

# Don't Get Grounded

By ATC(AW) Scott Chezick

If you're an AE or AT, do you remember being told in "A" school that you should work with one hand behind your back while working on energized circuits? An important factor drove this valuable nugget of information. Electricity—like water—always will flow toward the path of least resistance, which in electricity's case usually is the earth or aircraft ground. Working with one hand minimizes the chance of becoming that path to ground.

As a young Sailor, I was convinced the laws of physics did not apply to me, giving me no reason to heed this invaluable advice. A simple mistake caused me to change my mind.

I had been an avionics technician in an EA-6A squadron. It was a slow day in the shop, and we had only a couple of workable gripes. One of those discrepancies required us to replace an electrical connector that had been cut off from a wire bundle because of a problem with short circuits. With our minimal workload, any discrepancy instantly was assigned three technicians.

Some might think this approach was a deliberate attempt to train, but I think it was to make sure a solo worker didn't get lonely and to allow quality work to be done while not being distracted by solitude.

With maintenance tools in hand and a smile on my face, we set out to tackle this one-man gripe.

We noted on the way to the aircraft that the power cord was lying on the deck next to the aircraft. As long as no one hooked up the cord and applied power, we were set to go. I opened the port clamshell—a panel on the nose of the aircraft that dropped down. It was



supported by cables and doubled as a maintenance platform when opened. I mentally was not prepared for the task at hand, so I talked with my shipmates while we milled around the port side of the aircraft.

After several minutes, I returned to the job and climbed onto the port clamshell. Once there, my first step was to cut off the caps from three 115-volt AC wires, which were tied directly to three five-amp circuit breakers. Keep in mind that .1 amps will kill you. Not thinking about that fact, I decided to cut them all at once. I reached in with the diagonal cutters in my right hand and gave a squeeze. Much to my chagrin, a brilliant blue arc met me, and the air was permeated with the smell of ozone and arc-welded diagonal cutters.

How did this happen? While we were skylarking on the port side of the aircraft, one of our pilots had connected the power cord and had turned on the power. We were busy talking and hadn't noticed this dangerous situation.

I was surprised that nothing happened and knew it wasn't because the cutters were insulated. Quality Assurance had decided the insulation on the handles was a FOD hazard and made the shops remove the insulation. I survived because I had not provided a path to the aircraft ground. The only part of my body in contact with the aircraft structure was my feet, which were clad in top quality rubber-soled, flight-deck boots.

Things could have been very different because the common method of working in the clamshell is to support your body by holding onto the panel's support cable. This would have provided a perfect path to ground across my heart, and my muscles would have constricted, making it impossible for me to let go and cooking internal organs.

A number of things wrong that day: Circuit breakers weren't pulled, the aircraft wasn't tagged out, the pilot hadn't asked to apply power, and we had not given the job our full attention.

Chief Chezick is assigned to the Islanders of VR-61.