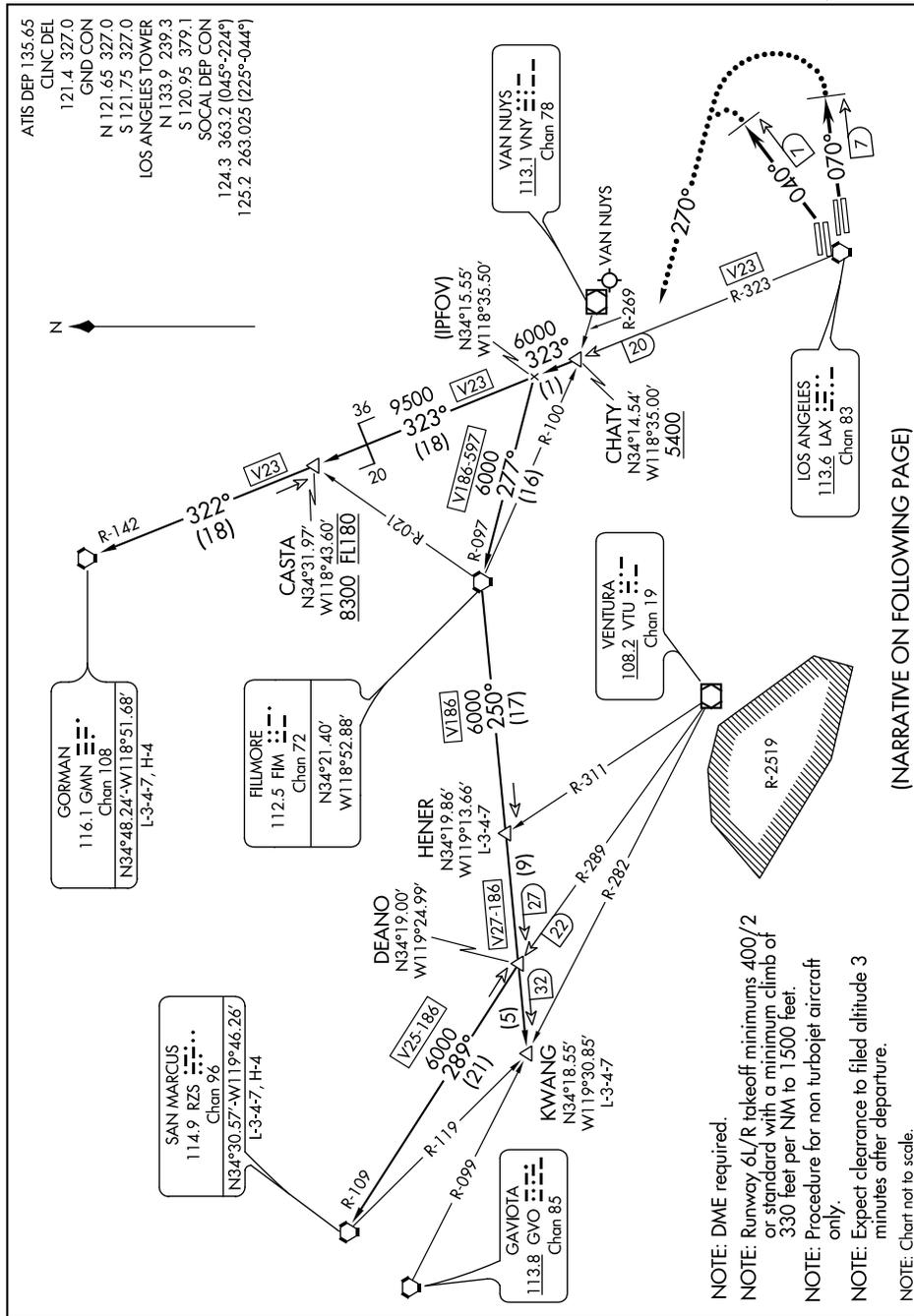
APPENDIX 9  
DP WITH EAST-WEST ORIENTATION

(CHATY2.CHATY) 09239

CHATY TWO DEPARTURE

SI-237 (FAA)

LOS ANGELES INTL (LAX)  
LOS ANGELES, CALIFORNIA



CHATY TWO DEPARTURE

(CHATY2.CHATY) 09239

LOS ANGELES, CALIFORNIA  
LOS ANGELES INTL (LAX)

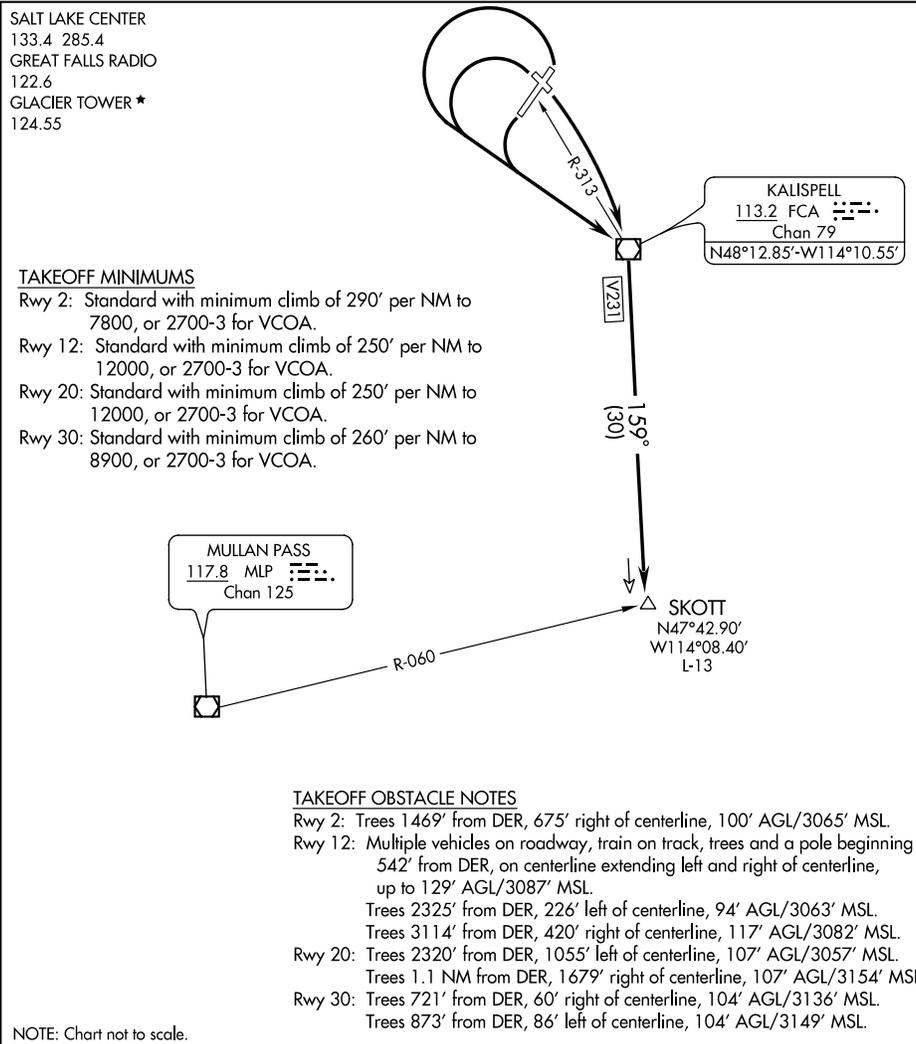
### APPENDIX 10 OBSTACLE DP

(SKOTT2.SKOTT) 11069

SL-887 (FAA)

GLACIER PARK INTL (GPI)  
KALISPELL, MONTANA

## SKOTT TWO DEPARTURE (OBSTACLE)



#### DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 2, 20, 30: Climbing left turn direct FCA VOR/DME, thence....

TAKEOFF RUNWAY 12: Climbing right turn direct FCA VOR/DME, thence....

...continue climb to 12000 via FCA R-159 to SKOTT INT.

**VCOA ALL RUNWAYS:** Obtain ATC approval for VCOA when requesting IFR clearance.  
Climb in visual conditions to cross Glacier Park Intl Airport southeast bound at or above 5600, then on FCA R-313 to FCA VOR/DME. Continue climb to 12000 via FCA R-159 to SKOTT INT.

## SKOTT TWO DEPARTURE (OBSTACLE)

KALISPELL, MONTANA  
GLACIER PARK INTL (GPI)

(SKOTT2.SKOTT) 11069

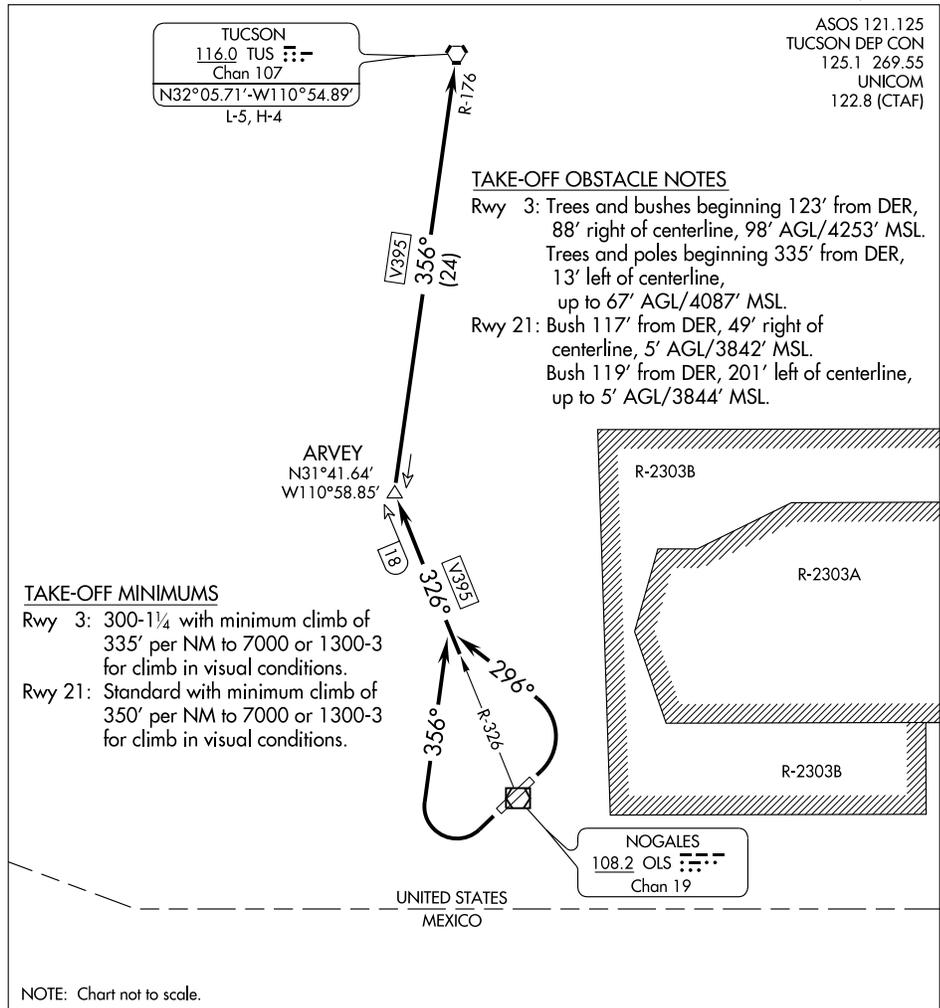
### APPENDIX 11 DP WITH INTERNATIONAL BOUNDARY

(OLS1.OLS) 11069

SL-6151 (FAA)

#### NOGALES ONE DEPARTURE (OBSTACLE)

NOGALES INTL (OLS)  
NOGALES, ARIZONA



#### DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF RUNWAY 3:** Climbing left turn heading 296° to intercept OLS VOR/DME R-326 to ARVEY INT/OLS 18 DME, or for climb in visual conditions cross Nogales Intl airport at or above 5100' then climb via OLS R-326 to ARVEY, Thence....

**TAKE-OFF RUNWAY 21:** Climbing right turn heading 356° to intercept OLS VOR/DME R-326 to ARVEY INT/OLS 18 DME, or for climb in visual conditions cross Nogales Intl airport above 5100' then climb via OLS R-326 to ARVEY, thence....

....via TUS VORTAC R-176 to cross TUS VORTAC at or above MEA/MCA for assigned route of flight.

#### NOGALES ONE DEPARTURE (OBSTACLE)

(OLS1.OLS) 11069

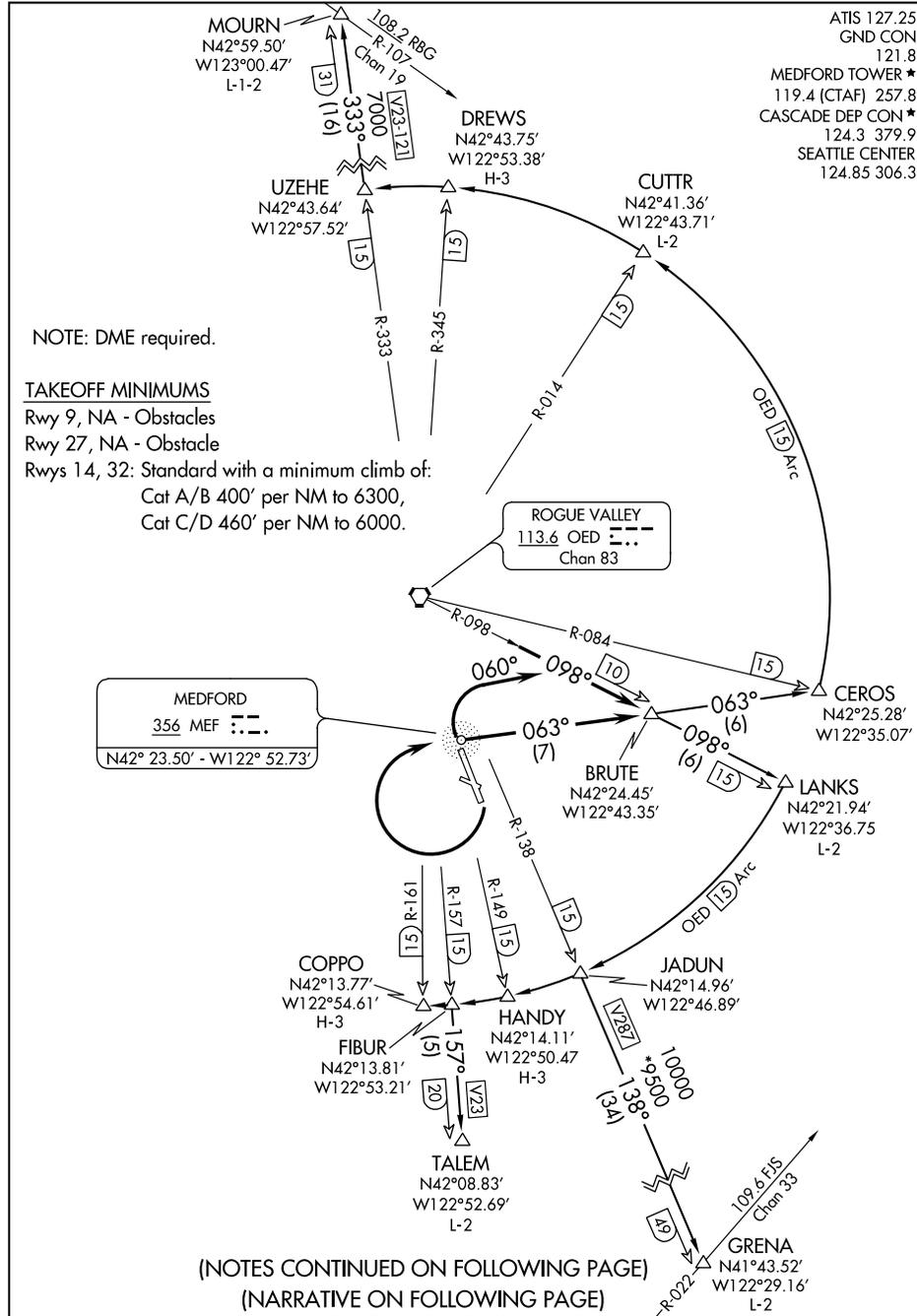
NOGALES, ARIZONA  
NOGALES INTL (OLS)

### APPENDIX 12 DP WITH CONTINUED PAGE

(BRUTE5.BRUTE) 07298

#### BRUTE FIVE DEPARTURE

ROGUE VALLEY INTL-MEDFORD (MFR)  
MEDFORD, OREGON



NOTE: DME required.

#### TAKEOFF MINIMUMS

Rwy 9, NA - Obstacles

Rwy 27, NA - Obstacle

Rwys 14, 32: Standard with a minimum climb of:

Cat A/B 400' per NM to 6300,

Cat C/D 460' per NM to 6000.

- ATIS 127.25
- GND CON 121.8
- MEDFORD TOWER ★ 119.4 (CTAF) 257.8
- CASCADE DEP CON ★ 124.3 379.9
- SEATTLE CENTER 124.85 306.3

MEDFORD  
356 MEF  
N42° 23.50' - W122° 52.73'

ROGUE VALLEY  
113.6 OED  
Chan 83

(NOTES CONTINUED ON FOLLOWING PAGE)  
(NARRATIVE ON FOLLOWING PAGE)

BRUTE FIVE DEPARTURE  
(BRUTE5.BRUTE) 07298

MEDFORD, OREGON  
ROGUE VALLEY INTL-MEDFORD (MFR)

**APPENDIX 12  
DP WITH CONTINUED PAGE (CONTINUED)**

(BRUTE5.BRUTE) 07298

**BRUTE FIVE DEPARTURE**

SL-251 (FAA)

ROGUE VALLEY INTL-MEDFORD (MFR)  
MEDFORD, OREGON

<p><b>DEPARTURE ROUTE DESCRIPTION</b></p> <p>TAKEOFF RUNWAY 14: Climbing right turn direct to MEF NDB, depart MEF NDB 063° bearing outbound to BRUTE INT. Thence. . . .</p> <p>TAKEOFF RUNWAY 32: Climbing right turn via 060° heading and OED R-098 to BRUTE INT. Thence. . . .</p> <p>. . . . via (transition) or (assigned route). Maintain 11000 or assigned altitude.</p> <p><u>COPPO TRANSITION (BRUTE5.COPPO)</u> : From over BRUTE INT via OED R-098 to LANKS INT. Turn right and proceed via the OED 15 DME Arc to COPPO DME.</p> <p><u>CUTTR TRANSITION (BRUTE5.CUTTR)</u> : From over BRUTE INT via MEF NDB bearing 063° to CEROS INT. Turn left and proceed via the OED 15 DME Arc to CUTTR DME.</p> <p><u>DREWS TRANSITION (BRUTE5.DREWS)</u> : From over BRUTE INT via MEF NDB bearing 063° to CEROS INT. Turn left and proceed via the OED 15 DME Arc to DREWS DME.</p> <p><u>GRENA TRANSITION (BRUTE5.GRENA)</u> : From over BRUTE INT via OED R-098 to LANKS INT. Turn right and proceed via the OED 15 DME Arc to JADUN DME. Then via OED R-138 to GRENA INT.</p> <p><u>HANDY TRANSITION (BRUTE5.HANDY)</u> : From over BRUTE INT via OED R-098 to LANKS INT. Turn right and proceed via the OED 15 DME Arc to HANDY DME.</p> <p><u>LANKS TRANSITION (BRUTE5.LANKS)</u> : From over BRUTE INT via OED R-098 to LANKS INT.</p> <p><u>MOURN TRANSITION (BRUTE5.MOURN)</u> : From over BRUTE INT via MEF NDB bearing 063° to CEROS INT. Turn left and proceed via the OED 15 DME Arc to UZEHE DME. Then via OED R-333 to MOURN INT.</p> <p><u>TALEM TRANSITION (BRUTE5.TALEM)</u> : From over BRUTE INT via OED R-098 to LANKS INT. Turn right and proceed via the OED 15 DME Arc to FIBUR DME. Then via OED R-157 to TALEM DME.</p> <p><u>UZEHE TRANSITION (BRUTE5.UZEHE)</u> : From over BRUTE INT via MEF NDB bearing 063° to CEROS INT. Turn left and proceed via the OED 15 DME Arc to UZEHE DME.</p> <p><b>TAKEOFF OBSTACLE NOTES</b></p> <p>Rwy 14: Vehicle on road 247' from DER, 1' right of centerline, up to 15' AGL/220' MSL.              Terrain left and right of centerline beginning at DER up to 302' MSL.              Terrain left and right of centerline beginning at DER up to 296' MSL.              Trees 1836' from DER, 8' left centerline, up to 125' AGL/331' MSL.</p> <p>Rwy 32: Terrain left and right of centerline beginning at DER up to 306' MSL.              Trees and hangars beginning 60' from DER, 32' left of centerline, up to 93' AGL/311' MSL.              Trees, antennas and buildings beginning 564' from DER, 411' right of centerline, up to 74' AGL/280' MSL.              Terrain left and right of centerline beginning at DER up to 292' MSL.              Trees beginning 1664' from DER, 626' right of centerline up to 194' AGL/363' MSL.</p>
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**BRUTE FIVE DEPARTURE**

(BRUTE5.BRUTE) 07298

MEDFORD, OREGON  
ROGUE VALLEY INTL-MEDFORD (MFR)

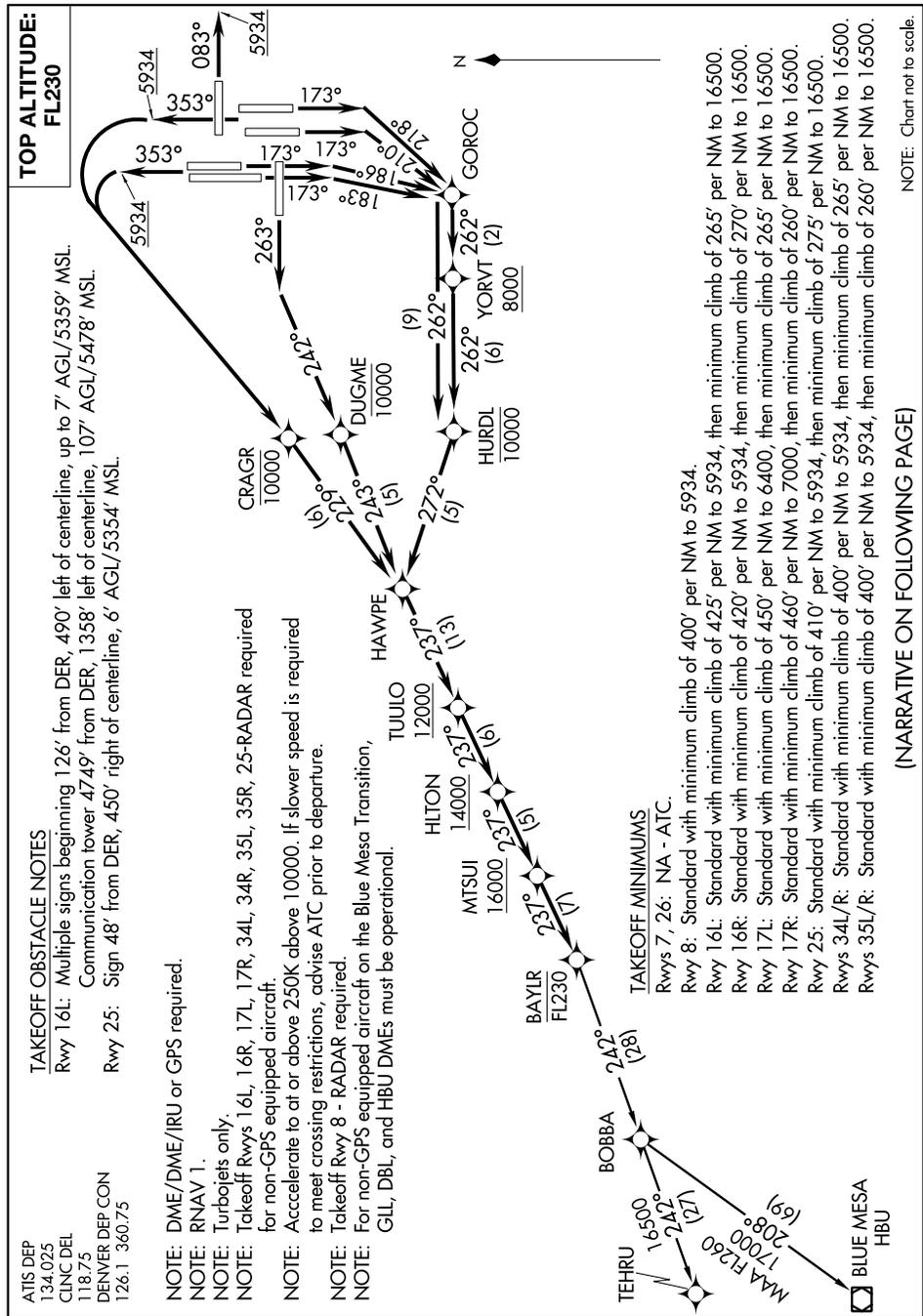
APPENDIX 13  
SINGLE TOP ALTITUDE

(BAYLR1.BOBBA) 13010

SL-9077 (FAA)

DENVER INTL (DEN)  
DENVER, COLORADO

BAYLR ONE DEPARTURE (RNAV)



BAYLR ONE DEPARTURE (RNAV)

(BAYLR1.BOBBA) 13010

DENVER, COLORADO  
DENVER INTL (DEN)

### APPENDIX 14 RUNWAY SPECIFIC TOP ALTITUDES

(JMPRS1.ADANE) 00000

SL-9077 (FAA)

DENVER INTL (DEN)  
DENVER, COLORADO

#### JMPRS ONE DEPARTURE (RNAV)

**TAKEOFF OBSTACLE NOTES**

Rwy 16L: Multiple signs beginning 126' from DER, 490' left of centerline, up to 7' AGL/5359' MSL.  
Communication tower 4749' from DER, 1358' left of centerline, 107' AGL/5478' MSL.  
Rwy 25: Sign 48' from DER, 450' right of centerline, 6' AGL/5354' MSL.

ATIS DEP  
134.025  
CLNC DEL  
118.75  
DENVER DEP CON  
128.45 251.075

**TOP ALTITUDE:  
RWY 8/25/34L/34R/  
35L/35R: 16000;  
RWY 16L/16R/17L/  
17R: 12000**

- NOTE: RNAV 1.
- NOTE: Turbojets only.
- NOTE: RADAR required for non-GPS equipped aircraft.
- NOTE: Accelerate to at or above 250K above 10000. If slower speed is required to meet crossing restrictions, advise ATC prior to departure.

**TAKEOFF MINIMUMS**

- XBOXX ✦ Rws 7, 26: NA - ATC.
- Rwy 8: Standard with minimum climb of 475' per NM to 5934, then minimum climb of 275' per NM to 16000.
- Rws 16L, 16R: Standard with minimum climb of 325' per NM to 10000.
- Rws 17L, 17R: Standard with minimum climb of 350' per NM to 5934.
- Rwy 25: Standard with minimum climb of 410' per NM to 9000, then minimum climb of 270' per NM to 16000.
- Rwy 34L: Standard with minimum climb of 400' per NM to 8000, then minimum climb of 270' per NM to 14000.
- Rwy 34R: Standard with minimum climb of 390' per NM to 8000, then minimum climb of 270' per NM to 14000.
- Rwy 35L: Standard with minimum climb of 450' per NM to 5934, then minimum climb of 260' per NM to 16000.
- Rwy 35R: Standard with minimum climb of 410' per NM to 5934, then minimum climb of 260' per NM to 16000.

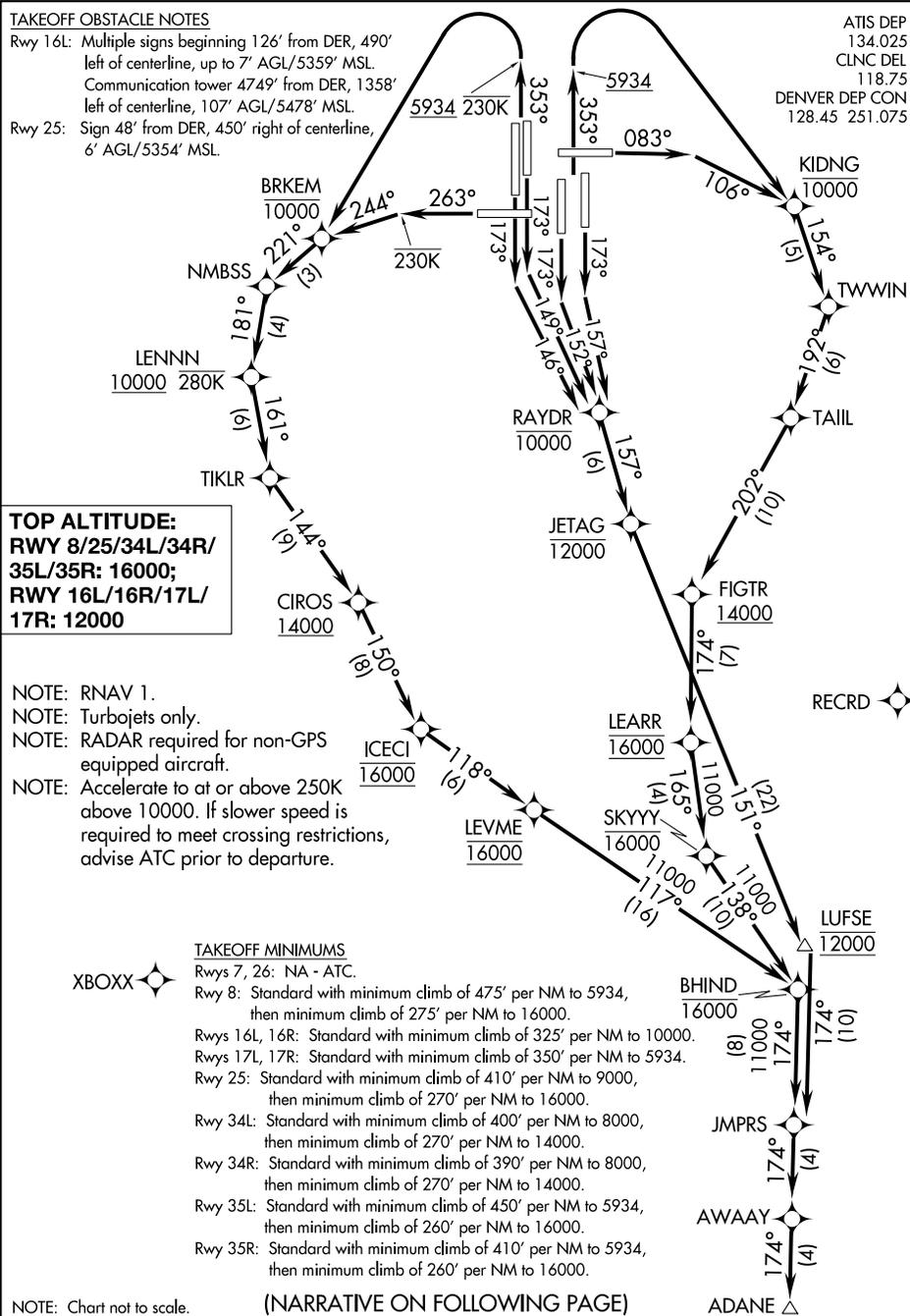
NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

#### JMPRS ONE DEPARTURE (RNAV)

(JMPRS1.ADANE) 00000

DENVER, COLORADO  
DENVER INTL (DEN)



## APPENDIX 15 AIRCRAFT TYPE TOP ALTITUDES

(BEXGO1.BEXGO) 13010

SL-516 (FAA)

RALEIGH-DURHAM INTL (RDU)  
RALEIGH-DURHAM, NORTH CAROLINA

### BEXGO ONE DEPARTURE (RNAV)

<p>ATIS 123.8 CLNC DEL 120.1 GND CON 121.9 348.6 (EAST) (Rwys 5R-23L, 14-32) 121.7 348.6 (WEST) (Rwy 5L-23R) RALEIGH TOWER 127.45 257.8 (EAST) (Rwys 5R-23L, 14-32) 119.3 257.8 (WEST) (Rwy 5L-23R) RALEIGH DEP CON 132.35 256.9</p> <p>NOTE: Transponder code will be assigned via PDC or Raleigh clearance delivery. NOTE: If unable to accept climb rate, advise ATC on initial contact. NOTE: RNAV-1. NOTE: DME/DME/IRU or GPS required. NOTE: RADAR required.</p>	<p><b>TAKEOFF MINIMUMS:</b> Rwys 5L, 5R, 14, 23R: Standard with minimum climb of 500' per NM to 940. Rwy 23L: Standard with minimum climb of 500' per NM to 1100. Rwy 32: 300-1 with minimum climb of 500' per NM to 940.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; width: fit-content;"> <p><b>TOP ALTITUDE: (JETS) 7000/(PROPS) 2000</b></p> </div> <p style="text-align: right; font-size: small;">NOTE: Chart not to scale.</p>
	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>DEPARTURE ROUTE DESCRIPTION</b></p> <p><b>TAKEOFF RWYS 5L/5R:</b> Climb heading 052° or as assigned by ATC, expect radar vectors to AIMHI, thence...</p> <p><b>TAKEOFF RWY 14:</b> Climb heading 142° or as assigned by ATC, expect radar vectors to AIMHI, thence...</p> <p><b>TAKEOFF RWYS 23L/23R:</b> Climb heading 232° or as assigned by ATC, expect radar vectors to AIMHI, thence...</p> <p><b>TAKEOFF RWY 32:</b> Climb heading 322° or as assigned by ATC, expect radar vectors to AIMHI, thence...</p> <p>...on track 044° to BEXGO, turbojets maintain 7000, propellers maintain 2000. Expect clearance to filed altitude within ten minutes after departure.</p> <p style="text-align: center;"><b>LAWRENCEVILLE TRANSITION (BEXGO1.LVL)</b></p> </div>
<p><b>TAKEOFF OBSTACLE NOTES:</b>                  Rwy 5L: Trees beginning 3802' from DER, 1237' left of centerline, up to 77' AGL/506' MSL.                  Tank and trees beginning 2011' from DER, 948' right of centerline, up to 138' AGL/547' MSL.                  Rwy 5R: Trees beginning 1436' from DER, 803' right of centerline, up to 80' AGL/469' MSL.                  Rwy 14: Trees beginning 2021' from DER, 510' left of centerline, up to 116' AGL/545' MSL.                  Trees beginning 2467' from DER, 2' right of centerline, up to 122' AGL/571' MSL.                  Rwy 23L: Trees beginning 1495' from DER, 797' left of centerline, up to 58' AGL/447' MSL.                  Light pole 1457' from DER, 878' right of centerline, 93' AGL/452' MSL.                  Rwy 32: Light poles beginning 1170' from DER, 618' left of centerline, up to 55' AGL/486' MSL.                  Hangar 1242' from DER, 753' right of centerline, 34' AGL/473' MSL.                  Control tower 2207' from DER, 910' right of centerline, 231' AGL/660' MSL.</p>	

### BEXGO ONE DEPARTURE (RNAV)

(BEXGO1.BEXGO) 13010

RALEIGH-DURHAM, NORTH CAROLINA  
RALEIGH-DURHAM INTL (RDU)

# APPENDIX 16 TRANSITION SPECIFIC TOP ALTITUDES

(BLUUE4.RDU) 07298

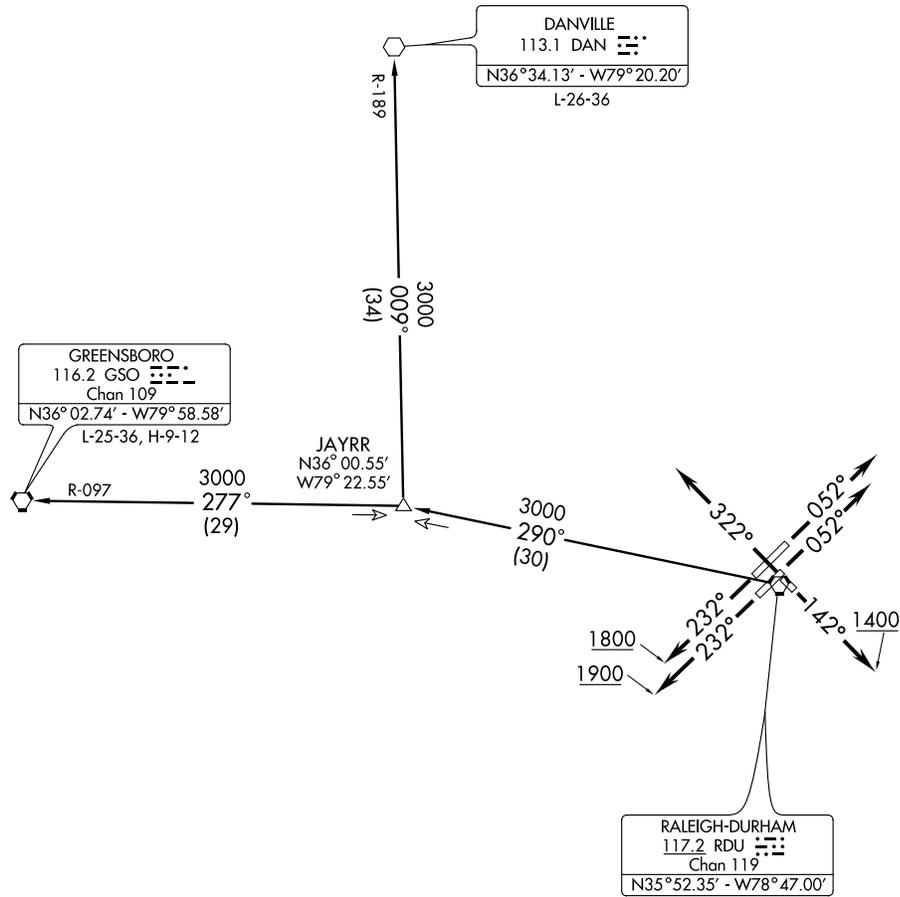
SL-516 (FAA)

RALEIGH-DURHAM INTL (RDU)  
RALEIGH-DURHAM, NORTH CAROLINA

## BLUE DEVIL FOUR DEPARTURE

ATIS 123.8  
CLNC DEL  
120.1  
RALEIGH DEP CON  
132.35 256.9

**TOP ALTITUDE:**  
**DANVILLE TRANSITION: 7000;**  
**GREENSBORO TRANSITION: 5000**



**TAKEOFF MINIMUMS:**  
Rwys 5L, 5R, 14, 23L, 23R, STANDARD.  
Rwy 32: 300-1

NOTE: Turbojets not authorized.

NOTE: Radar Required.

NOTE: Chart not to scale.

(Continued on next page)

## BLUE DEVIL FOUR DEPARTURE

(BLUUE4.RDU) 07298

RALEIGH-DURHAM, NORTH CAROLINA  
RALEIGH-DURHAM INTL (RDU)

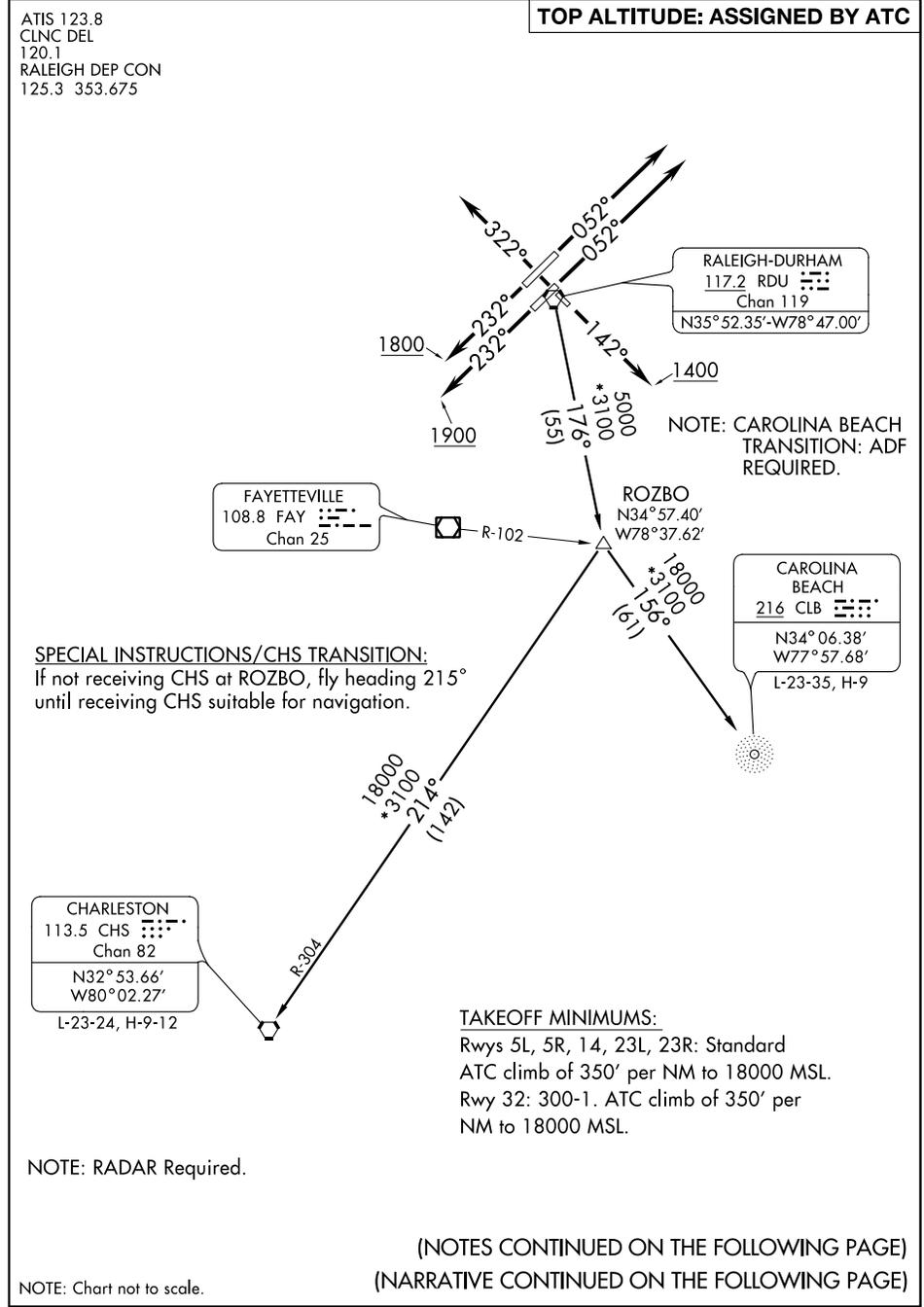
# APPENDIX 17 ATC ASSIGNED TOP ALTITUDE

(TARL8.RDU) 14093

TAR HEEL EIGHT DEPARTURE

SL-516 (FAA)

RALEIGH-DURHAM INTL (RDU)  
RALEIGH-DURHAM, NORTH CAROLINA



TAR HEEL EIGHT DEPARTURE  
(TARL8.RDU) 14093

RALEIGH-DURHAM, NORTH CAROLINA  
RALEIGH-DURHAM INTL (RDU)

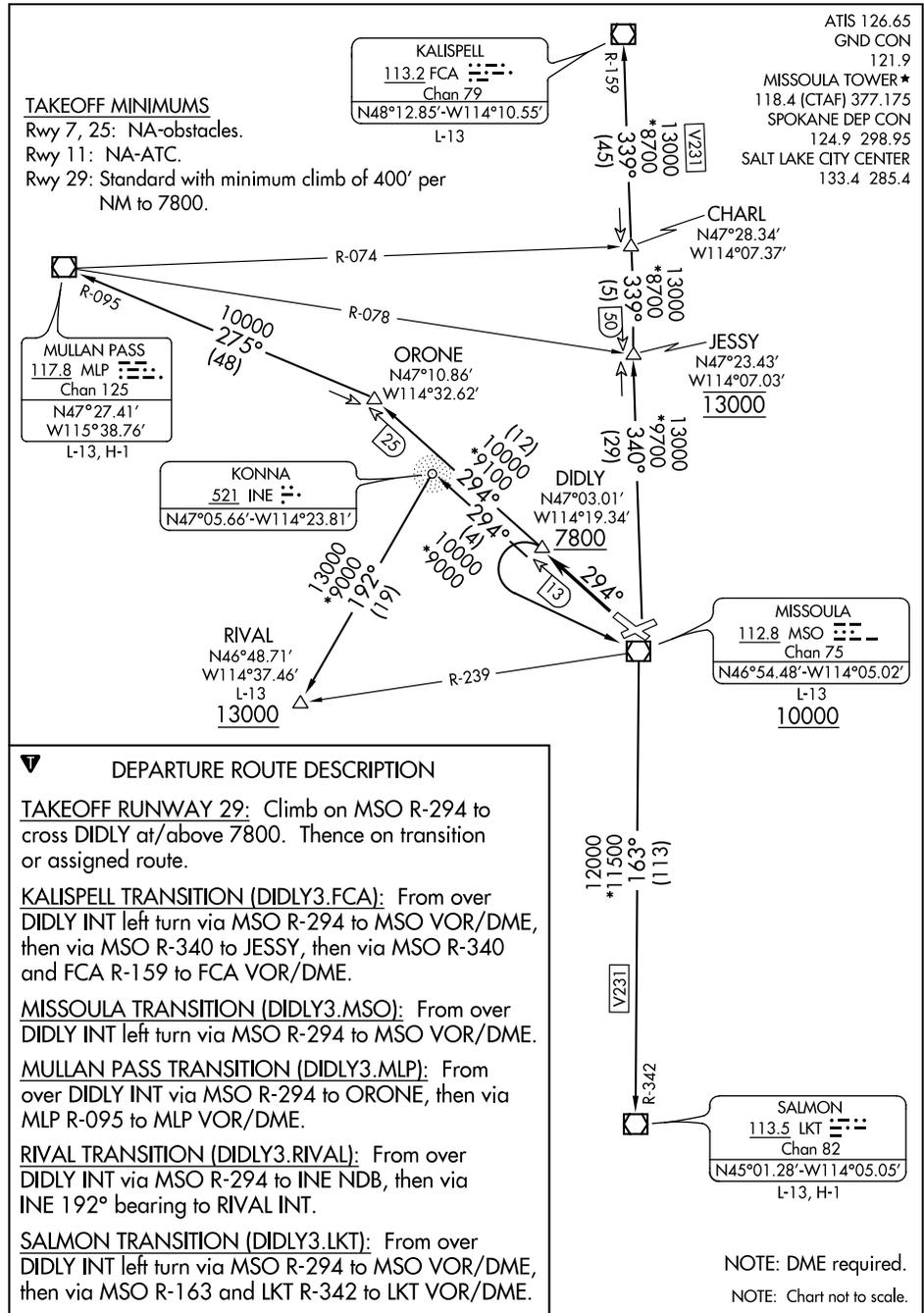
**APPENDIX 18**  
**DP WITH OFFSET TEXT BOX**

(DIDLY3.DIDLY) 11013

**DIDLY THREE DEPARTURE**

SL-266 (FAA)

MISSOULA INTL (MSO)  
MISSOULA, MONTANA



**DIDLY THREE DEPARTURE**

(DIDLY3.DIDLY) 11013

MISSOULA, MONTANA  
MISSOULA INTL (MSO)

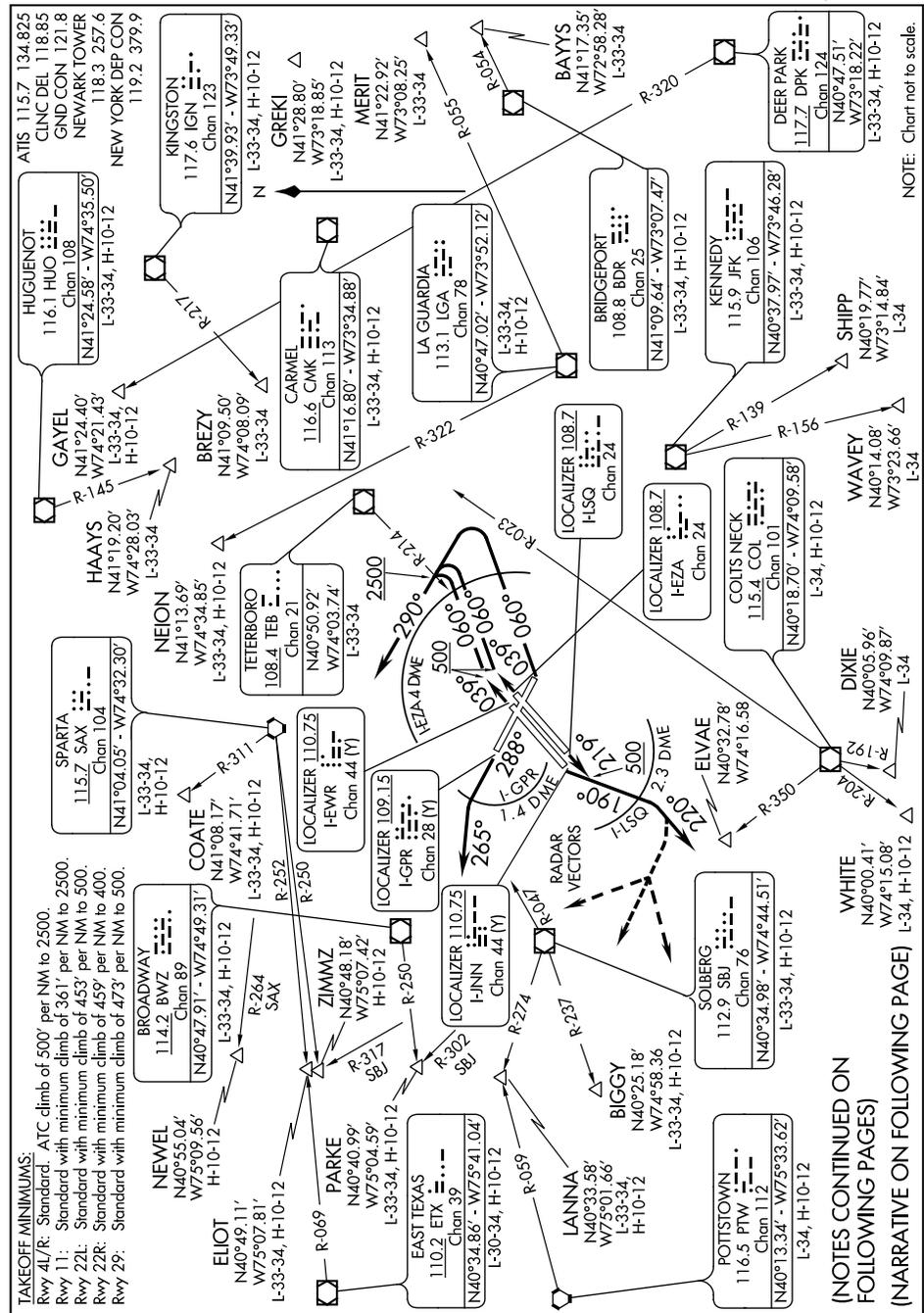
APPENDIX 19  
THREE-PAGE DP

(EWR9.EWR) 11293

NEWARK NINE DEPARTURE

SL-285 (FAA)

NEWARK LIBERTY INTL (EWR)  
NEWARK, NEW JERSEY



NOTE: Chart not to scale.

NEWARK NINE DEPARTURE

(EWR9.EWR) 11293

NEWARK, NEW JERSEY  
NEWARK LIBERTY INTL (EWR)

(NOTES CONTINUED ON  
FOLLOWING PAGES)  
(NARRATIVE ON FOLLOWING PAGE)

**APPENDIX 19  
THREE-PAGE DP (CONTINUED)**

(EWR9.EWR) 11293

NEWARK LIBERTY INTL (EWR)  
NEWARK, NEW JERSEY

**NEWARK NINE DEPARTURE**

SL-285 (FAA)

DEPARTURE ROUTE DESCRIPTION		
<p><b>TAKEOFF RUNWAY 4L/R:</b> Climb heading 039° to 500, then climbing right turn heading 060° to I-EZA 4 DME (use I-EWR 3.6 DME when I-EZA is NA), then climbing left turn heading 290°. Cross TEB R-214 westbound at or above 2500, climb and maintain 3000. Thence . . . .</p> <p><b>TAKEOFF RUNWAY 11:</b> Climbing left turn heading 060° (do not proceed east of COL R-023) to I-EZA 4 DME (use I-EWR 3.6 DME when I-EZA is NA), then climbing left turn heading 290°. Cross TEB R-214 westbound at or above 2500, climb and maintain 3000'. Thence . . . .</p> <p><b>TAKEOFF RUNWAY 22L:</b> Climb heading 219° to 500, then climbing left turn heading 190° to I-LSQ 2.3 DME (use I-JNN 2.8 DME when I-LSQ is NA), then climbing right turn heading 220°, maintain 2500'. Thence . . . .</p> <p><b>TAKEOFF RWY 22R:</b> Climbing left turn heading 190° to I-LSQ 2.3 DME (use I-JNN 2.8 DME when I-LSQ is NA), then climbing right turn heading 220°, maintain 2500'. Thence . . . .</p> <p><b>TAKEOFF RWY 29:</b> Climb heading 288° to I-GPR 1.4 DME, then climbing left turn heading 265°, maintain 5000'. Thence . . . .</p> <p>. . . . as per notes or on vector to assigned route/fix. Expect clearance to filed altitude/flight level ten (10) minutes after departure.</p> <p><b>LOST COMMUNICATIONS:</b> For aircraft proceeding to COATE, NEION, HAAYS, GAYEL, BREZY, if radio contact lost/not established with ATC, climb to 3000 feet after SBJ R-047.</p> <p>NOTE: Takeoff Rwy 11 obstruction, 1806' high 6.6 miles east of departure end of Rwy. NOTE: Radar and DME Required. NOTE: Rwy 4L/R, 11 simultaneous reception of EWR ILS/DME and TEB VOR/DME Required. NOTE: Rwy 22L/R westbound departures expect vectors between 5 and 8 NM.</p>		
<u>DP FIX</u>	Depart Rwy 4L/R <u>Expect VECTORS to:</u>	Depart Rwy 22L/R <u>Expect VECTORS to:</u>
BAYYS	BDR/BDR R-054	BDR/BDR R-054
BIGGY	SBJ/SBJ R-237	SBJ/SBJ R-237
BREZY	IGN R-217 to BREZY	IGN R-217 to BREZY
COATE	SAX/SAX R-311	SAX/SAX R-311
DIXIE	COL R-350/COL/COL R-192 or ELVAE/COL	COL R-350/COL/COL R-192 or ELVAE/COL
ELIOT	SAX R-252	ETX (2300L-0700L SBJ/ETX)
GAYEL	DPK R-320	DPK R-320
HAAYS	HUO	HUO
LANNA	PTW R-059	SBJ/SBJ R-274
MERIT	LGA R-055	LGA R-055
NEION	LGA R-322	LGA R-322
NEWEL	SAX/SAX R-264	SAX/SAX R-264
PARKE	BWZ R-250	SBJ/SBJ R-302
SHIPP	JFK/JFK R-139	JFK/JFK R-139
WAVEY	JFK/JFK R-156	JFK/JFK R-156
WHITE	COL R-350/COL/COL R-204 or ELVAE/COL	COL R-350/COL/COL R-204 or ELVAE/COL
ZIMMZ	SAX R-250	SBJ/SBJ R-317
<p>NOTE: ELIOT may be accessed by all types of aircraft requesting a final altitude of 14000' or 16000'. NOTE: NEWEL may be accessed by turbojet aircraft only requesting a final altitude at or above FL180. NOTE: ZIMMR may be accessed by all types of aircraft requesting a final altitude at or above FL180.</p>		
(CONTINUED ON FOLLOWING PAGE)		

**NEWARK NINE DEPARTURE**

NEWARK, NEW JERSEY

(EWR9.EWR) 11293

NEWARK LIBERTY INTL (EWR)

**APPENDIX 19**  
**THREE-PAGE DP (CONTINUED)**

(EWR9.EWR) 11293

**NEWARK NINE DEPARTURE**

SL-285 (FAA)

NEWARK LIBERTY INTL (EWR)

NEWARK, NEW JERSEY

(NOTES CONTINUED)

TAKEOFF OBSTACLES NOTES

- Rwy 4L: Tower, light, and multiple trees beginning 211' from DER, 198' left of centerline, up to 70' AGL/89' MSL.  
DME antenna and pole beginning 881' from DER, 418' right of centerline, up to 121' AGL/131' MSL.
- Rwy 4R: DME antenna, tree, and multiple towers beginning 530' from DER, 477' left of centerline, up to 61' AGL/82' MSL.  
Tower, sign, tree, multiple buildings and poles beginning 1134' from DER, 153' right of centerline, up to 121' AGL/131' MSL.
- Rwy 11: Pole, tree, and multiple signs beginning 6' from DER, 158' right of centerline, up to 31' AGL/50' MSL.  
Sign, tree, road, fence, building, and multiple poles beginning 82' from DER, 2' left of centerline, up to 49' AGL/68' MSL.
- Rwy 22L: Pole 8' from DER, 261' left of centerline, 7' AGL/16' MSL.
- Rwy 22R: Light and multiple trees beginning 1829' from DER, 307' right of centerline, up to 55' AGL/69' MSL.  
Building 1.4 NM from DER, 1872' left of centerline, 200' AGL/227' MSL.
- Rwy 29: Multiple poles, trees, signs, and buildings beginning 209' from DER, 242' left of centerline, up to 110' AGL/120' MSL.  
Tree, multiple signs and poles beginning 689' from DER, 66' right of centerline, up to 273' AGL/358' MSL.  
Building 6029' from DER, 1624' right of centerline, 273' AGL/357' MSL.  
Building 1.5 NM from DER, 2071' right of centerline, 202' AGL/328' MSL.

**NEWARK NINE DEPARTURE**  
(EWR9.EWR) 11293

NEWARK, NEW JERSEY

NEWARK LIBERTY INTL (EWR)

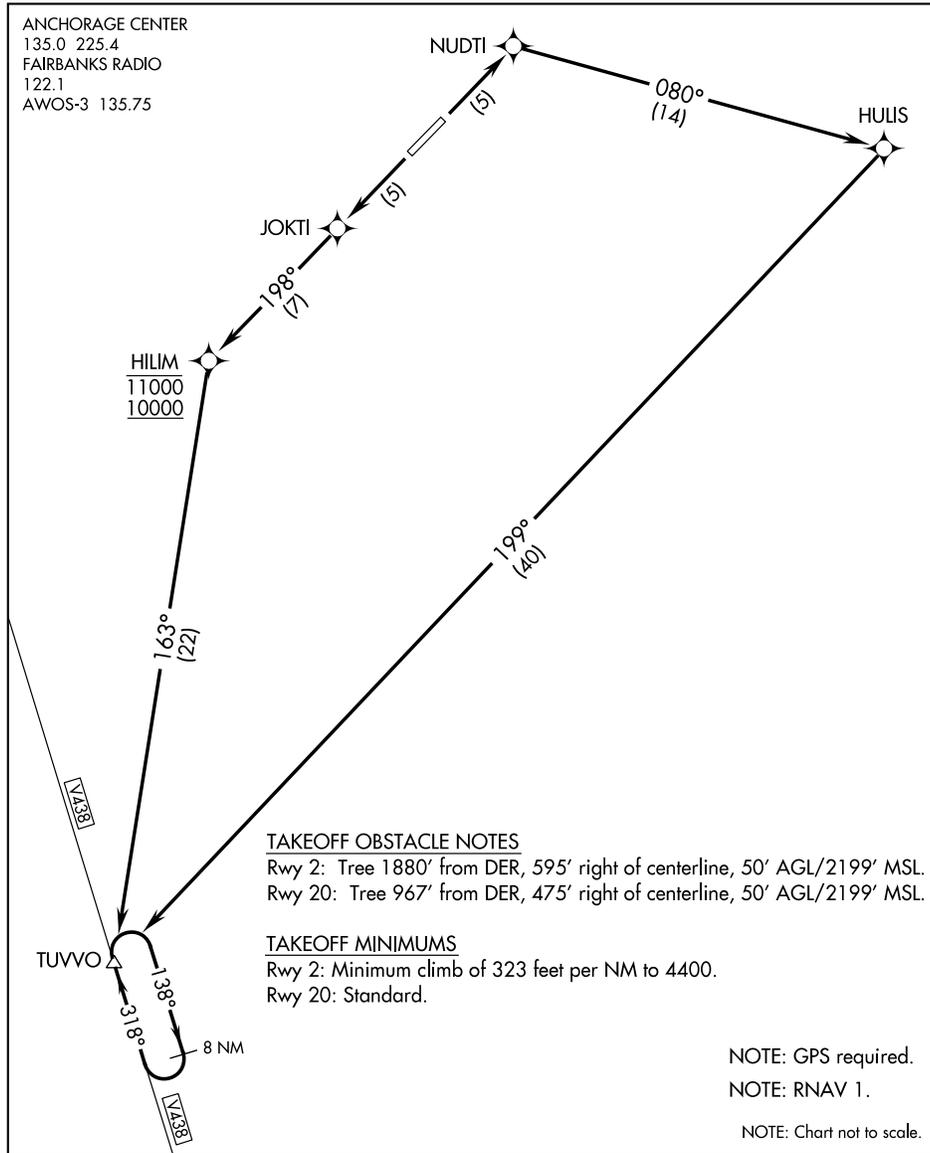
**APPENDIX 20  
RNAV DP WITH DEPARTURE ROUTING ONLY**

(TUVVO1.TUVVO) 09239

SL-10232 (FAA)

ARCTIC VILLAGE (ARC)(PARC)  
ARCTIC VILLAGE, ALASKA

**TUVVO ONE DEPARTURE (RNAV)**



**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 2:** Climb to 10000 direct NUDTI, and via 080° track to HULIS, and right turn via 199° track to TUVVO, thence. . . .

**TAKEOFF RUNWAY 20:** Climb to 10000 direct JOKTI, then via depicted route to TUVVO, thence. . . .

. . . . climb in holding (if required) at TUVVO before proceeding via assigned route and altitude.

**TUVVO ONE DEPARTURE (RNAV)**

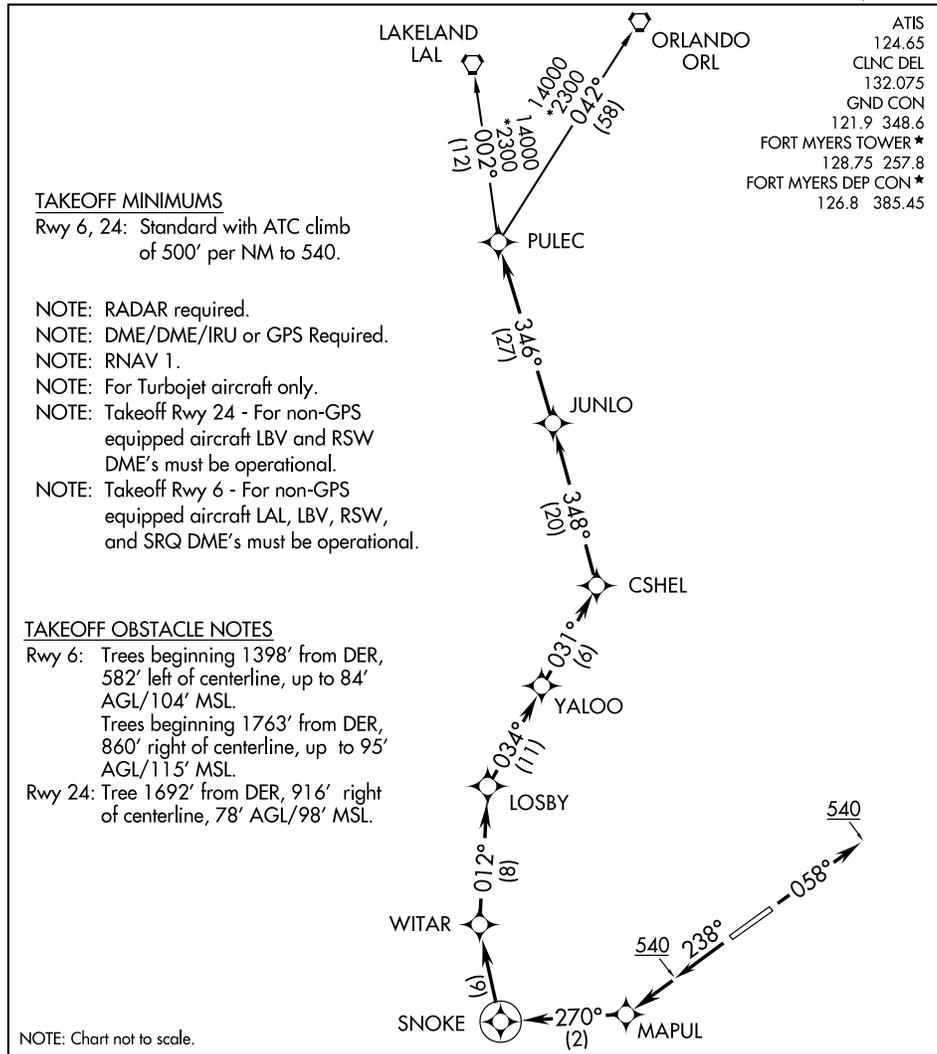
(TUVVO1.TUVVO) 09239

ARCTIC VILLAGE, ALASKA  
ARCTIC VILLAGE (ARC)(PARC)

## APPENDIX 21

### RNAV DP WITH DEPARTURE AND TRANSITION ROUTING

(CSHEL4.CSHEL) 11181 SL-6757 (FAA) SOUTHWEST FLORIDA INTL (RSW)  
FORT MYERS, FLORIDA  
**CSHEL FOUR DEPARTURE (RNAV)**



ATIS 124.65  
 CLNC DEL 132.075  
 GND CON 121.9 348.6  
 FORT MYERS TOWER \* 128.75 257.8  
 FORT MYERS DEP CON \* 126.8 385.45

**DEPARTURE ROUTE DESCRIPTION**

**TAKEOFF RUNWAY 6:** Climb heading 058° or as assigned by ATC to 540. Expect vectors to CSHEL, then via depicted route to PULEC, thence....

**TAKEOFF RUNWAY 24:** Climb heading 238° to 540, then direct MAPUL, then climb via 270° track to SNOKE, then right turn direct WITAR, then via depicted route to PULEC, thence....

....via (transition). Maintain 4000 or as assigned by ATC, expect filed altitude/flight level 10 minutes after departure.

LAKELAND TRANSITION (CSHEL4.LAL)  
 ORLANDO TRANSITION (CSHEL4.ORL)

**CSHEL FOUR DEPARTURE (RNAV)** FORT MYERS, FLORIDA  
SOUTHWEST FLORIDA INTL (RSW)  
 (CSHEL4.CSHEL) 11181

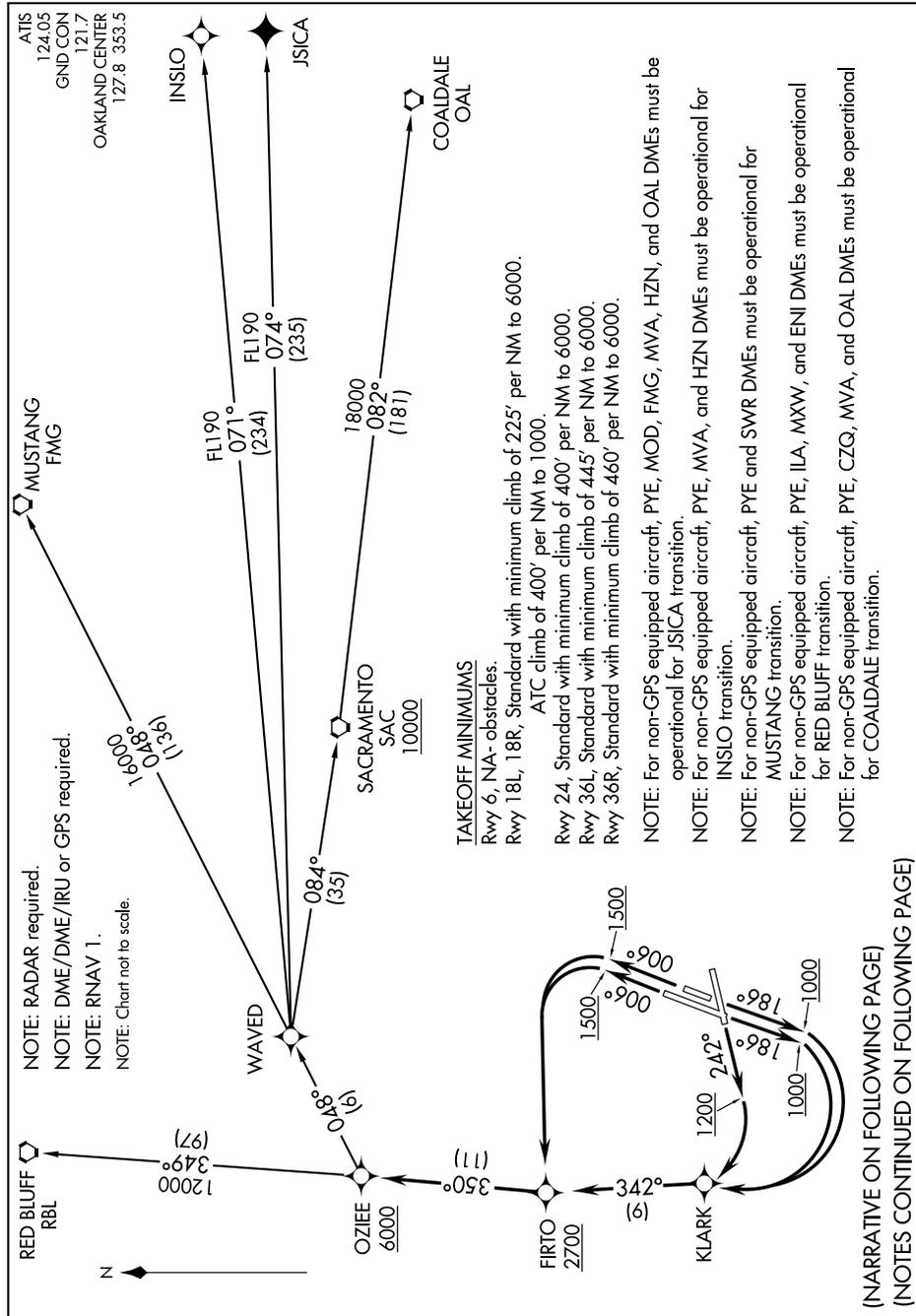
# APPENDIX 22 RNAV DP WITH EAST-WEST ORIENTATION

(OZIEE2.OZIEE) 10322

## OZIEE TWO DEPARTURE (RNAV)

SL-281 (FAA)

NAPA COUNTY (APC)  
NAPA, CALIFORNIA



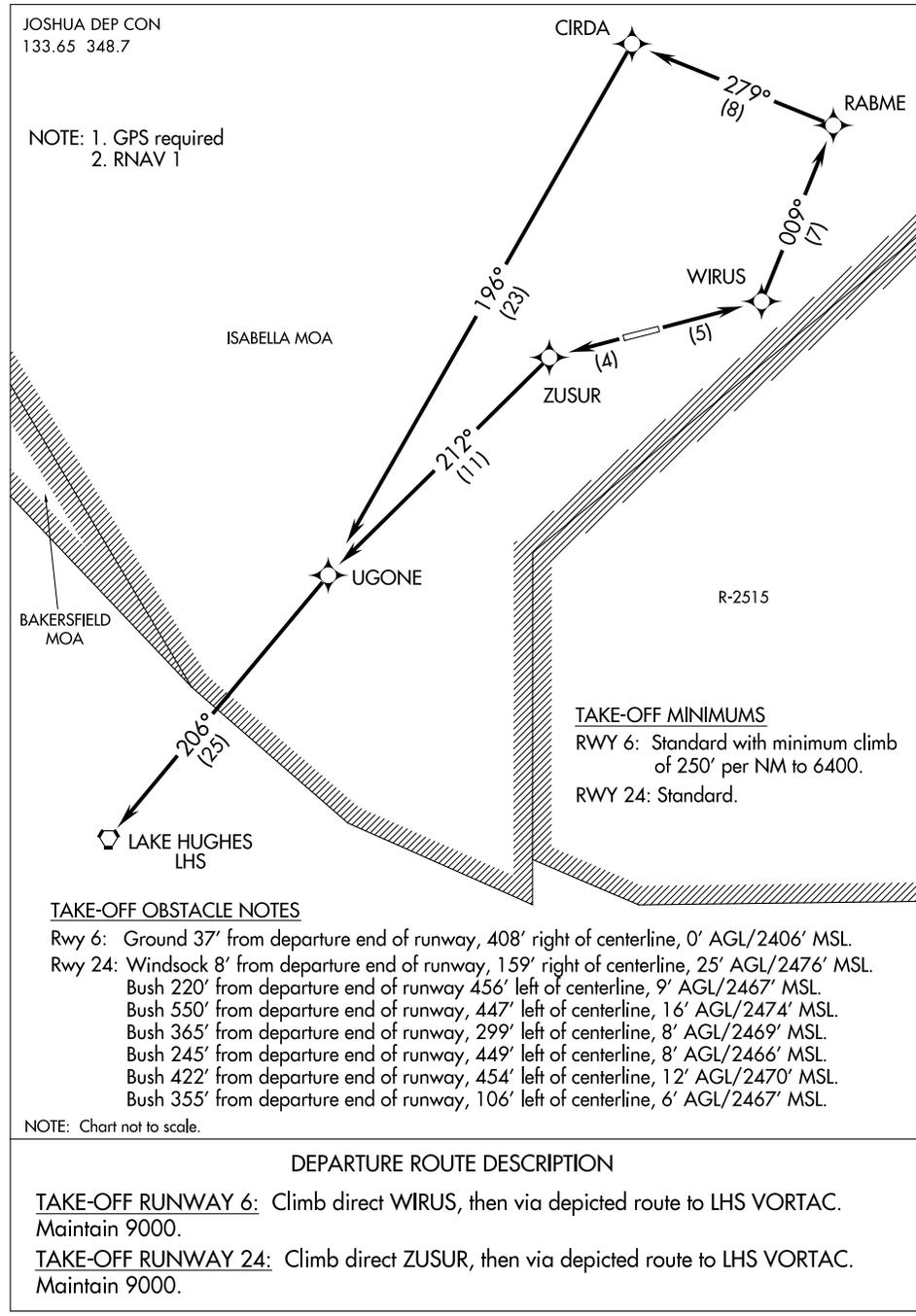
## OZIEE TWO DEPARTURE (RNAV)

(OZIEE2.OZIEE) 10322

NAPA, CALIFORNIA  
NAPA COUNTY (APC)

### APPENDIX 23 OBSTACLE RNAV DP

(L711.LHS) 07074 SL-9440 (FAA) CALIFORNIA CITY MUNI (L71)  
**CALIFORNIA CITY ONE DEPARTURE (OBSTACLE) (RNAV)** CALIFORNIA CITY, CALIFORNIA



**CALIFORNIA CITY ONE DEPARTURE (OBSTACLE) (RNAV)** CALIFORNIA CITY, CALIFORNIA  
 (L711.LHS) 07074 CALIFORNIA CITY MUNI (L71)

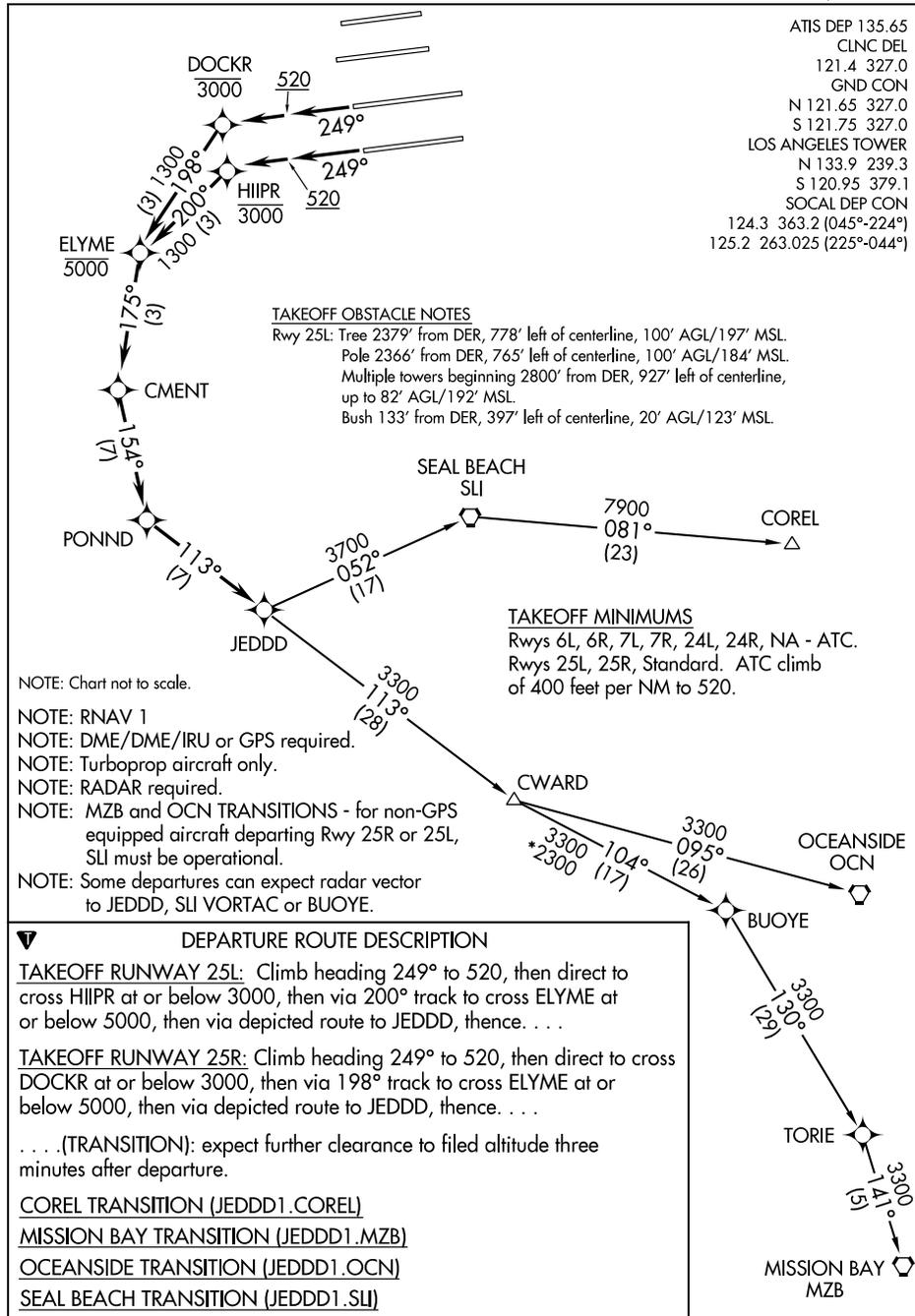
### APPENDIX 24 RNAV DP WITH OFFSET TEXT BOX

(JEDDD1 .JEDDD) 09239

**JEDDD ONE DEPARTURE (RNAV)**

SL-237 (FAA)

LOS ANGELES INTL (LAX)  
LOS ANGELES, CALIFORNIA



**JEDDD ONE DEPARTURE (RNAV)**

(JEDDD1 .JEDDD) 09239

LOS ANGELES, CALIFORNIA  
LOS ANGELES INTL (LAX)



APPENDIX 25  
RNAV DP WITH CONTINUED PAGE (CONTINUED)

(WEVIC2.WEVIC) 10154

SL-365 (FAA)

SALT LAKE CITY INTL (SLC)  
SALT LAKE CITY, UTAH

WEVIC TWO DEPARTURE (RNAV)

▼

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 16R: Climb heading 161° to 4727, then left turn direct HOPTO, then via depicted route to WEVIC, thence. . . .

TAKEOFF RUNWAY 16L: Climb heading 161° to 4727, then right turn direct HOPTO, then via depicted route to WEVIC, thence. . . .

TAKEOFF RUNWAY 17: Climb heading 166° to 4727, then left turn direct HOPTO, then via depicted route to WEVIC, thence. . . .

. . . .via (transition) maintain 16000 or lower filed altitude. Expect filed altitude 10 minutes after departure.

BRYCE CANYON TRANSITION (WEVIC2.BCE)

BOULDER CITY TRANSITION (WEVIC2.BLD)

COALDALE TRANSITION (WEVIC2.OAL)

HANKSVILLE TRANSITION (WEVIC2.HVE)

KSINO TRANSITION (WEVIC2.KSINO)

NORRA TRANSITION (WEVIC2.NORRA)

WEVIC TWO DEPARTURE (RNAV)  
(WEVIC2.WEVIC) 10154

SALT LAKE CITY, UTAH  
SALT LAKE CITY INTL (SLC)

**APPENDIX 26**  
**RNAV DEPARTURE ATTENTION ALL USERS PAGE (AAUP)**

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RNAV DEPARTURE AAUP

HARTSFIELD-JACKSON ATLANTA INTL (ATL)  
 AL-26 (FAA) ATLANTA, GEORGIA

**RNAV DEPARTURE PROCEDURE ATTENTION ALL USERS PAGE (AAUP)**

1. **PREFLIGHT:** Upon assignment of an RNAV SID, crosscheck the charted RNAV SID with the aircraft navigation system. Consider the following crosscheck items:

- \* Departure Runway if known
- \* Waypoint sequencing on the RNAV SID
- \* En Route Transition
- \* Do not modify or manually construct waypoints on the SID
- \* Any specific aircraft navigation operating procedures

2. **BEFORE TAKEOFF:** Any modification, including runway changes should be verified in the navigation with the RNAV SID. If unable to verify correct loading or if unable comply with the RNAV SID, advise ATC. If required ensure runway position update is accomplished prior to take off.

3. **LINE UP/TAKEOFF:** Expect a takeoff clearance that will include either an assigned heading or the RNAV track to the first waypoint. Take in to consideration the following:

- \* If assigned a heading do not delete the RNAV SID from the navigation system.
- \* **Verify that the correct runway and first waypoint** are loaded, and that the correct lateral navigation mode is available for use after takeoff. If the takeoff clearance does not match the planned/loaded procedure, either request an initial heading from tower or refuse the takeoff clearance until the discrepancy is resolved.
- \* A typical takeoff clearance may state "(Callsign) 123 RNAV to MPASS, Runway 26L, Cleared for Takeoff". The expected pilot response is, "(Callsign) 123, RNAV to MPASS, Runway26L, Cleared for Takeoff".
- \* If no additional instructions are received with the take-off clearance pilots are still expected to fly the published procedure issued in the IFR clearance.

4. **AFTER TAKEOFF:** Unless instructed to fly a heading by the Tower, engage lateral navigation flight guidance as soon as practical and fly the departure precisely. Strict compliance with next lateral track and charted altitude and speed restrictions is imperative. Parallel RNAV departures must not encroach on the airspace between extended parallel runway centerlines without specific ATC clearance. Manually intervene if necessary to stay on track to avoid deviating in the direction of a parallel runway, track or aircraft. If unable to comply with the SID profile, either laterally or vertically, immediately notify ATC.

(CONTINUED ON FOLLOWING PAGE)

RNAV DEPARTURE AAUP

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33°38'N-84°26'W

ATLANTA, GEORGIA  
 HARTSFIELD-JACKSON ATLANTA INTL (ATL)

APPENDIX 26

RNAV DEPARTURE ATTENTION ALL USERS PAGE (AAUP) (CONTINUED)

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HARTSFIELD-JACKSON ATLANTA INTL (ATL)

RNAV DEPARTURE AAUP

AL-26 (FAA)

ATLANTA, GEORGIA

(CONTINUED)

5. ATLANTA SPECIFIC INFORMATION: Runway assignment will be issued on initial contact with Atlanta Ground Control at the Ramp exit spot. During dual runway simultaneous departure operations, expect an RNAV departure clearance. During triple simultaneous departure operations, expect a radar vector departure clearance after takeoff and expect vectors to join the filed RNAV/SID route.

Atlanta Depature RNAV SIDs and Associated Departure Directions

North	East	South	West
CADIT	DAWGS	BRAVS	JOGOR (WEST 1)
COKEM	DOOLY	PNUTT	JCKETS (WEST 1)
SUMMIT	MUNSN	THRSR	GEETK (WEST 2)
NUGGT	UGAAA	NOVSS	RMBLN (WEST 2)



RNAV DEPARTURE AAUP

33°38'N-84°26'W

ATLANTA, GEORGIA

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HARTSFIELD-JACKSON ATLANTA INTL (ATL)

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