Federal Aviation Administration

UNITED STATES GOVERNMENT SPECIFICATIONS

FLIGHT INFORMATION PUBLICATION
TERMINAL PROCEDURES PUBLICATION

IAC 17
2 March 2026

Prepared by the Interagency Air Committee (IAC)

OK-10-1818

UNITED STATES GOVERNMENT SPECIFICATIONS
FOR THE
FLIGHT INFORMATION PUBLICATION
TERMINAL PROCEDURES PUBLICATION

2 March 2026

These specifications have been developed by the Interagency Air Committee (IAC), composed of representatives of the Department of Defense and the Federal Aviation Administration, for use in the preparation of the United States Government Flight Information Publication Terminal Procedures Publication. 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 904 - Charting of Updated Initial Climb Area (ICA) Criteria.

EDITORIAL CHANGES

a. None applied this edition

CHANGES APPLIED 24 NOVEMBER 2025

REQUIREMENT DOCUMENTS

a. None applied this edition

EDITORIAL CHANGES

a. EC 25-16 - VCOA Explanatory Guidance
b. EC 25-17 - Radar Required Note in TPP Legend
c. EC 25-18 - Decision Height in Military Radar Mins

CHANGES APPLIED 7 OCTOBER 2025

REQUIREMENT DOCUMENTS

a. RD 897 - Runway Lighting Notes on Instrument Approach Procedures and Airport Diagrams

EDITORIAL CHANGES

a. None applied this edition

CHANGES APPLIED 18 SEPTEMBER 2025

REQUIREMENT DOCUMENTS

a. None applied this edition

EDITORIAL CHANGES

a. EC 25-06 - Update to DVA Location and Standardization of TPP Minimums

CHANGES APPLIED 25 JULY 2025

REQUIREMENT DOCUMENTS

a. RD 888 - Guidance for Processing Minima-Related Notes on IAPs

EDITORIAL CHANGES

a. None applied this edition

CHANGES APPLIED 20 MAY 2025

REQUIREMENT DOCUMENTS

a. None applied this edition

EDITORIAL CHANGES

a. EC 24-14 - Charting of Alternate Airport Minimums
b. EC 24-16 - Alternate Minimums TPP Legend Information

CHANGES APPLIED 12 MAY 2025

REQUIREMENT DOCUMENTS

a. RD 878 - Removal of Taxiway Data from IAP Airport Sketch
b. RD 879 - Removal of Circling Icon from the Terminal Procedures Publication (TPP)
c. RD 884 - Removal of 67:1 Slope Obstacles on Instrument Approach Procedures (IAP) and Removal of the Highest Obstacles from IAPs and Airport Diagrams (AD)

EDITORIAL CHANGES

a. None applied this edition

CHANGES APPLIED 11 MARCH 2025

REQUIREMENT DOCUMENTS

a. RD 880 - Rate of Climb and Rate of Descent Tables

EDITORIAL CHANGES

a. EC 24-17 - TPP Inside Back Cover

CHANGES APPLIED 13 JANUARY 2025

REQUIREMENT DOCUMENTS

a. RD 885 - Conflicting AutoPilot ILS Notes on Inoperative Components or Visual Aids Table

EDITORIAL CHANGES

a. None applied this edition

CHANGES APPLIED 28 OCTOBER 2024

REQUIREMENT DOCUMENTS

a. None applied this edition

EDITORIAL CHANGES

a. EC 24-10 - Update Specification References to IAC 9

CHANGES APPLIED 16 APRIL 2024

REQUIREMENT DOCUMENTS

a. None applied this edition

EDITORIAL CHANGES

a. EC 23-13 - Clarification of TPP Legend Text for Pilot Controlled Lighting
b. EC 24-04 - FAA-O Clarification

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AMENDMENT OF SPECIFICATIONS

1. PROCEDURE

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

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

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

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

2. AMENDMENT SYSTEM

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

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TABLE OF CONTENTS

CHAPTER 1 – GENERAL

CHAPTER 2 – LAYOUT AND FORMAT

CHAPTER 1
GENERAL

1.1 PURPOSE AND SCOPE

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

1.2 REQUIREMENTS

1.2.1 General

The Terminal Procedures Publication will be produced on the Aeronautical Information Regulation and Control (AIRAC) cycle at 56 day intervals in perfect bound form and loose-leaf form.

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

Standard Taxi Route Charts, Charted Visual Flight Procedures (CVFP) and Instrument Approach Procedure (IAP) charts shall be produced in accordance with IAC 4.

Airport Diagrams shall be produced in accordance with IAC 9.

Graphic Instrument Departure Charts, including both Standard Instrument Departures (SIDs) and Graphic Obstacle Departure Procedures (ODPs), shall be produced in accordance with IAC 7.

Standard Terminal Arrival (STAR) charts shall be produced in accordance with IAC 14.

NOTE: Civil IAPs and associated data covering Hawaii and the Pacific Islands are published in the Pacific Chart Supplement.

Note: DOD High Altitude Instrument Approach Procedure Charts shall be produced in accordance with DOD product specification PS/1FA/091. The DOD Flight Information Publication, Instrument Approach/Departure Procedures-U.S., Terminal Change Notices (TCN), and Unscheduled Change Notices (UCN) shall be prepared and issued in accordance with the criteria described in the DOD Annex to IAC 4, Product Specification for FLIP Low Altitude IAP Worldwide.

1.2.2 Type Style

Type style will be Futura Medium unless otherwise specified.

1.3 QUALITY AND ACCURACY

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

Type style, symbols, and line weights as illustrated herein, shall be adhered to. Type size may be varied when absolutely necessary.

1.4 APPENDICES

Appendices at the end of these specifications shall be used as a guide in the preparation of the U.S. Terminal Procedures Publications.

1.5 REFERENCES

Catalog of Photon Type Faces.

IAC 4, United States Government Specifications, Flight Information Publication - Instrument Approach Procedures.

IAC 7, United States Government Specifications, Flight Information Publication - Graphic Instrument Departure Procedure (DP) Charts.

IAC 9, United States Government Specifications, Flight Information Publication – Airport Diagrams.

IAC 14, United States Government Specifications, Flight Information Publication - Standard Terminal Arrival Charts.

DOD Annex to IAC 4, Product Specification for DOD Flight Information Publication (FLIP), Low Altitude Instrument Approach Procedures Worldwide.

DOD High Altitude Instrument Approach Procedures PS/1FA/091.

CHAPTER 2
LAYOUT AND FORMAT

2.1 GENERAL

The Terminal Procedures Publication (TPP) shall be published as volumes, by geographical areas, in both bound and loose-leaf formats. The Change Notice (CN) volume shall be published in bound format only.

Each item of information carried has its own basic layout and format as described in the references cited in **Appendix 1**.

Pages shall be printed back to back, head to toe.

The publication shall be printed in black and brown ink.

These specifications address the terminal product for the U.S., Puerto Rico, and Virgin Islands.

2.2 SIZE AND DIMENSIONS

The size and dimensions of the publication shall be as indicated in **Appendix 1** for the TPP and **Appendix 17** for the CN.

2.3 COVERS (TPP)

2.3.1 Outside Front Cover

Font, style, size, shade and position shall be as indicated in **Appendix 1**. The front cover shall contain the following information, positioned as illustrated on **Appendix 1**.

The publishing agency and seal shall be shown in white type on a blue background strip located at the top of the cover.

The title shall be identified according to the volume, e.g.,

Example: U.S. Terminal Procedures
Publication
Northeast (NE) Vol 3 of 4

The dates on the cover shall reflect the effective Z (Zulu) time and date, and the expiration Z time and date of the aeronautical data. Dates shown shall consist of the day, month, and year; e.g. 00 JUL 0000. Names of the months shall be abbreviated to the first three letters as appropriate.

The “Consult Change Notice” note shall be shown below the effective dates. This note shall not be included on the cover of the Alaska Terminal Procedures Publication.

The area of coverage applicable to each volume shall be shown in blue, with boundaries and identification text in white.

The “Consult NOTAMs for the latest information” note shall be shown below the State(s) graphic.

The “Consult/Subscribe to FAA Safety Alerts and Charting Notices at (URL to current Safety Alerts and Charting Notices website here)” note shall be shown below the “Consult NOTAMs” note.

The IAC credit note “Published from digital files compiled in accordance with Interagency Air Committee specifications and agreements approved by Department of Defense and the Federal Aviation Administration” shall be shown following the Safety Alerts note.

References:

Appendix 1 - Outside Front Cover

2.3.2 Backbone Identification

The backbone of each bound volume shall show the volume identification, e.g. VOL NE-3, the area of coverage (states or areas abbreviated), the current date and the next issue date (abbreviated). Dates shall be separated by the word “TO”, e.g. 00 JUN 00 to 00 AUG 00.

References:

Appendix 1 - Outside Front Cover

2.3.3 Inside Front Cover

The Inside Front Cover shall contain the “Table of Contents”, the “CORRECTIONS, COMMENTS, AND/OR PROCUREMENT” information.

References:

Appendix 2 - Inside Front Cover

2.3.4 Outside Back Cover

The Outside Back Cover shall provide an “AREA OF COVERAGE” chart showing the boundaries of each volume. State coverage that has been split into more than one volume will be depicted by a degree of latitude and/or longitude. For reference, some city names will be added with reference points.

A QR Code shall be provided.

References:

Appendix 3 - Outside Back Cover (U.S.)

Appendix 4 - Outside Back Cover (Alaska)

2.3.5 Inside Back Cover

The Inside Back Cover shall contain the words “INSIDE BACK COVER” using 24-point type, positioned on a single line at the top portion of the page. Below this, the text “INTENTIONALLY LEFT BLANK” will be shown using 20-point type. This text shall be shown using three lines and shall be centered in the middle portion of the page so that the word “BLANK” will be at the center of the page.

References:

Appendix 16 - Inside Back Cover

2.4 ARRANGEMENT (TPP)

2.4.1 General

The content shall be arranged as specified below.

Table 2.1 TPP Arrangement

Inside Front Cover	Table of Contents, Contact, & Published by Information
A1	Inoperative Components or Visual Aids Table
B1	Explanation of Terms/Landing Minima Data
C1	General Information
D1	Abbreviations
E1	Legend - IAP Planview
F1	Legend - IAP Profile
G1	Legend - Standard Terminal Arrival Charts
G2	Legend - Departure Procedure Charts
H1	Legend - Airport Diagram/Sketch
I1	Legend - Approach Lighting Systems
J1	Supplemental Tables - Frequency Pairing
J2	Supplemental Tables -Rate of Climb Table
J3	Supplemental Tables - Rate of Descent Table
K1	Index of Terminal Charts and Minimums
L1	IFR Takeoff Minimums, Departure Procedures, and Diverse Vector Area (Radar Vectors)
M1	IFR Alternate Airport Minimums
N1	Radar Minimums
O1	Land and Hold-Short Operations (LAHSO)
P1	Hot Spots
Z1	Standard Terminal Arrival Charts
Page 1	Terminal Charts
Inside Back Cover	Rate of Climb/Descent Table
Outside Back Cover	Area of Coverage

References:

Appendix 2 - Inside Front Cover

2.4.2 Page Numbering

All pages shall be numbered at the unpunched or unbound end only, with the page numbers centered at the top or bottom of the chart as appropriate.

The inside front, inside back, and back cover shall not be numbered.

The supplemental pages, including STARs, shall be lettered and numbered, using 9 point Arabic type. Within the volumes the supplemental pages will be subdivided by Section and each Section shall be lettered and numbered, e.g., "TERMS/LANDING MINIMA DATA" will be page B1 through B3. Page numbers shall be centered .20" above or below the neatline of the top or bottom of the page as appropriate.

Chart pages shall be numbered using 7 point type.

2.4.3 Blank Pages

Pages left blank shall be labeled "INTENTIONALLY LEFT BLANK" using 18 point type. The words "INTENTIONALLY LEFT BLANK" shall be shown, using three lines, and shall be centered in the upper portion of the page so that the word "BLANK" will be at the center of the page.

The .010" neatline shall be shown.

The "INTENTIONALLY LEFT BLANK" pages shall not be identified in the Table of Contents.

Blank pages required to complete a signature, and included after the last numbered chart page, shall not be numbered or identified.

The first IAP chart will always be a facing page. If there is a blank page preceding the first chart, it will be identified as "Intentionally Left Blank".

References:

Appendix 16 - Inside Back Cover

2.4.4 Supplemental Pages

Supplemental Pages shall be identified at the top and bottom of each page in accordance with the format and point type shown in **Appendix 24**.

2.4.5 Takeoff, Alternate, and Radar Minimums

Civil Takeoff, Alternate and Radar Minimums shall be arranged in alphabetical order by city and airport name. Military Takeoff and Radar Minimums shall be arranged in alphabetical order by airport and city name. When the first word of a city name (civil) or airport name (military) is abbreviated, it will be arranged in alphabetical order by the abbreviation, as shown in the authoritative database, with the exception of the abbreviation "St", e.g., St Louis, which will be arranged by the complete name Saint Louis. In all other cases, the airport name will be extracted verbatim from the authoritative database.

2.4.6 Land and Hold Short Operations (LAHSO)

LAHSO entries shall be arranged by city and airport name as extracted verbatim from the authoritative database. Abbreviations will be alphabetized by the abbreviation with the exception of "St", e.g., St Louis as Saint Louis.

2.4.7 Hot Spots

Hot Spot entries shall be arranged by city and airport name as extracted verbatim from the authoritative database. Abbreviations will be alphabetized by the abbreviation with the exception of "St", e.g., St Louis as Saint Louis.

2.4.8 STAR Charts

Star Charts shall be arranged in alphabetical order by procedure name.

2.4.9 Date of Last Revision

The latest revision date (Julian) shall be shown on all pages other than the outside covers, using 7 point type, e.g., 99014, as shown in the Appendices. This date reflects the latest revision of any type made to that page.

2.4.10 Date of Last Procedural Revision

The AIRAC date of the last procedural (upnumber or upletter) revision applied to the chart, shall be shown using 7 point type, e.g., 25JUN15 as shown in the Appendices on Instrument Approach Procedure Charts, Takeoff Minimum and (Obstacle) Departure Procedures, Diverse Vector Area (Radar Vectors), RADAR Minimums, Graphic Instrument Departure Procedures, Standard Terminal Arrival charts, and Charted Visual Flight Procedure charts.

2.5 CONTENT (TPP)

2.5.1 Table of Contents

The Table of Contents shall be located on the inside front cover.

2.5.2 Inoperative Components or Visual Aids Table

The Inoperative Components or Visual Aids Table shall be formatted as indicated in **Appendix 5**

2.5.3 Explanation of Terms/Landing Minima Data

These pages shall contain "IFR LANDING MINIMA", "LANDING MINIMA FORMAT", "COPTER MINIMA", "RNAV (GPS) MINIMA", "CIRCLING APPROACH PROTECTED AIRSPACE", "AIRCRAFT APPROACH CATEGORIES", "MANUEVERING TABLE", "COMPARABLE VALUES OF RVR AND VISABILITY", "RADAR MINIMA" information, and other related terms and information as necessary.

References:

Appendix 6 - Explanation of Terms/Landing Minima Data

2.5.4 General Information

The General Information pages shall contain the information positioned as illustrated in **Appendix 7**.

2.5.5 Abbreviations

A listing of abbreviations shall appear in accordance with **Appendix 8**.

2.5.6 Legends

All terminal procedures symbology shall be depicted and identified in legends arranged in the following sequence (content and arrangement will be in accordance with the indicated IAC specification):

- Instrument Approach Procedures Planview Symbols (IAC 4).
- Instrument Approach Procedures Profile (IAC 4)
- Standard Terminal Arrivals (IAC 14)
- Graphic Instrument Departures (IAC 7)
- Airport Diagram/Airport Sketch (IAC 4 & 9)
- Approach Lighting Systems (IAC 4)

2.5.7 Frequency Pairing Table

Content and format shall be as indicated in **Appendix 9**.

2.5.8 Rate of Climb Table and Rate of Descent Table

Content and format shall be as indicated in **Appendix 10** and **Appendix 11**.

2.5.9 Index of Terminal Charts and Minimums

An index shall be prepared for each geographical area and shall be current with each issue of charts.

References:

Appendix 12 - Index of Terminal Charts and Minimums

Appendix 13 - Index of Terminal Charts and Minimums - Complex

2.5.9.1 Index Make-up

The index shall be a columnized listing of charts, takeoffs, alternates, radar minima, LAHSO and Hot Spots arranged in alphabetical order by the associated city followed by the airport name. Military airports are arranged alphabetically by the airport name followed by the associated city.

When there is more than one airport associated with a city, the airports will be arranged under the city name in alphabetical order by the first word in the official airport name. When the first word of an airport name is abbreviated, it will be arranged in alphabetical order by the abbreviation, as shown in the authoritative database, with the exception of the abbreviation “St”, e.g., St Louis, which will be arranged by the complete name Saint Louis. In all other cases, the airport name will be extracted verbatim from the authoritative database.

The airport identifier will be placed in parenthesis after the airport name (FAA designator for civil airports, ICAO designator for military airports). Airports outside the contiguous United States will be shown with the FAA designated identifier in parenthesis followed by the ICAO location indicator in parenthesis.

The index shall be a columnized listing (2 columns per page) of charts and their page numbers contained in the publication arranged in accordance with the Table of Contents.

2.5.9.2 Cross References

Cross references within the index will be provided as follows:

- Airport names will be cross-referenced to the city.
- Military airports will be cross-referenced from the city and installation name as appropriate.
- Civil Airports commonly associated with a city listed in another volume shall be cross-referenced; e.g.,

CINCINNATI, OH
GREATER CINCINNATI INTL-SEE COVINGTON, KY
VOL SE-1

Continuation pages will not be listed in the index.

2.5.9.3 Format/Index Entries

The basic format is shown in **Appendix 12** and **Appendix 13**. DoD High/Low Altitude procedures shall be included in the appropriate volume. DoD High Altitude procedures shall precede Low Altitude procedures. Each entry in the index will include the following information where applicable in the indicated order:

Table 2.2 Order of Index Entries

Takeoff Minimums	
Diverse Vector Area (Radar Vectors)	
Alternate Airport Minimums	
Radar Minimums	
LAHSO	
Hot Spots	
STAR Charts	
IAPs	
	ILS or LOC
	ILS
	ILS (SA CAT I)
	ILS (SA CAT I & II)
	ILS (CAT II)
	ILS (CAT II & III)
	ILS (SA CAT II)
	ILS/DME
	ILS V (CONVERGING)
	GLS
	RNAV (RNP)
	RNAV (GPS)
	GPS
	LOC/DME
	LOC
	LOC/BC
	LDA
	SDF
	VOR/DME
	VOR/DME OR TACAN
	VOR
	VOR or TACAN
	TACAN

Table 2.2 Order of Index Entries (Continued)

	NDB/DME
	NDB
	COPTER ILS OR LOC
	COPTER ILS
	COPTER LOC/DME
	COPTER LOC
	COPTER LDA
	COPTER RNAV
	COPTER VOR/DME
	COPTER VOR
	COPTER TACAN
	COPTER NDB
	LORAN-C
	PRM AAUP
	ILS PRM
	ILS PRM (SA CAT I)
	ILS PRM (SA CAT I & II)
	ILS PRM (CAT II)
	ILS PRM (CAT II & III)
	ILS PRM (SA CAT II)
	GLS PRM
	RNAV (RNP) PRM
	RNAV (GPS) PRM
	LDA PRM
CVFP	
	CHARTED VISUAL
AIRPORT DIAGRAM	
DPS	
	RNAV DEPARTURE AAUP
	DEPARTURE (OBSTACLE)
	DEPARTURE
	DEPARTURE (COPTER)

2.5.10 IFR Takeoff Minimums, (Obstacle) Departure Procedures, and Diverse Vector Area (Radar Vectors)

Refer to IAC 4 for content and format.

2.5.11 IFR Alternate Airport Minimums

Refer to IAC 4 for content and format.

2.5.12 Radar Minimums

Refer to IAC 4 for content and format.

2.5.13 Land and Hold Short Operations (LAHSO)

Content and format shall be as indicated in **Appendix 14**.

2.5.14 Hot Spots

Hot Spot content and format shall be as indicated in **Appendix 15**.

2.5.15 Standard Terminal Arrival Charts

STARs will be in the front of each volume in alphabetical order by procedure name. Refer to IAC 14 for content and format.

2.5.16 Terminal Charts

Refer to IAC 4 for content and format of IAPs and CVFPs.

Refer to IAC 9 for content and format of Airport Diagrams.

Refer to IAC 7 for content and format of Graphic Departures.

2.6 AMENDMENTS - TPP (COUNTERMINOUS U.S. ONLY) CHANGE NOTICE (CN)

2.6.1 General

A Change Notice (CN) will be produced for issue effective 28 days following the effective date of the volumes.

The CN will be a single-volume publication containing revised, amended, and original charts, and supplemental data changes affecting any volume. These changes will be effective on the CN effective date and will remain in effect for the next 28 days.

Except in extreme circumstances when safety of flight dictates, Airport Diagrams, Standard Terminal Arrivals, Standard Instrument Departures and Graphic Departure Procedures will not be included in the Chart Notice.

In the event it is necessary to promulgate important graphic or textual data that cannot be adequately disseminated through the FAA Notice to Airmen (NOTAM) system, a SPECIAL NOTICE accompanied by charts and/or page(s) of supplemental data may be issued off-cycle.

Canceled charts and supplemental data shall be listed in the index.

2.6.2 CN Cover Format

2.6.2.1 Outside Front Cover

Refer to **Appendix 17** for content and format of CN Outside Front Cover.

2.6.2.2 Inside Front Cover

General information and instructions concerning the use of the CN will be printed on the inside of the front cover. Refer to **Appendix 18** for content and format.

2.6.2.3 Inside Back Cover

The inside of the back cover will show the words “INSIDE BACK COVER” and “INTENTIONALLY LEFT BLANK”. Refer to **2.3.5** and **Appendix 16** for content and format.

2.6.2.4 Outside Back Cover

The outside back cover will show the Area of Coverage in accordance with **Appendix 3**.

2.6.3 CN Content

Supplemental data and charts will be printed back to back, head to toe.

The first chart will be a facing page. If there is a blank page preceding the first chart, it will be identified as “Intentionally Left Blank”.

Supplemental Data, i.e., Takeoff, Alternate, and Radar minimums will be arranged by volume with the civil entries listed alphabetically by city, and airport name. Military entries will be listed alphabetically by airport name and city. These pages will be lettered and numbered using 7 pt type. When the first word of a city name (civil) or airport name (military) is abbreviated, it will be arranged in alphabetical order by the abbreviation, as shown in the authoritative database, with the exception of the abbreviation “St”, e.g., St Louis, which will be arranged by the complete name Saint Louis. In all other cases, the airport name will be extracted verbatim from the authoritative database.

The charts included in the single-volume CN will be arranged as a composite of all volumes, with airports listed alphabetically by city, and airport name. Military entries will be listed alphabetically by airport name and city. When the first word of a city name (civil) or airport name (military) is abbreviated, it will be arranged in alphabetical order by the abbreviation, as shown in the authoritative database, with the exception of the abbreviation “St”, e.g., St Louis, which will be arranged by the complete name Saint Louis. In all other cases, the airport name will be extracted verbatim from the authoritative database. If the airport name differs from the city it serves, an appropriate cross reference will be included in the “INDEX OF TERMINAL CHARTS AND MINIMUMS”. See **Appendix 19** for content and format.

Textual information and charts shall be printed in black, using solid and screened color as indicated within these specifications.

IFR Takeoff Minimums and (Obstacle) Departure Procedures. See **Appendix 20** for layout and format.

IFR Alternate Airport Minimums. See **Appendix 21** for layout and format.

Radar Instrument Approach Minimums. See **Appendix 22** for layout and format.

2.7 AMENDMENTS - CHANGE NOTICE (CN) (ALASKA)

A CN may be issued at the midpoint of the normal revision cycle of the volume when safety considerations of a hazardous nature require the issuance of an amended and/or an original procedure.

A CN shall consist of a single page (s) issuance of the appropriate and applicable procedure(s).

CNs shall be annotated with the following note (replacing the page number) centered across the top margin of the page, utilizing negative type. e.g. ALASKA TERMINAL CHANGE (See **Appendix 23**).

The page number at the bottom of the page shall be shown also using negative type; e.g.;

REPLACED PAGE 00
or
NEW PAGE 00a

Procedures issued to replace an existing procedure within the volume shall be printed on gum-backed paper.

CNs shall normally be printed on one side only. Procedures shall be printed, backed-up, head-to-toe, only when appropriate to the layout, format, and arrangement of the publication.

Procedures issued as an additional page to the volume shall be printed on plain paper.

The effective date of the CN shall be positioned below the procedure title in the lower left corner.

APPENDIX 1
OUTSIDE FRONT COVER

All type on cover must be Arial font - no centering.

Arial Regular 14 pt

Arial Bold 9 pt

NE-3 DC DE MD VA **07 MAY 09 to 02 JUL 09**

Top of Logo must be .5" from top of printed page

.1875" bleed

Federal Aviation Administration

TM

1.875"

U.S. Terminal Procedures Publication

24 pt Bold

2.75"

Northeast (NE) Vol 3 of 4

Effective: 0901Z — 12 pt Regular

26 MAY 2016 — 18 pt Bold

to: 0901Z — 12 pt Regular

21 JUL 2016 — 14 pt Bold

Consult the Change Notice (CN) effective 23 JUN 2016 for revised Instrument Procedure Charts for this volume — 8 pt Regular

9"

4.25"

Area designated for graphic

7.125"

Consult NOTAMs for latest information
Consult/Subscribe to FAA Safety Alerts and Charting Notices at:
http://www.faa.gov/air_traffic/flight_info/aeronav/safety_alerts/

Published from digital files compiled in accordance with Interagency Air Committee specifications and agreements approved by:
Department of Defense • Federal Aviation Administration — 8 pt Regular

.5 " Margin

5.38"

APPENDIX 2
INSIDE FRONT COVER

25219

TERMINAL PROCEDURES TABLE OF CONTENTS

CORRECTIONS, COMMENTS AND/OR PROCUREMENT

FOR CHARTING ERRORS, OR FOR CHANGES, ADDITIONS, RECOMMENDATIONS ON PROCEDURAL ASPECTS CONTACT:

Point of Contact Address

For inquiries regarding military charts, please contact Current NGA email address

FOR PROCUREMENT:
For digital products, visit our website at: Current Digital Products URL

For a list of approved FAA Print Providers, visit our website at:
Current List of FAA Approved Print Providers URL

Frequently asked questions (FAQ) are answered on our website at: Current FAQ URL
See the FAQs prior to contact via toll free number or email.

Request for the creation or revisions to Airport Diagrams should be in accordance with FAA Order 7910.4

25219

APPENDIX 2
INSIDE FRONT COVER (CONTINUED)

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TERMINAL PROCEDURES TABLE OF CONTENTS—PAC

CORRECTIONS, COMMENTS AND/OR PROCUREMENT

FOR CHARTING ERRORS, OR FOR CHANGES, ADDITIONS, RECOMMENDATIONS ON PROCEDURAL ASPECTS CONTACT:

Point of Contact Address

For inquiries regarding military charts, please contact Current NGA email Address

FOR PROCUREMENT:
For digital products, visit our website at: Current Digital Products URL

For a list of approved FAA Print Providers, visit our website at:
Current List of FAA Approved Print Providers URL

Frequently asked questions (FAQ) are answered on our website at: Current FAQ URL
See the FAQs prior to contact via toll free number or email.

Request for the creation or revisions to Airport Diagrams should be in accordance with FAA Order 7910.4

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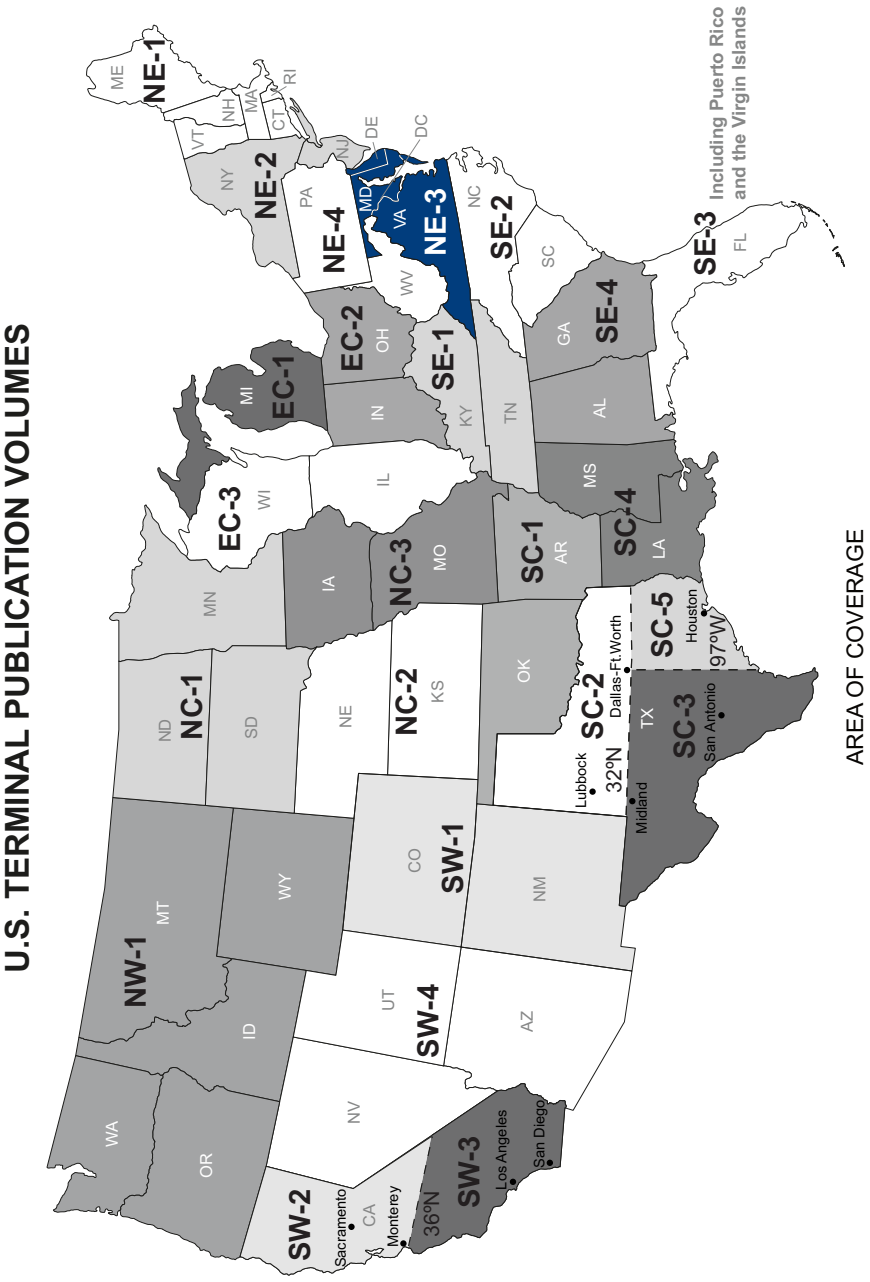
APPENDIX 3
OUTSIDE BACK COVER (U.S.)



FAA Product ID: BTPPNE3

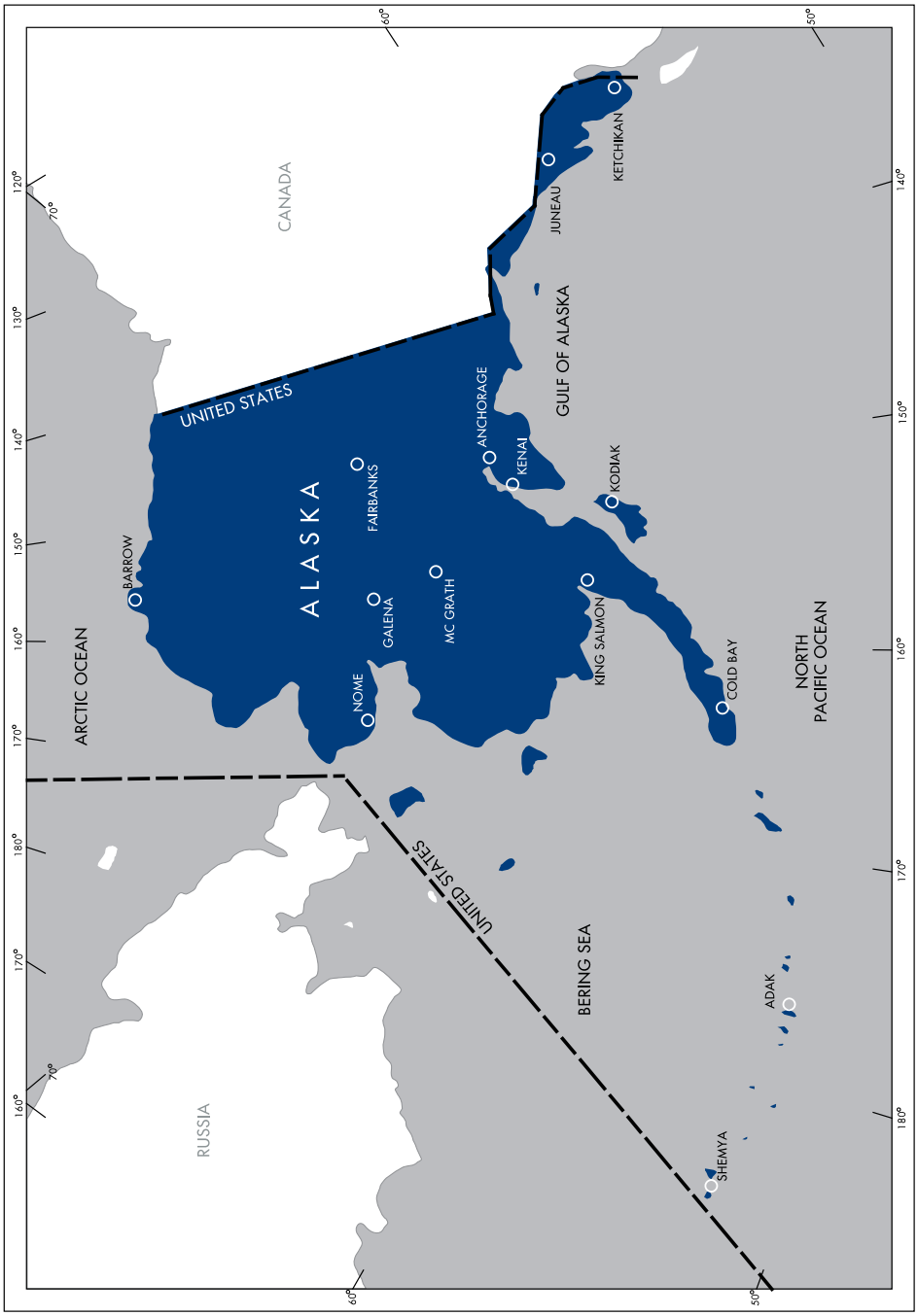
NSN 7641015059584

NGA REF. NO. TERMXFAABTPPNE3

OK-10-2859

EFF. DATE 10266

APPENDIX 4
OUTSIDE BACK COVER (ALASKA)



ALASKA COVERAGE

FAA Product ID: ATP

NSN 7641014109675

NGA REF. NO. TERMXAKTPP

EFF. DATE 10266

OK-09-3959

APPENDIX 5
INOPERATIVE COMPONENTS OR VISUAL AIDS TABLE

INOP COMPONENTS 25051

INOPERATIVE COMPONENTS OR VISUAL AIDS TABLE
(For Civil Use Only)

Straight-in and Sidestep landing minimums published on instrument approach procedure charts are based on full operation of all components and visual aids (see exception below for ALSF 1 & 2) associated with the particular approach chart being used. Higher minimums are required with inoperative components or visual aids as indicated below. If more than one component is inoperative, each minimum is raised to the highest minimum required by any single component that is inoperative. ILS glideslope inoperative minimums are published on the instrument approach charts as localizer minimums. This table applies to approach categories A thru D and is to be used unless amended by notes on the approach chart. Such notes apply only to the particular approach category(ies) as stated. Category E inoperative notes will be specified when published on civil charts. The inoperative table does not apply to Circling minimums. See legend page for description of components indicated below.

Full Operation Exception: For ALSF 1 & 2 operated as SSALR, or when the sequenced flashing lights are inoperative, there is no effect on visibility for ILS lines of minima.

(1) ILS, PAR, LPV, GLS minima

Inoperative Component or Visual Aid	Increase Visibility
All ALS types (except ODALS)	¼ mile

(2) ILS, LPV, GLS with visibility minima of RVR 1800†/2000*/2200*

Inoperative Component or Visual Aid	Increase Visibility
ALSF 1 & 2, MALSR, SSALR	To RVR 4000† To RVR 4500*
TDZL or RCLS	To RVR 2400#
RVR	To ½ mile

#For ILS, LPV, GLS procedures with a 200 foot HAT, RVR 1800 authorized with use of FD or AP or HUD to DA. For ILS procedures with a 200 foot HAT with a restriction on autopilot usage, RVR 1800 authorized with use of FD or HUD to DA.

(3) All Approach Types and all lines of minima other than (1) & (2) above

Inoperative Component or Visual Aid	Increase Visibility
ALSF 1 & 2, MALSR, SSALR	½ mile
MALSF, MALS, SSALF, SSALS, SALSF, SALS	¼ mile

(4) Sidestep minima (CAT C-D)

Inoperative Component or Visual Aid to Sidestep Runway	Increase Visibility
ALSF 1 & 2, MALSR, SSALR	½ mile

(5) All Approach Types, All lines of minima

Inoperative Component or Visual Aid	Increase Visibility
ODALS (CAT A-B)	¼ mile
ODALS (CAT C-D)	⅛ mile

INOP COMPONENTS 25051

APPENDIX 6
EXPLANATION OF TERMS/LANDING MINIMA DATA

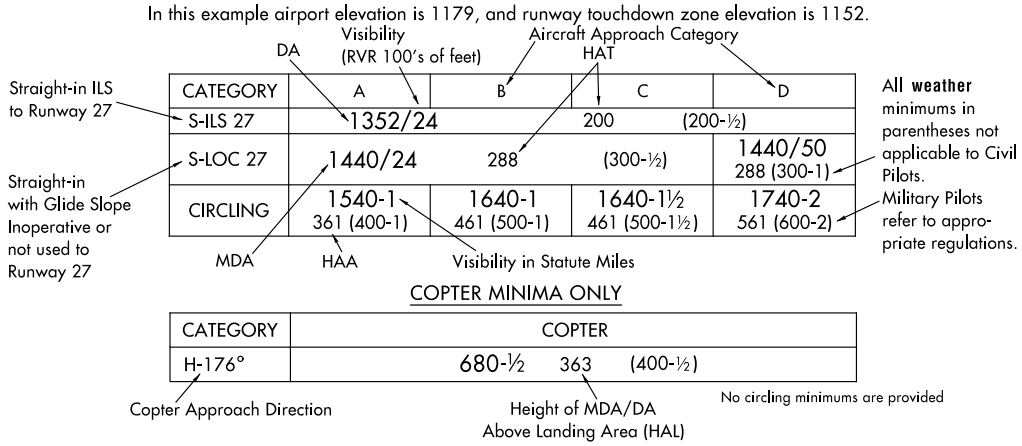
TERMS/LANDING MINIMA DATA 00000

IFR LANDING MINIMA

The United States Standard for Terminal Instrument Procedures (TERPS) is the approved criteria for formulating instrument approach procedures. Landing minima are established for six aircraft approach categories (ABCDE and COPTER). In the absence of COPTER MINIMA, helicopters may use the CAT A minimums of other procedures.

LANDING MINIMA FORMAT

In this example airport elevation is 1179, and runway touchdown zone elevation is 1152.



COPTER MINIMA ONLY

NOTE: The W symbol indicates outages of the WAAS vertical guidance may occur daily at this location due to initial system limitations. WAAS NOTAMS for vertical outages are not provided for this approach. Use LNAV minima for flight planning at these locations, whether as a destination or alternate. For flight operations at these locations, when the WAAS avionics indicate that LNAV/VNAV or LPV service is available, then vertical guidance may be used to complete the approach using the displayed level of service. Should an outage occur during the procedure, reversion to LNAV minima may be required. As the WAAS coverage is expanded, the W will be removed.

RNAV minimums are dependent on navigation equipment capability, as stated in the applicable AFM, AFMS, or other FAA approved document. See AIM paragraph 5-4-5, AC 90-105 and AC 90-107 for detailed requirements for each line of minima.

COLD TEMPERATURE AIRPORTS

NOTE: A ❄-12°C symbol indicates a cold temperature altitude correction is required at this airport when reported temperature is at or below the published temperature. See the following Cold Temperature Error Table to make manual corrections. Advise ATC with altitude correction. Advising ATC with altitude corrections is not required in the final segment. See Aeronautical Information Manual (AIM), Chapter 7, for guidance and additional information. For a complete list, see the "Cold Temperature Airports" link under the Additional Resources heading at the bottom of the following page: http://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/search/

COLD TEMPERATURE ERROR TABLE

HEIGHT ABOVE AIRPORT IN FEET

REPORTED TEMP °C	200	300	400	500	600	700	800	900	1000	1500	2000	3000	4000	5000
+10	10	10	10	10	20	20	20	20	20	30	40	60	80	90
0	20	20	30	30	40	40	50	50	60	90	120	170	230	280
-10	20	30	40	50	60	70	80	90	100	150	200	290	390	490
-20	30	50	60	70	90	100	120	130	140	210	280	420	570	710
-30	40	60	80	100	120	140	150	170	190	280	380	570	760	950
-40	50	80	100	120	150	170	190	220	240	360	480	720	970	1210
-50	60	90	120	150	180	210	240	270	300	450	590	890	1190	1500

AIRCRAFT APPROACH CATEGORIES

Aircraft approach category indicates a grouping of aircraft based on a speed of VREF, if specified, or if VREF not specified, 1.3 VSO at the maximum certificated landing weight. VREF, VSO, and the maximum certificated landing weight are those values as established for the aircraft by the certification authority of the country of registry. Helicopters are Category A aircraft. An aircraft shall fit in only one category. When necessary to operate the aircraft at an airspeed in excess of the maximum airspeed of its certified aircraft approach category, pilots should use the applicable higher category minima. For additional options and to ensure the aircraft remains within protected airspace, consult the AIM. See following category limits:

MANEUVERING TABLE

Approach Category	A	B	C	D	E
Speed (Knots)	0-90	91-120	121-140	141-165	Abv 165

TERMS/LANDING MINIMA DATA 00000

APPENDIX 6
EXPLANATION OF TERMS/LANDING MINIMA DATA (CONTINUED)

TERMS/LANDING MINIMA DATA 00000

CIRCLING APPROACH OBSTACLE PROTECTED AIRSPACE

The circling MDA provides vertical obstacle clearance during a circle-to-land maneuver. The circling MDA protected area extends from the threshold of each runway authorized for landing following a circle-to-land maneuver for a distance as shown in the table below. The resultant arcs are then connected tangentially to define the protected area.

CIRCLING APPROACH MANEUVERING AIRSPACE RADIUS

Circling MDA protected areas use the radius distance shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category, and the altitude of the circling MDA, which accounts for true airspeed increase with altitude.

Circling MDA in feet MSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E
1000 or less	1.3	1.7	2.7	3.6	4.5
1001-3000	1.3	1.8	2.8	3.7	4.6
3001-5000	1.3	1.8	2.9	3.8	4.8
5001-7000	1.3	1.9	3.0	4.0	5.0
7001-9000	1.4	2.0	3.2	4.2	5.3
9001 and above	1.4	2.1	3.3	4.4	5.5

Users may ignore the presence of C symbols on charts which will be removed on a day-forward basis. All circling areas within this volume have been evaluated for the circling MDA protected area radius shown in the table above.

Comparable Values of RVR and Visibility

The following table may be used for converting RVR to ground or flight visibility. For RVR values that fall between listed values, use the next higher RVR value; do not interpolate. For example, when converting 4800 RVR, use 5000 RVR with the resultant visibility of 1 mile.

RVR (feet)	Visibility (SM)	RVR (feet)	Visibility (SM)	RVR (feet)	Visibility (SM)	RVR (feet)	Visibility (SM)
1200	¼	2200	½	3200*	⅝	5000*	1
1600*	¼	2400*	½	3500	⅝	5500	1
1800	½	2600	½	4000*	¾	6000*	1¼
2000	½	3000	⅝	4500*	⅞		

*Values repeated from 14 CFR 91.175 and shall be used for takeoff or landing minima.

If a visibility adjustment is required for a procedure with an RVR value, the RVR value should first be converted to visibility using this table. The visibility should then be increased by the adjustment value, and then may be converted back to the highest RVR value associated with that visibility. For example, if a procedure with 2000 RVR requires a ⅛ mile adjustment, first convert 2000 RVR to ½ SM. Adding ⅛ SM results in ⅝ SM, which may then be converted to 3500 RVR.

RADAR MINIMA

	RWY	GP/TCH/RPI	CAT	DA/ MDA-VIS	HAT HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT HAA	CEIL-VIS
PAR	10	2.5°/42/1000	ABCDE	**195**/16	100	(100-¼)				
	28	2.5°/48/1068	ABCDE	**187**/16	100	(100-¼)				
ASR	10		ABC	**560**/40	463	(500-¾)	DE	**560**/50	463	(500-1)
	28		AB	**600**/50	513	(600-1)	CDE	**600**/60	513	(600-1¼)
CIR	10		AB	**560**-1¼	463	(500-1¼)	CDE	**560**-1½	463	(500-1½)
	28		AB	**600**-1¼	503	(600-1¼)	CDE	**600**-1½	503	(600-1½)

Visibility (RVR 100's of feet)

Visibility in Statute Miles

All minimums in parentheses not applicable to Civil Pilots. Military Pilots refer to appropriate regulations.

Radar Minima:

1. Minima shown are the lowest permitted by established criteria. Pilots should consult applicable directives for their category of aircraft.
2. The circling MDA and weather minima to be used are those for the runway to which the final approach is flown- not the landing runway. In the above RADAR MINIMA example, a category C aircraft flying a radar approach to runway 10, circling to land on runway 28, must use an MDA of 560 feet with weather minima of 500-1½.

NOTE: Military RADAR MINIMA may be shown with communications symbology that indicates emergency frequency monitoring capability by the radar facility as follows: (E) VHF and UHF emergency frequencies monitored
(V) VHF emergency frequency (121.5) monitored
(U) UHF emergency frequency (243.0) monitored
Additionally, unmonitored frequencies which are available on request from the controlling agency may be annotated with an "x".

A Alternate Minimums not standard. Civil users refer to tabulation. USA/USN/USAF pilots refer to appropriate regulations.

A NA Alternate minimums are Not Authorized due to unmonitored facility or absence of weather reporting service.

T Airport is published in the Takeoff Minimums, (Obstacle) Departure Procedures, and Diverse Vector Area (Radar Vectors) tabulation.

TERMS/LANDING MINIMA DATA 00000

APPENDIX 7
GENERAL INFORMATION

GENERAL INFO 00000

GENERAL INFORMATION

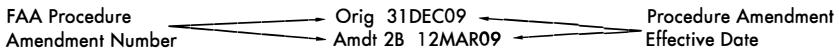
This publication is issued every 56 days and includes the following instrument flight procedures (IFPs): Standard Instrument Approach Procedures (SIAPs), Standard Instrument Departures (SIDs), Standard Terminal Arrivals (STARs), IFR Takeoff Minimums and (Obstacle) Departure Procedures (ODPs), Diverse Vector Areas (DVAs), IFR Alternate Minimums, and Radar Instrument Approach Minimums for use by civil and military aviation. The organization responsible for SIAPs, Radar Minimums, SIDs, STARs and graphic ODPs is identified in parentheses in the top margin of the procedure; e.g., (FAA), (FAA-O), (USA), (USAF), (USN). For Textual ODPs and DVAs the organization is identified in parentheses after the Julian Date. SIAPs and ODPs with the (FAA) and (FAA-O) designation are regulated under 14 CFR, part 97. IFPs with the (FAA-O) designation have been developed by a service provider authorized by the FAA. See 14 CFR, part 91.175 (a) and the AIM for further details on civil airport operations. See 14 CFR, part 91.175 (g) and the Special Notices section of the Chart Supplement for information on civil operations at military airports.

The FAA uses an internal numbering system on all charts in the TPP. This Approach and Landing (AL) number is located on the top center margin of the chart followed by the organization responsible for the procedure in parentheses, e.g., AL-18 (FAA), AL-11919 (FAA-O). Military procedures do not show AL number, but do show the appropriate authority for the procedure, e.g., (USAF).

CHART CURRENCY INFORMATION

Date of Latest Revision 09365

The Date of Latest Revision identifies the Julian date the chart was added or last revised for any reason. The first two digits indicate the year, the last three digits indicate the day of the year (001 to 365/6) in which the latest revision of any kind has been made to the chart.



The FAA Procedure Amendment Number represents the most current amendment of a given procedure. The Procedure Amendment Effective Date represents the AIRAC cycle date on which the procedure amendment was incorporated into the chart. Updates to the amendment number & effective date represent procedural/criteria revisions to the charted procedure, e.g., course, fix, altitude, minima, etc. On Departure Procedures and Standard Terminal Arrivals, procedural revisions to the current chart are indicated by an upnumber to the procedure title with the procedure amendment effective date following. On Radar Minima, Takeoff Minimums and (Obstacle) Departure Procedures and Diverse Vector Areas, the FAA Procedure Amendment Number, Procedure Effective Date, and the Julian Date of Last Revision will be shown on the same line, e.g., AMDT 2 10DEC15 (15344).

MISCELLANEOUS

★ Indicates a non-continuously operating facility, see Chart Supplement.

For Civil (FAA) and Military (DoD) SIAPs, "RADAR REQUIRED" in the planview or the pilot briefing strip of the chart indicates that ATC radar must be available to assist the pilot when transitioning from the en route environment. In the event ATC radar must be available for a specific portion(s) of the procedure, the portion(s) will be specified in the pilot briefing strip with the statement "RADAR required".

Distances are in nautical miles (except visibility in statute miles and Runway Visual Range in hundreds of feet). Runway dimensions are in feet. Elevations are in feet, Mean Sea Level (MSL). Ceilings are in feet above airport elevation. Radials/bearings/headings/courses are magnetic. Horizontal Datum: Unless otherwise noted on the chart, all coordinates are referenced to North American Datum 1983 (NAD 83), which for charting purposes is considered equivalent to World Geodetic System 1984 (WGS 84).

Terrain is scaled within the neat lines (planview boundaries) and does not accurately underlie not-to-scale distance depictions or symbols.

GENERAL INFO 00000

APPENDIX 7
GENERAL INFORMATION (CONTINUED)

GENERAL INFO 00000

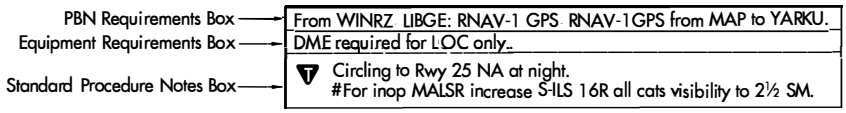
STANDARD TERMINAL ARRIVALS AND DEPARTURE PROCEDURES

The use of the associated codified STAR/DP and transition identifiers are requested of users when filing flight plans online. It must be noted that when filing a STAR/DP with a transition, the first three coded characters of the STAR and the last three coded characters of the DP are replaced by the transition code. Examples: ACTON SIX ARRIVAL, file (AQN.AQN6); ACTON SIX ARRIVAL, EDNAS TRANSITION, file (EDNAS.AQN6). FREEHOLD THREE DEPARTURE, file (FREH3.RBV), FREEHOLD THREE DEPARTURE, ELWOOD CITY TRANSITION, file (FREH3.EWC).

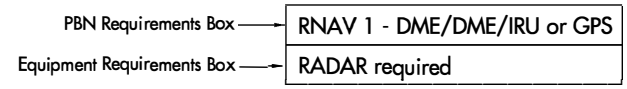
PROCEDURE PBN/EQUIPMENT REQUIREMENTS

Users will begin to see Performance-Based Navigation (PBN) Requirements and Equipment Requirements on Instrument Approach Procedures (IAPs), RNAV STARs and RNAV DPs prominently displayed in separate, standardized notes boxes. For procedures with PBN elements, the PBN box will contain the procedure's navigation specification(s); and, if required: specific sensors or infrastructure needed for the navigation solution; any additional or advanced functional requirements; the minimum Required Navigation Performance (RNP) value and any amplifying remarks. Items listed in this PBN box are REQUIRED for the procedure's PBN elements. The Equipment Requirements Box will list non-PBN requirements. On charts with both PBN elements and equipment requirements, the PBN requirements box will be listed first. The publication of these notes will continue incrementally until all charts have been amended to comply with the new standard.

IAP PBN/Equipment Requirements Notes Box



RNAV STAR and DP PBN/Equipment Requirements Notes Box



PILOT CONTROLLED AIRPORT LIGHTING SYSTEMS

Reference the Chart Supplement for detailed information on pilot controlled lighting (PCL) systems.

Available FAA standard approach lighting systems are shown using the system identification and are symbolized using negative symbology, e.g., (ALSF), (V)

Available airport lighting systems that are charted as notes, e.g. REIL, MIRL, are shown with a negative "(L)" symbol beside the name to indicate pilot controlled lighting.

To activate lights, use frequency indicated in the communication section of the chart with a (L).

KEY MIKE	FUNCTION
7 times within 5 seconds	Highest intensity available
5 times within 5 seconds	Medium or lower intensity (Lower REIL or REIL-off)
3 times within 5 seconds	Lowest intensity available (Lower REIL or REIL-off)

GENERAL INFO 00000

APPENDIX 8
ABBREVIATIONS

ABBREVIATIONS 00000

AAF	Army Air Field
AAUP	Attention All Users Page
ADF	Automatic Direction Finder
ADIZ	Air Defense Identification Zone
AFAUX	Air Force Auxiliary
AFB	Air Force Base
AFRC	Armed Forces Reserve Center/Air Force Reserve Command
AGL	Above Ground Level
AFHP	Air Force Heliport
AFIS	Automatic Flight Information Service
AHP	Army Heliport
ALF	Auxiliary Landing Field
ALS	Approach Light System
ALSF	Approach Light System with Sequenced Flashing Lights
ANGB	Air National Guard Base
ANGS	Air National Guard Station
Ant	Antenna
AOB	At or Below
AP	Autopilot System
APCH	Approach
APP CON	Approach Control
AR	Authorization Required
ARB	Air Reserve Base
ARPT	Airport
ARR	Arrival
AS	Air Station
ASOS	Automated Surface Observing System
ASR	Airport Surveillance RADAR
ASSC	Airport Surface Surveillance Systems
ATC	Air Traffic Control
ATCT	Airport Traffic Control Tower
ATIS	Automatic Terminal Information Service
AUNICOM	Automated UNICOM
AWOS	Automated Weather Observing System
Baro-VNAV	Barometric Vertical Navigation
BC	Back Course
brg	Bearing
CAPT	Captain
CAT	Category
CCW	Counterclockwise
CDI	Course Deviation Indicator
CGAS	Coast Guard Air Station
Chan	Channel
CIR	Circling
CLNC DEL	Clearance Delivery
CNF	Computer Navigation Fix
CPDLC	Controller Pilot Data Link Communications
CTAF	Common Traffic Advisory Frequency
CW	Clockwise
D-ATIS	Digital-Automatic Terminal Information Service
DA	Decision Altitude
DEP	Departure
DEP CON	Departure Control
DER	Departure End of Runway
DH	Decision Height
DME	Distance Measuring Equipment
DP	Departure Procedure
DTHR	Displaced Runway Threshold
DVA	Diverse Vector Area
ELEV	Elevation
EMAS	Engineered Material Arresting System
EXEC	Executive
FAF	Final Approach Fix
FD	Flight Director System
FL	Flight Level
FLD	Field
FM	Fan Marker
FMS	Flight Management System
GBAS	Ground Based Augmentation System
GCA	Ground Control Approach
GCO	Ground Communication Outlet
GLS	Ground Based Augmentation System Landing System
GP	Glidepath
GPS	Global Positioning System
GS	Glide Slope
HAA	Height Above Airport
HAL	Height Above Landing
HAT	Height Above Touchdown
HATh	Height Above Threshold
HCH	Heliport Crossing Height
hdg	Heading
HIRL	High Intensity Runway Lights
HUD	Head-up Display
IAF	Initial Approach Fix
IAP	Instrument Approach Procedure
ICAO	International Civil Aviation Organization
IF	Intermediate Fix
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IM	Inner Marker
INC	Incorporated
Inop	Inoperative
INT	Intersection
INTCNTL	Intercontinental
INTL	International
JNGB	Joint National Guard Base
JRB	Joint Reserve Base
K	Knots
KIAS	Knots Indicated Airspeed
LAAS	Local Area Augmentation System

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APPENDIX 8
ABBREVIATIONS (CONTINUED)

ABBREVIATIONS 00000

LDA	Localizer Type Directional Aid
Ldg	Landing
LIRL	Low Intensity Runway Lights
LNAV	Lateral Navigation
LOA	Letter of Agreement/ Authorization
LOC	Localizer
LOM	Locator Outer Marker
LP	Localizer Performance
LPV	Localizer Performance with Vertical Guidance
LR	Lead Radial
LRRS	Long Range RADAR Station
MAA	Maximum Authorized Altitude
MALS	Medium Intensity Approach Lighting System
MALSF	Medium Approach Lighting System with Sequenced Flashers
MALSR	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
MAP	Missed Approach Point
MCAF	Marine Corps Air Facility
MCALF	Marine Corps Auxiliary Landing Filed
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
MCOLF	Marine Corps Outlying Field
MDA	Minimum Descent Altitude
MEA	Minimum Enroute Altitude
MEML	Memorial
METRO	Metropolitan
MIRL	Medium Intensity Runway Lights
MM	Middle Marker
MOCA	Minimum Obstruction Clearance Altitude
MRA	Minimum Reception Altitude
MSL	Mean Sea Level
MSPEC	Management Specification
MUNI	Municipal
N/A	Not Applicable
NA	Not Authorized
NAAS	Naval Auxiliary Air Station
NAF	Naval Air Facility
NALF	Naval Auxiliary Landing Field
NAS	Naval Air Station
NDB	Nondirectional Radio Beacon
NM	Nautical Mile
NOLF	Naval Outlying Field
NoPT	No Procedure Turn
NOTAM	Notice to Airmen
NS	Naval Station
NTL	National
ODALS	Omnidirectional Approach Lighting System
ODP	Obstacle Departure Procedure
OM	Outer Marker
OPSPEC	Operations Specification
PAR	Precision Approach Radar
PDC	Pre-Departure Clearance
PRM	Precision Runway Monitor
Pvt	Private
R	Radial
RA	Radio Altimeter setting height
RAIL	Runway Alignment Indicator Lights
RCLS	Runway Centerline Light System
REIL	Runway End Identifier Lights
RF	Radius to Fix
RGNL	Regional
RLLS	Runway Lead-in Light System
RNAV	Area Navigation
RNP	Required Navigation Performance
RPI	Runway Point of Interception)
RVR	Runway Visual Range
RWY	Runway
S	Straight-in
SALS	Simplified Short Approach Light System
SALSF	Short Approach Lighting System with Sequenced Flashing Lights
SDF	Simplified Directional Facility
SFB	Space Force Base
SID	Standard Instrument Departure
SM	Statute Mile
SR-SS	Sunrise-Sunset
SSALF	Short Approach Lighting System with Sequenced Flashing Lights
SSALR	Simplified Short Approach Light System with Runway Alignment Indicator Lights
SSALS	Simplified Short Approach Lighting System
ST	Saint
STE	Sainte
STAR	Standard Terminal Arrival
TAA	Terminal Arrival Area
TACAN	Tactical Air Navigation
TCH	Threshold Crossing Height
TDZ	Touchdown Zone
TDZE	Touchdown Zone Elevation
TDZ/CL	Touchdown Zone and Runway Centerline Lighting
TDZL	Touchdown Zone Lights
THR	Threshold
TODA	Takeoff Distance Available
TORA	Takeoff Run Available
tr	Track
TRML	Terminal
TWR	Tower
UNICOM	Universal Communications Station
USA	United States Army
USAF	United States Air Force

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APPENDIX 8
ABBREVIATIONS (CONTINUED)

ABBREVIATIONS 00000

USCG…….	United States Coast Guard
USMC…….	United States Marine Corps
USN……	United States Navy
USSF……..	United States Space Force
VASI……	Visual Approach Slope Indicator
VCOA……	Visual Climb Over Airport
VDA……	Vertical Descent Angle
VDP……	Visual Descent Point
VFR……...	Visual Flight Rules
VGSI……..	Visual Glide Slope Indicator
VNAV…….	Vertical Navigation
VOR……...	Very High Frequency Omni-Directional Range
VORTAC……...	Very High Frequency Omni-Directional Range/Tactical Air Navigation
WAAS……	Wide Area Augmentation System
WP/WPT……...	Waypoint

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APPENDIX 9
FREQUENCY PAIRING

SUPPLEMENTAL TABLES 00000

FREQUENCY PAIRING TABLE

TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY
17Y	108.05	40X	110.30	88Y	114.15
18X	108.10	40Y	110.35	89Y	114.25
18Y	108.15	41Y	110.45	90Y	114.35
19Y	108.25	42X	110.50	91Y	114.45
20X	108.30	42Y	110.55	92Y	114.55
20Y	108.35	43Y	110.65	93Y	114.65
21Y	108.45	44X	110.70	94Y	114.75
22X	108.50	44Y	110.75	95Y	114.85
22Y	108.55	45Y	110.85	96Y	114.95
23Y	108.65	46X	110.90	97Y	115.05
24X	108.70	46Y	110.95	98Y	115.15
24Y	108.75	47Y	111.05	99Y	115.25
25Y	108.85	48X	111.10	100Y	115.35
26X	108.90	48Y	111.15	101Y	115.45
26Y	108.95	49Y	111.25	102Y	115.55
27Y	109.05	50X	111.30	103Y	115.65
28X	109.10	50Y	111.35	104Y	115.75
28Y	109.15	51Y	111.45	105Y	115.85
29Y	109.25	52X	111.50	106Y	115.95
30X	109.30	52Y	111.55	107Y	116.05
30Y	109.35	53Y	111.65	108Y	116.15
31Y	109.45	54X	111.70	109Y	116.25
32X	109.50	54Y	111.75	110Y	116.35
32Y	109.55	55Y	111.85	111Y	116.45
33Y	109.65	56X	111.90	112Y	116.55
34X	109.70	56Y	111.95	113Y	116.65
34Y	109.75	80Y	113.35	114Y	116.75
35Y	109.85	81Y	113.45	115Y	116.85
36X	109.90	82Y	113.55	116Y	116.95
36Y	109.95	83Y	113.65	117Y	117.05
37Y	110.05	84Y	113.75	118Y	117.15
38X	110.10	85Y	113.85	119Y	117.25
38Y	110.15	86Y	113.95		
39Y	110.25	87Y	114.05		

See the Chart Supplement for a complete listing.

SUPPLEMENTAL TABLES 00000

APPENDIX 10
RATE OF CLIMB TABLE

SUPPLEMENTAL TABLES 00000

INSTRUMENT TAKEOFF AND APPROACH PROCEDURE CHARTS
RATE OF CLIMB TABLE
(ft per min)

The rate of climb table is provided for use in planning and executing climbs with a known or approximate ground speed. Rates of climb in ft per min are monitored with a vertical speed indicator (VSI). The use of a climb rate should not be used if it will exceed the aircraft's operational limitations.

ft/NM	%	GROUND SPEED (knots)										
		60	90	120	150	180	210	240	270	300	330	360
152	2.50	152	228	304	380	456	532	608	684	760	836	912
200	3.29	200	300	400	500	600	700	800	900	1000	1100	1200
210	3.46	210	315	420	525	630	735	840	945	1050	1155	1260
220	3.62	220	330	440	550	660	770	880	990	1100	1210	1320
230	3.79	230	345	460	575	690	805	920	1035	1150	1265	1380
240	3.95	240	360	480	600	720	840	960	1080	1200	1320	1440
250	4.11	250	375	500	625	750	875	1000	1125	1250	1375	1500
260	4.28	260	390	520	650	780	910	1040	1170	1300	1430	1560
270	4.44	270	405	540	675	810	945	1080	1215	1350	1485	1620
280	4.61	280	420	560	700	840	980	1120	1260	1400	1540	1680
290	4.77	290	435	580	725	870	1015	1160	1305	1450	1595	1740
300	4.94	300	450	600	750	900	1050	1200	1350	1500	1650	1800
310	5.10	310	465	620	775	930	1085	1240	1395	1550	1705	1860
320	5.27	320	480	640	800	960	1120	1280	1440	1600	1760	1920
330	5.43	330	495	660	825	990	1155	1320	1485	1650	1815	1980
340	5.60	340	510	680	850	1020	1190	1360	1530	1700	1870	2040
350	5.76	350	525	700	875	1050	1225	1400	1575	1750	1925	2100
360	5.92	360	540	720	900	1080	1260	1440	1620	1800	1980	2160
370	6.09	370	555	740	925	1110	1295	1480	1665	1850	2035	2220
380	6.25	380	570	760	950	1140	1330	1520	1710	1900	2090	2280
390	6.42	390	585	780	975	1170	1365	1560	1755	1950	2145	2340
400	6.58	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400
450	7.41	450	675	900	1125	1350	1575	1800	2025	2250	2475	2700
500	8.23	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000
550	9.05	550	825	1100	1375	1650	1925	2200	2475	2750	3025	3300

SUPPLEMENTAL TABLES 00000

APPENDIX 11
RATE OF DESCENT TABLE

SUPPLEMENTAL TABLES 00000

INSTRUMENT TAKEOFF AND APPROACH PROCEDURE CHARTS
RATE OF DESCENT TABLE
(ft per min)

The rate of descent table is provided for use in planning and executingdescents with a known or approximate ground speed. The descent chart may also be used to calculate a constant rate of descent in the final segment on a non-precision approach. This rate of descent is advisory only. Rates of descent in ft per min are monitored with a vertical speed indicator (VSI). The use of a descent rate should not be used if it will exceed the aircraft's operational limitations.

ANGLE	ft/NM	GROUND SPEED (knots)										
		60	90	120	150	180	210	240	270	300	330	360
2.0	212	212	318	424	530	637	743	849	955	1061	1167	1273
2.5	265	265	398	531	663	796	929	1061	1194	1326	1459	1592
2.6	276	276	414	552	690	828	966	1104	1242	1380	1518	1655
2.7	287	287	430	573	716	860	1003	1146	1289	1433	1576	1719
2.8	297	297	446	594	743	892	1040	1189	1337	1486	1634	1783
2.9	308	308	462	616	770	923	1077	1231	1385	1539	1693	1847
3.0	318	318	478	637	796	955	1115	1274	1433	1592	1751	1911
3.1	329	329	494	658	823	987	1152	1316	1481	1645	1810	1974
3.2	340	340	510	679	849	1019	1189	1359	1529	1699	1868	2038
3.3	350	350	526	701	876	1051	1226	1401	1577	1752	1927	2102
3.4	361	361	541	722	902	1083	1263	1444	1624	1805	1985	2166
3.5	372	372	557	743	929	1115	1301	1487	1672	1858	2044	2230
3.6	382	382	573	765	956	1147	1338	1529	1720	1911	2103	2294
3.7	393	393	589	786	982	1179	1375	1572	1768	1965	2161	2358
3.8	404	404	605	807	1009	1211	1413	1614	1816	2018	2220	2421
3.9	414	414	621	828	1036	1243	1450	1657	1864	2071	2278	2485
4.0	425	425	637	850	1062	1275	1487	1700	1912	2124	2337	2549
4.5	478	478	717	956	1196	1435	1674	1913	2152	2391	2630	2869
5.0	532	532	797	1063	1329	1595	1861	2126	2392	2658	2924	3190
5.5	585	585	878	1170	1463	1755	2048	2340	2633	2925	3218	3510
6.0	639	639	958	1277	1597	1916	2235	2555	2874	3193	3512	3832
6.5	692	692	1038	1385	1731	2077	2423	2769	3115	3461	3808	4154
7.0	746	746	1119	1492	1865	2238	2611	2984	3357	3730	4103	4476
7.5	800	800	1200	1600	2000	2400	2800	3200	3600	4000	4400	4800
8.0	854	854	1281	1708	2135	2562	2989	3416	3843	4270	4697	5124
8.5	908	908	1362	1816	2270	2724	3178	3632	4086	4540	4994	5448
9.0	962	962	1444	1925	2406	2887	3368	3849	4331	4812	5293	5774
9.5	1017	1017	1525	2034	2542	3050	3559	4067	4576	5084	5592	6101
10.0	1071	1071	1607	2143	2678	3214	3750	4286	4821	5357	5893	6428

SUPPLEMENTAL TABLES 00000

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APPENDIX 14
LAND AND HOLD SHORT OPERATIONS (LAHSO)

12264

LAND AND HOLD-SHORT OPERATIONS (LAHSO)

LAHSO is an acronym for "Land and Hold-Short Operations." These operations include landing and holding short of an intersection runway, an intersecting taxiway, or other predetermined points on the runway other than a runway or taxiway. Measured distance represents the available landing distance on the landing runway, in feet.

Specific questions regarding these distances should be referred to the air traffic manager of the facility concerned. The Aeronautical Information Manual contains specific details on hold-short operations and markings.

CITY/AIRPORT	LDG RWY	HOLD-SHORT POINT	AVBL LDG DIST
BATTLE CREEK, MI			
W.K. KELLOGG (BTL)	05L	13-31	7,000 feet
DETROIT, MI			
COLEMAN A. YOUNG MUNI (DET)	15	07-25	4,900 feet
FLINT, MI			
BISHOP INTL (FNT)	09	18-36	4,100 feet
	36	09-27	6,300 feet
TRAVERSE CITY, MI			
CHERRY CAPITAL (TVC)	18	10-28	2,850 feet
	28	18-36	5,500 feet

12264

APPENDIX 15
HOT SPOTS

12152

HOT SPOTS

An "airport surface hot spot" is a location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

A "hot spot" is a runway safety related problem area on an airport that presents increased risk during surface operations. Typically it is a complex or confusing taxiway/taxiway or taxiway/runway intersection. The area of increased risk has either a history of or potential for runway incursions or surface incidents, due to a variety of causes, such as but not limited to: airport layout, traffic flow, airport marking, signage and lighting, situational awareness, and training. Hot spots are depicted on airport diagrams as open circles or ellipses designated as "HS 1", "HS 2", etc. and tabulated in the list below with a brief description of each hot spot. Hot spots will remain charted on airport diagrams until such time the increased risk has been reduced or eliminated.

CITY/AIRPORT	HOT SPOT	DESCRIPTION*
ATWATER, CA		
CASTLE (MER)	HS 1	Twy A, Twy A1, Twy B, and Twy G complex int.
	HS 2	Twy A and southeast ramp, traffic congestion.
CONCORD, CA		
BUCHANAN FLD (CCR)	HS 1	Rwy 01L-19R, Twy E and Twy J.
	HS 2	Rwy 32L and run-up area, Twy J.
	HS 3	Complex int at Rwy 01R-19L, Twy J, Twy A, Twy C, and Twy K.
	HS 4	Rwy 32L apch, Twy A.
HAYWARD, CA		
HAYWARD EXECUTIVE (HWD)	HS 1	Rwy 10L-28R, Twy E and Twy A.
	HS 2	Area not visible from ATCT.
	HS 3	Area not visible from ATCT.
LIVERMORE, CA		
LIVERMORE MUNI (LVK)	HS 1	Rwy 25R, Twy B.
	HS 2	Rwy 25L, Twy C.
	HS 3	Rwy 07L, Twy H.
	HS 4	Rwy 07R, Twy G.
	HS 5	Rwy 25R, Twy G.
	HS 6	Ints of Twy J, Twy A, and Twy G.
NAPA, CA		
NAPA COUNTY (APC)	HS 1	Twy A, Twy C, Twy E and the ramp.
	HS 2	Rwy 24, Twy A.
	HS 3	Rwy 24 and Rwy 36L.
OAKLAND, CA		
METROPOLITAN OAKLAND INTL (OAK)	HS 1	Rwy 27R, Twy A and Twy B.
	HS 2	Rwy 09L-27R, Twy H, Twy G, Twy C and Twy D.
	HS 3	Rwy 09L and Rwy 33, Twy J, Twy P, and Twy C, complex int.
	HS 4	Area not visible from the South Twr.
SACRAMENTO, CA		
SACRAMENTO EXECUTIVE (SAC)	HS 1	Rwy 16-34 and Rwy 12-30 at Twy M.
	HS 2	Inbound Twy A and outbound Twy B.
	HS 3	Portion of Twy E not visible from twr.
SACRAMENTO, CA		
SACRAMENTO INTL (SMF)	HS 1	Rwy 16R-34L and Twy A10
SALINAS, CA		
SALINAS MUNI (SNS)	HS 1	Twy A and Twy C int in close proximity of Rwy 08-26.

(SEE CONTINUATION PAGE FOR MORE LISTINGS)

12152

APPENDIX 16
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INSIDE BACK COVER

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APPENDIX 17
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APPENDIX 18
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TAKEOFF MINS

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IFR TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

Civil Airports and Selected Military Airports

ALL USERS: Airports that have Departure Procedures (DPs) designed specifically to assist pilots in avoiding obstacles during the climb to the minimum enroute altitude, and/or airports that have civil IFR takeoff minimums other than standard, are listed below. Takeoff Minimums and Departure Procedures apply to all runways unless otherwise specified. An entry may also be listed that contains only Takeoff Obstacle Notes. Altitudes, unless otherwise indicated, are minimum altitudes in MSL.

The FAA redefined the initial climb area (ICA) criteria used to evaluate and identify the obstacles that penetrate the 40:1 OCS. The takeoff obstacle notes are published in a different manner and an additional minimums option is added for the departure. To ensure the pilot knows which evaluation was accomplished, the charting will be different by bolding certain headers and runway information to indicate the new ICA criteria has been used as indicated in (1) and (2) below. Until the FAA can amend all departures, the legacy obstacle notes will still be published.

(1) For textual departures, the headers Takeoff Minimums, Departure Procedure, and Takeoff Obstacle Notes will be bolded and underlined. The specific runway entries under each header will continue to be bolded.

(2) For graphic departure procedures, the headers Takeoff Minimums and Takeoff Obstacle Notes will be bolded and continue to be underlined. The specific runway entries for these headers will be bolded. In the Departure Route Description section of the graphic departure, the heading will be bolded and underlined, and the runway information will be bolded.

DPs specifically designed for obstacle avoidance are referred to as Obstacle Departure Procedures (ODPs) and are textually described below, or published separately as a graphic procedure. If the ODP is published as a graphic procedure, its name will be listed below, and it can be found in either this volume (civil), or the applicable military volume, as appropriate. Users will recognize graphic obstacle DPs by the term "(OBSTACLE)" included in the procedure title; e.g., TETON TWO (OBSTACLE). If not specifically assigned an ODP, SID, or RADAR vector as part of an IFR clearance, an ODP may be required to be flown for obstacle clearance, even though not specifically stated in the IFR clearance. When doing so in this manner, ATC should be informed when the ODP being used contains a specified route to be flown, restrictions before turning, and/or altitude restrictions.

Some ODPs, which are established solely for obstacle avoidance, require a climb in visual conditions to cross the airport, a fix, or a NAVAID in a specified direction, at or above a specified altitude. These procedures are called Visual Climb Over Airport (VCOA). To ensure safe and efficient operations, the pilot must notify ATC of their intent to fly the VCOA when requesting their IFR clearance.

At some locations where an ODP has been established, a diverse vector area (DVA) may be created to allow RADAR vectors to be used in lieu of an ODP. DVA information will state that headings will be as assigned by ATC and climb gradients, when applicable, will be published immediately following the specified departure procedure.

Graphic DPs designed by ATC to standardize traffic flows, ensure aircraft separation and enhance capacity are referred to as "Standard Instrument Departures (SIDs)". SIDs also provide obstacle clearance and are published under the appropriate airport section. ATC clearance must be received prior to flying a SID.

CIVIL USERS NOTE: Title 14 Code of Federal Regulations Part 91 prescribes standard takeoff rules and establishes takeoff minimums for certain operators as follows: (1) For aircraft, other than helicopters, having two engines or less – one statute mile visibility. (2) For aircraft having more than two engines – one-half statute mile visibility. (3) For helicopters – one-half statute mile visibility. These standard minima apply in the absence of any different minima listed below.

MILITARY USERS NOTE: Civil (nonstandard) takeoff minima are published below. For military takeoff minima, refer to appropriate service directives.

NORTH CENTRAL VOL. 2

BELOIT, KS

MORITZ MEML (K61)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 04SEP25 (25247) (FAA)

TAKEOFF MINIMUMS:

Rwys 4, 22, NA-Environmental.

DEPARTURE PROCEDURE:

Rwy 17, climb on heading 174° to 1900 before turning left.

CON'T

APPENDIX 19
CN INDEX OF TERMINAL CHARTS AND MINIMUMS

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CN IFR TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

B1

TAKEOFF MINS

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IFR TAKEOFF MINIMUMS, (OBSTACLE) DEPARTURE PROCEDURES, AND DIVERSE VECTOR AREA (RADAR VECTORS)

Civil Airports and Selected Military Airports

ALL USERS: Airports that have Departure Procedures (DPs) designed specifically to assist pilots in avoiding obstacles during the climb to the minimum enroute altitude, and/or airports that have civil IFR takeoff minimums other than standard, are listed below. Takeoff Minimums and Departure Procedures apply to all runways unless otherwise specified. An entry may also be listed that contains only Takeoff Obstacle Notes. Altitudes, unless otherwise indicated, are minimum altitudes in MSL.

The FAA redefined the initial climb area (ICA) criteria used to evaluate and identify the obstacles that penetrate the 40:1 OCS. The takeoff obstacle notes are published in a different manner and an additional minimums option is added for the departure. To ensure the pilot knows which evaluation was accomplished, the charting will be different by bolding certain headers and runway information to indicate the new ICA criteria has been used as indicated in (1) and (2) below. Until the FAA can amend all departures, the legacy obstacle notes will still be published.

(1) For textual departures, the headers Takeoff Minimums, Departure Procedure, and Takeoff Obstacle Notes will be bolded and underlined. The specific runway entries under each header will continue to be bolded.

(2) For graphic departure procedures, the headers Takeoff Minimums and Takeoff Obstacle Notes will be bolded and continue to be underlined. The specific runway entries for these headers will be bolded. In the Departure Route Description section of the graphic departure, the heading will be bolded and underlined, and the runway information will be bolded.

DPs specifically designed for obstacle avoidance are referred to as Obstacle Departure Procedures (ODPs) and are textually described below, or published separately as a graphic procedure. If the ODP is published as a graphic procedure, its name will be listed below, and it can be found in either this volume (civil), or the applicable military volume, as appropriate. Users will recognize graphic obstacle DPs by the term "(OBSTACLE)" included in the procedure title; e.g., TETON TWO (OBSTACLE). If not specifically assigned an ODP, SID, or RADAR vector as part of an IFR clearance, an ODP may be required to be flown for obstacle clearance, even though not specifically stated in the IFR clearance. When doing so in this manner, ATC should be informed when the ODP being used contains a specified route to be flown, restrictions before turning, and/or altitude restrictions.

Some ODPs, which are established solely for obstacle avoidance, require a climb in visual conditions to cross the airport, a fix, or a NAVAID in a specified direction, at or above a specified altitude. These procedures are called Visual Climb Over Airport (VCOA). To ensure safe and efficient operations, the pilot must notify ATC of their intent to fly the VCOA when requesting their IFR clearance.

At some locations where an ODP has been established, a diverse vector area (DVA) may be created to allow RADAR vectors to be used in lieu of an ODP. DVA information will state that headings will be as assigned by ATC and climb gradients, when applicable, will be published immediately following the specified departure procedure.

Graphic DPs designed by ATC to standardize traffic flows, ensure aircraft separation and enhance capacity are referred to as "Standard Instrument Departures (SIDs)". SIDs also provide obstacle clearance and are published under the appropriate airport section. ATC clearance must be received prior to flying a SID.

CIVIL USERS NOTE: Title 14 Code of Federal Regulations Part 91 prescribes standard takeoff rules and establishes takeoff minimums for certain operators as follows: (1) For aircraft, other than helicopters, having two engines or less – one statute mile visibility. (2) For aircraft having more than two engines – one-half statute mile visibility. (3) For helicopters – one-half statute mile visibility. These standard minima apply in the absence of any different minima listed below.

MILITARY USERS NOTE: Civil (nonstandard) takeoff minima are published below. For military takeoff minima, refer to appropriate service directives.

NORTH CENTRAL VOL. 2

BELOIT, KS

MORITZ MEML (K61)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2 04SEP25 (25247) (FAA)

TAKEOFF MINIMUMS:

Rwys 4, 22, NA-Environmental.

DEPARTURE PROCEDURE:

Rwy 17, climb on heading 174° to 1900 before turning left.

CON'T

APPENDIX 21
CN IFR ALTERNATE AIRPORT MINIMUMS

C1

ALTERNATE MINS

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IFR ALTERNATE AIRPORT MINIMUMS

Pilots must review the IFR Alternate Minimums Notes to determine alternate airport suitability.
NA designation on the approach chart means that pilots may not use that approach as an alternate due to unmonitored facility, absence of weather reporting service, or lack of adequate navigation coverage. Approaches with the NA designation are not listed in this section. designation on the approach chart indicates that the approach procedure has non-standard minimums (for aircraft other than helicopters) or restrictions (for all users) for its use as an alternate. A procedure is not authorized for alternate flight planning purposes when local weather is not available.

MILITARY USERS NOTE: For IFR alternate airport and minima planning, refer to appropriate service directives.

Alternate Minima (ref: 14 CFR 91.169)

	Precision Approach	Non-Precision Approach
Standard	**600-2**	**800-2**
Non-Standard or restrictions	As indicated below	As indicated below
Helicopters	For the selected approach: Ceiling: 200' above published ceiling Visibility: the greater of 1 SM visibility or the published visibility	

Note: For alternate airport flight planning purposes, precision approach operations include: ILS, PAR, and GLS, and Non-Precision approach operations include: NDB, VOR, LOC, TACAN, LDA, SDF, ASR, RNAV (GPS) and RNAV (RNP).

NAME ALTERNATE MINIMUMS

EAST CENTRAL VOL 2

MARION, OH
MARION MUNI (MNN)……...**RNAV (GPS) Rwy 7**
RNAV (GPS) Rwy 13
RNAV (GPS) Rwy 25
VOR-A
NA when local weather not available.
Cat D 900-2¾.

NORTH CENTRAL VOL 1

MILBANK, SD
MILBANK MUNI (1D1)…….**RNAV (GPS) Rwy 31**
NA when local weather not available.

NORTHEAST VOL 1

BOSTON, MA
GENERAL EDWARD LAWRENCE LOGAN INTL (BOS)……..**ILS or LOC Rwy 4R**[1]
RNAV (GPS) Rwy 32[2]
[1]LOC, NA when local weather not available.
[2]Cat A, B 900-2, Cat C, D 900-2½.

NAME ALTERNATE MINIMUMS

SOUTH CENTRAL VOL 4

OPELOUSAS, LA
ST LANDRY PARISH (OPL)……..**VOR Rwy 36**
NA when local weather not available.
Cat D 900-2¾.

SOUTHWEST VOL 1

ARTESIA, NM
ARTESIA MUNI (ATS)…….**RNAV (GPS) Rwy 13**
RNAV (GPS) Rwy 22
RNAV (GPS) Rwy 31
NA when local weather not available.
Cat D 800-2¼.

SOUTHWEST VOL 3

BLYTHE, CA
BLYTHE (BLH)……**RNAV (GPS) Rwy 26**[1]
VOR/DME Rwy 26[2]
VOR/DME-A[2]
[1]Cat A, B 1700-2, Cat C, D 1700-3.
[2]Cat D 900-2¾.

ALTERNATE MINS

00000 C1

APPENDIX 22
CN RADAR INSTRUMENT APPROACH MINIMUMS

D1

RADAR MINS

15036

RADAR INSTRUMENT APPROACH MINIMUMS

EAST CENTRAL VOL 1

BATTLE CREEK, MI

Amdt 2, 13DEC90 (15036) (FAA) ELEV **952**

W. K. KELLOGG (BTL)

RADAR-1 119.2 239.25

	RWY	GP/TCH/RPI	CAT	DA/ MDA-VIS	HAT/ HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT/ HAA	CEIL-VIS
CIRCLING			A	**1420**-1	468	(500-1)	B	**1440**-1	488	(500-1)
			C	**1480**-1½	528	(600-1½)	D	**1520**-2	568	(600-2)
			E	**1740**-2¾	788	(800-2¾)				

When Kalamazoo control tower closed, procedure not authorized.
When Battle Creek control tower closed, use Kalamazoo altimeter setting and increase all MDA's 60 feet and Category E visibility ¼ mile.

EAST CENTRAL VOL 3

GREEN BAY, WI

Amdt 9C, 06JUL06 (15036) (FAA) ELEV **695**

AUSTIN STRAUBEL INTL (GRB)

RADAR-1 119.4 338.2

	RWY	GP/TCH/RPI	CAT	DA/ MDA-VIS	HAT/ HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT/ HAA	CEIL-VIS
ASR	36		AB	**1100**/24	418	(500-½)	C	**1100**/40	418	(500-¾)
			D	**1100**/50	418	(500-1)				
	24		AB	**1120**-1	438	(500-1)	C	**1120**-1¼	438	(500-1¼)
			D	**1120**-1½	438	(500-1½)				
	6		AB	**1220**/24	528	(600-½)	C	**1220**/50	528	(600-1)
			D	**1220**/60	528	(600-1¼)				
	18		AB	**1220**-1	525	(600-1)	C	**1220**-1½	525	(600-1½)
			D	**1220**-1¾	525	(600-1¾)				
CIRCLING	ALL RWY		AB	**1220**-1	525	(600-1)	C	**1220**-1½	525	(600-1½)
			D	**1260**-2	565	(600-2)				

For inoperative MALSR, increase ASR S-36 Category D visibility to RVR 6000.
When control tower closed, ASR not authorized.

RADAR INSTRUMENT APPROACH MINIMUMS

RADAR MINS

15036

D1

APPENDIX 23
CN ALASKA

ALASKA TERMINAL CHANGE

GULKANA, ALASKA AL-1220 (FAA) 25107

WAAS	APP CRS	Rwy Ldg	5001
CH 40343	334°	TDZE	1573
W33A		Apt Elev	1586

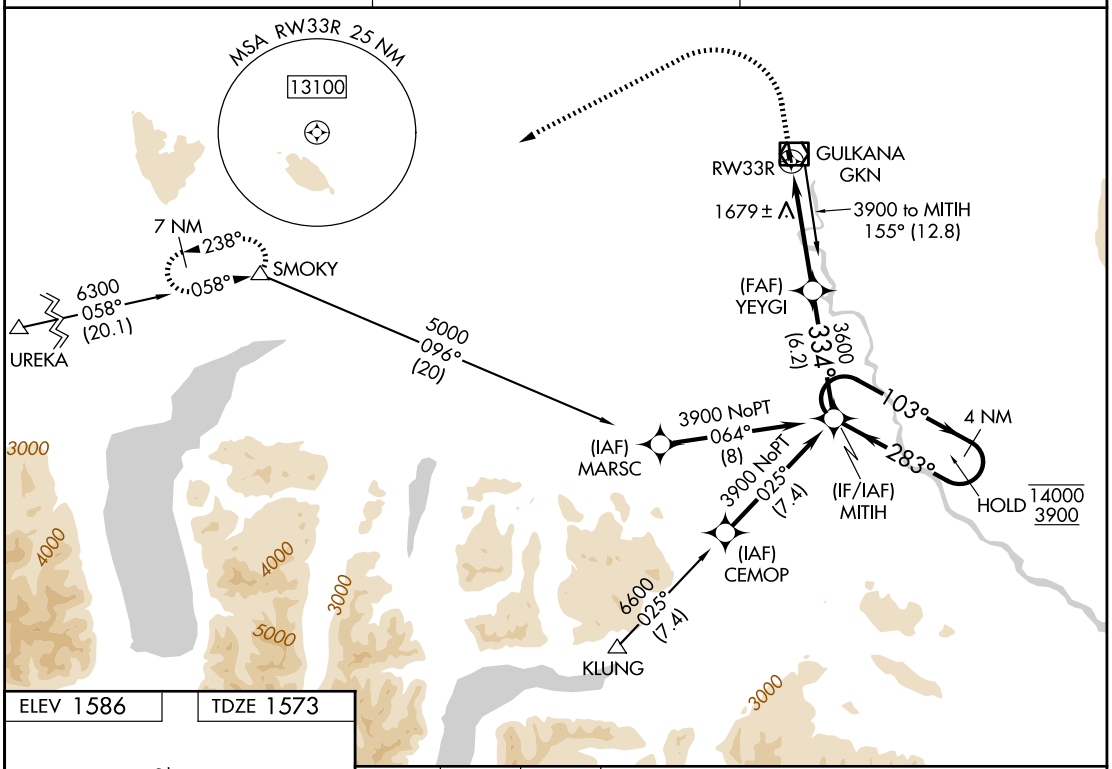
RNAV (GPS) RWY 33R
GULKANA (GKN) (PAGK)

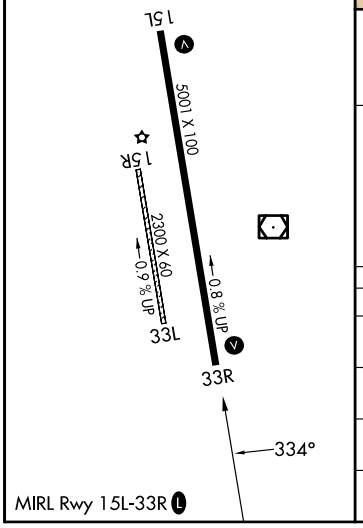
RNP APCH-GPS.

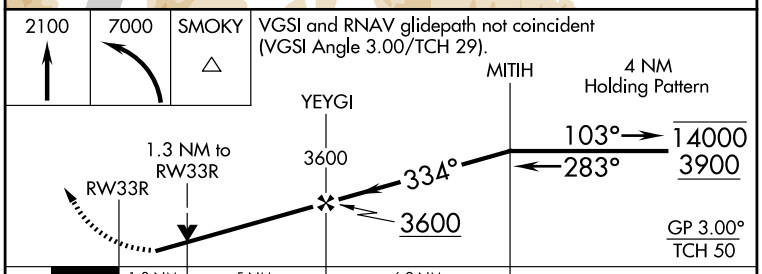
Circling Rwy 15R, 33L NA at night. Rwy 33R helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -25°C or above 54°C.

MISSED APPROACH: Climb to 2100 then climbing left turn to 7000 direct SMOKY and hold, continue climb-in-hold to 7000.

ASOS	ANCHORAGE CENTER	CTAF
134.85	119.5 317.5	122.9 L







CATEGORY	A	B	C	D
LPV DA	1823-1 250 (300-1)			
LNAV/VNAV DA	1890-1 317 (400-1)			
LNAV MDA	2000-1 427 (500-1)		2000-1¼ 427 (500-1¼)	
CIRCLING	2040-1 454 (500-1)	2080-1 494 (500-1)	2080-1½ 494 (500-1½)	2200-2 614 (700-2)

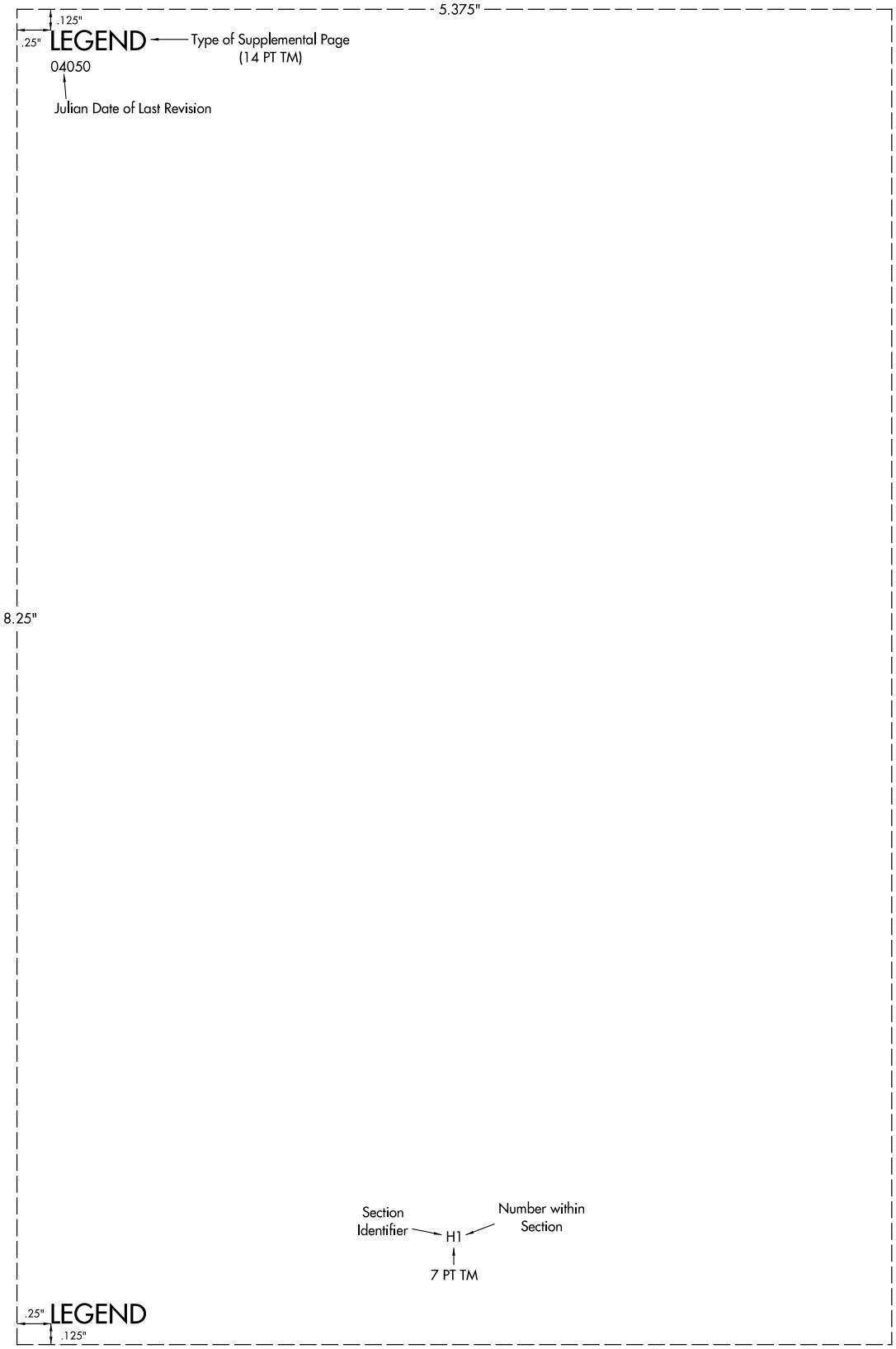
GULKANA, ALASKA
Orig-A 08SEP22

GULKANA (GKN) (PAGK)
RNAV (GPS) RWY 33R

62°09′N-145°27′W

REPLACES PAGE 76

APPENDIX 24
SUPPLEMENTAL PAGE FORMAT



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