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Accident Reports and Communications Failures

WITHOUT THE BENEFIT OF ANY SPECIFIC DATA, I'VE OFTEN wondered how many aircraft accidents or near misses have been caused primarily by pilot misuse or nonuse of his or her radio communications facilities. Obviously, I'm not talking about radios that suddenly die. Instead, it's the people in the left seat who, for whatever reason, don't make known their intentions, don't listen to instructions, or don't pay any attention to what other pilots are saying and how that information might affect their own intentions. Someday, I'd like to see the results of a study that focuses solely on accidents or incidents traceable directly to this cause. The results might be surprising. In lieu of such a study right at hand, however, what follows may give some clues as to the frequency or the seriousness of the problem.

THE MOST COMMON CAUSES-IN SUMMARY

The Aircraft Owners and Pilots Association's 1996 "Nall Report" indicates, once all the facts are established, that 70 to 80 percent of the general aviation accidents can be traced to human factors, while only about 8 percent are the result of mechanical or maintenance failures. "Other" or "unknown" make up the rest. If you can accept the Nall Report and then have the opportunity to review the National Transportation Safety Board (NTSB) accident summaries compiled over the past 15 years, the role that radio communications has played becomes strikingly apparent. Sometimes the role is major, sometimes it's incidental, but it's there, nonetheless. And, typically associated with so many of the NTSB accident studies are comments such as these:

- "Air/ground communications not attained."
- "Communications/information delayed."
- "Air/ground communications not used."
- "Improper interpretation of instructions."
- "Communication inattention."
- "Communications not understood."
- "Improper use of radio equipment."
- "Radio communications not maintained."
- "Failure to communicate on the Common Traffic Advisory Frequency (CTAF)."
- "Communications inadequate."

Although other factors may also have contributed to a given accident, the frequency with which some form of communicating failure is mentioned leaves at least one major impression: We need to sharpen up on our radio sending, receiving, and listening skills!

Admittedly, a mechanical failure that results in an accident is one thing; so are problems resulting from ground or aircraft avionics failures, electrical power outages, and the like. Mechanical breakdowns can, indeed, produce a few hairy moments until things get VFR and a friendly runway looms dead ahead. For the most part, though, these are hardware items, things material. While they do fail, they are amazingly dependable, if only routine maintenance is paid to their well-being. Consequently, their collective role in the accident/cause relationship is usually secondary and more often than not of little significance.

It's the human element that needs the attention, the training, the retraining, and, in tune with the subject at hand, a continuing emphasis on radio communicating skills. As pilots, one human characteristic we all share is the ability to communicate. We may not be very good communicators, but we at least are physically able to speak and to hear, and to convey and receive messages. If deficient in either of those abilities, it's most unlikely that you or I would even possess a current FAA medical certificate.

Being capable of speech and hearing, however, does not mean that, as pilots, we use these capabilities skillfully or effectively. Should you tend to question that, just listen carefully to some of the chatter that fills the air on a sunny Sunday—or any other good flying

day. You'll hear all sorts of pilot-originated messages that reflect a dire need for subject organization, on-the-air brevity, clarity of message, and, in effect, plain and simple communications training. Perhaps this book, in its own way, can contribute to that so-called training.

A FEW CASE **HISTORIES**

To illustrate the need for training, or at least for better radio communications, let's look briefly at a few NTSB-recorded accidents, the cause(s) of same, as concluded by the NTSB, and the extent to which radio communications played a part—major or minor—in what happened. As implied earlier, these cases have been taken directly from files provided by the National Transportation Safety Board in Washington.

The NTSB has recorded, by month, over 37,000 accidents that have occurred since January 1983, up to the present. With the help of its Aviation Accident Data Specialist Analysis and Data Division, accidents in which radio communications, or lack thereof, played a part were isolated for me. Only a few (13, to be specific) are summarized here simply because of space limitations.

To protect the guilty or avoid possible embarrassment to any party, some of the details included in the NTSB printouts, such as aircraft N-numbers, dates of the incidents, or pilots' names, are not included. "Probable Causes" and "Contributing Factors," cited at the end of each case, are summaries of the NTSB's conclusions as to the cause(s) of the accident. Then, where it seems appropriate, I have added a further comment or a question. To make it easier to visualize the situations, I've also included skeletal diagrams of the various airport runway systems, based on AOPA's (Aircraft Owners and Pilots Association) 1997 *Airport Directory,* all rights reserved.

Case 1

Location: Martinsburg, WV
Aircraft: Cessna 150
Aircraft damage: Substantial
Injuries: One, minor

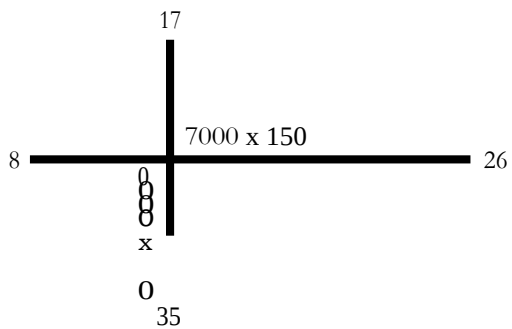

Fig. 2-1. Martinsburg, West Virginia.

The pilot left the airport without contacting the tower. He returned 30 minutes later and made several missed approaches, still without contacting the tower. Tower personnel tried to communicate with pilot and used light signals while directing other traffic. The pilot stated (later) that he saw a C-130 on the taxiway as well as several other light civil aircraft in the area. He then stated he became disoriented and lost control. Witnesses reported that the aircraft entered a steep circling maneuver which terminated when the left wing hit the ground, and the aircraft finally came to rest between runway 8/26 and the parallel taxiway. The 75-year old pilot had no previous experience in the Cessna 150, had not flown in the previous 90 days, and had never received a biennial flight review.

Probable Cause/Contributing Factors

Poor airplane handling, no radio communications, poor judgment, lack of experience in aircraft type, and several other causes, all pilot-directed.

Comment

Radio communications might not have prevented this fiasco, but at least the tower would have been in a position to help guide the pilot and prevent disorientation. It also could have saved much disruption of traffic in the airport vicinity and unnecessary directions to other pilots.

Case 2

Location: Glendale, AZ
Aircraft: Starduster II
Aircraft damage: Destroyed
Injuries: Two, serious

Fig. 2-2. Glendale, Arizona.

The pilot crossed the airport at midfield and made a left turn for a close-in run downwind. Witnesses estimated he made a 180-degree descending turn to final approach. While on the final descent, the pilot observed another aircraft which was already on final slightly ahead and slightly below his aircraft. The pilot performed a hard pull-up to avoid the

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Ground Control: The Airport Surface Traffic Director

MOST PILOTS FAMILIAR WITH THE BUSIER CLASS B, C, AND D AIRPORTS are well acquainted with Ground Control and the function it plays in assuring the safe operation of earthbound traffic. However, the inexperienced airman, venturing into one of these airports for the first time, needs to understand the responsibilities of Ground Control and the communications with the controller. And, may I add, so do some of the more experienced aviators. Let's just say that I've heard a lot of hesitant radio calls, incomplete calls, unprepared calls, and excessive verbal garbage—all of which reflects poorly on those who should know better.

What follows, then, will hopefully be of some value to all general aviation pilots, regardless of their levels of experience.

WHAT DOES GROUND CONTROL DO?

Ground Control is the invisible "policeman" ensconced in the tower who is responsible for the operation of aircraft and all other vehicles that are using taxiways and runways

other than the active runway. Controlling the movement of those vehicles through radio communications, the tower is the authority. When the controller says "go," you go; when he says "stop," you stop; when he says "give way," you give way, and so on. If, for any reason, safety or otherwise, you can't comply with the directions, you have the responsibility to advise the controller immediately. Adherence to instructions is expected.

At almost every airport, however, some areas are not under the control of Ground: for example, the expanses of concrete used for tiedown purposes, fueling, moving aircraft to and from hangars, compass swinging, and the like. As long as these areas don't infringe on runways or taxiways, you can taxi your aircraft around there all day. Nobody will say a word. Otherwise, your intended movements must be cleared by Ground Control.

FINDING THE GROUND CONTROL FREQUENCY

The Ground Control frequency will not be found on any sectional. Where the service exists (at most tower-controlled fields), you can locate the frequency in the *Airport/Facility Directory*, as Fig. 9-1 illustrates.

One fact you can usually count on: the frequency will be 121.6, 121.7, 121.8, or 121.9. There are a few exceptions to the general rule, however. For instance, Miami International Airport uses one frequency for one set of runways and another frequency for the other runways. Memphis has one frequency for general aviation, while a second is reserved for air carriers. Consequently, to be sure of your Ground frequency, consult the latest edition of the *A/FD.*

WHEN TO CONTACT GROUND CONTROL

The following are typical situations in which you would call Ground Control. Some contacts are required; others are optional, as noted.

Taxiing for Takeoff (Required)

You have the ATIS information, you're tuned to the correct Ground Control frequency, and are ready to taxi out for takeoff now—not one, three, or five minutes from now. As I've said before, you can roam around the ramp or any uncontrolled area all you want, but don't venture out onto any taxiway until you have contacted Ground, and have received permission to taxi.

You: Lincoln Ground, Cherokee One Four Six One Tango at the terminal with Information Lima. VFR Omaha.

GC: Cherokee One Four Six One Tango, taxi to Runway Three Five.

You: Roger. Taxi to Three Five. Cherokee One Four Six One Tango.

In this contact, be sure to include your location (e.g., "...at the terminal..."). If you don't, Ground will always come back with something akin to, "Cherokee Six One Tango, where are you parked?" Avoid this needless request by communicating your position in

ATLANTA

DEKALB–PEACHTREE (PDK) 8 NE UTC-5(-4DT) N33°52.54' W84°18.12' ATLANTA
1002 B S4 FUEL 100. JET A OX 1, 2, 3, 4 TPA (See Remarks) LRA COPIER
RWY 02R–20L: H6001X100 (CONC-GRVD) S-46, D-66 HIRL 0.4% up SW H–4H, 6F, L–20E, A
RWY 02R: REIL. VASI(V4L)—GA 3.9°TCH 35'. Building. Rgt tfc. IAP
RWY 201: MALSF. PAPI(P2L). Thld dsplcd 1000'. Pole.
RWY 16-34: H3966X150 (ASPH) S-20 MIRL
RWY 16: RAIL. VASI(V4L)—GA 3.4°TCH 30'. Pole.
RWY 34: REIL. VASI(V4L) GA 3.3°TCH 39'. Trees.
RWY 02L–20R: H3744X150 (ASPH) S-20 MIRL
RWY 021: PAPI(P2L). Trees. RWY 20R: PAPI(P2L), Trees. Rgt tfc.
NWT 09-27: H3378X150 (ASPH) S-20 HIRL 0.8% up W
RWY 09: REIL. VASI(V4R)-GA 3.4°TCH 28'. Trees. RWY 27: REIL. VASI(V4L)—GA 3.8°TCH 49'. Trees.
AIRPORT REMARKS: Attended continuously. Heavy helicopter ops NW corner of arpt. Helipad located north of Rwy 16 thld. Flocks of birds on or near arpt during dalgt hours. When twr clsd HIRL Rwy 02R–20L preset med ints; TPA-2002 (1000) single engine, 2502 (1500) multi engine. PPR for all transient military acft. Voluntary ngt curfew in effect from 0400–1100Z‡, Noise sensitive area all quadrants; pilots use noise abatement procedures prescribed by arpt director call 770-936-5440. ACTIVATE other ints and MIRL Rwy 16-34 and Rwy 02L-20R; HIRL Rwy 09-27; MALSF Rwy 20L and twy lgts—120.0, Flight Notification Service (ADCUS) available. NOTE: See Land and Hold Short Operations Section.
WEATHER DATA SOURCES: LAWRS.
COMMUNICATIONS: CTAF 120.9 ATIS 128.4 UNICOM 122.95
MACON FSS (MCN) TF 1–800–WX–BRIEF, NOTAM FILE PDK.
PEACHTREE RCO 122.1R 116.6T (MACON FSS)
ATLANTA APP/DEP CON 119.3
PEACHTREE TOWER 120.9 120.0 (1130–0400Z‡ Mon-Fri 1200–0400Z‡ Sat-Sun) GND CON 121.6
CLNC DEL 125.2
AIRSPACE: CLASS 0 svc Mon-Fri 1130–0400Z‡, Sat-Sun 1200–0400Z‡ other times CLASS G.
RADIO AIDS TO NAVIGATION: NOTAM FILE PDK.
PEACHTREE (L) VOR/DME 116.6 PDK Chan 113 N33°52.54' W84°17.93' at fld. 970/02W.
ILS 111.1 I–PDK Rwy 20L. Coupled apchs not authorized. Unmonitored when twr clsd.

HELIPAD H1: H56X56 (CONC)
HELIPORT REMARKS: H1 perimeter lgts opr dusk-dawn.

Fig. 9-1. *The A/FD clearly identifies the Ground Control frequency (see arrow) at those airports where the service exists.*

the first call. By including your destination or direction of travel (which really isn't essential), you might be directed (winds permitting) to a runway more closely aligned with your departure route.

Note that in the dialogue the controller has told you to taxi *to* Runway 35. That means exactly what it says. You can go to the engine runup area, stop there for the cockpit check and runup, and then taxi to the runway hold line-but no farther. Clearance to taxi onto the active runway for takeoff comes from the tower, not Ground. No further clearance is necessary, however, to taxi from the runup area to that hold line. The fact that Ground has approved your movement to Three Five is all that is required. Another thing: While you're moving down the taxiway, once cleared, keep listening to Ground. The controller might have further instructions for you, such as:

GC: Cherokee One Four Six One Tango, pull to the right and give way to the Bonanza taxiing in on Charlie (the taxiway).

You: Roger, will do, Six One Tango.