The Leader In Recreational Aviation

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NEW 'FAA AERONAUTICAL CHART USER'S GUIDE' PUBLISHED

Pilots seeking a deep dive into the legend on aeronautical charts need look no further than the new *FAA Aeronautical Chart User's Guide*. The 131-page publication has been updated to include new aeronautical chart symbols that have crept onto maps since the last guide was published in 2011.

"The newly published Chart User's Guide is intended to be a 'live' document, with updates made as often as the charting specifications are altered," noted Valerie Watson, an FAA aeronautical information specialist who helped usher in the publication. "When a new symbol appears on an FAA chart, it will be included and explained in the Chart User's Guide for the same effective date cycle."

A feature called is exactly that—a quick read that explains the latest symbols and other modifications. The recently added section "will alert users of recently made changes to the document so that they can familiarize themselves quickly with updates." Watson said that the section should be "an extremely useful tool for understanding the symbology and detail of FAA products on more of a 'real time' basis."

New symbols for VFR charts include a magenta rocket indicating a spaceport, thin blue circles depicting permanent temporary flight restrictions (TFR) that surround California's Disneyland and Florida's Disney World, and magenta diamonds signifying sporting event TFRs. Additionally, a snowflake has fluttered onto terminal instrument procedure publications to note cold-weather restricted airports; en route charts now feature outlined flags to signify minimum turning altitude, squares to indicate stand-alone distance measuring equipment, and more.

The FAA eliminated a symbol introduced in 2014 that signified an airway restriction when the route penetrated prohibited or restricted airspace. The symbol wasn't consistently applied and that the accompanying hashing or dot patterns of the symbol resulted in excess clutter or obstructed critical chart information.

The What's New section also draws pilots' attention to a new series of charts called Caribbean VFR Aeronautical Charts. The VFR charts provide Caribbean Ocean data in lieu of the discontinued World Aeronautical Charts (WAC) that were gradually phased **out** beginning in 2016. Topographical information, aeronautical data, landmarks, obstructions, contour lines, visual and radio navaids, controlled and special-use airspace, and cultural details for cities are depicted on the new maps.

Aviators with a deeper thirst for knowledge can learn how the FAA arrived at maximum elevation figures within a sectional chart quadrant—the two-digit numbers that indicate

the tallest structures or obstacles in that area. The charting formula for manmade objects is different than the procedure for natural objects. According to the publication, 100 feet is added to the height of a manmade obstacle to account for "possible obstacle error" and the figure is then rounded up to the next 100 feet. However, in the case of natural vertical obstacles, 200 feet is added to account for "uncharted natural or manmade objects" that may include a tall tree.

NEXTGEN WON'T ELIMINATE VOR NAVIGATION ALTOGETHER

BACKUP SYSTEM TO BE IN PLACE IF GPS FAILS

As the FAA's NextGen project transforms the National Airspace System, unplugging much of its ground-based navigation infrastructure and replacing it with GPS routings and approach procedures, one program is working to provide pilots with a way out—and a way down—in the event of GPS signal outages.

Long after pilots are routinely flying direct routings and executing RNAV instrument approaches, it will pay to keep your VOR navigating skills sharp, because if the GPS signal quits, it will probably be a VOR-to-VOR route, followed by an instrument landing system (ILS) or nonprecision VOR approach, that gets you back on the ground.

In most cases, it is envisioned that a pilot encountering such a dilemma would be within 100 nautical miles of an airport accessible using non-GPS navigation if flying a VOR-equipped aircraft at least 5,000 feet agl in the eastern and central parts of the country. Some rural western areas won't meet that standard and may require flying further than 100 nautical miles.

The system being established to provide that safety net with existing navaids is the **VOR Minimum Operational Network** (VOR MON), an FAA/industry collaboration "to ensure that resiliency is built into the system."

The VOR MON was introduced as a policy proposal in 2011. Its 190 component airports and numerous instrument approaches were listed in 2015.

It would be cost prohibitive to maintain both the ground-based navaid network and the NextGen technology indefinitely. Recognizing that, the FAA also launched a program to gradually decommission those VORs of the system's approximately 960 units not considered essential to the VOR MON, based on recommendations from the Radio Technical Commission for Aeronautics' tactical operations committee, on which AOPA participated.

The committee also recommended that a VOR MON plan be created for Alaska, and that the FAA plan to keep the overall VOR MON in place until at least 2045.

The VOR-decommissioning plan has undergone several revisions. As currently planned, 74 VORs are slated for removal by 2020, followed by 234 more by 2025.

The grand total of 308 includes 12 VORs, 155 VOR/DMEs, and 141 vortacs—trimmed numbers from a prior plan that would have shrunk the VOR network by about 50 percent

by 2020. Some DME and TACAN components of decommissioned VORs will remain to support area navigation (RNAV) requirements.

The Aeronautical Information Manual was updated in April with a discussion of the VOR MON, and what pilots can expect should they be unable to use satellite-based navigation because of an outage or interference. The chart supplement will be updated in spring 2018 with the full list of MON airports.

Pilots should also note that until a navaid is officially decommissioned, it will continue to appear on navigation charts, even if it is no longer operating—for example, an out-of-service system determined to be too costly to repair.

The FAA is working to chart those VORs that are out of service for long periods of time, or permanently, with a crosshatch pattern running through the frequency. Charting shut-down navaids correctly tells pilots that the navaid is only available as a GNSS waypoint.

With many VOR units more than 30 years old, the future maintenance needs of individual VORs could have an impact on the VOR MON. Since the original list of decommissionings was released, the FAA has added two units to the list: a navaid in Atlanta, and the Crimson Vortac, near the Tuscaloosa Regional Airport in Alabama.

The FAA is conducting a sustainability study to determine the “best path forward” for the use of ground-based navaids, according to the FAA’s VOR MON program manager.

Tickets, camping passes now on sale for EAA AirVenture 2018 fly-in in Oshkosh

The pumpkins and cornstalks haven't even been put away, but tickets and camping passes already are on sale for the "World's Greatest Aviation Celebration."

Experimental Aircraft Association members and the general public may now buy tickets for the EAA AirVenture 2018 fly-in convention, set for July 23-29, 2018, at Wittman Regional Airport in Oshkosh.

Discounted daily and weekly tickets are available online at eaa.org/tickets through June 15, according to the association. Special discounts also are available for veterans and current U.S. military members.