



**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

**NOTICE
N 8000.321**

Effective Date:
4/27/06
Cancellation Date:
4/27/07

**SUBJ: SPECIAL EMPHASIS ITEMS FOR AREA NAVIGATION (RNAV) STANDARD
INSTRUMENT DEPARTURE (SID) OPERATIONS**

1. PURPOSE. This notice cites items of interest, determined by trends identified through enforcement investigations and various reporting systems, that suggest emphasis is needed in Standard Operating Procedures (SOPs) and training for RNAV SIDs. Specifically, this notice provides guidance for operators and principal operations inspectors (POIs) regarding operational procedures and pilot training.

2. DISTRIBUTION. This notice is distributed to the division level in the Flight Standards Service in Washington headquarters; to the branch level in the regional Flight Standards divisions; to the Flight Standards District Offices, and to the Regulatory Standards Division at the Mike Monroney Aeronautical Center. This notice is also distributed electronically to the division level in the Flight Standards Service in Washington headquarters and to all regional Flight Standards divisions and district offices. This information is also available on the Federal Aviation Administration's (FAA) Web site at:

http://www.faa.gov/library/manuals/examiners_inspectors/8000/.

3. BACKGROUND. The implementation of RNAV SIDs at Dallas-Fort Worth International Airport and Hartsfield-Jackson Atlanta International Airport has been a general success, with the realization of benefits such as greater efficiency and reduced communications. However, improper pilot actions in conducting published RNAV SIDs at these locations have resulted in incorrect flight paths and, in some instances, the filing of several pilot deviation reports. In some of these instances, less than standard aircraft separation resulted, but because of air traffic control (ATC) intervention, safety was not compromised. It should be noted that advisory circular material, ATC procedures, procedure design criteria, and pilot/controller phraseology for RNAV SIDs and Standard Terminal Arrivals (STARs) are reviewed and revised periodically to incorporate lessons learned from operational experience. Operating procedures and pilot training for RNAV SIDs and STARs should also continue to be emphasized and revised as necessary to allow for national implementation of these procedures.

4. DISCUSSION. Information collected from enforcement investigations, as well as from the National Aeronautics and Space Administration (NASA) Aviation Safety Reporting System (ASRS), ATC Quality Assurance and RNAV Anomaly reports, and Aviation Safety Action Program (ASAP) reviews, indicate the need for clearly worded SOPs and special emphasis training for pilots in a number of areas:

a. Proper interpretation of Pre-Departure Clearance (PDC) and printed routings.

Pilots of operators using PDC and printed routings must be able to properly interpret their assigned clearance. Specifically, pilots must be able to recognize direct routings, assigned altitudes, revised clearances, SIDs, and en route transitions. As an example, some pilots incorrectly inferred that the absence of a period (“.”) in their PDC meant a direct routing. By making this assumption, their navigation system missed waypoints on the assigned en route transition segment. In the case of the NOBLY2 SID at Dallas-Fort Worth, a PDC with the routing of “NOBLY2 LIT” did not mean direct from NOBLY to LIT. In summary, pilots must understand their operator’s PDC notation and must request clarification from ATC if any doubt exists with regard to their clearance.

b. Correct entry of runway and en route transitions into RNAV System/Flight Management System (FMS) prior to takeoff. Prior to commencing takeoff, pilots must verify their aircraft navigation system is operating correctly and that the correct airport, runway, and departure procedure (including any applicable en route transition) have been entered and are properly depicted by their navigation system. Pilots who are assigned an RNAV departure procedure and subsequently receive a change of runway, procedure, or transition must verify that the appropriate changes are entered and available for navigation. While these procedures are important for all departures, simultaneous, parallel operations conducted at multiple-complex airports, for example Atlanta and Dallas-Fort Worth, carry added significance. A final check of proper runway entry and correct route depiction, shortly before takeoff, is recommended.

c. Verification of assigned route and correct entry of en route transitions into RNAV System/FMS during flight. It bears repeating that pilots must verify proper entry of their ATC assigned route upon initial clearance and any subsequent change of route. Pilots must ensure the waypoints sequence depicted by their navigation system matches the route depicted on the appropriate chart(s) and their assigned route. Pilots should pay particular attention to proper loading and depiction of en route transitions. This action is especially critical after any change in routing. For pilots of aircraft with RNAV system/FMS with a “ROUTE” and “LEGS” pages, the “LEGS” page should be used to verify routing in most instances.

d. Use of navigation map displays. Prior to takeoff, pilots of aircraft with a navigation map display should verify that the relationship of the aircraft position symbol to their assigned runway and route on their display matches external visual cues, as well as charts. Specifically, once on or near their assigned runway, pilots should ensure their navigation display reflects the same relative position to the runway and the route depiction reflects that of the respective chart. During flight, these displays should be used in concert with textual displays for route verification.

e. Manually selectable bank-limiting functions. Pilots should recognize that manually selectable aircraft bank-limiting functions might reduce their ability to satisfy ATC path expectations, especially when executing large angle turns. This request for awareness should not be construed as a requirement to deviate from Airplane Flight Manual procedures; rather, pilots should be encouraged to limit the selection of such functions within accepted procedures.

5. ACTION. POIs affected by this notice should make its contents known to the Director of Safety of each certificate holder operating under part 121, to the Director of Operations of each certificate holder operating under part 135, and to the Program Manager of each operator of a fractional ownership program operating under part 91, subpart K. This information may be conveyed by copy of this notice or by referring the respective person to the website listed in paragraph 2 of this notice. Each such person should be advised that the FAA recommends that each certificate holder/operator assure that explicit SOPs are included in the manuals and training programs used by its pilots to address the issues identified in this notice.

6. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS). Document the conveyance of the information contained in this notice for each operator.

- a. Use PTRS code 1380, Tech/Admin/Special Emph Prog.
- b. Enter "N8000321" in the "National Use" field (without the quotes).
- c. Once the above information has been provided to the air carrier, close out the PTRS.

7. DISPOSITION. This notice will not be incorporated into Order 8400.10. Questions concerning this notice should be directed to the Flight Operations Branch, AFS-410, at (202) 385-4613.

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