

Ted Carlson

Do You Smell

by Ltjg. Brent Tornga



A couple seconds elapsed before we heard a snap.

My EA-6B squadron was on its first leg of a Westpac cruise and had been operating in Japanese airspace for about three weeks. Just a few days before going on cruise, we had been rerouted to Japan because of tension on the Korean peninsula. We needed a “shotgun” plan to transfer our four EA-6Bs, support gear, and personnel to Japan over a few short days. So goes the schedule of a “national asset.”

Our counterparts in the air wing deployed on schedule aboard the carrier and slowly headed our way. We joined them during the port visit to Pusan, South Korea, after three weeks of operating out of MCAS Iwakuni.

The weather in and around Japan in late June was hazy, wet and humid. We rarely had a CAVU day of flight operations. One

afternoon, my regular crew was scheduled to fly one of the low-level training routes in northern Japan. We prepared the charts and briefed the route and flight, discussing ORM issues at the end of the brief.

Our weather brief didn’t give us the warm and fuzzy we wanted for the route. However, it was forecast to slowly improve over the next couple of hours. That synopsis quickly lost all credibility as we manned up because the carrier was steaming through heavy rain and gusty winds. The aircrew wasted no time preflighting and strapping into the aircraft to minimize moisture in the cockpit. Unfortunately, our crew had to hot-seat into an aircraft that had just landed on the previous cycle.

Hot-seats in the Prowler are painful because each motor must be secured and restarted separately as each front-seat

crewman is swapped out. Making matters worse was the fact that our troubleshooters had to repair a problem in the annunciator panel before the hot-seat. After 20 minutes, quite a bit of rain had entered the cockpit, and we were soaked.

As we finished manning up, the weather toward our route entry in the west appeared to be breaking up. Sitting in ECMO 1's seat, I noticed that the INS alignment was coming along fine, but our GPS was not working. Visible moisture was everywhere, and the two backseaters said, "Try to keep the flaperon rolls to a minimum. We have a lake on the floorboards back here!"

We went through our normal pre-takeoff checks and taxied to the catapult. We launched and climbed away from the boat. On the climbout, the INS dumped, and I was desperate to get some semblance of a navigation system. We had a good inertial-attitude platform but no horizontal solution for groundspeed or groundtrack. With the entry point to our low-level too far away to pick up on TACAN or radar, and no INS or GPS navigation, we decided to cancel the low-level and stay close to the boat.

We told Strike and were soon tasked with doing the old standby mission—surface search (SSC). We rolled up the SSC control frequency and got an area for search. We detected and prosecuted several contacts, which we passed to the controller aboard the boat. About 15 minutes before the end of the cycle, we were prosecuting our final contact when the pilot and I looked at each other and simultaneously asked, "Do you smell smoke?"

A couple seconds elapsed before we heard a snap. The pilot saw an attitude failure on his primary display as I noticed a circuit breaker pop on the forward main circuit-breaker panel.

He quickly ordered, "Reset the breaker at once."

As I turned to my left to reset the circuit breaker, I saw several other popped CBs. In

the Prowler, NATOPS says multiple popped circuit breakers indicate greater problems. Following our training, we decided not to reset any of the circuit breakers.

Immediately, we started analyzing what had happened and what we had left in the aircraft in terms of instruments. Our biggest concern was losing our primary and secondary attitude sources. We did have the standby gyro, but that was supposed to only last a few minutes with an electrical failure. As such, flying the jet and remaining VFR were the immediate concerns. We stayed below the cloud deck to keep the horizon in view, but with night rapidly approaching, we knew we had to recover soon, or we'd be in big trouble.

We determined that we had a significant power failure or electrical fire because of the smoke and the loss of a number of aircraft systems. Attitude reference and navigational systems failed, and we'd lost all IFF systems. In addition, circuit breakers popped for the right engine-fire light and engine bleed-air valves. What we couldn't figure out was why some of these systems were no longer available when they were not associated with any of the popped circuit breakers.

While the pilot tried to remain below the clouds, our crew discussed our options and decided on a game plan. We decided to run the electrical-fire checklist from the PCL and contact a Prowler representative on the boat. The rep decided to launch a tanker to escort us and check our landing configuration. The rep backed us up with circuit-breaker nomenclature, electrical-systems diagrams, and back-up bingo numbers in several aircraft configurations. His calm, cool voice reassured us we were heading in the right direction. We were just thankful that we hadn't lost our radios, too.

With the sunlight dimming and the weather just clear enough to remain VFR below a low layer, we set up for a long straight-in. With only a few flight instruments, mainly pitot-static, we began our no-

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gyro approach with no other back-up systems to indicate our position from the boat.

The final controller, then paddles brought us down using the radio with the standard no-gyro comm drill.

“Begin right turn...stop turn.” Then, “You’re a little high. Now begin left turn...stop turn.”

Picking up the meatball at three-quarters of a mile was a welcome sight for this drained crew. With several “sugar” calls from paddles, my pilot flew an OK pass to get us and our wounded jet back aboard. We were all shaken by the “what ifs” of the last hour, but as a junior crew, we felt we had done a good job. We all paused a second before securing our engines, thankful we were safely aboard the boat.

After several debriefs and hours of exploring why the problems occurred, we made several determinations. First, our maintenance technicians reported the forward circuit-breaker panel’s cannon plug had been saturated with water, causing a short and fusing some pins within the connector, which is why several circuit breakers popped. This also triggered a phase-A power circuit breaker to pop in the left shoulder panel, an area not accessible from the cockpit. Phase-A power goes to the forward main circuit-breaker panel and the forward right circuit-breaker panel. When phase-A power to these two panels was disrupted, all systems on these circuits requiring phase-A power were lost, which explained why several systems failed that were not associated with the popped CBs. Rain in the cockpit significantly contributed to the electrical problems, and we should have dried out before flight.

We dodged a huge bullet on this one. Our predicament at night or during IMC would have been a lot uglier. The fact that our fire and smoke quickly subsided was a testament to the design of the circuit-breaker panel. Historically, we rarely lose primary and secondary attitude references at the



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same time, but this time, we did. If it happens to you, get your priorities straight right away and develop a solid game plan.

Other than the “water is bad for the cockpit” lesson, we also learned a few things about crew coordination and the value of a good squadron rep. Make sure you always tell the ship what’s happening, including the LSOs. You never can be too sure if the correct info was passed to the LSO platform and the guys that are going to keep you off the ramp. Knowing that we were in distress, the people on the boat did everything they could to get us aboard. 

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