

# To Err Is Human

By AT2(AW) John Grau

**H**as the memory of a mistake ever haunted you? Did you ever make an error that almost caused a serious injury to a ship-mate? I have, and the thought often turns my dreams into nightmares.

Everyone who works on or around jet aircraft should be reminded that vigilance, risk management, and communication are crucial elements to safely execute even the most routine tasks.

At the time of my incident, I was an avionics troubleshooter assigned to VAQ-136 in Atsugi, Japan. The launch crew was setting up one of our Prowlers for a night sortie. This launch didn't involve anything unusual.

The plane captain, aircrew and other troubleshooters had finished their preflight inspections of the aircraft, and the power-plants shop was setting up for a leak check on the port engine. Everything looked good for a safe and routine flight. As a troubleshooter, I was in position to final check the port side. This function is important because our aviators rely on us to make sure the aircraft works correctly.

Troubleshooters must be very attentive, watching everything going on around the aircraft. We check for leaks and abnormalities during flight-control checks, make sure people stay out of danger areas, and act as the last line of defense before an aircraft takes off. This responsibility is awesome and occasionally difficult, especially at night. Throw a trainee into the mix, and the responsibility increases even more. We now have someone else's life in our hands. On this night, I would throw my trainee a curve that he couldn't handle.

He had shadowed me on numerous day and night launches and was very attentive and motivated, so I believed this launch was a good time for him to take the reins. I felt confident in his abilities and would be right behind him to cover his back. Like any other launch, we started the starboard engine first, and it lit off without a hitch. We got ready to remove external electrical power and to pull the landing-gear pins.



## Mishap Reduction Opportunity

**Panel- and Door-Related Injuries/Deaths and TFOAs**

**1 January 1980 to 24 September 2004**

Twenty-seven injuries and one death were attributable to panels, doors or moveable flight surfaces (maintainers fell when these items collapsed, walked into them when open, drove into them, or nearly were crushed by them). We also had 464 events where these items fell off aircraft, either because of corrosion, poor maintenance, aircrew error, or inattention to detail. That damage cost \$15,625,481 or \$653,785 each year.

### Breakdown by aircraft

| Acraft | No. Events | Dollar Cost |
|--------|------------|-------------|
| FA-18  | 65         | 2,656,512   |
| CH-46  | 30         | 247,058     |
| F-14   | 30         | 1,801,458   |
| P-3    | 29         | 0           |
| A-6    | 24         | 614,685     |
| H-2    | 23         | 261,330     |
| EA-6   | 20         | 638,599     |
| AV-8B  | 19         | 306,585     |
| HH-60  | 18         | 2,722,139   |
| CH-53  | 17         | 24,700      |
| H-3    | 17         | 20,995      |
| SH-60  | 17         | 104,659     |
| S-3    | 16         | 231,444     |
| TA-4   | 16         | 429,912     |
| C-2    | 12         | 221,538     |
| E-2    | 11         | 665,443     |
| F-4    | 10         | 94,585      |
| UH-1   | 10         | 0           |
| A-7    | 9          | 13,065      |
| KC-130 | 7          | 139,907     |
| A-4    | 6          | 2,122,000   |
| T-2    | 6          | 472,778     |
| C-12   | 6          | 0           |
| RH-53  | 4          | 96,742      |
| UH-46  | 4          | 53,488      |
| AH-1   | 3          | 0           |
| E-6A   | 3          | 0           |
| MH-53  | 3          | 0           |
| EP-3   | 2          | 0           |
| OA-4   | 2          | 25,699      |
| OV-10  | 2          | 10,840      |
| RF-4   | 2          | 1,560,000   |
| TAV-8  | 2          | 0           |
| TH-1   | 2          | 0           |
| TH-57  | 2          | 0           |
| UH-3   | 2          | 89,320      |
| Others | 13         | 0           |



Working in the engine bay is safe, unless...



someone makes a mistake and closes the gear door, forcing the engine doors and your body against a turning engine.

During this task, you normally close the forward, main landing-gear doors, which are open for preflight inspections and servicing. Because of a unique maintenance requirement, we didn't follow the normal sequence.

Power plants had to do a leak check on the port engine, and they needed the engine-bay door to be open to prevent anyone from closing the forward, main landing-gear door. I had not briefed my trainee on this point before the starts, and that error was my first mistake. I had assumed my trainee knew this process.

It didn't take long for a second mistake. Trying simultaneously to keep my eyes on the PC and my trainee, I had missed the signal to pull pins. As I tried to flag down the PC to verify the signal, my trainee went to pull the pins and then to close the door. By the time I realized what my trainee was doing, the door had been shut. This step normally would have been right, and I would have been proud of him. However, this time, we were the victims of circumstance. When he actuated the switch, hydraulic power closed the door and forced the forward, main landing-gear door to drive the engine-bay door shut. That door rapidly closed, pinning a mech to the turning engine. After seeing what had happened, I ran toward the landing-gear-door actuator; however, my trainee quickly had realized his mistake and reopened the door before the technician was crushed. His quick reaction prevented a catastrophe.

The landing-gear door left an eight-inch gash in the engine-bay door, and the startled mech got a pit stop at medical before returning to work with some bruises and a few sore spots. We lost that launch and a little face, but I'm grateful it wasn't a life or an aircraft.

We could have prevented this problem with better communication, situational awareness, and ORM. I should have told my trainee about the leak check and dangers of closing the forward, main landing-gear door with the engine-bay door open. Had my situational awareness been better, I would have noticed the hand signal and could have prevented my trainee from closing the door. Had I implemented ORM, I would have considered how a leak check alters the course of actions for the launch crew and briefed everyone ahead of time. I could have saved a shipmate from a trip to medical, prevented unnecessary repairs, and left my pride undamaged. Learn the lessons I did, so you don't experience the nightmares I have faced. 

Petty Officer Grau is a troubleshooter assigned to VAQ-136.