NORDO in the Rhino

By Lt. Sara A. Stries

My pilot and I briefed for a day recovery tank and SSC mission with our section lead. We planned to do package checks at our lead's tanking altitude, then proceed to a separate altitude for recovery tanking. We then would rejoin as a section for the SSC mission.

We walked on Diamondback 104 on a beautiful April Fools' Day while deployed on USS *Kitty Hawk* (CV-63). The skies were beautiful and clear, with the sun shining on a steady deck. The jet preflight went as planned, and all indications pointed to a normal day launch and recovery—that is, until we manned up and strapped in.

As always in the Super Hornet, we checked the ICS after turning on battery power to make sure we had two-way comms before proceeding with our start-up sequence. Unfortunately, we couldn't talk to each other. We also couldn't talk to the troubleshooter who hooked into our aircraft. The troubleshooter initially thought the problem might be with our aircrew masks. That idea was eliminated when a replacement mask was brought to the jet and tried in both cockpits—we still had no communications.

Eventually, our AT shop's leading petty officer came to help. He isolated the problem to the front cockpit-communications suite. The intercommunications-amplifier control (IAC) was the problem. Our AT1 unscrewed the three cannon plugs that connect the IAC to the jet, then reseated them to check their security. Once they were reconnected, we had communications. The jet was buttoned up, and the rest of our start and launch was uneventful.

Within 10 minutes, our lead already had a good check on our air-refueling store (ARS). We were in the midst of checking the other aircraft's ARS pod when we realized we no longer could communicate over the ICS. We disengaged the drogue and moved to the right side of our lead's aircraft. I tried to talk over both radios to tell lead of our broken ICS. I also realized our lead was trying to detach us for the recovery tank. We were not receiving any radio transmissions, and I could see our lead WSO trying to contact us over our aux frequency.

My pilot did an excellent job maintaining a

Photo by Matthew J. Thomas. Composite.

close parade position, so I could communicate our NORDO status via hand signals to the other jet. I pointed to my helmet and mask, then to the entire jet with an emphatic two thumbs down. My point was made, and our lead recognized our NORDO status. In the cockpit, we began to understand, in addition to having no ICS or radios, all our aural-warning tones and cautions were not working. We had no master-caution tones, no radar-altimeter tones, and no "Betty" to back us up. The only two means of internal communication was to yell as loud as we could or to pass notes back and forth.

The lead WSO signaled me to pull the PRC-90 from my survival vest to sort out a game plan. After fumbling for a while, I managed to connect the earpiece of the PRC-90 to the radio. I almost dropped the small plastic part of the earpiece, which would have created a secondary problem with FOD. Fortunately, I kept all the small pieces off the floor of the cockpit. I tried to put the earpiece into my ear underneath my helmet, but the bud was too large to sit comfortably under my helmet's ear cup. I temporarily took off my helmet, which might not have been the best idea, but I needed to establish communication with the lead aircraft. I had to press my hand against my ear to hear my lead WSO talk because the jet's environmental-control system (ECS) was so loud.

We managed to coordinate via the hand-held radio that we would hold overhead the carrier at

our squadron's high-holding altitude until someone came back to lead us into the break. Once I had put away my PRC-90, my lead also used hand signals to tell me to look in CVW-5's inflight guide to reread the airwing's standard NORDO procedures. Our lead detached and left us to hold. I wrote a note detailing the plan and passed it forward to my pilot so he could have an idea of what was happening.

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We held in Diamondback 104 for about 10 minutes until our lead joined with us. We stayed in a parade position for the duration of the flight. Fuel and G checks were conducted via hand signals, and the lead WSO passed the current altimeter setting with hand signals. The lead aircraft had told the ship and tower of our NORDO status, and the ship decided to bring our section in first for the Case II day recovery. I don't think my pilot or I knew which type of recovery we were flying, nor do I think either of us cared. We maintained parade on the left side of our lead, which enabled us to break into the day pattern first. This position also allowed our lead to rejoin if we boltered.

The lead gave us the kiss-off signal a mile in front of the bow. We communicated the landing checklist by yelling. I found we had to be more vigilant in using visual cues for information because we had no aural cues to rely on. I found I was watching for the radalt to start flashing on my up-front-control display (UFCD) as an indication of altitude behind the carrier. While my pilot focused on flying a good pattern, I looked for all the lights that might indicate a problem with the jet.

In all the paddles lectures we had had before cruise, the LSOs always stressed the importance of being on lineup in a NORDO status. They could give signals for more power with the cut lights, but they had no way of cueing my pilot to his lineup discrepancies. If lineup was off, we automatically would receive the waveoff lights. My pilot did an excellent job with lineup, and we saw only one flash of the cut lights as a power call. We trapped without event on the first try.

This flight was eye-opening for many members of our squadron, and this was my first experience completely without means of communication. I never had spent enough time briefing NORDO procedures on earlier events because of my laziness. I always thought because I fly in the newest jet in the fleet, with two radios and new components, I wouldn't have to worry about losing all comms. Apparently, that is not the case when all communications and aural tones run through one component: the IAC. If the IAC fails, aircrew can do nothing to prevent a NORDO situation. Additionally, aircrew must rely solely on visual cues because all the normal aural warnings and cues we use are gone.

I also learned to be absolutely familiar with my squadron and airwing standard NORDO-operating procedures. If my lead WSO hadn't told me to look in the in-flight guide, I never may have found the appropriate CV-NORDO-recovery procedures or the appropriate squawks. My pilot and I would not have been ready to execute a safe day, carrier-NORDO recovery.

Fortunately, this was a day carrier recovery, so we could rely on hand signals. If we had had a night recovery, I would have spent a lot more time on the PRC-90, communicating with our lead aircraft.

I would like to put in a pitch for redesigning the PRC-90 earpiece. If the ear bud were more like some of the off-the-shelf designs available, it would fit more comfortably under a helmet. I also more easily could have heard my lead, without removing my helmet during flight. I wouldn't have had to assemble the two small pieces of plastic while sitting in the aircraft. This situation created a potential FOD hazard.

I hope never again to have the pleasure of being NORDO behind a carrier. We were fortunate it was a beautiful day, we had no other compounding emergencies, and we had an emergency divert from the carrier if the situation got incredibly bad. Have a solid brief, and know your NORDO procedures—cold.

Lt. Stries flies with VFA-102.