Subject:
Make IAP charts easier to read by screening/shading lines of minima and perhaps other information, such as notes in the plan view and profile view.

Background/Discussion:

Current FAA IAP charts are produced in black-and-white, with some text screened and with limited use of color tones to depict features such as terrain and bodies of water.

Expanded use of colors on the charts would highlight important details. Although most IFR pilots today use EFBs to display electronic charts, IAP charts must still be provided in paper form, and it’s probably impractical and too expensive to print four-color IFR charts. Pilots using electronic charts on an EFB can also annotate their digital charts using full-color markup features available in the popular applications (see example later in this document).

Still, expanded use of shading/screening, even on black-and-white charts, could improve the readability of IAP charts, and perhaps reduce errors in interpreting charts, especially during single-pilot operations. For example, see the minimums section below, which shows screening alternate lines, a common practice when presenting data in rows.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPV DA#</td>
<td>523-3/4</td>
<td>250 (300-3/4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LPV DA</td>
<td>667-11/4</td>
<td>394 (400-11/4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNAV/VNAV DA</td>
<td>720-11/2</td>
<td>447 (500-11/2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNAV MDA</td>
<td>880-1 607 (700-1)</td>
<td>880-13/4 607 (700-13/4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C CIRCLING</td>
<td>880-1 607 (700-1)</td>
<td>880-13/4 607 (700-13/4)</td>
<td>1200-3</td>
<td></td>
</tr>
</tbody>
</table>
Recommendations:

Screening/shading specific details such as alternate lines of minimums and notes could help pilots quickly find and associate data. For example, consider an approach procedure with multiple lines of minimums, sometimes distinguished only by a reference to a note elsewhere on the chart. Here screening the RVR 1800 note in the briefing strip and its associated line in the landing minimums section would make it easier to associate the information and distinguish each set of LPV minimums.
Shading/screening applied to the RNAV chart below makes it easier to associate the different lines of LPV minimums, one of which is tied to a note about a nonstandard rate of climb during the missed approach. Shading/screening could also be applied to such details as the missed approach instructions and the primary missed approach holding point.
Shading/screening could be applied to other IAP charts. For example, DP charts often include different routes that depend on the runway used for takeoff. Shading/screening could distinguish different routes and/or highlight the instructions that apply after the initial departure instructions.

**DEPARTURE ROUTE DESCRIPTION**

TAKEOFF RUNWAYS 2 and 9: Climbing right turn on heading 175° to intercept SNS VORTAC R-309 to SNS VORTAC, thence . . . .

TAKEOFF RUNWAY 20: Climb heading 213° to 1000, then climbing left turn to intercept SNS VORTAC R-293 to SNS VORTAC, thence . . . .

. . . . continue climb in SNS holding pattern to cross SNS VORTAC at or above MEA/MCA for route of flight.

**WATSONVILLE FOUR DEPARTURE (OBSTACLE)**
(WVI4.WVI) 13SEP18
Comments:

Technical challenges and production processes may make it difficult to use automation to code and shade/screen different categories of information, such as notes in the briefing strip or features in the plan view. But as aviation authorities plan to transition to data-driven charting, it is important to consider how offering shading/screening and other enhancements could be offered, perhaps as pilot-selectable layers.

Here’s my color markup of an ILS chart as shown in ForeFlight.

Submitted by: Bruce Williams
Organization: Flight instructor, FAASTeam representative; Seattle
Phone: 425-785-8830
E-mail: bruce@bruceair.com
Date: March 29, 2021