

# Pilot Distraction

**Keep it down please, I'm trying to concentrate.** Now, where did I put my situational awareness? I know I had it had it just before I got that text message, and the flight attendant questioned me about tomorrow's boat trip.

Interruptions and distractions during critical phases of flight are considered by leading safety investigation agencies to be among the major causes of errors leading to accidents and incidents. Unless robust, well-maintained systems are in place and applied to mitigate interruptions and distractions, then errors can occur.

## Recent Examples

In 2010, during an approach to land at Singapore, the experienced flight crew of a commercial airliner forgot to lower the landing gear because the captain allowed himself to be distracted by his cellphone. The crew had turned the autopilot off for the descent, and at about 2000 feet the captain's cellphone started receiving messages. The captain then became preoccupied with trying to unlock his phone to turn it off. Despite various cockpit warnings from about 700 feet, the aircraft did not climb away until it had reached 390 feet.

The airline chief pilot said, "Pilot distraction meant all the landing checklist items weren't completed before the aircraft passed an altitude of 500 feet, at which point a go-around was required under our operating procedures."

In 2009, a commercial airliner in the United States, cruising at night at FL370, overflew its destination by more than 100 NM. The two pilots had each been using their personal laptop computers, contrary to company policy, and lost situational awareness when they become distracted in conversation about rostering. They didn't maintain radio communications with a series of successive ATC units for well over an hour, and flew through six successive control sectors. Only after an inquiry from the cabin crew about the expected arrival time did they realize their error.

## Cellphones

Merv Falconer, CAA Senior Technical Specialist Air Transport, says cellphones are a known source of distraction, and cites three fatal accidents in New Zealand in recent years that involved the pilot using a cellphone (texting and talking) at, or immediately prior to, the time of the accident.

"In another recent case during a short VFR flight, a passenger became concerned and complained to the operator about the pilot's behaviour of continuously texting on his cellphone while he was flying.

"Rule 91.7 *Portable electronic devices*, prohibits the use of cellphones on aircraft operating under IFR, but there is no such rule for VFR flight. However, common sense and good aviation practice says to avoid using them on VFR flights, especially within 500 feet of the surface and during critical flight phases, and other periods of heavy workload," Merv says.

Because of these examples, which suggest a wider industry problem, Merv



has recommended a rule change to limit the use of cellphones during critical stages of VFR flight.

## The Issues

Interruptions and distractions are the main threat facing flight crews, according to an international task force mission to reduce approach-and-landing accidents.

A threat is defined as a condition that affects or complicates the performance of a task, or compliance with applicable standards. The condition can be created by the operating environment, which may induce omission errors, and inadvertent actions. The omission of an action, or an inappropriate action, has been identified as the most frequent causal factor in incidents and accidents.

Interruptions and distractions, such as ATC or other communications, and cabin attendants entering the cockpit, occur frequently. Some cannot be avoided, whereas others can be minimized or eliminated.

Interruptions and distractions in the cockpit may be subtle or momentary, but all can be disruptive to the flight crew. According to a NASA study, interruptions or distractions usually come from four primary sources:

- » communications
- » head-down activity
- » responding to abnormal conditions or unanticipated situations
- » searching for traffic after an alert.

## The Effects

International studies have shown that the main effect of interruptions and distractions is to break the flow of ongoing cockpit activities, such as following standard operating procedures, performing checklists, communicating, monitoring, and problem-solving activities. The diverted attention can leave the flight crew with the feeling of being rushed, and faced with competing or pre-empting tasks. Consequently, because of natural human limitations when faced with concurrent task demands, performing some tasks to the detriment of other equally, or more important, tasks can occur.

The disruption and lapse of attention can result in pilots not properly monitoring their flight path, missing or misinterpreting ATC instructions, omitting actions, failing to detect abnormal conditions, and experiencing task overload.

## Management

Peter Underwood, CAA Manager Air Transport Flight Operations, says that all airline expositions have a sterile cockpit policy to manage and mitigate interruptions and distractions.

“A sterile cockpit environment means that crew do not engage in any non-essential activities, including conversations, during critical phases of flight. This normally means from pushback at the gate until passing 10,000 feet on climb, and on descent through

10,000 feet during approach and landing, until the aircraft taxis to a stop at the gate. When a sterile cockpit philosophy is properly practised, distractions from non-safety related activities are minimized,” Peter advises.

## The Rules

Rule 121.503 (d) (large aeroplanes) *Crew Member Requirements*, says that each holder of an air operator certificate shall ensure that flight crew members perform only those duties that are essential for the safe operation of the aircraft, during critical phases of flight.

Rule 125.503 (d) (medium aeroplanes) *Crew Member Requirements*, says that each holder of an air operator certificate shall ensure that flight crew members perform only those duties during ground operations, takeoff, approach, and landing, that are required for the safe operation of the aeroplane.

Merv says, “Even though the rules for small and Part 91 aircraft operations don’t specify the same requirements, it makes good safety sense for all operators to adopt and apply a sterile cockpit philosophy to manage the risks associated with interruptions and distractions, during critical phases of flight.”

## Further Reading

NASA – ASRS web site:  
<http://asrs.arc.hasa.gov> ■