

# There Are Reasons for Rules

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By AME3 (AW) Jules Moffett-Carvalho, VAQ-142

I believe that every person who reads *Mech* thinks that they will never grace its pages. I know I never thought I would see my name in an article that would appear in *Mech*, let alone be writing one.

I was the leading petty officer (LPO) in VAQ-142's line division night check. We are a Navy Expeditionary EA-6B Prowler squadron forward-deployed to Marine Corps Air Station Iwakuni, Japan. We were two and a half months into a six-month deployment and although I was the line LPO for nights and working toward plane captain (PC), I was not a qualified PC at the time. I had just finished a maintenance brief in the line shack where I informed the PCs and the trainees that we had two aircraft recoveries, four daily and turnaround inspections (DTAs), two plane moves, one high-power turn on aircraft 521, and fuel samples on four other aircraft.

My problems began when Maintenance Control called over the radio and told me that we needed to take 521 to the hush house for an engine turn. I assembled a qualified move crew, including a brake rider, two wing walkers, a tail walker, and a qualified PC as the director. I drove the tow tractor. It was cold that evening, and we towed the aircraft from the parking line to just outside the hush house. Only one person in our group, the tail walker, had ever been in a hush house before. He hadn't been in this one. I was uncomfortable with my tractor backing skills and opted to have the PC, who was also qualified to drive the tow tractor, switch places with me so he could back the jet in. I took over as director, a position I was not qualified to occupy since I was not a PC. At that point, I felt rushed, and my main concern was getting the aircraft into the hush house. I didn't consider finding another

PC, because I felt I could handle it. Besides that would have taken more time. Since I was the LPO, no one challenged my decision.

I noticed two slots with raised sides that the main mount tires were supposed to fit in. I told the driver that he would have to line the main mounts up perfectly on the lines that lead into the slots or else risk damaging a wheel or brake. Once we began pushing the aircraft into the hush house, however, I noticed that the driver was having problems getting the jet lined up. I was very concerned about the tires getting into the slots and didn't pay much attention to how close the wings (and especially the tail) were to the hush house walls.

Finally, we got the jet lined up after many attempts. As we continued to push it back, I kept worrying about the main mounts, hoping we would not clip a brake line or damage a wheel assembly on the raised edge of the tire slots. Unfortunately, I wasn't the only one focusing too much attention on the main mounts. The tail walker was also concerned that we might damage the landing gear and he was trying to divide his time between watching the tail and watching the wheels. As a matter of fact, he had moved completely out of position in order to keep an eye on the tire slots and was forward of the horizontal stabilizer. This was well away from where he should have been as the tail walker, and in a position where he couldn't see how close the tail was to the back wall of the hush house.

I also didn't notice that the wing walkers did not have whistles in their mouths, and some didn't even have whistles at all. No aircraft should be moved without the proper personal protective equipment (PPE) and every person in the move crew is required to have

a whistle in his or her mouth in order to stop the evolution if necessary. Perhaps if I had been a qualified director, I would have noticed this.

At this point, I should have stopped everything and made sure the wing walkers had the required PPE and the tail walker was in the right position doing his job. Also, I should have replaced myself with someone who was actually qualified to act as director. Instead, we continued to move the aircraft and the next thing I knew—Crunch!

I heard the impact and immediately blew my whistle, bringing everything to a stop. Everyone involved with the move knew exactly what had happened. We had been so worried about the main mounts that we were not paying any attention to the tail and an

antenna on the aft most part of the rudder that had hit the back wall of the hush house.

After the crunch, I called our maintenance control and told them what had happened. As everybody stood around staring at the damage to the fiberglass cylinder that covers the ALQ-126 antenna on the tail of the EA-6B, I got a call over the radio informing me that everybody involved was to report back to the squadron. We returned to the squadron spaces and were told that the tail walker, brake rider, tractor driver, and I would be going to Medical for fit-for-duty testing. Believe me, you do not want to be the guy who breaks the rules and ends up breaking an aircraft.

All of this could have been prevented if I used Operational Risk Management (ORM) techniques and weighed the benefits against the risks involved. Everybody is keenly familiar that we are always talking about ORM, but we seldom stop to consider implementing this into routine evolutions. ORM is a clearly defined, five-step process. The first thing that must be taken into account is identifying the hazards of an intended evolution. The aircraft could have hit the wall of the hush house, wheels could have been damaged by the guide tracks, or the aircraft could have rolled over someone.

Once you have your hazards identified, you must assess them. Do this by determining the degree of risk associated with each hazard. Make your risk decisions based upon the risk potential versus the benefits attained and then put controls in place to reduce the amount of risk at hand. Assigning an additional person to observe the wheels could have alleviated the risk of hitting the sides of the guide tracks. Folding the aircraft's wings could have alleviated the risks of hitting the sides of the hush house. Always take charge, supervise,



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and follow through on your actions to ensure that your evolution progresses as expected.

The evolution had not been progressing as expected, but I put myself in a worse position by assigning myself a duty for which I wasn't qualified. Had I slowed down and done things correctly, this mishap may not have happened. As it was, this incident forced both my command and me to reevaluate the way we perform aircraft move evolutions. We have since used this incident to show junior Sailors why we have rules and procedures, and how the ORM process can be put into everyday use.

I know that I should not have attempted to act as move director since I was not qualified, nor should I have even attempted the move without a thorough pre-move brief, putting ORM principles to work and analyzing the situation. Had we used ORM, we might have decided that doing an unfamiliar evolution with a qualified but inexperienced crew at night in the cold for a low-priority maintenance task was not worth the risk. We might have accepted the risk but mitigated the hazards by implementing controls such as folding the wings, familiarizing ourselves with the layout of

the hush house before putting the aircraft inside, and making sure only qualified personnel were used in each position. We might have started the job with hazard controls in place, then reevaluated the situation and determined that more precautions were needed.

I hope everybody who reads this article learns something from my experience. Although I got to dance on the carpet for the CO, I learned more from this incident than any other in my naval career. On a positive note, we now conduct thorough pre-move briefs and work hard to incorporate ORM practices into everything we do. We have a hush-house checklist and make sure the wings are folded before we move aircraft into the building. We remove the ALQ-126 antenna housing since even a properly positioned jet is less than a foot from the rear wall. We use this incident as a training lesson to prevent future mishaps and we even ORM'd the hush house itself, figuring out that the aft limit lines for the main mounts were missing and needed to be repainted.

In the end, however, everything that I have written about all adds up to one thing: always look before you leap. A careful ORM analysis allows you to do just that. 

## 2,000 Man-Hours Later

*By AD1 Thomas Miles, VFA-37*

**N**ot following tool-control procedures will keep a squadron's maintenance effort from flowing smoothly. My squadron experienced two incidents of missing tools within weeks of each other.

A workcenter lost a 6-inch extension while doing maintenance in the hangar bay on aircraft 306. Before notifying maintenance control and quality assurance, the technician and CDI did an immediate search. After their unsuccessful attempt to locate the tool, a missing-tool report was generated and a more extensive search of maintenance areas was conducted, including the workcenter and outlying areas of the squadron. All maintenance that had previously been performed was reopened and inspected by the quality-assurance investigator. The search was extended to all aircraft on the line for a period of three shifts, but all attempts to locate the missing tool were unsuccessful.

Convinced that the tool wasn't in any of our aircraft, they were released safe for flight, and the squadron began training ops in preparation for an upcoming

Airwing Fallon detachment. After completing preparations, we packed up and departed for NAS Fallon. After four days of flying, a runway maintainer entered maintenance control after inspecting the runway for debris and turned in a six-inch extension to the maintenance chief. Investigation revealed this tool was the one that had been lost two weeks earlier. The tool was bent and severely nicked, and groove marks ran along its entire length.

Maintenance control initiated conditional inspections for all squadron aircraft. The inspection team discovered damage to the brake-hub assembly and inner rim on aircraft 303's starboard mainmount. The extension had migrated from the wheelwell and made its way into a small crevice between the rim and brake-hub assembly. This tool remained in place for 17 flights until it dislodged itself during takeoff.

The second incident began with a nightshift supervisor's daily routine of inventorying tools in preparation for the maintenance meeting. Tools were inspected