



The Wild Ride of 106

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By Dan Sanders

It was a routine logistical flight, or at least it was supposed to be routine. Our six crew members included an active-duty Marine test pilot, four contractor aircrew from Air Test and Evaluation Squadron Two Zero (VX-20), and a government service flight-test engineer. Our passengers included four contract-maintenance personnel and an active-duty Navy maintainer. We also carried baggage and a few small maintenance pack-up items.

Our mission was to reposition NY106, a Fourth Marine Air Wing KC-130T, to the expeditionary airfield (EAF) at Twenty-Nine Palms, Calif., and complete testing on an electronic-propeller-control system. We had flown the aircraft through every imaginable test configuration at NAS Patuxent River, Md., and all that remained was to evaluate system performance in the EAF and low-level environment. We would fly routine missions for several days in the desert before returning the aircraft to its parent unit.

About an hour and a half into the flight, we settled into our routine at 24,000 feet, IMC, and on autopilot. I was in the right seat and just had gotten into a comfortable position, when the aircraft suddenly pitched nose up and rolled to the left. The aircraft commander (AC) and I simultaneously lurched forward and pressed our respective autopilot-disconnect switches; we assumed the autopilot had caused an uncommanded pitch-up.



From the left: flight-test engineer Ray Bacorn; loadmaster Sandy Hartkemeyer; flight engineer Wray Emrich, copilot Dan Sanders; and the plane's pilot and aircraft commander, Maj. Nathan Neblett, USMC.

To our dismay, the aircraft continued its pitch-up flight and entered an even more abrupt roll to the left. Both of us were on the controls, trying to return the aircraft to level flight, but it continued to roll ever faster to the left. As the wings rolled through, the nose sliced

through the horizon, and we were going inverted.

The AC announced, "My controls," and I released the yoke to him.

Having flown this aircraft model for almost 18 years, I must admit that request was not an easy one to comply with. We all watched helplessly as the Hercules rolled completely over on her back and pitched almost straight down. She began what appeared to be a rapid spin to the left. I watched the attitude indicator go full brown and spin like a top. Our little world suddenly got very violent, and our flight engineer was thrown to the ceiling and pinned there. He just had unfastened his lap belt and had leaned forward to adjust the fuel panel when our excursion began; timing is everything.

As we rolled over, I thought, "This isn't supposed to be happening." Somewhere in the second roll through the inverted my thought was, "Well, this is it."

Everything not attached to the aircraft, and a few things that were, whirled around the cockpit and cargo compartment, including our passengers. Everything in the cockpit seemed headed exclusively in my direction. A snow storm of helmet bags, approach plates, pens, papers, fruit, coffee, dirt, dislodged knobs, were joined by a rather curious visitation from a Subway sandwich that floated across my field of view like a banner towed by a miniature biplane. Pandemonium reigned in the rear of the aircraft. Unaware of what was happening, our passengers were thrown around the cargo compartment from deck to overhead, along with a mix of baggage, hydraulic-fluid cans, and numerous items that had broken loose.

As we continued to tumble, I saw that the pilot's attitude indicator did not match mine—it was flipping and ratcheting strangely. The airspeed indicators were pegged at more than 350 knots, and the AC was struggling to pull up the nose. After seeing the airspeed, I looked at the throttles and saw they still were set at cruise power. I pulled the throttles back to flight idle, and the aircraft's speed began to decrease. Checking my attitude gyro, I noted the ball was pegged to the right and the turn needle to the left.

I shouted, "We're spinning," which put the AC's eyes on the turn needle and ball.

As the third roll started, the aircraft gyrations began to slow. The pilot had stopped the roll rate and began to roll wings level, but the aircraft still was pointed almost straight down. The pilot's gyro continued to flip from the upright to the inverted, and he was depending on his turn needle and ball to determine up from down with any certainty. As the AC tried to pull up the aircraft's nose to the horizon, we became aware of the incredible sound over which we were yelling. The No. 3 propeller had oversped to 106 percent, and the aircraft had developed phenomenal speed in the dive.

Somewhere around 15,000 feet, we leveled off. Our navigator announced over the ICS that the pilot's attitude reference was in inertial-navigation system (INS) mode and couldn't keep up with the violent tumbling. My INS was in gyro mode and worked normally.

We were frantic, as everyone realized what had happened. We called Indianapolis Center and declared an emergency, asking for vectors to the nearest runway and a descent into VMC. Still uncertain why the aircraft had departed controlled flight, we began to assess our material condition. Our loadmaster and five passengers had been thrown around the cargo compartment like tennis shoes in a dryer. We dispatched our flight-test engineer aft to get a handle on what had happened. He recovered our loadmaster from under a stack of five people and plugged her back into the ICS. Reports from the rear indicated several injuries, including lacerations, a head wound, and broken bones. Once we descended into VMC and got our first ground reference since the event had begun, we got a visual on the airport. Someone then came over the ICS and said we were on fire. We scanned our instruments, wings and everything we could see, searching for a fire. Unable to locate one and with little time to continue searching, we told Indy Center we might be on fire and needed an immediate landing.

It looked like a bomb had gone off inside the aircraft. Debris and passengers were strewn all over the cargo compartment. The flight deck was piled with everything imaginable, including a set of wheel chocks that had migrated forward from the cargo compartment. Turning on final approach, we had no approach plates, no checklists, and no performance data cards. They

were all scattered about the cockpit—mostly piled up next to me, where everything had been thrown during our wild gyrations. Our navigator began scrambling through all the debris on the deck to find what we needed. Once we got a plate for Tri-State Huntington Airport in West Virginia and a checklist, we got everyone into the normal routine for a recovery and made a full-stop landing. Fearing a fire, we taxied clear of the runway and evacuated the plane as soon as the parking brakes were set.

After gathering our injured personnel clear of the plane, we looked back to find what had caused our life-threatening odyssey. A 20-man life raft had deployed in-flight from the left wing-storage compartment and was lodged in a 6-inch gash in the leading edge of the port horizontal stabilizer. Fortunately, we had not been on fire.

A visual inspection of the aircraft by the aircrew determined both left wing life rafts had deployed in flight, one of which had wrapped around the port horizontal stabilizer, pushing the elevator full up.

We had rolled over at least twice, lost 9,000 feet of altitude at a maximum rate of descent of 29,000 fpm, probably exceeded four positive and three negative G's (aircraft limits are +3 and -1), and reached a maximum speed of almost 460 knots.

The data pallet, installed in the cargo compartment to record our flight-test data, had recorded invaluable performance data from which we could reconstruct our flight profile. A month later, after extensive inspections and minor repairs, we returned to Huntington and flew our aircraft home.

As I later reflected on this harrowing experience, I was reminded of the good fortune to have been with this remarkable aircrew, a collection of professionals engaged in the important work of testing Navy-aircraft systems. We not only survived what could have been a catastrophic system malfunction, but we still maintained our resilient sense of humor, as attested to by my spotting a four-leaf clover in the grass, which I still keep in my flight suit. Later, another crew member found 35 cents in change on the floor in the airport terminal. We all had a good laugh when one of our group said, "This must be our lucky day." 

Dan Sanders is a retired Marine Corps major, employed by DynCorp as a contract pilot with VX-20.