AS THE ROTORS TURN

By Ltjg. Tony Arendt

We were operating from a cruiser in the Yellow Sea in the middle of a dark night—and I don't mean just any ordinary dark night.

As we eventually would learn, we were within 200 yards of the ship (as reported by the ASTAC), with the crew shining every possible light at high power, including two SAR lights from the flight deck and two more from the bridge. The crew also was dropping smokes down the starboard side from the LSO tank-commander hatch. Nevertheless, we couldn't see the ship, even with our NVGs.
I still find it hard to believe this really happened.

It had been foggy all afternoon, but the fog had started to burn off toward evening. The forecast called for light fog at our land divert more than 90 miles away, and visibility at our location was about one to three miles. At our brief time, we could see the last of the daylight sky peeking through the 1,500-to-3,000-foot ceiling. Although the waters off the Koreas are notorious for low visibility and fog during the summer, we gave little thought to the weather once the conditions started clearing up.

We had good forward-looking-infrared-radar (FLIR) ranges, and we had identified many fishing vessels. We also had encountered occasional IMC conditions in isolated areas.

The flight had been relatively uneventful, and we headed back to the ship about 30 minutes before recovery time. As we flew toward mother, we went popeye and descended from 1,000 to 500 feet, hoping to come out below the layer. Still in the clouds at 500 feet, we crept down to 200 feet, searching for better conditions as we set ourselves up behind the ship. A quick check of the gas indicated about 1+00 until min fuel. We found that 200 feet didn't have much more to offer than 500 feet, so we began an alternate approach sequence and descended to 100 feet. We also slowed to 50 knots and tried to locate the ship by one-half mile.

The approach was standard, with a fairly stable platform, but, when we got to one-half mile, we couldn't see a thing. We waved off and brought it back around. With the pucker meter pegged, we started to crunch our numbers for our alternate. We decided if we singled up the engines, we could get there. We told control and the LSO about not locating the ship, and then turned inbound for another run. This time, we requested the ship's lights to be turned on and explained that we planned on descending to 50 feet and slowing up earlier.

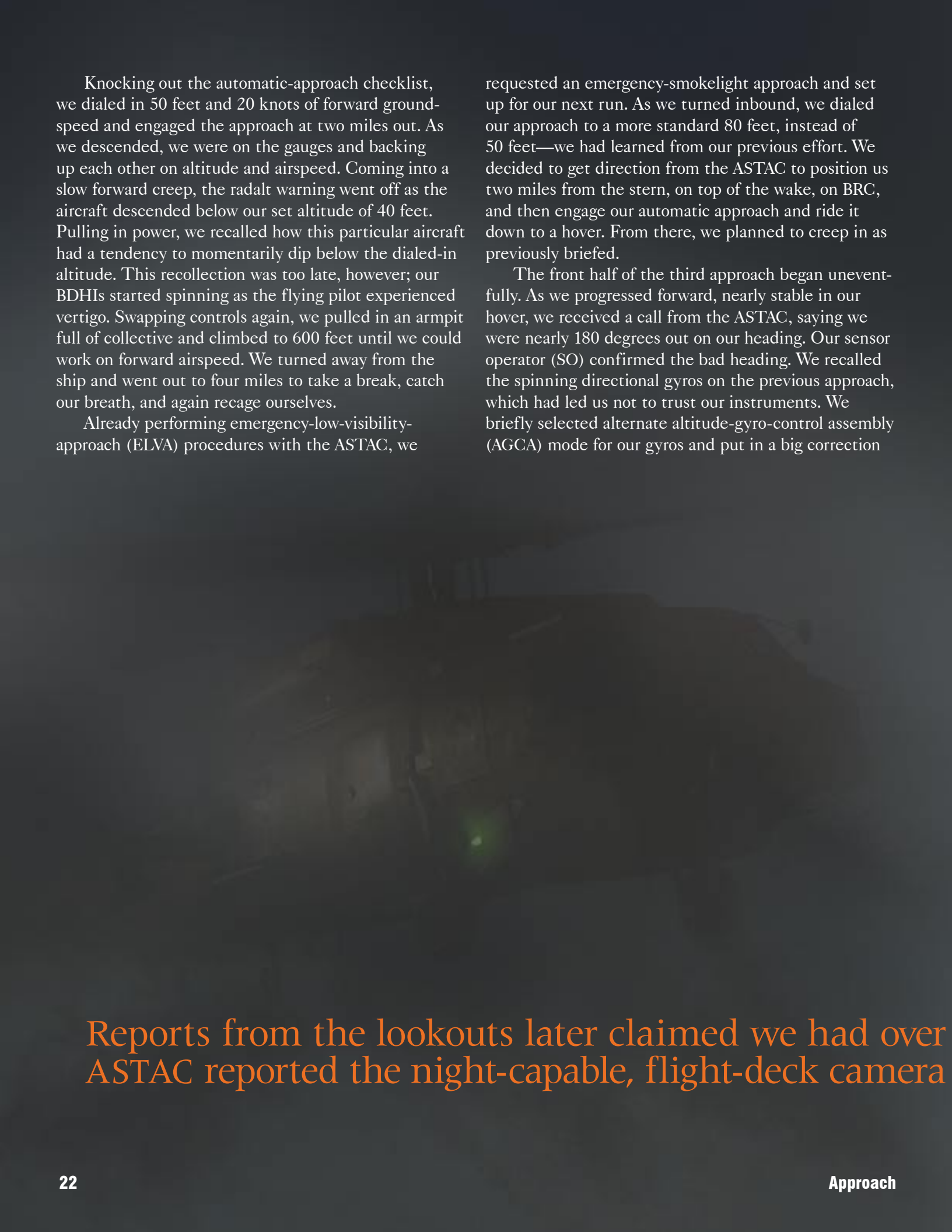
The second approach had a few close altitude calls. We tried to get low and slow and bring the ship in a bit closer to see if we could capture it within one-quarter mile. Waving off again, we started to get disoriented from being in continuous IMC conditions while varying the airspeed.

We instructed our aircrewman to back us up, as usual, with closure and range calls. The ASTAC gave us our position relative to our base-recovery course (BRC), along with heading calls. We recaged ourselves, swapped controls, and descended to try again. This time, we asked that all the lights on the ship be turned on high power, and we reported our current state of 0+45. With our divert airfield now out of range, we had no choice but to recover to the ship.

Knocking out the automatic-approach checklist, we dialed in 50 feet and 20 knots of forward ground-speed and engaged the approach at two miles out. As we descended, we were on the gauges and backing up each other on altitude and airspeed. Coming into a slow forward creep, the radalt warning went off as the aircraft descended below our set altitude of 40 feet. Pulling in power, we recalled how this particular aircraft had a tendency to momentarily dip below the dialed-in altitude. This recollection was too late, however; our BDHIs started spinning as the flying pilot experienced vertigo. Swapping controls again, we pulled in an armpit full of collective and climbed to 600 feet until we could work on forward airspeed. We turned away from the ship and went out to four miles to take a break, catch our breath, and again recage ourselves.

Already performing emergency-low-visibility-approach (ELVA) procedures with the ASTAC, we requested an emergency-smokelight approach and set up for our next run. As we turned inbound, we dialed our approach to a more standard 80 feet, instead of 50 feet—we had learned from our previous effort. We decided to get direction from the ASTAC to position us two miles from the stern, on top of the wake, on BRC, and then engage our automatic approach and ride it down to a hover. From there, we planned to creep in as previously briefed.

The front half of the third approach began uneventfully. As we progressed forward, nearly stable in our hover, we received a call from the ASTAC, saying we were nearly 180 degrees out on our heading. Our sensor operator (SO) confirmed the bad heading. We recalled the spinning directional gyros on the previous approach, which had led us not to trust our instruments. We briefly selected alternate altitude-gyro-control assembly (AGCA) mode for our gyros and put in a big correction



Reports from the lookouts later claimed we had over
ASTAC reported the night-capable, flight-deck camera

to get back on course. We momentarily experienced vertigo once more and pulled away from the water.

Recovering at about 1,100 feet, we reexamined our instruments under some welcome starlight. We probably had the correct heading but were in a side drift, which, therefore, had us going the wrong way, according to both the SO and the ASTAC.

Confident we had the situation licked, we went in for another try. As before, we descended to 50 feet and established a forward ground speed of 30 knots for the entire approach. With a few smokes in the water to help, we were certain to acquire the ship this pass. Coming up on one-quarter mile, we slowed to a near crawl. Not until the ASTAC called us 200 yards off the fantail, though, did we wave off to the port side, with still no ship or light in sight, and all the while still on NVGs.

Nervous again, we set up and reexamined the whole procedure; we were sure our methods were sound. The LSO assured us all the lights were turned on bright, including two SAR spotlights brought from below, and several smokes were in the water. Also, all available personnel were mustered to man the deck and listen for our aircraft, and then to make vectoring hand signals to the LSO.

Once more, we proceeded inbound. Down to 40 feet and creeping forward at 30 to 40 knots, we were about two miles out when the ship's TACAN went down. Venting our frustrations at the control tower, we switched to our aircrewman for closure and range calls, using our radar. Established in a hover and receiving range, closure and position calls from the ASTAC and SO, and as the nonflying pilot backed up airspeed, altitude, and heading, we came to within one-half mile when the TACAN came back up.

With no ship or visual reference in sight, we crept forward, holding 10 to 15 knots of ground speed. Inside of 150 yards, one of us picked up a faint light that quickly developed into a glorious, bright, green glow of a burning smoke. Looking farther, we made out a few more smokes but no ship. As we headed down the smoke trail, we began to detect, with our NVGs, a faint light through the fog. Straining to make out a ship, the dim lights began to take form. The nonflying pilot, as briefed, came off his goggles and kept a lookout for the ship. Seeing lineup lights and bright spotlights, the nonflying pilot took controls from the flying pilot, whose goggles were blooming out. Fighting the onset of vertigo, we picked up a visual scan and oriented ourselves to the ship's stern. We brought on our searchlight and got a verbal confirmation from the LSO of our position off the ship's fantail. Switching controls another couple times, we finally found ourselves in a hover over our flight deck, surrounded by spotlights and smokes. Stunned, we sat there in a hover, exhaled a sigh of relief, and lowered the helicopter into the trap.

Reports from the lookouts later claimed we had overflown the ship on two separate occasions, while the ASTAC reported the night-capable, flight-deck camera couldn't even see the flight deck through the fog. The LSO said we broke out over the harpoon launchers when we flipped on our searchlight. The HCO in the tower said she briefly had lost sight of us, even as we were coming over the flight deck.

Grateful to be aboard, we completed our post-flight inspection. As I took the opportunity to reflect, I couldn't help but gain a whole new respect for the sea. Besides, this experience allowed me to appreciate the aircraft a bit and actually switch my gyro out of the alternate mode selection for other than system checks.

Ltjg. Arendt flies with HSL-51.

This article brings up several issues of interest for helo ops from small-boy ships. First, the bridge and CIC watch teams are vital cogs in the CRM and ORM machines. Obviously, the OOD knew the ship was encountering fog. Timely notification to the helo crew of degrading visibility conditions would have given them more options and time to make decisions, but that didn't happen in this case. Second, in-depth knowledge of the divert and the ability to get updates on its weather conditions are essential to give aircrew the tools needed to make an informed decision whether or not to divert.—LCdr. Bruce Bicknell, helo analyst, Naval Safety Center.

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