

CALLBACK



From NASA's Aviation Safety Reporting System

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“Heads Up”

The Aviation Safety Reporting System receives approximately 3,000 reports each month. The subject matter of these reports runs the gamut from predictable “regulars,” such as runway incursions and altitude busts — to noteworthy new issues that may generate specific ASRS actions to help the industry resolve the issues.

From time to time we note an increase of reports discussing these routine, but important tasks or actions; they often become quite visible when those performing them become less cautious in performing them and unexpected operational errors result.

This issue of CALLBACK will provide a “Heads Up” regarding a few such recurring issues. Our hope is that reading about them will refresh your memory, and reduce the likelihood of an error.

A second type of “Heads Up” we’ll discuss in this issue will illuminate *NEW*, but potentially critical issues that have come to our attention — often as a result of receiving large numbers of reports on a single issue in a short time period.

Pilot/Controller Heads Up! — Altimeter Errors

Every winter, areas of low pressure develop as storm systems move across the country. The low pressure areas and associated weather are predicted by meteorologists, tracked real-time by weather radar, and confirmed after the fact by increases in ASRS reports dealing with altitude overshoots, undershoots, and missed crossing restrictions. Winter weather will be around for a while yet. Heads up! Be alert for unusually low altimeter settings.

■ *The aircraft was prepared for departure from [a non-towered airport] with no weather reporting. I thought the altimeter was set to field elevation of 710 feet. Several checks of the altimeter were made before departure. I felt the climb to cruise altitude of 2,500 feet was taking longer than normal even though the rate of climb was very good. After leveling off at 2,500 feet, I felt like I was higher than normal. The ASOS (Automated Surface Observing System) frequency was checked about 12 miles from destination and a minor altimeter setting adjustment was made in accordance with that report. I started a descent to pattern altitude (1,600 feet) about nine miles out and transmitted my position and intentions on the UNICOM frequency. The UNICOM operator reported winds and altimeter setting which were acknowledged. Once again, during descent, I felt that the aircraft was higher than normal. It wasn't until I turned downwind that I finally realized that the altimeter had inadvertently been set to 29.70 inches instead of 30.74 inches. When initially setting the altimeter, I only moved the setting a slight amount to get the needle to indicate the field elevation. I never noticed that the 1,000 foot needle was below 0 feet. The last time the aircraft was flown was six days earlier when there was a low pressure system in the area.*

■ *On descent we were given an altimeter setting of 29.34 inches. Because it was so low, I double checked with ATIS and found that it was correct. Going through 18,000 feet, I called and set 29.34 on both altimeters on my side and cross-checked the First Officer's side. Apparently, I only checked the last two digits. I did not realize that his was set at 30.34. Since that produced a difference of 1,000 feet, I did not recognize the discrepancy when the dials were winding down in tandem. As “10” started showing on my altimeter digital readout, I realized that something was amiss. The First Officer immediately stopped the descent, reset, and leveled at 11,000 feet. We missed our altitude by about 500 feet.... I was making an announcement to the cabin when the “1,000 feet to go” call should have been made. A very experienced flight crew made an error that 99 out of 100 times would have been caught. It gave me a wake up call.*

Flight Attendant Heads Up! — Cabin Doors

Sometimes there is no readily apparent reason for an influx of reports dealing with a particular issue. It may simply be that enough time has passed since there was widespread discussion or increased emphasis on the matter and people have grown complacent. Whatever the reason, there has been a recent surge in flight attendant reports which deal with arming and disarming cabin doors. Heads up! Check and cross-check.

■ *I failed to arm the 1R door for departure. The [inbound aircraft, a B767-300] was about two and one-half hours delayed. I felt rushed to get the galley in first class set up. I didn't hear the command to arm the doors for departure. Because it was going to be bumpy during the climb, we were told to remain seated. When we reached altitude, the Captain called the Purser to notify her that a warning light indicated that door 1R was not closed properly. We looked at the door and then realized that it was not armed. We tried arming the door, but couldn't. The Captain then descended and proceeded to burn fuel for a landing back at [departure airport]. Mechanics determined that the door was not closed properly....*

■ *The 1L and 1R doors in first class [of our B757-200] were not disarmed after the announcement was made. I checked doors 3 and 4 and they were disarmed. I was on my way to the first class compartment when I was interrupted by a passenger. With the distraction, I forgot to check whether 1L and 1R were disarmed.*

■ *I failed to disarm door 1R on a B737. Fortunately, the purser found the door armed and disarmed it. These B737's have no armed indicator on the outside of the aircraft or in the cockpit. They are very dangerous for anyone trying to enter the aircraft from the outside. Everyone needs to understand how important it is to disarm, check, and cross-check. These doors are not always easy to arm and disarm. When working long hours, we're tired and really need to pay special attention to this responsibility. Check and cross-check!*

ASRS Alerts Issued in January 2006

Subject of Alert	No. of Alerts
Aircraft or aircraft equipment	7
Airport facility or procedure	5
ATC procedure or equipment	3
Chart or publication	1
Total	16

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Air Carrier / Air Taxi Pilots	2209
General Aviation Pilots	661
Controllers	76
Cabin/Mechanics/Military/Other	268
TOTAL	3214

Pilot/Controller Heads Up! — Similar Callsigns

Errors resulting from similar sounding callsigns present another example of a chronic issue in which report volume may correspond to the amount of attention given to the problem.

The following two reports, typical of several recent “callsign confusion” incidents, are an indication that pilots and controllers need to renew their awareness of this problem. Heads up! Listen up!

■ *We...were on an arrival in IMC. We had changed frequencies and were told to descend to 9,000 feet.... The controller vectored us to a heading of 130 degrees for sequencing. The controller told flight ABCD, “Descend to 7,000 feet.” We had not been told of any similar flight numbers being on the frequency and called to confirm that it was, “Flight AECD down to 7,000 feet,” but did not get a response and assumed it was due to the controller’s workload. We reached 7,000 feet and were following vectors. The controller then gave approach instructions to flight ABCD. Before we could respond to correct the controller that our flight number was, in fact, AECD, flight ABCD accepted the instructions to join the approach to Runway 4. As soon as we realized the error, we contacted approach and notified them of our altitude and began to climb back to 9,000 feet.... The controller instructed us to return to 7000 feet.... We were handed off to two more frequencies before a controller notified us that we were following our company flight ABCD and to be aware of similar callsigns.*

■ *Our crew was flying air carrier “X” flight from ZZZ to YYY. We were 40 miles southeast of the VOR in an area where numerous air carrier flights were crossing. We thought we heard the controller tell us to descend to 14,000 feet from 15,000 feet. As we were leveling at 14,000 feet, the controller called out traffic to us at our one and two o’clock positions, at 14,000 feet. We saw and reported the traffic to him. ATC then asked us what altitude we were at. We responded, “14,000 feet.” ATC told us we shouldn’t be at 14,000 feet; that we took air carrier “Y’s” altitude clearance. The controller then told us to climb back to 15,000 feet and remain clear of traffic. Our TCASII sounded and we climbed immediately.... We did not listen clearly to the clearance for a similar sounding callsign. ATC was busy with numerous calls and didn’t realize we took another aircraft’s clearance until a potential conflict occurred. I apologized to the controller when we leveled off at 15,000 feet. No feelings were hurt. No metal was bent, and I learned a valuable lesson; “Listen up!”*

Pilot/Controller Heads Up! — DFW RNAV Departure

To date, over sixty reports have been submitted to ASRS regarding deviations from the Dallas-Fort Worth (DFW) RNAV Standard Instrument Departures (SIDs). The following report highlights the problem most frequently cited, specifically, a track deviation from a transition portion of the SID.

■ *While climbing through approximately 25,000 feet on the TRISS2 RNAV departure, ATC called and asked where we were going. The First Officer responded that we were, “Direct TXK,” since that was the next active waypoint. ATC*

asked if we were on the departure and we replied that we were on the TRISS2 however, the previous controller had given us a shortcut direct TRISS. ATC advised that we had missed the SHERO waypoint and went on to say that, although there was no traffic conflict, it did appear to be a pilot deviation. We examined the FMS Legs page and noted that for some unknown reason, SHERO was no longer stored on the FMS flight plan. After TRISS we should have tracked to SHERO, but did not. The controller was correct and I believe we were about 3-4 miles north of course. The question is, why did SHERO disappear from the FMS flight plan?

ASRS examination of many reports similar to the above — occurring on DFW RNAV SIDs — has illuminated several recurring factors. The majority of the reported track deviations occurred on the TRANSITION portion of the RNAV SID procedure. Review of the reports indicates one of two things likely happened. Either the TRANSITION was never installed during FMC programming, or some ATC initiated modification, such as a departure runway change, resulted in the transition waypoints being eliminated.

Pilots should be aware that three distinct departure elements must be line selected from the FMS Dep/Arr Page when programming the FMS for every RNAV SID from DFW. First, the assigned Runway must be line selected; second, the “Cleared” SID must be line selected and; third, the associated TRANSITION must be line selected. **Note that every SID requires all three elements:** Assigned Runway, the SID, and the appropriate TRANSITION.

If, at any time, **any** ATC directed modification is made to **any of these three essential elements**, the FMS Legs page **must be reviewed** to ensure all waypoints have been retained or appropriately modified.

Finally, users of an ACARS PDC must be aware that the format for the printed clearance may not display the transition in the same manner it is shown on the departure plate, i.e., a clearance via the TRISS 2 departure TEXARKANA TRANSITION may be printed: TRISS2 (space) TXK, **not:** TRISS2.(dot)TXK as shown on the departure plate itself. This must **not** be interpreted as direct to TXK after TRISS but, properly, as a clearance to fly the TXK TRANSITION.

Meet the Staff



Jorge Moya joined the ASRS staff as an Assistant Analyst in 2000 while attending San Jose State University. After graduating in 2002 with a B.S. in Aviation Operations and minors in Business Management and Spanish, Jorge became an ASRS Researcher and Alert Distribution Coordinator.

Jorge conducts ASRS database searches for government and private entities, tabulates research data, and coordinates publication of related materials. Jorge is also a vital link in the timely dissemination of ASRS Safety Alert Bulletins.

When he’s not crunching data in the office, Jorge can be found tramping over the local golf links where he plays to a ten handicap.