



By LtCol. Joel R. Powers, USMC

The following story unfolded on a benign spring day in the Mediterranean during Operation Desert Shield. Our squadron's MEU covered contingencies in the Med as the force buildup continued toward a conflict in the desert. With the clouds of war brewing on the horizon in the Persian Gulf, the weather off the coast of Naples was CAVU. The LHD I was stationed aboard steamed north for an upcoming exercise in France.

I was a third float captain with about 1,300 hours of flight time in the venerable CH-46E aircraft. As a young mission commander and a functional-check pilot, I was at the top of my game. Confident in my flying abilities, I knew the aircraft and its systems as well as anyone in the squadron, and I enjoyed ship-board flight operations. I had been blessed during two prior 6th Fleet deployments in the same squadron with tremendous command and JO leadership. They consistently emphasized conservatism and adherence to crew-coordination basics, particularly around the boat. Those basics would save several lives on what proved to be a not-so-benign day.

I was scheduled with a new HAC, an aggressive young pilot with solid stick and rudder

skills, who needed hours as HAC to advance toward section leader. The game plan for our mission was simple: I was to sign for an aircraft, conduct a quick AFCS check off the stern of the ship, land aboard mother to sign the aircraft safe for flight, and concurrently sign it over to my copilot for a quick PMC round-robin to Capodichino. Our mission was to take a number of "brig rats" to the beach for disposition. To make our assigned launch time for the PMC run, we planned an early launch for the test portion. It was a routine profile as boat ops go. The aircraft was signed off on time, and our preflight was thorough and uneventful—the start of a great day for testing and PMC.

Our hover checks off the stern progressed smoothly, and we checked off the required blocks on the test card. After 15 minutes of hover work, we were content the aircraft was sound and landed to sign the safe-for-flight paperwork and the new Part A. Knowing my copilot would benefit from right seat HAC time, I got the CO's approval to conduct the test flight from the left seat to save time and effort before the PMC run. As we waited on spot seven for our passengers to arrive from the bowels of the island, we topped off with fuel and prepared the aircraft.

DON'T SUICIDE FOR LIFE

About five minutes before our scheduled departure time, the pax emerged from the island, eight of them in handcuffs, escorted by combat cargo and a lone ship's master-at-arms representative. As our crewchief maneuvered to greet them at the rear of our helo, I thought it might be a good time to let our young HAC exercise a little judgment.

"Should we fly over water with passengers in handcuffs?" I asked. I knew the answer, but wanted to give him a chance to exercise some right seat leadership. He never had experienced this type of scenario, and he briefly was stumped.

Our perceptive crewchief quickly picked up on the game and chimed in with, "I'm not sure; I've never had passengers in cuffs before."

I echoed those sentiments, and we began a 10-minute dialogue, not only within our crew but also with the tower flower, regarding the pros and cons of conducting over-water flight with passengers in handcuffs. We had plenty of fuel, and the discussion was constructive for everyone, so I opted to let it play out; Naples could wait for a few minutes and so could the boss. Eventually, our stalwart HAC made the right decision; the handcuffs were removed for the flight, and we called for winds and breakdown with 12 souls and 1+20 for fuel.

The HAC was on the controls in the right seat as the yellowshirts held up the chocks and chains for the count. After a solid count, I gave the HAC a "two on" call and made one last visual sweep of the flight-deck environment before lifting. Spots two, four, five, and six were clobbered, and the forward and aft bone were filled with helos forward and AV-8s abeam us in the aft bone. The normal complement of flight-deck troubleshooters and deck crew was in sight and out of harm's way, so my gaze shifted inward.

As we lifted on LSE signal, squadron SOP called for the PAC to bring the aircraft to a stable hover. The PNAC checked all the cockpit gauges, called out the hover torque, and cleared the PAC to slide. Our SOP stated, regardless of LSE signals to move off spot, the PAC would not slide until the PNAC had given the verbal check and "cleared to slide" call.

Time and space merged as our HAC commenced a non-cleared cyclic slide at the LSE's urging. Chatter from the boss and the tower flower came over the radios at the same time, and I heard a significant, yet brief, muffled noise from the rear of the aircraft. The

noise sounded like the familiar slamming of a crew door after the chocks are pulled, before shore-based taxiing. I called out to stop sliding. I glanced through the cockpit entrance to see our crew chief walking rearward from the crew-door area, in what appeared to be a very nonchalant manner.

Attributing the noise to an unmentioned adjustment on the crew door, I swung my gaze inward once more to the cockpit gauges. I noticed the movement of flight-deck personnel from the front of the ship toward our aircraft and another insistent signal from our LSE to slide.

The HAC called out "sliding left" and applied cyclic pressure and power to clear the deck—all without a clearance from me. I came on the controls to arrest the slide just as I saw our utility-hydraulic pressure at zero. I realized something other than a crew door had contributed to the loud noise seconds earlier.

I called out, "I have the controls," as I stopped our slide with the left mainmount over the deck edge. When I began a slide to the right and down, to place the aircraft back on spot, I saw what now looked like a major refugee movement of flight-deck personnel running toward the aircraft. The crash vehicle was revving up and headed our way.

As I landed the aircraft, I sensed a pronounced increase in the overall vibration level coming from the rear of the aircraft. I called the tower, told them we were having a utility-hydraulic problem, and we would be conducting a no-APU shutdown. I asked tower for favorable winds as I called for shutdown—the HAC did not respond. Guarding the collective with my leg, I risked cross-controlling the aircraft cyclic with my left hand as I reached down to pull back the ECLs.

I heard insistent calls of "Shut it down, shut it down!" from our crew chief. The rotors slowed and rotor rpm dropped through 88 percent. The electrical power dropped off-line because our generators no longer were effective. I asked the crew chief to manually drop the ramp and to get our passengers out the back. We watched as the rotors slowly decelerated, and thoughts of a potential tunnel strike filled our minds.

When 12 to 15 seconds had elapsed, I checked the cockpit to make sure the remaining steps associated with a utility-hydraulic failure had been completed. We watched no less than 50 to 60 deck personnel, troubleshooters, and firefighters, congregate around the nose and port side of the aircraft. Our crew chief said

we had external damage on the starboard aft pylon that appeared to be related to some type of explosion. Things had slowed down enough that I wondered what actually had occurred.

With the rotors finally stopped, the HAC and I emerged from the cockpit to find that our 200-cubic-inch accumulator (the precharge mechanism for starting our APU) had catastrophically failed near the bottom. The accumulator, which is pressurized near 3,000 psi, had broken free of both its mounts near the bottom of the port side aft pylon. It then shot up into the upper flight controls, causing severe damage to the thrust plate, collective-pitch links, and swash-plate assembly. The accumulator then fell back into its normal compartment and came to rest against the still-turning, aft vertical shaft.

The force of the explosion had blown an eight-inch-diameter hole in the right side aft pylon and had showered the aft bone with metal debris. The only damage was to our aircraft. Fortunately, we had not committed to the slide and subsequent forward flight.

Postflight QA analysis showed that had we committed to the slide and forward flight, we most likely would not have been airborne for long. We would have lost control because of beveling and failure of the aft vertical drive shaft.

This event was sobering for an experienced guy like me. Suddenly, my 1,300 hours didn't seem like very many. I questioned myself hard on whether I had done things right or somehow had contributed to a mishap. As I sorted through the events, it dawned on me that had we launched on time, our failure would have occurred feet wet, at least 10 miles from the ship, and the day might not have ended as well as it did for our flight crew and passengers. We survived with some well-learned lessons I carry with me to this day.

The best preflight in the world may not save your life, but, this is not an advertisement to blow off preflights. Rather, it is an observation and an appeal to conduct every preflight like it could be your last—this nearly was mine. A subsequent EI showed a hairline fracture on the interior of the accumulator that was not visible before flight. This fracture easily could have been on the outside and out of sight or in plain view. Take the time to conduct a thorough preflight every time.

Staying alive in this business doesn't depend on any one skill, piece of knowledge, or preflight routine. It

is about knowing your aircraft systems and EPs cold, knowing your SOPs cold and religiously adhering to them, effectively managing the SA, and properly coordinating the entire aircrew. Respond consciously, yet almost instinctively, as a team to trouble indications from whatever the source.

In this instance, for a number of reasons, our aircrew coordination had broken down at a critical phase of flight. Close to the deck, while launching with a major system malfunction, is not a good time to be discussing the finer points of when to slide or when not to slide. We were fortunate this was not a night evolution, and the damage was visible to those outside our aircraft. The deck personnel provided an additional visual cue as to the extent of our problems. It was not until we were well into the shutdown sequence that our LSE gave us a shutdown signal, and it was in response to a signal from the HAC.

Cross-controlling the aircraft probably was not the best way to handle our shutdown. But, given the efforts of the HAC to get airborne, as I quickly tried to figure out what had happened, it was the best option I could come up with. My SA was heightened by the urgency displayed by the "herd" of well-meaning flight-deck personnel, who ran toward us—not away from us—at a critical juncture in our flight. Our flight-deck personnel do a tremendous job every day to keep us out of harm's way. I am thankful for their professionalism, and I encourage all who fly off the boat to make them feel like the important part of the team that they are.

There was little response from my HAC during the initial phases of this event, other than a repeated effort to get airborne, despite no verbal cockpit clearance to do so. For every helicopter crew who flies off a boat and reads this article, I cannot stress enough, "Never slide until gauges and power are checked, and you are cleared to slide by the PNAC." I'm certain it saved my life and the life of my crew. I'm not the first, nor will I be the last, to reap the benefits of this pearl of wisdom.

As I return to a flying billet from a recent Pentagon tour, these lessons remain as fresh in my mind today as they did 10 years ago. I am now an "old guy," and, as I look around the ready room at all the "young guys" who can chew nails and fly in a tornado, I am reminded of my coming of age as an aviator. Special thanks to all those "old guys," whose advice and gouge served me well in an unexpected pinch. 

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