

Man, That's Bright! (or,

by Cdr. Eric Devita

I had briefed as part of a section of aircraft on an air-intercept upgrade sortie. It was a dark night, but I was flying with a good nugget, and this would be a simple event for him. It was 2 v 2 for some air-to-air training, and I figured the darker, the better, for night-vision goggles... or so I thought.

As I preflighted my mighty Lot 10 FA-18, I felt my usual confidence in our maintenance department. After all, we've won the Ltjg. Bruce Carrier Award for the best maintenance department on the West Coast two years running. I pressed on to the catapult without a hitch. Launch was normal, and I was climbing and turning toward our CAP point within minutes. I had just put on my NVGs, which requires turning down all the cockpit lights in our lot aircraft. As I changed radio frequencies, all the cockpit lights came on. Yes, I mean all: Floodlights, emergency ladder lights, and lock-and-shoot lights were blazing, and the gear tone was beeping. Most worrisome were the fire lights, which always look scary, but especially so while wearing NVGs.

At first, I just stopped breathing and figured it couldn't be as bad as it initially seemed. The HUD was working, the engines looked fine, and the hydraulics were stable. I took off my goggles, told the ship I would be returning overhead and would like to talk to a squadron rep. I assumed the problem was a stuck lights-test switch. I tried moving it, but that wasn't the problem. I also discovered that I had no up-front control (UFC) when the ship asked me to change frequencies. This led me to believe there was an electrical short somewhere.

I removed my mask to see if I could smell anything burning. No dice. What to do now? I figured that something I had energized was causing the problem. I started turning off my cockpit

instruments, one at a time. First the radar, followed by the radar altimeter. No luck. Next was the right DDI. "Aha," I thought, "that's the ticket!" All the lights went out. Just to verify I had it right, I tried turning on the DDI for just a second. There they were again, still scary. I secured the DDI immediately. "The electricians aren't going to believe this one," I thought. "What is the connection between the DDI and lights-test switch?"

I finally got the UFC back up and spoke to my squadron rep. He agreed we should bring back the jet on the current recovery. I passed the problem of landing with no TACAN, no ACLS or ILS, and no radar altimeter on the HUD. The result was an uneventful recovery on a very dark night. I would have to personally talk to the AE troubleshooters about this one.

Cdr. Devita is XO of VFA-115.

Part 2

by AE1 (AW) Jose Mendoza

When I talked with to the pilot, I couldn't believe his gripe. It didn't make any sense that all the cockpit lights could energize just by turning on the right DDI.

We asked a few more questions just to make sure we understood the problem. Then we looked at the lighting schematics to identify any parts that might cause this problem. We picked out a couple of control boxes in the cockpit and a relay panel in the avionics bay. We decided to make a visual inspection, starting with the cockpit. No funny smells, burn marks, or loose boxes in there. The avionics bays were next. Upon opening the door to the avionics compartment, we immediately smelled

What the Pilot Saw)



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burnt wiring. A closer look revealed that one of the wire harnesses that connects to the relay panel was nearly charred through.

The pilot's airborne problem could have been much worse. When we inspected the circuit-breaker panels, we discovered 16 tripped circuit breakers. We inspected the charred harness to determine what had caused it to burn. On the inboard side of the harness, there were signs that the harness had been rubbing against one of the relays mounted on the relay panel. Once the harness rubbed through to the bare conductors, zap! You've got arcing and sparking.

We decided to get the jet down to the hangar bay for a thorough inspection and to begin repair. QA and Maintenance Control wanted to know if this was happening to any other jets. One of our

more experienced electricians in QA remembered a technical directive (TD) that had been incorporated almost 10 years ago on this particular cable for the same reason. We looked at our other 11 aircraft, and were shocked to find that through years of maintenance, the TD slowly had been unincorporated. It took us about five days to repair the damaged cable. Maintenance control reissued the TD to prevent this from happening again.

Who keeps track of these things? Is there another TD that was incorporated 10 years ago and is now gone due to maintenance or some other factor? We've sent Technical Publication Discrepancy Reports (TPDR) to ensure this one doesn't come up again. 

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