

A Plea to Personal/Private Helicopter Operators

By Lee Roskop (IHST team member)

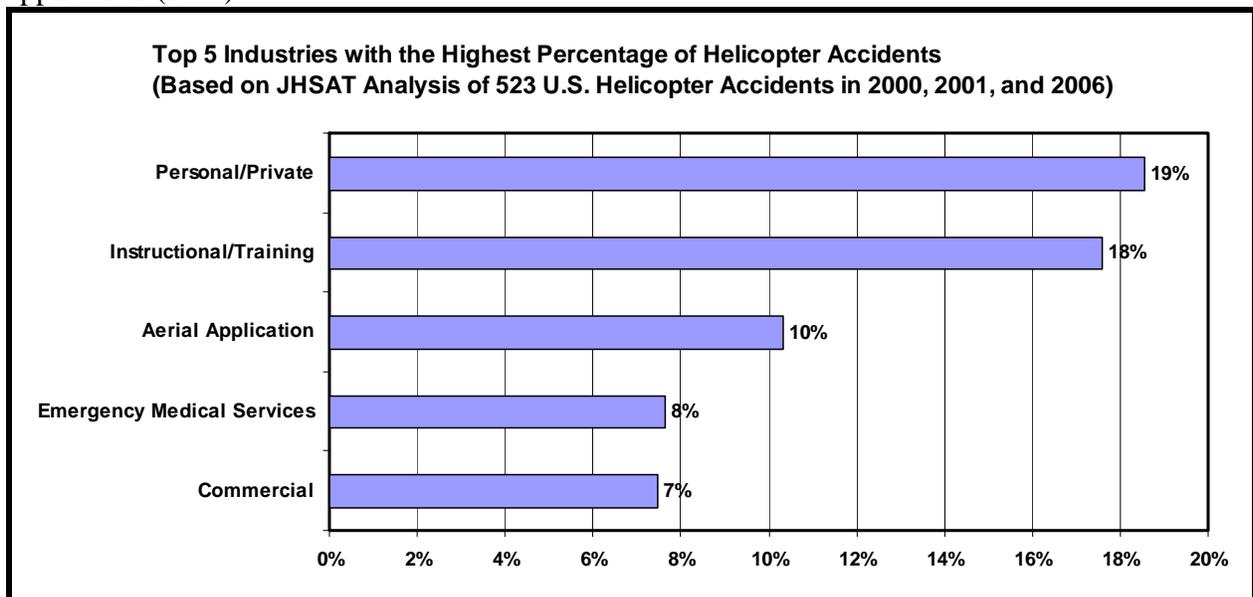
If you are a personal/private helicopter operator, the helicopter industry needs your help.

We need your help to reduce the fatalities and injuries to those who travel in helicopters each year. We need your help to significantly reduce accidents. We need your help because too many personal/private helicopter operators and aircraft are now accident statistics.

The somber tone reflects somber data from the NTSB, FAA, and the International Helicopter Safety Team (IHST) with regard to personal/private operations. The IHST was formed in 2005 to lead a government and industry cooperative effort to address factors that were affecting an unacceptable helicopter accident rate. The group's mission is to reduce the international civil helicopter accident rate by 80 percent by 2016.

The Analysis

An IHST sub-committee of helicopter experts from government and industry called the Joint Helicopter Safety Analysis Team worked from 2006 to 2011 to complete an in-depth analysis of three years of U.S. helicopter accident data. The analysis team used 15 different industry categories to categorize each of the 523 accidents. Ninety-seven accidents (19%) were attributable to personal/private operations and were the highest of any industry category. To provide a comparison of how much higher, consider that personal/private operations and the second highest industry category of instructional/training operations (18% of the 523 accidents) each accounted for nearly twice as many accidents as the third highest industry category, aerial application (10%).



Data from the NTSB indicates the sizable proportion of U.S. helicopter accidents attributable to personal/private operations is a dilemma that occurs with a year-to-year consistency that is disconcerting. For the 10 calendar years from 2001-2010, about 20% of U.S. helicopter accidents each year occurred during personal/private flights. There was not a single year during that time period that personal/private flights accounted for less than 18% of the U.S. helicopter accidents.

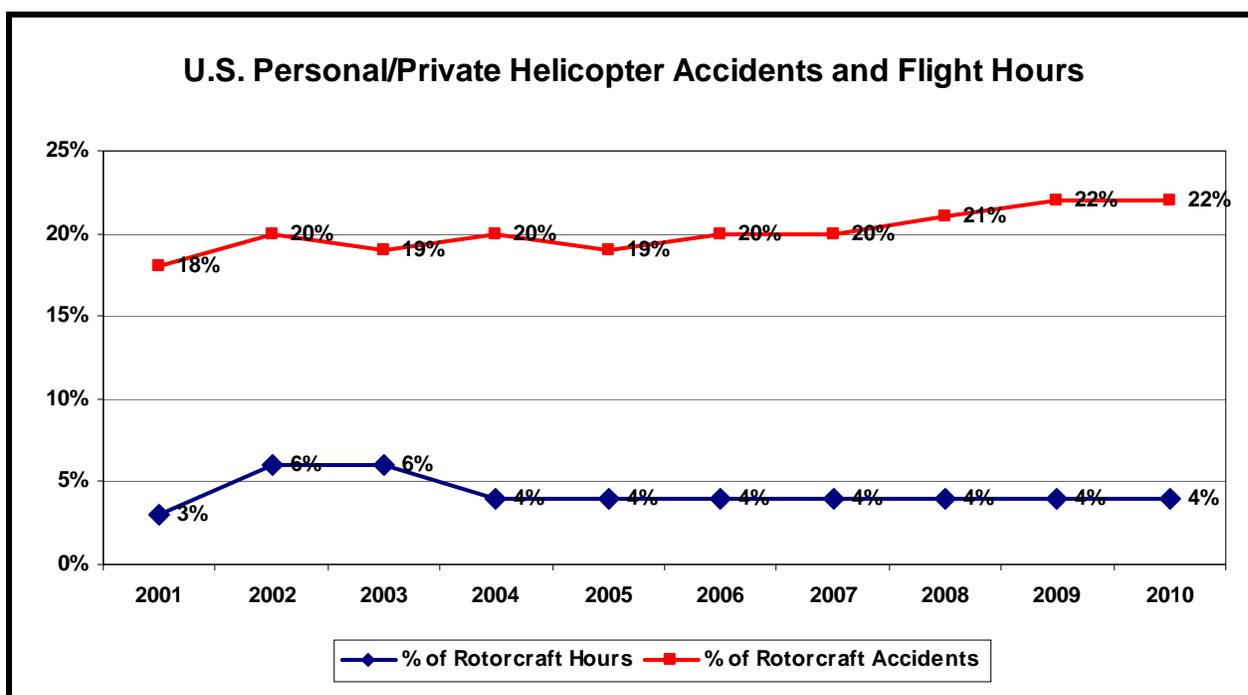
Calculating Flight Hours

The analytical skeptic will examine these dismal percentages and make the astute observation that only half of the story has been told. After all, couldn't the real reason for the considerably higher number of accidents in personal/private operations be attributable to the fact their exposure is proportionately higher than any other helicopter industry? In other words, personal/private operators probably fly more hours per year than any other helicopter industry (higher exposure); therefore, the predictable result has been more accidents.

The observation raises a legitimate question worth pursuing, but to do so, the analysis team needed data on flight hours. Helicopter flight hours in the U.S. (and worldwide) are a notoriously slippery commodity since reporting of flight hours is not a mandatory requirement for most industry categories. However, some sources are available.

Annually, the FAA conducts a General Aviation and Part 135 Activity Survey (http://www.faa.gov/data_research/aviation_data_statistics/general_aviation/). The survey includes helicopter flight hour estimates by industry categories. Critics will malign that the survey is not complete enough because it builds statistical projections based on a representative sample of helicopters rather than including every helicopter in the U.S. The justifiable rebuttal is that rarely is complete data available for every point in a large population. A representative sample of 40% of the U.S. helicopter population (as was obtained in the 2010 survey) is well beyond the minimum sample required to provide statistically valid estimates for numerous flight hour parameters.

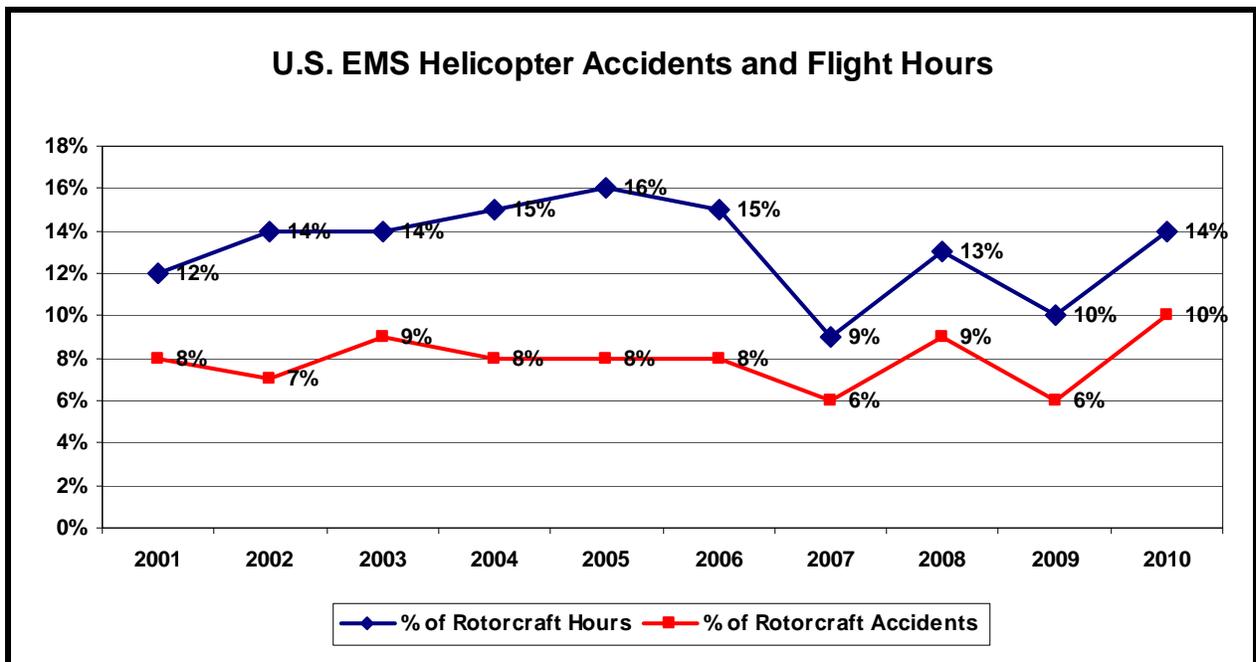
Using the FAA's General Aviation and Part 135 Activity Survey for the 10 years from 2001 to 2010, the percentage of helicopter flight hours attributable to personal/private operations can be calculated. Likewise, using the NTSB's helicopter accident data from 2001 to 2010, the percentage of helicopter accidents attributable to personal/private operations can be calculated. Comparing the two measurements alongside each other in the following chart can answer the question of whether or not personal/private operations have such a high percentage of accidents because they fly a proportionate higher percentage of flight hours.



As evident, the number of helicopter accidents in the personal/private category is not at all proportionate to the number of flight hours flown. In fact, there is a stunningly large gap between the low percentage of U.S. helicopters hours flown in personal/private operations as compared to the high percentage of U.S. helicopter accidents. The bottom line in the comparison is that for the 10 years analyzed, the personal/private category accounted for only about 5% of U.S. helicopter hours flown, yet resulted in 20% of the helicopter accidents. As a note to those who are students of statistical analysis, even when accounting for standard error, the personal/private flight hours don't change by more than about a percentage point or so.

Comparing Other Industries

For comparison purposes, notice the prominent difference between the personal/private chart when compared to the same type of chart for a category in helicopter industry that is closely scrutinized for its number of accidents: EMS.



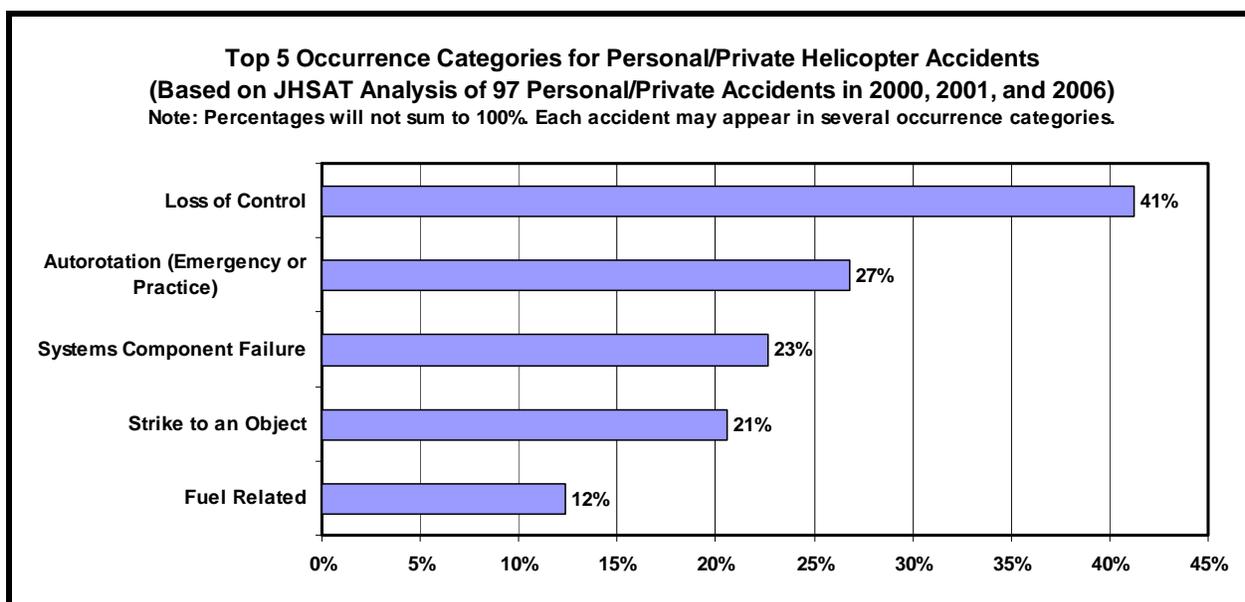
Note how the line representing the percentage of hours flown and the line representing the percentage of accidents switched relative positions in the EMS chart when compared to the personal/private chart. For the 10 years analyzed, helicopter EMS accounted for about 13% of U.S. helicopter hours flown yet only resulted in about 8% of the helicopter accidents. For those who prefer accident rates per 100,000 flight hours the comparison for the nine years between the two categories is as follows:

Personal/Private: 29.6 accidents per 100,000 flight hours
 EMS: 3.9 accidents per 100,000 flight hours

Tragically Upside Down

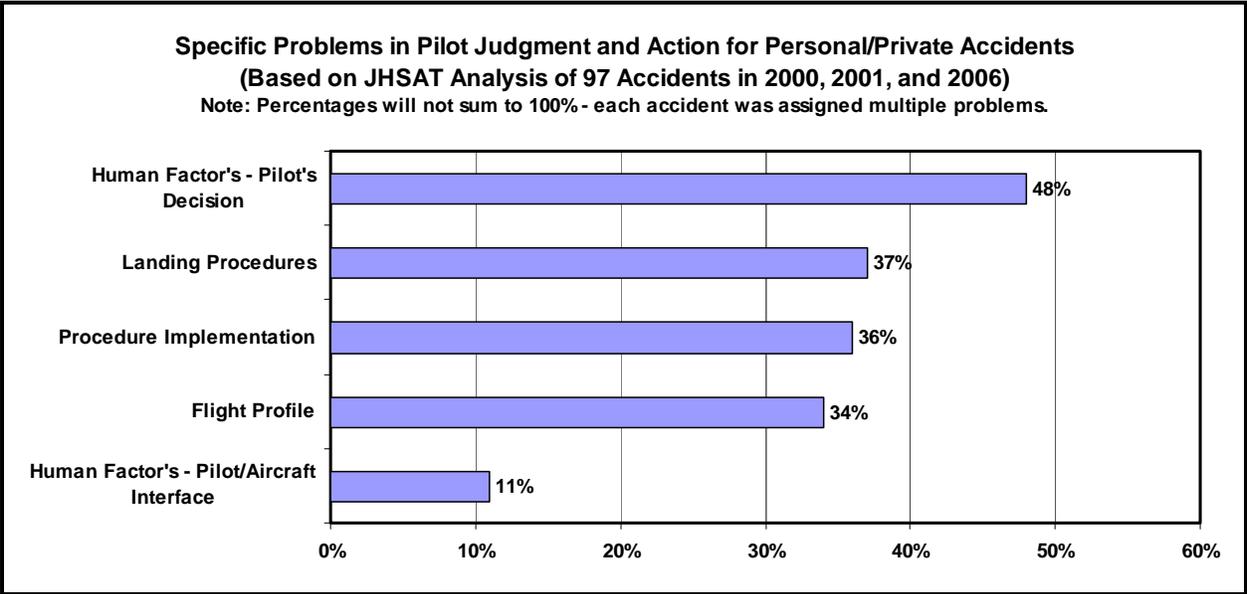
Incidentally, the IHST based their goal of achieving an 80% accident rate reduction off of a starting point (or baseline) accident rate in the U.S. of 9.1 accidents per 100,000 flight hours with the goal of reducing the rate to 1.8 accidents per 100,000 flight hours. The point of all these comparisons is to show the substantial magnitude of the problem in the personal/private category. The personal/private chart is tragically “upside down” in that a low volume of flight hours results in a disproportionately high volume of accidents. Based on the data sources used, the personal/private accident rate is more than 7 times higher than helicopter EMS and more than 3 times higher than the *starting point* for IHST’s accident rate reduction effort. When considering the data regarding personal private data, the question becomes less, “Should we be alarmed?” and more “How alarmed should we be?”

To better understand how to address this problem, we need to study the personal/private helicopter accidents that have already occurred to determine what happened to cause so many accidents. The IHST’s analysis team accomplished this type of work for the 97 personal/private accidents they analyzed. The team used the term “occurrence category” to refer to what happened in the accident. Any single accident could be categorized into up to four different occurrence categories. For the 97 personal/private accidents in 2000, 2001, and 2006, the most frequently cited occurrence categories are shown in the following chart.



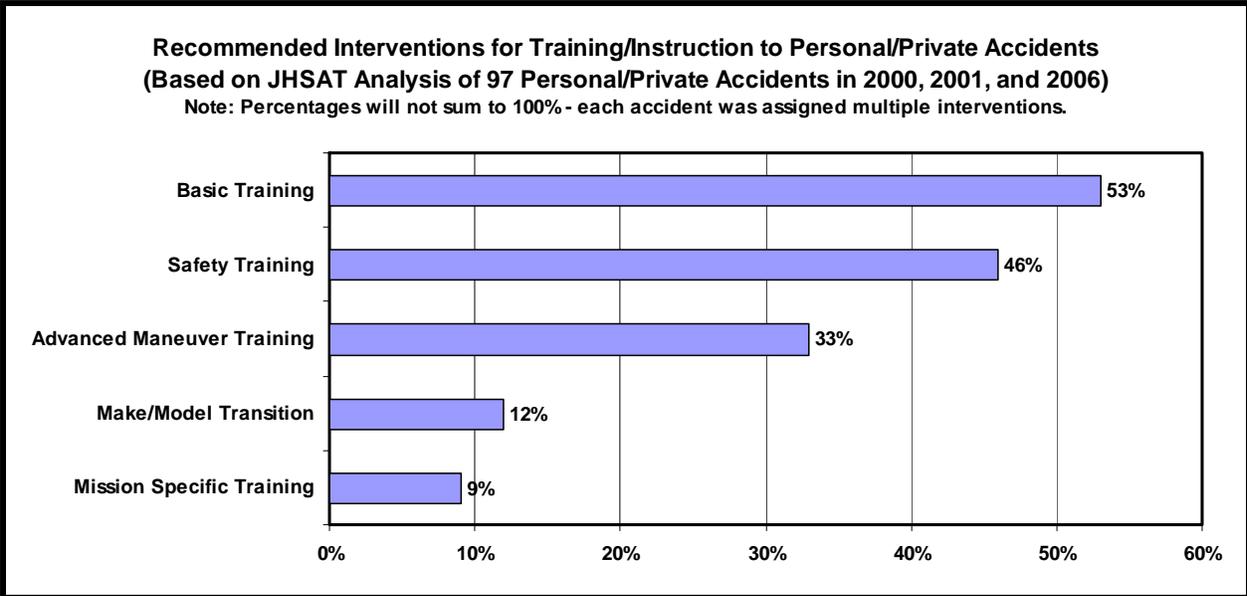
What Happens and Why?

To go from “What happened?” and progress further to the “Why did the accident happen?” question, the IHST analysis team used “Standard Problem Statements” to describe the combination of contributions that led to a given accident. “Pilot Judgment & Actions” was the most frequent contributor cited in their analysis of the 97 personal/private accidents in 2000, 2001, and 2006. To add more specificity to what the JHSAT found as leading problems encompassed under the general description of “Pilot Judgment & Actions”, consider the following more detailed breakdown.



What Can Be Done?

While “What happened?” and “Why?” are ways to summarize and understand the past, answering the question of “How could we have prevented the accident?” is how we can make the changes that will influence the future. The JHSAT used “intervention recommendations” to describe what combination of factors could have kept the accident from occurring. “Training/Instruction” was the recommendation most often cited, delineated distinctively into the following types of training.



Reaching the Community

The message of these observations and statistics only have value if they reach enough of the personal/private helicopter community and provides an impetus for doing things differently. What's going on right now in personal/private operations is not working; the unreasonably high number of accidents for the number of hours flown makes that an indisputable case.

The motivation for changing course to fix this problem goes well beyond pursuing IHST's goal of an 80% reduction in the accident rate by 2016. The real endeavor is to keep personal/private helicopter pilots from continuing to put themselves at an unnecessarily high risk of an accident. Every helicopter accident offers the potential of a debilitating injury or loss of life for those involved. What a tragedy to those affected people and their families if we know where those who have gone before us have stumbled, yet fail to learn from their mistakes.

If you are a personal/private helicopter operator, the helicopter industry needs your help. Join the IHST effort to reduce helicopter accidents. Free toolkits are available on the IHST web site, www.ihst.org, to help personal and private operators manage their safety risks and develop a new safety culture. From the multi-helicopter operator to the lone pilot flying for pleasure, everyone is responsible for safety.