

Backcountry Fox



Learning the secrets
of mountain flying
with Paul Leadabrand.

BY PAUL DYE



Paul Leadabrand, founder and owner of Stick & Rudder Aviation, never stops grinning around airplanes and mountains, best that we can tell.

“For this one, I just want to let you know, once we turn final, we are committed—no go-around—we have to make it work!” These words from instructor Paul Leadabrand in the other seat reminded me that it was definitely time to be on my game. I pulled on full flaps, trimmed off the stick forces to give myself a comfortable, yet slow approach speed, and added some power as I picked my spot.

“Those trees at the bottom of the slope are kind of high, so let’s aim about a third of the way up the runway, about by the windsock. Remember to keep lots of power in as we touch down, and then add some more so we can climb the hill!” Added reminders from Leadabrand as I concentrated on my sight picture. We were unfortunately landing straight into the morning sun—but that was going to go away behind the ridge as we got in close. Approaching over a thawing, but ice-covered mountain lake, the runway we were approaching had slope to spare—an *uphill* slope that would be a good climb on foot, a tough ride on a mountain bike. As we got closer, I could see that the surface would be no problem for the big bush wheels on the Kitfox Super Sport we were flying. And I also realized that the slope was steeper than we could climb. Well that made it simple—just keep in the center of the dirt, between the forest

carved out on either side, and the ground would come up to meet us!

There was little flare; we simply flew into the hill with all three wheels, and the big tires made the landing soft. Power on and we climbed the crest of the hill. There couldn’t have been more than a thousand feet of “runway,” but we only need about a hundred. Landing long would have made the climb easier, but I wasn’t ready to give away runway just yet—this was, after all, my first day in the Idaho backcountry, and only my third landing “in the wild.” No need to get cocky, even though Paul’s expert instruction, and the easy handling of the Kitfox, already had me feeling like I had done this a hundred times. The dependent flaperons keep flying at ridiculously slow airspeeds, giving a positive control feel, even when it appears you are in a hover, and I wasn’t feeling rushed as I picked my exact touchdown

spot. It felt a little like the aerial equivalent of picking rocks on which to cross a stream—one foot here, the next here, and the last there...and you’re down!

Leadabrand, the founder and owner of Stick & Rudder Aviation of Boise, Idaho, has been flying this backcountry all of his life. He’s lived the life of a corporate pilot, a mountain freight hauler, and now specializes in training people to fly Kitfox aircraft, and to do it in the mountains. Stick & Rudder enjoys a symbiotic relationship with Kitfox Aircraft, just down the road in Homedale—part of the greater Boise area. John McBean, owner of Kitfox, is one of those kit manufacturers who believes strongly in type-specific transition training, and has worked hard to build a strong relationship with Paul, steering builders and buyers to Stick & Rudder for transition training. Together, they want to make sure that when a new pilot

Leadabrand on very short final for a strip in the back country. Pilots learn to use all of the controls and aerodynamics of the aircraft to put the machine where they want it.





The runway at Deadwood Reservoir is little more than a widened logging road extending up from the lake. The angle between the vertical trees and the ground give an idea of the slope.



A Kitfox on approach to Deadwood Reservoir. The task is to simply fly into the hill, then keep the power in, so that you can make it to the top of the hill. Ground roll for a power-off landing is negligible.

takes his own Kitfox out for the first time, he is ready to handle the airplane with confidence—and adding a little mountain flying to the transition mix is a great way to expand a pilot's comfort zone quickly.

This is Not a Test

My two-day visit was but a sampler of what a new Kitfox pilot might expect when they show up at Boise Airport and meet up with Paul. Combining the training with a factory visit to see what was up at Kitfox gave us a couple of half-days to fly, and Paul wasted little time in getting started. First things first: "This is not a test. You are not here to please me. You are here to learn and have fun." These three points he made loud and clear. A significant number of Leadabrand's

clients come from military and airline backgrounds, where training is always done under pressure to perform and succeed. His approach is anything but. His students aren't going for ratings (in general), they are there for the experience. There aren't any tests to pass; there is simply knowledge and skills to be absorbed. That makes for a much more relaxing experience and a realistic partnership between instructor and student. We talked about the points he usually makes in an hour or two of ground school, and I gathered that the length of the school depends greatly on the student's experience with this type of aviation.

After chatting awhile, and with the clock ticking on our visit to Kitfox and a building wind, we climbed into one of his two identical Kitfox Super

Sports and prepared to take off. We talked about the difference in operating Rotax engines versus the Lycomings I am more familiar with—and one of the best things I found was that they had removed the spring that drives the throttle to full open when you let go of it. I like the Rotax in general—but not this factory characteristic. Both the factory SLSA and the two owned by Stick & Rudder had only a very light spring, and it was loading the throttle toward idle. Much better in my opinion. The aircraft we flew was equipped that day with Alaskan Bushwheels—low pressure, large tires that really help you stick

April in the high country means there is still plenty of snow. Many of the back-country strips are still closed, but lower ones are available to early season flyers.





After touchdown, keep the power in to motor to the level spot at the top where you can turn around. Rolling backwards in a taildragger is not recommended.

a landing on rough terrain. Their other aircraft was sporting 800 x 6s, but the wheels can be swapped in about 45 minutes if you wish to be flexible. The bush tires cost a few knots of drag, so some might want both so they can equip for the mission.

The next two hours consisted of a lot of fun, a lot of laughing, and a lot of landings at nearby airstrips spread across the Snake River valley. This included everything from runways in good condition to runways with faded and cracked pavement. We landed on grass, and in an unimproved farm field. The Kitfox with the Bushwheels did great on all of it—although I looked at those big, soft rubber tires and cringed a bit when touching down on asphalt. Having owned a Cub for many years, I am sensitive to what wears out expensive tires!

Short-Field Specialist

The Kitfox has several unique handling qualities that make it a good short-/rough-field airplane. The aluminum gear is forgiving; the full-span flaperons are always flying, giving good control; and the bubble Plexiglas doors give the pilot an excellent view of where they are in relation to the ground for flare. The airplane flies nice and slow, with plenty of reserve lift for maneuvering close to the ground while still climbing. At one airport, up tight against the Snake River, we lifted off and, at about 200 feet, did a tight 180 toward the river—and toward

Equipped for the Job

The Kitfox Super Sport is not your father's Kitfox! According to John McBean, owner of Kitfox Aircraft, there have been about 5500 kit deliveries (all models) since the marque was first introduced. Growing out of the ultralight movement, the original models were light and attracted those who wanted a small, simple aircraft whose wings could be folded up for easy storage. The latest incarnations still have those folding wings, and they aren't very complex—but they certainly are capable.

The Super Sports used in Stick & Rudder's program have large tundra tires and big tailwheels to smooth out those rough strips that can sometimes be no more than a clearing in the woods. Powered by the Rotax 914 Turbo, they have plenty of power to haul an airplane with two large adults and up to 150 pounds of baggage in and out of the wilderness that sports peaks extending up around 10,000 feet. The baggage area is plenty large, yet there is also a belly pod option if you need more volume to carry gear—or haul out your fish or game.

The turbo Rotax has a time limit on the use of maximum power, and the factory airplanes have a unique way of dealing with this: A short piece of Tygon tubing is fitted over the shaft of the throttle cable, right where the pilot's finger rests. The tubing acts as a limiter so that the throttle can't be pushed all the way in under normal circumstances—yet it is split so that if the pilot pushes hard enough, it will pop off the shaft, giving that extra little travel that gives you all available horsepower. Like the "war emergency" setting on a World War II fighter, the power is available if you need it—but the engine is saved from excessive wear and tear under most flight conditions. We never needed to pop the tubing off on our training or trips; the normal operating limits gave us plenty of power to haul us in and out of some pretty short places with high terrain all around.

Equipping the aircraft for bush flying does not come without a price—those big tires do add some drag. The good news, however, is that with a set of 800 x 6 tires mounted on an extra set of wheels, a pilot could swap between the lower-drag option and the bush wheels in about 45 minutes, according to Leadabrand. On our trip, one of the airplanes had the smaller tires, the other the Bushwheels, and both seemed to do equally well. But most of the runways we used would have passed as adequate gravel roads. For true off-airport operations, the tundra tires would be a plus.

The Kitfox is a great platform for flying low and slow. The flaperons are "dependent," hanging below the wing and working as full flying surfaces, separate from the main wing. They add little drag, but significant lift, when deployed as flaps—and they keep flying as ailerons (providing good roll control) deep into the stall.

The rudder is very effective and not too heavy; it is very easy to point the nose well off the flight path when you want to look around the hump of the Rotax gearbox on the center of the nose. In fact, Leadabrand spends a significant bit of time advising students to "let off the rudder" that they are unconsciously holding because they want to aim the hump instead of looking straight ahead.

In a stall, the low dihedral angle of one degree provides little roll stability, so it is common for one or the other wing to drop at the break. The rudder, however, is very effective at leveling things out, and better than that, the flaperons are very effective through the stall for roll control.

All in all, I found the Kitfox to be an excellent airplane for this kind of flying. Sure, there are airplanes that will take off and land a little shorter—but the real world difference is probably insignificant. If you are trying to decide between two airplanes based on a fifty- or even a hundred-foot difference in takeoff or landing distances, perhaps you need to be looking for a slightly longer runway.



Two things to note on these Alaskan Bushwheels: The filler stem is *in* the tire itself, and the maximum pressure rating is 12 psi. The low pressure makes for soft landings.

—P.D.



John McBean, owner of Kitfox Aircraft, can't get enough of the Idaho backcountry, and wouldn't miss a breakfast run to a mountain ranch.

the high cliff on the opposite bank. We then did *another* 180, again toward the bluff, and it never felt like we were going to come close to the rocks or stall in the turn. The airplane practically pivots over a point on the ground—excellent practice for the confined-space maneuvering we'd find in the backcountry the next day.

Landing back at Boise Airport with its 11,000-foot runways required a gentle request to the tower for a "short approach and a long landing." Obviously familiar with the Kitfox, this was approved, and we turned base about midfield and landed on the last 2,000



Another Kitfox, ready to head out the door—some assembly required. This is a complete airframe kit, waiting to be picked up by an eager builder.

feet since the company's hangars are located off of that end. Minimal taxi means minimal wear and tear on tires.

Leadabrand has arrangements with an FBO on the field for the use of the briefing and conference rooms—as well as using their concierge service to find hotels and transportation for his clients. This saves on rental cars and provides excellent room rates—especially important for someone coming to spend a week in town.

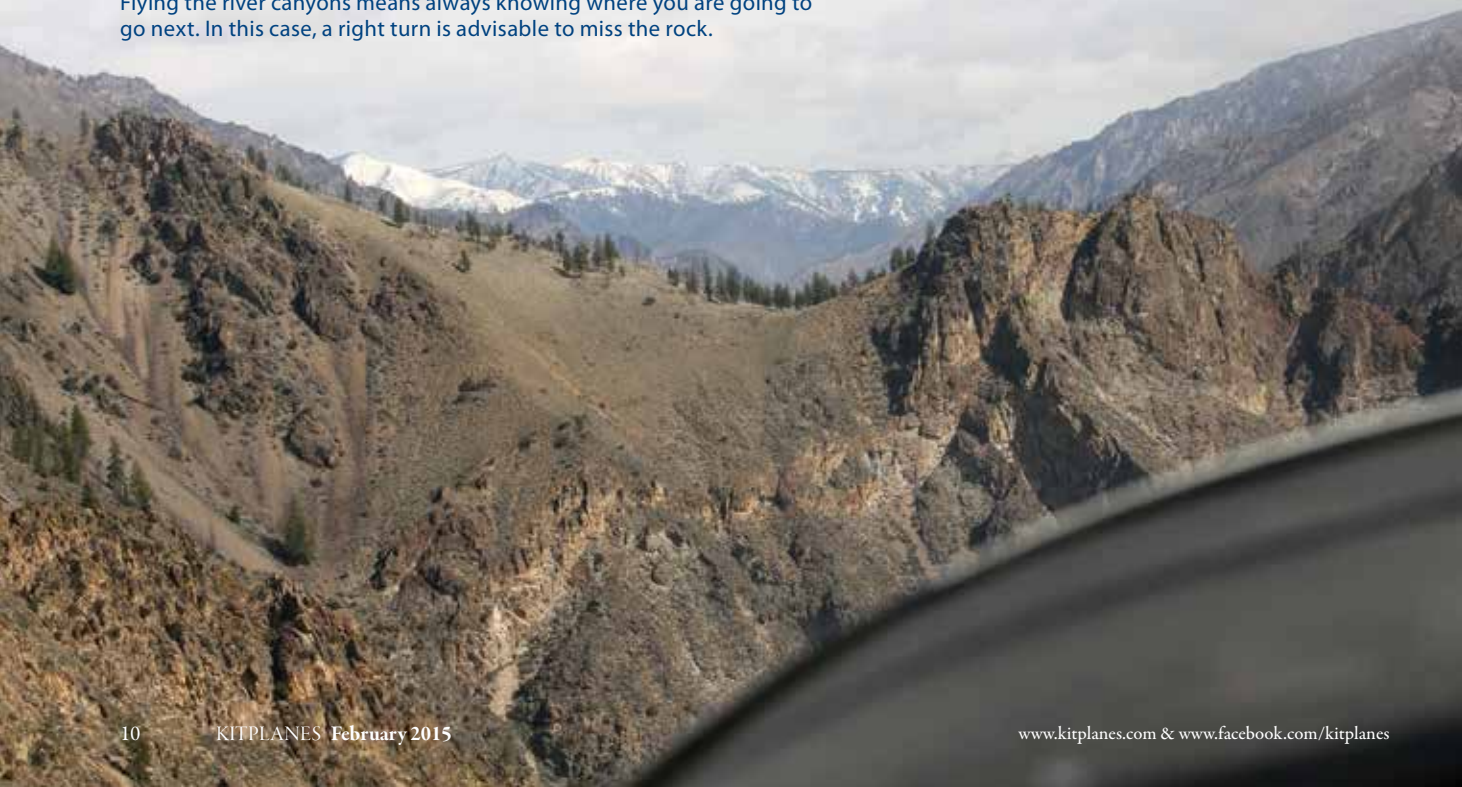
Flying With Rocks

The second day of our abbreviated course dawned bright and early. Strike that—there was nothing "dawn" about it when Leadabrand picked me up at my

downtown hotel at 0630. Our early start time was partially to help me get headed home before bumps built up later in the afternoon, partly because the morning is a great time to fly in the mountains, and partly so that we could catch breakfast at a remote ranch deep in the mountains on the Salmon River.

Most of my four decades of flying has been concentrated in the middle of North America, a vast land that is mostly flat when compared to the western part of the United States. The past few years I have increased my mountain flying quotient, and did due diligence by studying the available texts on the subject—always aware that many of those authors have met unfortunate ends in the various

Flying the river canyons means always knowing where you are going to go next. In this case, a right turn is advisable to miss the rock.





The partnership between Kitfox and Stick & Rudder is a good thing for Kitfox builders and those who want to learn to fly in the mountains.

mountains about which they wrote. That only reinforces the need for caution when flying in rising terrain. This was my first opportunity to get some one-on-one instruction in the art of flying with rocks all around, and while I found that most of it truly is common sense—for instance, always leave yourself an out—there are things that are best taught “in the field” so to speak.

Leadabrand frequently repeated the need to customize the pattern and approach for each field—no two are ever quite alike. The pilot needs to inspect the field because conditions change with seasons, natural weathering, and the presence of animals (sometimes big ones). Approach paths need to be carefully considered. Although the rectangular pattern is a good place to start, legs are often curved, rather than straight, and views get blocked from many places. Careful consideration needs to be given to when to start descents—higher in the pattern is often better when dealing with steep, V-shaped canyons that drive you closer to the runway. Oftentimes, we’d fly the downwind across a ridge perpendicular to our course, make a steep turn into a quickly descending base leg in a narrow canyon on the other side (with the runway out of sight), then make another steep turn as the runway appeared as we exited the cross canyon.

Before committing to a landing, the pilot needs to consider missed approach options—if there are any. Oftentimes, you can’t see escape routes from down



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A pair of Kitfoxes rest at the Flying B Ranch airstrip, on the middle fork of the Salmon River, while their occupants feast on a ranch breakfast. Turbocharged Rotax 914s make these airplanes superb mountain aircraft.



The elk on the mountain add to the atmosphere at the Flying B Ranch—a great breakfast stop in the Idaho mountains.

low, and need to memorize them before you get down among 'em. Likewise, if there *aren't* good abort options, the pilot needs to determine where they will hit the point of no return—after which they *must* land, somehow, somehow. Equally important is to figure out the departure path; it would be quite embarrassing to make a perfect landing at a strip from which there is no way out.

As we flew down the river toward breakfast, we looked at many small strips along the river and discussed how we would approach them, even though we didn't take the time to land. Leadabrand explained that there is not always only one right answer, and the give and take

of discussing the how and why of various approaches was refreshing. One point he made several times was that with very few exceptions, you want to land uphill and take off downhill. If the winds are such that you are faced with a ten-knot tailwind with these rules, it is probably appropriate to ask if you should be flying at all—winds in the mountains multiply the difficulties, and reduce your options. Just as in flying everywhere, you can't ignore the weather and get away with it for very long.

The slow-speed/high-lift capability of the Kitfox was perfectly matched to these shenanigans, and the bubble Plexiglas doors enhanced the feeling of the

pilot being one with the air and the environment. It almost felt to me like I was simply flying without an airplane, and placed myself where I wanted to be as naturally as if I was walking down a set of imaginary stairs leading to the touchdown point. With approach speeds down around 50 knots and touchdown speeds lower, it was easy not to worry about staying a little high over threshold trees because we always landed uphill and ground rolls were short.

What's Cookin'?

The breakfast stop at the Flying B Ranch was a great break in the intensity of the morning flying. The ranch, isolated deep in the mountains, is a base camp for hunters who own a share in the property. A friendly staff was on hand to prepare breakfast (with advance notice), even though we weren't shareholders and were the only guests on the property. They were clearly getting ready for the season, and we were more than happy to help them tune their kitchen skills as we gobbled down large fluffy pancakes, eggs, thick bacon, and good coffee. All that flying really worked us up an appetite, and the pilot talk around the table was relaxing as we traded stories. We were a three-ship operation, with Leadabrand and myself in one plane, Kitfox Aircraft Owner John McBean in another with newly-licensed Brandon Petersen (factory wing builder) along for the experience. The third aircraft featured another Stick & Rudder instructor, Preston Riley (formerly a factory wing builder) giving primary instruction to the new owner

Accidents Happen

Mountain flying is fun, but it requires a unique skill set and a serious temperament. Even the best suffer mishaps—sometimes fatal. It should be remembered that Sparky Iverson, writer of several books on mountain flying, died in the mountains. No one is immune from having a bad day, and no one can afford to let their guard down. Leadabrand told me a story of his own: the day he had to put a large Cessna down in the trees and walk his passengers back to a cabin four miles downstream.

It was a day with changing weather that squeezed him down into the valleys, and he was following all of the rules of mountain flying—staying next to one side of the narrowing canyon so as to allow a turn-around if things closed down ahead. Sure enough, when he came around a turn, the pass ahead was socked in, and he pulled the airplane around into a 180, right at the limits of performance, and with the flaps out. Just at that point, the right seat passenger—bundled up with warm clothing and bulky as a snowman—bumped the flap switch with her knee, and up they went. The loss of lift was the straw that broke the camel's back, and he had to unload to avoid a stall. With no place to go in the air, he elected to fly into the forest—but those trees aren't little. Hitting one head on would be like hitting a wall. Steering between two large trunks, he took the wings off the airplane to slow down, and everyone survived for the walk to a closed-up ranch house down the canyon where they were able to use the shortwave radio to call for rescue.

It's important to remember that even the best can have a bad day.

—P.D.



Many of the highest mountain ranch strips will be snow covered until May—then their seasons will really begin.

of Kitfox N523BK, Bill Mearkle. Bill decided that a Kitfox would go well on his Pennsylvania farm, and that meant he'd need a license, so he came to Idaho for the package deal. This was his first foray into the backcountry with this merry band of airmen, and I never saw the smile leave his face.

Breakfast was over all too early, but we wanted to get back before the wind and bumps came up. We decided to swap seats for the return flight so I could shoot a few photographs of Leadabrand's airplane along the way, so I strapped in with McBean, and off we went to explore a couple more fields and gather some spectacular images of airplanes, rocks, and sky. We circled overhead while Leadabrand gave another quick lesson on approaching a particularly confined strip, then climbed for altitude to cruise back across the wilderness for the long runways of the

lowlands. Along the way, I sampled the formation qualities of the Kitfox, and found that aside from the typical blind spot of a high wing, the stable handling qualities made it a reasonable photo platform, as well as target.

Majestic Mountains

As we cruised along above the pine forests of the western mountains, I realized that like anything else in aviation, mountain flying is a continuous learning process. No two runways are ever going to be alike, so each one requires its own thought process. Even the same runway, visited at different times of the year, will require tweaks to the approach and touchdown points. There was still considerable snow in the highest parts of the region, and many runways were not yet usable. I asked about ski operations, and Leadabrand pointed out that, unlike the wet snow I was used to in



The panel of a typical factory Kitfox—all you need for day VFR flight in the backcountry. A large-screen EFIS is low maintenance, costs less than many gauges, and provides a good map.

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the Midwest, their snow is very dry and powdery—providing no flotation for skis. Airplanes just tend to sink in, making operations impossible. We flew over several ranches whose strips were still covered in snow, their season dependent on the spring thaw.

The breathtakingly beautiful mountains had secrets hidden around every turn—herds of elk seemed to feel no threat from our noisy machines, and reminded me of the stories of Lewis and Clark’s men subsisting primarily on the large animals they shot. There was

plenty of water in the river, but it didn’t appear in flood, and Leadabrand said that the white-water rafting season was about to begin. Little camps and cabins—their only access by air—were dotted along the stream as it meandered its way through the rugged rocks of Idaho. It was easy to understand the fascination of this wilderness, and the reason pilots love to come here to relax.

The morning was over all too early for me, and before I wanted, we were crossing the last range of mountains and entering Boise’s airspace to return to the

Flying in the mountains means getting comfortable with one wingtip close to the terrain. Sometimes it is the only way to get into small strips in narrow spots.

land of radar coverage and long, paved runways. There are a lot of very neat places to fly in this world of ours—and some very interesting airplanes to take us there. Stick & Rudder Aviation offers a great program to introduce pilots to their kind of flying, in their kind of wilderness, and anyone looking for a new aviation challenge and adventure would find it intriguing and worth a look. After tasting this wilderness from the air, I can’t imagine not going back and dancing with the Kitfox on beautiful backcountry strips. ✚

Dollars and Cents

What does it cost to go and enjoy the backcountry? Stick & Rudder Aviation provides primary, transition, and backcountry training programs in the Kitfox Super Sport in their aircraft, or one provided by the student, at the following rates:

Aircraft Rental (Wet): (plus 6% Idaho sales tax)	\$135/hour for flight training \$145/hour for backcountry operations \$125/hour for ferry, or a pre-paid block time of 35 flight training hours (a \$350 savings)
Flight Instructors: (tax exempt)	\$60/hour (ground or flight) \$55/hour solo for ferry time

With proper checkout by their instructors, students can rent aircraft for their own adventures, providing they maintain currency in the aircraft and backcountry operations.

Stick & Rudder can provide good hotel rates and other services for their clients through their affiliation with Western Aircraft, an FBO at Boise Airport. This makes a stay in the area for transition training even more affordable.

For more information, visit www.stick-rudder.com, or contact them at: Stick & Rudder LLC, P.O. Box 170891, Boise, ID, 83717-0891, phone 208-477-1318.

—P.D.



Author Paul Dye enjoying the early morning flight into the mountains. Warm clothing is recommended, even in the April thaw.

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