

# CALLBACK

From NASA's Aviation Safety Reporting System



Number 209

November 1996

## Safety Issues in International Operations

Last year's fatal accident near Cali, Colombia has heightened awareness of safety issues associated with U.S. air carrier flights in foreign airspace. Although language problems might be expected to be a key factor in foreign airspace incidents, a recent analysis of foreign airspace operational incidents reported to the ASRS revealed that the largest percentage—40%—was attributed to pilot errors. These errors included loss of situational awareness, confusion, flight crew complacency, and breakdown of CRM—the same types of errors that occur in U.S. airspace. Another 25% of the reports cited a language problem as a primary cause of the incidents, while 20% were related to aircraft or ATC navigation or communication equipment problems.

A Second Officer's report illustrates the situational awareness and crew communication problems identified in many of the foreign airspace incidents analyzed by ASRS:

### Lost in the Translation

The language-related problems cited by ASRS reporters in foreign airspace operations include unfamiliar controller phraseology, a controller's unclear English or heavy accent, and readback/hearback issues. A Captain's report of a near runway incursion provides a glimpse of the language barrier sometimes experienced:

■ *During taxi, Tower issued instructions in a very heavy [European] accent that sounded like, "Cleared into position and wait." The First Officer, employing a phraseology that is common in the U.S., asked in a very clear and enunciated fashion, "Did you clear us into position and hold?" The Tower's answer was "Yes." I proceeded beyond the ILS [critical area] hold line. The Tower shouted, "Stop!" We spotted an airliner breaking out of the clouds. Although we never penetrated the area of the runway, the sudden stop, the proximity to the runway, and the sight and sound of the landing aircraft scared all of us.*

*It is clear that we misunderstood each other. In all probability, he said, "Cleared to the hold line and wait." Perhaps if we had asked him, "Do you want us to go on the runway?" he would have responded with a strong "No!"*

The reporter realized after the fact that the crew either misheard or misinterpreted the Controller's clearance. Regardless, the reporter's suggestion is a good one: seek clarification by rephrasing the clearance in plain, simple words, *different* from those used by the controller. Although some foreign controllers may not have a broad command of English, they often will understand the crew's restated questions and be able to provide clarification.

■ *After departing [a foreign airport], I noticed a discussion between the pilots about being unable to contact ATC due to frequency congestion to obtain a higher altitude. We were on an IFR flight plan in VMC conditions. We had just crossed XYZ intersection at FL120. We continued west, on course into mountainous terrain, 6,000 feet below the minimum crossing altitude of FL180. We were 14 miles west of XYZ intersection before we received an urgent clearance from ATC to climb to FL260. We were flying through valleys into rising terrain and with terrain above our aircraft. I examined the pilot's departure page and realized how low we really were on the departure profile.*

*A new-hire Captain was flying left seat. A check Captain was flying in the right seat working the radios. No comments were made by either pilot as to why we proceeded west of XYZ so far below the minimum crossing altitude.*

Other pilot recommendations for dealing with language problems include:

- ✓ Speak very slowly; this often results in the controllers slowing down their rate of speech also, making the instructions more readily understood.
- ✓ Anticipate that the controller may pronounce the fix or identifier differently than you expected to hear it or than you would pronounce it yourself.

Although the language being used on the radio may be the *native language* of that country, the use of any language other than English can leave many pilots out of the communications loop. A number of reporters cited this as lack of a "partyline." Our next reporter explains how this problem can impact safety:

■ *On approach to [a foreign airport], we were cleared for the ILS. When we first checked in with Tower, we were told to continue...then cleared to land. At 700 feet AGL, we noticed foreign Aircraft B taxiing onto the extended threshold for the runway. At 400 feet, the Tower told us to go-around. We were vectored back for the ILS...and made a normal landing.*

*Factors: we did not know if the other aircraft was cleared into position or for takeoff because...the Tower and Aircraft B's aircrew were using a foreign language. Had they been using English, we would have heard any conflicting clearance given to Aircraft B.*

If pilots think there may be other aircraft in their immediate vicinity, they need to query the controller for information or clarification. ▲

#### ASRS Recently Issued Alerts On...

Undetected generator failure on a B-747
Failure of a radar control indicator at a Texas TRACON
A hydraulic fluid leak into a B-757 engine pylon
A traffic conflict with hang gliders on a California arrival
A potential stall on approach attributed to a false GPWS

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

#### August 1996 Report Intake

Air Carrier Pilots	2178
General Aviation Pilots	831
Controllers	177
Cabin/Mechanics/Military/Other	49
<b>TOTAL</b>	<b>3235</b>

# Reporters' Words of Special Thanks



ASRS reporters often express their gratitude to controllers, fellow crew members, and others for helping them avoid—and sometimes survive—hazardous encounters and experiences. In our first report, the First Officer of a cargo jet praised the other flight crew members, and came to appreciate the value of a properly-trained ground crew, after the aircraft experienced a problem due to unsecured cargo.

■ *At 6-8 degrees nose up, I felt the aircraft shudder and begin to pitch up. At 14-16 degrees, the Captain and I together were holding the yoke to the full forward position, and the aircraft was beginning to lose airspeed and still pitching up. The Captain initiated a left bank...and the aircraft slowly began to increase in speed and decrease in pitch...until ever-so-slowly, it began to become more manageable.*

*Five pallets of cargo, a combined total of approximately 20,000 lb., had shifted aft two positions, damaging several stringers and knocking 6 x 5 inch hole in the fuselage skin. By pulling back the power, the Captain was able to pitch down slightly, enough for [the Flight Engineer and me] to move one heavy pallet forward and tie it into place. With a shallow descent and a straight-in approach, the Captain was able to land successfully.*

*Crew coordination was exemplary during this crisis. At one point I thought we might not be able to regain control of the aircraft. I would like to thank the crew for their diligent efforts. We were able to avert a critical situation, due solely to improper cargo loading and securing.*

Flight safety truly is a matter of teamwork, requiring both flight crew and ground crew to be well-trained and conscientious in their respective areas of specialty.

## **“Assault and Battery of the Wind”**

-William Butler Yeats

An air carrier Captain tells a harrowing tale of an encounter with wind shear, and extends thanks to quite a cast of behind-the-scenes actors:

*We performed a normal takeoff. At approximately 800 feet AGL, our airspeed dropped rapidly. At the same time, the wind shear warning activated. I put my hand on the First Officer's hand and together we pushed the throttles all the way to the stops. Even with the engines giving us everything they were capable of, our airspeed hung at V2 plus 5 knots. We used our available energy to arrest the descent, and then evidently burst clear of the wind shear. The encounter lasted maybe 20-30 seconds. The remainder of the flight was uneventful.*

*The Flight Attendant did tell me she heard the wind shear warning from her jumpseat, and she thanked me for getting us out of the wind shear. It was not me that saved us. It was our team working together.*

*I am pleased with the training we have received on wind shear. I want to thank [everyone] who came up with the wind shear guidance equipment and the procedures to use it. I want to thank our ground instructors for teaching us and simulator instructors for testing us and refining our technique. It works.*

## **Close Encounters... Of the Political Kind**

■ *Enroute, the Captain and I got into a political discussion. It developed into a noisy argument, without our being aware of it until the Flight Attendant [FA] came into the cockpit and sat down quietly in the jumpseat. It was probably because our bickering was audible through the door and was becoming a concern to the First Class passengers. I am thankful to the FA for being proactive in diffusing the situation.*

Kudos to the Flight Attendant for getting into the Crew Resource Management loop. Now that national and local elections are past, we expect not to see reports like this one for a while. ▲

## **Waxing Eloquent**

Last month we reported on how an insect nest in a fuel tank vent caused the implosion of the fuel tank. Here, we look at a case of malfunctioning instruments caused by the human touch. The Captain of a corporate jet reports:

■ *During takeoff roll, passing through 100 knots, airspeed difference was noted between Captain's and First Officer's airspeed indicators. As airspeed increased, the difference between the two systems became larger. As the ADC [Air Data Computer] sensed the airspeed difference, the ADC miscompare alert illuminated, the yaw damper inop alert illuminated, the yaw damper disengaged, the elevator trim inop alert illuminated, and the elevator trim disengaged, along with the autothrottles disengaging. With all these cautions and their associated chimes, there was a great deal of activity, including IMC almost immediately after takeoff.*

*The SID calls for level-off at 2000 feet and 200 knots airspeed. Well, we missed both of those. The airspeed difference remained for approximately 20 minutes, then went away, restoring all systems.*

*Cause: the aircraft had been waxed the day before, and burned wax residue was found in the Captain's pitot tube on postflight.*

Meticulous pre-flights are as important after a wash-and-wax job as after maintenance work. ▲