

# “DIRTY DOZEN”

## 12 COMMON CAUSES OF AVIATION MISHAPS

### Communication

Failure to transmit, receive, or provide enough information to complete a task. Only 30% of verbal communication is received and understood by either side in a conversation. The majority of absorption occurs during the first and last part of a conversation.

- \* Be clear and concise.
- \* Repeat and summarize at the end what is expected.
- \* Make certain the task is acknowledged and understood.
- \* Use checklists and adequate verbal procedures.
- \* Never assume anything.

### Distraction

Anything that draws your attention away from your current task. Distraction is the number one cause of forgetting steps.

- \* Use checklists.
- \* Ensure technicians/aircrew are not disturbed by establishing distraction-free zones in critical areas.
- \* Turn off personal wireless devices.
- \* If disturbed, follow the 3-steps back process when returning to task.

### Complacency

A general lack of vigilance and loss of awareness to potential dangers that appear during routine activities perceived as risk free. Too few challenges, repetitive tasks and over confidence result in boredom and complacency.

- \* For maintainers always expect to find faults!
- \* For aircrew ask yourself: “what should I be doing to improve this flight, what am I possibly missing, what are my next steps?”
- \* Avoid working from memory and assuming that something is ok when you haven’t confirmed it.
- \* Challenge yourself to stay vigilant.

### Ineffective Supervision

Ineffective supervision is the latent root cause of multiple cascading effects that lead to human factors mishaps. It can be related to inadequate planning, poor risk management and failure to monitor and correct unsafe practices.

- \* Lead, communicate and ‘walk the talk’.
- \* Ensure risk is known and managed at the right level.
- \* Trust but verify work execution.
- \* Plan adequately and control external pressures.

### Lack of Knowledge

Aircraft systems are so integrated and complex that it is nearly impossible to perform tasks without substantial technical training, current relevant experience and accurate reference documentation. Furthermore, systems and procedures can change frequently and employees’ knowledge can quickly become out-of-date.

- \* Continue seeking professional development.
- \* Never make assumptions.
- \* Ask when you don’t know.
- \* Always refer to checklists and publications.

### Pressure

Pressure is to be expected in the military environment. It may be direct, or indirect pressure from the organization, colleagues or ourselves. Supervisors have a key role to shield technicians and aircrew from external pressure.

- \* Learn to communicate your concerns.
- \* Take the time to do the task right.
- \* Be aware of your limits, ask for help.
- \* Leave the time stressors to the supervisor.

### Stress

A physical, chemical, or emotional factor that causes physical or mental tension. It can be acute and chronic. Learn to recognize and manage stress before it affects you.

- \* Discuss and rationalize your thoughts.
- \* Take short breaks when needed.
- \* Practice breathing and relaxation techniques.
- \* Seek help to manage chronic stress.

### Fatigue

Physical or mental exhaustion due to prolonged physical activities and/or mental stress. Fatigue impacts our ability to concentrate, remember and make decisions. Studies show that being awake for 24 hours is the equivalent of having .08 alcohol blood level. It is a proven fact that we tend to underestimate our level of fatigue and overestimate our ability to cope with it.

- \* Watch for symptoms of fatigue in yourself and others.
- \* Have others check your work.
- \* Get adequate rest.
- \* If chronic, seek medical help.

### Not taking Ownership

We need to take full ownership of our work and the work of others; Tasks, operations and Flight Safety are team efforts. We are all responsible for the safe outcomes of all tasks. It is the “not my job” attitude that opens the door to incidents and accidents.

- \* Understand your job and the jobs of others.
- \* Ask if unsure about your work or the work of others.
- \* Report any safety concerns.

### Over Confidence

A safe “can do” attitude is desired in any military, but over confidence in our abilities has triggered multiple incidents and accidents in aviation.

- \* Don’t gamble with your task execution.
- \* Know your limits and ask for help.

### Task Perception

The task could be perceived as being so important as to disregard procedures, cut corners and take unjustified risks. The more a task is perceived to be important coupled with operational timeline pressures, the more it leads to procedural deviation.

- \* Be realistic about your task.
- \* Focus on your work, not on the timeline.

### Lack of Situational Awareness

For pilots, spatial disorientation has caused at least four catastrophic accidents in the RCAF in the last 20 years and possibly more incidents related to depth perception during autorotation and landing. For ATC, lack of situational awareness can lead to airspace violation and near/mid-air collisions. For ground crew, there are several towing events related to confusion and loss of situational awareness.

- \* Reinforce aero medical training.
- \* Trust your instruments.
- \* Understand and follow policies and procedures needed to complete a task.
- \* Learn to see the big picture and predict the possible results.
- \* If it doesn’t feel right, take action to remove your concern.