

# **CIVIL AVIATION AUTHORITY PAKISTAN** **FLIGHT STANDARDS DIRECTORATE**



This Information Bulletin, adopted by Flight Standards Directorate aims to keep members of Pakistani Civil Aviation community updated on latest items of common interest and developments within the aviation industry. It is anticipated that, the bulk of material would be of relevance to AOC, Training, Standards and helpful to the Safety Managers who implement their policies.

The Bulletin is designed to serve the objective of Flight Standards Directorate that is "To improve upon Safety Standards".

## **INFORMATION BULLETIN**

## **STERILE FLIGHT DECK**

### **Background**

This briefing note discusses the concept of the sterile flight deck and its underlying elements of discipline, communication, decision making and judgment. Every pilot should understand the basic concept because it is a personal quality that can profoundly impact flight safety.

### **Introduction**

When flight crews are not concentrating their attention on the conduct of flight activities or are involved in actions that are totally unrelated to flying, critical information can be missed or misinterpreted. The situation can degenerate very rapidly. In order to prevent those consequences, the U.S. Federal Aviation Administration (FAA) enacted regulations in 1981 that prohibited crews from performing nonessential activities during taxiing, takeoff and landing, and below 10,000 feet except in cruise flight. Known as the “sterile cockpit rule,” the regulation helped to define clearly when the crew shall concentrate on the most important task: safely operating the aircraft.

### **Data**

Failure to comply with sterile flight deck discipline is a contributor to accidents and incidents. While it is difficult to quantify which events were caused specifically by noncompliance with the sterile flight deck discipline, it is not unreasonable to consider that it contributed to the 72 percent of the 76 approach and landing accidents and serious incidents surveyed in the Flight Safety Foundation *Approach and Landing Accident Reduction (ALAR) Tool Kit* from 1984 to 1997. In addition to safety consequences, poor sterile flight deck behavior is likely responsible for many other weaknesses and inefficiencies in aviation operations that lead to poor performance and wasted money.

**Sterile Flight Deck Defined**

Regulations prohibit flight crews from performing nonessential activities during the following phases of flight: taxi (defined as "movement of an airplane under its own power on the surface of an airport"), takeoff, landing and all other flight operations conducted below 10,000 feet except cruise flight.

U.S. Federal Aviation Regulation (FAR) 121.542 and FAR 135.100, Flight Crew Member Duties:

*(a) No certificate holder shall require, nor may any flight crew member perform any duties during a critical phase of flight except those duties required for the safe operation of the aircraft. Duties such as company required calls made for non-safety related purposes as ordering galley supplies and confirming passenger connections, announcements made to passengers promoting the air carrier or pointing out sights of interest and filling out company payroll and related records are not required for the safe operation of the aircraft.*

*(b) No flight crew member may engage in, nor may any pilot in command permit, any activity during a critical phase of flight which could distract any flight crew member from the performance of his or her duties or which could interfere in any way with the proper conduct of those duties. Activities such as eating meals, engaging in non-essential conversations within the cockpit and non-essential communications between the cabin and cockpit crews, and reading publications not related to the proper conduct of the flight are not required for the safe operation of the aircraft.*

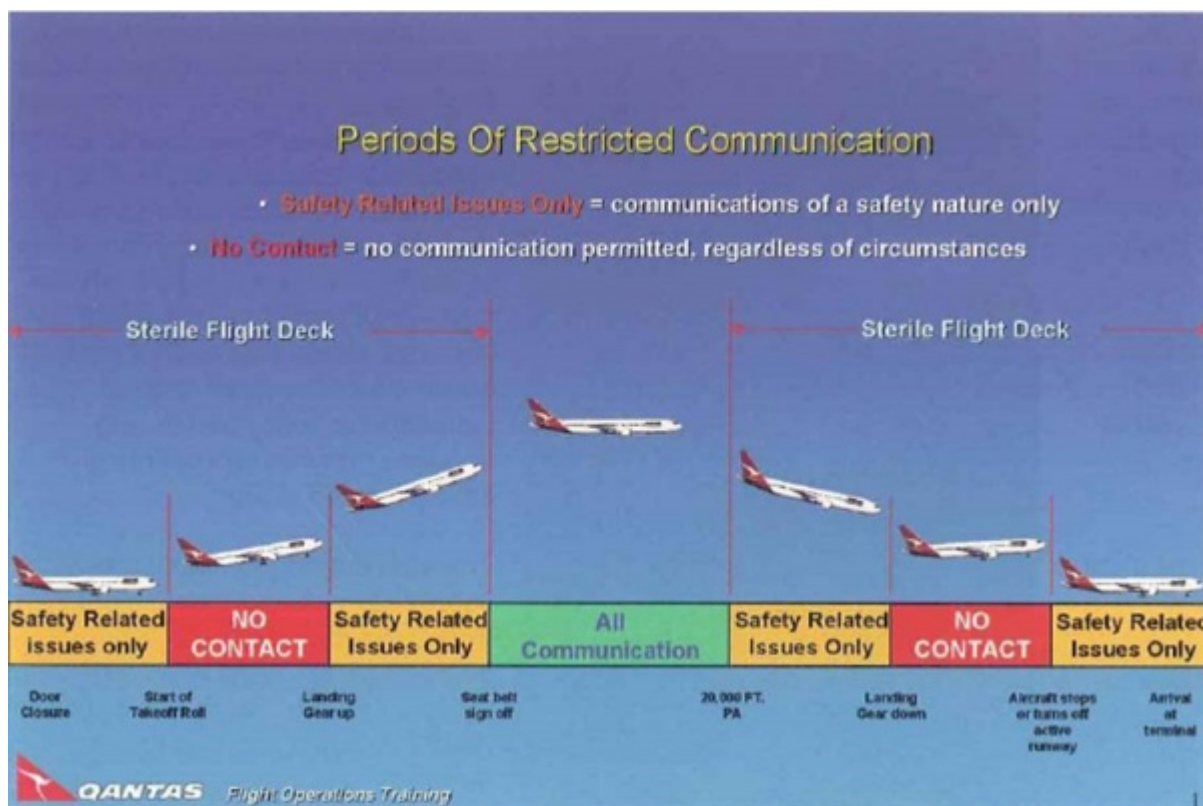


Figure 1

Sterile Flight Deck Periods of Restricted Communications

(Qantas Flight Safety, Issue 4, Summer 2002)

**Threats to the Sterile Flight Deck Rule**

Most of the threats to adherence with the sterile flight deck rule come from interruptions and distractions from within the flight deck, from the cabin and from the ground through radio communication.

**Extraneous conversation among crewmembers**

One cannot expect two individuals working long hours side by side not to speak with one another and never discuss things outside their professional fields. In fact, they are encouraged to communicate, to be efficient. Some individuals have a natural tendency to speak more than others. The other crewmembers shall enforce the sterile flight deck rule to prevent distractions.

Occupants seated on flight deck jump seats are also candidates to create distractions. It must be made clear to them when to talk and when not to talk.

**Distractions from cabin crew**

Cabin crewmembers visiting the flight deck or calling on the interphone at the wrong moment or for the wrong reasons are the second highest source of deviation from the sterile flight deck rule. The most usual interruptions are when cabin crewmembers enter the flight deck to deliver food or to request arrival time and gate information to answer questions from passengers with connecting flights.

**Public address and nonpertinent radio communication**

Discussions with air traffic controllers can also generate problems associated with distraction. Chatter on personal matters and acquaintances, local weather or additional requests by air traffic control (ATC) that are not pertinent to the actual phase of flight (such as gate negotiation on company frequency on final approach) are items the flight crew are entitled to refuse.

Company radio calls (even those involving maintenance issues) or public address (PA) announcements below 10,000 feet are violations of the sterile flight deck rule if they are not directly related to current flight safety.

**Maintaining a Sterile Flight Deck**

Safer operations by minimizing the interruptions can be obtained by simply adhering to the sterile flight deck rule.

## **Flight preparation**

Prior to the flight, during the preparation phase, the captain should recall the objectives and importance of the sterile flight deck and brief the cabin crew on how to determine when the flight will be around the 10,000-foot mark. Most companies have developed procedures to inform the cabin crew. Those procedures should not create, in turn, another distraction to the flight crew since the whole purpose is to reduce those interruptions.

Regarding the unexpected entry of cabin crewmembers into the flight deck below 10,000 feet, the captain shall make it very clear that it is only in case of great urgency. And in those cases, information needs to be timely and accurate, so the flight crew can make an informed decision. The process can work the other way around (flight crew to cabin crew), as well.

## **When to call?**

The flight attendants have to use their own discretion in order to determine if the situation is critical and whether to call in the flight crew. Cabin crew training includes critical situations requiring calls to the flight crew. They include the following:

- Any outbreak of fire inside the cabin or in an engine
- Presence of smoke or a burning odor in the cabin
- Fuel or fluid leakage
- Localized extreme cabin temperature changes
- Evidence of a deicing problem
- Cart-stowage problem
- Suspicious bag or package
- Any abnormality in the aircraft attitude during takeoff and landing
- Existence of any abnormal vibration or noise
- Medical emergency
- Any other condition deemed relevant by the senior cabin crewmember.

The cabin crew must make an immediate emergency call to the flight crew upon discovery of any abnormality, even in circumstances where there is a doubt.

Emphasizing the team spirit between flight crew and cabin crew during training, offering aircraft technical and jump seat familiarization flights for the cabin crew, and integrating crew resource management (CRM) courses to include pilots and flight attendants may reinforce the sterile flight deck rule.

### **High-altitude airports**

High-altitude airports may cause the 10,000-foot level to be unusable in establishing a sterile flight deck. The flight crew might use 10,000 feet above ground level (AGL) or 40 to 50 nm (74 to 92 km) as an alternative, to allow sufficient time for preparation.

### **Key Points**

- Clearly recall the sterile flight deck rule during the preflight briefing.
- Crew are prohibited from performing nonessential activities during taxiing, takeoff and landing and below 10,000 feet except during cruise.
- The sterile flight deck rule should be implemented with common sense so that communications remain open among all crewmembers.
- It is better to break the rule than to fail to communicate.

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