CALLBACK

From NASA's Aviation Safety Reporting System

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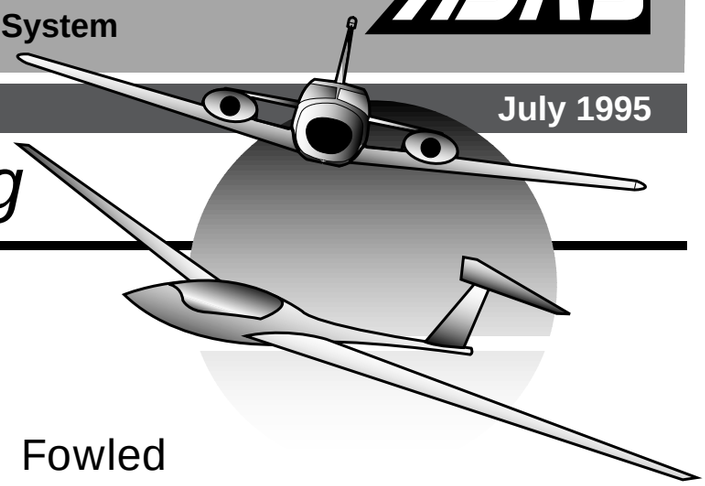

Among the Mis-sing

Mis-understandings, *mis*-interpretations, *mis*-communications—all can lead to a variety of adverse consequences. An ASRS report illustrates how a misunderstanding about IFR clearances led to an unauthorized flight into IMC.

■ *Weather conditions were 1200 feet overcast, 4 miles visibility in fog, with tops at 3200 feet and visibilities 40+ miles on top. I was cleared for a descent from 4500 feet for a VOR approach into XYZ, and told to maintain VFR. The next Approach facility cleared me for the VOR approach. I flew the approach as published, and at the final approach fix, Approach told me to squawk VFR and switch to Advisory. I squawked 1200 even though I was in IMC conditions at the time. About 4 miles from XYZ and in VMC, I told Approach that I would like to cancel IFR and proceed VFR. At that time they told me that I was never IFR.*

A clearance for an approach using a particular navaid does not qualify as an IFR clearance. The reporter could have picked up on two clues—first, the instruction to maintain VFR, and second, the VFR squawk.

Yikes!

A mid-air collision is many pilots' worst nightmare. In the following report, classified as an incident, the pilots of both aircraft were very fortunate to have experienced a mid-air with such minimal consequences. The pilot of a low-wing aircraft had been informed of glider traffic at his airport of intended landing, but did not have the traffic in sight. The pilot switched to UNICOM, reported crossing overhead, and began his descent on crosswind.

■ *As I started to turn onto downwind, I felt a bump...as if the wheels struck an object. My wheel struck the glider's canopy, and my right wing grazed the glider's right wing. Both aircraft landed with minor damage.*

Both glider pilots were looking for me. I could not see the glider beneath me turning onto downwind [at the same time I was]. I was not aware the glider was in the pattern. A Tower would have averted this incident, which was close to being a tragic accident.

Actually, adherence to recommended safe operating procedures would have averted the incident. Descending to the traffic pattern altitude *outside* the normal pattern decreases the likelihood of descending onto another aircraft. In addition, the 45-degree entry to the downwind leg is helpful in sighting other aircraft in the pattern. In this incident, neither procedure was used.

Fowled

An instructor making a point to his student about forced landings was reminded of another important point—that of thorough pre-flight preparation, including a careful review of charts. The student, presented with a simulated engine failure, went through all the right steps for selecting a landing site and securing the aircraft in preparation for the landing, when...

■ *...at approximately 100 feet AGL, we initiated a go-around. Upon application of power, many birds took flight from the ground cover. No incident arose. However, this prompted me to consult my sectional and terminal area charts, and the location was verified as a National Wildlife Refuge. Always performing low altitude maneuvers [in this area] caused complacency in verifying compliance with airspace [regulations].*

Flying daily in the Class B veil has taught me about airspace dimensions and locations, and ATC compliance and communication. Emphasis on these aspects caused me to overlook the airspace not specifically regulated by ATC or FAA regulations.

Instructors are faced with a multitude of cockpit tasks, including setting a good example for the student. After this incident, the instructor reviewed his error with the student, and discussed the importance of interpreting chart symbology.

Fouled Again

An instructor, highly experienced but low-time in type, found that being misinformed about one mechanical system led to several unpleasant surprises.

■ *Training flight [at 2,000 feet MSL]. Slow flight. Dirty, then partial stall. The left engine quit when throttles retarded. Hydraulic pump is on that engine only. Therefore, flaps blew up but gear was stuck down. Barely made it back to airport on one engine. Five [attempted] restarts were un-"suck"-cessful. Plugs were later found fouled...*

This instructor also displayed questionable judgment in practicing stalls at 2,000 feet. A higher altitude is usually recommended and would have provided a safety buffer for stall training and practice of emergency procedures.

ASRS Recently Issued Alerts On...
Reported procedural problems with an ILS approach
Allegedly defective cockpit seat latches on the B-737-500
Illegal Extended Range (ETOPS) routing of a jet by ATC
Multiple electrical system malfunctions on a DC-10-10
Runaway rudder trim during takeoff of an Airbus 300-600R

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P.O. Box 189,
Moffett Field, CA
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May 1995 Report Intake	
Air Carrier Pilots	1994
General Aviation Pilots	819
Controllers	90
Cabin/Mechanics/Military/Other	44
TOTAL	**2947**

FAA Wake Turbulence Study–

Keep Those Reports Coming!

Earlier this year, ASRS and other aviation industry organizations jointly publicized a special FAA-funded study on wake turbulence. The study, which is being conducted by ASRS analyst and research staff, uses detailed telephone surveys to gather information on wake turbulence encounters reported to the ASRS. The FAA's purpose in supporting the study is to reduce the frequency and danger of wake turbulence events.

In response to announcements in *CALLBACK* and other industry publications, the ASRS has already received more than 58 reports of wake turbulence encounters. To date, forty-seven telephone interviews (structured callbacks) have been completed with reporting pilots.

Reports Needed Through 1995. In spite of this strong response, ASRS is seeking additional wake turbulence reports from the pilot community through the end of 1995. Both air carrier and general aviation pilots are encouraged to continue reporting their wake turbulence encounters to ASRS. Here are some additional facts about the ASRS wake turbulence study:

- ASRS is seeking pilot reports of recent wake turbulence encounters–those that have occurred within the last six months.
- Reporter participation is voluntary, and all personally identifying information (names, company affiliations, etc.) will be removed before the data are given to the FAA. Only aircraft make/model information will be retained in the ASRS data.
- ASRS will contact you for an interview appointment in one of two ways: by a telephone call to the phone number given on your reporting form ID strip, or by letter to the address on your ID strip (if you give no phone number).
- The interview itself will take approximately 45 minutes. If there are any questions you prefer not to answer for any reason, the interviewer will go on to the next question.
- You will receive your report ID strip back–with no record of your identity retained by ASRS–as soon as the interview is complete.

The collection of wake turbulence incident data by the ASRS is the first phase of an extended FAA effort to track and monitor wake turbulence incidents. Your report counts, so don't forget to tell your story to ASRS! Reporting forms are available on request from NASA's Aviation Safety Reporting System, P. O. Box 189, Moffett Field, CA, 94035-0189.

Rude A*wake*ning

In connection with the FAA wake turbulence study described on this page, our readers might find several ASRS reports of special interest. The first overturns the idea that only large aircraft produce dangerous wake vortices. As this pilot of a Cessna 185 discovered, *small* airplanes can also produce dangerous wakes:

■ *We took off as the third airplane in a flight of three. The first airplane was loaded to about 2,500 pounds. The second airplane was near gross weight of 3,350 pounds, and my airplane was third, weighing about 2,700 pounds. Takeoff was normal, breaking ground in about 1,000 feet. We began to climb at between 85-90 mph and reached an altitude of about 65 feet when the right wing dropped violently and the nose dropped, making the airplane turn 90 degrees to the right. I used full left rudder and aileron and up elevator to counteract the forces on the aircraft. We landed about 200 feet from the runway, shearing both landing gear. Wake turbulence caused this to happen.*

I have always been taught to associate wake turbulence only with large aircraft, but the danger is very real when following heavily loaded single-engine aircraft. GA pilots need to know that wake turbulence can be present no matter what size aircraft they are following.

B-757 Upset

The Boeing 757 has been much in the news as a generator of dangerous wake vortices. Yet it is subject to wake turbulence upsets just like other aircraft, as reported by this Captain:

■ *I was flying a B-757 on an approach to Runway 22L. The wind at the time was reported at 190/10. We had been following a B-727 by only approximately 2-$^{1}/_{2}$ miles as measured by TCAS II. This did not seem to be a problem as we did not feel any unusual turbulence during the approach. The B-727 landed and turned off the runway.*

At approximately 50 feet AGL (on speed and glideslope) the aircraft suddenly began a hard, rapid roll to the left. I tried to counteract with right aileron input, but it took almost full right aileron to stop the roll... After a slight hesitation, the aircraft began to respond and roll back toward the right. I started to release the right aileron input... However, as soon as the right aileron pressure was eased...another rapid left roll began. I...reached full right aileron input just prior to left wheels ground contact. As the left wheels hit the ground, a rapid roll to the right began and the left wing attempted to lift from the ground. I pushed the nose forward in an attempt to get, and keep, both wheel trucks on the ground. This action worked and the nose wheel was lowered normally... Rollout was uneventful. I can think of no phenomena that could have caused this event except possibly the vortices from the B-727 that landed just ahead of us.

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Ames Research Center
Moffett Field, California 94035-1000

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