

# CALLBACK

From NASA's Aviation Safety Reporting System



Number 264

August 2001

## Fuel Considerations for Multi-Crew Operations

Fuel starvation is a potential hazard to multi-crew as well as single-pilot operations. An air carrier line check Captain describes what can happen when a task that is usually automated – in this case fuel balancing – must be performed manually in a cockpit climate punctuated by radio calls and training requirements.

■ We were dispatched with the fuel system controller inoperative, a highly unusual situation. While in cruise en route, a disparity was noticed between the fuel quantities in the #1, #2, and #3 tanks. We were just prior to our entry point for [foreign country's] overflight and I wanted everything to be in order for this phase of flight. I began a fuel [crossfeed] from the #1 and #3 tanks to the #2 engine.

As the crossfeed was nearing its conclusion, a sudden flurry of radio calls created a distraction. I was in the right seat as a Line Check Airman giving IOE [Initial Operating Experience] to a new Captain. Center called for a radio check on another frequency. I tuned #2 VHF to this frequency and made the check. It took several calls to get a good check. The IOE

Captain was monitoring Center on VHF #1. After the radio check, I announced I was going to terminate the fuel [crossfeed]. Just as I reached up to turn on the #2 tank pump for fuel feed to the #2 engine, ATC called with our [foreign ATC] handoff. As my finger went forward to press the tank pump, I looked down to copy the handoff frequency. Somehow I pushed the crossfeed switch instead. (A contributing factor was that a guard...supposed to be on the pump switch was left off by maintenance when they changed the controller the previous flight)... The #2 engine rolled back, as I saw this. I looked at the fuel schematic and saw no fuel line to the #2 engine. I...selected the #2 tank pump to 'on'... and the #2 [engine] returned to operation. We continued a normal flight to destination.

The need to manage concurrent tasks is an everyday part of cockpit operations that can become unbalanced by interruptions and distractions. *ASRS Directline* Issue 10, available on the ASRS web site (<http://asrs.arc.nasa.gov>), offers a summary of strategies for reducing vulnerability to task management errors.

## "Who's on First, What's on Second?"

Take two company B-767s bound for cities on the same coast, put them on the same ramp, swap one aircraft's destination with the other's, and what have you got? A set-up for a fuel loading error. More from this Captain's report (Abbott and Costello didn't write this, honest):

■ Aircraft for Flight 'X' for airport ABC and Flight 'Y' for airport BCD were changed without explanation and the flight for airport ABC was rescheduled to accommodate passengers for airport BCD. 82,000 lbs. of fuel [were] needed for the leg to BCD. Dispatch fuel to airport ABC was about 74,000 lbs. Rather than defuel, the current load was acceptable and within limits for the flight to ABC. Unknown to us, the crew for Flight 'Y' had requested

additional fuel and the fueller mistakenly added approximately 6,000 lbs. in the center wing of aircraft 'X.' We noticed the increased fuel just prior to pushback, but failed to realize this put us overweight for taxi by about 1,000 lbs. and entered an updated fuel of 87.2K. The aircraft was pushed back, engines started, and then a message from Load Control was observed on ACARS alerting us to a probable overweight taxi situation. I stopped the aircraft while a final determination was made, then taxied back to the gate where sufficient cargo was offloaded and a required maintenance inspection accomplished. A combination of errors, but ultimately my fault for missing the change in gross weight. ▲

## 'Sound Bites' from ASRS Reporters

**AIM/FAR  
2001**  
AERONAUTICAL INFORMATION MANUAL/FEDERAL AVIATION REGULATIONS

ASRS recently received a report from an experienced pilot who takes fellow pilots and ATC to task for cluttering Tower frequencies with unnecessary communications:

■ This is...a plea for you to publish something on the subject in your [CALLBACK] mailer. Pilots and controllers both ignore AIM 4-3-2 that states, "it is not necessary to request permission to leave Tower frequency." Almost every day I fly some pilot has to take up valuable air time making multiple requests to change frequencies at times when everyone is just too busy to

bother with the unnecessary call. At other times the Tower actually gives permission without the request, reinforcing the incorrect idea that permission is required... Help!

In the words of the Aeronautical Information Manual (AIM):

**AIM, Section 3, 4-3-2(a).** "...It is a good operating practice to remain on the Tower frequency for the purpose of receiving traffic information. In the interest of reducing Tower frequency congestion, pilots are reminded that it is not necessary to request permission to leave the Tower frequency once outside of Class B, Class C, and Class D surface areas..." ▲

### ASRS Recently Issued Alerts On...

Non-standard hold lines at a Midwest airport
Inflight activation of a G-IV stall barrier system
Fokker-100 loss of rudder control on short final
Uncoordinated Mode C testing by maintenance at a FBO
An airport's ground holding procedures for landing aircraft

*A Monthly Safety Bulletin  
from*

**The Office of the NASA  
Aviation Safety Reporting  
System,  
P.O. Box 189,  
Moffett Field, CA  
94035-0189**

<http://asrs.arc.nasa.gov/>

### June 2001 Report Intake

Air Carrier / Air Taxi Pilots	2232
General Aviation Pilots	729
Controllers	81
Cabin/Mechanics/Military/Other	193
<b>TOTAL</b>	<b>3235</b>

# “Culture Shocks” in Communications

U.S. flight crews must exercise extra vigilance when operating internationally into airports where accented English, and the use of native languages by air traffic controllers, can create confusion and uncertainty about ATC instructions. A recent ASRS report describes how an alert flight crew relied on “gut instincts” and prior experience to avoid a ground collision:

We begin with the First Officer’s concise account:

■ We were cleared for an immediate departure on Runway 09L, but we had to do a low-speed abort because the prior aircraft that landed took an excessively long time to clear the runway. We also had a hard time clarifying our clearance because Tower was having a long conversation in [non-English language]. When we were finally able to inform them of our actions, they told us to taxi clear of the runway and to contact Ground. We elected to stop immediately after leaving Runway 09L because taxiing well clear of Runway 09L would have placed us on [a] taxiway which also doubles as Runway 09R. We wanted to make sure that it was safe to proceed any further. [It is] fortunate we did because Tower had cleared another aircraft to land on Runway 09R/taxiway and following their instructions could have resulted in a collision.

The Captain’s report (■ ■) added this clarifying information

■ ■ ...To clear Runway 09L conservatively would take us on to taxiway/Runway 09R. Taxiway/Runway 09R had not been used as a runway since we had been in the vicinity [but]...I decided to stay on Tower frequency – wait and look first – aware that our tail might be in close proximity to Runway 09L. We felt that due to the limited English speaking capability of the controller, it would be unlikely that we could get any kind of clarification from him. Also, at the time he was blocking the channel with some lengthy [non-English] dialog. Unknown to me, perhaps because all this occurred on the radio in [another language], the aircraft in close landing proximity now off to our right and slightly behind had been recleared. At about the time the aircraft touched down [on Runway 09R] right in front of us, the Tower controller told us to hold short of Runway 09R. Yet he had previously handed us off to Ground...

Even this crew’s commendable caution could not avoid a ground conflict with the landing aircraft on the parallel runway.

## Troubles Come in 3’s

A recent report from a Captain (the Pilot Not Flying in the incident reported) describes another kind of culture shock – the communications mix-ups that can occur when experienced pilots are paired with newer flight deck crew:

■ Approaching [destination airport] from the east we were cleared to 11,000 feet/250 knots. We checked in with Approach

at 11,000 feet with the ATIS information. When Approach acknowledged our check they issued a new altimeter setting of 30.00. We acknowledged the updated information. As I reset the two altimeters on the Captain’s side, I inadvertently said 3000 (3 thousand), referring to the altimeter setting rather than a more appropriate verbiage of 30.00 (three zero zero zero). No other conversation was ongoing at the time. We were both monitoring Approach Control and at the time I thought my meaning was clear. Several moments later I noticed we were descending out of 11,000 feet and 3,000 was set in the altitude window. We began a climb back to 11,000 as I reconfirmed our assigned altitude...

After landing we discussed the incident further and how a similar situation might be avoided in the future. The First Officer is relatively new – a month or two with the airline. I learned that he had misinterpreted my verbalization of the altimeter setting as a newly assigned altitude and thought when I restated it that I wanted him to reset the altitude select window... I explained that...I would be more precise in the future. We also used this event as a basis for discussing why, per our [company] procedures, the Pilot Not Flying always is the person to reset the assigned altitude and that it is verified by the Pilot Flying prior to any altitude changes. ▲



## New Definitions

Years ago CALLBACK printed a report from a student pilot who was holding in position on the runway for takeoff when he received this clearance:

“Cleared for takeoff, left turn to 180°.” The nervous student understood this instruction to mean, “turn left 180° *immediately*, while still on the runway, and take off.” He obligingly completed a short-field takeoff in the opposite direction (safely, we’re happy to add).

Another literal-minded student pilot recently submitted this report to ASRS:

■ While on final for Runway 27R, Tower advised I was clear for low approach due to traffic on runway. The flight was my first supervised solo. I was unfamiliar with the term “low approach” and assumed it meant to fly a lower than normal approach angle. I proceeded to land on Runway 27R without having been cleared for landing.

Our reporter doesn’t say whether Tower issued an altitude restriction with the low approach clearance. If not, Air Traffic Control Handbook 7110.65M, section 3-10-10, mandates a minimum 500-foot altitude restriction for low approaches above an airport. ▲