

AERONAUTICAL CHARTING MEETING
Instrument Procedures Group
Meeting 21-02 – October 25-26, 2021

RECOMMENDATION DOCUMENT

FAA Control # 21-02-361

Subject: Differing TACAN Missed Approach Instructions

Background/Discussion:

Some VOR or TACAN procedures, as well as some ILS or LOC procedures, have differing sets of missed approach instructions depending on the equipment being used to shoot the approach.

AL-104 (FAA)

20142

VOR or TACAN RWY 22
BARSTOW-DAGGETT (DAG)


MISSED APPROACH: Climbing right turn to 5000 via heading 090° and via DAG VORTAC R-224 to DAG VORTAC and hold (TACAN aircraft climb to 6000 via DAG VORTAC R-047 to TEELE/DAG 12 DME and hold NE, LT 227° inbound).	
LOS ANGELES CENTER 132.5 284.7	UNICOM 123.0 (CTAF) 0

Quite often, these instructions (as they relate to TACAN aircraft) are unclear/ambiguous. In the above case, it's not immediately clear whether TACAN aircraft should brief the parenthetical as a *continuation of* or a *replacement to* the standard (VOR) missed approach procedure.

AL-597 (FAA)

20310

VOR/DME or TACAN RWY 31
GENERAL DOWNING-PEORIA INTL (PIA)


t- 	MISSED APPROACH: Climb to 2800 direct PIA VORTAC and hold, continue climb-in-hold to 2800. (TACAN aircraft continue via PIA R-269 to LOGOS Int/PIA 17.4 DME and hold west, right turn, 089° inbound).	
	³ CON 4.675 317.55 (126°-304°)	PEORIA TOWER 124.0 353.85
		GND CON 121.85 348.6

Some procedures are much more clear, though – as above. This missed approach block clearly enunciates what the TACAN pilot needs to know – that the parenthetical should be flown *in addition to* the published VOR missed approach procedure. There is an apparent lack of consistency with these types of procedures since some are published ambiguously (as in the KDAG)

7 (FAA)

21112

VOR Y or TACAN Y RWY 12 KING SALMON (AKN)(PAKN)

ALR 	MISSED APPROACH: Climb to 600 then climbing right turn to 3000 direct AKN VORTAC and hold, continue climb-in-hold to 3000. (TACAN AIRCRAFT: Climbing right turn to 3000 on heading 238° and on AKN VORTAC R-210 to OLLER/ 15 DME and hold SW, right turn, 030° inbound.)
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Recommendations: Garmin recommends a criteria change that provides additional clarity when there are two sets of missed approach instructions present on these types of procedures.

One avenue would be increasing the distinction between “continue” and an entirely separate, ground-up procedure. A second option could be splitting these into two charts, and only charting the portion of the missed approach that’s relevant to the TACAN (notes, icon, charted path) on the new, second chart.

Comments:

Submitted by: Steven Madigan, Andrew Lewis

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Date: 9/30/2021

Initial Meeting 21-02: Steve Madigan, Garmin, briefed using the RD [slides](#) to discuss TACAN missed approach instructions included as parenthetical information on VOR or TACAN approach procedures. Garmin has identified several cases of disparity in the

missed approach instructions between the VOR- and TACAN-equipped aircraft. In some cases, the TACAN instructions seem to stand alone, but in others they could be interpreted as a continuation of the missed approach instructions, only applicable to TACAN-equipped aircraft, potentially creating significant confusion. Steve showed two [slide](#) examples of how the notes are displayed. Garmin recommends a criteria change for clarity when two unique missed approach instructions are published on an approach. Another suggestion was for a separate chart for the TACAN procedure. Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), said the second option would most likely not be feasible since it would require separating the currently combined approach into two separate approach procedures. Dan Wacker, FPAG, said current criteria only allows these approaches to be combined on a procedure chart when they have the same published missed approach, and these could have been published with a waiver, or possibly developed prior to the criteria change and not subsequently updated. Jeff pointed out FAA Order 8260.19 has instructions for charting as shown in the examples, but Dan reiterated that Order 8260.3 has the requirement for a common missed approach for a combined procedure, and that there seemed to be a disconnect between the two orders. Bennie Hutto, NATCA, suggested splitting the published missed approach instructions on the chart by adding the applicable equipment type for the individual instructions. As currently utilized, if an aircraft has both capabilities, the controller would have no idea what the pilot will execute as a missed approach, and the group agreed this could happen. Dan suggests accepting the issue for consideration to review the language in Orders 8260.3 and 8260.19 to ensure or correct agreement and report back at the next ACM. Steve agreed with Dan's point, and offered to identify all the procedures like this and send to Dan. Steve inquired if a waiver package is included with the procedure package, and if so inquired where industry could view it. Rich Boll, NBAA, said the complete packages including waivers are on the IFP Gateway website, but once the procedure is published only applicable forms remain on the site, with no waivers. Jeff noted that since the group seemed in favor of the issue, it would be continued on future agendas, with status reports provided at future meetings.

Actions: Issue accepted for continuation on the agenda. The Agency will review the proposal and report status at the next ACM, to include any determination of applicable conflict between Orders 8260.3 and 8260.19.

Status: Item open

Meeting 22-01: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the issue ([slide](#)). The ACM Recommendation Review Group (ARRG) did not need to review the issue. Order 8260.3C (2017) no longer allows combined VOR or TACAN procedures to have unique missed approach instructions. As with many order changes, propagation of revised criteria takes time, which is why there are still some VOR or TACAN approaches with differing missed approach instructions in the procedure inventory. Currently, there is no prohibition for unique TACAN-equipped missed approach instructions on ILS or LOC procedures, and FPAG will investigate the possibility of adding the restriction to those procedures also. Gary Fiske, FAA ATC

Procedures (Terminal) Team (AJV-P310), said he understood TACAN-equipped aircraft cannot hold over a TACAN, which was the reason for the different missed approach instructions. The item will remain open.

Actions: FPAG will determine if restrictions on separate missed approach instructions for TACAN-equipped aircraft should extend to ILS or LOC procedures as well.

Status: Item open.

Meeting 22-02: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the issue ([slide](#)). There are currently 28 existing combined VOR or TACAN procedures with separate missed approach instructions in the inventory. This is no longer allowed by criteria and will be corrected as those procedures are amended. However, there is no specific guidance prohibiting separate missed approach instructions for other types of procedures. There are 31 ILS, or ILS or LOC procedures that have some sort of separate TACAN missed approach instructions currently published. Flight Standards has had internal discussions since the last ACM and has determined that separate missed approach instructions should not be permissible on any approach procedure and will initiate revisions to Orders 8260.3 and 8260.19 to codify this. An issue has been added to the order revision tracking system to capture this as a future change. Steve Madigan, Garmin, voiced his approval of the RD resolution. Mike Stromberg, Independent Pilots Association (IPA)/UPS, asked if language or wording was needed until these procedures are fixed to avoid confusion, and Jeff said there would be no way to accomplish that without an amendment. Questions regarding specific procedures can be submitted via the Instrument Flight Procedures (IFP) Gateway, though the only possible confusion would likely be for the TACAN portion.

Actions: FPAG will initiate order revisions to eliminate the option of separate missed approach instructions for all approach procedures and will provide a status update at ACM 23-01.

Status: Item open

Meeting 23-01: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the summary, actions, and status from the ([slide](#)), showing the proposed language for changes to Orders 8260.3 and 8260.19. Those proposed changes have been addressed in the directives revision tracking system. These revisions have not yet been scheduled and the issue will remain open at this time.

Actions: FPAG will continue to work the issue and report on status of revisions to Orders 8260.3 and 8260.19.

Status: Item open

Meeting 23-02: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed from the [slide](#). As previously briefed, revisions are planned for Orders 8260.3 and 8260.19 to address this issue and will be scheduled at a future date for future order revisions.

Actions: FPAG will provide an update on planned Orders 8260.3 and 8260.19 revisions to address these issues.

Status: Item open

Meeting 24-01: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed from the [slide](#). Planned Order 8260.3 and Order 8260.19 changes are identified but have not yet been scheduled for order revisions.

Jeff explained that this issue would be moved to action pending status since the order changes are known and will be scheduled later and are the only remaining work for this issue.

Status: Moved to action pending status

Meeting 24-02: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed from a [slide](#). Planned Order 8260.3 and Order 8260.19 changes are identified but must be scheduled for order revisions. Scheduling is expected in 2025.

Art Griffenkranz, Eastern Flight Procedures Team (AJV-E240), asked for clarification regarding a comment made by Jeff that the planned revision to the orders would not allow differing missed approach instructions for TACAN and non-TACAN-equipped aircraft. Jeff confirmed and explained that the current criteria for combined charting requires the missed approach to be the same to combine an ILS and LOC approach, and the plan is to expand that requirement to VOR and TACAN combined charting.

Art said they see this requested most often for Cat E aircraft and there is interest in adding more, particularly in the Northeast, and commented that this proposed change could impact DoD. Dan Wacker, FPAG, would better like to understand Art's point and suggested they set up a separate conversation to discuss Art's concerns.

Status: Remains in action pending status