

# No Kidding

By Lt. Guy M. Snodgrass

**W**e had a perfect day for a basic-fighter-maneuver (BFM) hop: cool, with clear skies and unlimited visibility. I was pumped. After six months in the fleet-replacement squadron (FRS), our class was nearing completion. Only a few more BFM hops and a CQ detachment remained before our assignment to a fleet squadron.

Today's hop was my final BFM solo, a coveted chance to fly one-on-one against an instructor. However futile an FRS student's efforts might be, there's always that chance of forcing (or recognizing) an instructor's BFM error and capitalizing on it, gaining the first Fox-3 or maybe even a raking-guns shot.

The hop started out very smoothly. We began with the usual BFM gun weave and then multiple butterfly sets. The first three sets went very well. I had flown with the same instructor a few days earlier and had done my homework. After a few turns, I was able to lock and shoot my instructor with a simulated Fox-3, terminating the runs each time.

On the fourth run, with plenty of fuel remaining, we set up for an abeam set. We had over a mile of separation, pulled in hard toward each other, with each of us seeking to gain the initial advantage. At the "fights on" call, I aggressively braked into my instructor, quickly bleeding down my airspeed. We merged as I craned back my neck, striving to keep him in sight. He turned across my tail and was slightly nose low. Because I already was slow, I broke back into him. We merged again. I set two-circle flow, digging in more nose low and across his tail. Because I hadn't regained much airspeed since the second merge, he was digging in and creating all kinds of angles on my jet.

About the time his nose was coming on, my jet thumped hard, like I had flown through his jet wash at close proximity. I still was looking over my left shoulder, swearing to myself I wouldn't lose sight. I was confused by the thump because I wasn't anywhere near his jet wash. At the same time, the jet started to shake, followed immediately by an "engine right, engine right"

aural caution. I immediately called, "Knock it off," as I transitioned my scan to the instrument panel.

Looking at my engine-instrument panel, I was shocked to see the right engine rpm rapidly decrease below minimum flight idle. My instructor was talking fast, and I caught his acknowledgement of the "knock it off" call as I brought the throttle to idle. I thought I had suffered an engine stall (an assumption reinforced by the thump I had felt), so I waited to see if the engine would respond. I wouldn't be that fortunate. Within two seconds, the rpm hit zero.

After telling my instructor I might have a stall, I pulled the throttle to off and hit the engine-fire light. I had not received a fire light or engine-fire indication. My instructor had seen fire shoot out my right engine, but I didn't know it. After I shut down the right engine, he suggested we divert to NWC China Lake, instead of NAS Lemoore. A single-engine transit over the Sierra Nevada mountain range en route to Lemoore was not desirable. My instructor pulled his PCL out to back me up, as we immediately turned toward China Lake.

I relayed to lead everything that had occurred and the indications I saw. My lead asked short and specific questions. He also backed me up with the checklist and handled the emergency communications with approach. Because we were close to the divert field and unable to restart the right engine, we decided I should emergency extend the gear and prepare for a single-engine landing.

During the transit, my instructor saw smoke coming out the engine. I pushed the fire-extinguisher button, lowered my hook, and the smoke quickly dissipated. Although the plane felt a little underpowered and slow at altitude, it still flew well. My instructor provided a thorough field brief and made sure the arresting gear was set.

The landing was uneventful, and the crash trucks were ready for us. I shut down, killed power, and waited for the ladder to be lowered before leaving the jet. It wasn't until about an hour later, when I talked to my instructor on the phone, that I realized I had suffered a



sudden and catastrophic loss of oil pressure and subsequent engine fire. The worst part was that, as I called for the “knock it off,” my instructor was telling me the jet was on fire. As he was pulling for a shot, he had seen about 15 feet of flames shoot out the right engine. I had stepped on his radio call, which he hadn’t repeated. Once I said “stall,” we began working that checklist. I told him I had no indications of a fire, and I had not discharged the fire extinguisher at that point.

This emergency was my first no-kidding one as a solo, and I always had wondered how I would react and handle the aircraft in such a situation. Instructors reviewed the tapes and felt that the situation was a “great example of CRM.” The engine indeed had seized; any attempt to rotate it by hand resulted in a sound akin to marbles in a can.

The AIMD investigation revealed, during the engine rebuild, a rag had been left inside the engine. Just before the fire occurred, the rag had blocked the oil sump, causing the O-rings to blow out from overpres-

sure. This situation immediately sent all the oil out the starboard side and into the engine, igniting it. Looking at the aircraft after landing, oil was evident all the way to the top of the rudder. The pictures revealed it was so hot in the engine the bolts in the turbine section had warped.

This experience increased my confidence in the jet and provided several good learning points. My instructor never elaborated on what he had witnessed, and I never asked about external status of the jet until later. Once we began our procedures for engine stall, securing the engine, loss of hyd 2, events went smoothly.

Our calls were clear and concise. We worked slowly and methodically through all procedures and options before landing. Information might need to be passed two or three times to make sure everyone fully recognizes and understands the problem. This scenario shows the value of good training and CRM. 🦅

Lt. Snodgrass was an FRS student in VFA-125 at the time of the incident. He currently flies with VFA-131.