



The Training Mission

When you least expect it, expect it!

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"Today we'll be doing initial upgrade training on Lt. Smythe and an instructor upgrade sortie on Maj. Black. Lieutenant Smythe is scheduled for T-6, a transition mission at the auxiliary field, and Major Black for an instrument instructional ride. Lieutenant Smythe will fly first."

I figured today's training flight would be rather easy. Lieutenant Smythe was doing fine in the H-1 program, and Major Black was an experienced helo pilot, current and qualified in the H-1, zooming through the instructor pilot syllabus. A good student

combination for my last flight of the week.

Preflight, engine start, and taxi were accomplished without a hitch.

"Save 33, you're cleared for takeoff, aux field departure," radioed the tower.

Off we went. Little did I know this was going to be a most exciting flight.

"Sir, there's something wrong with the tailrotor pedals. The right pedal won't move," said Lieutenant Smythe.

It was a great, sunny, New Mexico Friday afternoon, so I certainly wasn't too keen on hearing those words.

"Are you sure you're not applying equal pressure to the pedals with both feet?" I asked.

"Yes sir," said my novice rotorhead. "The right one just won't move."

At that point I took control of the aircraft and confirmed that, indeed, the right pedal was stuck. *Fixed Pitch Failure!* (A tailrotor problem—the dread of all helicopter pilots.) We continued to climb straight ahead on our departure heading to assure sufficient altitude to accomplish an autorotation in case we should completely lose tailrotor drive. Once passing 300 ft, I called tower to relay our problem and declare an emergency. In the meantime, Major Black got out the Dash One to review procedures for fixed pitch failure.

The procedure seemed simple enough. All we needed to do was walk and chew gum at the same time. (All helicopter pilots can do that, right?) With a plan solidly in mind, we performed a controllability check to make sure coordinated throttle and collective movements affected the aircraft as advertised. After testing control movements and convincing ourselves we could do the procedure, we were ready for the approach. We notified tower of our intentions, and—what was that, tower?—no, we really need to use the runway and not helipad one. After straightening that out, we went for it. Our approach looked great all the way down until we got to the point of actually touching down. I had problems getting the nose straight for landing, plus getting the aircraft to descend that last one or two feet. Every time I rolled the throttle full on, the helo

wanted to level off or climb slightly. Kirtland has over 13,000 ft of runway and I used all of it trying to land. As you can guess, I wasn't successful on this try. We felt we did everything by the book, including a shallow, decreasing airspeed approach to approximately 25 knots. But what the book didn't tell us was that the aircraft may be more sensitive to collective and throttle inputs at faster slide-on landing speeds when positive directional control cannot be maintained.

So, here we were on the go from our first approach, wiser and ready to try again. Major Black requested that on our next try, when we got close to the ground and

final landing phase, approximately 10 to 15 knots, hoping this would help with the control sensitivity problem. As we got nearer the ground I slowly lowered collective while simultaneously rolling on full throttle. The aircraft straightened out and continued to settle to the runway just as we'd planned. Slowing to a stop was even better than a carnival ride. When we finally did stop we were facing 120 degrees left of our original landing heading. Our plan had worked.

It was finally over—I could stop shaking and relax. We'd put the helo down with no damage. I now had time to reflect on the previous 45 minutes. Major Black and I determined Dash One proce-

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were going real slow, he and Lieutenant Smythe be allowed to jump out instead of riding in this staggering helo. (Of course, I couldn't approve such a request! They'd damage the runway with their heads when they hit the ground.)

But, what's this? Lo and behold, my feet were tingling from the onset of a severe vibration through the tailrotor pedals. My students sensed my anguish when they heard me say, "Ooooh, #%;%!" At that point we knew we had real problems and had to get on the ground quick or face the ultimate dread—autorotating with complete tailrotor loss.

We set up for our second try with a sense of urgency. By this time quite a crowd had assembled along the taxiway to watch. Also, commercial airline traffic was backed up waiting for me to get this thing on the ground.

On this approach, we decided to fly a little slower during the

dures weren't entirely correct, at least from our perspective after having just flown the maneuver. Additionally, during our rehash, we realized how our crew interaction affected the final outcome. Both Major Black and Lieutenant Smythe offered suggestions that helped in my analysis of tailrotor problems and associated helicopter flight characteristics. Both brought up points I could have overlooked had I not been willing to listen. After all, I was in charge. I'd forgotten more than they knew. What did these students know? All kidding aside, I was thankful for their help. I can imagine what it would have been like had I been alone. At least with their inputs, I felt I had all the information available to make smart and safe decisions.

It just goes to show you, you don't have to be the recognized expert to provide a piece of the puzzle—perhaps the most important piece. ✈