HUMAN AD

Heliprops

HELIcopter **PRO**fessional **P**ilots **S**afety Program
Volume 13 ☆ Number 1 ☆ **2001**

Are you prepared?

"I came to work at 0800.

Drove to the Heliport and pre-flighted N88MP.

I completed a compressor wash. Washed the engine and WD 40'ed the tail rotor blades.

I was 2.2 hours into a Law Enforcement Flight heading east from a boating activity check of Destin Pass, enroute to Panama City. I was at 500 plus feet at 100 knots cruising at 65 to 70 psi torque, just west of the Walton County substation on Highway 331, and about half a mile north of Highway 98.

I felt a high frequency vibration coming through the tail rotor pedals.

The vibration became excessive.

I heard a loud bang, the aircraft violently yawed right and the nose pitched down. The tail rotor pedals had no effect.

I lowered the collective and pulled aft cyclic. The yaw rate slowed but did not stop. At approximately 70 to 80 degrees of right yaw I rolled off the throttle.

The right yaw stopped. It took almost full aft cyclic to level the aircraft.

I turned south to the only suitable landing area I saw within autorotational glide distance and into the wind. It took almost full aft cyclic to maintain a level attitude. I kept my airspeed up to about 80-90 knots to help keep the aircraft from spinning. I had to extend my glide angle to make the landing area.

I performed an autorotational landing in a level attitude. The aircraft yawed approximately 180 degrees after collective pitch pull. I touched down without forward movement and spun another 20 degrees after touching down. I turned off the avionics, generator, battery switches, engaged the rotor brake until the rotor stopped. I got out and looked the aircraft over for fuel leaking or fire. I opened the engine cowling for cooling and rotated the main rotor blades backward to help prevent cokeing of the bearings. I then climbed back into the aircraft, notified dispatch of my position, that I had the tail rotor depart the aircraft and that I was OK and had to land in the woods.

P.S. The tail rotor blades, tail rotor gearbox, vertical fin, horizontal stabilizer and 18 inches of the tailboom departed the aircraft. The total weight of parts lost - 58 pounds. Center of gravity was 2.0 inches forward of forward limit"

Wow. This actual event must have been an adrenaline pumping finish to a routine flight.

A major malfunction, in which parts of the aircraft break off, is pretty close, if not at the top of the list of the worst things that can happen to a pilot. This is the kind of situation that no helicopter pilot wishes to experience first hand. But this pilot did all the right things. No one could have done any better. He got the aircraft on the ground without any further damage, nor injury to himself or others. What more can one ask?

It is, of course, commonly understood that there are risks in aviation.

We all know that there is a chance of loss or harm on every flight. We also recognize those situations that pose elevated risk. For

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instance, helicopter pilots understand that, all things being equal, a 75 foot hover has a higher risk than a 3 foot hover. Likewise they know that hovering 10 feet over the edge of Niagara Falls has a greater risk than hovering 10 feet over a runway.

We accept or reject risk for a variety of reasons. Generally pilots accept and control an elevated risk when there is an acceptable benefit.

But everyone knows when he is hanging it out.

It's not uncommon for pilots to think about how they will react to certain emergencies, such as a tail rotor failures or engine flameout, particularly during those situations of accepting an elevated risk. We'd all like to think that we would do as well as the pilot above who handled the loss of his tail rotor seemingly without any significant problem. Simply being able to survive a major malfunction without crew injury is probably the primary hope of every pilot. Making it look as though it was easy getting it on the ground without any damage, and receiving the adulation and respect of your peers would be frosting on the cake.

But privately we all know ourselves well enough to understand how we react to an emergency. We are not all the same; and we will not all react the same. Some are naturally programmed to be cool under duress. Some are frantic. This basic disposition is probably formed early in life, perhaps influenced by both genetics and culture. However, a genetic disposition to be cool under fire does not, alone, guarantee success; nor does a propensity to be excited predict doom.

The cool ones may be confident that they can handle anything that comes along. The frantic ones may have some doubts about how they will react in the pinch.

However even those who are confident have mishandled hot starts, shut down the good engine, and entered autorotation after an N1 Tach Generator failure.

Helicopter emergencies come in all sorts of forms that offer opportunities in which to do the wrong thing. Tail rotor malfunctions are a good example - the proper emergency procedure is dependent not only on the type of malfunction, but also on the regime of flight, terrain, and aircraft configuration.

It is this author's opinion that reaction to an emergency is not always a considered, rational choice. Sometimes it is simply a reaction – sometimes right, sometimes not.

How then can one be convinced that he is indeed prepared to handle that major emergency and to do the right thing?

"I was taking off with a nurse and a paramedic in the back. This 206L3 was within 350 pounds of max gross weight. Departure from a hospital ground level helipad was over a busy major highway with heavy holiday traffic. I was at something like 20 knots and 60 feet when the engine quit. I didn't have many options. About the only thing I was able to do was slide over to the left to avoid the automobile traffic. At the last I saw there was a power line and a street light pole. I could go under the wires, but could not avoid having the main rotor blades strike the street light pole. The high energy vertical impact caused substantial damage to the aircraft and injured all three of us on board. The aircraft came to rest on its right side.

Later I found myself 46.5 feet in front of the helicopter. In the Army we were taught to meet 50 feet in front of the aircraft. I almost made it. I have no recollection of how I got out, but it had to be through the only available exit, the broken out right side windshield. Nor do I remember performing the standard shutdown. We later found all the switches, throttle, etc. were in the proper position for an engine shutdown.

Because I periodically test myself by performing a blindfolded practice emergency shutdown and egress, I suspect that I was able to do these things immediately after

the crash without being aware of, or remember doing.

The engine failure was due to an improper "O" ring installation. There was NO indication of a problem before the engine failed. No oil pressure fluctuations either high or low, no change in oil temperature, no change in vibrations. One second I was pulling 99% torque, the next second down we went. From engine failure to impact was exactly 4 seconds. Not much time to think. YOU WILL DO AS YOU TRAIN"

In that last brief sentence is the answer to how anyone can prepare himself for that major emergency.

Initial training develops the concept and basic skills.

Recurrent training refreshes and polishes the basics.

Regular recurrent training makes some things so familiar that they become automatic.

Automatic in the sense that your decision and action are ready and waiting for the proper situation to come along. Automatic in that you have already pictured the situation, and practiced the procedures to the extent allowable.

The ability to be prepared to handle a major problem with grace and confidence can be significantly enhanced via the following four steps.

1. Visualize what can Happen.

Professional flight and simulator training can go a long way toward giving you an accurate picture of what a malfunctioning aircraft will do. But without that professional training you can still get a decent understanding of major malfunctions by discussing them with other pilots, reading accident reports, and simply using your own imagination.

Here are two thoughts to consider. There are many more that you can think about to visualize what can happen.

Pace of Events.

Consider how quickly you must react to any specific malfunction. An engine failure in a single engine helicopter on takeoff will require immediate control inputs. An engine failure in cruise in a twin engine helicopter may require no immediate action at all. Review your flight manual. Identify the ones that you think will require immediate action. Then do your best to understand how they occur, what will happen, and what you must do to respond

Pilot and Passenger Body movements during a Crash.

It may not be so easy to keep your hands and feet on the controls while a disabled helicopter violently shakes and spins. Your torso and head may be tossed about during the impact through tree limbs. Your legs may strike the instrument panel. Your arms may be shaken off the controls. Your head may strike the overhead or door frame.

Unrestrained cargo, crewmen or passengers may become projectiles during a crash.

These forces of inertia on your body may be beyond your strength to control. The forces of a sudden high-energy impact will affect you.

Your survival may depend on the energy absorption of seat/shoulder straps, structural deformation, and a helmet. You may not have control over the g-forces in a crash, but you do have direct control over your survival gear.

2. Anticipate Possible Difficulties.

Murphy's Law predicts a variety of things. Amongst them: "When anything can go wrong, it will." There are many things that can make the job of a helicopter pilot more difficult. Here are two.

Crashed aircraft.

Flight training is most often done to a prepared field - usually a hard surfaced runway. Practice power-off autorotations ordinarily terminate on the runway, close to and parallel to the center line stripe, with the helicopter sitting undamaged and upright. Getting out then would be a normal exit.

Genuine autorotations often end up in an unprepared area – water, trees, slopes, rocks – with a damaged and deformed helicopter, sometimes resting on its side. How are you going to get out? The exits you have always used may not be available. You may have to create one or use a normal one in an unusual manner.

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Incapacitation.

We mentioned above that aircraft vibrations, oscillations, yawing, and crash impact can toss you about in the cockpit or cabin. You, your crew, or your passengers may be injured and incapable of normal movements.

3. Develop Prepackaged Decisions

During normal flight training a pilot learns a variety of rules, regulations, procedures, and limitations. These are largely the guidelines, or standards, that dictate decisions. A pilot learns to associate certain situations with their accompanying standards. When "this" happens, do "that." An example is a hot start. Situation: Engine temperature exceeds certain prescribed limits. Standard: Abort the start.

We have many of these decisions already made for us. We simply have to know and recognize the situation, and know and apply the appropriate procedure. Unfortunately, we may not recognize the situation correctly, we may have forgotten the standard, or there may be no standard for an unusual situation.

Most of these standards are written in some sort of aviation document – flight manual, company flight operating procedures, Federal Aviation Regulations, or Aeronautical Information Manual.

Here are two that we all carry around even if we do not realize it. There are others.

Get this Aircraft on the Ground.

Typical flight manual emergency procedures have words like "Land as soon as Possible." You have to decide what is "as soon as possible." You may feel a bit embarrassed landing on a roadside with an engine chip light when it is only 7 more miles back to your mechanic at your heliport. You'd be a lot more embarrassed, and perhaps bruised, if that engine quit over the trees a mile short of your pad.

It's not at all a bad habit to be spring loaded to the "Let's get this thing on the ground position" when a malfunction occurs.

Maintain satisfactory aircraft control.

It may not be pretty, and it may not be easy, and it may feel terrible, but touching down with a rapid left yaw but zero lateral ground speed with a fixed-pitch tail rotor may be the best thing that can be done.

Whenever a malfunction occurs that affects the helicopter's control system, such as a complete loss of tail rotor thrust, most would agree that satisfactory aircraft control would be a landing with the greasy side down. At times being out of trim, and facing in a direction different from the direction of movement may not be important

4. Foresee a need for Assertiveness

Assertiveness can be the ability and willingness to act when required. To be assertive is not always easy. Refusing or delaying a flight may require courage in the face of a demanding chief pilot or customer.

It may be beneficial to consider beforehand the kinds of situations that would require assertiveness. Here are two. There are lots more.

Use everything you've got.

While you are sleepily cruising to your destination an airplane suddenly appears directly ahead of you. If either you or he don't act NOW there will be a midair collision.

This is no time to be gentle with your aircraft. Whatever power and maneuver are required to avoid the midair is infinitely better.

Initiate emergency procedures.

Some problems simply won't wait to give you another opportunity to solve. If you don't lower the collective after a flameout on climbout the rotor rpm may get too low to come back into the operating range. If you wait too long to dispense the Fire Extinguisher, the fire may be too big when you do.

He who hesitates is lost. That could be you if you wait too long to do the right thing.

If you do some of this work now, you won't have to invent decisions and actions when a major malfunction comes along. You'll already be prepared.

There I Was...

Here are some accounts sent to us by readers.

Passengers

"About passengers in and around the helicopter. I would like to extend this to the owners, CEO's, Managers, or Chief Pilots themselves or via their secretaries.

I bet that many helicopter pilots have lived the experience of land at the exact time in the appointed site to board the passengers and …you can pick any one or all of the following points.

#&%$*!

The passengers arrive at least 5 to 10 minutes late and you have no information about it. Then you don't know if you should keep the engines running at idle, or cut them off, or WHAT TO DO! If you cut them off suddenly the passengers appear and rush you to restart (Dealing with high residual engine temperatures) because they MUST takeoff immediately.

$%&*+@#

The pilot is expecting one or two passengers and they arrive three or four at the last minute, plus luggage, or even worse you have never been told about how many passengers you are going to be picking up.

%@!%&*

Your passengers think you are driving a "Bladed" Mercedes, Cadillac or Rolls Royce.

And you will always be arriving with plenty of gas to take them anywhere. So they change their destination right at their boarding minute to another place. It doesn't matter if it is near or far. All your flight planning has been thrown in the toilet and flushed. Then you have to refigure in a hurry all your planning work, wishing in your mind to come up with numbers that exceed your original calculations so that you can take revenge and tell them with a smile on your face, "Sorry, but one of you must get out." But that privilege rarely happens.

+&#@!$

As soon as you arrive at your destination they want to jump out of the helicopter and most of the time they succeed and run fast to do their things. "Unfortunately" they forget to tell you their ETD and if the landing spot is in the middle of nowhere, as it often happens, you have a whole day long until they get back. Unfortunately accident investigators never seem to note things like this before they write the cause of the accident was "Pilot Error." So when I read in your newsletter that I should treat my passengers like I treat my mother, I think that if she would behave like those passengers, I could understand Nero's reasons for killing his mother."

More Passengers

"A few years ago (31 to be exact). I was on my first contract as a commercial helicopter pilot in the Northwest Territories of Canada. I was flying in support of a prospecting crew of some ten individuals about 75 miles from the nearest house or road.

About five weeks into the contract I was flying the geologist/camp boss who had

There I was … pg. 5 cont'd.

become a good friend. We had a Bell 47G2 on floats and it was August. The weather was beautiful.

My buddy wanted to do his rock-tapping, stone-licking bit on an outcropping of rock near the shore of a fairly large lake. Unfortunately there was no suitable landing area near the object of interest so I offered to let him off on the shore. The catch was that he would have to clear some bushes off the shore so I could ground the floats in order to shut down and wait for him.

"No problem."

Right!

I got close enough to the shore that he was able to stand beside the helicopter on some rocks while he undid his backpack (survival gear – don't leave home without it) and his axe from the cargo rack on the side of the helicopter. Now I had spent the last few minutes briefing this very reliable passenger/friend on what he was going to do and what I was going to do. He was going to get his gear and axe of the cargo rack and squat beside the float while I moved off to give him a windless atmosphere to navigate the slippery rocks to shore and do his chopping. He was then to back off while I hovered onto the slippery rocks and shutdown with my blades over the low shore line.

He undid his pack from the rack and then got his axe free. He looked up at the tip of the rotor disk and down at the shoreline and back up at the rotor disk and back down at his axe and the slippery rocks.

My shouts of "No! No! were unheard over the noise of the machine beside him. He checked the distance between the edge of the rotor disk and the shoreline one more time and threw his axe into the disk.

To make a long story short, he got aboard and we hovered to a place where I could check the rotor blades. In my opinion the damage was minor and the hazards to our persons to remain there were greater than the hazards of returning to camp and the very experienced engineer. It seems I was right. The engineer checked the blades and consulted with his boss by radio and the consensus was that there was no major damage. The slight dent in the blade the axe handle had hit was well within safe operating limits.

I went back to work and picked up the crews that were still out prospecting, thinking that was the end of the story.

About a week later on another of those days that are priceless I was to pick up two budding prospectors (geology students) to return to camp for the night. I was down to half fuel and these two guys together didn't weigh one good driller so I anticipated no problem picking them up from a small hole in the brush.

As I remember it all went well until just after I rotated and discovered those trees in front of me were not getting shorter as they should have been. I had nowhere to go and ended up going between the trees with enough right bank to keep the blades on the left above that tree and the blades on the right a few feet from the tree on that side. The darn thing didn't want to climb much but it climbed enough and I sweated my way the ten miles or so back to camp to a very cautious landing, requiring more than normal power.

I related my experience to the engineer who started an "I'll see if I can find anything wrong" check of the machine. That didn't last more than a couple of minutes before he called me.

It would appear that the handle of the axe that had dented the blade hadn't been the only thing that had made contact. Apparently the detached head of the axe had been broken off at that point, and had spun up to make a very slight slit in the Teflon leading-edge tape of the other blade. The tape had picked the time I was coming out of that very tight hole to tear and ruin the airflow over the outer portion

of the disk. When the tape was removed from both blades the machine performed properly for the remainder of the summer. I still have the head and handle of that ax."

R-22

"There I was, 40 hours and on my first solo navigation, a triangular course from Bankstown airport with each leg about 30 miles. Winds light and variable, sky clear, 0800 departure in a Robinson R-22. The first leg took me over a 1,200 foot cliff facing the sea near the city of Wollongong.

As soon as I crossed the cliff all hell broke loose! The machine pitched violently left nose down and as I fought for control. I noticed the airspeed indicator "off the dial" and the rate of descent almost 2,000 feet per minute. Considering my limited experience a very worrying and startling situation

I somehow felt that the cliff must have had something to do with my plight as there was no other reason for the machine to be doing this. So I changed course and headed away from the area. Suddenly control came back, speed indication slowed and I started to regain the height I'd lost during the previous 10 seconds or so (which I can tell you felt like a minute or so)

I was pretty shaken up but I regained my composure and continued on with the exercise, even recrossing the cliff.

Since that day I've had a healthy respect for cliffs, valleys, mountains etc. with the flukey winds that are often associated with them. Even in ideal weather conditions unusual and unseen activity can be lurking in these areas and are a trap for the inexperienced.

YOUR ANSWERS. . . . .

In the last issue we asked "Tell us about an experience where you or one of your crew members fell asleep inappropriately" Here are some of your answers:

Human AD.

212

"Back in '91, I was flying 212s in the Persian Gulf. We were working 56 days on and 28 off. During my time off I was building a house. I mean I measured the lumber, marked it, and used a saw to cut it. Figure out the right type of wire and string it to the proper places. Figure out the right type of sewer line to use… You get the picture. I (with a capital "I") was building it. No such thing as duty time when you are building a house.

My time off ended and I caught a plane to London with a connection to the Middle East. I arrived at the compound about 0200, and checked the schedule to see I had eight hours till takeoff at 1000 the next morning. With Jet Lag in full force, I unpacked and got into bed to stare at the ceiling till it was time to get up. I departed as PIC of the 212 on schedule, with my bag to spend the night offshore. As I was doing my business, at around 1600, I had trouble staying awake. I did everything I could think of, even landing on a platform and getting out of the aircraft to go the bathroom. I had never had anything like this happen before. I would go from wide awake to asleep in the blink of an eye. I would literally be wide awake, then blink, and go to sleep in the blink. I woke up, remembered a thump, and finished the landing with more than my normal amount of collective. The next landing was at the overnight facility. Maintenance found a dent on the bottom of the tail boom, between the elevators and the tail skid, where I struck the platform – while asleep! From then on I took an earlier flight to London and beyond."

500C

"In '79 and '80 I worked as a pilot/mechanic on tuna boats with a 500C. In addition to the aviation duties, I had boat duties as well. We had been on school fish for about 2 months. This meant 3 to 4 fuel loads per day. Each fuel load

Your Answers … pg. 7 cont'd.

was a 3 hour flight. My backside would be so sore from sitting, my first couple of steps out of the helicopter were an exercise in learning how to walk again. I would actually fall out of the helicopter hanging on to the door post, my legs would not work.

I was so tired that at the noon meal, I would eat real quick and go to my bunk for a quick nap. I was so tired, I would dream somebody would come to wake me up. Dream I would have a complete conversation with them – in detail. Dream I would get out of bed. Dream that I walked to the helicopter and then I would wake up, in bed!

My hopes in relaying this to you are that other pilots will not fear losing their jobs or be pressured into taking a flight when they shouldn't. Instead they must simply say NO to the flight. Additionally, that there be a forum where younger and older pilots can learn from other pilots and we can pass on some of the "wrong" things we did, errors in judgment – mistakes we made but lived through, and not fear actions from the FAA or other regulatory bodies. Also that other pilots realize the story told was not a boasting but instead a lesson learned well by a much humbler teller. The important part is to learn from others' mistakes as well as our own."

AH-1S

"This was in Germany in 1977. My copilot and I were both CW2's. I was the Aircraft Commander in the backseat. It was a normal duty day – up at daybreak. My copilot had enjoyed himself with a lady friend until the wee hours for the last several nights. We cranked up and departed normally for our field site. Flew over to the holding area, landed and shut down to await our orders to launch on the training exercise. In no time my copilot was fast asleep still sitting in the front seat. When it came time to start up again I couldn't wake him up. I cranked up, took off, flew to the firing area, and made an approach into a field. He was still asleep. I hovered up to some pine trees and put the nose as close to the trees as I could. While in a hover a yelled over the intercom - AAAAAAH TREES!

He woke up in a startle, with the immediate flash thinking we were about to crash into the trees.

He didn't fall asleep again for the rest of the flight."

S2F

"Years ago we had just completed a MAD sweep of fleet ships returning to Honolulu. After landing our S2F's at Ford Island we thought the day was finished, and the cold beer tasted great after we shut down. Suddenly word came to us to launch immediately without refueling, and continued MAD sweeps through the channel. All S2F's went back into the air. My plane commander promptly fell asleep after launch, and I completed the short 20 minute flight."

2 Zzzzing

"I was the unit maintenance officer. A training pilot and I ferried our Long Ranger to maintenance in Van Nuys. I had worked an evening patrol shift the night before, and had come to work in the morning in order to make this flight. The training pilot was on a day watch schedule already and did not do any shift adjusting. We completed the flight after each of us had gotten about 45 minutes of hood time, and I got some contact training. We also had to deal with about 30 minutes of bouncy turbulence due to winds over the mountains north of Van Nuys.

After leaving the helicopter with the maintenance shop personnel, we waited about an hour before one of our unit's airplanes came to pick us up. The airplane and it's pilot showed up at the maintenance facility after having

worked the first half of a regular afternoon shift.

After refueling we boarded the airplane for the flight home. The unit airplane pilot was in the left front seat, the training pilot was in the right front seat, and I was in the back. I told the guys that I was going to try to nap during the flight back home. We departed Van Nuys about 10 minutes before sunset, and set the autopilot for home. The flight would take about 1 hour and 15 minutes. After about 30 minutes, I woke up after dozing on and off. I looked over and saw the training pilot was slouched over and sleeping. I looked at the back of the airplane pilot's head, and watched as he did the head bob, indicating that he was falling asleep. I waited until his head was resting on his chest (just in case he claimed to be looking at maps or some nonsense like that), then I woke him up and made some jokes about his passing out behind the wheel. For the rest of the flight we talked to each other in order to stay more alert. Everyone stayed awake from that point on."

24/24

"This was during the times when we worked 24 on and 24 off. I was called in to relieve the pilot who would exceed his 8 hour limit when he returned from his flight. I arrived at about 0830, and met the helo as it landed. I was to go on another flight with the medical crew. It was apparent that not only was the pilot tired but the crew was wasted too. The paramedic could hardly walk normally much less perform his medical duties. I cancelled the flight with this crew and waited for a new crew to come in."

Here are a few answers to questions in the past

Duck

"I was on an EMS mission over mountainous terrain with two med types, a stable but unconscious cardiac patient and an elderly spouse who stated that this was her first ride in a helicopter. We had just picked up our patient and were returning to Spokane at 0200 in the morning. We were at 1,500 feet agl when what sounded like a shotgun blast (inside the aircraft) went off. This was accompanied by a shattering of plexiglass and an instantaneous and somewhat dazing intrusion of less than lunchable body parts including feathers, cartilage, blood and other unmentionables. After taking stock of the situation which included a reality check and some superficial cleaning (acknowledging that the serious cleaning would take place later), we slowed airspeed to reduce the flow of very cold ram air through the gaping hole in the windshield, and elected to complete the remaining 10 minutes of flight to the hospital.

Although the landing was uneventful, we did make note that the patient remained oblivious to this entire event and the family member was heard to remark that this would be the last time they ever rode in a helicopter.

An autopsy of the body parts suggested that the intruder probably was a rather large and rude mallard duck."

CH-47

"I was flying CH-47's in the Republic of Panama. I was at 1,000 feet agl, about 130 knots, and flying straight and level. I had noticed some buzzards that were flying ahead, but was actually watching some higher flying birds to ensure that they would not dive into me. When I looked down, and at the very last second saw a buzzard that stretched the width of my windscreen. He never saw us coming. The amazing part of it was that up until about 5 minutes earlier, I had never flown with my visor down. I had always flown with my "cool" Ray Bans on and my visor up. That day my glasses came off my ears and I was unable to get them back on, so I put my smoke visor down. The window shattered and I had little glass fragments all around my face, neck and down my back, but nothing in my eyes."

407

"Last year I was flying an EMS 407 in eastern Colorado at night. It was clear with no moon, and I had about a 30 knot tailwind. I was about 2,000 feet AGL when I flew through a flock of snow geese. I never saw it coming. There was literally an explosion. I got hit in the head by something, and the wind was deafening. The caution panel lit up like a Christmas tree.

Did I have a catastrophic engine failure or what?

When it happened, I cringed, which caused the aircraft to roll to the left. I had also lowered the collective, which I corrected almost instantaneously. When I saw the copilot's window shattered it was obvious what had happened. Two birds actually came through the window.

One bird hit the copilot's windscreen and frame. Half of this bird went back towards the flight nurses in the cabin, and the other half went around and hit various parts of the tail boom.

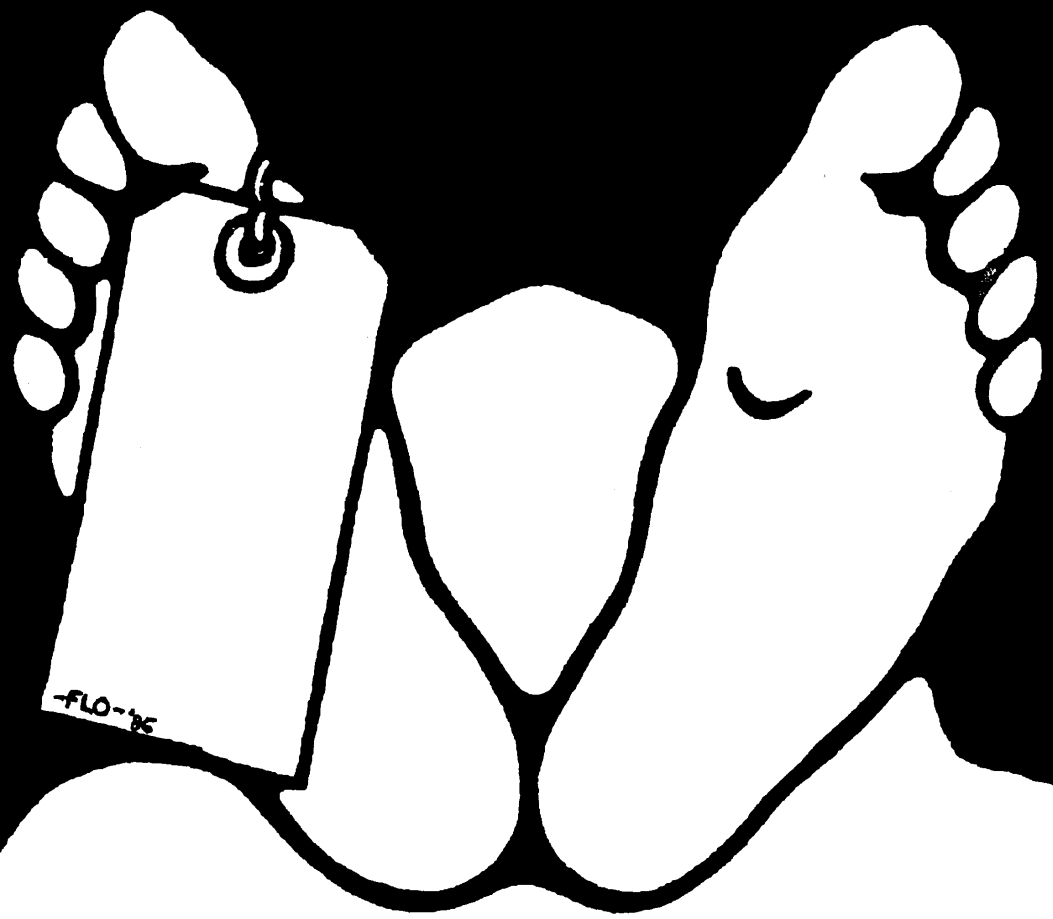
The other bird came though and hit the overhead panel, turning off numerous switches, and hit me in the head. Pieces of the windscreen flew up and hit the main rotor. The aircraft was a mess. But it flew OK and I was able to land at an airport that happened to be my destination about 2 miles away.

When I first joined the company, we didn't wear helmets, but when we were discussing if we should get them or not, my need wasn't so much for head protection in a crash, but eye protection. When I told them of my bird strike in Panama, it helped in the decision to get the helmets. Last year they easily paid for themselves. I'm not sure if I got hit hard enough to get knocked unconscious, or if flying debris would have caused eye injury, but those helmets are well worth any money or "helmet hair" you get."

Helicopter Safety Information

The National Aeronautics and Space Agency (NASA) has a Helicopter-related Website.
You can access it via their address:
Safecopter.arc.nasa.gov

I REALLY TIED ONE ON LAST NIGHT...



I'll Never Drink Again!

Driving drunk is a one-way trip to the morgue

WHAT'S YOUR ANSWER ?

QUESTION:

"Tell us about a situation where hot weather affected you, your crew, or your helicopter's performance."?

_____

_____

_____

_____

_____

Mail your ANSWERS to: Heliprops Administrator
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The primary objective of the HELIPROPS program and the HUMAN AD is to help reduce human error related accidents. This newsletter stresses professionalism, safety and good aeronautical decision-making.

Letters with constructive comments and suggestions are invited. Correspondents should provide name, address and telephone number to:

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HUMAN AD Heliprops

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