

My right engine rpm was 50 percent. “Yep, it’s full on stalled,” I thought, as I secured the right throttle and pushed the right fire light. I trimmed-out the jet, and all the flight controls worked normally.

Besides going over the NATOPS procedures for an engine stall, my rep coordinated with air ops and CATCC to bring down my jet last. While the recovery took place, my rep suggested cranking the right engine to restore hydraulics to lower the gear and to extend the refueling probe on the normal hydraulic system. He also recommended pulling the emergency-brake handle. I followed his recommendations and prepared mentally for the approach and landing. My configuration was gear down and half flaps. The rep read warnings and cautions from NATOPS regarding single-engine landings and waveoffs.

Approximately 20 minutes from the time of engine failure, approach asked, “307, are you ready to come down now?”

I answered “affirmative,” and requested, “left turns only,” to avoid turning into the failed engine.

I prepared to fly my best approach ever. I remembered spending an entire afternoon in the simulator building the day before I left for cruise, doing nothing but single-engine approaches to the ship at night. I had practiced them with no HUD, with a HUD—but on standby, with no ILS, with no ACLS, and with no TACAN. You name it, and I had practiced it. All Hornet pilots know it’s harder to fly the ball in the simulator than it is in the jet; I felt confident flying the approach.

I landed without incident and looked forward to the slider I would eat at midrats. Thanks to good training, a lot of coordination from the controllers, and excellent help from my squadron rep, everything worked out for Ram 307 and me that night.

I learned many lessons from this flight. Because one pilot had written the MAF in the ADB as an engine gripe, and a more experienced pilot changed it to an airframes gripe, I expected to feel a vibration from the rudder flutter. Indeed, there had been a rudder flutter in this jet, but there also was a serious problem with the right engine. After landing, I looked in the burner can and found oil spewed all over the inside. The next day, workers took the engine to AIMD for I-level inspection. I found out the engine had been coming apart.

There is a carbon seal where the high-pressure turbine shaft connects to the low-pressure turbine shaft, with specific requirements for handling the seal. For

example, hands cannot touch the seal. Looking at the assembly, it obviously was cockeyed, which would have caused uneven wear and tear on the seal over time, with ultimate failure. The carbon seal had failed in flight, oil had dumped into the engine, and the engine was coming apart.

I encountered “pop” and “hung” stalls. We believed the fireballs were a result of the carbon particles, oil, and combusive gases causing explosions in the exhaust cans, and the explosions created back pressure, resulting in hung stalls.

It is not uncommon, as a nugget, to push the “I believe” button with what a well-respected, more senior pilot says. However, it is a big mistake to allow yourself to live in denial by assuming the problem already has been diagnosed. I should have looked for the rudder flutter, and, when I could not determine the cause of the vibration, I should have assumed the worst. I certainly should not have taken a chance by going out to bomb that night. What if the engine had failed in a 45-degree dive at 500 knots on a pitch-black night?

If a gripe is written on a particular system, avoid changing the gripe. Your problems may not have had the same symptoms as the original MAF. Write a new gripe and allow maintenance to do the diagnosis. When the gripe on Ram 307 was overwritten as a rudder flutter, it went from being a power-plants to an airframes gripe. This change let the power-plants shop off the hook to troubleshoot the problem.

The immediate-action checklist items work. We find ourselves doing procedures by the book when we have trained to the task. Fortunately, I had practiced many single-engine landings in the simulator.

Although we are single-seat aviators and like to do everything on our own, the crew-coordination concept is excellent and doesn’t apply only to multi-crewed aircraft. Hornet pilots are trained to handle emergencies within our cockpit, but it never hurts to get advice. The rep concept allows for someone to step back, consult with others, review pubs, and help out. I had an experienced pilot working with me, and he covered every base, from the possibility of refueling (and not having hydraulic pressure available to extend the probe), to using emergency brakes on the deck. He even talked me through the flight characteristics of a single-engine waveoff. It is easy for us to miss things when our “bucket” is full; your rep will help get you through the emergency. 

Lt. Potts flies with VFA-83.