

Hickok & Associates Charting Format & Legend (Revision 3)

**INTRODUCTION:** Hickok & Associates provides approach and departure charts for the Helicopter Instrument Flight Procedures (IFPs) developed by the company. This **Revision 3** legend provides charting information for IFPs developed by Hickok & Associates using its proprietary, FAA-approved, Advanced Helicopter Instrument Procedure (AHIP) criteria. **This Revision 3 adds examples for cold temperature adjustments, changes to ODP minimums and pilot briefing information sections, examples of RNP requirements, examples of climb requirements (moved into the missed approach section), and approach procedure naming as it pertains to differences between avionics manufactures, Jeppesen coding practices, and retrieving approach procedure from various avionics systems.** 

Certain changes illustrated in this Revision 3 can only be implemented when amending existing procedures; charting must reflect certain sections contained within the procedure source documentation. Existing procedures and charting of those procedures per prior charting legends remain effective and usable until an amendment is required/approved. Certain other changes in this Revision 3 do not fall into the category of changes necessitating the procedure be amended. Hickok & Associates attempts to update charting to the most current format (e.g. this Revision 3) commensurate with 540-day periodic flight validation cycles.

Some of the charting features included in Hickok & Associates Charting Format/s were originated by the company to provide information to pilots using the company's IFPs and are unique to the company's AHIP criteria. This charting format is proprietary and all rights are reserved by the company. Hickok & Associate's approves the use of this charting legend by the company's customers and/or its customer's operator's as a supplement to their training manual and for conducting pilot training.

**NOTICE:** If a difference exists between what is presented in this charting format and a Federal Aviation Rule (FAR) or FAA Advisory Circular, an operator's FAA-approved operations specifications or training manual, or a letter of authorization or letter of agreement between an operator and FAA, those FAA-approved documents shall always take precedent.



The Basic Approach Chart Format





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# **Basic Approach Chart Legend**

Denotes if it is an Original or Amended procedure, e.g. ORIG, AMDT 1, ORIG-A, etc. <i>Note. This relates to the approved source documentation</i>
2 Identifies the Proponent/Operator Hickok & Associates has authorized to use the chart.
3 Procedure name and location: e.g. Copter RNAV (GPS) followed by either the <i>full</i> Final Approach Course (FAC) when <u>only LNAV minimums</u> are published, or; followed by the <i>rounded</i> FAC when <u>WAAS LPV minimums</u> are also provided. Landing location/facility name, Location Identifier, City and State. <i>Note. Depending on the type of avionics installed, the procedure will be found in the database (DB) as rounded or full FAC: is the reason</i> <b>RNAV</b> [FAC] GPS LPV is provided above the procedure name. Typically, FMS systems round all FAC's and panel mount GPS WAAS systems use the full FAC's.
Pilot Briefing Information provides WAAS information ( <i>Note. NA entered if only LNAV minimums are provided</i> ), final approach course, weather/altimeter source frequency, and ATC facility and frequency. <i>Note. You can retrieve LPV procedures from DB using the CH number provided</i> .
<sup>5</sup> Pilot Briefing Information Box identifies use as an alternate, if special takeoff minimums apply, the altimeter source, and backup altimeter source if primary is <i>not</i> on <b>Service-A</b> and adjustments to minimums when backup altimeter is used. <i>Note. When an altimeter source is on Service-A</i> , <i>ATC has access to the latest report and can provide it to the pilot if unable to receive over the radio. Likewise, an operator's flight dispatch center has access to the latest report for Service-A facilities at <u>http://www.faa.gov/air_traffic/weather/asos/</u> wherein Service-A facilities are denoted in blue font and when selected the latest weather report and altimeter setting can be opened on the internet.</i>
6 Cold Temperature Restricted Airports (CTRA). ( <i>Refer to Notices to Airmen, 13 Oct, 2016</i> ). Hickok charts provide a snowflake icon in the row with alternate/special takeoff minimums icons, and, either NA when no cold temperature adjustment is required, or, if an adjustment is required the temperature when required, and the segment/s and calculated adjustment will be entered from the CTRA tables.
7 Missed approach instructions may be or may include route missed approach segments to holding. Additional instructions pertaining to either LPV or LNAV Missed Approach (e.g. required minimum climb or climb altitude prior to turn instructions) have been moved from the Pilot Briefing Information Box to the Missed Approach Box per FAA policy. Note: Asterisks (* or **) entered with the LPV or LNAV minimums and used in the Missed Approach Box identify which line of minimums the additional missed approach instructions pertain to.
8 The Plan View will always provide the <i>Terminal Segments</i> from initial approach fix/fixes (IAF) to the missed approach point (MAP). Variations of graphical depictions are used depending on scalability and placement within the plan view. Graphical depictions might include: feeder segments or feeder segment inset boxes; missed approach route segments or missed approach route inset boxes; holding patterns depicted within the terminal drawing or missed approach holding inset boxes, or; other graphical depictions. The terminal segment graphics are produced in a georeferenced program and are <i>proportionally scaled</i> . When graphical depictions are included in the plan view that are <u>not</u> per the proportional scale of the terminal segments either a note will be placed with the depiction stating it is not to scale (e.g. Feeder segment is not to scale), a common symbol that denotes only a portion of a segment is depicted (e.g. a broken segment which always infers that segment is not to scale), or an inset box may be used (may be/may not be to scale). <i>Note. When the approach procedure is part of a helicopter IFR network (e.g. a network of approach and departure procedures interconnected using feeder and transition segments) the use of a front/back chart may be used. An example of the front/back charting is provided in Appendix B of this legend.</i>
9 Receiving permission for the use of the heliport is the responsibility of the proponent and performed during the development of the procedure. Use of the IFP is approved by the operator's FSDO. This note is required by FAA on Special Copter IFPs and is not typically the pilot's responsibility.
Holding is not drawn to scale due to the size of holding patterns. When the holding pattern is depicted within an inset box the <i>not to scale</i> note is not required ( <i>e.g. per 8 above, items portrayed in inset boxes may not be to scale</i> ) The maximum airspeed note is required by FAA on Special Copter IFPs and may be found either with the holding pattern or with the other speed notes.
All procedures will be noted to <i>proceed visually</i> or <i>proceed VFR</i> from the MAP or execute the specified missed approach. When the visual segment assessment has been satisfied, but, the lighting at the heliport failed the night evaluation, an IFP may be noted to <i>proceed visually</i> and a second note to <i>"Proceed VFR at night"</i> also located in the plan view.
12 The maximum indicated airspeed for any segment (e.g. feeders, terminal segments, missed approach, and holding) is 140 KIAS. If the maximum <i>designed</i> airspeed for a segment is limited to less than 140 KIAS that segment is identified and the maximum speed provided in the note.
The Minimum Sector Altitude (MSA) is the lowest altitude which provides a minimum clearance of 1,000 ft above all objects located within 25 NM radius centered on the MAP.
Rate Of Descent (ROD) table <u>only</u> applies to LNAV. Top row always begins at the Final Approach Fix (FAF) and ends either at the MAP or stepdown fix; when a stepdown fix is included the bottom row begins at the stepdown fix and ends at the MAP or left blank when there is not a stepdown fix used. <i>Note. LPV finals provide a Glide Path Angle to be flown; ROD for LPV finals are not charted</i>
15 Profile view. Note. See Appendix A - Example Profile Views, Notes, and Symbols page for examples of profile views used.
16 Pictograms provide icon presentation of the missed approach sequence. <i>Note. See Appendix A - Example Profile Views, Notes, and Symbols page for pictogram symbols used.</i>
The Ingress Profile View was originated by Hickok & Associates to provide information to the pilot pertinent to the IFP design associated with the descent to landing. <i>Note. See Appendix A - Example Profile Views, Notes, and Symbols page for ingress profile views used.</i>
Approach minimums will include the LPV DA and LNAV MDA, the Height Above Landing (HAL) for proceed visually IFPs or the Height Above Surface (HAS) for proceed VFR IFPs, and the visibility in statute miles. Asterisks associated with minimums relate to missed approach instructions.
The Visual Segment/Heliport Ingress Plan View ("Sketchbox") was originated by Hickok & Associates to provide details for the visual segment and transition to landing for proceed visually IFPs and VFR maneuver area for proceed VFR IFPs. The Sketchbox provides the course and distance from the MAP to the landing location, the designed ground track for curving visual segments, and is overlaid on a map with major landmarks, navigational features, and obstacles, to provide basic situational information to the pilot. The header of the Sketchbox provides the elevation and latitude/longitude of the landing location,
20 The date the chart was produced. <i>Note. Charts remains effective unless changed; if changed a new chart with new date supersedes the previous chart.</i>



**The Basic Departure Chart Format** 





Developers of Airspace & Instrument Approach Procedures

Helicopter Instrument Approach and Departure Charts

Hickok & Associates Charting Format & Legend (Revision 3)

# **Basic Departure Chart Legend**

1 Identifies the Proponent/Operator Hickok & Associates has authorized to use the chart.
Procedure name and location. ( <i>Note. ONE is equivalent to ORIG used on approach charts and amended departures are thereafter sequentially up-</i> <i>numbered as TWO, THREE, etc. and relate to the approved source documentation</i> ) Landing location/facility name (e.g. Hospital Hometown USA), Location Identifier (e.g. FAA Form 5010 LOC-ID), City and State.
3 (OBSTACLE) identifies the procedure as an Obstacle Departure Procedure (ODP) versus as a Standard Instrument Departure (SID).
Pilot Briefing Information identifies the navigation specification required (e.g. GPS required RNAV-1, RNP-1, RNP-0.3), provides the ODP course, weather/altimeter source frequency, and ATC facility and frequency.
5 Pilot Briefing Information Box provides the altimeter source and required items to be perform prior to and after takeoff. When a Visual Climb Area (VCA) has been provided, textual requirements for entry into IMC prior to the IDF are also provided; when entry into IMC prior to the IDF is not authorized the textual requirements are not provided.
6 The maximum indicated airspeed for any segment (e.g. departure and transitions) is 140 KIAS. If the maximum <i>designed</i> airspeed for a segment is limited to less than 140 KIAS that segment is identified and the maximum speed provided in the note.
7 DP ROUTE DESCRIPTION describes the ODP <i>textually</i> from takeoff to the departure fix. When transitions are provided the DP DESCRIPTION will include <i>thence</i> and graphical depictions of the transitions are provided.
8 The Plan View will always provide the <i>Departure Segments</i> from the takeoff location to the last fix in the departure procedure and may also include graphical depictions of transition segments, or transition segment inset boxes, depending on scalability and placement options. The departure segment graphics are produced in a georeferenced program and are <i>proportionally scaled</i> . When graphical transitions are included in the plan view that are not per the proportional scale of the terminal segments either a note will be placed with the depiction stating it is not to scale, or a common symbol that denotes only a portion of a segment is depicted (e.g. a broken segment which will always infer that segment is not to scale). Note. When the departure procedure is part of a helicopter IFR network (e.g. a network of approach and departure procedures interconnected using feeder and transition segments) the use of a front/back chart may be used. An example of the front/back chart is also provided in Appendix B of this legend.
9 Receiving permission for the use of the heliport is the responsibility of the proponent and performed during the development of the procedure. Use of the IFP is approved by the operator's FSDO. This note is required by FAA on Special Copter IFPs and is not typically the pilot's responsibility.
10 When transitions are provided the transition name/s and identification is/are provided in the plan view.
The Minimum Sector Altitude (MSA) is the lowest altitude which provides a minimum clearance of 1,000 ft above all objects located within 25 NM radius centered on the Initial Departure Fix (IDF).
12 The Rate Of Climb table provides the designed climb gradient in feet per nm and conversions for required rate of climb in feet per minute at airspeeds from the takeoff location to the IDF crossing altitude, and from the IDF to the final altitude in the departure procedure. Note. Hickok & Associates criteria provide a Visual Climb Area ("VCA"). As a general description the VCA originates at a specified hover height at the takeoff location and ends at the IDF crossing altitude, and may also be referred to as a visual segment.
13 Profile view. Note. See Appendix A - Example Profile Views, Notes, and Symbols page for examples of profile views used.
If the climb gradient required <i>past</i> the IDF exceeds 400 feet per nm a note is located in the profile view "Required Climb greater than 400 ft/nm" and the pilot needs to refer to the Rate Of Climb table for the required climb gradient.
15 Pictograms provide icon presentation of the ODP sequence from the takeoff location to the last fix in the departure procedure. <i>Note. See Appendix A</i> - <i>Example Profile Views, Notes, and Symbols page for pictogram symbols used.</i>
16 The Egress Profile View was originated by Hickok & Associates to provide information pertaining with the takeoff and climb to the IDF. Takeoff obstacles are charted or None is entered in the Egress Profile View. <i>Note. See Appendix A - Example Profile Views, Notes, and Symbols page for ingress profile views used.</i> When there are Takeoff Obstacles in the VCA they are listed in the Egress Profile View.
Takeoff minimums: A ceiling that is based on the IDF crossing altitude rounded to the next 100-foot interval, and visibility in statute miles that is equal to the horizontal distance between the landing location and IDF, is published on <u>all</u> departures to provide takeoff minimums that afford the pilot the opportunity to visually acquire and avoid any obstructions from takeoff and climbing to cross the IDF at the IDF crossing altitude: example: 500 – 3/4. When the VCA has been assessed for obstacle clearance <i>standard departure minimums</i> also may be charted following the ceiling and visibility minimums and will provide the operational requirements to use standard takeoff minimums: example: 500-3/4, or standard with takeoff heading 358 and minimum climb of 611 ft per nm to 1340. <i>Note. It is the pilot's responsibility to determine if they can takeoff on the noted heading and the aircraft performance meets the required climb to use standard takeoff minimums/when standard takeoff minimums are provided, and if not then the charted ceiling and visibility is required for the visual transition from takeoff to cross the IDF at the IDF crossing altitude. If only the ceiling and visibility are charted standard takeoff minimums are required.</i>
18 The Visual Segment/Heliport Egress Plan View ("Sketchbox") was originated by Hickok & Associates to provide details for the visual segment/VCA and transition from the takeoff location to the IDF. The Sketchbox provides the course and distance from the takeoff location to the IDF, the designed ground track for curving visual segments, and is overlaid on a map with major landmarks, navigational features, and obstacles, to provide basic situational information to the pilot. The Sketchbox provides the elevation and latitude/longitude of the landing location,
19 The date the chart was produced. Note. Charts remains effective unless changed; if changed a new chart with that date supersedes the previous chart.

# **Example Profile Views, Notes, and Symbols**

(Appendix A - Examples of typical charting symbols and use)





Company Charting Legend - Appendix A

(Appendix B - Example Charts)

Example Approach Chart - standard 1 page chart



designed curved visual segment flight path and heading to align with curved ingress area and flight path distance charted.

3) Illustrates charting of cold temperature adjustment (when -20C, increase intermediate segment 200 ft and increase LPV DA and LNAV MDA 100 ft)

1

#### (Appendix B - Example Charts)



Illustrates when a note is used on Plan View to direct pilot to feeder segments on chart back (pg. 2) when 2 page chart provided. 1

Illustrates charting of cold temperature adjustment (when -10C, increase intermediate segment 100 ft)

(Appendix B - Example Charts)

Example Approach Chart - back (pg. 2) of 2 page chart



1)

2

#### (Appendix B - Example Charts)

**Example Departure Chart - front (pg. 1) of 2 page chart** 



4 Illustrates takeoff minimums when the VCA is assessed. Ceiling and visibility provided, and standard takeoff minimums and the operational requirements for standard takeoff minimums provided (e.g. takeoff heading and climb performance).

1)

2

### (Appendix B - Example Charts)

Example Departure Chart - back (pg. 2) of 2 page chart



) Illustrates RNP-1 note without Pilot Action required: this notation signifies the departure transitions have been coded as RNP 1 and the aircraft must thereby be RNP equipped.

(Appendix B - Example Charts)

Example Approach Chart - front (pg. 1) of 2 page chart



2 Illustrates optional placement of "Use" note *within* the Pilot Briefing Information; also illustrates when IFP is to a public use airport, only the portion of the "Use" note pertaining to FAA AFS approval to use the procedure is required/charted.

3 Illustrates approach to a runway: the landing location can be located anywhere along an instrument or non-instrument runway, on a taxiway, or ramp at an airport, that meets the physical characteristics as a VFR heliport (e.g. FATO, TLOF, Safety Area dimensions are satisfied). The landing location does not have to be marked as a heliport (e.g. the heliport international symbol is charted in the Sketchbox only to illustrate location for the pilot).

# Helicopter Instrument Approach and Departure Charts (Appendix B - Example Charts)



Example Approach Chart - standard 1 page chart with feeder segments inset box

Illustrates note to See Feeder Segments (inset box) leading to the IAF.

(Appendix B - Example Charts)

Example Approach Chart - standard 1 page chart



1) Illustrates feeder segments in Plan View and when note is used "Feeder Segments not drawn to scale" in lieu of using symbol MAR. Also illustrates when NavSpec note is included with the scale note.

2 Illustrates charting in Plan View, Ingress Profile View, and Sketchbox for a Proceed VFR procedure: Sketchbox only provides course/distance from MAP to heliport for reference.... does not provide a proceed visually flight path (e.g. dotted blue visual segment flight path information not provided).

#### (Appendix B - Example Charts)





1) Illustrates Transition segments in Plan View and when note is used "Transitions not drawn to scale" in lieu of using symbol AMA. Also illustrates when RNAV-1 GPS is required and combined with RNP-1 transitions that include pilot actions required.

2 Illustrates charting of takeoff obstacles both graphically in Sketchbox and textually in Egress Profile View and recommended takeoff, and; flight path for visual transition to IDF in Sketchbox.

3) Illustrates takeoff minimums where the charted ceiling and visibility are required and standard takeoff minimums are not provided/not authorized.