

Crew Resource Management

Situational Awareness

Assertiveness

Decision Making

Communication

Leadership

Adaptability/Flexibility

Mission Analysis

Single Seat, but Not Alone

By Lt. Christopher Cochran

As a nugget, I've found I learn something new every hop. Sometimes the lessons are small, and sometimes they affect everything about how you look at flying.

My story began at 0600 on a Wednesday morning. I briefed our combat hop over Afghanistan with the skipper as my lead and CAG as our airborne spare. At the end of the brief, CAG jokingly asked me what I was going to "go down for." I replied, "As long as I had two good engines, I'll be going over the beach."

After sorting out a few minor aircraft problems, I took the cat and launched, relieved to get airborne. I ran through the combat checks to verify all systems were working. I then called red crown "as fragged" and started to rendezvous with the skipper and the KC-135 who was waiting en route.

The trip north was uneventful, and we had a few plugs on the tanker to keep our fuel states high. We increased our speed for the last 50 miles to make our vulnerability window.

About 10 miles before entering Afghanistan, my heart jumped through my chest as I felt a large clunk on the right side of the aircraft. I had a sharp starboard yaw with an "engine right, engine right" voice alert. In disbelief, I looked down at my left DDI to see a growing stack of cautions on the display. I looked down at the integrated fuel and engine instrument (IFEI) and saw my right engine rpm had dropped to zero, and the exhaust-gas temperature (EGT) quickly was dropping. I pulled the right engine to idle while this information worked its way into my head, and then I shut off the engine. At that moment, I realized I was single-engine, 600 miles from mom.

For the first time in my career, I looked down at the yellow- and black-striped handle and actually thought about what using this handle could mean. I tried to calm my voice before saying anything on the radio and then transmitted, "Sir, I just lost one of my engines."

The skipper responded in a hopeful tone, "Did you lose an engine, or do your indications just show you lost an engine?"

We sorted out the details, and he flew in close to check on my jet. Throughout this time, I had the left engine at military power, and I



CRM Contacts:

Lt. Dave Messman, OPNAV
CRM Resource Officer
(703) 604-7729, (DSN 664)
david.messman@navy.mil

ATC(AW) Douglas Thomas, NAVAIR
(301) 757-8127 (DSN 757)
CRM Program Manager
douglas.thomas@navy.mil

CRM Instructional Model Manager
NASC Pensacola, Fla.
(850) 452-2088/5567 (DSN 922)
<https://www.ntcnet.navy.mil/crm/>

LCdr. Deborah White, Naval Safety Center
(757) 444-3520, Ext.7231 (DSN 564)
deborah.j.white@navy.mil

slowly was decelerating. The jet had no visible damage on the outside, but I quickly was decelerating while trying to maintain altitude. We decided to maintain 200 knots by pushing over the nose and establishing a slight descent.

While in the descent, the skipper asked my fuel state. He said I didn't have enough gas to make it back to mom, and I wasn't flying fast enough to refuel. He talked about the option of diverting to a field in Pakistan. We then asked our controller for approval to jettison my ordnance, to improve my jet's performance. After losing about 6,000 feet of altitude, the skipper told me to jettison the ordnance and to try holding altitude. I jettisoned the bombs and gently pulled back the stick to level off. As I stared at my airspeed in the HUD, the skipper turned back to verify the impact point of the dud ordnance. He reported a visual on their hitting the ground, and they had not gone high order. I was happy to hear it but still was worried about my inability to accelerate.

I was level but holding only 220 knots. I would need to accelerate quite a bit before I could refuel from any of the airborne platforms. We also were below the minimum refueling altitude in theatre, and I couldn't climb and still maintain a reasonable airspeed. I had selected our divert field in one of our waypoints, and we had plenty of gas to get there. We started flying west, through Afghanistan, toward another exit point while we sorted out the problem. Our controller initially gave us a "snap" to the KC-135 that just had refueled us. In the cockpit, all I could think about was trying to tank on the "iron maiden," on single-engine, in blower.

As the skipper talked to the controllers, a KC-10 in the area came up and said they had plenty of gas to give and could rendezvous on us. I breathed a sigh of relief as I saw the big tanker overtake us and descend with its hose extended. The tanker slowed to its minimum tanking airspeed as I selected afterburner and caught up. I emergency extended the refueling probe because my utility hydraulics didn't work. I fell into trail on the tanker, but I needed max afterburner to get any closure. The tanking went smoothly, and, after topping off, I moved out of the way while my wingman filled his tanks. After refueling, I checked my distance to mom and figured I would have enough fuel to return to the ship. The tanker stayed with us until we were halfway home, and we thanked him as he departed.

The trip back was as uneventful as the trip up had been. I kept the left engine at mil, and we slowly limped back to mom. Once we were feet wet, we called the ship and were told we would have a ready deck. I set

up for the straight-in and tried to stay calm. Once I had received my gas, the only thing left to think about during the 1+45 trip home had been the single-engine trap that lay ahead. I had seen that trap a few times and had done quite a few of them in the simulator. In the simulator, though, I didn't always get aboard, and, sometimes, I even didn't make the ramp. I completed the NATOPS procedures for emergency-landing-gear extension, called a "see you" at six miles, and switched-up tower.

"Paddles, 412 checking in at five, single-engine," I called.

CAG paddles was on the pickle, and asked me if I had a second to chat. I told him to go ahead. We cleared up exactly which engine had failed and if anything else wasn't working. He asked me if I had done a single-engine approach before, and I responded "no."

"It's doable," he replied. "Since you lost your right engine, don't worry about a ball call (our comm switches are on the right throttle).

He said, "The secret to a single-engine approach is not to go low. Also, your waveoff capability is reduced, so don't go high because you don't want a high come-down, in close, without the ability to wave off. So, remember, don't go low."

The paddles logic didn't sink in very well; I still was stuck on "It's doable." Looking back, it seems like I got the same information when I asked paddles how to improve my grades: "Just fly a centered ball all the way to touchdown." After the pep talk, paddles talked me down into an OK 3-wire. These stories usually end with a slider, but chow was secured before I could make it to the wardroom.

A few hours later, I checked with maintenance to see what had happened. They still weren't sure why, but it seems the engine-accessory gearbox had failed. There were large chunks of metal shavings on the chip detector, but, until they opened it up, they wouldn't know exactly what had caused the failure. What they could tell me was in 1.9 seconds, I had gone from having a perfectly good engine to having a large chunk of useless metal on my cheek.

I am thankful for the calm voices, sound judgment from those airborne at that time, and for the skipper's reassuring voice on the other side of the radio. Thanks to the Air Force pilot who offered to hunt us down and give us gas, and to paddles and his well-trained eye that helped me get aboard.

A lot of teasing and joking occurs in a ready room, but, when the chips are down, I know there are a lot of guys who will pull together to help a fellow aviator. 🦅

Lt. Cochran flies with VFA-25.