Who Needs Gas Anyway?

By LCdr. Tom Tennant

We had been on station in the Gulf for about two months, and the daily grind was a little like "Groundhog Day." I was the lead of a two-plane of Hornets, scheduled for a daytime double-cycle patrol over the no-fly zone in southern Iraq. We had briefed all contingencies, including our NORDO procedures. Everything was going as planned, as I took tension on cat 3. The anticipation of the cat stroke and subsequent three-hour flight had my adrenaline flowing; that was when it all got interesting.

At holdback release, my ears filled with the familiar but annoying squeal Hornet pilots hear when they shut down the right engine. The sound usually stops after a couple seconds. Once airborne, I tried to diagnose my jet's problem. The sound in my headset was distracting, so I disconnected the communications cord to my helmet—for a little quiet time to think. As suspected, I had a communications-signal-converter (CSC) failure, which left me NORDO, unable to squawk any modes, and without use of my up-front control. As I proceeded straight up the BRC, I looked for other cockpit indications. My engine-fuel display was blank, and my fuel page indicated invalid—classic indications of a signal-data-computer (SDC) failure. The SDC is what monitors engine parameters and fuel levels and helps control aircraft CG. You often can reset the SDC when it hiccups, but the reset option is not available with a CSC failure—lucky me. Bottom line, I was NORDO and did not know how much fuel I had.

We had briefed to rendezvous on the tanker, 100 miles from the ship. Any NORDO contingency would be handled then, with recovery on the next cycle. Since I couldn't transmit, receive, or squawk, and didn't know how much fuel I had, I decided to go out to 10 miles, climb, and hold overhead the ship. Our squadron had a yo-yo FCF that took off in the same event, so I decided to join on him, dump gas, and immediately recover.

My NATOPS knowledge became my worst enemy. After cleaning up, going out to 10 miles, and returning overhead into low holding, I estimated my fuel state to be around

15,000 pounds. I knew the Hornet NATOPS fuel-dump rate was 600 to 1,000 pounds per minute, so I started to dump gas. Because of the SDC failure, I had to hold the dump switch in the dump position the whole time. The Hornet fuel system has many safeguards to keep a pilot from dumping himself out of gas. One of these safeguards precludes dumping fuel from the engine-feed tanks, leaving the pilot about 3,200 pounds to work with. This information soon would come into play. I had planned to dump for nine minutes, which would leave me about 1,500 pounds above max trap.

I found my squadronmate, joined, and passed a HEFOE "F" code, letting him know I had a fuel emergency. He could see I was dumping fuel and asked my fuel state. The only response I could give was the "ensign's salute." My new lead visibly was frustrated while he tried to coordinate our recovery. I continued to fly on his wing.

Seven minutes after initiating the fuel dump, I noticed, in my mirrors, the fuel dump had stopped. I don't know how long I had been flying without dumping, but I certainly wasn't dumping now. I double-checked with my left hand to make sure the dump switch was in the dump position. It was, which only meant one thing: I was down to engine-feed-tank fuel only.

My heart lept into my throat as I thought about the stupidity of the situation. With my state somewhere less than 3,200 pounds and the ship 15 miles behind us, I frantically signaled to my lead: I needed to land, now!

I got aboard on the first pass, knowing I was well below the bingo fuel state. It was not the prettiest pass but a safe one, considering I knew I didn't have gas for many more looks at the deck.

After the debrief, I found out I had shut down with 2,100 pounds of fuel remaining—not bad for a shore-based flight. However, I was about 1,500 pounds lighter than I should have been at the ship and was well below the briefed bingo fuel state.

It had been incredibly frustrating to be unable to communicate the problem and get assistance from anyone else. The Monday morning quarterbacks in the squadron, all senior aviators, asked me why I simply had not done a dirty on-speed check to determine my fuel state. This check always should be done to verify our angle-of-attack indications. It did not occur to me at the time but made perfect sense after the fact.

LCdr. Tennant flies with VFA-27.

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Photo by Lt. L. M. Johnson, modified.