Massive Fuel Leak Over Los Angeles

Anticipating an engine failure, we kept the jet high and fast, and we aimed for the last inch of pavement.

By Capts. David Fairleigh and William Cupples, USMC

There were no flashing-red lights, aural warnings, cautions, or advisories to let us know we had four-and-a-half minutes of flight time remaining before we had to eject and send an FA-18D to the bottom of the Pacific.

Only by serendipity were there no stormy-dark skies, rolling seas, or big boats involved. In the left AMAD bay, unknown to us, a separated fuel line was pumping 1,200 pounds of fuel per minute out of our aircraft into the atmosphere. The next three minutes would prove to be the most intense and anxious of our lives.

After an unscheduled three-day stay at NAS Lemoore, Calif., we were ready to return home to MCAS Miramar, a 25-minute flight. We left on a clear Sunday afternoon with 13,100 pounds of fuel and enjoyed an unrestricted-afterburner climb to FL270. Over Los Angeles International

Photo by Matthew J. Thomas

Airport, we turned south for Miramar with 9,200 pounds remaining and reset the bingo bug to 5,000 pounds.

We descended out of FL270, and, leveling at FL240, an ICS call came from the front seat, "Dudley, we have a serious @#&%*! problem here." The fuel indicator on the IFEI panel was ticking off at a rate of 20 pounds per second. Three minutes before, we had 9,200 pounds, and now we were showing only 5,200 pounds.

While the Hornet is often the butt of many jokes about gas, this was not the least bit normal or funny. The severity of the situation was instantly apparent, and it became obvious it was not an instrumentation problem. We were in a race against time and had not heard the starting gun. After declaring an emergency with LA Center, we informed them of the massive fuel leak and continued our descent.

We decided in two, quick, ICS bursts we could not make Miramar and would need to divert. Our request for an immediate landing at El Toro was met with a "standby" from Center. We were five miles south of El Toro and could look over and see the field. Moments later, Center came back and denied our request; we were quickly running out of choices and time, and we suddenly found ourselves in a very small box. Communication with Center was difficult because of competing comm calls. We didn't have time to argue, and we continued south, as fast as the Hornet would take us. Marching toward us on the moving map was a rough rectangle restricted area over Camp Pendleton, a scarce 23 miles away. It was going to be there or the ocean.

Concurrently, we tried to find the source of the fuel leak to stem the flow, if possible. Following the emergency procedure steps for fuselage-fuel leak, we checked the fuel sub-page but were unable to discern if it was the left- or the right-engine feed. If we had made this determination, we would have been able to press the appropriate fire light and possibly stop the leak. However, if we pressed the wrong fire light, we would complicate the problem and most likely have a dual-engine failure.

After looking at the fuel page, I grabbed the towel rack in the aft cockpit and cranked myself around to look between the tails. Streaming behind us was a 10-foot-wide swath of thick, white vapor.

With the restricted area on the nose, we told LA Center we no longer could comply with any altitude or heading restrictions, and we were going to land at Camp Pendleton. With the throttles at mil, we continued descending. Center responded with a frequency change and told us to maintain FL190. Ignoring Center and searching desperately for the airfield, we switched to Pendleton tower frequency and called. No answer: The field was closed.

With the incessant chatter of Center frequency gone, things became quiet as fuel continued to pour out of the aircraft. Over the ICS came another, and at the time not surprising, call from the front, "Dudley, we might have to eject."

As we talked later, both of us had looked down quizzically and briefly contemplated whether we should remove our kneeboards in anticipation of ejection or wait a few more seconds. Suddenly, I realized I really didn't want to have to explain to my new skipper how we lost one of his Hornets on a standard-instrument flight.

Camp Pendleton is rarely, if ever, briefed as a divert. With only 6,000 feet of runway and no arresting gear, it is at best a piece of concrete but exactly what we needed at that moment. Spotting the field nestled in a valley, we set up for a four-to-five-mile base leg, doing about 450 knots, at 8,000 feet. An idle-power hard-turn-in set us up for what looked like a 15-degree-dive-bombing pattern to the end of the field. At three miles, we still were doing 270 knots, so a quick S-turn bled us to gear speed as we rolled back out on centerline at two miles.

Anticipating an engine failure, we kept the jet high and fast, and we aimed for the last inch of pavement. At 1.5 miles, a master-caution tone alerted us to our left display, which suddenly showed every caution from the left engine that normally appears on shutdown. The extra speed and altitude allowed a near idle-power setting all the way to touchdown. The effects of the momentary left-engine failure did not affect the flying characteristics. At one mile, we started to slow, and we trimmed the jet for landing. A quick fuel check just before landing showed 1,500 pounds. With our consumption rate and leak, that amounted to about one minute of remaining flight time.

Touching down at the threshold a bit fast, we began crosschecking boards and speeds, figuring we were out of the woods when the third and most memorable ICS call came from the front, "Dudley, what are those?"

About 1,000 feet in front of us were a string of large, orange, construction barrels that stretched from side to side; they closed off the second half of the runway. They grew larger by the second—we still were doing 80-plus knots. With no option to take it flying again, we quickly resigned ourselves to plow through the barrels and hope for the best. With a boot of left rudder at 80 knots, we aimed for what appeared to be the largest gap and shot through the line of obstruction, then corrected back to centerline. We somehow missed the barrels, sandbags, and temporary lighting by, quite literally, inches.

With adrenal glands completely empty, we pulled off at the end of the runway and shut down both motors on the taxiway. As we quickly evacuated the aircraft, we watched a waterfall of fuel pouring from the left AMAD bay, as the bewildered crash rescue arrived. They didn't seem to appreciate the growing fuel spill or my first comment, "Well you can see the nature of our problem." Even with all the fire lights pushed, the aircraft continued to leak fuel for the next hour. The leak was fixed several days later, and the plane was refueled. A little simple math showed the jet only had 500 pounds of gas remaining when all was said and done.

Looking back on the event, the list of goods-versus-others is about equal. Only three minutes and 23 miles elapsed from the time we discovered the problem to when we landed. The top good is we saved a Hornet, despite a massive fuselage fuel-leak, and we landed at a closed airfield, on a runway under construction, without scratching the jet.

On top of the others list is that we should have spent more time trying to isolate the leak. We couldn't determine which engine had the leak, and operating on brain-stem power alone, we couldn't comprehend or draw out the answer from the fuel sub-page.

LA Center never seemed to fully understand the gravity of our problem, despite the tension present in my voice when I had to repeat our problem several times, as I continued to be stepped on. We also weren't told by Center that Camp Pendleton was closed to fixed-wing traffic because of runway construction. Furthermore, after our landing, a puzzled looking crash-crew Marine told us Center had passed word of an incoming single-engine F-16 via the restricted area's range controllers.

What if Center told us Camp Pendleton was closed? Would that have affected our decision to go there? With no real alternative to Pendleton, ignorance was bliss.

We never found out why we couldn't land at El Toro. Not knowing if there was a civilian event on the runways, we opted to continue south. An aviation mishap board (AMB) could have had a field day with our decision to pass up El Toro and not press a fire light. Yet, we made enough right decisions, in the time we had, to pre-empt an AMB.

Lessons learned here are no different from most other *Approach* articles. Always know where all your possible diverts are and a rough course and distance to them—even if it's a 6,000-foot runway under construction. We were fortunate we didn't opt to conduct a longer training sortie, away from suitable diverts and to log a bit more flight time, or that we weren't over the middle of west Texas.

Tremendous stress loads can influence your ability to process information and make timely and accurate decisions. We found out first-hand how dramatically performance drops off with stress. Only by luck and basic airmanship were we able to walk away from this one.

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