

Photograph by John W. Williams  
Modified

Your eyes are not crooked; the EA-6B's canopy is bent out of shape. An open canopy and jet exhaust don't mix.



# A 32-Million-Dollar Canopy Adjuster

By AE1 John Roberts, USNR

**An** open EA-6B canopy cannot withstand the jet blast of a C-20G (Gulfstream IV), Rolls Royce Tay 611 engine! We proved it by showing what can happen when you break a few links in the safety chain.

I work in the VR community. We have unique fleet-logistics airlift capability and fly diverse missions, integrating full-time TAR and SelRes Sailors into high-tempo ops. My squadron has a maintenance department with 16 full-time wrench-turners, four controllers, and five QARs. We have two Gulfstream IV aircraft and support a 3,000-hour-per-year flight-hour program. Our schedule consistently is inconsistent.

It is not uncommon to recover an aircraft at 2200, to complete intense scheduled and unscheduled main-

tenance overnight, and to launch a mission before cold-soaked components have warmed. We do not have the luxury of a hangar queen, and when our birds are down, the effect is felt well beyond our hangar. Operations packages ("phase inspections" in Gulfstream lingo) are planned weeks in advance and are coordinated to return our aircraft to flight status in minimal time. A similar incident caused the value of ORM to hit me like a bolt of lightning.

One of our birds had been on deck for four days, undergoing an operations package and civilian field-team maintenance. To finish the work, a quick engine turn was required. The night before the planned engine turn, I was scheduled to work a limited night check and to return the next morning for the turn. Before I secured for the night, I checked with maintenance control to confirm the plan. Things had changed. One of our pilots would come in, and he would turn the



aircraft. Based on this information, I worked a full shift that evening, getting to bed about 0100.

At 0800, I got a call from my squadron. The maintenance chief told me a high-power turn was not required, and, therefore, the pilot did not have to taxi the aircraft to the high-power area. They asked me to come in to do a low-power turn. Unscheduled work just happens sometimes, so I gathered my gear and reported to work.

I arrived at maintenance control and went through the aircraft-discrepancy book. I briefed the civilian maintenance team; grabbed an engine-turn trainee, plane captain, and fire-bottle watch; and headed to the aircraft.

Finishing my walkaround, I held a quick brief with all the players outside the plane and then boarded it with my trainee in tow. My fire-bottle watch also came on board and asked if I could run an engine-sync check for his shop. The check required both engines to be advanced to 90-percent rpm. Our low-power-turn limitation is based on engine-pressure ratio (EPR) and not rpm; however, I didn't think 90 percent would exceed the 1.2 EPR maximum. Trying to do the job in the allotted time, I agreed to complete as much of the check as possible without exceeding limits.

I then asked my plane captain to clear the EA-6B line behind the C-20G. As he set out, my trainee shouted, "Make sure the EA-6B canopies are down." When the PC was back in my line of view, we proceeded with the start sequence and were up and running within a few minutes. The civilian technician was satisfied, so we continued our checks. I signaled the PC that I was going to advance the throttles, and he answered my signal. With my trainee reading the required steps, I advanced the right throttle to 1.2 EPR and looked away from my gauges to see if the left throttle was trailing. I looked back up just in time to see a shipmate frantically signaling me to cut power. He then signaled me that an EA-6B canopy had "departed the pattern." Blood rushed to my head, and my heart was thumping in my throat as I thought about what I had done.

I found out the canopy had not separated from the aircraft, and no one had been hurt or killed. However, my actions and the lack of action by other maintainers caused six Sailors to take a fit-for-duty exam. The incident caused \$15,000 damage to the EA-6B, extra work for another squadron, and several days of gut-wrenching anxiety for me.

We didn't do a good ORM job before the maintenance turn and ended up with four contributing factors to our incident: We did an incomplete pre-evolution brief, failed to communicate adequately, didn't show good leadership, and lost situational awareness.

On the day of the turn, I walked to my aircraft without a proper brief. When the plan changed "on the fly," I did not make the right adjustments. A good brief in maintenance control would have allowed me to fully consider our goals for the engine turn, to assess the involved risks, and to make decisions to minimize those risks. I should have made it clear that I was the man responsible for the turn and should have unambiguously explained my expectations. A good brief allows feedback and will help to raise suggestions to avoid hazards and to reduce risk. In this case, no one suggested moving the aircraft or contacting the EA-6B squadron—either action might have saved the day. That didn't happen, and I have to live with the result.



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