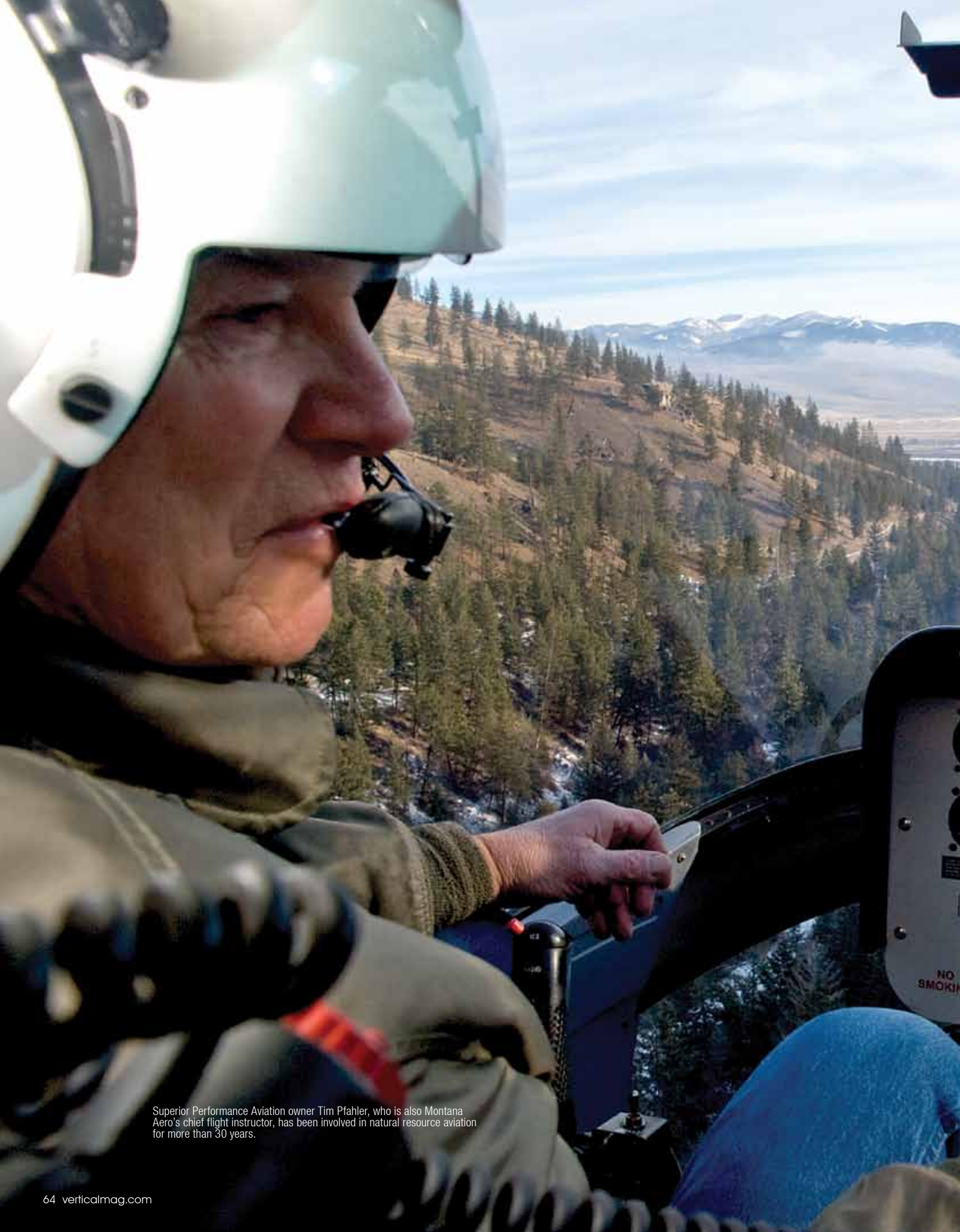
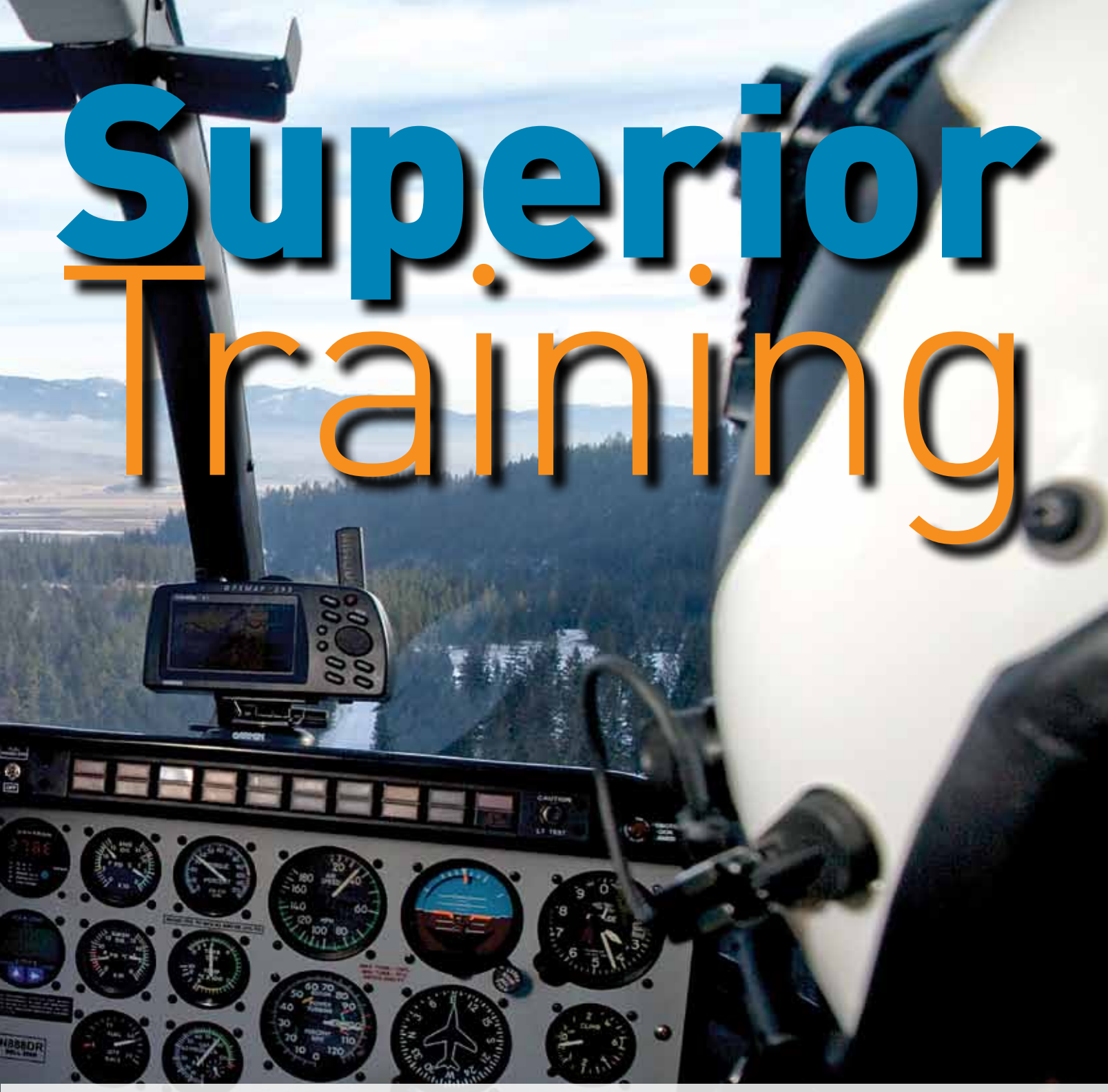


Superior Performance Aviation owner Tim Pfahler, who is also Montana Aero's chief flight instructor, has been involved in natural resource aviation for more than 30 years.

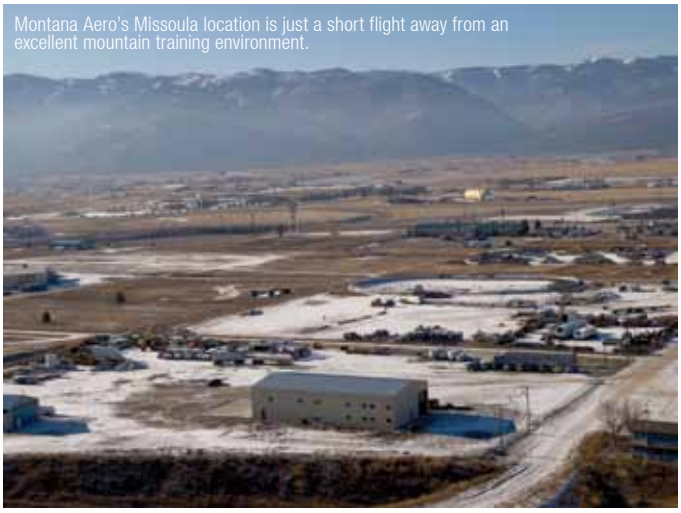
Superior Training



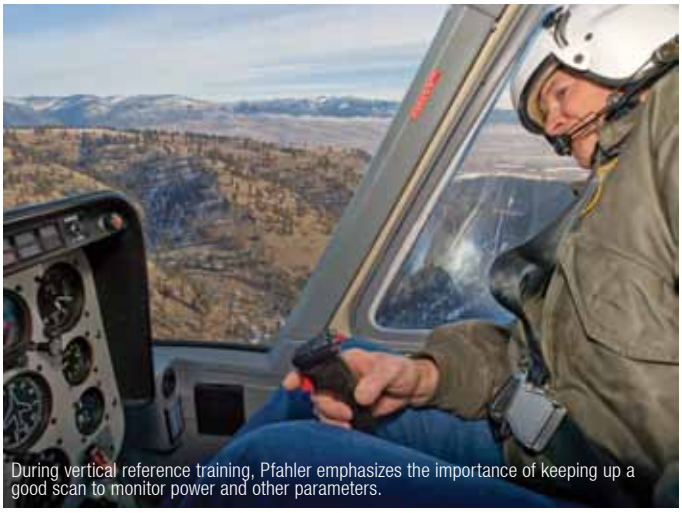
SUPERIOR PERFORMANCE AVIATION AND MONTANA AERO HAVE JOINED FORCES TO OFFER ADVANCED, TOP-NOTCH FLIGHT TRAINING — HIGHLIGHTED BY THEIR VERTICAL-REFERENCE AND MOUNTAIN-FLYING COURSES — IN AN IDEAL SETTING.

Story by Elan Head | Photos by Kari Greer

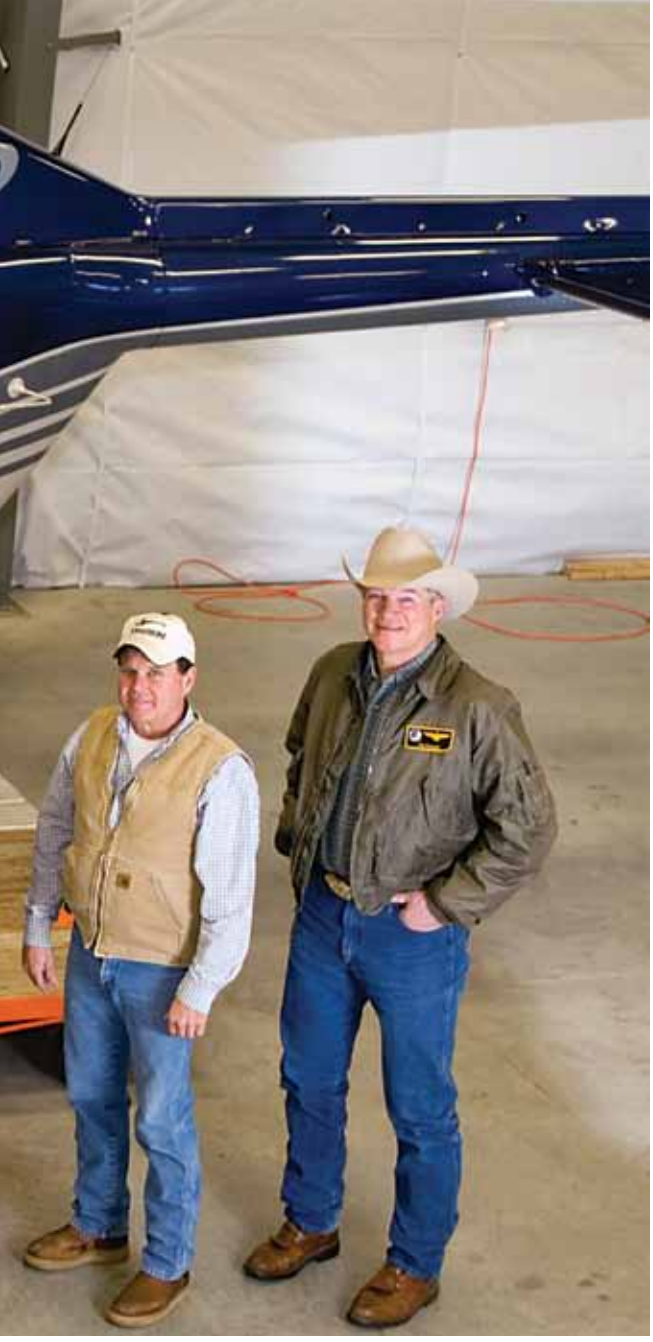
The Montana Aero crew poses at the company's hangar in Missoula.

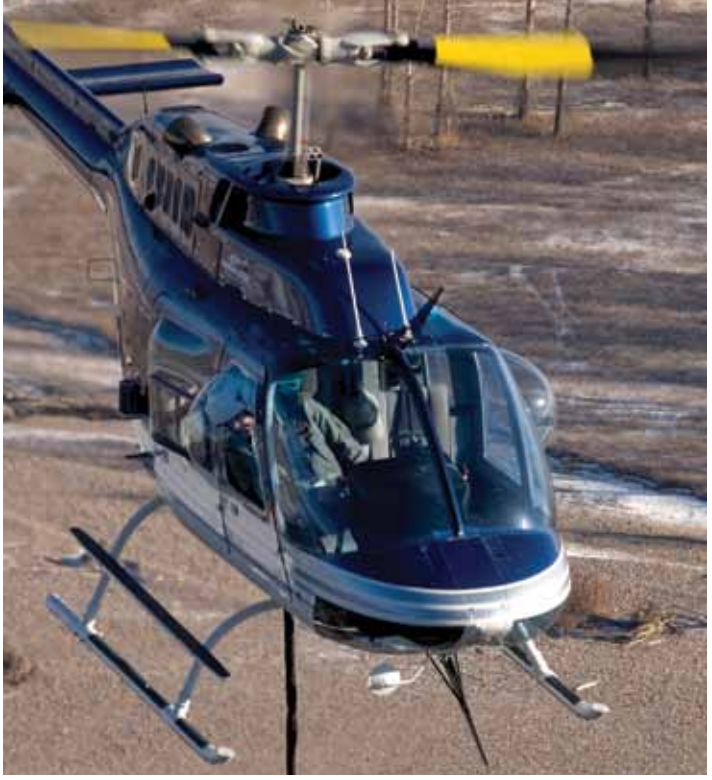


Montana Aero's Missoula location is just a short flight away from an excellent mountain training environment.



During vertical reference training, Pfahler emphasizes the importance of keeping up a good scan to monitor power and other parameters.





Long lining can be "very humbling for pilots, because it's a new mission," explained Pfahler.

Working my way up a steep canyon in the mountains north of Missoula, Mont., I'm reminded of just how unpredictable mountain winds can be.

I'm flying Montana Aero Inc.'s Bell 206B-2 JetRanger; Tim Pfahler of Superior Performance Aviation is advising me from the left seat. Although the winds are a steady 10 knots on our approach to the mountain range, in this drainage they're swirling erratically: changing from a headwind to a tailwind, or from an updraft to a downdraft, all in the space of a few hundred feet.

Although the winds are not especially strong — amounting to nothing more than a slight change in the JetRanger's handling characteristics, and some ripples in the pools of an icy creek — they demand attention. There's not much room for error in this narrow canyon at 8,000 feet above sea level, and it's not difficult to imagine things going wrong in a hurry. As Pfahler says, "Anybody can tell a 30-knot wind. It's the three- to five-knot winds that hurt us."

Indeed. And that's precisely what makes Pfahler's training so valuable: it's an opportunity for pilots with limited mountain experience to learn what will hurt them before they hurt themselves. Although such training tends to be widely available in Canada (see, for example, *p.88, Vertical, April-May 2009*), good helicopter mountain-flying courses are still relatively scarce in the United States. Pfahler's training is doubly unique in that he offers an exportable solution: in addition to his partnership with Montana Aero, customers can train in their own aircraft and local terrain, if they prefer.

I can attest, however, that those customers who travel to Missoula will find as ideal a mountain-flying training ground as they could ask for. Last year, I decided to make that journey, sampling not only Pfahler's advanced mountain-flying course, but also his vertical-reference/long-line course, which emphasizes operations in mountainous terrain. The experience was uniformly positive: the courses offered by Pfahler and Montana Aero are welcome additions to the still-developing advanced helicopter-flight-training market in the U.S., providing further opportunities for pilots to receive the systematic, specialized training they might not otherwise obtain.

ELITE TRAINING

Tim Pfahler is a familiar name in natural resource aviation. A former U.S. Naval aviator and Montana Army National Guard pilot, Pfahler also flew in the civilian utility sector before signing on with the U.S. Forest Service (USFS). He retired from the USFS as its national helicopter standardization pilot, having played a key role in developing many of that agency's checkride standards. Floyd Keller, a USFS national helicopter inspector pilot, confirmed that Pfahler is still widely known and well regarded in forestry and fire aviation circles: "He's extremely respected throughout the industry," said Keller.

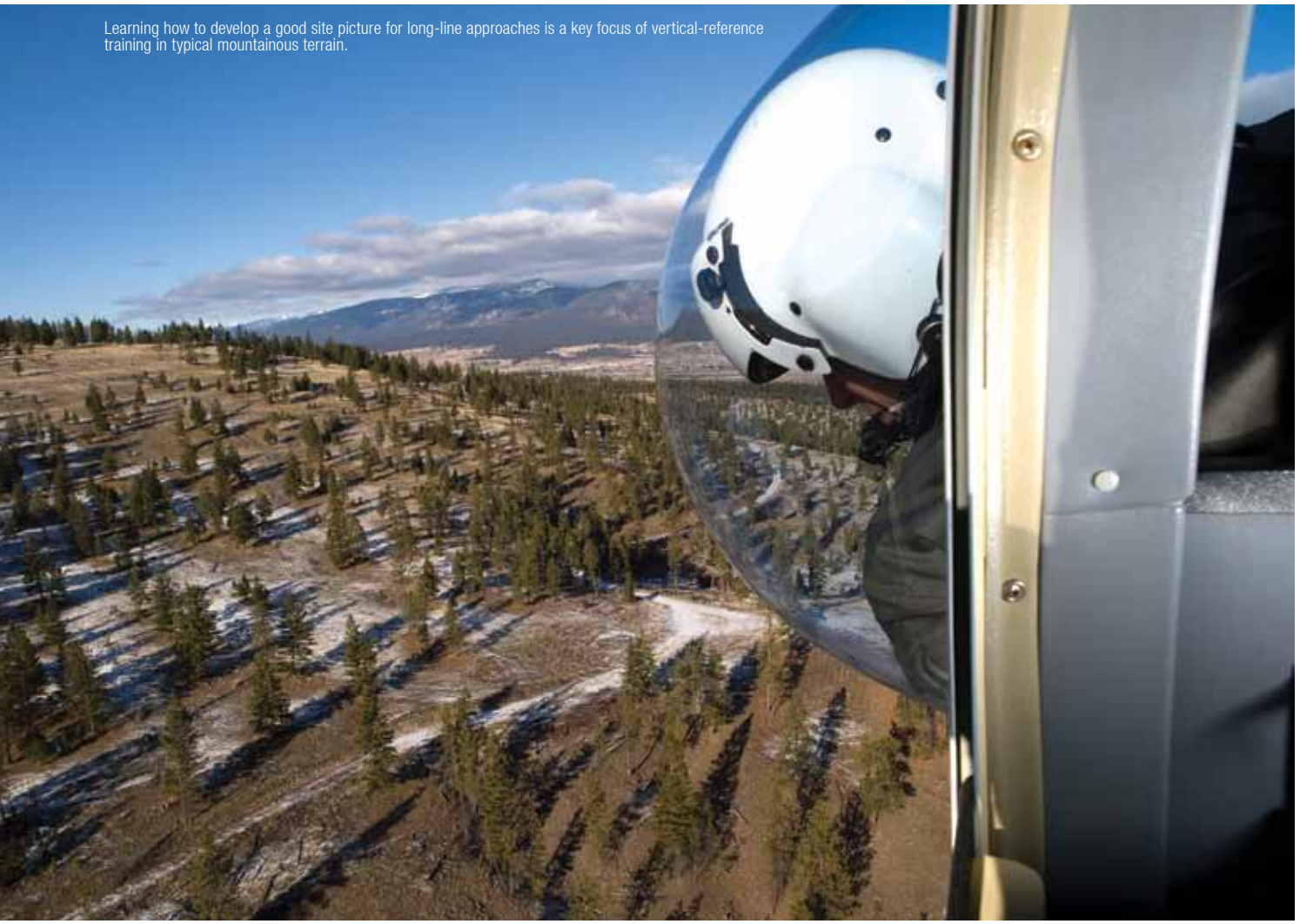
Wind-finding is key in mountain flying, even if you already know where the prevailing winds are coming from. "In each drainage, the winds can be a little bit different," said Pfahler.

BOTH GROUND SCHOOLS HEAVILY EMPHASIZED PERFORMANCE PLANNING. EXPLAINING THIS EMPHASIS, PFAHLER SAID, "PEOPLE BECOME SO FAMILIAR WITH THEIR AIRCRAFT AND WHAT THEY THINK IT CAN DO THAT THEY CAN EVEN LOSE THE SKILLS TO DO THE PERFORMANCE PLANNING."

Pfahler began instructing commercially after he retired from the Forest Service. Last year, he created Superior Performance Aviation, an independent consulting company that offers training in mountain flying, vertical-reference/long-line operations and firefighting techniques, in addition to aviation safety reviews and safety management system consulting services. More recently, he has partnered with former Bell Helicopter instructor Lon Wimberley, who offers normal and emergency procedures training, also in an exportable format, to complement Pfahler's offerings.

As Superior Performance Aviation, Pfahler and Wimberley conduct training for many agencies and individuals who prefer to use their own aircraft. For example, Montana rancher Bill Galt, who uses his Bell 206L-4 for animal herding, agricultural spraying and call-when-needed firefighting work, brings the two expert instructors to his ranch regularly for recurrent training. "The neat thing about the training with Tim and Lon is that the training is in your own backyard, in your own helicopter," he said. "For what we do, Tim's training was really essential. . . . We take off from 5,200 feet and go up from there."

However, Pfahler also wanted to make his training available to a wider audience. To do so, he teamed up with Montana Aero owner Randy



Learning how to develop a good site picture for long-line approaches is a key focus of vertical-reference training in typical mountainous terrain.

Frasch, who operates the aforementioned JetRanger I was flying, plus an Enstrom F-28C, from a hangar in Missoula. Frasch, whose company offers ab initio helicopter flight training in the Enstrom, wanted to expand into advanced flight-training offerings. Having trained with Pfahler previously, Frasch recognized that he would be a good fit.

"We want to have the best elite training facility available," explained Frasch. "I think there's a need for it, and a real good opportunity for us. . . . We have the terrain." The advanced flight-training courses offered through Montana Aero take advantage of the nearby mountains to provide demanding, realistic mountain and vertical reference training with a minimum of ferry time. Training is available year-round, with each season presenting its own challenges and opportunities.

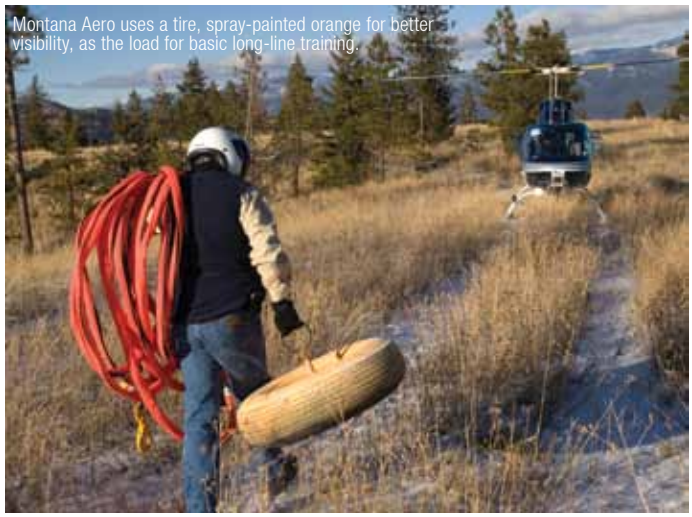
While Missoula's training environment offers obvious advantages for pilots who work in the mountains, Frasch noted that even pilots who spend most of their time over flat ground will benefit from the wind-finding and power-management skills they develop in mountainous terrain. "Mountain training courses help you out everywhere," he said. Consequently, he sees Montana Aero as a desirable destination not only for natural resource pilots, but a wide range of helicopter pilots looking to develop their skills.

TESTING IT OUT

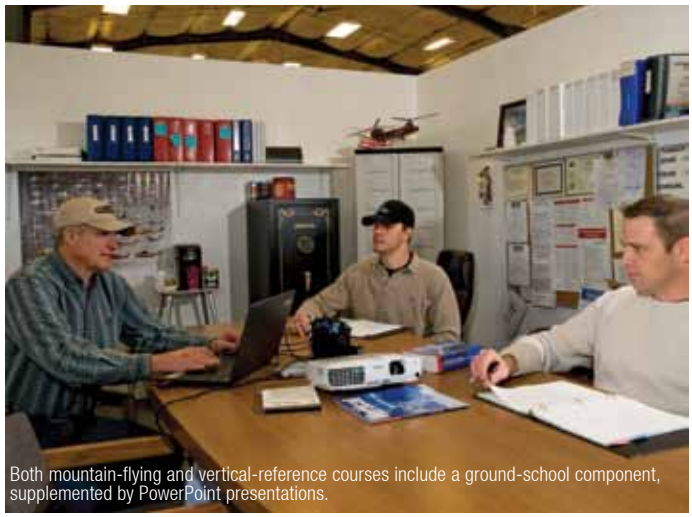
My own time at Montana Aero began where most students' time begins: on the ground. Pfahler's courses include a significant ground school component, designed to introduce students to key concepts before they take to the air. At Montana Aero, ground school is conducted in a dedicated classroom space in the hangar, which can accommodate multimedia presentations and one-on-one or small-group instruction.

Because I was in Missoula for both vertical-reference and advanced mountain-flying training, I went through the ground schools for both courses. In each, Pfahler reviewed the theory, key techniques and common errors specific to each subject. However, both ground schools heavily emphasized performance planning, including knowing where to look in the flight manual to find the performance charts for the most restrictive piece of equipment. Explaining this emphasis, Pfahler said, "People become so familiar with their aircraft and what they think it can do that they can even lose the skills to do the performance planning."

When it was time to go flying, I began with the vertical-reference work, using Montana Aero's JetRanger and a training tire at the end of a 100-foot line. Because I had done a few hours of vertical-reference training previously



Montana Aero uses a tire, spray-painted orange for better visibility, as the load for basic long-line training.



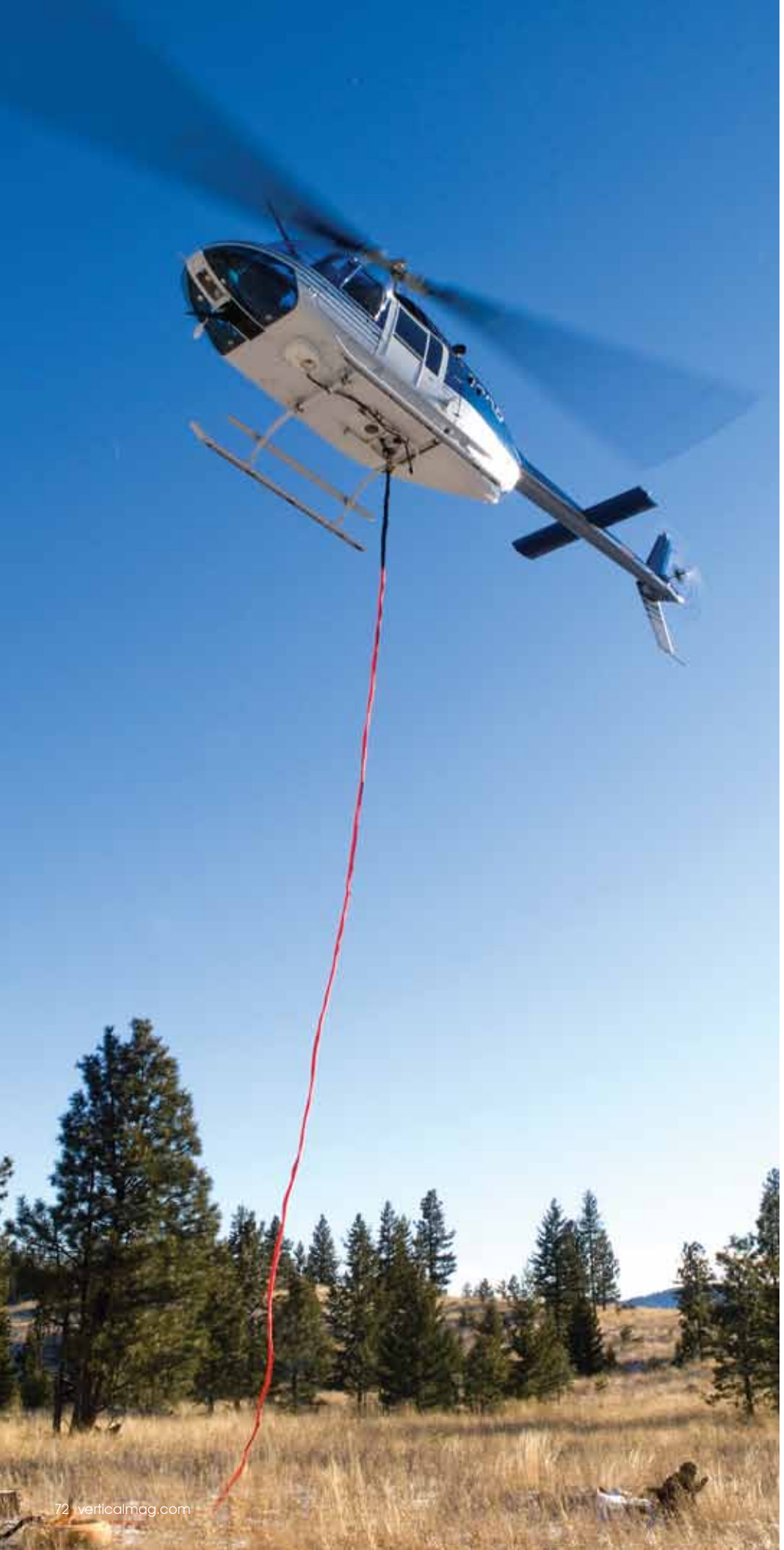
Both mountain-flying and vertical-reference courses include a ground-school component, supplemented by PowerPoint presentations.

(see p.34, Vertical, Dec'10-Jan'11), I began with a warm-up: Pfahler took me to a large, open field where I could fly some low-pressure approaches to get back into the swing of things. Once Pfahler was satisfied that I could land the tire in an area the size of, oh, say, a football field, we moved into the nearby mountains for approaches to "typical terrain": confined areas, pinnacles and ridgelines, all things a pilot might see on a USFS contract.

Flying in the mountains undoubtedly adds complexity to vertical-reference training, as it demands you pay attention to winds, terrain, obstacles and potential illusions, in addition to the load, and greatly narrows the room for error. For the same reason, however, it forces you to fly smoothly and precisely from the start, and drives home the negative consequences of fixating on the load. Although I certainly struggled with some approaches, the sense of real-life achievement I felt when I successfully landed the tire in a difficult confined area was unbeatable.

Throughout the training, I appreciated Pfahler's calm demeanor, which allowed me to focus on the task at hand without getting flustered. "He's a cool character," Floyd Keller later agreed. "He makes the learning fun and enjoyable." At the same time, said Keller, Pfahler "demands that you do maneuvers correctly, within the standards that he has. . . . He's not satisfied with 'close enough.' " Indeed, Pfahler's standards are demanding. Although I didn't have the opportunity to complete the vertical-reference course myself, its completion standards, using a 150-foot line, are more stringent than the standards for a USFS checkride. Not only must Pfahler's students show the required level of accuracy with a long line, they must do so with approaches to multiple types of terrain, including tricky ridgelines and saddles, while demonstrating proper high and low reconnaissance techniques.

Obviously, pilots who complete the vertical-reference/long-line course at Montana Aero get a good review of mountain-flying techniques



Pfahler acknowledges that not everyone is cut out for vertical-reference flying: "I've turned more people away from taking the course than I've brought in." Those who have the aptitude and willingness to learn, however, will get a systematic introduction to the skill through Pfahler's courses.

at the same time. However, I also did a dedicated mountain-flying training flight with Pfahler to focus on those techniques specifically. Beginning with basic contour flying, we progressed to figure-eight and circling wind-determination methods at a variety of landing sites: from confined areas surrounded by tall pines, to snowy, 8,000-foot pinnacles.

The flight pulled together the concepts we had discussed in ground school, demonstrating the importance of good power management and situational awareness at high altitudes. And, while many of the winds we encountered were predictable, our ascent through the steep canyon I described earlier was a reminder that, in the mountains there's no substitute for listening to what the helicopter is telling you. "That aircraft will tell you an awful lot about what's happening out there," emphasized Pfahler.

There's no denying that poking around scenic mountains in a helicopter can be pure fun. But, while Pfahler and Frasch believe in having a good time, there's also a serious side to their mission: helping to advance the overall level of training in the industry, with the ultimate goal of saving lives. It's a gospel they live personally, and are now anxious to share.

"I've been training since the day I got my license," said Frasch. "That's why it's so exciting to be part of this training we're trying to put together."

Elan Head is an FAA Gold Seal flight instructor with helicopter and instrument helicopter ratings. She holds commercial helicopter licenses in the U.S., Canada and Australia, and is also an award-winning journalist who has written for a diverse array of magazines and newspapers since the late-1990s.