CENOR FLIP SPECIFICATIONS

Part I – Production Specifications

CENOR
Central and Northern Region FLIP

EDITION 4.1 (03 NOV 2015)

CENOR FLIP is unclassified.
The agreement of participating nations to use this publication is recorded in the MEMORANDUM OF UNDERSTANDING signed in 2013.

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CONTENT

CHANGE LOG

EDITION 1.0 (22 APR 2013)

- **Document |** Specifications divided into “Part 1 – Production Specifications” and “Part 2 – Administration“
- **Document |** Textual changes (editorial)
- **Wording |** “Edition” replaced by “Last Update”
- **Wording |** “Standard Instrument Departure Chart” replaced by “Instrument Departure Chart”
- **1.3.5 Structure |** Paragraph updated to cover CENOR FLIP re-organization.
- **1.3.6 Titles and Content |** Paragraph updated to cover CENOR FLIP re-organization.
- **1.4.1 Amendment Request |** Telephone information updated.
- **1.4.3 Printed Amendments |** Paragraph updated to cover CENOR FLIP re-organization.
- **2.4.1 Paper |** New cover pages colours.
- **3.2 Contents Arrangement |** Paragraph updated to cover CENOR FLIP re-organization.
- **3.6 List of Aerodromes |** Updated to cover CENOR FLIP re-organization.

EDITION 2.0 (14 NOV 2013)

- **Document |** Editorial review
- **Document |** 4.2.3, 4.3.3 and 4.3.4 “magnetic” removed as specified in 1.3.3
- **1.3.3 Chart Orientation |** Added new paragraph stating chart orientation.
- **1.3.6 Titles and Content |** Title of volume 3 changed as follows: France removed, Austria added.
- **3.6 List of Aerodromes |** French aerodromes removed from list, LOWL added.
- **4.3.1 General |** Statement regarding chart orientation removed.
- **5.2.4 Symbolization |** Deleted “(in relation to THR)”.
- **7.1 Symbols |** New symbol for displaced threshold.

EDITION 3.0 (26 JUN 2014)

- **Document |** Specification editions renamed from date to version number
- **1.1 Purpose and Scope |** Paragraph “Additionally, these pages consist of appropriate frequencies and the respective PAR, SRA and Circling Minima.” deleted.
- **1.2.2 Procedure Review |** “Control of Procedures” replaced by “procedure review”.
- **1.3.1 Area of Coverage |** Text changed to “CENOR FLIP cover procedures of CENOR member states and additionally procedures of other states, not being part of the CENOR group.”. List of responsibilities added.
- **Document |** Naming convention: CENOR group, CENOR member state
- **1.3.4 Chart Preparation |** Editorial changes.
- **1.3.6 Units of Measurement |** Added from FLIP preface page I.
- **1.3.7 Additional Provisions |** Added from FLIP preface page I.
- **1.3.10 Dates |** Specific example replaced by generic DD MMM YYYY
- **1.3.12 Abbreviations |** Text changed according FLIP preface page VII. List of abbreviations added.
- **1.4.3 Electronic Amendments |** Replaces "Printed Amendments".
- **2.1 Recommended Software |** Paragraph revised.
- **2.2.4 PDF File Generation |** Added "PDF output shall be in CMYK (not RGB)".
- **3.2 Contents Arrangement |** Added description for "Special Notice" page

- **3.3 Page Numbering |** Replaced "supplementary pages" by "preface pages". Replaced "Federal Printing Office" by "printing office". Editorial text change.
- **3.6 List of Aerodromes |** Deleted.
- **4.3.7 Relief |** Editorial revision.
- **4.3.9 International Boundaries |** Editorial revision.
- **4.3.13 Procedure Track |** Second paragraph marked as "deprecated".
- **4.3.26 Instrument Landing System (ILS) |** Second paragraph revised
- **5.2.4 Symbolization |** "Runway with overrun" changed to "Runway with associated surfaces". "Dimensions of RWY", deleted "THR to THR". "Arresting Gear and Jet Barriers" added "with distance (ft) in relation to end of RWY"
- **7.3 Aerodrome Chart RWY/TWY/APRON Depiction |** New table.

EDITION 4.0 (DRAFT)

- **Appendix 2/1 Aerodrome Chart |** Dimension and Text Specifications master updated
- **Appendix 2/2 Instrument Approach Chart |** Dimension, RNAV(GNSS) Approach Chart and Text Specifications master updated
- **3.2 Content Arrangement |** Update according to new CENOR FLIP preface structure.
- **4.7 Minima Data |** Replacing “feet” by abbreviation “ft” where applicable and adding paragraph referring to new minima criteria box.
- **5.3 Radar Minima and Data |** Removed “Circling data” and adding new paragraph regarding minima tables containing no data.
- **7 Symbolization |** Hyperlink to forum symbol library updated.

EDITION 4.1 (03 NOV 2015)

- **Document |** AFSBw renamed to ZentrLuftOp
- **7 Symbolization |** Highest Obstruction (lighted) deleted, Group of highest Obstructions (lighted) deleted, Highest Obstruction (unlighted) deleted, Group of highest Obstructions (unlighted) deleted, Highest Spot Elevation deleted

1. GENERAL REQUIREMENTS

1.1. Purpose and Scope

The purpose of these specifications is to provide an appropriate guide to effect a uniform and standard methodology in the preparation and production of CENOR Flight Information Publications including Instrument Approach Charts (IAC), Instrument Departure Charts (IDC), and Aerodrome Charts with Tower and Radar information (ADC).

An Instrument Approach Chart provides a pilot with information necessary for an orderly transition from enroute flight to a safe and expeditious approach to land or execute a missed approach at an aerodrome under Instrument Flight Rules (IFR).

An Instrument Departure Chart provides a pilot with an Air Traffic Control coded departure routing clearance to facilitate transition from take-off to enroute operations.

An Aerodrome Chart is specifically designed to assist in the movement of ground traffic and provide data for the updating of Inertial Navigation Systems on board of the aircraft.

1.2. Quality Assurance

1.2.1. 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.

1.2.2. Procedure Review

Published procedures must not be older than 5 years. The appropriate procedure review has to be executed by each responsible publishing nation.

1.3. General Provisions

1.3.1. Area of Coverage

CENOR FLIP cover procedures of CENOR member states and additionally procedures of other states, not being part of the CENOR group. The following table lists the countries represented by procedures published in the CENOR FLIP, together with the applicable CENOR member state being responsible for publishing the procedure(s).

Procedure Location	CENOR Member State Responsible	Published in Volume
AUT	AUT	3
BEL	BEL	1
CZE	CZE	3
DEU	DEU	2
DNK	DNK	1
GBR	NLD	1
ITA	DEU	3
NLD	NLD	1
NOR	NOR	1
POL	POL	3
SWE	NOR	1

1.3.2. Projection

The geographic projection used for the IAC, IDC and ADC shall be the Lambert Conformal.

1.3.3. Chart Orientation

All charts shall be oriented to True North. Courses, headings, radials and bearings are magnetic unless indicated otherwise.

1.3.4. Chart Preparation

Chart production specifications are based on DIN A4 format to which all sizes and dimensions stated within this document are related to. Charts will be reduced to 60% (CENOR FLIP format) when preparing the PDF. However charts may also be prepared in target format (130 x 186 mm). Specified sizes and dimensions as well as style guide and symbolization have to be reduced to 60%and rounded to one decimal place.

1.3.5. Scale

Charts shall be depicted “to scale” using a scale suitable to best portray the procedure and the supporting supplementary data required. However, due to the great distances involved on some procedures or route segments, it may be necessary to disregard or distort the scale to adequately depict the procedure in its entirety.

A depiction within a distance circle has to be according to scale and direction. The radius of distance circle has to be set in 5NM steps up to 25NM according to the editor’s choice.

The scale for portrayal of the aerodrome chart shall be according to the aerodrome geographical area to be depicted.

If a procedure or aerodrome chart is not to scale, a warning “not to scale” has to appear on the respective chart.

1.3.6. Units of Measurement

- Altitudes, elevations are expressed in ft above MSL unless indicated otherwise.
- Runway dimensions are shown in feet.
- Distances are expressed in nautical miles.
- Visibility values are expressed in kilometres.
- Runway visual range values are expressed in meters.
- Coordinates published based on WGS-84 (World Geodetic System 1984) unless indicated otherwise.
- Courses, headings, radials and bearings are magnetic unless indicated otherwise.

1.3.7. Additional Provisions

- Climb gradients are related to obstacles unless indicated otherwise.
- Runway gradient in percent published when it exceeds 0.5%.

1.3.8. Structure

The CENOR Flight Information Publication (CENOR FLIP) shall be published according to the requirements of the participating CENOR member states, and produced in bound booklets.

The IAC and IDC shall be produced in accordance with these specifications agreed upon by all CENOR member states. ADC may be included, when required and are arranged in alphabetical order preceding the appropriate procedures.

1.3.9. Titles and Content

The titles of CENOR publications shall be as follows:

- INSTRUMENT PROCEDURES VOLUME 1
  (Belgium, Denmark, Norway, Sweden, The Netherlands, United Kingdom)
- INSTRUMENT PROCEDURES VOLUME 2
  (Germany)

- INSTRUMENT PROCEDURES VOLUME 3
  (Austria, Czech Republic, Italy, Poland)

1.3.10. Dates

Dates shown shall consist of the day, month and year, in following format: DD MMM YYYY.

1.3.11. Colour

The IAC, IDC, ADC and supplemental textual material shall be prepared for a one-colour presentation using black colour. Various screens and percentages of colour, as specified, shall be used to obtain a suitable contrast. All information, textual and graphic, shall be in solid colour unless specified otherwise.

1.3.12. Abbreviations

ICAO and NATO abbreviations are used in the CENOR FLIP. Additionally following abbreviations are used.

ASI	Approach slope indicator
Descent GR	Descent gradient for non-precision approach is calculated from FAF or last step-down fix to THR except for procedures according ICAO PANSOPS where the Descent Gradient is calculated to 50ft above THR elevation.
HPMA	High performance military aircraft
LLZ	Localizer (=LOC)
MAP	Missed approach point (=MAPt)
OTCH	End of overrun crossing height
RDR	RADAR
RPI	Runway point of intercept The point where the straight line extension of the glide slope intercepts the runway surface at runway centreline. Note: The RPI is generally located behind the THR. In exceptional cases only it is located in front of the THR. It is then indicated as follows: + In front of the THR
TDZE	Touchdown zone elevation

1.4. Amendments

1.4.1. Amendment Request

If amendments should become necessary between the publication cycles, or when safety of flight and/or critical operational changes must be disseminated immediately an Amendment Requests have to be reported via national FLIP/NOTAM office to:

Zentrum Luftoperationen
Dezernat A 3 III c Luftfahrtveröffentlichungen
CENOR Office
Insterburger Straße 4-6
60487 Frankfurt

AFTN ETCBYFYX

Telephone + 49 69 7 93 07 - 3210 or 3211 / 3212
Telefax + 49 69 7 93 07 - 3209
E-Mail office@cenor.org

In the following format:

a) Amendment Request
b) FLIP concerned
c) Aerodrome concerned
d) Procedure concerned
e) Previous entry
f) New entry

g) NOTAM-action requested: yes/no
h) Basis for the printing for next edition will be delivered: yes/no

1.4.2. NOTAM

NOTAM class I series -U- or national NOTAM will be published when safety of flight and/or critical operational changes must be disseminated immediately.

1.4.3. Electronic Amendments

If major changes, which cannot be covered by NOTAM, are necessary due to flight safety reasons, an electronic amendment to CENOR FLIP will be made available for public download on the CENOR website.

The limited validity, ending as soon as the updated Information becomes valid in printed publication, has to be stated in red coloured letters on top of each page of the amendment. The amendment does not include any cover or preface pages.

It will be announced by German NOTAM class I series U and/or national NOTAM.

2. STANDARDIZATION OF TECHNOLOGY

2.1. Recommended Software

For the production of CENOR FLIP a vector graphic drawing software is recommended. Autodesk AutoCAD (2010+) or Bentley Microstation (v8i+) are the preferred software products. In any case results shall meet the CENOR FLIP Specifications.

2.2. File Specifications

2.2.1. Transfer

The preferred type of data transfer is PDF via the CENOR Forum. In case of CENOR website failure data shall be transferred via mail (office@cenor.org).

2.2.2. Naming of PDF Files

The files shall be named according to the following example.

ET_AD_2_ETSB_301TAC21_en.pdf

ET_AD_2_ETSB_301TAC21_en.pdf=	ICAO country code (capital letters)
ET_**AD_2**_ETSB_301TAC21_en.pdf=	indicator for part AD 2 in the AIP (capital letters)
ET_AD_2_**ETSB**_301TAC21_en.pdf=	ICAO location indicator (capital letters)
ET_AD_2_ETSB_**301TAC21**_en.pdf=	numbering and chart name
ET_AD_2_ETSB_301TAC21_en.pdf=	type of procedure (capital letters)
ET_AD_2_ETSB_301TAC21_**en**.pdf=	language (lower case)

2.2.3. Numbering Convention

- 101 – Aerodrome Chart
- 2xx – Departure Procedures
- 3xx – Approach Procedures

2.2.4. PDF File Generation

Compliance:

- ISO 32000-1 (Adobe PDF version 1.5 compatible)

Following requirements have to be met when generating PDF files:

- No object outside the defined frame
- Minimum resolution 600 dpi (use “high quality” option in Adobe Acrobat)
- PDF output shall be in CMYK (not RGB)
- All fonts have to be embedded in the file

Plot the drawing with following details:

- Scale 60%
- All plotter pens “black”, basic line strength 0.05 (plot with object line strength)
- Drawing centred on a user defined paper sheet of 130 x 186 mm

2.3. Special AutoCAD Procedures

2.3.1. Use of grey scales and AutoCAD screening

Feature	Value
Runway	style: solid; colour: 0; saturation: 0; brightness: 0; R-G-B: 000-000-000;
Building	style: solid; colour: 0; saturation: 0; brightness: 30; R-G-B: 077-077-077;
City	style: solid; colour: 0; saturation: 0; brightness: 50; R-G-B: 128-128-128;
Taxiway	style: solid; colour: 0; saturation: 0; brightness: 70; R-G-B: 179-179-179; (in case brightness 70 is too dark) style: solid; colour: 0; saturation: 0; brightness: 80; R-G-B: 204-204-204;
Water	style: solid; colour: 0; saturation: 0; brightness: 90; R-G-B: 230-230-230;
Night Low Flying System	style: solid; colour: 0; saturation: 0; brightness: 80; R-G-B: 204-204-204; frame: 0.25 black;

2.3.2. Use of common standard layers and colours

Layer:

- FRAME – Black / White
- DRAW – Black
- SYMBOLS – Green
- HELP – Magenta
- TEXT – Red
- HATCH – Cyan
- GRID (Aerodrome Chart) – Blue

2.4. Printing

2.4.1. Paper

Paper used for the production of the publications will be as follows:

- Book Pages: white, free from chlorine poached 80g paper
- Cover Pages: paper 170 g, front cover and backside cover outside coloured HKS71K (Volume 1 100%, Volume 2 55%, Volume 3 30%)

2.4.2. Ink

Ink colour required for print of the publications is black.

2.4.3. Page Arrangement

Charts (on pages) are printed back-to-back, head to foot. The outside front cover and the outside back cover are printed head to bound edge. The inside front cover is printed foot to the bound edge; the inside back cover is printed head to the bound edge.

Graphics and/or descriptions on cover, pages, and single sheets are printed back-to-back, head to head.

Cover images are printed centred on the finished cover size.

IAC, IDC and ADC pages are printed back-to-back, head to foot, with the lines of type reading parallel to the bound edge.

2.4.4. Collating

The pages will be collated in the proper sequence, i.e., Roman page numerals first, followed by the procedures of the appropriate aerodromes in the alphabetical order.

2.4.5. Bookbinding

The approved bookbinding is a kind of closed wire ring binding.

3. LAYOUT AND FORMAT

3.1. Size and Dimension

See appendix 1.

3.2. Contents Arrangement

- Front Cover
- Special Notice (Inside Front Cover)

  Special Notices contain notices of new requirements or major modifications of existing FLIPs. New notices appearing for the first time will be shown first. Notices will be carried in this section for the life of the information. (NOTAM Info and submission deadline are permanent notices.)
- General Information
- Amendment Service
- Table of Content & Checklist

  The checklist of procedure charts shall be prepared and be current with each issue. It shall be a colonized alphabetical listing of all aerodromes, together with the type/s of procedure/s. A cross reference shall be provided if a special procedure shall be positioned to a certain aerodrome name.
- Abbreviations (other than ICAO or published in national AIP only)
- Identification of Procedures, Identification of Minima
- Altitude Correction
- Landing Minima Explanation
- Determination of declared Distances for Runways
- VASIS/PAPI, LCN, ACN/PCN
- Legend

  The legend depicts all symbols used in the presentation of charts.
- Approach Lighting System
- Procedures (see appendix 3 for standard order of procedure types)
- Contact points for the change from VFR flights to IFR flights (last page, Volume 2 only)
- Rate of Climb/Descent Table (Inside Back Cover)
- Area of Coverage (Outside Back Cover)

3.3. Page Numbering

The preface pages shall be numbered using Roman numerals. The numerals shall be centred at the bottom of the page.

Due to safety reasons all pages are numbered by the printing office with small continuous numbers near the ring binding.

3.4. Margin Information

Type size, style, and position shall be as shown in appendix 2. Each procedure shall be named and numbered, as indicated on the procedure form.

- Identification and type of procedure *
- Identification “Aerodrome Chart” **
- Aerodrome name and location indicator
- Procedure designation *

- Aerodrome reference point *
- Aerodrome elevation *
- Authorizing agency/source and effective date
- Change Note (as short as possible, as detailed as necessary, see appendix 3 for standard wording)

* does not apply to aerodrome charts
** applies to aerodrome charts only

3.5. Preface Style Guide

Preface style guide applies to all cover and preface pages. It is based on AutoCAD 2011 settings and refers to DIN A4 page size. Whenever two values collide the higher value shall be used.

Example: “padding bottom 5” is in conflict with the “padding top 2.5” value of an inline element, the correct value shall be “5”.

All preface pages except cover pages shall have a date / source information (letter type ARIAL 1.9) and a page number (roman, letter type ARIAL 3.8 bold).

Name	Value
*	font-family: Arial; line-strength: 0.25;
COVER_TITLE	align: top centre; font-weight: bold; font-size: 9; font-style: upper case;
COVER_TITLE_S	based on: cover_title; font-size: 4;
COVER_TITLE_SL	based on: cover_title_s; font-style: lower case;
TXT	font-size: 3.2; align: aligned; padding: 1 7.5; tabulator: left 40 left 100;
TXT_S	based on: txt; font-size: 2.4;
TXT_TITLE	based on: txt; font-weight: bold; font-size: 3.8; align: centre; padding: 7.5; font-style: upper case;
TXT_SUBTITLE	based on: txt; font-weight: bold; align: centre; padding: 1* 7.5 7.5 7.5; *When using TXT_SUBTITLE after TXT_TITLE reduce padding-top of TXT_TITLE to “1”.
TXT_HEAD	based on: txt; padding 5 7.5 1 7.5; font-weight: bold;
TXT_LIST	based on: txt; padding: 0.5 7.5; list-style-type: dot;
TXT_LEGEND	based on: txt; font-size: 2.2; padding: 2;

Name	Value
TXT_CHECKLIST_2C	based on: txt; font-size: 3, tab: left 48 right 84; tab-style: dots;
TXT_CHECKLIST_1C	based on: txt_checklist_2c; tab: left 85 right 174.5;
TXT_TBLHEAD	align: centre; font-size: 3; font-weight: bold; font-style: upper case
TXT_TBLHEAD_S	based on: txt_tblhead; font-size: 2.4;
TXT_TBL	based on: txt_tblhead; font-weight: normal; font-style: normal;
TXT_TBL_S	based on: txt_tbl; font-size 2.4;
NOTICE_TITLE	based on: txt; align: centre; font-weight: bold; font-style: upper case; padding: 2.5 2.5 5 2.5;
NOTICE_TXT	based on: txt; padding 2.5;
NOTICE_FRAME	min-height: 10; margin: 5 7.5;

4. INSTRUMENT APPROACH CHART (IAC)

4.1. Sections

An instrument approach chart shall be divided into following sections:

- Briefing Strip
- Plan View
- Profile View
- Minima Data

4.2. Briefing Strip

4.2.1. General

The briefing strip lists key information related to a procedure chart. It is shown on top of the plan view as table with two rows.

4.2.2. Communication Information

Communication information, when available, should be shown in the Briefing Strip. Terminal communication information when available and identified by the operator shall be shown by call sign or name. Service types shall be abbreviated, e.g., "GARDERMOEN TWR". Generally, one primary VHF and one primary UHF Departure Control frequency shall be shown.

- AREA CONTROL CENTRE (ACC)
- APPROACH CONTROL (APP)

  When the approach control service is provided by other than Approach Control Unit; e.g. Tower, Centre, the appropriate air traffic facility call sign shall be used.
- GROUND CONTROLLED APPROACH (GCA, RADAR) optional
- TOWER (TWR)
- GROUND CONTROL (GND [CTL])
- AUTOMATIC TERMINAL INFORMATION SERVICE (ATIS) shall be shown by the letters "ATIS" followed by the specific frequency. When the ATIS operates non continuously an asterisk shall be positioned following the letters: ATIS*

  When the service is provided on one frequency for both arrival and departure information, it shall be shown thus:

  ATIS 111.800.

  When the service is provided on more than one frequency for both arrival and departure information, both (or all) frequencies shall be shown:

  ATIS 113.900 124.100.

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

  ATIS ARR 112.700
  DEP 121.850

The primary VHF and UHF frequencies only shall be shown (in ascending order) in conjunction with and on a second line following the above air traffic facility name, aligned on the left. On request frequencies may be used when they are the only frequencies available and shall be suffixed with an x, e.g. 118.500x.

Hours of operation shall not be shown.

4.2.3. Additional Information

The lower table row shall contain additional information when available. Table cell headlines as stated in brackets. Sequenced as listed below:

- FINAL APPROACH NAVAID. The navaid used for final lateral / vertical guidance, with the appropriate DME channel, separated by a slash.

  Example:

  LOCALIZER/DME
  BA 108.300/CH 47X

- FINAL APPROACH COURSE (APP COURSE) in whole degrees.
- FINAL APPROACH FIX ALTITUDE (FAF ALT) for non-precision approaches or GLIDE SLOPE INTERCEPT ALTITUDE (GS INTCP ALT) for precision approaches.
- DESCENT GRADIENT (Descent GR) for non-precision approaches, calculated from FAF to 50 feet above runway threshold (to runway threshold for old TERPS procedures). If there is one or more step down fixes (SDF) after FAF, the gradient is calculated from the last SDF. The slope is displayed in a per cent value, with the value in degrees or ft/NM in brackets, if feasible. Or GLIDE SLOPE (GS) for precision approaches, with the value in degrees and hundredths.
- MINIMUM DESCENT ALTITUDE (MDA) for non-precision approaches or DECISION ALTITUDE (DA) for precision approaches.

  If there are different values for different aircraft categories on the same procedure, “SEE CAT” is displayed instead of the value.

- THRESHOLD ELEVATION (THR ELEV) in feet above MSL. (For old TERPS procedure, the term TOUCHDOWN ZONE ELEVATION (TDZE) was used.)
- APPROACH LIGHTING SYSTEM (ALS). The length of the system is displayed, in metres (m) (to correspond with the meteorological visibility value).

  Example:

  ALS
  900 m

  If the value is not known, use “UNKNOWN” instead. If there is no ALS use “–“.

- LANDING DISTANCE AVAILABLE (LDA). LDA is displayed, in feet (to correspond with aircraft performance tables).

4.3. Plan View

4.3.1. General

The plan view of the Instrument Approach Charts shall be concerned with the portrayal of instrument approach procedure information, enroute facilities, feeder facilities, approach facilities, missed approach, terminal routings, communications and related base detail.

The enroute and feeder facilities shall be used for depicting terminal routings from Radio Aids to Navigation, fixes and intersections to the Initial Approach Fix or facility.

The plan view shall use one format with a concentric ring, because all procedural and terminal route information cannot be depicted to scale, including facilities that form fixes/intersections and not part of the enroute airway structure, or used for the missed approach.

The distance rings normally referring to the Radio NAV facility where the procedure is based on shall be shown on all charts, and all information therein shall be shown to scale. The distance rings may be offset in order to better use the plan view area for procedural portrayal; however, this ring shall never be offset to the extent that the centre of the ring will be beyond the plan view neat lines. Information beyond the distance rings may not be depicted to scale. Base information shall be shown only within the distance rings.

All Radio Aids to Navigation depicted in the plan view shall be shown using the appropriate symbols as specified within these specifications and amendments thereto.

The Radio Aid to Navigation (primary facility) upon which the final approach of the instrument approach procedure is based shall be positioned in the centre of the distance ring. All other information shall be positioned in relation to this facility. Exception shall be made when the location of the aerodrome, Radio Aid to Navigation and/or procedure pattern, necessitate that the chart be centred between other facilities or geographical points for better portrayal of the instrument approach procedure. Portions of the ring may be deleted to avoid overprinting of information.

4.3.2. Distance Ring (Inner Ring)

A ring shall be shown, centred and labelled within the plan view. The distance ring may be replaced (in whole or in part) by a DME arc if required.

The distance ring shall be cut back or broken so that the distance ring and the DME arc will not cross or intersect one another. When the DME arc and the ring are (or tend to be) coincidental, the ring shall be cut back to effect a break in the continuity.

4.3.3. Outer Ring (Enroute/Feeder Facilities)

An outer ring shall be concentric with the inner ring, shown as a broken line. This ring may be broken, as required, to show facilities, fixes and intersections as clearly as possible.

Enroute facilities shall be those Radio Aids to navigation, fixes and intersections which are part of the enroute structure. From this point terminal routing, giving bearing, distance and altitude information, direct or via feeder facilities to the Initial Approach Fix shall be shown.

Feeder facilities shall be those used by the air traffic controller to direct aircraft to intervening facilities/fixes between the enroute structure and IAF.

Enroute and feeder facilities shall be positioned on the outer ring. The facility symbol shall be positioned at the point of intersection of the bearing from the primary facility or fix to the enroute/feeder facility on the outer ring. They shall be identified by identifier with channel number or frequency.

When enroute facilities are used in a dual capacity such as a transition facility and missed approach facility, they shall be identified by identifier with channel number and/or frequency, within a box.

Enroute facilities not used in the approach procedure and which would normally be positioned on the outer ring may be positioned in the space between the outer ring and the plan view neat line when the facility is employed in the designation and formation of enroute and/or feeder fixes and intersections germane to terminal routes or missed approaches. This technique will obviate the need to position multiple facilities, fixes or intersections within close proximity of each other, within or between the concentric rings, retaining the integrity of the chart format.

4.3.4. Terminal Routes

Terminal routes shall be shown when included as part of the procedure as an approved terminal route from a facility/fix.

Discretion must be exercised in portraying the length of terminal routes, depending on the position of the facility, fix or intersection, so as to adequately depict the terminal route from and toward the appropriate facility/fix.

Terminal routes may extend from a facility/fix, distance ring or beyond and within the distance ring when necessary, toward the Initial Approach Fix or facility. Terminal routes shall be shown as an arrowhead line extending from the enroute/feeder facility symbol along the bearing line toward the IAF. Terminal routes shall include the bearing, distance and minimum altitude. The arrowhead line shall be broken for insertion of bearing values. (Minimum altitude only in connection with Low Altitude IAP)

The bearing value shall be shown on and breaking the terminal route. Bearing values shall be given to the nearest degree, using three digits, e.g., 061°. The distance shall be shown to the nearest nautical mile, enclosed within parentheses, e.g., (16), positioned directly below the bearing value. The minimum altitude shall be positioned directly above the bearing value.

4.3.5. Changeover Points

Changeover points shall be shown when so identified and submitted on the plan view and profile.

4.3.6. Hydrography

Hydrographic features shall be shown. Outlines or names shall not be shown. Criteria's depiction of hydrographic features:

- Oceans, coast lines.
- Significant rivers and streams.
- Significant lakes.

If only one river or one small lake is involved, not located in the immediate airport vicinity, the hydrographic information requirement may be waived. Hydrographic features shall be limited to within the inner distance ring when the concentric ring format is employed.

4.3.7. Relief

Care should be taken in the selection of relief features to be shown. Obstacles in the proximity of the flight path or unusual features, which constitute a hazard, should receive priority consideration in the selection. Terrain elevation shall be indicated by a dot with the elevation values placed nearby. Terrain elevation dots shall be plotted accurately according to geographic location. Caution or notes, as required by the approving authority, may be shown to emphasize a peculiar hazard. For cautions the word "CAUTION" shall be shown in caps. Relief shall be limited to within the distance ring.

4.3.8. Culture

Culture shall not be shown.

4.3.9. International Boundaries

International boundaries (alternative FIR/UIR boundaries) shall be identified by country name, (FIR/UIR name) positioned adjacent and parallel to the boundary, within the country (FIR/UIR) area.

4.3.10. Obstacles

All obstacles, which have influence on the procedure, shall be plotted in their exact coordinate location. If the portrayal of several obstacles within a small area tends to clutter the chart, only the highest obstacle needs to be shown.

Obstacles and spot elevation symbols shall be those illustrated in chapter 7. When the above obstacles are shown, the elevation of the top of the obstacle above mean sea level shall be shown to the nearest foot. The highest elevation appearing within the plan view area shall be indicated in a larger type. When the highest elevation is a spot elevation, it shall be indicated by a bigger dot, if an obstacle, use the larger obstacle symbol.

4.3.11. Aerodromes

Aerodromes shall be shown by a pattern of all runways (including closed runways). Airport pattern shall be shown not to scale.

Heliports shall be shown by the circle H symbol.

Aerodromes, other than the aerodrome of intended landing, in the immediate vicinity of the final approach track shall be shown only when pilot confusion might be possible. These aerodromes shall be shown by pattern and name or location indicator only.

4.3.12. Special Use Airspace

Special use airspace within the area of coverage of the instrument approach chart shall be shown only if considered critical to the procedure as designated by the formulating agency.

Special use airspace shall be identified as designated, e.g. ED-R 1.

4.3.13. Procedure Track

The procedure track shall be indicated by a line, broken for course values. The inbound bearing and directional arrow shall be positioned on the final approach track to indicate direction of flight. Outbound procedure courses shall be shown using the appropriate radial, outbound localizer course or an outbound heading shown in the same method as depicting a radial. A degree sign shall be shown with all headings. Procedure tracks shall be shown beginning at the IAF. The procedure track on procedures with more than one IAF may be shown shortened (or broken and not extending completely to an Intermediate Fix or Final Approach Fix) indicating the direction (with an arrowhead) toward the fix. Procedure tracks may include, as designated, the track value, distance and minimum altitude.

DEPRECATED SPECIFICATION // BEGIN

The penetration portion of the procedure track (High Altitude IAP) shall be shown using the penetration track symbol (dotted line pattern) extending from:

- the Initial Approach Fix (IAF) to the Final Approach Fix (FAF);
- the IAF to the beginning where a low altitude approach begins, e.g., low altitude procedure turn;
- the IAF to the Missed Approach Point (MAPt) when no FAF is used.

The procedure turn shall be shown by a barb symbol as indicated. The barb shall normally be half an arrowhead positioned on the manoeuvring side. Inbound and outbound 45 degree off-course bearing

values (a directional arrow with the inbound value only) shall be shown on either side of the procedure turn barb.

DEPRECATED SPECIFICATION // END

Procedures using a teardrop (ICAO Base Turn), holding pattern configuration (ICAO Racetrack), 45° or 80°/260° procedure turn shall be shown in their entirety. Inbound and outbound bearings will be included for the teardrop and holding pattern configuration. The 45° procedure turn (Common Depiction) will include bearing on both the outbound and inbound portions of the turn. The 80°/260° or the 45°/180° (Depiction per ICAO Charting Manual) procedure turn will include a bearing on the outbound portion of the turn. The note e.g., "1 MIN" shall be shown in conjunction with the teardrop, holding pattern and 45° procedure turn when requested by the OP.

To distinguish the runway from the procedure track, an arrow shall be positioned on the end of the final approach track, just short of the end of the runway, or where the missed approach begins. When a turn does appear between the final approach arrow and the beginning of the missed approach track, the missed approach track shall be placed so as to clear the runway pattern and radio facilities on, or near the airport. The missed approach track shall begin at the Missed Approach Point (MAPt) and shall be symbolized as indicated in CENOR FLIP legend.

Components of an ILS, including outer markers, although not specifically cited in a non-precision procedure but located along of underlying the procedure track, shall be shown, appropriately symbolized and identified.

4.3.14. Warnings, Cautions and Notes

Warnings, Cautions and Notes (in that order) will be marked as follows:

- They will be marked by small letters in a consecutive order [a), b), c)…], even if there is only one, preceded by the respective title (WARNING, CAUTION, NOTE).
- The letter will be followed by a closing bracket.
- If a specific cross-reference exists, it will be marked by inverted letters.
- Explanatory notes, when required, shall be placed in the upper left corner below the briefing strip, except when affecting some part of the procedure where it can be put at the appropriate place.
- The text of WARNING, CAUTION and NOTE should be in capital letters if possible (Font size see Appendix 3-2).
- When RADAR is required for the execution of the procedure, the note "RADAR MONITORING MANDATORY" shall be shown positioned normally below the distance circle.

4.3.15. Minimum Sector / Safe Altitudes

Minimum Sector Altitudes (MSA), as established, shall be shown for each aerodrome where instrument approach procedures have been established.

MSA shall be depicted graphically, as detailed below, when the altitudes between sectors differ, resulting in 2, 3 or 4 sectors, indicated as minimum sector altitudes.

MSA shall be provided as a circular diagram, as illustrated in CENOR FLIP legend positioned normally in the lower left corner of the plan view. The appropriate symbol of the relevant MSA identifier, navaid symbol, ARP symbol or any other reference point on which the MSA is predicated, shall be positioned at the centre of the circle.

The sectors shall be shown as outbound radials/bearings. The MSA values shall be shown centrally positioned within the sector. The MSA diagram shall be identified by the letters "MSA", the facility identifier, and the applicable mileage, e.g., "'MSA ABC 25 NM" positioned outside and above the circle. MSA with the same altitude value for each of the four sectors shall be shown by the altitude value applicable to all sectors, centrally positioned within the circle and above the MSA identifier symbol.

A safe altitude for 100 NM may be depicted at the option of the approving authority. When a safe altitude for 100 NM is required, it shall be depicted by a common note in the lower left corner of the plan view to read: "Safe Altitude 100 NM 0000". The term "Safe Altitude 100 NM" is used to ensure distinction between the 25 NM and 100 NM radius. Sectors are not used.

4.3.16. Holding Patterns

Holding patterns shall be shown only when identified and submitted with the procedure. Missed approach holding patterns shall not be labelled. Missed approach holding pattern symbolization shall

be depicted only when the missed approach holding pattern is not coincidental with other type holding patterns.

Holding patterns shall be depicted with a racetrack type symbol, as illustrated. The symbol may be expanded laterally, when required, to include mileage fixes, intersections, or other facilities upon which the holding pattern may be premised. When the arrival holding pattern is shown in the plan view and not affixed to the beginning of the approach track, a lead arrow shall be shown leading from the approach side of the holding pattern to the Initial Approach Fix or facility. The arrow may be curved in order to properly depict the flight path from the holding pattern to the initial approach point. Holding patterns shall be oriented on the proper flight path bearing or radial, and both inbound and outbound bearings (including degree sign) must be shown, except where the nearness of the procedure track bearing may preclude the need for the holding pattern bearing.

When required, holding patterns with non-standard leg lengths are shown with the non-standard time positioned within the holding pattern symbol (VOR or NDB).

A holding pattern entry diagram may be portrayed on a voluntary basis as shown in appendix 2.

4.3.17. Radial Lines and MLS Azimuths

All radials or azimuths, pertinent to the procedure, missed approach, or holding patterns shall be shown and identified. Radial lines shall be shown by an arrowhead line emanating from the facility with the values positioned on and breading the arrowhead line, preceded by the letter "R". The radial value shall be in three digits, e.g., "R-010". Lead radials, when identified and submitted with the procedure, shall be additionally identified with the letters "LR" preceding the numerical value, e.g. "LR-053".

In congested areas, radial values may be placed in a clear area and related to the radial by a leader line.

4.3.18. Bearing Lines

Bearing lines shall be shown by a line and arrowhead always to the facility. Bearing values shall be shown using three digits positioned on and breading the arrowhead line. A degree line shall be shown with all bearing values. In congested areas, values may be placed in a clear area and related to the bearing line by leader line.

4.3.19. Radio Aids to Navigation

Radio Aids to Navigation upon which the procedure is based shall be depicted enclosed in a box. Arrangement of the data within the box shall basically be in the following sequence: IDENTIFIER, MORSE CODE, FREQUENCY and/or CHANNEL.

Radio Aids to Navigation, identified on the procedure form as an Initial Approach Fix (IAF) shall be identified by the letters “IAF”, identification, channel number and/or frequency, within boxes shaded at the right and lower line.

Example:

4.3.20. Initial Approach Fix

An IAF not collocated with the navaid shall be identified by the letters “IAF” within a box, which is shadowed at the right bottom line.

Example:

The IAF shall be indicated by a distance measuring curved line centred across the radial. This curved line shall be formed according to the direction of the flight track and labelled with the letter IAF, within a shadowed box and nautical mile distance indicated as DME.

Geographical coordinate data of the IAF will be depicted. The geographic coordinates will be portrayed to a hundredth of a minute. Geographic coordinate data will be listed at the right top of the plan view.

4.3.21. Marker Beacons

Marker beacons shown shall be positioned in their geographical position.

Marker beacons of an instrument landing system shall be identified by the letters "IM" (inner marker), "MM" (middle marker) or "OM" (outer marker) positioned adjacent to the symbol, unless collocated with compass locators.

4.3.22. Radio Beacons

Non-Direction Radio Beacons (NDB) shall be plotted in their exact position using the NDB symbol.

NDBs that are paired with DME shall be shown with both symbols. The DME facility shall be identified as well as the NDB data "DME CH30 (109.3)".

4.3.23. Compass Locators

Compass locators are similar to NDBs and shall use the same symbol and type style. Compass locators shall be identified by the letter "L", frequency and code.

When collocated with the outer- or middle marker, compass locators shall be identified as LOM or LMM in the same manner indicated above.

4.3.24. VOR, VOR/DME, VORTAC, DME

VOR, VOR/DME, VORTAC Radio Aids to Navigation shown, shall be plotted in the exact position using the appropriate symbol indicated, and identified.

DME shall be symbolized by the symbol illustrated in CENOR FLIP legend. The DME symbol may be combined with a VOR, NDB, or LOC symbol. The DME or TACAN mode will be enclosed (X or Y), e.g., CH17Y.

4.3.25. TACAN

TACAN facilities shown shall be plotted in their exact position using the appropriate symbol indicated, and identified.

4.3.26. Instrument Landing System (ILS)

Only those components of the Instrument Landing System used in the instrument approach procedure shall be shown.

The localizer course shall be depicted by the localizer course symbol which should be aligned to the localizer course. The localizer course symbol shall not obstruct the runway symbol. Referring to direction of flight, the hatched part of the localizer course symbol should be on the right side for front courses and left side for back courses.

On simultaneous ILS procedures a small representation of the localizer only portion of the other simultaneous approach shall be shown on each of the single approaches.

ILS Stations, with compatible DME, shall be identified identical to a VOR/DME, if they are collocated and have the same identification, only one box.

Marker Beacon symbols shall be centred across and perpendicular to the localizer course. The position of these facilities shall be plotted by measuring the given distance along the bearing from the approach threshold of the instrument runway. When the localizer symbol and NDB/LMM, and/or a radio range is in the same location, the localizer symbol and portions of facilities other than the radio beacon and/or

marker beacons shall be deleted. The localizer symbol shall be cleared to provide for placement of the inbound and outbound bearing.

When the localizer and glide slope frequencies are paired frequencies, only the localizer frequency will be shown within a box. When frequencies are not paired, both the localizer and glide slope frequencies will be shown. The localizer identification will be shown.

When the localizer is used as the primary facility in a LOC or LOC BC procedure, and the glide slope is not used, or is not available, the glide slope frequency shall not be shown. Procedures based on the back course of the localizer shall have the words "BACK COURSE" displayed in the plan view.

Both inbound and outbound bearings shall be depicted in the outer extremity of the localizer symbol. When procedure track bearing (which shall always be shown) and the inbound course bearing is the same, only the outbound localizer course bearing shall be shown.

4.3.27. Intersections/Fixes

Intersections used in the instrument approach procedure shall be defined by bearings, radials, and / or DME values.

Mileage fixes along terminal routes shall be shown centred on and perpendicular to the terminal route or procedure track. DME fixes shall be identified by establishing the fix and the mileage in nautical miles. RADAR fixes shall be identified in nautical miles, e.g., 8 RADAR. When the fix is appointed, the identification shall be shown near the fix with the mileage centred beneath. Mileage fixes for holding pattern shall be shown in the same manner.

4.3.28. Dual Facility Approaches

Procedures portraying two final approaches, i.e., ILS, TACAN, may be published when depiction is not required which would render the approach chart difficult to interpret. The final approach course shall be published for each final approach, one above the other, on either side of the procedure track, identifying the facility to which it applies, e.g., 090° ILS, 092° VOR.

4.3.29. Variation

Variation information shall be shown on instrument approach charts and will consist of a variation diagram, displayed in the upper left portion of the plan view.

4.3.30. Airways

Airways shall only be shown when referenced in the approach and/or missed approach parts of the procedure, or when depiction of the airway is requested by the agency responsible for the procedure.

4.3.31. Special Boundaries

When required, special boundaries, e.g. Identification Zone (IZ), may be shown using symbolism as shown on the legend.

4.4. Profile

4.4.1. General

A profile diagram of the instrument approach procedure shall be placed in the space provided below the plan view. Those facilities, intersections, fixes, etc. identified in the procedure and minimum altitudes, as required by the procedure, shall be shown.

4.4.2. Aerodrome Profile

The aerodrome profile shall be shown by a line, positioned below the underline.

4.4.3. Radio Aids to Navigation

All Radio Aids to Navigation shown shall be positioned relative to the aerodrome profile and other facilities, using a vertical line. The primary facility symbol shall extend above the underline.

When only one facility of the same type is shown, the facility shall be identified directly above the symbol as follows:

- Fan Marker by a capital FM.
- Outer Markers and Middle Markers as OM and MM; or, when a compass locator beacon is collocated with a marker beacon and used in an instrument landing system, as LOM or LMM.
- VOR, VOR/DME, VORTAC and TACAN by the letters "VOR", "VOR/DME", "VORTAC" or "TACAN", as appropriate.
- Radio Beacons by the letter NDB.

When more than one facility of the same type is shown, then each shall be additionally identified by the facility identifiers positioned immediately over the type of facility.

4.4.4. Intersections/Fixes

Intersections/fixes formed by radials and bearings shall be indicated by a short line in the approach track perpendicular to the underline.

- Fixes formed by radials and shown along the procedure track shall be identified in abbreviated form, e.g., R-145, and mileage figure positioned below the radial value, all centred above the line.
- Fixes formed by bearings and shown along the procedure track shall be identified as follows: "180° to ABC", centred above the line.
- TACAN fixes shall be identified in nautical miles, using the DME symbol e.g. centred above the line.
- TACAN final approach fix shall be identified by the formed Cross symbol illustrated.
- DME fixes shall be identified in nautical miles using the DME symbol e.g. centred above the line symbol.
- Combinations of any of the above intersections/fixes shall be identified as appropriate.
- The line symbol may be broken as required and necessary for placement of altitude values and procedure notes.

4.4.5. Procedure Track

Low Altitude IAP

- A profile view of the procedure track shall be shown using a straight line. The approach-track shall begin at the top of the primary facility symbol, unless otherwise dictated by the procedure, and shall descend to close above the underline, where the final approach ends and the missed approach begins.
- All headings associated with the procedure shall be shown with directional arrowheads on and breaking the track after each change in direction. A degree sign shall be shown with all headings.
- Procedure and teardrop turns shall be symbolized as indicated on CENOR FLIP legend. Procedure turn headings shall not be shown. When a one-minute holding pattern is required in lieu of a procedure turn, a horizontal line shall be shown. The descending line shall begin at the fix when the fix altitude is the same as the minimum holding pattern altitude; the descending line shall begin at the midpoint of the holding pattern symbol.
- Procedure turn notes shall be shown, positioned adjacent to (preferably above) the procedure turn altitude. Wording shall be condensed to indicate length of manoeuvring area e.g., "Remain within 10 NM", or "Two min" holding pattern.
- When included as part of the procedure, the notation "Procedure Turn NA" shall be shown.
- The procedure turn altitude shall be shown in lieu of a specific procedure turn symbol.
- The non-precision Final Approach Fix (FAF), when specifically identified on the approach procedure, shall be shown by a Cross symbol illustrated, positioned on and breaking the procedure track.

High Altitude IAP

- A profile view of the penetration of the procedure track shall be shown using a dot line pattern. The approach track shall begin at the top of the primary facility symbol, unless otherwise dictated by the procedure or space consideration requires the beginning of the track be lowered for the placement of other data, such as the altitude of glide slope at OM, and shall descend to:
  - the Final Approach Fix (FAF) (glide slope intercept point for ILS approaches);

- the Missed Approach Point without a FAF or when the FAF is located at the aerodrome;
- the beginning where a low altitude approach begins, e.g., procedure turn.

- The procedure track from the FAF shall be shown using a straight line.
- Penetration and descending turns by symbolized as indicated in CENOR FLIP legend.

In order to facilitate legibility and clarity the profile view of the procedure track may begin with the Intermediate Fix.

4.4.6. Missed Approach

- The missed approach procedure shall be shown by symbol and note. The note shall specify what to do, including altitudes and distances. The facility or facilities used in the missed approach shall be identified in the note by facility identifier and type when more than one facility of the same type is depicted in the plan view. The missed approach note shall be positioned below the caption titled "MISSED APPROACH".
- All facilities, radials, fixes, and intersections used in the missed approach shall be shown in the plan view, depicted as stated under appropriate subject headings.
- One missed approach note shall suffice for dual profiles with identical missed approaches.
- When an obstruction or ATC reason requires a higher than standard rate of climb for the missed approach, this shall be marked on the procedure, preferably indicating the reason for adjustment (terrain/obstacle/ATC). More than one set of minima should be published to encompass aircraft with marginal performance; one for the standard missed approach climb rate, and one (or more) for the higher rate(s).
- Rates shall be published rounded to one-tenth of a per cent. If required, the climb amount may additionally be published as degrees specified to the nearest one-tenth, or as gradients; feet per Nautical Mile (ft/NM). If further illustrating with a Minimum Climb Table, this should be shown as close as possible to the missed approach text in the profile.

4.4.7. Altitudes

Minimum, Maximum, Mandatory, and Recommended Altitudes shall be shown along the profile procedure track, preceding the fix of facility to which they apply, as follows:

- Minimum Altitude

  This is an MSL altitude, vertical to a geographic location below an aircraft may not descend during an instrument approach. The requirement for a minimum altitude may be created by obstruction clearance criteria or airspace separation criteria. Minimum altitudes shall be depicted as an underlined number, e.g.

  <u>4000</u>

- Maximum Altitude

  This is an MSL altitude, vertical to a geographic location, above which an aircraft may not be flown during an instrument approach. The requirement for a maximum altitude may be created by airspace separation criteria. Maximum altitudes shall be depicted as a number with a line above it, e.g.

- Mandatory Altitude

  This is an MSL altitude, vertical to a geographic location, which an aircraft must maintain during a portion of an instrument approach. The requirement for such may be created by airspace separation criteria or airspace separation criteria in conjunction with obstruction clearance criteria. Mandatory altitudes shall be depicted as a number with a line above and below it, e.g.

- Recommended Altitude

  This altitude category has been added to describe assigned altitudes other than those cited above and shall be depicted as a number without a line above or below.

- Transition Altitude

  In areas where Transition Altitudes are established, they shall be abbreviated and shown as "TA" with appropriate altitudes. Preferable positioning shall be the top right corner of the profile section.

4.4.8. ILS Glide Slope (GS)

The ILS procedures are based on the use of electronic vertical guidance. The appropriate vertical guidance symbols shall be positioned at an angle from the approach end of the procedure runway. The angle of the glide slope may be varied to provide for the placement of inbound bearings, notes, altitude, etc. A note providing the glide slope angle (in degrees and tenth) and the Reference Datum Height (RDH), as provided, shall be conveniently positioned within the profile, using the following format:

GS 3.0°
RDH 55

The final approach track shall be centred on the glide slope symbol from the point of interception and continuing downward to the missed approach point. The track and vertical guidance symbol shall be cleared to provide for placement of inbound bearings, when shown.

The altitude of the glide slope or glide path at a fix or the outer marker as designated on the procedure shall be shown, positioned on and breaking the vertical line symbol, above the procedure track.

The actual point of interception of the glide slope with the procedure track shall be graphically depicted to indicate the interception point and altitude. The interception altitude shall be shown below the procedure track, with a lightning type arrowhead line leading to the actual point of glide slope interception.

4.4.9. Distance FAF to THR

On a non-precision approach with a FAF the distance between the FAF and the threshold shall be depicted with an arrow on each end, with the distance centred on and breaking the line, positioned between the lower neat line and the underline.

4.4.10. Notes

Notes shall be held to an absolute minimum and shall be based on user requirements consistent with a safe execution of the procedure.

4.4.11. Dual Approaches

Procedures portraying two final approaches, i.e., ILS, TACAN, may be published where depiction is not required, which would render the approach chart difficult to interpret. The following restrictions apply to the publication of dual final approach procedures:

- No procedure having a final approach step-down fix shall be published as a dual procedure unless the step-down fix applies to both procedures.
- The Final Approach Fix (FAF) for both procedures will be collocated whenever possible. Where a different FAF is required for each final approach, both Final Approach Fixes shall be identified. The non-precision FAF shall be shown by a Cross, positioned on and breaking the procedure track.
- The final approach course shall be published for each final approach, one above and one below the final approach track, identifying the facility it applies to, e.g., 090° ILS, 093° VOR.

4.4.12. Description of the ALS depiction

The ALS depiction is a schematic of what the pilot has to expect when approaching an aerodrome. The amount of lines and cross lines in the drawing should relate to the actual number of rows and crossbars.

The length of the ALS will be shown in metres in the briefing strip of each approach procedure.

4.5. Time/Distance Table

On procedures where a distance from the Final Approach Facility/Fix to the Missed Approach Point (MAPt) is specified, a time/distance table may be shown as illustrated in appendix 2. Time/distance table shall reflect knots as 60, 90, 120, 150 and 180 respectively.

On procedures with the facility located on the aerodrome and the MAPt is the same facility (and on TACAN procedures), the time/distance table shall be omitted.

4.6. Descent Table

The descent table is placed in one of the top corners of the profile view showing altitudes/heights through which the aircraft should be passing at each 2 km or 1 NM as appropriate, starting at the FAF and ending at the threshold as illustrated in appendix 2.

The first line of the table displays a caption that contains “GP INOP” on precision approach charts. On non-precision approach charts the first line may contain additional information on the descent gradient or be omitted. The left-hand column of the second line contains “DME ‘DME ID’ (NM)” where ‘DME ID’ is replaced by the ID of the DME used, e.g. VME. Subsequent columns of the second line display DME values starting at the FAF and ending at the threshold. The columns will contain from left to right either increasing or decreasing DME values expressed in 1 DME increments to match the approach direction orientation.

The left-hand column of the third line may contain “DIST TO THR (NM)”. Subsequent columns of the third line display the remaining distance to the threshold rounded to a tenth of a NM.

The left-hand column of the fourth line contains “ALT” or “HGT”. Subsequent columns of the fourth line provide the altitude/height value rounded up to the next 10 feet.

Note: The table shall not include distances, which would correspond to altitudes/heights below the OCA/H.

4.7. Minima Data

The landing minima data for the aerodrome shall be shown positioned in the space provided in the lower portion of the chart, as illustrated in appendix 2.

Landing minima data provided shall consist of:

- Minimum Descent Altitude (MDA in ft) or Decision Altitude (DA in ft),
- Runway Visual Range (RVR in m) or visibility (VIS in km),
- Height Above Touchdown Zone Elevation (HAT in ft), or
- Height Above Threshold (HATh in ft), or
- Height Above Aerodrome Elevation (HAA in ft)
- Ceiling-visibility values (and if available no light visibility values)

for the type of approach and approach speed categories.

When the Minima for one type of approach are the same for two or more approach speed categories, the data shall be shown centred below the appropriate approach speed headings, eliminating the vertical separation line(s) between the approach speed categories. When space considerations demand, minima data may be positioned on two lines, one above the other, for each speed category and type of approach.

When available, approach minima and glide slope angle information shall be published on instrument approach charts.

The sequence of designation should be:

- S-(ILS, TACAN, LOC) Approaches
- Circling-PAR

Statement of categories

- A B C D E for Low procedures
- C D E for High procedures

Nomenclature of minima data shall be in accordance with AATCP-1 and as depicted in CENOR FLIP preface.

Visibility minima criteria are stated on the left side of the minima table within a black background coloured table cell with white letters.

5. AERODROME CHART

5.1. Sections

The Aerodrome Chart is divided into two main parts:

- Aerodrome Chart and
- Minima data, supplemented by RWY data, TWR, GCA/RADAR frequencies and SSR Codes.

Type size, style and position shall be as shown in appendix 2.

5.2. Aerodrome Chart

5.2.1. Aerodrome Data

Aerodrome data shown must be of sufficient detail to facilitate visual orientation of aircraft while parked or taxiing.

5.2.2. Colour and Screen

The chart shall be prepared for one colour presentation (black). Grey scales shall be used for portraying the manoeuvring area.

5.2.3. Coordinate System

The grid net, as an overlay, is based on the World Geodetic System (WGS 84). If the grid net of aerodrome charts from non-CENOR members is based on other than WGS 84, the respective datum will be displayed in the upper part of the aerodrome chart.

5.2.4. Symbolization

For symbolization see chapter 7 or CENOR FLIP Legend.

Graphic Information Requirements

- Runway with associated surfaces
- Taxiway
- Taxiway Identification (not mandatory)
- Parking Areas
- Helicopter Landing Area
- Tower
- Aeronautical Information Service
- Aerodrome Reference Point
- Obstructions
- Aerodrome Beacon, Navigational Facilities
- Grid net
- INS Position

Operational Data Requirements

- Dimensions of RWY (ft)
- RWY Designation
- RWY Heading (Mag)
- Field Elevation
- Coordinates of ARP
- Final heading to or from the facility

- Arresting Gear and Jet Barriers (with distance (ft) in relation to end of RWY)
- Variation

5.3. Radar Minima and Data

The minima shall be stated within a box in the lower part of the page consisting of following information and sequenced as such:

PAR Data

- RWY Designation
- GS
- TCH/OTCH
- RPI
- Approach Categories
- Minima (see paragraph 4.6 Minima Data)

SRA Data

- RWY Designation
- Approach Categories
- Minima (see paragraph 4.6 Minima Data)

If required, information notes marked with an asterisk at the corresponding data will be placed within the Minima box.

In case there is no radar minima and data at all, the table shall contain the text “Intentionally left blank” centred across all table columns.

Supplementary Data

Information concerning

- RWY designation
- PCN / LCN
- TORA
- ASDA
- TODA
- LDA
- PAPI / VASI
- TDZE / THR ELEV
- THR PSN

shall be listed within boxes in relation to the appropriate RWY designation below the plan view of the Aerodrome Chart.

Frequencies of

- ATIS
- DLV
- GROUND
- TWR
- RADAR APP
- GCA and
- SSR Codes

shall be stated, as applicable in ascending order above the minima box.

6. INSTRUMENT DEPARTURE CHART (IDC)

6.1. Standard Instrument Departure (SID) Procedure

Instrument Departure Charts are designed to provide the pilot with all electronic aid information, together with procedural and other pertinent data required to execute a Standard Instrument Departure (SID) Procedure.

The SID is an air traffic control coded departure routing developed to simplify departure, the procedures and phraseology for issuing departure clearances and provide pilots with a pre-planned departure clearance.

The chart portrayal should be limited to one procedure.

The SID shall be plotted using, insofar as possible, the centre of the graphic area for positioning of the first facility/fix after take-off. However, it may not always be practicable to use the first facility/fix after take-off as the chart centre. Cartographic judgment must therefore be exercised in plotting the SID. All turns, altitude, radio aids to navigation, including radio aids used in the formation of fixes, germane to the procedure, shall be accurately plotted on the graphic.

Every effort should be made to chart to scale or in relative geographic position. However, due to distances involved on some route segments such a depiction may be the exception rather than the rule.

All information shall be plotted to indicate its true (or relative in not to scale presentations) geographic location. Identifications and data notes shall be positioned adjacent to or as near the symbol as possible, except when such placement would result in the obliteration of other detail. All textual or type data shall be positioned relative to true north.

6.2. Sections

An instrument departure chart shall be divided into following sections:

- Briefing Strip
- Plan View
- Departure Route Textual Description

6.3. Briefing Strip

6.3.1. General

The briefing strip lists key information related to a procedure chart. It is shown on top of the plan view as table with two rows.

6.3.2. Communication Information

Communications information, when available, should be shown in the Briefing Strip. Terminal communications information when available and identified by the operator shall be shown by call sign or name. Service types shall be abbreviated, e.g., "GARDEMOEN TWR". Generally, one primary VHF and one primary UHF Departure Control frequency shall be shown.

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

- AUTOMATIC TERMINAL INFORMATION SERVICES (ATIS) shall be shown by the letters “ATIS” followed by the specific frequency.

  When the ATIS operates non continuously an asterisk shall be positioned following the letters: ATIS*

  When the service is provided on one frequency for both departure and arrival information, it shall be shown thus:

  ATIS 111.800

  When the service is provided on more than one frequency for both departure and arrival information, both (or all) frequencies shall be shown:

ATIS 113.900 124.100

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

ATIS DEP 121.850
ARR 112.700

- CLEARANCE DELIVERY (DLV).
- GROUND CONTROL (GND [CTL]).
- TOWER (TWR).
- DEPARTURE CONTROL (DEP)
- AREA CONTROL CENTER (ACC).

6.3.3. Additional Information

A minimum rate of climb table shall be published in the right bottom corner of the Briefing Strip. This vertical velocity table (V/V) should be published in 60 knots increments, from 60 knots to 240 knots for conventional a/c and copter and up to 360 knots if the procedure is to be used by High Performance Military Aircraft (HPMA).

Where multiple runway departures are required, the vertical velocity information shall be listed within this table in relation to the appropriate RWY designation.

6.4. Plan view

6.4.1. General

The chart shall encompass the area required to effectively show the departure routing, including transitions to the appropriate en route structure. One procedure shall be shown on each chart. Take-off portrayals from more than one runway, or opposite ends of a runway, are not to be treated as separate procedures.

All routes, turns, altitudes, radio aids to navigation, facilities forming intersections and fixes, and those facilities terminating the departure route (where the procedure joins the altitude structure for which the departure was established), shall be shown in the graphic depiction. Leader lines may be used as required.

Symbolization referred to is either depicted in chapter 7 or CENOR FLIP Legend.

6.4.2. Aerodromes

The aerodrome of departure shall be shown depicting all runways, including closed runways (appendix 2). Aerodromes in the immediate vicinity of the departure track, which affect the departure route, shall be shown.

6.4.3. Radio Aids to Navigation

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

- Radio aids to navigation that are located beyond the established limits of the chart area used to establish transitions shall be brought or moved within the neat line of the plan view, retaining its bearing relationship. Mileage and bearing values, etc., shall, however, be accurate.
- Radio aids to navigation that are located beyond the established limits of the chart area and used to establish fixes, intersections, etc., shall not be brought or moved within the neat line of the plan view.

Radio aids to navigation shown shall be appropriately displayed by symbol, frequency identifier, Morse code and/or channel number. The navigational aid the SID is based on shall be described within a box. Boxes shall be of a size consistent with the informational data contained therein.

6.4.4. Routes

Departure and transition routes (appendix 2) shall be shown, broken for all symbols and for the insertion of bearing values. Directional arrowheads shall be positioned on the routes, near, but not touching the symbol.

A departure route that terminates at one radio aid to navigation shall show the departure route from the aerodrome to the terminal facility. A departure route that terminates at two or more radio aids to navigation shall show the departure route from the aerodrome to the radio aid to navigation that is common to all of the terminating facilities. Depiction of departure and transition routes may be shown not to scale if it will depict the procedures more clearly. Such a depiction may be necessary due to distances involved on some route segments of the departure procedures.

6.4.5. Altitudes

Restrictive altitudes along the departure route shall be shown.

Minimum, Maximum, Mandatory and Recommended Altitudes shall be shown along the procedure track, preceding the fix of facility to which they apply. The use of the over/under line on altitudes of the SID shall be identical to the wording of the IAC as stated in paragraph 4.5.7 Altitudes.

6.4.6. Changeover Points

Changeover points, other than midpoints (plus or minus one NM) shall be shown when so identified and submitted on the procedure form.

6.4.7. Radial Lines

Those radials that are associated with the departure route, intersections, reporting points and mileage fixes shall be shown and identified. Lead radials, when identified and submitted with the procedure, shall be additionally identified with the letters "LR" preceding the numbered value, e.g., LR-053.

6.4.8. Bearing Lines

Those bearings associated with the departure route, intersections, reporting points, and mileage fixes shall be shown and identified. Bearing lines shall be shown by an arrowed line from the fix to the radio aid to navigation, with the value. Bearing values shall be in three digits. A degree sign shall be shown with all bearing values.

6.4.9. Reporting Points, Intersections and Fixes

Reporting points (compulsory and non-compulsory), intersections and fixes described in the SID shall be shown.

6.4.10. Special Use Airspace

Special Use Airspace that falls within the area of coverage of the Instrument Departure Chart shall be shown only when considered critical to the procedure as designated by the formulating agency. The functional procedural data in no case is to be obliterated by Special Use Airspace boundary/data.

Special Use Airspace shall be identified as designated, e.g. ED-R 116.

6.4.11. Obstacles

Prominent obstacles such as buildings, radio masts, towers, mountain peaks, terrain features, and other objects which would have an influence on the SID shall be shown in their exact geographic location so as to be in true relationship to the departure procedure. When portrayal of several obstacles in a small area would tend to create clutter, only the highest of the group need be shown.

The elevation of the top of the obstacles above mean sea level shall be shown to the nearest foot.

Spot elevations shall be plotted accurately according to geographic location and indicated by a dot with the elevation value placed nearby.

Obstacles and spot elevations shall be shown by the symbol illustrated in chapter 7.

6.4.12. Minimum Climb Rate

If the instrument departure procedure requires a climb steeper than standard, this shall be addressed on the procedure. Above the departure description text should be specified the required climb

gradient/angle and the altitude to which it should be maintained, along with the reason for climb (terrain/obstacles/ATC).

The amount of climb shall always be shown as a gradient to the nearest one-tenth of a per cent. If required, the climb value, either in degrees to the nearest one-tenth, or feet per Nautical Mile (ft/NM), may be added in brackets.

The text may be accompanied by a minimum rate of climb table, placed in the top right corner of the plan view. This V/V table should be published in 60 knots increments, from 60 knots to 240 knots for conventional a/c and copter and up to 360 knots if the procedure is to be used by High Performance Military Aircraft (HPMA).

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

6.4.13. Minimum Sector Altitude

See paragraph 4.3.15 Minimum Sector / Safe Altitude.

6.4.14. Special Boundaries

When required, special boundaries, e.g. Identification Zone (IZ), may be shown.

6.4.15. Aerodrome Elevation

The elevation of the aerodrome shall be displayed as shown on appendix 2. It shall be the same elevation as shown on the Instrument Approach Charts.

6.4.16. Transition Altitude

The transition altitude will be displayed as shown on appendix 2.

6.4.17. Variation

Variation information shall be shown on instrument departures charts. Variation information will consist of a magnetic variation diagram, displayed in the upper left portion of the plan view.

6.5. Departure Route textual Description

The departure route text shall be printed below the plan view as shown on appendix 2.

A written description of the departure procedure, including all turns, altitudes, headings, distances, facilities/fixes and all routes (indicating number if on airways, or direct if off airways) to the terminating facility/fix will be printed as provided by the operator.

7. SYMBOLIZATION

Symbols will be provided as AutoCAD files via the CENOR forum, subsection „Symbol Library“ (http://www.cenor.org/forum/viewforum.php?f=34). All values in “mm” unless indicated otherwise.

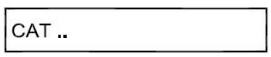
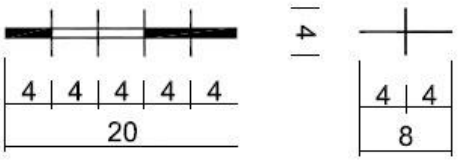
7.1. Symbols

Symbol Name	View	Additional Info
Aerodrome Beacon		-
Aerodrome Reference Point		line strength 0.18
Arrow (big, medium)		-
Arrow (small)		-
Basic Radio Navigation Aid		-
Cable (bi-directional)		line strength 0.18, arrow (medium)
Changeover Point		line strength 0.18 and line strength 0.36
Displaced Threshold		line strength 0.18, aspect ratio 1 : 3.125
DME		line strength 0.18
DME Mileage (1 digit)		line strength 0.25, letter type A26
DME Mileage (2 digits)		line strength 0.25, letter type A26
DME Mileage (digit dot digit)		line strength 0.25, letter type A26
Final Approach Fix		-
FIR Border Line		line strength 0.25, length: 1.00, distance: 10.00
Fix / Turning Point		line strength 0.18
Group Obstructions (lighted)		line strength 0.18 / 0.10, letter type A19
Group Obstructions (unlighted)		line strength 0.18, letter type A19
Helicopter Landing Area		line strength 0.3, letter type A22B
HIRTA (no obstruction)		line strength 0.18, letter type A19
HIRTA lateral limits		line strength 0.25, distance 2.00
HIRTA Obstruction (lighted)		line strength 0.18 / 0.10, letter type A19
HIRTA Obstruction (unlighted)		line strength 0.18, letter type A19
HIRTA Obstructions (lighted)		line strength 0.18 / 0.10, letter type A19
HIRTA Obstructions (unlighted)		line strength 0.18, letter type A19
IAA Point		line strength 0.18
ILS Back Course		line strength 0.25, dot-diameter 0.25, distance 1.2

ILS Front Course		line strength 0.25, dot-diameter 0.25, distance 1.2
ILS Glide Slope		line strength 0.25, dot-diameter 0.25, distance 1.2
ILS GS Intercept Alt		line strength 0.25, letter type A30
ILS Locator at OM		-
ILS Middle Marker		line strength 0.18, dot-diameter 0.25, distance 1.20
ILS Outer Marker		line strength 0.18, dot-diameter 0.25, distance 1.20
Initial Approach Fix		line strength 0.18
INS Position		-
Missed Approach Line		line strength 0.18, length 0.60, distance 0.55
NDB		line strength 0.40, dot-diameter 0.18, distance 0.5
Net Arresting System		line strength 0.18
Not to Scale		line strength 0.18
Note Circle (a – f)		letter type A22B
Obstruction (lighted)		line strength 0.18, letter type A19
Obstruction (unlighted)		line strength 0.18, letter type A19
On Request Reporting Point		line strength 0.18
operates not continuously		line strength 0.11
Penetration Track		dot diameter 1.50, distance 3.00
Power Line		line strength 0.25
Procedure Turn		line strength 1.00
RWY		-
Spot Elevation		dot diameter 1.50, letter type A19
TACAN		line strength 0.18
Total Distance of SID		line strength 0.25, letter type A22
Turning Point (turn when …)		line strength 0.18
TWY Designator		line strength 0.11, letter type A19

Variation Arrow		line strength 0.25, letter type A26
Variation East		line strength 0.25, letter type A26
Variation West		line strength 0.25, letter type A26
VFR Reporting Point / Intersection (on request flyby)		
VFR Reporting Point / Intersection (compulsory flyby)		
VFR Reporting Point / Intersection (on request flyover)		
VFR Reporting Point / Intersection (compulsory flyover)		
VOR		line strength 0.18
VOR/DME		line strength 0.18
VORTAC		line strength 0.18
Waypoint (on request flyby)		
Waypoint (compulsory flyover)		
Waypoint (on request flyover)		
Waypoint (compulsory flyby)		

7.2. Approach Lighting System

View	Additional Info
	Box 40.00 x 7.00, line strength 0.25, letter type A22
	Threshold (ALS without flashing lights) Box 4.00 x 4.00
	Threshold (ALS with flashing lights) Box 4.00 x 4.00, dot diameter 2.00
	Row of lights on the extended centre line of RWY
	1 row, line strength 0.18 2 rows, line strength 0.18 3 rows, line strength 0.18
	Crossbar
	No ALS available, letter type A22

UNKNOWN	Type of ALS unknown, letter type A22
S-ALS CAT .. CAT ..	Examples

7.3. Aerodrome Chart RWY/TWY/APRON Depiction

Depiction	Additional Info
	RWY (hard surface)
	RWY (unpaved surface)
	RWY (unpaved surface) with unpaved surface beyond RWY extremities
	RWY (hard surface) with hard surface beyond RWY extremities
	RWY (hard surface) with unpaved surface beyond RWY extremities
	TWY or APRON (hard surface)

7.4. Morse Code

7.4.1. General

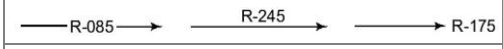
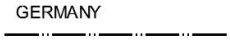
Name	View	Additional Info
Dot	▪	line strength 0.30, length 0.40, space 1.00
Dash	▬	line strength 0.30, length 1.50, space 1.00

7.4.2. Alphabet

Letter	View	Letter	View
A	▪ ▬	N	▬ ▪
B	▬ ▪ ▪ ▪	O	▬ ▬ ▬
C	▬ ▪ ▬ ▪	P	▪ ▬ ▬ ▪
D	▬ ▪ ▪	Q	▬ ▬ ▪ ▬
E	▪	R	▪ ▬ ▪
F	▪ ▪ ▬ ▪	S	▪▪▪
G	▬ ▬ ▪	T	▬
H	▪▪▪▪	U	▪ ▪ ▬
I	▪▪	V	▪ ▪ ▪ ▬
J	▪ ▬ ▬ ▬	W	▪ ▬ ▬

K		X	
L		Y	
M		Z	

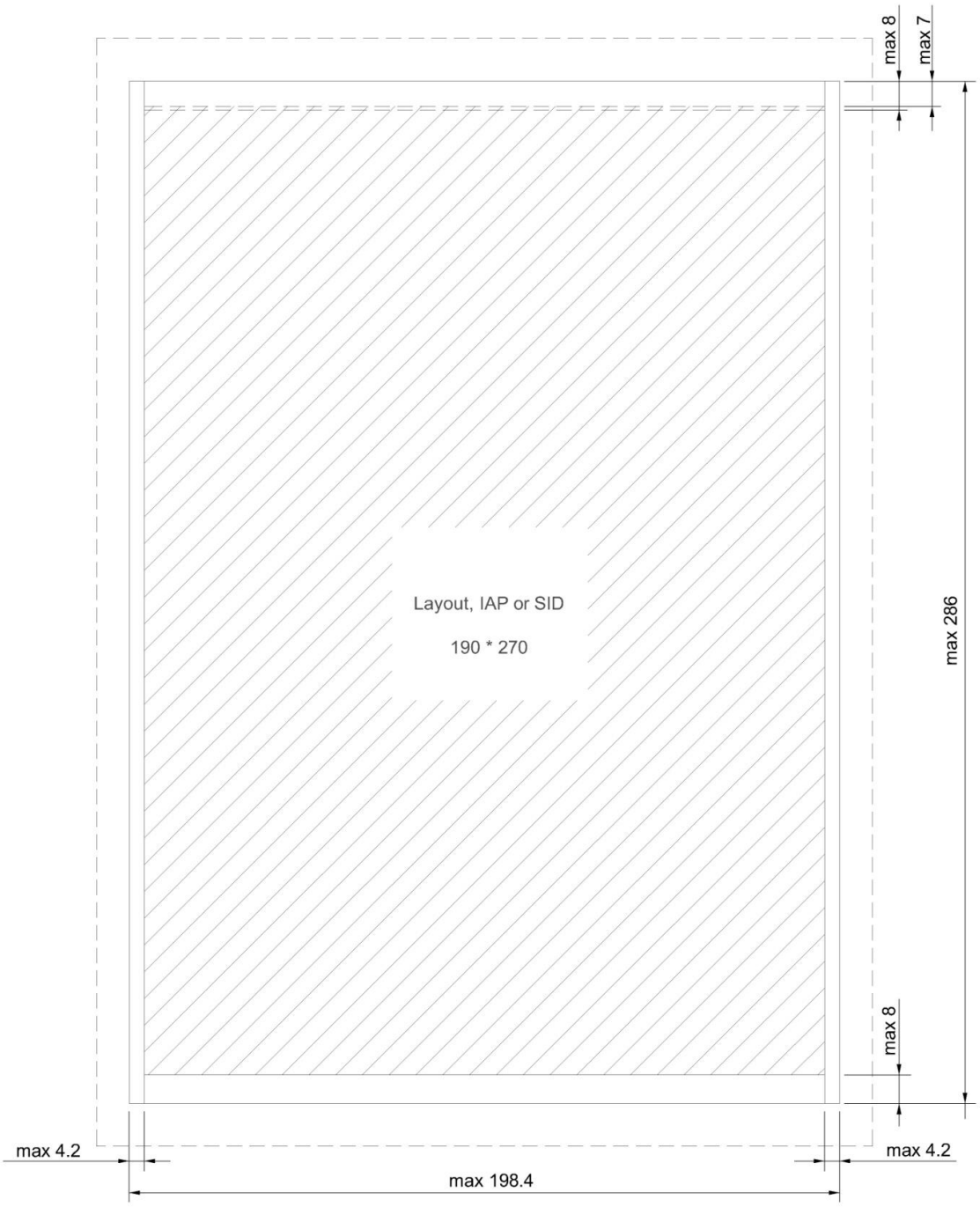
7.5. Additional Symbolization

View	Additional Info
	line strength 1.00, box: letter type A26, line strength 0.25
	letter type A26
	letter type A26, line strength 0.25
	letter type A22, line strength 0.35, line type ACAD ISO 05W100 / LSCALE 0.5
	letter type A19, line strength 0.35, line type ACAD ISO 02W100 / LSCALE 0.5
	letter type A30, line strength 0.25
	line strength 0.25, hatch ANSI 31 / SCALE 11 ANGLE 90° letter type (designator) A26B, (limits) A22

APPENDIX 1 – GENERAL

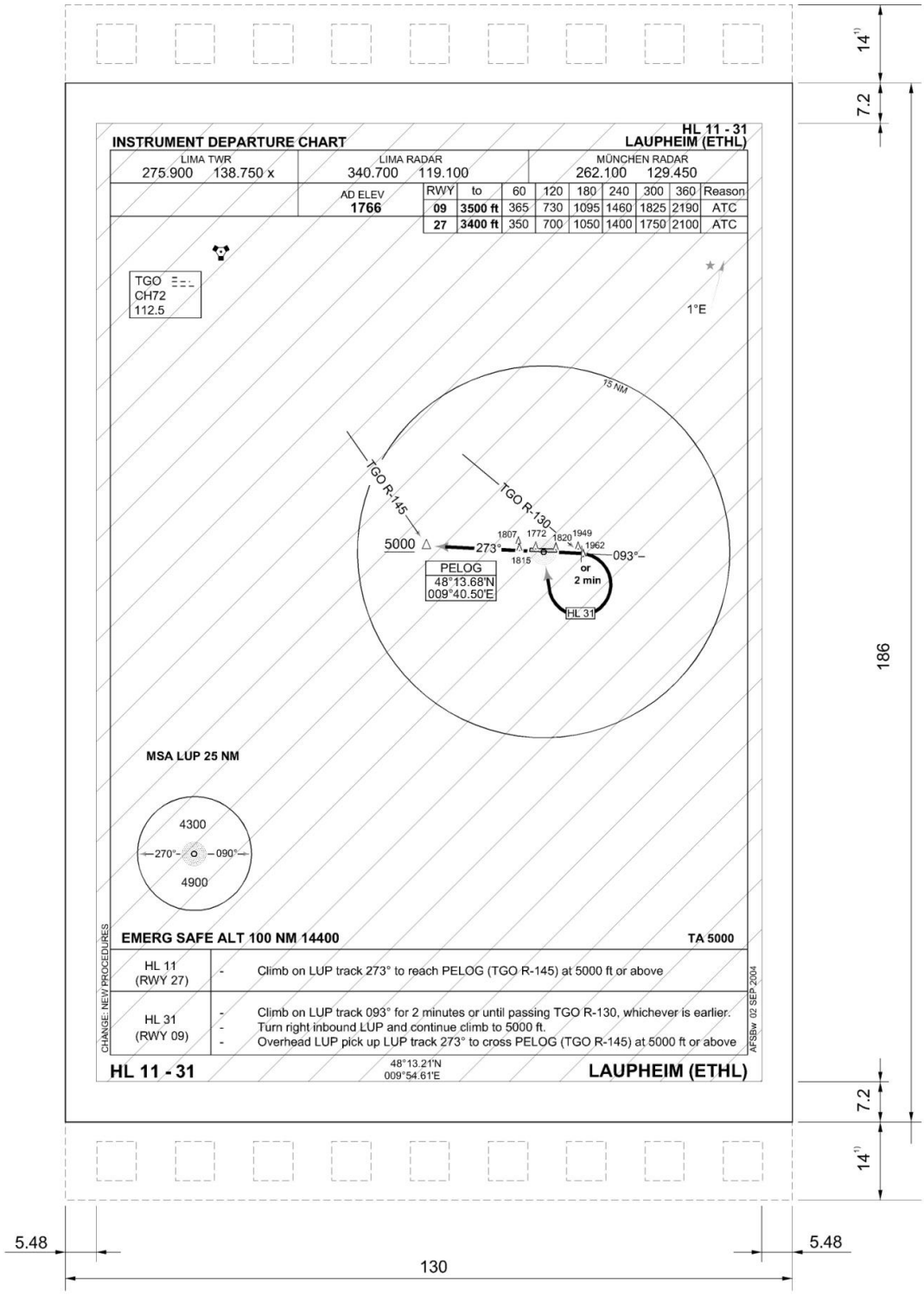
1/1 Printing Frame

Dimensions



1/2 Printed Page

Dimensions



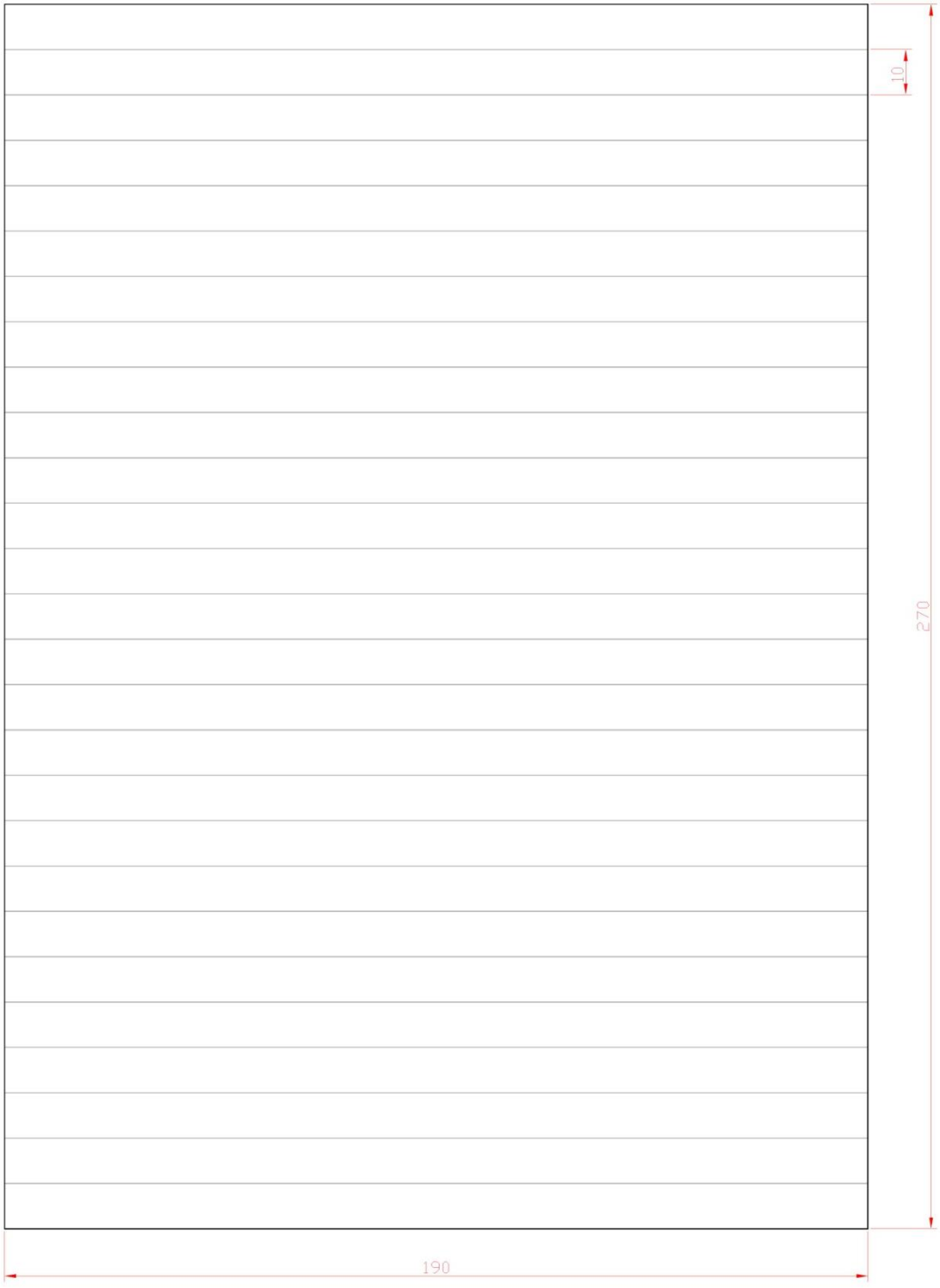
- Printed CENOR FLIP page 130 x 200 mm, including a stable margin of 14 mm added by the printing office.

1/3 Notes Page

Front

- Line strength frame and text lines **0.25**
- Text lines R(**179**)-G(**179**)-B(**179**)

Back

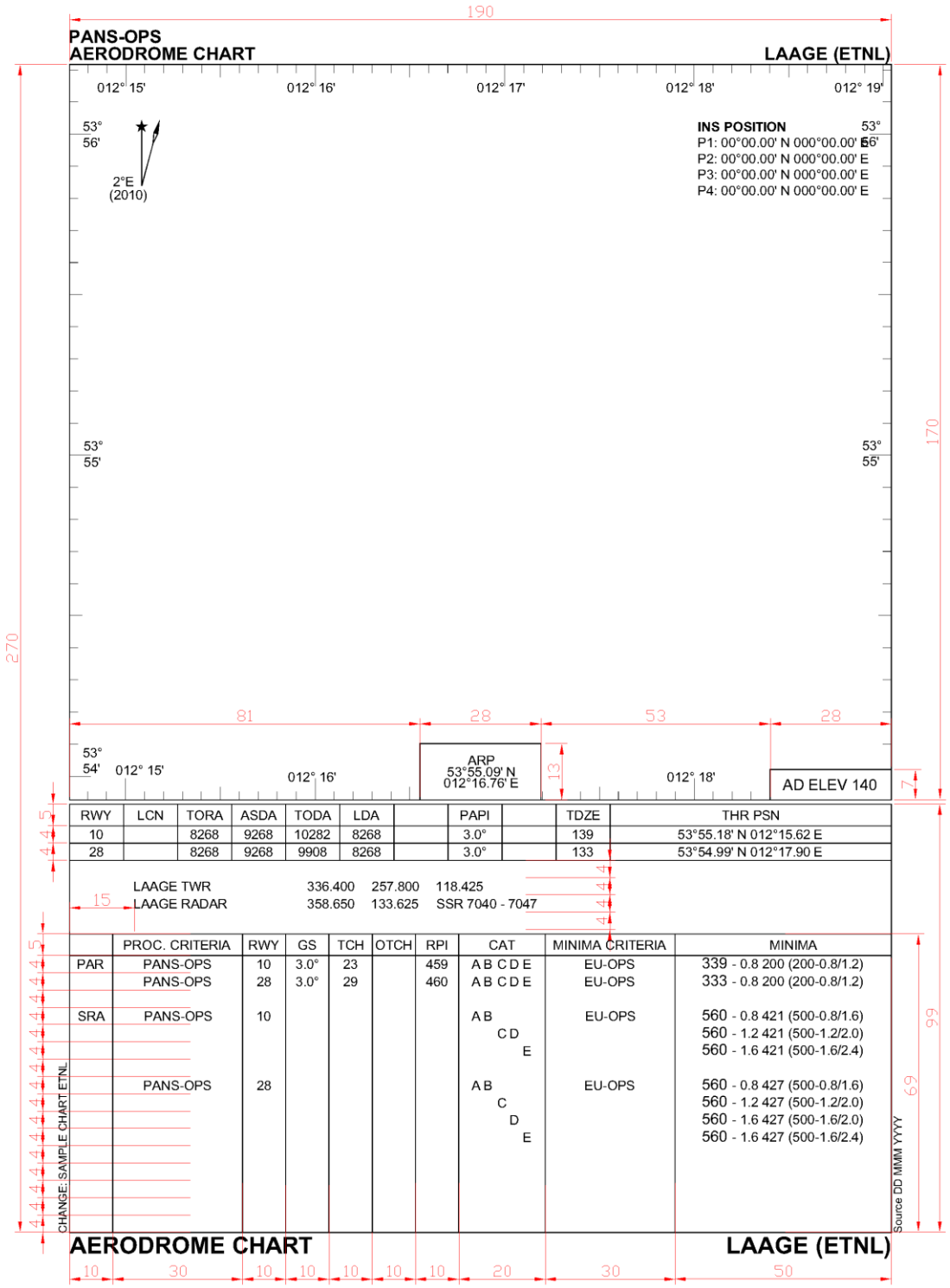


- Line strength frame and text lines **0.25**
- Text lines R(**179**)-G(**179**)-B(**179**)

APPENDIX 2 – CHART TYPES

2/1 Aerodrome Chart

Dimensions

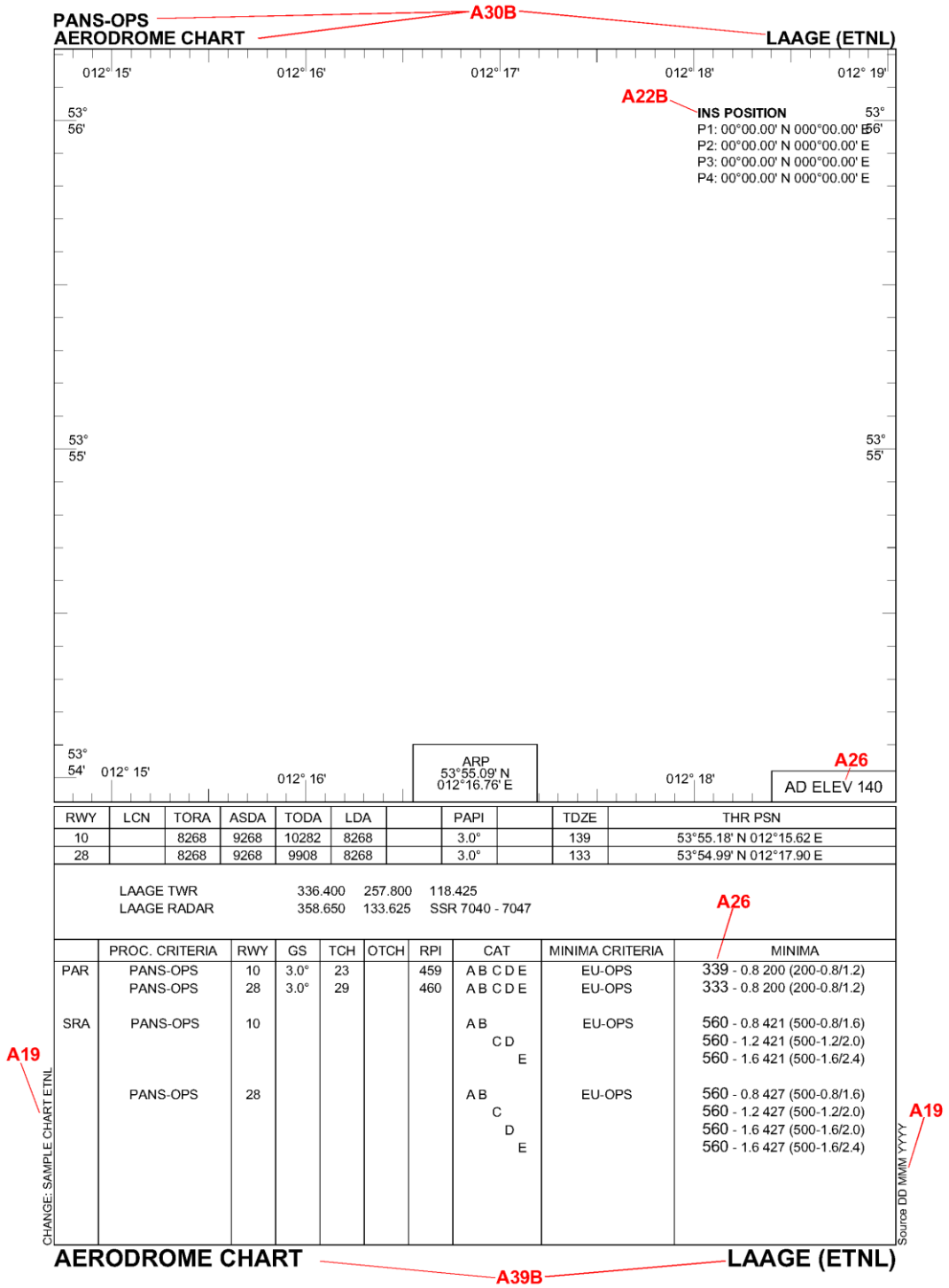


- Table cell width and height may vary according to editorial needs.
- Minima table might be reduced if applicable
- Spacing between frequencies and RWY data table is fixed, spacing to Minima data table is variable

Alternative Table RWY Data

- Table cell width may vary according to editorial needs.

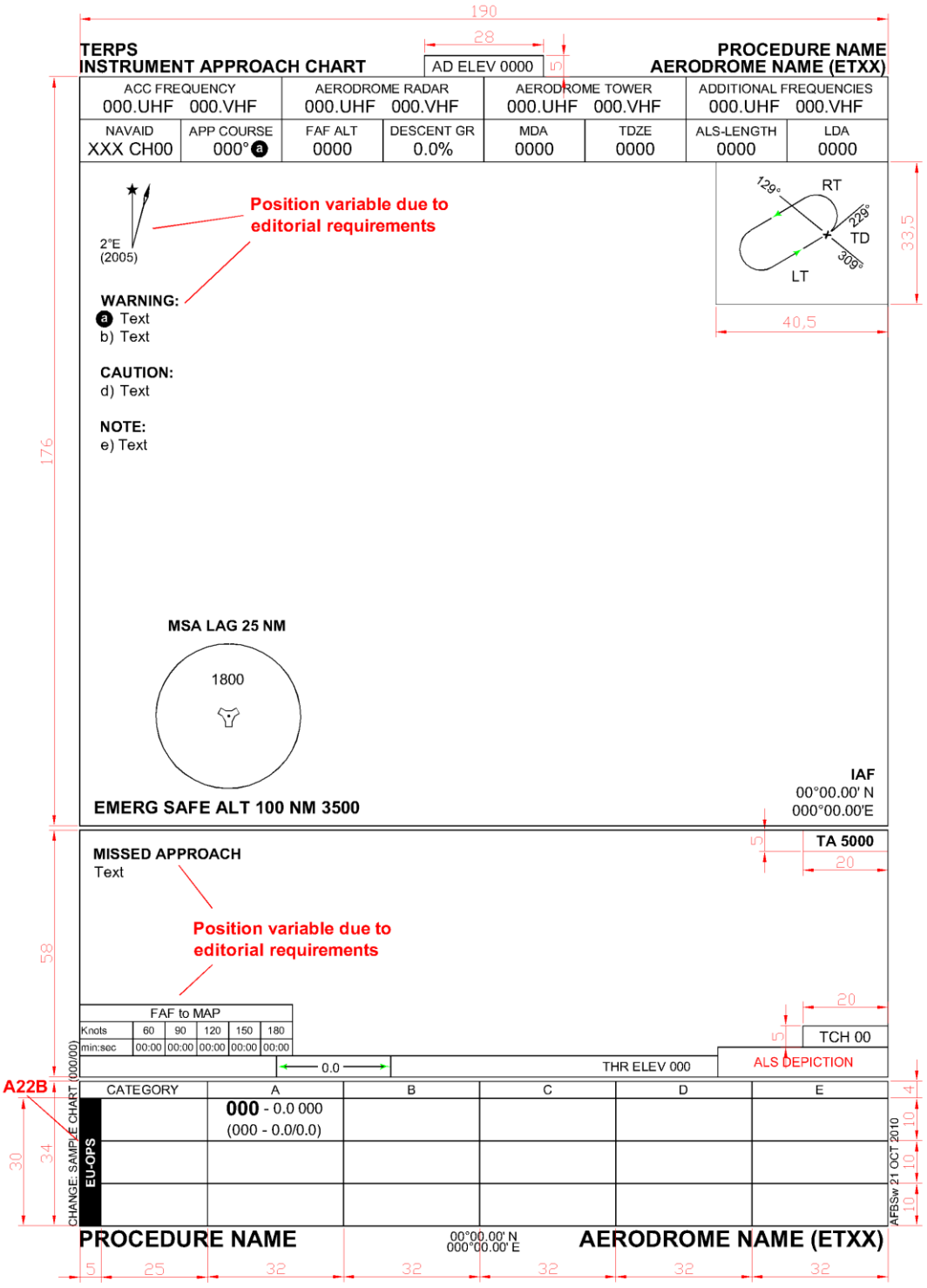
Text Specifications



- Line strength frame **0.25,** font size **A22** unless specified otherwise

2/2 Instrument Approach Chart

Dimensions

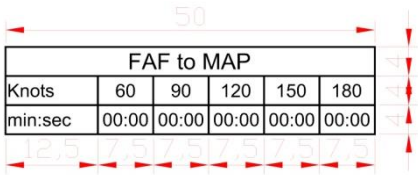


- Position of ALS depiction depends on approach direction
- Table cell width may vary according to editorial needs.

ALS Depiction

- for detailed ALS depiction specifications see chapter 7

FAF to MAP table



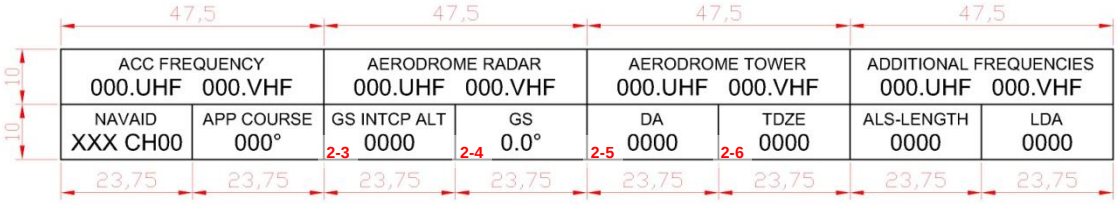
- Table cell width may vary according to editorial needs.

Descent table (Example)

GP INOP (CDFA 3.0° / 5.24%)						
DME ES (NM)	1	2	3	4	5	6
DIST TO THR (NM)	0.8	1.8	2.8	3.8	4.8	5.8
ALT	410	730	1040	1360	1680	2000

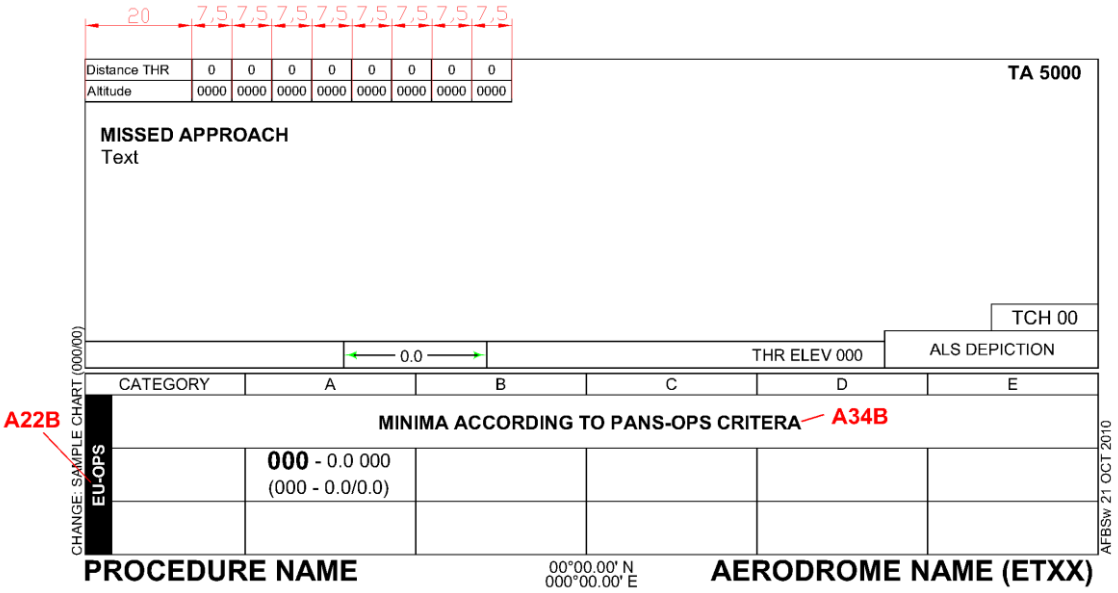
- Table cell height analogous to FAF to MAP table. Width may vary according to editorial needs.

Briefing Strip



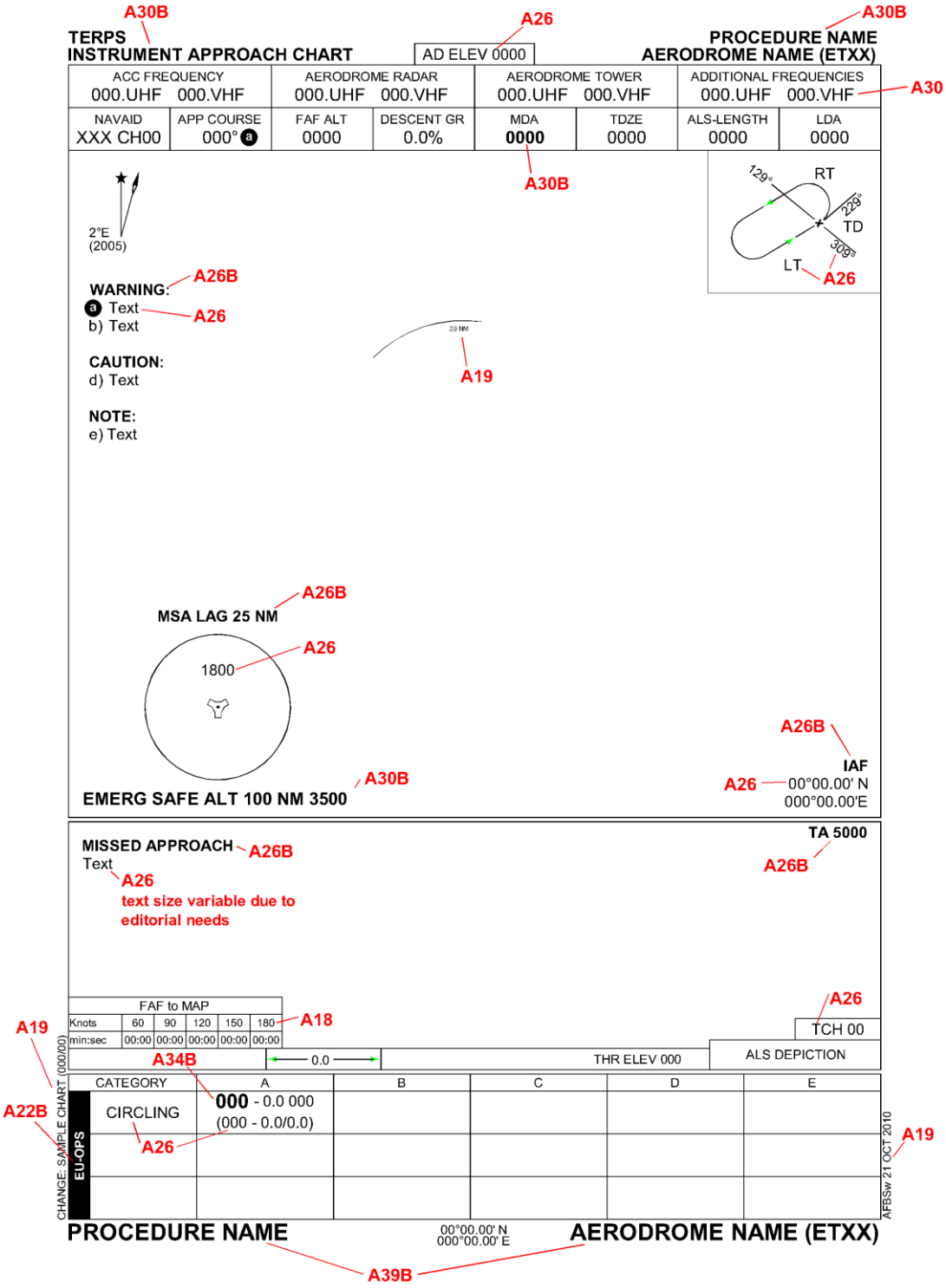
- Briefing Strip provides information in the sequence in which pilots would normally brief or review the procedure prior to flying it.
- Variations: **Briefing Strip with GS** as shown**, Briefing Strip without GS** provides table cells FAF ALT (2-3), DESCENT GR (2-4) and MDA (2-5), **Briefing Strip RNAV (GNSS)** provides table cells FAWP (2-3) and THR ELEV (2-6)
- Table cell width may vary according to editorial needs.

RNAV (GNSS) Approach Charts



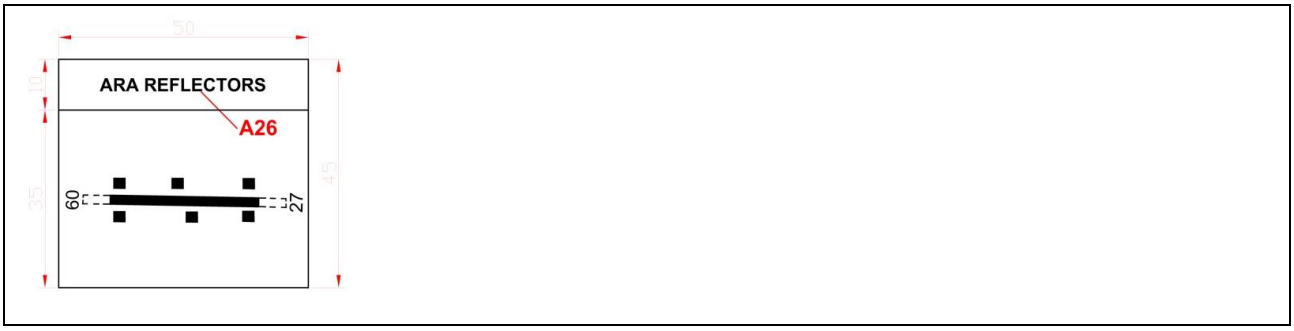
- Table cell width may vary according to editorial needs.

Text Specifications



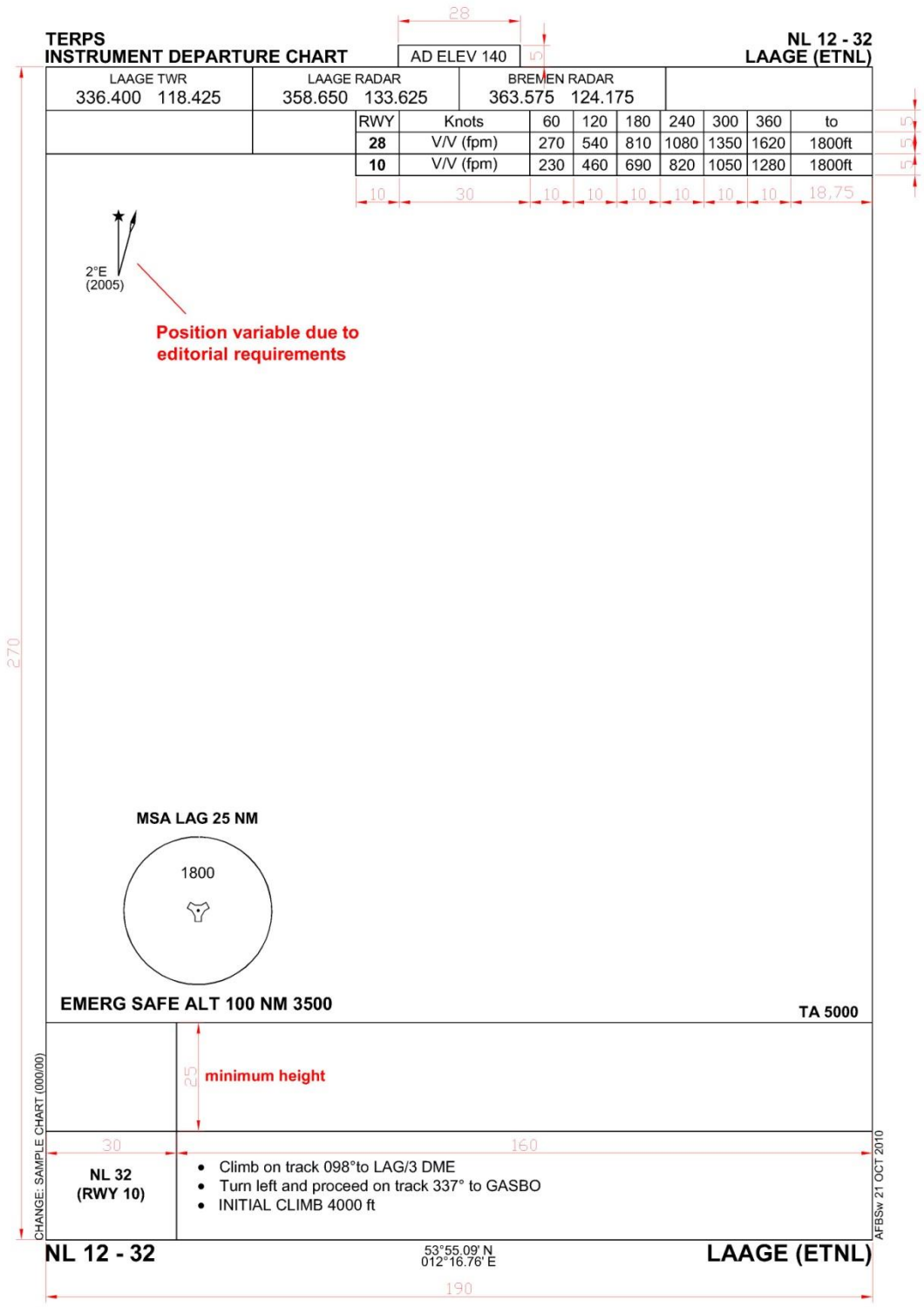
- Line strength frame and circles **0.25**
- font size **A22** unless specified otherwise

Additional Information Approach Chart ARA/IAA


50
10
35
45
ARA REFLECTORS
A26
60
27

2/3 Instrument Departure Chart

Dimensions



- number of table lines for procedure textual description varies (including the variation plan view only with additional description page) according to content and editorial requirements
- Table cell width may vary according to editorial needs.

Briefing Strip

TERPS
INSTRUMENT DEPARTURE CHART AD ELEV 140 **NL 12 - 32**
LAAGE (ETNL)

LAAGE TWR	LAAGE RADAR	BREMEN RADAR
336.400 118.425	358.650 133.625	363.575 124.175

RWY	Knots	60	120	180	240	300	360	to
28	V/V (fpm)	270	540	810	1080	1350	1620	1800 ft
10	V/V (fpm)	230	460	690	820	1050	1280	1800 ft

10 10 23,75 47,5 47,5 47,5 47,5

- Briefing Strip provides information in the sequence in which pilots would normally brief or review the procedure prior to flying it.
- Table cell width may vary according to editorial needs.

Alternative Version Climb Table

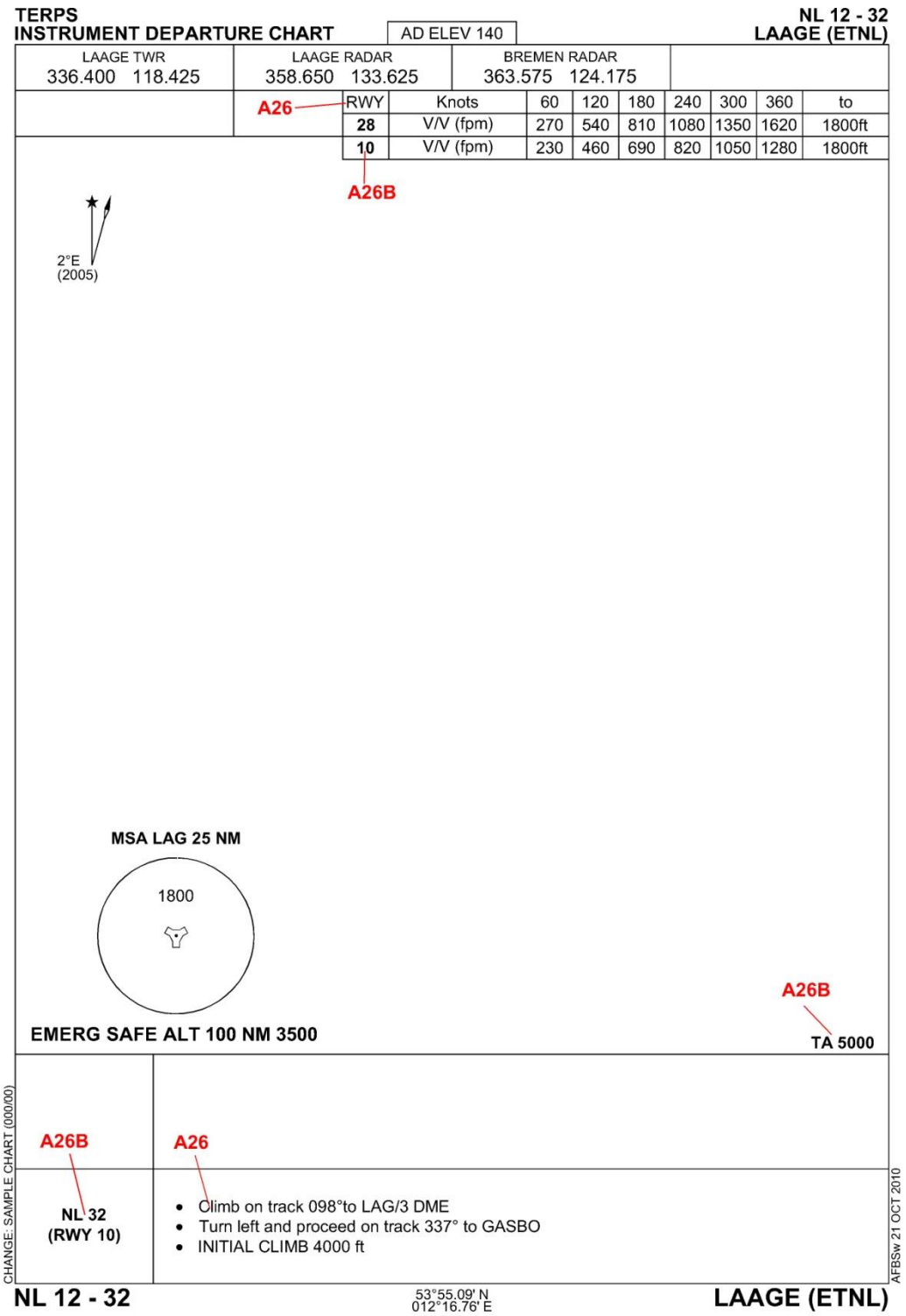
118,75

RWY	from-to	60	120	180	240	300	360	Reason
25L	DER - 3600 ft	608	1216	1824	2432	3040		ATC
07L	DER - 3600 ft	608	1216	1824	2432	3040		ATC

15 5,5 5,5
10 30 10 10 10 10 10 10 18,75

- Table cell width may vary according to editorial needs.

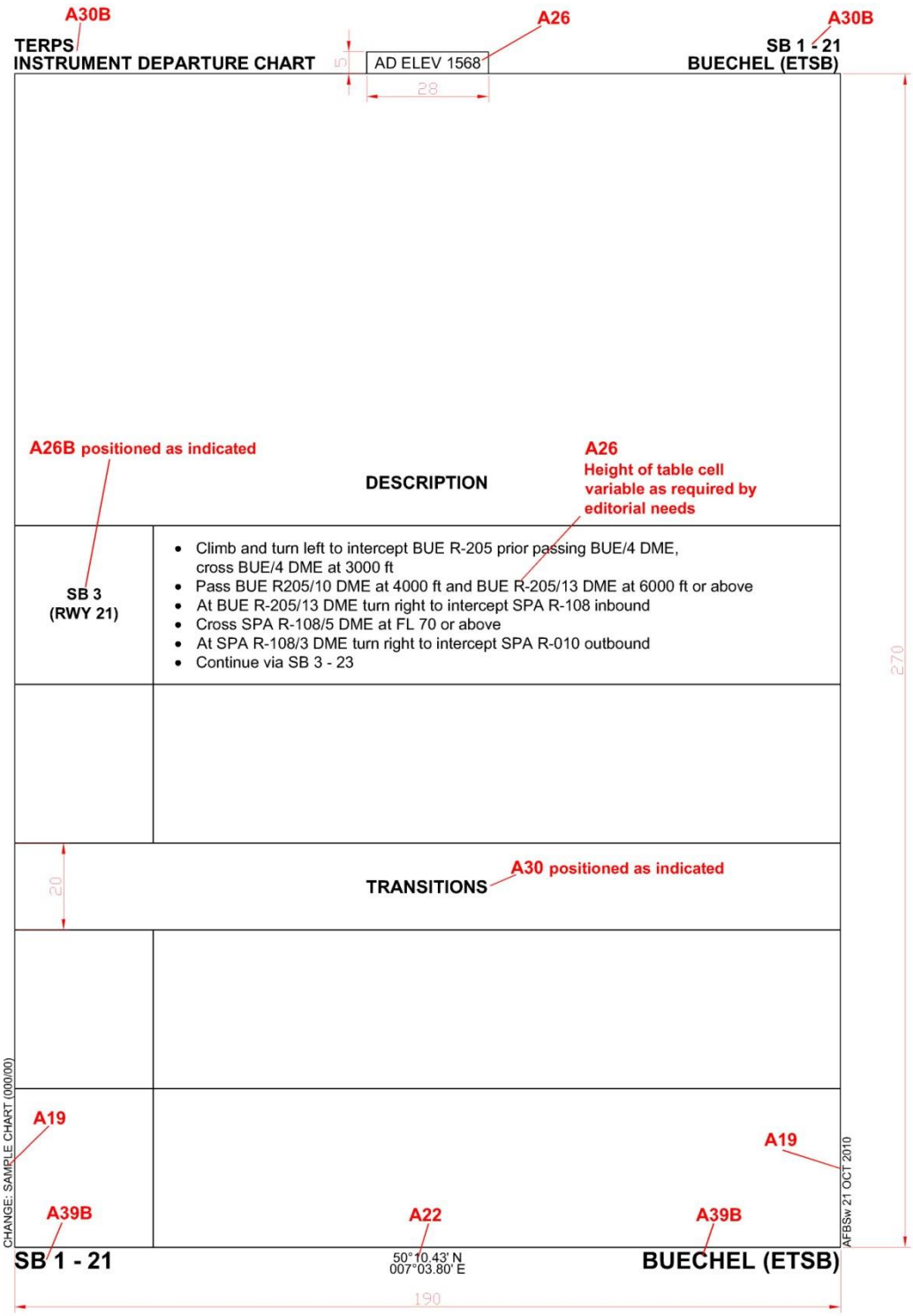
Text Specifications



- Line strength frame and circles **0.25**
- font size **A22** unless specified otherwise
- text specifications for approach charts (appendix 2/2) refer

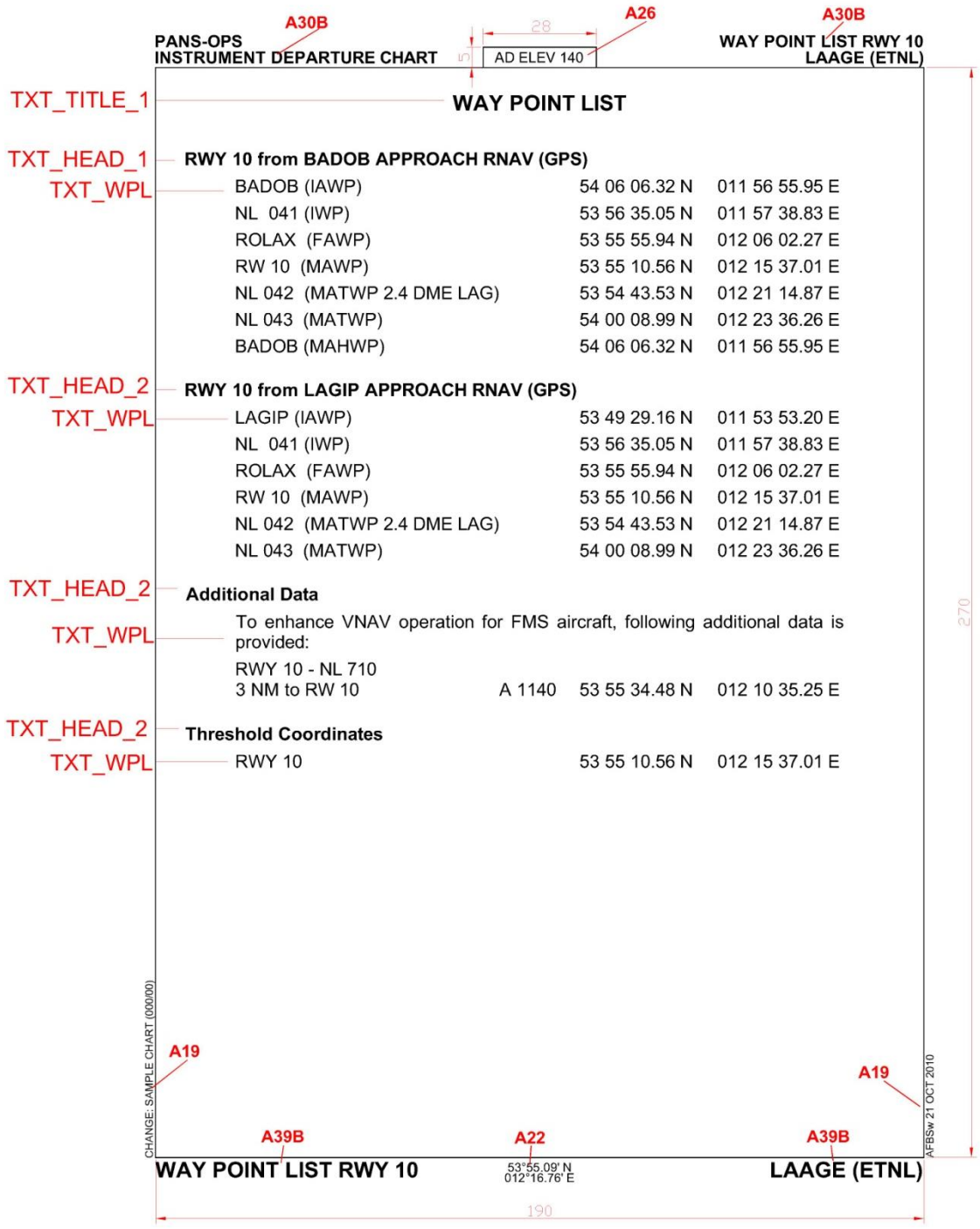
2/4 Procedure Description (Complete Page)

Additional Specifications



2/5 Waypoint List

Additional Specifications



- Preferably the list of waypoints shall be included in the procedure page itself. If it facilitates readability of the procedure the waypoint list may be an extra page.

APPENDIX 3 – RECOMMENDED PRACTICES

1	Change Note: Standard Wording	20 APR 2011

Following standard wording for describing changes on procedure charts has proofed to be sufficient:

- NEW PROCEDURE – self explanatory
- EDITORIAL – corrections to writing mistakes or wording without impact on the way the procedure has to be flown
- MINIMA – changes to altitude/height or weather minima
- FREQUENCY/-IES – changes to one or more radio frequencies
- NAV AID (TACAN etc.) – new navigational aid or changes to its frequency, “NAV AID” is to be replaced by the type of navigation aid
- WARNING / CAUTION / NOTE – new or changed warning/caution/note notation
- VARIATION – change to the variation
- MISSED APPROACH – change to the missed approach procedure
- OBSTACLE/S – new or changed obstacle/s
- ITEM COORDINATES – changes to coordinates; ITEM is to be replaced by e.g. ARP

2	Format of Coordinates	21 APR 2011

00°00.00’N 000°00.00’E

3	Procedure Order (Example)	08 MAY 2012

- Aerodrome Chart
- SID RWY 06
- SID RWY 24
- HI-ILS RWY 06
- ILS RWY 06
- HPMA TACAN RWY 06
- TACAN RWY 06
- VOR RWY 06
- NDB RWY 06
- RNAV (GNSS) RWY 06
- COPTER TACAN 061
- HI-ILS RWY 24
- HPMA TACAN RWY 24
- TACAN RWY 24
- ...