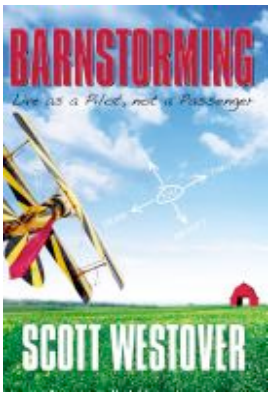
BARNSTORMING

Live as a Pilot, not a Passenger

SCOTT WESTOVER



Barnstorming is about making the decision to live as a pilot instead of a passenger. A pilot's ability to fly comes from managing the relationships between gravity, lift, drag and thrust. The ability to soar through life comes from the same place. Scott Westover opens his pilot logbook to unlock the secret of control. By applying lessons learned in the cockpit to life on the ground, Scott kicks open the door to extraordinary success.

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Chapter 1 – Finally Learning to Fly

I hope my parachute opens. I almost couldn't believe it as the thought flashed through my mind. How could I have lost control of my airplane so quickly? I was a newly minted aerobatic pilot and my enthusiasm had pulled dangerously ahead of my skill.

My father is a pilot, and not just the kind that flies on Saturdays when the weather is calm. In his prime, he was a rock star in the sky, the kind of daredevil that today would have his own show on the History Channel. Something like, *Wings of Courage*. Seriously, I should be able to fly better than this. It should be genetic. This was embarrassing.

As a kid, flying seemed like magic to me. As an adult, I came to realize that flight is accomplished not through magic and luck, but with an understanding of Energy Management, through which the pilot coordinates the forces that act on an airplane during every flight. Energy Management is first learned on the ground and then brought to life in the air. Pilots who participate in aerobatic contests – flying loops and rolls in front of the judges – obsess about managing energy, and for good reason. Their lives depend on it. I was proving that point even as my airplane was falling out of the sky.

The four primary forces of energy that a pilot needs to master in order to get an airplane to fly are gravity, lift, drag and thrust. Gravity constantly pulls all objects back toward Earth. Lift is the manipulation of airflow around the wings that keeps a plane in the sky. Drag pushes back

on an aircraft, slowing progress. And thrust propels things forward, driving the plane toward a destination somewhere out in front of the nose. The relationships between these forces of energy shape the outcome of each and every flight.

I understood these principles. I had aced my ground school classroom work, and I had flown non-aerobatic flights many times. All of that, of course, was no consolation as I spiraled toward the trees.

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Regardless of whether we are talking about people, government, businesses or communities, trouble develops in much the same way that an airplane crashes, through the mismanagement of gravity, lift, drag and thrust. Too often, we find ourselves doing what a pilot never should: reacting to those forces of energy rather than reining and directing them. It sounds simple, but as with most important things, the devil is in the details. The good news is that much of the time, trouble is avoidable. There is real power in believing you have the ability to take control of your life through the use of tools that you already possess.

The taking of control doesn't just happen. Effective piloting requires a willingness to see the "big picture" and the patience to understand how the parts you see relate to each other. That makes sense, at least on paper. But we're dealing with people here, not airplanes, and human nature challenges the implementation of sound Energy Management in ways that machines never do. We all tend to get consumed by "small picture" hassles and to

underestimate the seriousness of gravity, at times sugar-coating those things that threaten to crash us. Without an accurate understanding of gravity, we are setting ourselves up to misjudge the amount of lift and thrust needed to be in control. And whether we overestimate or underestimate, the result is the same… energy is mismanaged, and that's when accidents happen.

This book presents a system for achieving a level of understanding that helps you take control of your life. That means something different to each of us, and that's a good thing. For example, my father, the bulletproof barnstormer, is now 77 years old and dealing with heart disease. Energy Management can't roll back the clock or unclog his pipes. It can, however, provide a framework that allows him to achieve the level of control that is still possible. It's still about facing gravity, creating lift, anticipating drag and investing in sources of thrust. It's not a miracle; it's living life to the full potential of that moment. When he was flying and icy weather dictated that he land his airplane at an alternative airport, Energy Management gave him the knowledge of what to do in order to fly another day. Many pilots in the same situation have mismanaged energy only to make their last "landing" as a result of losing control. Control is relative, and remains possible even when it seems that gravity, lift, drag and thrust are swirling all around you.

How will your life improve when you make the right decisions more of the time? How would that change help your family or company? Could your community benefit? Could government get unstuck? Regardless of the size or scope of the situation, the concepts are universal. It is

time to make the decision to live life as pilots instead of passengers; to manage the energy shaping our world instead of reacting to it.

You know good Energy Management when you experience it. Your flight becomes smoother and more predictable. You feel secure, even through periods of turbulence. The number of surprises that distract us from what's really important is reduced. And on those occasions when a crash occurs, it isn't the result of apathy or neglect, and more often than not will be an experience we can learn from.

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The flight had started out well. I flew the basic maneuvers just as I had practiced them over and over again. On those previous aerobatic practice flights, I had the security of a seasoned instructor right behind me, literally in the back seat. With an experienced pilot ready to back me up and a reassuring voice in my headset, I had learned fast. Today, flying solo, my focus was supposed to be on performing only two basic figures: the loop and the roll. Neither was particularly difficult and it had been fun getting good at them both during my training.

I experienced a rush as I worked the controls and made the little airplane dance through the sky. It's a good thing my instructor had not planned to fly with me that day, because my overstuffed carry-on bag full of confidence was hogging a lot of cockpit space. These simple maneuvers didn't provide much challenge. Not to a pilot who was so clearly channeling the long lineage of great flyers who had come before. Would Chuck Yeager,

the man who broke the sound barrier in an airplane, settle for flying basic loops and rolls and calling that good enough? Certainly not!

As I exited the third or fourth loop, the airplane was moving fast. There was plenty of energy to play with. Gravity was a distant memory and drag, it seemed, had taken the day off. I felt untouchable as I set up for a more advanced maneuver called a Hammerhead.

The Hammerhead starts out with a steep vertical climb. When the airplane has clawed its way straight up as far as it can go, there is a blink of a pause before it starts to slide back toward Earth tail-first. At that precise moment, during the split second of transition, the pilot pivots the airplane around a wing tip, arching the outside wing perpendicular to the ground so that the aircraft gracefully descends in a path parallel to the climb. The figure resembles a candy cane. It is practical as well as beautiful. A version of the Hammerhead is used by crop dusters to reverse their flight path when they are working in a tight space while spraying fields. Airshow pilots use the same maneuver to keep their routine within sight of the crowd.

I had flown the Hammerhead before, but never without my instructor "on the stick" with me, his hands ready to take the controls at the first sign of trouble. With him talking me through, the maneuver was easy to fly. How much harder could it be now? Smiling broadly, I felt the confidence of a little boy, sitting in a box to which he had taped wings and a cardboard propeller. As my inner child jumped out of the hayloft, I pulled back on the stick.

My attempt must have looked more like ribbon candy than a candy cane. Coming out of the climb, my airplane had entered a spin and was spiraling downward like a slow motion version of one of those cool "helicopter seeds" that were so much fun to throw in the air when I was a kid. In an airplane, a spin occurs when the wings are no longer capable of creating lift. One wing drops, increasing drag unevenly and prompting gravity to take over, immediately instituting a corkscrew flight path toward the ground. If not corrected and recovered, every spin ends in a crash. A controlled spin is often flown in aerobatic competitions. In that situation, the pilot creates the conditions that cause a spin by design, and then recovers at a precisely timed moment in the rotation toward the ground. This was no contest. It was a mistake.

Suddenly my co-conspirator, Mr. Yeager, was nowhere to be found and he seemed to have taken my confidence with him. Alone in the cockpit was a pale pilot with about ten hours of aerobatic experience, no longer in control and desperate to save his own bacon. In those moments, I was too busy giving up to fly the airplane. One hand hovered over the release of the five-point safety harness and the other found the emergency exit latch on the door, leaving no hands for the work of recovering the flight. I was done. It was time to bail out.

I scanned the cockpit for what seemed certain to be the last time. In that moment, my freshly trained gaze settled on the altimeter.

The altimeter is the instrument that tells a pilot how high an aircraft is flying above sea level. The needle was spinning backwards as my altitude decreased. But behind

the drama of that spinning indicator of my doom were two bits of hopeful information that somehow sunk into my increasingly panicked brain. The first was that the needle wasn't moving quite as fast as I would have expected. The second was that the approaching ground remained several thousand feet away. There was no doubt I was in trouble, but there was still time to regain control.

I willed my hands away from their panic positions and refocused my mind on using the next several seconds to find a solution. With a little work and experimentation, I found the correct combination of control inputs and, when the spin had stopped, I rolled the airplane upright and allowed the airspeed to build before gently pulling back on the stick and re-investing in altitude. Looking at the altimeter, I calculated that I had recovered with under a minute to spare. Another few hundred feet and I would have been pulling a ripcord. Or worse.

I'll bet you have found yourself in a similar predicament. With both hands busy looking for the way out, you leave yourself none with which to "fly the airplane" of your life. There is a better way.

What got me into the mess to begin with, besides being a cocky pilot, was that I got caught up in the moment and neglected the relationships between gravity, lift, drag and thrust. The act of flying an airplane is really a series of interrelated decisions the pilot makes in order to manage the forces acting on the airplane moment by moment. In my hubris, I had stopped being a pilot and had become the most dangerous sort of passenger: one who happened to be sitting at the controls.

And while several months would pass before I started jotting down words, that was the day this book was born. In telling the story of what had happened in the air, first to my flight instructor, then to my family and friends, I began to understand that the lessons learned in the cockpit have a much broader application. I began to think more deeply about what was going on in my life and, more importantly, in the lives of the people I am closest to. Suddenly it was crystal clear that Energy Management is as important on the ground as it is in the air.

It started casually, but as I played with the concept of applying the principles of Energy Management to non-flight related life situations, a funny thing happened. It worked.

Over time, I came to believe that Energy Management provides a model that can help people understand the major moving parts of the problems they face in everyday life. Seeing challenges in terms of gravity, lift, drag and thrust helps point the way toward solutions that will work. Those solutions make us more likely to fly our maneuvers correctly and less likely to be reliant on luck to bail us out. By keeping us out of trouble in the first place, those solutions reduce time wasted on recovery and keep us focused on our goals.

Learning to fly aerobatics was a personal challenge that I undertook in part to prove to both my father and myself that I too am an eagle, and I'm glad I did it. Learning to fly upside down and participating in a couple of competitions allowed me to experience the world differently. I learned to think about each flight as a real-time test in critical thinking, an Energy Management

laboratory with a great view. I also began to realize that my thinking prior to my introduction to aerobatics had been stuck in two dimensions.

Instead of really thinking things through, I had settled for making decisions based on the traditional framework of "problem and solution." That is like trying to fly an airplane using only gravity and lift. That can work, but even if you get off the ground, you won't be in control. In that two-dimensional model, the "problem" is gravity and the "solution" is lift. By ignoring drag and thrust, I was overlooking things that could hold me back and neglecting people and opportunities that might provide momentum to propel me forward. Sometimes that worked and sometimes it didn't. I was relying on luck.

After learning to see gravity, lift, drag and thrust at work in the sky, it became impossible to un-see those forces at work in my personal life, in the larger world and in the issues of our time. Still, too many of us are settling for a problem-and-solution approach.

Chapter 6 – A Crash Course

The first indication that we were going to crash the airplane was an unexpected silence where a reassuring squeak of the tires should have been. That faithful chirp is the customary greeting when a runway welcomes an airplane home.

Things weren't quiet for very long. The void was filled by the shriek of metal being torn from the belly of the airplane as the prop hammered into the runway. The last flight of aircraft N5TT was Sunday, August 16, 2009. It had been a beautiful yellow and black biplane. The little two-passenger airplane had been my trusted friend as I learned to fly aerobatic maneuvers and studied Energy Management.

My father and I somehow walked away physically unharmed. More accurately, we ran. Our routine flight had turned into a real-life lesson about being managed by the forces of energy and fighting to turn things around. The compressed and urgent decisions suddenly necessary to control the airplane provided sharp relief to my Energy Management education, demonstrating what can happen when those forces of energy fight back. In my case, it felt like everything I believed in was snickering at me.

The incident made me rethink the principles I was already in the process of sharing in this book. Did a crash mean that I was a fraud? After all, shouldn't the guy espousing the theory somehow be able to maintain control in every situation? It was a humbling experience and it took some time and a lot of thinking to figure out how this

near-disaster reflected on this particular project. Here's what I came up with.

The crash was a good thing. It proves the point that while each of us has the ability to gain control over our life by managing the energy that shapes it, none of us are exempt from the rules. No one is really all that special. Crashing one day does not somehow negate – once the ego is rehabilitated – all those days spent acting as a pilot instead of a passenger.

On the morning of that last flight, Dad and I had taken off from Dillant-Hopkins airport in Keene, New Hampshire for a scenic flight and a little aerobatic practice. We always put together a mission of some type so that the flight had a purpose. That day we decided to fly to another small airport to look at an airplane, an Aeronca Champ built in the 1940's, which had recently emerged from a complete restoration. When we reached our destination, we flew a lazy circle above the closed hangar below, and when it became apparent that no one was around, we headed back to Keene. The airplane was running flawlessly and the air was as smooth as glass.

I had no idea that my Energy Management skills would soon be put through the wringer or that my concept of a good landing was about to change from one that avoided a bounce to one that I could walk away from.

There were no obvious signs of danger immediately prior to the crash, although as I'll share in a moment, the subtle signs had been there long before takeoff that morning. I just missed them. As we turned toward Keene, the clouds were just starting to build and we had about seven miles of visibility with no wind to speak of. We had

caught the best part of the day for practicing landings and made a decision to shoot several before shutting down.

The first two landings were unremarkable, a fact that was somewhat remarkable in itself. When I first transitioned to an aerobatic biplane from a traditional "straight and level" flyer, I could not land the plane smoothly to save my life. Flying solo from the rear seat means that the pilot must learn to land "blind" with no visibility out over the nose. Time and practice can overcome almost any deficit, and I had learned to trust my judgment and peripheral vision to land safely. That Sunday, I had all the confidence in the world.

The set up for the third landing felt the same as the previous two. As the wheels approached the pavement, I waited expectantly for the smart squeak of the rubber. In its place was a nanosecond of silence followed by the chaotic, distorted sounds and wet smells of an accident. My mind defaulted to my training, and after a moment as a stunned passenger, I became a pilot again. I was able to adjust the control inputs that were still intact to make the airplane behave in the way that made the most sense relative to the ground. Of course, it would have been nice if the ground were a little farther away. I was no longer thinking in terms of "up and down" or "left and right." I was thinking about what it would take to keep the open-cockpit biplane from flipping onto its back.

As strange as it may seem, managing that crash wasn't all that dissimilar from flying the airplane. My standards for a good outcome had changed dramatically. I knew it would take fast work and, admittedly, a little luck to achieve even that new definition of success.

The airplane pivoted sharply to the right as the nose passed through the normal landing angle with the propeller still spinning. The landing gear had failed, and the prop began to make contact with the ground. As we veered off of the right side of the runway, I caught a glimpse of a landing light as it sailed between the two wings. I later concluded it had been sheered from its base by the lower wing, the light taking a crocodile-like chomp of fabric and wood as it passed.

As I fought for control, the cockpit filled with dirt and grass. With the landing gear gone, all that separated the inside from the outside was a thin aluminum skin. The metal disappeared instantly and the belly's frame turned the earth. My sporty airplane had become an ordinary plow. Although the memory is vivid, the sounds of the crash as I recall them are muted, as if the airplane was trying to keep the whole thing a secret. I have to admit that there was a part of me that was also already thinking about keeping things quiet, too. But it is hard to learn from experiences if you act like they never happened.

When the airplane came to rest, the smell of fuel was strong. In the open front cockpit, only a few feet away from the mangled propeller, my father was working out of his harness. I was suddenly standing on the left wing helping to free him. We exchanged a concerned and confused glance, and I recall grabbing his arm and yanking hard while calmly suggesting we move away from the wreck in case of fire. Thankfully it did not burn, and after we had sprinted a fair distance down the runway, I pulled out my phone and called the airport's

fixed base operator, or "FBO," the on-site provider of fuel service and maintenance, and explained the situation.

The surprised folks at FBO arranged for a flatbed hauler to move the carcass, and with the help of many genuinely concerned and generous souls, and with the permission of the Federal Aviation Administration, we were able to transfer the airplane back to my hangar to await a full investigation by newly-interested authorities.

The next day, a Federal Aviation Administration safety inspection team met me at the hangar. The cause of the accident turned out to be metal fatigue in the landing gear. My ego was relieved that the cause was something other than pilot error, although the total loss of the airplane was hard to accept no matter the reason.

While luck played a role in the happy outcome to this story, the real credit goes to an active understanding of Energy Management taught to me by great instructors over hundreds of hours. Luck would not have been possible had I passively hoped for an outcome rather than taking action. It has been suggested that successful people make their own luck. Practitioners of Energy Management realize that good outcomes may look like luck to people who are unfamiliar with the craft. What passes for pure luck is really the ability to manage energy in real time. A little luck is always welcome so long as the foundation of the desired result is skill.

A pilot needs to understand how the airplane flies and how each control input affects the flight. It's a good idea to have this part figured out before taking off, and it becomes even more important in the event that plans change unexpectedly. Leading up to that crash landing, I

had made a series of seemingly small decisions about my flying that, when combined, led to a predictable outcome. Wrecking my airplane took only seconds. Arranging the crash had taken about four years.

The critical step in learning from experiences is identifying which of the moments playing back on the highlight reel represent missed opportunities for control; those moments when you were not proactive in managing the forces of energy that shape your life. Perhaps you were being sloppy about calculating the amount of drag you were adding or the amount of thrust available. The better you get at sizing up the forces of energy shaping your life, the more likely you are to make great choices and avoid crashes entirely.

The loss of my airplane was avoidable. When I started flying aerobatics, my plane was based at an airport located about two miles from my work. I flew several times each week, with at least one of those flights being a lesson. Aerobatics was part of my life. I lived and breathed airplanes. The group of us who flew together kept a careful eye on one another's aircraft and when someone noticed something unusual about an airplane the pilot heard about it immediately. During that time, my skills built quickly. Before I knew it, I was flying in aerobatic contests. Then I made a seemingly small decision that kicked off a whole chain of events.

My father and I owned a small hangar that was sitting empty in Keene, about ninety minutes away from my office. At the end of the summer flying season, I made the decision to move the airplane to Keene to save some money by avoiding a rent payment. For maintenance, I

would continue to fly back to the other airport, where I had a great relationship with a nationally acclaimed aerobatic aircraft mechanic who was also an accomplished pilot. Those maintenance flights began to take up a big chunk of my available flying time.

I spent much more time flying alone once the plane was in Keene and the only eyes looking out for my airplane were mine. After you see the same thing enough times it is easy to see nothing at all, and that is what began to happen. With the longer commute to the airport and competing priorities at home, my flying schedule decreased from several times each week to a handful of flights each month. I could not take the time required to practice for competition and my flying became purely recreational. I was suddenly very aware of the cost of my flying habit and I set out trim my budget. This led to the next bad decision.

When it was time for my annual safety inspection, I asked the local mechanic in Keene if he would perform the task. My regular mechanic was the best and I had happily paid for that expertise when regular aggressive flying seemed to merit the investment. But now convenience and the chance to save some money trumped that. The local mechanic was up front about his limited experience with maintenance on aerobatic airplanes. He mentioned he had once performed an airworthiness inspection on a Pitts "stunt plane." Pitts are more complicated aerobatic birds than my AcroSport, so I clung to the moment of his response that had mentioned "Pitts" and ignored the part where he said "once." It was a classic instance of underestimating drag and overstating

thrust. To save a little money, I arranged to assist him in the inspection. My job was to remove inspection plates and perform other simple tasks to increase the inspector's efficiency.

By this time, I had traded away most of my aerobatic community. There was no group flying, no comparing of notes after a flight, no competitions or the related safety checks, and the mechanic who did most of the safety work on my airplane had been replaced. I did not realize it at the time, but I had depleted much of the thrust I had relied on to be a safe and competent aerobatic pilot. The lift solutions I was introducing to hang on to my identity as a "stunt pilot" were throwing off insurmountable amounts of drag. As the drag increased and the thrust was neglected, there was no way I should have expected to remain safely in the air.

I flew sparingly that next season with limited aerobatics beyond the occasional loop. Getting to the airport had become a chore. I wanted to spend more time with my growing family, and frankly, the family needed to see me once in a while when I was not either heading off to the office or storming in just to catch the last moments of dinner and bath time. The round trip travel time to visit the airport was about two hours from my home, and the preflight rituals took an additional 30 minutes. The flight itself was usually less than an hour. Given the kind of flying I preferred and the purpose-built design of the airplane, I was not comfortable taking the family with me. Once we had our third baby, my wife and I had our hands full keeping our fearless kids out of dangerous places. Spinning propellers and delicate control

surfaces do not make a kid-friendly environment, so the airport was off-limits on the days I was there to fly. As a result, my approach to flying changed.

It became my routine to invest the minimum amount of time I could to fly. Any time you find you are working to the minimum of anything, it's a good idea to pause and ask some uncomfortable questions. I didn't pause, probably because I did not want to think about the answers. I should have asked, "Does flying still fit in my life in the same way it had in the past?" The answer would have told me that without some changes, gravity was going to win.

The final bad decision was when I again brought the airplane to the same mechanic in March of 2009 for the annual inspection. Again I was assisting to save money. I found myself thankful as the mechanic moved quickly through the inspection. He and I both knew that I was not flying much and probably figured that the airplane had not logged enough hours to have changed significantly from the last time we looked at it. I should have stopped him and asked some questions, but I remained silent in an effort to keep things moving along. Have you ever been so intensely focused on a short-term goal that you ignore what should have been obvious consequences? I was committing a stupid and irresponsible act, but it felt justified at the time.

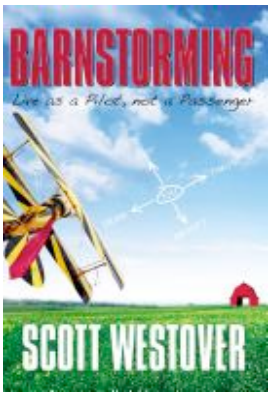
Might the weak spot in the landing gear have been found under different circumstances? I'll never know and it really doesn't matter. What I do know is that a string of connected decisions had positioned me to lose control. Making the decision to be the pilot instead of a passenger,

committing to manage the forces of energy shaping your life, demands constant awareness. The pilot must be aware of both the obvious and the obscure or unintended consequences of his decisions. Recognizing that the big picture is really just an accumulation of small details helps us to give those moments of decision the respect they deserve.

As I studied the principals of Energy Management and worked on this book, I began to rethink the hundreds of stories that my father had told me, both as entertainment when I was a child and as flight instruction later on. I marveled at the number of good decisions that my dad must have made over the course of his flying career and his life. He made the decisions and he lived with the consequences. They were based on the best information available at the time, and took into consideration intelligence gathered from his instruments and his environment. His success is a credit to his willingness to manage the energy shaping his world at a given moment in time, and to put his hands where they will do the most good, never bailing out at the first hint of a challenge.

Indeed, it is human nature to take things for granted. Walking away from the crash with the insight about what really went wrong has changed me. I realize now that the decision to be a pilot instead of a passenger is not as simple as making the decision to fly the airplane. It means paying close attention to how we connect the dots of our lives. The experience strengthened my respect for the principles of Energy Management and reinforced my understanding that the level of control we have at

different moments in our lives varies greatly. And that even the smallest levels of control are worth fighting for.



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