FOUL-DECK LANDING

Photo-composite image.

By Lt. Nicholas Wyzewski

Taking a trap on the active runway is not how I had expected my strike-fighter weapons and tactics (SFWT), level III check flight to end. It was a cool, clear and windy March day on the Virginia coast, and my wingman (the evaluator) and I were on our way home from the warning area. Both of us were low on fuel—a fairly standard situation for Hornet drivers—but, it looked like we'd make it back to Oceana with no problem, despite the 100-knot westerly headwinds. Adding to our optimism was that NAS Oceana's active runways were the 32 parallels, which were perfect for us, because we were approaching from the southeast.

My wingman's fuel state was slightly lower than mine, so I planned to drop him off just inside the initial for a visual straight-in and continue into the break. Moments later, I reevaluated my fuel state and elected to take the straight-in, as well. The plan was to initiate flight-leader separation at the initial, fly simultaneous, visual straight-in approaches, and drop our landing gear and flaps on short final. Tower told us to plan our approaches to runway 32R, because there were several FA-18F aircraft from a neighboring squadron in a closed-traffic, field-carrier-landing-practice (FCLP) pattern on runway 32L. The plan was simple, no problem.

Everything looked good until tower said the approach-end arresting gear on 32R had been knocked out-of-battery. They asked if we could land long and touch down beyond the now slackened cross-deck pendant (CDP). Runways 32L and 32R at Oceana are both 8,000-feet long. Having to touch down past the short-field arresting gear would've reduced our available landing surface to about 6,500 feet, which would be OK in a lightweight, low-fuel-state Hornet, but without much room for error. I acknowledged we could accommodate, but, as a precaution, I asked if the departure-end arresting gear was rigged and in-battery. The answer, predictably, was "No."

For those of you keeping score at home, let me summarize. At that precise moment, no long-field gear was rigged on either of the two parallel, active runways. The short-field gear on 32R was out-of-battery, and

the short-field gear on 32L had been derigged for the FCLPs. *[Safety officer's note: Removing the short-field gear CDP is becoming common practice at NAS Oceana because of a recent increase in the incidence of arresting-gear pendants being knocked out-of-battery by Hornet aircraft rolling over them on takeoffs and landings. Section takeoffs, for example, are no longer permitted at NAS Oceana if the approach end arresting-gear pendant is rigged.]*

I thought this situation certainly was not ideal, but reassured myself it still didn't pose a major problem, as long as everything went smoothly from here on in.

There was tension in the air as they said the approach-end, arresting-gear cable on 32R had been out-of-battery when I landed.

I started to pay a bit more attention to my decreasing fuel state and was eager to get the jet on deck. As if in answer to my concerns, tower told me just a few seconds later the short-field gear on 32R was back in-battery, removing the requirement to land beyond the CDP. I acknowledged the call and felt relieved I would have the full 8,000 feet of runway for landing rollout, not knowing that the state of the arresting gear later again would come into play.

After detaching my wingman and generating some nose-tail separation on final approach, I lowered the gear handle and selected full flaps, with about two miles to go until touchdown. It looked like I would land with about 1,900 pounds of fuel. This amount was just a tad lower than our required SOP minimum-fuel state of 2,000 pounds, but nothing to worry about on a crystal-clear VFR day, right? Setting aggressive joker-bingo states in the preflight brief had allowed us to squeeze maximum training out of our airborne time.

As you probably can imagine, here is where things started to go wrong. Just after I felt the reassuring thunk of the landing gear lower into place, I immediately heard the "boop, boop, boop" of the landing-gear-warning tone. I then noticed the green position-indicator lights for both main landing gear were flashing, which indicated a dual planing-link failure. *[Safety officer's note: The planing link is a pivotal metal connecting rod about two feet long, which pushes the main wheel-tire assembly into its upright position, as the landing-gear struts unfold from the wheel well. A failure of either planing link on touchdown results in a main-wheel tire not properly aligned with the landing surface, and it can induce uncontrollable swerving tendencies during landing rollout. The standard procedure for Hornet aircraft with this malfunction is to make a precautionary-arrested landing.]*

I quickly initiated a waveoff, told tower of my landing-gear malfunction, and requested the overhead delta pattern for troubleshooting. I cleared my wingman to land behind me, because he did not have sufficient fuel to help me troubleshoot; he landed moments later. I broke out my trusty NATOPS pocket checklist (PCL) and dialed up the squadron base frequency on the AUX radio to confer with the SDO. I reported my dual planing-link-failure indications and described my plan of action, namely a short-field arrested landing. I also told him of my low fuel state.

After a short discussion with the SDO, who concurred with my plan for a field arrestment, we decided to request a visual inspection of my main-landing gear from one of the aircraft in the FCLP pattern on runway 32L, just to confirm the position of the main landing-gear wheels. I declared an emergency with tower, told them of my need to take a trap, and lowered the hook handle. I asked tower if they visually could confirm my landing-gear position. They replied almost immediately, saying it looked as though my landing gear was down. They also confirmed my arresting hook was

down. I rogered up their transmission and reiterated my need to take a trap.

One of the Rhinos in the FCLP pattern spoke up and said he would join up with my aircraft to provide a visual inspection. I agreed, and he began his rendezvous. I offered to use an off-duty runway for the arrestment, not wanting to unnecessarily foul one of the two available duty runways while waiting to be towed clear after landing. Tower suggested runway 5R, which, at the time, sounded like a good idea. Runway 5R is Oceana's longest at 12,000 feet, and, from my current position in the overhead delta pattern, I easily could set myself up for a right downwind leg and subsequent right base leg. A lot of traffic still was in the FCLP pattern on 32L, along with multiple inbound aircraft for 32R, many also low on fuel.

By now, my wingman, who was safely on deck and listening to my discussion with tower, advised that the existing crosswind on runway 5R likely was out of limits for a normal arrested landing. I later would learn the reason for having five Rhinos in the FCLP pattern on Oceana's runway 32L was because the winds were out of limits for normal FCLP operations at NALF Fentress, our nearby auxiliary field, which has a single 8,000-foot runway, oriented 5 and 23. This situation forced the use of Oceana's 32L for FCLP and temporarily reduced by half Oceana's ability to handle high-volume, VFR jet traffic. Thus, unfortunately, the active runway (32R) probably was the best option for my arrestment.

Tower called the winds out of the northwest at 24 knots. The last thing I needed was a stiff 90-degree crosswind to further complicate my directional-control problems with a suspected landing-gear malfunction, especially if my hook skipped the arresting cable. I set up once more for runway 32R. Several inbound aircraft were waved off to make room for me in the pattern, and I turned back toward the downwind for 32R. I sensed the tower controller was becoming task-saturated, and, because of my low-fuel state, I needed to start making things happen—and soon.

I told tower I'd be unable to land on runway 5R because of the crosswinds and reiterated my intention to take an arrestment on 32R. I set myself up for a short hook to 32R and was more than ready to get the jet back on terra firma. I already had reached my squadron's SOP emergency-fuel state of 1,500 pounds, and I had no desire to reverify the accuracy of the FA-18's fuel-quantity-sensing system. By the time I started my final-approach turn, the Rhino had joined and visually confirmed my gear appeared down and locked. I told tower one last time of my intention to take a trap on 32R and, in the heat of the moment, thought I had heard my clearance to land. A postflight review of the tower audio tapes subsequently would reveal I never actually was cleared to land. But, more on that later.

I rolled out on final approach to 32R, flying a slightly high "ball" until I could see the short-field, cross-deck pendant through my HUD, at which point I placed the flight-path marker (velocity vector) directly in front of it. Crossing the runway threshold, I saw the red waveoff lights flashing on the runway edges and on the Fresnel lens. Not believing someone would wave off a low-fuel-state emergency aircraft, I quickly queried tower about the waveoff lights and immediately received the urgent barked reply, "Ram 11, go around, right side."

I thought it was too late for me to prevent touchdown, so I quickly snapped back, "Ram 11, unable."

I continued the approach and uneventfully trapped, or so I thought.

Ironically, on landing rollout, all planing-link-failure indications disappeared, and I again was in possession of a fully-operational Hornet, though one now stuck in the arresting wire. The maintainers later would discover faulty proximity switches, which caused the erroneous indications. Once the crash crew had pinned my landing gear, I taxied back to the line and shut down. No harm, no foul, right?

When I climbed out of the jet, the crash crew was on-scene to investigate my aircraft's condition and determine what the problem had been. There was tension in the air as they said the approach-end, arresting-gear cable on 32R had been out-of-battery when I landed. I thought it was in-battery, and, besides, it had worked just fine. Furthermore, the field-support crew had been standing in the grass just left of the runway edge, trying to reset the arresting-gear engine to an in-battery condition. They were near the purchase cable as it paid out when yanked by my speeding Hornet. I wondered, "Was anyone hurt?"

I absolutely had no idea the gear had not been in-battery. In fact, the arresting-gear status had not been mentioned on the tower radio since I'd first been told it was back in-battery on my initial approach, seemingly long before this chain of events began. There was minor, repairable damage to the arresting-gear engine.

After a thorough review of this incident, it was determined no one in particular was at fault. Everyone

shared equally in a bit of the blame and learned several important lessons. My eagerness to maximize training on my SFWT level III checkride led me to push the limits of Hornet endurance. I chose a lower bingo-fuel state than may have been advisable, given the strong headwinds and high volume of traffic in Oceana's airspace. A few hundred extra pounds of fuel sure would've eased my mind as I troubleshot the planing-link-failure indications; it certainly would've removed a bit of the urgency I felt to land. Additional fuel would have given everyone time to take a deep breath, assess the situation, and communicate more effectively.

My low-fuel state and sense of urgency stopped me from asking the right questions, and I ended up taking a more directive approach. I landed—without clearance to do so, no less—with only 1,300 pounds of fuel remaining, below our SOP emergency fuel state. But, I still had enough fuel to have flown another lap around the landing pattern, if required, to clear up any confusion about arresting-gear status or landing clearance. The Hornet's fuel-quantity-indication system is remarkably accurate, and stories abound of Hornets landing at considerably lower fuel states than mine, without flaming out either engine. I am unsure if I could've successfully initiated a waveoff when I saw the red lights, but the moment's hesitation caused by asking tower about them certainly guaranteed I wouldn't be able to do so. Hindsight is always 20/20, and I still am not sure I could have done anything differently given the data I had.

The aircraft was returned to the maintainers without incident, I passed my checkride, and, most importantly, no one was injured.

Lt. Wyzewsk flies with VFA-83.

FOUL-DECK LANDING

Squadron safety-officer note: Ultimately, it was a breakdown in communications that led to Ram 11's arrestment on a foul deck, planing-link malfunction notwithstanding. Thorough review of the tower audio tapes provided several important facts. After their initial in-battery call (before Ram 11's first self-initiated waveoff), tower never told him the short-field gear on 32R was out-of-battery, nor did they tell him there were personnel in the infield working to reset it at the time of the arrested landing. They had no reason to do so at that time. Visual indications from the tower seemed to confirm an in-battery condition.

The visual indication the tower controllers use to spot an out-of-battery arresting-gear condition is a simple, small strobe light mounted on top of the engine housing. When the CDP is knocked out-of-battery, an electric circuit is closed, which activates the strobe light. The flashing strobe is visible from the control tower and indicates a foul deck. Standard procedure at NAS Oceana requires the field-support crew immediately to disable the strobe light upon arrival, before resetting the arresting gear itself. This requirement is a function of the design of the arresting-gear engine and the position of the strobe light's electrical connection. After the gear is reset, the field crew provides a verbal courtesy call to the tower via FM radio to confirm the gear is back in-battery.

On this day, the strobe light was disabled before the field crew's efforts to reset the arresting gear, indicating to those looking on from the tower the gear was, in fact, back in-battery. Tower was unable to establish communications with the field crew (whose hand-held FM radio was drowned out by the noise of Rhinos in the FCLP pattern on 32L) and thus verbally could not confirm an in-battery condition prior to Ram 11's final approach. Ultimately, another Oceana field-support crew, en route to the 32R infield to assist those already on-station, realized the impending danger from their vantage point. They immediately called tower, from the comparative quiet of their truck, urging them to wave off Ram 11.

As a result of this incident, a new procedure has been established at NAS Oceana. After initially disabling the strobe light, but before beginning work on the arresting-gear engine, the field-support crew will use a "dummy" electrical plug to reclose the strobe-light circuit, allowing it to resume flashing while the arresting gear is being reset. When complete, the field crew will verbally report "in-battery" to the tower via FM radio. Until these "dummy" plugs become available, Oceana field-support crews also will maintain two-man integrity on all arresting-gear-reset procedures. One individual will perform the required maintenance on the arresting-gear engine, while another, a dedicated safety observer, visually will clear the "groove" for approaching aircraft and monitor the FM radio for advisory calls from Oceana Tower.—LCdr. Jason Velivlis is the aircraft safety officer in VFA-83.