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# THE MAXIMUM ALLOWED

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**I** was the boot on a combat mission flying at 300 feet, 80 knots, with no engines: classic case of “What now, lieutenant?” Before I try to answer that question, let me provide some background information.

I joined the “Gunrunners” of HMLA-269 in Iraq, just having completed AH-1W FRS training a few months earlier. My area fam around Al Asad airbase was my first flight since leaving HMT-303. During the next month and a half, I flew a combination of training flights and combat missions totaling about 20 hours.

On the Fourth of July, I was scheduled to fly medevac escort for the Army UH-60s stationed at Al Asad. I staged my gear in the rear seat of the aircraft before assuming the strip alert. Our loadout was 400 rounds of 20 mm, seven 2.75-inch HE rockets, two TOW, and two Hellfire missiles. We were just under max-gross weight, and it was a typically hot Iraqi summer day.

About six hours into our 12-hour strip alert, we were called to fly an escort mission to Balad, one of the two trauma centers to which we regularly flew our escort missions. Flight time was about an hour from Al Asad. Onboard the UH-60 were two priority and three routine patients.

We linked up with the 60s and launched for Balad. About 10 minutes out of Al Asad, we ran into a dust storm, which reduced our visibility to less than a mile. The 60 initiated a climb, and we leveled out at 4,000 feet with VFR conditions.

Thirty miles from Balad, our No. 1 engine seemed to have a roll back. The engine torque dropped off, and the power turbine (Np) also dropped to about 60 percent. As I felt the aircraft begin to settle, I saw the Nr needle drop. My initial response was something I had been drilled on and practiced over and over again: My hand on the collective followed the needle to preserve the turns. Simultaneously, the No. 2 engine surged to compensate, driving Nr back above 100 percent. The aircraft commander (AC) took controls in the front seat and got the Nr back under control. The master caution went off, and the AC called out we had a No. 1-engine chip. I checked for secondary indications, but the engine-oil temperature and pressure were normal; the engine had come back up to full power. I broke out the NATOPS pocket checklist and read over the engine-chip procedures. Throughout the remainder of the flight to Balad, I continued to monitor the engine instruments. I also passed the information to the AC because the front-seat cockpit in the AH-1W lacks a full set of engine instruments.

NATOPS said this emergency was a “land as soon as practicable.” As we had briefed for this type of emergency, we would continue with the mission, as the situation dictated, in most cases. Balad was the nearest airfield and our destination, so we decided to continue on our planned course. With consideration to our need to extend flight, and we had no secondary indications our engine was failing, our AC decided to leave the No. 1 engine at full open. As we neared Balad and contacted their approach control, we asked the CasEvac commander if we could take the first approach. They told

us to go ahead. As we began the approach, we rolled the bad engine down to flight idle in accordance with the NATOPS emergency procedures, knowing we could reengage it for landing.

The approach was uneventful, and we broke out with the runway in sight at about one-half statute miles. With the runway in sight, we asked tower for directions to the CasEvac parking, knowing the CasEvac 60 we were escorting would end up landing there for weather hold. After getting directions to the CasEvac line, we continued down the runway to make the turnoff so we could land and shut down. At 300 feet and approaching the line area, we reengaged the No. 1 engine for landing. About two seconds later, the engine seemed to roll back again. The No. 2 engine had picked up the load and sent the Nr immediately to the maximum transient limit of 110 percent. The AC pulled the collective to slow the rotor. As the power on the No. 2 engine was increased to slow the Nr with increased rotor pitch, it hit its MGT (measured gas temperature) or Ng limit. Consequently, the engine’s MGT limiter, or over-speed protection, was activated, sending the Nr racing downward.

We were now 250 feet and 80 knots over several large, reinforced hangars, and various ground-support equipment. With the collective bottomed out, the AC entered the auto and rolled left to the only open space, a field of large gravel at our 10 o’clock, in the middle of the CasEvac line. The No. 2 engine relit at 100 feet, with Nr and Np on our only engine married up. From the flare, we rocked the skids level and accomplished a sliding landing with power from our good engine.

Throughout my flight training, I had been told all of our practice, training, and constant studying of NATOPS would pay dividends when a real emergency occurred. I also had been told time and again that NATOPS is not a replacement for good judgment. The initial brief I received when I joined 269 in Iraq dealt with the reality of how emergencies would be treated. Given a potentially hostile environment on the ground, the selection of available landing sites significantly was limited.

On this flight, a combination of NATOPS procedures and good judgment allowed us to complete the mission and land at a secure location. This event also drove home to me that a seemingly straightforward, relatively simple, flyable emergency, can rapidly degrade to a complex, nonflyable emergency with little or no warning. 

1stLt. Boyce flies with HMLA-269.