

Crew Resource Management

Situational Awareness
Assertiveness
Decision Making
Leadership
Communication
Adaptability/Flexibility
Mission Analysis



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What We Have Here

by LCdr. Mike Rogers

We communicate every day, but how often do you miss certain signals? If you're in a relationship, you probably have been accused of not listening, especially if you're a male. Usually it's missing a hint about an anniversary or birthday gift, or forgetting a commitment to visit the outlaws.

Flying day in and day out, especially on deployment or work-ups, with the same group of people leads to similar problems. How often have you miscommunicated or misunderstood a simple signal or message? It happens to all of us because of many reasons: routines, distractions, noise, and mission-tasking issues (such as checklist requirements or radio traffic). CRM lectures list other barriers: culture, attitudes, gender, rank, and experience.

In marriage, not effectively communicating leads to arguments. In aviation, it can lead to disaster. Naval Safety Center statistical analyses of Class A mishap data shows communication errors are the leading CRM failure.

Communication is an issue for you single-seat TACAIR guys, too. The combined communication error rate is 1.2 per 100,000 flight hours, not much behind current Class A mishap rates. Most of the errors occur during takeoff and landing phases, followed by errors in the tactical phases of flight. The common threads for these errors are high-task loading and distractions. To combat these risks, practice standardized comms during critical phases of flight, and limit the comms to essential items only. Do checklists, briefs, and lead changes as soon as possible to better focus on communication requirements.

➤ TACAIR

- ✓ Communication (77%)
- ✓ Situational Awareness (52%)
- ✓ Decision Errors (44%)
- ✓ Mission Analysis (32%)

➤ HELO

- ✓ Communication (90%)
- ✓ Situational Awareness (71%)
- ✓ Decision Errors (58%)
- ✓ Mission Analysis (48%)

Leading CRM errors in Class A mishaps

Is a Failure to Communicate...

T-34 Solo Form Flight Nearly Ends in Disaster

Two T-34s, with an instructor in chase, were doing a lead change halfway through their flight. The flight lead signaled the change with standard hand signals and a call on flight common. Not hearing a response or seeing corresponding hand signals, he assumed Dash 2 wasn't ready, and he maintained heading and altitude. Dash 2 had seen the signal but hadn't acknowledged it. He assumed he now had the lead. He began his outside scan, looking straight ahead, while waiting for the other aircraft to slide away and down for the cross-under into the starboard parade position. There was no positive lead change. Within 30 seconds, the aircraft began to drift toward each other, with both assuming they had the lead. The IP in the chase aircraft alertly transmitted, "Who has the lead?" Both pilots responded, "I do." Quickly realizing that neither was flying wing, the flight separated and discussed what nearly had happened. The flight continued uneventfully once the aircrews reoriented themselves and started communicating. This near-disaster was averted because the IP, keeping his situational awareness, took control of the situation.

Breakdowns in Communication Result in Near Miss Summary of a hazrep from NAVWPNTSTRON China Lake

China Lake, as do many airfields, often has flight ops on multiple runways. The runways are laid out in a triangle and intersect (see airfield diagram). A visiting pilot in a locally assigned AV-8 was conducting a V-STOL landing to the approach end of runway 3. On landing, the pilot switched ground frequency and requested clearance to his line. The local ground controller replied, "Taxi to your line, but hold short of runway 32 for landing traffic." As he approached the intersection of runway 3-26, the pilot tried to clarify his taxi route, requesting, "Back taxi 26." This is the normal route to the line, and the controller simply responded, "Approved as requested." Ground did not



Intersecting runways demand precise comms.

reiterate the requirement to hold short of 32, nor did he clear the Harrier to cross. On the other hand, the pilot failed to request, "Back taxi 26 to my line," which might have made ground clarify the requirement to hold short of runway 32.

Three minutes passed as the Harrier taxied toward runway 32 on

runway 26. The next transmission was a frantic hold-short call by ground to the AV-8 pilot as he rolled onto runway 32. He hadn't cleared the runway for landing or departing traffic, and had taxied right in front of a landing C-26 Metroliner. The C-26 pilot, having just touched down, applied maximum power and rotated, missing the AV-8 by roughly 20 feet.

The commanding officer commented, "Sloppy, imprecise communications and lack of basic situational awareness by the taxiing pilot and ATC personnel in the tower nearly produced a multiple fatality accident. Any pilot would agree that the AV-8 wrongfully crossed a runway without clearance or 'due regard.' Most ATC personnel would agree that communications were too imprecise and untimely, particularly with pending landing traffic." He observed that local controllers and pilots had become comfortable with undisciplined communications. 🛩️

LCdr. Rogers is the CRM program representative at the Naval Safety Center.