TREY GERMAN GOT A LATE START on the day he crash-landed into a cactus field and ended up with dozens of inch-long spines protruding from his butt. German, 30, lives in Houston, Texas, and is a paramotor pilot. His encounter with the cactus occurred while he was competing in the Icarus Trophy, a 1,000-mile air race that spans five Western states. From its start in Polson, Montana, near Glacier National Park, German had been following the race route south. He’d threaded the Rocky Mountains into Idaho and was midway through Utah’s desert badlands when what might be considered a piloting error forced him to descend.

As the sun rose over mountains, German had intended to be airborne by dawn. But “technical problems,” he says, delayed his departure until 11 a.m. (When I push for specifics, he admits sheepishly that “everyone had problems,” he says, delayed his departure until 11 a.m. (When...)

A paramotor race requires—here, above the Glemis Dunes in southern California—although novices are welcome to enter.

In Paramotoring, or Powered Paragliding, as it’s also called, the pilot wears an aluminum-framed backpack outfitted with a two-stroke piston engine, similar to what’s in a lawn mower. Cranking out between 20 to 30 horsepower, it drives a two- or three-blade propeller (often made of carbon fiber) to produce thrust. A banana-shaped “wing” is fashioned from rip-stop fabric, a durable and near-tear proof nylon. Lines connect the wing to a body harness worn by the pilot. To take off, the pilot revs the engine while running; the forward motion forces air into vents along the wing’s leading edge, filling hollow chambers, called cells, sewn into the canopy. Eventually, the wing “inflates,” forming itself into a conventional airfoil that generates lift.

Paramotoring evolved from paragliding, which emerged in the 1970s when a handful of daring climbers in the French Alps decided to employ parachutes to expedite their descents from peaks they’d summited. But the existing parachutes were awful gliders: For every three feet of forward progress, they’d plunge one foot lower. The switch to non-porous fabrics, longer wingspans, and different airfoil shapes led to the modern-day paraglider wing. Pilots can now achieve up to 11:1 glide ratios with wings so efficient they can harness rising heat to soar on thermals for hours. It’s also possible to travel great distances: The world record is 350 miles, covered in a single 11-hour flight.

But to launch a paraglider you either have to hike or drive to a very high point, like a mountaintop or, if you’re a flatlander, rely on a ground-based winch and cable mechanism (usually

**‘I TOLD THEM IT WAS A TERRIBLE IDEA.’**

A paramotor race over mountains and desert.

by Michael Behar
on a truck or boat) to tow you to a suitable altitude and then release you. In 1980, Mike Byrne, a Brit from Essex, England, constructed what is thought to be the first paramotor and coined the term. It was a homebuilt rig, which he used to power a paraglider wing and make several flights in the U.K. Not long after, the French aerospace company La Mouette began manufacturing and selling paramotors, and the sport swiftly gained momentum. Pilots could take off and land just about anywhere; no longer did they have to lug gear long distances to reach elevated launch points or use tow systems.

I get a firsthand look at paramotoring in June, when I join Mike Bennett near Watkins, Colorado, about 25 miles east of Denver. We’re at a derelict dirt airstrip formerly used by fixed-wing ultralights, popular in the late 1970s and early 1980s because they offered an inexpensive and largely unregulated means for flyers to go anywhere, you can land anywhere, you can refill on ordinary fuel from a petrol station made them perfect for long-distance adventures. I just couldn’t believe it hadn’t already been done.”

After the race, former competitors meet to fly at the Pinal Airplane Boneyard in Arizona (above). Left: Calculating the distance to the next fuel station.

(Paramotors who travel to faraway locations to fly often just box up their engines and ship them by FedEx.) Watkins is having a spell of hot weather, with temperatures nearing 100 degrees. So I agree to meet Bennett at 6 a.m., shortly after sunrise, to beat the heat and the turbulent air that comes with it. He wants to compete in the Icarus Trophy race in September. “But I just got a new job,” he laments. “I’m not sure yet if I can take the time off.” Even so, Bennett has been training, doing longer-than-usual “cross-country” flights from Watkins to Colorado Springs, about 80 miles one way. (Most paramotors fly exclusively at their “home field” and almost never venture into hilly or mountainous terrain. “The winds in the mountains can cause a lot of turbulence and you can have a wing collapse,” says German.)

I watch Bennett carefully lay out his wing, fluffing it up like a down pillow until it stands upright along its trailing edge. “We call this ‘building a wall,’” he explains. Next he walks out the lines attached to the wing, letting them slip loosely through his fingers to feel for tangles or twists. With the paramotor now strapped to his back, Bennett pulls the starter rope and the engine screams to life. Despite a muffler affixed to the exhaust pipe, it’s painfully loud, so Bennett wears noise-canceling ear-muffs. A quick snap on the lines brings his wing overhead. He takes a succession of elongated leaps, and moments later sails gracefully into Colorado’s cerulean sky.

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Bennett assures me. On my third attempt, I finally coax the wing into the air and manage to keep it centered above me in a precarious hover. “Run, run, run!” shouts Bennett, who is also an instructor, certified by the United States Powered Paragliding Association. As I start to sprint, the lines I’m gripping become taut, at which point I release them, as Bennett had instructed, letting the body harness take over. Bennett chases after me. When he catches up, he shoves his palms into my lower back, pushing me increasingly faster to generate more lift from the wing. Suddenly, I’m on my tiptoes and then for a few exhilarating seconds my feet actually leave the ground— and I’m flying.

dives, and barrel rolls (called “acro” maneuvers in paramotoring). After about 15 minutes, Bennett cuts the engine and floats to a gentle stop—known as a “spot landing”—a mere five feet from where he parked his Ford SUV. Other paramotor pilots had told me they often drop into roadside gas stations to refuel, a degree of precision that seemed preposterous until I witnessed Bennett stick his landing in three steps. “I used to do high-power model rocketry and got into paramotoring so I could find my lost rockets,” he tells me. “But I loved it so much, I sold all my rockets and this is all I do now.”

I begin to understand the addiction when Bennett gives me a turn, sass motor, teaching me the art of “kiting,” the basics of flying the wing from the ground. He shows me how to point myself properly into the wind for takeoff. There is a barely noticeable breeze, perhaps three or four knots, but it’s enough, Bennett assures me. On my third attempt, I finally coax the wing into the air and manage to keep it centered above me in a precarious hover. “Run, run, run!” shouts Bennett, who is also an instructor, certified by the United States Powered Paragliding Association. As I start to sprint, the lines I’m gripping become taut, at which point I release them, as Bennett had instructed, letting the body harness take over. Bennett chases after me. When he catches up, he shoves his palms into my lower back, pushing me increasingly faster to generate more lift from the wing. Suddenly, I’m on my tiptoes and then for a few exhilarating seconds my feet actually leave the ground— and I’m flying.

At 25, THE ADVENTURISTS’ FOUNDER, Tom Morgan, has a buddy who runs a company based in Dorset, England, called Parajet International, which designs and sells paramotors. Three years ago, that friend offered to teach Morgan how to paramotor. “He gave me 20 minutes of instruction and then I had a go at it,” Morgan tells me. “I immediately regretted it because I soiled myself taking off into the sky without having any idea of how to come down.” Morgan eventually plowed belly-first into a field. Despite some scrapes and bruises, he relished the thrill, and summarily decided to include a cross-country paramotor competition in the Adventurist lineup. “The fact that they can go anywhere, you can land anywhere, you can refill on ordinary fuel from a petrol station made them perfect for long-distance adventures. I just couldn’t believe it hadn’t already been done.”
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to Denherder’s team. If they
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his support crew, who follow from the ground with mobile
transmits location, altitude, and airspeed data to Denherder and
hand-held satellite communication and navigation device, which
despite his or her experience. Each pilot also carries a two-way
training of any kind is mandated. In theory, you could buy a
paramotor engine and wing on eBay and try to fly it with-
out any schooling whatsoever. Doing so would almost certainly
kill you. For this reason, Denherder and other paramotor pilots
strongly suggest getting training from an instructor affiliated
with the U.S. Powered Paragliding Association.

For the Icarus Trophy, Denherder established a safety and sup-
port protocol designed to enable any paramotorist to participate,
despite his or her experience. Each pilot also carries a two-way
hand held satellite communication and navigation device, which
transmits location, altitude, and airspeed data to Denherder and his
support crew, who follow from the ground with mobile
tracking software. Whenever a
pilot takes off or lands, they’re
required to send a satellite text to
Denherder’s team. If they
notice that a pilot’s GPS track has stopped moving for more
than five minutes, Denherder
will fire off a message to make sure he or she is okay. If there
were no immediate reply, he’d assume the pilot is in trouble
and initiate a rescue. (The entrance fee pays for this support.)

For the truly uninitiated, Denherder created a shepherding
program—new for 2017—that will pair an experienced para-
motorist with newbies to the sport. Byron Leisek, a two-time Icarus competitor, will help novice pilots through the upcom-
ing race. “Sometimes I’ll fly with them,” Leisek explains. “Other
times I’ll be their ground support, making calls on weather and
arranging them up at night for debriefings and motivation to
give them extra confidence.” Leisek grew up in a family of hot air
balloonists, and his father bought him a hang glider for his 13th
birthday. He made his first solo flight on it shortly thereafter. Now
he runs a paramotoring school with Denherder called Team Fly
Halo, offering week-long training camps on the beach in Pacific
City, Oregon, and in northern California. “I got into the sport to
get away from the busyness of the world,” says Leisek, who packs
along a tent and sleeping bag
during paramotoring jaunts into Oregon’s Cascade Range.
“I can drop into a meadow,
spend a night or two, explore,
and then hop on my machine
and fly out.”

Joining the shepherd group
this year will be Jason Lehel, 56, an independent film pro-
ducer and director based in Los Angeles. He’s also an
avid skydiver. Lehel took up
paramotoring in 2015 and later learned about the Icarus Trophy when a friend emailed a link to the race website. “I put it in the back of my mind because I thought it was crazy,” Lehel says. But cross-country
flying always appealed to him. “It was why I originally got
into powered paragliding,” Last fall, while paramotoring in
Monument Valley, on the Utah-Arizona border, Lehel happened
to meet Leisek, who was in the area for the Icarus race. “He told
me about the idea of him shepherding, and I thought it was
ideal for my first real serious cross-country flight. I could do it
with a relative amount of safety and wisdom alongside me.”

For the ICARUS TROPHY, pilots can register for “race divi-
sion,” which requires them to complete the route without help,
outside Denherder’s team. “They can only progress by flying
or walking,” state the official rules. “If they fly, they must
carry their equipment.” The fastest time to the finish wins
the trophy and bragging rights. Or they can join the “adventure
division,” which allows them to enlist help from ground crews,
friends, locals, even Uber drivers if they get stuck somewhere
and can’t fly out. There are also two RVs tailing the pilots: one
carries food, water, spare parts, and other necessities; a second
has a mechanic who is also a paramotor instructor. “If there is
somebody who is relatively new and needs help, he’s there for
them,” says Denherder.

The adventure division is about smelling the roses. “It’s