Federal Aviation Administration

UNITED STATES GOVERNMENT SPECIFICATIONS

FLIGHT INFORMATION PUBLICATION
IFR ENROUTE LOW ALTITUDE CHARTS - U.S. AND ALASKA

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20 July 2026

Prepared by the Interagency Air Committee (IAC)

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UNITED STATES GOVERNMENT SPECIFICATIONS
FOR THE
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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 IFR Enroute Low Altitude Charts - 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 908 – Removal of Physical Address and Phone Number from the IAC Specification Products

EDITORIAL CHANGES

a. None applied this edition

CHANGES APPLIED 28 MARCH 2026

REQUIREMENT DOCUMENTS

a. None applied this edition

EDITORIAL CHANGES

a. EC 25-21 R Route Box Note Color Change

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. RD 872 – Alaska Capstone Routes (R Routes) on Alaska Enroute Low Charts

EDITORIAL CHANGES

a. EC 25-03 Renaming Gulf of America

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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 507-19
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 Low Altitude chart series for the conterminous United States, Alaska and portions of the Caribbean, providing users with satisfactory charts for operational use. 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 Low 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 Low Altitude Airspace System is effective up to, but not including 18,000' MSL.

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

Items applicable only to the Alaska Enroute Low Altitude Charts 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

The Enroute Low Altitude Chart series shall consist of 36 charts for the conterminous U.S. and four charts for Alaska. All charts shall be printed front and back.

In addition, the Enroute Low Altitude Chart series shall be supplemented with:

- Area charts of high density area traffic areas.
- **(AK)** Route Selection Chart.
- **(AK)** Supplement Alaska
- 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 the revision schedule coinciding with the effective date and schedule of airspace changes.

1.2.3 Titles

1.2.3.1 Enroute Low Altitude Chart Series

The title for the conterminous U.S. and Alaska enroute low altitude charts shall be:

Figure 1.1 Enroute Low Title Labels

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

OR

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

1.2.3.2 Area Chart

The title for the Area Enroute Low Altitude charts shall be:

Figure 1.2 Area Chart Title Label

UNITED STATES GOVERNMENT
FLIGHT INFORMATION PUBLICATION
IFR AREA CHARTS - U.S.

1.2.4 Areas of Coverage

1.2.4.1 Enroute Charts - U.S.

References:

Appendix 1 - Low Enroute Chart Area of Coverage – U.S.

Area of coverage shall be comprised of 36 overlapping areas or charts covering the conterminous United States including portions of Canada, the Caribbean and Mexico. (See Appendices).

The limits of each chart are defined by the following corner coordinates (corner coordinates are organized starting from the NW corner and go in a clockwise manner there after):

Table 1.1 U.S. - Corner Coordinates - IFR Low Enroute

CHART NUMBER	A	B	C	D
L-1	49°18'27.6"N	49°19'10.0"N	42°48'25.7"N	42°47'46.9"N
	124°59'08.9"W	121°13'06.1"W	121°21'37.5"W	124°45'31.4"W
L-2	42°47'32.9"N	43°07'53.6"N	37°16'09.9"N	36°57'24.0"N
	124°54'20.9"W	121°31'51.1"W	120°39'55.7"W	123°46'25.8"W
L-3	38°38'40.7"N	39°44'36.8"N	33°44'29.3"N	32°43'55.4"N
	123°34'58.1"W	120°41'00.9"W	117°21'38.5"W	120°04'52.3"W

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

L-4	34°58'48.2"N	34°24'27.8"N	32°14'35.5"N	32°47'51.6"N
	120°41'44.2"W	114°29'28.9"W	114°51'47.9"W	120°53'41.1"W
L-5	34°34'44.3"N	34°14'00.8"N	31°07'37.6"N	31°27'07.7"N
	115°24'12.8"W	107°32'25.8"W	107°52'53.5"W	115°26'11.4"W
L-6N	34°22'41.8"N	34°59'35.9"N	31°52'34.6"N	31°17'19.0"N
	108°15'31.9"W	101°24'29.3"W	101°09'03.0"W	107°43'54.8"W
L-6S	31°24'01.7"N	31°44'44.8"N	28°39'10.1"N	28°19'23.6"N
	106°46'15.3"W	103°05'47.0"W	102°47'04.0"W	106°19'11.7"W
L-7	35°40'05.1"N	36°36'24.1"N	34°25'36.3"N	33°31'01.1"N
	121°10'54.5"W	114°10'58.3"W	113°51'07.0"W	120°39'21.9"W
L-8	36°33'34.4"N	37°45'40.2"N	34°38'47.8"N	33°29'49.5"N
	114°23'47.3"W	105°17'45.6"W	104°52'04.8"W	113°36'22.8"W
L-9	40°12'47.9"N	41°32'04.7"N	37°08'47.9"N	35°54'11.9"N
	120°45'33.0"W	105°41'40.3"W	105°31'10.4"W	119°42'00.4"W
L-10	40°52'06.4"N	41°22'21.2"N	37°36'34.7"N	37°07'52.3"N
	106°00'52.8"W	94°19'31.5"W	94°21'37.7"W	105°26'46.7"W
L-11	43°54'59.5"N	44°12'54.5"N	39°50'26.9"N	39°33'34.2"N
	121°52'37.6"W	105°58'43.9"W	106°19'44.2"W	121°14'06.0"W
L-12	45°11'24.4"N	45°07'08.6"N	40°45'25.9"N	40°49'27.9"N
	106°45'06.9"W	92°13'58.8"W	92°43'59.0"W	106°19'50.1"W
L-13	48°53'42.9"N	49°00'16.1"N	44°03'38.5"N	43°57'29.6"N
	122°09'46.7"W	102°30'07.0"W	103°11'30.9"W	121°21'30.2"W
L-14	48°35'44.7"N	49°04'14.1"N	44°43'53.7"N	44°17'00.4"N
	87°56'49.2"W	103°20'13.1"W	103°06'14.4"W	88°44'35.8"W
L-15	37°51'03.3"N	38°18'50.2"N	35°10'44.1"N	34°44'09.8"N
	105°18'32.7"W	94°55'17.1"W	94°55'28.4"W	104°52'47.5"W
L-16	38°18'50.2"N	37°55'41.2"N	34°48'35.5"N	35°10'44.1"N
	94°55'17.1"W	85°35'14.8"W	85°58'47.5"W	94°55'28.4"W
L-17	34°59'35.9"N	35°08'58.8"N	32°01'32.3"N	31°52'34.6"N
	101°24'30.2"W	92°26'43.1"W	92°32'53.2"W	101°09'02.9"W
L-18	35°08'58.8"N	34°28'15.9"N	31°22'38.2"N	32°01'32.3"N
	92°26'43.1"W	82°31'44.5"W	83°01'31.6"W	92°32'53.2"W

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

L-19	31°44'44.8"N	32°02'36.5"N	28°56'12.9"N	28°39'10.1"N
	103°05'47.0"W	93°31'33.9"W	93°34'59.2"W	102°47'03.1"W
L-20	28°43'08.9"N	28°56'12.9"N	25°51'24.1"N	25°38'57.3"N
	101°50'58.4"W	93°34'59.2"W	93°38'09.8"W	101°35'43.0"W
L-21 Gulf of America	31°30'18.6"N	30°34'46.5"N	23°35'04.8"N	24°24'52.8"N
	98°02'55.3"W	80°43'23.4"W	81°54'33.4"W	97°47'31.0"W
L-22	32°02'36.5"N	31°22'38.2"N	28°18'03.7"N	28°56'12.9"N
	93°31'33.9"W	83°01'31.6"W	83°29'01.9"W	93°34'59.2"W
L-23	27°49'57.2"N	26°41'15.4"N	23°41'42.5"N	24°47'12.5"N
	83°30'49.5"W	75°57'40.1"W	76°38'50.8"W	83°56'06.8"W
L-24	35°05'42.8"N	34°35'58.0"N	27°23'30.1"N	27°50'12.1"N
	82°25'26.5"W	78°40'27.5"W	80°07'32.0"W	83°33'02.1"W
L-25	36°59'31.8"N	36°17'08.1"N	34°07'29.8"N	34°48'35.5"N
	85°42'30.9"W	79°21'36.0"W	79°48'39.0"W	85°58'47.5"W
L-26	39°11'03.2"N	38°21'21.5"N	36°11'48.9"N	37°00'00.7"N
	85°31'16.4"W	78°14'46.4"W	78°44'32.7"W	85°45'22.0"W
L-27	41°26'52.0"N	40°53'45.2"N	37°47'01.8"N	38°18'44.2"N
	94°19'28.7"W	83°28'35.2"W	83°58'34.4"W	94°21'15.1"W
L-28	44°33'21.7"N	43°57'33.4"N	40°51'29.8"N	41°25'48.5"N
	92°42'57.3"W	82°31'36.1"W	83°05'30.1"W	92°49'13.9"W
L-29	41°12'24.3"N	40°21'43.2"N	38°12'33.6"N	39°01'45.3"N
	83°25'25.9"W	76°43'18.8"W	77°16'40.5"W	83°46'54.1"W
L-30	43°20'23.7"N	42°19'19.7"N	40°10'49.8"N	41°10'07.2"N
	82°38'38.8"W	74°58'13.3"W	75°35'45.5"W	83°02'15.2"W
L-31	48°03'26.3"N	45°39'49.1"N	42°07'27.7"N	44°24'18.0"N
	88°03'32.6"W	75°45'42.4"W	77°27'46.3"W	89°08'24.2"W
L-32	46°02'46.4"N	47°56'09.6"N	43°35'36.2"N	41°48'34.9"N
	79°29'47.0"W	63°04'30.3"W	62°37'08.3"W	78°00'33.5"W
L-33	42°26'24.7"N	43°21'37.0"N	41°11'59.7"N	40°18'22.7"N
	76°11'04.2"W	70°06'00.7"W	69°36'38.1"W	75°30'48.2"W

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

L-34	**A**	**B**	**C**	**D**
	43°12'27.0"N 73°28'55.6"W	42°40'50.6"N 72°35'33.3"W	42°35'22.8"N 72°05'58.9"W	42°49'37.0"N 71°35'48.1"W
	E	**F**	**G**	
	42°12'31.9"N 70°41'54.5"W	37°27'35.7"N 76°08'48.8"W	38°50'41.3"N 78°18'18.4"W	
	A	**B**	**C**	**D**
L-35	37°39'03.8"N	35°53'34.5"N	33°06'10.3"N	34°47'27.7"N
	75°49'07.0"W	74°11'07.8"W	78°33'20.7"W	80°13'40.1"W
L-36	39°53'18.3"N	38°27'52.7"N	33°34'42.5"N	34°54'20.9"N
	76°38'23.8"W	74°29'32.2"W	79°27'23.1"W	81°33'13.4"W

1.2.4.2 (AK) Enroute Charts - Alaska

The area of coverage shall be comprised of four overlapping areas or charts covering Alaska and portions of Canada and Russia.

The basic chart coverage shall be supplemented with Area Charts, covering Vancouver, Anchorage, Fairbanks, Juneau, Nome, and a Route Selection Chart appearing on the appropriate Enroute Chart.

The limits of each chart are defined by the following coordinates, beginning in the upper left corner (NW Corner) of the chart and reading clockwise:

References:

Appendix 2 - Alaska Low Enroute Chart Area of Coverage

Table 1.2 (AK) - Corner Coordinates - IFR Low Enroute

CHART NUMBER	CORNER			
L-1	**A**	**B**	**C**	**D**
	65°13'04.4"N	47°39'51.5"N	45°42'45.3"N	51°43'35.9"N
	142°26'40.2"W	121°28'22.0"W	126°56'06.1"W	132°33'58.9"W
	E	**F**	**G**	**H**
	49°30'46.9"N	51°57'59.6"N	54°25'45.9"N	58°12'26.6"N
	137°22'30.6"W	140°30'20.5"W	135°17'33.7"W	140°38'56.7"W
	I	**J**		
	55°31'50.6"N	59°31'02.5"N		
	145°59'31.4"W	154°08'31.0"W		
L-2 West Portion	**A**	**B**	**C**	**D**
	52°58'20.3"N	54°47'03.3"N	53°31'21.0"N	55°07'53.1"N
	172°43'08.8"E	178°25'35.8"E	179°27'21.6"E	173°55'53.7"W
	E	**F**		
	51°55'12.7"N	48°46'14.4"N		
	172°02'57.8"W	176°24'14.4"E		

Table 1.2 (AK) - Corner Coordinates - IFR Low Enroute (Continued)

CHART NUMBER	CORNER			
L-2 Central Portion	A	B	C	D
	56°17'24.6"N	58°58'32.6"N	54°20'38.2"N	51°55'12.7"N
	175°19'57.3"W	161°18'43.2"W	159°19'17.5"W	172°02'57.8"W
L-2 East Portion	A	B	C	D
	58°58'32.6"N	60°05'14.2"N	55°20'24.9"N	54°20'38.2"N
	161°18'43.2"W	145°48'58.9"W	145°32'08.0"W	159°19'17.5"W
L-3	A	B	C	D
	64°21'27.0"N	64°19'03.5"N	56°35'49.8"N	56°19'21.1"N
	171°10'23.5"W	136°26'51.7"W	139°53'53.8"W	170°26'12.3"W
	E	F		
	60°06'27.8"N	60°26'39.6"N		
	172°10'16.1"W	169°15'56.5"W		
L-4	A	B	C	D
	71°24'49.7"N	71°01'42.6"N	63°36'25.6"N	63°05'38.2"N
	169°55'04.2"W	133°24'15.1"W	138°18'01.6"W	174°14'32.7"W
	E	F	G	
	63°36'01.4"N	67°40'29.4"N	67°55'13.8"N	
	174°33'58.5"W	170°52'40.1"W	167°50'19.4"W	

1.2.4.3 Inset Charts - U.S.

The area of coverage of each Inset Chart is such as to coordinate and chart overwater routes between coverage of the basic Enroute chart series, providing concurrently, transition points to and from the Inset Chart.

The limits of each Inset Chart are defined by the following corner coordinates:

Table 1.3 U.S. - Inset Charts - IFR Low Enroute

CHART NUMBER	CORNER			
Boston-Yarmouth 1:30	A	B	C	D
	42°49'42.4"N 71°13'11.1"W	44°03'29.1"N 65°59'36.0"W	42°45'41.8"N 65°57'08.5"W	41°59'36.7"N 67°00'00.5"W
	E			
	41°01'43.9"N 70°22'31.6"W			
Wilmington-Bimini 1:31	A	B	C	D
	35°17'27.6"N 81°16'09.0"W	34°46'24.2"N 76°56'04.7"W	25°16'51.7"N 78°40'42.1"W	25°43'45.5"N 82°31'36.9"W

1.2.4.4 U.S. Area Chart (A-1 & A-2)

The U.S. Area Chart consists of A-1 and A-2 which is made up of individual area charts. The term Area Charts refers to U.S. Area Charts (A-1 & A-2).

References:

Appendix 51 - Chart Area of Coverage - Area Charts

1.2.4.5 U.S. & Alaska Area Charts

The term Area Charts refers to the chart contained within the U.S. Area Charts (A-1 & A-2) and **(AK)** Alaska Enroute Charts.

The basic enroute chart coverage will be supplemented by area charts for any area on the IFR Enroute Low Altitude Charts where the depiction of information is such as to preclude safe operation of aircraft within that area. This situation may exist when either of the following occurs:

- The amount of detail required or portrayal techniques used result in congestion of information.
- The depiction of an important terminal area at the edge of an Enroute Chart makes entry into this area difficult.

The following Area Charts are an integral part of the basic Enroute Chart series for the conterminous United States:

Table 1.4 U.S. - Area Charts - IFR Low Enroute

CHART IDENTIFICATION	
FRONT SIDE (A-1)	**REVERSE SIDE (A-2)**
Atlanta	Chicago / Milwaukee
Detroit	Dallas / Ft. Worth
Jacksonville	Denver
Miami	Kansas City
Minneapolis / St.Paul	Los Angeles
St. Louis	Phoenix
Washington	San Francisco

Table 1.5 U.S. - Area Chart A-1 Corner Coordinates - IFR Low Enroute

CITY	A	B	C	D
Atlanta	34°05'55.2"N	34°05'51.4"N	33°10'29.8"N	33°10'33.5"N
	84°57'58.0"W	83°49'55.9"W	83°50'24.9"W	84°57'37.8"W
Detroit	42°44'15.3"N	42°44'16.4"N	41°58'04.8"N	41°59'03.7"N
	83°49'09.4"W	82°45'09.6"W	82°45'29.9"W	83°48'46.1"W
Jacksonville	30°54'11.943"N	30°54'15.904"N	29°59'14.160"N	29°59'10.254"N
	82°09'01.830"W	81°03'45.572"W	81°04'03.805"W	82°08'34.711"W
Miami	26°18'33.061"N	26°18'35.738"N	25°24'18.772"N	25°24'16.132"N
	80°50'11.859"W	79°48'33.735"W	79°48'51.093"W	80°49'48.751"W
Minneapolis/ St. Paul	45°26'00.211"N	45°26'08.872"N	44°12'31.938"N	44°12'23.419"N
	94°03'49.524"W	92°17'07.623"W	92°17'55.965"W	94°02'37.561"W

Table 1.5 U.S. - Area Chart A-1 Corner Coordinates - IFR Low Enroute (Continued)

CITY	A	B	C	D
St. Louis	39°11'10.806"N	39°11'15.927"N	38°15'43.255"N	38°15'38.199"N
	90°59'39.655"W	89°46'44.476"W	89°47'06.382"W	90°59'05.035"W
Washington	38°13'08.3"N	38°10'01.3"N	40°23'45.8"N	40°26'58.6"N
	078°23'11.4"W	074°43'36.4"W	074°36'56.4"W	078°23'34.1"W

Table 1.6 U.S. - Area Chart A-2 Corner Coordinates - IFR Low Enroute

CITY	A	B	C	D
Chicago/ Milwaukee	43°16'36.2"N	43°16'34.7"N	41°22'06.1"N	41°22'07.6"N
	88°36'13.3"W	87°18'48.2"W	87°19'57.2"W	88°35'12.7"W
Dallas/Ft. Worth	33°43'10.0"N	33°42'49.2"N	31°30'01.0"N	31°29'40.8"N
	98°06'43.5"W	96°05'46.2"W	98°05'34.6"W	96°07'59.2"W
Denver	40°22'30.0"N	40°22'30.0"N	39°17'50.0"N	39°17'50.0"N
	105°23'00.0"W	103°56'40.0"W	105°22'20.0"W	103°57'15.0"W
Kansas	39°32'57.4"N	39°32'59.3"N	38°46'41.6"N	38°46'39.8"N
	95°04'10.0"W	94°03'04.4"W	94°03'21.9"W	95°03'47.8"W
Los Angeles	34°34'09.666"N	34°19'30.630"N	33°33'57.045"N	33°48'26.418"N
	118°59'33.666"W	117°03'20.489"W	117°12'12.613"W	119°07'17.595"W
Phoenix	34°05'40.8"N	34°05'43.3"N	32°47'19.2"N	32°47'16.8"N
	112°50'56.2"W	111°14'33.2"W	111°15'19.6"W	112°50'04.2"W
San Francisco	38°16'17.44"N	38°16'19.153"N	37°20'46.0"N	37°20'44.309"N
	122°53'44.663"W	121°41'44.428"W	121°42'09.891"W	122°53'14.972"W

(AK) The following Area Charts are an integral part of the basic Enroute Chart series for Alaska:

Table 1.7 (AK) Area Charts - IFR Low Enroute

CHART NAME	A	B	C	D
Vancouver Area Chart	49°40'40.1"N	47°41'27.4"N	47°11'18.0"N	49°09'12.5"N
	122°56'33.3"W	121°29'15.6"W	123°00'49.3"W	124°30'57.8"W
Juneau Area Chart	60°00'54.0"N	58°09'32.7"N	56°44'57.6"N	58°32'36.2"N
	135°51'58.9"W	132°38'59.1"W	135°35'32.6"W	138°49'44.0"W
Anchorage Area Chart	**A**	**B**	**C**	**D**
	62°43'06.6"N	61°36'52.5"N	60°08'29.9"N	60°18'32.7"N
	151°17'19.2"W	144°00'24.1"W	145°07'42.9"W	146°04'33.2"W
	E	**F**	**G**	
	59°05'39.1"N	58°50'47.3"N	59°21'12.9"N	
	149°16'41.8"W	149°25'18.7"W	153°04'08.4"W	
	A	**B**	**C**	**D**

Table 1.7 (AK) Area Charts - IFR Low Enroute (Continued)

CHART NAME	A	B	C	D
Fairbanks Area Chart	65°15'07.6"N	65°17'07.9"N	63°45'44.0"N	63°43'49.9"N
	150°10'25.4"W	145°06'14.6"W	145°10'14.7"W	149°59'58.6"W
Nome Area Chart	63°23'12.1"N	65°23'24.5"N	63°51'53.0"N	63°52'03.5"N
	166°59'50.6"W	163°17'57.7"W	166°54'10.2"W	163°22'49.1"W

1.2.4.6 (AK) Route Selection Chart (on Chart L-2)

Table 1.8 (AK) - Route Selection Chart

A	B	C	D
69°13'55.5"N	71°55'33.3"N	56°24'31.7"N	54°36'14.4"N
174°47'33.6"W	141°00'10.8"W	141°00'49.3"W	162°24'57.9"W

1.2.5 Scales

Fractional equivalents based on 6,076.11549' = 1NM

1.2.5.1 U.S. Enroute Charts

Charts for the conterminous U.S. shall be compiled and drawn at the following scales:

Table 1.9 U.S. - Enroute Chart Scales

CHART NUMBER	SCALE	CHART NUMBER	SCALE
L-1	1"=8NM (1:583,307)	L-19	1"=10NM (1:729,133)
L-2	1"=8NM (1:583,307)	L-20	1"=10NM (1:729,133)
L-3	1"=8NM (1:583,307)	L-21	1"=23NM (1:1,677,005)
L-4	1"= 7NM (1:510,393)	L-22	1"=10NM (1:729,133)
L-5	1"=10NM (1:729,133)	L-23	1"=10NM (1:729,133)
L-6	1"=10NM (1:729,133)	L-24	1"=10NM (1:729,133)
L-7	1"= 7NM (1:510,393)	L-25	1"= 7NM (1:510,393)
L-8	1"=10NM (1:729,133)	L-26	1"= 7NM (1:510,393)
L-9	1"=14NM (1:1,020,786)	L-27	1"=10NM (1:729,133)
L-10	1"=12NM (1:874,960)	L-28	1"=10NM (1:729,133)
L-11	1"=14NM (1:1,020,786)	L-29	1"= 7NM (1:510,393)
L-12	1"=14NM (1:1,020,786)	L-30	1"= 7NM (1:510,393)
L-13	1"=16NM (1:1,166,614)	L-31	1"=12NM (1:874,960)
L-14	1"=14NM (1:1,020,786)	L-32	1"=14NM (1:1,020,786)
L-15	1"=10NM (1:729,133)	L-33	1"= 7NM (1:510,393)
L-16	1"=10NM (1:729,133)	L-34	1"= 7NM (1:510,393)
L-17	1"=10NM (1:729,133)	L-35	1"= 7NM (1:510,393)
L-18	1"=10NM (1:729,133)	L-36	1"= 7NM (1:510,393)

(AK) The Enroute Charts for Alaska shall be compiled and drawn at the following scales:

Table 1.10 (AK) - Enroute Chart Scales

CHART NUMBER	SCALE
L-1	1"=25NM (1:1,822,834)

Table 1.10 (AK) - Enroute Chart Scales (Continued)

CHART NUMBER	SCALE
L-2 West	1"=25NM (1:1,822,834)
L-2 Central	1"=25NM (1:1,822,834)
L-2 East	1"=25NM (1:1,822,834)
L-3	1"=25NM (1:1,822,834)
L-4	1"=25NM (1:1,822,834)

1.2.5.2 Inset Charts

The insets shall be compiled and drawn at the following scales:

Table 1.11 U.S. - Inset Chart Scales

CHART NAME (Location)	SCALE
Wilmington-Bimini (L-23)	1"=31NM (1:2,260,315)
Boston-Yarmouth (L-34)	1"=23NM (1:1,677,008)

1.2.5.3 Area Charts

Area charts for the conterminous U.S. shall be compiled and drawn at the following scales:

Table 1.12 U.S. - Area Chart Scales

CHART NAME	SCALE	CHART NAME	SCALE
Atlanta	1"= 6NM (1:437,480)	Chicago / Milwaukee	1"= 6NM (1:437,480)
Detroit	1"= 5NM (1:364,566)	Dallas / Ft. Worth	1"= 7NM (1:510,393)
Jacksonville	1"= 6NM (1:437,480)	Denver	1"= 7NM (1:510,393)
Miami	1"= 6NM (1:437,480)	Kansas City	1"= 5NM (1:364,566)
Minneapolis / St.Paul	1"= 8NM (1:583,307)	Los Angeles	1"= 5NM (1:364,566)
St. Louis	1"= 6NM (1:437,480)	Phoenix	1"= 8.5NM (1:619,762)
Washington	1"= 7NM (1:510,393)	San Francisco	1"= 6NM (1:437,480)

(AK) Area charts for Alaska shall be compiled and drawn at the following scales:

Table 1.13 (AK) - Area Chart Scales

CHART NAME (Location)	SCALE
Juneau (AK L-1)	1"= 14NM (1:1,020,787)
Vancouver (AK L-1)	1"= 8NM (1:583,307)
Nome (AK L-3)	1"= 10NM (1:729,133)
Fairbanks (AK L-3)	1" = 10NM (1:729,133)
Anchorage (AK L-4)	1" = 11NM (1:802,046)

1.2.5.4 (AK) Route Selection Chart

Route Selection Chart 1" = 50NM (1:3,645,669)

1.2.6 Central Meridians

1.2.6.1 Enroute Charts

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

(AK) The Central Meridian of the IFR Enroute Low Altitude - Alaska and Route Selection Chart charts shall be 154°W.

1.2.6.2 Area Charts - U.S.

The Central Meridian of the IFR Enroute Low Altitude - U.S. Area charts shall be as specified in the table below.

Table 1.14 U.S. - Area Chart Central Meridians

CHART NAME	CENTRAL MERIDIANS	CHART NAME	CENTRAL MERIDIANS
Atlanta	84°30'00.0"W	Chicago / Milwaukee	88°00'00.0"W
Detroit	83°15'00.0"W	Dallas / Ft. Worth	97°25'00.0"W
Jacksonville	81°30'00.0"W	Denver	104°45'00.0"W
Miami	80°15'00.0"W	Kansas City	94°30'00.0"W
Minneapolis / St.Paul	90°00'00.0"W	Los Angeles	131°44'45.0"W
St. Louis	90°15'00.0"W	Phoenix	112°00'00.0"W
Washington	95°00'00.0"W	San Francisco	122°15'00.0"W

1.2.6.3 (AK) Area Charts - Alaska

The Central Meridian of the IFR Enroute Low Altitude - Alaska Area charts shall be as specified in the table below.

Table 1.15 (AK) Area Chart Central Meridians

CHART NAME (Location)	CENTRAL MERIDIANS
Juneau (AK L-1)	136°W
Vancouver (AK L-1)	122°W
Nome (AK L-3)	166°W
Fairbanks (AK L-3)	148°W
Anchorage (AK L-4)	150°W

1.2.6.4 (AK) Alaska and Route Selection Chart

The Central Meridian of the IFR Enroute Low Altitude - Alaska and Route Selection Chart charts shall be 154°W.

1.2.7 Projections

The Lambert Conformal Conic Projection with standard parallels of 33°N and 45°N shall be used for the conterminous U.S. Low Enroute Charts and Area Charts.

(AK) The Lambert Conformal Conic Projection with standard parallels of 37°N and 65°N shall be used for the charts in the Alaska series.

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.

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

1.2.10 Type Styles

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

Type styles and sizes shall be as stated, or their equivalent. Equivalent shall be such as to equal the height, width and line weight of the specified style of type. Type size may be reduced in areas of extreme congestion.

The use of capital letters is intended unless otherwise stated as caps and lowercase (C/L).

CHAPTER 2
LAYOUT AND FORMAT

2.1 U.S. & ALASKA ENROUTE AND U.S. AREA (A-1 & A-2) CHARTS

2.1.1 Format

The charts in this series shall be rectangular in shape (normally West-East) with the layout and format of the charts conforming to the Appendices.

2.1.2 Layout

All odd numbered charts shall be printed on what shall be referred to as the "front side" (with the title panel). All even numbered charts shall be printed on what will be referred to as the "reverse side."

Charts shall be numbered and printed, backed-up, head-to-head, as indicated in the Appendices.

2.1.2.1 U.S. & Alaska Enroute Charts

2.1.2.1.1 U.S. Enroute Chart Layouts

References:

Appendix 3 - Chart Layout - U.S. L-1 and L-7
Appendix 4 - Chart Layout - U.S. L-2 and L-8
Appendix 5 - Chart Layout - U.S. L-3, L-9, L-11, L-13, L-15, L-19, L-27 and L-29
Appendix 6 - Chart Layout - U.S. L-4, L-10, L-12, L-14, L-16 and L-24
Appendix 7 - Chart Layout - U.S. L-5
Appendix 8 - Chart Layout - U.S. L-6
Appendix 9 - Chart Layout - U.S. L-17 and L-31
Appendix 10 - Chart Layout - U.S. L-18 and L-32
Appendix 11 - Chart Layout - U.S. L-20 and L-28
Appendix 12 - Chart Layout - U.S. L-21, L-33 and L-35
Appendix 13 - Chart Layout - U.S. L-22 and L-36
Appendix 14 - Chart Layout - U.S. L-23
Appendix 15 - Chart Layout - U.S. L-25
Appendix 16 - Chart Layout - U.S. L-26
Appendix 17 - Chart Layout - U.S. L-30
Appendix 18 - Chart Layout - U.S. L-34

2.1.2.1.2 (AK) Alaska Enroute Chart Layouts

References:

Appendix 19 - Chart Layout - Alaska L-1
Appendix 20 - Chart Layout - Alaska L-2
Appendix 21 - Chart Layout - Alaska L-3
Appendix 22 - Chart Layout - Alaska L-4

2.1.2.1.3 Size and Dimension

Each chart shall have a neatline .020" in weight, printed in 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.

2.1.2.1.4 Dimensions

Paper dimensions for the quality control prints shall be 20" x 55.5", including plate idents for U.S. L-1, L-2, L-7, L-8, L-25 and L-26. Paper for all other U.S. and Alaska Charts shall be 20" x 60.5".

Tabulated data panels or fly leaf shall be 5" wide.

Refer to **Appendix 3** through**Appendix 18** for chart area dimensions (border-to-border) for U.S. Charts and **Appendix 19** through **Appendix 22** for Alaska Charts.

2.1.2.1.5 Panel Folds

Each chart shall have 10 folds and 11 panels for U.S. L-1, L-2, L-7, L-8, L-25 and L-26. All other charts shall have 11 folds and 12 panels (5" wide evenly spaced).

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".

2.1.2.2 INSET CHARTS

The Inset Charts shall be contained within a .020" neatline, with the neatline aligned with the borderline of the enroute chart. A double neatline with a .40" space between will be provided to separate the Inset Chart from the detail of the enroute chart upon which the area is positioned. Chart detail shall extend to these borderlines.

Inset Charts shall be provided at the scale specified, and positioned on the enroute chart as indicated, for the following areas:

Table 2.1 Inset Chart Location

CHART NAME	LOCATION
Wilmington-Bimini	L-34
Boston-Yarmouth	L-23

References:

Appendix 14 - Chart Layout - U.S. L-23
Appendix 18 - Chart Layout - U.S. L-34

2.1.2.3 AREA CHARTS

2.1.2.3.1 Arrangement and Location

2.1.2.3.1.1 Conterminous U.S.

The U.S. Area Charts layout shall conform with the format illustrated in **Appendix 52** and **Appendix 53**.

Arrangement of individual areas shall conform to the format illustrated in the Appendices:

Table 2.2 Area Chart Arrangement and Location - U.S.

CHART IDENTIFICATION	
FRONT SIDE (A-1)	**REVERSE SIDE (A-2)**
Atlanta	Chicago / Milwaukee
Detroit	Dallas / Ft. Worth
Jacksonville	Denver
Miami	Kansas City
Minneapolis / St.Paul	Los Angeles
St. Louis	Phoenix
Washington	San Francisco

References:

Appendix 52 - Chart Layout - Area Chart A-1
Appendix 53 - Chart Layout - Area Chart A-2

Size and dimensions of the U.S. Area Charts shall generally conform to those specified for the Enroute Charts and illustrated for the individual areas.

2.1.2.3.1.2 (AK) Alaska Area Charts

Area Charts within Alaska shall conform to the format illustrated in the Appendices.

Each chart shall normally be aligned with true north.

Alaska Area Charts shall be provided and positioned on the appropriate enroute chart as indicated and illustrated in the Appendices for the following areas:

Table 2.3 (AK) - Area Chart Arrangement and Location

CHART NAME	LOCATION
Juneau	L-1
Vancouver	L-1
Anchorage	L-4
Fairbanks	L-3
Nome	L-3

References:

Appendix 19 - Chart Layout - Alaska L-1
Appendix 20 - Chart Layout - Alaska L-2
Appendix 21 - Chart Layout - Alaska L-3
Appendix 22 - Chart Layout - Alaska L-4

Each Alaska Area Chart shall be contained within a .018" borderline, with the borderline aligned with the borderline of the enroute chart. A double borderline with a .4" space between will be provided to separate the Area Chart from the detail of the enroute chart upon which the area is positioned. Chart detail shall extend to these borderlines.

A nautical mile bar scale, similar to that contained on the enroute chart, shall be shown, positioned within the chart area, parallel to and adjoining the bottom (lower neatline). Bar scales shall, as near as possible, extend the full length of the charted area.

Exception to the Enroute Chart Bar Scales shall be that the mile division breakdown of the scale shall be shown and labeled on both ends of the scales, and the subdivision shall be for each 10 miles.

The name of each Area Chart, e.g., ANCHORAGE AREA, shall be shown, centered above or below the chart, within the .4" marginal area.

2.1.2.4 (AK) Route Selection Chart

The Route Selection Chart shall conform with the format illustrated in **Appendix 20**.

References:

3.13 - (AK) L-2 - Low Altitude Route Selection Chart

CHAPTER 3
CONTENT

3.1 GENERAL

The content and portrayal techniques contained and described herein apply to the Low Enroute Chart Series which includes Enroute, Area and Inset Charts. For more specific information see the following sections:

- **3.8** - Inset Charts
- **3.10** - Area Charts - U.S. (A-1 & A-2) AND Alaska (AK)
- **3.11** - Area Chart (A-1 & A-2)
- **3.12** - Chart L-21 - Offshore Navigational Chart
- **3.13** - (AK) L-2 - Low Altitude Route Selection Chart

3.1.1 Mileages

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

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 charted with magnetic outbound values and LF/MF bearings shall be charted with magnetic inbound values, using the magnetic slave variation of the NAVAID. RNAV waypoint radials shall be identified with magnetic outbound values, based on the dynamic variation at the NAVAID or waypoint geographic coordinates.

When RNAV and ATS routes are collocated, the ATS route bearing or radial values shall have charting priority.

Care shall be exercised in the charting of radial and bearing values to eliminate any possibility of misreading these values. This is critical with values 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 value.

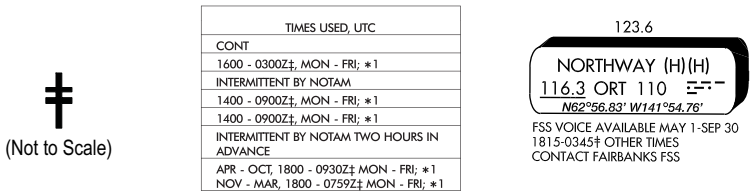
3.1.3 Boxes

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 the double dagger symbol, positioned adjacent to and preceding 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/Altitudes

Elevations/Altitudes 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.

Text associated with nonlinear symbols (e.g., airports, RCOs, etc.) should be placed within the same two-panel area between external folds. Placement of text on external chart folds should be avoided whenever possible. The preferred location of text associated with nonlinear symbols will be to the Northeast of the symbol, thence progressing counter clockwise around the symbol.

Text associated with linear symbols shall be aligned with and adjacent to the linear 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 location of text associated with a non-linear feature overlies linear symbols (e.g., ARTCCs, ADIZs, FIRs), then these symbols may be partially deleted to accommodate the text, as long as the original graphic intent of the symbols are maintained.

Leader lines with arrows 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 will be plotted at their true geographical position. Other symbology, i.e., airports, will be plotted at their true geographical position.

3.3 TITLE PANEL INFORMATION

All Title Panel type and symbols shall be shown charted in compliance with the criteria established within these specifications and appendices.

All Title Panel information shall be shown in solid black unless otherwise indicated within these specifications. Type and symbols shall be positioned so as to be perpendicular to the chart trim edge.

The extreme left panel of all odd numbered charts shall be the Title Panel and shall be visible when the chart is completely unfolded.

References:

Appendix 23 - Sample Title Panels - U.S. & Alaska
Appendix 24 - Chart Identification & Title Panel Area Layout - U.S. & Alaska
Appendix 25 - Corrections, Comments and/or Procurement Area Layout - U.S. & Alaska
Appendix 26 - OROCA Notice
Appendix 27 - SFAR No. 97 Chart Notice - Alaska
Appendix 28 - Chart Identification Labels - U.S., Alaska & Area Charts
Appendix 29 - Chart Index - U.S.
Appendix 32 - Bar Codes

3.3.1 Foreign Airspace Warning Note

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

Figure 3.2 Foreign Airspace Warning Note



3.3.2 Chart Identification Area

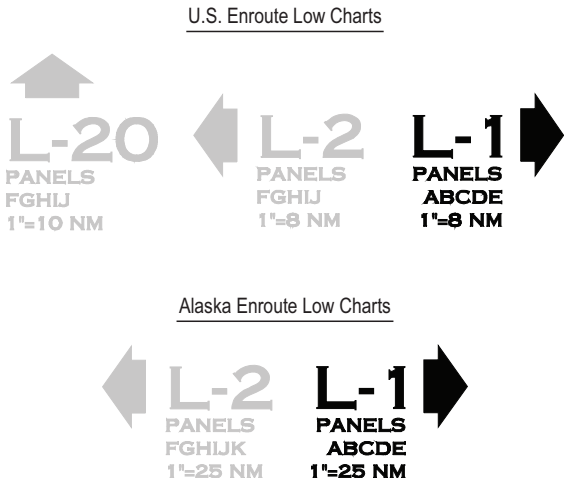
References:

Appendix 24 - Chart Identification & Title Panel Area Layout - U.S. & Alaska

3.3.2.1 Chart Idents

Charts shall be identified by the letter “L” and a number, e.g., L-1, L-2, L-3, etc. 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 (L-1 through L-35 and Alaska L-1 and L-3) shall be positioned in the upper right corner. Chart idents for the even-numbered charts (L-2 through L-36 and Alaska L-2 and L-4) shall be positioned in the upper left corner.

Figure 3.3 Chart Idents Examples - U.S. and Alaska Charts



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 idents and point to the right. Arrowheads for even numbered charts idents L-20, L-22, L-26, L-28, L-30 and L-36 shall be above and flush left with the chart ident and point up. All other even numbered charts shall be centered and to the left of the chart ident and point to the left.

3.3.2.3 Panel Identification

The text “PANELS” shall be positioned below all chart idents. The text shall be flush right with the chart ident in the upper right corner and flush left with the chart ident in the upper left corner.

Panel identifications are an alphabetical listing of all the panel letters found on a particular chart. For odd numbered charts the Panel Identifications shall be positioned below and flush right with the text “PANELS” and for even numbered charts shall be positioned below and flush left with the text “PANELS”.

3.3.2.4 Chart Scales

The scale of each chart shall be expressed in terms of inches to nautical miles. Scale for odd-numbered charts shall be positioned below and flush right with the panel identification. Scale for even-numbered charts shall be positioned below and flush left with the panel identification.

Refer to Section **1.2.5** for actual scale of individual charts.

3.3.3 Title Area

References:

Appendix 24 - Chart Identification & Title Panel Area Layout - 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 LOW ALTITUDE - U.S.

- OR -

UNITED STATES GOVERNMENT
FLIGHT INFORMATION PUBLICATION
IFR ENROUTE LOW 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 up to but not including 18,000' MSL

3.3.3.3 Effective Dates and Times Note

The effective dates 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. Dates shall consist of the day, month and year with the names of the month abbreviated to the first three letters.

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 below the Consult NOTAM note.

References:

Appendix 24 - Chart Identification & Title Panel Area Layout - U.S. & Alaska

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.

References:

Appendix 25 - Corrections, Comments and/or Procurement Area Layout - U.S. & Alaska

3.3.3.7 OROCA Notice

An explanatory boxed note shall be shown centered above the center fold line and shall be depicted as shown in **Appendix 26** - OROCA Notice.

3.3.3.8 (AK) Chart Notice - GPS/WAAS Navigation Operations in Alaska

A Chart Notice titled "Implementation of Instrument Flight Rules (IFR) Area Navigation (RNAV) Operations Using Global Positioning System (GPS) in Alaska" shall be shown centered below the "Corrections, Comments and/or Procurement Note" and above the OROCA Notice.

Figure 3.8 (AK) GPS/WAAS Chart Notice

CHART NOTICE

Implementation of Instrument Flight Rules (IFR)
Area Navigation (RNAV) Operations Using
Global Positioning System (GPS) in Alaska

Under SFAR No. 97, operators using IFR-certified TSO C145a and TSO C146a GPS/WAAS navigation systems will be permitted to conduct operations over selected routes in AK beyond the service volume of ground-based navaids at the lowest minimum en route altitude (MEA) based only on route obstacle assessments and ATC two-way voice communication capability.

The MEAs for these routes will be depicted on the IFR Enroute Low Altitude-AK charts in blue type with a 'G' suffix. For instance, a GPS MEA of 2000 feet MSL will be depicted as "2000G" in blue. Standard MEAs will be depicted in black type and be 'stacked' above the GPS MEA.

See SFAR No. 97 for equipment, training and operational requirements.

3.3.4 Chart Identification Labels

Chart Identification Labels shall be shown to identify a complete set of conterminous U.S. Enroute Low Charts or Alaska Enroute Low Charts, and identify individual charts within a set.

References:

Appendix 28 - Chart Identification Labels - U.S., Alaska & Area Charts

Figure 3.9 Chart Identification Labels - U.S. and Alaska Charts



3.3.4.1 Chart Idents

In the conterminous U.S. each odd-numbered chart shall be identified by a unique ident tab staggered across the panel and overlapping the chart center fold line. Each ident tab shall be stacked within the portion below the center fold line. The first chart tab on the left side shall be for L-1 and increase to L-35 on the right side.

(AK) In Alaska each ident tab shall be identified by the chart number of both the odd and even number charts, e.g., L-1/L-2, and L-3/L-4. In Alaska the ident tab for L-1 shall be positioned on the left half of the panel and the ident tab for L-3/L-4 shall be positioned on the right half of the panel.

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, shown centered above the area of coverage.

3.3.4.3 Area of Coverage

The area of coverage shall be either "UNITED STATES" or "ALASKA" as appropriate. The area chart identifier in all cases 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 label.

Figure 3.10 FAA Branding



3.3.6 Chart Index

A chart index showing IFR Enroute Low Altitude chart coverage of either the conterminous United States or Alaska shall be shown. The chart index shall be centered below the FAA logo/banner.

Area Chart Index specifications can be found in Section **3.11**.

References:

Appendix 29 - Chart Index - U.S.

Figure 3.11 Chart Index - U.S.

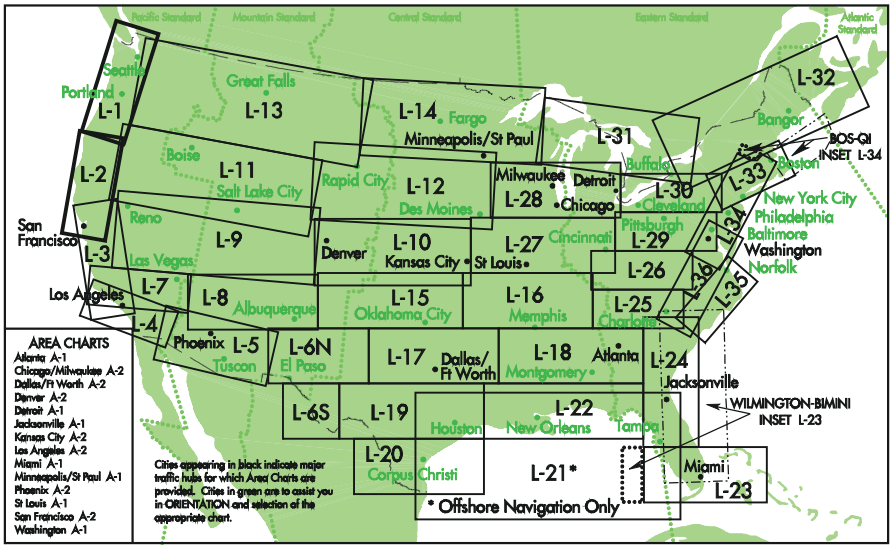
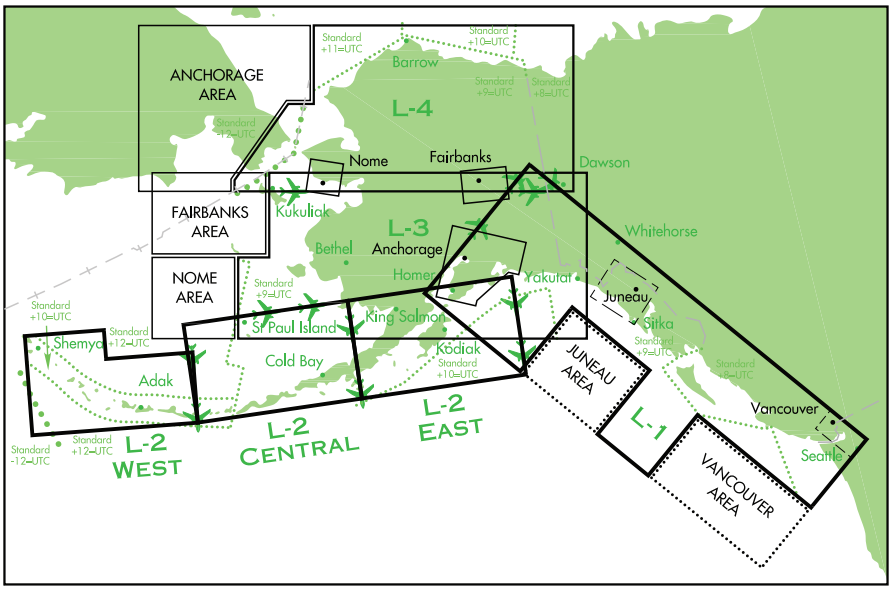


Figure 3.12 Chart Index - Alaska



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 dashed lined. 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 each low altitude chart shall be depicted. Each chart shall be identified by a chart number. Chart numbers shall be centrally positioned within the limits of each chart. The chart index shall be tailored for each individual sheet by indicating the particular limits of both the front and the back charts.

The limits of the inset chart coverage shall be defined using a dashed line. Inset charts shall be identified by name. In addition, inset chart placement on the appropriate Enroute Charts shall be depicted by dotted outlines, supported by lead lines and small arrowheads.

3.3.6.3.1 Offshore Navigation Only L-21

Within the Contiguous U.S. Chart Index, a note shall be identified with an asterisk to the L-21 chart designator (L-21*) and placed along and inside of the lower L-21 chart parameter which reads: “*Offshore Navigation Only”. See **Figure 3.11**.

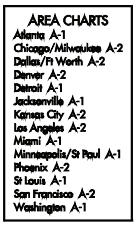
3.3.6.4 Area Chart Cities

Area chart names and geographic locations for all conterminous U.S. and Alaska Charts shall be shown. The geographic locations associated with these area charts shall by symbolized by a solid dot and identified.

3.3.6.4.1 U.S. Area Chart Coverage

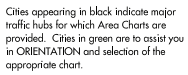
An alphabetical listing of the conterminous U.S. Area Charts and associated Area Chart number shall be positioned in the lower left corner of the U.S. chart index. The list shall be flushed left and contained within a box with the title “AREA CHARTS” centered above and preceding the listing.

Figure 3.13 Area Chart Listing



The following note shall be shown positioned in the lower portion of the conterminous U.S. Enroute Low Chart index.

Figure 3.14 Area Chart Coverage Note



3.3.6.4.2 (AK) Alaska Area Chart Coverage

(AK) The Area Chart actual coverage, delineated by a line boundary shall be shown, in addition to area chart names and geographical locations.

Figure 3.15 (AK) Alaska Area Chart Depiction on Active Chart

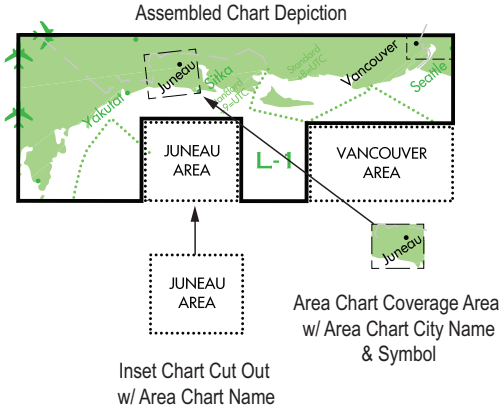
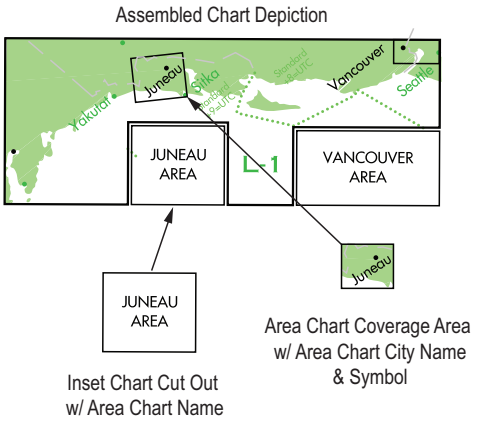


Figure 3.16 (AK) Alaska Area Chart Depiction on Inactive Chart



3.3.6.5 Prominent Cities

To assist in geographical orientation and general coverage of the individual Enroute Low 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. These names should be evenly distributed throughout the index with at least one geographical name and location within each of the Enroute Low 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 by 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 (AK) 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. Two airplane silhouette symbols shall be positioned along the individual Alaska Enroute Low Altitude Chart limits of adjoining charts. These symbols shall be positioned in the same general location as their larger counterparts on the chart proper.

An explanatory note, preceded by a sample miniature airplane symbol, shall be positioned outside, and immediately below the chart index, providing instructions for assembly of an Alaskan Wall Planning Chart.

Figure 3.17 Registration Marks (Airplane Silhouettes)/Wall Planning Instructions



3.3.7 Interagency Air Committee (IAC) Credit Note

An IAC credit note shall be shown left justified below the Chart Index.

(AK) An IAC credit note shall be shown left justified, below the Registration Marks/Wall Planning Instructions.

Figure 3.18 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

References:

Appendix 29 - Chart Index - U.S.

3.3.8 QR Codes

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. The first line will show the FAA Product ID, depicted above the National Stock Number bar code. The second line will consist of bar codes for the National Stock Number (NSN) and the Effective Date (Julian date). The NSN and the Effective Date will be shown textually below the respective Bar Code on the third line. The NGA Reference Number will be shown textually on the fourth line.

Figure 3.19 Bar Codes



References:

Appendix 32 - Bar Codes

3.4 LEGEND PANEL INFORMATION

Legend panel (U.S. and Alaska Charts) information shall be positioned to read perpendicular to the side trim of the charts. Refer to appendices referenced below for placement of legend panel information.

References:

Appendix 4 - Chart Layout - U.S. L-2 and L-8
Appendix 5 - Chart Layout - U.S. L-3, L-9, L-11, L-13, L-15, L-19, L-27 and L-29
Appendix 7 - Chart Layout - U.S. L-5
Appendix 9 - Chart Layout - U.S. L-17 and L-31
Appendix 12 - Chart Layout - U.S. L-21, L-33 and L-35
Appendix 14 - Chart Layout - U.S. L-23
Appendix 16 - Chart Layout - U.S. L-26
Appendix 20 - Chart Layout - Alaska L-2
Appendix 22 - Chart Layout - Alaska L-4

References:

Appendix 33 - Legend Panel - U.S. and Alaska
Appendix 34 - Legend Panel - Chart Identification Labels U.S. & Alaska

3.4.1 Chart Identification Area

References:

Appendix 33 - Legend Panel - U.S. and Alaska
Appendix 34 - Legend Panel - Chart Identification Labels U.S. & Alaska

3.4.1.1 Chart Idents

Charts shall be identified by the letter "L" 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.

3.4.1.1.1 U.S. Charts

All odd-numbered chart idents for the conterminous U.S. Charts, except for L-25, shall be positioned in the upper left hand corner. The odd-numbered chart ident for L-25 shall be positioned in the upper right hand corner.

All even-numbered chart idents for the conterminous U.S. Charts, except for L-26, shall be positioned in the upper right hand corner. The even-number chart ident for L-26 shall be positioned in the upper left hand corner.

3.4.1.1.2 (AK) Alaska Charts

All odd-numbered chart idents for Alaska shall be positioned in the upper right corner. All even-numbered chart idents for Alaska 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.

3.4.1.2.1 U.S. Charts

Arrowheads for all even-numbered charts, except for L-20, L-22, L-26, L28, L-30 and L-36, shall be centered and to the right of the chart number and point to the right.

Arrowheads for all odd-numbered charts, except for L-25, shall be centered and to the left of the chart number and point to the left.

Arrowheads for L-20, L-22, L-25, L-28, L-30 and L-36 shall be above and flush right with the chart number and point up.

Arrowhead for L-26 shall be centered and to the left of the chart number and point to the left.

3.4.1.2.2 (AK) Alaska Charts

Arrowheads for all even numbered Alaskan charts shall be centered and to the left of the chart number and point to the left.

Arrowheads for all odd numbered Alaskan charts shall be centered and to the right of the chart number and point to the right.

3.4.1.3 Panel Identification

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

3.4.1.3.1 U.S. Charts

Panel identification for charts covering the contiguous U.S. shall be placed as specified below:

- Charts with panels “ABCDE” and “ABCD”, panel identification shall be positioned below and flush left with the text “PANELS” except for chart L-25. Chart L-25 panel identification shall be positioned below and flush right with the text “PANELS”.
- Charts with panels “FGHIJ”, “FGHIJK” and “EFGHIJ”, panel identification shall be positioned below and flush right with the text “PANELS” except for Chart L-26. Chart L-26 panel identification shall be positioned below and flush left with the text “PANELS”.

3.4.1.3.2 Alaska Charts

Panel identification for charts covering Alaska **(AK)** shall be placed as specified below:

- Panel identification for Alaska L-1 and L-3 shall be “ABCDE”, positioned below and flush right with the text “PANELS”.
- Panel identification for Alaska L-2 and L-4 shall be “FGHIJK”, positioned below and flush left with the text “PANELS”.

3.4.1.4 Chart Scales

The scale of each chart, expressed in terms of inches of nautical miles, shall be shown, positioned directly below the panel identification numbers. See Section **1.2.5** for scale values.

3.4.1.4.1 U.S. Charts

Chart scales for charts covering the contiguous U.S. shall be placed as specified below:

- Charts with panels “ABCDE” and “ABCD”, chart scale shall be positioned below and flush left except for chart L-25. Chart L-25 chart scale shall be position below and flush right.
- Charts with panels “FGHIJ”, “FGHIJK” and “EFGHIJ”, chart scale shall be positioned flush right except for Chart L-26. Chart L-26 chart scale shall be positioned flush left.

3.4.1.4.2 Alaska Charts

Chart scales for charts covering the Alaska **(AK)** shall be placed as specified below:

- Chart scale for Alaska L-1 and L-3 shall be positioned flush right.
- Chart scale for Alaska L-2 and L-4 shall be positioned flush left.

3.4.2 Title Area

References:

Appendix 34 - Legend Panel - Chart Identification Labels U.S. & Alaska

3.4.2.1 Chart Title

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

3.4.2.2 Altitude Note

The Altitude note shall be shown as described in Section **3.3.3.2**.

3.4.2.3 Horizontal Datum Note

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

Figure 3.20 Horizontal Datum Note

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

3.4.3 Chart Legend

A Chart Legend shall be shown 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 categories and appear as headings shall be:

Table 3.1 Chart Legend Title Headings

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

References:

Appendix 33 - Legend Panel - U.S. and Alaska

3.5 TABULATED DATA AREA

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

References:

Appendix 35 - Military Training Routes Tabulation - U.S. & Alaska
Appendix 36 - SUA & MOA Tabulation - U.S. & Alaska
Appendix 37 - Airport Locations Tabulation - U.S. & Alaska

Tabulated Data shall consist of five areas:

1. Military Training Routes (MTRs). See Section **3.5.1**.
2. SUA and MOA Tabulation Legend. See Section **3.5.2**.
3. Special Use Airspace (SUAs). See Section **3.5.3**.
4. Military Operations Areas (MOAs). See Section **3.5.4**.
5. Airport Locations. See Section **3.5.5**.

Tabulations shall incorporate information from both front and back sides of the chart. The location of Tabulated Data is indicated in the Chart Layout.

References:

Appendix 4 - Chart Layout - U.S. L-2 and L-8
Appendix 6 - Chart Layout - U.S. L-4, L-10, L-12, L-14, L-16 and L-24
Appendix 7 - Chart Layout - U.S. L-5
Appendix 10 - Chart Layout - U.S. L-18 and L-32
Appendix 11 - Chart Layout - U.S. L-20 and L-28
Appendix 14 - Chart Layout - U.S. L-23
Appendix 15 - Chart Layout - U.S. L-25
Appendix 17 - Chart Layout - U.S. L-30
Appendix 19 - Chart Layout - Alaska L-1
Appendix 21 - Chart Layout - Alaska L-3

See Section **3.11.2** for Tabulated Data for Area Charts (A-1 and A-2).

3.5.1 Military Training Routes (MTR) Tabulation - U.S. & Alaska

References:

Appendix 35 - Military Training Routes Tabulation - U.S. & Alaska

3.5.1.1 General

A tabulation of the appropriate and applicable all-inclusive altitudes for each military training route shown on the chart shall be provided. The MTR Tabulation is positioned as indicated in the second set of References under Section **3.5**.

MTRs shall be tabulated numerically by the route designator, e.g., IR-123, followed by the appropriate and applicable all-inclusive (composite) altitude range for each route graphically depicted on the chart, e.g., 3000 to 4000, 500 AGL to 7000.

As necessary due to space considerations on the panel, the MTR tabulation may be continued or carried over to an open area within the confines of the chart.

Figure 3.21 Military Training Routes Tabulation

MILITARY TRAINING ROUTES

NUMBER	ALTITUDE RANGE	NUMBER	ALTITUDE RANGE	NUMBER	ALTITUDE RANGE
IR-203	8000 TO 12000	IR-346	200 AGL TO FL 29000	IR-461	300 AGL TO 9000
IR-207	200 AGL TO 15000	IR-348	500 AGL TO 13000	VR-202	200 AGL TO 8000
IR-344	200 AGL TO 17000	IR-460	300 AGL TO 9000	VR-331	200 AGL TO 6000

MTR Tabulation information for Area Chart (A-1/A-2) can be found in Section 3.11.2.1.

3.5.1.2 Title

The title "MILITARY TRAINING ROUTES" shall be centered above the tabulation.

3.5.1.3 Columns and Sub-columns

Tables will be three columns wide with each column made up of two sub-columns. Sub-column headings shall be "NUMBER" and "ALTITUDE RANGE".

3.5.1.3.1 Number Column

The first column, titled "NUMBER", shall be tabulated numerically by the route designator e.g., IR-203, VR-331, etc.

3.5.1.3.2 Altitude Range Column

The second column, titled "ALTITUDE RANGE", shall list the corresponding and all-inclusive (composite) altitude range for each route geographically depicted on the chart.

3.5.2 Special Use Airspace (SUA) and Military Operations Areas (MOA) Tabulation Legend

The following SUA and MOA Tabulation Legend shall be positioned above the Special Use Airspace Tabulation on all U.S. charts.

Figure 3.22 SUA and MOA Tabulation Legend - U.S. Charts

ARTCC three letter idents: Albuquerque ZAB, Atlanta ZTL, Boston ZBW, Chicago ZAU, Cleveland ZOB, Denver ZDV, Fort Worth ZFW, Houston ZHU, Indianapolis ZID, Jacksonville ZJX, Kansas City ZKC, Los Angeles ZLA, Memphis ZME, Miami ZMA, Minneapolis ZMP, New York ZNY, Oakland ZOA, Salt Lake City ZLC, Seattle ZSE, Washington ZDC

U.S.: P - PROHIBITED, R - RESTRICTED, W - WARNING, A - ALERT 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.

(AK) The following SUA and MOA Tabulation Legend shall be positioned above the Special Use Airspace Tabulation on all Alaska Low Enroute Charts.

Figure 3.23 SUA and MOA Tabulation Legend - AK Charts

ARTCC three letter idents: Anchorage ZAN, Oakland ZOA, Seattle ZSE
U.S.: P - PROHIBITED, R - RESTRICTED, W - WARNING, A - ALERT 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.

3.5.3 Special Use Airspace (SUA) Tabulation

The tabulation shall be titled “Special Use Airspace”. The tabulation shall include Prohibited, Restricted, Warning and Alert Areas in the U.S. The following note shall be placed at the bottom left corner of the Special Use Airspace (SUA) Tabulation box: “Alert Areas do not extend into Class A, B, C and D airspace, or Class E airport surface areas”. Footnotes shall be added at the bottom left of the tabulation below the Alert Areas note when needed.

Special Use Airspace with a floor of 18,000' MSL or above shall not be shown on this enroute low altitude chart.

Figure 3.24 Special Use Airspace (SUA) Tabulation

SPECIAL USE AIRSPACE

NUMBER	EFFECTIVE ALTITUDE	TIMES USED, UTC	CONTROLLING AGENCY A/G CALL	PANEL
P-51	SFC TO BUT NOT INCL 2500	CONT	NO A/G	E
R-2202A	SFC TO BUT NOT INCL 10000	1600 - 0300Z‡ MON - FRI; ∗1	ZAN	A
R-2202C	10000 TO FL 310	INTMT BY NOTAM	ZAN	A
R-2203A,B	SFC TO 11000	1400 - 0900Z‡ MON - FRI; ∗1	ANCHORAGE APP CON	A
R-2203C	SFC TO 5000	1400 - 0900Z‡ MON - FRI; ∗1	ANCHORAGE APP CON	A
R-6701	SFC TO 5000	INTMT BY NOTAM	WHIDBEY ISLAND NAS APP CON WA	E
W-237A,B LOW	SFC TO BUT NOT INCL FL 230	INTMT BY NOTAM	ZSE	E
W-237C,D,F,G	SFC TO UNLTD	INTMT BY NOTAM	ZSE	E
W-237E	SFC TO FL 270	INTMT BY NOTAM	ZSE	E
W-237H,J	SFC TO FL 270	INTMT BY NOTAM	ZOA	E
W-612	SFC TO FL 290	BY NOTAM	ZAN	A,J
A-680	SFC TO 3000	APR - OCT 1800 - 0930Z‡ MON - FRI; NOV - MAR 1800 - 0759Z‡ MON - FRI; ∗1	NO A/G	E

Alert Areas do not extend into Class A, B, C and D airspace, or Class E airport surface areas.

3.5.3.1 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.

3.5.3.2 Effective Altitude Column

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

3.5.3.3 Times Used Column, UTC

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.

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

The fourth column, titled “CONTROLLING AGENCY A/G CALL”, shall indicate the agency that is authorized to permit enroute clearance through the area. Should a joint agreement exist that 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.

3.5.3.5 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.

3.5.4 Military Operations Areas (MOA) Tabulation

The tabulation shall be titled “MILITARY OPERATIONS AREAS”. Footnotes shall be added at the bottom left of the tabulation when needed.

Figure 3.25 Military Operations Areas

MILITARY OPERATIONS AREAS

NUMBER	EFFECTIVE ALTITUDE	TIMES USED, UTC	CONTROLLING AGENCY A/G CALL	PANEL
CHINA	3000 AGL ∗2	1600Z‡ - SS DAILY	ZOA	G,H
CHINOOK A	300 TO 5000	INTMT BY NOTAM	U S NAVY WHIDBEY ISLAND NAS APP CON	D,E
CHINOOK B	300 TO 5000	INTMT BY NOTAM	U S NAVY WHIDBEY ISLAND NAS APP CON	E
DOLPHIN N	11000 ∗2	1600 - 2400Z‡ DAILY; ∗1	ZSE	A,B,I,J
DOLPHIN S	11000 ∗2	1600 - 2400Z‡ DAILY; ∗1	ZSE	I
GOOSE N	3000 AGL ∗2	1500 - 0300Z‡ MON - FRI; ∗1	ZSE	I
MAXWELL 1,2,3	11000 OR 3000 AGL ∗4	1300 - 0400Z‡ MON - FRI; ∗1	ZOA	G,H
OLYMPIC A	6000 ∗2	BY NOTAM	ZSE	D
OLYMPIC B	6000 ∗2	BY NOTAM	ZSE	D,E
RAINIER 1,2,3	2000 TO 9000	INTMT BY NOTAM	SEATTLE TRACON	D
WHITMORE 1,2,3	11000 OR 3000 AGL ∗4	1530 - 0030Z‡ MON - FRI; ∗1	ZOA	H

∗1 Other Times By NOTAM
∗2 To But Not Including FL 180
∗4 Whichever Is Higher, To But Not Including FL 180

3.5.4.1 Number Column

The first column, titled “NUMBER”, shall consist of the assigned or designated name and/or number of the area preceded by the letter designation for the type of area. MOA areas shall be grouped alphabetically and listed numerically.

3.5.4.2 Effective Altitude Column

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

3.5.4.3 Time of Use 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 the MOA 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 MOA area is in effect.

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

The fourth column, titled “CONTROLLING AGENCY A/G CALL”, shall indicate the agency that is authorized to permit enroute clearance through the MOA. 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.

3.5.4.5 Panel Column

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

3.5.5 Airport Locations Tabulation

An alphanumeric tabulation of civil, military and civil/military airports within the area of coverage for both the front and reverse side of the chart shall be provided. This tabulation shall normally be placed on the Special Use Airspace Tabulation panels and due to space considerations may be continued or carried over to an open area within the confines of the chart.

The title “AIRPORT LOCATIONS” shall be positioned above the tabulation.

Column headings shall be “NAME”, “ID” and “PANEL.”

Figure 3.26 Airport Locations

AIRPORT LOCATIONS

NAME	ID	PANEL	NAME	ID	PANEL	NAME	ID	PANEL
AJ Eisenberg	OKH	E	Harvey Fld	S43	D	Red Bluff Muni	RBL	H
Abbotsford	CYXX	E	Hayfork	F62	H	Redding Muni	RDD	H
Albany Muni	S12	B	Hayward Exec	HWD	F	Reid-Hillview of Santa	RHV	F
Anacortes	74S	E	Hobby Fld	77S	A	Renton Muni	RNT	D
Angwin-Parrett Fld	2O3	G	Hogan's Corner	5WA8	D	Rio Vista Muni	O88	F
Arcata	ACV	I	Illinois Valley	3S4	I	Roche Harbor	WAØ9	E
Arlington Muni	AWO	E	Independence State	7S5	B	Rogers Fld	OØ5	H

3.5.5.1 Name Column

Airports shall be tabulated alphabetically by the airport name. Airport names will be extracted verbatim from the authoritative database, but may be truncated as necessary to fit within the space allotted.

3.5.5.2 ID Column

The FAA Location Identifier will be shown at airports in the conterminous U.S. The ICAO Location Indicator, if available, will be shown outside the conterminous U.S.

3.5.5.3 Panel Column

The third column, titled “PANEL”, shall indicate the chart panel identifier where the airport is located.

3.6 MARGIN INFORMATION

Margin information shall be positioned between the neatline of the chart and the trim edge, but excluding title and legend panel information.

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

Area Chart Margin Information specifications can be found in Section **3.11**.

3.6.1 Bar Scales

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

References:

Appendix 38 - Margin Information - U.S. & Alaska

3.6.1.1 Placement

Bar scales shall be positioned on each chart parallel to the top and bottom borderline, centered between every two external folds above and below the chart area.

(AK) Bar scales shall be positioned on each chart parallel to and outside the top and bottom neatlines, centered within every two panel chart fold, i.e., between external folds.

Placement of Bar Scales on Alaskan charts AK L-1, L-3 and L-4:

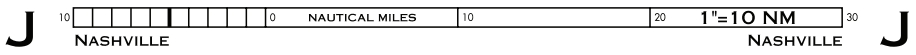
- AK L-1 - On panel B, the top has one scale, the bottom has a different scale. On panels C, D and E the top has one scale, the bottom two different scales.
- AK L-3 - On panel A, scales both associated with the Area Charts for Fairbanks and Nome - 1"= 10NM.
- AK L-4 - On panel G, the top has one scale, the bottom has two different scales. On panel H, the top has two different scales, the bottom has one scale.

3.6.1.2 Increments and Labels

3.6.1.2.1 U.S. Charts

Bar scales shall be subdivided into 10NM increments. The first 10NM increment shall be subdivided into 1NM increments. Bars scales shall be labeled in 10NM 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.

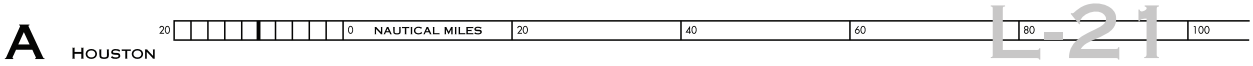
Figure 3.27 Chart Scale Increments - 10NM Increment Example



3.6.1.2.2 Offshore Navigation Chart L-21

Bar scales for Chart L-21 shall be subdivided into 20NM increments. The first 20NM increment shall be subdivided into 2NM increments.

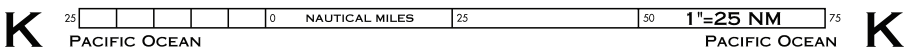
Figure 3.28 Chart Scale Increments - 2NM Increment Example



3.6.1.2.3 Alaska Charts

Bar scales shall be subdivided into 25NM increments. The first 25NM increment shall be subdivided into 5NM increments.

Figure 3.29 Chart Scale Increments - 5NM Increment Example



Bar scales for the Area Charts for Juneau (L-1), Vancouver (L-1), Fairbanks (L-3), Nome (L-3) and Anchorage (L-4) shall be subdivided into 10NM increments. The first 10NM increment shall be subdivided into 1NM increments. Bar scales shall be labeled in 10NM increments to the right of the division marks as shown in **Figure 3.27**.

3.6.1.3 Chart Scale

The scale factor, e.g., 1"=10NM, shall be shown centered within the last (extreme right) increment of the bar scale.

3.6.1.4 Nautical Mile Text

The text "NAUTICAL MILES" shall be centered within the first division of the scales immediately following the zero value.

3.6.2 Panel/Fold Identification

Panel/fold identification 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. Consideration is given to prominent Class B or C airspace or area charts. In instances when no NAVAID or city is found within a panel, i.e., where a panel depicts an area over a body of water, the body of water's name shall be used. Priority is to be given to a NAVAID or City within U.S. Borders.

The letters ABCDE shall be used as the letter identifiers on odd number charts (front side) and the letters FGHIJ shall be used as the letter identifiers on even numbered charts (reverse side).

On charts L-5, L-21, L-33 and L-35, the letters ABCD shall be used as chart identifiers and on charts L-6, L-22, L-34 and L-36, the letters EFGHIJ shall be used as chart identifiers.

(AK) The letters ABCDE shall be used as the letter identifiers on odd number charts (front side) and the letters FGHIJK shall be used as the letter identifiers on even numbers charts (reverse side).

The city or NAVAID name shall be positioned 3/20" to the left (right) of each letter identifier, within the appropriate panel. The city or NAVAID name shall be aligned at the top, along the top of the chart scale and aligned at the bottom of the chart, along the bottom of the chart scale.

Figure 3.30 Top of Panel Fold Indication

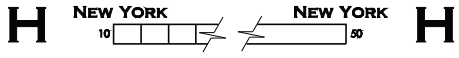
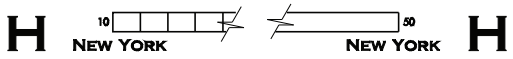


Figure 3.31 Bottom of Panel Fold Indication



References:

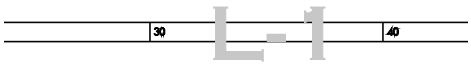
Appendix 38 - Margin Information - U.S. & Alaska

3.6.3 Chart Idents

Chart idents (L-1, L-2, etc.) shall be positioned along the top and bottom edge (long side) of all charts so that when opened or partially unfolded, the chart can be readily identified by number.

Chart idents shall be centered on the bar scale. Placement of the chart idents shall be adjusted to avoid overprinting or conflicting with airway lead name data.

Figure 3.32 Chart Number Identification



References:

Appendix 38 - Margin Information - U.S. & Alaska

3.6.4 Airways/Routes Extending Past the Chart Neatline

Airways/Routes that extend past the chart neatline shall have information pertaining to the next point (NAVAID, NAVAID fix or waypoint) on the 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 side and read "down" along the right side.

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 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, or 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.

References:

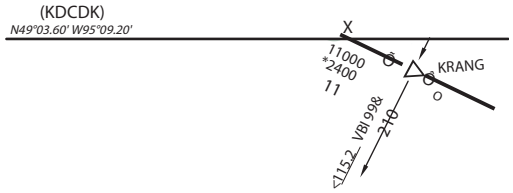
Appendix 38 - Margin Information - U.S. & Alaska

3.6.4.1 External CNFs & Unnamed Mileage Breaks

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 3.33 Airways/Routes Past Chart Boundary - External - CNF & Unnamed Mileage Break



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

3.6.4.2 Internal Chart Boundaries

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

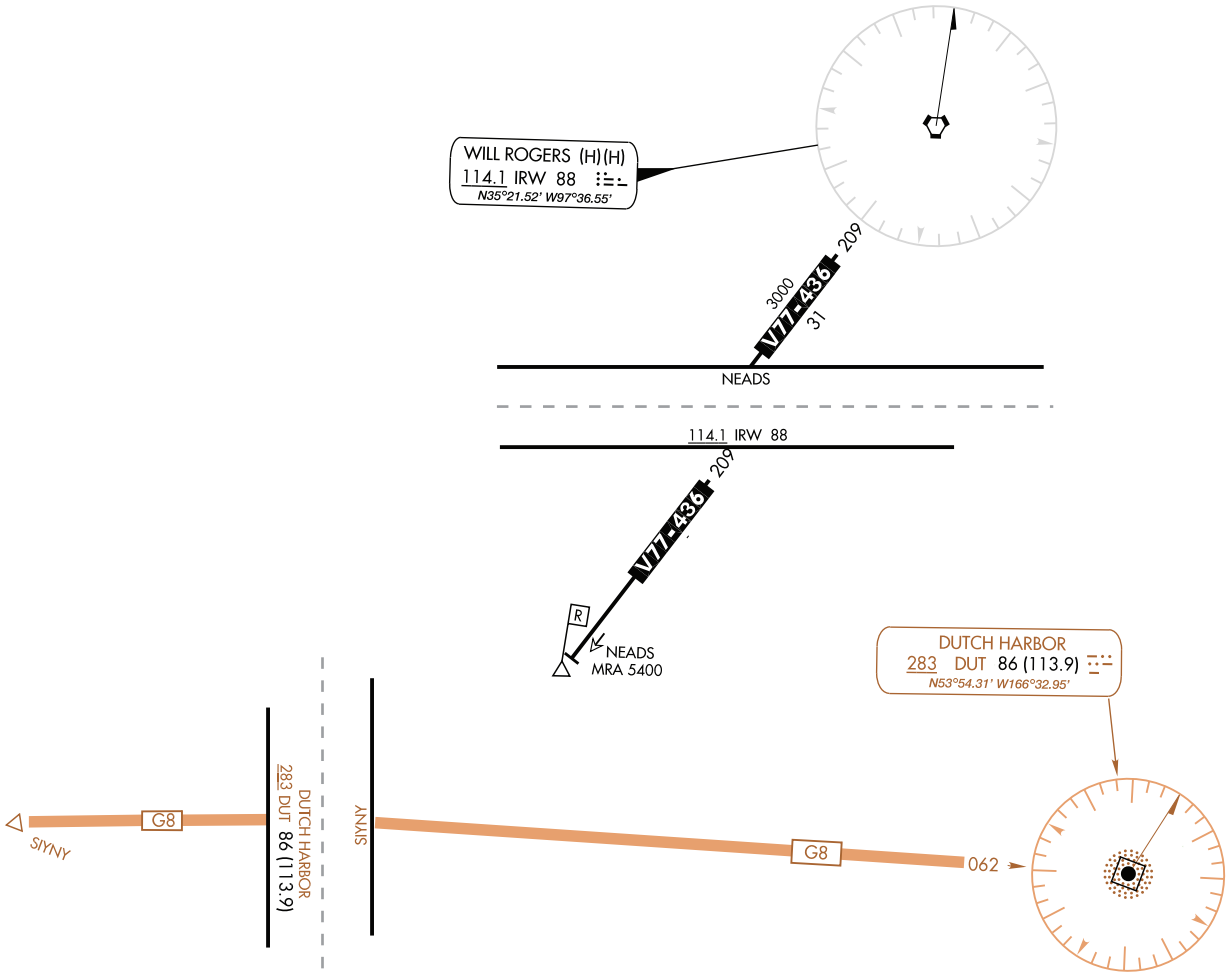
Table 3.2 Internal Boundary Next Point Information

Route Type	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	Freq, Ident, Channel

3.6.4.2.1 VHF/UHF or LF/MF Routes

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.

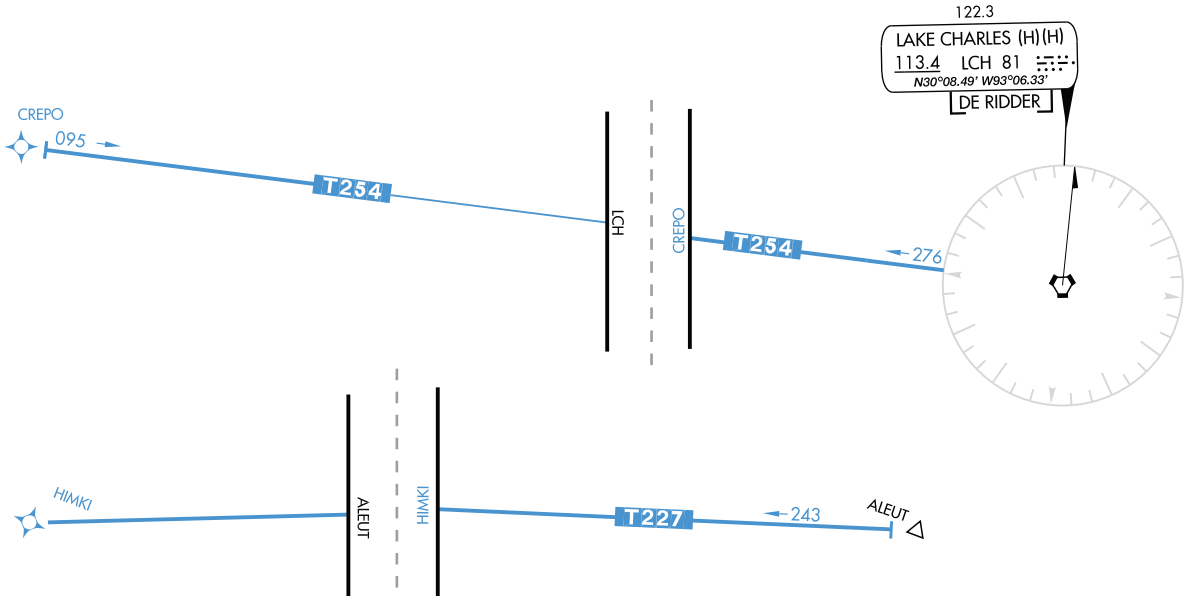
Figure 3.34 Routes Past Chart Boundary - Internal - VHF/UHF and LF/MF Routes



3.6.4.2.2 RNAV Routes

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

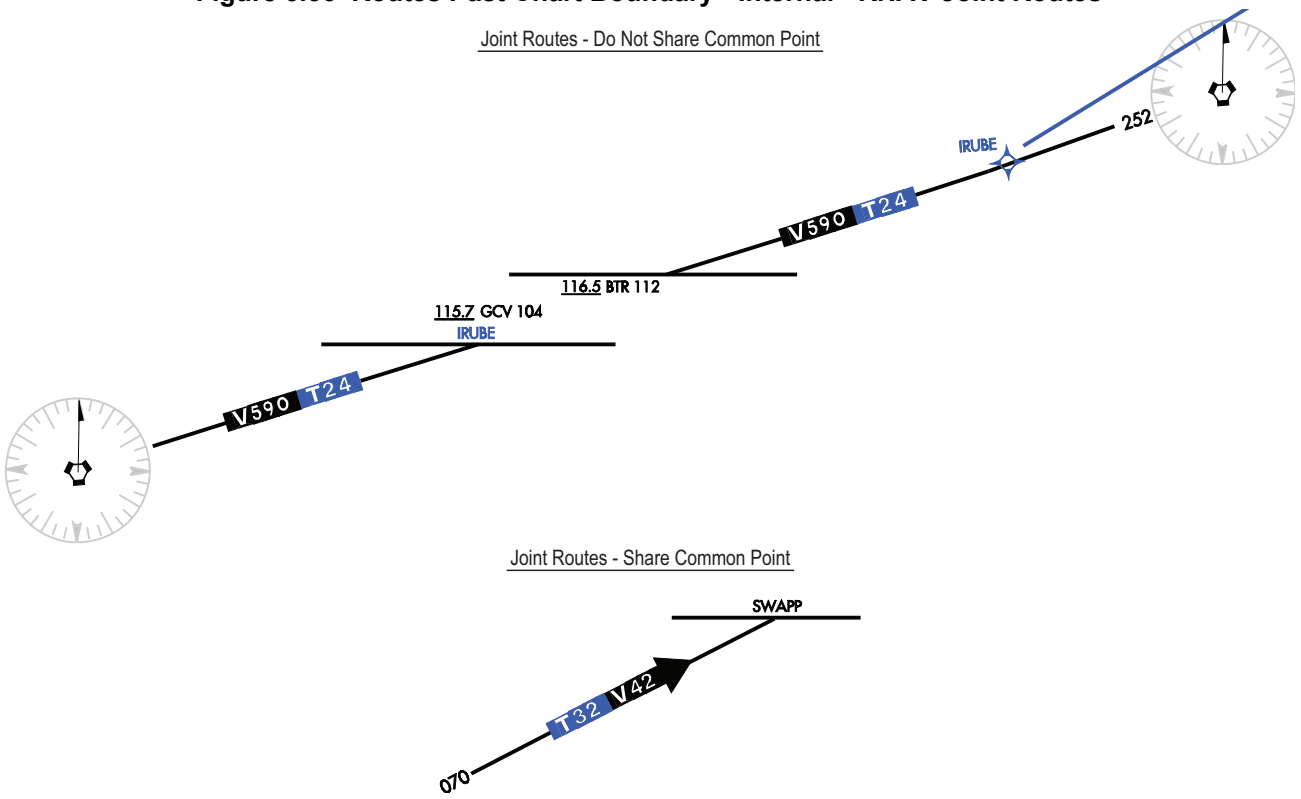
Figure 3.35 Routes Past Chart Boundary - Internal - RNAV Routes



3.6.4.2.3 Joint Routes

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

Figure 3.36 Routes Past Chart Boundary - Internal - RNAV Joint Routes



3.6.4.3 External Chart Boundaries

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

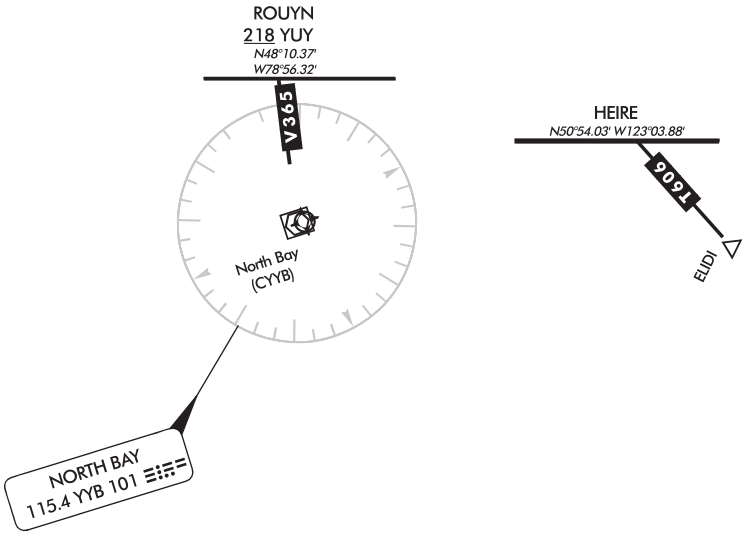
Table 3.3 External Boundary Next Point Information

Route Type	Fix	Waypoint	NAVAID
VHF/UHF or LF/MF	Name, Coordinates	N/A	Name, Freq, Ident, Channel, Coordinates
RNAV	Name, Coordinates	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

3.6.4.3.1 VHF/UHF or LF/MF Routes

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

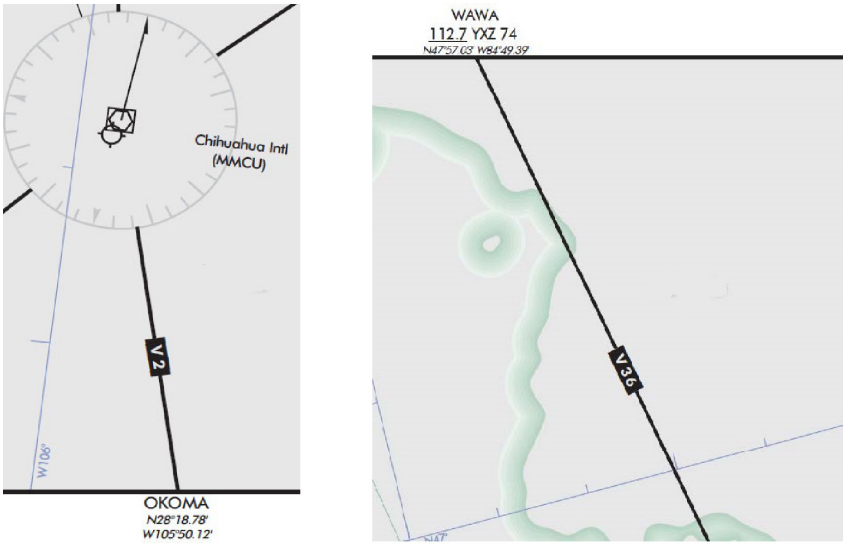
Figure 3.37 Airways/Routes Past Chart Boundary - External - VHF/UHF and LF/MF Routes



3.6.4.3.2 Foreign VHF/UHF or LF/MF Routes

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

Figure 3.38 Airways/Routes Past Chart Boundary-External- Foreign VHF/UHF and LF/MF Routes

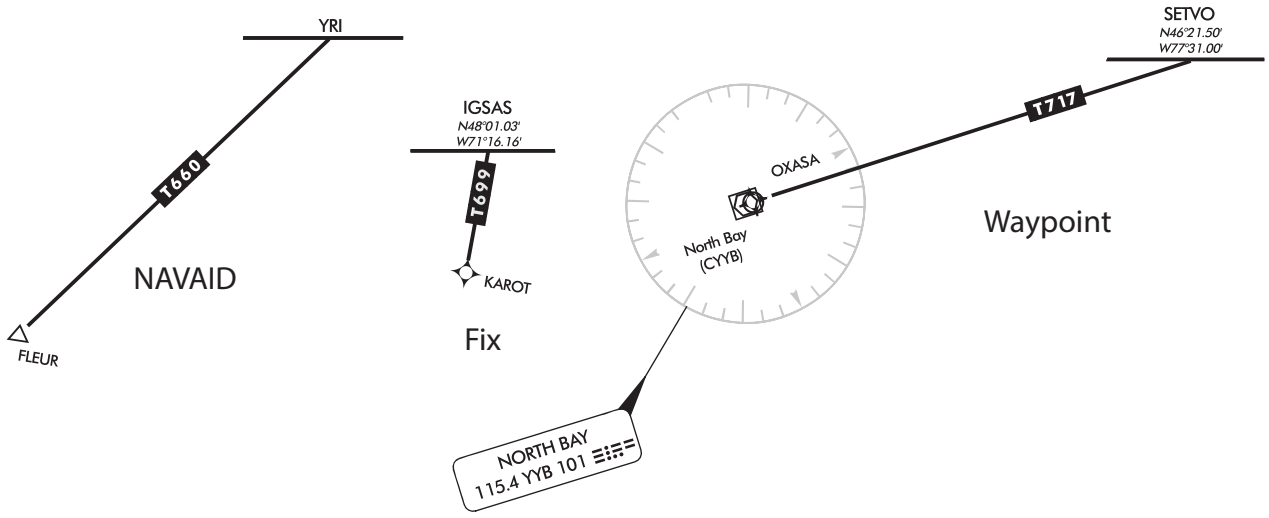


Fix or Waypoint NAVAID

3.6.4.3.3 RNAV Routes

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

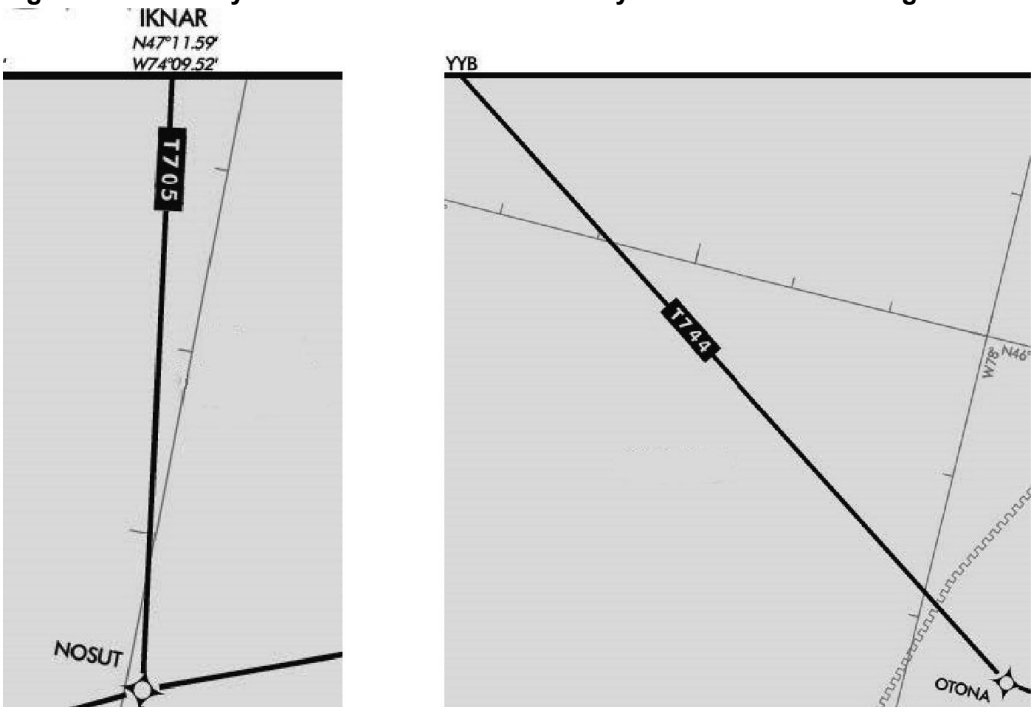
Figure 3.39 Airways/Routes Past Chart Boundary - External - RNAV Route



3.6.4.3.4 Foreign RNAV Routes

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 3.40 Airways/Routes Past Chart Boundary-External-RNAV Foreign Routes

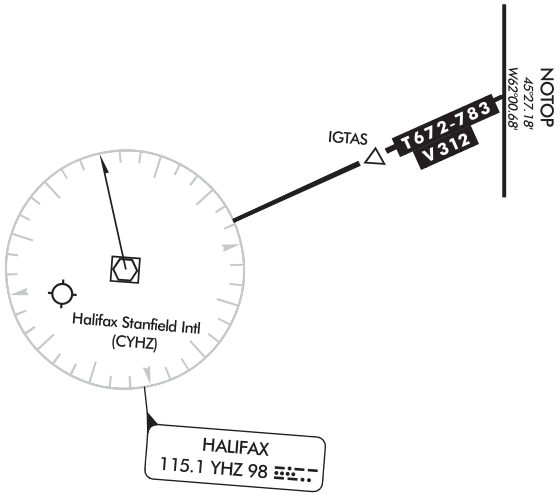


Fix or Waypoint NAVAID

3.6.4.3.5 Joint Routes

For joint routes that share a common next point, the next point information will consist of name and coordinates if its a fix, or name, identifier, frequency 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 3.41 Airways/Routes Past Chart Boundary - External - Joint



3.6.4.4 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.

3.6.4.4.1 Internal Boundary Next Point Information

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

Figure 3.42 Next Point Information - Internal - NAVAID & Fix

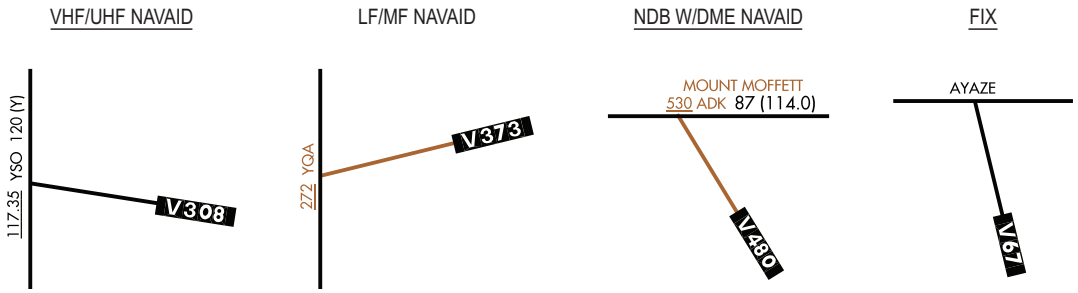


Figure 3.43 Next Point Information - Internal - RNAV

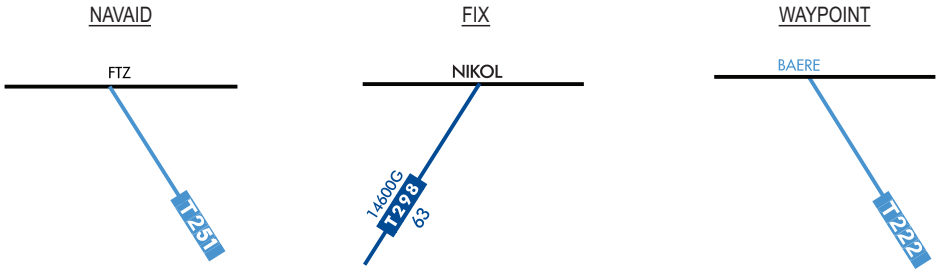
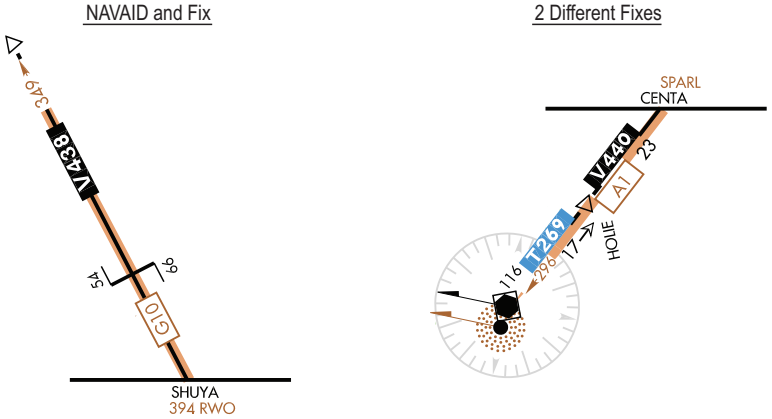


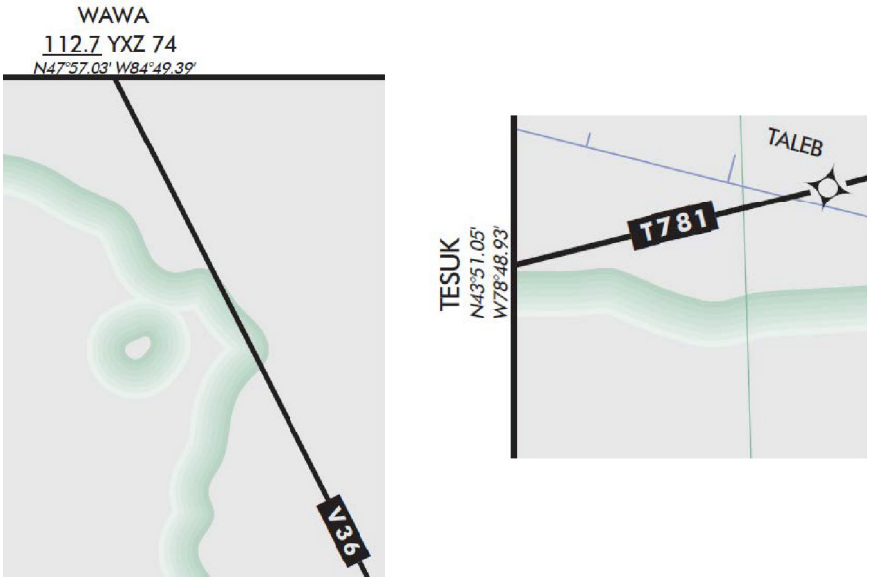
Figure 3.44 Next Point Information - Internal - Airways/Routes with Different Next Points



3.6.4.4.2 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 3.45 Next Point Information - External - NAVAID & Fix



3.6.5 Margin Notes for Adjoining/Overlapping Charts

Notes to indicate the appropriate adjoining/overlapping charts, e.g., Adjoins Chart L-4, 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 oriented to read "up" along the left (West) side and read "down" along the right (East) side of the chart. Charts oriented North/South shall have the text on the "South" and "North" ends to read North up.

Notes placed at the bottom of a panel shall be centered between the chart edge and the bar scale. Notes placed at the top of a panel shall be centered between the bar scale and the chart edge. Notes may be shifted to avoid overprinting.

Figure 3.46 Margin Notes for Adjoining/Overlapping Charts

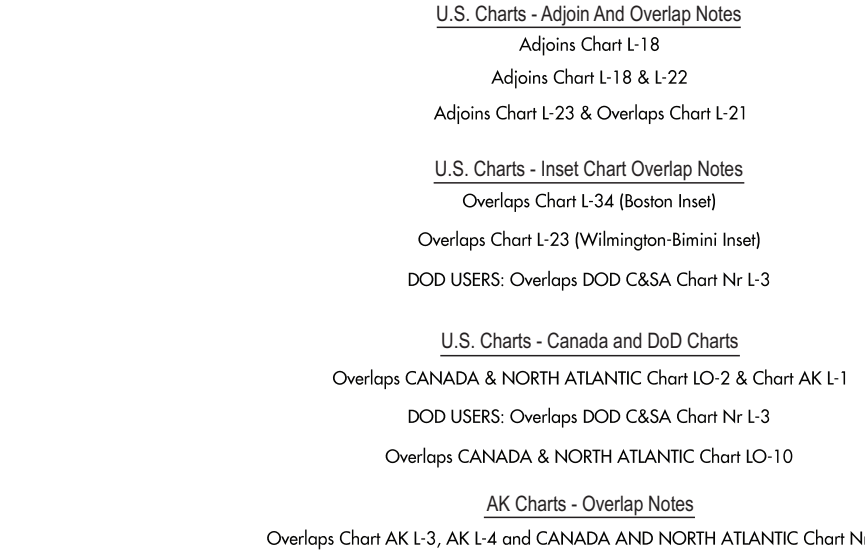


Figure 3.47 Margin Notes for Adjoining Charts - Along the Top

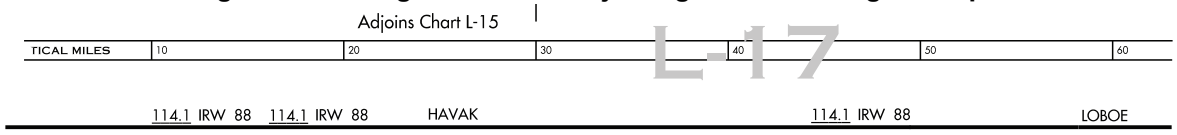
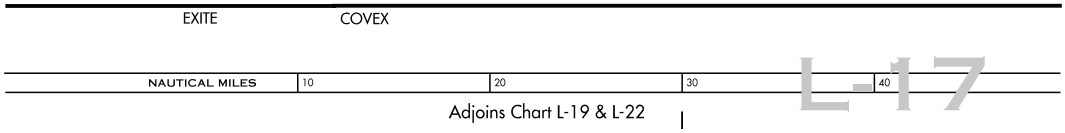


Figure 3.48 Margin Notes for Adjoining Charts - Along the Sides

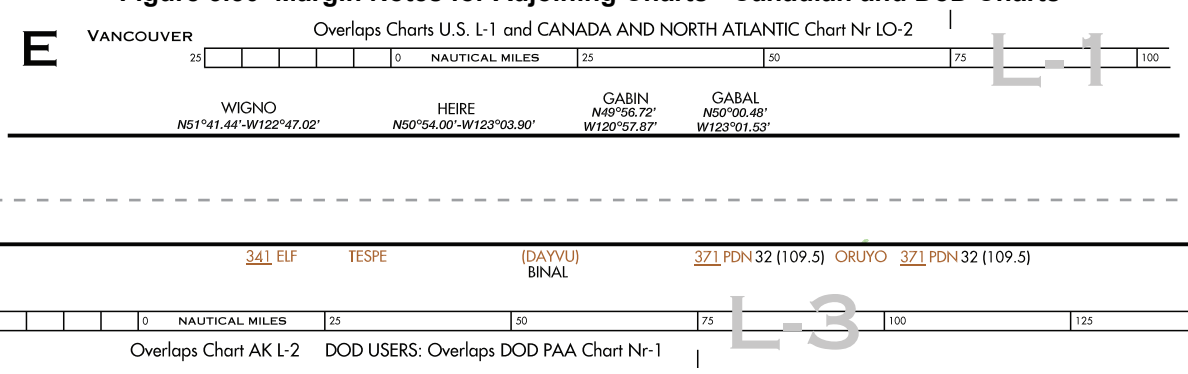


Figure 3.49 Margin Notes for Adjoining Charts - Along the Bottom



Notes for adjoining/overlapping Canadian Low Charts shall be shown. Notes specific for DoD users shall be shown to assist in identifying adjoining/overlapping DoD charts.

Figure 3.50 Margin Notes for Adjoining Charts - Canadian and DoD Charts



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 **3.9**. Chart Detail information type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

References:

Appendix 39 - Chart Detail - Projection Lines - U.S. & Alaska
Appendix 40 - Base Detail - U.S. & Alaska
Appendix 41 - Airports - U.S. & Alaska
Appendix 42 - NAVAID North Arrows & Compass Roses
Appendix 43 - NAVAID Identification Boxes
Appendix 44 - Flight Service Stations (Alaska Only) & Remote Communications Outlets
Appendix 45 - Automated Weather Broadcasting Systems
Appendix 46 - Airspace Information
Appendix 47 - Airspace

The following data is required to be shown:

3.7.1 Projection Lines

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

References:

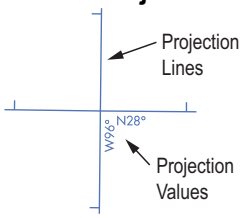
Appendix 39 - Chart Detail - Projection Lines - U.S. & Alaska

3.7.1.1 General

Projection lines and ticks shall not be partially deleted or removed for overprinting text of 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 throughout the coverage of the charts for every degree of latitude/longitude. Each line shall be labeled parallel to and preferably below and to the right of the intersecting lines. Projection type shall be shifted to avoid overprinting. In extremely congested areas, projection type may be deleted if necessary.

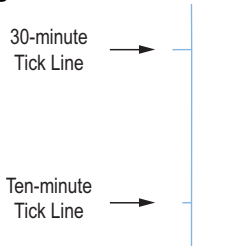
Figure 3.51 Projection Lines



3.7.1.2 Latitude

Each degree of latitude shall be ticked every ten minutes. Each ten-minute tick shall be ticked to the north along the longitude. Each thirty-minute tick shall be ticked to the north along the longitude.

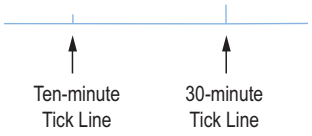
Figure 3.52 Latitude



3.7.1.3 Longitude

Each degree of longitude shall be ticked every ten-minutes. Each ten-minute tick shall be ticked to the west along the latitude. Each thirty-minute tick shall be ticked to the west along the latitude.

Figure 3.53 Longitude



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.

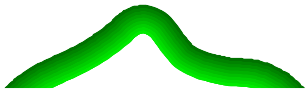
References:

Appendix 40 - Base Detail - U.S. & Alaska

3.7.2.1 Shoreline

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

Figure 3.54 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 3.55 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.

Figure 3.56 Omission of International Boundary Lines



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 3.57 United States/Russian Maritime Boundary



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

3.7.2.4 Time Zones

Time zone boundaries shall be shown and identified by name and the number of hours needed to equal Coordinated Universal Time (UTC), e.g., Eastern Std + 5 = UTC. Time zones shall be identified adjacent to both sides of the time zone boundary, near the chart neatline and readable in relation to True North. When international boundaries or other linear features coincide with the time zone boundary, the time zone symbol shall be offset from the other linear feature.

Figure 3.58 Time Zones



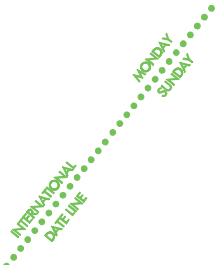
When a chart lies entirely within a single time zone, the appropriate "Local Time + Hours = UTC" note shall be shown, placed in an open area and centered along the neatline on all four sides of the chart.

3.7.2.5 International Date Line

The International Date Line shall be shown, symbolized by the time zone symbol, enlarged to twice the size.

The International Date Line shall be identified and appropriately positioned along and parallel to the symbol, supported on either side, as appropriate, by the designation of SUNDAY or MONDAY.

Figure 3.59 International Date Line



3.7.2.6 Lines of Equal Magnetic Variation (Isogonic Lines)

Isogonic lines within the conterminous U.S. shall be shown for each degree of variation and symbolized throughout the face of the chart. Isogonic lines and values appearing on the chart shall be based on the five (5) year epoch.

Figure 3.60 Lines of Equal Magnetic Variation (Isogonic Lines)



(AK) In Alaska isogonic lines shall be shown approximately 5" apart. However, depending upon the convergence of the lines, portrayal may be modified to every other even degree of variation, or greater, depending upon the scale factor of the specific chart, to provide adequate coverage and satisfy operational requirements.

The value (e.g., 8° E) of each isogonic line shall be centered on and breaking the line 1" in from the border. Value shall read with the line.

3.7.2.7 Off-route Obstruction Clearance Altitude (OROCA)

An OROCA will be depicted within each quadrangle bounded by ticked lines of latitude and longitude. The OROCA will be depicted in 100 foot increments. The hundreds value shall be slightly elevated above the thousands value and the OROCA value shall be depicted as near as possible to the center of the quadrangle.

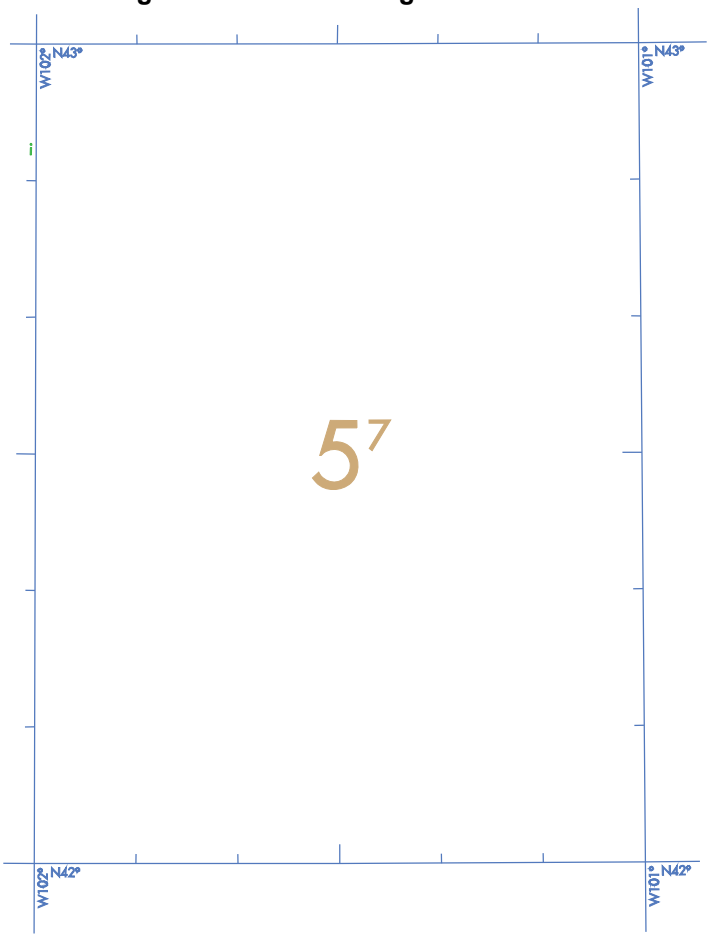
Figure 3.61 OROCA Value Example - 12,500 Feet



OROCA figure shall be depicted within each grid square on all charted areas within the U.S. Continental ADIZ.

(AK) OROCA values shall be shown for each grid square on all chart airspace within the Alaska ADIZ.

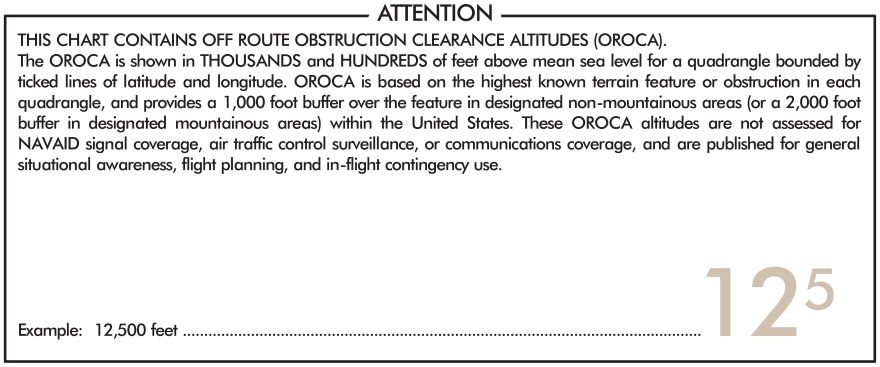
Figure 3.62 OROCA Figure Placement



3.7.2.7.1 OROCA Notice

An explanatory boxed note shall be shown, centered above the center fold line of the title panel and shall be depicted as illustrated below:

Figure 3.63 OROCA Notice



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 41 - Airports - U.S. & Alaska

3.7.3.1 Charting Criteria

All operational airports with hard surface runways (hard and soft surface in Alaska) of 3000' (before rounding) or longer and/or with an Instrument Approach Procedure shall be shown.

Additional selected airports/seaplane bases shall be shown as requested by the using Agency.

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

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

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 by symbolized as civil airports.

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 3.64 Airport Classification/Symbology



Airports shall be plotted to true geographic position.

3.7.3.2.1 Heliports

Heliports with a published Instrument Approach Procedure, or as requested by a using agency, shall be charted and identified by name with FAA identification in parentheses on the second line.

Figure 3.65 Heliports Symbology and Data



3.7.3.2.2 Seaplane Bases

Seaplane bases shall be identified by name with FAA identification in parentheses on the second line.

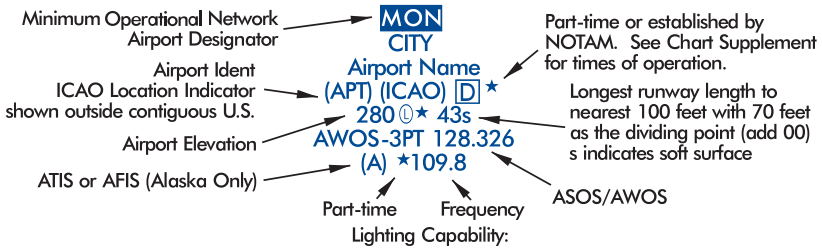
Figure 3.66 Seaplane Bases Symbology and Data



3.7.3.3 Airport Data Block

The airport data block shall contain, when applicable, MON Airport designator, associated city name(s), airport name, airport identifier, airport airspace, elevation, runway lighting, runway length, runway surface, ASOS/AWOS frequency and ATIS or AFIS frequency(-ies) on Alaskan charts.

Figure 3.67 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 3.68** when identified as a MON Airport in the authoritative source database.

Figure 3.68 MON Airport Designator



3.7.3.3.2 Associated City Names

Public-use and joint-use airports shall be identified by airport name and the associated city name when the associated city name is different from the airport name. The associated city name will be in all caps and may be placed above the airport name or, as needed, on the same line. When on the same line, it will precede the airport name and the two will be separated by a "/"; e.g., Cleveland/Luskin Fld-Orange Co. Associated city names will not be charted for private-use airports or for military-only airports.

If there are multiple airport names and the first name is the same as the associated city name, do not indicate the associated city. However, if the second airport name is the same as the associated city, show the associated city.

Figure 3.69 Associated City Names



Duplication shall be avoided whenever possible. In congested areas, when the airport name is same name as NAVAID and no misinterpretation will result, the NAVAID name may suffice for the airport name. The airport data shall be appropriately positioned to support the airport symbol and/or the suffix designation.

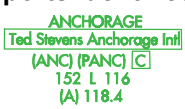
3.7.3.3.3 Airport Names

Airport names shall 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.

3.7.3.3.3.1 FAR Part 93 (SFAR) Airports

Those airports cited in FAR Part 93 identified as having special air traffic rules governing operations to and from the airport shall be additionally identified by enclosing the airport name within a box. The color will be the same as the airport name.

Figure 3.70 Airports Identified Under Part 93



3.7.3.3.4 Airport Identifiers

For public-use and military airports within the contiguous United States, the FAA airport identifier will be placed in parenthesis immediately after the airport name or on the second line if more appropriate. For private-use 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 FAA airport identifier, if one exists, and ICAO location identifier, if one exists. When an ICAO location indicator does not exist for an airport, the FAA designated identifier will be used. All zeros used as part of the airport identifier shall have the zero shown with a slash.

Figure 3.71 Airport Identifiers



3.7.3.3.5 Airport Airspace

The letter C or D, enclosed within a box, shall be placed immediately after the airport identifier to indicate those airports having Class C or D airspace. Part-time controlled airspace, including times established by NOTAM, shall be indicated by a 5-point star following the box. For additional information and examples. See **Figure 3.67**.

3.7.3.3.6 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.

3.7.3.3.7 Runway Lighting

Runway lighting is a system of lights defining the usable runway surface. Lighting symbolization indicates availability of runway lighting at military and public-use airports, and shall be shown below the airport name following the elevation.

Lighting in operation sunset to sunrise shall be indicated by the letter "L". The availability of pilot controlled lighting shall be indicated by the symbol "Ⓛ". Lighting available sunset to sunrise only on request or operating part of the night only; shall be indicated by the symbol "L★".

Figure 3.72 Example of Lighting Symbology at an Airport



The availability of runway lights at private airports shall not be shown; a short dash in lieu of the lighting symbol will be shown.

The absence of night landing capability shall be indicated by a short dash in lieu of the letter "L".

Figure 3.73 Example of Availability of Runway Lights at Private Airport



3.7.3.3.8 Runway Length

Runway length shall be the actual length of the longest runway including displaced thresholds, 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, e.g., 59 indicates a runway length of at least 5870 feet.

3.7.3.3.9 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 soft surface.

3.7.3.3.10 Automated Surface Observing System (ASOS)/Automated Weather Observing System (AWOS)

Automated Surface Observing System (ASOS) /Automated Weather Observing System (AWOS) shall be shown at charted airports by ASOS and frequency or AWOS-system type and frequency. When the ASOS/AWOS is transmitted through a NAVAID associated with the airport, it shall be depicted with the frequency, followed by the abbreviation for kilohertz (kHz) if the NAVAID is an NDB.

3.7.3.3.11 Automatic Terminal Information Service (ATIS)

ATIS shall be shown by the letter "(A)" and the specific frequency(ies) centrally positioned immediately below the airport elevation, runway lighting and runway length data, or immediately below the ASOS or AWOS information if present. A five point star shall be shown to the left of the frequency(ies) 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 in **Figure 3.74**.

When the service is provided on more than one frequency for both arrival and departure information, it shall be shown as in **Figure 3.74**.

When the service provided is either arrival and/or departure on different frequencies, it shall be shown as in **Figure 3.74**.

Figure 3.74 ATIS Arrival and Departure Frequencies



3.7.3.3.12 (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, lighting and runway length data. A star shall be shown immediately preceding each frequency when operation is less than continuous.

3.7.3.4 FAR Part 91 - Fixed Wing/Special Visual Flight Rules/SFAR 50-2

Airports at which fixed-wing Special VFR operations are prohibited shall be charted with the text "NO SVFR" centered above the airport or city name.

These airports are listed in the *Code of Federal Regulations Part 91.157 (Special VFR Weather Minimums, Appendix D, Section 3)*.

Figure 3.75 NO SVFR Example



3.7.3.5 (AK) Alaska - Part-Time Controlled Airspace

Part-time controlled airspace shall have time of operation depicted on the chart. For example, 0100-2300Z Mon-Fri.

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 42 - NAVAID North Arrows & Compass Roses
Appendix 43 - NAVAID Identification Boxes
Appendix 44 - Flight Service Stations (Alaska Only) & Remote Communications Outlets
Appendix 45 - Automated Weather Broadcasting Systems

3.7.4.1 Charting Criteria

All public-use commissioned IFR VHF/UHF and IFR LF/MF NAVAIDs shall be shall be shown symbolized and identified in black (VHF/UHF) or brown (LF/MF) except as stated below. NAVAIDs identified as "VFR use only" shall not be shown unless reclassified for an interim period.

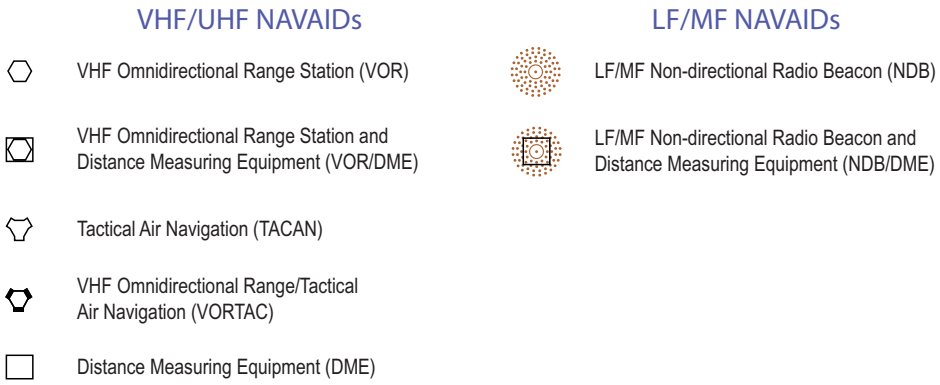
All private-use military owned and operated TACANs shall be shown.

Additional NAVAIDs selected to meet special requirements which are consistent with the intent and purpose of the IFR Enroute Low Altitude Chart series may be shown when identified (by name) by the requesting agency.

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 3.76 NAVAID Symbols



If a NAVAID is designated as a flyover enclose the NAVAID symbol in a circle, e.g.,  .

3.7.4.3 Compulsory/Non-Compulsory Reporting Points

All NAVAIDs upon which airways/routes are predicated shall be depicted as having non-compulsory reporting function, unless otherwise designated.

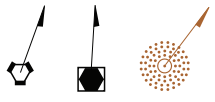
Figure 3.77 NAVAID Symbols with Compulsory and Non-Compulsory Reporting



3.7.4.4 NAVAID North Arrow

NAVAIDs, with the exception of DME, 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 3.78 NAVAID North Arrow Orientation

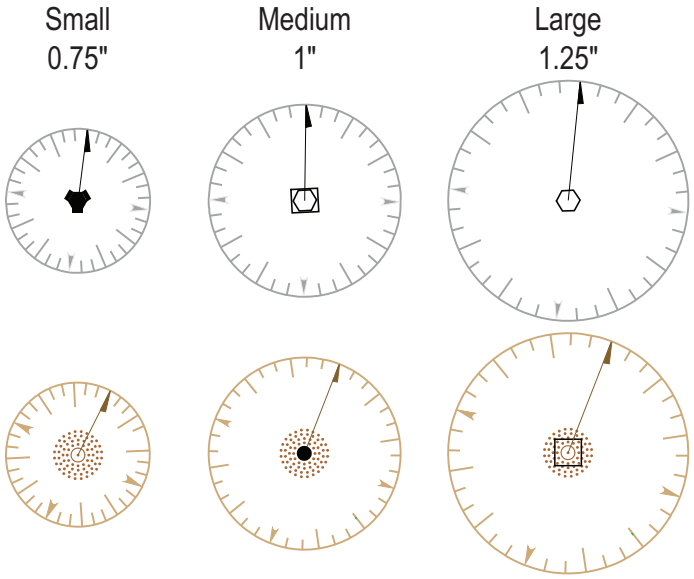


3.7.4.5 Compass Roses

Compass roses shall be charted centered on those NAVAIDs which have routes predicated on them. Compass roses shall be shown around other NAVAIDs where the placement of the compass rose does not create additional unnecessary clutter or congestion. In congested areas, normally one compass rose shall suffice around the NAVAID upon which the airway is predicated. A compass rose shall never be associated with a DME facility.

The size of the compass roses may vary dependent upon local conditions. Compass roses may be 1.25" in diameter, however, in areas of congestion, or due to the close proximity of stations, the size may be reduced in increments of .25", compatible with the local area. In reducing, however, the line weights, type size, etc., shall remain consistent. Extreme care should be exercised when the rose may be in conflict with other symbolization. In extreme circumstances the compass rose shall be no less than .75" in diameter.

Figure 3.79 Compass Roses



NAVAID compass roses shall be properly oriented to slave magnetic north. Every effort shall be made to keep textual data from being positioned within the rose. Cardinal point values shall not be shown.

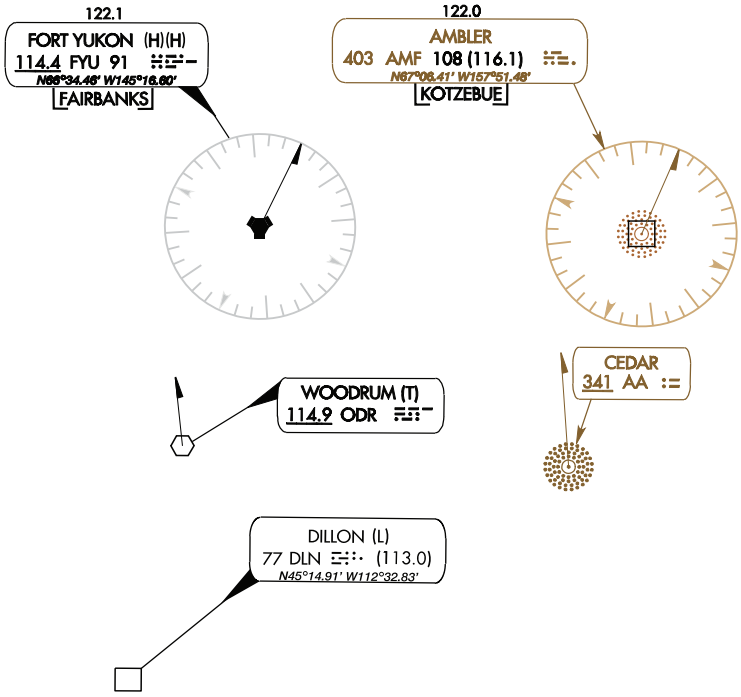
3.7.4.6 NAVAID Identification Boxes

3.7.4.6.1 General

NAVAID data shown in the NAVAID identification box shall include the official NAVAID name, standard service volume(s) (SSV) (if applicable), frequency, identification letters, channel number (if applicable) and morse code. Periods shall not be shown in the official NAVAID names.

The NAVAID name shall appear as centered above all NAVAID data within the NAVAID identification box. 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.

Figure 3.80 NAVAID Identification Boxes



Extremely long NAVAID names may be shown on two lines.

Figure 3.81 Extremely Long NAVAID Name



A pointer with VHF/UHF NAVAID identification boxes, as indicated above, shall be shown from all boxed data extending from the data box (corners of the box preferred) to the appropriate compass rose, or NAVAID symbol.

A leader line with arrowheads shall be used to associate LF/MF only boxed data with the NAVAID symbol.

Duplication of data shall be avoided. When multiple NAVAIDs have the same name and facility identification box with different frequencies or channel numbers and/or identification letters, and no misinterpretation will result, the name of the NAVAID shall be indicated only once within the identification box. VHF/UHF NAVAID names and identification boxes take preference in same name NAVAIDs identifications. The frequency only, or the frequency, identification and morse code, when different, of same name NAVAIDs shall be positioned below the associated VHF/UHF NAVAID identification, incorporated within a common identification box. TACAN channel numbers shall be positioned as described for the frequency, when same name as VHF/UHF NAVAID.

The color differentiations shall be maintained in combined NAVAID identifications.

When necessary for clarity of detail, leader lines or pointers from combined NAVAID identifications shall be individually portrayed, utilizing the appropriate color differentiation.

3.7.4.6.2 Y Mode Channel

TACAN, VORTAC, VOR/DME, DME, NDB/DME, and LOC/DME, facilities that operate in the Y-mode for DME reception, shall be shown with a (Y) suffixed to the channel number.

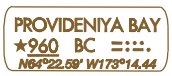
Figure 3.82 Examples of Y Mode Channel



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, operating less than continuous or on request, shall be indicated by the placement of a small five-pointed star before the frequency, within the identification box.

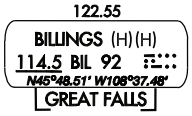
Figure 3.83 NAVAID Operating Less than Continuous & No Voice



3.7.4.6.4 Geographic Coordinates

NAVAIDS that make up part of a route/airway or a holding pattern, will include geographic coordinates. All TACAN facilities will include geographic coordinates. The geographic coordinates to the hundredth of a minute shall be shown as indicated below.

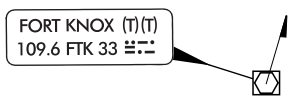
Figure 3.84 NAVAIDs - Coordinates



3.7.4.6.5 Standard Service Volume (SSV) Classifications (Frequency Protection)

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).

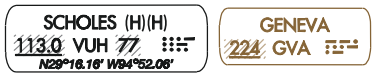
Figure 3.85 NAVAID Standard Service Volume (SSV)



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 3.86 NAVAIDs - Abnormal Status



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

3.7.4.6.7 Private-Use NAVAIDs

NAVAIDs identified as private-use and privately operated shall be identified by the word "PRIVATE" positioned above the identification box.

Figure 3.87 Private-Use NAVAID



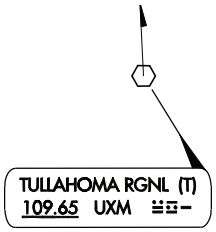
When the NAVAID is used to define a charted route or holding pattern, the geographic coordinate shall be shown.

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 and SSV on the first line. The second line shall contain, in the order listed, frequency, identification letters and morse code.

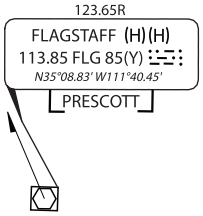
Figure 3.88 VOR



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 and SSVs on the first line. The second line shall contain, in the order listed, the frequency, identification letters, channel number and morse code.

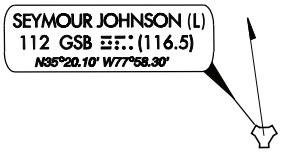
Figure 3.89 VOR/DME



3.7.4.7.3 Tactical Air Navigation (TACAN)

TACAN facilities shall be indicated by the TACAN symbol. The NAVAID identification box shall contain the NAVAID name and SSV on the first line. The second line shall contain, in the order listed, the TACAN channel, the identification letters, morse code, frequency in parentheses. Geographic coordinates shall be shown on the third line.

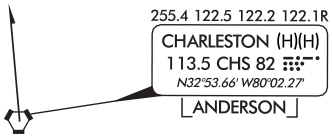
Figure 3.90 TACAN



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 and SSVs on the first line. The second line shall contain, in the order listed, frequency, identification letters, channel number and morse code.

Figure 3.91 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 and SSV on the first line. The second line shall contain, in the order listed, the channel, identification letters, Morse code, and paired frequency in parentheses.

Figure 3.92 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, in the order listed, the frequency, identification letters and morse code.

Figure 3.93 LF/MF NDBs



3.7.4.7.7 Non-Directional Radio Beacons and 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. The DME channel and the frequency shall be shown in black.

Figure 3.94 NDB/DME



3.7.4.7.8 Marine Radio Beacons

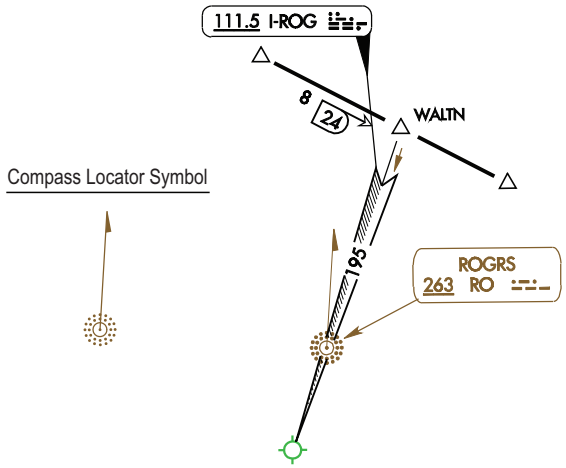
Marine Radio Beacons shall be symbolized and identified in the same manner as described for Non-Directional Radio Beacons. See Section 3.7.4.7.6.

3.7.4.7.9 ILS Components

3.7.4.7.9.1 Compass Locator Beacons

Compass Locator Beacons shall be identified by the Compass Locator Beacon symbol only when used in the designation of airways, or when designated as serving in the formation of reporting points used by Air Traffic Control in the low altitude airway structure. 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 and morse code.

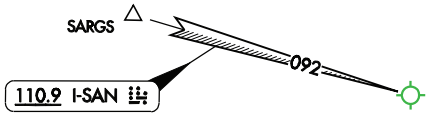
Figure 3.95 Compass Locator Beacon



3.7.4.7.9.2 Localizer Course

ILS Localizer Course (either the front, back or both courses) from the airport shall be shown when designated as having an enroute Air Traffic Control function, i.e., when used as a controlling factor in the designation of airways or when designated as serving in the formation of reporting points.

Figure 3.96 ILS Localizer Course with Frequency & Identifier



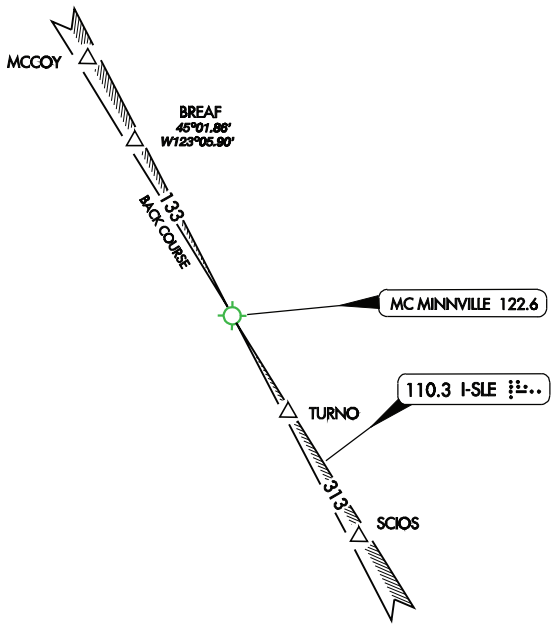
The ILS course shall depict the magnetic inbound bearing to the airport. The inbound bearing value shall be shown centered on and breaking the course symbol.

ILS courses shall normally be one inch or more in length with a 5° spread. The ILS course may be shortened or extended to preclude the overlapping or overprinting of airways and other text and symbolic data as deemed necessary for clarity of detail. The ILS course shall be broken for the placement of type and symbolization. The ILS course need not be extended to overprint a reporting point to indicate its formation.

ILS localizer courses shown shall be identified by frequency, identification letters and morse code. The identification or call letters shall be preceded by the letter “I” and a short dash.

The “back course” of the ILS localizer, when designated as having an air traffic control function, shall be identified as “BACK COURSE”.

Figure 3.97 ILS Back Course



3.7.4.7.10 Non-collocated VOR and TACAN Facilities

VOR and TACAN facilities, not collocated and separated by more than 200' but frequency paired, and with both identifications provided within a common identification box shall provide a note positioned adjacent to the box to indicate that the TACAN facility provides the DME; e.g., “DME from the MARCH TACAN.”

Identification boxes, such as when the frequency paired facilities do not have the same name and/or identification, or as necessary for clarity of information, may be shown separately. When shown separately, the note shall be provided adjacent to the VOR facility identification box.

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

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

References:

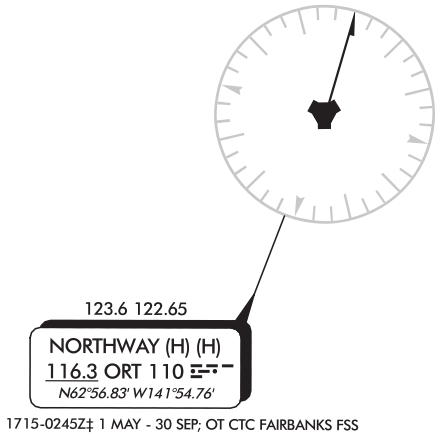
Appendix 44 - Flight Service Stations (Alaska Only) & Remote Communications Outlets

3.7.5.1 General

All Flight Service Stations (FSS), except those with the same name as a NAVAID or designated RCOs shall be shown, symbolized and identified by name, and identifier letters, enclosed within a shadow box as shown.

NAVAIDS having the same name as the FSS and not designated as a Remote Communications Outlet (RCO), shall be considered as the FSS. This same NAVAID identification box will be augmented with a shadow box.

Figure 3.98 FSSs with the Same Name as NAVAID and Not Designated RCO



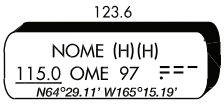
FSSs with the same name as the NAVAID, but with a different identifier, shall be shown independently of the NAVAID; i.e., separate identification box with name and identifier.

The FSS Airport Advisory Frequency shall be indicated in the legend as: “Certain FSSs provide Airport Advisory Service, see Chart Supplement.”

3.7.5.2 FSS Frequencies

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

Figure 3.99 FSS Frequencies



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.

3.7.5.3 FSS Associated with a NAVAID

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

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

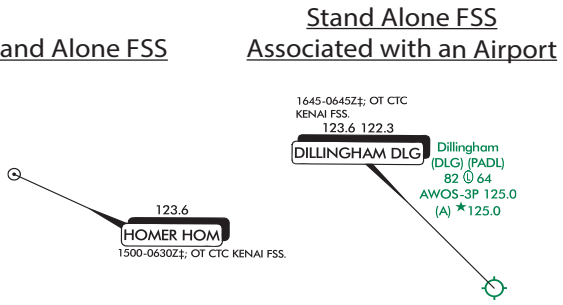
Figure 3.100 FSS Associated with a NAVAID



3.7.5.4 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 of frequencies shall be centered above the shadow box. If more than one frequency is shown, then the frequencies should be shown in the 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 an FSS is located at or in close proximity to an airport, then the airport symbol shall suffice for the location symbol.

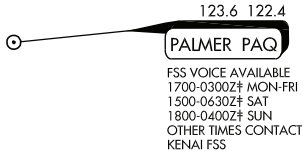
Figure 3.101 FSS Not Associated with a NAVAID



3.7.5.5 Part-time FSS

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

Figure 3.102 Part-time FSS



3.7.5.6 RCOs 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(s) remoted to the RCO centered above the NAVAID box and the name of the FSS providing the service enclosed within "L" brackets below the NAVID box. If more than one frequency is shown, the frequencies shall be shown in descending numerical order, left to right.

When the FSS radio name is longer than the box, the bottom of the box shall be extended left/right, depending upon space limitations.

Figure 3.103 RCOs Associated with a NAVAID

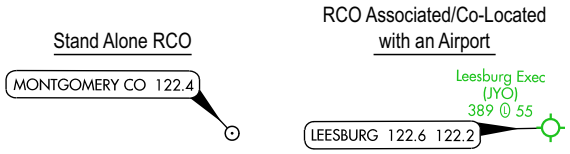


3.7.5.7 RCOs Not Associated with a NAVAID

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 shall 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 3.104 RCOs Not Associated with a NAVAID



3.7.6 Automated Weather Broadcast System (AWBS)

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

References:

Appendix 45 - Automated Weather Broadcasting Systems

3.7.6.1 Automated Weather Broadcast Service Associated with a NAVAID

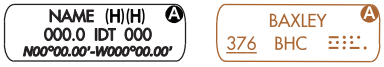
An automated weather broadcast system associated with a NAVAID shall be indicated by using the appropriate symbol as shown below. The symbol shall be placed in the upper right corner of the NAVAID box. The circle will be the same color as the associated NAVAID.

Figure 3.105 Automated Weather Broadcast Systems



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

Figure 3.106 Automated Weather Broadcast System Associated with a NAVAID



3.7.6.2 Stand Alone AWOS & ASOS

Stand alone AWOS and ASOS, (i.e., not associated with a charted airport or NAVAID) shall be identified by city name, type of facility and frequency, and FAA identifier and charted as a single box. These systems shall be charted to their true geographical position, indicated by a circle and a dot symbol. A pointer shall be used, extending from the AWOS or ASOS box to the location symbol.

Figure 3.107 Stand Alone AWOS and ASOS



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. Chart items related to foreign airspace can be found in Section 3.9.5.

References:

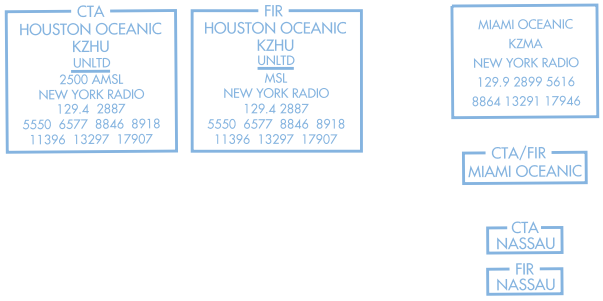
Appendix 46 - Airspace Information

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 described under individual subject sections. ATS areas include Flight Information Regions (FIR), Control Areas (CTA), and Oceanic Control Areas (OCA).

Information content for ATS areas applicable to the low enroute altitude structure shall be shown. ATS information shall include: type of service, identification name, ICAO ident, vertical limits of control when designated with the upper and lower limits separated by a line, the call sign and all applicable frequencies paired to the appropriate service. ATS information shall be shown as 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 up on the size of the ATS area charted. If the ATS box is placed outside the ATS area, then a point shall be used extending from the box into the area.

Figure 3.108 General Air Traffic Service (ATS) Area Information



3.7.7.1.1 Type of Service

The type of air traffic service – e.g., FIR, CTA, or CTA/FIR, etc., shall be centered on and breaking the top line of the identification box.

3.7.7.1.2 Identification Name and ICAO Ident

Identification name and, as applicable, the ICAO four letter identifier of the air traffic service shall be shown.

3.7.7.1.3 Vertical Limits

Vertical limits of control, when designated and implemented, shall be shown. The upper and lower limits shall be separated with the placement of a line between.

Should a variance occur or be designated between the lower vertical limits for flight over land areas versus over water areas, such limits shall be shown. To clarify such variances, a note or phrase “OVERLAND” or “OVERWATER” shall be shown centered immediately beneath the applicable altitude.

3.7.7.1.4 Call Sign and Frequencies

The call sign and VHF/UHF and/or HF frequencies, applicable to the appropriate air traffic service, for specific and available A/G voice communications shall be shown, when available. When the call sign is a different name from the air traffic service name, the different name shall be shown as part of the call sign. When specific call signs are not available, or have not been designated for a particular service, only the A/G voice VHF/UHF or HF communications frequencies shall be provided.

The call sign and frequencies provided shall be those which are for use in enroute flight and assigned to the airspace over which the aircraft is operating.

Typical example of content is:

- FIR
- CON (Control)
- METRO (Meteorology)
- INFO (Information)
- RADAR
- CENTER

3.7.7.1.5 Explanatory Notes

Special explanatory notes, as required to cite deviations and/or discrepancies when the informational data within the box does not pertain to the entire area, shall be shown immediately outside and adjacent to the identification box.

3.7.7.2 Airspace Notes

3.7.7.2.1 United States Airspace Note

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

Figure 3.109 U.S. Airspace Notes



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.

3.7.7.3 Airspace Types and Boundaries

References:

Appendix 47 - Airspace

3.7.7.3.1 General

There are two categories of airspace or airspace areas: Regulatory (Class A, B, C, D and E airspace areas, restricted and prohibited areas) and non-regulatory (military operation areas (MOAs), warning areas, alert areas, and controlled firing areas).

Within these two categories, there are four types:

- Controlled
- Uncontrolled
- Special use
- Other airspace

Chart items related controlled airspace can be found in the following locations:

- **3.7.7.3.2** - Class B Airspace
- **3.7.7.3.3** - Class C Airspace
- **3.7.7.3.4** - Class D Airspace
- **3.7.7.3.5** - Class E Airspace

Chart items related uncontrolled airspace can be found in the following locations:

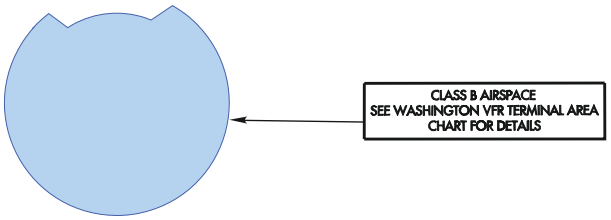
- **3.7.7.3.6** - Class G Airspace (Uncontrolled) Airspace

Chart items related to foreign airspace can be found in Section **3.9.5** - Foreign Airspace Information.

3.7.7.3.2 Class B Airspace

Class B airspace shall be shown as screened blue areas with solid blue boundary lines. The boundary lines define the Class B outer lateral limits. A boxed note shall be shown once within each Class B area. In congested situations the note may be placed outside the Class B area and using a leader and arrow to point into the area. Each note shall uniquely identify the VFR Terminal Area Chart associated with the Class B Airspace.

Figure 3.110 Class B Airspace



3.7.7.3.3 Class C Airspace

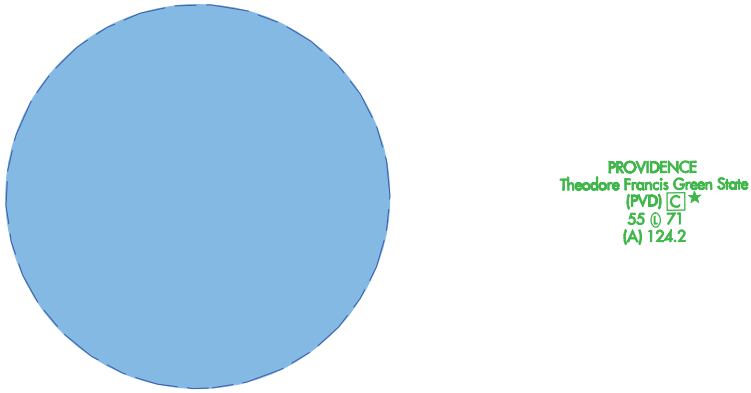
Class C airspace shall be shown as screened blue areas with dashed blue boundary lines. The boundary lines define the Class C outer lateral limits. When Class B and Class C airspace boundaries underlie or coincide, only the Class B and boundary shall be shown. If Class C overlaps Class B only that portion of Class C that doesn't overlap shall be charted.

A letter "C", enclosed by a box, shall be shown following the FAA or ICAO identifier of the primary airport(s) associated with the Class C airspace. Part-time Class C airspace shall be additionally identified by a five-point star "★" following the boxed letter C.

Part-time Class C airspace is indicated in FAA Order JO 7400.9, Airspace Designations and Reporting Points, by the text "*This Class C airspace area is effective during the specific dates and times established in advance by a Notice to Airman. The effective date and time will thereafter be continuously published in the Chart Supplement.*"

For additional information on Airport Data Block. See Section 3.7.3.3.

Figure 3.111 Class C Airspace



3.7.7.3.4 Class D Airspace

Class D airspace shall be depicted as open area (white) with no boundaries being charted.

A letter "D", enclosed by a box, shall be shown following the FAA or ICAO identifier of the primary airport(s) associated with the Class D airspace. Part-time Class D airspace shall be additionally identified with the five point star "★" following the boxed letter D.

Figure 3.112 Part-Time Airspace - Class D



Part-time Class D airspace is indicated in FAA Order JO 7400.9, Airspace Designations and Reporting Points, by the text "*This Class D airspace area is effective during the specific dates and times established in advance by a Notice to Airman. The effective date and time will thereafter be continuously published in the Chart Supplement.*"

For additional information on Airport Data Block. See Section 3.7.3.3.

3.7.7.3.5 Class E Airspace

Airspace that is not Class B, C, or D, and is controlled airspace, is Class E airspace. Class E airspace, except for offshore airspace, shall be shown as open (white) areas with no boundaries or associated text charted. Federal Airways are Class E airspace areas and unless otherwise specified, extend upward from 1,200' AGL to, but not including, 18,000' MSL.

Class E airspace includes:

- Federal Airways
- Airspace for transition to/from the terminal or enroute environments
- Enroute domestic and offshore airspace areas designated below 18,000 feet MSL

Class E airspace does not include airspace at 18,000 feet MSL and above.

Airway airspace is associated with centerlines of airways that makes up the Federal Airway system and includes Victor Airways, Colored Airways, RNAV T and RNAV TK Routes (See Section 3.7.8 - Airways/Routes). This includes the airspace within a defined width on either side of an airway centerline. Victor and Colored airways also include airspace between lines, based on a set angle, that emanate from airway NAVAIDs.

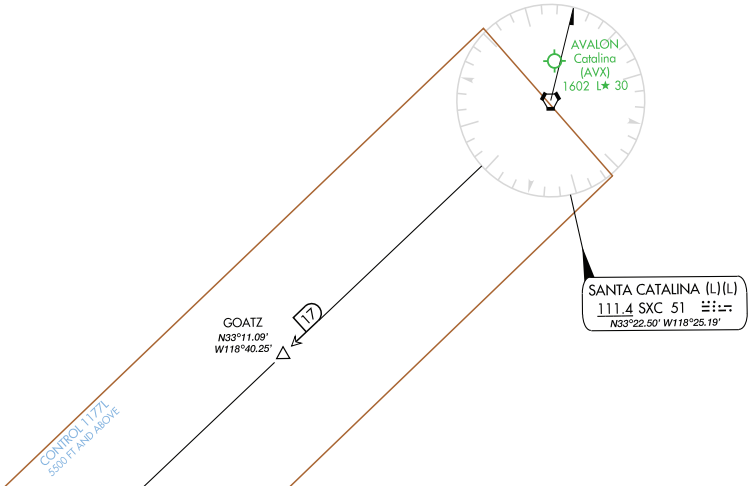
3.7.7.3.5.1 Offshore Airspace Areas

Offshore Airspace Areas are classified as Class E Airspace and extend upward from a specified altitude to, but not including 18,000' MSL. See Section 3.7.7.3.16.2.

Offshore Airspace Areas shall be shown as open (white) areas with solid brown boundary lines defining each individual area. If a centerline radial or bearing is published within the airspace description, this should be charted, supplemented by a MEA, when designated, and appropriate mileages between applicable NAVAIDs and fixes.

Offshore Airspace Area identifications shall be positioned within their respective area, 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. The second line of text from the boundary shall be the altitude, centered on the area name. Large areas may require text to be placed within the area readable relative to true north. If space does not permit charting within the airspace area, text may be placed outside, using a leader and arrow to point into the area. Special notes, as required, shall be shown centered within or immediately outside the area.

Figure 3.113 Offshore Airspace Area



3.7.7.3.6 Class G Airspace (Uncontrolled) Airspace

Class G airspace (uncontrolled) shall be shown as screened brown areas with no boundaries being charted.

Class G airspace (uncontrolled) is the portion of airspace that has not been classified as being Class B, C, D or E Airspace. It includes only uncontrolled airspace from the surface to but not including 14,500' MSL.

Figure 3.114 Class G (Uncontrolled) Airspace

3.7.7.3.7 Mode C Required Areas

Mode C Required areas shall be shown with a solid blue 30NM circle around the Class B primary airport(s). When Mode C and Class B airspace overlap only the portion of the Mode C boundary that doesn't overlap shall be charted. Additionally, stacked text "MODE C & ADS-B OUT" and "30 NM" shall be shown along the circle on opposite sides of the boundary. Text shall be shown sufficiently to provide ready identification of the boundary.

Figure 3.115 Mode C Required Area



3.7.7.3.8 Oceanic Control Areas

Oceanic Control Areas shall be shown the same as U.S. Class E airspace, however, the boundaries are symbolized with a screened blue line. Identifications shall be positioned within their respective areas, adjacent and parallel to the boundary symbols and should appear at least once between external chart folds or as frequently as necessary in order to readily identify the boundary. If space does not permit charting within the airspace area, text may be placed outside, using a leader and arrow to point into the area.

Boundaries or limits of Oceanic Control Areas shall be shown, symbolized by a blue line and identified by name, e.g., NEW YORK OCEANIC. Identification shall be positioned within the area, adjacent and parallel to the delimiting line. See Section **3.7.7.3.16.2**.

The area encompassed by or within these boundaries or limits shall be considered as controlled airspace.

3.7.7.3.9 Special Use Airspace (SUA) and Military Operation Areas (MOA)

All Special Use Areas with an effective altitude range that penetrates into or falls completely within the enroute low altitude structure shall be shown.

All SUA text and boundaries shall be shown as screen blue, except for MOAs and Alert areas which shall be shown as screen brown.

All SUA information shall be tabulated together, except for MOAs which shall be tabulated separately. See **3.5.3** - Special Use Airspace (SUA) Tabulation and **3.5.4** - Military Operations Areas (MOA) Tabulation.

Special Use Airspace with a floor of 18,000' MSL or above shall not be shown on low altitude enroute charts.

SUA shall 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 leader with an arrow shall be used, extending from the identifier into the SUA area.

3.7.7.3.9.1 Special Use Airspaces (SUAs) Charted: U.S. and Alaska

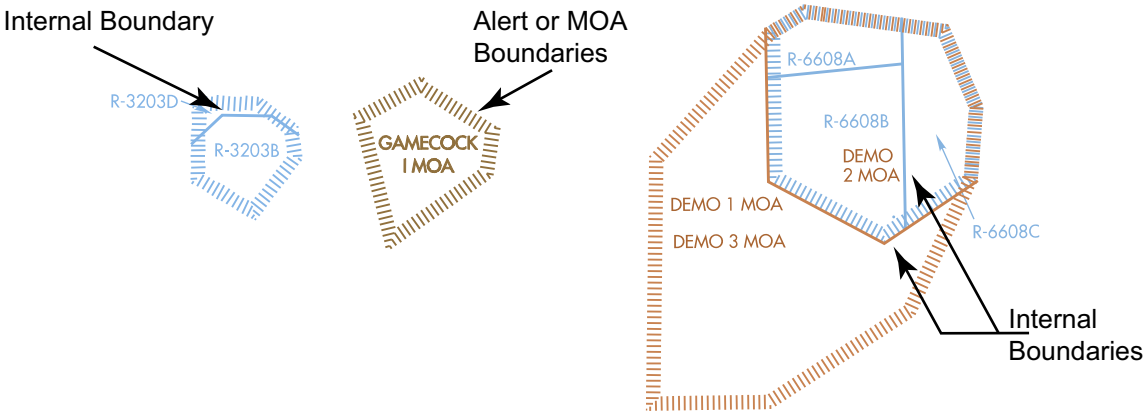
The following is a current list of charted SUAs:

- Prohibited (P)
- Restricted (R)
- Alert (A)
- Warning Areas (W)
- Military Operations Area (MOA)

3.7.7.3.9.2 SUA & MOA External Boundaries

SUA and MOA external boundaries shall be symbolized by tick marks, evenly spaced, perpendicular to the external boundaries, and extending into the area. External boundaries shall only encompass SUA areas with similar names, that adjoin or overlap. SUA internal boundaries shall use a line to subdivide the individual SUAs area.

Figure 3.116 SUA & MOA Boundaries



3.7.7.3.9.3 SUA Boundaries - Small Areas

SUAs be too small for portraying the specified line pattern, shall be proportionately reduced the size of the tick marks as to adequately portray the area shape. Areas too small for portraying the line pattern with reduced size ticks, shall be shown using a standardized circle.

Figure 3.117 SUA Boundaries - Small Areas



3.7.7.3.9.4 SUA & MOA Exclusion Area and Exclusion Notes

SUA exclusion area and exclusion area notes pertaining to the enroute low altitude structure shall be shown. Exclusions areas are delineated by a line in the same color as the associated SUA. An exclusion note associated with the each exclusion area shall be shown and placed within the exclusion area as space permits. When the exclusion note is place outside the SUA area due to congestion, a leader with an arrow shall be used to relate the text to the specific area.

Figure 3.118 SUA & MOA Exclusion Area with Notes



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

Do not depict Class airspace exclusions common to all Alert Areas and described in the Legend and SUA Tabulated data table.

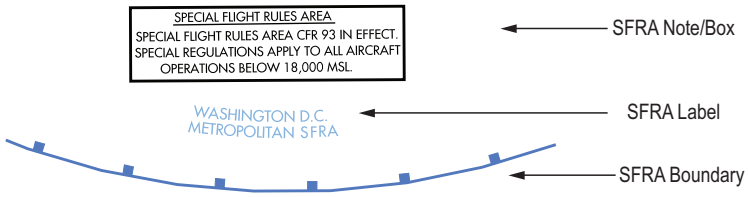
3.7.7.3.10 Special Flight Rules Area (SFRA)

Special Flight Rules Areas located in Part 93 Special Air Traffic Rules are charted only by special request.

3.7.7.3.10.1 Washington DC Metropolitan Area Special Flight Rules Area

The external boundary described by the Special Flight Rules Area for the Washington DC Metropolitan Area shall be charted. Text "WASHINGTON D.C. METROPOLITAN SFRA" labeling the boundary shall be shown stacked and parallel to the boundary, sufficient to readily identify the boundary. A boxed note as shown below shall also be charted.

Figure 3.119 Special Flight Rules Area Boundary (SFRA)



3.7.7.3.10.2 Grand Canyon National Park Special Flight Rules Area

The external boundary described by the Special Flight Rules (SFAR 50-2) for the Grand Canyon National Park shall be charted. Text labeling the boundary shall not be added, however a boxed note as shown below shall be charted.

Figure 3.120 Grand Canyon National Park SFRA Note



3.7.7.3.11 Air Defense Identification Zones (ADIZ, CADIZ) and Defense Areas

Air Defense Identification Zones (ADIZ) and Defense Areas shall be shown, along with defining boundaries. Those charted shall include the Alaska ADIZ, Conterminous U.S. ADIZ and the Canada ADIZ. Identification shall be positioned within the area, 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 3.121 ADIZ and Defense Area Boundaries



The Defense Area for the conterminous U.S. shall be shown using the same boundary symbology as the ADIZ. Only along the Mexican and Canadian international boundaries will the text “DEFENSE AREA” be shown. Identification shall be positioned within the area, 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. It shall not be labeled as such, when beyond the U.S. continental limits

When two ADIZs share a common boundary, the dot portion of the symbology shall be shown on either side of a common boundary.

Figure 3.122 Adjoining ADIZ Boundaries



When an ADIZ, or two adjoining ADIZs share a common boundary with another linear features boundary, i.e., FIR, international boundary, projection line, or OCA, the other linear features’ boundary shall suffice for the ADIZ boundary.

When a 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 delimiting line.

Figure 3.123 FIR Boundary Coincides with the Boundary of an ADIZ



3.7.7.3.12 Flight Information Regions (FIR)

Flight Information Regions (FIR) shall be shown the same as U.S. Class G airspace, along with defining boundaries. These boundaries shall be symbolized by tick marks, evenly spaced, perpendicular to and extending into the area. Identification shall be positioned within the area, 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. Large FIR airspace areas require text to be placed within the area, readable relative to true north. If a space does not permit charting within the FIR airspace area, text may be placed outside, using a leader and arrow to point to the area.

Figure 3.124 FIR Boundary



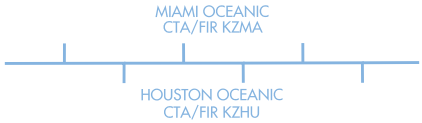
When two FIRs share a common boundary, the “tick” portion of the symbology shall be shown on either side of the common boundary equally spaced and alternating.

Figure 3.125 Adjoining FIRs



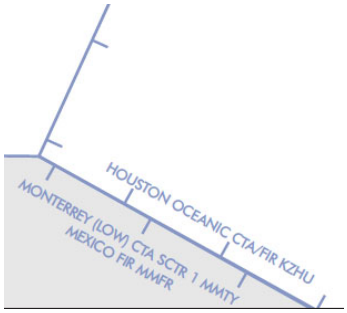
When oceanic control is implemented within a FIR and is available in addition to the FIR services, the areas shall be designated as CTA/FIR. The CTA/FIR areas shall be shown as open (white) areas (Class E Airspace).

Figure 3.126 Adjoining CTA/FIRs



When air traffic control is implemented within a portion of a FIR area, the portrayal techniques of open area (white) for Class E airspace (CTA/FIR), and the screened area (tone) for Glass G/Unclassified airspace (FIR) shall be employed. The boundary shall be supported on either side by the appropriate and applicable FIR or CTA/FIR identification data.

Figure 3.127 CTA/FIR collocated with a FIR & with Class G/Unclassified Airspace



3.7.7.3.13 Air Route Traffic Control Center (ARTCC), Area Control Center (ACC), Remote Center Air/Ground (RCAG)

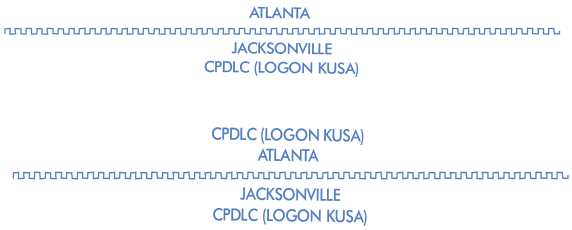
U.S. Air Route Traffic Control Center (ARTCC) shall be shown as open (white) areas (Class E airspace), along with defining boundaries. Identification shall be positioned within the area, adjacent and parallel to the boundary and should appear at least once between external chart folds or as frequently as necessary in order to readily identify the boundary. Canadian Area Control Centers (ACC) are comparable to U.S. ARTCCs and a shared boundary will be shown similarly.

Figure 3.128 ARTCC or ACC Boundary



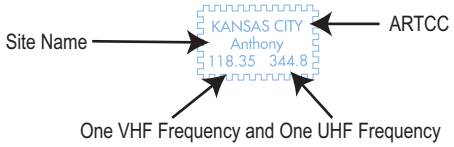
When Controller Pilot Data Link Communication (CPDLC) exists in the authoritative source database for an ARTCC, the text CPDLC (LOGON KUSA) will be shown parallel to the boundary above or below the ARTCC identification as shown below. When space is a concern, the text may be placed adjacent and parallel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

Figure 3.129 ARTCC Boundary with CPDLC Identification



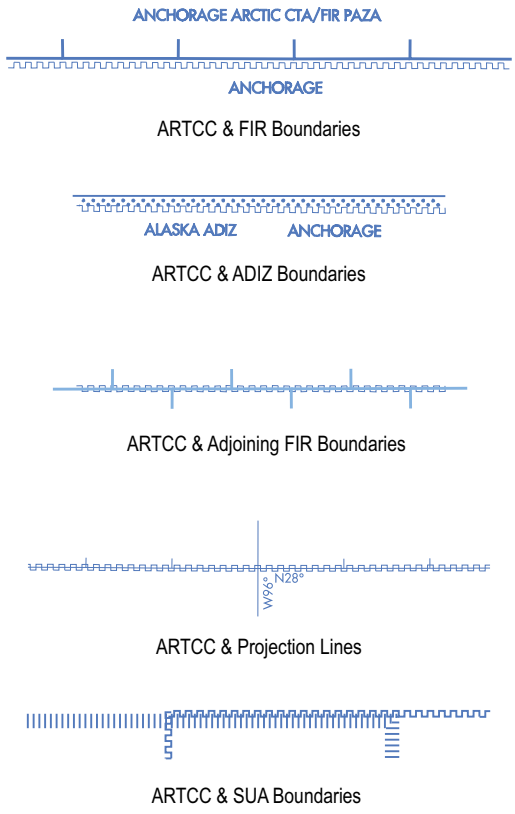
Remote Communications A/G (RCAG) site boxes, if possible, should be located at their correct geographical positions or within 25 NM. Location symbol for the site location shall not be shown. Only one VHF and one UHF frequency designated in the authoritative source database for Low Altitude enroute charting shall be shown. Guard/emergency frequencies 121.5, 243.0 shall not be charted.

Figure 3.130 ARTCC Remote Communications A/G (RCAG)



When ARTCC boundaries are collocated with other linear boundaries (ex., ADIZ, FIR), the ARTCC symbology shall be offset into the ARTCC side. When ARTCC boundaries are collocated with a FIR on both sides, the ARTCC symbol shall not be offset. The ARTCC or ACC symbology shall not be offset, but centered upon projections or SUA external or internal boundaries.

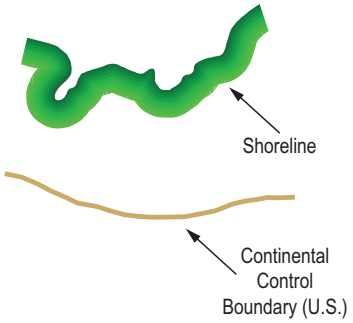
Figure 3.131 ARTCC Boundaries Collocated with Other Linear Symbols



3.7.7.3.14 Continental Control Boundary (U.S.)

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

Figure 3.132 Example of Continental Control Boundary (U.S.)



3.7.7.3.15 Altimeter Setting

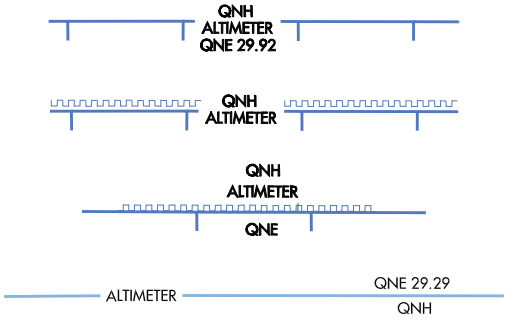
Altimeter settings for certain areas and the location or point of change of altimeter settings shall be indicated on the charts.

The word “ALTIMETER” shall be shown:

1. at the point of change; i.e., edge of a control area, on a FIR or CTA/FIR boundary or other land area boundary or when within 100 NM of land area; or
2. to indicate an altimeter setting change area such as a control area or a FIR.

“ALTIMETER”, when shown at the point of change shall be supported on both sides by the applicable altimeter setting; i.e., QNH or 29.92 and/or notes, as appropriate.

Figure 3.133 Example of Altimeter Settings



An appropriate note, such as “Use altimeter setting of QNH within control area” may be shown to indicate a specific altimeter setting for a particular area of the chart.

An appropriate note indicating an altimeter setting area, such as control area or a FIR or CTA/FIR shall be shown for each such area unless it is stated that the altimeter setting information shown is applicable for the entire chart area.

Transition level (TL) or transition altitude (TA), may also be shown in conjunction with the word “ALTIMETER”, when appropriate.

Small arrowheads, when deemed necessary, may be used in conjunction with the symbols and/or notes to more clearly define the direction or area to which the change applies.

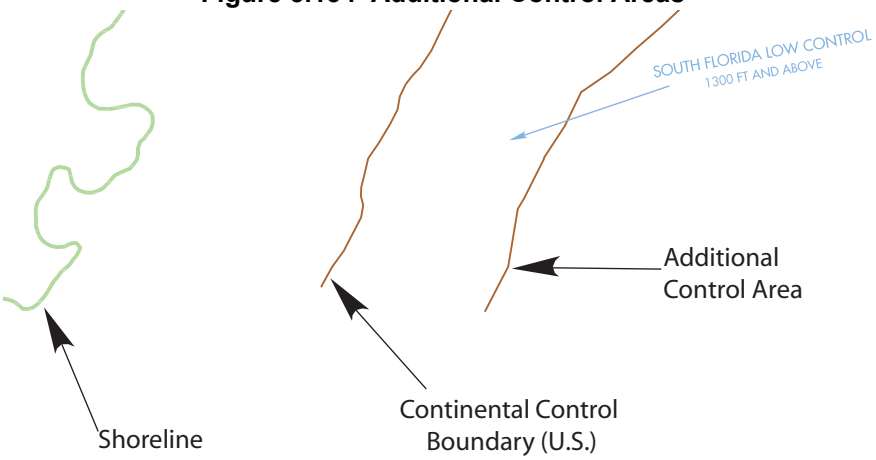
3.7.7.3.16 Additional Control Areas

3.7.7.3.16.1 Additional Control Areas

Additional Control Areas, both domestic and offshore, shall be shown, plotted as designated, symbolized as open area white, within the uncontrolled airspace screen, as specified in Section 3.7.7.3.16.2.

To specifically define the limits of each offshore, additional control area within that area defined and depicted as controlled airspace boundaries of the Additional Control Areas shall be shown, symbolized by a brown line.

Figure 3.134 Additional Control Areas



A bearing or radial line shall be used as the center line, supplemented by the MEA, when designated, and the appropriate mileages between applicable NAVAIDS and reporting points.

Notes, as required, pertaining to Additional Control Areas, shall be shown centered within or immediately outside the area. See

3.7.7.3.16.2 Offshore Additional Control Areas

Offshore Additional Control Areas shall be identified and positioned immediately within and parallel to the limits of the area.

Figure 3.135 Offshore Airspace Areas - Vertical Limits



3.7.8 Airways/Routes

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

Reference:

Appendix 48 - Airway/Route Types

3.7.8.1 General

Airways/routes designated by the FAA for charting shall be shown on the Enroute Low 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.

Victor airways, RNAV T and RNAV TK routes predicated on NAVAIDs with charted compass roses, in areas of less congestion, should not be shown with centerlines within the compass rose. Airways or routes will begin immediately after the radial value outside the compass rose.

Notes containing operational or explanatory information, such as, altitude limitations, traversing of SUA area, special Air Traffic rules, etc., shall be shown as required.

Figure 3.136 Supplementary Explanatory Notes

J108 BETWEEN TCS AND INK
NORMALLY UNAVAILABLE WITHIN
RESTRICTED AREAS DAYS MON-FRI

AR5 EXCLUDES THE AIRSPACE
ABOVE FL 430 OUTSIDE THE U.S.

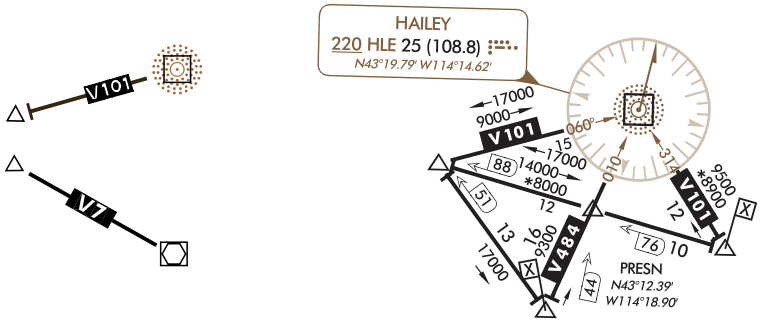
NAVIGATIONAL EQUIPMENT OTHER THAN LF OR VHF REQUIRED

3.7.8.2 Airway/Route Types

3.7.8.2.1 Victor Airways

All Victor Airways shall be shown.

Figure 3.137 Victor Airways



Color for the airway centerline symbology shall be predicated by 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.

3.7.8.2.2 LF/MF Airway

All LF/MF Airways shall be shown.

Figure 3.138 LF/MF Airway

B4

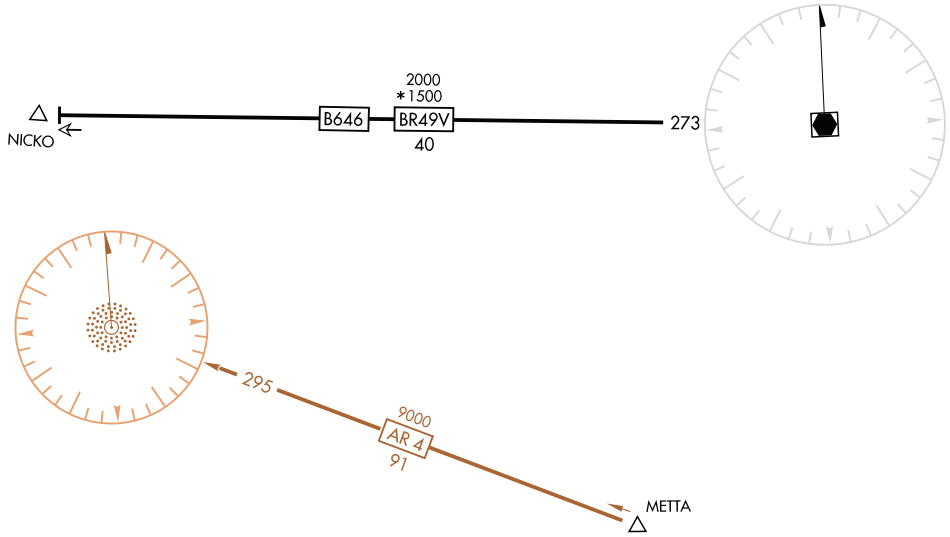
Color for the airway centerline symbology shall be predicated by the type of NAVAID, i.e. VHF/UHF, LF/MF defining the route. The centerline symbology shall not change for the entirety of the route. Route segments predicated on VHF/UHF and LF/MF NAVAIDs shall show the route centerline in black.

3.7.8.2.3 Oceanic, Atlantic, Gulf, Puerto Rico and Bahamas Routes

Oceanic, Bahamas, Atlantic, Gulf and Puerto Rico routes shall be charted. Routes that include segments with Minimum Enroute Altitudes (MEA) of 18,000' MSL and above shall be charted in their entirety when a portion of that route has an MEA of less than 18,000' MSL.

Color for the airway centerline symbology shall be predicated by 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.

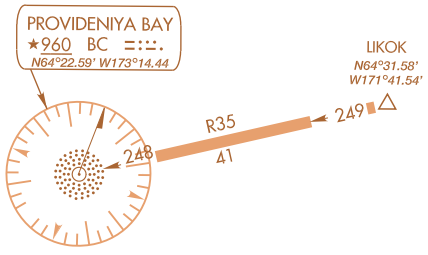
Figure 3.139 Oceanic, Atlantic and Bahamas Routes



3.7.8.2.4 Air Traffic Service (ATS) Routes

ATS routes shall be charted as illustrated below.

Figure 3.140 Air Traffic Service Routes



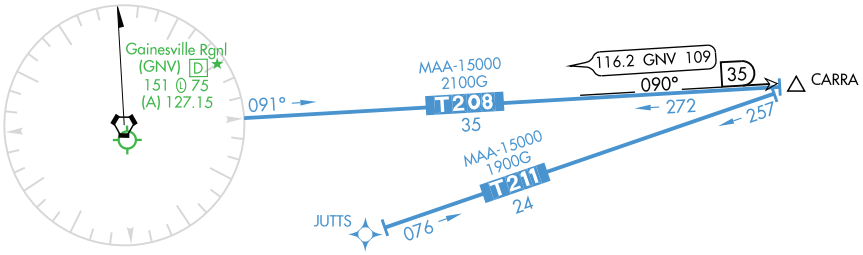
Color for the route centerline symbology shall be predicated by the type of NAVAID, i.e., VHF/UHF, LF/MF, defining the route. The centerline symbology shall not change for the entirety of the route. Route segments predicated on VHF/UHF and LF/MF NAVAIDs shall show the route centerline in black.

3.7.8.2.5 Area Navigation (RNAV) T-Routes and TK-Routes

Low altitude “T” and “TK” (helicopter) RNAV Routes will be depicted.

(AK) In Alaska, low altitude “T” RNAV routes, requiring TSO-C145 or C146, shall be shown.

Figure 3.141 RNAV T and TK Routes



When “T” Routes are coincident with Victor airways, information common to both routes will be shown only once and in black, and information unique to the RNAV Route will be depicted in blue. The center line of the RNAV routes, requiring GNSS, shall not be shown.

Figure 3.142 RNAV T and TK Routes - Coincident



3.7.8.2.5.1 (AK) Chart Notice - GPS/WAAS Navigation Operations in Alaska

A Chart Notice titled “Implementation of Instrument Flight Rules (IFR) Area Navigation (RNAV) Operations Using Global Positioning System (GPS) in Alaska” shall be shown centered below the “Corrections, Comments and/or Procurement Note” and above the OROCA Notice.

Figure 3.143 (AK) GPS/WAAS Chart Note

CHART NOTICE

Implementation of Instrument Flight Rules (IFR)
Area Navigation (RNAV) Operations Using
Global Positioning System (GPS) in Alaska

Under SFAR No. 97, operators using IFR-certified TSO C145a and TSO C146a GPS/WAAS navigation systems will be permitted to conduct operations over selected routes in AK beyond the service volume of ground-based navaids at the lowest minimum en route altitude (MEA) based only on route obstacle assessments and ATC two-way voice communication capability.

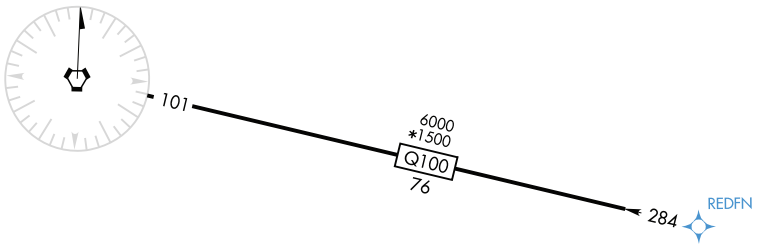
The MEAs for these routes will be depicted on the IFR Enroute Low Altitude-AK charts in blue type with a ‘G’ suffix. For instance, a GPS MEA of 2000 feet MSL will be depicted as "2000G" in blue. Standard MEAs will be depicted in black type and be ‘stacked’ above the GPS MEA.

See SFAR No. 97 for equipment, training and operational requirements.

3.7.8.2.6 Gulf of America "Q" (RNAV) Routes

Low Altitude RNAV "Q" Routes located only in the Gulf of America area shall be shown. The route designator will use a height level "Q" letter identifier for the prefix with a three digit number (e.g., Q201). All route data shall be shown as black with the exception of waypoint symbology.

Figure 3.144 Q Routes



3.7.8.2.7 Unusable Airway/Route Segments

Routes 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 over-printed with diagonal lines in a NE to SW direction. (See also Section **3.7.8.3.4.1**.)

The unusable route symbol shall be cleared for a substitute route symbol when appropriate.

Figure 3.145 Unusable Airway/Route Segment



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

Figure 3.146 Coincident Airways/Routes with Unusable Segment



3.7.8.2.8 Substitute Airway/Route

Airways/routes officially designated by the FAA as substitute airways/routes and in effect for at least 28 days in the life cycle of the chart, shall be charted.

Figure 3.147 Substitute Airway/Route Symbol

All substitute airway/route data shall be portrayed in accordance with criteria established in this section and in Section **3.7.8.3** - Airway/Route Data.

An operational note, e.g., “CHECK NOTAMS”, shall be shown when the enroute NAVAID is shut down and the route structure is not materially changed.

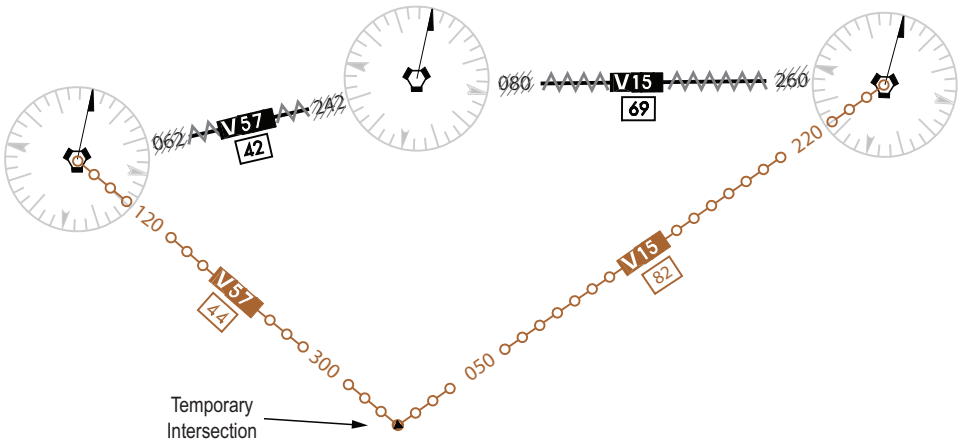
3.7.8.2.8.1 Substitute Airways/Routes Not Coincident with Another Airway/ Route

A substitute route centerline symbology, not coincident with another airway or route, and the associated data, shall be shown in brown.

NAVAIDs and designated points normally not shown on the Enroute Low Charts, because they do not meet charting criteria, shall be shown when required for the designation of substitute routes. These features shall be added for the period of time the substitute route is in effect and depicted in accordance with the following sections:

- Section 3.7.4 - Radio Aids to Navigation (NAVAIDs)
- Section 3.7.9 - Navigational and Procedural Information.

Figure 3.148 Substitute Airway/Route Non Coincident



3.7.8.2.8.2 Substitute Airways/Routes Coincident with Another Airway/Route

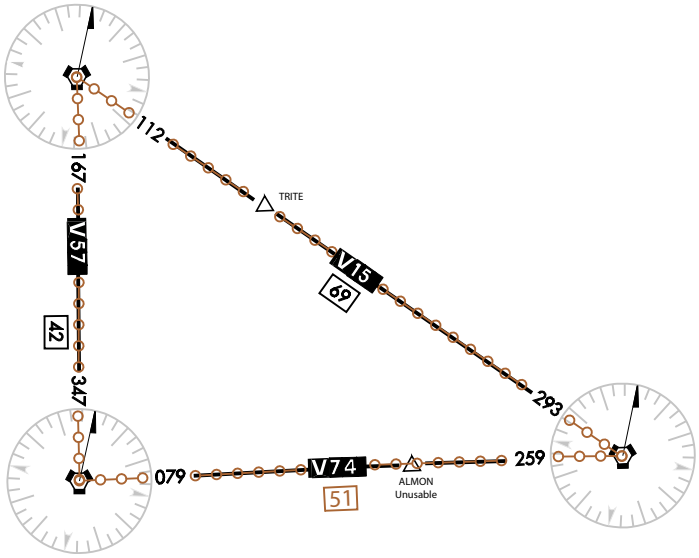
The substitute route centerline symbology, coincident with another airway or route, shall be shown centered on the coinciding route centerline. Existing route information shall not be over printed by the substitute route symbology.

Substitute route centerline symbology and associated route data shall be shown in brown. The substitute route data is only shown, however, if it doesn’t duplicate the airway data of the coincidental unusable route.

Unusable intersections shall be labeled with the text “unusable” under the intersection name.

NAVAIDs affected and shutdown shall be identified as provided in Section 3.7.4.6.6.

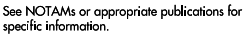
Figure 3.149 Substitute Airway/Route Coincident



3.7.8.2.8.3 Special Notice for Substitute Route

If substitute airways/routes cannot readily be charted, and/or when provided by source, a chart note may be required, i.e., Safety Alert, NOTAM, etc. An operational note shall be placed in the vicinity of the substitute route, using a leader line when appropriate.

Figure 3.150 Substitute Routes - NOTAM and Special Notice Notes



3.7.8.2.9 Military Training Routes (MTR)

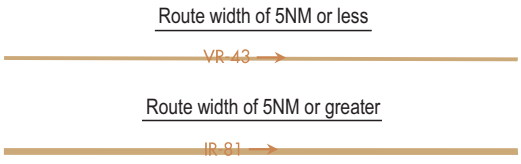
IFR (IR) MTRs shall be shown. Those individual segments considered to be alternate entries or exits shall not be shown.

VFR (VR) MTRs having route designators of up to five characters and flight elevation is above 1500' AGL, even though some segments may be below 1500', shall be shown. Those individual segments considered to be alternate entries or exits shall not be shown.

All segments of IR or VR MTRs, having route widths of 5NM or less on both sides of the centerline, shall be shown by a continuous .020" brown line.

All segments of IR and VR MTRs, having a route widths greater than 5NM, on either side of the centerline, shall be shown by a continuous .035" brown line.

Figure 3.151 Military Training Routes (MTRs)



MTRs shall be identified by the route designator, e.g., IR-123, VR-321. Route designators shall be positioned, centered on the unbroken route centerline, and positioned at least once between external chart folds and as frequently as necessary in order to readily identify the route.

Figure 3.152 IR and VR MTRs on Same Route Segment



The repetitious use of "IR" or "VR" shall be eliminated when two or more IR or VR routes are coincident over the same airspace, e.g., IR-201-205-227. IR and VR MTRs shall always be identified with separate text. In congested areas multiple route designators may be stacked or leadered to the applicable route.

Routes numbered 001 to 099 shall be shown without leading zero digits (e.g. VR-010 shown as VR-10).

Direction of flight for IFR and VFR MTRs shall be indicated by the placement of an arrowhead, centered on the centerline and adjacent to the route designator.

Figure 3.153 MTRs Directional Arrowheads



All MTRs and altitudes shall be tabulated. See Section **3.5.1**.

3.7.8.2.10 R Routes

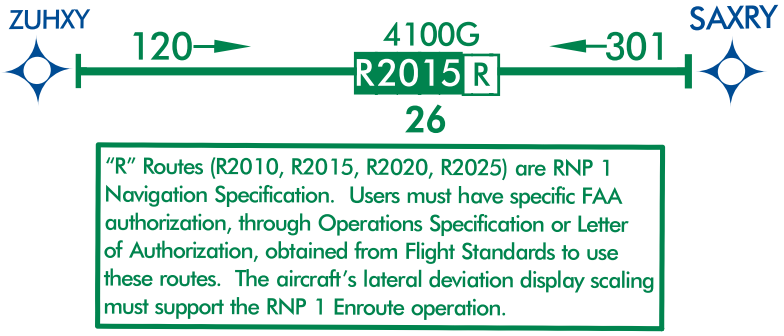
Alaska Capstone R Routes shall be shown when identified by the FAA as required for charting.

R Routes shall be symbolized by a green centerline. Associated airway data shall be depicted in green, in accordance with criteria established in Section, **3.7.8.3** - Airway/Route Data.

When R Routes are coincident with "T" routes, information common to both routes will be shown only once and in blue, and information unique to the R Route will be depicted in green. The centerline of the R Route shall not be shown.

The following boxed note shown in **Figure 3.154** - R Routes shall be shown as close to the airway(s) as possible, and should appear at least once between external chart folds:

Figure 3.154 R Routes

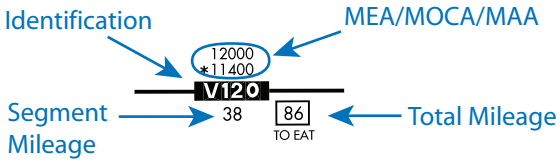


3.7.8.3 Airway/Route Data

3.7.8.3.1 General

Airway and route data (i.e., identification, MEA, MOCA, MAA, segment and total mileage), shall be grouped together.

Figure 3.155 Airway/Route Data Grouping



If necessary, to avoid overprinting of other symbology or text, data may be shifted from its normal position.

Partial or complete airway/route data may be omitted when such data cannot be shown for short segments which extend off the chart as long as this data is shown on overlapping or adjacent charts.

The color of the airway/route data is determined by the associated airway/route type.

3.7.8.3.2 Identification

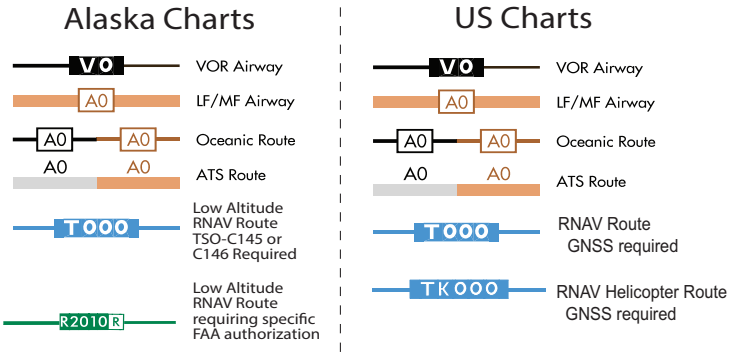
Every airway/route shall be uniquely identified by a letter(s) and number, to indicate the type of airway/route and the specific airway/route.

Victor Airway, RNAV "T" and RNAV "TK" route identification shall be shown as negative type, centered on and breaking the centerlines.

LF/MF Oceanic (includes Atlantic, Puerto Rico, Gulf and Bahama), Gulf of America RNAV "Q" airway/route identification shall be enclosed within a box. R Route identification shall be shown as negative type succeeded with a boxed R. ATS identification shall not be enclosed within a box.

Victor, LF/MF, Oceanic (includes Atlantic, Puerto Rico, Gulf and Bahama), RNAV "T", RNAV "TK", Gulf of America RNAV "Q", and Alaska "R" airway/route identifications shall be centered on and breaking the centerlines. ATS route identifications shall be centered above the route centerline. Bahama Routes shall show the suffix of "V" or "L", as designated, following the route number, e.g., "BR63V".

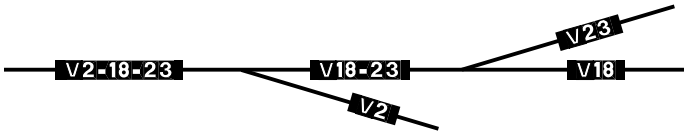
Figure 3.156 Route Identifications



Airways/routes shall be identified and shown aligned with and centrally located on airway segments where necessary, and if possible. Identify at least once between external chart folds and as frequently as necessary in order to readily identify the airway/route.

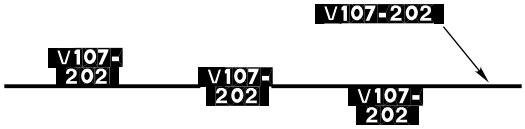
When two or more airways/routes of the same type have been designated concurrently over the same airspace, i.e., coincidental routes, then identifications shall be shown in numerically ascending order and the repetitious letter of the identifications shall be eliminated. When coincidental routes separate each individual route segment shall be identified.

Figure 3.157 Coincidental Routes of the Same Classification



In congested areas identifications may be offset, either above or below, but should remain flush with the centerline. In extremely congested areas identification may be shown off the centerline and a pointer used from the identification to the airway/route centerline, however, in such cases the identification should remain aligned to the centerline.

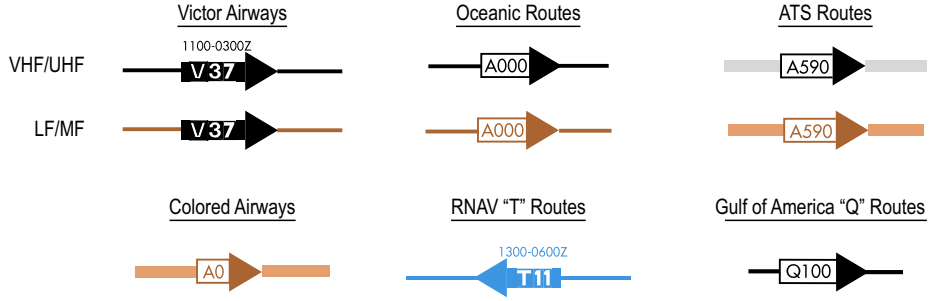
Figure 3.158 Airway/Route Identifications in Congested Areas



3.7.8.3.3 Preferred Direction Airways/Routes

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

Figure 3.159 Preferred Direction Airways/Routes



3.7.8.3.4 Radials and Bearings

All airways/routes shall be shown with magnetic radial or bearing values at NAVAIDs. Bearings and radials shall be consistent with the overall airway/route centerline between NAVAIDs or to designated airway turning points or end terminus.

Airway/route segments predicted on VHF/UHF NAVAIDs shall be shown with magnetic outbound radial values. Those airway/route segments predicated on LF/MF NAVAIDs shall be shown with magnetic inbound bearing values, supplemented with an arrowhead symbol adjacent to the bearing and pointing towards the NAVAID. These value shall be shown centered on and breaking the airway/route centerlines and adjacent to the compass rose if shown.

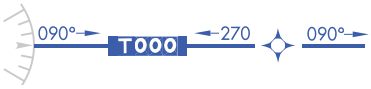
Figure 3.160 Radials and Bearings



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.

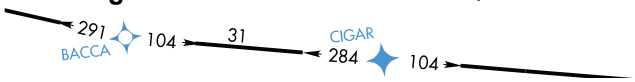
RNAV "T" and "TK" route magnetic reference bearings values shall be shown above the route centerline, near the NAVAID, fix or waypoint, and supplemented with an arrowhead symbol adjacent to the bearing pointing away from the NAVAID, fix or waypoint. Only those NAVAIDs and waypoints that were part of the original route docket description will be shown with magnetic reference bearings.

Figure 3.161 RNAV T Route Magnetic Reference Bearings



Gulf of America RNAV "Q" route magnetic reference bearing values shall be shown centered on and breaking the route centerline, near the NAVAID, fix or waypoint, supplemented with an arrowhead symbol adjacent to the bearing pointing away from the NAVAID or waypoint.

Figure 3.162 Gulf of America Q Routes



ATS, Oceanic (includes Atlantic, Puerto Rico, Pacific and Gulf), and Alaska "R" routes shall be shown with magnetic outbound bearings, centered on and breaking the route centerline, adjacent to the fix or waypoint, and supplemented with an arrowhead symbol adjacent to the bearing pointing arrow from the fix or waypoint.

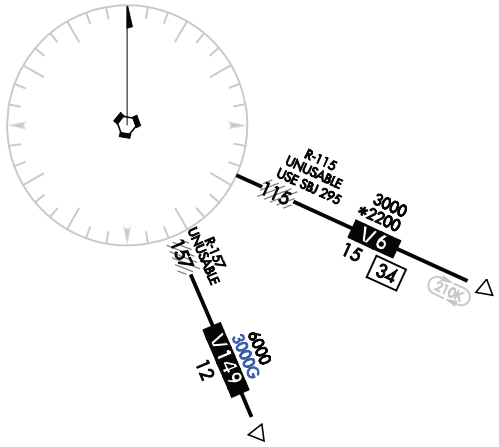
In congested areas, or to avoid overprinting, radial and bearing values may be offset above or below the centerline, further out or closer to the NAVAID, intersection or compose rose.

3.7.8.3.4.1 Airways/Routes with Unusable Radials or Bearings

Airways at NAVAIDs having bearings or radials restricting usage to certain altitudes, distances, or as entirely unusable, an published in the MEA Consolidation, shall be shown.

Airway bearings or radial values that are entirely unusable at all altitudes and distances shall be over printed with lines in a NE to SW direction using similar symbology as the NAVAID Abnormal Status A note indicating the bearing restriction shall be shown adjacent to bearing. See **3.7.4.6.6** - Abnormal Status.

Figure 3.163 Unusable Radial

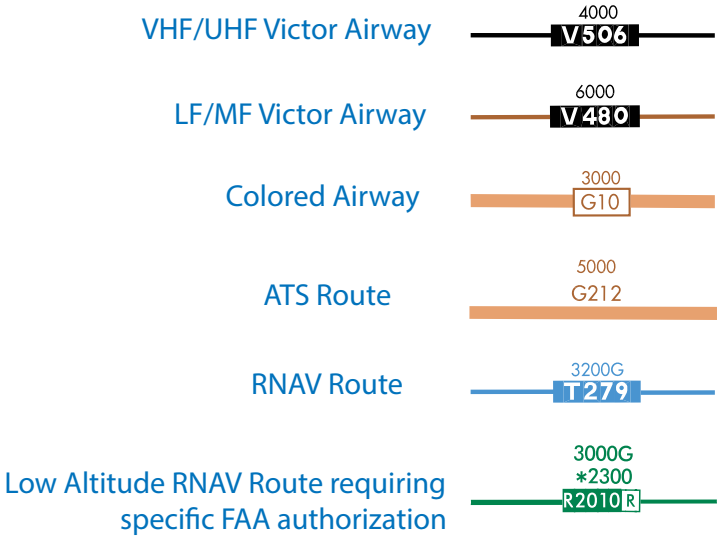


Notes restricting usage of airway or route bearing values to certain altitudes and distances, shall be shown by placing a note adjacent to the bearing value. The bearing or radial values shall not be overprinted with lines in a NE to SW direction.

3.7.8.3.5 Minimum Enroute Altitudes (MEA), Minimum Obstruction Clearance Altitude (MOCA) and Maximum Authorized Altitudes (MAA)

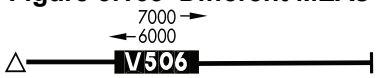
Minimum Enroute Altitudes (MEA) shall be shown, normally positioned above the airway/route identification box. MEAs for RNAV "T" and "TK" routes will be identified with a "G" suffix. RNAV MEAs for GNSS RNAV aircraft will be depicted in blue type.

Figure 3.164 MEAs



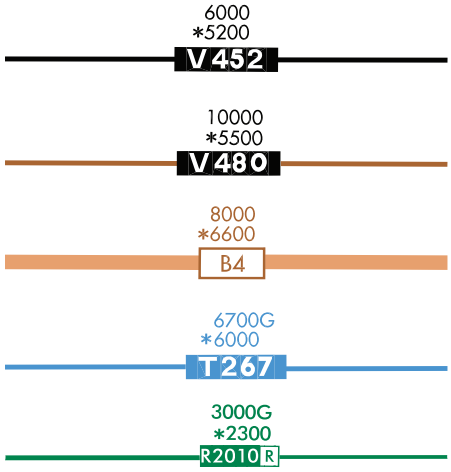
Airway segments designated as having a different MEA in each direction shall show the lowest altitude next to the airway symbol or identification box. The MEA figures shall be supported by arrowheads (the same as used to designate the formation of reporting points) (see **Figure 3.165**), centered on the MEA, parallel with the airway and pointing in the appropriate direction.

Figure 3.165 Different MEAs



Minimum Obstruction Clearance Altitude (MOCA) shall also be shown when lower than the minimum enroute altitude. When shown, the MOCA shall be preceded by an asterisk (*) and shall be positioned as prescribed for the MEA. The MEA shall then be relocated directly above the MOCA.

Figure 3.166 MOCAs

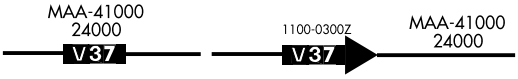


Maximum Authorized Altitude (MAA) shall be shown centrally positioned above the MEA. The MAA value shall be preceded by the appropriate abbreviation, e.g., MAA-14000.

Figure 3.167 MAAs



Figure 3.168 MEAs and MAAs

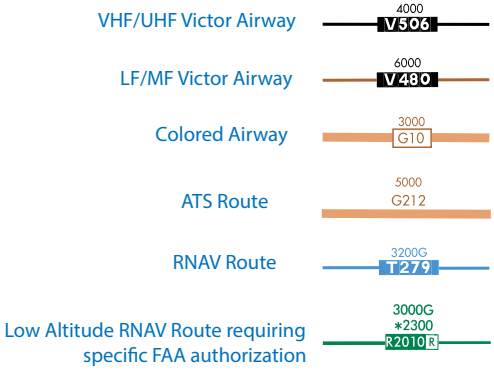


MEA, MOCA, and MAA changes along a route, when established at fixes other than NAVAIDs, shall be shown using "T" symbols. When there is no named fix involved, a symbol "x" shall be shown between the altitude change symbols to indicate mileages thereto. Airway/route centerlines shall always be broken when the altitude change symbol is shown. Only one MEA, MOCA and/or MAA value shall be shown between the change symbols and/or NAVAIDS.

Figure 3.169 "T" Symbol



Figure 3.170 Altitude Changes Along a Route

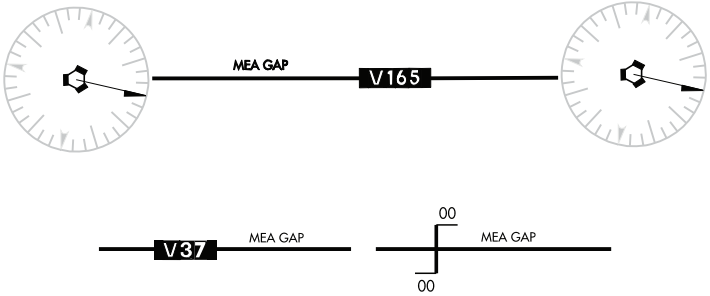


NAVAIDs used in designating a change in MEAs, MOCAs, and/or MAAs shall be identified. Normally, these NAVAIDs are located on the chart and are identified. NAVAIDs, however, located off the chart, used in designating altitude changes along airways, shall be identified as described in Section **3.7.9.1.4**.

3.7.8.3.6 MEA Gap

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

Figure 3.171 MEA Gap



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

MCAs and MTAs associated with a NAVAID or fix shall be shown with the MCA/MTA symbol (flag containing an “X”) attached to the top of the NAVAID or fix symbol. The flag should be orientated to drape downward. In congested areas, the MCA/MTA symbol may be rotated, shortened or attached elsewhere on the NAVAID or fix symbol. MCA/MTA textural 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 3.172 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 an MTA are associated with a single fix, the lines of associated text be identified as “MCA” and “MTA” respectively.

Figure 3.173 MCA and MTA Data at a Fix

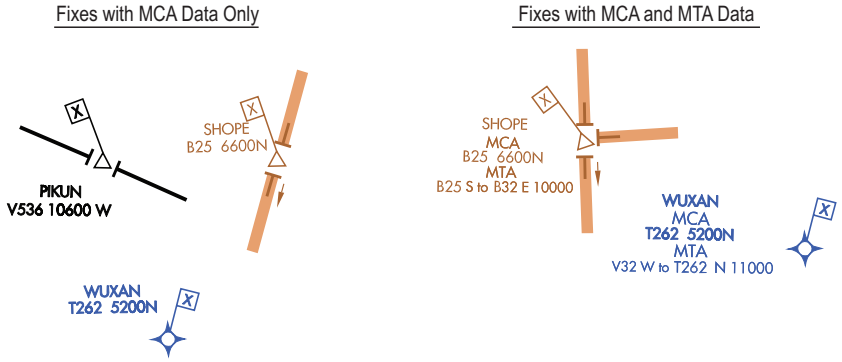
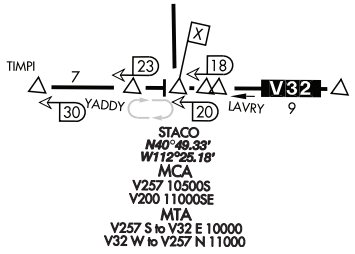
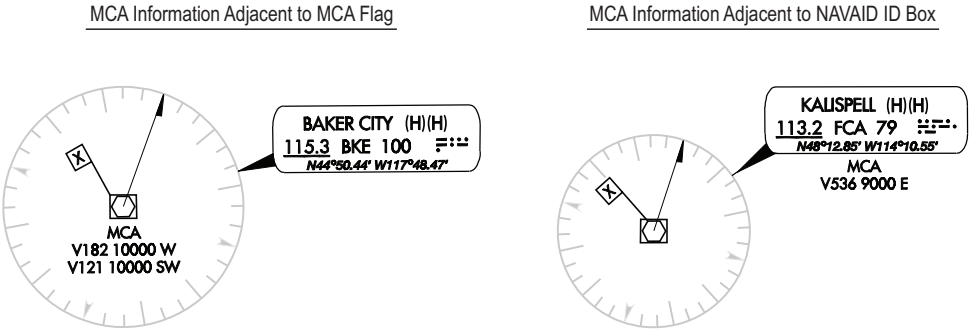


Figure 3.174 MCA & MTA Data Complex Example



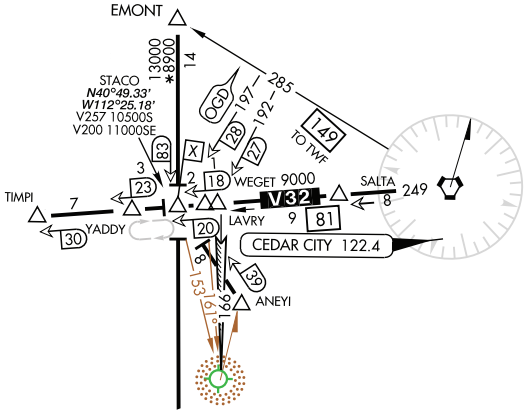
For a NAVAID, the information shall be positioned in close proximity to the NAVAID symbol or facility box. When associated with a NAVAID, both MTA and MCA text shall always be preceded by identifying “MTA” or “MCA”.

Figure 3.175 Minimum Crossing Altitudes (MCA) at a NAVAID



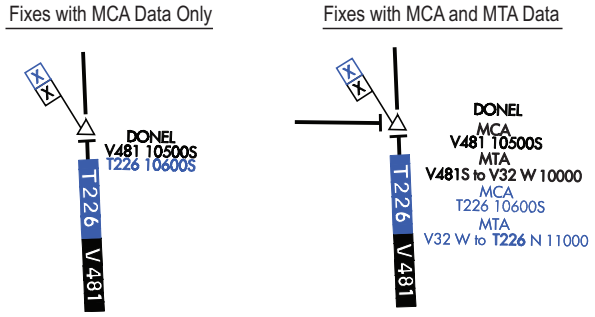
In areas of congestion when MCA and/or MTA data cannot be positioned in close proximity to the subject symbol or facility box, the text may be leadered to the symbol and shall always include identifying “MCA” or “MTA” text for clarification.

Figure 3.176 MCA in a Congested Area with Leader Line



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 in a single note, but must be listed separately, each restriction clearly prefaced by “MCA” or “MTA”.

Figure 3.177 Multiple Minimum Crossing Altitude (MCAs)



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

3.7.8.3.8 Minimum Reception Altitudes (MRA)

MRAs 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 an MRA shall consist of “MRA” and the altitude, centered below the fix name. MRA symbol and identification shall be shown in the same color as prescribed for the airways to which they pertain.

Figure 3.178 Minimum Reception Altitudes (MRA)

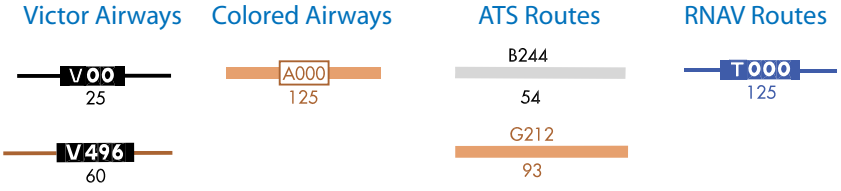


3.7.8.3.9 Mileage Distances

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

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

Figure 3.179 Segment Mileages



Box mileages shall be shown for each airway/route only between NAVAIDs, NAVAIDs and compulsory fixes, and/or between two compulsory fixes. Box mileage shall not be shown on RNAV "T" and "TK" 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 the same 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.

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

Figure 3.180 Box Mileages

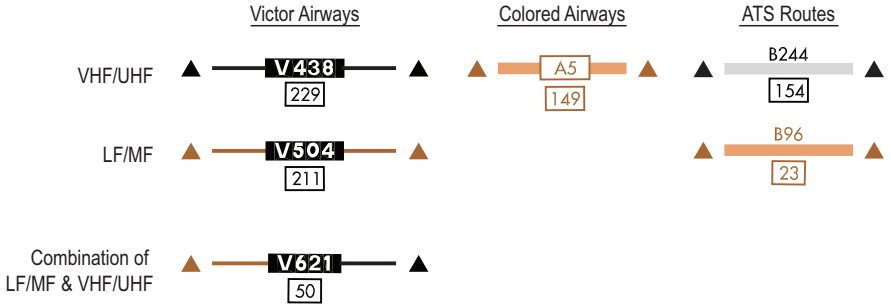
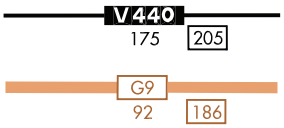
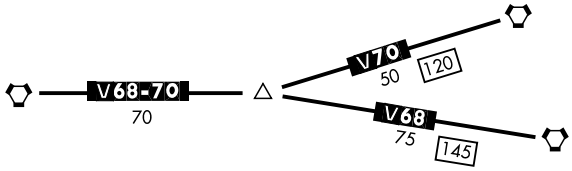


Figure 3.181 Box Mileages Offset by Segment Mileage



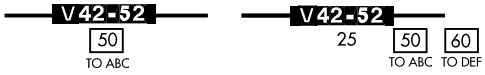
On coincidental airways/routes, box mileages shall be positioned below their associated airway/route identification, shifting segment mileage as necessary. If coincidental airways/routes diverge, the box mileages shall then be positioned below their respective airway/route identifications.

Figure 3.182 Box Mileages - Coincidental Routes



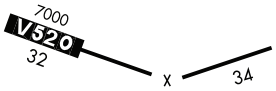
To clarify which NAVAID or fix a box mileage is referring to, a "TO" note shall be used. When the "TO" note is referring to a NAVAID, only the NAVAID identifier shall be shown. For a compulsory fix, only the name of the fix shall be shown. The "TO" note shall be shown below the box mileage. In congested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

Figure 3.183 Box Mileages - "TO" Notes



In the absence of fixes and NAVAIDs, the symbol “x” shall be used to indicate mileage breaks and intersections or airway/route turning points. Mileages shown for this purpose shall not be boxed.

Figure 3.184 Mileage Breaks



3.7.8.3.10 VOR Changeover Points (COP)

COPs shall be shown except for those at the midpoint between two NAVAIDs or a 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.

Figure 3.185 Changeover Points (COP)

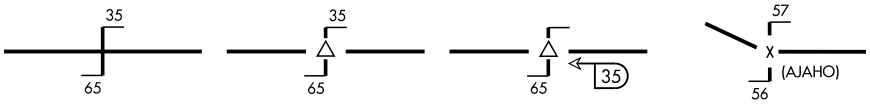
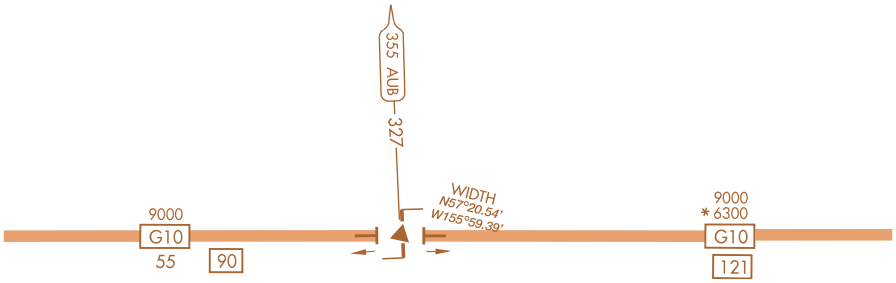
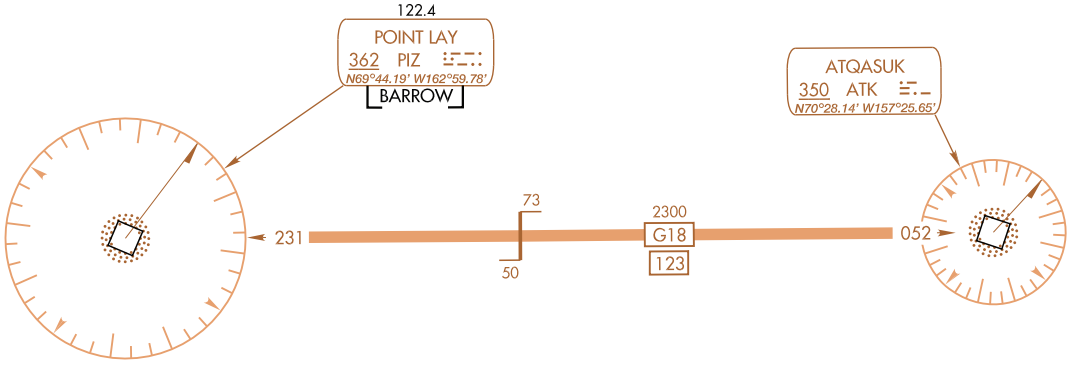


Figure 3.186 Changeover Points (COP) - LF/MF Establishing COP



NAVAIDs used in establishing VOR airway COPs shall be identified. Normally, these NAVAIDs are located on the chart and identified. However, NAVAIDs located off the chart used in establishing COPs along airways shall be identified as described in Section 3.7.9.1.4.

Figure 3.187 Changeover Points (COP) - LF/MF with DME



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 50 - Navigational & Procedural Information

3.7.9.1 Fixes

3.7.9.1.1 Operational Notes

Operational notes pertaining to fixes shall be shown.

Figure 3.188 Operational Notes



3.7.9.1.2 Flyover Symbology

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

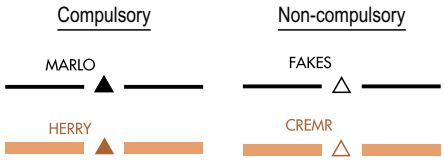
Figure 3.189 Flyover Symbology



3.7.9.1.3 Radio Intersections & DME Fixes

Intersections and DME fixes designated for enroute low charting shall be identified by name and with a compulsory or non-compulsory reporting function. All low 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 3.190 Radio Fixes



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

Figure 3.191 Offshore Fixes without Makeups



No additional name is necessary when the NAVAID and the fix have the same name. NAVAID name shall suffice for both.

When no misinterpretation will result, same name fixes applicable to LF/MF and VHF/UHF systems shall be identified (name) only once, in black.

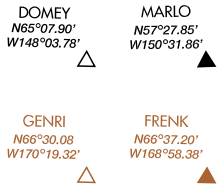
3.7.9.1.3.1 Radio Fix Geographic Coordinates

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 routes.

Coordinates shall be stacked and placed below the intersection/fix name. Coordinates type shall be the same color as the fix name and symbol.

Figure 3.192 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 a brown and point toward the NAVAID. In congested areas, the facility arrows may be placed above the routes.

Figure 3.193 NAVAIDS without DME Capability



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 and 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.

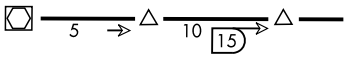
Figure 3.194 NAVAIDS with DME Capability



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 3.195 DME Boats



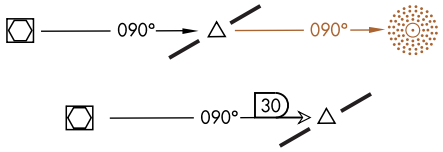
3.7.9.1.3.2.4 Off Route Radio Fix Makeups

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 a facility arrow pointing toward the NAVAID.

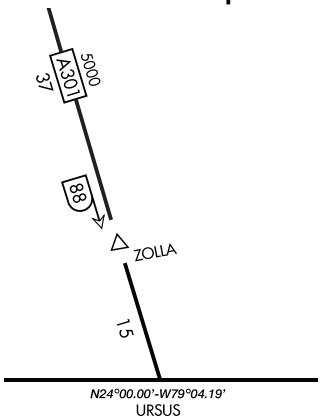
Figure 3.196 NAVAIDs Used for Fix Makeups



3.7.9.1.3.2.5 Offshore Fixes Not Falling within Chart Coverage

Offshore fixes not falling within chart coverage shall be indicated by the use of a lead name supported by the geographic coordinates.

Figure 3.197 Radio Fix Makeup for Offshore Fixes

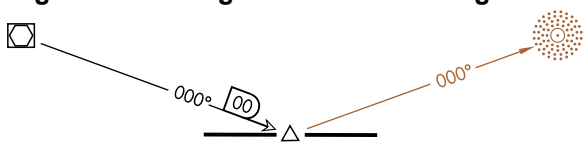


3.7.9.1.3.2.6 Magnetic Radial/Bearing Values

Radial and bearing magnetic values shall be placed on and breaking the radial/bearing line on the half nearest the reporting point for VHF/UHF NAVAIDs or on the half nearest the NAVAID for LF/MF NAVAIDs.

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

Figure 3.198 Magnetic Radial/Bearing Values



3.7.9.1.4 Facility Locator Boats

Facility locator boats shall be used to provide NAVAID information for fix makeups, establishing Minimum Enroute Altitude (MEA) change and Victor Airway COPs. They shall consist of frequency, no voice underline, identification, frequency protection, channel and paired frequency, and "Y" mode.

Figure 3.199 VOR and VOR/DME Capability Facility Locator Boats

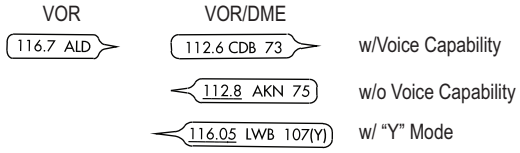
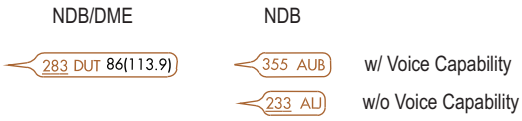


Figure 3.200 NDB and NDB/DME Facility Locator Boats



Facility locator boats are used whenever a NAVAID that defines a fix, establishes MEA changes or Victor Airway COPs, is located beyond the chart neatline. Facility locator boats can 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.

Figure 3.201 Facility Locator Boats

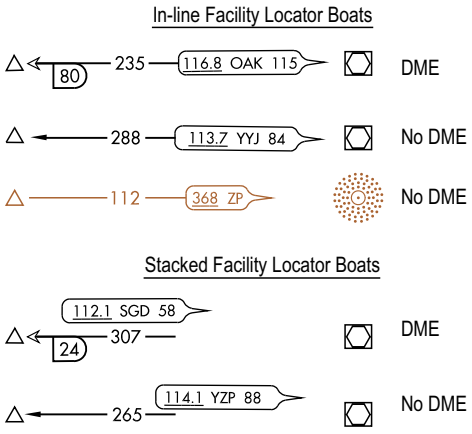
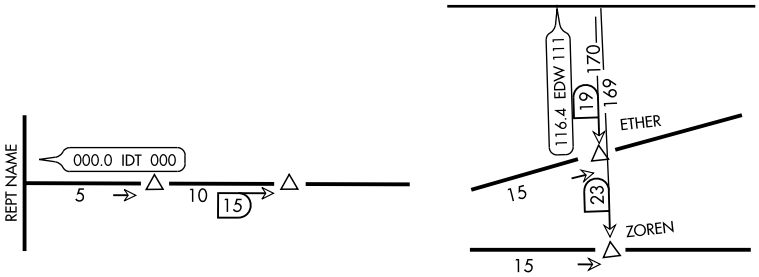


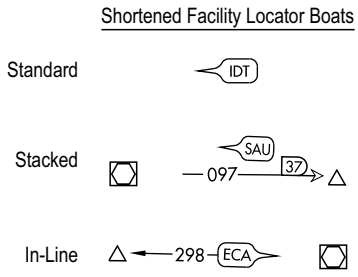
Figure 3.202 Facility Locator Boats



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.

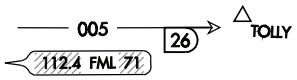
In very congested areas, facility locator boats should be shortened to contain only the NAVAID identification.

Figure 3.203 Facility Locator Boats in Congested Areas



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

Figure 3.204 Facility Locator Boats - Unusable NAVAID



3.7.9.1.5 RNAV Waypoints

RNAV waypoints required for enroute low charting shall be shown and identified by name and symbolized with either a compulsory or noncompulsory reporting function. Enclose the waypoint if the waypoint is designated as a flyover waypoint. Symbol, identification and coordinates shall be in blue.

Figure 3.205 RNAV Waypoints Reporting & Flyover Function



Waypoints not part of a route description and those 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 3.206 Waypoints - Not Part of a Route Description



Waypoints shall not be shown if located in the same geographical position as existing reporting point or NAVAID.

3.7.9.2 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, e.g., “x”.

Figure 3.207 Computer Navigation Fixes

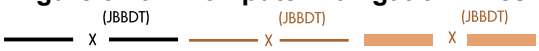
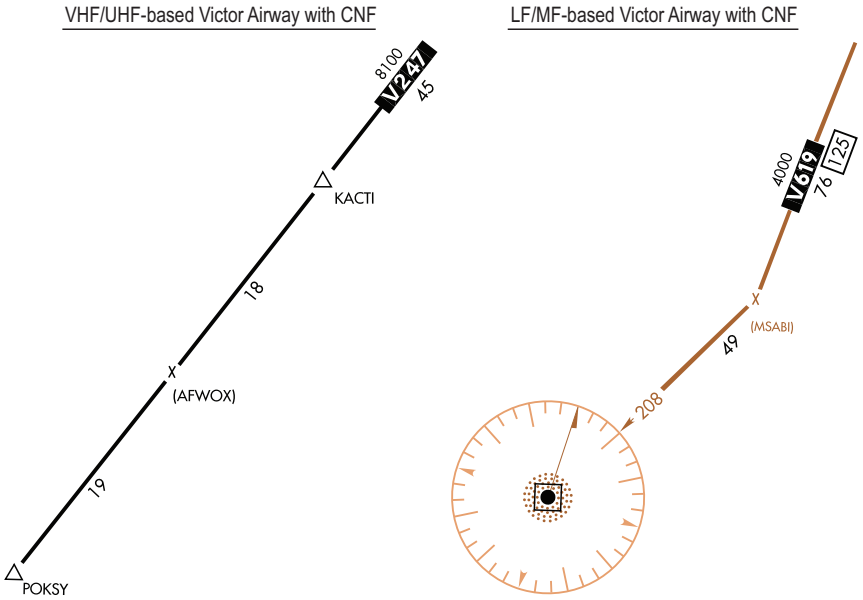


Figure 3.208 Computer Navigation Fixes - Victor Airway Examples



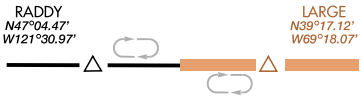
3.7.9.3 Holding Patterns

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

3.7.9.3.1 NAVAID-based Holding Patterns

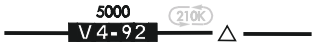
Only one holding pattern shall be charted at an intersection or NAVAID. Holding patterns located on routes should be shown as close to the point of holding as possible and offset from the airway centerline to avoid overprinting.

Figure 3.209 Conventional Holding Patterns



Maximum restricted airspeeds shall be depicted within the holding pattern symbol. For restricted airspeeds, 210 KIAS applies to altitudes above 6000 feet to and including 14,000 feet and 175 KIAS applies to all altitudes.

Figure 3.210 Holding Patterns with Speed Restriction



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 3.211 Off Route NDB Holding Pattern

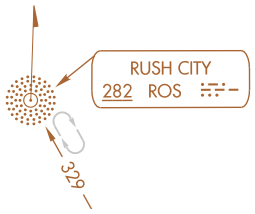
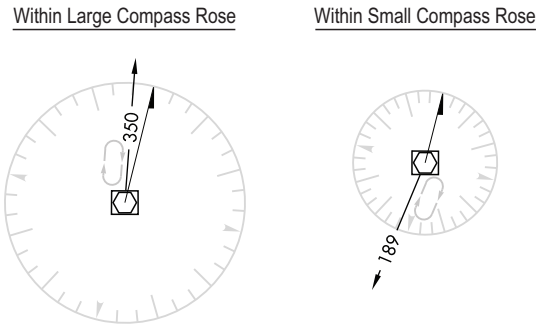


Figure 3.212 Off Route Holding Pattern within Compass Rose



Geographic coordinates shall be shown for all holding patterns established over off route fixes.

Figure 3.213 Off Route Holding Pattern Off a TACAN

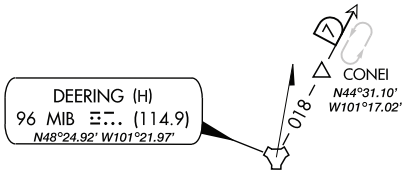


Figure 3.214 Offroute VHF Defined Fix Holding Pattern with Extended Radial Line

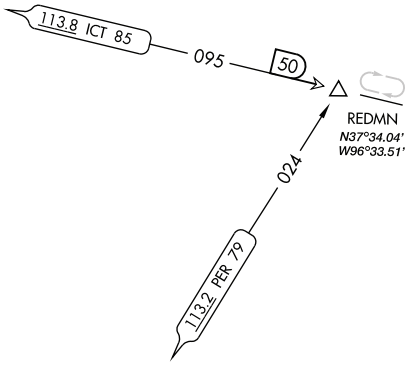
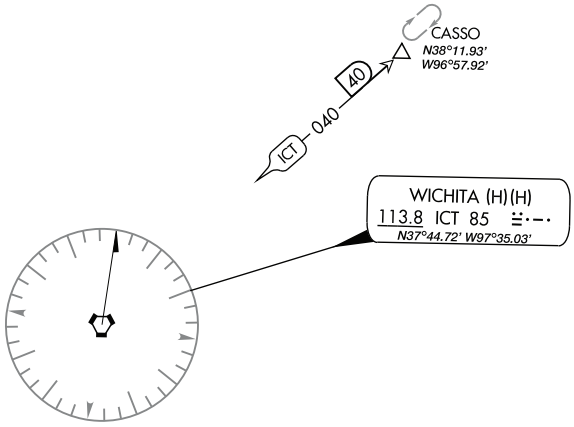


Figure 3.215 Off Route VHF Defined Fix Holding Pattern



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 and an arrowhead placed on the end of the line and pointing away from the fix. Coordinate values will be shown only for holding patterns beyond the U.S. Continental Control (12 mile limit).

Figure 3.216 RNAV Holding Patterns

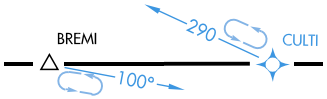


Figure 3.217 RNAV Holding Pattern Beyond U.S. Continental Control



When a NAVAID-based holding pattern and an RNAV holding pattern are established at any fix or facility, only the NAVAID-based holding pattern will be shown.

3.7.10 Area Chart Coverage Areas on Enroute Charts

Area Chart Coverage Areas type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

References:

Appendix 51 - Chart Area of Coverage - Area Charts

3.7.10.1 General

Area Chart coverage areas shall be clearly defined by using a dashed outline and supported by an appropriate note, positioned along and parallel to the delimiting line, at least once within every two panels.

Figure 3.218 Area Chart Coverage Area Boundary within Enroute Charts



Additional notes may be required for clarity, dictated by the size of the area and chart folds.

In congested areas, notes may be located outside the area's dashed outline. These notes shall be located adjacent and parallel to the dashed outline.

(AK) Area Chart coverage areas on Alaska enroute charts shall be identified by an appropriate note, providing the area name, title and chart number, e.g., "SEE VANCOUVER AREA CHART FOR DETAIL."

3.7.10.2 Data Depicted Within the Outlined Areas

The data depicted within the outlined areas on the enroute chart which delineate the area charts charted within the contiguous United States and Alaska, except for the Washington Area and Vancouver Area, shall be skeletonized and information within the area chart shall be as such to provide transition to and from the enroute chart and the area chart. Information shall be charted and shown according to basic specifications described elsewhere within this specification.

3.7.10.2.1 Data Depicted within the Outlined Area for Washington

Data depicted within the outlined area for Washington Area shall not be skeletonized and is just a composite of the Washington Area to aid end users to be able to see airspace depicted from Charts L-29, L-30, L-34 and L-36.

3.7.10.2.2 (AK) Data Depicted within the Outlined Area for Vancouver

Data depicted within the outline area for Vancouver shall comply with the following:

- Airports shall not be depicted.
- NAVAIDs depicted with the Area Chart Boundary area for Vancouver (AK L-1) shall be skeletonized. NAVAID boxes will only contain the NAVAID ident. Should the NAVAID be paired with an FSS, a shadow box is used, FSS frequencies will not be listed.

Figure 3.219 (AK) NAVAIDS Depicted within Vancouver Area Chart Boundary Area



(Refer to AK L-1 - Vancouver Area)

- No route data will be depicted within the outlined area.
- Mode C boundary depiction is omitted within the Area Chart Boundary area for Vancouver - AK L-1.
- Airway/Route depictions are omitted within the Area Chart Boundary area for Vancouver - AK L-1.

3.7.10.2.3 Chart Detail within the Outline Areas

3.7.10.2.3.1 Airports

Airports shall be shown by symbol and name only (conterminous U.S. only). FAR 93 (SFAR) airports shall be appropriately identified.

3.7.10.2.3.2 NAVAIDs

NAVAIDs upon which an airway is predicated shall be shown and identified in full. Additional NAVAIDs located within the area shall be shown:

1. to portray the formation of fixes, and;
2. when the NAVAID (including NDBs which are used as an LOM) is the initial approach fix in an instrument procedure (high or low) servicing an airport located outside of the area.

The additional NAVAIDs shall be identified in full, except in extremely congested areas, where they may be identified by the identification call letters and frequency. However, the shadow box feature (AK), channel number, controlling FSS (AK) or FSS Radio with associated frequencies, and operational notes shall be retained.

3.7.10.2.3.3 Airspace Information

The following airspace information shall be shown:

- ADIZ, CADIZ, SFRA, etc., boundaries shall be shown and identified.
- Oceanic Control Area/Channels shall be shown and identified.
- FIR boundaries shall be shown and identified.
- ARTCC boundaries and Remote Communication Air to Ground (RCAG) shall be shown and identified.
- Airspace (controlled/uncontrolled) shall be shown.
- Mode C boundaries shall be shown and identified.
- SUAs and MOAs shall be shown and identified.

3.7.10.2.3.4 Airways/Routes

The following Airway/Route information shall be shown:

- All airways/routes shall be shown and identified. Identification shall consist of the airway identification, bearing/radial, mileage, VOR changeover points, MCA, MRA, MAA, MOCA and MEA.
- Airways data within area chart coverage may be skeletonized when data cannot be legibly depicted.
- Military Training Routes shall be shown and identified by route designator.

3.7.10.2.3.5 Navigational and Procedural Information

The following Navigational and Procedural Information shall be shown:

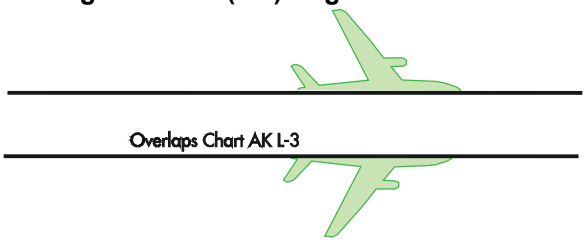
- All compulsory reporting points shall be shown and identified. All non-compulsory reporting points, identified as having an enroute function, shall be shown and identified. This is intended to include:
  1. A change in MEA, MOCA, MAA.
  2. The designation of an MCA or MRA.
  3. DME fixes.
  4. To clarify the airway structure.
  5. To clarify an airway distance.
  6. When they service an airport located outside of the area.
- Holding patterns, when specifically identified as an enroute holding fix.

3.7.11 (AK) Registration Guide Marks for Wall Chart Assembly

The Alaska series of enroute charts serves dual purposes, i.e., for in-flight use and for assembly into a wall chart for planning purposes. The method of assembly may pose a problem to users, but can be overcome by the placement of registration guide marks, in the form of half airplane silhouettes are used in conspicuous positions on the charts to insure correct alignment.

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.

Figure 3.220 (AK) Registration Marks



The following chart sequence of assembly is suggested. The marginal area (that area from the border line to the trim) on charts No. 3 (north, east and south) and No. 2 (north and east) must be removed prior to registration and assembly. The entire marginal area on all charts may be removed for the most desirous results of appearance.

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.

References:

Appendix 50 - Navigational & Procedural Information

3.8 INSET CHARTS

3.8.1 General

Inset charts are defined as small scale charts appearing within a specified portion of an open water area on the basic enroute chart. These Inset Charts, therefore, bring within the scope of the chart series, coverage of those areas (providing primarily over-water routings) that lie outside the basic sheet line limits of the chart series.

Except for scale and those items described herein, content and portrayal techniques of the Inset Chart shall be the same as the Enroute Chart as described in Section **3.1** through Section **3.7**.

References:

Appendix 14 - Chart Layout - U.S. L-23
Appendix 18 - Chart Layout - U.S. L-34

3.8.2 Border Information

3.8.2.1 Inset Chart Title

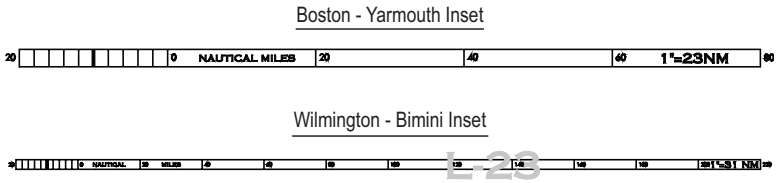
The title of each Inset Chart and scale factor shall be shown in black centered above the charted area, within the margin area specified in Section **2.1.2.2**.

Figure 3.221 Inset Chart Title

3.8.2.2 Bar Scale

A nautical mile bar scale, similar to that contained on the Enroute Chart, shall be shown, positioned within the chart area, parallel to and adjoining the bottom (lower) border line. Bar scale shall extend the full length of the charted area.

Figure 3.222 Inset Chart Bar Scale



Refer to Section **1.2.5.2** for specific information on individual Inset Chart Scales.

3.8.2.3 Overlap Notes

Applicable overlap notes, e.g., “Overlaps Enroute Chart No. L-22”, indicating adjoining Enroute Charts, other then that upon which the Inset Chart is positioned, shall be shown, appropriately positioned between the two border lines, or when this area is not appropriate, within the marginal area of the Enroute Chart.

Figure 3.223 Inset Chart Overlap Note



3.8.2.4 Airways

Airway lead names shall be positioned 1/40" within the Inset Chart, along and parallel to the double border, and 1/40" outside and parallel to the normal enroute border line within the marginal area.

3.8.3 Chart Detail

Chart detail shall be such as to provide a means of transition from the Enroute Chart to and from the Inset Chart with specific attention to the following items:

- Projection lines, ticks and values
- Vignetted shoreline
- Airports shall not be shown
- Only NAVAIDs upon which the over-water oceanic routes are predicated, or are used in establishing a reporting point or fix along the route, shall be shown, symbolized and identified in full.

3.8.3.1 Airspace Information

The following airspace information shall be shown as depicted on the Enroute Charts:

- Only airways (Victor and Colored Airways) that tie in and/or provide transition to the Oceanic Routes shall be shown.
- All over water Oceanic Routes, primary and secondary, as designated, shall be shown.
- Military Training Routes shall not be shown.

3.8.3.2 Airway Data

Airway data shall be shown for those airways depicted.

Oceanic Routes shall be identified by the appropriate and applicable name or identification, mileage, radial or bearing and minimum enroute altitude (MEA). Inbound bearings shall be shown at all fixes along the Oceanic Route.

3.8.3.3 Navigation and Procedural Information

All navigation and procedural information shall be shown; however, only those reporting points and fixes upon which the airways and Oceanic Routes are predicated shall be depicted.

Radial and/or bearing lines used in establishing these reporting points and fixes shall be shown, so as to provide positive identification.

3.9 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:

3.9.1 Projection Lines

Projection lines will be shown in accordance with Section 3.7.1.

3.9.2 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

3.9.2.1 Off-route Obstruction Clearance Altitude (OROCA)

OROCA will be shown as indicated in Section 3.7.2.7. OROCA values will only be depicted within each airspace quadrangle that crosses into U.S. Airspace. Russian Airspace will not have OROCA values depicted.

3.9.3 Foreign Airports

3.9.3.1 Charting Criteria

All active airports published in the authoritative source database with hard surface runways of 3000' (before rounding) or longer will be charted.

3.9.3.2 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 3.224 Foreign Airports



3.9.4 Foreign NAVAIDs

3.9.4.1 Charting Criteria

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

3.9.4.2 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.

3.9.4.3 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.

3.9.4.4 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.

3.9.4.5 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.

3.9.4.6 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.

3.9.5 Foreign Airspace Information

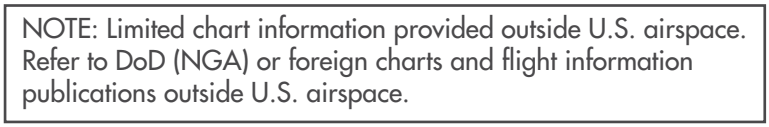
All foreign airspace will be shown 10% black. The FIR/CTA boundary line will be used to define the extent of U.S. aeronautical data, except for Cleveland ARTCC (ZOB) airspace. ZOB airspace will be shown beyond the FIR/CTA boundary line to the ARTCC boundary line.

3.9.5.1 Airspace Notes

3.9.5.1.1 Foreign Airspace Note

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

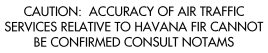
Figure 3.225 Foreign Airspace Note



3.9.5.1.2 Foreign Airspace Notes – HAVANA FIR

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

Figure 3.226 Havana FIR Note



3.9.5.1.3 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 3.227 Foreign General Air Traffic Service (ATS) Area Information



3.9.5.2 CTA/FIR Boundaries

CTA and/or FIR boundaries will be symbolized as indicated in Section 3.7.7.3.12. Only CTA/FIR boundaries that are coincident with U.S. CTA/FIR boundaries will be shown and identified.

3.9.5.3 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 3.7.7.3.13. Only ACC boundaries that touch the U.S. ARTCC boundaries will be shown and identified.

3.9.6 Foreign Airways/Routes

The depiction of Airways/Routes outside of the U.S. boundary 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.

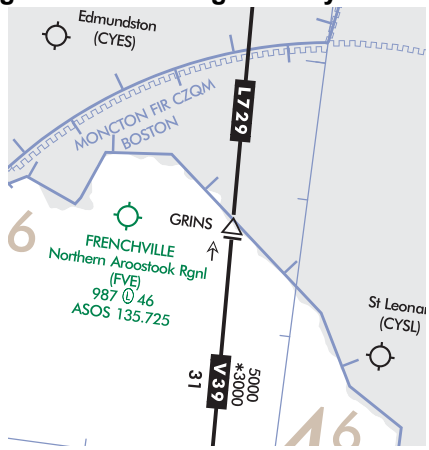
All foreign airways/routes that are published in the authoritative source database will be shown.

All airway 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 airway/route at the FIR/CTA boundary line (on the U.S. side of the boundary).

Figure 3.228 Foreign Airways/Routes



3.9.7 Foreign Navigational and Procedural Information

3.9.7.1 Foreign Fixes/Waypoints

All fixes/waypoints which are a part of a charted non-U.S. airway/route published in the authoritative source database 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.

3.10 AREA CHARTS - U.S. (A-1 & A-2) AND ALASKA (AK)

Area Charts shall be prepared as required and specified.

Approval must be obtained from the appropriate authority prior to:

- The initial production of any new Area Chart.
- A change to the number appearing on an approved Area Chart.
- Changing the scale or coverage of an existing chart.

The Area Charts shall be produced and distributed as an integral part of the basic IFR Enroute Chart Series.

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

References:

Appendix 60 - Terrain Contours - Area Charts

3.10.1 Chart Detail

Except for scale and those items described herein, content and portrayal techniques of the Area Chart shall be the same as the Enroute Chart as described in Section **3.1** through Section **3.7**. The following items, however, shall not be shown: Time Zones, Altimeter Settings and Cruising Altitude Diagrams.

3.10.1.1 Projection Lines

Projection lines and ticks shown shall generally be in accordance with that specified for the enroute chart, but shall be adequately supplemented to identify the latitude and longitude within the charted area, i.e., at least two lines of longitude. See Section **3.7.1**.

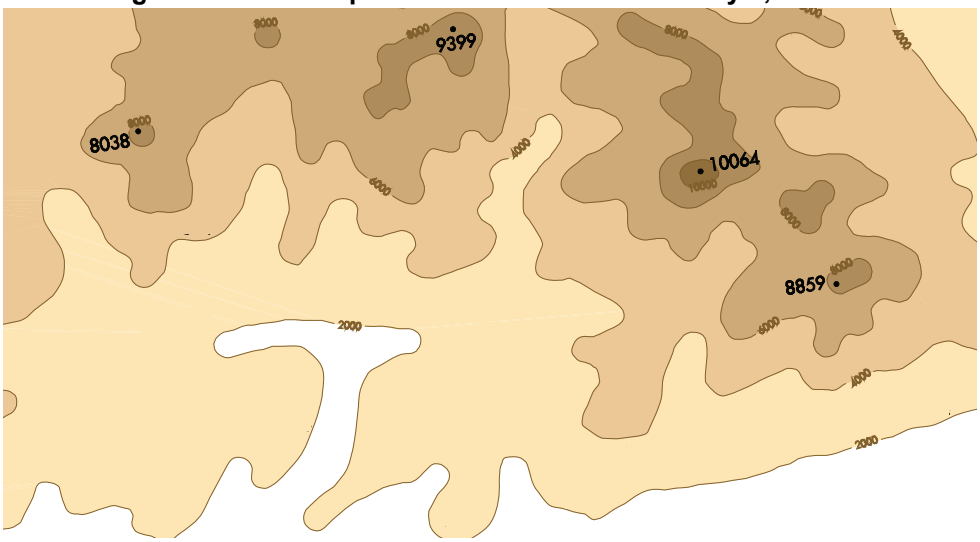
3.10.2 Terrain Contours on Area Charts

References:

Appendix 60 - Terrain Contours - Area Charts

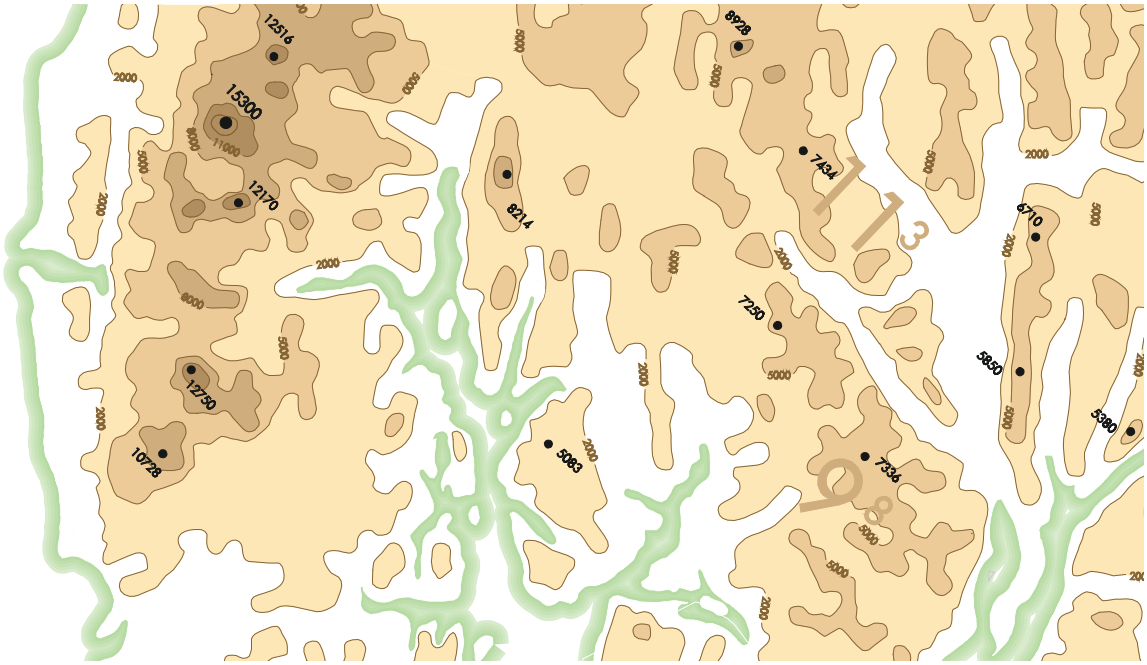
The initial contour value (lowest elevation) depicted will be at least 1000', but not more than 2000', above the airport elevation. The initial contour value may be less than 1000' above the airport elevation only if needed to depict a rise in the terrain close to the airport. Subsequent contour values will be depicted at whole 1000' increment (2000'/4000' etc., NOT 2500'/4500', etc.). Contour intervals, after the initial contour value, will be constant and at the most suitable intervals, 2000' or 3000', to adequately depict the rising terrain.

Figure 3.229 Example No. 1 - Contour Lines every 2,000 feet



Contour lines and contour values will be shown with a brown tint that is darker than the darkest tint used for the contour layers. Contour lines will be broken to depict the contour value. Contour layers will be shown in brown tints (no more than four), with consecutively darker tints used for consecutively higher contour layers. When more than 4 tinted contour layers are needed to depict the terrain, the fifth and subsequent layers will contain the same brown tint, but will be separated by contour lines and values.

Figure 3.230 Example No. 2 - Contour Lines every 3,000 feet



Spot Elevations and the highest point on the area chart will be shown in solid black and differentiated as they are currently on visual and IAP charts.

3.10.2.1 Terrain Contour Note

The following boxed note will be placed in or near each Area Chart that contains contours.

Figure 3.231 Terrain Contour Note

NOTE: TERRAIN CONTOURS HAVE BEEN ADDED TO THOSE AREA CHARTS WHERE THE TERRAIN ON THE CHART IS 1000 FOOT OR GREATER THAN THE ELEVATION OF THE PRIMARY AIRPORT

3.10.3 Airspace Notes

The following boxed note will be placed in or near each Area Chart that contains Uncontrolled Airspace.

Figure 3.232 Uncontrolled Airspace Note

UNCONTROLLED AIRSPACE BOUNDARIES ARE DEPICTED WITH A SOLID BROWN LINE AND A 0.125" WIDE SHADED BAND. THE SHADED SIDE REPRESENTS THE UNCONTROLLED SIDE.

3.11 AREA CHART (A-1 & A-2)

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

References:

Appendix 51 - Chart Area of Coverage - Area Charts
Appendix 52 - Chart Layout - Area Chart A-1
Appendix 53 - Chart Layout - Area Chart A-2
Appendix 54 - Title Panel Information - Area Charts
Appendix 55 - Chart Identification & Title Area - Area Charts
Appendix 56 - Chart Index - Area Charts
Appendix 57 - Margin Information - Bar Scales - Area Charts
Appendix 58 - Military Training Routes Tabulation - Area Charts
Appendix 59 - SUA & MOA Tabulation - Area Charts

3.11.1 Title Panel

The title panel data shall be positioned to read perpendicular to the side trim in the extreme left panel of what will be referred to as the front or title panel of the charts. This panel shall be printed in black, unless otherwise noted, and shall serve as the outside “fold” or title panel on the chart (sheet) when completely folded.

References:

Appendix 54 - Title Panel Information - Area Charts
Appendix 55 - Chart Identification & Title Area - Area Charts

3.11.1.1 Area Chart Distinctive Header

A series of “A's” and alternating blank spaces of equal size shall be positioned along the top of the panel as specified in **Appendix 55**.

Figure 3.233 Area Chart Distinctive Header



3.11.1.2 Foreign Airspace Warning Note

The Foreign Airspace Note as is given in Section **3.3.1** shall be shown positioned as specified in the Appendices.

3.11.1.3 Chart Identification Area

3.11.1.3.1 Chart Numbers

Area charts shall be dual identified by the letter "A" and number, e.g., A-1 and A-2. The letter and number combined shall be termed the chart number. Chart numbers shall be positioned on both sides (left and right) of the panel within the arrowhead, using white or open numbers, providing positive identification of charts appearing on both sides of the sheet.

Figure 3.234 Chart Number Style



3.11.1.3.2 Arrowheads

Odd numbered arrowhead identifiers (chart numbers) shall be positioned on this panel, in the upper right corner.

Even numbered arrowhead identifiers (chart numbers) shall be positioned on this panel, in the upper left corner.

An arrowhead shall be shown, indicating in which direction (left or right) the chart should be opened.

3.11.1.3.3 Area Chart Names

The names of each individual Area Chart shall be positioned to the right/left of the arrowhead staff, in order of appearance from left to right when the chart is fully opened, starting at the top edge of the arrowhead.

3.11.1.4 Title Area

3.11.1.4.1 Chart Title

The title shall be depicted as indicated in **Appendix 55**.

Figure 3.235 IFR Area Chart Title Format

UNITED STATES GOVERNMENT
FLIGHT INFORMATION PUBLICATION
IFR AREA CHARTS - U.S.

3.11.1.4.2 Altitude Note

The Altitude Note, as depicted in Section **3.3.3.2**, shall be shown and placed centered and below the Chart Title.

3.11.1.4.3 Effective Dates and Times Note

The effective dates and times note, as depicted in Section **3.3.3.3**, shall be shown and placed centered and below the Altitude Note.

3.11.1.4.4 NOTAM Note

A NOTAM note, as depicted in Section **3.3.3.4**, stall be centered below the effective dates and times note.

3.11.1.4.5 Legend Reference Note

A legend reference note shall be shown below the NOTAM Note.

Figure 3.236 Legend Information



3.11.1.4.6 Publishers Credit Note

The publishing agency credit note or seal, identical to that depicted from **3.3.3.5**, shall be shown below the Legend Reference Note.

3.11.1.4.7 Corrections, Comments, and/or Procurement

The corrections, comments, and/or procurement information as depicted in Section **3.3.3.6**, shall be shown centered and below the Publishers Credit Note.

3.11.1.4.8 OROCA Note

The OROCA Note, as depicted in Section **3.7.2.7.1**, shall be shown and placed centered and at the bottom of the title panel.

3.11.1.5 Chart Identification Labels

This is a system of chart identification to facilitate a rapid identification of individual charts by number.

Figure 3.237 Chart Identification Labels



3.11.1.5.1 Chart Numbers

The odd numbered chart, i.e., A-1, shall be identified by a tab straddling the center fold. See **Appendix 28**.

The tab shall be identified by the chart numbers of the charts (sheets) appearing on the front and back; e.g., A-1, A-2. The odd numbered chart identification shall be shown first, and the even numbered chart identification positioned directly below, centered within the tab, and 1/20" from the lower limits of the tab using white or open numbers on a solid background.

References:

Appendix 28 - Chart Identification Labels - U.S., Alaska & Area Charts

3.11.1.5.2 Chart Effective Date

The effective date of the chart shall be shown and consist of the day, month (abbreviated) and year.

3.11.1.5.3 Area of Coverage

The area of coverage, i.e., “UNITED STATES”, shall be shown. The area chart identifier shall be positioned centered below the chart effective date.

3.11.1.6 FAA Logo/Banner

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

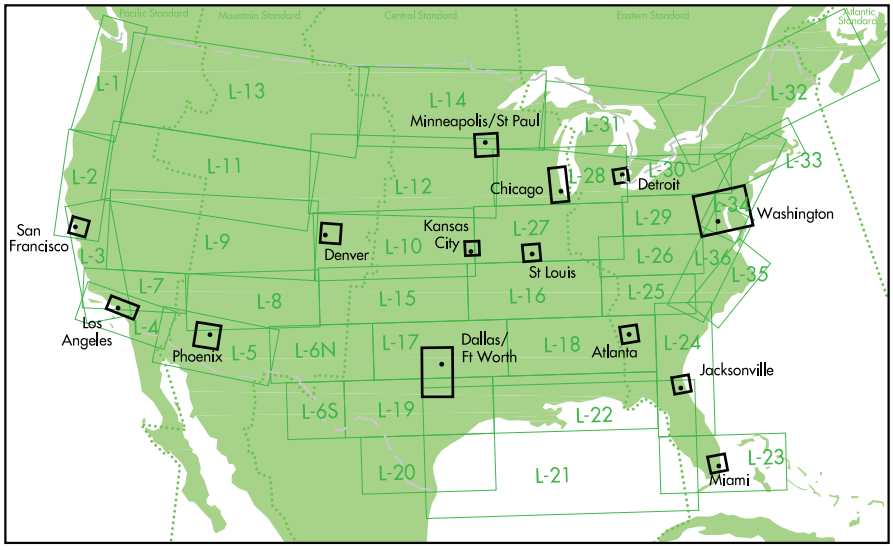
3.11.1.7 Chart Index

A chart index showing the complete Low Enroute Chart coverage of the conterminous United States and tailored to depict the Area Chart coverage of individual area charts, shall be positioned beneath the FAA Logo/Banner.

The area of coverage shall be consistent with that specified in Section 1.2.4.1 and Section 1.2.4.2.

Layout and format shall generally conform to that shown in the Appendices. The index chart shall be contained within a .012" border line, approximately 2.75" (high) x 4.6" (wide).

Figure 3.238 Area Chart Indexing



References:

Appendix 56 - Chart Index - Area Charts

3.11.1.7.1 Land and Water Areas

Land area shall be shown and symbolized as described in Section 3.3.6.1

3.11.1.7.2 International Boundaries

International boundaries shall be shown as described in Section 3.3.6.2.

3.11.1.7.3 Low Altitude Chart Coverage

The limits of each low altitude chart shall be depicted by a green line. Each chart shall be identified, in green, by a chart number. Chart numbers shall be centrally positioned within the limits of each chart.

3.11.1.7.4 Depiction of Area Chart Coverage & Cities

The chart index shall be tailored for each individual sheet by indicating the particular limits of both the front and the back charts in a black line. Area charts shall be identified by name adjacent to the location of the city, depicted by a black symbol.

Figure 3.239 Area Chart Listing



3.11.1.7.5 Time Zone Boundaries and International Dateline

Time zone boundaries and the International Dateline shall be shown, symbolized and identified as specified in Section **3.3.6.6**.

3.11.1.8 Interagency Air Committee (IAC) Credit Note

The Interagency Air Committee (IAC) credit note as described in Section **3.3.7** shall be shown below the chart index.

3.11.1.9 Bar Code

Bar code information and associated text as described in Section **3.3.9**, and shall be positioned at the bottom of the title panel. Refer to **Appendix 55** for specifications on exact placement of Bar Code within Title Panel of Area Chart A-1/A-2.

3.11.2 Tabulated Data Area

Military Training Routes, Special Use Airspace and Military Operations Areas tabulations are included where space permits on the back side of the chart with the data and layout as specified in the references listed below. Airport Locations tabulation is omitted.

References:

Appendix 53 - Chart Layout - Area Chart A-2

3.11.2.1 Military Training Routes (MTR) Tabulation

A tabulation of the appropriate and applicable all-inclusive altitudes for each military training route shown on the chart shall be provided, and consist of the following information:

- Tables will be two columns wide with each column made up of three sub-columns. Sub-column headings shall be “NUMBER,” “ALTITUDE RANGE” and “AREA.”

Figure 3.240 Military Training Routes Tabulation

MILITARY TRAINING ROUTES

NUMBER	ALTITUDE RANGE	AREA	NUMBER	ALTITUDE RANGE	AREA
IR-18	5000 TO 7000	Jacksonville	VR-163	500 AGL TO 3000	Dallas/Fort Worth
IR-32	5000 TO 7000	Jacksonville	VR-223	500 AGL TO 9000	Phoenix
IR-33	500 AGL TO 6000	Jacksonville	VR-231	100 AGL TO 7000	Phoenix
IR-103	100 AGL TO 5000	Dallas/Fort Worth	VR-239	300 AGL TO 9500	Phoenix
IR-105	100 AGL TO 7000	Dallas/Fort Worth	VR-241	300 AGL TO 9500	Phoenix
IR-139	100 AGL TO 6000	Dallas/Fort Worth	VR-242	300 AGL TO 9000	Phoenix
IR-614	500 AGL TO 8000	St Louis	VR-243	300 AGL TO 9500	Phoenix
IR-207	200 AGL TO 15000	San Francisco	VR-244	300 AGL TO 9000	Phoenix
IR-415	300 AGL TO 8000	Denver	VR-245	300 AGL TO 9000	Phoenix
IR-714	SURFACE TO 6000	Washington	VR-267	300 AGL TO 6000	Phoenix
IR-720	5000 TO 8000	Washington	VR-268	300 AGL TO 6000	Phoenix
IR-760	SURFACE TO 6000	Washington	VR-269	300 AGL TO 6000	Phoenix
VR-104	300 AGL TO 10000	Dallas/Fort Worth	VR-704	100 AGL TO 11000	Washington
VR-118	500 AGL TO 15500	Dallas/Fort Worth	VR-705	100 AGL TO 10000	Washington
VR-142	500 AGL TO 4000	Dallas/Fort Worth	VR-708	100 AGL TO 5500	Washington
VR-158	500 AGL TO 5000	Dallas/Fort Worth			

- As necessary due to space considerations on the panel, the MTR tabulation may be continued or carried over to an open area within the confines of the chart.
- The title “MILITARY TRAINING ROUTES” shall be positioned above the tabulation.
- MTRs shall be tabulated numerically by the route designator, e.g., IR-123, followed by the appropriate and applicable all-inclusive (composite) altitude range for each route.

3.11.2.1.1 Number Column

The first column, titled “NUMBER”, shall be tabulated numerically by the route designator e.g., IR-203, VR-331, etc.

3.11.2.1.2 Altitude Range Column

The second column, title “ALTITUDE RANGE”, shall list the corresponding and all-inclusive (composite) altitude range for each route geographically depicted on the chart.

3.11.2.1.3 Area Column

The third column, titled “AREA”, shall list the name of the Area Chart where the MTR is depicted.

3.11.2.2 Special Use Airspace (SUA) and Military Operations Area (MOA) Tabulation Legend

The following SUA and MOA Tabulation Legend shall be positioned above the Special Use Airspace Tabulation on the Area Chart.

Figure 3.241 SUA and MOA Tabulation Legend

ARTCC three letter idents: Albuquerque ZAB, Atlanta ZTL, Boston ZBW, Chicago ZAU, Cleveland ZOB, Denver ZDV, Fort Worth ZFW, Houston ZHU, Indianapolis ZID, Jacksonville ZJX, Kansas City ZKC, Los Angeles ZLA, Memphis ZME, Miami ZMA, Minneapolis ZMP, New York ZNY, Oakland ZOA, Salt Lake City ZLC, Seattle ZSE, Washington ZDC

U.S.: P - PROHIBITED, R - RESTRICTED, W - WARNING, A - ALERT 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.

3.11.2.3 Special Use Airspace (SUA) Tabulation

A tabulation of the appropriate and applicable data for all SUA depicted in each area chart shall be shown. The SUA Tabulation shall be organized by Area Chart and depicted in alpha order by Area Chart title. The SUA tabulation will be presented as one table with the same column and information layout used on Low Altitude enroute charts with the addition of a row, spanning the width of the table, with the name of Area Chart title centered in the row. See Section **3.5.3** for detailed explanation for the columns.

Figure 3.242 SUA Table - Area Chart

SPECIAL USE AIRSPACE

NUMBER	EFFECTIVE ALTITUDE	TIMES USED, UTC	CONTROLLING AGENCY A/G CALL	PANEL
CHICAGO				
R-6903	SFC TO FL 450	INTMT BY NOTAM	ZMP	J
DALLAS				
P-49	SFC TO 2000	CONT	NO A/G	K
JACKSONVILLE				
P-50	SFC TO BUT NOT INCL 3000	CONT	NO A/G	C
R-2904A	SFC TO BUT NOT INCL 1800	APR - AUG 1300 - 2200Z‡ DAILY; SEP - MAR 1300 - 2200Z‡ SAT - SUN; ∗1	JACKSONVILLE TRACON	C
W-135	SFC TO 1200	INTMT BY NOTAM	ZJX	C
LOS ANGELES				
R-2519	SFC TO UNLTD	CONT	ZLA	G
W-289E,W	SFC TO UNLTD	INTMT BY NOTAM	ZLA	G
MIAMI				
A-291A,C	SFC TO 2500	1100 - 0500Z‡ DAILY	NO A/G	C
A-291B,D	SFC TO 3900	1100 - 0500Z‡ DAILY	NO A/G	C
PHOENIX				
R-2301E	SFC TO FL 800	1330 - 0700Z DAILY; ∗1	ZAB	H
R-2310C	17000 TO 35000	INTMT BY NOTAM	ZAB	H
A-231	500 AGL TO 6500	CONT	NO A/G	H
SAN FRANCISCO				
A-682	N OF TRAVIS AFB RUNWAYS 21L/03R EXTENDED CENTERLINES SFC TO 6000' S OF TRAVIS AFB RUNWAYS 21L/03R EXTENDED CENTERLINES SFC TO 3000' SFC TO 3000	1600 - 0500Z‡ MON - FRI	NO A/G	G
WASHINGTON				
P-40	SFC TO BUT NOT INCL 5000	CONT	NO A/G	D
P-56	SFC TO 18000	CONT	NO A/G	D
P-73	SFC TO BUT NOT INCL 1500	CONT	NO A/G	D
R-4001A	SFC TO UNLTD	SFC TO UNLTD 1200 - 0500Z‡; SFC TO 10000 0500 - 1200Z‡; HIGHER ALTITUDES BY NOTAM	ZDC	E
R-4001B	SFC TO 10000	INTMT BY NOTAM	ZDC	E
R-5802D	17000 TO BUT NOT INCL FL 220	FEB 15 - MAY 10 1300 - 0400Z‡ SAT 1300 - 1700Z‡ SUN; SEP 1 - DEC 15 1300 - 0400Z‡ SAT 1300 - 1700Z‡ SUN; MAY 11 - AUG 31 1300 - 0500Z‡ SAT 1300 - 0100Z‡ SUN - FRI; ∗1	ZNY	E
W-386	SFC TO UNLTD	INTMT BY NOTAM	ZDC	F
A-220	SFC TO 4500	1300 - 0300Z‡ DAILY	NO A/G	F

Alert Areas do not extend into Class A, B, C and D airspace, or Class E airport surface areas.

3.11.2.4 Military Operations Areas (MOA) Tabulation

A tabulation of the appropriate and applicable data for all military training routes depicted in each area chart shall be shown. The MOA tabulation will be presented as one table with the same column and information layout used on Low Altitude enroute charts with the addition a row, spanning the width of the table, with the name of Area Chart title centered. See Section **3.5.4** for detailed explanation for the columns.

Figure 3.243 MOA Table - Area Chart

MILITARY OPERATIONS AREAS

NUMBER	EFFECTIVE ALTITUDE	TIMES USED, UTC	CONTROLLING AGENCY A/G CALL	PANEL
CHICAGO				
MINNOW	10000 ∗2	INTMT BY NOTAM NML DURING DALGT HRS	ZMP	J
JACKSONVILLE				
MAYPORT HIGH	3000 ∗2	INTMT BY NOTAM 2300 - 0300Z‡; NOT TO EXCEED 8 ONE-HR BLOCK TIMES MONTHLY	ZJX	C
MAYPORT LOW	500 TO BUT NOT INCL 3000	INTMT BY NOTAM 1300 - 0300Z‡; NOT TO EXCEED 30 ONE-HR BLOCK TIMES MONTHLY	JACKSONVILLE TRACON	C
PHOENIX				
GLADDEN 1	7000 OR 5000 AGL WHICHEVER IS HIGHER TO BUT NOT INCL FL 180	1300 - 0200Z MON - FRI; ∗1	ZAB	H
OUTLAW	8000 OR 3000 AGL WHICHEVER IS HIGHER ∗2 ; EXCLD R-2310A B AND C WHEN ACT	1400 - 0100Z MON - FRI; 0100 - 0500Z MON - FRI BY NOTAM; INTMT SAT-SUN BY NOTAM	ZAB	H
SELLS 1	10000 ∗2	1300 - 0200Z MON - FRI; ∗1	ZAB	H
WASHINGTON				
DEMO 1	500 TO 5000	INTMT BY NOTAM	POTOMAC TRACON	D
DEMO 2	10000 TO 15000	INTMT BY NOTAM	POTOMAC TRACON	D
DEMO 3	5001 TO 15000	INTMT BY NOTAM	POTOMAC TRACON	D
HILL	SFC TO 3000	SR - SS DAILY	POTOMAC APP	D

∗1 Other Times By NOTAM
∗2 To But Not Including FL 180
∗4 Whichever is Higher, To But Not Including FL 180
∗8 To But Not Including 18000

3.11.3 Margin Information

Margin information shall be positioned between the neatline of the chart and the trim edge, but excluding title and legend panel information.

3.11.3.1 Bar Scales

A nautical mile bar scale, similar to that contained on the enroute chart, shall be shown for all individual Area Charts, positioned outside the chart area, parallel to and .2" from the border line, as illustrated in the Appendices. Bar scales shall be compatible with the limits of individual area chart coverage.

Exception to the enroute Chart Bar Scales shall be that the mile division breakdown of the scale shall be shown and labeled on both sides of the bar scale.

Refer to **1.2.5.3** for specific information on individual Area Chart Scales.

3.11.3.2 Area Chart Title

Each individual area chart shall be identified by area name, the scale factor, e.g., 1" = 10 NM and, in parenthesis, the enroute chart number(s) on which the area is located. The title data shall be shown on one line, centrally positioned adjacent and above the top border line, or the bar scale, of each chart.

Figure 3.244 Area Chart Title

MIAMI 1" = 6 NM (On Chart L-23)

3.11.3.3 Panel Fold Information

A two-fold system, whereby every two panels of the chart area is identified by a letter identifier and by the name of the Area Chart contained therein. These names will enable the user to readily locate the specific area chart desired.

These panel/fold identifications shall be positioned along both the top and bottom trim edges of all charts, on both sides of each two panels within each two-panel fold of the chart, as indicated in the Appendices.

The letters A, B, C, D, E and F shall be used as the letter identifier on odd numbered charts (front side) and the letters G, H, I, J, K and L shall be used as the letter identifier on even numbered charts (reverse side). Letter identifiers shall be positioned .1" down (up) from the trim edge and 3/20" to the right of the first, third, fifth and seventh folds and also 3/20" to the left of the third, fifth and seventh folds and the right trim edge of all charts.

The Area Chart name shall be positioned 3/20" to the left/right of each letter identifier, within the appropriate panel.

The Area Chart name and letter identifier shall be aligned at the top and bottom edges of the chart.

3.11.3.4 Reverse Side - Even Numbered Charts

The following data shall be positioned to read perpendicular to the side trim in the extreme left panel of the reverse chart (even numbered chart). This panel shall be printed in black, unless otherwise noted, and shall serve as the reverse or inside “fold” or panel on the chart (sheet) when completely folded. Maximum width of the data appearing on this panel shall be 4.6".

References:

Appendix 53 - Chart Layout - Area Chart A-2

3.11.3.5 Airway/Route Leads

Airway/route leads shall be positioned outside the chart area immediately adjacent to the border line in their appropriate color.

3.12 CHART L-21 - OFFSHORE NAVIGATIONAL CHART

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

The Offshore Navigational Charts is a skeletonized chart depicting the airspace of the Gulf of America.

References:

Appendix 61 - Title Panel Layout - U.S. L-21

3.12.1 Title Panel Information

3.12.1.1 L-21 Offshore Navigation Only Note

The L-21 Offshore Navigation Note will be placed centered above the OROCA note.

Figure 3.245 Offshore Navigation Note

L-21 is intended for offshore navigation only.
Detailed onshore information has been intentionally omitted.
Refer to charts L-19/20, L-22, L-23/24 for detailed onshore information.

References:

Appendix 61 - Title Panel Layout - U.S. L-21

3.12.2 Margin Information

3.12.2.1 Bar Scales

Bar scales for Chart L-21 shall be subdivided into 20NM increments. The first 20NM increment shall be subdivided into 2NM increments.

3.12.3 Chart Detail

Chart detail shall be such as to provide a means of transition from the enroute chart to and from the Offshore Navigation Chart.

3.12.3.1 Airports

3.12.3.1.1 Charting Criteria

Airports shall be symbolized as either military, civil or civil-military airports. Seaplane Bases shall be symbolized. See Section **3.7.3.2**.

3.12.3.1.2 Airport Names

Airports within the contiguous United States shall be identified by airport name. For public, private, military airports and seaplane bases, the FAA airport identifier will be placed in parentheses immediately after the airport name.

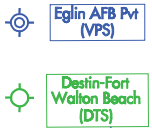
Airports outside the contiguous United States shall be identified by airport name and ICAO identifier placed in parentheses immediately after the airport name.

Figure 3.246 Airports Naming



Those airports cited in FAR Part 93 identified as having special air traffic rules governing operations to and from the airport shall be additionally identified by enclosing the airport name within a .010” lineweight box. The color will be the same as the airport name.

Figure 3.247 Airports Under SFAR



3.12.3.2 NAVAIDs

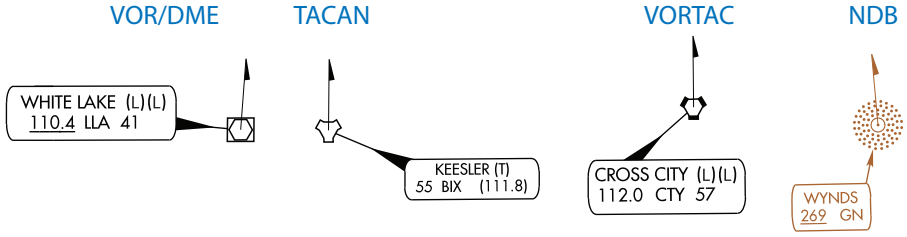
3.12.3.2.1 Charting Criteria

Only NAVAIDs upon which the over water oceanic routes are predicated, or are used in establishing a reporting point or fix along the route, shall be shown, symbolized and identified in full.

3.12.3.2.2 NAVAID Identification Boxes Criteria

Arrangement of NAVAID data within the box shall be in the following sequence: NAVAID Name, SSV(s) as appropriate, Frequency, Call or Identification Letters, and Channel Numbers.

Figure 3.248 NAVAID Identification Boxes



3.12.3.3 Airspace Information

Class B and Class C airspace information shall be shown. Mode C information shall be shown. All SUAs and MOAs airspace information shall be shown.

References:

3.7.7.3.2 - Class B Airspace
3.7.7.3.3 - Class C Airspace
3.7.7.3.7 - Mode C Required Areas
3.7.7.3.9 - Special Use Airspace (SUA) and Military Operation Areas (MOA)

3.12.3.4 Airways/Routes

Only airways/routes (Victor Airways, RNAV T Routes and Colored Airways) that tie in and/or provide transition to the Oceanic Routes or RNAV Q Routes shall be shown.

All over-water Oceanic Routes, primary and secondary, as designated, shall be shown.

Military Training Routes shall not be shown.

3.13 (AK) L-2 - LOW ALTITUDE ROUTE SELECTION CHART

3.13.1 General

A route selection chart shall be provided, positioned on chart L-2 as illustrated in **Appendix 20**.

Alaska Low Altitude Route Selection Chart type and symbol specifications shall be shown as indicated in the appendices except as otherwise indicated within these specifications.

All type shall be 6 point. Unless otherwise specified, all symbols shall be as specified for the IFR Enroute Chart series, except they shall be reduced 25%.

The titles shall be shown, positioned above and below the chart in the same manner as provided for panel identifier. Type size shall be 12 point (C/L).

References:

Appendix 20 - Chart Layout - Alaska L-2

3.13.2 Chart Detail

3.13.2.1 Base Detail

3.13.2.1.1 Land and Water Areas

Only major bodies of water shall be shown using the shoreline symbology as shown in Section **3.7.2.1**.

3.13.2.1.2 International Boundaries

International Boundaries shall be shown as described in Section **3.7.2.2**.

3.13.2.1.3 U.S. - Russia Maritime Boundary

The U.S. – Russia Maritime Boundary be shown as described in Section **3.7.2.3**.

3.13.2.2 Radio Aids to Navigation (NAVAIDs)

All NAVAIDs upon which airways or routes are predicated, shall be shown, symbolized and identified by name. Additional NAVAIDs may be shown when specifically requested.

NAVAIDS (UHF/VHF, black; LF/MF, brown).

3.13.2.3 Airways/Routes

Airways and Routes consisting of symbolization, identification, mileages and MEAs shall be shown.

VHF/UHF airways centerline – black.

LF/MF airway centerline – brown.

3.13.2.4 Navigational and Procedural Information

3.13.2.4.1 Compulsory and Non-compulsory Reporting Points

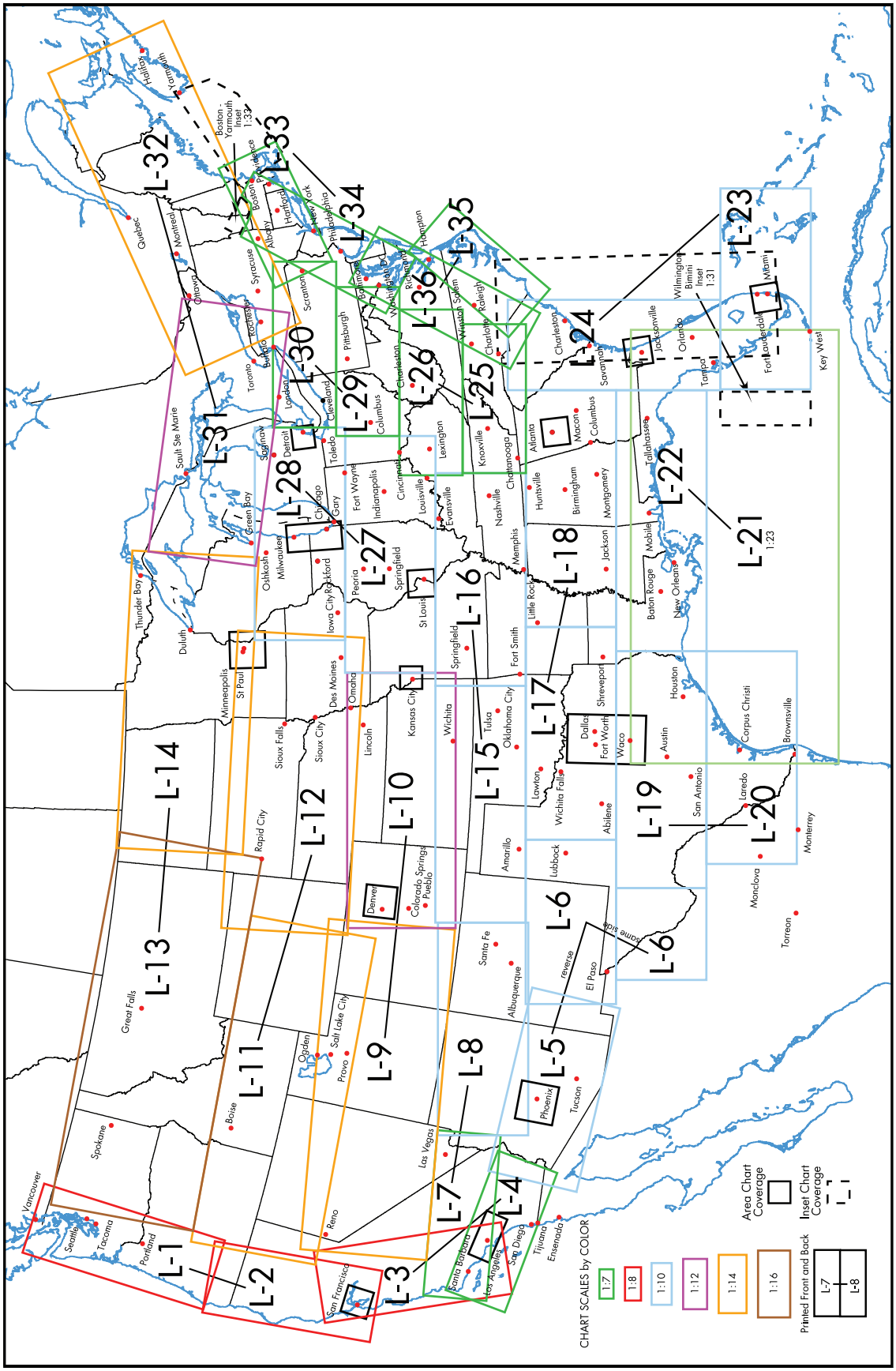
All fixes with that are compulsory reporting points which are a part of the airway/route system shall be shown and identified by name.

Fixes that are non-compulsory reporting points shall be shown only to clarify the airway/route structure or to provide a reference point where airways/routes begin or terminate at places other than NAVAIDs.

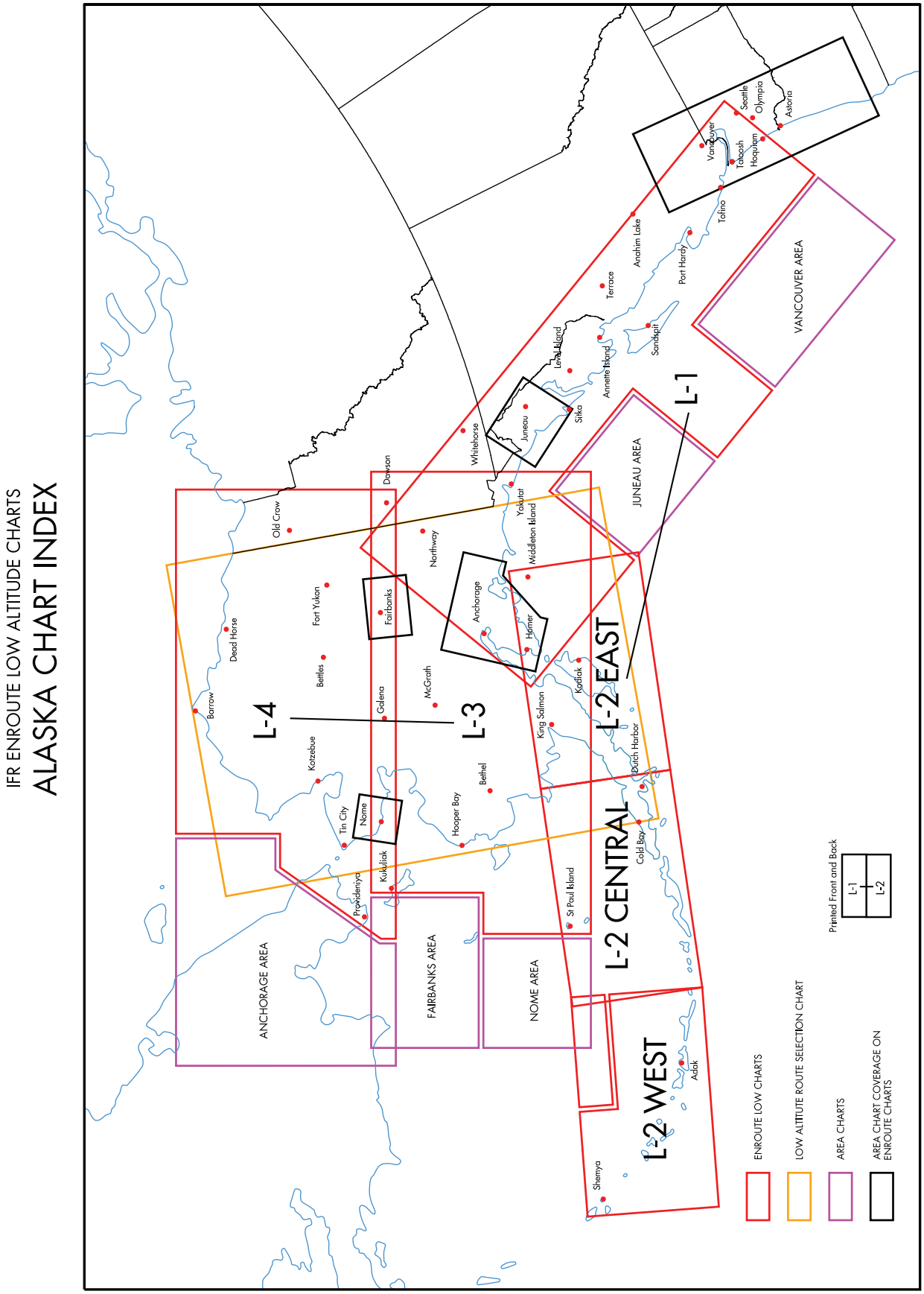
3.13.2.5 Operational and/or Information Notes

Operational and/or information notes, as may be required, shall be shown. Type size may vary depending on the importance of the note and space limitation.

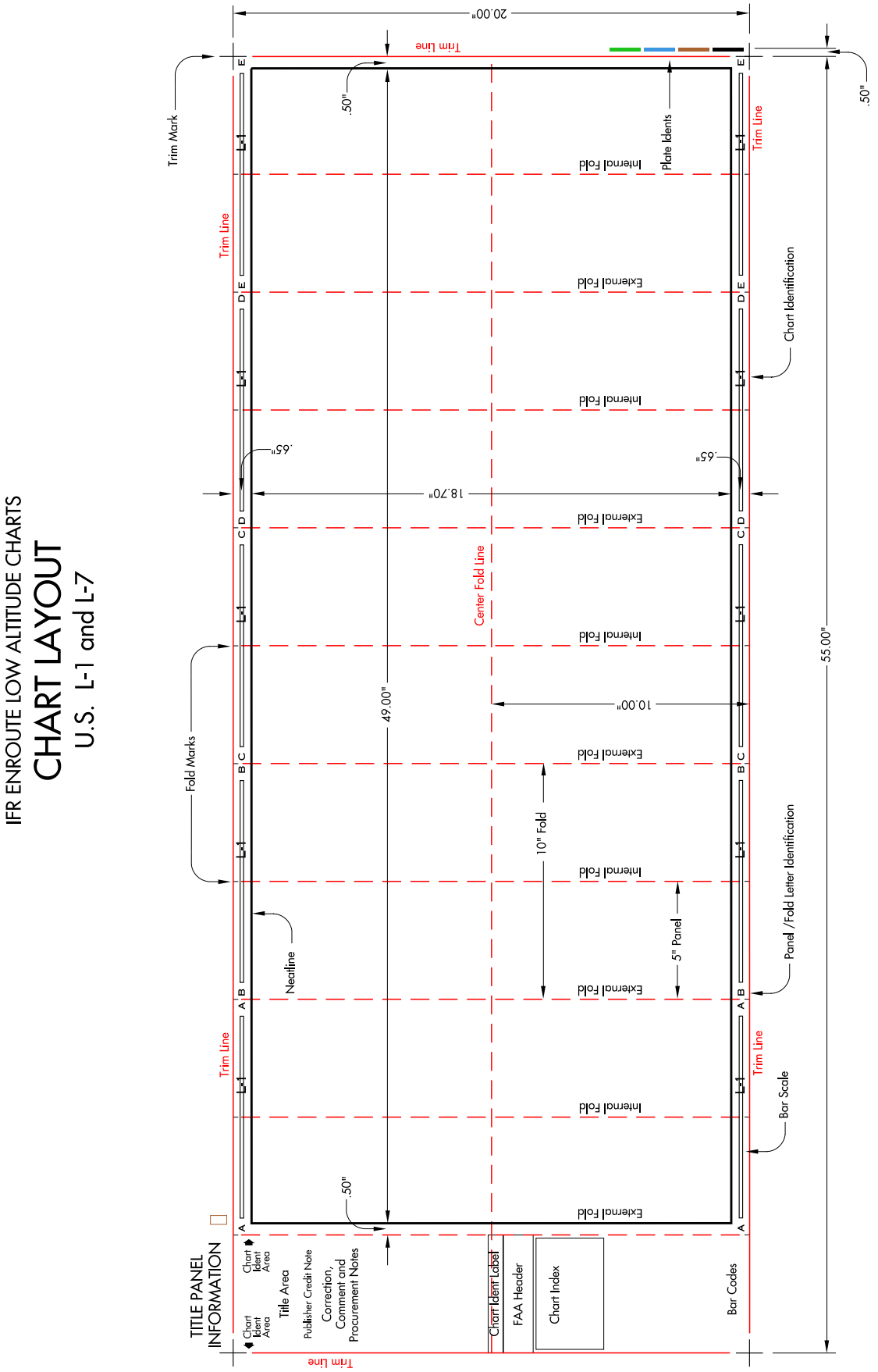
APPENDIX 1
LOW ENROUTE CHART AREA OF COVERAGE – U.S.



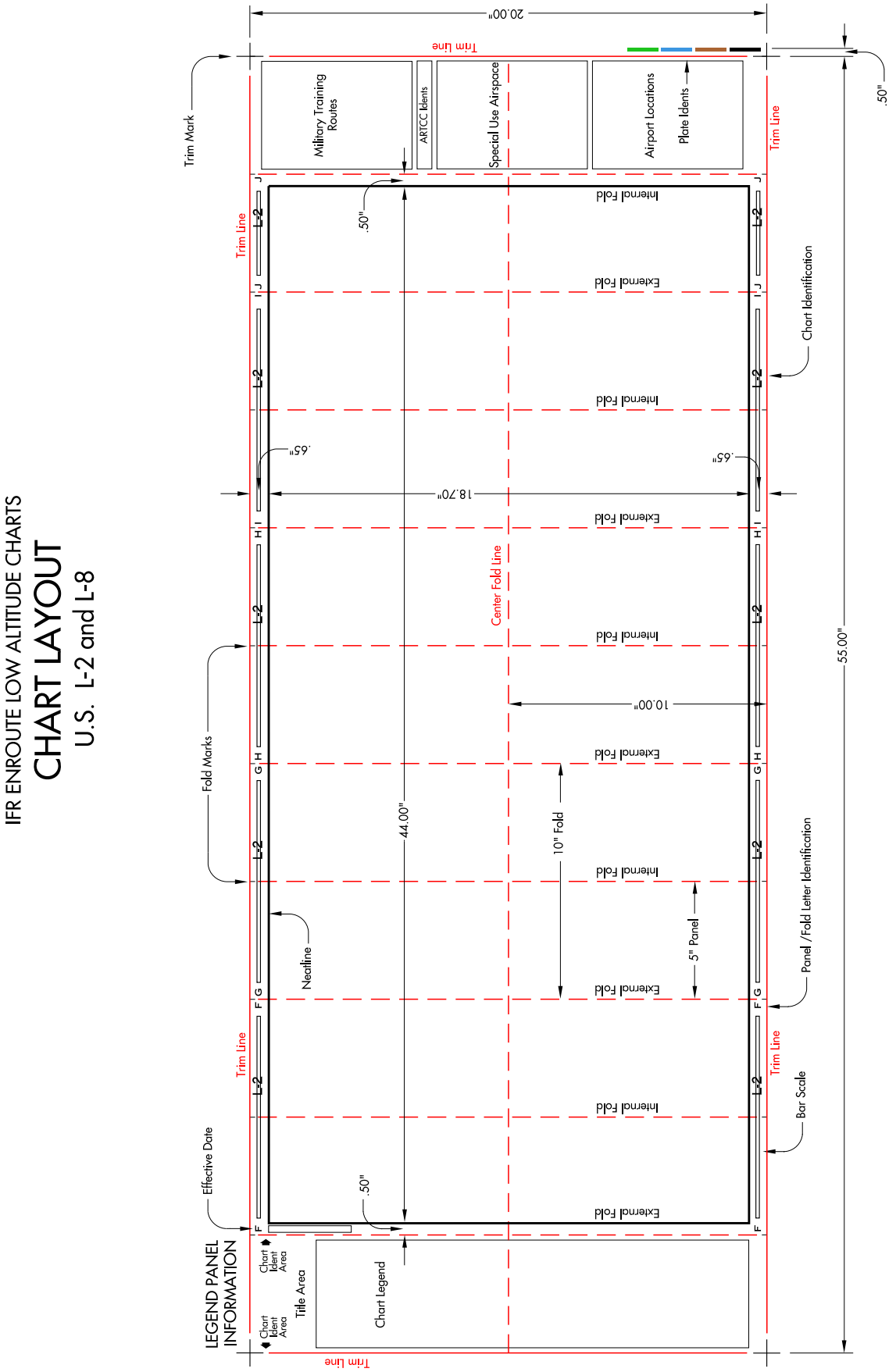
APPENDIX 2
ALASKA LOW ENROUTE CHART AREA OF COVERAGE



APPENDIX 3
CHART LAYOUT - U.S. L-1 AND L-7



APPENDIX 4
CHART LAYOUT - U.S. L-2 AND L-8

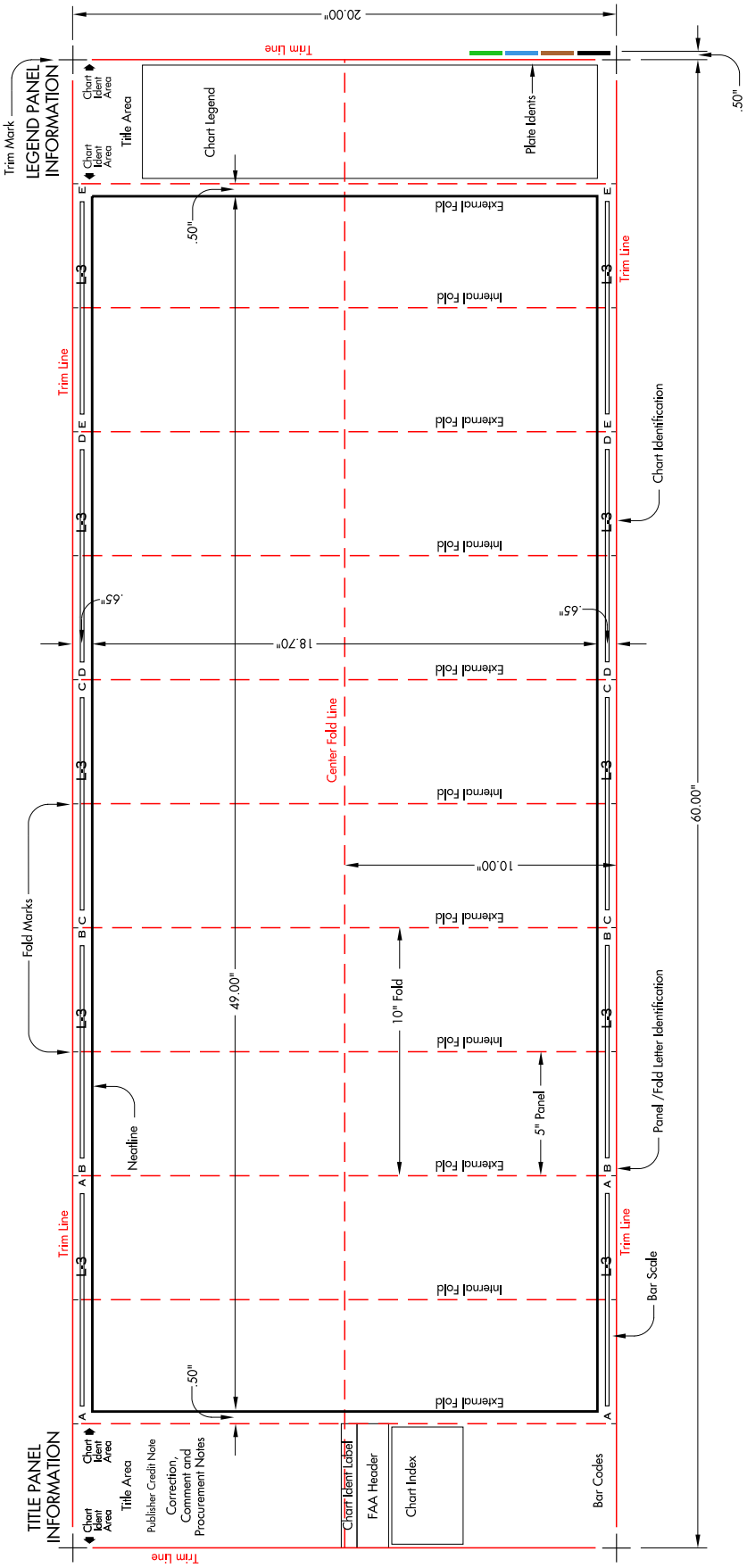


APPENDIX 5
CHART LAYOUT - U.S. L-3, L-9, L-11, L-13, L-15, L-19, L-27 AND L-29

IFR ENROUTE LOW ALTITUDE CHARTS

CHART LAYOUT

U.S. L-3, L-9, L-11, L-13, L-15, L-19, L-27 and L-29

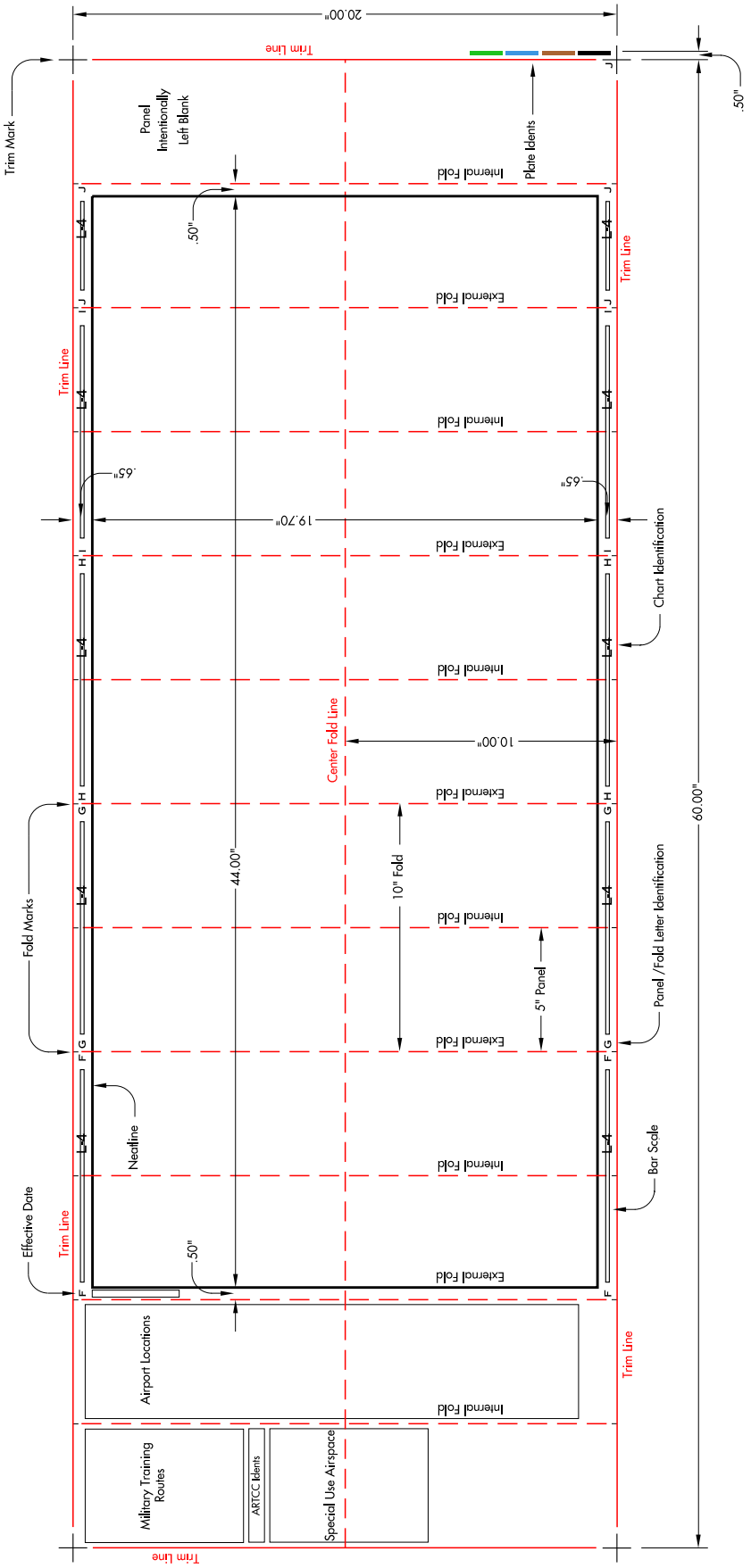


APPENDIX 6
CHART LAYOUT - U.S. L-4, L-10, L-12, L-14, L-16 AND L-24

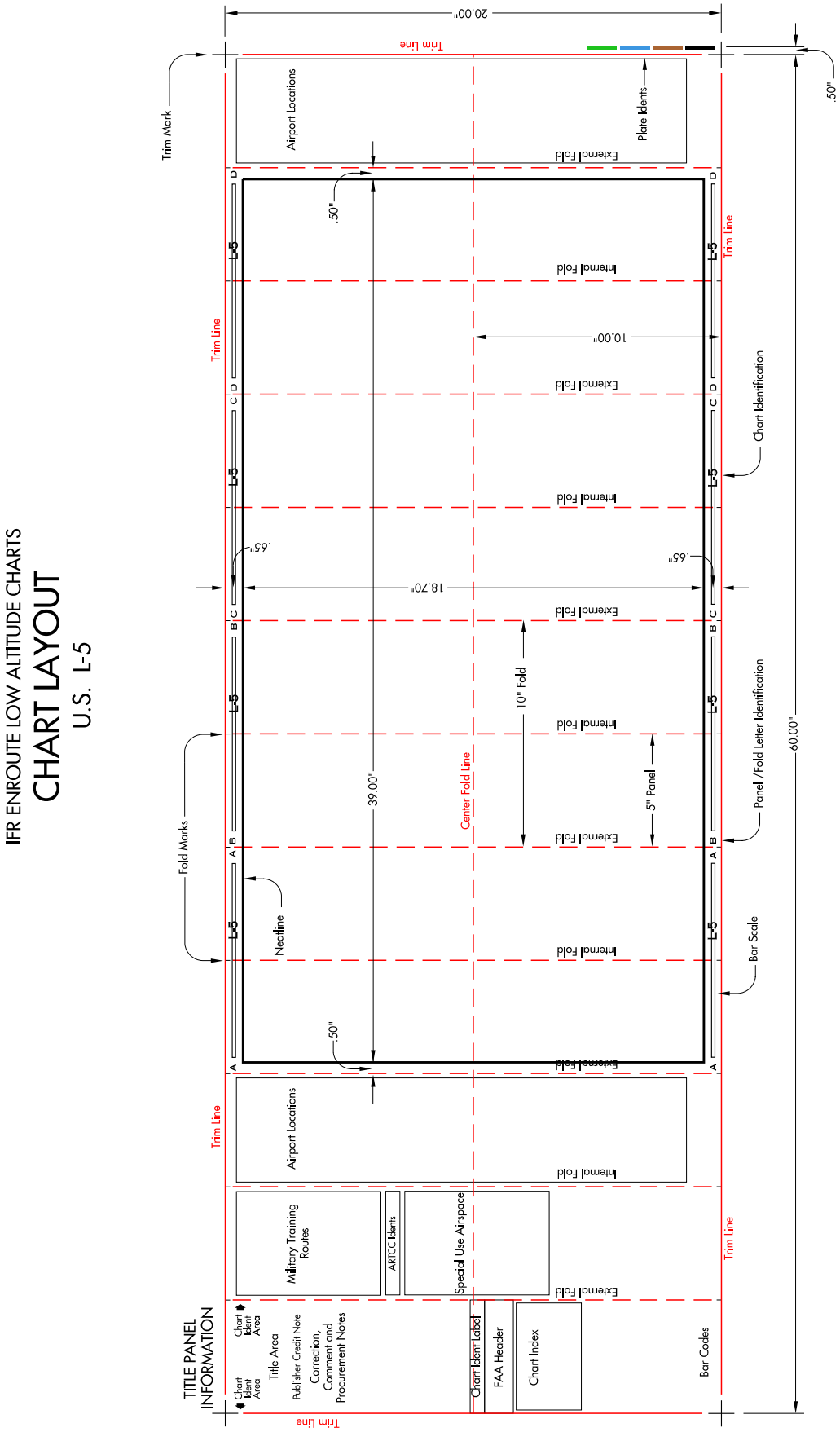
IFR ENROUTE HIGH ALTITUDE CHARTS

CHART LAYOUT

U.S. L-4, L-10, L-12, L-14, L-16 and L-24

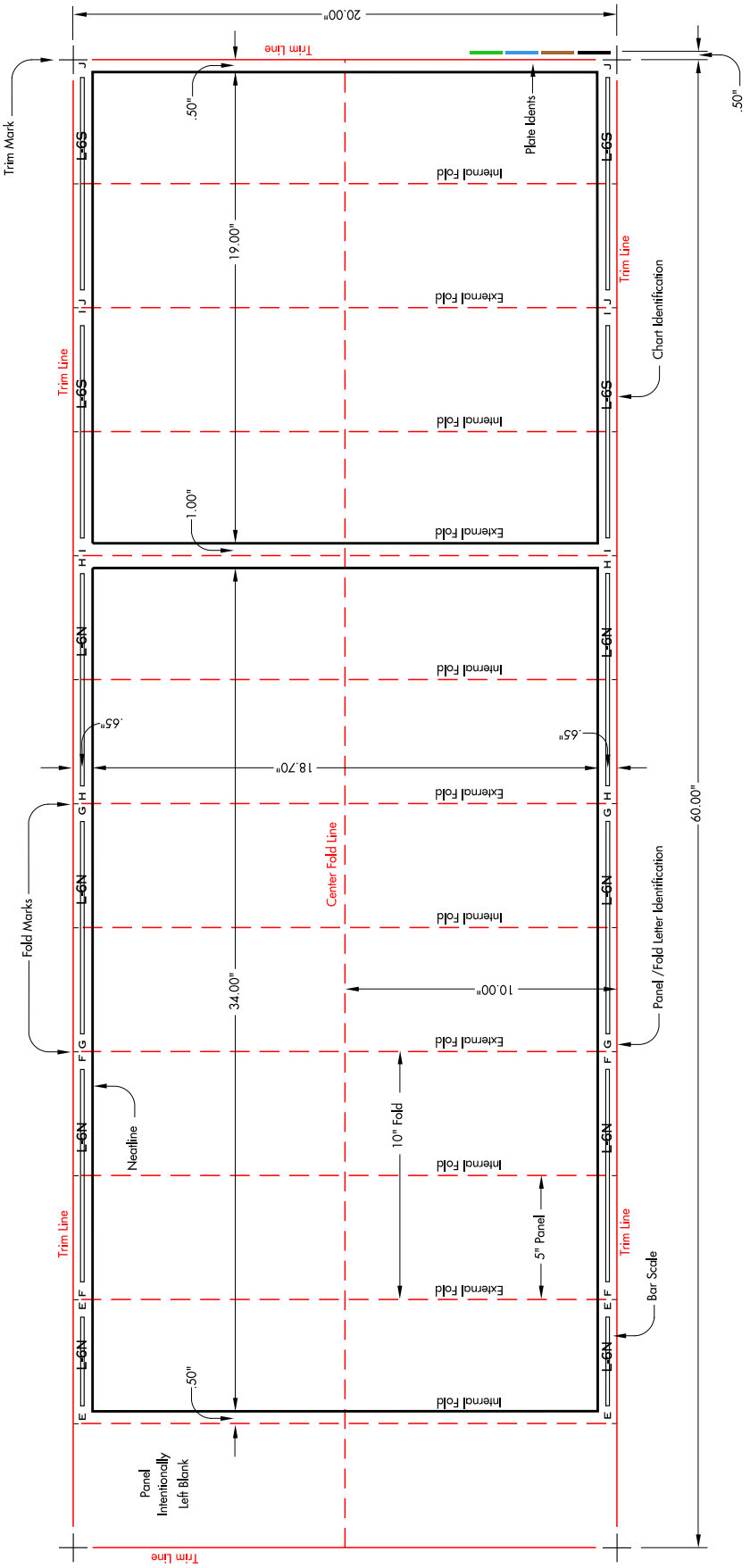


APPENDIX 7
CHART LAYOUT - U.S. L-5

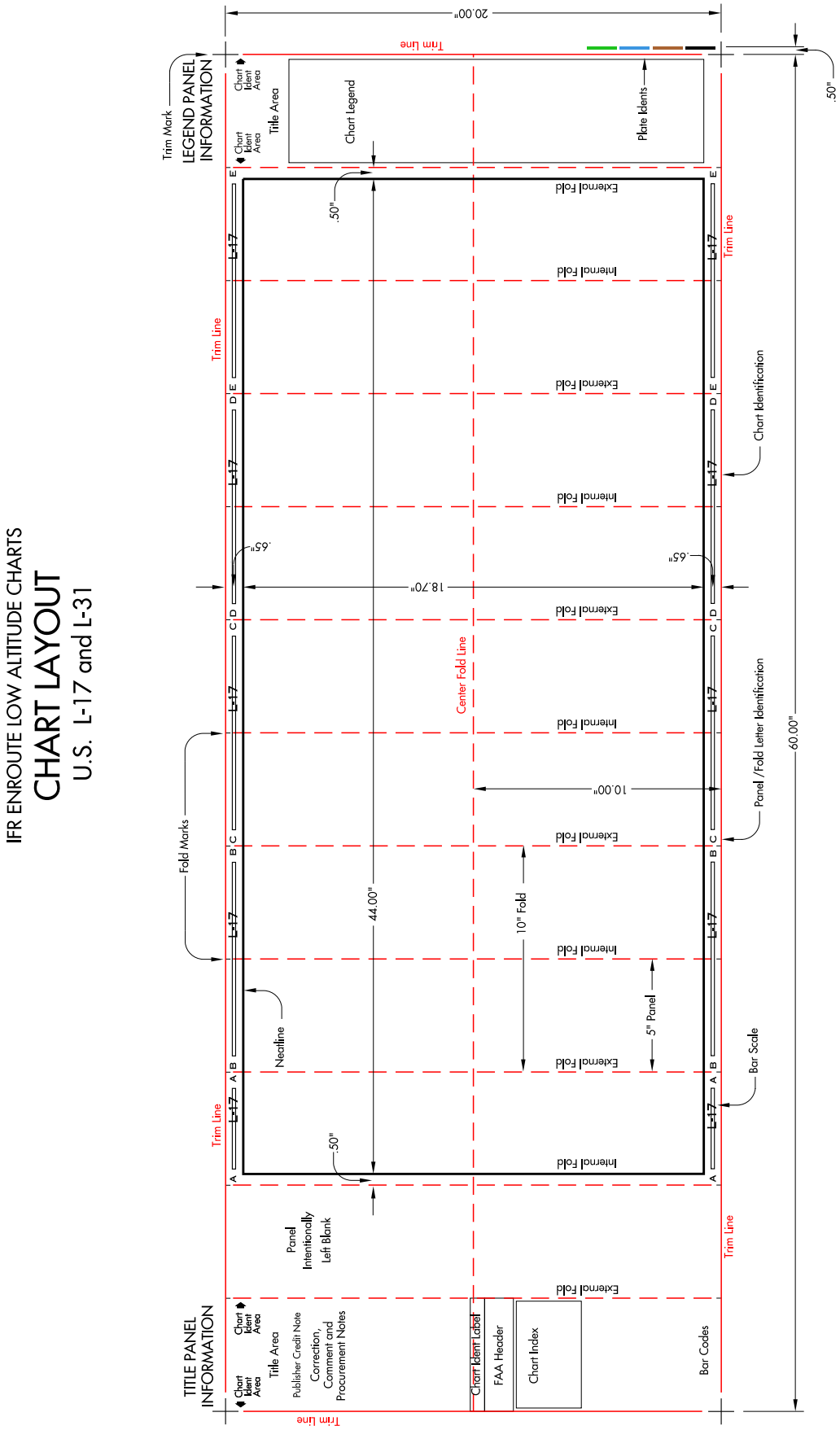


APPENDIX 8
CHART LAYOUT - U.S. L-6

IFR ENROUTE LOW ALTITUDE CHARTS
CHART LAYOUT
U.S. L-6

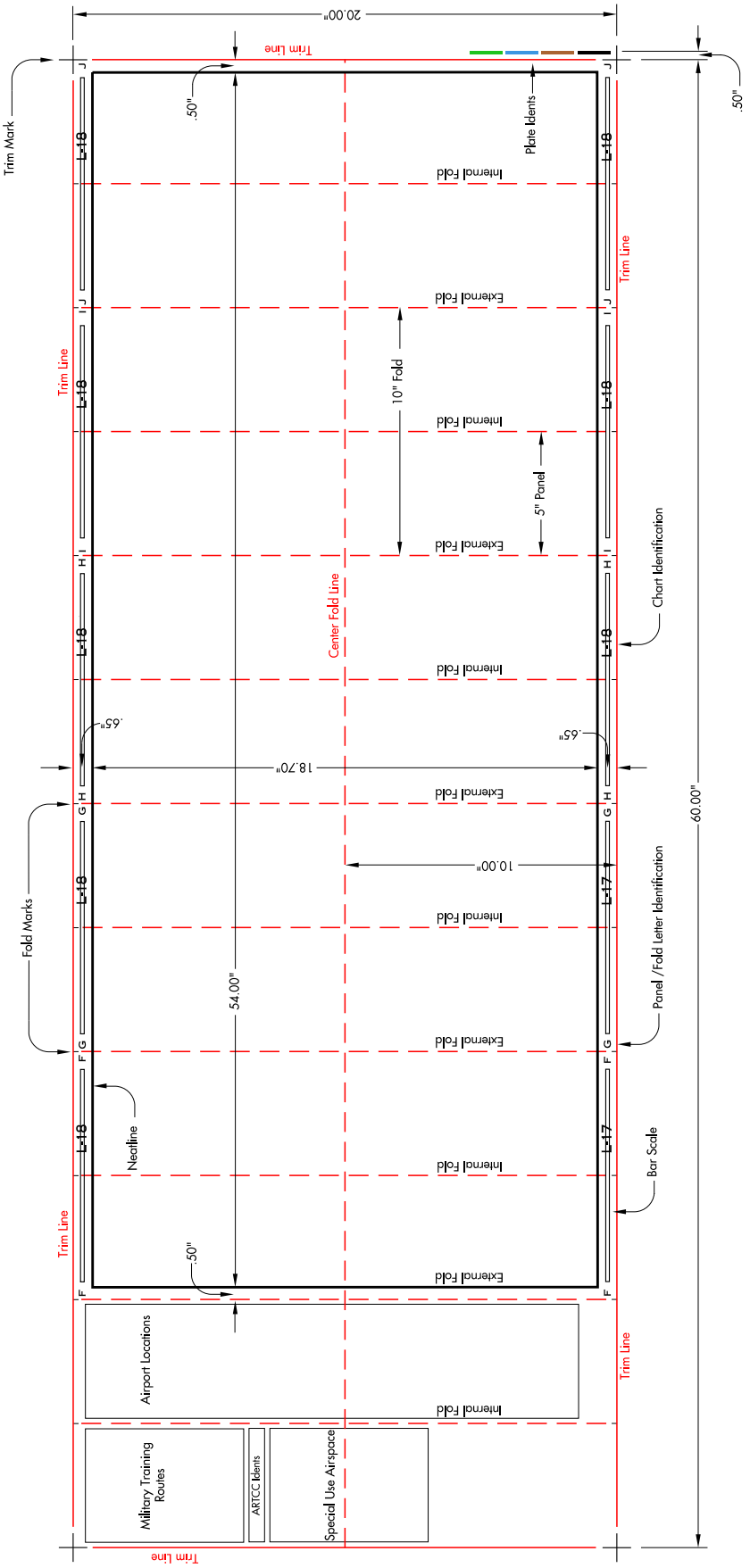


APPENDIX 9
CHART LAYOUT - U.S. L-17 AND L-31



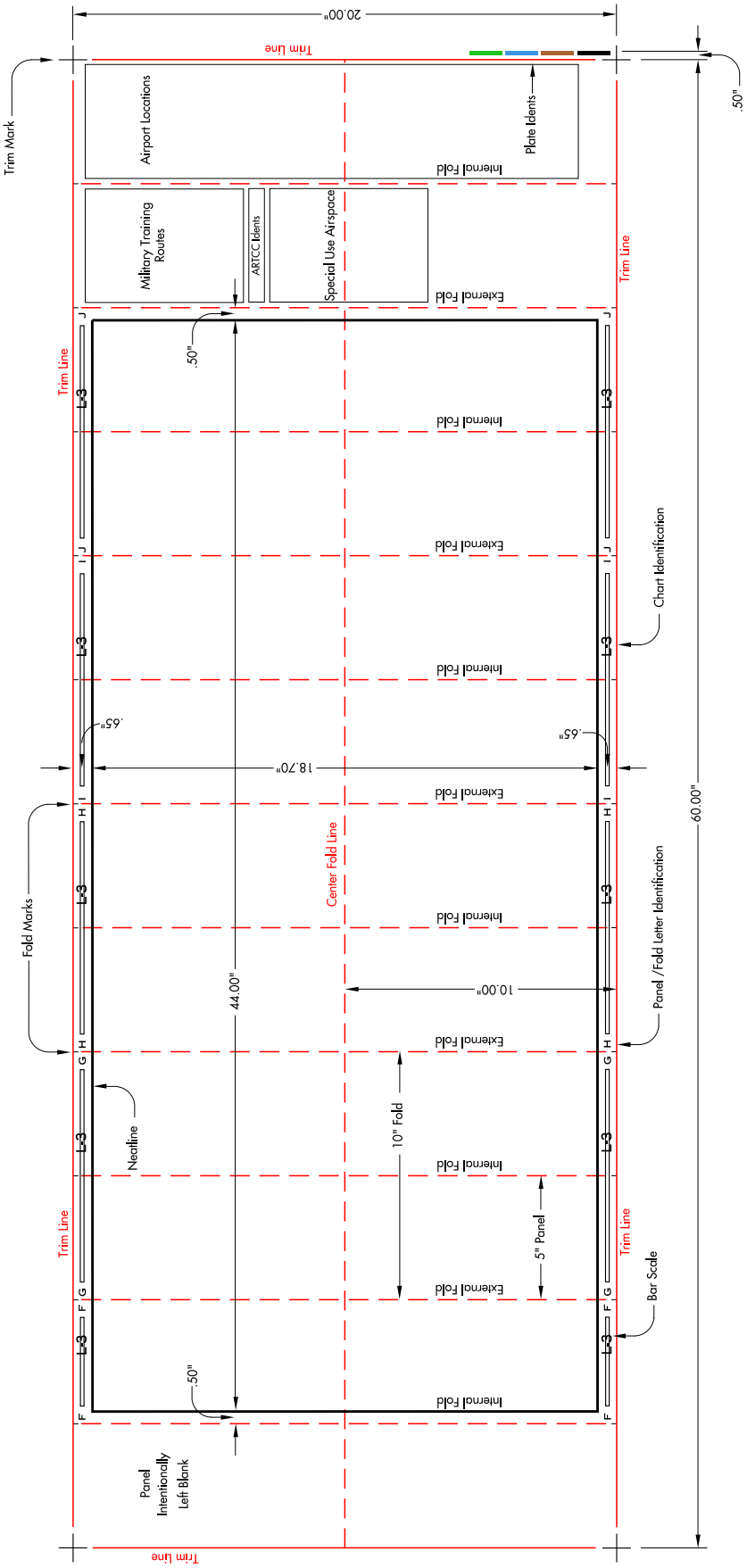
APPENDIX 10
CHART LAYOUT - U.S. L-18 AND L-32

IFR ENROUTE LOW ALTITUDE CHARTS
CHART LAYOUT
U.S. L-18 and L-32

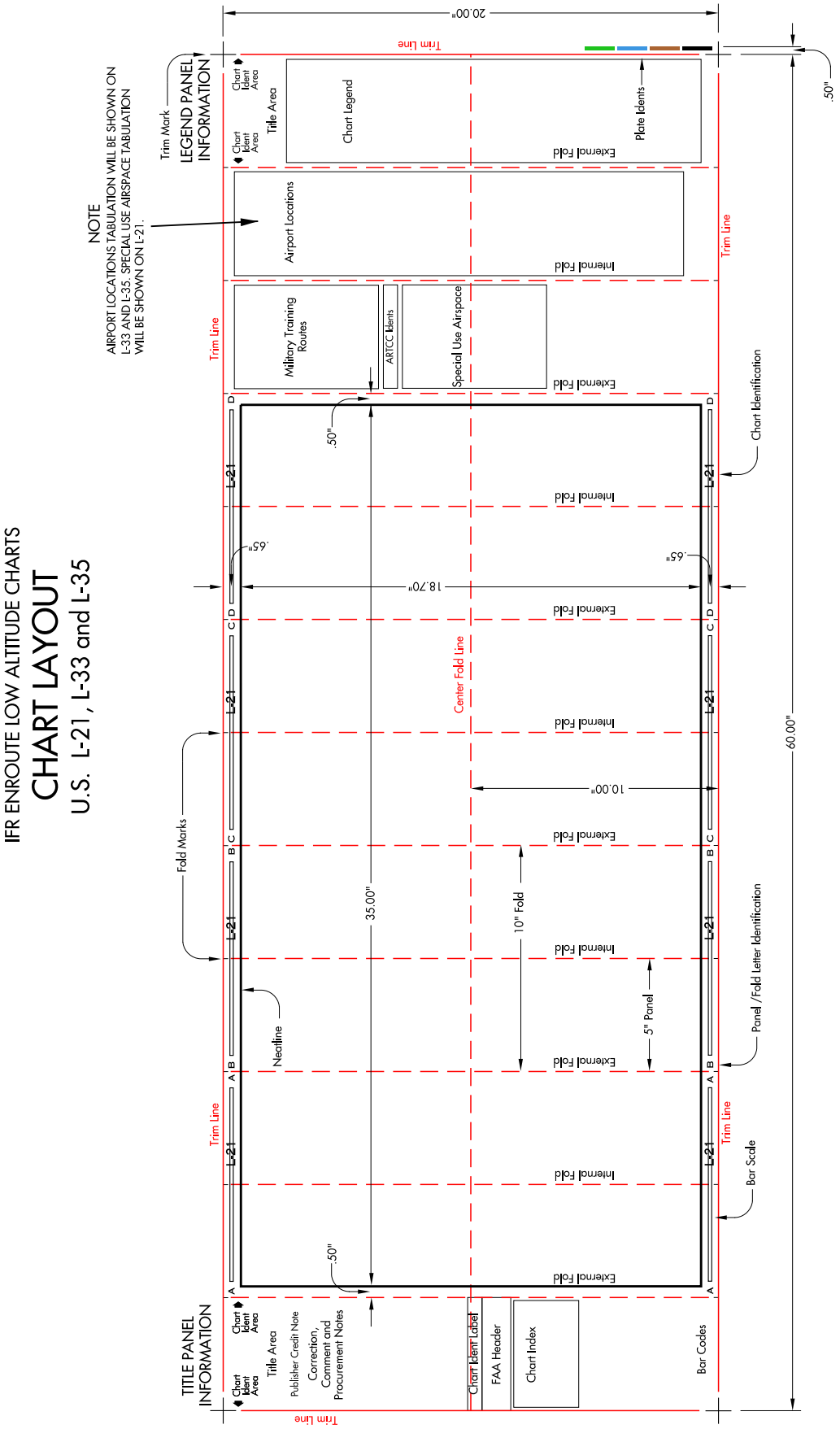


APPENDIX 11
CHART LAYOUT - U.S. L-20 AND L-28

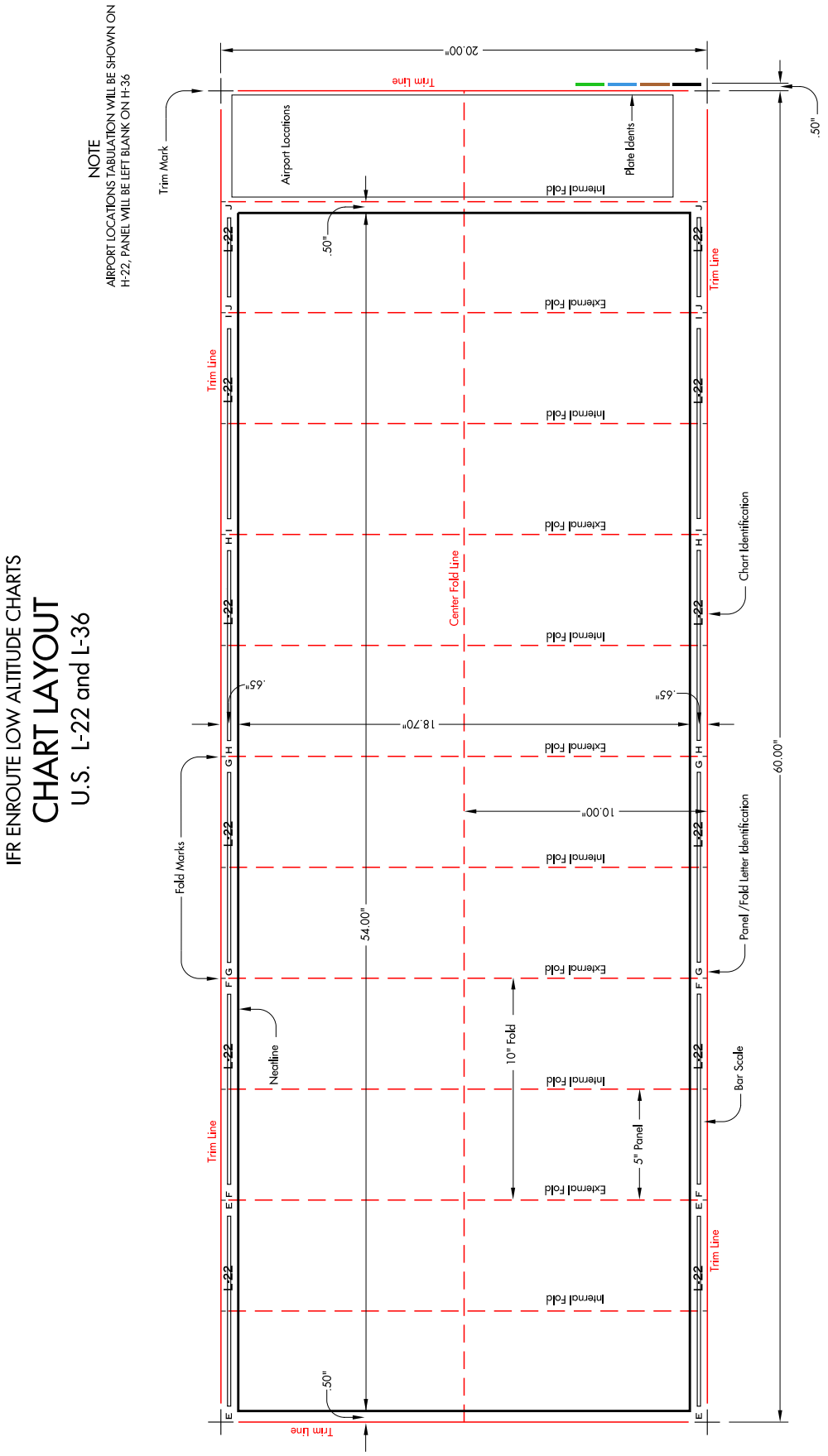
IFR ENROUTE LOW ALTITUDE CHARTS
CHART LAYOUT
U.S. L-20 and L-28



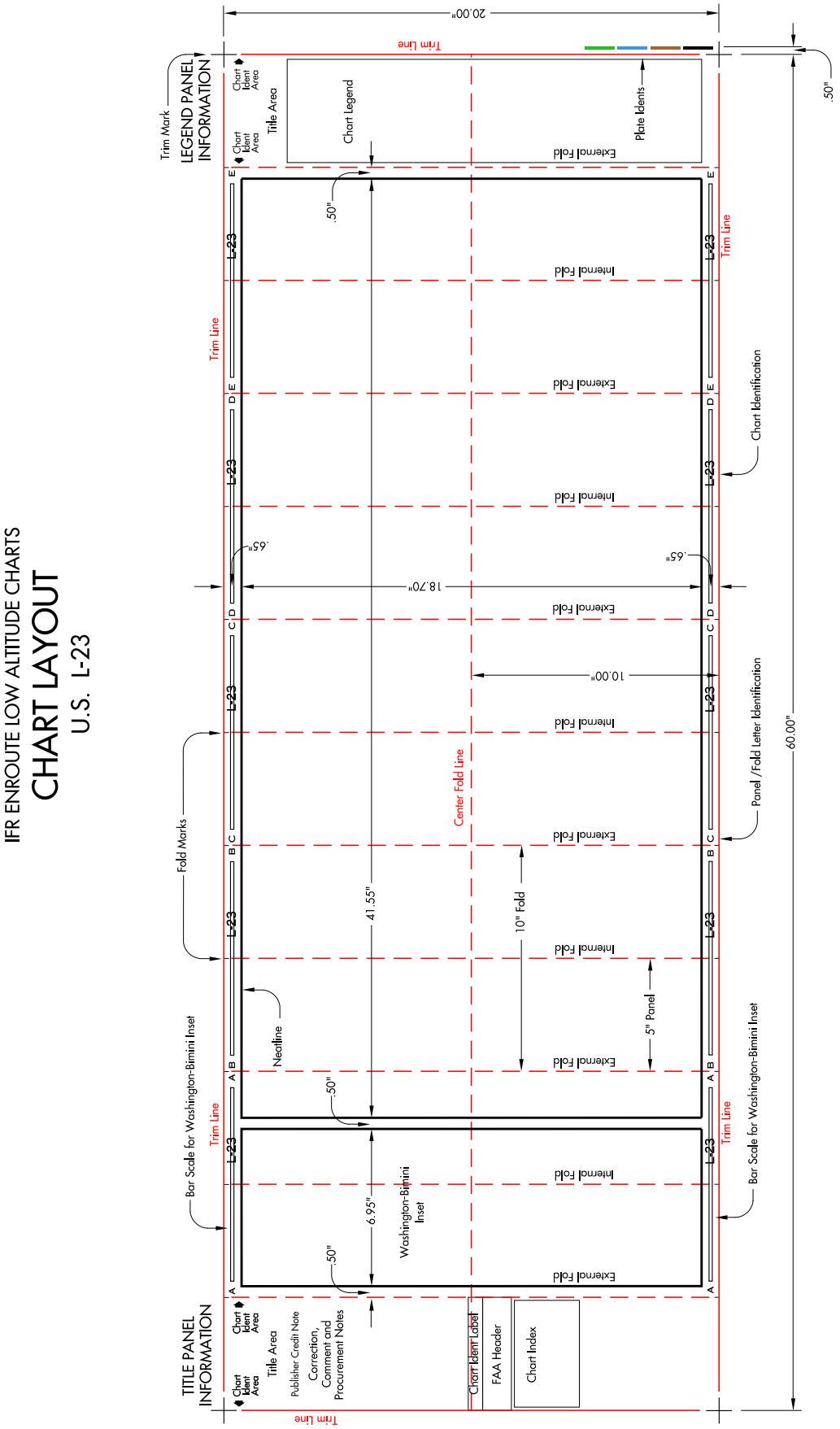
APPENDIX 12
CHART LAYOUT - U.S. L-21, L-33 AND L-35



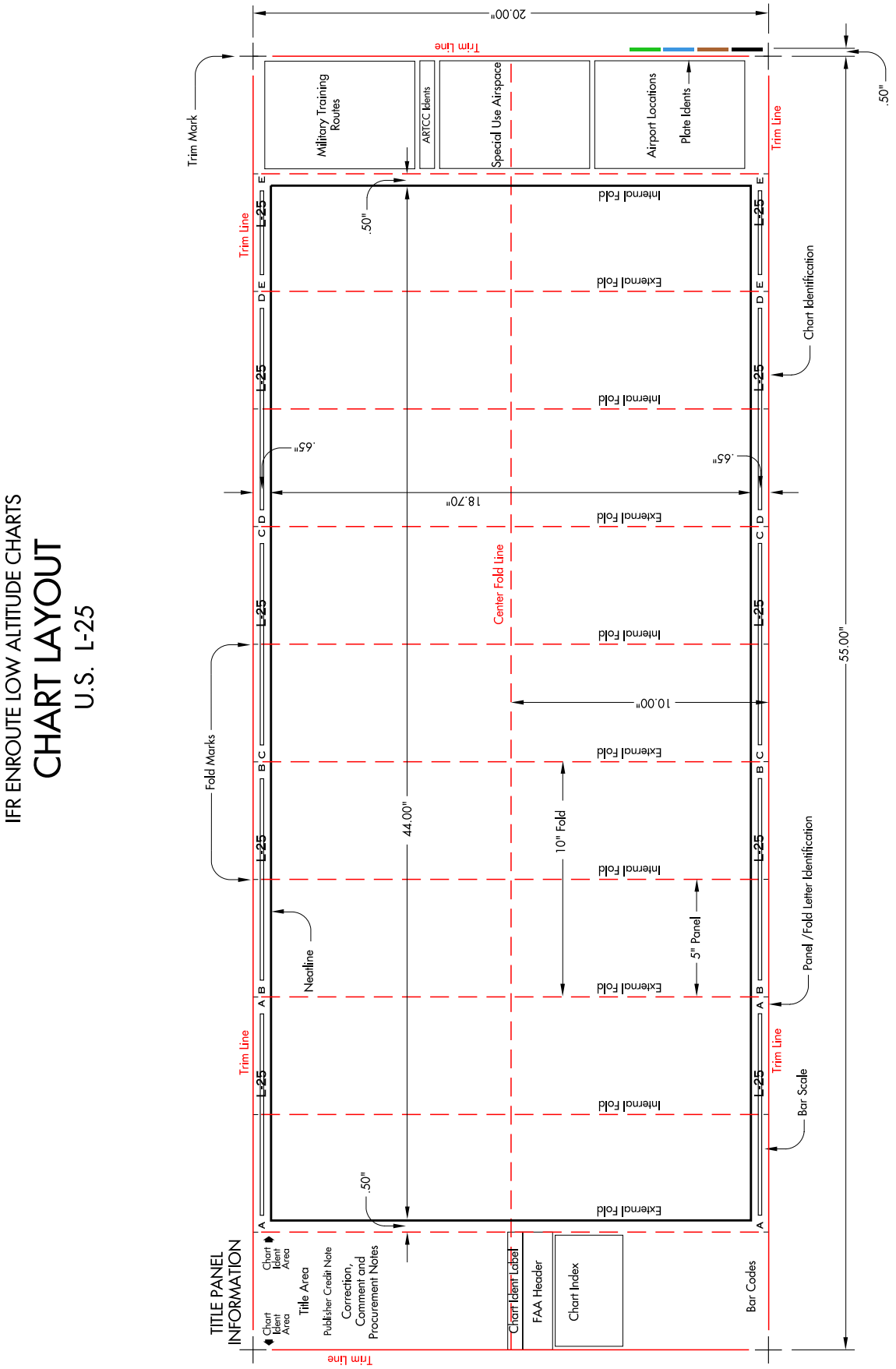
APPENDIX 13
CHART LAYOUT - U.S. L-22 AND L-36



APPENDIX 14
CHART LAYOUT - U.S. L-23

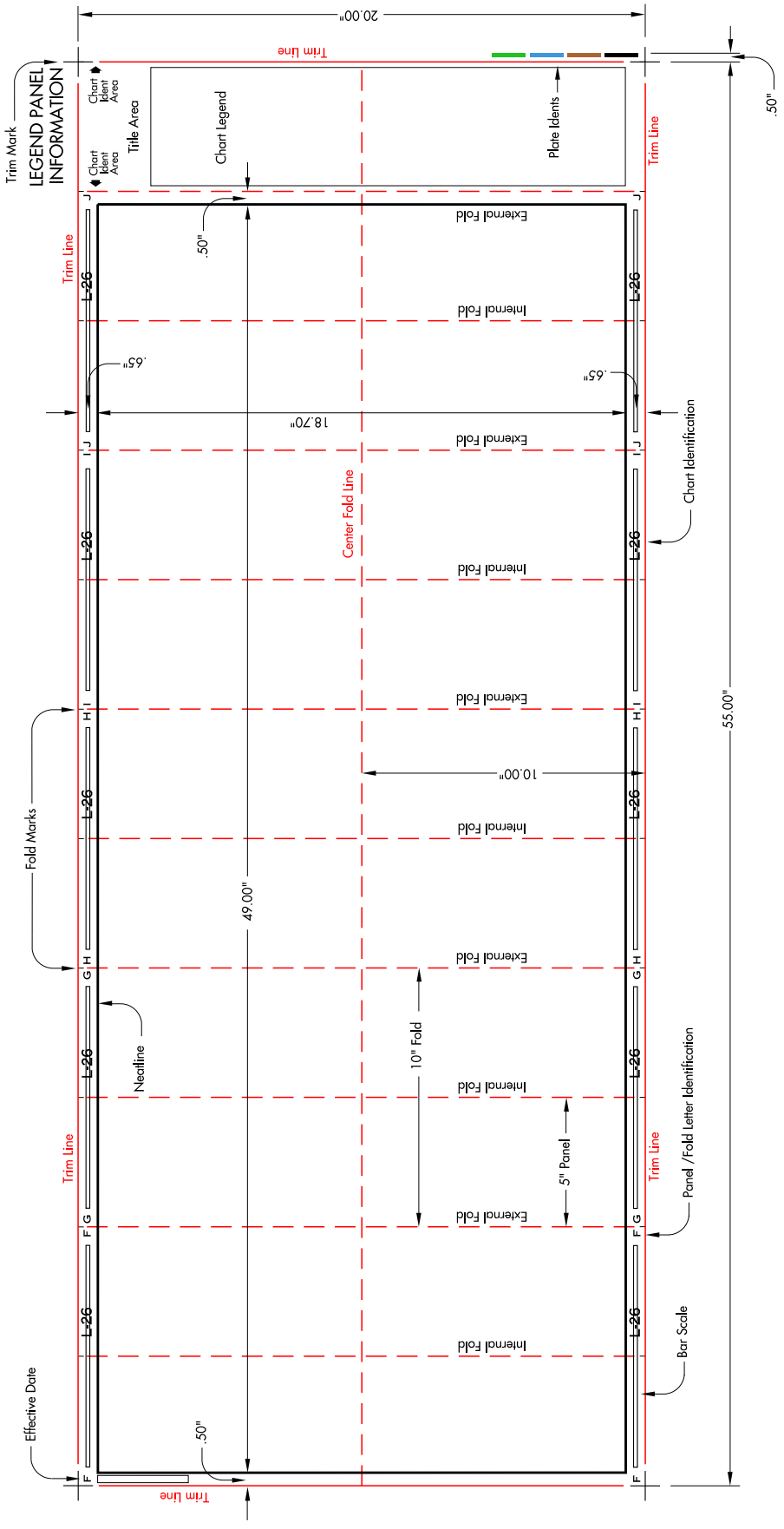


APPENDIX 15
CHART LAYOUT - U.S. L-25

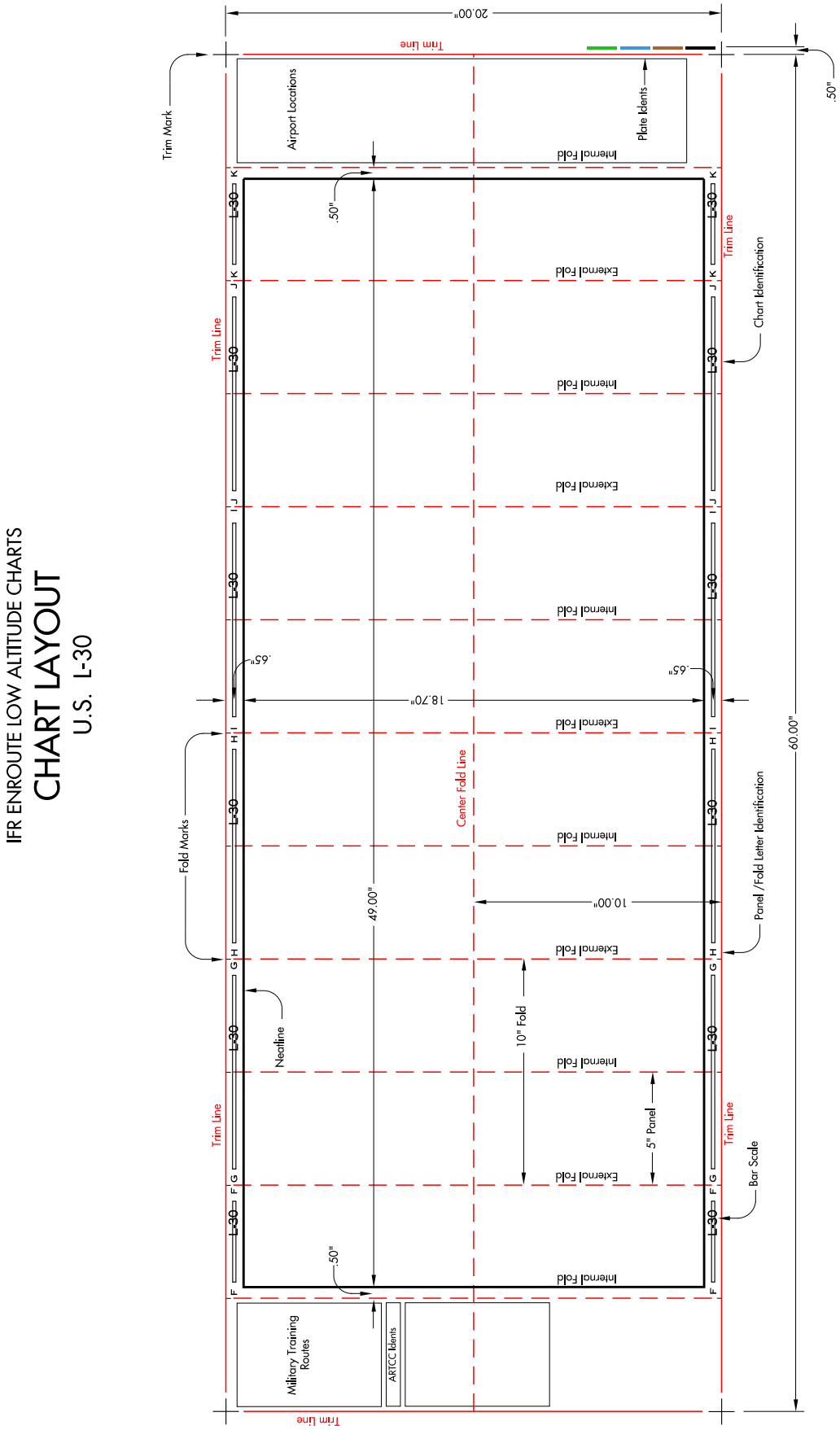


APPENDIX 16
CHART LAYOUT - U.S. L-26

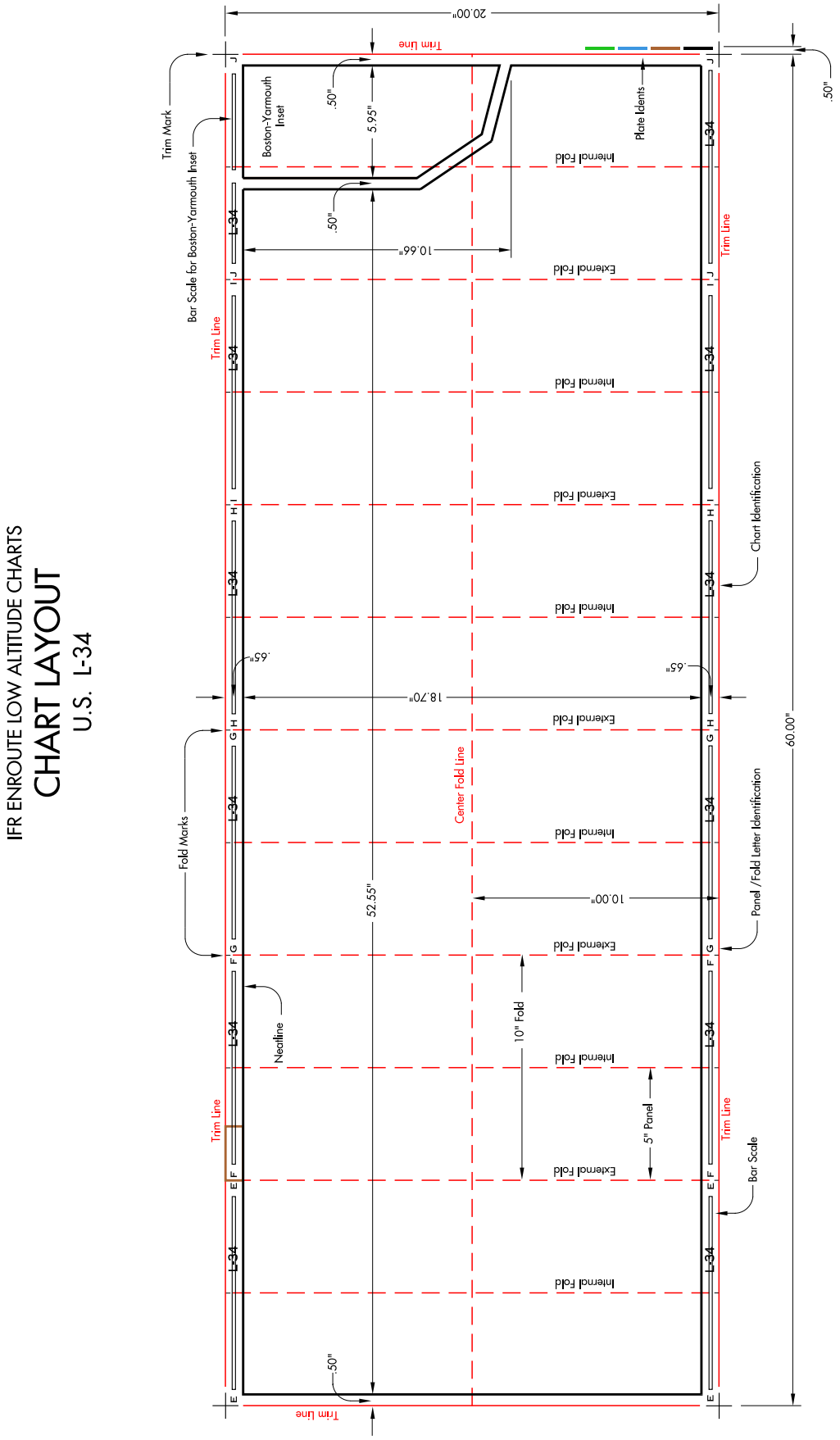
IFR ENROUTE LOW ALTITUDE CHARTS
CHART LAYOUT
U.S. L-26



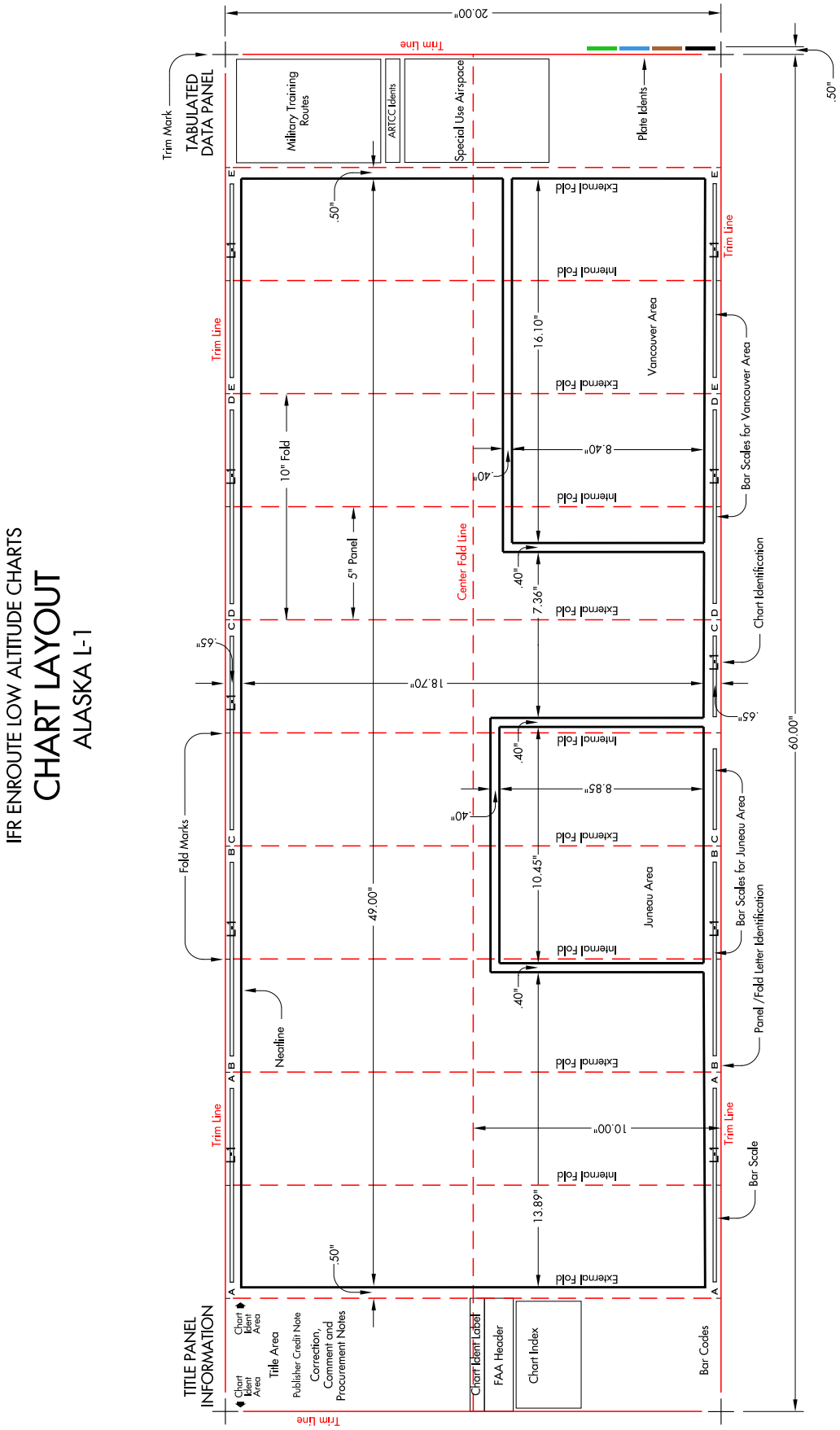
APPENDIX 17
CHART LAYOUT - U.S. L-30



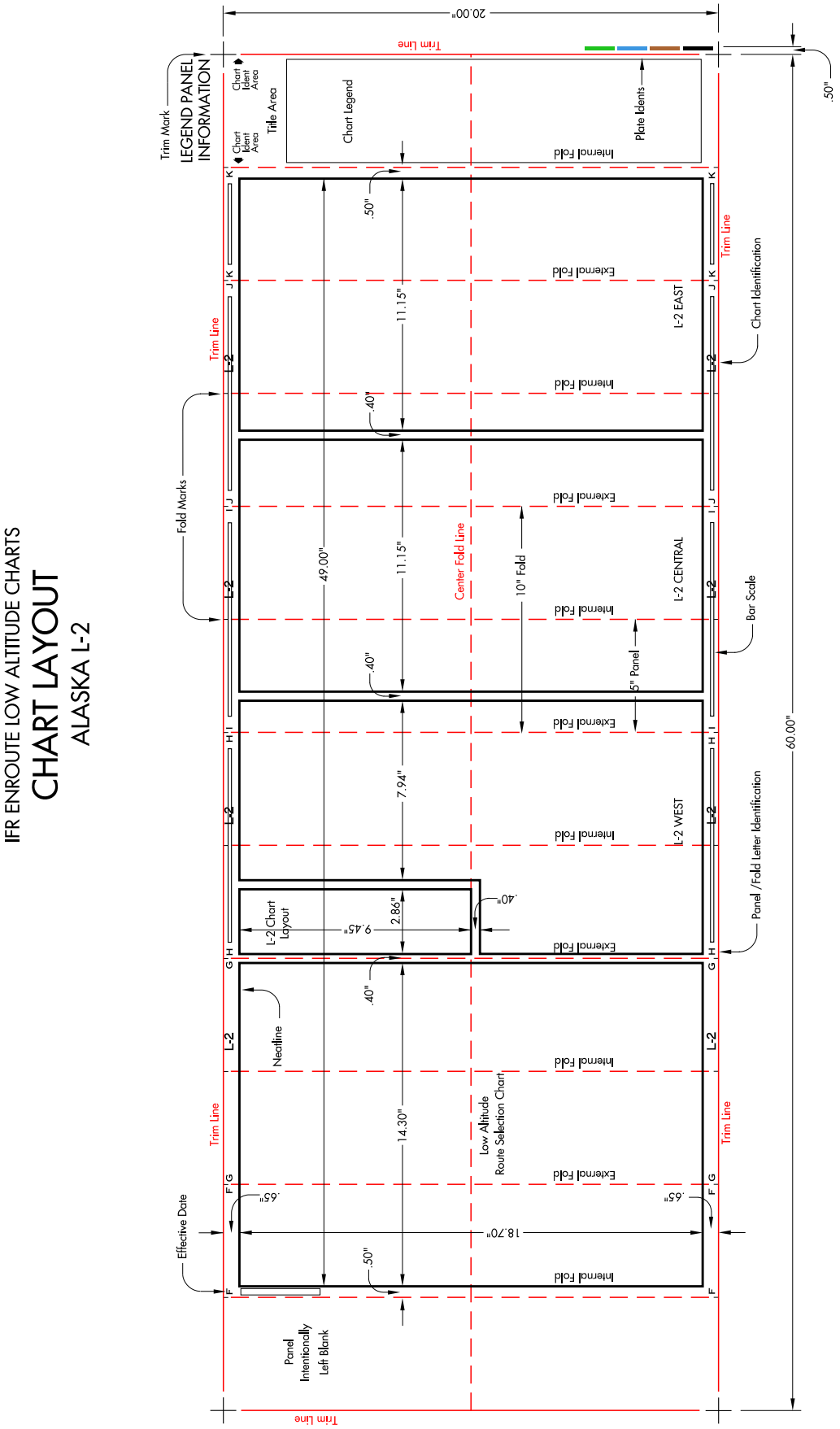
APPENDIX 18
CHART LAYOUT - U.S. L-34



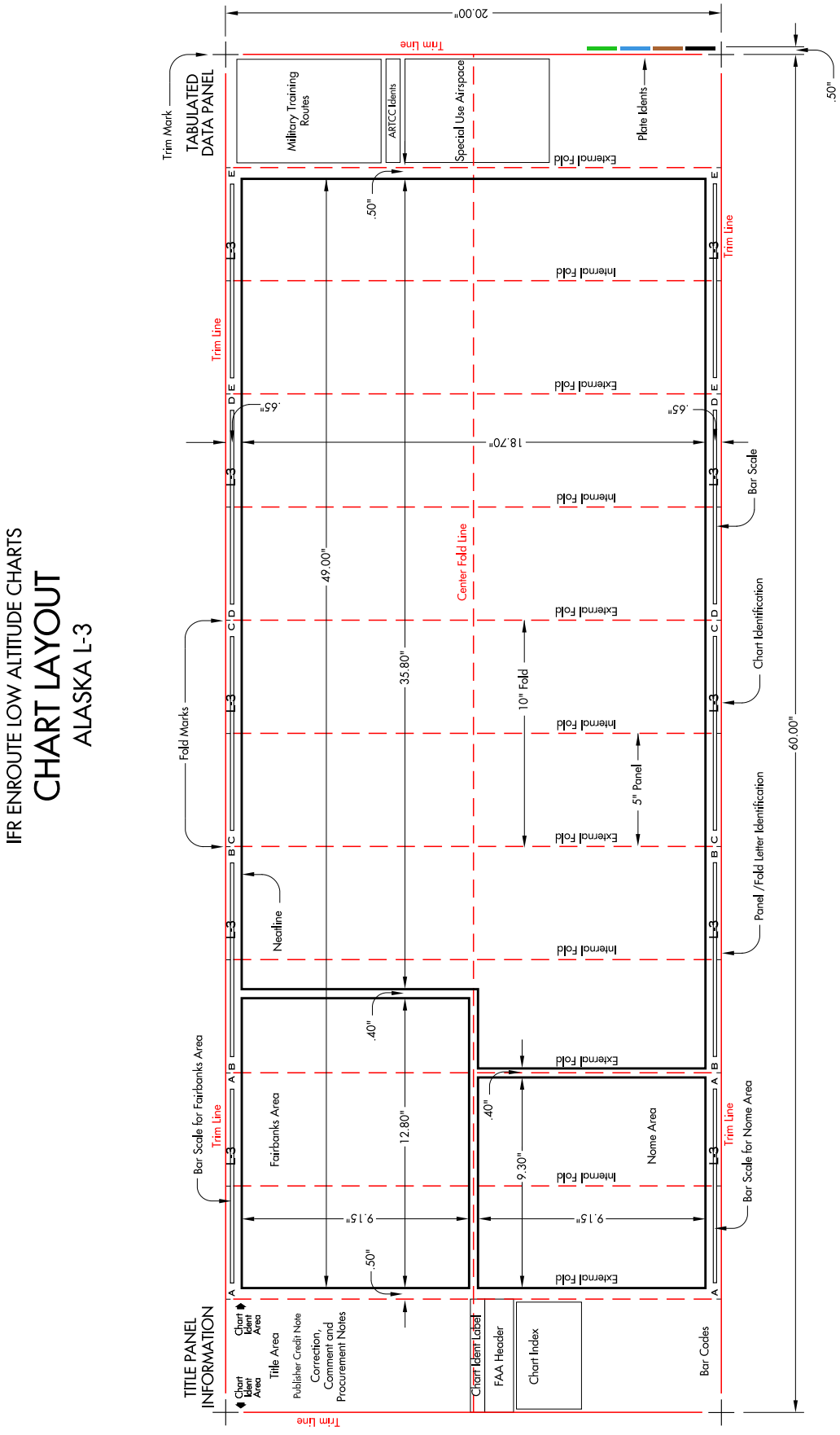
APPENDIX 19
CHART LAYOUT - ALASKA L-1



APPENDIX 20
CHART LAYOUT - ALASKA L-2

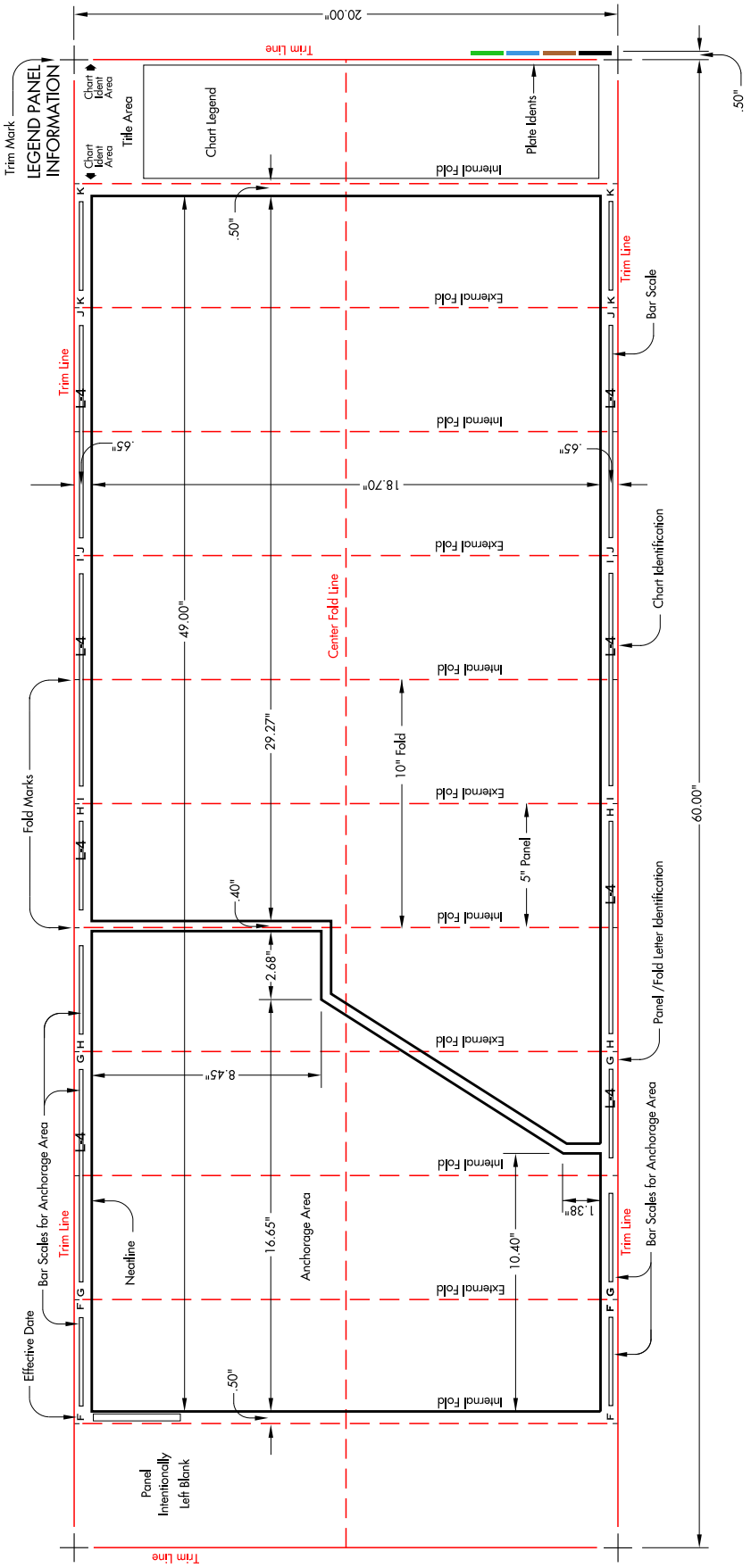


APPENDIX 21
CHART LAYOUT - ALASKA L-3



APPENDIX 22
CHART LAYOUT - ALASKA L-4

IFR ENROUTE LOW ALTITUDE CHARTS
CHART LAYOUT
ALASKA L-4



APPENDIX 23
SAMPLE TITLE PANELS - U.S. & ALASKA

TRIM LINE

L-2
PANELS
FGHIJ
1"=8 NM

L-1
PANELS
ABCDE
1"=8 NM

UNITED STATES GOVERNMENT
FLIGHT INFORMATION PUBLICATION

IFR ENROUTE LOW ALTITUDE - U.S.

For use up to but not including 18,000' MSL

EFFECTIVE 0901Z 12 AUG 2021
TO 0901Z 7 OCT 2021

Consult NOTAMs for latest Information

Consult/Subscribe to FAA Safety Alerts and Charting Notices at:
Current Safety Alert and Chart Notices URL

CORRECTIONS, COMMENTS, AND/OR PROCUREMENT

FOR CHARTING ERRORS, OR FOR CHANGES, ADDITIONS, RECOMMENDATIONS ON PROCEDURAL ASPECTS CONTACT:

Current Charting Comments
Contact Information

FOR PROCUREMENT:

For digital products, visit our website at:
Current Digital Products URL

MILITARY

For Corrections Information, See Chapter 11 of General Planning (GP). For Procurement refer to DOD Catalog of Aeronautical Charts and Flight Information Publications.

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

ATTENTION

THIS CHART CONTAINS OFF ROUTE OBSTRUCTION CLEARANCE ALTITUDES (OROCA).
The OROCA is shown in THOUSANDS and HUNDREDS of feet above mean sea level for a quadrangle bounded by ticked lines of latitude and longitude. OROCA is based on the highest known terrain feature or obstruction in each quadrangle, and provides a 1,000 foot buffer over the feature in designated non-mountainous areas (or a 2,000 foot buffer in designated mountainous areas) within the United States. These OROCA altitudes are not assessed for NAVAID signal coverage, air traffic control surveillance or communications coverage, and are published for general situational awareness, flight planning, and in-flight contingency use.

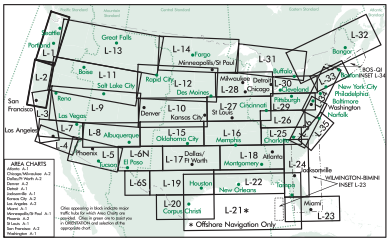
Example: 12,500 feet 12⁵

CENTER FOLD LINE

L 1

12 AUG 2021
UNITED STATES

Federal Aviation Administration



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: ELUS1
NSN 7641014109653
NGA REF NO ENRXXUSLCHT01
EFF DATE 21224

TRIM LINE

TRIM LINE

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

L-2
PANELS
FGHIJK
1"=25 NM

L-1
PANELS
ABCDE
1"=25 NM

UNITED STATES GOVERNMENT
FLIGHT INFORMATION PUBLICATION

IFR ENROUTE LOW ALTITUDE - ALASKA

For use up to but not including 18,000' MSL

EFFECTIVE 0901Z 12 AUG 2021
TO 0901Z 7 OCT 2021

Consult NOTAMs for latest Information

Consult/Subscribe to FAA Safety Alerts and Charting Notices at:
Current Safety Alert and Chart Notices URL

CORRECTIONS, COMMENTS, AND/OR PROCUREMENT

FOR CHARTING ERRORS, OR FOR CHANGES, ADDITIONS, RECOMMENDATIONS ON PROCEDURAL ASPECTS CONTACT:

Current Charting Comments
Contact Information

FOR PROCUREMENT CONTACT:

For digital products, visit our website at:
Current Digital Products URL

MILITARY

For Corrections Information, See Chapter 11 of General Planning (GP). For Procurement refer to DOD Catalog of Aeronautical Charts and Flight Information Publications.

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

CHART NOTICE

Implementation of Instrument Flight Rules (IFR) Area Navigation (RNAV) Operations Using Global Positioning System (GPS) in Alaska.

Under SFAR No. 97, operators using IFR-certified TSO C145 and TSO C146 GPS/WAAS navigation systems will be permitted to conduct operations over selected routes in AK beyond the service volume of ground-based navaids at the lowest minimum en route altitude (MEA) based only on route obstacle assessments and ATC two-way communication capability.

The MEAs for these routes will be depicted on the IFR Enroute Low Altitude-AK charts in blue type with a 'G' suffix. For instance, a GPS MEA of 2000 feet MSL will be depicted as "2000G" in blue. Standard MEAs will be depicted in black type and be 'stacked' above the GPS MEA.

See SFAR No. 97 for equipment, training and operational requirements.

ATTENTION

THIS CHART CONTAINS OFF ROUTE OBSTRUCTION CLEARANCE ALTITUDES (OROCA).
The OROCA is shown in THOUSANDS and HUNDREDS of feet above mean sea level for a quadrangle bounded by ticked lines of latitude and longitude. OROCA is based on the highest known terrain feature or obstruction in each quadrangle, and provides a 1,000 foot buffer over the feature in designated non-mountainous areas (or a 2,000 foot buffer in designated mountainous areas) within the United States. These OROCA altitudes are not assessed for NAVAID signal coverage, air traffic control surveillance or communications coverage, and are published for general situational awareness, flight planning, and in-flight contingency use.

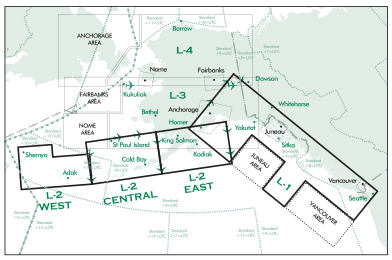
Example: 12,500 feet 12⁵

CENTER FOLD LINE

L-1 / L-2

12 AUG 2021
ALASKA

Federal Aviation Administration



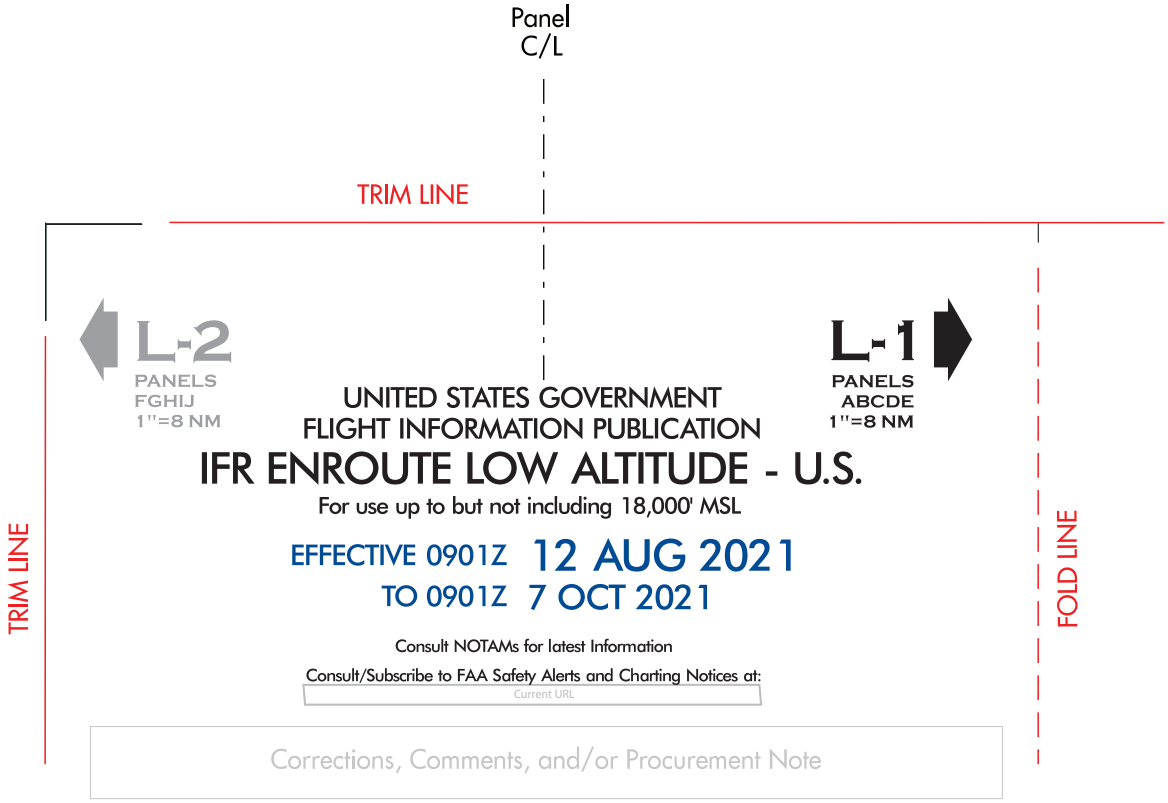
INSTRUCTIONS FOR ASSEMBLY OF WALL PLANNING CHART
Obtain two copies of each chart
Assemble charts by matching airplane silhouettes printed on each chart

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: ELAK1
NSN 7641014970163
NGA REF NO ENRXXAKLCHT01
EFF DATE 21224

TRIM LINE

APPENDIX 24
CHART IDENTIFICATION & TITLE PANEL AREA LAYOUT - U.S. & ALASKA



APPENDIX 24
CHART IDENTIFICATION & TITLE PANEL AREA LAYOUT - U.S. & ALASKA (CONTINUED)

TITLE PANEL - LOW ENROUTE CHARTS					
Foreign Airspace Warning Text Box Lineweight & Color	C/L	.07" Futura Medium/Black .008"/Black		Warning: Refer to current foreign...	
Chart Identification Area		Even Numbers	Odd Numbers	Even Numbers	Odd Numbers
Chart Idents Text Color	CAPS	.23" Copperplate Gothic 31 45% Black	Black	L-2	L-1
Arrowheads		45% Black	Black		
Panel Identifications Text Color	CAPS	.07" Copperplate Gothic 31 45% Black	Black	PANELS FGHIJ	PANELS ABCDE
Chart Scales Text Color	CAPS	.07" Copperplate Gothic 31 45% Black	Black	1"=8 NM	1"=8 NM
Chart Title First and Second Lines Third Line Altitude Note	 CAPS CAPS 	 .11" Futura Medium/Black .17" Futura Medium/Black .09" Futura Medium/Black		 UNITED STATES... IFR ENROUTE... For use up to but not...	
Effective Date & Times Note Effective Time Effective Date Expiration Time Expiration Date	 CAPS CAPS CAPS CAPS	 .11" Helvetica 65 Medium/Solid Blue .17" Helvetica 65 Medium/Solid Blue .11" Helvetica 65 Medium/Solid Blue .13" Helvetica 65 Medium/Solid Blue		 EFFECTIVE 0901Z 18 NOV 2010 TO 0901Z 13 JAN 2011	
NOTAM Note		.07" Futura Medium/Black		Consult NOTAMs for latest Information	

APPENDIX 25
CORRECTIONS, COMMENTS AND/OR PROCUREMENT AREA LAYOUT - U.S. & ALASKA



CORRECTIONS, COMMENTS AND/OR PROCUREMENT NOTES			
Main Heading	CAPS	.08" Futura Medium/Black	CORRECTIONS, COMMENTS, AND...
Secondary Headings	CAPS	.07" Futura Medium/Black	FOR CHARTING ERRORS, OR...
Other Text	C/L	.07" Futura Medium/Black	FAA, Aeronautical Information Services For Corrections Information...
Frequently Asked Questions	Lowercase	.07" Futura Medium/Black	Frequently asked questions (FAQ)...

APPENDIX 26
OROCA NOTICE

ATTENTION

THIS CHART CONTAINS OFF ROUTE OBSTRUCTION CLEARANCE ALTITUDES (OROCA).
The OROCA is shown in THOUSANDS and HUNDREDS of feet above mean sea level for a quadrangle bounded by ticked lines of latitude and longitude. OROCA is based on the highest known terrain feature or obstruction in each quadrangle, and provides a 1,000 foot buffer over the feature in designated non-mountainous areas (or a 2,000 foot buffer in designated mountainous areas) within the United States. These OROCA altitudes are not assessed for NAVAID signal coverage, air traffic control surveillance, or communications coverage, and are published for general situational awareness, flight planning, and in-flight contingency use.

Example: 12,500 feet 12 5

OROCA NOTICE			
Main Heading	CAPS	.09" Futura Medium/Black	ATTENTION
First Line	CAPS	.07" Futura Medium/Black	THIS CHART CONTAINS OFF ROUTE...
Remaining Text	Lowercase	.07" Futura Medium/Black	The OROCA is shown in THOUSANDS...
Example			
Text	Lowercase	.07" Futura Medium/Black	Example: 12,500 feet ...
OROCA			
Thousands of feet		.36" Futura Medium/25% Brown	12
Hundreds of feet		.16" Futura Medium/25% Brown	5
Box Lineweight		.007"/Black	

APPENDIX 27
SFAR NO. 97 CHART NOTICE - ALASKA

CHART NOTICE

Implementation of Instrument Flight Rules (IFR)
Area Navigation (RNAV) Operations Using
Global Positioning System (GPS) in Alaska

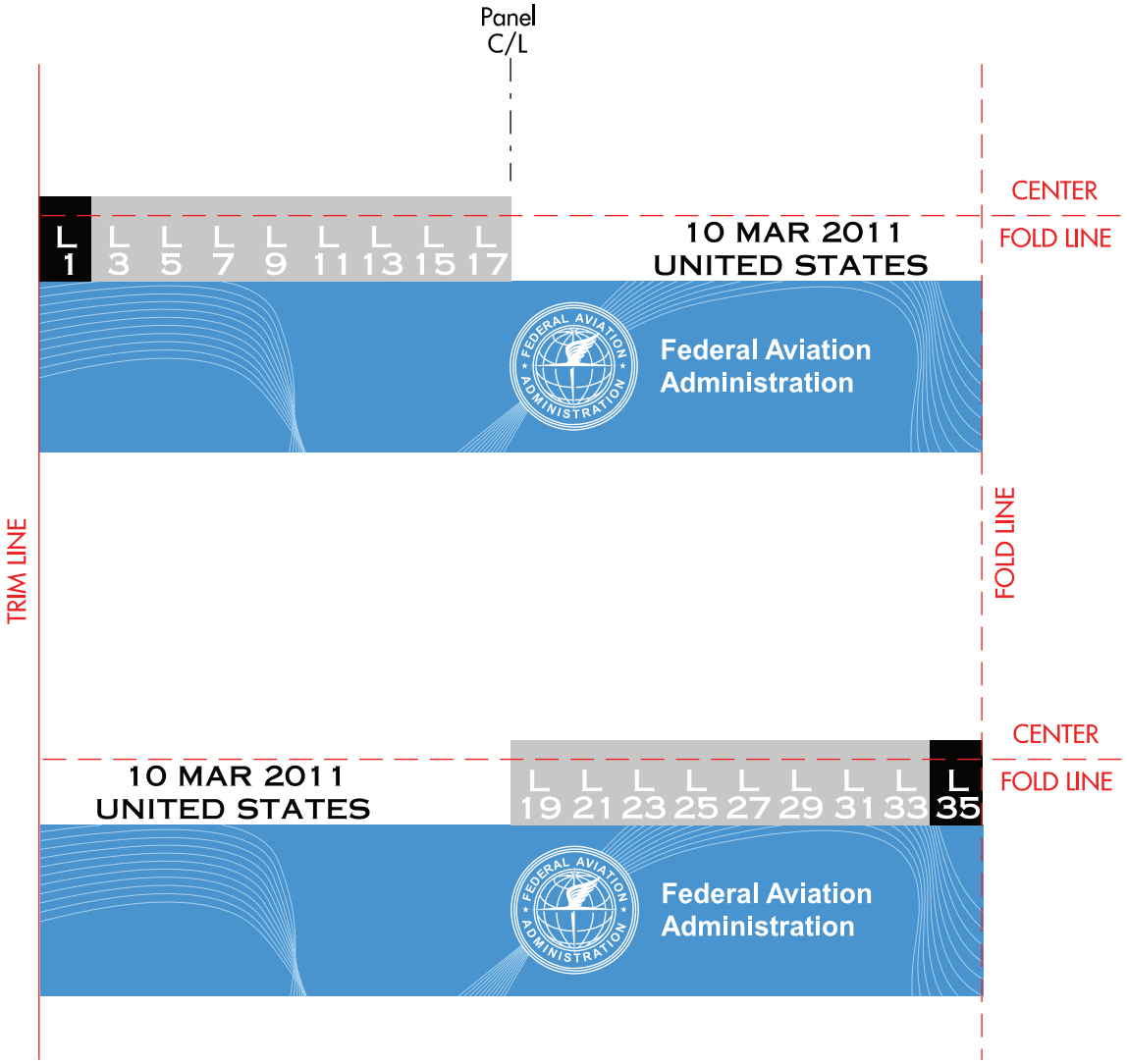
Under SFAR No. 97, operators using IFR-certified TSO C145a and TSO C146a GPS/WAAS navigation systems will be permitted to conduct operations over selected routes in AK beyond the service volume of ground-based navaids at the lowest minimum en route altitude (MEA) based only on route obstacle assessments and ATC two-way voice communication capability.

The MEAs for these routes will be depicted on the IFR Enroute Low Altitude-AK charts in blue type with a 'G' suffix. For instance, a GPS MEA of 2000 feet MSL will be depicted as "2000G" in blue. Standard MEAs will be depicted in black type and be 'stacked' above the GPS MEA.

See SFAR No. 97 for equipment, training and operational requirements.

SFAR NO. 97 - CHART NOTICE			
Title	CAPS	.09" Futura Medium/Black	CHART NOTICE
Content			
First Paragraph	C/L	.08" Futura Medium/Black	Implementation of Instrument...
Remaining Paragraphs		.07" Futura Medium/Black	Under SFAR No. 97, operators...
Box Lineweight		.007"/Black	

APPENDIX 28
CHART IDENTIFICATION LABELS - U.S., ALASKA & AREA CHARTS



APPENDIX 28
CHART IDENTIFICATION LABELS - U.S., ALASKA & AREA CHARTS (CONTINUED)

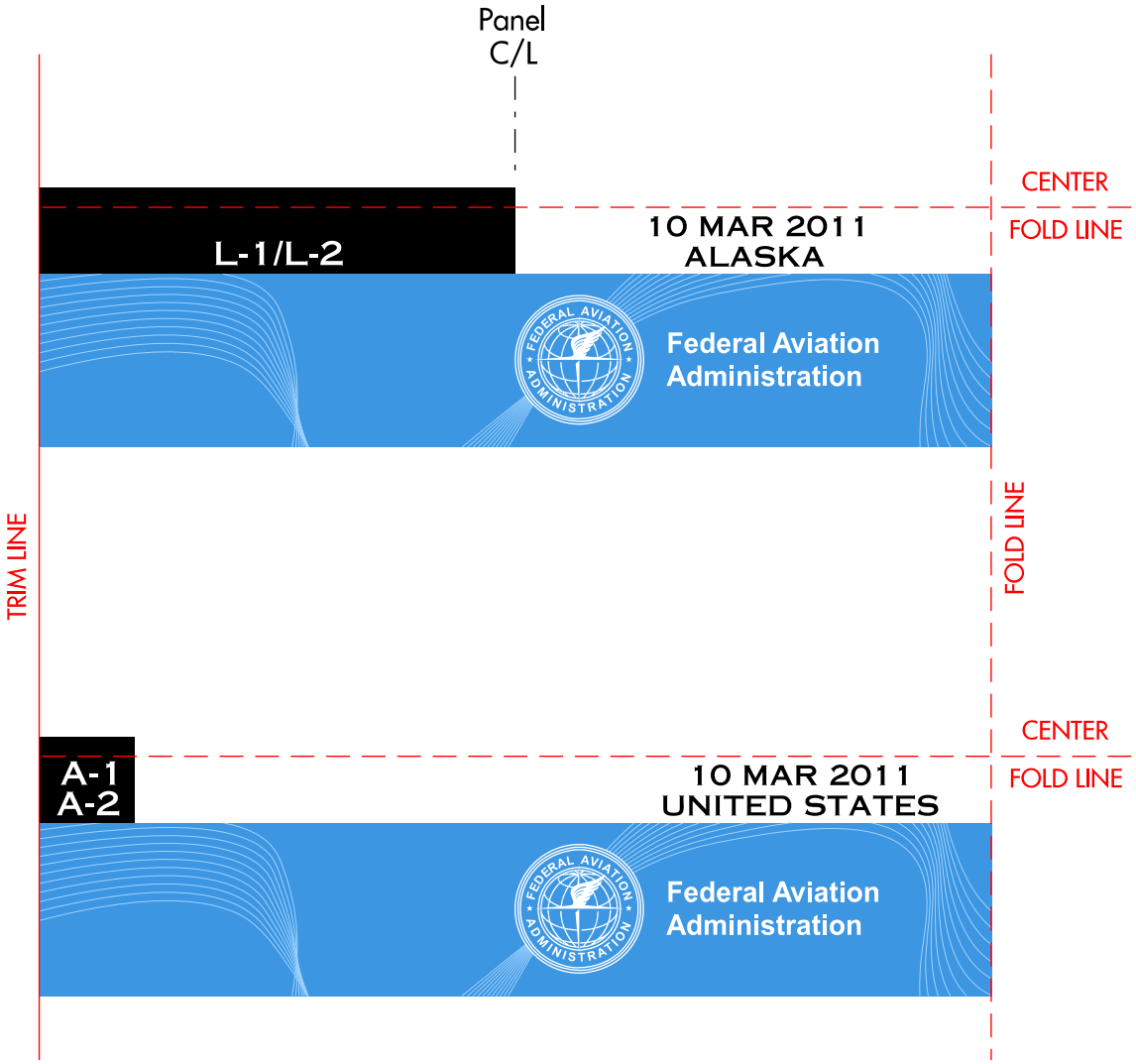


CHART IDENTIFICATION LABELS			
Chart Numbers Area & U.S.	CAPS	.12" Copperplate Gothic 31	L 1 A-1 A-2
Alaska	CAPS	.12" Copperplate Gothic 31	L-1/L-2
Chart Effective Date	CAPS	.11" Copperplate Gothic 31/Black	10 MAR 2011
Area of Coverage	CAPS	.11" Copperplate Gothic 31/Black	UNITED STATES

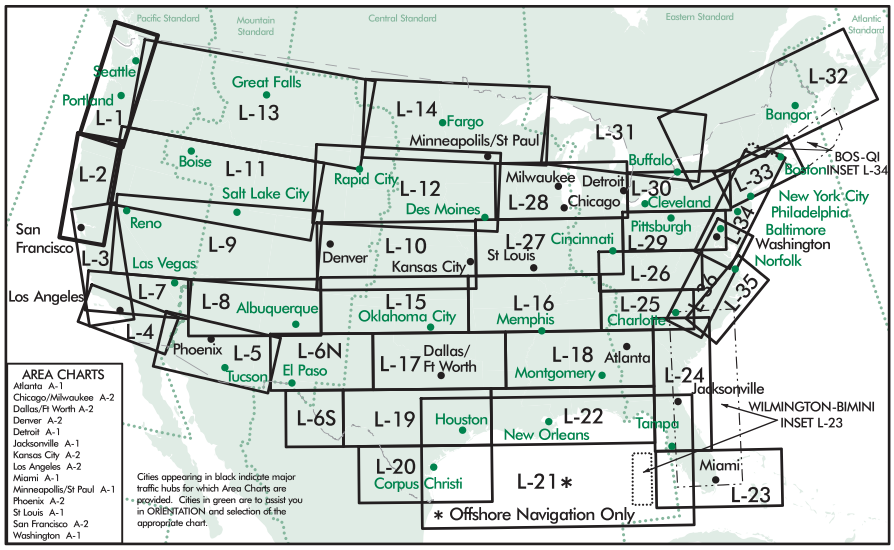
APPENDIX 29
CHART INDEX - U.S.

CENTER FOLD LINE

CHART IDENTIFICATION TAB

FAA LOGO / BANNER

TRIM LINE



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FOLD LINE

APPENDIX 30
CHART INDEX - ALASKA

CENTER

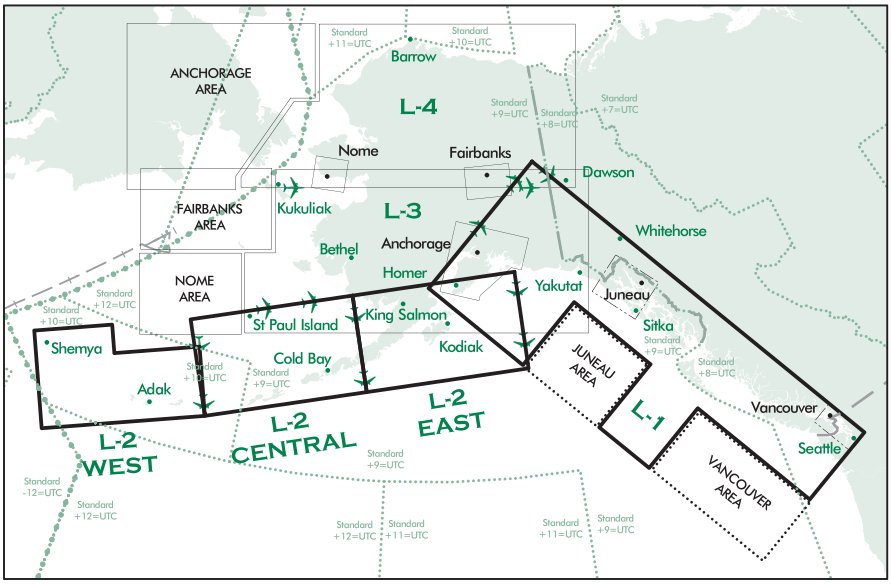
FOLD LINE

CHART IDENTIFICATION TAB

FAA LOGO / BANNER

TRIM LINE

FOLD LINE



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

APPENDIX 31
CHART INDEXES - U.S. AND ALASKA

CHART INDEXES - U.S. & ALASKA - COMMON ITEMS			
Cities			
Prominent Cities			
Symbol		.025" Diameter/Green	•
Name	C/L	.06" Futura Medium/Green	Cold Bay
Area Chart Cities			
Symbol		.025" Diameter/Black	•
Name	C/L	.06" Futura Medium/Black	Anchorage
Borders & Outlines			
Chart Index Border		.015"/Black	
Selected Charts			
Enroute Chart Coverage Border		.020"/Black	
Inset Chart Coverage Border		.015"/Black	
Time Zone Boundary			
Name	C/L	.04" Futura Medium/45% Green	Eastern Standard
Boundary		.015" Diameter/45% Green	
International Boundary		.008"/45% Black	
Land Areas		10% Green	
IAC Credit Note		.065" Futura Medium/Black	Published from digital files
CHART INDEXES - U.S. - UNIQUE ITEMS			
Chart Identificaton	CAPS	.08" Futura Medium/Black	L-21
Borders & Outlines			
Selected Charts			
Inset Chart Coverage Border		.020"/Black	
Non-Selected Charts			
Enroute Chart Coverage Border		.010"/Black	
Area Chart List Border		.012"/Black	
Area Chart List			
Title	CAPS	.05" Futura Medium/Black	AREA CHARTS
City Names	C/L	.04" Futura Medium/Black	Chicago/Milwaukee A-2
Inset Chart Title	CAPS	.05" Futura Medium/Black	WILMINGTON-BIMINI INSET L-23
Leader Line		.007"/Black	
Offshore Navigation Note	C/L	.065" Futura Medium/Black	* Offshore Navigation Only
Area Chart Cities Note	Lowercase	.04" Futura Medium/Black	Cities appearing in black indicate...

APPENDIX 31
CHART INDEXES - U.S. AND ALASKA (CONTINUED)

CHART INDEXES - ALASKA - UNIQUE ITEMS			
Chart Identificaton Title	C/L	.09" Copperplate Gothic 31/Green	L-2 CENTRAL
Borders & Outlines Selected Charts Inset Chart Coverage Border		.005"/Black	
Non-Selected Charts Enroute Chart Outlines		.015"/Black	
Inset Chart Coverage Border		.008"/Black	
Inset Chart Title	CAPS	.05" Futura Medium/Black	NOME AREA
International Date Line		.030" Diameter/45% Green	
US/Russia Maritime Boundary		.008"/45% Black	
Wall Planning Chart Registration Mark		Green	
Title	CAPS	.06" Futura Medium/45% Green	INSTRUCTIONS FOR ASSEMBLY...
Text	Lowercase	.06" Futura Medium/45% Green	Obtain two copies of each chart...

APPENDIX 32
BAR CODES

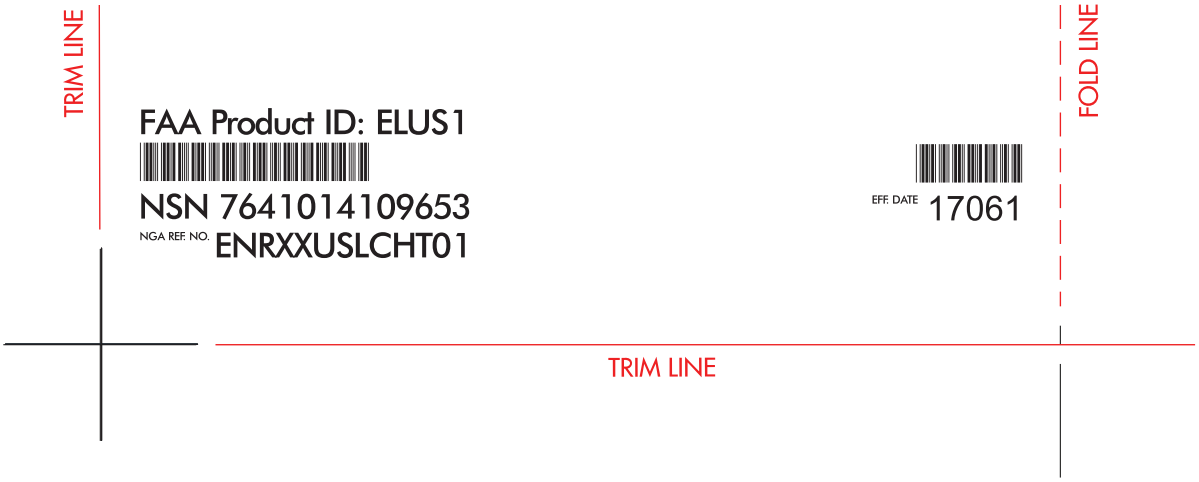


CHART BAR CODES			
FAA Product ID	C/L	.13" Futura Medium/Black	FAA Product ID: ELUS1
NSN Number	CAPS	.13" Futura Medium/Black	NSN 7641014109653
"NGA Ref. No." Text	CAPS	.05" Futura Medium/Black	NGA REF. NO.
NGA Reference Number	CAPS	.13" Futura Medium/Black	ENRXXUSLCHT01
"Eff. Date" Text	CAPS	.05" Futura Medium/Black	EFF. DATE
Julian Date		.13" Futura Medium/Black	17061
Bar Code		.15" w39m/Black	

APPENDIX 33
LEGEND PANEL - U.S. AND ALASKA

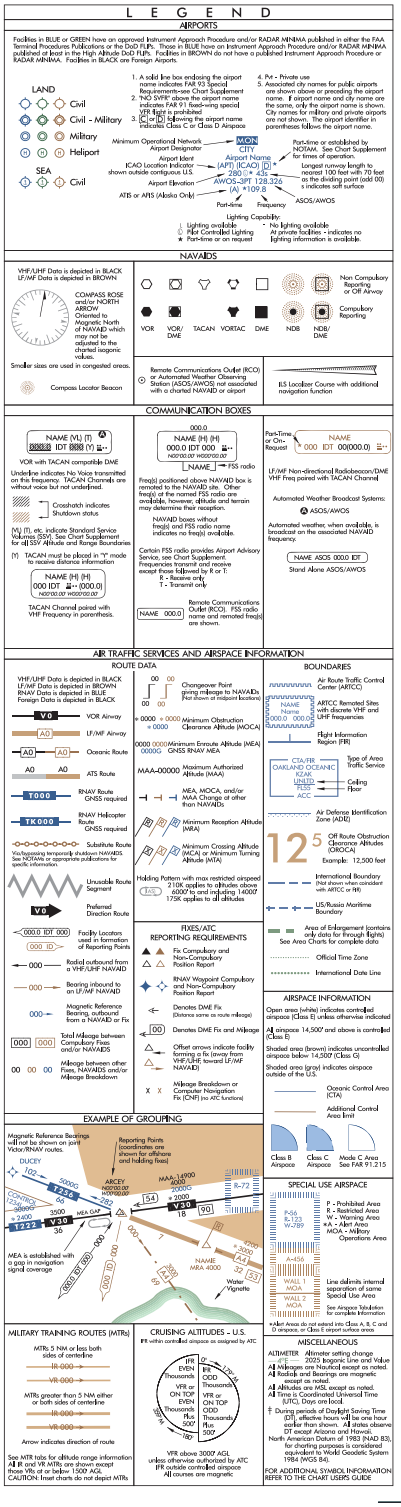
L-4 PANELS FGHIJ 1"=7 NM

L-3 PANELS ABCDE 1"=8 NM

UNITED STATES GOVERNMENT
FLIGHT INFORMATION PUBLICATION

IFR ENROUTE LOW ALTITUDE - U.S.

For use up to but not including 18,000' MSL



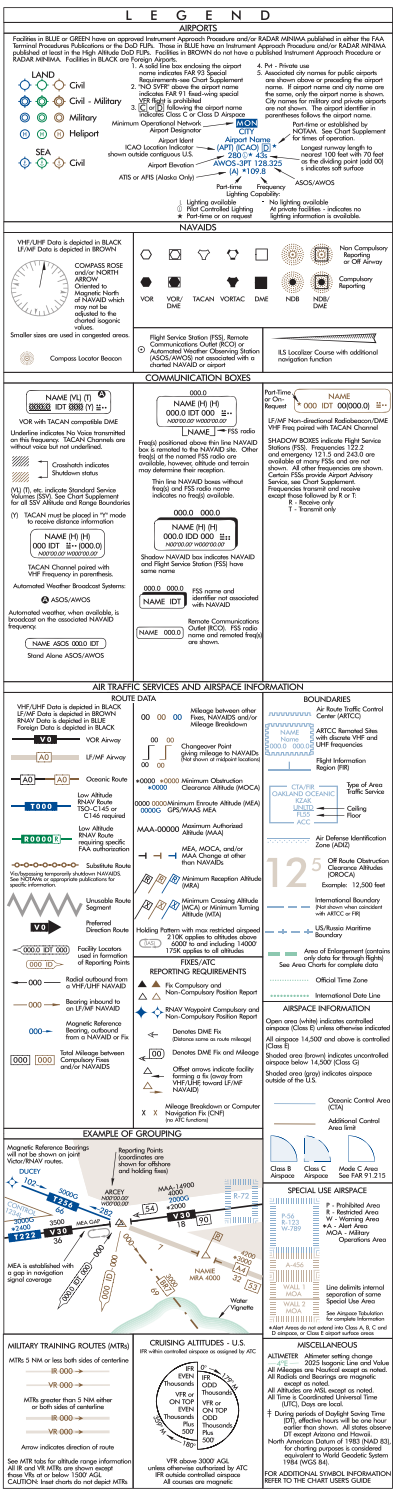
L-2 PANELS FGHIJK 1"=25 NM

L-1 PANELS ABCDE 1"=25 NM

UNITED STATES GOVERNMENT
FLIGHT INFORMATION PUBLICATION

IFR ENROUTE LOW ALTITUDE - ALASKA

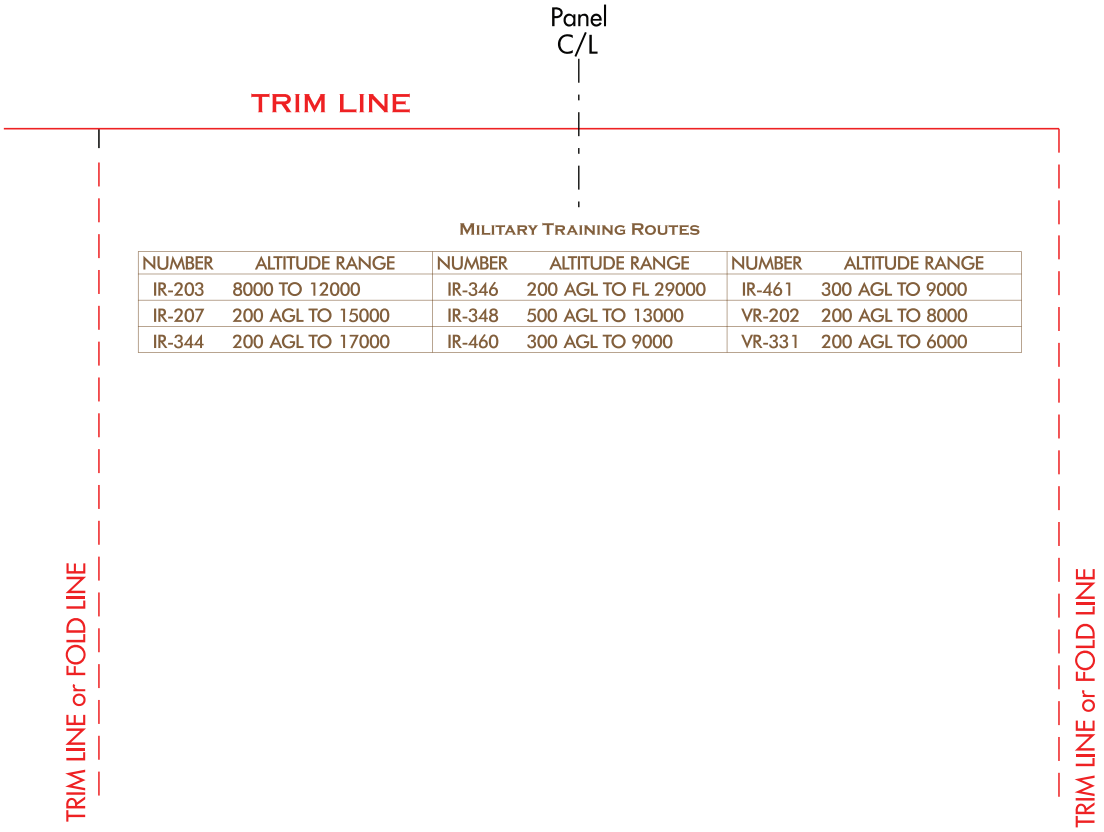
For use up to but not including 18,000' MSL
HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983



APPENDIX 34
LEGEND PANEL - CHART IDENTIFICATION LABELS U.S. & ALASKA

LEGEND PANEL - LOW ENROUTE CHARTS				
Chart Identification Area			45% Black	Black
Chart Idents Text	CAPS	.23" Copperplate Gothic 31	L-2	L-1
Arrowheads				
Panel Identifications Text	CAPS	.07" Copperplate Gothic 31	PANELS FGHIJ	PANELS ABCDE
Chart Scales Text	CAPS	.07" Copperplate Gothic 31	1"=8 NM	1"=8 NM
Chart Identification Color Chart Idents, Text, Arrowheads, Panel idents and Chart Scales	45% Black	U.S. Charts: L-1, L-4, L-6, L-7, L-10, L-12, L-14, L-16, L-18, L-20, L-22, L-24, L-25, L-28, L-29, L-32, L-34, and L-36 AK Charts: L-1 and L-3		
	Black	U.S. Charts: L-2, L-3, L-5, L-8, L-9, L-11, L-13, L-15, L-17, L-19, L-21, L-23, L-26, L-27, L-30, L-31, L-33, and L-35 AK Charts: L-2 and L-4		
Chart Title First and Second Lines	CAPS	.11" Futura Medium/Black	UNITED STATES...	
Third Line	CAPS	.17" Futura Medium/Black	IFR ENROUTE...	
Altitude Note			For use up to but not...	
Horizontal Datum Note			HORIZONTAL DATUM: NORTH...	

APPENDIX 35
MILITARY TRAINING ROUTES TABULATION - U.S. & ALASKA



MILITARY TRAINING ROUTES - ENROUTE CHARTS			
Table Title	CAPS	.08" Copperplate Gothic 31/Brown	MILITARY TRAINING ROUTES
Column Headings	CAPS	.07" Futura Medium/Brown	NUMBER ALTITUDE RANGE
Tabulated Information Number & Altitude Range	CAPS	.07" Futura Medium/Brown	VR-231 100 AGL TO 7000
Table Lineweight		.008" Brown	

APPENDIX 36
SUA & MOA TABULATION - U.S. & ALASKA

Panel C/L

TRIM LINE

TRIM LINE or FOLD LINE

TRIM LINE or FOLD LINE

Military Training Routes

ARTCC three letter idents: Albuquerque ZAB, Atlanta ZTL, Boston ZBW, Chicago ZAU, Cleveland ZOB, Denver ZDV, Fort Worth ZFW, Houston ZHU, Indianapolis ZID, Jacksonville ZJX, Kansas City ZKC, Los Angeles ZLA, Memphis ZME, Miami ZMA, Minneapolis ZMP, New York ZNY, Oakland ZOA, Salt Lake City ZLC, Seattle ZSE, Washington ZDC

U.S.: P - PROHIBITED, R - RESTRICTED, W - WARNING, A - ALERT 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.

Special Use Airspace

NUMBER	EFFECTIVE ALTITUDE	TIMES USED, UTC	CONTROLLING AGENCY A/G CALL	PANEL
P-51	SFC TO BUT NOT INCL 2500	CONT	NO A/G	D
R-2531	SFC TO BUT NOT INCL 4000	1800 - 0450Z‡ MON - FRI; SAT - SUN BY NOTAM	N CA TRACON	F
R-6701	SFC TO 5000	INTMT BY NOTAM	WHIDBEY ISLAND NAS APP CON WA	E
R-6703A,B,C,D,E	SFC TO 14000	1500 - 0700Z‡ MON - FRI; *1	SEATTLE TRACON	D
R-6703F,G,H,I,J	SFC TO 5000	1500 - 0700Z‡ MON - FRI; *1	SEATTLE TRACON	D
W-93 N	SFC TO FL 500	1600 - 2400Z‡ DAILY; *1 2 HRS AND 30 MIN IN ADVANCE	ZSE	A,B,I,J
W-93 S	SFC TO FL 500	1600 - 2400Z‡ DAILY; *1	ZSE	I
W-237A LOW	SFC TO BUT NOT INCL FL 230	INTMT BY NOTAM	ZSE	‡D
A-680	SFC TO 3000	APR - OCT 1800 - 0930Z‡ MON - FRI; NOV - MAR 1800 - 0759Z‡ MON - FRI; *1	NO A/G	E
A-682	SFC TO 3000 N OF TRAVIS AFB RUNWAYS 21L/03R EXTENDED CENTERLINES SFC TO 6000' S OF TRAVIS AFB RUNWAYS 21L/03R EXTENDED CENTERLINES SFC TO 3000'	1600 - 0500Z‡ MON - FRI	NO A/G	F,G

Alert Areas do not extend into Class A, B, C and D airspace, or Class E airport surface areas.

Military Operations Areas

NUMBER	EFFECTIVE ALTITUDE	TIMES USED, UTC	CONTROLLING AGENCY A/G CALL	PANEL
CHINA	3000 AGL *2	1600Z‡ - SS DAILY	ZOA	G,H
CHINOOK A	300 TO 5000	INTMT BY NOTAM SR - SS	U S NAVY WHIDBEY ISLAND NAS APP CON	D,E
CHINOOK B	300 TO 5000	INTMT BY NOTAM SR - SS	U S NAVY WHIDBEY ISLAND NAS APP CON	E
DOLPHIN N	11000 *2	1600 - 2400Z‡ DAILY; *1	ZSE	A,B,I,J
DOLPHIN S	11000 *2	1600 - 2400Z‡ DAILY; *1	ZSE	I
MAXWELL 1,2,3	11000 OR 3000 AGL WHICHEVER IS HIGHER *2	1300 - 0400Z‡ MON - FRI; *1	ZOA	G,H
OLYMPIC A	6000 *2	BY NOTAM	ZSE	D
OLYMPIC B	6000 *2	BY NOTAM	ZSE	D,E
RAINIER 1,2	2000 TO 9000	INTMT BY NOTAM CONTACT NEAREST FLIGHT SERVICE STATION	SEATTLE TRACON	D
WHITMORE 1,2,3	11000 OR 3000 AGL WHICHEVER IS HIGHER *2	1530 - 0030Z‡ MON - FRI; *1	ZOA	

*1 Other Times By NOTAM
*2 To But Not Including FL 180
*4 Whichever Is Higher, To But Not Including FL 180

APPENDIX 36
SUA & MOA TABULATION - U.S. & ALASKA (CONTINUED)

SUAs & MOAs TABULATION			
Table Title	CAPS	6.5pt Copperplate Gothic 31/Black	SPECIAL USE AIRSPACE
Legend	C/L	4.5pt Futura Medium/Black	P - PROHIBITED, R - RESTRICTED,
Tabulated Information			
Column Headings	CAPS	4.5pt Futura Medium/Black	NUMBER
Tabulated Information	CAPS	4.5pt Futura Medium/Black	BAKERSFIELD
Footnotes	C/L	4.5pt Futura Medium/Black	*1 Other Times By NOTAM
Table Lineweight		.008"/Black	

APPENDIX 37
AIRPORT LOCATIONS TABULATION - U.S. & ALASKA

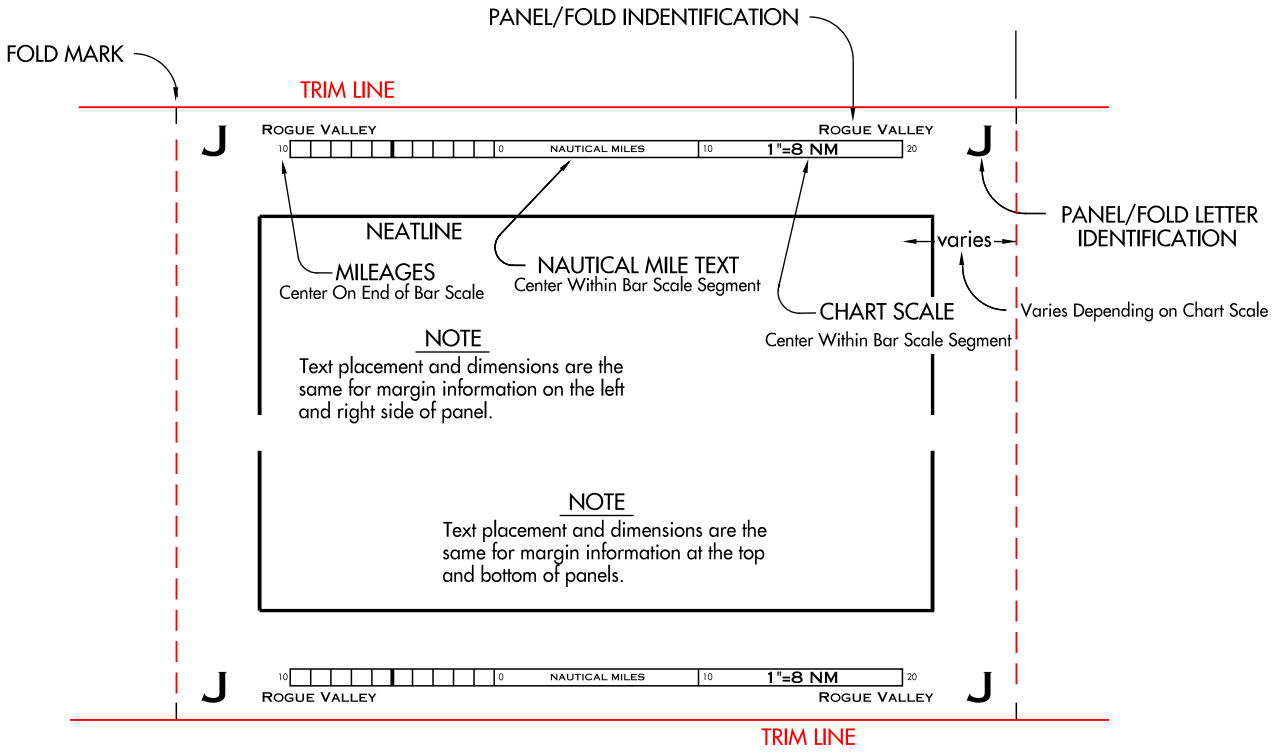


NAME	ID	PANEL	NAME	ID	PANEL	NAME	ID	PANEL
AJ Eisenberg	OKH	E	Harvey Fld	S43	D	Red Bluff Muni	RBL	H
Abbotsford	CYXX	E	Hayfork	F62	H	Redding Muni	RDD	H
Albany Muni	S12	B	Hayward Exec	HWD	F	Reid-Hillview of Santa	RHV	F
Anacortes	74S	E	Hobby Fld	77S	A	Renton Muni	RNT	D
Angwin-Parrett Fld	2O3	G	Hogan's Corner	5WA8	D	Rio Vista Muni	O88	F
Arcata	ACV	I	Illinois Valley	3S4	I	Roche Harbor	WAØ9	E
Arlington Muni	AWO	E	Independence State	7S5	B	Rogers Fld	OØ5	H

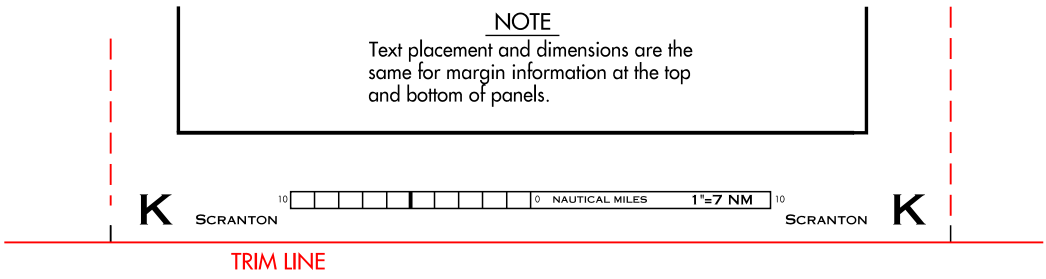
AIRPORT LOCATIONS TABULATION			
Table Title	CAPS	.09" Copperplate Gothic 31/Black	AIRPORT LOCATIONS
Tabulated Information			
Column Headings	CAPS	.07" Futura Medium/Black	NAME
Tabulated Information	C/L	.07" Futura Medium/Black	Agua Dulce L7Ø B
Table Lineweight		.008"/Black	

APPENDIX 38
MARGIN INFORMATION - U.S. & ALASKA

Bar Scales - One Panel - U.S. & Alaska

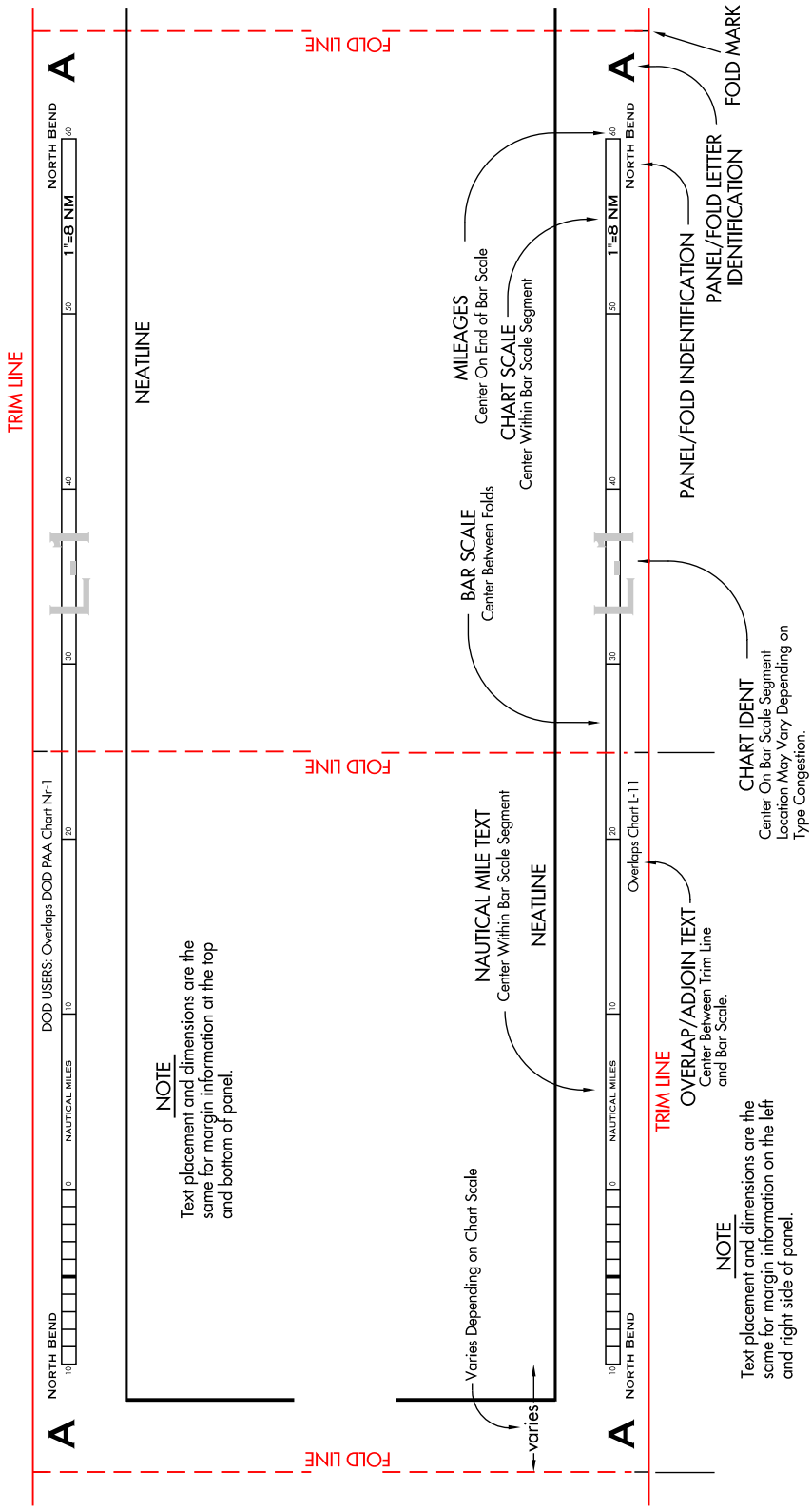


Differences for Chart Scale 1:7



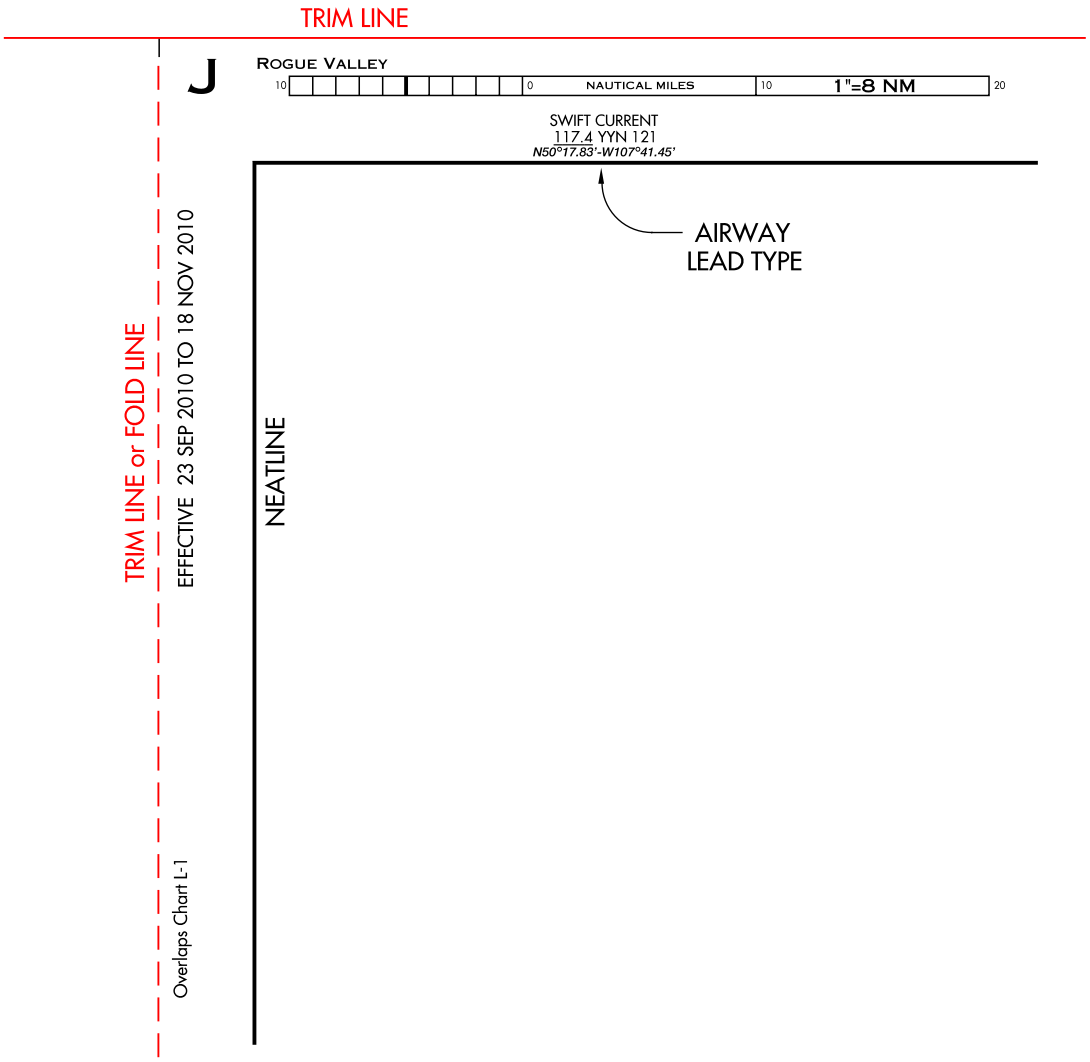
APPENDIX 38
MARGIN INFORMATION - U.S. & ALASKA (CONTINUED)

Bar Scales - Two Panel - U.S. & Alaska



APPENDIX 38
MARGIN INFORMATION - U.S. & ALASKA (CONTINUED)

Spacing - All Charts



APPENDIX 38
MARGIN INFORMATION - U.S. & ALASKA (CONTINUED)

MARGIN INFORMATION - U.S. & ALASKA

Panel Fold			
Letter	CAPS	.19" Copperplate Gothic 31/Black	H
City or NAVAID Identification	CAPS	.06" Copperplate Gothic 31/Black	PHOENIX
Fold Mark Weight & Length		.008"/0.1"/Black	|
Chart Identification	CAPS	.29" Copperplate Gothic 31/Color?	L-2
Chart Scale			
Units Text	CAPS	.04" Copperplate Gothic 31/Black	NAUTICAL MILES
Mileage Numbers		.04" Futura Medium/Black	20
Scale Text	CAPS	.06" Copperplate Gothic 31/Black	1"=8 NM
Scale Bar Lineweight		.008"/Black	
Effective Date (Even Side of Charts)	CAPS	.07" Futura Medium/Black	EFFECTIVE 18 NOV 2010 TO...
Adjoin Chart Text	C/L	.07" Futura Medium/Black	Overlaps Chart L-3

MARGIN INFORMATION - U.S. & ALASKA - AIRWAY/ROUTE INFORMATION

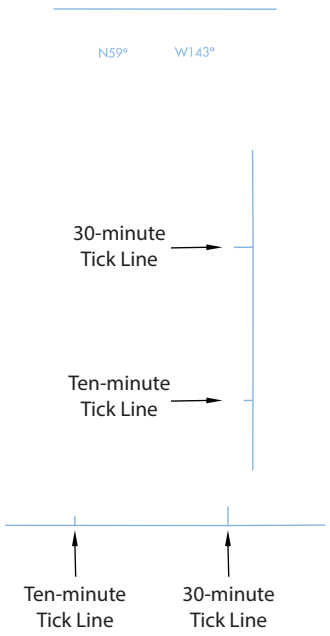
Airway Route Text & Color			
VHF/UHF	CAPS	.06" Futura Medium/Black	MACON 112 9 MCM 76
LF/MF	CAPS	.06" Futura Medium/Brown	OSCARVILLE 251 OSE
LF/MF with DME			
LF/MF Data	CAPS	.06" Futura Medium/Brown	371 PDN 32 (109.5)
DME Data	CAPS	.06" Futura Medium/Black	
RNAV Waypoint	CAPS	.06" Futura Medium/Blue	DIBWO

Geographic Coordinates		VHF/UHF	LF/MF	RNAV
Color		Black	Brown	Blue
Text		.05" Helvetica 66 Medium Italic		
				N60°37.13'-W135°08.33' N60°26.37'-W134°51.68' N60°37.13'-W135°08.33'

Shutdown Status		VHF/UHF	LF/MF
Color		45% Black	45% Brown
Lineweight		.006"	

APPENDIX 39
CHART DETAIL - PROJECTION LINES - U.S. & ALASKA

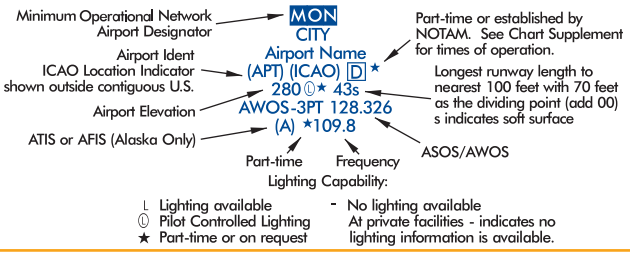
PROJECTION LINES - ALL CHARTS			
Projection Lines			
Lineweight		.007"/45% Blue	
Text	CAPS	.05" Futura Medium/45% Blue	
Latitude Tick Line Length			
Ten-minute		.05"/45% Blue	
Thirty-minute		.1"/45% Blue	
Longitude Tick Line Length			
Ten-minute		.05"/45% Blue	
Thirty-minute		.1"/45% Blue	



APPENDIX 40
BASE DETAIL - U.S. & ALASKA

BASE DETAIL - U.S. & ALASKA			
Shoreline		Green Vignette/Approx .15" wide	
International Boundary Lineweight Long Dash Length Short Dash Length Space between Dashes Text	 CAPS	 .020"/45% Blue .2"/45% Blue .1"/45% Blue .05" Gap .06" Futura Medium/45% Blue	
U.S./Russia Maritime Boundary Lineweight Horizontal Dash Length Vertical Dash Length Space between Dashes Text	 CAPS	 .020"/45% Blue .2"/45% Blue .1"/45% Blue .05" Gap .06" Futura Medium/45% Blue	
Time Zones - U.S. Text Dotted Border	 C/L	 .05" Futura Medium/45% Green .0075" Diameter/45% Green	
International Date Line Text Dotted Border	 CAPS	 .05" Futura Medium/45% Green .03" Diameter/45% Green	
Lines of Equal Magnetic Variation (Isogonic Lines) Text Lineweight	 CAPS	 .06" Techno Medium Italic/45% Green .005"/45% Green	
OROCA Values Thousands of feet value Hundreds of feet value	 	 .36" Futura Medium/25% Brown .16" Futura Medium/25% Brown	

APPENDIX 41
AIRPORTS - U.S. & ALASKA



AIRPORT DATA			
First Line MON Airport Designator	CAPS	*ALL AIRPORT DATA* .06" Reverse Negative/Futura Medium Green/Blue	MON
Second Line Associated City Name(s) Airport Name	CAPS C/L	.06" Futura Medium (.05" for Congested Areas)	CITY Airport Name
Third Line FAA Airport Identifier ICAO Identifier Airspace	CAPS CAPS CAPS	Color: Same as Airport Name Airspace Box: Lineweight .010"	(APT) (ICAO) □ D C
Fourth Line Airport Elevation Runway Lighting Runway Length Runway Surface	Lowercase		280 Ⓛ★ 43 s
Fifth Line ASOS/AWOS	CAPS		AWOS-3PT 128.326
Sixth Line ATIS (AK Only) AFIS	CAPS		(A) ★109.8
Airports under SFAR Airport Name Box		SFAR Box lineweight: .007" Color: Same as Airport Name	
Airports with no SVFR Text	CAPS	.005" Futura Medium Color: Same as Airport Name	NO SVFR

AIRPORT COLOR			
Airports with... Approved IAP Approved IAP & in High Altitude DoD FLIPs Airports without Approved IAP		Green Blue Brown	Los Alamitos AAF (SLI) NASA Shuttle Landing Facility Pvt (TTS) Big Mountain Pvt (37AK)(PABM)

HELIPORT DATA			
First Line Heliport Name	C/L	*ALL HELIPORT DATA* .06" Futura Medium (.05" for Congested Areas)	Southampton
Second Line FAA Identifier ICAO Airport Identifier	CAPS CAPS	Color: Same as Heliport Name	(87N) (ICAO)

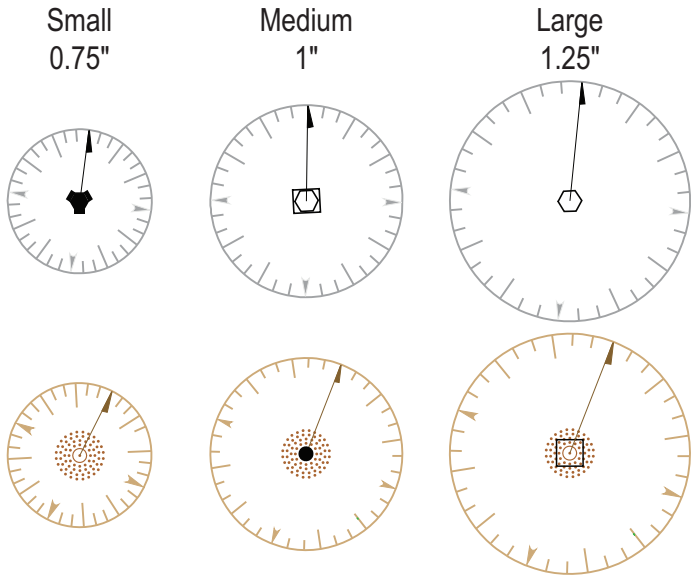
SEAPLANE BASE DATA			
First Line Seaplane Base Name	C/L	*ALL SEAPLANE BASE DATA* .06" Futura Medium (.05" for Congested Areas)	Greenville SPB
Second Line FAA Identifier ICAO Airport Identifier	CAPS CAPS	Color: Same as Seaplane Base Name	(52B) (ICAO)

APPENDIX 42
NAVAID NORTH ARROWS & 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



APPENDIX 43
NAVAID IDENTIFICATION BOXES

NAVAID IDENTIFICATION BOXES					
		VHF/UHF	LF/MF	VHF/UHF	LF/MF
NAVAID Identification Box Lineweight & Color		.007"/Black	.007"/Brown		
NAVAID Data Color - All Charts Font - All Charts Font Size	CAPS	Black Futura Medium .07"	Brown		
Geographic Coordinates Color Font & Size	CAPS	Black .05" Futura Medium Italic	Brown		
Pointer (LF/MF Only)		.007"/Brown			
Leaderline (VHF/UHF Only)		.007"/Black			
SSV (VHF/UHF Only) Font & Color Font Size	CAPS	Futura Medium/Black .07"		(T) (L) (H) (VL) (VH) (DL) (DH)	
No Voice Color Lineweight		Black .007"	Brown	VHF/UHF 	LF/MF
Part-Time Color		Black	Brown	★	★
Y Mode Font & Color - All Charts Font Size	CAPS	Futura Medium/Black .07"		18(Y)	
Abnormal Status Color Lineweight		45% Black .007"	45% Brown	VHF/UHF 	LF/MF 
Private NAVAIDs Color - All Charts Font - All Charts Font Size	CAPS	Black Futura Medium .07"	Brown	PRIVATE	PRIVATE
ILS Components Localizer Course Front Bearing Text Back Course Text	CAPS CAPS	.07" Futura Medium/Black .05" Futura Medium/Black			

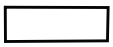
APPENDIX 44
FLIGHT SERVICE STATIONS (ALASKA ONLY) & REMOTE COMMUNICATIONS OUTLETS

FSSs (Alaska Only) & RCOs					
		VHF/UHF	LF/MF	VHF/UHF	LF/MF
Associated with NAVAID FSS Frequency(s) Shadow Box		.06" Futura Medium/Black Black	Brown	122.6 122.45	123.6
RCO Frequency(s) Name Name "L" Brackets Lineweight	CAPS	.06" Futura Medium/Black .07" Futura Medium/Black .012" /Black		255.4 122.2 SEATTLE	126.7 122.5 PACIFIC
Not Associated with NAVAID FSS Frequency(s) Name Shadow Box	CAPS	.06" Futura Medium/Black .07" Futura Medium/Black Black		122.2 VICTORIA HARBOUR FSS AVAILABLE 1345-0530Z‡	
RCO Frequency(s) Name Box Lineweight	CAPS	.06" Futura Medium/Black .06" Futura Medium/Black .007" /Black		PACIFIC 125.85	
Operational Hours and Notes	CAPS	.05" Futura Medium/Black		FSS VOICE AVAILABLE 1615-0745Z‡ OTHER TIMES CONTACT FAIRBANKS FSS	
FSS & RCO Location Indicator Circle Diameter & Color Lineweight Dot		.072" Diameter/Black .008" /Black .015" Diameter/Black		⊙	

APPENDIX 45
AUTOMATED WEATHER BROADCASTING SYSTEMS

AUTOMATED WEATHER BROADCASTING SYSTEM (AWBS)					
		VHF/UHF	LF/MF	VHF/UHF	LF/MF
Associated with NAVAID Symbol Color Symbol ASOS/AWOS		Black	Brown	Ⓐ	Ⓐ
Not Associated with NAVAID Name, AWBS, Frequency & FAA Ident Box Lineweight	CAPS	.06" Futura Medium/Black .007" /Black		STAMPEDE PASS ASOS 135.275 SMP	
AWBS Location Indicator Circle Diameter & Color Lineweight Dot		.072" Diameter/Black .008" /Black .015" Diameter/Black		⊙	

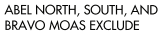
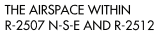
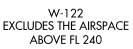
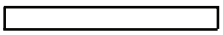
APPENDIX 46
AIRSPACE INFORMATION

GENERAL ATS AREA INFORMATION			
ATS Area Data Service Type, Name & ICAO Identifier	CAPS	.06" Futura Medium/45% Blue	CTA HOUSTON OCEANIC KZHU
Vertical & Horizontal Limits Text Separator Line		.06" Futura Medium/45% Blue .007"/45% Blue	UNLTD 2500 AMSL
Call Sign & Frequencies		.06" Futura Medium/45% Blue	NEW YORK RADIO 129.4 2887
Box Lineweight		.015"/45% Blue	
Pointer		.007"/45% Blue	
Explanatory Notes		.06" Futura Medium/45% Blue	
AIRSPACE NOTES			
U.S. Airspace Note	CAPS	.05" Futura Medium/45% Blue	FAA AIR TRAFFIC SERVICE OUTSIDE U.S. AIRSPACE IS PROVIDED IN ACCORDANCE WITH...
FOREIGN AIRSPACE NOTES			
Foreign Airspace Notes — All Non-U.S. Airspace Color Box Lineweight Color	CAPS	.06" Futura Medium Black .015" Black	Note: Limited chart information provided.... 
Havana FIR Airspace Note	CAPS	.05" Futura Medium/Black	CAUTION: ACCURACY OF AIR TRAFFIC SERVICES RELATIVE TO HAVANA FIR
OTHER AIRSPACE NOTES			
Miscellaneous Airspace Notes	CAPS	.05" Futura Medium/Black	REPORT TO FAA RADIO PRIOR TO ENTERING ADIZ

APPENDIX 47
AIRSPACE

AIRSPACE TYPES			
Foreign Airspace		10% Black	
Class B Airspace			
Lateral Limits		5% Blue	
Outer Limit/Boundary		.005"/Blue	
Airspace Box Lineweight		.015"/Black	
Airspace Name	CAPS	.05" Futura Medium/Black	
Class C Airspace			
Lateral Limits		5% Blue	
Outer Limit/Boundary		.005"/Blue	
Dashed Line Composition		.20" dash, .05" space, .10" dash, .05" space	
Class G Airspace, Uncontrolled Airspace, Unclassified Airspace		10% Brown	
Mode C			
Text	CAPS	.06" Futura Medium/Blue	
Border Lineweight		.005"/Blue	

APPENDIX 47
AIRSPACE (CONTINUED)

AIRSPACE - BOUNDARIES					
Control Areas (CTA), Upper Control Areas (UTA), Oceanic Control Areas					
Boundary Limit		.010"/10% Brown			
First Line					
ID Text	CAPS	.06" Futura Medium/45% Blue			
Second Line					
Altitudes & Associated Notes	CAPS	.05" Futura Medium/45% Blue (Caps)			
Special Use Airspace (SUA) & Military Operation Areas (MOA) Boundaries		SUA	MOA	SUA	MOA
Boundary Limit					
Lineweight		.010"	.010"		
Band Width (Line Length)		.075"	.075"		
Color		45% Blue	45% Brown		
Identification					
Font & Size	CAPS	.07" Futura Medium	.07" Futura Medium		
Color		45% Blue	45% Brown		
Exclusion Area Notes	CAPS	.05" Futura Medium (Caps)			
Overlap/Adjoin Line		.015"/45% Blue	.015"/45% Brown		
Pointer w/Arrowhead		.007"/45% Blue	.007"/45% Brown		
Small Areas - Boundaries		.070" Diameter/ 45% Blue			
Exclusion Area Text	CAPS	.05" Futura Medium	.05" Futura Medium		
Pointer w/Arrowhead		.007"/Black	.007"/Black		
Special Air Traffic Rules (SFAR 50-2 and SFRAs) Airspace Note Box		.015"/Black			
Airspace Note	CAPS	.05" Futura Medium/Black			
Boundary Limit					
Line		.015"/45% Blue			
Squares - Dimension		.05"/45% Blue			
Squares - Spacing		.50"			
SFRA Name	CAPS	.06" Futura Medium/45% Blue			

APPENDIX 47
AIRSPACE (CONTINUED)

AIRSPACE - BOUNDARIES			
ADIZ , CADIZ & Defense Areas			
Text	CAPS	.06” Futura Medium/45% Blue	ALASKA ADIZ
Boundary Limit			
Lineweight		.010”/45% Blue	
FIRS			
Text	CAPS	.06" Futura Medium/45% Blue	MIAMI OCEANIC CTA/FIR KZMA
Boundary Limit			
Lineweight		.015"/45% Blue	
Tick Height		.10"/45% Blue	
Tick Lineweight		.015"/45% Blue	
Spacing between Tick Lines		.060"/45% Blue	
ARTCCs & ACCs			
Text	CAPS	.06" Futura Medium/45% Blue	MIAMI
CPDLC Text	CAPS	.06" Futura Medium/45% Blue	CPDLC (LOGON KUSA)
Boundary Limit			
Lineweight		.005"/45% Blue	
ARTCC RCAG			
ARTCC Name	CAPS	.06" Futura Medium/45% Blue	MIAMI
Remoted Site	C/L	.06" Futura Medium/45% Blue	Miami
Frequency(s)		.06" Futura Medium/45% Blue	132.4 281.5
Boundary Limit			
Lineweight		.005"/45% Blue	
Continental Control Boundary (U.S.)			
Boundary Limit			
Lineweight		.010"/Brown	
Altimeter Setting			
Text & Altimeter Setting	CAPS	.06" Futura Medium/Black	QNH ALTIMETER

APPENDIX 48
AIRWAY/ROUTE TYPES

AIRWAY/ROUTE TYPES					
Victor Airways		VHF/UHF	LF/MF	VHF/UHF	LF/MF
Lineweight & Color		.02"/Black	.02"/Brown		
LF/MF Airways (Colored Airways) Lineweight & Color		.06"/25% Brown			
Oceanic, Atlantic, Gulf, Puerto Rico & Bahama Routes		VHF/UHF	LF/MF	VHF/UHF	LF/MF
Lineweight & Color		.02"/Black	.02"/Brown		
Air Traffic Services (ATS) Routes		VHF/UHF	LF/MF	VHF/UHF	LF/MF
Lineweight & Color		.060"/25% Black	.060"/25% Brown		
RNAV T & TK Routes Lineweight & Color		.02"/Blue			
RNAV Q Routes (Gulf of America) Lineweight & Color		.02"/Black			
Unusable Airway/Route Segments Lineweight & Color		.020"/45% Black			
Coincident Airway/Route Unusable Note		.05" Futura Medium/Black		ONLY V292 UNUSABLE	
Substitute Airways/Routes Symbol & Color "Unusable"		Brown .05" Futura Medium/Black		UNUSABLE	
Military Training Routes Route Lineweight & Color Route width < 5 NM Route width > 5 NM Route Designator Direction Arrow Color		.020"/15% Brown .035"/15% Brown .07" Futura Medium/45% Brown 45% Brown		IR-18 VR-708	
Low Altitude RNAV Routes requiring specific FAA authorization Lineweight & Color		.02"/Green			

APPENDIX 49
AIRWAY/ROUTE DATA

AIRWAY/ROUTE DATA					
Identification					
Victor Airways					
Identifier Text	CAPS	.10" Reverse Negative/ Futura Medium/Black (May be reduced to .09" in congested areas)		V0	
Colored Airways					
Identifier Text	CAPS	.07" Futura Medium/Brown		A0	
Box Lineweight		.01"/ Brown			
RNAV T and TK Routes					
Identifier Text	CAPS	.10" Reverse Negative/ Futura Medium/Blue (May be reduced to .09" in congested areas)		T000	
		VHF/UHF	LF/MF	VHF/UHF	LF/MF
Oceanic, Atlantic, Gulf, Puerto Rico & Bahama Routes					
Identifier Text	CAPS	.07" Futura Medium		A0	A0
Color		Black	Brown		
Box Lineweight		.01"/Black	.01"/Brown		
Air Traffic Service (ATS) Routes					
Identifier Text	CAPS	.07" Futura Medium		A0	A0
Color		Black	Brown		
RNAV Q Routes (Gulf of America)					
Identifier Text	CAPS	.07" Futura Medium/Black		Q102	
Box Lineweight		.01"/Black			
Preferred Direction Arrows					
Arrowhead & Color		As appropriate for airway/route type			
Box Lineweight (ATS, Oceanic & RNAV Q Routes)		.01"/Black			
Hours of Operation					
Text	CAPS	.05" Futura Medium		1100-0300Z	1100-0300Z
Color		As appropriate for airway/route type			
Radials & Bearings					
VHF/UHF					
Text		.07" Futura Medium/Black (May be reduced to .06" in congested areas)		090°	
Arrow		Black			
LF/MF					
Text		.07" Futura Medium/Brown (May be reduced to .06" in congested areas)		270	
Arrow		Brown			
Unusable Airway/Route Radials or Bearings		VHF/UHF	LF/MF	VHF/UHF	LF/MF
Lineweight & Color		.006"/45% Black	.006"/45% Black		
Radial/Bearing Information		.05" Futura Medium/Black		R-233 UNUSABLE	
Magnetic Bearings		T & TK Routes	Q Routes	T & TK Routes	Q Routes
Text		.07" Futura Medium (May be reduced to .06" in congested areas)		270	311
Color		Blue	Black		
Arrow Color		Blue	Black		

APPENDIX 49
AIRWAY/ROUTE DATA (CONTINUED)

AIRWAY/ROUTE DATA								
MEAs, MOCAs & MEAs Text Color	CAPS	.06" Futura Medium (May be reduced to .05" in congested areas) As appropriate for airway/route type			MEA 9000 6000 6200G	MOCA *2000 *2200 *2000	MAA MAA-15000 MAA-15000 MAA-15000
T Symbol Lineweight & Color		VHF/UHF .015"/Black	LF/MF .015"/Brown	RNAV .015"/Blue	VHF/UHF	LF/MF	RNAV
MEA Gap Note	CAPS	.05" Futura Medium/Black			MEA GAP		
MCAs & MTAs Symbol & Color		As appropriate for airway/route type			VHF/UHF	LF/MF	RNAV
Text Color	CAPS	.06" Futura Medium (May be reduced to .05" in congested areas) As appropriate for airway/route type			MTA V481S to V32 W 10000 MTA B25 S to B32 E 10000 MTA V32 W to T226 N 11000		MCA V481 10500S MCA B25 6600N MCA T226 10600S
MILEAGE DISTANCES Text Color		.07" Futura Medium (May be reduced to .06" in congested areas) As appropriate for airway/route type			25	125	125
		VHF/UHF	LF/MF		VHF/UHF	LF/MF	RNAV
Box Lineweight & Color TO Note Text Color	CAPS	.01"/Black .05" Futura Medium As appropriate for airway/route type	.01"/Brown		TO MWH	TO MWH	TO MWH
Changeover Points (COP) Symbol & Color		VHF/UHF Black	LF/MF Brown		VHF/UHF	LF/MF	
Text Color		.06" Futura Medium (May be reduced to .05" in congested areas) Black	Brown		21	96	
Low Altitude RNAV Routes requiring specific FAA authorization Lineweight & Color	CAPS	.10" Reverse Negative/ Futra Medium/Green/ .10" Futra Medium/Green R			R2010 R		

APPENDIX 50
NAVIGATIONAL & PROCEDURAL INFORMATION

OPERATIONAL NOTES

		VHF/UHF	LF/MF	RNAV	VHF/UHF	LF/MF	RNAV
Color		Black	Brown	Blue	COMPULSORY FL 240 AND ABOVE	COMPULSORY A647 ONLY	COMPULSORY FL 240 AND ABOVE
Text	CAPS	.05" Futura Medium					

FLYOVER SYMBOLOGY

		VHF/UHF	LF/MF	RNAV	VHF/UHF	LF/MF	RNAV
Symbol & Color		Black	Brown	Blue	◯	◯	◯

RADIO INTERSECTIONS & DME FIXES

		VHF/UHF	LF/MF	VHF/UHF	LF/MF
Symbol & Color		Black	Brown	△	△
Fix Name					
Color		Black	Brown		
Text	CAPS	.06" Futura Medium (May be reduced to .05" in congested areas)		AMZIE	CRABB
Fix Geographic Coordinates					
Color		Black	Brown		
Text	CAPS	.05" Futura Medium Italic		N43°06.37' W67°17.17'	N42°12.80' W65°45.20'
Radio Fix Arrows					
Non-DME		Black	Brown	→	→
DME		Black		↛	

DME BOATS

Symbol & Color		Black	⬠
Text		.07" Futura Medium/Black	15

RADIAL & BEARINGS USED FOR FIX MAKEUP

		VHF/UHF	LF/MF	VHF/UHF	LF/MF
Arrow Lineweight & Color		.007"/Black	.007"/Brown	→	→
Text Color		Black	Brown		
Text Color		.07" Futura Medium (May be reduced to .06" in congested areas)		090°	090°

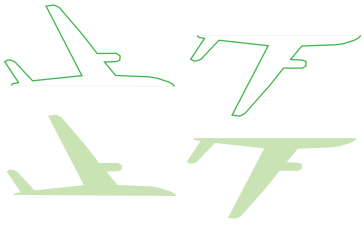
FACILITY LOCATOR BOATS

		VHF/UHF	LF/MF	VHF/UHF	LF/MF
Symbol & Color		Black	Brown	▭	▭
NAVAID Data					
Color		Black	Brown		
Text	CAPS	.06" Futura Medium (May be reduced to .05" in congested areas)		112.1 MLF 58	257 SQT

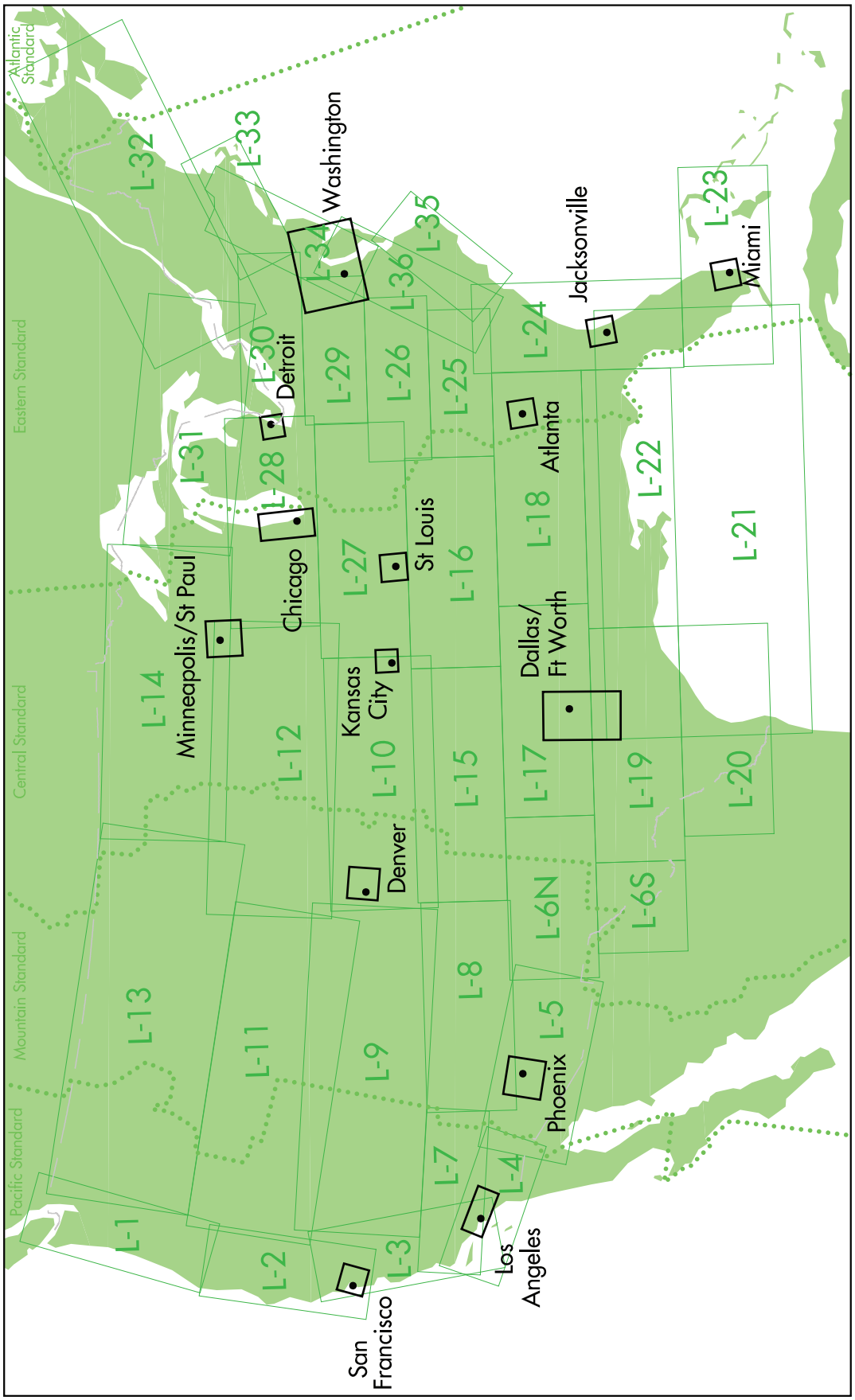
RNAV WAYPOINTS

Symbol & Color		Blue		✦ ✧
Waypoint				
Text & Color	CAPS	.06" Futura Medium/Blue (May be reduced to .05" in congested areas)		PHYLS
Geographic Coordinates				
Text & Color	CAPS	.05" Futura Medium Italic/Blue		N39°33.03' W72°41.53'

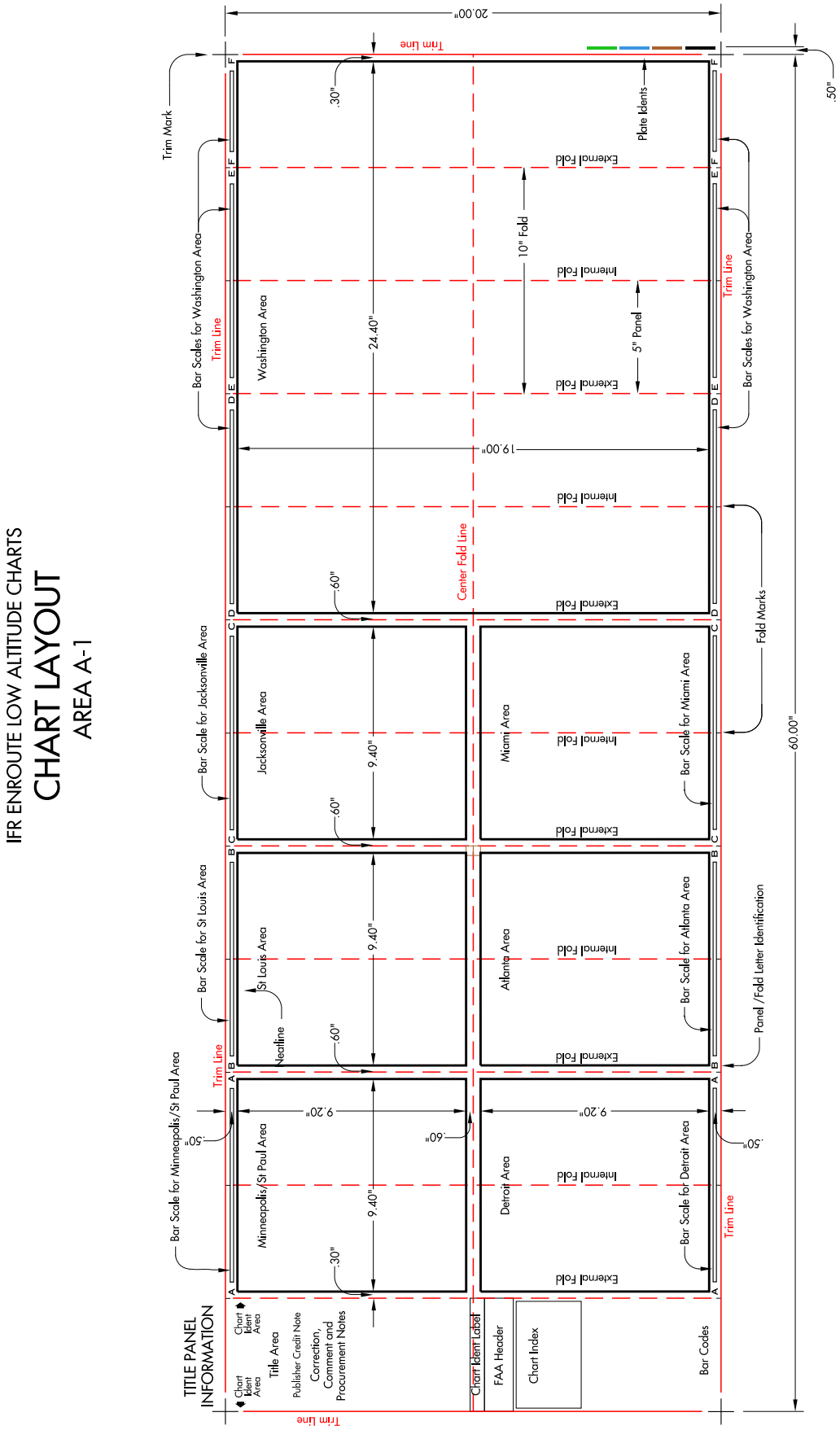
APPENDIX 50
NAVIGATIONAL & PROCEDURAL INFORMATION (CONTINUED)

MRAs							
		VHF/UHF	LF/MF	RNAV	VHF/UHF	LF/MF	RNAV
Symbol & Color		Black	Brown	Blue			
MRA Information							
Color		Black	Brown	Blue			
Text	CAPS	.06" Futura Medium (May be reduced to .05" in congested areas)			MRA 1800	MRA 1800	MRA 1800
NAVAID HOLDING PATTERNS							
Holding Pattern							
Symbol & Color		45% Black					
Text & Color	CAPS	.05" Futura Medium/45% Black			210K		
		VHF/UHF	LF/MF		VHF/UHF	LF/MF	
Radial/Bearing							
Arrow Lineweight & Color		.007"/Black	.007"/Brown				
Text Color		Black	Brown				
Text		.07" Futura Medium (May be reduced to .06" in congested areas)			210	337	
Geographic Coordinates							
Color		Black	Brown				
Text	CAPS	.05" Futura Medium Italic			N47°04.47' W121°30.97'	N39°17.12' W69°18.07'	
RNAV HOLDING PATTERNS							
Holding Pattern							
Symbol & Color		Blue					
Magnetic Reference Bearing							
Lineweight & Color		.007"/Blue					
Text & Color	CAPS	.07" Futura Medium/Blue (May be reduced to .06" in congested areas)			290		
Geographic Coordinates							
Color		Blue					
Text	CAPS	.05" Futura Medium Italic			N27°50.00' W75°25.41'		
COMPUTER NAVIGATION FIXES (CNF)							
		VHF/UHF	LF/MF		VHF/UHF	LF/MF	
Symbol & Color		Black	Brown		X	X	
Text & Color	CAPS	.07" Futura Medium (May be reduced to .06" in congested areas)			(JBBDT)	(JBBDT)	
AREA/OVERLAPPING CHART BOUNDARY							
Text	CAPS	.09" Futura Medium/Green			AREA CHART A-2 FOR DETAIL		
Dash Line							
Weight & Color		.04"/35% Green					
Length		.13"					
Spacing		.06"					
REGISTRATION GUIDE MARKS (Alaska Only)							
Silhouette Outline		.006"/Green					
Silhouette		10% Green					
Total Length of Silhouette		1"					

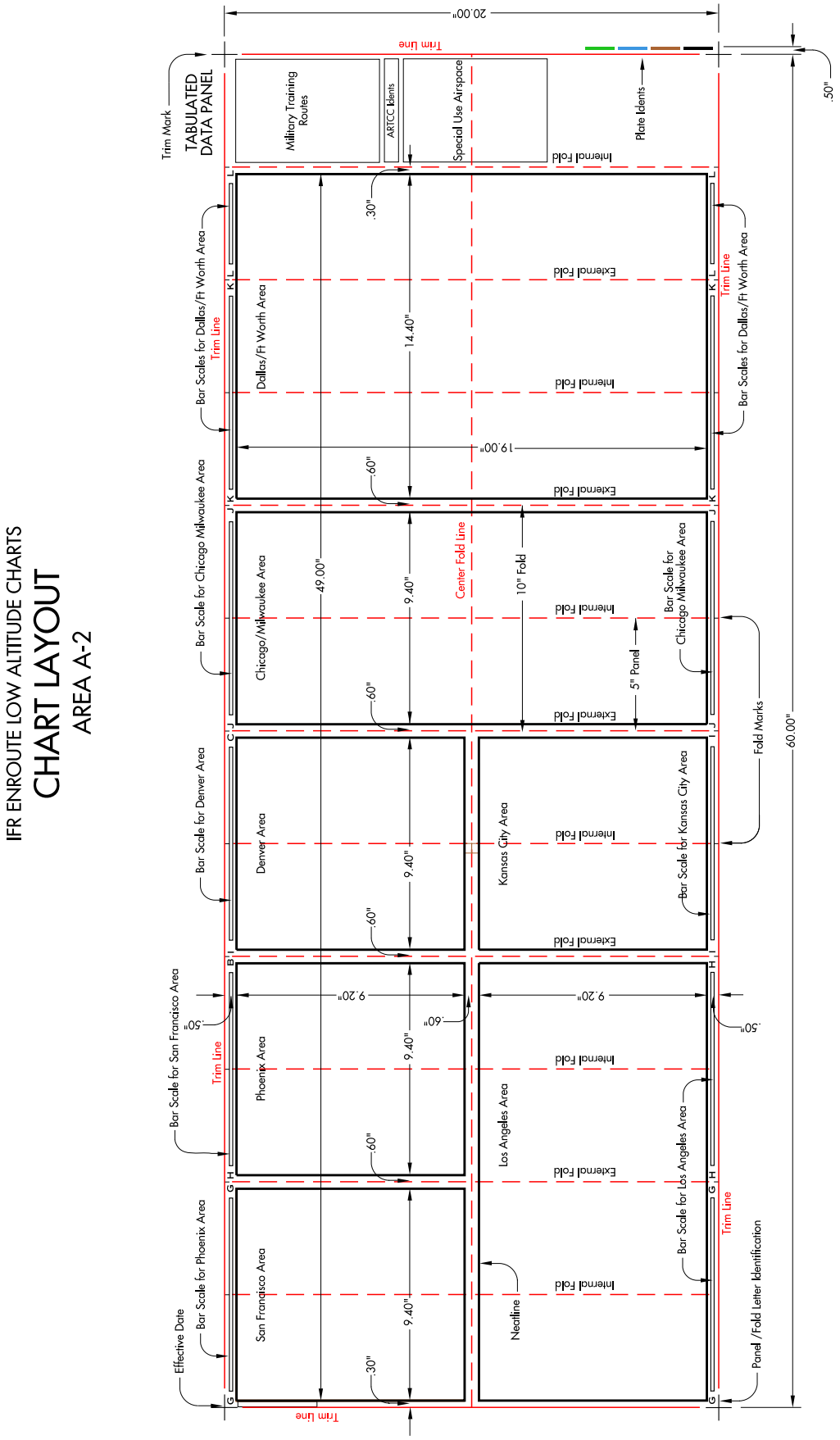
APPENDIX 51
CHART AREA OF COVERAGE - AREA CHARTS



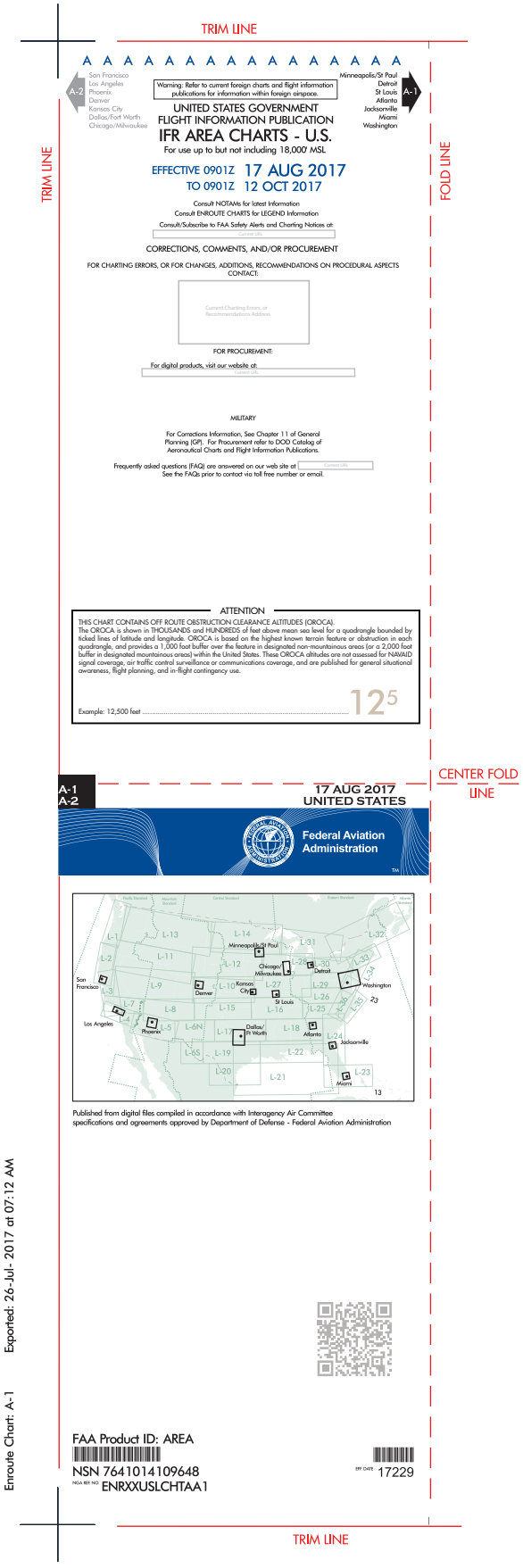
APPENDIX 52
CHART LAYOUT - AREA CHART A-1



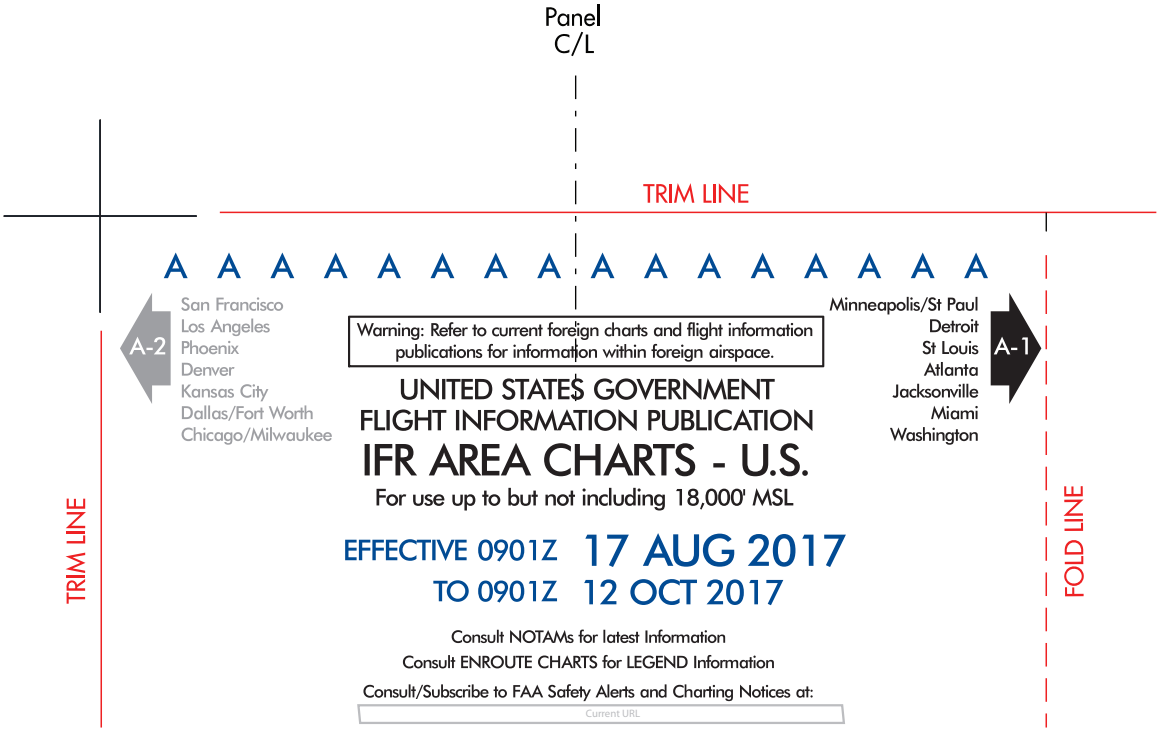
APPENDIX 53
CHART LAYOUT - AREA CHART A-2



APPENDIX 54
TITLE PANEL INFORMATION - AREA CHARTS



APPENDIX 55
CHART IDENTIFICATION & TITLE AREA - AREA CHARTS



CORRECTIONS, COMMENTS, AND/OR PROCUREMENT

FOR CHARTING ERRORS, OR FOR CHANGES, ADDITIONS, RECOMMENDATIONS ON PROCEDURAL ASPECTS CONTACT:

Current Charting Comments
Contact Information

FOR PROCUREMENT:

For digital products, visit our website at:
Current URL

MILITARY

For Corrections Information, See Chapter 11 of General Planning (GP). For Procurement refer to DOD Catalog of Aeronautical Charts and Flight Information Publications.

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.

APPENDIX 55
CHART IDENTIFICATION & TITLE AREA - AREA CHARTS (CONTINUED)

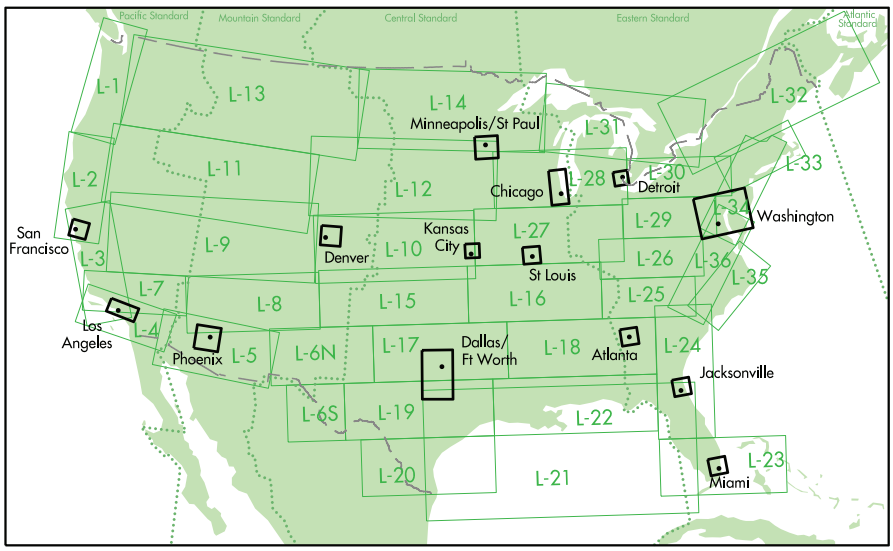
TITLE PANEL - AREA CHARTS			
Area Chart Distinctive Header	CAPS	.14" Futura Medium/45% Blue	A A A A A
Foreign Airspace Warning Text Box Lineweight & Color	C/L	.07" Futura Medium/Black .008"/Black	Warning: Refer to current foreign...
Chart Identification Area List of Cities Text Color Arrowheads Chart Identification Text Color	C/L CAPS	.07" Futura Medium 45% Black or Solid Black .11" Reverse 45% Black or Solid Black	San Francisco, Los Angeles, Phoenix, Denver, Kansas City, Dallas/Fort Worth, Chicago/Milwaukee, Minneapolis/St Paul, Detroit, St Louis, Atlanta, Jacksonville, Miami, Washington A-2 A-1
Chart Title First and Second Lines Third Line Altitude Note Effectivity & Expiration Note Effective Time Effective Date Expiration Time Expiration Date NOTAM Note Legend Note	CAPS CAPS C/L CAPS CAPS CAPS CAPS C/L C/L	.11" Futura Medium/Black .17" Futura Medium/Black .09" Futura Medium/Black .11" Helvetica 65 Medium/Solid Blue .17" Helvetica 65 Medium/Solid Blue .11" Helvetica 65 Medium/Solid Blue .13" Helvetica 65 Medium/Solid Blue .07" Futura Medium/Black .07" Futura Medium/Black	UNITED STATES... IFR AREA... For use up to but not... EFFECTIVE 0901Z 10 MAR 2011 TO 0901Z 5 MAY 2011 Consult NOTAMs for latest Information Consult ENROUTE CHARTS for LEGEND...

APPENDIX 56
CHART INDEX - AREA CHARTS

CENTER FOLD LINE

CHART IDENTIFICATION TAB

FAA LOGO / BANNER



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

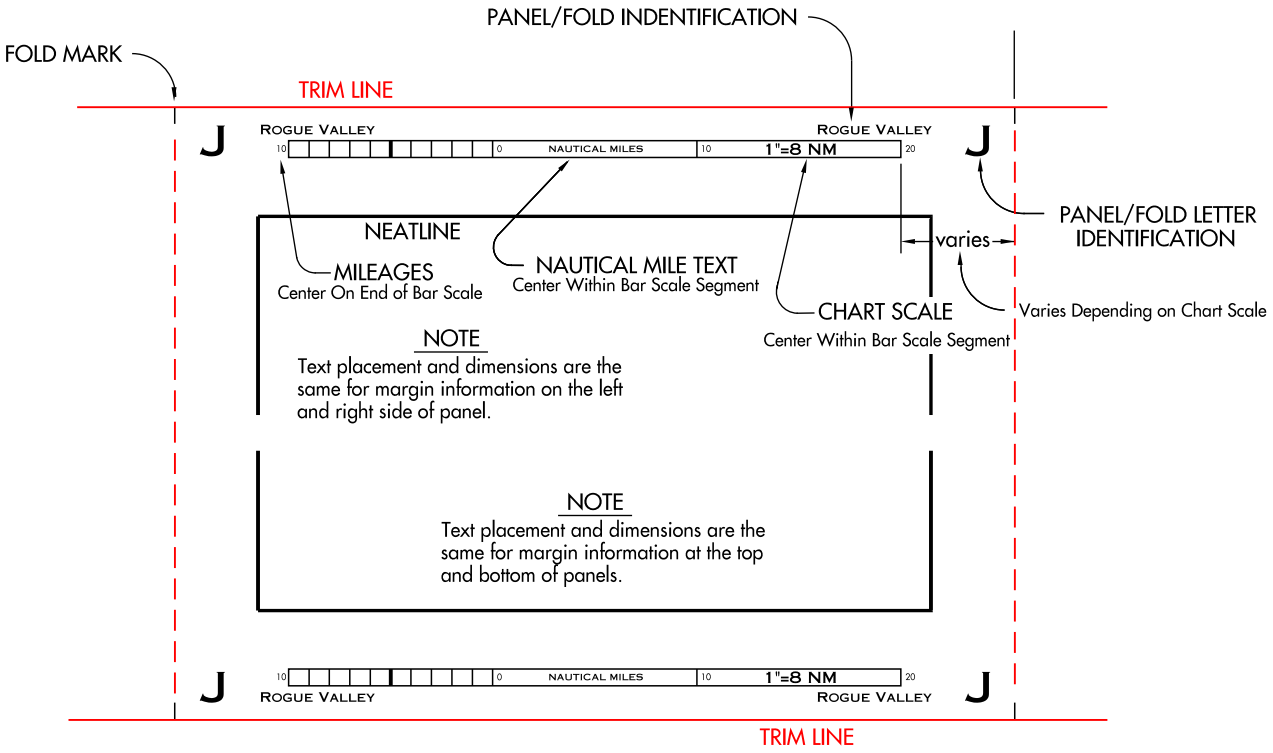
TRIM LINE

FOLD LINE

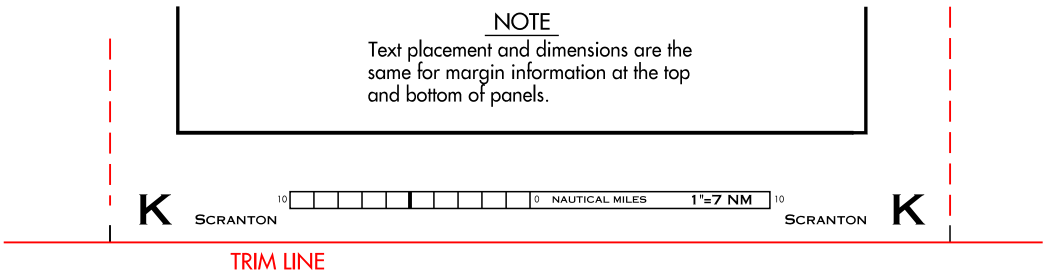
AREA CHARTS			
Chart Identificaton	CAPS	.08" Futura Medium/Green	L-21
Area Chart Cities Symbol Name	 C/L	 .025" Diameter/Black .06" Futura Medium/Black	 • Washington
Borders & Outlines Chart Index Border Area Chart Coverage Border Enroute Chart Outlines		 .012"/Black .014"/Black .005"/Green	
Time Zones & Boundaries Time Zone Name Time Zone Boundary Land Areas	 C/L 	 .04" Futura Medium/45% Green .015" Diameter/45% Green 10% Green	 Eastern Standard
IAC Credit Note	CAPS	.065" Futura Medium/Black	Published from digital files compiled

APPENDIX 57
MARGIN INFORMATION - BAR SCALES - AREA CHARTS

Bar Scales - One Panel - Area Charts

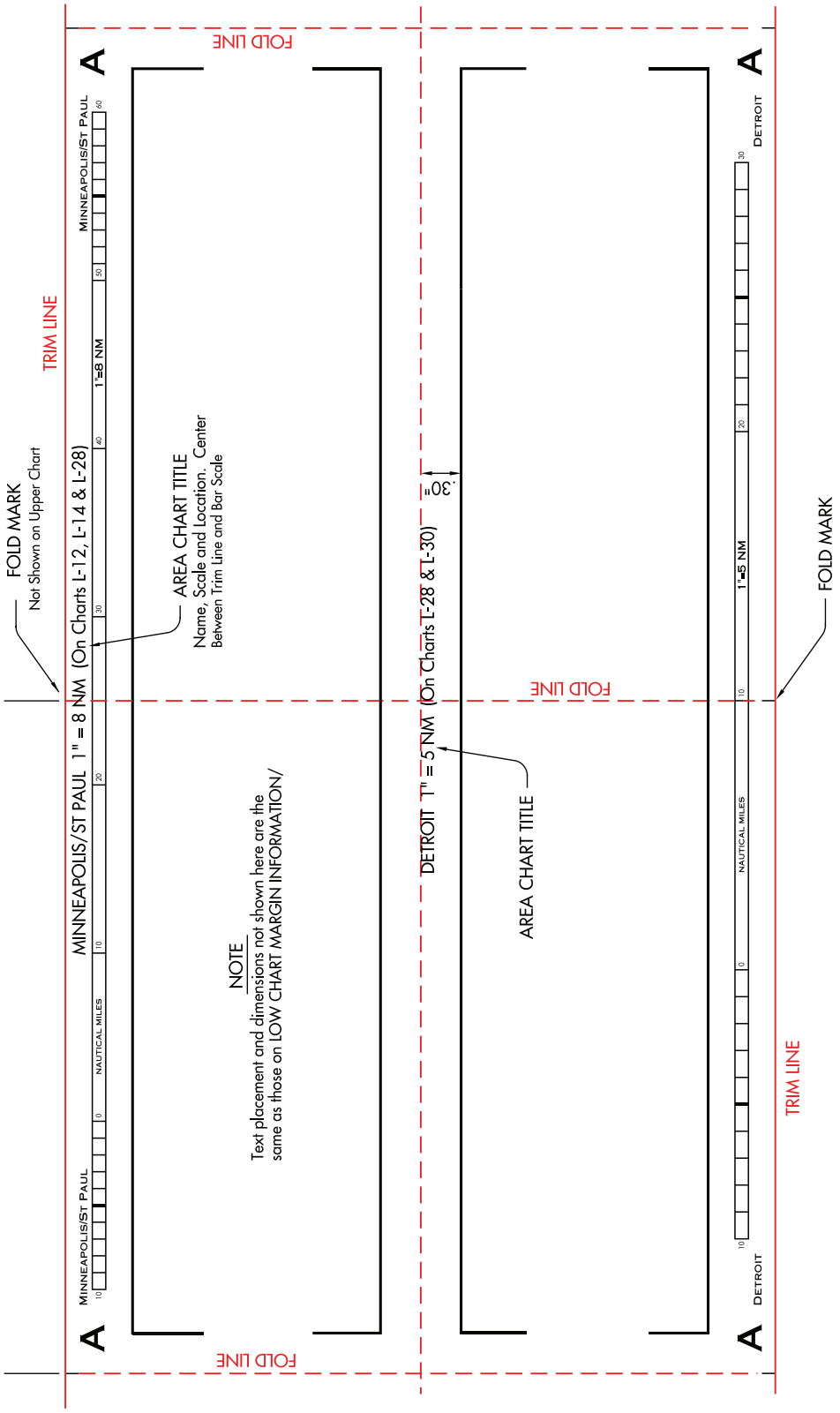


Differences for Chart Scale 1:7



APPENDIX 57
MARGIN INFORMATION - BAR SCALES - AREA CHARTS (CONTINUED)

Bar Scales - Two Panel - Area Charts

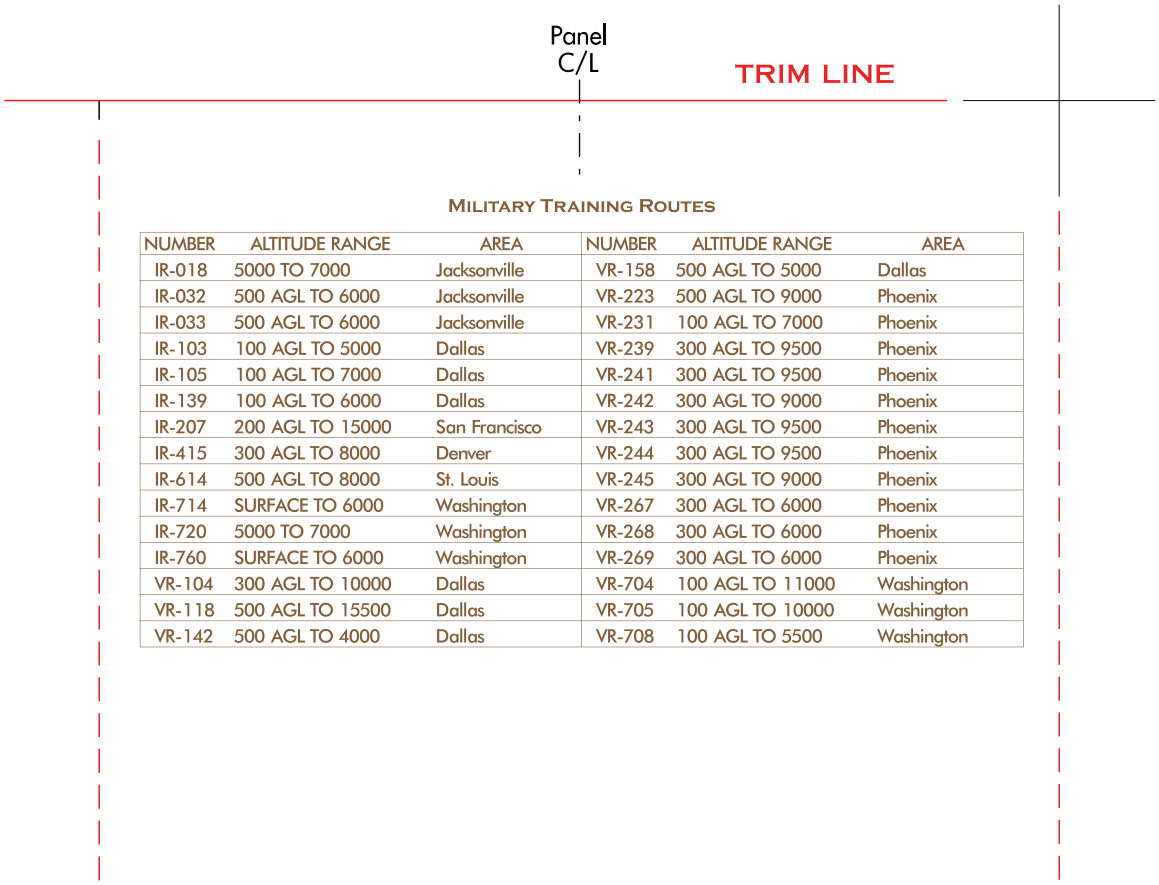


APPENDIX 57
MARGIN INFORMATION - BAR SCALES - AREA CHARTS (CONTINUED)

MARGIN INFORMATION - AREA CHART			
Chart Title			
Name & Scale	CAPS	.10" Futura Medium/Black	DENVER 1" = 7 NM
Chart References	C/L	.10" Futura Medium/Black	(On Chart L-10)
Panel Fold			
Letter	CAPS	.19" Copperplate Gothic 31/Black	H
City or NAVAID Identification	CAPS	.06" Copperplate Gothic 31/Black	PHOENIX
Fold Mark Weight & Length		.008"/.10"/Black	|
Chart Scale			
Units Text	CAPS	.04" Copperplate Gothic 31/Black	NAUTICAL MILES
Mileage Numbers		.04" Futura Medium/Black	20
Scale Text	CAPS	.06" Copperplate Gothic 31/Black	1"=8 NM
Scale Bar Lineweight		.008"/Black	
Effective Date (Back side of Chart)	CAPS	.08" Futura Medium/Black	EFFECTIVE 18 NOV 2010 TO...

MARGIN INFORMATION - AIRWAY/ROUTE INFORMATION					
Airway Route Text & Color					
VHF/UHF	CAPS	.06" Futura Medium/Black			MACON 112 9 MCM 76
LF/MF	CAPS	.06" Futura Medium/Brown			OSCARVILLE 251 OSE
LF/MF with DME					
LF/MF Data	CAPS	.06" Futura Medium/Brown			371 PDN 32 (109.5)
DME Data	CAPS	.06" Futura Medium/Black			
RNAV Waypoint	CAPS	.06" Futura Medium/Blue			DIBWO
		VHF/UHF	LF/MF	RNAV	
Geographic Coordinates					
Color		Black	Brown	Blue	N60°37.13'-W135°08.33' N60°26.37'-W134°51.68' N60°37.13'-W135°08.33'
Text		.05" Futura Medium Medium Italic			
		VHF/UHF	LF/MF		
Shutdown Status					
Color		45% Black	45% Brown		
Lineweight		.007"			

APPENDIX 58
MILITARY TRAINING ROUTES TABULATION - AREA CHARTS



MILITARY TRAINING ROUTES

NUMBER	ALTITUDE RANGE	AREA	NUMBER	ALTITUDE RANGE	AREA
IR-018	5000 TO 7000	Jacksonville	VR-158	500 AGL TO 5000	Dallas
IR-032	500 AGL TO 6000	Jacksonville	VR-223	500 AGL TO 9000	Phoenix
IR-033	500 AGL TO 6000	Jacksonville	VR-231	100 AGL TO 7000	Phoenix
IR-103	100 AGL TO 5000	Dallas	VR-239	300 AGL TO 9500	Phoenix
IR-105	100 AGL TO 7000	Dallas	VR-241	300 AGL TO 9500	Phoenix
IR-139	100 AGL TO 6000	Dallas	VR-242	300 AGL TO 9000	Phoenix
IR-207	200 AGL TO 15000	San Francisco	VR-243	300 AGL TO 9500	Phoenix
IR-415	300 AGL TO 8000	Denver	VR-244	300 AGL TO 9500	Phoenix
IR-614	500 AGL TO 8000	St. Louis	VR-245	300 AGL TO 9000	Phoenix
IR-714	SURFACE TO 6000	Washington	VR-267	300 AGL TO 6000	Phoenix
IR-720	5000 TO 7000	Washington	VR-268	300 AGL TO 6000	Phoenix
IR-760	SURFACE TO 6000	Washington	VR-269	300 AGL TO 6000	Phoenix
VR-104	300 AGL TO 10000	Dallas	VR-704	100 AGL TO 11000	Washington
VR-118	500 AGL TO 15500	Dallas	VR-705	100 AGL TO 10000	Washington
VR-142	500 AGL TO 4000	Dallas	VR-708	100 AGL TO 5500	Washington

MILITARY TRAINING ROUTES - AREA CHART			
Table Title	CAPS	.08" Copperplate Gothic 31/Brown	MILITARY TRAINING ROUTES
Column Headings	CAPS	.07" Futura Medium/Brown	NUMBER ALTITUDE RANGE AREA
Tabulated Information			
Number & Altitude Range	CAPS	.07" Futura Medium/Brown	VR-223 500 AGL TO 9000 Phoenix
Area	C/L	.07" Futura Medium/Brown	
Table Lineweight		.008" Brown	

APPENDIX 59
SUA & MOA TABULATION - AREA CHARTS

Panel C/L

TRIM LINE

TRIM LINE or FOLD LINE

TRIM LINE or FOLD LINE

Military Training Routes

NUMBER	ALTITUDE RANGE	AREA	NUMBER	ALTITUDE RANGE	AREA
IR-018	5000 TO 7000	Jacksonville	VR-158	500 AGL TO 5000	Dallas
IR-032	500 AGL TO 6000	Jacksonville	VR-223	500 AGL TO 9000	Phoenix
IR-033	500 AGL TO 6000	Jacksonville	VR-231	100 AGL TO 7000	Phoenix

ARTCC three letter idents: Albuquerque ZAB, Atlanta ZTL, Boston ZBW, Chicago ZAU, Cleveland ZOB, Denver ZDV, Fort Worth ZFW, Houston ZHU, Indianapolis ZID, Jacksonville ZJX, Kansas City ZKC, Los Angeles ZLA, Memphis ZME, Miami ZMA, Minneapolis ZMP, New York ZNY, Oakland ZOA, Salt Lake City ZLC, Seattle ZSE, Washington ZDC

U.S.: P - PROHIBITED, R - RESTRICTED, W - WARNING, A - ALERT 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.

Special Use Airspace

NUMBER	EFFECTIVE ALTITUDE	TIMES USED, UTC	CONTROLLING AGENCY A/G CALL	PANEL
CHICAGO				
R-6903	SFC TO FL 450	INTMT BY NOTAM	ZMP	J
DALLAS				
P-49	SFC TO 2000	CONT	NO A/G	K
JACKSONVILLE				
P-50	SFC TO BUT NOT INCL 3000	CONT	NO A/G	C
R-2904A	SFC TO BUT NOT INCL 1800	APR - AUG 1300 - 2200Z‡ DAILY; SEP - MAR 1300 - 2200Z‡ SAT - SUN; ∗1	JACKSONVILLE TRACON	C
W-135	SFC TO 1200	INTMT BY NOTAM	ZJX	C
LOS ANGELES				
R-2519	SFC TO UNLTD	CONT	ZLA	G
W-289E,W	SFC TO UNLTD	INTMT BY NOTAM	ZLA	G
MIAMI				
A-291A,C	SFC TO 2500	1100 - 0500Z‡ DAILY	NO A/G	C
A-291B,D	SFC TO 3900	1100 - 0500Z‡ DAILY	NO A/G	C
PHOENIX				
R-2301E	SFC TO FL 800	1330 - 0700Z DAILY; ∗1	ZAB	H
R-2310C	17000 TO 35000	INTMT BY NOTAM	ZAB	H
A-231	500 AGL TO 6500	CONT	NO A/G	H
SAN FRANCISCO				
A-682	N OF TRAVIS AFB RUNWAYS 21L/03R EXTENDED CENTERLINES SFC TO 6000' S OF TRAVIS AFB RUNWAYS 21L/03R EXTENDED CENTERLINES SFC TO 3000' SFC TO 3000	1600 - 0500Z‡ MON - FRI	NO A/G	G
WASHINGTON				
P-40	SFC TO BUT NOT INCL 5000	CONT	NO A/G	D
P-56	SFC TO 18000	CONT	NO A/G	D
P-73	SFC TO BUT NOT INCL 1500	CONT	NO A/G	D
R-4001A	SFC TO UNLTD	SFC TO UNLTD 1200 - 0500Z‡; SFC TO 10000 0500 - 1200Z‡; HIGHER ALTITUDES BY NOTAM	ZDC	E
R-5802C	500 AGL TO BUT NOT INCL 17000	FEB 15 - MAY 10 1300 - 0400Z‡ SAT 1300 - 1700Z‡ SUN; SEP 1 - DEC 15 1300 - 0400Z‡ SAT 1300 - 1700Z‡ SUN; MAY 11 - AUG 31 1300 - 0500Z‡ SAT 1300 - 0100Z‡ SUN - FRI; ∗1	ZNY	E
R-5802D	17000 TO BUT NOT INCL FL 220	FEB 15 - MAY 10 1300 - 0400Z‡ SAT 1300 - 1700Z‡ SUN; SEP 1 - DEC 15 1300 - 0400Z‡ SAT 1300 - 1700Z‡ SUN; MAY 11 - AUG 31 1300 - 0500Z‡ SAT 1300 - 0100Z‡ SUN - FRI; ∗1	ZNY	E
R-5803	SFC TO 4000	1300 - 2100Z‡ MON - FRI	NO A/G	D
R-6608A,B,C	SFC TO 10000	1000 - 0500Z‡ DAILY; ∗1	POTOMAC TRACON	D
R-6611A	SFC TO 40000	1300 - 2200Z‡ MON - FRI; ∗1	ZDC	D,E
R-6612	SFC TO 7000	1300 - 2200Z‡ MON - FRI; ∗1	ZDC	D
R-6613A	SFC TO 40000	1300 - 2200Z‡ MON - FRI; ∗1	ZDC	E
W-386	SFC TO UNLTD	INTMT BY NOTAM	ZDC	F
A-220	SFC TO 4500	1300 - 0300Z‡ DAILY	NO A/G	F

Alert Areas do not extend into Class A, B, C and D airspace, or Class E airport surface areas.

APPENDIX 59
SUA & MOA TABULATION - AREA CHARTS (CONTINUED)

SUAs & MOAs TABULATION - AREA CHART			
ARTCC Listing	C/L	.06" Futura Medium/Black	ARTCC three letter idents:
Legend	C/L	.07" Futura Medium/Black	P - PROHIBITED, R - RESTRICTED,
Additional Text	C/L	.06" Futura Medium/Black	All altitudes are MSL unless otherwise indicated
Table Title	CAPS	.07" Copperplate Gothic 31/Black	SPECIAL USE AIRSPACE
City Name	CAPS	.07" Futura Medium/Black	CHICAGO
Tabulated Information			
Column Headings	CAPS	.05" Futura Medium/Black	NUMBER
Tabulated Information	CAPS	.05" Futura Medium/Black	R-6903 MINNOW
Footnotes	C/L	.05" Futura Medium/Black	*1 Other Times By NOTAM
Table Lineweight		.008"/Black	

APPENDIX 60
TERRAIN CONTOURS - AREA CHARTS



TERRAIN CONTOURS - AREA CHARTS			
Countours Values Lineweight Colors		.04" Futura Medium/45% Brown .001"/45% Brown Screened Brown	2000 5% 15% 25% 35% 45%
Spot Elevations Spot Elevations Symbol Value Highest Spot Elevations Symbol Value		.035" Diameter/Black .05" Futura Medium/Black .050" Diameter/Black .06" Futura Medium/Black	10955 13176
Terrain Countours Note Text Lineweight	CAPS	.05" Futura Medium/Black .015"/Black	NOTE: TERRAIN CONTOURS HAVE BEEN ADDED TO THOSE AREA CHARTS WHERE THE TERRAIN ON THE CHART IS 1000 FOOT OR GREATER THAN THE ELEVATION OF THE PRIMARY AIRPORT

APPENDIX 61
TITLE PANEL LAYOUT - U.S. L-21



APPENDIX 61
TITLE PANEL LAYOUT - U.S. L-21 (CONTINUED)

TITLE PANEL - LOW ENROUTE CHART - L-21			
Offshore Navigation Note Main Heading Box Lineweight	C/L	.09" Futura Medium/Black .007"/Black	L-21 is intended for offshore...

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