

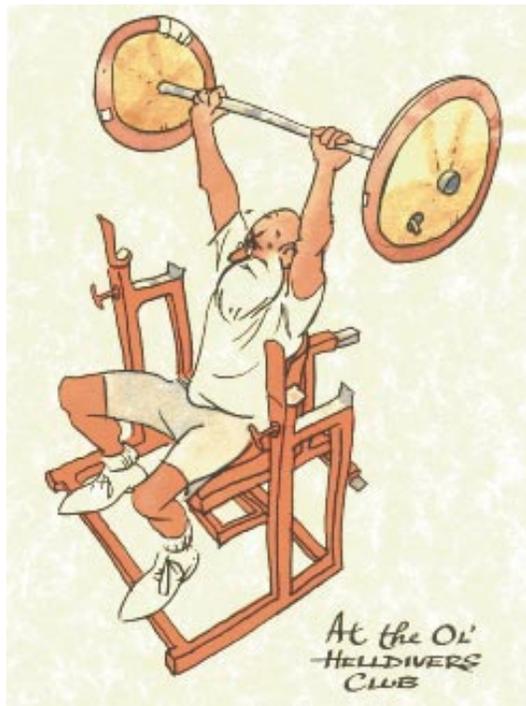
Illustrations by *Ted Wilbur*

Rotate and Roll

On a training check flight, with a student Naval Aviator at the controls in the left seat and the instructor in the right seat backing him up, a T-44A *King Air* began the takeoff roll. The student had set the power too high on the right engine so the instructor reduced power slightly to maximum takeoff torque. The instructor intentionally withheld the rotate call at 91 knots to evaluate the student's response. When the student did not hear the rotate call as anticipated, he was unsure what the instructor expected.

At about 105 knots the student announced, "Sir, I think I'm going to abort," and proceeded to pull the power levers back and up.

"No, rotate!" shouted the instructor, trying to push the levers forward. The power levers moved slightly and stopped—with 1,000



the power levers were not moving. With his attention focused outside the cockpit, the instructor then sensed a loss of air-speed and moved his hand from the base to the top of the levers and now realized the power levers were not full forward. He tried to establish takeoff power but couldn't move them.

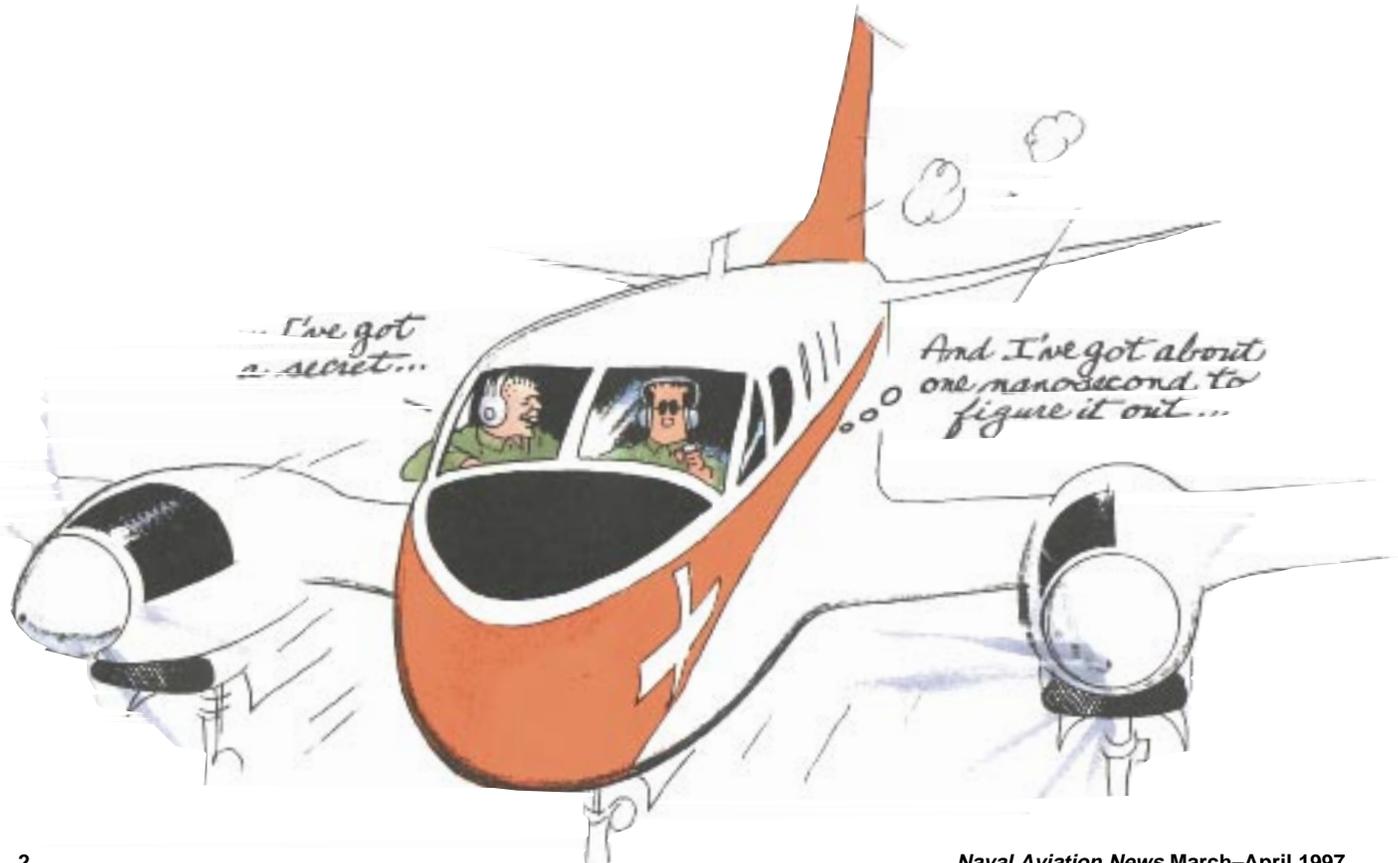
"They're stuck, they're stuck. Did you get them into reverse?" asked the instructor.

"I don't think so," said the student. "I think I only got to the detent." The instructor twice tried to free the power levers by lifting and pushing them forward while the student was pushing them forward from the base of the levers.

Barely airborne now, the aircraft lost altitude and commenced an uncommanded left roll. The left wing hit the ground and the T-44A rolled right. The landing gear were

feet of runway remaining.

The instructor took over, saying, "I have the controls," believing the *King Air* was at takeoff power since



sheared off on impact with the ground. The plane then yawed left and came to rest 500 feet beyond the departure end. The flyers were unhurt, but the *King Air* sustained extensive damage.



Grampaw Pettibone says:

Oh my achin' back! A perfectly good flyin' machine busted up for lack of knowledge. When the student pulled the power levers back and up to abort the takeoff, the levers were, in effect, raised at the flight idle stop. Would you believe that the mishap board conducted a poll and learned that 95 percent of the instructor pilots were UNAWARE OF RESTRICTED FORWARD POWER LEVER MOVEMENT WHEN THE LEVERS ARE RAISED AT THE IDLE STOP! You can't add power no matter how hard you push. Turns out Naval Air Training and Operating Procedures Standardization didn't address this restriction at the time. At flight idle, the pilot must allow gravity augmented by spring force tension to drop the power levers, thus permitting continued forward movement into the flight range.

The student shoulda been more decisive about the decision to abort. He felt he had missed a crucial step in the abort procedure and admitted later that he “did not want to get dinged by the instructor for rotating without a rotate call.”

If the instructor had scanned the cockpit rather than focusing on matters outside of it, he mighta noticed rather than felt the setting of the power levers and got them out of the stop.

Rotatin' the bird without sufficient power has but one consequence: uncontrolled, downward and nasty flight.
Twenty Seconds and Still Unprepared

A UH-1N *Iroquois* launched from an amphibious assault ship on a daytime mission with two pilots and three crew chiefs on board.



After three seconds of normal flight, the helicopter began to settle. The low rotor rpm horn sounded and the pilot and copilot noted loss of power. The crew assumed the *Iroquois* was experiencing a single-engine failure so the pilots tried lowering the collective, manipulating the rpm increase switch and taking other action to recover, including jettisoning a rocket pod. However, the aircraft continued to settle toward the water. The pilot initiated cyclic flare to dissipate forward airspeed.

The UH-1N struck the water tail first, rocked forward, then settled into the sea in a normal landing attitude. The blades impacted the water and broke as the aircraft rolled to the right. The duration of the flight from takeoff to water impact was about 20 seconds—travel distance, 1,500 feet.

The pilots egressed through the pilots' doors on either side. Two crew chiefs egressed through the right cargo door. The third, who was actually the first aircrew member to exit the UH-1N, went out through the left cargo door but failed to disconnect his gunner's belt.



The pilot swam to him and tried to assist the beleaguered crew chief, but the latter was dragged under by the sinking aircraft and was lost.

Grampaw Pettibone says:

Not much more the pilots coulda done to save this bird, considerin' the circumstances of power loss on takeoff. Loss of the crew chief is especially tragic because Naval Air Training and Operating Procedures Standardization warns that “walkaround belts do not provide impact protection . . . and shall not be worn when strapped into a seat.” Actually, the other crew chiefs also admitted that they had forgotten to release their belts and were held back by them upon egress, but they reacted in time to save themselves.

The lost crew chief had told his best friend in the squadron that he had difficulties passing the swimming quals toward becoming a crew chief, which may have contributed to his predicament.

Anyway, the survivors sang the praises of that dreaded but invaluable aircrew training device known as the “helo dunker.”