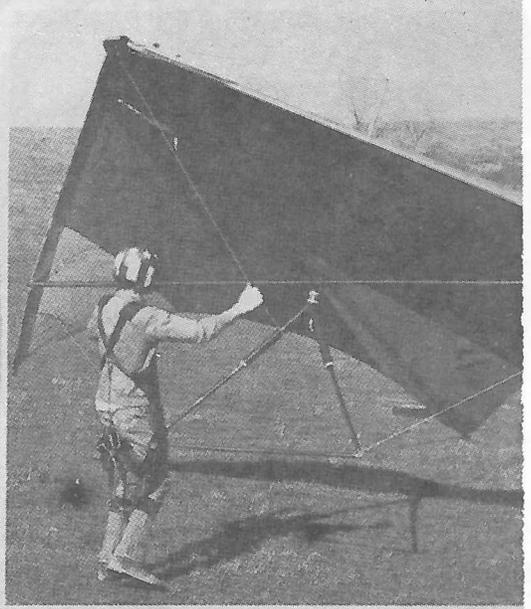
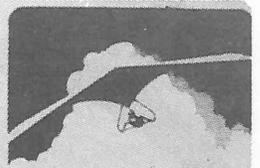
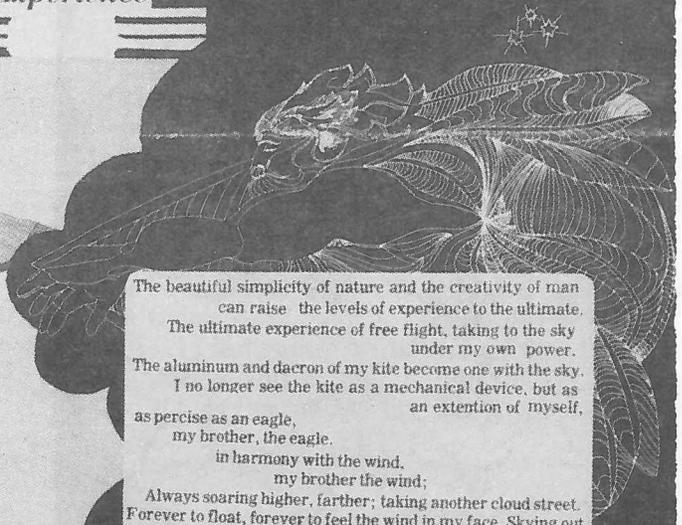
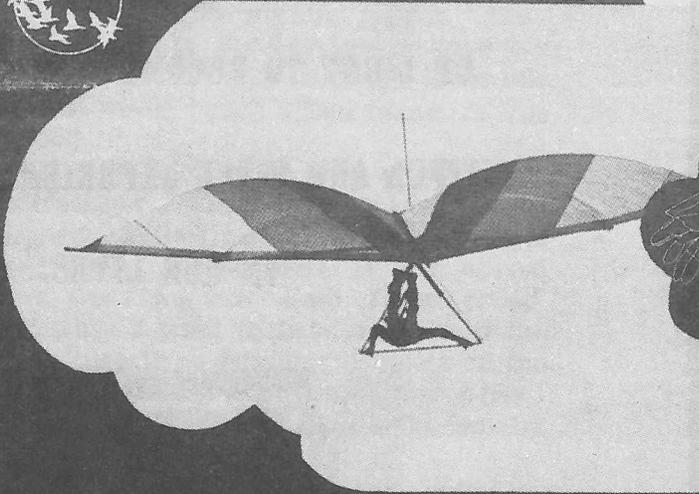


# HANG GLIDING

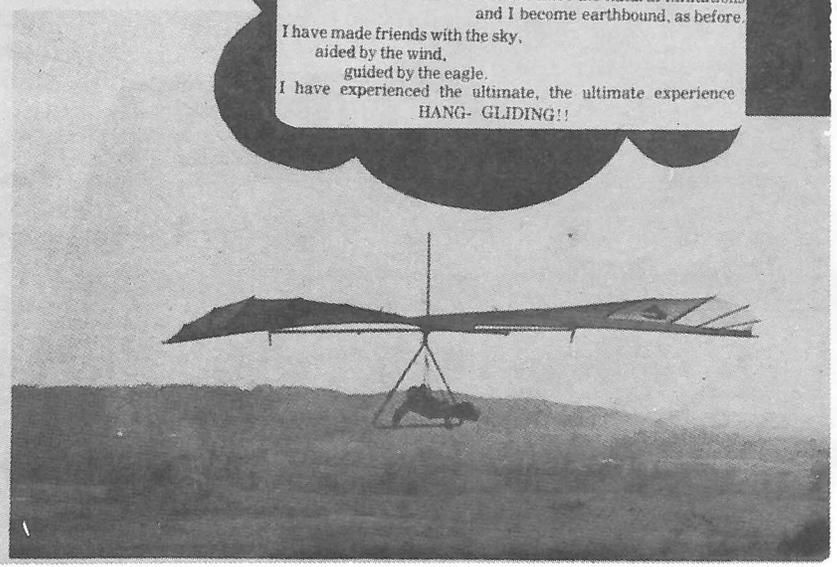


## Hang Gliding The Ultimate Experience

By JEFF STEBER

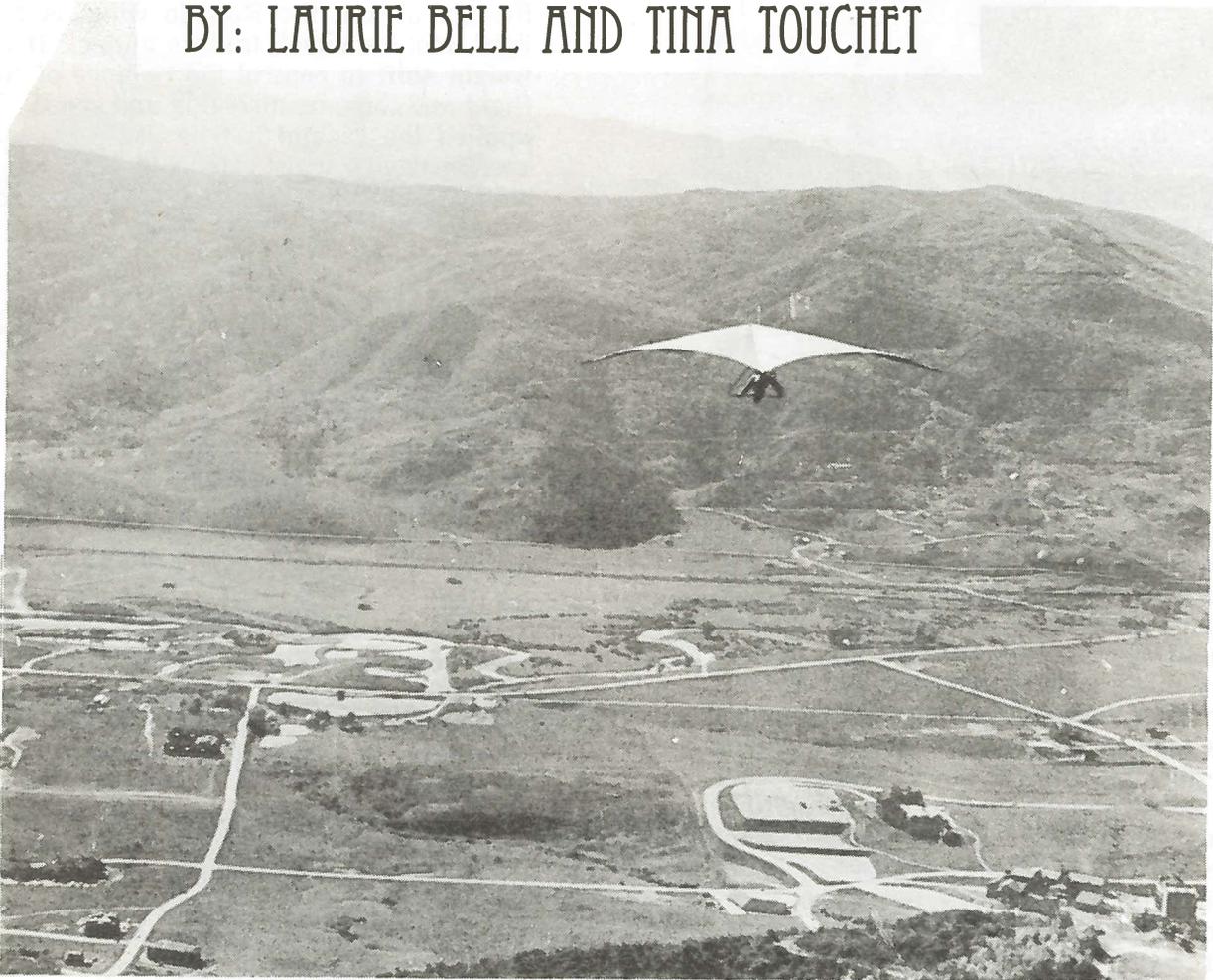


The beautiful simplicity of nature and the creativity of man  
 can raise the levels of experience to the ultimate.  
 The ultimate experience of free flight, taking to the sky  
 under my own power.  
 The aluminum and daoron of my kite become one with the sky.  
 I no longer see the kite as a mechanical device, but as  
 an extension of myself,  
 as percise as an eagle,  
 my brother, the eagle.  
 in harmony with the wind,  
 my brother the wind;  
 Always soaring higher, farther; taking another cloud street.  
 Forever to float, forever to feel the wind in my face. Skying out  
 at cloud base, hoping to stay high.  
 An endless expanse of blue, the sky's the limit, until the ever  
 present pull of the earth overcomes the natural limitations  
 and I become earthbound, as before.  
 I have made friends with the sky,  
 aided by the wind,  
 guided by the eagle.  
 I have experienced the ultimate, the ultimate experience  
 HANG- GLIDING!!



# “5000 FEET OFF THE GROUND AND THERE’S NOTHING LIKE IT”

BY: LAURIE BELL AND TINA TOUCHET



## “INCREDIBLE PLACE TO FLY, STEAMBOAT SPRINGS!”

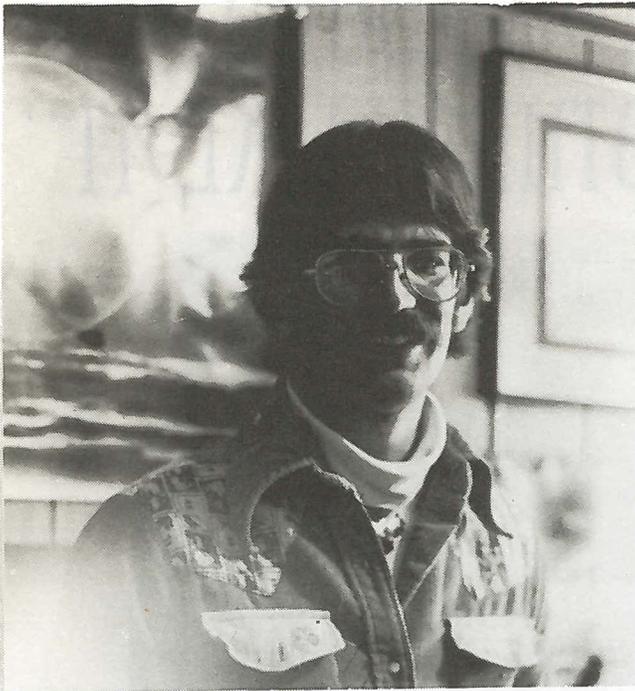
### MONTE & JEFF

“Hang-gliding is about the closest thing you can get to really flying. It’s the closest to the elements,” says Jeff Steber and Monte Bell, two local hang-gliding artists.

Monte has always wanted to fly, “I’ve jumped out of three trees and a couple of garages. My brother jumped off the garage and a picnic table, and we never did fly, but that was always there when we grew up.” Monte and Jeff have been flying hang-gliders for about three years while fulfilling their life-long dream to fly like birds.

### HISTORY

Hang-gliding has a long and interesting history. Otto Lileanthol and his brother, Gustave were 13 or 14 back in 1861 in North Germany, when they started flying. They tried a long time to fly by flapping their wings, but then they finally got into a technical school as engineers. Through that school they began to understand what caused birds to fly! Then they started building a rigid surface that they would fly on. When they finally did start flying it was trial and error, and they made a lot of mistakes.



MONTE

They had a glider that was very comparable in performance to those that we fly today, except that it wasn't nearly as maneuverable. It had good glide ratio, and they made over 2,000 flights in 18 different gliders. Otto's longest flight was nearly a quarter of a mile, and that was back in 1861. They made a lot of progress, but at that particular time, the whole purpose was to invent flying. As soon as the brothers invented gliding they were looking towards power flying. They wanted to invent something that was going to be usable transportation. They made some incredible flights.

Monte informed us, "Now we're looking to recreation and pure enjoyment in hang-gliding. We're not trying to reinvent the airplane or anything like that, we're just enjoying the unpowered aspect of it.

"The whole concept of flying wasn't based around bouncing around on the moon in some air-conditioned suit, or flying twice the speed of sound with a hundred thousand pounds of thrust behind you, or sitting in an upholstered chair behind a bunch of whirring blades. That isn't what man thought about as far as flying. Man wanted to be a bird. Man always envied the birds and that's what hang-gliding creates, a chance to be close to the birds. Birds accept you when you're up flying. They will fly with you.

"Once you start flying you think of a glider as being a part of you, you don't even know it's there. It's you flying, when you're up 5,000 feet in the air, not like flying with my dad in an airplane. You know you're cruising along and that airplane is carrying you somewhere but the air is there, with no thought at all on the glider. It's just as if my own body was doing it because that's the feeling it gives you."

That must have been how Otto Lileanthol, the first successful flier, must have felt.

It wasn't until the late sixties that anyone began to get into sport hang-gliding like now-a-days.

"Around the year 1953, Francis Rogallo brought in the Rogallo wing. He was the designer of all the flexible wing gliders. A flexible airfoil, the Rogallo wing, is an ultra-light, foot-launched, tailless glider. It requires weight shift to control the balance of forces in flight and thus, its direction and speed. Rogallo applied the design that he came up with as a reentry device space vehicle for NASA; I guess it was patented in 1958, and since then it's been expanded til it is known as a standard Rogallo wing. It was stable and flew well, except it wasn't safe and it caused a lot of accidents, but since then the gliders have been designed by airodynamic engineers and they are pitch positive. That means that anytime you try to speed the glider up, it has the tendency to slow itself down, so you can't get going too fast and enter into a dive. If you slow it down too much, it will mildly stall but right before it stalls, you can tell and try and speed it up again. If it stalls, it's no big thing, because it will correct in a matter of 10 feet.

"The concept that many people have of the air just stopping and of you falling out of the sky is not right. You don't, it doesn't happen. There are certain laws of physics and airodynamics that apply to a hang-glider and those laws can't be changed. If you fly in bad conditions or with an inferior hang-glider or with parts that are faulty, then, of course, you are risking your life. But if you fly with a glider that's designed the way they are now and tested, then you're not going to have to worry about anything other than your own ability and judgment.

"So if there's an accident, it's your own fault. That tells you it's not the sport that is to blame but it's the people. The danger in hang\*gliding is your own stupidity, not the fault of the glider;



JEFF



### TAKE OFF!

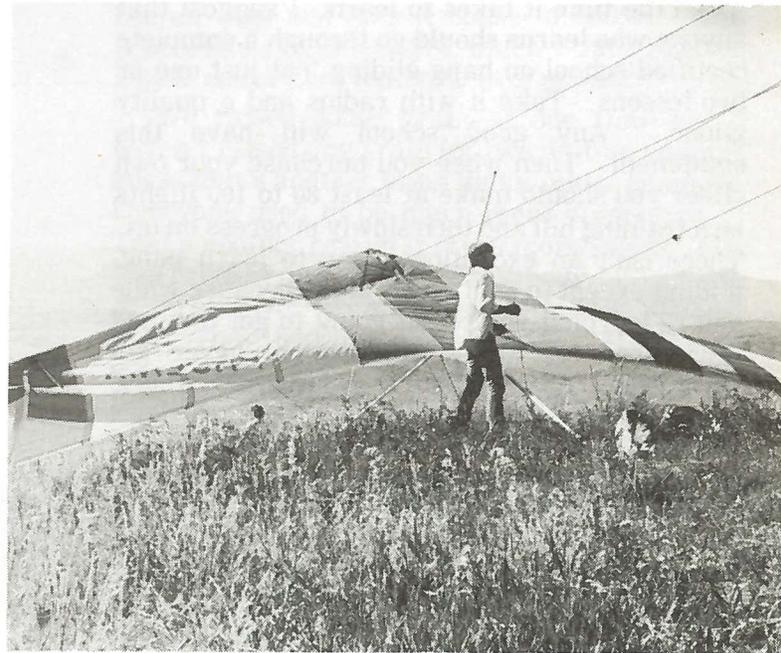
you make it crash. And there's still 90 per cent pilot error accidents.

"A doctor in Denver wrote many misquoted facts on hang-gliding and he's sure going to be straightened out by somebody. His facts are wrong. The sport is probably in the neighborhood of 100,000 people in the world doing it. Out of that there's a lot of people who don't fly every day.

"The professionals are usually the ones who get killed because it's usually the professionals who become so in tune with it. They get involved in real heavy acrobatics or extremely turbulent conditions. Many hang-glider pilots who fly, fly in front of storms because it provides such great lift that they'll take the chance and then they end up in trouble. The beginning pilot is more cautious. The problem we have is the older you become in the sport you become less and less cautious. Now it's not as much of a problem because people are starting to look out for each other and realizing that it's stupid to take unnecessary risks. The number of people getting hurt and killed is becoming smaller and smaller everyday because of the control and the strict requirements on flying sites. The gliders now are not the gliders people think they are, the kind that are going to get up in the sky and break. My glider that I just bought is tested to a 6.3G load, which means that the weight of my body and the weight of my glider is all combined and multiplied 6.3 times. It can stand that much

force. In other words, the tester carried 1435 pounds of weight without breaking in flight. That means with me in it, there's only 1.2 to 1.3 lbs. per square foot on the sail while it's designed to carry many, many more times than that. A normal airplane that is flying today is stressed for a safe load of 6 or 7 G's and the glider is the same thing. It's based right around the same criteria that FAA proposes for an airplane.

"In this area there's a lot of concern on falling out of your glider. We fly in a harness that has a lock in carabiner and one who knows about mountain climbing knows how strong they are. They're tested to 3,400 pounds, and they have a lock on them so that the gate can come open and it can release, so there's no way you can fall out. The harness is tested to 40 G's, which is a little ridiculous, because that's 6,000 pounds and there's no way you're going to ever exert that much force. Your body would be crushed into jello before your harness would ever break. So there's not much of a way to fall out of your glider, except that some people forget to hook in.



### MONTE SETTING UP HIS GLIDER

"In hang-gliding, we incorporated a parachute. If because of some condition, like a heart attack or a hypoxia, from being too high too long, you could dump this reserve out and it will bring you and your glider both safely to the ground.

"The take offs and landings are the most critical times of any flight, because that's when you're closest to the ground, but when you're 2,000 feet in the air there's no way that you could instantly kill yourself. It's going to take you a long time to get your glider to hit the ground. You would have to fight it all the way down.

## SOME TIPS ON LEARNING

“Hang-gliders are not just kites thrown together. In the beginning, that was true, because they were made out of bamboo but now we’re using all stabilized Dacron that is rip-stop and 3.8 ounces. It’s real strong. The tubing all has to be aircraft quality with 60, 61 TG. In many cases, they use different varieties of it. It’s seamless and exceptionally flexible. All the cables are stainless steel made to support up to 1000 pounds pure load. They’re all nikoed and tanged, Nike pressed like they use in the aircraft industry. Lot control lines on airplanes do several things as far as in the aircraft industry, the materials themselves are all quality materials. It’s like a dollar for a bolt because it’s aircraft standard. Everything on a glider is really heavy duty. If it’s not nilock every net has a nylon lock ring or a safety pin. That way, there’s no possible way that bolt can come apart due to some force pulling on it. That’s also why they cost so much, because a hang-glider now-a-days costs \$800 and can go up to as much as \$1500.

“If anyone wants to fly, they have to make enough of a personal commitment that they will spend the time it takes to learn. I suggest that anyone who learns should go through a complete certified school on hang-gliding, not just one or two lessons. Take it with radios and a quality glider. Any good school will have this equipment. Then when you purchase your own glider you should make at least 80 to 100 flights on a training hill and then slowly progress on up. There isn’t an exceptional way to learn hang-gliding except to do it really slow, because while you’re learning you’re not going to get maimed or injured for life. Most people never get scratched, but it’s not like learning to ski, where you fall down in the soft snow. You fall down similar to the way you fall down skiing, except you fall down on sagebrush or maybe a rock so you might get scratched.

“It’s not the kind of thing that you either fly and live or crash and die. I’ve taught probably in the neighborhood of about fifty people since I started flying. I’ve had some scratches on the nose, where a guy came in and drug his nose in the dirt because he didn’t put his feet down. I’ve never had a sprained ankle, broken leg or broken arm of any kind. That doesn’t mean I was doing anything special, it just means if you’re really slow and make people take their time, it’s an easy sport to learn. A lot of guys are learning so quick that they’re not getting any experience with certain conditions, and then when they do get in those conditions, they’re not ready for them and they can get themselves in trouble. If you get a lot of experience you won’t get hurt in your learning phase.

“If you took off every day in a perfectly smooth 8 mile an hour wind with a perfect glider and on a



### “MAN’S ALWAYS WANTED TO FLY”

perfect size hill, then you could almost say, categorically that you’d never get hurt. But you could get out there and the wind won’t be perfect so you’ll go ahead and fly and just have to counteract. Then you up your chances of maybe scratching your leg because you can’t land properly or something like that. So you can control actually how much risk you’re taking on each flight. You could fly in a high risk state and not get hurt just because you’re experienced. If you didn’t want to take that risk, then you could go up to the top of the mountain, and you wouldn’t have to fly until there was a perfect 10 mph wind, straight up the hill. You might not make very many flights in a whole year, but you’d make the most perfect, safe conscience flights you could make. It’s all up to the individual.

“So don’t get the idea you’re going to just be able to take off and fly 2,000 feet in the air because that’s where you’re going to be feeling different. About three years ago, Tom and I flew down in Colorado Springs, day in and day out on little, dinky, tiny hills and that’s what kept us going. We flew a lot of little hills and spent a lot of time really trying to figure out how to control certain situations, and that’s what a beginner has to do, because there is no way you can be taught all that. I had a guy that learned to fly who took the glider to a hill that was way too big for him and flew off of it and was like 2,000 feet in the air. He flew that glider every wrong way you could possibly fly it, and the glider kept correcting. Every time the glider would do something right, he would make it do something wrong and the glider would correct for what he’d do wrong, and he ended up landing safely. He even put the glider in a spin because of his own incompetence and the glider came out of it. So they aren’t weird or hard to control, it just

requires certain things you have to do, as to controlling when to fly and how to fly and under what conditions. The glider flies completely by what we call weight shift control. You're suspended from a pendulum joint in the center of the glider and by moving your body weight either to behind that center gravity or in front of that center gravity, you can control your forward speed. By moving it in front of the center gravity, you can make it go faster and if you move behind the center gravity, you make it go slower. Move it to the right, you're going to turn to the right, move to the left, you're going to turn to the left.

"Here in Steamboat we check each other out really closely, and we have strict rules on Mt. Werner. We're real excited about the fact that we got to fly on the mountain this summer and L.T.V. has cooperated in every way possible that they can. There is a fairly strict criteria as to who gets to fly here. You have to be a rated pilot and you have to carry liability and property insurance. You're also required to fly only while Mike Blacket, Joe Nance or myself, Monte Bell, is on the hill. We don't allow the windspeed to be over 25 mph and the landing area is designated ahead of time. All in all we have a pretty safe program, we try and allow 500 feet distance from the gondola cables. Access up the mountain requires only certain vehicles and it works out really well. We haven't had any problems at all and it's just been a great summer of flying. We've had several people from out of state flying, and they really enjoyed the mountain. We usually don't have really good flying conditions when people come from out of state.

"As far as Steamboat goes, it's really a well known mountain for flying. It has a good reputation because not only has there been a good possibility for just soaring, but also for



JEFF FEELS "A NATURAL HIGH"  
AFTER HIS FLIGHT

thermal soaring, ridge soaring and cross-country flying. The scenery is something else too. It doesn't matter if you only get a 10 minute flight off the mountain. A pilot who has 300 hours of airtime or five years experience of hang-gliding, if he flies 10 minutes up above the beautiful Steamboat valley, that flight was great. You don't have to have a two hour flight to be happy, that's for sure. That's what people comment on the most, they love the area because of the scenery.

"We had some excellent flying the other night. I flew for slightly over an hour and traveled clear up to Walton Creek Canyon and sight-see for awhile. Then we went over to my house which is three or four miles past the Holiday Inn to the east and all the way back to Steamboat. We were 5000 feet off the ground and there's nothing like it. When you land you can't believe it happened. You feel a natural high, you're just all psyched up. There's nothing that made you do it. It's just the fact that you were flying, and it was really good. It's something that all flyers experience. People think that you get extremely excited, and it is a real risky feeling, and you're up there scaring yourself. That's wrong, it's a total misconception. It's the mellowest thing I've ever done in my life.

"I used to race motorcycles. That gave me a buzz, a scare buzz and hang-gliding doesn't do that. I'm sure on occasions you'll get nervous. But you're so mellowed out when you're flying, you relax, look around and enjoy the scenery. When you're learning and all, you get butterflies. You might get a little nervous before take off, but once you're really conditioned for it, you just can't wait to get into the air. It really relaxes you. I work all day, and when I get off I wait the whole day to make a flight so it will relax me before the end of the day. If I don't have it I really miss it.

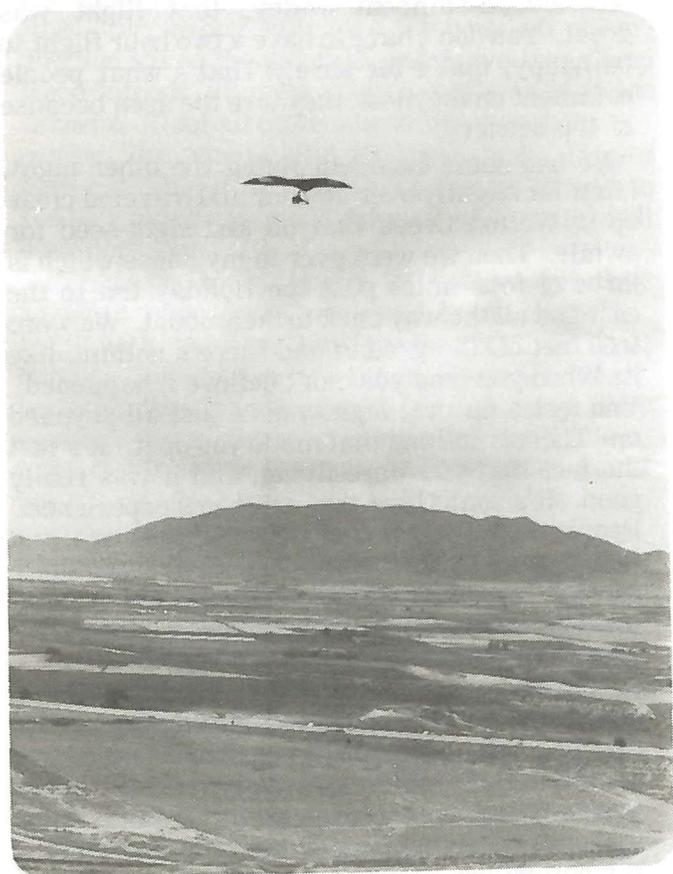
"Today flying has advanced to the point of really getting into high altitude and cross-



"IT'S THE MELLOWEST THING  
I'VE EVER DONE IN MY LIFE"

country flights. The new cross-country record is one hundred and three miles. Four hours and fifteen minutes. That's exceptional. This was just thermal flying. Anymore there just isn't that much of an urge to see how long people can stay up. If you're a skilled pilot and the wind is right, you could keep flying from thermal to thermal and covering a long distance. There's been a lot of people setting records as far as altitude gains and cross-country and distance flights. They will enter into a thermal and climb six to nine thousand feet in one thermal or altitude gain. In thermals you have to really watch that you don't get over-developed or carried away. When the clouds are really black on the bottom side, and the tops of the clouds are going out of sight, those clouds give you such lifts that they can suck you up into them. So that is where thermal pilots have to be careful. So far there hasn't been a problem but it's something you have to think about.

"There's specific spots that are really renown for thermal flights and cross-country flights. In fact, all the records were set in one spot in California. Steamboat has good potential, but



### SOARING "LIKE A BIRD"

the weather just hasn't been like it should be as far as big thermals. There's thermals that we can soar, but they don't last very long or cover a very big area. Most of the people who fly in Steamboat fly thermals, but they really have to work at it a lot compared to California, where the thermals are just right.



"We have a United States Hang-gilding Association which is formed by regional directors. The whole U.S. is divided into regions, one through ten, and the director in each region takes care of the safety and the ratings, and the needs that are encountered in each region. The rating program is set up on a Hang 1 through Hang 5, and that shows your ability and what you can fly. There's also certain awards, such as altitude, turbulants and cross-country, windy, quip, launch and motorized. There is something that's really getting popular, it's the motorized phixlon hang-gilders and it'll be interesting to see how far that end of the sport goes. Many people believe it's going to become just like the bi-plane type glider we used to foot launch before. Now you can put motors on them. You can take off on flat ground in your own back yard, and you can use the motor to climb to the altitude you want, like to soaring winds and thermals. You can shut the engine off and fly only, or you would use it to get you up. A lot of people who live in the flat lands would have to do that kind of hang-gilding.



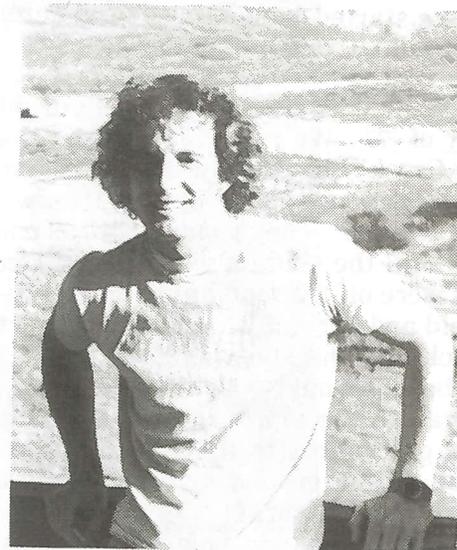
"I'd like to see motorized hang-gliding become the most popular sport of all because there's so many who want to fly light aircraft but can't afford to. You can fly a motorized hang-glider for \$1000. Maintenance on it is so minimal it's unreal. You could fly for an hour on one dollar's worth of gas. The distance you travel is totally up to the pilot and the skill. You can shut the engine off or just let it idle and cover a lot of territory.

"The FAA is watching the sport and they're impressed with the quality and skill that's being put into the sport. They aren't regulating the sport, but they've witnessed a lot of motorized hang-gliding and are still allowing it to be done. It's completely unregulated so that people can get into motorized hang-gliding easily. All you have to have is a third class medical certificate and send in for a serial number for your glider. Then you have to fly for so many hours in a certain area not going within a mile radius from takeoff point, and, of course, you have to comply with all the aircraft traffic. You don't want to be anywhere near an airport. You can't take off or land at an airport.

"There are many large sporting-goods manufacturers who feel hang-gliding is going to be one of the biggest profit gaining sports in the next few years and with that in mind, it's pretty interesting.



JEFF. LAURIE. TINA & MONTE



"LITTLE" DAVE

"I started flying five years ago but I don't fly anymore. I stopped flying hang-gliders two years ago, and now I'm into other projects besides that. I will say it's the greatest thing I've ever done in my life!

"One interesting thing, I was in the World Championships in 1975 down in Telluride. That was an interesting experience and I also did a film on it, which came out pretty good. I got fifth in the World Championships in the fixed-wing division which is the kind of glider that has the tail section and a rudder just like an airplane.

"I've flown in Grand Targee, Wyoming, all over in Southern California in hang-gliding meets. I've flown at Taos, New Mexico, Vail, Denver and Telluride, Colorado, and Minnesota. I would say Steamboat Springs for mountain flying definitely would have to be in the top four or five mountain areas to fly. It's a very safe mountain because you can pretty much predict what's going to be going on just by looking at the weather. This valley is probably one of the best. You don't have a lot of weird ridges or valleys or obstructions, so it's basically pretty smooth flying.

"I first started flying in Southern California. We flew on the beach which is really one of the safest places to learn because of the winds coming off the ocean. They hit the cliffs and go straight up. You know exactly what's happening, and you have sand to land in.

"I'll tell you an interesting story. When I first started flying the first glider I ever flew was built out of bamboo and plastic, with nylon ropes like ski ropes to rig it. Talk about home contraption! Of course, we didn't get anymore than three or four feet off the ground. Anthony Matthews and I designed it and put it together.

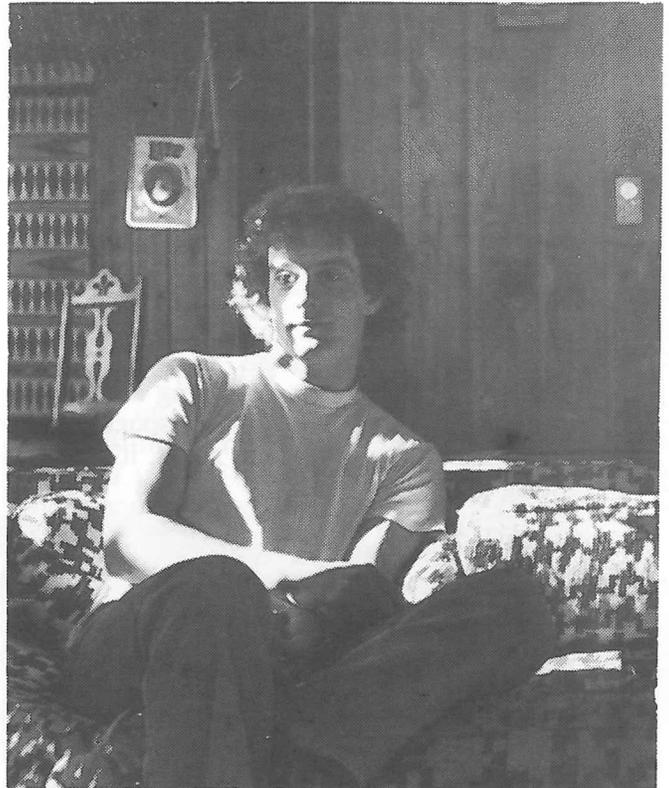
“When we started hang-gliding in Steamboat you had to build it yourself, go out and find your aluminum and stuff, except for the sails that were made in California. We got our kit in December of '72. We rigged it in a blizzard by the Cow Creek Community Hall. Then we packed it up and came over here to Headwall to see how it worked. They wouldn't let us use the mountain until the ski-lifts were closed, and all the skiers were off the mountain. By then it was getting cold and dark, it was about four thirty or five o'clock and the sun was going down. Oh Anthony, boy, he would grab that glider and walk up Headwall to the top, turn around and come down and get almost to the bottom. His feet barely got off the ground and we were going, 'Wow, it works, it works!'

“So he says, 'Come on now, you try it!' He takes me to the top of the hill and I didn't really know what I was doing. Honestly I didn't know, I just said, 'Oh, okay.' I took off in that thing and didn't even get off the ground. I started going down Headwall and was going about twenty m.p.h., and the sails were going flap, flap, flap! I laid down on my back and the control bar was clear up to my shoulders and I was going straight towards the Headwall lift. I was saying, 'How am I going to stop?' My back was in the snow, I was freezing and it was almost dark. I went under the Headwall lift between the little baby poma lift. I don't know how I missed it. Those were the days when you learned just by doing and a lot of us are lucky we are still alive today.

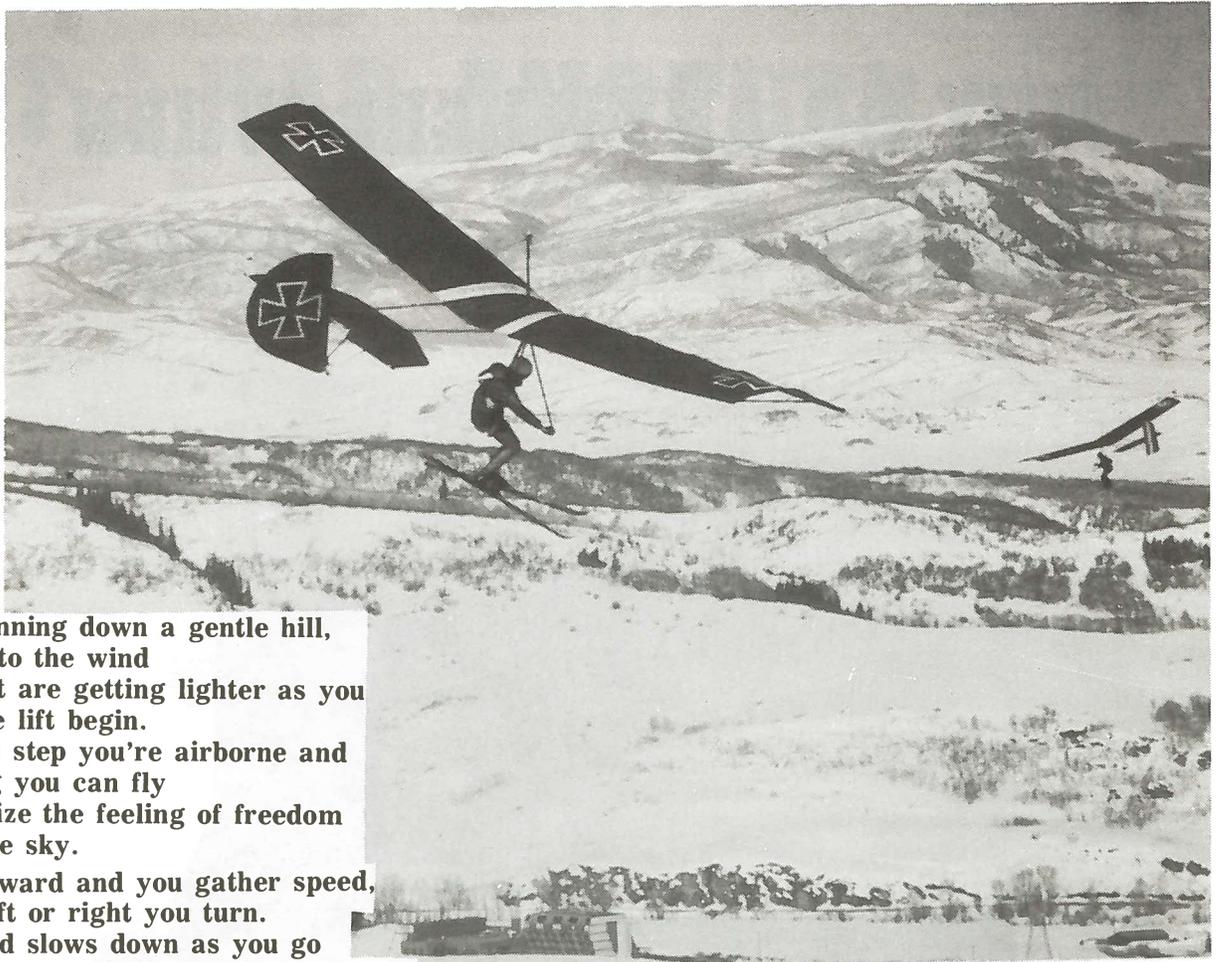
“Flying off of this mountain right here and gaining a five thousand foot lift I think would have to be one of the best and greatest experiences ever. There was one time when me and my old partner Anthony were flying and we were up so high that we could see Rabbit Ears and the road to Walden. Way up above the mountain, we flew way back above Storm Peak. We took off at the gondola building, and I remember doing it now because this valley had so much lift. It's such a good place to fly. One of the main reasons is because you have all this area to heat and it does heat up in the summertime. Your basic northwest winds blow that into the side of the mountain, and then when it hits the mountain it goes up. That's where you get your thermal lift. Incredible place to fly, Steamboat Springs!

“I remember when Ed Vanderwall took off at the gondola building and crashed. He'd never flown before. He got up one hundred and fifty feet and looked around and went down into a bunch of aspen trees. He had a few teeth knocked out. He was lucky he didn't die. So many people who were flying before it was refined are alive, but a lot of them are not. After about a year and one half to two years of flying, my partner, Anthony, was killed in a hang-glider accident at the mountain, August 1, 1975. So

when he got killed I didn't have a job because we were partners playing music together. I was unemployed and I didn't want to fly anymore because my best buddy had died. It wasn't because I was afraid of it. I thought about why I stopped flying a lot because it was the best thing I'd ever done, I loved it so much. But me and Anthony, when we flew we always flew together. It was more like a partnership thing instead of a one on one type of thing, from the day we started until the day he died.



DAVE RECALLING HIS HANG-GLIDING DAYS



Come running down a gentle hill,  
 face into the wind  
 Your feet are getting lighter as you  
 feel the lift begin.  
 One final step you're airborne and  
 soaring you can fly  
 And realize the feeling of freedom  
 with the sky.

Lean forward and you gather speed,  
 lean left or right you turn.  
 The world slows down as you go  
 high, speeds up as you return.  
 The rush you feel intensifies, hang  
 gliding is the thing  
 That gives the man the bird like grace,  
 of flight upon the wing.

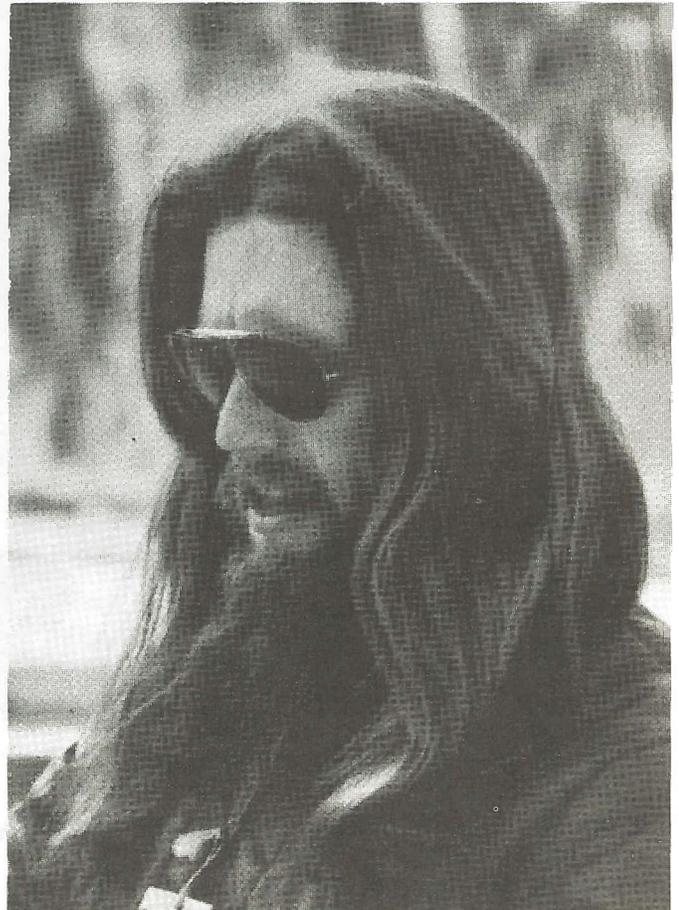
Hang Gliding, Hang Gliding, Hang  
 Gliding  
 Sky Surfing, Sky Surfing, Sky Surfing  
 Air Soaring, Air Soaring, Air Soaring

Sky Surfing, Air Soaring, could never  
 explain  
 The feelings you get can't be put in a  
 name  
 So strap on your wings and we'll take  
 to the sky  
 Like learning to walk, everyone learns  
 to fly.

Come running down a gentle hill your  
 face into the wind  
 Your feet are getting lighter as you  
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 One final step you're airborne and  
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Written by: ANTHONY MATTHEWS  
 (copyright 1974 SanSkrit)  
 Wings Unlimited Vol 1 No. 2

## ANTHONY AND DAVE



ANTHONY MATTHEWS