



# The Case of the Missing Nose Lock

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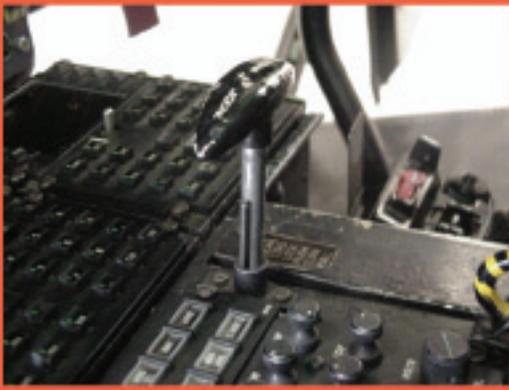
While looking through the mail he had just brought from admin, our aviation-materials supervisor noticed a white, granular substance on one of the envelopes. Normally, a little powder on a letter wouldn't have meant anything, but times are far from normal. He thought, "Anthrax, here? No way!"

Despite his strong doubts, he did the right thing and contacted the operations center. Word was piped to pull all aircraft out of the hangar and to evacuate it and the admin building. The hazmat team secured the hangar, officially quarantining it.

This situation posed an interesting challenge for the engineering department. The aircraft-maintenance records, or "the books," for the five Dolphin helicopters were left behind in maintenance control. With this in mind, the command cancelled all flights, except

for SAR, pending the outcome of the lab's analysis. The hazmat team estimated it would take at least two days. While we waited, engineering did its best to reconstruct the aircraft books, using electronic records they could access from computers in operations. Luckily, the paper records of each aircraft's maintenance history had been downloaded periodically into a large database, which maintenance could access from any computer in the unit. Unfortunately, since it had been six days since the last download, a gap existed in what we knew about recent maintenance. It turned out the computer records, coupled with some amazing recall on the part of our mechanics and chiefs, painted a fairly accurate picture of aircraft status. We missed only one thing.

Of the flights cancelled the next day, one was to have been a shipboard-landing qualification flight for two pilots. It had been scheduled with a Coast Guard cutter operating offshore and was to include static crash drills for the ship's crew. After the air station sent word



the event was cancelled, the cutter returned with a request; they needed to get one of their people off the ship. They asked for a humanitarian evacuation by helicopter. After a thorough risk analysis, the air station's CO authorized the mission to include a daytime landing and an engine shutdown on the cutter.

The flight crew reviewed the reconstructed maintenance records and queried the pilots and mechs who recently had flown that helo. From all reports, the aircraft was good, and no significant maintenance issues were pending.

Comfortable with the administrative review, the crew did a preflight before leaving for the cutter. The aircraft appeared to be ready, and the crew departed without incident.

A few miles from a rendezvous with the ship, the crew did landing checks and tried to lock the aircraft's nosewheel to prevent rolling on the deck. This time, however, the black T-handle on the nosewheel lock would not stay locked. Instead, the handle kept sliding back, apparently unlocking the nosewheel.

The crew tried to troubleshoot the problem and confirmed the landing gear was down, but they could not find a specific malfunction with the nose-lock mechanism. None of the four crew members ever had seen a nose lock fail, and no procedures existed to address an in-flight failure. Taking into consideration the sunny skies, flat seas, and motionless deck, the

crew landed on the cutter and shut down the engine.

While on deck, the crew investigated the nose gear and found the nose-lock mechanism was missing. This discovery came as a big surprise. They immediately concluded the device must have fallen from the aircraft. The crew inspected the entire airframe but found no sign the nose lock had hit any part of the aircraft. None of the aircrew could remember hearing or feeling anything during flight that hinted at a departing component. After reporting their status to the air station, the crew was released to fly the passenger back to base.

Once home, a pilot wrote in the makeshift maintenance book, "Nosewheel locking mechanism departed the aircraft during flight." The next morning, a chief was reviewing the maintenance gripes and remembered the nose lock on that aircraft had been removed six days before the anthrax scare, pending parts for a fix. He walked into the shop and immediately located the "missing" equipment. The mystery was solved. The aircraft simply had taken off without a locking mechanism.

Maintainers had looked at the helo, and each crew member had inspected the nosewheel before the flight, but nobody had noticed the missing nose lock. Normally, a preflight check of the nose gear requires the crew to look for a protruding red tab that warns of an engaged nose-wheel lock. In this particular instance, there was no red tab. Therefore, crew members must have thought they saw what was supposed to be there. The idea that an entire mechanism could be missing did not cross anyone's mind; the nosewheel lock never is missing. In fact, many pilots didn't even realize—until this incident—the nose lock even could be removed from the aircraft.

We learned several lessons: The "anthrax" was nothing more than non-dairy creamer, so we've moved the coffee mess out of the mailroom. We now update the computer database regularly and pay attention to maintenance details, in case we need that information later. We also make sure vital components (those on the "required list") work when needed for specific missions—for example, the nose lock for shipboard landings.

  
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