Federal Aviation Administration

UNITED STATES GOVERNMENT SPECIFICATIONS

FLIGHT INFORMATION PUBLICATION ENROUTE HIGH ALTITUDE CHARTS - CONTERMINOUS U.S. AND ALASKA

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Prepared by the Interagency Air Committee (IAC)

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UNITED STATES GOVERNMENT SPECIFICATIONS
FOR THE
FLIGHT INFORMATION PUBLICATION
ENROUTE HIGH ALTITUDE CHARTS - CONTERMINOUS U.S. AND ALASKA

21 October 2026

These specifications have been developed by the Interagency Air Committee (IAC), 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 Enroute High Altitude Charts - Conterminous U.S. and Alaska. These specifications shall be complied with, without deviation, until such time as they are amended by formal IAC action.

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

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

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CHANGES APPLIED TO CURRENT EDITION

REQUIREMENT DOCUMENTS

a. RD 912 - Removal of Substitute Routes from Enroute Specs and Legends
b. RD 913 - Removal of NCA Track References

EDITORIAL CHANGES

a. EC 26-13 Exceptions to Charting Foreign Data

CHANGES APPLIED TO 20 JULY 2026

REQUIREMENT DOCUMENTS

a. RD 908 – Removal of Physical Address and Phone Number from the IAC Specification Products

EDITORIAL CHANGES

a. None applied this edition

CHANGES APPLIED 10 JUNE 2025

REQUIREMENT DOCUMENTS

a. RD 891 – Removal of Continental U.S. (CONUS) Flight Service Station (FSS) Facilities from Enroute Chart Specifications

EDITORIAL CHANGES

a. None applied this edition

CHANGES APPLIED 20 FEBRUARY 2025

REQUIREMENT DOCUMENTS

a. None applied in this edition

EDITORIAL CHANGES

a. EC 25-03 Renaming Gulf of America

CHANGES APPLIED 26 APRIL 2024

REQUIREMENT DOCUMENTS

a. RD 873 – Updates to Foreign Data Depiction on IFR Enroute Low and High Altitude Charts

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
Aeronautical Navigation Office
Mail Stop: M-40
2301 Cass Avenue
St Louis, MO 63106

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

Federal Aviation Administration /
Aeronautical Information Services, Room 207-19
800 Independence Ave, SW
Washington, DC 20591

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

These specifications serve as a guide in the preparation of the IFR Enroute High Altitude chart series for the conterminous United States, Alaska and portions of the Caribbean providing users with satisfactory charts for operational use in U.S. Airspace. Foreign areas are included for transitional purposes only.

These specifications provide appropriate guidelines to effect uniformity and standardization of content and portrayal techniques in the preparation and production of IFR Enroute High Altitude charts.

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 technique.

1.1.2 Scope

The High Altitude Airspace System is effective at and above 18,000' MSL.

The charts in this series shall serve as the enroute navigational reference for flights in the High Altitude Airspace System and are meant for use by both civil and military pilots. Only such information specifically required for high altitude instrument operations will come within the scope of these specifications. The primary objective is to provide optimum presentation and portrayal of the Enroute High Altitude Flight Rules (IFR) Airspace System based on the users requirements.

Items applicable only to the Alaska High Chart series including the Seattle Inset Chart are so noted within these specifications by the designation **(AK)** positioned immediately to the right of the paragraph, table, or figure number or immediately preceding unnumbered paragraphs.

1.2 REQUIREMENTS

1.2.1 General

This IFR Enroute High Altitude chart series consists of twelve charts printed front and back for the conterminous U.S. and two charts printed front and back for Alaska. The Alaska charts will contain a Seattle Inset chart. This chart series may be supplemented by Special Notices, as required.

1.2.2 Safety, Accuracy and Currency

Safe navigation is dependent upon the ability of the pilot to rapidly identify and associate data on the chart with aircraft instruments and navigational equipment. The charts in this series should contain built-in safety factors that preclude ambiguity and misinterpretation, avoid duplication of data, and provide rapid identification of correct information. Accuracy of the data is critical.

Consistent with the accuracy of the data contained on the charts, such charts shall be maintained current and published on a revision schedule coinciding with the effective date and schedule of airspace changes.

1.2.3 Title

The title of this series of charts shall be:

Figure 1.1 Title Label

UNITED STATES GOVERNMENT
FLIGHT INFORMATION PUBLICATION
IFR ENROUTE HIGH ALTITUDE - U.S.

OR

UNITED STATES GOVERNMENT
FLIGHT INFORMATION PUBLICATION
IFR ENROUTE HIGH ALTITUDE - ALASKA

1.2.4 Areas of Coverage

References:

Appendix 1 - Enroute Chart Area of Coverage - U.S.
Appendix 2 - Enroute Chart Area of Coverage - AK

The IFR Enroute High Altitude - U.S. charts cover the conterminous U.S. and portions of Canada, Mexico and the Caribbean. The limits of each chart are defined by the following corner coordinates:

Table 1.1 U.S. Corner Coordinates - IFR Enroute High Altitude

Chart Number	SW Corner	NW Corner	NE Corner	SE Corner
H-1	42°00' 03.6"N	48°08' 25.3"N	50°05' 08.8"N	43°47' 26.8"N
	129°02' 06.1"W	131°12' 23.9"W	104°01' 54.5"W	104°23' 49.7"W
H-2	43°07' 56.5"N	49°22' 56.0"N	49°31' 20.0"N	43°15' 40.1"N
	107°02' 28.2"W	108°18' 25.0"W	83°14' 24.7"W	84°21' 42.7"W
H-3	35°42' 24.5"N	42°00' 04.9"N	43°47' 26.8"N	37°20' 39.5"N
	127°12' 20.7"W	129°02' 06.7"W	104°23' 49.7"W	104°42' 05.0"W
H-4	29°28' 04.6"N	35°42' 20.9"N	37°20' 40.7"N	30°57' 40.5"N
	125°40' 24.6"W	127°12' 17.4"W	104°42' 05.1"W	104°57' 15.0"W
H-5	36°43' 53.2"N	43°07' 56.5"N	43°15' 40.1"N	36°50' 57.3"N
	105°58' 54.0"W	107°02' 28.2"W	84°21' 42.7"W	85°18' 00.0"W
H-6	30°18' 15.1"N	36°41' 19.1"N	36°53' 08.0"N	30°29' 01.0"N
	105°29' 18.6"W	106°24' 40.0"W	85°43' 52.7"W	86°29' 00.2"W
H-7	24°03' 24.0"N	30°18' 15.1"N	30°29' 28.8"N	24°13' 35.1"N
	104°42' 30.3"W	105°29' 18.6"W	86°34' 44.0"W	87°12' 24.1"W

Table 1.1 U.S. Corner Coordinates - IFR Enroute High Altitude (Continued)

Chart Number	SW Corner	NW Corner	NE Corner	SE Corner
H-8	24°37' 12.9"N	30°55' 05.6"N	29°17' 13.0"N	23°08' 23.3"N
	90°07' 33.7"W	90°09' 05.6"W	71°24' 16.6"W	72°45' 06.8"W
H-9	30°54' 13.7"N	37°20' 19.4"N	35°08' 33.1"N	28°54' 09.5"N
	88°02' 25.8"W	87°52' 57.8"W	67°38' 21.6"W	69°23' 18.0"W
H-10	37°19' 27.1"N	43°46' 17.9"N	41°14' 00.4"N	35°00' 02.0"N
	87°09' 24.3"W	86°53' 50.4"W	64°49' 46.6"W	66°57' 22.1"W
H-11	42°53' 01.7"N	49°11' 14.2"N	46°32' 18.5"N	40°26' 49.9"N
	84°39' 35.5"W	84°07' 07.1"W	62°39' 56.2"W	65°07' 11.4"W
H-12	32°28' 40.4"N	45°56' 55.5"N	42°11' 41.1"N	29°21' 42.1"N
	87°35' 54.2"W	74°19' 07.6"W	68°48' 39.5"W	82°25' 14.4"W

(AK) The IFR Enroute High Altitude - Alaska charts cover Alaska and portions of Canada and Russia. The limits of each chart are defined by the following coordinates, beginning in the lower left corner (A or SW) of each chart and continuing clockwise (B, C, D, E, and F):

Table 1.2 (AK) Corner Coordinates - IFR Enroute High Altitude

	A	B	C	D
H-1	64°28' 20.9"N	74°12' 19.6"N	45°22' 23.8"N	42°54' 24.7"N
	174°57' 15.7"W	154°13' 36.8"W	119°23' 38.2"W	128°17' 06.9"W
	E	F		
	56°19' 10.3"N	52°46' 22.7"N		
	139°44' 31.5"W	147°54' 26.2"W		
	SW Corner	NW Corner	NE Corner	SE Corner
H-2	41°25' 44.9"N	50°55' 42.9"N	165°27' 43.9"N	52°47' 15.2"N
	164°55' 03.8"E	152°32' 26.3"E	147°48' 54.1"W	147°44' 09.7"W

(AK) The Seattle Inset Chart shall be labeled accordingly and located on the IFR Enroute High Altitude - Alaska chart H-1. The limits of the Seattle Inset Chart are defined by the following coordinates:

Table 1.3 (AK) Seattle Inset Chart

	SW Corner	NW Corner	NE Corner	SE Corner
SEATTLE	42°45' 00.3"N	42°47' 02.6"N	51°11' 08.4"N	51°08' 43.4"N
(AK) H-1 Inset	125°23' 04.4"W	121°09' 44.2"W	120°55' 04.8"W	125°55' 01.7"W

1.2.5 Scales

The scale of the IFR Enroute High Altitude - U.S. charts H-1 to H-11 shall be 1" = 20 NM (1:1,458,268). The scale for H-12 shall be 1" = 17NM (1:1,239,527).

(AK) The scale of the IFR Enroute High Altitude - Alaska charts shall be 1" = 40 NM (1:2,916,535).

(AK) The scale of the Seattle Inset Chart shall be 1' = 22.5 NM (1:1,640,551).

1.2.6 Central Meridians

The Central Meridian of the IFR Enroute High Altitude - U.S. charts shall be 95°W.

(AK) The Central Meridian of the IFR Enroute High Altitude - Alaska charts shall be 154°W.

(AK) The Central Meridian of the Seattle Inset Chart shall be 124°W.

1.2.7 Projections

The Lambert Conformal Conic Projection with standard parallels of 33°N and 45°N shall be used for the IFR Enroute High Altitude - U.S. charts.

(AK) The Lambert Conformal Conic Projection with standard parallels of 37°N and 65°N shall be used for the IFR Enroute High Altitude - Alaska charts.

(AK) The Lambert Conformal Conic Projection with standard parallels of 37°N and 65°N shall be used for the Seattle Inset Chart.

1.2.8 Colors

Colors for printing shall be adapted for use under red and white lighting conditions, both day and night. Colors used shall be blue, brown, black, and green.

1.2.9 Symbolization

Symbolization shall be in accordance with the symbols included in the Appendices. These symbols have been developed by the United States Government Interagency Air Committee (IAC) for the purpose of standardization.

1.2.10 Type Styles

All type styles, unless otherwise specified, shall be Futura Medium.

Type styles and sizes shall be as indicated within these specifications, or their equivalent. Equivalent shall be such as to equal the height, width and lineweight of the specified style of type. Type size may be reduced in areas of extreme congestion.

All text shall be in all caps unless otherwise stated as caps and lowercase (C/L).

CHAPTER 2
FORMAT AND LAYOUT

2.1 FORMAT AND LAYOUT

2.1.1 Format

The IFR Enroute High Altitude chart series shall be rectangular in shape and normally orientated West to East (when viewed left to right) as indicated in the appendices.

US H-1/2 and H-7/8 and AK H-1/2 shall be printed on both sides and top to top. US H-3/4, H-5/6, H-9/10 and H-11/12 shall be printed on both sides and top to bottom.

2.1.2 Layout

The title panel shall be the first panel on the left side of all odd-numbered charts.

The legend panel shall be the first panel on the right side of U.S. H-2, H-4, H-6, H-7, H-9, H-11 and **(AK)** H-2.

Paper dimensions for the quality control prints shall be 20" x 60.5", including plate idents. Paper size for published charts shall be 20" x 60".

Each chart shall have 11 folds and 12 panels. A panel is defined as the area between two folds, or between a fold and a trim edge, and shall be 5" x 20". The final folded product size shall be 5" x 10".

Each chart image area shall be enclosed by neatlines. Neatlines shall be .020", solid black. Chart features shall extend to this neatline. If the origin of a chart feature is outside the neatline, the symbology will not be charted.

References:

Appendix 3 - Chart Layout - U.S. H-1, H-3
Appendix 4 - Chart Layout - U.S. H-2
Appendix 5 - Chart Layout - U.S. H-4
Appendix 6 - Chart Layout - U.S. H-5, H-7, H-9
Appendix 7 - Chart Layout - U.S. H-6, H-8, H-10
Appendix 8 - Chart Layout - U.S. H-11
Appendix 9 - Chart Layout - U.S. H-12
Appendix 10 - (AK) Chart Layout - AK H-1
Appendix 11 - (AK) Chart Layout - AK H-2

2.1.3 Chart Image Area

Dimensions (neatline coverage) shall be as follows:

Table 2.1 Chart Image Area Dimensions

Chart Number	Coverage
US H-1	19.00” x 54.25”
US H-2	19.00” x 49.50”
US H-3	19.25” x 54.25”

Table 2.1 Chart Image Area Dimensions (Continued)

Chart Number	Coverage
US H-4	19.10” x 54.25”
US H-5	19.25” x 49.50”
US H-6	19.25” x 49.50”
US H-7	19.10” x 49.25”
US H-8	19.10” x 49.25”
US H-9	19.25” x 49.25”
US H-10	19.25” x 49.25”
US H-11	19.00” x 44.25”
US H-12	19.25” x 59.50”
AK H-1	18.70” x 49.00”
AK H-2	18.70” x 49.00”
SEATTLE INSET	8.14” x 21.84”

CHAPTER 3
CONTENT

3.1 GENERAL

3.1.1 Mileage

Mileages shall be shown in nautical miles to the nearest whole mile, using .5 as the division point for the next higher number.

(AK) Total mileages and changeover mileages for VOR/DME RNAV routes shall be shown to the tenth of a mile.

3.1.2 Bearings and Radials

Bearings and radials shall be shown as magnetic, unless otherwise indicated as True, and shall be depicted by a three digit figure, e.g., 001, 012, 123. Bearings and radials shall be shown to the nearest whole degree, using .5 as the division point for the next higher number. True bearings and radials shall be indicated by a "T" after the value. VHF/UHF radials shall be identified with magnetic outbound values from the NAVAID and LF/MF bearings shall be identified with magnetic inbound values to the NAVAID. Magnetic reference bearings based on the dynamic variation at that point shall be identified with outbound values from waypoints on RNAV(GNSS) routes. On joint RNAV(GNSS)/Jet Routes, jet route bearings should take priority over RNAV bearings.

Care shall be exercised in the placement of bearings and radials to eliminate any possibility of misreading these values. This is critical with bearings and radials which may at a glance be read upside down, e.g., 161 for 191 or 090 for 060, etc. Where the possibility for misinterpretation exists, a degree sign (°) shall be shown with the bearing or radial.

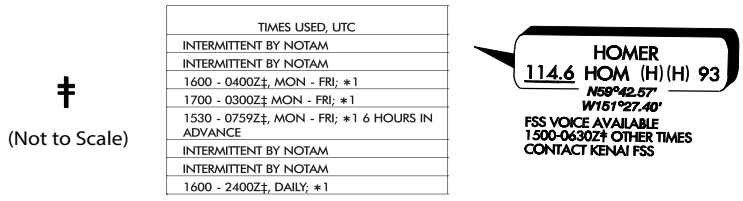
3.1.3 Boxes

Boxes required to be shown around or encompassing specific data shall be of a size consistent with the amount of data contained therein.

3.1.4 Time Zones

Time shall be shown as Coordinated Universal Time (UTC), also known as Zulu time (Z), e.g., 0600-1800Z. Times affected by Daylight Savings shall be indicated by a double dagger symbol, positioned adjacent to and immediately following the hours of operation.

Figure 3.1 Application of Double Dagger - Examples



3.1.5 Chart Notes

Chart notes shall make use of location identifiers and approved FAA contractions, for abbreviations, e.g., EFF (effective), TWR (tower), CNTR (center), when possible.

3.1.6 Geographical Coordinates

Geographic coordinates shall be shown to the hundredth of a minute.

3.1.7 Elevations

Elevations shall be shown as Mean Sea Level (MSL), unless otherwise indicated.

3.2 PLACEMENT OF DATA

3.2.1 Text

Text should be positioned to be readable relative to True North. Placement of text on external chart folds should be avoided.

Text should be placed within the same two-panel area between external folds as the associated symbol whenever possible.

Text, associated with a symbol, should be positioned adjacent to or as near the symbol as possible. Text and associated symbol should be placed within the same two panel area, i.e., between external folds, whenever possible.

Text for linear symbols shall be aligned with the linear symbol and positioned adjacent to or as near as possible to the symbol, except when such placement would result in the obstruction of other chart detail. Text for Time Zones and SUAs, even though associated with linear symbols, shall be positioned relative to True North.

When the preferred location of text overlies a linear symbol, that symbol may be partially deleted/ removed to accommodate the text, as long as the original intent of the symbol is maintained. The preferred location of text associated with non-linear symbols will be to the Northeast of the symbol, thence progressing counterclockwise around the symbol.

Leader lines (pointer) may be used when necessary for clarity of detail, or to effect or maintain the correct relationship between text and symbol.

3.2.2 Symbols

NAVAIDs and fixes that are part of a route description shall always be plotted at their true geographical position.

Other symbology, i.e., airports, will be plotted at their true geographical position.

3.2.3 Portrayal of Collocated Linear Features

Refer to Section **3.7.7.3.1** for detailed portrayal of collocated linear features.

3.3 TITLE PANEL INFORMATION

Title Panel Information type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

Information shall be positioned to read perpendicular to the side trim in the extreme left panel on H-1, H-3, H-5, H-7, H-9, H-11 and Alaska H-1. The title panel shall be visible when the chart is completely folded.

References:

Appendix 12 - Sample Enroute title Panels - U.S. & Alaska
Appendix 13 - Chart Identification and Title Area - U.S. & Alaska
Appendix 14 - Corrections, Comment, Procurement - U.S. & Alaska
Appendix 15 - Chart Identification Labels - U.S. & Alaska
Appendix 16 - Chart Indexing
Appendix 17 - Bar Codes

3.3.1 Foreign Airspace Warning Note

The following boxed note shall be centered at the top of the title panel:

Figure 3.2 Foreign Airspace Warning Note

Warning: Refer to current foreign charts and flight information publications for information within foreign airspace

References:

Appendix 13 - Chart Identification and Title Area - U.S. & Alaska

3.3.2 Chart Identification Area

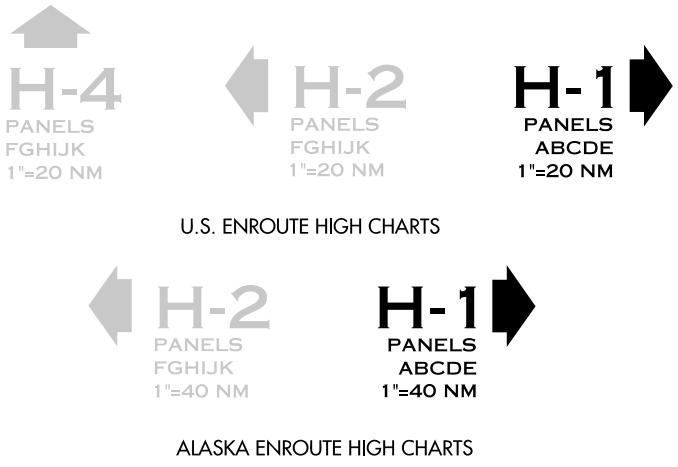
References:

Appendix 13 - Chart Identification and Title Area - U.S. & Alaska

3.3.2.1 Chart Idents

Charts shall be identified by the letter “H” and a number; together they shall be referred to as the chart ident. Chart idents shall be positioned in the upper left and upper right corners of the panel. Chart idents for the odd-numbered charts (H-1 through H-11 and Alaska H-1) shall be positioned in the upper right corner. Chart idents for the even-numbered charts (H-2 through H-12 and Alaska H-2) shall be positioned in the upper left corner.

Figure 3.3 Chart Idents



3.3.2.2 Arrowheads

Arrowheads shall be shown to indicate in which direction (left, right or up) the particular chart should be opened or turned to be read correctly. Arrowheads for the odd-numbered charts shall be centered and to the right of the chart ident and point to the right. Arrowheads for chart idents H-2, H-8 and Alaska H-2 shall be centered and to the left of the chart ident and point to the left.

3.3.2.3 Panel Identifications

The text ‘PANELS’ shall be positioned below all chart idents. The text shall be flush right with numbers in the upper right corner and flush left with letters in the upper left corner. Panel identification shall be placed below the text ‘PANELS’.

Panel identification for odd-numbered charts shall be ‘ABCDE’, positioned below the flush right with the text ‘PANEL’. Panel identification for even numbered charts shall be ‘FGHIJK’, positioned below and flush left with the text ‘PANEL’.

3.3.2.4 Chart Scales

The scale of each chart shall be expressed in terms of inches to nautical miles. Scale for odd number charts shall be positioned below and flush right with the panel identification. Scale for even numbered charts shall be positioned below and flushed left with the panel identification. Refer to Section **1.2.5** for scale values.

3.3.3 Title Area

References:

Appendix 13 - Chart Identification and Title Area - U.S. & Alaska

3.3.3.1 Chart Title

The chart title, as shown below, shall be centered within the panel.

Figure 3.4 Chart Title Format

UNITED STATES GOVERNMENT
FLIGHT INFORMATION PUBLICATION
IFR ENROUTE HIGH ALTITUDE - U.S.

OR

UNITED STATES GOVERNMENT
FLIGHT INFORMATION PUBLICATION
IFR ENROUTE HIGH ALTITUDE - ALASKA

3.3.3.2 Altitude Note

An altitude note, as shown below, shall be centered below the chart title.

Figure 3.5 Altitude Note

For use at and above 18,000′ MSL

3.3.3.3 Effective Dates and Times Note

The effective dates, consisting of the day, month (abbreviated using the first three letters of the month), and year and times note, as shown below, shall be centered below the altitude note. The note shall reflect the effective date and Zulu (Z) time and the expiration date and Zulu (Z) time of the aeronautical information, as indicated below.

Figure 3.6 Effective Dates and Times Note

EFFECTIVE 0901Z 23 SEP 2010
TO 0901Z 18 NOV 2010

3.3.3.4 NOTAM Note

A NOTAM note, as shown below, shall be centered below the effective dates and times note.

Figure 3.7 NOTAM Note

Consult NOTAMs for latest Information

3.3.3.5 Safety Alerts and Charting Notices Note

A safety alerts and charting notices note shall be shown centered on the top half of the title panel positioned below the Consult NOTAMs text (See **Appendix 13**).

3.3.3.6 Corrections, Comments and/or Procurement Note

A Corrections, Comments and/or Procurement note shall be shown centered below the Publishers Credit Note (See **Appendix 14**).

3.3.4 Chart Identification Labels

Chart identification labels shall straddle the center fold and shall extend the full width of the panel. Any part of the label that is not used for the chart ident(s) or for the chart effective date/coverage area shall be striped in black, as depicted below.

Figure 3.8 Chart Identification Labels



References:

Appendix 15 - Chart Identification Labels - U.S. & Alaska

3.3.4.1 Chart Idents

The label shall identify, by chart ident, the charts on the front and back sides. Chart idents shall consist of the letter 'H' and a number, as depicted above.

3.3.4.2 Chart Effective Date

The effective date of the chart shall be shown below the center fold and consist of the day, month (abbreviated using the first three letters of the month), and year.

3.3.4.3 Area of Coverage

The area of coverage shall be either 'UNITED STATES' or 'ALASKA', as appropriate. The area of coverage shall be shown centered below the chart effective date.

3.3.5 FAA Logo/Banner

The FAA logo/banner shall be shown directly below the chart identification labels.

Figure 3.9 FAA Logo/Banner



References:

Appendix 15 - Chart Identification Labels - U.S. & Alaska

3.3.6 Chart Index

A chart index showing IFR Enroute High Altitude chart coverage of either the conterminous United States or Alaska shall be shown.

Figure 3.10 Chart Indexing - U.S.

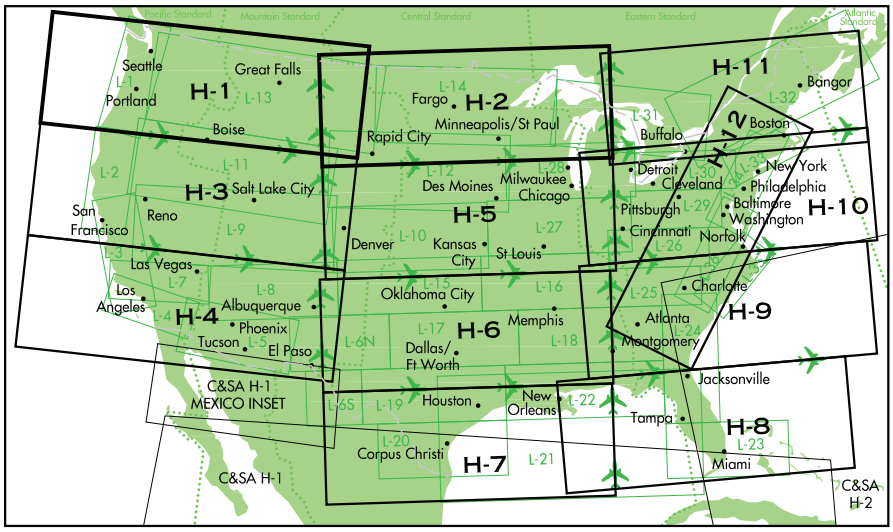
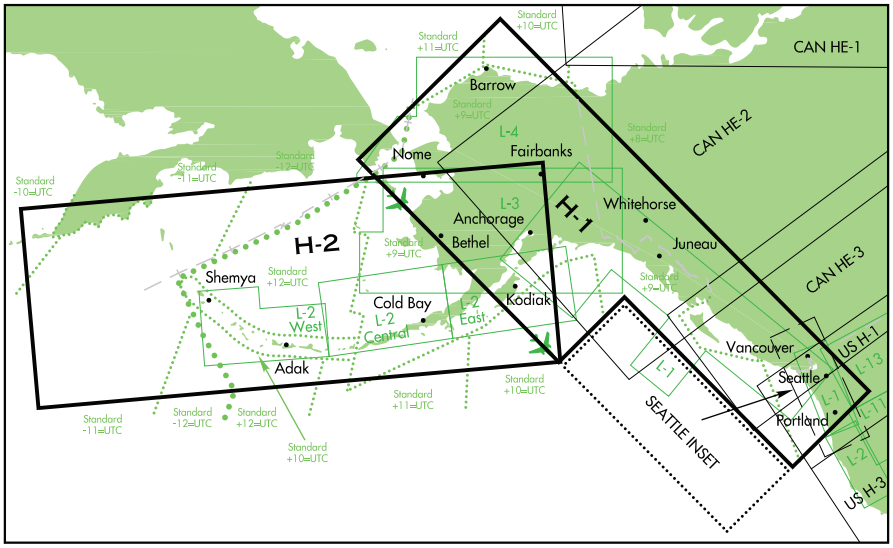


Figure 3.11 Chart Indexing - Alaska



References:

Appendix 16 - Chart Indexing

3.3.6.1 Land and Water Areas

The conterminous U.S., Mexico and Canada land areas shall be shown. Only the Great Lakes shall be shown. The land areas and bodies of water shall not be identified by name.

(AK) The U.S., Russia and Canada land areas shall be shown. The land areas shall not be identified by name.

3.3.6.2 International Boundaries

International boundaries shall be shown and symbolized by a repeating dash line. International boundaries shall not be identified by name.

(AK) The U.S./Russia Maritime Boundary shall be shown and symbolized by a repeating dash line with alternate dashes cross-hatched.

3.3.6.3 Low Altitude Chart Coverage

The limits of coverage for each U.S. enroute low altitude chart shall be shown and identified by a chart ident and a solid green line. Chart idents shall be centrally positioned within the limits of coverage for each chart, whenever possible.

(AK) Limits of coverage for each U.S & Alaska Enroute Low Altitude chart shall be shown and identified by a chart ident.

3.3.6.4 High Altitude Chart Coverage

The limits of coverage for each U.S. and Caribbean and South America (C&SA) high altitude chart shall be shown and identified by a chart ident and a solid black line. Chart idents shall be centrally positioned within the limits of coverage for each chart whenever possible. C&SA chart idents shall be preceded by the text “C&SA”.

(AK) Limits of coverage for the Canadian Enroute High Altitude Charts and Seattle Inset Chart shall be shown and identified by a chart ident. Canadian and U.S. chart idents shall be preceded by the text “CAN” or “US”.

3.3.6.5 Prominent Cities

To assist in the geographical orientation and general coverage of the individual charts, a selection of names and their geographical location shall be shown. These shall consist of the Low Altitude Area Chart city names and a selection of significant panel identification names from the Enroute High and Low Altitude Charts. These names should be evenly distributed throughout the index with at least one geographical name and location within each of the Enroute Low Altitude Charts.

3.3.6.6 Time Zone Boundaries and International Dateline

Time zone boundaries and the International Dateline shall be shown and symbolized by a continuous series of dots. Time zones shall be identified with the official local standard time zone name, centered within the zone along the top of the index.

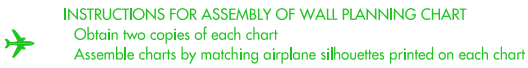
(AK) Time zones shall be labeled within the body of the index.

3.3.6.7 Wall Planning Chart Instructions (Airplane Silhouettes)

The chart index shall indicate the location of registration guide marks used for assembling a planning chart. These registration guide marks shall be in the form of miniature airplane silhouettes. These symbols shall be positioned in the same general location as their larger counterparts on the chart proper (See also Section **3.7.2.6** for chart proper registration guide marks).

An explanatory note, preceded by a sample miniature airplane symbol, shall be positioned centered and immediately below the chart index, providing instructions for the assembly of a High Altitude Wall Planning Chart, as indicated below.

Figure 3.12 Registration Guide Marks (Airplane Silhouettes)/Wall Planning Instructions



3.3.7 Interagency Air Committee (IAC) Credit Note

An IAC credit note, as shown below, shall be left justified below Wall Planning Chart Instructions index.

Figure 3.13 IAC Credit Note

Published from digital files compiled in accordance with Interagency Air Committee
specifications and agreements approved by Department of Defense - Federal Aviation Administration

3.3.8 QR Code

The QR Code shall be positioned on the title panel.

3.3.9 Bar Codes

Bar code information and associated text, as indicated below, shall be positioned at the bottom of the title panel. Bar codes shall be depicted for the National Stock Number and the Effective Date. The National Stock Number (NSN), the NGA Reference number and the effective date (Julian) will also be shown textually. The FAA Product ID shall be shown above the NSN bar code.

Figure 3.14 Bar Codes



References:

Appendix 17 - Bar Codes

3.4 LEGEND PANEL INFORMATION

Legend Panel Information type and symbol specifications shall be the same, where appropriate, as Title Panel Information type and symbol specifications except as otherwise indicated within these specifications.

Legend panel information shall be positioned to read perpendicular to the side trim of the charts. Refer to Appendices 3-11 for placement of legend panel information.

References:

Appendix 3 - Chart Layout - U.S. H-1, H-3
Appendix 4 - Chart Layout - U.S. H-2
Appendix 5 - Chart Layout - U.S. H-4
Appendix 6 - Chart Layout - U.S. H-5, H-7, H-9
Appendix 7 - Chart Layout - U.S. H-6, H-8, H-10
Appendix 8 - Chart Layout - U.S. H-11
Appendix 9 - Chart Layout - U.S. H-12
Appendix 10 - (AK) Chart Layout - AK H-1
Appendix 11 - (AK) Chart Layout - AK H-2
Appendix 19 - Legend Panel Information - General - U.S. & Alaska

3.4.1 Chart Identification Area

3.4.1.1 Chart Idents

Charts shall be identified by the letter “H” and a number; together they shall be referred to as the chart ident. Chart idents shall be positioned in the upper left and upper right corners of the panel. Chart idents for H-1, H-3, H-6, H-8, H-10, H-12 and Alaska H-1 shall be positioned in the upper right corner. Chart idents for H-2, H-4, H-5, H-7, H-9, H-11 and Alaska H-2 shall be positioned in the upper left corner.

3.4.1.2 Arrowheads

Arrowheads shall be shown to indicate in which direction (left, right or up) the particular chart should be opened or turned to be read correctly. Arrowheads for H-1, H-8 and Alaska H-1 shall be centered and to the right of the chart ident and point to the right. Arrowheads for H-2, H-4, H-5, H-7, H-9, H-11 and Alaska H-2 shall be centered and to the left of the chart ident and point to the left. Arrowheads for H-3, H-6, H-10 and H-12 shall be above and flush right with the chart ident and point up.

3.4.1.3 Panel Identification

The text “PANELS” shall be positioned below all chart idents. The text shall be flush right with the chart number in the upper right corner and flush left with the chart letter in the upper left corner. Panel identification shall be placed below the text ‘PANELS’.

Panel identification for H-1, H-3 shall be ‘ABCDEF’, positioned below and flush right with the text “PANELS’. Panel identification for H-6, H-8, H-10, H-12 shall be ‘FGHIJK’, positioned below and flush right with the text “PANELS’. Panel identification for H-2, H-4 shall be ‘GHIJK’, positioned below and flush left with the text “PANELS’. Panel identification for H-5, H-7, H-9, H-11 shall be ‘ABCDE’, positioned below and flush left with the text “PANELS’.

(AK) Panel identification for Alaska H-1 shall be 'ABCDE', positioned below and flush right with the text "PANELS'. Panel identification for H-2 shall be 'FGHIJK', positioned below and flush left with the text "PANELS'.

3.4.1.4 Chart Scales

The scale of each chart shall be expressed in terms of inches to nautical miles. Scale for H-1, H-3, H-6, H-8, H-10, H-12 charts shall be positioned below and flush right with the panel identification. Scale for H-2, H-4, H-5, H-7, H-9, H-11 charts shall be positioned below and flushed left with the panel identification. Refer to Section 1.2.5 for scale values.

(AK) Chart scale for Alaska H-1 shall be positioned below and flush right with the panel ident. Chart scale for Alaska H-2 shall be positioned below and flush left with the panel ident.

3.4.2 Title Area

3.4.2.1 Chart Title

The chart title shall be shown as described in Section 3.3.3.1 Chart Title.

3.4.2.2 Altitude Note

An altitude note shall be shown as described in Section 3.3.3.2 Altitude Note.

3.4.2.3 Horizontal Datum Note

A Horizontal Datum note shall be shown centered below the altitude note, as indicated below.

Figure 3.15 Horizontal Datum Note

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

3.4.3 Chart Legend

The legend shall be centered below the Horizontal Datum note. The legend shall be complete in all respects, reflecting items detailed within these specifications, and shall be as compact as possible. Data contained within the legend shall be grouped in specific categories of information.

The title of these headings shall be:

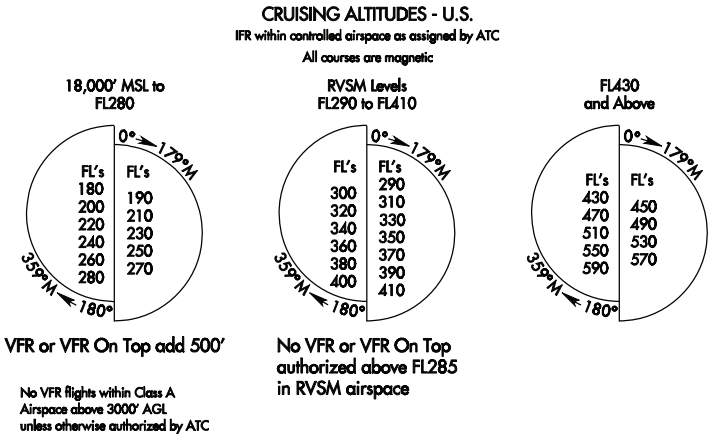
Table 3.1 Chart Legend Title Headings

AIRPORTS
NAVAIDS AND COMMUNICATION BOXES
AIR TRAFFIC SERVICES AND AIRSPACE INFORMATION
MISCELLANEOUS
EXAMPLE OF GROUPING
MORSE CODE

3.4.4 Cruising Altitudes

A diagram of appropriate cruising altitudes within the United States, at 18000' MSL and above, shall be shown below the Legend as follows:

Figure 3.16 Cruising Altitude Diagrams - U.S.



3.5 TABULATED DATA AREA

Tabulated Data Area type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

References:

Appendix 18 - Tabulated Data Area - Special Use Airspace

Tabulations shall incorporate information from both front and back sides of the chart. Location of Tabulated Data shall be as indicated in Chart Layout Appendices 3 through 10.

References:

Appendix 3 - Chart Layout - U.S. H-1, H-3
Appendix 4 - Chart Layout - U.S. H-2
Appendix 5 - Chart Layout - U.S. H-4
Appendix 6 - Chart Layout - U.S. H-5, H-7, H-9
Appendix 7 - Chart Layout - U.S. H-6, H-8, H-10
Appendix 8 - Chart Layout - U.S. H-11
Appendix 9 - Chart Layout - U.S. H-12
Appendix 10 - (AK) Chart Layout - AK H-1
Appendix 11 - (AK) Chart Layout - AK H-2

3.5.1 Special Use Airspace (SUA) Tabulation

The tabulation shall be titled “Special Use Airspace”. The tabulation shall include Prohibited, Restricted and Warning Areas in the U.S. If additional space is needed, use open space within the body of the chart. A legend shall be centered above the tabulation. Footnotes shall be added at the bottom left of the tabulation when needed.

Figure 3.17 Special Use Airspace (SUA) Tabulation

SPECIAL USE AIRSPACE

NUMBER	EFFECTIVE ALTITUDE	TIMES USED, UTC	CONTROLLING AGENCY A/G CALL	PANEL
P-56	SFC TO 18000	CONT	NO A/G	I
R-2102C	14000 TO 24000	INTMT 1200 - 0400Z‡ DAILY; ∗1	ZTL	F
R-2903A	SFC TO BUT NOT INCL 23000	INTMT 1200 - 2400Z‡ TUE - SUN; ∗1	ZJX	F
W-50A,B,C	SFC TO FL 750	INTMT BY NOTAM	ZDC	I
W-72A	SFC TO BUT NOT INCL 2000 ABOVE FL 600 TO UNLTD SFC TO UNLTD	INTMT BY NOTAM	ZDC	I
W-102H	17001 TO FL 600	INTMT BY NOTAM	ZBW	D,E
W-104C	FL 180 TO UNLTD	INTMT BY NOTAM	ZBW	D,E,K
W-105A	SFC TO FL 500	INTMT BY NOTAM	ZBW	J,K
W-105B	SFC TO FL 180	INTMT BY NOTAM	ZBW	J
W-161A N	SFC TO FL 620	SR - 0600Z‡ DAILY	ZJX	G
W-161A S	SFC TO FL 620	SR - 0600Z‡ DAILY	ZJX	G
W-177A	SFC TO FL 500	SR - 0600Z‡ DAILY	ZJX	G,H
W-386	SFC TO UNLTD	INTMT BY NOTAM	ZDC	I,J

∗1 Other Times By NOTAM

3.5.1.1 Number Column

The first column, titled ‘NUMBER’, shall consist of the assigned or designated number of the area preceded by the letter designation for the type of area. SUA areas shall be grouped alphabetically and listed numerically.

3.5.1.2 Effective Altitude Column

The second column, titled ‘EFFECTIVE ALTITUDE’, shall list the effective altitude of the area in feet or Flight Level (FL). When the effective altitude is unlimited, use the abbreviation ‘UNLTD’.

3.5.1.3 Time Used Column

The third column, titled ‘TIMES USED, UTC’, shall list the times of use. Should an area be activated by NOTAM, rather than at a designated time, the text ‘BY NOTAM’ shall be used instead. Using ‘BY NOTAM’ in Restricted areas indicates that the NOTAM is published in both FAA and DoD NOTAM systems. Using ‘BY NOTAM’ in all other Special Use Airspace areas indicates that the NOTAM is published only in the DoD NOTAM system.

Time entries shall indicate the specific days of the week and hours of the day that a SUA area is in effect.

3.5.1.4 Controlling Agency/Air Ground (A/G) Column

The fourth column, titled ‘CONTROLLING AGENCY A/G CALL’, shall indicate the agency which is authorized to permit enroute clearance through the area. Should a joint agreement exist which permits clearance by air route traffic control, the appropriate center shall be shown together with the Flight Service Station. ‘NO A/G’ indicates there is no air to ground frequency or agency available to call for enroute clearance.

3.5.1.5 Panel Column

The fifth column, titled 'PANEL', shall indicate the chart panel identifier where the SUA area is located. Multiple panels shall be listed when the SUA area is depicted on more than one panel.

3.6 MARGIN INFORMATION

Margin Information type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

Margin information shall be positioned between the neatlines of a chart and the trim edges, excluding title and legend panel information.

References:

Appendix 20 - Margin Information

3.6.1 Bar Scale

Bar scales shall be shown in nautical miles (NM).

3.6.1.1 Placement

Bar scales shall be positioned on each chart parallel to and below the bottom neatline. Each bar scale shall be centered between two external folds. Charts with a single panel shall position a bar scale centered on the panel, parallel to and below the neatline.

(AK) Bar scales shall be positioned on each chart parallel to and outside the top and bottom neatlines. Each bar scale shall be centered between two external chart folds. Chart (AK) H-2 shall also have a bar scale centered within panels F and K. Bar scales for the Seattle Inset Chart shall be positioned parallel to and below the bottom neatline of the inset, centered between panels D and E.

3.6.1.2 Increments and Labels

Bar scales shall be subdivided into 25 NM increments. The first increment shall be further subdivided into 5 NM increments. Bar scales shall be labeled in 25 NM increments to the right of the division marks. The first and last labels shall be placed outside of and centered on the beginning and end of the bar scale, respectively.

Figure 3.18 Bar Scale Increments and Labels - U.S



(AK) Bar scales shall be subdivided into 50 NM increments. The first increment shall be further subdivided into 5 NM increments. Bar scales shall be labeled in 50 NM increments to the right of the division marks. The Seattle Inset Chart bar scale shall be subdivided into 25 NM increments and the first increment shall be further subdivided into 5 NM increments. The Seattle Inset Chart bar scale shall be labeled in 25 NM increments to the right of the division marks.

Figure 3.19 (AK) Bar Scale Increments and Labels



3.6.1.3 Chart Scale

The scale factor 1" = 20 NM shall be shown centered within the last (extreme right) 25 NM increment of the bar scale.

(AK) The scale factor 1" = 40 NM shall be shown centered within the last (extreme right) 50 NM increment of the bar scale. The Seattle Inset Chart scale factor 1" = 22.5 NM shall be shown centered within the last (extreme right) 25 NM increment of the bar scale.

3.6.1.4 Nautical Mile Text

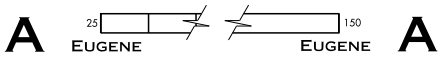
The text "NAUTICAL MILES" shall be centered between the 0 NM and 25 NM division marks.

(AK) The text "NAUTICAL MILES" shall be centered between the 0 NM and 50 NM division marks. On the Seattle Inset Chart, the text "NAUTICAL MILES" shall be centered between the 0 NM and 25 NM division marks.

3.6.2 Panel/Fold Identification

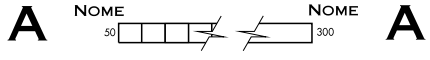
Panel/fold identifications shall be shown at each end of a bar scale. Identification shall be with both a letter and the name of the most prominent and centrally located city or NAVAID within the panel(s). The city shall take precedence over NAVAID. The text for the letter and the city or NAVAID name shall be aligned and the city or NAVAID name shall be positioned below the beginning and end of each bar scale. The city or NAVAID name shall be positioned outside of the letter identifier. The letters A, B, C, D and E shall be used on the front side of charts; the letters F, G, H, I, J and K shall be used on the reverse side of charts.

Figure 3.20 U.S. & AK Bottom of Chart Panel Identification



(AK) The letter and the city or NAVAID name shall be aligned at the top of the bar scale when the bar scale is located at the top of the chart.

Figure 3.21 (AK) - Top of Chart Panel Identification

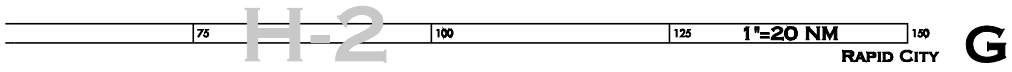


3.6.3 Chart Idents

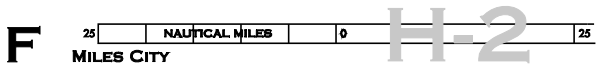
Chart idents shall be shown and centered vertically on the bar scale. For a bar scale that spans two panels, the chart ident will be centered horizontally within the first full increment to the right of the internal fold. On a single panel, the chart ident will be centered horizontally within the first full increment. However, placement of the chart numbers will be adjusted so that overprinting is avoided.

Figure 3.22 Chart Idents - Placement

Two Panel



Single Panel



3.6.4 Routes Extending Past the Chart Neatline

Routes that extend past the chart neatline shall have information pertaining to the next point (NAVAID, NAVAID fix, or waypoint) on that route shown in the margin area outside and parallel to the neatline. The content of this next point information will differ for routes that cross internal boundaries and routes that cross external boundaries. Boundaries are described in the paragraphs below.

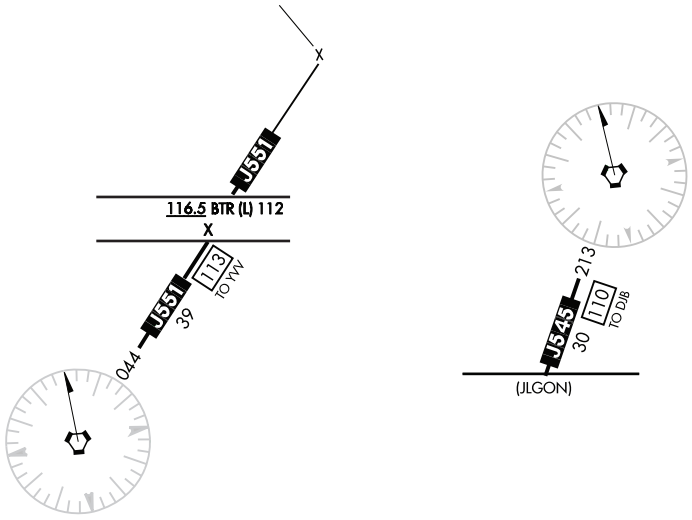
Text shall be oriented to read ‘up’ along the left (West) side and read ‘down’ along the right (East) side. Charts oriented North/South shall have the text on “South” and “North” ends to read North up.

Next point information shall be charted the same color as shown on the adjoining or overlapping U.S. chart and in accordance with the specifications contained herein. Next point information on VHF/UHF routes shall be shown in black; next point information on LF/MF routes shall be shown in brown; next point information on RNAV routes shall be shown in blue if a waypoint, black if a VHF/UHF fix or NAVAID, brown if a LF/MF fix or NAVAID; next point information on joint routes (either RNAV-VHF/UHF or RNAV-LF/MF) shall be shown in its appropriate color.

If the next point information is an unnamed mileage break depicted with an “X”, then the next point information shall be shown as an “X”.

If the next point information is a Computer Navigation Fix (CNF) depicted with an "X", then the next point information shall be the CNF identifier enclosed in parentheses.

Figure 3.23 Routes Past Neat Line - Unnamed Mileage Break or CNF



All foreign area next point information shall be shown in black.

3.6.4.1 Internal Chart Boundaries

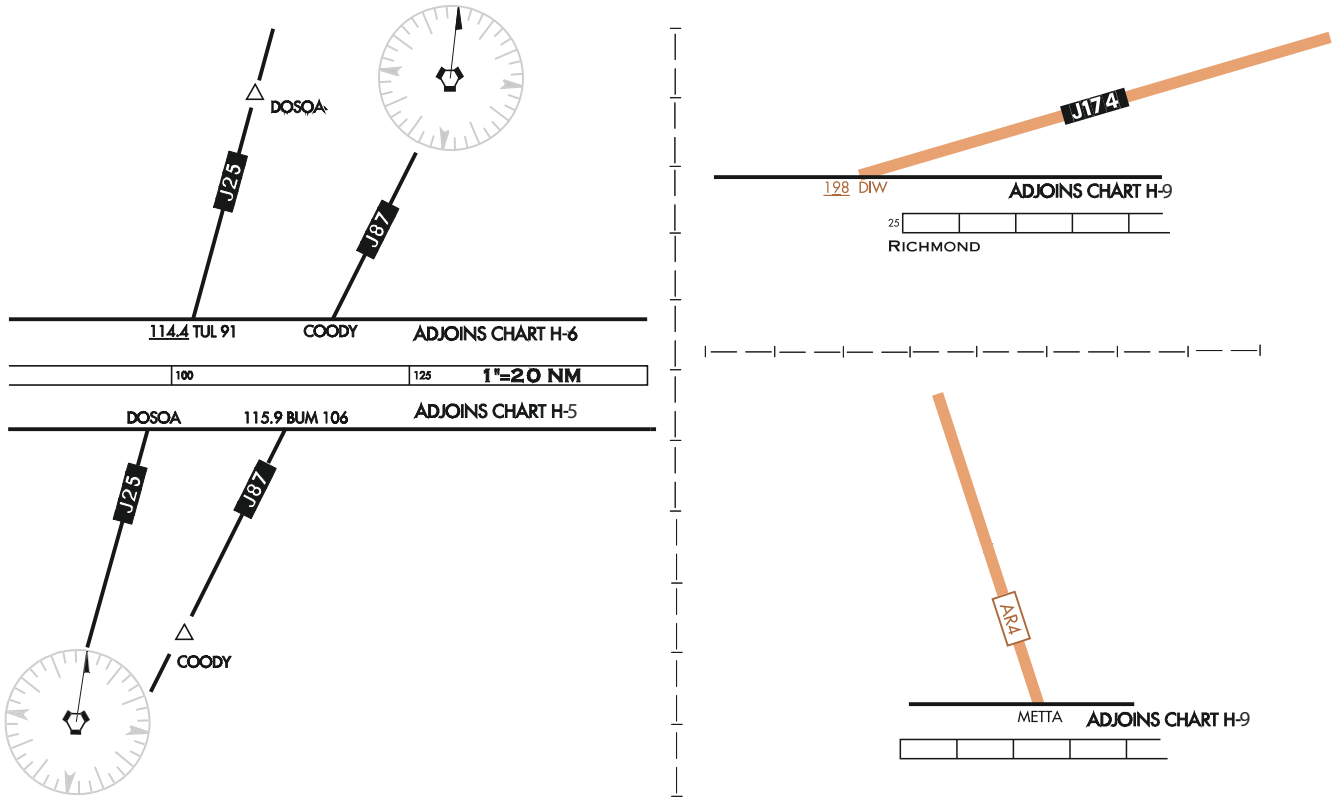
Internal chart boundaries are those boundaries where adjoining or overlapping U.S. or Alaska high charts exist. **Table 3.2** below contains the information that shall be shown for each route type.

Table 3.2 Internal Boundary Next Point Information

Route Type	NAVAID Fix	Waypoint	NAVAID
VHF/UHF or LF/MF	Name Only	N/A	Freq, Ident, Channel
RNAV	Name Only	Name Only	Ident Only
Joint			
Share a common point	Name Only	N/A	Freq, Ident, Channel
Do not share a common point	Name Only	Name Only	Ident Only

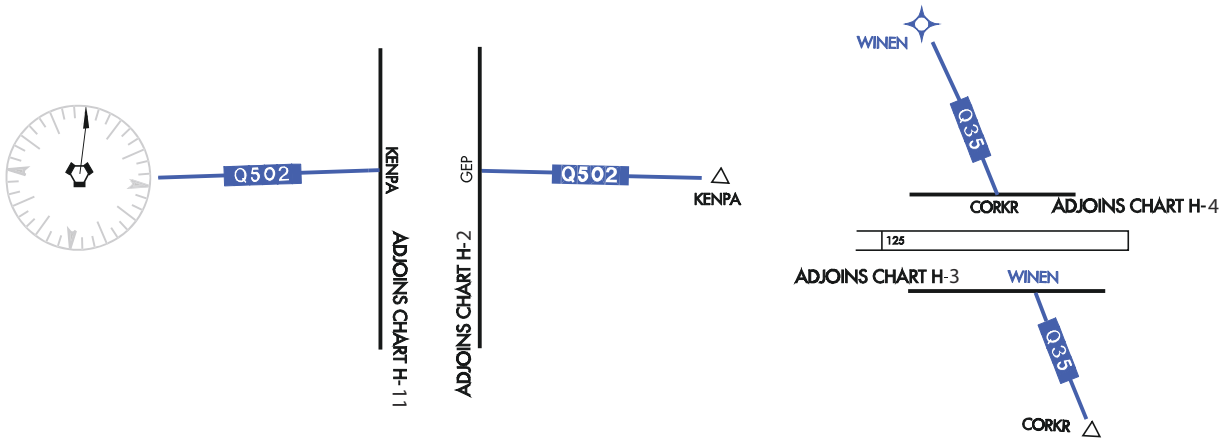
For VHF/UHF or LF/MF routes, the next point information will consist of name only if it is a NAVAID fix, or frequency, ident and channel if it is a NAVAID.

Figure 3.24 Routes Past Chart Boundary - Internal - VHF/UHF LF/MF Routes



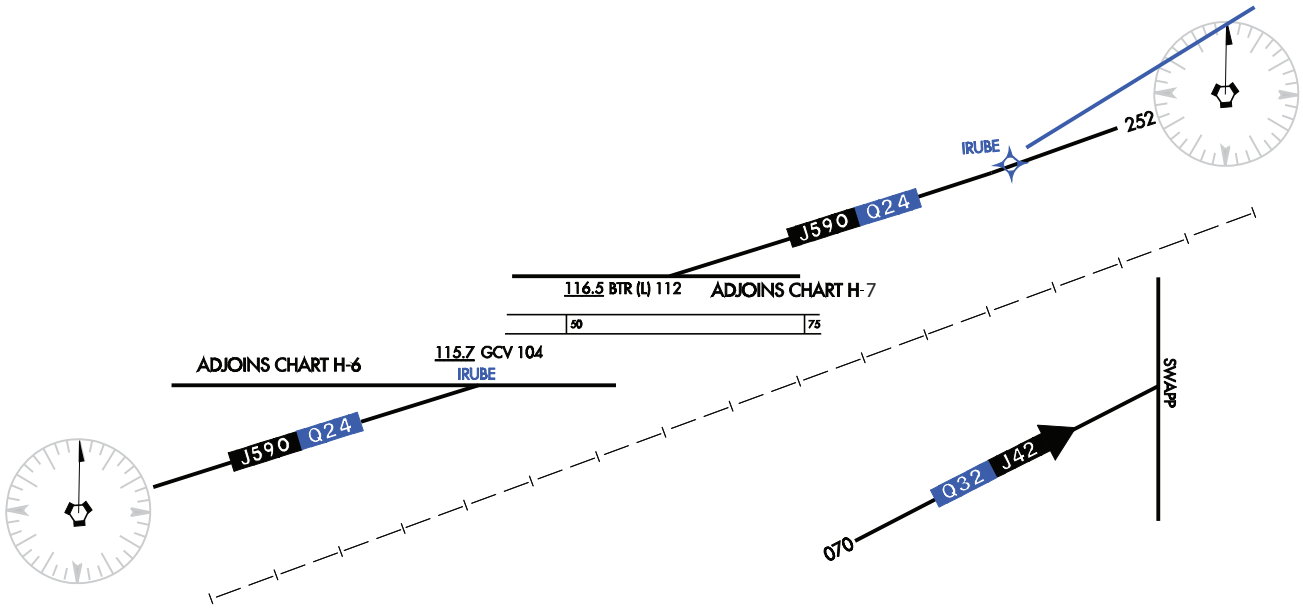
For RNAV routes- the next point information will consist of name only if it is a NAVAID fix or waypoint or, ident only if it is a NAVAID.

Figure 3.25 Routes Past Chart Boundary - Internal - RNAV Routes



For joint routes that share a common next point the next point information will consist of name only if it is a NAVAID fix, or frequency, ident, and channel if it is a NAVAID. For joint routes that do not share a common next point the next point information for each route shall be as described in **Table 3.2**.

Figure 3.26 Routes Past Chart Boundary - Internal - Joint Route



3.6.4.2 External Chart Boundaries

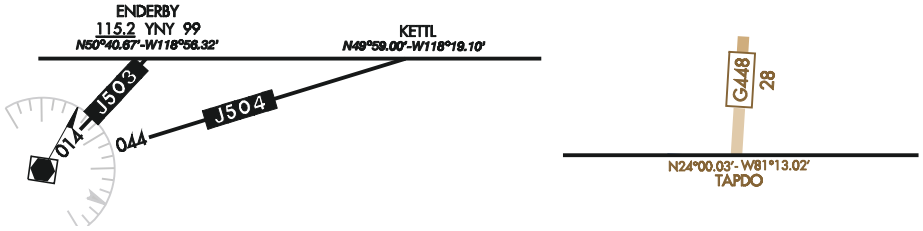
External chart boundaries are those chart boundaries where no adjoining or overlapping U.S. or Alaska high charts exists. **Table 3.3** below contains the information that shall be shown for each route type.

Table 3.3 External Boundary Next Point Information

Route Type	NAVAID Fix	Waypoint	NAVAID
VHF/UHF or LF/MF	Name, Coordinates	N/A	Name, Freq, Ident, Channel, Coordinates
RNAV	Name Only	Name Only	Ident Only
Joint			
Share a common point	Name, Coordinates	N/A	Name, Freq, Ident, Channel, Coordinates
Do not share a common point	Name, Coordinates	Name Only	Name, Freq, Ident, Channel, Coordinates
Foreign VHF/UHF or LF/MF	Name, Coordinates	Name, Coordinates	Name, Freq, Ident, Channel, Coordinates
Foreign RNAV	Name, Coordinates	Name, Coordinates	Ident Only

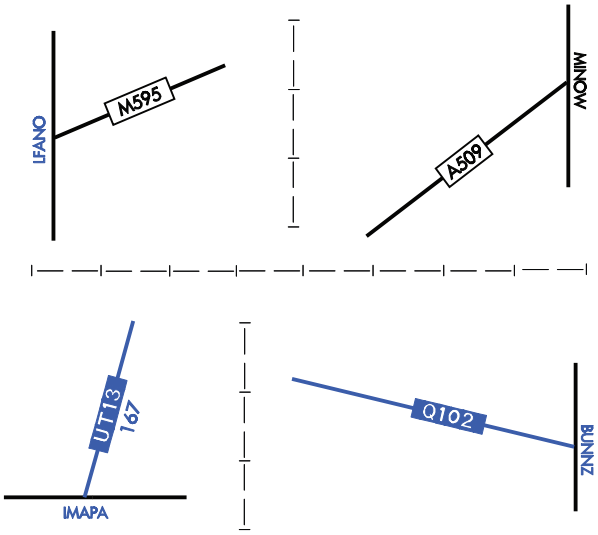
For VHF/UHF or LF/MF routes, the next point information shall consist of the name and coordinates if it is a fix, or name, frequency, identifier, channel and coordinates if the next point is a NAVAID.

Figure 3.27 Routes Past Chart Boundary - External - VHF/UHF LF/MF



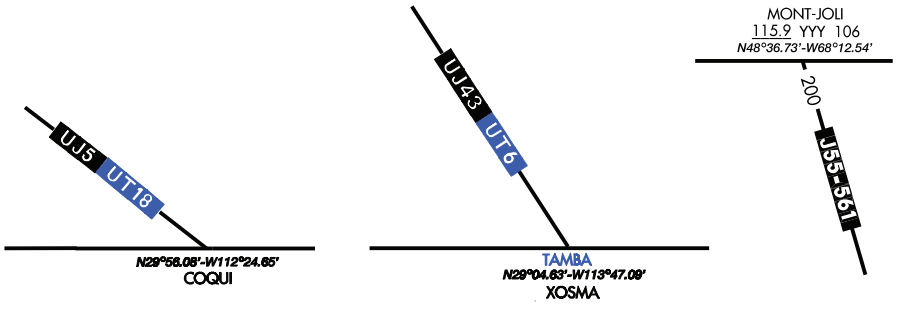
For RNAV routes, the next point information will consist of name only if it is a NAVAID fix or waypoint, or by ident only if it is a NAVAID.

Figure 3.28 Routes Past Chart Boundary - External - RNAV



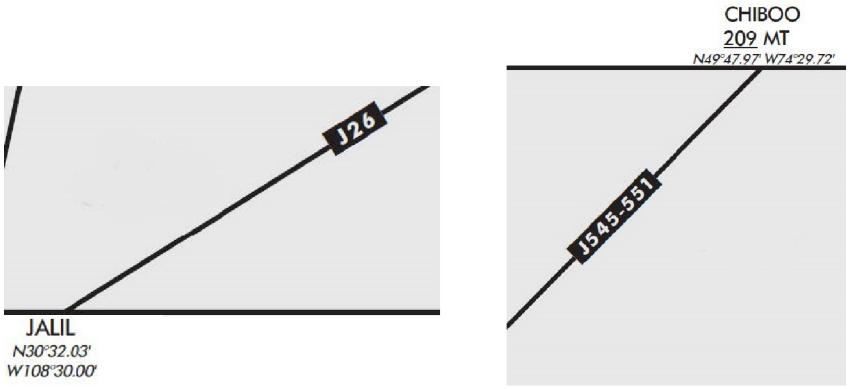
For joint routes that share a common next point the next point information will consist of name and coordinates if it is a NAVAID fix, or name, frequency, identifier, channel and coordinates if a NAVAID. For joint routes that do not share a common next point the next point information for each route shall be as described in **Table 3.3**.

Figure 3.29 Routes Past Chart Boundary - External - Joint



For VHF/UHF or LF/MF foreign routes, the next point information will consist of name and co-ordinates if it is a fix or waypoint or, name, frequency, ident, channel, and coordinates if the next point is a NAVAID.

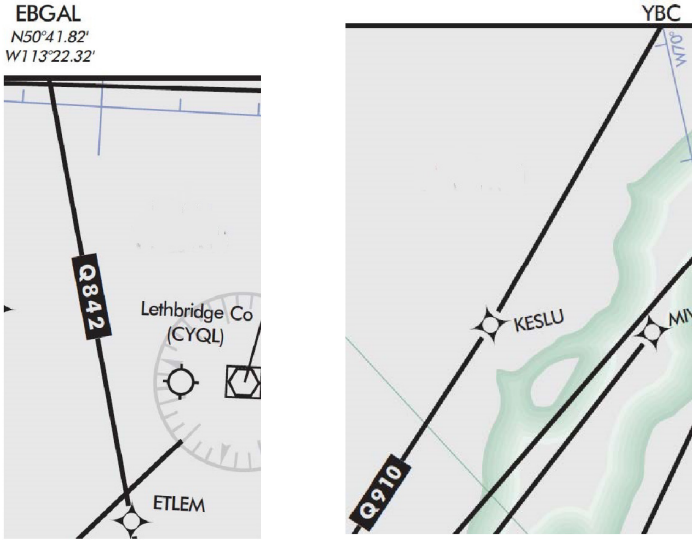
Figure 3.30 Routes Past Chart Boundary - External - Foreign VHF/UHF LF/MF



Fix or Waypoint NAVAID

For RNAV foreign routes, the next point information will consist of name and coordinates if it is a fix or waypoint or, ident only if the next point is a NAVAID.

Figure 3.31 Airways/Routes Past Chart Boundary - External - Foreign RNAV Routes



Fix or Waypoint NAVAID

3.6.4.3 Placement of Next Point Information

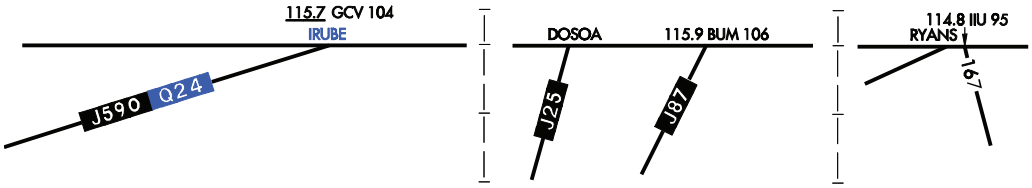
Next point information shall be stacked and centered adjacent to the neatline at the intersection of the routes to which they pertain. In congested areas or where appropriate, next point information may be stacked or offset using a leader line.

Next point information and chart notes may be shifted to avoid overprinting.

3.6.4.3.1 Internal Boundary Next Point Information

Fix and waypoint names and NAVAID ident and frequency shall be placed adjacent and parallel to the neat line.

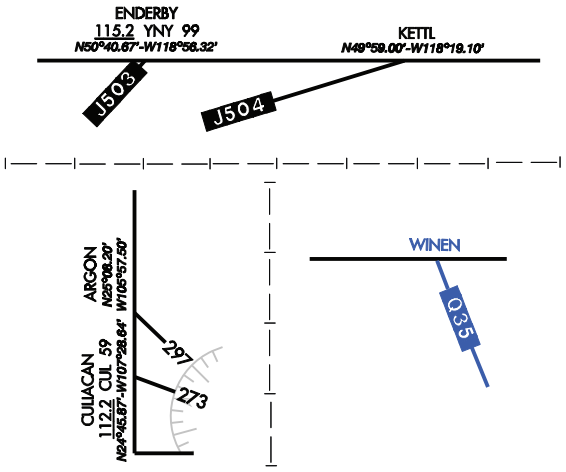
Figure 3.32 Placement of Next Point Information - Internal



3.6.4.3.2 External Boundary Next Point Information

Fix and waypoint names and coordinates and NAVAID name, frequency, ident and coordinates shall be placed adjacent and parallel to the neatline.

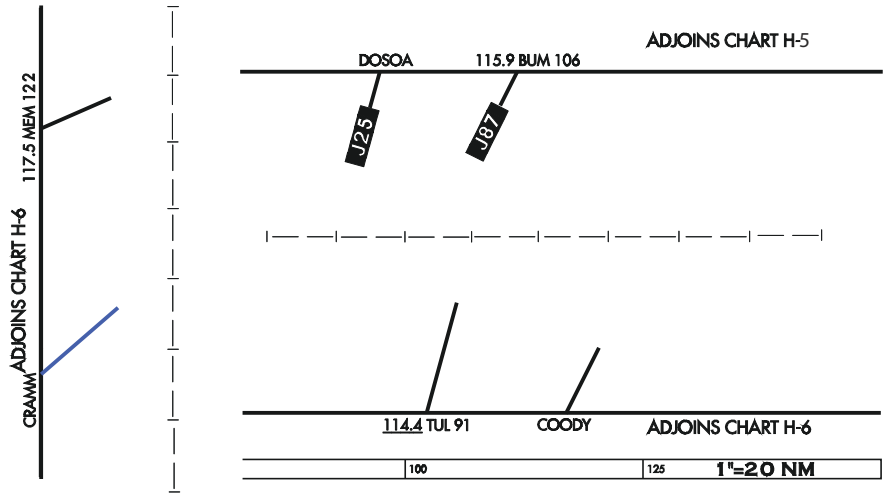
Figure 3.33 Placement of Next Point Information - External



3.6.5 Margin Notes for Adjoining/Overlapping Charts

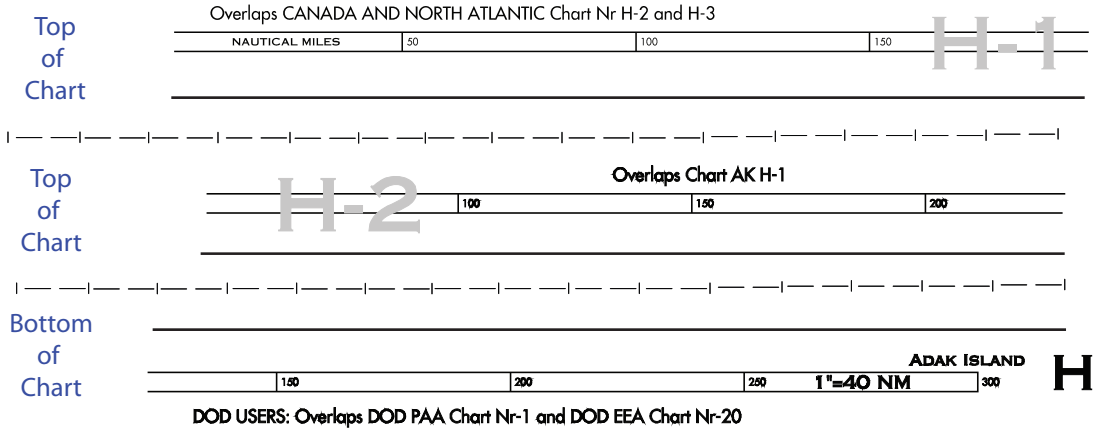
Notes to indicate the appropriate adjoining/overlapping charts (i.e. ADJOINS CHART H-5) shall be placed in the margin areas at internal boundaries. Notes shall be placed once per panel when located at the top or bottom of the chart and once per fold when located along the side of the chart. Text shall be orientated to read 'up' along the left side and read 'down' along the right side of the chart. Notes placed at the bottom of a panel shall be centered between the neatline and the bar scale. Notes placed at the top of a panel shall be centered between the neatline and the chart edge. Notes may be shifted to avoid overprinting.

Figure 3.34 Margin Notes for Adjoining/Overlapping Charts



(AK) Notes for adjoining/overlapping Canadian High Charts shall be shown and placed between the neatline and the bar scale. Notes specific for DoD users shall be shown to assist in identifying adjoining/overlapping DoD charts.

Figure 3.35 (AK) Margin Notes for Adjoining/Overlapping Charts



3.6.6 Chart Effective Date

The chart effective date will be placed in the margin as specified in the appendices.

Figure 3.36 Chart Effective Date

EFFECTIVE 23 SEP 2010 TO 18 NOV 2010

3.7 CHART DETAIL

Chart detail in this section pertains only to areas within the U.S. & Alaska. Chart detail for foreign areas will be shown in accordance with Section **3.8** - Chart Detail in Foreign Areas.

References:

Appendix 21 - Projection Type and Symbol Specifications
Appendix 22 - Base Detail Type & Symbol Specifications
Appendix 23 - Airport Information Type & Symbol Specifications
Appendix 25 - NAVAID Identification Boxes
Appendix 26 - FSS (Alaska Only)/RCO Type & Symbol Specifications
Appendix 27 - Automated Weather Broadcast System Type & Symbol Specifications
Appendix 28 - Airspace Information type & Symbol Specifications
Appendix 29 - Routes - Types
Appendix 30 - Routes - Data
Appendix 31 - Navigational & Procedural Information

The following data is required to be shown:

3.7.1 Projection

Projection type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

References:

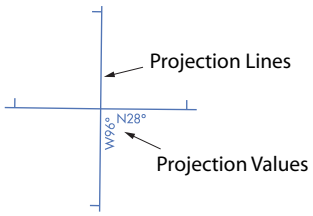
Appendix 21 - Projection Type and Symbol Specifications

3.7.1.1 General

Projection lines and ticks shall not be partially deleted or removed for overprinting text or symbols. Projection values may be shifted to provide clarity and avoid unnecessary clutter. Projection values may be eliminated only when absolutely necessary.

Projection lines shall be shown for even degree values of latitude (i.e., N44 degrees, N 46 degrees, etc.) and longitude (i.e., W96 degrees, W98 degrees, etc.) throughout the coverage of the charts.Where latitude and longitude projection lines intersect type for latitudes shall be parallel to and below the latitude line and type for longitudes shall be parallel to and the right of the longitude line.

Figure 3.37 Projection Lines



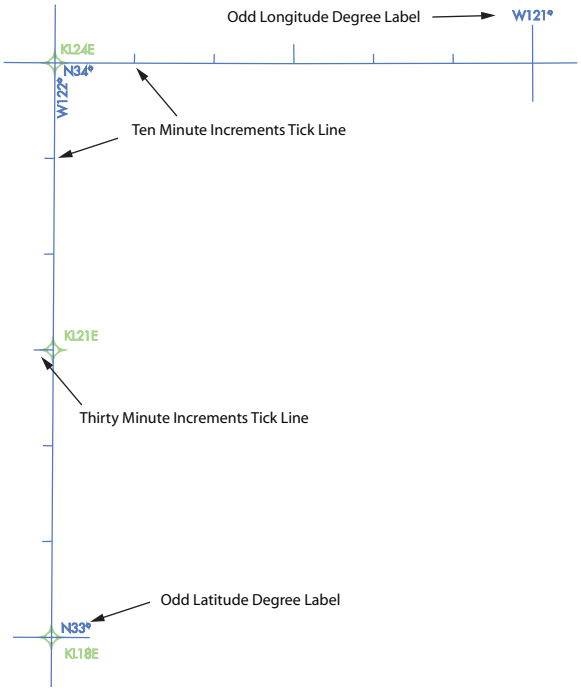
3.7.1.2 Latitude

Ten minute increments of latitude shall be shown with .05" lines and thirty minute increments shall be shown with .10" lines on the west side of longitude lines. Odd degrees (i.e., N45 degrees, N47 degrees, etc.) shall be shown with a .40" line centered on the longitude lines. Odd degrees shall be labeled in the Northeast corner of the intersection between the .40" lines and longitude lines.

3.7.1.3 Longitude

Ten minute increments of longitude shall be shown with .05" lines and thirty minute increments shall be shown with .10" lines on the north side of latitude lines. Odd degrees (i.e., W95 degrees, W97 degrees, etc.) shall be shown with a .40" line centered on the latitude lines. Labels for odd degrees shall be shown parallel to the latitude lines and centered above the .40" lines.

Figure 3.38 Latitude and Longitude Increments and Labels



3.7.1.4 (AK) Alaska

3.7.1.4.1 (AK) General

Projection lines shall be shown for every four degrees of latitude (i.e., N48 degrees, N52 degrees, etc.) and eight degrees of longitude (i.e., W168 degrees, W176 degrees, E176 degrees, E168 degrees, etc.) throughout the coverage of the Alaska charts.

3.7.1.4.2 (AK) Latitude

Ten minute increments of latitude shall be shown with .05" lines on the west side of longitude lines (on the east in the eastern hemisphere). Even degrees (i.e, N46 degrees, N50 degrees, N54 degrees, etc.) shall be shown with a .20" line and odd degrees (i.e., N49 degrees, N51 degrees, N53 degrees, etc.) shall be shown with a .10" line, both centered on longitude lines. Even and odd degrees shall be labeled in the Northeast corner of the intersection between the even and odd degree line and the longitude projection, except where projection lines intersect.

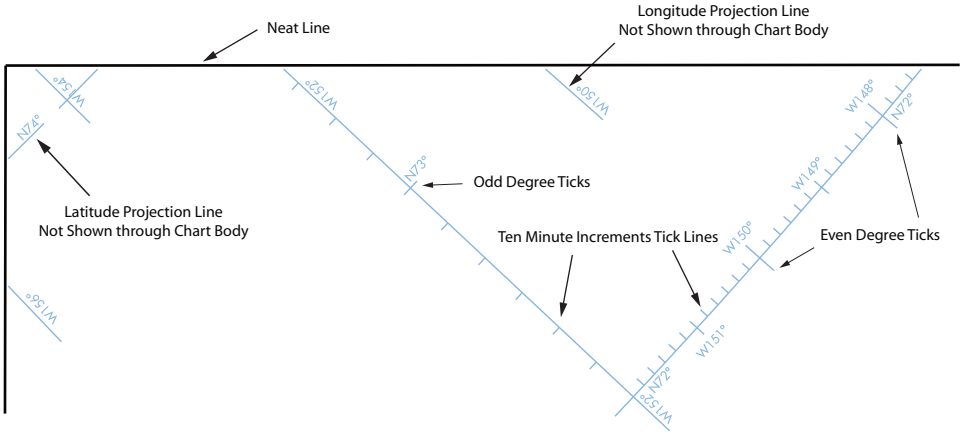
Each even degree of latitude not shown through the body of the chart shall be indicated along the neatline by a latitude projection line extending .40" into the body of the chart. Each such projection line shall be labeled .10" in from the neatline, parallel to and above the latitude projection line.

3.7.1.4.3 (AK) Longitude

Ten minute increments of longitude shall be shown with .05" line perpendicular to and north of latitude lines. Even degrees (i.e., W170 degrees, W172 degrees, W174 degrees, W178 degrees, etc.) shall be shown with a .20" line and odd degrees (i.e., N49 degrees, N51 degrees, N53 degrees, etc.) shall be shown with a .10” line, both centered on latitude lines. Labels for even and odd degrees shall be shown parallel to the latitude lines and centered above the .20" and .10” lines.

Each even degree of longitude not shown through the body of the chart shall be indicated along the neatline by a longitude projection line extending .40" into the body of the chart. Each such projection line shall be labeled .10" in from the neatline, parallel to and below the longitude projection line.

Figure 3.39 (AK) Latitude and Longitude Increments and Labels



3.7.1.4.4 (AK) Seattle Inset Chart

(AK) Seattle Inset Chart shall be shown with the same projection specifications as the conterminous U.S. IFR Enroute High Altitude Charts.

3.7.2 Base Detail

Base Detail type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

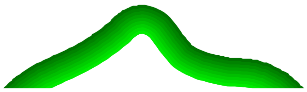
References:

Appendix 22 - Base Detail Type & Symbol Specifications

3.7.2.1 Shoreline

A generalized shoreline shall be shown for coastal areas, the Great Lakes, Salt Lake and the St. Lawrence Seaway, providing a generalized portrayal that is in proportion to the scale of the chart.

Figure 3.40 Shoreline



3.7.2.2 International Boundary

International boundaries shall be charted and identified by the name of the bordering countries. The names shall be positioned within their respective country area, adjacent and parallel to the boundary. Identification of the boundary shall be shown at sufficient intervals along the boundary, at least once between external folds.

Figure 3.41 International Boundary Lines



When the international boundary and the delimiting lines of an ARTCC, ADIZ or FIR coincide, the international boundary symbol shall not be shown; however the country names shall be retained (Refer to Section **3.7.7.3**).

3.7.2.3 (AK) United States/Russia Maritime Boundary

The United States/Russia Maritime Boundary shall be charted and identified by the name of the countries. The names shall be positioned within their respective country area, adjacent and parallel to the boundary. Identification of the boundary shall be shown at sufficient intervals along the boundary, at least once between external folds.

Figure 3.42 United States/Russian Maritime Boundary

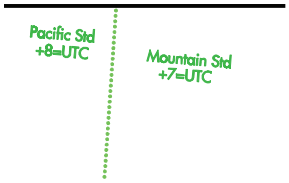


When the United States/Russia Maritime Boundary and other linear boundary symbols coincide, the maritime boundary symbol shall be offset.

3.7.2.4 Time Zones

Time zone boundaries shall be shown and identified by name and plus or minus the number of hours needed to equal Coordinated Universal Time (UTC), (e.g., Eastern Std + 5 = UTC). Times zones shall be identified on both sides of the time zone boundary, as near the chart neat line as space allows.

Figure 3.43 Time Zones



When other linear features coincide with the time zone boundaries, then the time zone boundary shall be offset (Refer to Section **3.7.7.3**).

3.7.2.5 International Date Line

The International Date Line shall be shown and identified by the type “International Date line”, placed adjacent and parallel to the boundary. Additional type, “Sunday” placed East of the date line and “Monday” placed West of the date line, shall be stacked, placed adjacent and parallel to the date line. Identification of the boundary shall be shown at sufficient intervals along the boundary and shall be readable in relation to True North.

When other linear features coincide with the International Date Line boundaries, then the International Date Line boundary shall be offset (Refer to Section **3.7.7.3**).

Figure 3.44 International Date Line



3.7.2.6 Lines of Equal Magnetic Variation (Isogonic Lines)

Isogonic lines and values shall be shown for each 4 degrees of variation (i.e., 0°, 4°E, 8°E, etc.) throughout the body of the chart. Isogonic lines shall be based on a five (5) year epoch. The value of each isogonic line shall be centered on and breaking the isogonic line, approximately 1” from the neatline of the chart.

Figure 3.45 Lines of Equal Magnetic Variation (Isogonic Lines)



3.7.2.7 Registration Guide Marks for Wall Chart Assembly

The High Enroute chart series allows a dual purpose: available folded for in-flight use and unfolded and assembled for use as a wall planning chart. In order to align adjoining charts, registration guide marks, in the form of half airplane silhouettes are used. When half symbols are joined to create the complete airplane, the charts should be in perfect alignment. Registration guide marks shall be placed only on charts H-1 through H-11. On all charts that adjoin H-12 there shall be no registration guide marks referencing H-12.

Alignment of registration guide marks is critical to insure that aeronautical information matches when the charts are assembled. Care should be taken in compilation to provide for similar location of adjoining data on matching charts.

The registration guide marks shall be positioned far enough apart along each adjoining chart edge to afford the most accurate chart alignment possible. However, care should be exercised in the placement of registration guide marks in order to avoid overprinting.

The airplane silhouette shall be encompassed by a continuous line. The line shall not be shown along or at the joining edge, or middle of the airplane symbol.

Figure 3.46 Registration Guide Mark (Airplane Silhouette)



3.7.3 Airports

Airport type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

References:

Appendix 23 - Airport Information Type & Symbol Specifications

3.7.3.1 Charting Criteria

All operational airports with a hard surface runway of at least 5000 feet (before rounding) shall be charted. For runways that are a combination of hard and soft surfaces, only the hard surface portion will be considered for the runway length.

(AK) All operational airports with a hard or soft surface runway of at least 4000 feet (before rounding) shall be charted.

Airports that have received an “Objectionable” airspace determination from the FAA Office Airports shall not be charted.

Private-use airports with an operational status of “Closed Indefinitely” in the authoritative source database will not be charted.

Additional selected airports consistent with the purpose of the IFR Enroute High Altitude chart series may be charted. These additional selected airports shall be identified by the FAA or DoD.

3.7.3.2 Airport Symbology

Airports shall be symbolized as either military, civil, or civil-military airports. Federal airports, i.e., NASA (National Aeronautics and Space Administration), USFS (United States Forest Service), etc., shall be symbolized as civil airports.

Figure 3.47 Airport Classification/Symbology



Airports shall be shown in blue if they have an Instrument Approach Procedure (IAP) or RADAR MINIMA published in the DoD Terminal High Altitude Flight Information Publication (FLIP). Airports shall be shown in green if they have an approved IAP or RADAR MINIMA published only in the FAA Terminal Procedures Publications. Airports not having an approved IAP shall be shown in brown.

Figure 3.48 IAP Airport Symbology

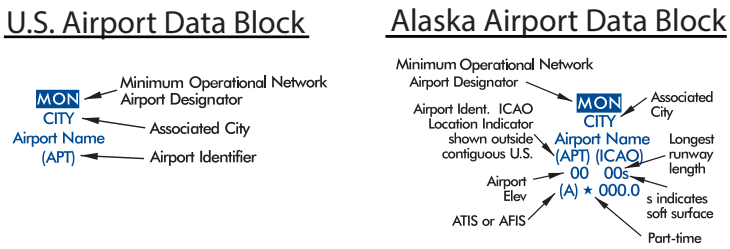


Airports shall be plotted to true geographical position.

3.7.3.3 Airport Data Block

The airport data block shall contain, when applicable, MON Airport designator, associated city name(s), the airport name, and airport identifier and shown in the same color as its associated airport symbology. For airports in **(AK)** refer to paragraph **3.7.3.3.5**.

Figure 3.49 Airport Data Block



3.7.3.3.1 Minimum Operational Network (MON) Airport Designator

MON Airports shall be identified with the MON Airport designator at the top of the Airport Data Block as shown in **Figure 3.50** when identified as a MON Airport in the authoritative source database.

Figure 3.50 MON Airport Designator



3.7.3.3.2 Associated City Name(s)

Associated city names shall be shown only for U.S. public airports. Private and military airports associated city names shall not be shown.

When the associated city name is the same as the airport name, or the first name of a multiple-named airport, the city name shall not be shown. In cases where multiple cities are associated with the same airport, all city names shall be shown.

The associated city name shall be all caps and shown centered above the airport name. In congested areas, the city name may be placed on the same line with the airport name separated by a "/".

Figure 3.51 Associated City Names



3.7.3.3.3 Airport Names

Airport names will be extracted verbatim from the authoritative database and may be further abbreviated or truncated only in extremely congested areas. Private use airports shall be additionally identified with the abbreviation "Pvt" immediately following the airport name. For very long airport names or because of congested charting the airport name may be placed on multiple lines.

Figure 3.52 Airport Names



3.7.3.3.4 Airport Identifiers

For public and military airports within the contiguous U.S., the FAA airport identifier will be placed in parenthesis immediately after the airport name or on the second line if more appropriate. For private airports in the contiguous U.S., the FAA airport identifier will be placed in parenthesis centered on the line immediately following the word "Pvt". Airports outside the contiguous U.S. shall be charted with both the FAA airport identifier, if one exists, and the ICAO location identifier, if one exists. All zeros used as part of the airport identifier shall have the zero shown with a slash.

Figure 3.53 Airport Identifiers



3.7.3.3.5 (AK) Alaska Airport Information

Airports charted on **(AK)** H-1/H-2 and on the Seattle Inset chart shall have the following information centered on the lines below the airport identifier(s):

Figure 3.54 (AK) Airports on (AK) H-1/H-2 & Seattle Inset



3.7.3.3.5.1 (AK) Airport elevation

The airport elevation shall be the highest point on an airport's usable runways. Elevations are expressed in feet above or below mean sea level (MSL). When the elevation is at sea level, the elevation shall be charted as "00". If the elevation is below sea level a minus (-) shall precede the figure.

3.7.3.3.5.2 (AK) Runway length

Runway length shall be the actual length of the longest runway including displaced threshold(s), but excluding those areas designated as overruns. The runway length shall be shown in hundreds of feet, using 70 feet as the division point for the next highest hundred (ex., 59 shall be used to indicate a runway of 5870 feet).

3.7.3.3.5.3 (AK) Runway surface

Hard surface runways are considered to be: (ASP) Asphalt, Bed Rock, Brick, (CON) Concrete. When the longest runway length is not a hard surface, a small letter "s" shall be shown following the runway length to indicate a soft surface.

Figure 3.55 (AK) - Soft Surface Runway designator



3.7.3.3.5.4 (AK) Automatic Terminal Information Service (ATIS)

ATIS shall be indicated by an "(A)", followed by the specific frequency(ies) centered on the line immediately below the elevation and runway length. A star shall be shown immediately preceding each frequency when operation is less than continuous.

When the service is provided on one frequency for both arrival and departure information, it shall be shown as: (A) 111.8

When the service is provided on more than one frequency for both arrival and departure information, it shall be shown as: (A) 113.9 124.2

When the service provided is either arrival and/or departure on different frequencies, it shall be shown as:

(A) ARR 121.7 DEP 124.2

or

(A) ARR 111.2 DEP 115.4 115.9

3.7.3.3.5.5 (AK) Automatic Flight Information Service (AFIS)

AFIS shall be indicated by the letter "(A)" and the specific frequency/ies, centrally positioned immediately below the airport elevation and runway length. A star shall be shown to the left of each frequency when operation is less than continuous.

3.7.4 Radio Aids to Navigation (NAVAIDs)

NAVAID type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

References:

Appendix 25 - NAVAID Identification Boxes

3.7.4.1 Charting Criteria

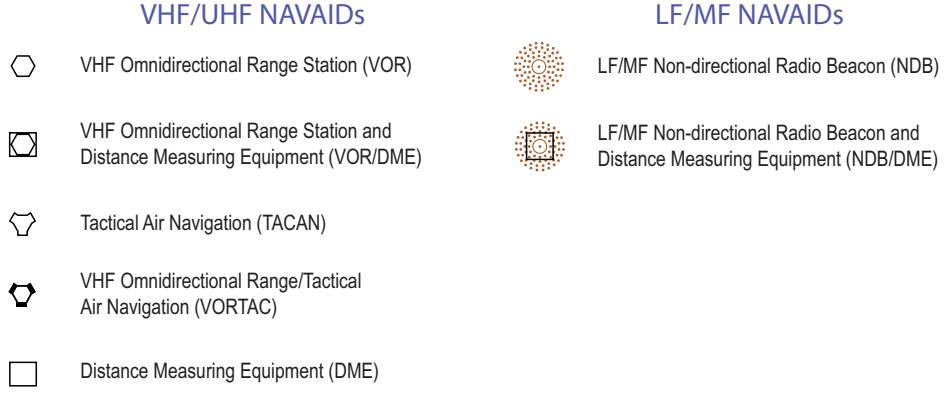
Only public-use NAVAIDs, private-use military owned and operated TACANS, and (outside of U.S. airspace) private-use NAVAIDs utilized in the definition of an airway that are specified for use in the enroute high structure shall be charted.

VHF/UHF NAVAIDs with the Standard Service Volume (SSV) of "H", "VH", or "DH" in whole or when either component part of a combined NAVAID (e.g. VOR/DME) is designated as such, will be charted. VHF/UHF NAVAIDs with the SSV of "L", "VL", "DL", or "T" will be charted only when designated by the FAA or DoD. LF/MF NAVAIDs shall be charted when used to define a route, fix or holding pattern designated for use in the high enroute structure. Marine Radio Beacons may be charted only when authorized by the FAA or DoD.

3.7.4.2 NAVAID Symbology

NAVAIDs shall be symbolized as either a VOR, VOR/DME, TACAN, VORTAC, DME, NDB, or NDB/DME. The color of the NAVAID text and the facility identification box shall match the color of the associated NAVAID symbol. NAVAIDs shall be plotted to their true geographic position.

Figure 3.56 NAVAID Types & Symbology

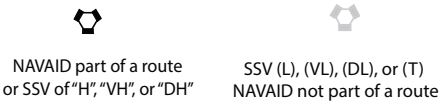


If a NAVAID is designated as a flyover enclose the NAVAID symbol in a circle, (i.e.,).

3.7.4.2.1 NAVAID Standard Service Volume (SSV)

VHF/UHF NAVAIDs with the Standard Service Volume (SSV) of "H", "VH", or "DH" in whole or when either component part of a combined NAVAID (e.g., VOR/DME) is designated as such, will be shown in black. Any VHF/UHF NAVAID regardless of the SSV used to define a route shall be shown in black. VHF/UHF NAVAIDs with the SSV of "L", "VL", "DL", or "T" designated for high altitude use but not part of a route shall be shown in 45% black.

Figure 3.57 NAVAID SSV and Route Use



3.7.4.3 NAVAID Compulsory & Non-Compulsory Reporting Symbology

All NAVAIDs upon which routes are predicated shall be considered and depicted as having Non-Compulsory reporting function, unless otherwise designated.

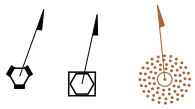
Figure 3.58 NAVAID Symbols with Compulsory and Non-Compulsory Reporting



3.7.4.4 NAVAID North Arrow

NAVAIDs, with the exception of DMEs, shall be shown with a North arrow oriented to slave magnetic North. The North arrow shall be the same color as the NAVAID symbol. The North arrow shall originate from the center of the NAVAID symbol.

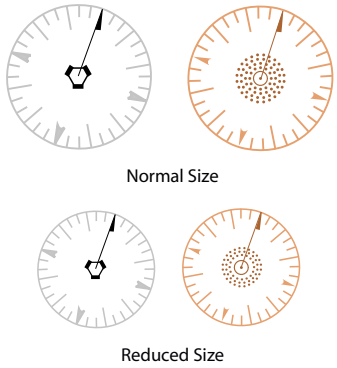
Figure 3.59 NAVAID North Arrow Orientation



3.7.4.5 Compass Roses

Compass roses shall be charted centered on those NAVAIDs, with the exception of DMEs, which have routes predicated on them. Compass roses may be shown around other NAVAIDs where placement of the compass rose does not create additional unnecessary clutter or congestion. A compass rose shall never be associated with a DME facility. If compass roses overlap and congestion hinders readability, the compass rose of the NAVAID with the most congestion may be deleted. Compass roses shall be shown oriented to slave magnetic North. Cardinal direction values shall not be shown. Compass roses shall be .75" in diameter and in very congested areas may be reduced in size to .5" in diameter.

Figure 3.60 Compass Roses



3.7.4.6 NAVAID Identification Boxes

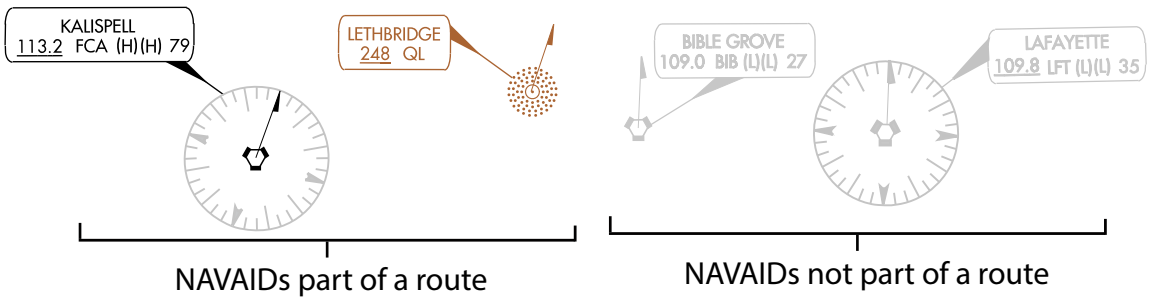
3.7.4.6.1 General

NAVAID data shown in the NAVAID identification box shall include the official NAVAID name, frequency with associated channel number, location identifier, and when specified the coordinates and standard service volume(s) (SSV). Periods shall not be shown in official NAVAID names.

The NAVAID identification box shall be of a size consistent with the information contained within. NAVAID identification boxes and data shall be the same color as the NAVAID symbol.

Pointers shall be shown extending from the identification boxes to the appropriate compass rose or to the NAVAID symbol when the NAVAID is not part of the route and a compass rose is not charted

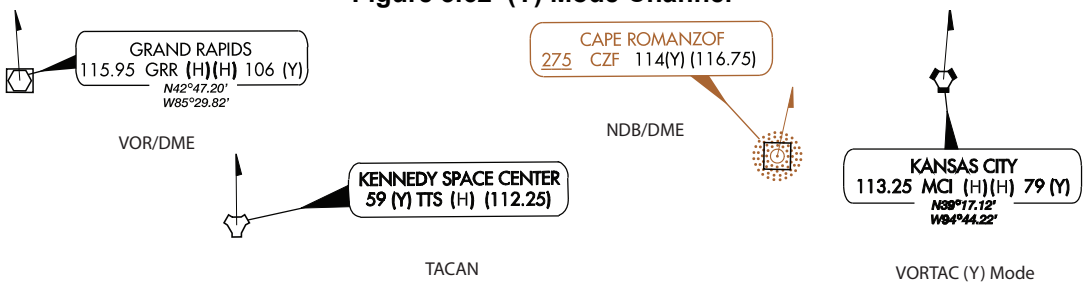
Figure 3.61 NAVAID Identification Boxes and Associated Pointer



3.7.4.6.2 Y Mode Channel

VOR/DME, TACAN, NDB/DME, VORTAC, DME and LOC/DME facilities that operate in Y-mode for DME reception, shall be shown with a (Y) suffixed to the channel number, e.g., 90(Y). See appropriate NAVAID paragraph for examples.

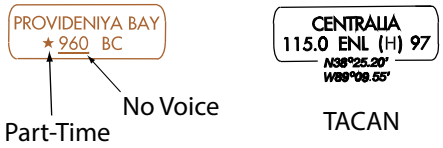
Figure 3.62 (Y) Mode Channel



3.7.4.6.3 No Voice, Part-Time and on Request Frequencies

NAVAID frequencies shall be underlined when voice on the frequency is unavailable. TACAN and DME frequencies shall not be underlined. NAVAIDs part-time or on request shall be indicated by placing a star symbol immediately before the frequency.

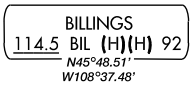
Figure 3.63 NAVAIDs - No voice, Part-Time & On Request Frequencies



3.7.4.6.4 Geographic Coordinates

NAVAIDs upon which a route is predicated shall have the coordinates for that NAVAID shown to the hundredth of a minute. All TACAN facilities will include geographic coordinates. The coordinates shall be stacked, centered, and breaking the bottom of the facility identification box.

Figure 3.64 NAVAIDs - Coordinates



3.7.4.6.5 Standard Service Volume Classifications (SSV)

VOR, VOR/DME, VORTAC, DME, and TACAN NAVAIDs shall indicate the SSV(s). SSVs may be Terminal (T), Low (L), VOR Low (VL), High (H), VOR High (VH), DME Low (DL), or DME High (DH). VOR/DMEs and VORTACs will indicate the SSV for both component parts of the NAVAID, e.g. (VL) (DH).

Figure 3.65 NAVAIDs - Standard Service Volume



3.7.4.6.6 Abnormal Status

NAVAIDs published as "Shutdown" shall be charted. The applicable frequency and/or channel shall be overprinted with diagonal lines in a NE to SW direction.

Figure 3.66 NAVAIDs - Abnormal Status



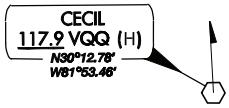
The diagonal line symbol shall also overprint the applicable frequency or channel number that are shown within a facility locator boat.

3.7.4.7 NAVAID Types

3.7.4.7.1 VHF Omnidirectional Range Station (VOR)

VOR stations shall be identified by the VOR symbol. The NAVAID identification box shall contain the NAVAID name on the first line. The second line shall contain, in the order listed, the frequency, the identification letters and the SSV.

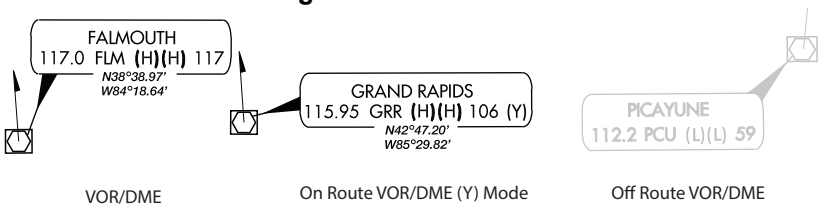
Figure 3.67 VOR



3.7.4.7.2 VHF Omnidirectional Range Station and Distance Measuring Equipment (VOR/DME)

VORs with DME shall be identified by the VOR/DME symbol. The NAVAID identification box shall contain the NAVAID name on the first line. The second line shall contain, in the order listed, the frequency, the identification letters, the SSVs and the applicable channel number.

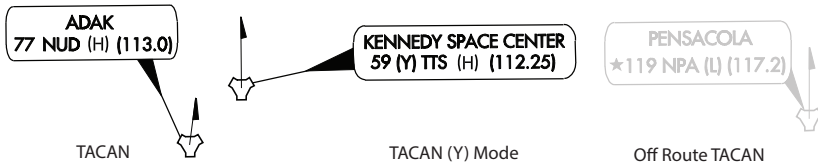
Figure 3.68 VOR/DME



3.7.4.7.3 Tactical Air Navigation (TACAN)

TACAN facilities shall be identified by the TACAN symbol. The NAVAID identification box shall contain the NAVAID name on the first line. The second line shall contain, in the order listed, the TACAN channel, the identification letters, the SSV and the paired VHF frequency. The SSV and paired VHF frequency shall each be shown enclosed in parentheses immediately following the TACAN identifier.

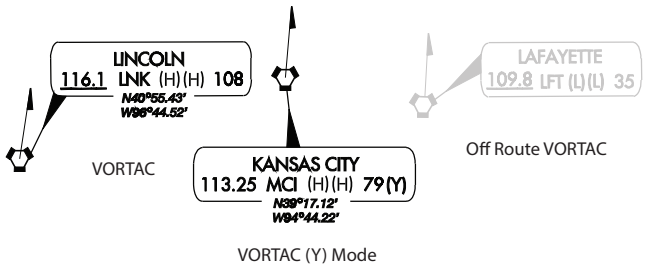
Figure 3.69 TACAN



3.7.4.7.4 VHF Omnidirectional Range – Tactical Air Navigation (VORTAC)

VORTAC facilities shall be identified by the VORTAC symbol. The NAVAID identification box shall contain the NAVAID name on the first line. The second line shall contain, in the order listed, the frequency, identification letters, the SSVs and the DME channel.

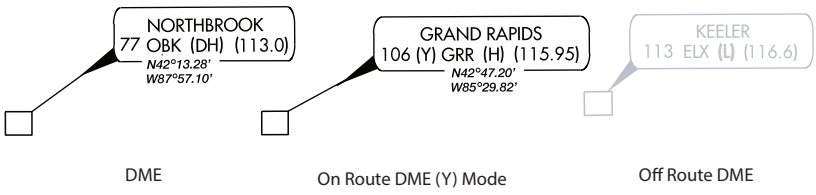
Figure 3.70 VORTAC



3.7.4.7.5 Distance Measuring Equipment (DME)

DME facilities shall be identified by the DME symbol. The NAVAID identification box shall contain the NAVAID name on the first line. The second line shall contain, in the order listed, the channel, identification letters, and the SSV and frequency in parentheses.

Figure 3.71 DME



3.7.4.7.6 Non-Directional Radio Beacons (NDB)

NDBs shall be identified by the NDB symbol. The NAVAID identification box shall contain the NAVAID name on the first line. The second line shall contain the frequency followed by the identification letters.

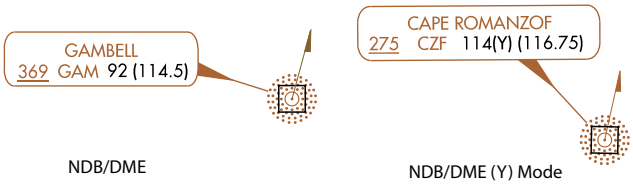
Figure 3.72 NDB



3.7.4.7.7 Non-Directional Radio Beacons & Distance Measuring Equipment (NDB/DME)

NDB/DMEs shall be identified by the NDB/DME symbol. The NAVAID identification box shall contain the NAVAID name on the first line. The second line shall contain, in the order listed, the frequency the identification letters, the DME channel and its paired frequency enclosed in parentheses. DME Channel and frequency shall be shown in black.

Figure 3.73 NDB/DME



3.7.4.7.8 Marine Radio Beacons

Marine Radio Beacons shall be symbolized and identified in the same manner as described for Non-Directional Radio Beacons. Refer to Section 3.7.4.7.6.

3.7.5 Flight Service Stations (FSS) (Alaska Only) & Remote Communication Outlets (RCOs)

FSS & RCO type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

All FSS with high altitude frequencies and those RCOs served by the FSS shall be charted and shown by name and identification letters.

All RCO frequencies shall be depicted.

References:

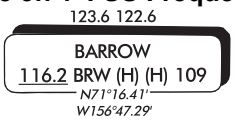
Appendix 26 - FSS (Alaska Only)/RCO Type & Symbol Specifications

3.7.5.1 Frequencies

All high altitude FSS frequencies, except as stated below, shall be shown. FSS standard frequencies 122.2 and emergency 121.5, 243.0 shall not be shown. FSS frequencies that transmit or receive only shall be indicated by a “T” or “R”, respectively, following the frequency.

FSS frequencies shall be shown centered above the FSS shadow box. If more than one high altitude frequency is shown, then the frequencies shall be in descending order, left to right.

Figure 3.74 FSS Frequencies

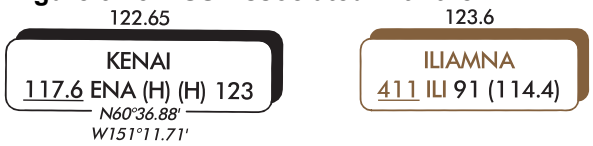


3.7.5.2 FSS Associated with a NAVAID

A FSS and a NAVAID may be collocated on the charts if the FSS and NAVAID have the same name, identifier, and are located within 10 NM's of each other. These collocated FSS and NAVAID identification boxes shall be shown as a shadow box.

Frequencies for an FSS collocated with a LF/MF NAVAID shall be shown in black while the shadow box shall be shown in brown.

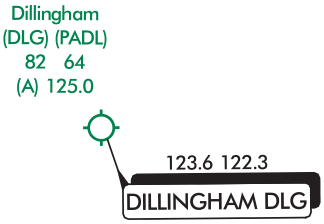
Figure 3.75 FSS Associated with the NAVAID



3.7.5.3 FSS Not Associated with a NAVAID

FSS not associated with a NAVAID shall be charted as a single line FSS shadow box. FSS name and identifier shall be shown within the box. FSS frequencies other than the standard group frequencies shall be centered above the shadow box. If more than one frequency is shown, then the frequencies should be shown in descending numerical order, left to right. FSS shall be charted at its true geographic position indicated by a circle and dot symbol. A pointer shall be used, extending from the FSS shadow box to the location symbol. If a FSS is located at or in close proximity to an airport, then the airport symbol shall suffice for the location symbol.

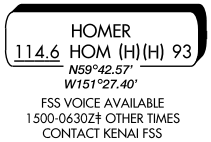
Figure 3.76 FSS Not Associated with a NAVAID



3.7.5.4 Part-time FSS

Part-time FSS shall be supplemented with a note describing the operational hours and alternate FSS. Operating hours shall be shown as UTC. The note should be placed immediately below the FSS shadow box.

Figure 3.77 Part-time FSS



3.7.5.5 RCO Associated with NAVAIDs

RCOs may be collocated with NAVAIDs if they are associated with the same FSS, have the same name and are located within 10NMs of each other. These collocated RCOs shall show the FSS frequency remoted to the RCO, centered above the NAVAID box and the name of the FSS providing the service enclosed with "L" brackets below the NAVAID box. If more than one frequency is shown, then the frequencies shall be shown in descending numerical order, left to right.

Figure 3.78 RCOs Associated with a NAVAID

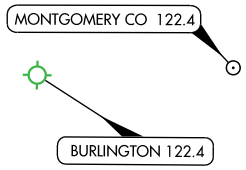


3.7.5.6 RCO Not Associated with a NAVAID

RCOs not associated with a NAVAID shall be charted as a single line box. RCO FSS name and frequency shall be shown within the box. If more than one frequency is charted, then the frequencies should be shown in descending numerical order, left to right.

RCOs shall be charted at their true geographic position with a circle and dot symbol. A pointer shall be used, extending from the RCO identification box to the location symbol. If the RCO is located at or in close proximity to an airport, then the airport symbol shall suffice for the location symbol.

Figure 3.79 RCOs Not Associated with a NAVAID



3.7.6 Automated Weather Broadcast System

Automated Weather Broadcast System type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

References:

Appendix 27 - Automated Weather Broadcast System Type & Symbol Specifications

3.7.6.1 Automated Weather Broadcast Service Associated with a NAVAID

An automated weather broadcast system associated with a NAVAID shall be indicated by using the appropriate symbol as shown below. The symbol shall be placed in the upper right corner of the NAVAID box.

Figure 3.80 Automated Weather Broadcast Systems

Ⓐ Automated Surface Observing System (ASOS) or Automated Weather Observing System (AWOS)

Figure 3.81 Automated Weather Broadcast System Associated with a NAVAID



3.7.7 Airspace Information

Airspace type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

References:

Appendix 28 - Airspace Information type & Symbol Specifications

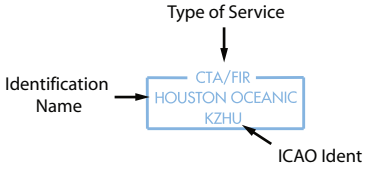
3.7.7.1 General Air Traffic Service (ATS) Area Information

The information described in this section is in addition to the boundary or limits of the areas as described under the individual subject sections. ATS areas include Flight Information Regions (FIR), Upper Information Regions (UIR), Control Areas (CTA) and Upper Control Areas (UTA). Informational content for ATS areas applicable to the enroute high altitude structure shall be shown.

ATS information shall be shown centered, enclosed within a box. The ATS box shall be positioned as near the center of the area as possible. The ATS box and information may be repeated depending on the size of the ATS area charted. If the ATS box is placed outside the ATS area then a pointer shall be used, extending from the box into the area.

U.S. controlled facility ATS information shall include: type of service, identification name and ICAO ident.

Figure 3.82 General Air Traffic Service (ATS) Area Information - U.S



3.7.7.2 Airspace Notes

3.7.7.2.1 United States Airspace Notes

The following FAA ATS note shall be positioned in an open water area on all charts depicting airspace assignments beyond the territorial limits of the United States.

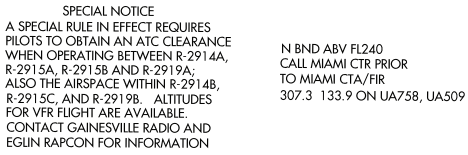
Figure 3.83 U.S. Airspace Note



3.7.7.2.2 Other Miscellaneous Airspace Notes

Other miscellaneous airspace notes approved by the appropriate authority should be placed as near the airspace affected as possible.

Figure 3.84 Miscellaneous Airspace Notes - Examples



3.7.7.3 Airspace & Airspace Boundaries

Chart items related to foreign airspace can be found in Section **3.8.5** - Foreign Airspace Information.

3.7.7.3.1 Collocated Liner Features

The following shall be used as a guide in the portrayal of linear features when such features are collocated or occupy the same delimiting line or boundary. Refer to Sections **3.7.7.3.3** through **3.7.7.3.9** for specific graphic examples.

The international boundaries shall not be shown when collocated with an ARTCC, ADIZ, or FIR (Refer to Section **3.7.2.2** International Boundaries).

The Oceanic Control Area (OCA) boundaries shall not be shown when collocated with an ADIZ or FIR.

The ARTCC boundaries shall be offset to the ARTCC area side when collocated with an ADIZ or FIR.

The ARTCC and SUA boundaries shall be superimposed and not offset when an ARTCC is collocated with an internal or external SUA boundary.

A common delimiting line shall be used when an ADIZ and FIR boundaries are collocated.

3.7.7.3.2 Controlled Airspace

Airspace designated as high altitude controlled airspace shall be shown. Controlled airspace shall include Class A (includes Offshore Airspace Areas), Control Areas (CTA), Upper Control Areas (UTA), and Oceanic Control Areas (OCA). Controlled airspace shall be shown as open white areas (i.e., absent of brown tint).

3.7.7.3.3 Uncontrolled and Unclassified Airspace

Uncontrolled airspace (Class G) and that portion of airspace that has not been classified as controlled shall be shown.

Figure 3.85 Uncontrolled/Unclassified Airspace

3.7.7.3.4 Air Defense Identification Zones (ADIZ) and Defense Areas

ADIZ boundaries shall be shown and identified by name (ex., ALASKA ADIZ, CANADA ADIZ, CONTIGUOUS U.S. ADIZ).

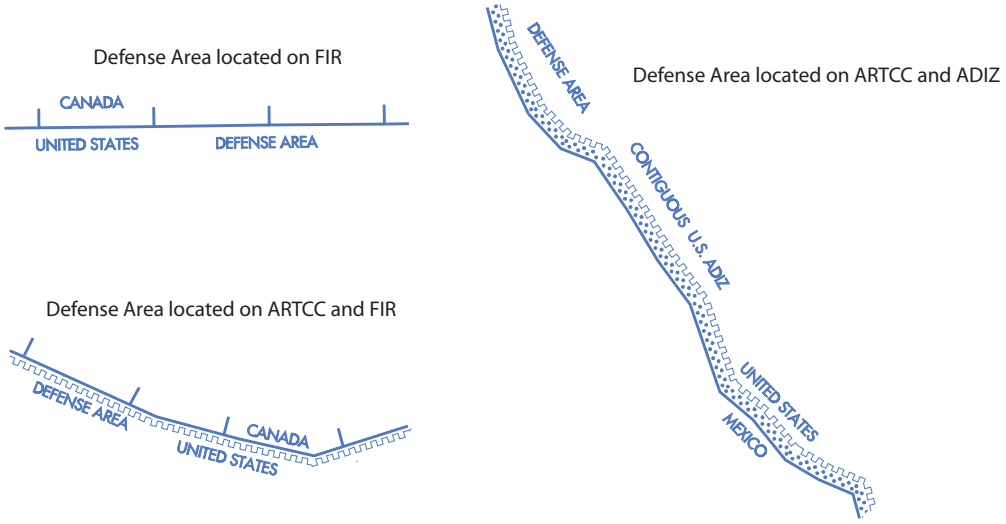
The conterminous U.S. Defense Area shall only be identified along the Mexican and Canadian international boundaries with the text “DEFENSE AREA” and shall not be labeled when beyond the U.S. continental limits.

ADIZ and Defense Area identifications shall be positioned within their respective areas, adjacent and parallel to the boundary symbol, and should appear at least once between external chart folds or as frequently as necessary in order to readily identify the boundary.

Figure 3.86 ADIZ Boundaries

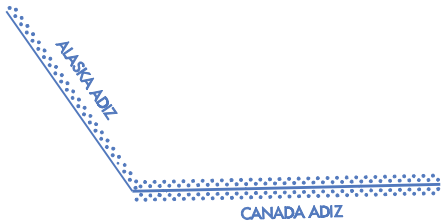


Figure 3.87 Defense Area Examples



When ADIZ adjoin one another, i.e., share a common boundary, two parallel rows of dots shall be shown on either side of the common boundary.

Figure 3.88 Adjoining ADIZ Boundaries



When an international boundary, projection line, OCA, or other linear feature shares a common boundary with an ADIZ or is the dividing line between two ADIZ, the linear features symbology shall suffice for the boundary line of the ADIZ.

When an FIR boundary coincides with the boundary of an ADIZ, the ADIZ symbol without the line shall be positioned adjacent to the FIR symbol, utilizing a common delineating line.

Figure 3.89 FIR Boundary Coincides with the Boundary of an ADIZ



3.7.7.3.5 Control Areas (CTA), Upper Control Areas (UTA) and Oceanic Control Areas (OCA)

CTA, UTA and OCA boundaries shall be shown and identified by name and ICAO identifier. Identification shall be positioned within the area, adjacent and parallel to the boundary and should appear at least once between external chart folds or as frequently as necessary in order to readily identify the boundary.

CTA and UTA boundaries that are located within areas that are outside of the U.S. FIR/CTA boundary will not be shown unless coincident with the U.S. FIR/CTA boundary.

Figure 3.90 CTA, UTA and OCA Boundaries



Vertical limits associated with a CTA, UTA or OCA shall be shown on the second line from the boundary.

Figure 3.91 CTA, UTA, or OCA Vertical Limits



When Air Traffic Control is implemented in conjunction with a FIR or UIR, then the area shall be designated as a CTA/FIR (UTA/FIR) or OCA/FIR. The boundary shall be identified by name, type of area and ICAO identifier.

Figure 3.92 CTA/FIR Boundaries



3.7.7.3.6 Flight Information Regions (FIR) and Upper Information Regions (UIR)

Boundaries of Flight Information Regions (FIR) and Upper Information Regions (UIR) shall be charted and identified by name and ICAO identifier. Identification shall be positioned within the area, adjacent and parallel to the boundary line and should appear at least once between external chart folds or as frequently as necessary in order to readily identify the boundary. FIR and UIR boundaries shall be symbolized with ticks and inverted capital 'U's, respectively.

Figure 3.93 FIR and UIR Boundaries



Overlying FIR and UIR areas sharing a common boundary line shall be shown with the same spacing, but alternating the FIR tick and the UIR 'U'.

Figure 3.94 Overlying FIR and UIR Areas



FIR and UIR areas adjoining one another shall be shown with the tick marks and the 'U' on the appropriate sides of the common boundary, in an alternating pattern.

Figure 3.95 Adjoining FIR and UIR Areas



3.7.7.3.7 Air Route Traffic Control Center (ARTCC), Area Control Center (ACC) and Remote Communications Air/Ground (RCAG)

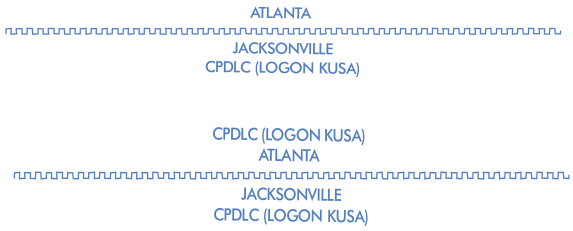
ARTCC boundaries shall be shown and identified by the Center name. Identification shall be positioned within the respective area, adjacent and parallel to the boundary. Identification should appear at least once between external chart folds or as frequently as necessary in order to readily identify the boundary.

Figure 3.96 ARTCC Boundary



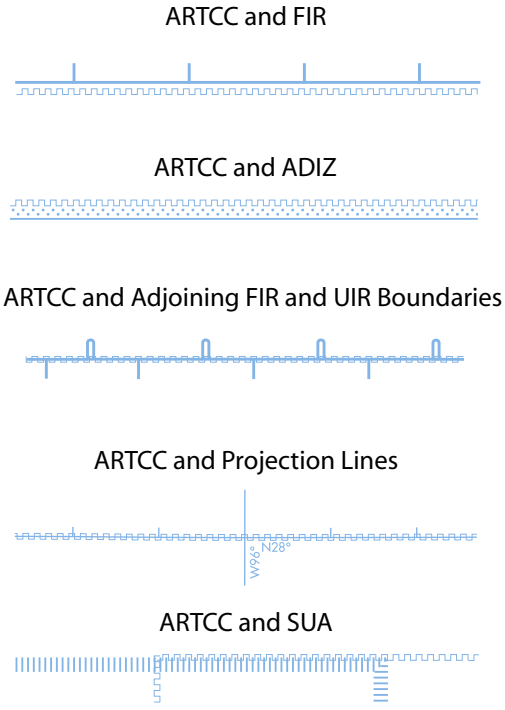
When Controller Pilot Data Link Communication (CPDLC) is added to the authoritative source database for an ARTCC, the text CPDLC (LOGON KUSA) will be shown parallel to the boundary above or below the ARTCC identification as shown below. When space is a concern, the text may be placed adjacent and parallel to the boundary following the ARTCC identifier.

Figure 3.97 ARTCC Boundary with CPDLC Identification



When ARTCC boundaries and their foreign equivalents appear with other linear symbols, they shall be shown offset to one side, adjacent and parallel to the other linear symbols. The ARTCC, when collocated with an ADIZ or FIR, shall be offset to the side of the ARTCC area. When ARTCC boundaries are collocated with a FIR or UIR on both sides, the ARTCC symbol shall not be offset. The ARTCC symbol shall not be offset from the Projection or SUA external or internal boundaries.

Figure 3.98 ARTCC Boundaries Collocated with Other Linear Symbols



Remote Communications A/G (RCAG) facility sites shall be shown and identified by the ARTCC name, the remoted site name, and applicable high altitude VHF and UHF frequency, enclosed within a box. Only one VHF and one UHF frequency designated in the authoritative source database for high altitude enroute charting shall be shown. Guard/emergency frequencies 121.5, 243.0 shall not be charted. The RCAG box should be located in the approximate geographical position of the remoted site. A location symbol for the site will not be shown.

Figure 3.99 Remote Communications A/G



3.7.7.3.8 Continental Control Boundary (U.S.)

The boundary of the U.S. Continental Control (12 mile limit) shall be shown. There shall be no identification of the Continental Control boundary. A continuous unbroken line shall indicate the boundary.

Figure 3.100 U.S. - Continental Control Boundary

Figure 3.101 U.S. - Continental Control Boundary - Example



3.7.7.3.9 Offshore Airspace Areas

Offshore Airspace Areas outside of Class A airspace shall be shown as open white areas (controlled airspace) and identified by name. Identification shall be positioned within the respective area, adjacent and parallel to the boundary symbol. Identification should appear at sufficient intervals along the boundary, at least once between external chart folds. A continuous line shall indicate the boundaries of an area, as space permits. Notes pertaining to Offshore Airspace Areas shall be shown centered within or immediately outside the area.

Figure 3.102 Offshore Airspace Areas



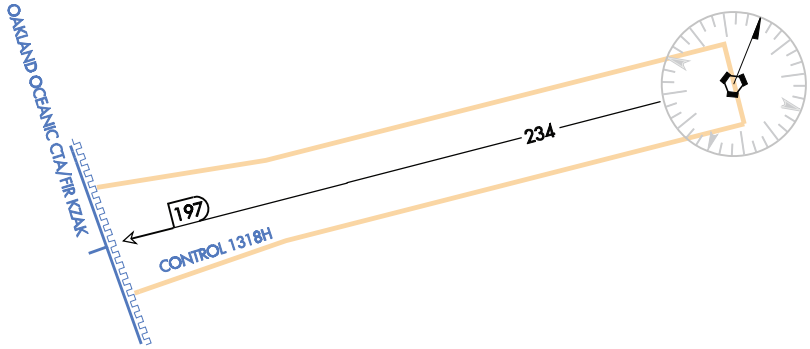
Vertical limits associated with Offshore Airspace Areas shall be shown. Vertical limits shall be shown on a second line away from the boundary.

Figure 3.103 Offshore Airspace Areas - Vertical Limits



Offshore Control Areas whose boundaries are defined from a NAVAID a bearing or radial line shall be used as the center line of these offshore airspace areas, supplemented by the MEA when designated and the appropriate mileages between applicable NAVAIDs and reporting points. The NAVAID upon which the additional offshore airspace areas are predicated shall be shown even though it might not otherwise meet the criteria for charting.

Figure 3.104 Offshore Control Areas - Bearing/Radial Line



3.7.7.3.10 Special Use Airspace

Domestic SUA areas with an effective altitude range that extends into or falls within the en-route high altitude structure shall be shown. SUA areas shall include Prohibited (P), Restricted (R), and Warning Areas (W). SUA areas should be identified by the designated name, e.g., R-4801, positioned within and as near the center of the appropriate area as possible. When SUA area identification type is positioned outside the area then a pointer shall be used, extending from the SUA identifier into the SUA area.

3.7.7.3.10.1 SUA Boundaries

SUA external boundaries shall be symbolized by a line pattern of tick marks, evenly spaced, perpendicular to the external boundaries, and extending into the area. External boundaries shall only encompass SUA areas with similar names. SUA internal boundaries shall use a line to subdivide the individual SUA areas. When SUA area identification type is positioned outside the area, a pointer with an arrowhead pointing to the SUA area shall be shown.

Figure 3.105 SUA Boundaries



Figure 3.106 SUA U.S.

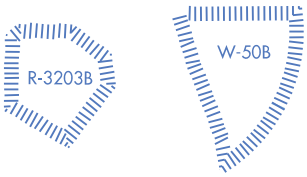
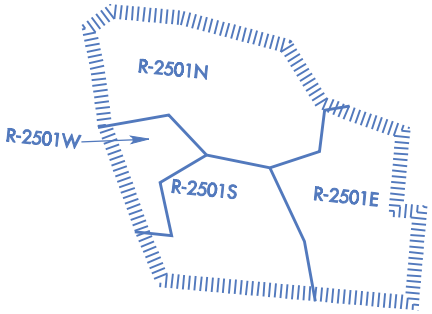


Figure 3.107 SUA Internal Boundaries



3.7.7.3.10.2 SUA Boundaries - Small Areas

Should an SUA area be too small to portray with the specified line pattern, the tick marks shall be proportionately reduced in size to adequately portray the area. Extremely small areas, too small to portray the line pattern, shall be shown as a solid circle.

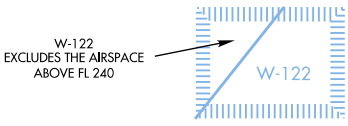
Figure 3.108 SUA Boundaries - Small Areas



3.7.7.3.10.3 SUA Exclusion Area and Exclusion Notes

SUA exclusion area and exclusion notes pertaining to the enroute high altitude structure shall be shown. An exclusion note shall be shown for each exclusion area and placed within the exclusion area. When the exclusion note is placed outside the SUA area due to congestion, a pointer shall be used to relate the text to the specific area.

Figure 3.109 SUA Exclusion Area and Notes



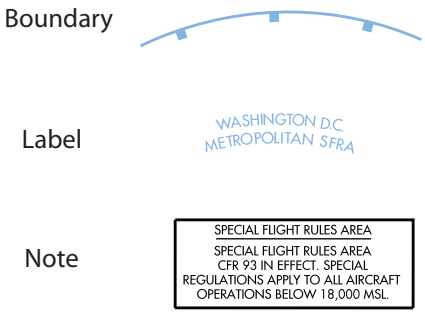
3.7.7.3.10.4 SUA Operational Notes

Special operational notes pertaining to flight through or over SUA areas shall be provided as an operational note.

3.7.7.3.11 Special Flight Rules Areas (SFRAs)

SFRAs boundaries, label and associated notes designated for charting by appropriate authority shall be depicted on the charts. Notes shall be boxed and placed as close to the associated SFAR without overprinting where possible.

Figure 3.110 Special Flight Rules (SFRA) and Associated Note



3.7.8 Routes

Route type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

References:

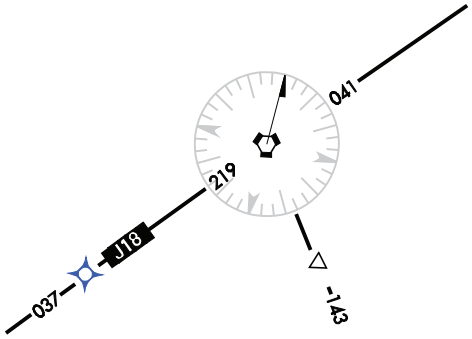
Appendix 29 - Routes - Types
Appendix 30 - Routes - Data

3.7.8.1 General

Routes designated by the FAA for charting shall be shown on the Enroute High Altitude Charts.

Centerlines shall be partially deleted to avoid overprinting NAVAIDs, intersections, fixes, waypoints and mileage breaks that are designated as part of the airway structure. Centerlines shall pass directly through NAVAIDs, intersections, fixes, waypoints and mileage breaks that are not designated part of the airway structure. Additionally, centerlines may be partially deleted when text and point symbology (e.g., airports, but not points that could be misconstrued as being part of the airway structure) cannot be relocated.

Figure 3.111 Route Centerline Depiction



Route notes containing operational and explanatory information such as altitude limitations, traversing of SUA areas, special Air Traffic rules, etc., shall be shown as required.

Figure 3.112 Supplementary Route Notes

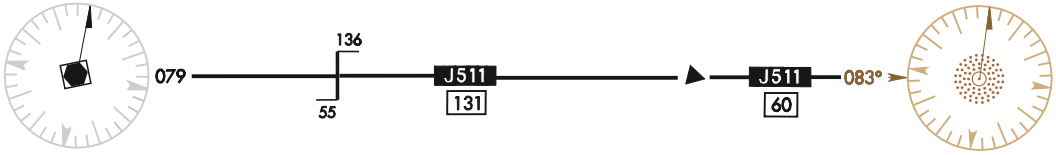


3.7.8.2 Route Types

3.7.8.2.1 Jet Routes

All jet routes shall be shown. Color for route centerline symbology shall be predicated on the type of NAVAID, i.e., VHF/UHF, LF/MF defining the route. The centerline symbology shall not change for the entirety of the route. Route segments predicated on VHF/UHF and LF/MF NAVAIDs shall show the route centerline in black.

Figure 3.113 Jet Routes



3.7.8.2.2 Air Traffic Service (ATS) Routes

ATS routes shall be shown as designated within the Oceanic Control Areas/Flight Information Regions. Extensions of these routes within the ARTCC, from the CTA/FIR boundary reporting point toward the coastline or applicable NAVAID, shall be indicated by radial and/or bearing lines and mileages.

Color for route centerline symbology shall be predicated on the type of NAVAID, i.e. UHF/UHF, LF/MF defining the route. The centerline symbology shall not change for the entirety of the route. Route segment predicated on VHF/UHF and LF/MF NAVAIDs shall show the route centerline in black

Figure 3.114 Air Traffic Service Routes



3.7.8.2.3 Oceanic, Atlantic and Bahamas Routes

Oceanic, Atlantic, and Bahamas Routes shall be shown within Oceanic Control Areas/Flight Information Regions. Extensions of those routes within the ARTCC, from the CTA/FIR boundary reporting point toward the coastline or applicable NAVAIDs, shall be indicated by radial and/or bearing lines and mileages. Routes that include segments with Minimum Enroute Altitudes (MEA) below 18,000' MSL shall be charted in their entirety when a portion of that route has an MEA of 18,000' MSL and above.

Color for route centerline symbology shall be predicated on the type of NAVAID, i.e., VHF/UHF, LF/MF defining the route. The centerline symbology shall not change for the entirety of the route. Route segments predicated on VHF/UHF and LF/MF NAVAIDs shall show the route centerline in black.

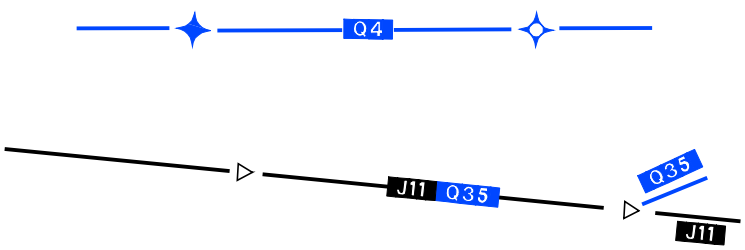
Figure 3.115 Oceanic, Atlantic and Bahamas Routes



3.7.8.2.4 "Q" (RNAV) Routes

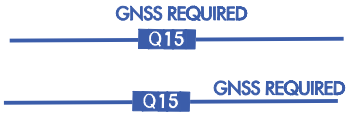
RNAV routes, published with a "Q" identifier (except those in the Gulf of America), shall be shown. When an RNAV route is coincident with another route the center line of the RNAV route shall not be shown.

Figure 3.116 "Q" RNAV Routes



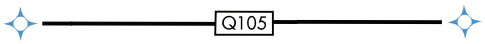
"Q" RNAV routes limited to GNSS operations only shall have a note placed above and parallel to the centerline and as close to the route identification as space permits.

Figure 3.117 "Q" RNAV Routes Limited to GNSS Operations



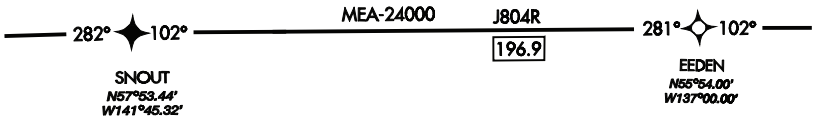
3.7.8.2.5 Gulf of America "Q" (RNAV) Routes

Figure 3.118 Gulf of America "Q" RNAV Routes



3.7.8.2.6 (AK) VOR/DME RNAV Routes

Figure 3.119 (AK) -VOR/DME RNAV Routes



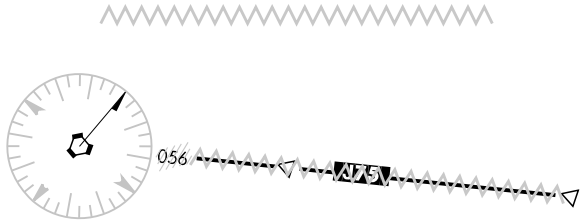
3.7.8.2.7 Unusable Route Segments

Route segments designated by the FAA as unusable, and required for charting, shall be shown.

The unusable airway/route symbol shall be centered on the unusable airway/route centerline segment. The symbology shall not be broken for identifications, mileages, changeover points, fixes or mileage break points.

Radial or bearing values associated with the unusable airway/route segments shall be overprinted with diagonal lines in a NE to SW direction. (See also Section 3.7.8.3.4.)

Figure 3.120 Unusable Route Segments



When two routes are coincident, but only one route is designated as unusable, a note indicating which route the unusable symbology applies to will be placed parallel to the route and in close proximity to the route idents, e.g., ONLY J91 UNUSABLE.

Figure 3.121 Coincident Routes with Unusable Segment



3.7.8.3 Route Data

3.7.8.3.1 General

Jet, RNAV “Q” Route, Gulf of America “Q” Route, Alaska VOR/DME RNAV, ATS, Oceanic, Atlantic, and Bahamas route data shall be shown parallel to the route centerline. The color of route data will be predicated on the type of route, (i.e., ATS, “Q”) and route make-up, (i.e.,UHF/VHF, LF/MF, RNAV).

3.7.8.3.2 Identification

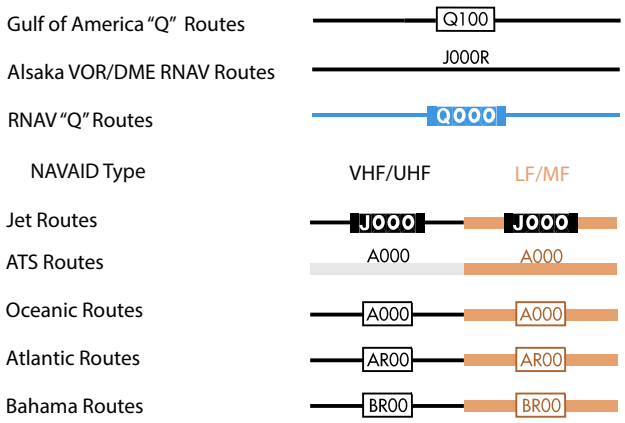
Routes shall be identified by the appropriate letter(s), to indicate the type of route, and the appropriate number, to indicate the specific route.

Jet and RNAV route identifications (except Gulf of America“Q” Routes) shall be shown in negative type.

Gulf of America “Q”, Oceanic, Atlantic and Bahamas route identification shall be enclosed within a box. ATS, and Alaska VOR/DME RNAV route identification shall not be enclosed within a box.

Jet, Oceanic, Atlantic, Bahamas, and RNAV route identifications shall be centered on and breaking route centerlines. ATS and Alaska VOR/DME RNAV route identifications shall be centered above the route centerline.

Figure 3.122 Route Identifications



Routes shall be identified at least once between external folds of the chart and as needed for clarification. Route identifications should be located midway between NAVAIDs, a NAVAID and chart edge, and between a NAVAID and the end of a route. RNAV route identifications should be located midway between waypoints.

In congested areas, Jet, Oceanic, Atlantic, Bahamas, and RNAV route identifications may be offset but should remain flush with the routes, above or below and/or stacked along route centerlines. ATS and Alaska VOR/DME RNAV route identifications may be offset below and/or stacked along route centerlines. In extremely congested areas, route identifications may be offset from the route centerlines and a pointer used from the identification to the route; however, the identification should remain aligned parallel to the route.

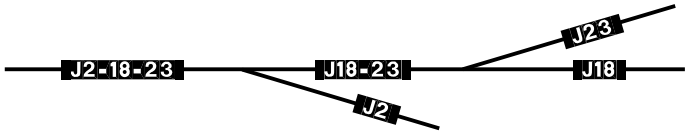
Figure 3.123 Route Identification - Congested Areas



When two or more routes of the same classification have been designated concurrently over the same airspace, i.e., coincidental routes, then identifications shall be shown in numerically descending order and repetitious letter identification shall be eliminated.

When two or more coincidental routes separate, each individual route segment shall be identified.

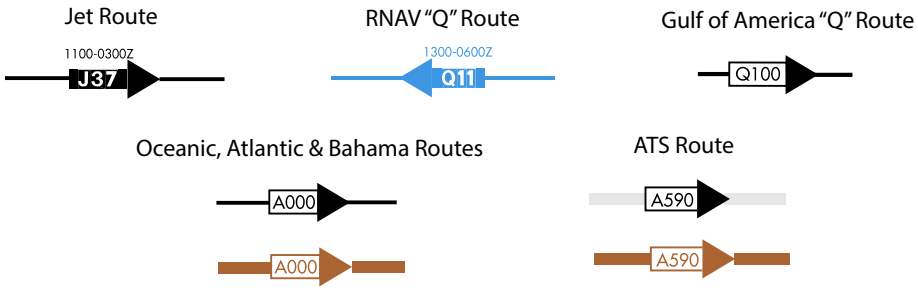
Figure 3.124 Coincidental Routes of the Same Classification



3.7.8.3.3 Preferred Direction Airways/Routes

Preferred direction airways/routes shall be shown with an arrowhead symbol adjoining the route identification and pointing in the preferred direction of flight. ATS preferred direction airways/routes shall be enclosed within an identification box, centered on the route centerline. Hours of operation, when other than continuous, shall be shown above the route identification in Coordinated Universal Time (UTC).

Figure 3.125 Preferred Direction Airways/Routes

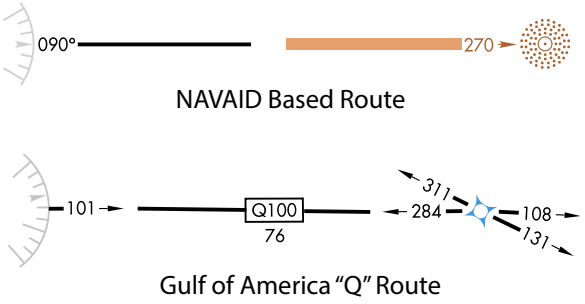


3.7.8.3.4 Radials and Bearing

Routes shall be supplemented with magnetic radials or bearings. Bearings and radials shall be consistent with the overall airway/route centerline between NAVAIDs or to designated airway turning points or end terminus. Magnetic values shall be centered on and break the route centerline. Standalone RNAV "Q" routes, except for Gulf of America "Q" routes, shall show magnetic reference bearings above the route centerline (See paragraph **3.7.8.3.5**). In congested areas, or to avoid overprinting, radials and bearings may be offset above or below the route centerline or may be located further out or closer to the NAVAID, fix, or compass rose.

Routes and route segments predicated on VHF/UHF NAVAIDs (except VHF/UHF NDBs) shall be shown with magnetic outbound radials at those NAVAIDs. Routes and route segments predicated on LF/MF NAVAIDs shall be shown with magnetic inbound bearings at those NAVAIDs. Magnetic inbound bearings shall be supplemented with an arrowhead symbol placed adjacent to the bearing and pointing towards the NAVAID.

Figure 3.126 Radials and Bearings



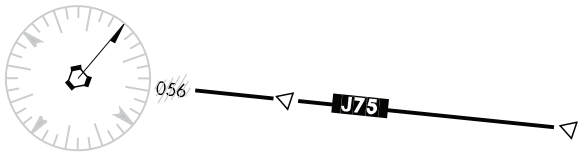
Fixes located on ATS, Oceanic, Atlantic, and Bahamas routes shall be shown with magnetic outbound bearings. The bearings shall be supplemented with an arrowhead symbol placed adjacent to the bearing and pointing away from the fix.

Figure 3.127 Radials & Bearings From Fixes Located on ATS, Oceanic and Bahamas Routes



Radial or bearing values designated as unusable shall be overprinted with diagonal lines in a NE to SW direction (See paragraph 3.7.4.6.6 - Abnormal Status).

Figure 3.128 Unusable Radial or Bearing Value

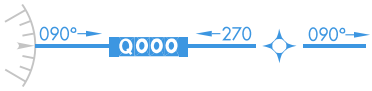


3.7.8.3.5 Magnetic Reference Bearings

Magnetic reference bearings for RNAV Routes shall be calculated using local magnetic variations at that point. Non-regulatory RNAV Routes shall have magnetic reference bearings calculated at each point along the route. Regulatory RNAV Routes shall have magnetic reference bearings calculated between the points designated in the legal description of the airway.

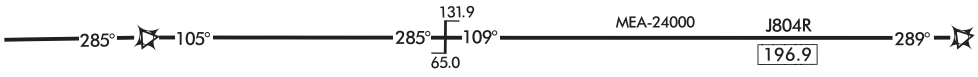
Standalone RNAV "Q" Routes shall be shown with outbound magnetic reference bearings on either side of the waypoint, fix or NAVAID. Bearings shall be supplemented with an arrowhead symbol placed adjacent to the bearing and pointing away from the waypoint, fix or NAVAID. Only those NAVAIDs and waypoints that were part of the original route docket description will be shown with magnetic reference bearings

Figure 3.129 RNAV Q Route Magnetic Reference Bearings



(AK) Alaska VOR/DME RNAV route waypoints and changeover points shall be shown with magnetic outbound bearings, based on the slave variation of the referenced NAVAID and supplemented with a degree symbol. Radial values shall be shown in black.

Figure 3.130 (AK) VOR/DME RNAV Route Waypoints & Changeover Points



3.7.8.3.6 Minimum Enroute Altitudes (MEA), Maximum Authorized Altitudes (MAA) and Flight Levels (FL)

MEAs and MAAs, when other than 18,000 feet and 45,000 feet respectively, and FLs shall be shown. Altitudes shall be positioned above the route identification and parallel to the route centerline. MEA, MAA, and FL values shall be preceded by the appropriate MEA, MAA, or FL abbreviation. The altitude value should be shown only once between altitude change "T" symbols and/or NAVAIDs. The MAA shall be positioned above the MEA when both are shown. MEAs, MAAs, and FLs shall be offset to the right, adjacent to the route identification and above the route centerline when the hours for a Preferred Direction Airway/Route are charted.

Figure 3.131 MEAs and MAAs



MEAs for GNSS RNAV, shown only when higher than 18,000', will be depicted in blue type as MEA-00000G.

Figure 3.132 MEAs for GNSS RNAV



MEAs for DME/DME/IRU RNAV, shown only when higher than 18,000' will be depicted in blue type as MEA-00000D.

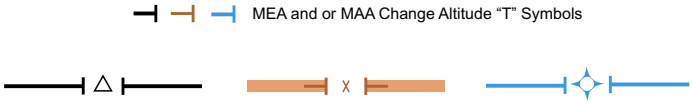
Figure 3.133 MEA for DME/DME and DME/DME/IRU



MEA and MAA changes along a route, when established at fixes other than NAVAIDs, shall be shown using "T" symbols. When there is no named fix involved, the symbol "x" shall be shown between the "T" symbols. Route centerlines shall always be broken when altitude change symbols are shown. The "T" symbols shall overprint the route centerline.

(AK) Alaska VOR/DME RNAV route altitude changes are at waypoint symbols and no "T" symbols shall be shown.

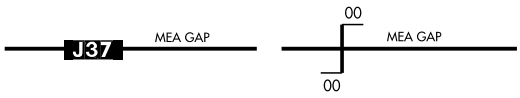
Figure 3.134 Altitude Changes Along a Route - "T" Symbol



3.7.8.3.7 MEA GAP

Navigation signal gap notes, i.e., “MEA GAP”, shall be shown above route segments between the NAVAIDs, fixes, or mileage breaks defining the route segment where the signal gap exists. The “MEA GAP” note shall be to the right of a route identification if one is shown in that location. If a VOR changeover point is designated in conjunction with a MEA GAP, the gap note should be placed in proximity to the changeover point so there will be no question concerning the location of the signal gap.

Figure 3.135 MEA GAP



3.7.8.3.8 Minimum Crossing Altitudes (MCA) and Minimum Turning Altitudes (MTA)

MCAs and MTAs associated with a NAVAID or fix shall be shown with a flag symbol attached to the top of the NAVAID or fix symbol. The flag should be orientated to drape downward. In congested areas, the flag symbol may be rotated, shortened, or attached elsewhere on the NAVAID or fix symbol. MCA/MTA textual information shall consist of route identification, altitude, and direction. MCA/MTA flag symbol and identification shall be shown in the same color as prescribed for the airway to which they pertain.

Figure 3.136 MCA/MTA Flag Symbol



For a fix, the information shall be centered below the fix name. MCA text associated with fixes, if an MTA has not been established at the same location, need not include the text “MCA”. MTA text associated with fixes will always include the text “MTA”. When both an MCA and MTA are associated with a single fix, the lines of associated text will be identified as “MCA” and “MTA” respectively.

For a NAVAID, the information shall be positioned in close proximity to the NAVAID symbol or facility box. When associated with a NAVAID, both MTA and MCA text shall always be preceded by identifying “MCA” or “MTA”.

In congested areas, when MCA or MTA data cannot be positioned in close proximity to the subject symbol or facility box, the text may be leadered to the symbol and shall always include the identifying “MCA” or “MTA” text for clarification.

Multiple MCA data, applicable to a single point, may be consolidated when altitudes and direction of flight are identical, precluding unnecessary duplication; e.g., V11-181-238 6800W; V49-81 4400W. MCA data may not be consolidated with MTA data in a single note, but must be listed separately, each restriction clearly prefaced by “MCA” or “MTA”.

Multiple MTA data, applicable to a single point, may not be consolidated and must be charted exactly as sourced.

Figure 3.137 Minimum Crossing Altitudes (MCA)

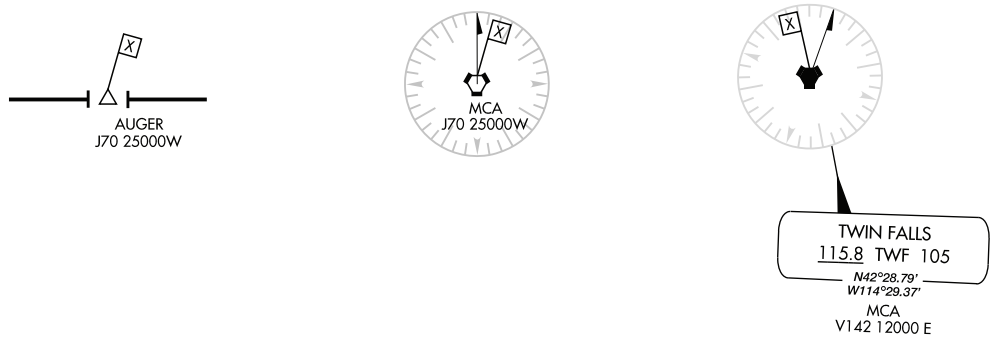


Figure 3.138 Minimum Turning Altitude (MTA)

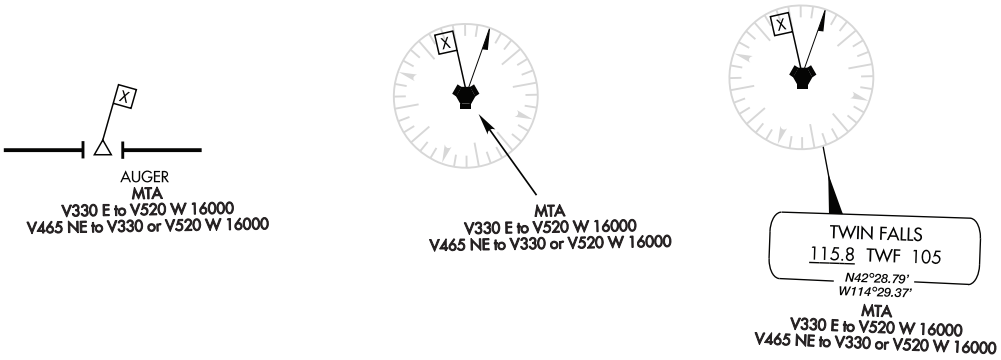


Figure 3.139 Minimum Crossing Altitudes (MCA) & Minimum Turning Altitude (MTA)

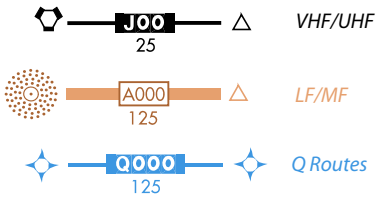


3.7.8.3.9 Mileage Distances

Two types of route mileages may both be shown on a route, segment mileage and box mileage.

Segment mileage shall be shown for each route segment. These segment mileages should be centered below each route segment midpoint. If a route ident is shown, the segment mileage should be placed below the ident. In congested areas, the mileage distances may be offset or in extremely congested areas, positioned above the route.

Figure 3.140 Segment Mileages



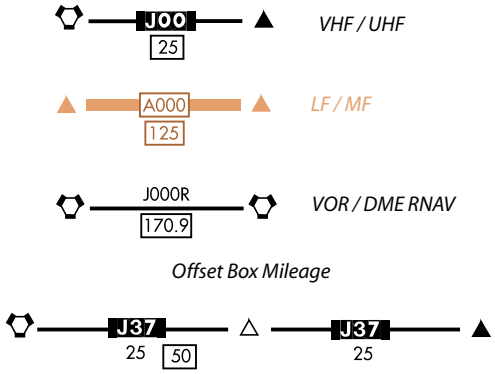
Box mileages shall be shown for each route only between NAVAIDs, NAVAIDs and compulsory fixes, and/or between two compulsory fixes. Box mileage shall not be shown on "Q" routes, excluding the Gulf of America "Q" routes.

Box Mileage shall be enclosed within a box and positioned below and parallel to the route identification. If a segment mileage is present at this location, the box mileage shall be offset to the right. In congested areas, box mileages may be offset along the route. In extremely congested areas, box mileages may be placed above the route.

(AK) Alaska VOR/DME RNAV routes shall show box mileages between NAVAIDs and/or waypoints. They shall not show segment mileages.

In congested areas, the type size may be reduced and the mileage box proportionally reduced.

Figure 3.141 Box Mileages

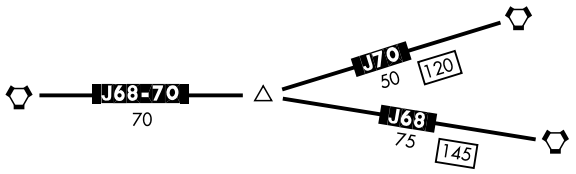


On coincidental routes, box mileages shall be positioned below their associated route identification shifting segment mileage as necessary. If coincidental routes diverge, the box mileages shall then be positioned below their respective route identifications.

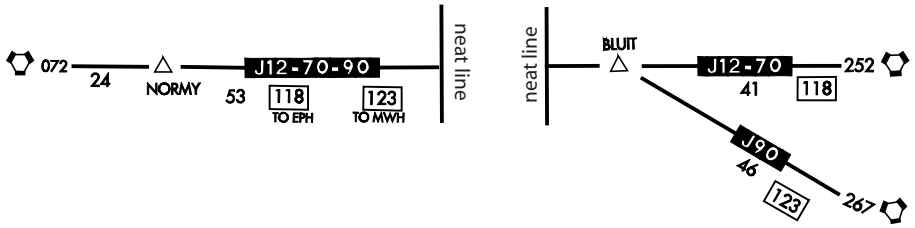
To clarify which NAVAID or fix a box mileage is referring to, a "TO" note shall be used. When the "TO" note is referring to a NAVAID, only the NAVAID identifier shall be shown; for a compulsory fix, only the name shall be shown. The "TO" note shall be shown below the box mileage. In congested areas, the note may be shown to the right of the box mileage.

Figure 3.142 Box Mileages - Coincidental Routes & "TO" Notes

Example 1



Example 2



In the absence of fixes and NAVAIDs, the symbol "x" shall be used to indicate mileage breaks and intersections of route turning points.

Figure 3.143 Mileage Breaks/Intersections



3.7.8.3.10 Changeover Points (COP)

COPs shall be shown except for those at the midpoint between two NAVAIDs or at doglegs. COP symbols shall be centered on and perpendicular to the route, located at the proper distance from the defining NAVAID. When located at intersections or mileage breaks, the COP symbol shall be broken and not touch the intersection or mileage break. Mileages shall be shown in whole miles. Mileages from the COP to the NAVAIDs shall be positioned outside and parallel with the short 'pointer' line. COP mileages shall be omitted when the COP is located at an intersection with a DME mileage on the route.

(AK) Alaska VOR/DME RNAV COP mileages shall be shown to the tenth of a nautical mile.

Figure 3.144 Changeover Points (COP)

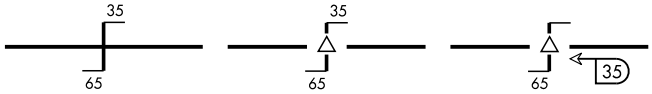
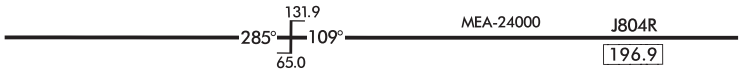


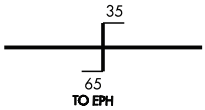
Figure 3.145 Alaskan VOR/DME RNAV Changeover Points



When NAVAIDs used to establish a COP are not readily identifiable, a "TO" note shall be used. Only the NAVAID identifier will be shown. These notes will be placed adjacent to and either above or below the mileages, depending on the mileage location. In congested areas the note should be moved either right or left of the mileages.

(AK) "TO" notes do not apply to Alaska VOR/DME RNAV routes.

Figure 3.146 COP "TO" Note



3.7.9 Navigational and Procedural Information

Navigational and Procedural Information type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

References:

Appendix 20 - Margin Information

3.7.9.1 Fixes

3.7.9.1.1 Operational Notes

Operational notes pertaining to fixes shall be shown.

Figure 3.147 Operational Notes



3.7.9.1.2 Flyover Symbology

If the fix is designated as a flyover then the appropriate symbol, waypoint or fix, shall be enclosed by a circle.

Figure 3.148 Flyover Symbology



3.7.9.1.3 Radio Intersections and DME Fixes

Intersections and DME fixes designated for enroute high charting shall be shown and identified by name and with a compulsory or noncompulsory reporting function. All high makeups associated with an intersection or fix shall be shown. Fixes associated with a VHF/UHF route shall be shown in black and those associated with a LF/MF route shall be shown in brown.

Figure 3.149 Radio Fixes



Offshore fixes without makeups and not associated with a route shall also be shown in brown.

Figure 3.150 Offshore Radio Fix Without Makeup



Fixes with at least one VHF/UHF NAVAID make up shall be shown in black, regardless of the type of route they are associated with, i.e., VHF/UHF, LF/MF, or no route association.

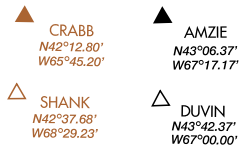
Fixes having only LF/MF NAVAID makeups shall be shown in brown.

When a VHF/UHF and LF/MF fix have the same geographic coordinates and names, then the LF/MF symbol shall be offset and the name shall be shown only once in black. If the coordinates are the same but the names are different, then both names shall be shown, in their respective color.

3.7.9.1.3.1 Radio Fix Geographic Coordinates

Coordinates shall be shown for: fixes with compulsory reporting function, fixes beyond the continental control boundary, fixes charted with a holding pattern, or fixes on ATS, Oceanic or Bahamas and Atlantic routes. Coordinates shall be shown to the hundredth of a minute, stacked and placed below the intersection name. Coordinates type shall be the same color as the fix name and symbol.

Figure 3.151 Radio Fix Geographic Coordinates



3.7.9.1.3.2 Radio Fix Make Ups

3.7.9.1.3.2.1 Non DME Radio Fix Makeups

Radio fixes with a makeup defined from a NAVAID without DME capability which is located on the same route as the radio fix, shall be shown with a solid facility arrow symbol positioned below and parallel to the route, adjacent to the fix symbol. VHF/UHF NAVAID facility arrow symbols are black and point toward the fix, and LF/MF NAVAID facility arrow symbols are brown and point toward the NAVAID. In congested areas, facility arrow symbols may be placed above the routes.

Figure 3.152 Non DME Radio Fix Makeups



3.7.9.1.3.2.2 DME Radio Fix Makeups

Radio fixes with a makeup defined from a NAVAID with DME capability (i.e., VOR/DME, TACAN, VORTAC or NDB/DME) which is located on the same route as the radio fix, shall be shown with an open DME arrow symbol positioned below and parallel to the route, adjacent to the fix symbol. In congested areas, DME arrows may be placed above the route.

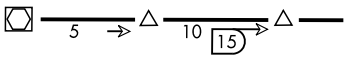
Figure 3.153 DME Radio Fix Makeups



3.7.9.1.3.2.3 DME 'Boats'

DME 'boats' shall be used for each DME fix makeup beyond the first fix along a route. The mileage from the NAVAID to the fix shall be placed within the DME boat and positioned below, parallel to the route, and adjacent to the fix. In congested areas, DME boats may be placed above the routes and/or reduced in size.

Figure 3.154 DME Boats



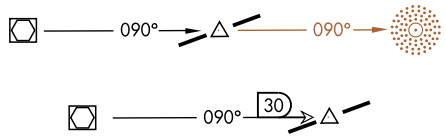
3.7.9.1.3.2.4 Off Route Radio Fix Makeups

Fix makeups defined from NAVAIDs off route shall be shown with a radial or bearing line between the NAVAID and the fix. Radial and bearing lines shall be shown only on the chart where the fix is located.

Makeups from a VHF/UHF NAVAID with only a radial value shall end with a facility arrow pointing toward the fix. Fixes with an additional DME mileage makeup shall end with a DME boat. The boat should be placed above and on the radial line.

Makeups from a LF/MF NAVAID with only a radial value shall end with facility arrow pointing toward the NAVAID.

Figure 3.155 NAVAIDs Used for Fix Makeup



3.7.9.1.3.2.5 Radio Fix Makeups for Offshore Fixes

Radial or bearing lines designated in the formation of fixes shall be shown when different from the magnetic course value determined for overwater/offshore routes. Radial and bearing lines shall be shown adjacent and parallel to the route.

Figure 3.156 Radio Fix Makeups for Offshore Fixes

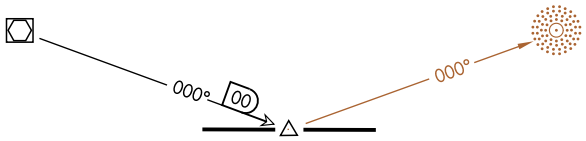


3.7.9.1.3.2.6 Magnetic Radial/Bearing Values

Radial and bearing magnetic values shall be placed on and breaking the radial/bearing line on the half nearest the fix for VHF/UHF NAVAIDs or on the half nearest the NAVAID for LF/MF NAVAIDs. Refer to paragraph 3.7.8.2.7 for unusable radial/bearing values.

Radial values shall be outbound and shown in black and bearing values shall be inbound and shown in brown.

Figure 3.157 Magnetic Radial/Bearing Values



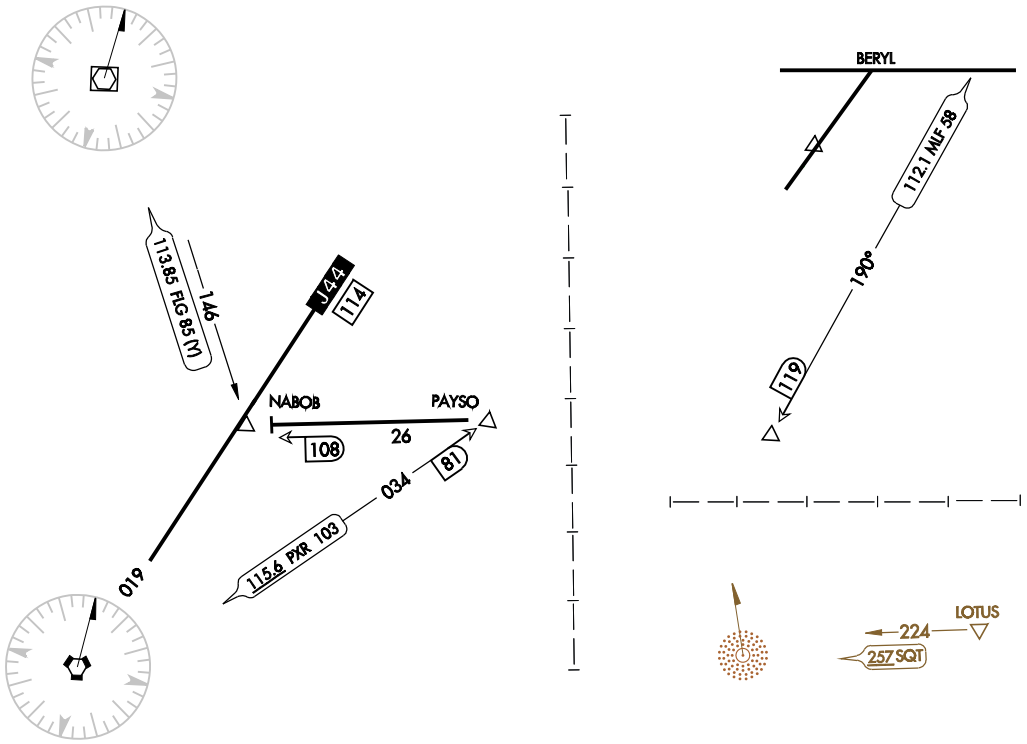
3.7.9.1.3.3 Facility Locator Boats

Facility locator boats shall be used to provide NAVAID information for fix makeups and consist of frequency, no voice underline, identification, frequency protection, channel and paired frequency, and “Y” mode.

Facility locator boats are used whenever a NAVAID defining a fix is located beyond the chart neatline. Facility locator boats can also be used to minimize chart clutter when defining fixes within a chart. When radials/bearings are long, and shortening them is necessary for clarity or congestion, facility locator boats should be used.

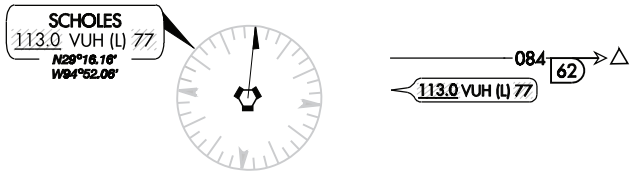
Facility locator boats shall be centered on the end of radials and point toward the NAVAID used in the formation of the fix. When used on the end of LF/MF bearings, the bearing arrowhead shall be omitted. In congested areas, a facility locator boat should be placed either above or below, and parallel to the radial or bearing line. In very congested areas the facility locator boat should be shortened to contain only the NAVAID identification.

Figure 3.158 Facility Locator Boats



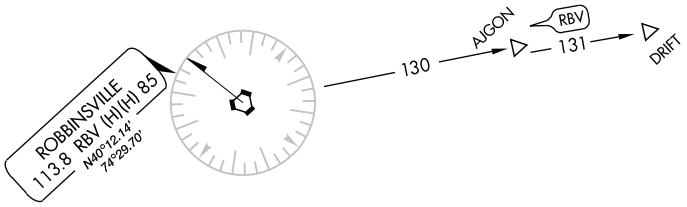
When the locator boats' associated NAVAID is published as "Shutdown" the applicable frequency and/or channel shall be overprinted with diagonal lines in a NE to SW direction.

Figure 3.159 Facility Locator Boats "Shutdown"



In very congested areas, facility locator boats should be shortened to contain only the NAVAID identification.

Figure 3.160 Facility Locator Boats in Congested Areas



3.7.9.1.4 Waypoints

3.7.9.1.4.1 RNAV Waypoints

RNAV waypoints, other than VOR/DME RNAV waypoints, required for enroute high charting shall be shown and identified by name and symbolized with either a compulsory or noncompulsory reporting function.

Figure 3.161 RNAV Waypoints - Compulsory & Noncompulsory



Waypoints not part of a route description and located on or beyond the boundary of the U.S. Continental Control (12 mile limit) shall be shown with geographic coordinates. Coordinates shall be stacked below the waypoint name and shown to the hundredth of a minute. Waypoints which are part of a route description or are located within the U.S. Continental Control shall not have coordinates charted.

Figure 3.162 Waypoints - Not Part of Route & Beyond U.S. Cont. Control Boundary



Waypoints (except VOR/DME RNAV Waypoints) shall not be shown if collocated with an existing radio fix or NAVAID.

3.7.9.1.4.2 (AK) VOR/DME Area Navigation (RNAV) Waypoints

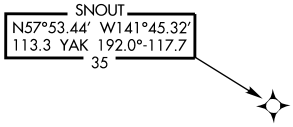
VOR/DME waypoints required for enroute high charting shall be shown and identified by name and symbolized with either a compulsory or noncompulsory reporting function.

Figure 3.163 (AK) VOR/DME Waypoints - Compulsory & Noncompulsory



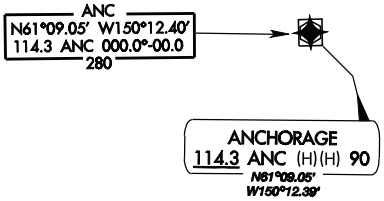
VOR/DME RNAV waypoints identification data shall be enclosed within a box. The waypoint name shall be shown aligned with and breaking the top line, and the reference facility elevation shall be shown below aligned with and breaking the bottom line. On the first line, geographic coordinates shall be shown to the hundredths of a minute. On the second line, frequency, identification, radial and distance shall be shown for the referenced NAVAID. Radial and distance shall be shown to a tenth of a degree and tenth of a nautical mile.

Figure 3.164 (AK) VOR/DME RNAV Waypoints Identification Data



When the waypoint and the reference NAVAID are collocated, the radial and distance shall be shown as "000.0-000.0". Elevations shall be shown as two or more digits, e.g., 09. Sea level shall be shown as 00. A pointer shall be used from the waypoint identification box to the waypoint symbol.

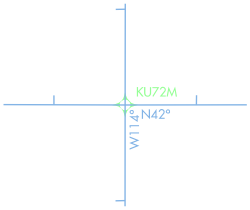
Figure 3.165 (AK) VOR/DME RNAV Collocated with NAVAID



3.7.9.1.4.3 Navigation Reference System (NRS) Waypoints

NRS waypoints shall be shown and identified by name. Waypoint symbols shall be depicted at 25% reduced size of the normal waypoint symbol.

Figure 3.166 National Reference System (NRS) Waypoints



3.7.9.1.5 Computer Navigation Fixes (CNF)

CNFs shall be shown and identified by name, enclosed within parentheses. CNFs shall use the same symbol as a mileage break point, i.e., "x".

Figure 3.167 Computer Navigation Fixes (CNF)



3.7.9.2 Minimum Reception Altitudes (MRA)

MRA's shall be shown and identified by a flag symbol attached to the top point of the associated symbols. MRA flag symbol shall be oriented so that the flag portion drapes downward either to the left or right. In congested areas, the flag symbol should be rotated, shortened, or attached elsewhere on the fix symbol. Text for a MRA shall consist of "MRA" and the altitude, centered below the fix name.

Figure 3.168 Minimum Reception Altitudes (MRA)



3.7.9.3 Holding Patterns

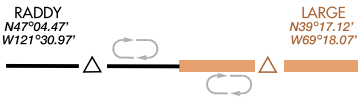
Holding patterns approved by the FAA for enroute high charting shall be shown.

When a NAVAID-based holding pattern and an RNAV holding pattern are established at the same fix/facility, only the NAVAID based holding pattern shall be shown.

3.7.9.3.1 NAVAID Based Holding Patterns

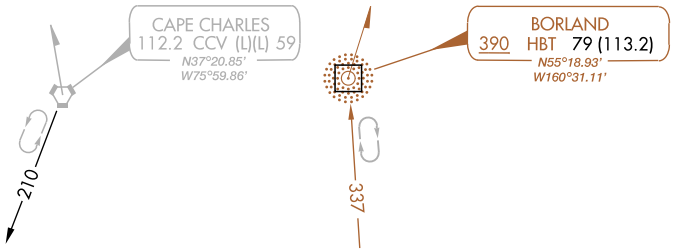
Only one holding pattern shall be charted at a intersection or NAVAID. Holding patterns located on routes should be shown as close to the point of holding as possible and offset from the airway centerline to avoid overprinting.

Figure 3.169 NAVAID Based Holding Patterns



Off route holding patterns shall be shown with radial or bearing lines for positioning and alignment. Holding patterns based on LF/MF NAVAIDs shall be charted with inbound bearing values with an arrowhead placed on the end pointing toward the NAVAID symbol and those based on VHF/UHF NAVAIDs shall be charted with outbound radial values with an arrowhead pointing away from the NAVAID symbol. Magnetic radial/bearing values shall be placed on and breaking the radial/bearing lines. The holding pattern should be shown as close to the point of holding as possible and offset from the radial/bearing line to avoid overprinting.

Figure 3.170 NAVAID Based-Off Route Holding Patterns - VHF/UHF & LF/MF

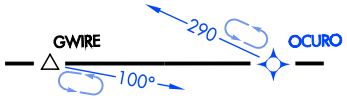


Geographic coordinates shall be shown for intersections and off route NAVAIDs when a holding pattern is shown.

3.7.9.3.2 RNAV Based Holding Patterns

RNAV holding patterns shall be shown with a magnetic reference bearing value and line for positioning and alignment. Holding patterns shall be charted with outbound values with an arrowhead placed on the end of the line and pointing away from the fix. Coordinate values shall be shown only for holding patterns beyond the U.S. Continental Control (12 mile limit).

Figure 3.171 RNAV Holding Patterns



3.7.10 Transitional Information

Transitional Information type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

References:

Appendix 31 - Navigational & Procedural Information

Transitional information necessary for transferring to and from enroute charts of other geographic areas shall be shown. This transitional information shall consist of those reporting points, radial/bearings, mileage distances and mileage breakdown points, as necessary, along a designated (coastal entry) corridor or route to a high altitude NAVAID on the high altitude chart. A note shall be shown positioned in an open area of the chart in close proximity to the Route.

Figure 3.172 Transitional Information

ROUTES AND ASSOCIATED DATA OUTSIDE THE CONTERMINOUS UNITED STATES ARE SHOWN FOR TRANSITIONAL PURPOSES ONLY AND ARE NOT PART OF THE UNITED STATES HIGH ALTITUDE JET ROUTE AND RNAV ROUTE SYSTEMS

3.7.11 (AK) Seattle Inset

Seattle Inset type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

References:

Appendix 31 - Navigational & Procedural Information

The Seattle Inset Chart information shall be charted and shown according to basic specifications described elsewhere within IAC 5.

The Seattle Inset Area of coverage shall be defined by a dashed outline on Alaska chart H-1 and supported by an appropriate note, positioned along and parallel to the delimiting line, at least once within every two panels.

Figure 3.173 (AK) Seattle Inset Area Coverage

SEE SEATTLE INSET CHART FOR DETAIL

The Seattle inset area shall be skeletonized and information within the inset outline shall be such as to provide transition to and from the enroute chart and the inset chart. Information shall be charted and shown according to basic specifications described elsewhere within IAC 5.

The following shall not be charted: airports and associated information, RCAG sites, RCOs, unusable routes, reporting points, and holding patterns.

Only NAVAIDs with routes predicated on them shall be shown. Compulsory or noncompulsory reporting function shall be shown within the NAVAID symbol and identifiers shall be shown in a facility identification box with a pointer. No other NAVAID information shall be shown.

Only Jet and RNAV routes centerlines and designators shall be shown. No other route information shall be shown.

FSS Radio associated with a NAVAID shall be shown only when a route is predicated on that NAVAID.

ATS routes shall be shown only if they are Jet, ATS, Oceanic, Atlantic, Bahamas, Alaska VOR/DME RNAV or RNAV routes. The route identification shall be shown. No other route information shall be shown.

NAVAIDs shall be shown only if routes are predicated upon them.

3.8 CHART DETAIL IN FOREIGN AREAS

Chart detail information will be shown as indicated below, in the appendices and when referenced to Section 3.7 - Chart Detail.

The following data is required to be shown:

3.8.1 Projection Lines

Projection lines will be shown in accordance with Section 3.7.1.

3.8.2 Base Detail

Base detail will be shown as indicated in the following sections:

- 3.7.2.1 - Shoreline
- 3.7.2.2 - International Boundary
- 3.7.2.3 - (AK) United States/Russia Maritime Boundary
- 3.7.2.4 - Time Zones
- 3.7.2.5 - International Date Line

3.8.3 Foreign Airports

3.8.3.1 Charting Criteria

All active airports published in the authoritative source database with hard surface runways of 5000' (before rounding) or longer will be charted.

3.8.3.2 Airport Symbology

All airports will be depicted with a standard airport symbol as shown below. All airports will be shown in black. Airports will be identified with the airport name followed by the ICAO identifier placed in parentheses.

Figure 3.174 Foreign Airports



3.8.4 Foreign NAVAIDs

3.8.4.1 Charting Criteria

Only NAVAIDs utilized in the definition of an airway/route will be shown.

3.8.4.2 NAVAID Symbology

NAVAIDs will be symbolized as indicated in Section 3.7.4.2 with the exception that all NAVAIDs will be depicted in black. NAVAIDs outside the U.S. will not be designated as compulsory.

3.8.4.3 NAVAID North Arrow

NAVAID north arrows will be symbolized as indicated in Section 3.7.4.4 with the exception that all NAVAID north arrows will be depicted in black.

3.8.4.4 Compass Roses

Compass roses will be charted as indicated in Section 3.7.4.5 with the exception that all compass roses will be depicted in black.

3.8.4.5 NAVAID Identification Boxes

NAVAID identification boxes will be symbolized as indicated in Section 3.7.4.6 with the exception that all NAVAID identification boxes will be depicted in black.

3.8.4.6 NAVAID Types

NAVAIDs will be symbolized as indicated in Section 3.7.4.7 with the exception that all NAVAIDs will be depicted in black. ILS Components will not be shown.

3.8.5 Foreign Airspace Information

Foreign airspace will be depicted with a 10% black fill. The extent of U.S. aeronautical data will be represented within the charted and labeled FIR/CTA limits. However, upon request by an appropriate authority, a charted ARTCC boundary may include foreign data in areas where it does not coincide with the charted FIR/CTA boundary.

3.8.5.1 Airspace Notes

3.8.5.1.1 Foreign Airspace Note

The following masked note will be enclosed with a box and will be charted once between external chart folds.

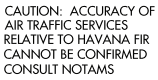
Figure 3.175 Foreign Airspace Note



3.8.5.1.2 Foreign Airspace Notes — HAVANA FIR

The following note will be positioned near the Havana FIR boundary.

Figure 3.176 Havana FIR Note



3.8.5.1.3 Foreign General Air Traffic Service (ATS) Area Information

Foreign controlled facility ATS information shall include as depicted below and where available the type of service and identification name.

Figure 3.177 Foreign General Air Traffic Service (ATS) Area Information



3.8.5.2 CTA/FIR Boundaries

CTA and/or FIR boundaries will be symbolized as indicated in Sections **3.7.7.3.5** and **3.7.7.3.6**. Only CTA/FIR boundaries that are coincident with U.S. CTA/FIR boundaries will be shown.

3.8.5.3 ARTCC and ACC Boundaries

U.S. Air Route Traffic Control Centers (ARTCC) and Canadian Area Control Centers (ACC) boundaries will be symbolized as indicated in Section **3.7.7.3.7**. Only boundaries that touch the U.S. ARTCC boundaries will be shown and identified.

3.8.6 Foreign Routes

The depiction of Routes outside of non-U.S. airspace will be simplified as described below. Refer to Section **3.7.8.3** for expanded guidance bearing in mind that the items in this section will be the only items shown.

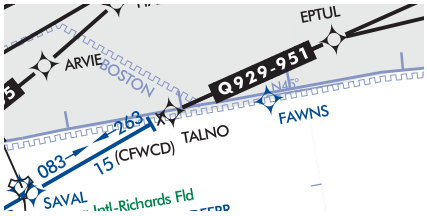
All Foreign routes that are published in the authoritative source database will be shown.

All route centerlines and identification charted in non-U.S. airspace will be shown in black.

Bearing and mileage values will only be shown when they are used to form the make-up of a U.S. fix.

A “T” symbol will be shown along every route at the FIR/CTA boundary line (on the U.S. side of the boundary).

Figure 3.178 Foreign Routes



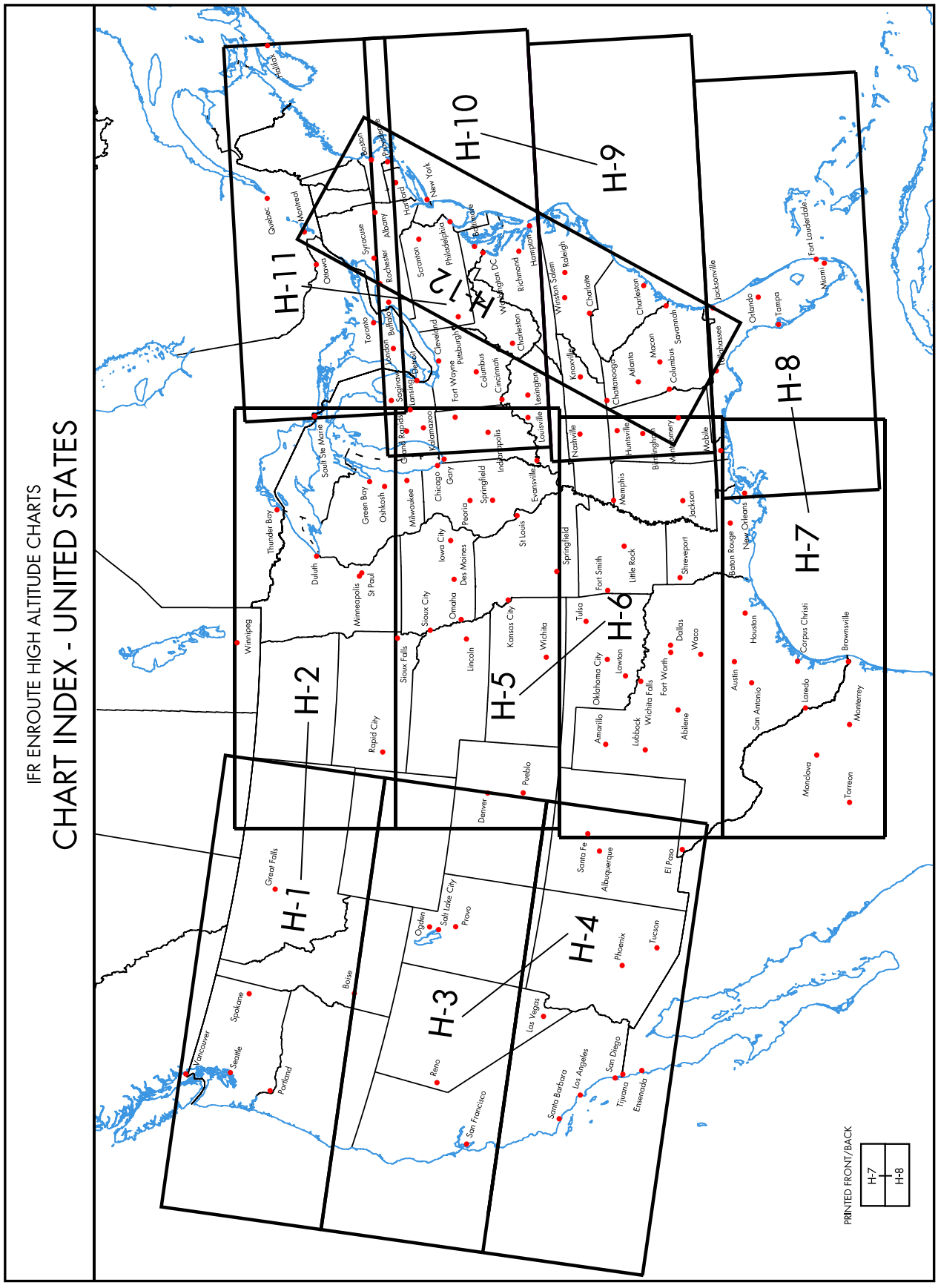
3.8.7 Foreign Navigational and Procedural Information

3.8.7.1 Foreign Fixes/Waypoints

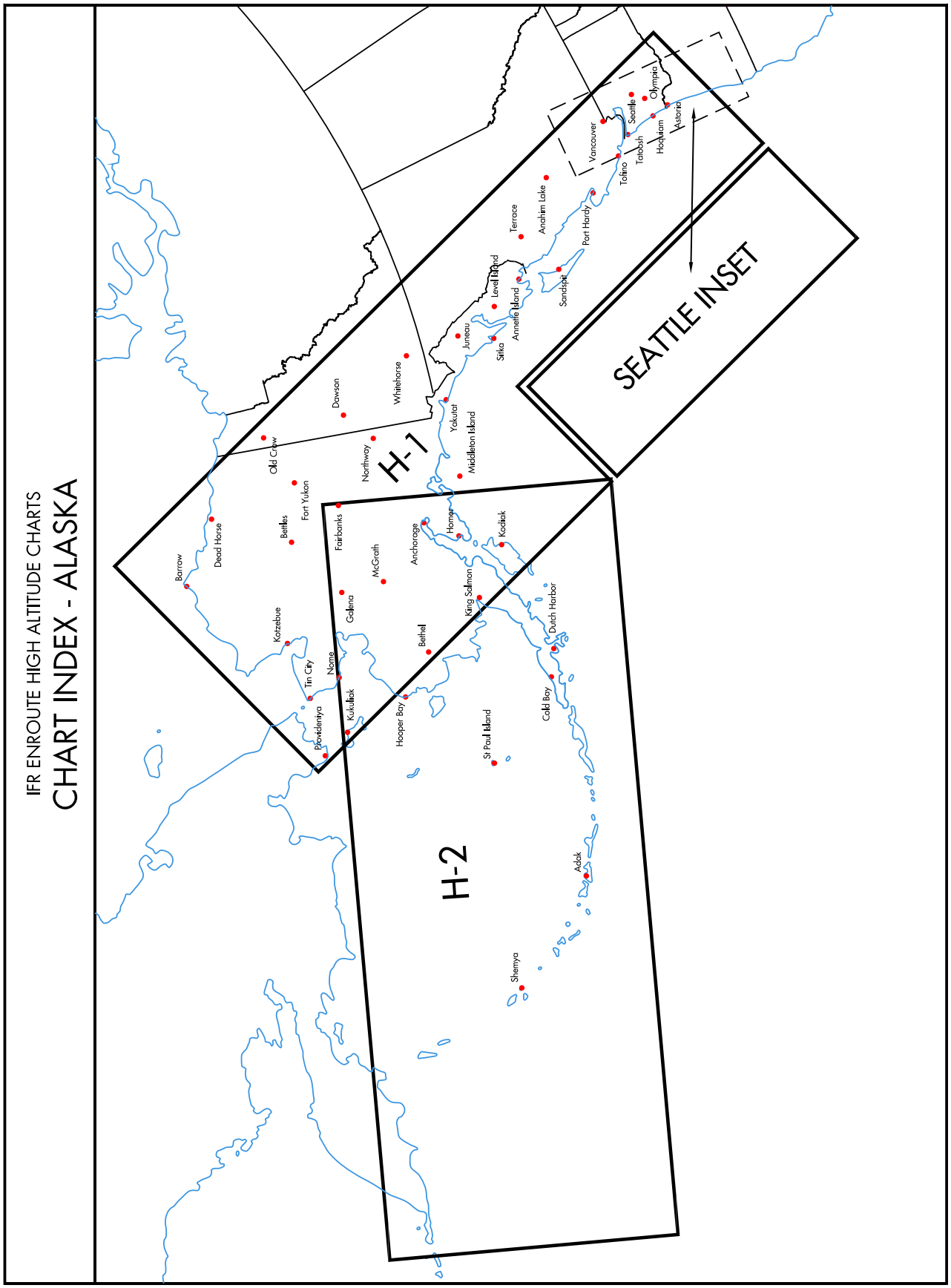
All fixes/waypoints which are a part of a charted non-U.S. airway/route will be shown and identified by name. Fixes/Waypoints will be symbolized as indicated in Section **3.7.9.1** with the exception that all fixes/waypoints will be depicted in black. Fixes/waypoints outside the U.S. will not be designated as compulsory.

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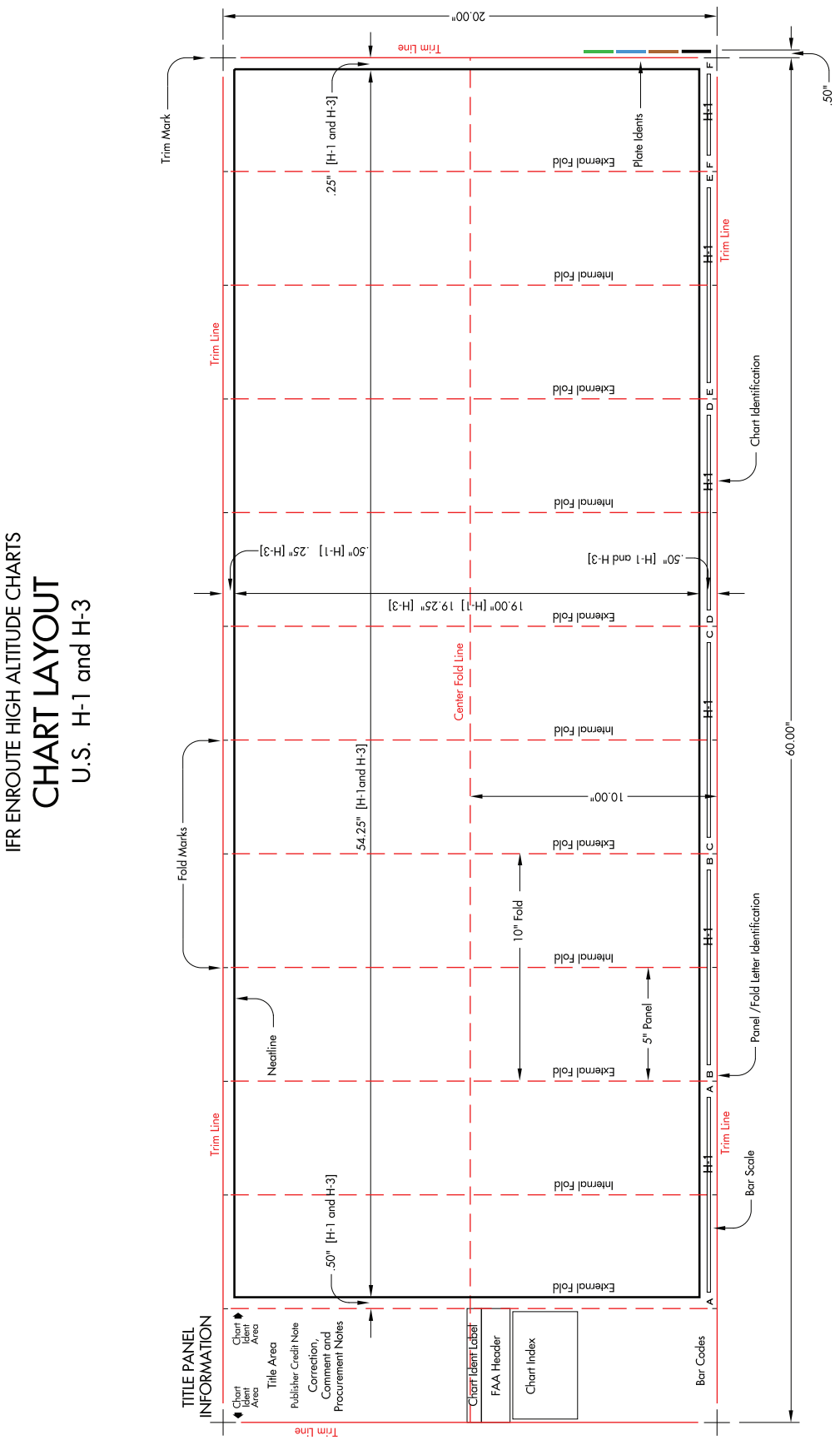
APPENDIX 1
ENROUTE CHART AREA OF COVERAGE - U.S.



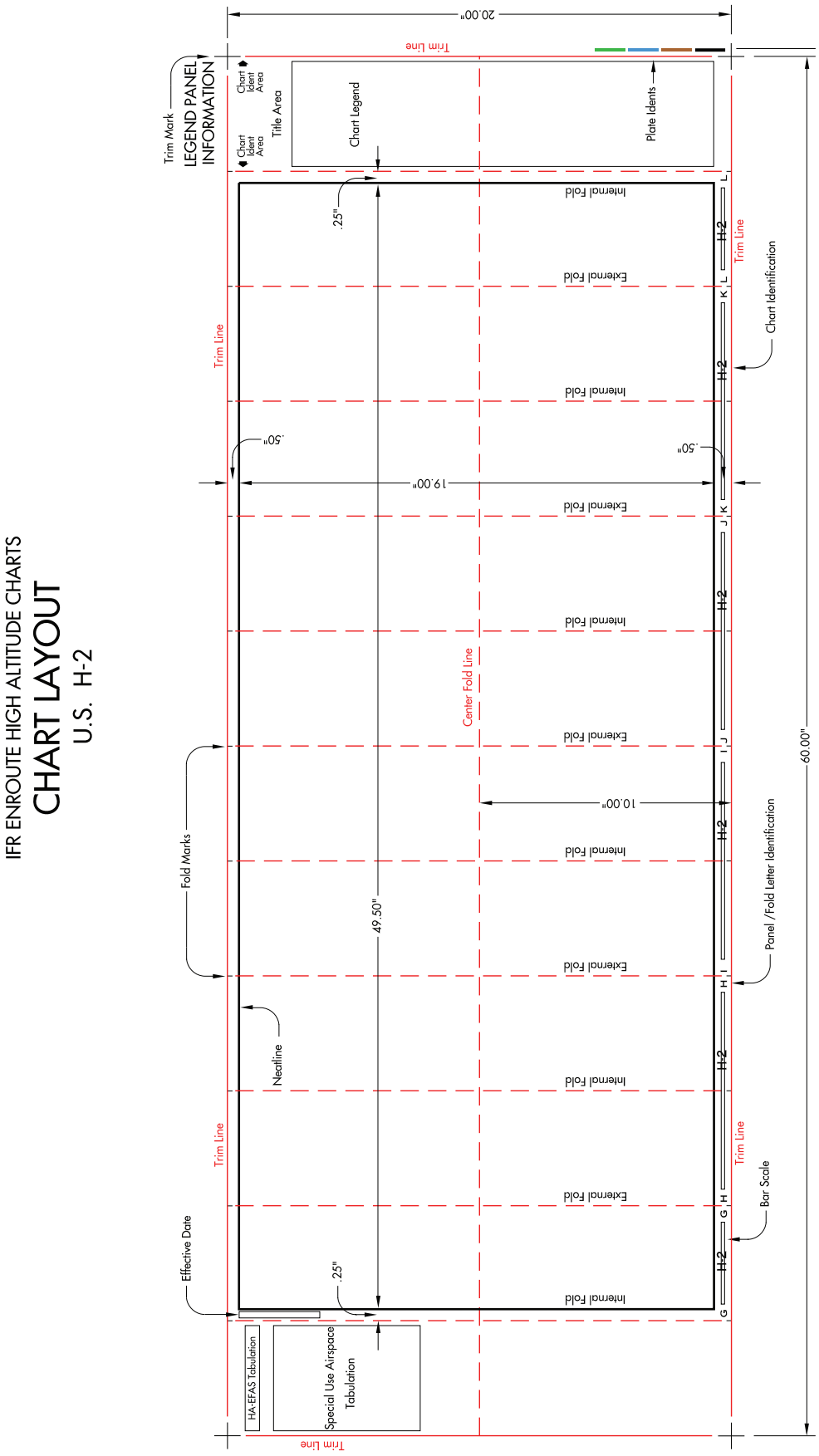
APPENDIX 2
ENROUTE CHART AREA OF COVERAGE - AK



APPENDIX 3
CHART LAYOUT - U.S. H-1, H-3

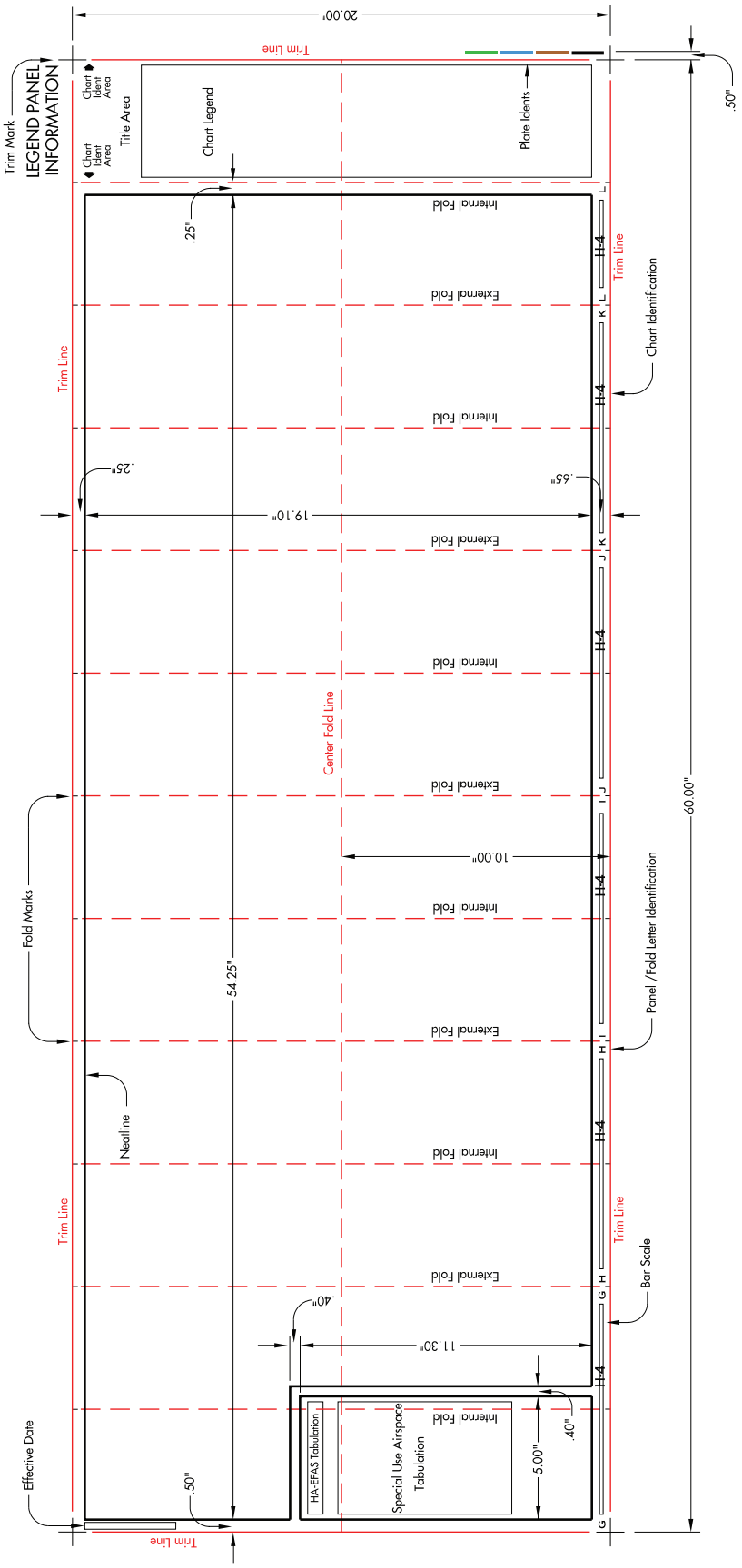


APPENDIX 4
CHART LAYOUT - U.S. H-2

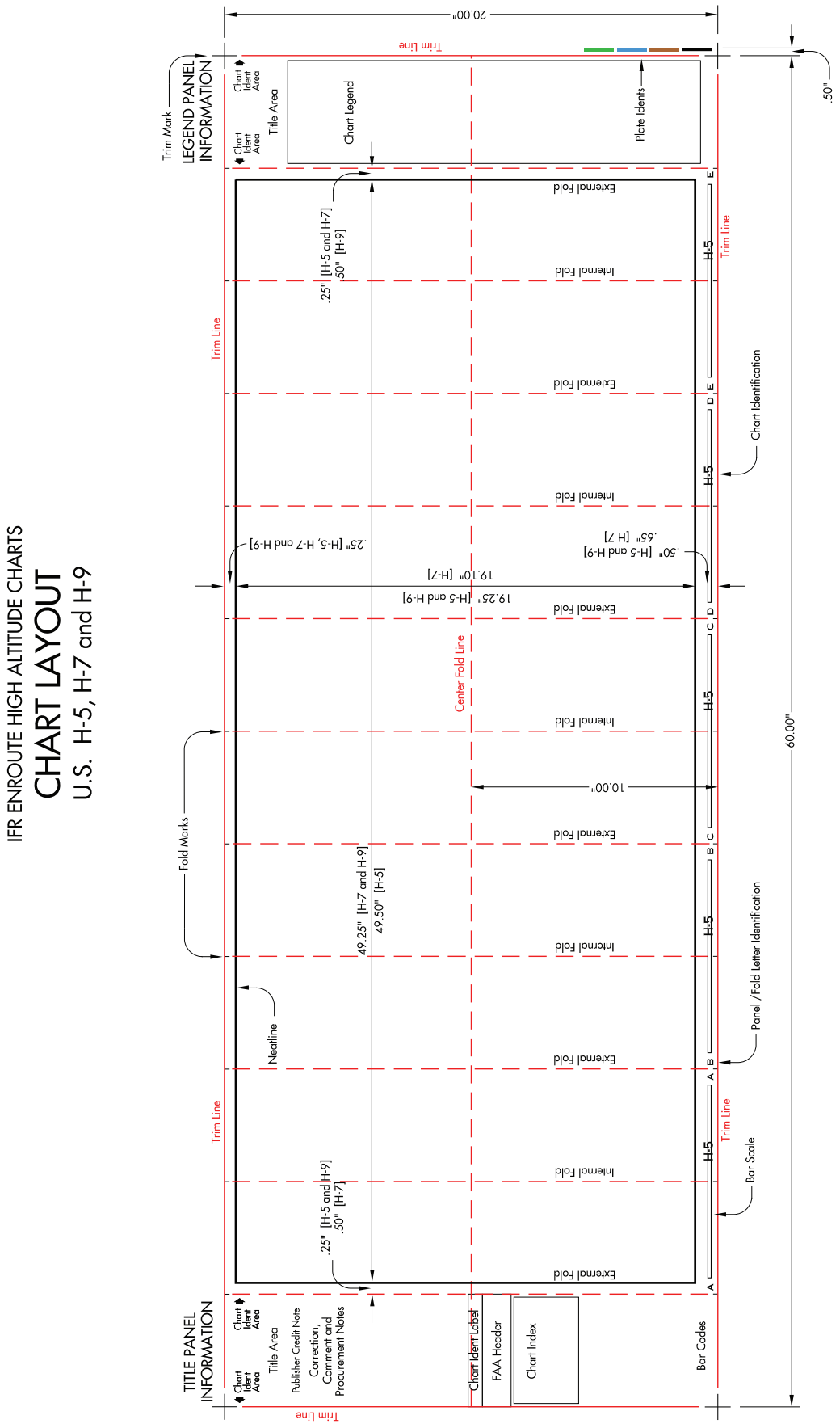


APPENDIX 5
CHART LAYOUT - U.S. H-4

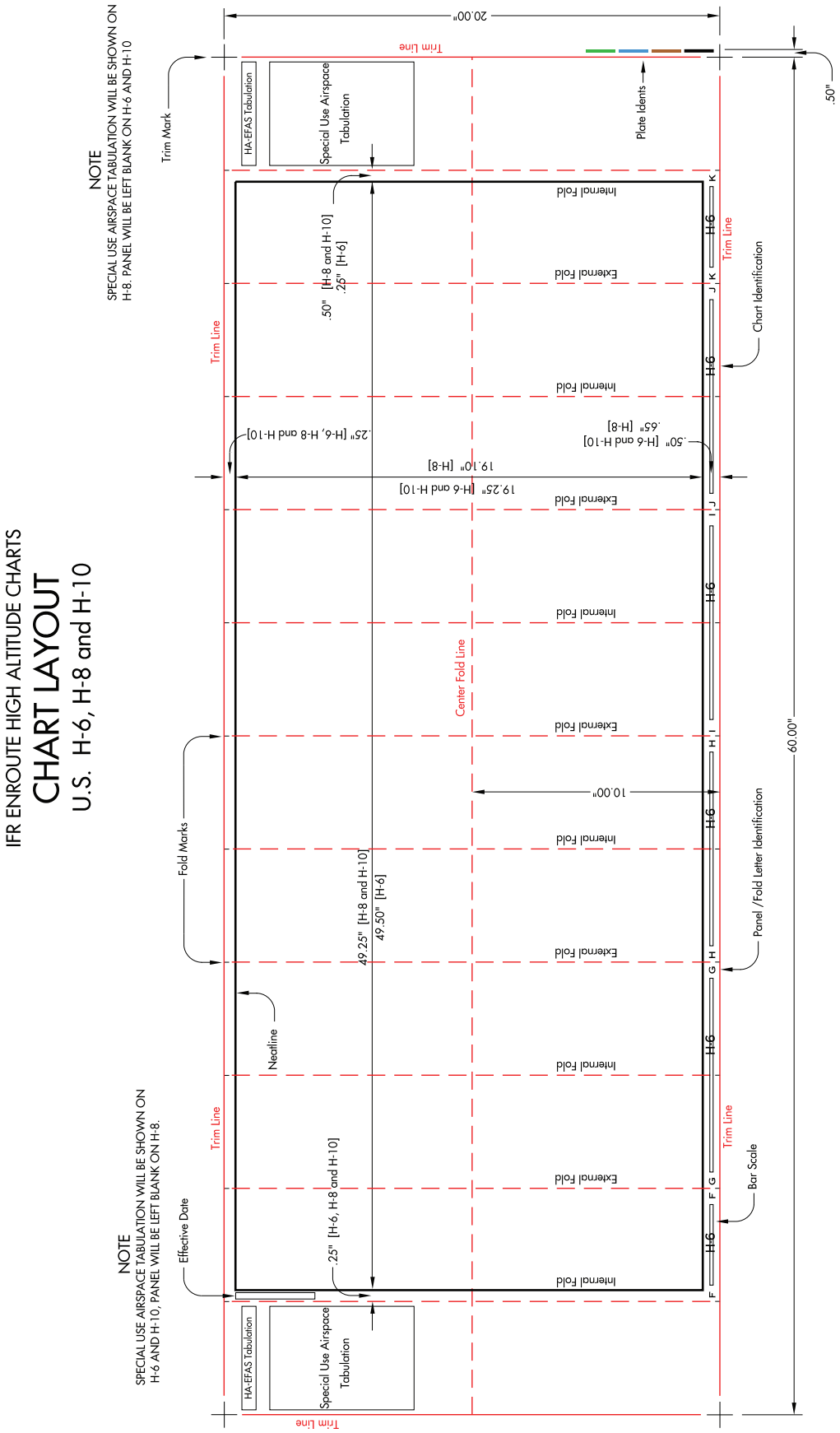
IFR ENROUTE HIGH ALTITUDE CHARTS
CHART LAYOUT
U.S. H-4



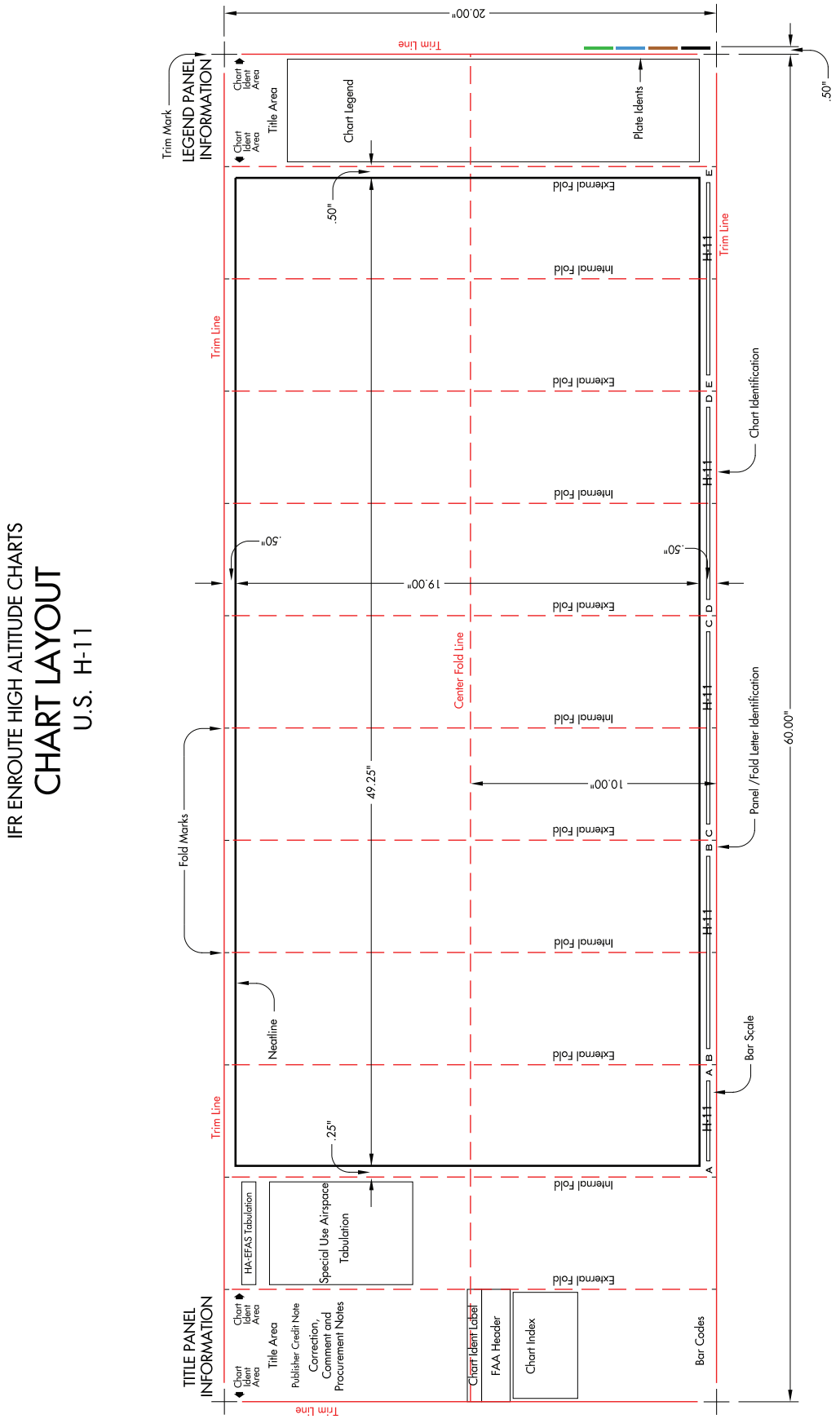
APPENDIX 6
CHART LAYOUT - U.S. H-5, H-7, H-9



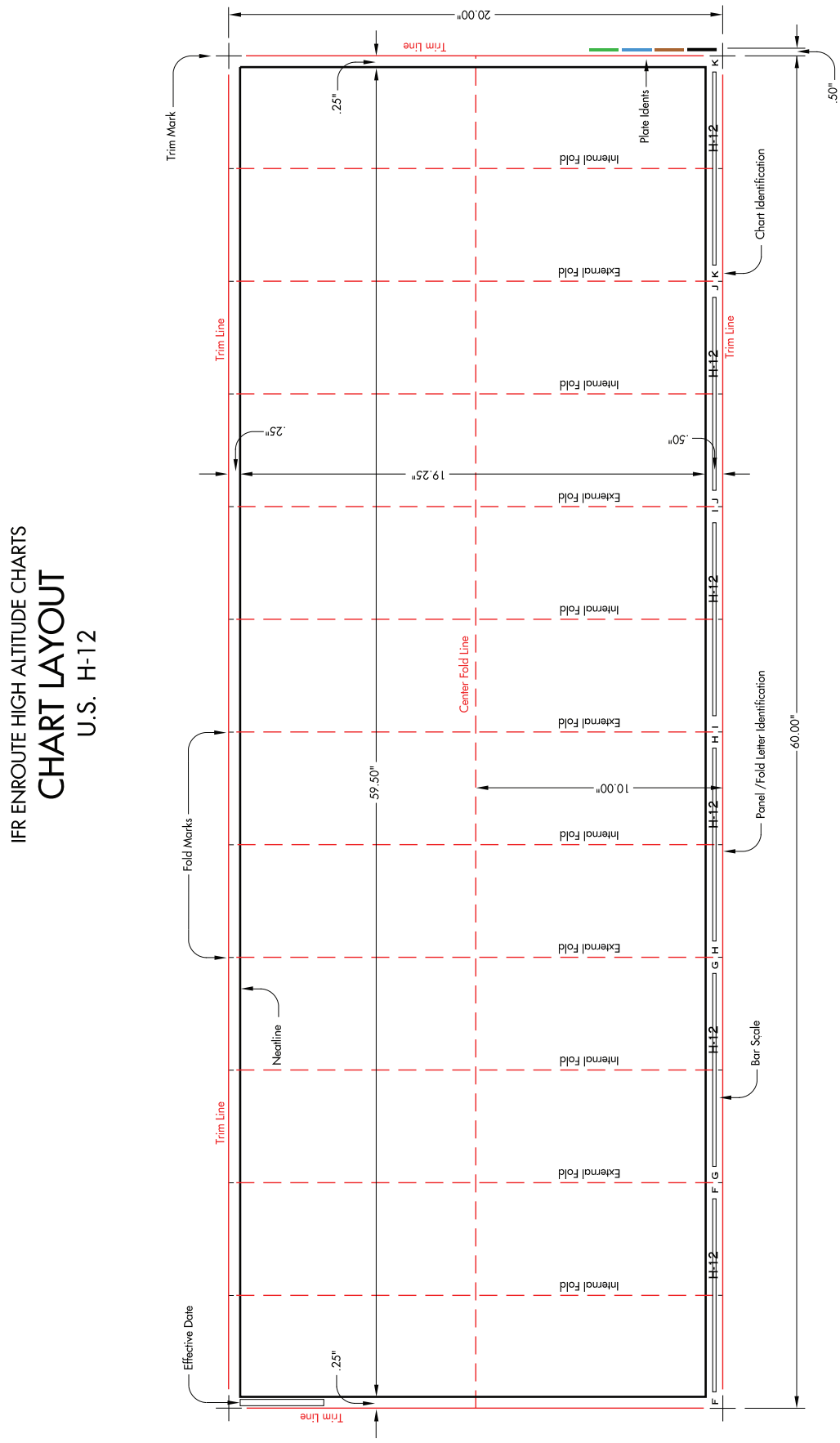
APPENDIX 7
CHART LAYOUT - U.S. H-6, H-8, H-10



APPENDIX 8
CHART LAYOUT - U.S. H-11

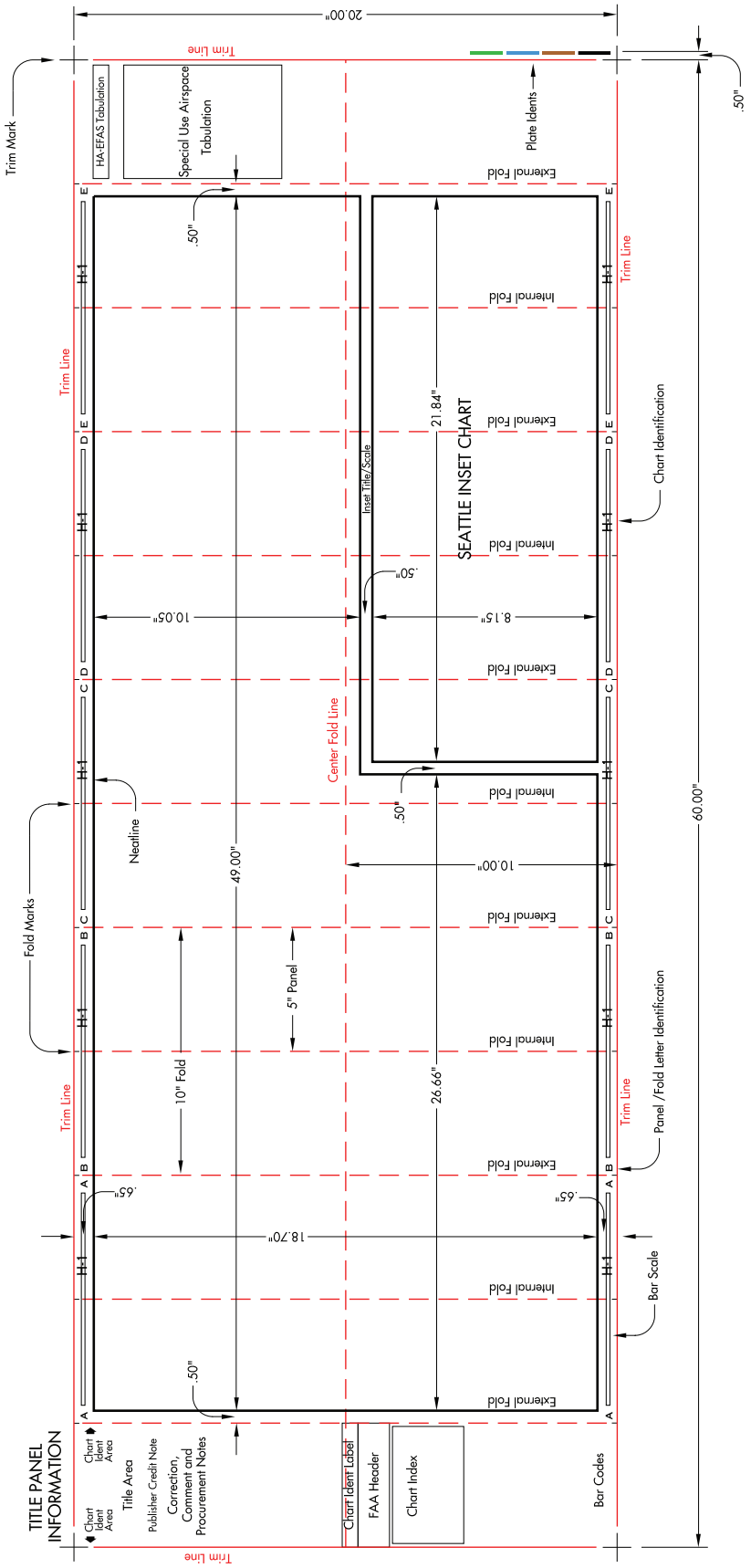


APPENDIX 9
CHART LAYOUT - U.S. H-12



APPENDIX 10
(AK) CHART LAYOUT - AK H-1

IFR ENROUTE HIGH ALTITUDE CHARTS
CHART LAYOUT
ALASKA H-1

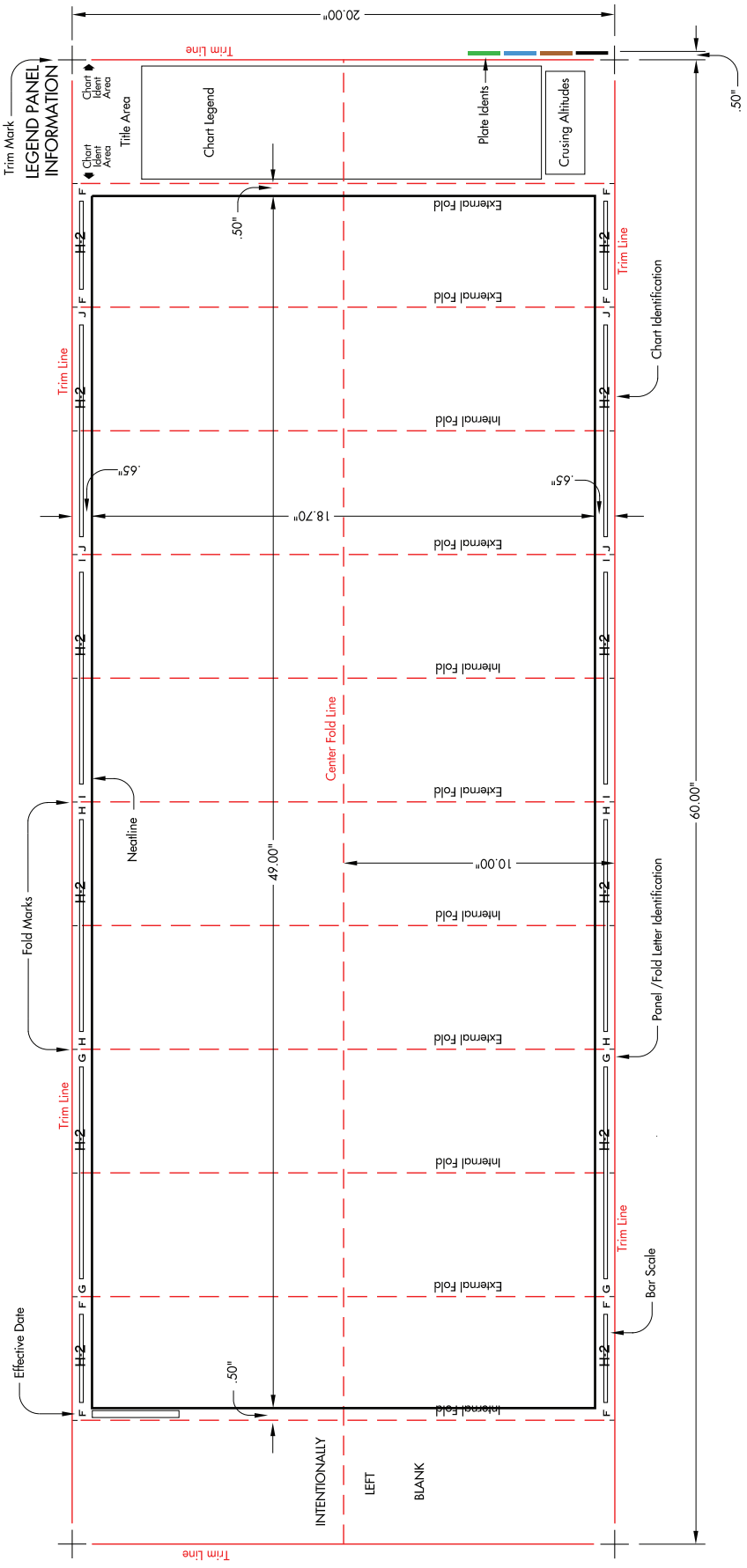


APPENDIX 11
(AK) CHART LAYOUT - AK H-2

IFR ENROUTE HIGH ALTITUDE CHARTS

CHART LAYOUT

ALASKA H-2



APPENDIX 12
SAMPLE ENROUTE TITLE PANELS - U.S. & ALASKA

TRIM LINE

Warning: Refer to current foreign charts and flight information publications for infromation within foreign airspace.

H-2 PANELS GHIJKL 1°=20 NM

H-1 PANELS ABCDEF 1°=20 NM

UNITED STATES GOVERNMENT
FLIGHT INFORMATION PUBLICATION

IFR ENROUTE HIGH ALTITUDE - U.S.

For use at and above 18,000' MSL

EFFECTIVE 0901Z 17 AUG 2017
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Frequently asked questions (FAQ) are answered on our web site at Current URL
See the FAQs prior to contact via toll free number or email.

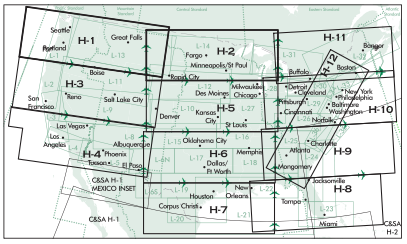
TRIM LINE

FOLD LINE

CENTER FOLD LINE

H-1/H-2 17 AUG 2017 UNITED STATES

Federal Aviation Administration



INSTRUCTIONS FOR ASSEMBLY OF WALL PLANNING CHART
Obtain two copies of each chart
Assemble charts by matching airplane silhouettes printed on each chart

Published from digital files compiled in accordance with Interagency Air Committee specifications and agreements approved by Department of Defense - Federal Aviation Administration

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NSN 7641014005579

NGA REF NO. ENRXXUSHCHT01

EFF. DATE 17229

Enroute Chart: H-01 Exported: 21 Jul 2017 - Time: 02:57 PM

TRIM LINE

Warning: Refer to current foreign charts and flight information publications for infromation within foreign airspace.

H-2 PANELS FGHIJK 1°=40 NM

H-1 PANELS ABCDE 1°=40 NM

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FLIGHT INFORMATION PUBLICATION

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Frequently asked questions (FAQ) are answered on our web site at Current URL
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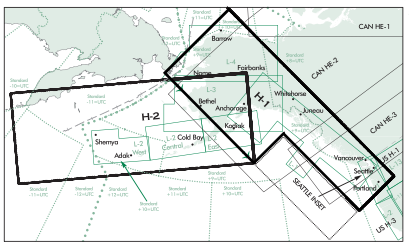
TRIM LINE

FOLD LINE

CENTER FOLD LINE

H-1/H-2 17 AUG 2017 ALASKA

Federal Aviation Administration



INSTRUCTIONS FOR ASSEMBLY OF WALL PLANNING CHART
Obtain two copies of each chart
Assemble charts by matching airplane silhouettes printed on each chart

Published from digital files compiled in accordance with Interagency Air Committee specifications and agreements approved by Department of Defense - Federal Aviation Administration

FAA Product ID: EHAK1

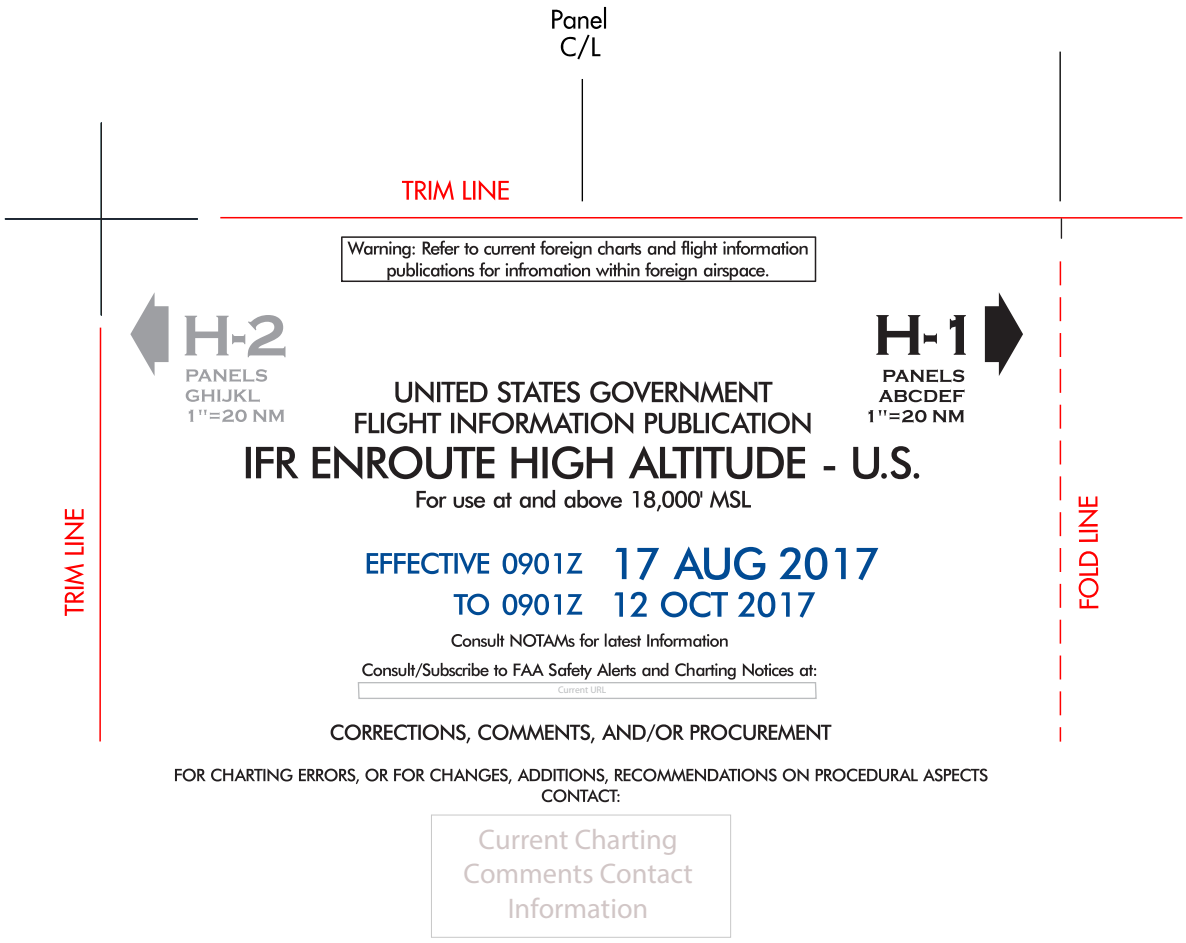
NSN 7641014109606

NGA REF NO. ENRXXAKHCHT1

EFF. DATE 17229

Enroute Chart: AK_H-1 Exported: 25 May 2017 at 05:39 PM

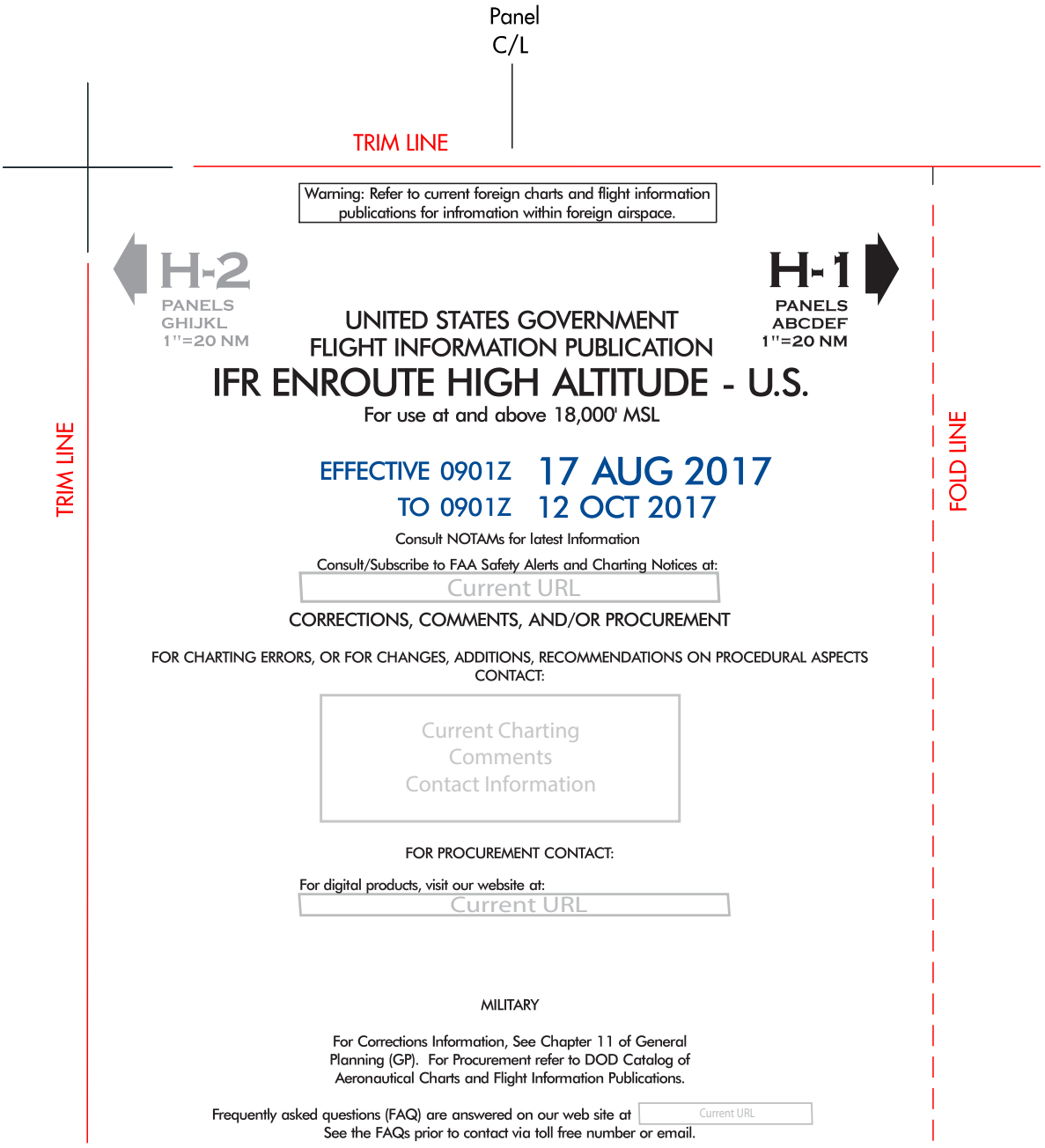
APPENDIX 13
CHART IDENTIFICATION AND TITLE AREA - U.S. & ALASKA



APPENDIX 13
CHART IDENTIFICATION AND TITLE AREA - U.S. & ALASKA (CONTINUED)

WARNING NOTE	.07" Futura Medium (C/L)/ Black	Warning: Refer to current foreign .....
Box Lineweight	.008" / Black	
CHART IDENTIFICATION		
Chart Number	.23" Copperplate Gothic (Caps)/ 45% Black (Even), Black (Odd)	H-2 H-1
Panel Identifications	.07" Copperplate Gothic (Caps)/ 45% Black (Even), Black (Odd)	PANELS FGHIJK PANELS ABCDE
Chart Scales	.07" Copperplate Gothic (Caps)/ 45% Black (Even), Black (Odd)	1"=20 NM 1"=20 NM
Arrowheads	45% Black (Even), Black (Odd)	
CHART TITLE		
First and Second Lines	.11" Futura Medium (Caps)/Black	UNITED STATES GOVERNMENT
Third Line	.17" Futura Medium (Caps)/Black	IFR ENROUTE
ALTITUDE NOTE	.09" Futura Medium (C/L)/Black	For use at and above 18,000' MSL
EFFECTIVE DATE AND TIME NOTE		
Effective Date	.17" Helvetica Medium (Caps)/ Blue	23 SEP 2010
"To" Date	.13" Helvetica Medium (Caps)/ Blue	18 NOV 2010
Times	.11" Helvetica Medium (Caps)/ Blue	EFFECTIVE 0901Z TO 0901Z
NOTAM NOTE	.07" Futura Medium (C/L)/ Black	Consult NOTAMs for latest Information
Lineweight		
SAFETY ALERTS AND CHARTING NOTICES NOTE	.07" Futura Medium (C/L)/ Black	Consult/Subscribe to FAA Safety

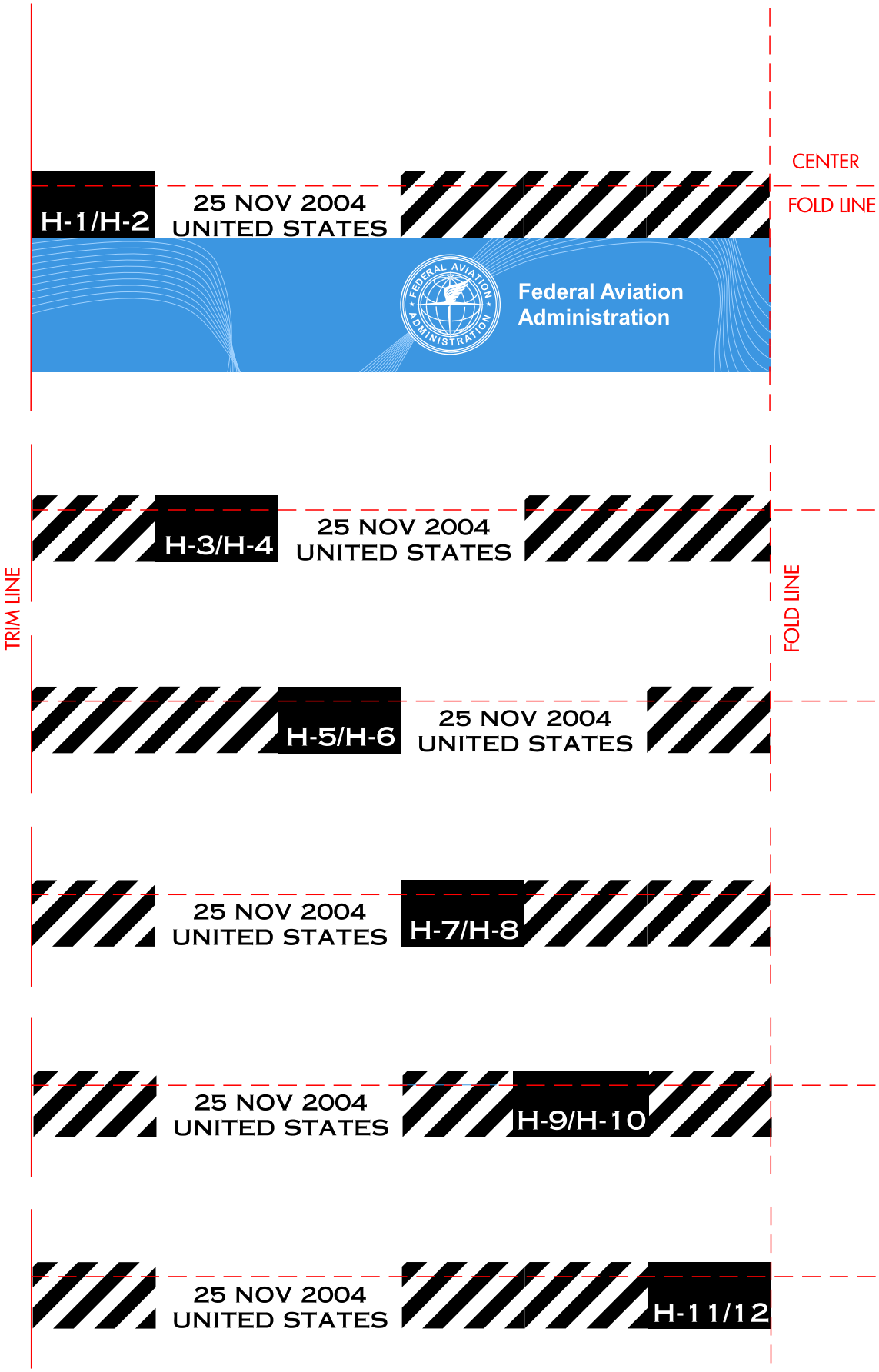
APPENDIX 14
CORRECTIONS, COMMENT, PROCUREMENT - U.S. & ALASKA



TYPE & SYMBOL SPECIFICATIONS

CORRECTION, COMMENTS, etc. Main Heading Sub Headings Additional Text	.08" Futura Medium (Caps)/Black .07" Futura Medium (Caps)/Black .07" Futura Medium (C/L)/Black	CORRECTIONS, COMMENTS..... FOR CHARTING ERRORS, For Corrections Information, See Chapter 11 .....
FREQUENTLY ASKED QUESTIONS	.07" Futura Medium (C/L)/Black	Frequently asked questions.....

APPENDIX 15
CHART IDENTIFICATION LABELS - U.S. & ALASKA



APPENDIX 15
CHART IDENTIFICATION LABELS - U.S. & ALASKA (CONTINUED)



TYPE & SYMBOL SPECIFICATIONS

CHART IDENT LABELS		
Numbers	.13″ Copperplate Gothic 31 (Caps)/ Black	H-5/H-6
Date	.11″ Copperplate Gothic 31 (Caps)/ Black	25 NOV 2004
Area of Coverage	.11″ Copperplate Gothic 31 (Caps)/ Black	UNITED STATES

APPENDIX 16
CHART INDEXING

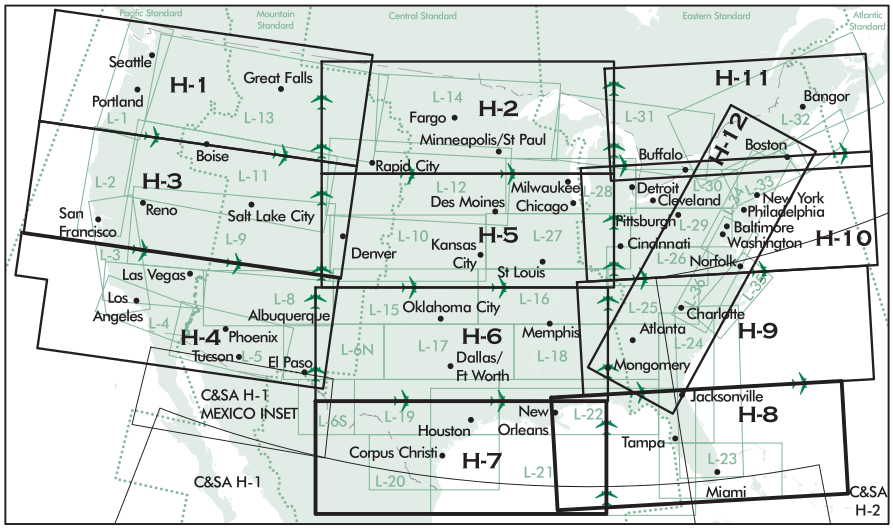
CENTER

FOLD LINE

CHART IDENTIFICATION LABEL

FAA LOGO / BANNER

TRIM LINE



INSTRUCTIONS FOR ASSEMBLY OF WALL PLANNING CHART
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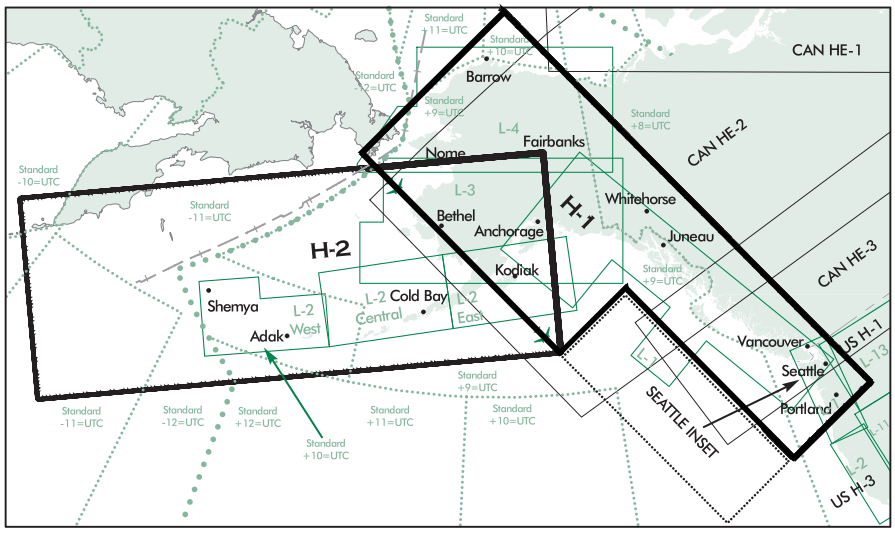
FOLD LINE

APPENDIX 16
CHART INDEXING (CONTINUED)

CENTER FOLD LINE

CHART IDENTIFICATION LABEL

FAA LOGO / BANNER



INSTRUCTIONS FOR ASSEMBLY OF WALL PLANNING CHART
Obtain two copies of each chart
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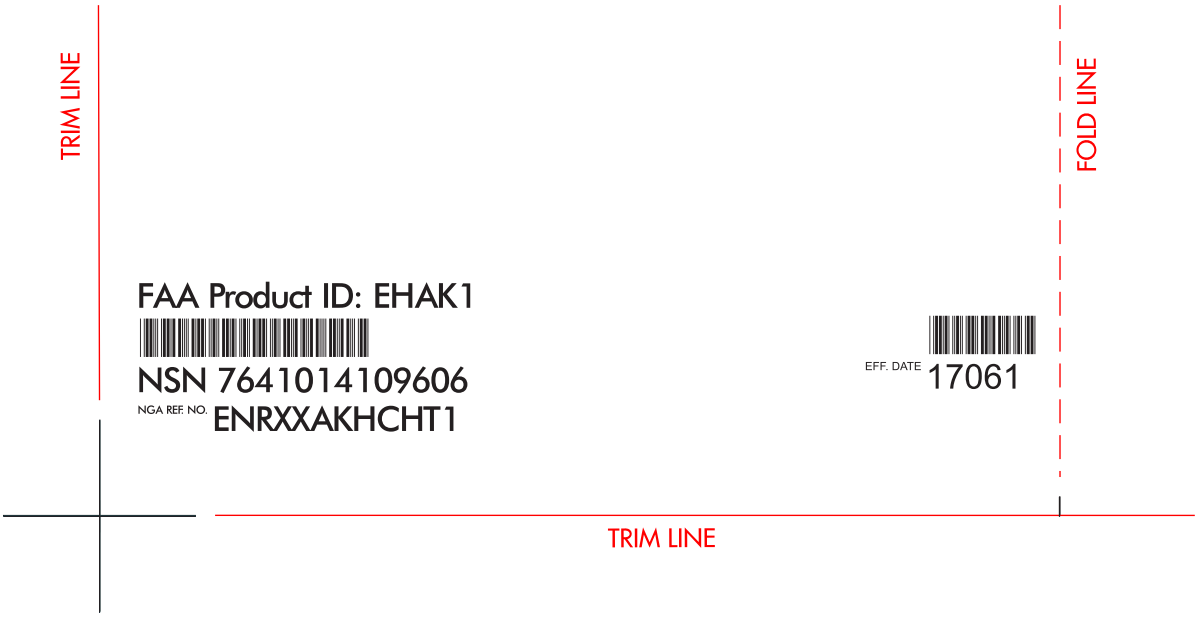
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TRIM LINE FOLD LINE

APPENDIX 16
CHART INDEXING (CONTINUED)

CHART IDENTS		
High Altitude Chart Idents	.09″ Copperplate Gothic 31 (Caps)/Black	H-1
Low Altitude Chart Idents	.06″ Futura Medium (Caps)/Black	L-5
DOD C & SA High Altitude Chart Idents	.06″ Futura Medium (Caps)/Black	C&SA H-1
Prominent Cities	.06″ Futura Medium (C/L)/Black	Washington
Time Zones Identifications	.04″ Futura Medium (C/L)/45%Green	Central Standard
CHART IDENTS / INSTRUCTIONS		
High Altitude Chart Outlines	.012″ /Black	
Individual High Altitude Chart Outlines	.020″ /Black	
Low Altitude Chart Outlines	.005″ /Green	
DOD C & SA High Altitude Chart Outlines	.005″ /Black	
Chart Index Border	.012″ /Black	
Land Areas	10% Green	
International Boundaries	.005″/45% Black	
Prominent Cities Symbols	.025″ Diameter/Black	
Time Zones Symbols	.015″ Diameter/45% Green	
International Dateline (AK)	.030″ Diameter/45% Green	
Wall Planning Chart Instructions	.06″ Futura Medium (C/L)/Green	INSTRUCTIONS FOR ASSEMBLY.....on each chart
Registration Marks	Green	
IAC CREDIT NOTE	.065″ Futura Medium/Black	Published from digital files

APPENDIX 17
BAR CODES



TYPE & SYMBOL SPECIFICATIONS

PRODUCT INFORMATION		
FAA Product ID	.13" Helvetica Light (Caps)/Black	FAA Product ID: EHAK1
NSN Number	.13" Helvetica Light (Caps)/Black	NSN 7641014109606
"NGA Ref. No." Type	.05" Helvetica Light (Caps)/Black	NGA REF. NO.
NGA Reference Number	.13" Helvetica Light (Caps)/Black	ENRXXAKHCHT1
DATE INFORMATION		
"Eff. Date" Type	.05" Helvetica Light (Caps)/Black	EFF. DATE
Julian Date	.13" Helvetica Light (Caps)/Black	10266
BAR CODES	.15" w39m/Black	

APPENDIX 18
TABULATED DATA AREA - SPECIAL USE AIRSPACE

TRIM LINE

Panel C/L

TRIM LINE or FOLD LINE

TRIM LINE or FOLD LINE

SPECIAL USE AIRSPACE

U.S.: P - Prohibited, R - Restricted, W - Warning Areas

All altitudes are MSL unless otherwise indicated
FL - Flight Level
Time - Hours shown are UTC unless otherwise indicated
Cont - Continuous: 24 hours a day, 7 days a week

‡ - During periods of Daylight Saving Time (DT) effective hours will be one hour earlier than shown.
NOTAM - Use of this term in Restricted Areas indicates FAA And DoD NOTAM systems. Use of this term in all other Special Use areas indicates the DoD NOTAM system.

NUMBER	EFFECTIVE ALTITUDE	TIMES USED, UTC	CONTROLLING AGENCY A/G CALL	PANEL
P-56	SFC TO 18000	CONT	NO A/G	I
R-2102C	14000 TO 24000	INTMT 1200 - 0400Z‡ DAILY; ∗1	ZTL	F
R-2903A	SFC TO BUT NOT INCL 23000	INTMT 1200 - 2400Z‡ TUE - SUN; ∗1	ZJX	F
W-50A,B,C	SFC TO FL 750	INTMT BY NOTAM	ZDC	I
W-72A	SFC TO BUT NOT INCL 2000 ABOVE FL 600 TO UNLTD SFC TO UNLTD	INTMT BY NOTAM	ZDC	I
W-102H	17001 TO FL 600	INTMT BY NOTAM	ZBW	D,E
W-104C	FL 180 TO UNLTD	INTMT BY NOTAM	ZBW	D,E,K
W-105A	SFC TO FL 500	INTMT BY NOTAM	ZBW	J,K
W-105B	SFC TO FL 180	INTMT BY NOTAM	ZBW	J
W-161A N	SFC TO FL 620	SR - 0600Z‡ DAILY	ZJX	G
W-161A S	SFC TO FL 620	SR - 0600Z‡ DAILY	ZJX	G
W-177A	SFC TO FL 500	SR - 0600Z‡ DAILY	ZJX	G,H
W-386	SFC TO UNLTD	INTMT BY NOTAM	ZDC	I,J

∗1 Other Times By NOTAM

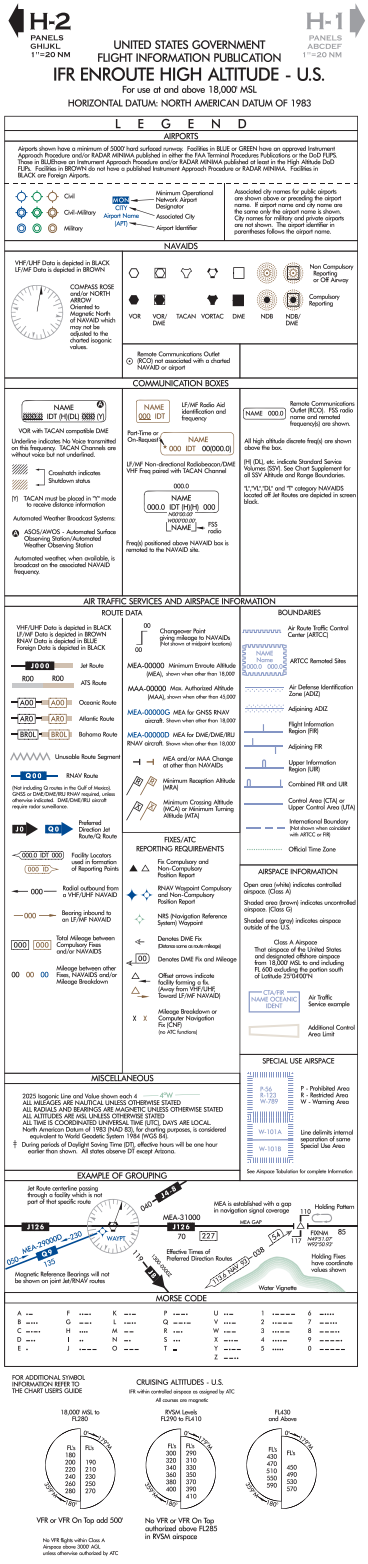
APPENDIX 18
TABULATED DATA AREA - SPECIAL USE AIRSPACE

TITLE		
Main Heading	.07″ Copperplate Gothic 31 (Caps)/ Black	SPECIAL USE AIRSPACE
Secondary Heading	.06″ Futura Medium (Caps)/ Black	P - Prohibited, R - Restricted, W - Warning Areas....
Additional Text	.06″ Futura Medium (C/L)/ Black	All altitudes are MSL unless otherwise indicated....
TABULATION		
Column Headings	.05″ Futura Medium (CAPS)/ Black	NUMBER
Tabulated Information	.05″ Futura Medium (CAPS)/ Black	R-4201A
Box Lineweight	.008″ Black	

APPENDIX 19
LEGEND PANEL INFORMATION - GENERAL - U.S. & ALASKA

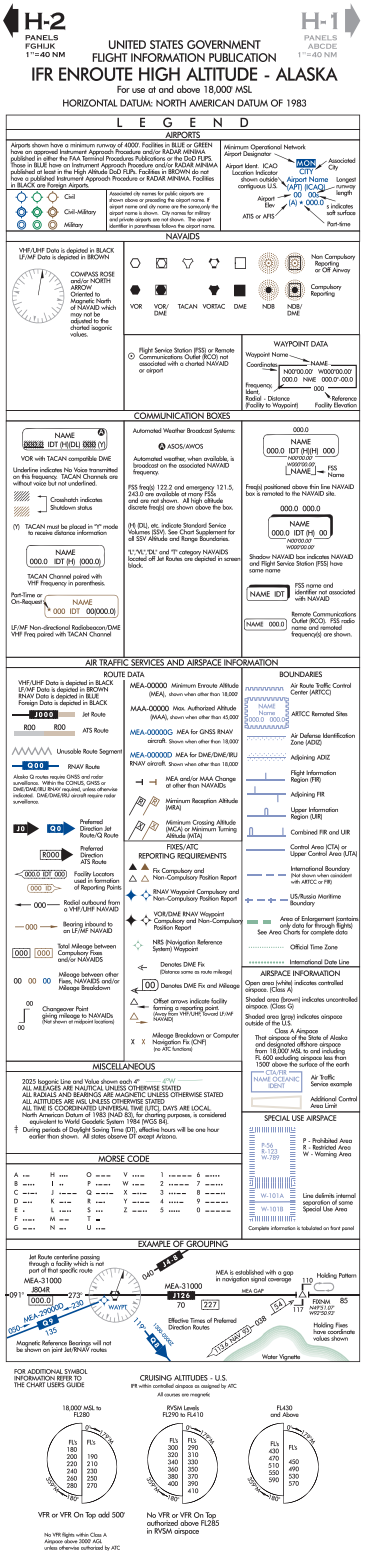
TRIM LINE

FOLD LINE

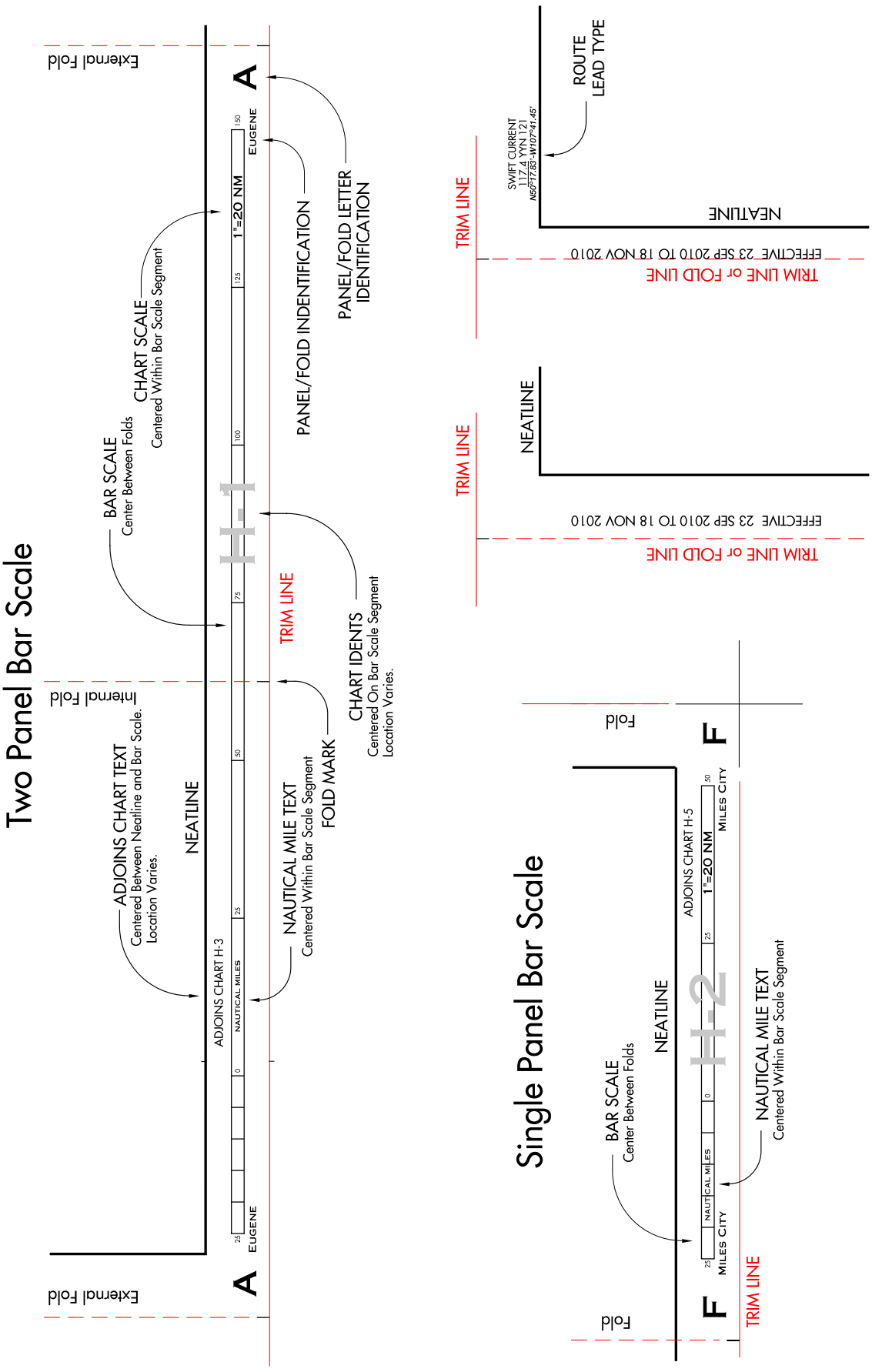


TRIM LINE

FOLD LINE



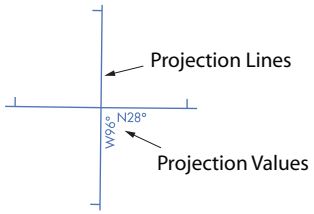
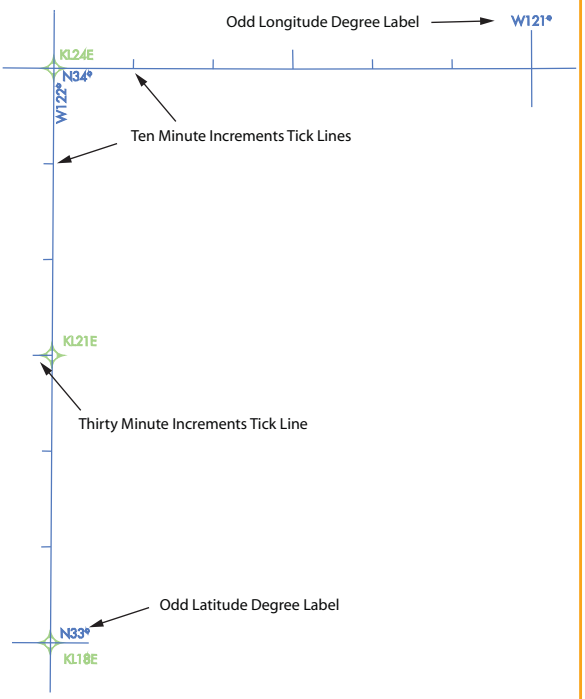
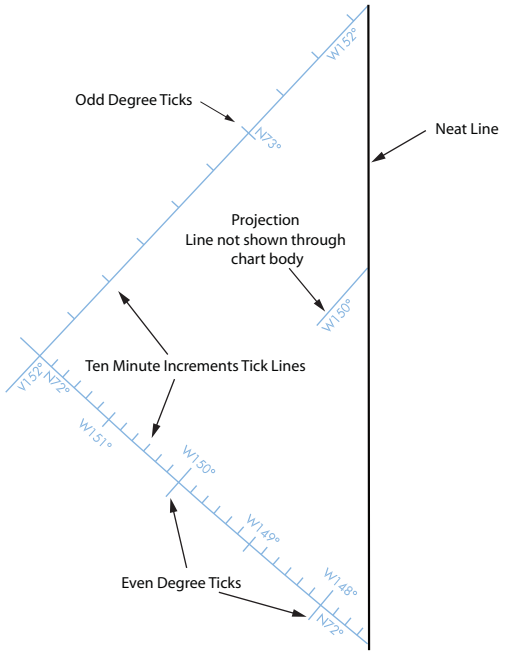
APPENDIX 20
MARGIN INFORMATION



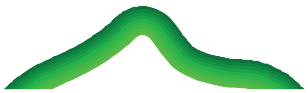
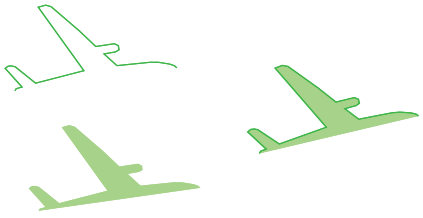
APPENDIX 20
MARGIN INFORMATION (CONTINUED)

MARGIN INFORMATION			
BAR SCALE INFORMATION			
Mileages		.04” Futura Medium/Black	25
Bar Scale Lineweights		.008”/Black	
Chart Scales	CAPS	.07” Copperplate Gothic 31/Black	1"=20 NM
“NAUTICAL MILES” Text	CAPS	.04” Copperplate Gothic 31/Black	NAUTICAL MILES
PANEL/FOLD IDENTIFICATION			
Letter Identification	CAPS	.19” Copperplate Gothic 31/Black	A
City or NAVAID Identification	CAPS	.06” Copperplate Gothic 31/Black	EUGENE
CHART IDENTS			
Chart Identification	CAPS	.29” Copperplate Gothic 31/45% Black	H-1
Fold Mark Weight /Length		.007”/.100” Length/Black	
CHART MARGIN INFORMATION			
Adjoins Chart Text	CAPS	.07” Futura Medium/Black	ADJOINS CHART H-3
Effective Date			EFFECTIVE 23 SEP 2010 ...
ROUTE LEAD TYPE			
Route Text	CAPS	.06” Futura Medium	BUNNZ TAPDO KETTL
Route Text - Color		Same as associated NAVAID or fix	
Coordinates	CAPS	.06” Helvetica 66 Medium Italic	N57°37.80'-E163°41.80'
Color: VHF/UHF		Black	N49°59.00'-W118°19.10'
Color: LF/MF		Brown	

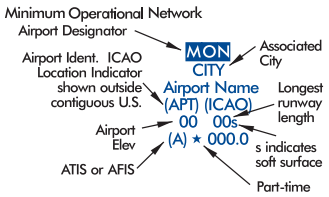
APPENDIX 21
PROJECTION TYPE AND SYMBOL SPECIFICATIONS

CHART DETAIL			
PROJECTION Projection Values (All Charts) Projection Lines (All Charts) Projection Color and Lines	CAPS	.05” Futura Medium 45% Blue .007” 45% Blue	
LATITUDE/LONGITUDE - U.S. Ten Minute Tick Lines Thirty Minute Tick Lines Odd Degree Tick Lines		.05” Length .10” Length .40” Length	
LATITUDE / LONGITUDE **(AK)** Ten Minute Tick Lines Even Degree Tick Lines Odd Degree Tick Lines Even Degree Lat. & Long. Degree Tick Marks not shown through chart body Even Degree Lat. & Long. ProjectionValues position		.05” Length .20” Length .10” Length .40” Length .10” in from neatline	

APPENDIX 22
BASE DETAIL TYPE & SYMBOL SPECIFICATIONS

CHART DETAIL - BASE DETAIL			
SHORELINE		Green Vignette Approximately .15" wide	
INTERNATIONAL BOUNDARY Boundary Identification Text Text Text - Color Lineweight Lineweight - Color	CAPS	.06" Futura Medium 45% Blue .015" 45% Blue	
U.S./Russian Maritime Boundary Boundary Identification Text Text Text - Color Lineweight Lineweight - Color	CAPS	.06" Futura Medium 45% Blue .015" 45% Blue	
TIME ZONES Time Zone Text Text Text - Color Time Zone Symbol	C/L	.05" Futura Medium 45% Green 45% Green	
INTERNATIONAL DATELINE Dateline Text Text Text - Color Dateline Symbol	CAPS	.05" Futura Medium 45% Green 45% Green	
ISOGONIC LINES Isogonic Line Text Text Text - Color Isogonic Line Lineweight Color	CAPS	.06" Futura Medium 45% Green .005" 45% Green	
REGISTRATION GUIDE MARKS Silhouette Outline Lineweight Color Silhouette Total Silhouette Length		.008" Green 10% Green 1"	

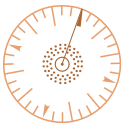
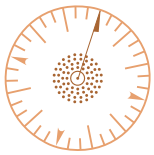
APPENDIX 23
AIRPORT INFORMATION TYPE & SYMBOL SPECIFICATIONS

CHART DETAIL - AIRPORTS				
.06″ Futura Medium (Caps)/ Green/Blue/Brown	 **Airport Data - U.S. Charts**		 **Airport Data - AK Charts**	
AIRPORT DATA (U.S. and Alaska)				
First Line MON Airport Designation	CAPS	.06″ Reverse Negative/ Futura Medium/Green/Blue	MON	
Second Line Associated City Name(s)	CAPS	.06″ Futura Medium	CITY	
Third Line Airport Name	C/L	.06″ Futura Medium	Airport Name	
Fourth Line FAA Airport Identifier	CAPS	.06″ Futura Medium	(APT)	
ICAO Identifier (AK ONLY)	CAPS	.06″ Futura Medium	(ICAO)	
AIRPORT DATA (Alaska)				
Fifth Line Airport Elevation and Runway Length		.06″ Futura Medium	00	
Runway Surface	L/C	.06″ Futura Medium	s	
Sixth Line ATIS/AFIS	CAPS	.06″ Futura Medium	000.0	
ATIS/AFIS Frequency		.06″ Futura Medium	(A)	
AIRPORT COLOR (U.S. and Alaska)				
Airports with...			U.S.	Alaska
Approved IAP		Green	ELLENSBURG Bowers Fld (ELN)	KOTZEBUE Ralph Wien Mem (OTZ) (PAOT) 14 59 (A) 135.45
Approved IAP & in High Altitude DoD Flips		Blue	Sheppard AFB/ Wichita Falls Muni (SPS)	Whidbey Island NAS/Ault Fld (NUW) 47 80 (A)★134.15 ★281.5
Airports without Approved IAP or RADAR MINIMA		Brown	KELLOGG Shoshone Co (S83)	Donlin Creek Pvt (Ø1AA) (PFCR) 750 49s

APPENDIX 24
NAVAIDS - NORTH ARROWS AND COMPASS ROSES

NAVAIDs - NORTH ARROWS & COMPASS ROSE					
		VHF/UHF	LF/MF	VHF/UHF	LF/MF
NAVAID North Arrows Lineweight Color		.010" Black	 Brown		
NAVAID Compass Rose Lineweight Color		.010" 25% Black	 Brown		

Size

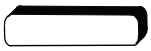
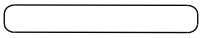
	Reduced Size 0.75"	Normal 1"
VHF/UHF		
LF/MF		

APPENDIX 25
NAVAID IDENTIFICATION BOXES

NAVAIDs - IDENTIFICATION BOXES

		VHF/UHF	LF/MF	VHF/UHF	LF/MF
NAVAID Identification Box Data Font & Size Color	CAPS	.07" Futura Medium Black	Brown	BILLINGS 114.5 BIL 92	BILLINGS 114.5 BIL 92
No Voice Underline Color		.007" Black	Brown		
Box Lineweight Color		.010" Black	Brown		
Geographic Coordinates Color	CAPS	.05" Futura Medium Italic Black	Brown	N45°48.51' W108°37.48'	N45°48.51' W108°37.48'
Abnormal Status Lineweight Color		.005" 45 % Black	45% Brown		

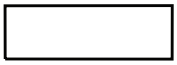
APPENDIX 26
FSS (ALASKA ONLY)/RCO TYPE & SYMBOL SPECIFICATIONS

FLIGHT SERVICE STATIONS (FSS) (ALASKA ONLY) & REMOTE COMMUNICATION OUTLETS (RCOs)			
FSS Associated with NAVAID Shadow Box Color - VHF/UHF		Black	
Color - LF/MF		Brown	
Color - Off Route		45% Black	
FSS Stand Alone Shadow Box Color		Black	
RCO Box Lineweight Color Lineweight		Black .007”	
FSS/RCO Name Color	CAPS	.07” Futura Medium Black	BURLINGTON
“L” Brackets Lineweight Color Lineweight		Black .012”	
Frequencies Color		.06” Futura Medium Black	122.1R
Operational Hours Color	CAPS	.05” Futura Medium Black	FSS AVAILABLE 1330-0730Z‡

APPENDIX 27
AUTOMATED WEATHER BROADCAST SYSTEM TYPE & SYMBOL SPECIFICATIONS

AUTOMATED WEATHEER BROADCAST SYSTEM			
AUTOMATED WEATHER BROADCAST SYSTEM		Color same as associated NAVAID	ASOS/AWOS
Color - VHF/UHF		Black	
Color - LF/MF		Brown	

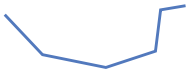
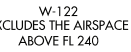
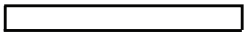
APPENDIX 28
AIRSPACE INFORMATION TYPE & SYMBOL SPECIFICATIONS

AIRSPACE INFORMATION			
GENERAL ATS AREA INFORMATION ATS Data Color Box Lineweight Color Vertical Limit Lineweight Color Pointer Color	CAPS	.06" Futura Medium 45% Blue .015" 45% Blue .007" 45% Blue .007" 45% Blue	
U.S. AIRSPACE NOTES Type Color	CAPS	.05" Futura Medium 45% Blue	FAA AIR TRAFFIC SERVICE OUTSIDE U.S. AIRSPACE IS
FOREIGN AIRSPACE NOTES Color Box Lineweight Color	CAPS	.06" Futura Medium Black .015" Black	Note: Limited chart information provided.... 
FOREIGN AIRSPACE NOTES - HAVANA FIR & OTHER MISC NOTES Color	CAPS	.05" Futura Medium Black	CAUTION: ACCURACY OF ...
FOREIGN AIRSPACE		10% Black	

APPENDIX 28
AIRSPACE INFORMATION TYPE & SYMBOL SPECIFICATIONS (CONTINUED)

AIRSPACE INFORMATION			
UNCONTROLLED AIRSPACE		10 % Brown	
ADIZ Name Color Lineweight Color	 CAPS 	 .06" Futura Medium 45% Blue .010" 45 % Blue	 CANADA ADIZ 
CTA/UTA/ OCA Name Color Vertical Limits Color Lineweight Color	 CAPS 	 .06" Futura Medium 45% Blue .05" Futura Medium 45% Blue .015" 45% Blue	 GULF OF MEXICO HIGH CONTROL TO FL 600
FIR/UIR Name Color Continuous Lineweight Color Tick Weight Color Tick Height Color Tick Spacing Color	 CAPS 	 .06" Futura Medium 45% Blue .015" 45 % Blue .015" 45 % Blue .080" 45 % Blue .54" 45 % Blue	 TORONTO FIR CZYZ   
ARTCC Name Color CPDLC Name Color Lineweight Color	 CAPS CAPS 	 .06" Futura Medium 45% Blue .06" Futura Medium 45% Blue .005" 45% Blue	 SEATTLE SALT LAKE CITY CPDLC (LOGON KUSA)
RCAG ARTCC Name Color Remoted Site Name Color Frequency(s) Color Lineweight Color	 CAPS C/L 	 .06" Futura Medium 45% Blue .06" Futura Medium 45% Blue .06" Futura Medium 45% Blue .005" 45% Blue	 ANCHORAGE Kenai 119.7 269.0

APPENDIX 28
AIRSPACE INFORMATION TYPE & SYMBOL SPECIFICATIONS (CONTINUED)

AIRSPACE INFORMATION			
CONTINENTAL CONTROL BOUNDARY Lineweight Color		.025” 10% Brown	
OFFSHORE AIRSPACE AREAS Name Color	CAPS	.06” Futura Medium 45% Blue	
Vertical Limits Color	CAPS	.05” Futura Medium 45% Blue	
Lineweight Color		.025” 10 % Brown	
SPECIAL USE AIRSPACE (SUA) SUA Boundaries Lineweight Width Color		.007” .07” 45% Blue	
Identification Area - Text Font Color	CAPS	.07” Futura Medium 45% Blue	
Internal Boundaries Lineweight Color		.015” 45 % Blue	
Arrowhed Lineweight Color		.007” 45% Blue	
Boundary - Small Area Color		.07” diameter 45% Blue	
Exclusion & Operational Notes Color	CAPS	.05” Futura Medium Black	
Lineweight - Exclusion Note Arrowhead Color		.007” Black	
SPECIAL FLIGHT RULES AREA (SFRA) Boundary Lineweight Color		.015” 45% Blue	
Label Color	CAPS	.07” Futura Medium 45% Blue	
Note Color	CAPS	.07” Futura Medium Black	
Box Lineweight Color		.015” Black	

APPENDIX 29
ROUTES - TYPES

ROUTES					
SUPPLEMENTARY ROUTE NOTES Font Color	CAPS	.05" Futura Medium Black		J108 BETWEEN TCS AND INK	
ROUTE TYPES					
JET ROUTES		VHF/UHF	LF/MF	VHF/UHF	LF/MF
Lineweight & Color		.02"/Black	.06"/25% Brown		
Russian - Lineweight & Color		.06"/Brown			
AIR TRAFFIC SERVICE (ATS) ROUTES		VHF/UHF	LF/MF	VHF/UHF	LF/MF
Lineweight & Color		.06"/25% Black	.06"/25% Brown		
OCEANIC, ATLANTIC & BAHAMA ROUTES Lineweight & Color		.02"/Black	.06"/25% Brown		
Route note defined by NAVAID Lineweight & Color		.02"/Black			
RNAV "Q" ROUTES Lineweight & Color		.02"/Blue			
GNSS Note Font Color	CAPS	.07" Futura Medium Blue		GNSS REQUIRED	
GULF OF AMERICA "Q" (RNAV) ROUTES Lineweight & Color		.060"/Black			
(AK) VOR/DME RNAV ROUTES Lineweight & Color		.02"/Black			
UNUSABLE ROUTE SEGMENTS Lineweight & Color		.01"/45% Black			
Coincident Airway/Route Unusable Note		.05" Futura Medium/Black		ONLY J91 UNUSABLE	

APPENDIX 30
ROUTES - DATA

ROUTE DATA				
JET ROUTES Identifier	CAPS	.10" Reverse Negative Futura Medium/Black (May be reduced to .09" in congested areas)	J000	
AIR TRAFFIC SERVICE (ATS) ROUTES		VHF/UHF LF/MF	VHF/UHF	LF/MF
Identifier	CAPS	Black Brown .07" Futura Medium (May be reduced to .06" in congested areas)	A000	A000
OCEANIC, ATLANTIC & BAHAMA ROUTES		VHF/UHF LF/MF	VHF/UHF	LF/MF
Identifier	CAPS	Black Brown .07" Futura Medium (May be reduced to .06" in congested areas)	A000	A000
Lineweight & Color		.01"/Black .01"/ Brown		
RNAV "Q" ROUTES	CAPS	.10" Reverse Negative Futura Medium/Blue (May be reduced to .09" in congested areas)	Q000	
GULF OF AMERICA "Q" (RNAV) ROUTES	CAPS	.07" Futura Medium/Black (May be reduced to .06" in congested areas)	Q100	
Box Lineweight & Color		.01"/Black		
(AK) VOR/DME RNAV ROUTES	CAPS	.07" Futura Medium/Black (May be reduced to .06" in congested areas)	J000R	
PREFERRED DIRECTION ROUTES Arrowhead for all routes		Color as appropriate for route type		
Box Lineweight (ATS, Gulf of America "Q", Oceanic Atlantic and Bahama Routes)		.01"/Color as appropriaate for route type		
Hours of Operation - Font Color	CAPS	.05" Futura Medium Black / Brown / Blue	1100 0300Z	1100 0300Z 1300 0600Z

APPENDIX 30
ROUTES - DATA (CONTINUED)

ROUTES DATA

RADIAL & BEARINGS		VHF/UHF	LF/MF	VHF/UHF		LF/MF
Arrow and Font Color		Black	Brown	►		►
Font		.07" Futura Medium (May be reduced to .06" in congested areas)		090°		270
MAGNETIC REFERENCE BEARINGS						
RNAV "Q" Route Bearing		.07" Futura Medium/Blue (May be reduced to .06" in congested areas)		270		
RNAV "Q" Route Bearing Arrow		Blue		◄		
Gulf of America "Q" Route Bearing		.07" Futura Medium/Black (May be reduced to .06" in congested areas)		311		
Gulf of America "Q" Route Arrow		Black		◄		
Alaska VOR/DME Route Bearing		.07" Futura Medium/Black (May be reduced to .06" in congested areas)		090°		
Minimum Enroute Altitudes (MEA), Minimum Authorized Altitudes (MAA) and Flight Levels (FL)		VHF/UHF	LF/MF / RNAV Q	VHF/UHF	LF/MF	RNAV Q
Altitude and Flight Levels	CAPS	Black	Brown / Blue	MAA-41000 MEA-24000 / FL 180	FL 180	
		.07" Futura Medium (May be reduced to .06" in congested areas)				
RNAV MEA Altitude						MEA-20000G
		VHF/UHF	LF/MF / RNAV Q	VHF/UHF	LF/MF	RNAV Q
"T" Symbol Color		Black	Brown / Blue	⊣	⊣	⊣
Lineweight		.015"				
MEA GAP NOTE	CAPS	.05" Futura Medium/Black		MEA GAP		
MCA / MTA				VHF/UHF	LF/MF	RNAV Q
	CAPS	.06" Futura Medium (May be reduced to .05" in congested areas)		MCA V142 12000 E	MCA V142 12000 E	MCA V142 12000 E
MILEAGE DISTANCES						
Mileage		.07" Futura Medium / Same color as prescribed for the route to which they pertain (May be reduced to .06" in congested areas)		25 / 125 / 125		
Box Lineweight		.01"/Black (VHF/UHF) Brown (LF/MF)		▭ ▭		
"TO" Note		.05" Futura Medium(Caps) / Same color as prescribed for the routeto which they pertain		TO MWH		
COP						
Mileage		.06" Futura Medium/ Black		35		
COP "TO" Note		.05" Futura Medium(Caps) / Same color as prescribed for the routeto which they pertain		TO MWH		

APPENDIX 31
NAVIGATIONAL & PROCEDURAL INFORMATION

OPERATIONAL NOTES	.05" Futura Medium (Caps)/ Same color as associated fix	COMPULSORY FL 240 AND ABOVE COMPULSORY FL 240 AND ABOVE COMPULSORY A647 ONLY
FLYOVER SYMBOLOGY	Same color as associated fix	
RADIO INTERSECTIONS AND DME FIXES Symbol Name	VHF/UHF (Black) LF/MF (Brown .06" Futura Medium Italic (Caps) / Same color as associated fix	 AMZIE CRABB
GOEGRAPHIC COORDINATES	.05" Futura Medium Italic (Caps) / Same color as associated fix	N43°06.37' W67°17.17' N42°12.80' W65°45.20'
NON DME RADIO FIXES ARROWS	VHF/UHF (Black) LF/MF (Brown	
DME RADIO FIXES ARROWS	Black	
DME BOATS Symbol Mileage	Black .07" Futura Medium/ Black (May be reduced to .06" in congested areas)	 15
RADIALS & BEARINGS USED FOR FIX MAKEUP Arrow Values	.007" (VHF/UHF)Black - LF/MF(Brown) .07" Futura Medium/ (VHF/UHF)Black - LF/MF(Brown) (May be reduced to .06" in congested areas)	 090° 090°
FACILITY LOCATOR BOATS Symbol Information	(VHF/UHF)Black - LF/MF(Brown) .06" Futura Medium (Caps)/ (VHF/UHF)Black - LF/MF(Brown)	 112.1 MLF 58 257 SQT

APPENDIX 31
NAVIGATIONAL & PROCEDURAL INFORMATION (CONTINUED)

RNAV WAYPOINTS		
Symbol	Blue	
Name	.06″ Futura Medium (Caps)/ Blue	PHYLS
Coordinates	.05″ Futura Medium Italic (Caps)/ Blue	N39°33.03′ W72°41.53′
ALASKA VOR/DME WAYPOINTS		
Symbol	Black	
Information	.07″ Futura Medium (Caps)/ Black	N57°53.44′ W141°45.32′ 113.3 YAK 192.0°-117.7
Box Lineweight	.01″ / Black	
Pointer Lineweight	.007″ / Black	
NRS WAYPOINTS		
Symbol	45 % Green	
Name	.05″ Futura Medium (Caps)/45% Green	KU72M
MRA		
Symbol	.06″ Futura Medium (Caps)/ (VHF/UHF)Black - LF/MF(Brown)	
Information	.06″ Futura Medium (Caps)/ (VHF/UHF)Black - LF/MF(Brown) (May be reduced to .05″ in congested areas)	MRA 18000 MRA 18000
NAVAID HOLDING PATTERNS		
Holding Pattern	45 % Black	
Radial/Bearing Lineweight	.007″ / (VHF/UHF)Black - LF/MF(Brown)	
Radial/Bearing Value	.07″ Futura Medium/ (VHF/UHF)Black - LF/MF(Brown) (May be reduced to .06″ in congested areas)	210 337
Geographic Coordinates	.05″ Futura Medium Italic (Caps)/ (VHF/UHF)Black - LF/MF(Brown)	N47°04.47′ W121°30.97′ N39°17.12′ W69°18.07′
RNAV HOLDING PATTERNS		
Holding Pattern	45% /Blue	
Magnetic Reference Bearing Lineweight	.007″ width/ Blue	
Magnetic Reference Bearing Values	.07″ Futura Medium/ Blue (May be reduced to .06″ in congested areas)	290
Geographic Coordinates	.05″ Futura Medium Italic (Caps)/ Blue	N27°50.00′ W75°25.41′

APPENDIX 31
NAVIGATIONAL & PROCEDURAL INFORMATION (CONTINUED)

CNF Symbol	(VHF/UHF)Black - LF/MF(Brown)	X X
Name	.06" Futura Medium (Caps)/ (VHF/UHF)Black - LF/MF(Brown)	(JBBDT) (JBBDT)
TRANSITIONAL INFORMATION	.11" Futura Medium (Caps)/ Brown	ROUTES AND ASSOCIATED
SEATTLE INSET Text	.09" Futura Medium (Caps)/ Green	SEE SEATTLE INSET CHART FOR DETAIL
Dash Lineweight	.04"/45% Green	