

Safety Corner Article – February 2010

Sterile Cockpit – by Dave McClurkin

In the aviation world what does the term “Sterile Cockpit” mean? In light of the swine flu pandemic one might think of sterile cockpit as the need to wipe down the yoke, flap lever, parking brake, throttle quadrant and ignition key with disinfectant prior to every flight.

Sterile Cockpit: Without getting into a lot of technical jargon sterile cockpit simply means limiting conversation to matters pertaining to the flight during critical phases of flight. This means sticking to running checklists, performing takeoff, approach and landing briefings, clarification of taxi and takeoff clearances etc. Discussing things like how the basketball team is performing, a CAPSTONE project, Spring Break plans etc. would be a violation of the Sterile Cockpit rule.

Critical Phase of Flight: In the airline and corporate aviation world aircrews are usually mandated with maintaining a sterile cockpit below 10,000 feet MSL. In the world of Piper Warriors, Seminoles and even the Baron we seldom get above 10,000 feet. For our purposes Critical Phase of Flight starts with the preflight checklist and ends with completion of the cruise checklist on the departure leg of a flight. It also begins with the In-Range checklist and ends after completion of the engine shutdown/secure checklist on the arrival leg of a flight. For local practice area flights where we are constantly on the lookout for traffic one could easily argue that all phases of the flight are “critical.”

Why do we maintain a sterile cockpit during critical phases of flight? Very simply, there’s a lot of “stuff” going on. If we maintain a sterile cockpit we minimize the chances of “missing” important items – taxi clearances, checklist items etc. These omissions can and do lead to accidents. Can a single pilot violate the sterile cockpit rule? Absolutely! If you find yourself thinking about things not related to the flight (Spring Break plans etc.) during a critical phase of flight you are not maintaining a sterile cockpit. There are numerous NTSB Accident reports that list violation of the Sterile Cockpit rule as a contributing factor. Following are two examples:

In January of 2010 a regional flight departed with an incorrect flap setting. During the takeoff roll the crew realized the mistake and set the flaps to the correct setting for takeoff. The aircraft computer did not like this and verbally commanded the crew to reject the takeoff. The crew rejected the takeoff but was unable to stop the aircraft by the end of the runway. The aircraft went well off the end of the runway and sustained significant damage. Review of the cockpit voice recorder indicated substantial “chatter” between the captain and FO, not related to the flight. We can assume that if the crew had eliminated the irrelevant “chatter” there is a much greater probability that they would have followed their checklists and put in the correct flap setting. (Just what the regional airlines need – another example of an inept crew causing an accident).

Take a look at the attached video clip, “What’s That Beeping Sound?” It’s hard to hear what the crew on this aircraft was talking about, but you certainly don’t hear a GUMPS checklist being run. One person with a good ear thinks they were talking about deep-sea fishing. In this case, not even the beeping of the gear warning horn prevailed when the crew violated the Sterile Cockpit rule during a critical phase of flight.