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

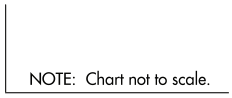
3.2.1 Centering

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.”

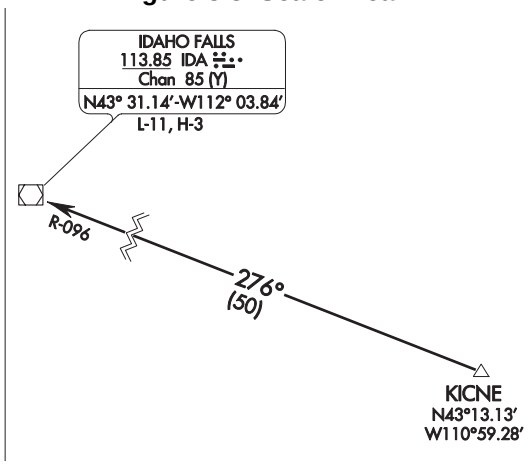
Figure 3.1 Chart Not to Scale Note



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.

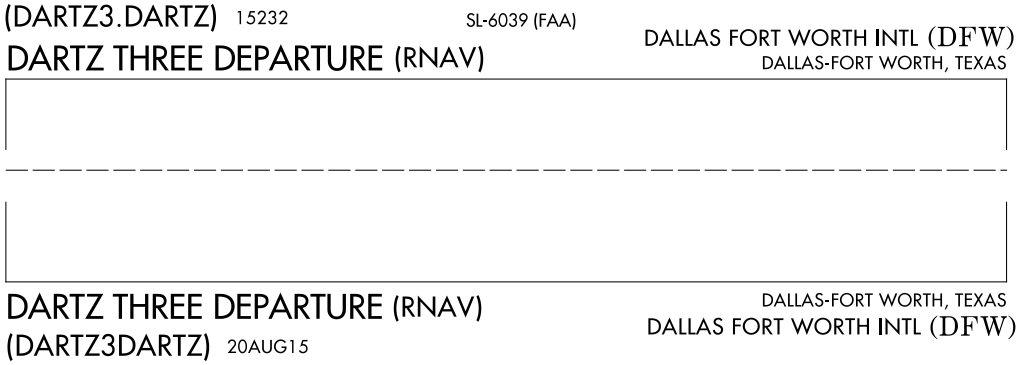
3.2.5 Placement of Identification and Notes

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, which reflects a chart revision of any type, will be placed above the top 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 Procedure Effective Date

The AIRAC date of the last procedural revision will be placed below the bottom neatline, adjacent and to the right of the computer code. If no computer code exists, the procedure effective date will be left justified below the procedure name.

3.3.6 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

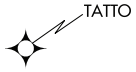
The chart shall encompass the area required to effectively show the departure routing, including transitions to the appropriate enroute structure.

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/waypoint 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

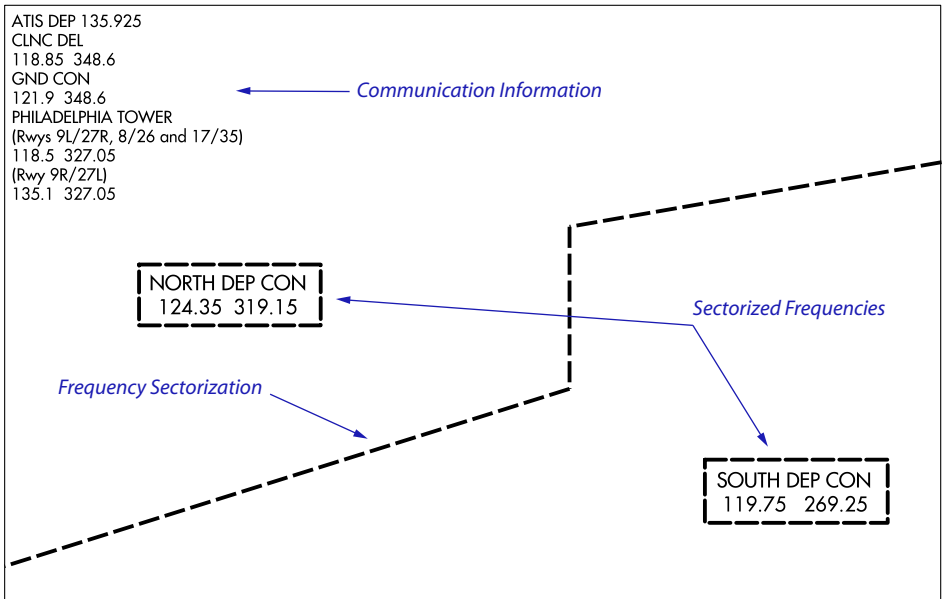
Communications information, when available, shall be shown in the upper left corner, as indicated on the appendices in such a manner so as not to interfere with significant items of the departure procedure. When necessary communications information may be shown in the upper right corner. Type size shall 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)
Controller Pilot Data Link Communication	(CPDLC)
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 show 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.

3.4.2.9 Controller Pilot Data Link Communication (CPDLC)

The existence of Controller Pilot Data Link Communication shall be shown by the letters "CPDLC" with no associated frequency.

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 3.8 NAVAID Symbolization

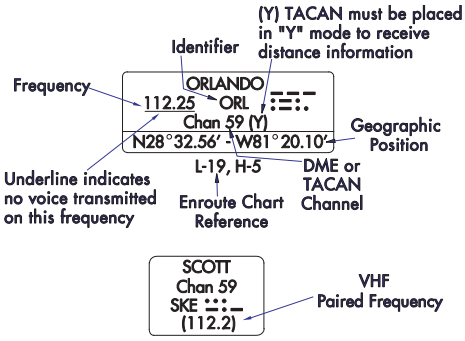
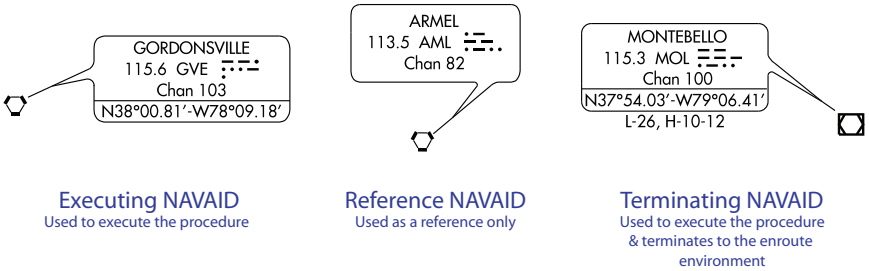


Figure 3.9 NAVAID Use Identification



The identification of the applicable Enroute Chart (s) (Low and High Altitude) required for en-route 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

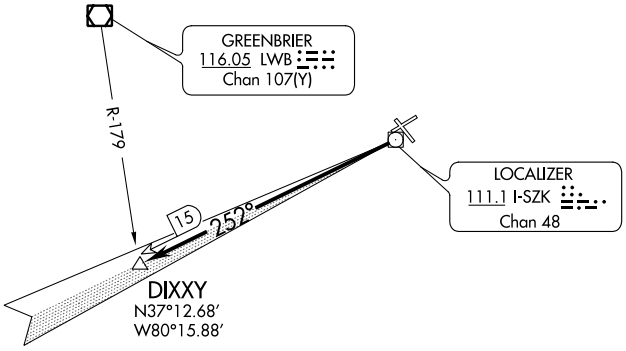
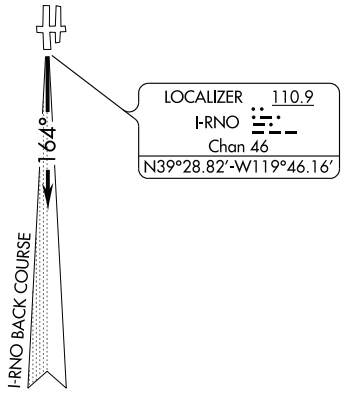


Figure 3.11 ILS Depiction - Back Course

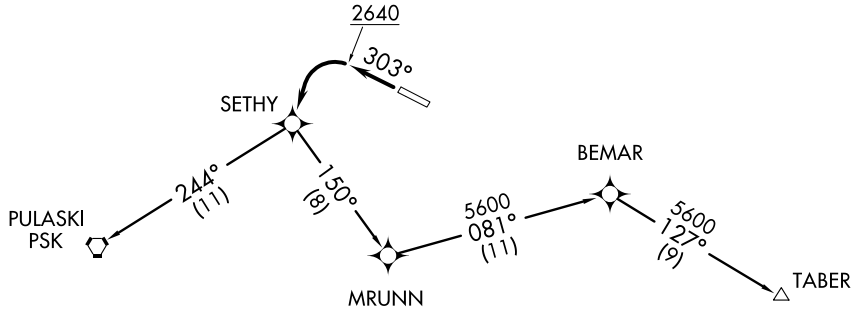


3.4.7 RNAV DP's

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.

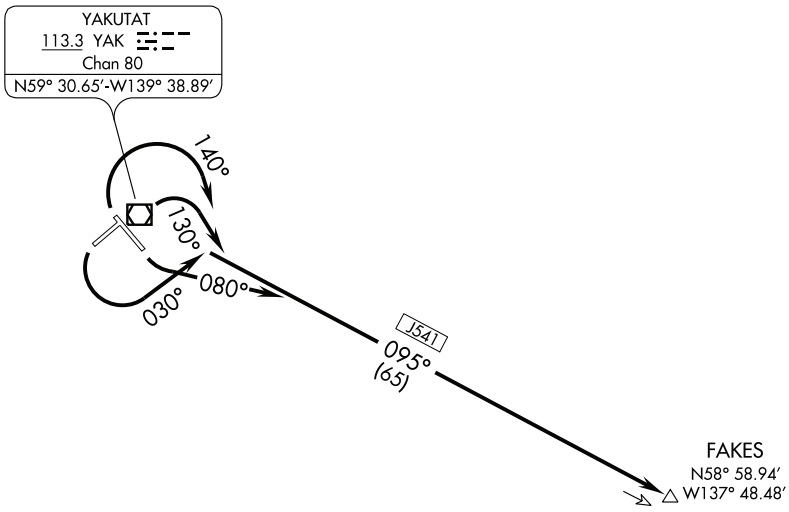
These open arrowheads will be supplemented with an open “D” attached to the shaft of the DME arrowhead, with the DME mileage centered therein when the mileage from the NAVAID is not obvious.

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

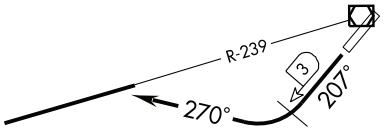


3.4.8.3 Un-named DME Fixes

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.

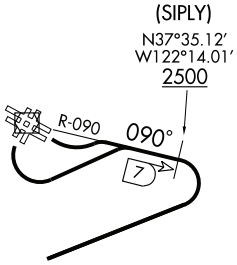
Type size and style for the DME mileage shall be 7 point, expressed in whole miles except when less than one mile and when specified on a procedure.

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

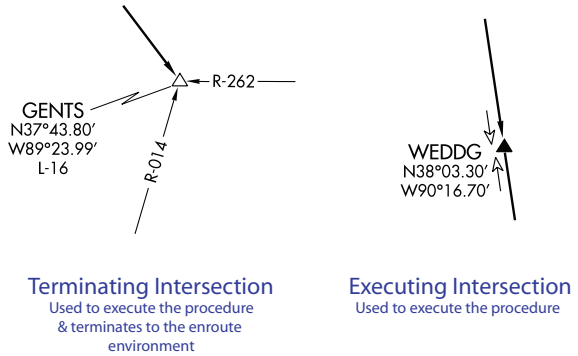
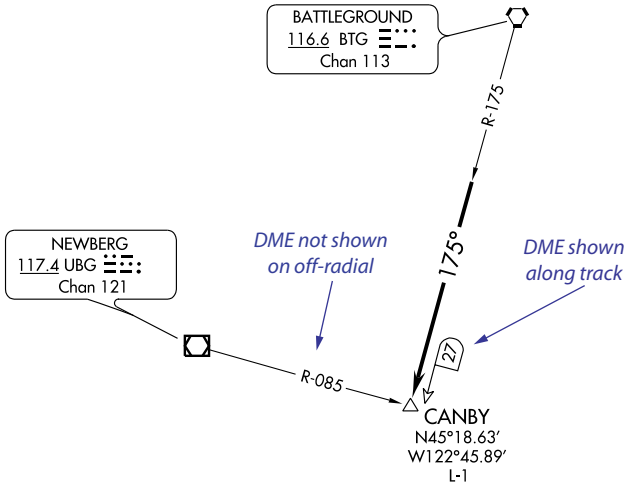


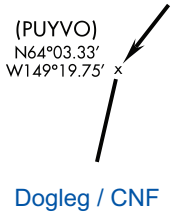
Figure 3.17 Off-Radial DME



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.

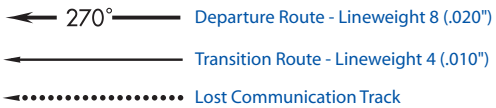
A departure route that terminates at two or more NAVAIDs shall show the departure route from the airport to the radio aid to navigation that is common to all the terminating facilities.

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.

Figure 3.19 Route Symbology



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.

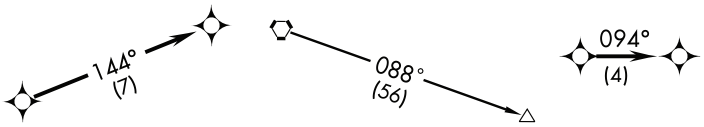
3.4.10.2 Mileages

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

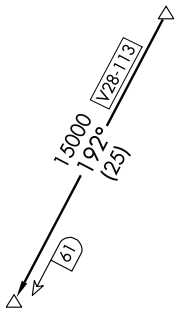
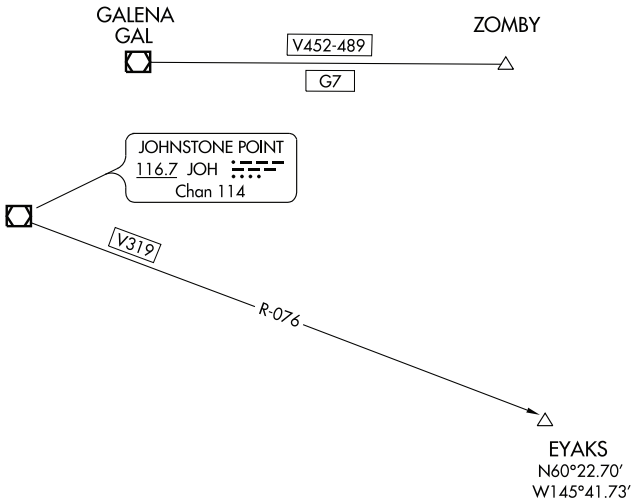


Figure 3.22 Non-Coincidental Routes



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 2300".	2300
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 4800".	4800
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 5500".	5500
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 7500 5500".	7500 5500

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.	170K
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.	170K
Mandatory Airspeed	Mandatory airspeeds shall be depicted as a number with a line above and below. Cross at 170K will be shown as depicted.	170K

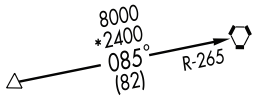
3.4.10.6 Paired Restrictive Altitudes and Airspeeds

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

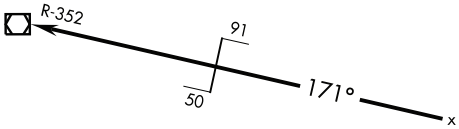


3.4.10.8 Changeover Points (COPs)

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.

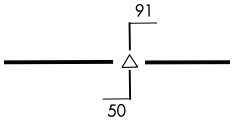
Figure 3.24 Changeover Points



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

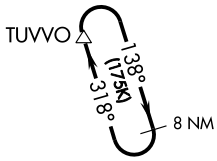
Appropriate explanatory notes may be shown, as required, positioned along the departure or transition route using 8 point C/L type and punctuations.

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.

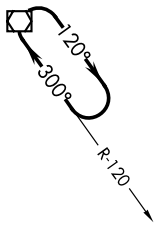
RNAV holding patterns shall be shown with appropriate leg length and type.

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.

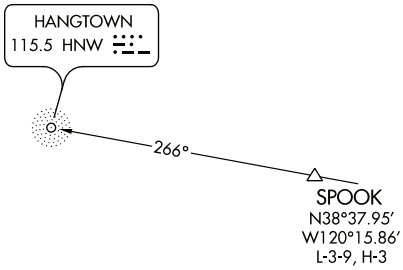
3.4.12 Bearing Lines

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.

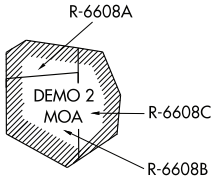
SUA shall be portrayed by a 2 weight (.005") diagonal line pattern, .10" in width, positioned so as to have the lines in a NE to SW direction. In no case will the portrayal of SUA obliterate the functional procedural data. Should an area be too small to portray the specified width, the width shall be 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 (18,0000 = 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.

Page Intentionally Left Blank