Some Things Don't Look Better Through Goggles

By Ltjg. C. J. Warren

It began as a routine nighttime SSC flight. The OinC was the HAC in the ATO's seat; I was in the pilot's seat, and our junior aircrewman was in back. Since it was our last month of a Mediterranean deployment, we tried to complete as much training as possible. After we provided the ship with a surface-surveillance picture, we started rebasing our night doppler approaches. After completing three approaches each, we climbed to 500 feet AGL and donned our NVGs.

We practiced a few emergency, low-visibility approaches (ELVAs), which gave us time to acclimate to the goggles before we started the NVG dopplers. I adjusted and readjusted the position of my goggles several times during the ELVAs. While I had the controls, I set them far away from my face, so I easily could see the instruments. While my copilot had the controls, I positioned the goggles as close to my face as possible to better see outside.

Photo by Matthew J. Thomas

As soon as the ELVAs were finished, we told the ASTAC we were going to do a few NVG dopplers. It was 15 minutes before the scheduled flight quarters, so we had burned enough fuel to be light but still had plenty remaining. The HAC passed the controls to me, then completed the automatic-approach checklist while I set up for a doppler approach. With the checklist complete, the HAC verified I was ready and engaged the automatic-approach system. As I watched the instruments, I realized the goggles still were close to my face, and I had to strain to see the instruments below them. Everything with the aircraft remained normal.

Passing through 120 feet, en route to 80 feet, we saw the master-caution light illuminate. Immediately, I disengaged the automatic-approach system and began to wave off. As I smoothly pulled up on the collective, my eyes were glued to the

radar altimeter. We still were dropping. I wondered if we had lost an engine or something, until I realized the collective wasn't coming up. The HAC initially noted the AFCS-degraded caution but not the boost-servo-off light saying, "AFCS degraded, wave off, and we'll try again."

As we descended through 90 feet, I began to yank up on the collective and responded, "No, I'm boost off." Now that I was pulling harder, the collective began to rise, and the radar altimeter crept upward again. Once we had established a climb, I lowered the nose and picked up forward airspeed.

> ...the goggles were so close to my face, I couldn't clearly see the caution panel.

After the aircraft was stabilized, the HAC inspected the caution-advisory panel, from under his goggles. He found the No. 2-RSVR low, AFCS degraded, boost-servo off, and SAS-caution lights were all illuminated. The HAC decided this indicated a leak in the pilot-assist servos. Meanwhile, the goggles were so close to my face, I couldn't clearly see the caution panel. I wasn't about to take my hands from the controls to adjust the goggles, so I concentrated on altitude and airspeed.

I informed the copilot, "I can't see the caution lights. If you see a No. 2 hyd-pump light, I need you to turn off the primary servo" (that's the next step in the emergency procedures). I began turning toward the ship as he broke out the emergency-procedure checklist and went through each item. We also told the ship of our situation and said to set emergency flight quarters.

Since we still were boost off, and the moon was very bright (80-percent illuminated), we decided to degoggle as a crew. As the HAC took off his, I asked a particularly stupid question, "Why didn't the backup pump come on?"

He answered with a bit of surprise, "Because the backup pump won't come on for a pilot-assist-servo leak." That's when I realized I had lost total situational awareness. Unable to see all the lights on the caution panel, I hadn't comprehended which caution lights my copilot said were on. That was enough to get me back in the game. The HAC finished degoggling and took the controls as I removed my goggles. Since we were in the middle of the Ionian Sea without a nearby divert field and getting low on fuel, we decided to head to our ship. We requested winds off the nose, or slightly to port, and a clear-deck landing. The ship quickly set flight quarters while we took a little extra time in the air to discuss waveoff scenarios and our limitations during shutdown.

The HAC took the approach while I called altitudes and closure. The approach was slow but smooth, and, as we came over the flight deck, I guided him forward as the LSE signaled us in. We landed and shut down without incident.

Postflight inspection showed no significant hydraulic leaks. It later was decided a faulty low-reservoir switch in the No. 2 hyd pump set the LDI system in motion. The pump was removed and replaced, and there were no other incidents. So what is there to learn from a successful outcome?

Malfunctions happen when you least expect them. Six dopplers were completed without incident. Always be in a position to deal with an emergency. Having my goggles set close to my eyes restricted my view of the instruments and gauges. Communication is key: Even a stupid question can be beneficial. It got me thinking more clearly about the situation. Taking the time to discuss our options helped us make the best decision. Talking about the landing before actually beginning the approach had us mentally prepared to wave off.

Night-vision-goggle operations present a new and exciting environment for the LAMPS community. When the aircraft is operating 4.0, they provide additional visual cues that are a vast improvement over staring at darkness for three and a half hours at a time. On the other hand, when an emergency arises, they offer a more restricted field of view inside the cockpit for the pilot and copilot, and they can detract from situational awareness during an already tense moment. Take the time to think of how you would handle an emergency while wearing goggles. Are you ready?

Ltjg. Warren flies with HSL-46 Det 1.