

Will Your NATOPS Brief Work?

By Lt. Jason Dutcher

Navy pilots are introduced to the NATOPS brief in flight school. We memorize the required statements to make on each of the brief items. We expand our brief from there, as we learn our aircraft, how it responds, and how best to manage critical situations. A potential emergency I had during a work-up period gave me a reality check, and I've since changed how I brief engine malfunctions on takeoff.

Our flight to Pascagoula from Mayport for week-one work-ups was like other det transits: Our helicopter was heavy and stuffed with gear. Power available in our SH-60B was an issue because of our weight. Hover torque calculated out to around 96 percent, which meant the helicopter could get off the ground but with only a small power margin. Our first leg was uneventful, and we arrived at Tyndall AFB, our first stop, and got fuel.

We grabbed lunch at a local fast-food place before updating our flight plans and paying for the fuel. Flight calculations were checked again for the local weather and showed similar numbers. We also reviewed our NATOPS brief to consider if an engine failure occurred on takeoff—probably our most vulnerable point. The aircrewman would kick out the heaviest objects, and the flying pilot would call out “abort” or “wave off.” We’d abort the takeoff if we had runway left and the engine failed, and wave off if we had sufficient airspeed to fly and no safe landing place in front of us. One word for quick, decisive action, and then we would follow that action.

All fueled and preflighted, the helicopter fired up like an old lawnmower with the same temp-pressure readings as before—looking good. We taxied and pulled up into a hover over the runway. Close to calculations,

our hover torque bounced above 96 percent as we stabilized, but we had a long runway in front of us to build speed and ease into the climbout. We squeaked out 50 knots as we eased up through 100 feet, entering a safer regime of altitude and airspeed. We still had 2,000 feet of runway in front of us, and things looked good until the master-caution light lit, along with a No. 2 engine chip light. No. 2 was the high-time engine on the aircraft. As the non-flying pilot, I quickly checked for secondaries but found none.

The situation was not serious yet, but we still were heavy and not fast enough, and we quickly were running out of runway. Since the engine was functioning OK, I preferred to build up our airspeed and continue flying, instead of rushing an abort back to the runway with a heavy helicopter.

I thought of calling “wave off, wave off,” as briefed to my copilot, but it suddenly seemed inappropriate and misleading. We just had an engine chip light, so, fearing the worst, I imagined he thought the call would imply we were out of runway, our engine was sputtering, and the trees ahead were calling to us. If he took this logic to the extreme, the next course of action might mean a radical dive to pick up airspeed so we could pop up over the trees. Another option would be to roll the helicopter into a high angle of bank to stay over the airfield and to avoid the trees.

We didn't have anything but the warning lights and I wanted to keep it that way. I said staying in the pattern would work fine—just keep it close to the runway and build up the airspeed. I also used hand gestures—like an aircraft—for added clarity.

He called tower, and tower asked if we wanted to do a 180 and land in the opposite direction because winds were light and variable. This plan seemed safe, and I liked the idea, but it meant we were aborting back to the runway—if we followed our brief. Should I say, “Yes, abort” after tower’s suggestion, so my copilot knew I wanted to go along with this plan?

I knew that if I were in his spot and heard “abort,” my heart probably would skip a beat or two. I’d think the engine had secondaries, and we probably wouldn’t stay airborne much longer, so we’d better set up for an immediate single-engine-landing profile. Again, I didn’t want to fabricate our emergency, so I slowly nodded we could do that profile and helped search for a taxiway through our turn where we could land. My copilot

picked a long taxiway before we got all the way around to the runway. We set up for a nice single-engine profile, just in case we needed the extra safety margin. With a nice touchdown, the crisis was averted.

Where was the single-word “wave off” call? Why didn’t we “fly as we had briefed”? Simple: the brief was wrong. Flying at slow speeds and having the ability to hover means we have far too many options and interpretations of these options available to us for one-word calls to be clear, except in limited cases. The abort or waveoff call alone doesn’t answer questions about approach- or waveoff-pattern altitudes, airspeeds, a spot or a running landing, and the urgency of the problem. There are just too many questions to answer with a one-word call.

Instead, I now brief if we have an engine malfunction on takeoff, the flying pilot verbalizes what he is seeing and his intentions, in plain English. The non-flying pilot backs up on flight parameters, checks the gauges for secondaries, and revises the decision if necessary.

Could our engine have failed? It barely made it through week-one work-ups with several chip lights. The engine had its final “downing” chip light over the runway going home at the end of the week—after only a 10-minute flyoff.

An engine failure is obvious because of the engine winding down and loss of Nr.

If the engine had failed on our earlier takeoff, we still had plenty of time to discuss how to use the remaining runway. If not, I would have taken the controls and made sure. Even that situation is handled better with a sentence or two, rather than a single-word response to the problem—the other pilot may be interpreting the situation differently than you. Now my brief more accurately reflects the reality of this type of emergency. 🦅

Lt. Dutcher flies with HSL-48.

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Photo by Matthew J. Thomas