

DUST DEVIL TRIBUNE

Issue #52

July-August, 2006

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Saving Money on Aero-Tows

Oil prices keep going higher and higher, and therefore the cost of aero-tows keeps going higher and higher as well. Aero-tows are by far the single-largest variable expense for club members, and expensive tows equate to less frequent gliding. While we can't lower the rate of the aero-tow, you can save a lot of money by minimizing your aero-tow requirements.

The secret is to release from the tow plane at a minimal altitude, in lift. We each have our own personal minimum release altitude, and if you're in a club glider that minimum altitude can't be any lower than 1,000 feet (AGL). Most pilots should be able to consistently climb from a release under 2,000 feet. If other gliders are staying airborne, and you're still on

Saving Money (continued)

“All too frequently, glider pilots will hang on to the tow plane to exactly 2,500 feet, only to release in strong sink and almost beat the tow plane back to the ground.”

tow after climbing through 2,000 feet, you’re wasting money. And the club is actually losing money, too. With our new tow rates, the club benefits financially when club members take shorter tows, and other club members waiting for a tow benefit by having the tow plane return sooner.

So the question is: when should you release from the tow plane? Don’t release at an arbitrary altitude! All too frequently, glider pilots will hang on to the tow plane to exactly 2,500 feet, only to release in strong sink and almost beat the tow plane back to the ground. It’s especially embarrassing when the tow pilot pulled you through several good thermals along the way! So, you should release when you are towed through a thermal. But how do you identify a thermal while still on tow? It’s not an obvious answer.

Many believe that when the tow plane suddenly begins to climb more rapidly that it is an indication of a thermal. But that could also be explained by the tow pilot pulling back on the stick—something that occurs every minute of every tow. Others believe that the tow plane accounts for 400

feet/minute on the variometer, so if the variometer is indicating more than that, they are in a thermal. Again, this can be explained by the tow pilot increasing his rate of climb, or by you pulling back on the glider’s stick, or by the tow rope becoming suddenly taut.

So the question remains: how do you identify a thermal while still on tow? While there are many good answers, all of them require smooth glider flying on your part. If you’re yanking and banking behind the tow plane, the thermal’s clues will be lost among the chaos of the tow.

My personal technique is that I begin to pay attention to the air as soon as I no longer need to worry about making immediate-action ‘what-if’ emergency decisions after take-off. Usually a thermal exists near the departure end of both runways at Horizon Airport. The first indication of the thermal’s presence is when the tow plane rolls slightly one way before the tow pilot corrects for the bump. Then, the tow plane will rapidly climb, requiring me to pull back to keep in proper tow position. I’m still not convinced that it was a thermal; I’m



Saving Money (continued)

“If I’ve reached my personal minimum altitude, and the thermal is wide enough, and the lift is strong enough, I release from tow.”

waiting to hit the bump myself. A moment later, my glider lurches and pushes my body down into my seat. That positive-G confirms the thermal’s existence. Now I just ask myself: is this thermal good enough?

While maintaining proper tow position, I mentally time the thermal’s width. If it’s too narrow, the tow plane will quickly make another subtle roll, then decrease his rate of climb, or possibly even descend. That marks the far edge of the thermal. If the thermal is larger, we continue to climb rapidly for several seconds. Only then do I glance at the variometer to verify my opinion of the thermal’s strength. If I’ve reached my personal minimum altitude, and the thermal is wide enough, and the lift is strong enough, I release from tow.

From this point forward, I’m climbing in the narrow lower levels of the thermal. I concentrate on maintaining proper aircraft control, and note the positions of other aircraft—especially the tow plane! Steeper bank angles are required at lower altitudes to remain within the thermal initially, which is a completely safe maneuver.

Some people think that I fly more than most other club members because I can afford it; but in reality, I’m paying less! My tow charges are consistently under \$20/tow, and are sometimes under \$15/tow. While I don’t want anybody to push their personal safety minimums, I encourage pilots to pay closer attention to thermals while on tow. A glider climbing in a thermal can easily out-climb a glider that is still on tow!

Club Member Accomplishments

We’ve had a good couple of months! In May, Jerry Sheppard completed his initial glider training and added a glider rating to his commercial pilot’s certificate. Jerry has also purchased an RV-3, and can be seen flying upside-down on most weekends! Also in May, our new club member Charley Shuffler completed his club check-out as a tow pilot and flight instructor. Charley brings with him years of gliding experience from the east coast, and his enthusiasm is contagious! Finally, I had a great cross-country flight on May 19th, which officially set or broke 5 Texas State records. The 4-hour, 500 km flight went from El Paso to Van Horn to Carlsbad, and back to El Paso.

In June, Lou Chamales completed his initial training and earned his private pilot certificate with a glider rating. Lou is eager to continue training towards his C Badge, and transition to the other club gliders. Also in June, I competed in my first sailplane race: I competed in the ‘standard class’ against pilots with much more experience and much better gliders than me, and I was able to finish 7th out of 12 overall. On the 5th day of the race, I finished the 500+ km task with a personal-best speed of 86 mph, which was good enough for 1st place for the day! I exceeded all of my wildest hopes at the race, and decided to buy a brand-new Discus-2b, which will arrive in El Paso by February!



Anxiety and Piloting Gliders, What Can We Learn from Sport Psychology? Part 2

Part II: Attention and Cognitive Style

“If you focus attention on the wrong information, you will make mistakes.”

In Part I, I presented some information on the inverted-U relationship between arousal and performance, and how optimal arousal levels are dependent on the task and characteristics of the individual. In addition, we now know that anxiety is dependent on the perception of several factors: how nervous a person you generally are, whether the task you are about to engage in is very important to you, whether you believe your level of competence is sufficient, and how you perceive the possibility of success.

The inverted U-hypothesis suggested that as arousal increases too much performance decreases. One possible explanation is that anxiety affects how we use our limited sources of attention. I'm sure you have been in situations where you were told to “pay attention” or “concentrate.” Those statements are typically not very helpful because they don't tell you what to pay attention to or concentrate on. A complicating factor is that every individual has his or her own way of allo-

ating focus and maintaining levels of attention and this has implications for performance and behavior. Interest in how we use attention dates back to the 1800's. William James wrote in 1890 that the essence of attention is “focalization, concentration or consciousness” and that it “implies withdrawal from some things in order to deal effectively with others.” Most of the research on attention has been performed by motor behavior researchers rather than sport psychologist, because attention is a crucial element of learning skills. If you focus attention on the wrong information, you will make mistakes.

These folks also developed the concept of selective attention, the ability to selectively attend to certain sources of information, cues, events or thoughts while disregarding others. One example that stands out in my mind was a landing in which I focused my attention heavily on lining the glider up with the center line ignoring air speed and glide path. As we

Anxiety (continued)

“Our attention capacity is limited, and as a beginner we process information consciously, in other words: slowly.”

approach the altitude to start the flare, Chris said “you’re losing air speed” and, to Chris’s horror, I automatically pushed the stick forward. A few seconds later I felt the main wheel hit me in the butt when we smashed down on the runway. I had switched from focusing on one event to responding to a new stimulus, Chris’s statement, with the wrong action. At this stage of learning, I was still consciously and deliberately focusing my attention on one thing and was not able to take the appropriate corrective action relative to airspeed when clued in to it. I had my hands full with lining up on the runway!! That was all I could handle in that situation. The good news is that with practice processing of essential information becomes more automatic, and many of you have reached that stage where you just fly the glider like I ride my bike or drive my car. I think that this example illustrates how certain events and stimuli can disrupt focus of attention and also the processing of essential information resulting to incorrect actions.

Why was it that I was so focused on lining up that I disregarded other crucial information and responded incorrectly? Regrettably our human brain can only deal with limited amounts of information at one time. We can’t look at two things or think two thoughts at the same time, but we can deal with them in rapid succession after some practice. Structural interference in information processing occurs when we have to attend to two stimuli or events that require the same receptors. For example, your wing runner is yelling something to you while your instructor is talking to you

at the same time. Therefore focusing on one thing and taking time to work through it, particularly in the beginning of the learning process is the better strategy. In addition, our attention capacity is limited and as a beginner we process information consciously, in other words: slowly. We have to think it through such as, for example, when covering the take-off check list. Someone with experience can do this without having to pull out the card and can at the same time listen to a support crew member. Beginners will likely switch attention back and forth from the card to the crew member, because their level of anxiety is so high that they cannot attend to multiple stimuli. Additional stimuli become a distraction, increasing the possibility that they miss a crucial check. The “go slow and one thing at a time” approach is important at this point. Skilled pilots can perform multiple complex tasks quickly without having to expend conscious energy and thought. Quickly perceiving crucial information from the instruments, the environment, and physically controlling the plane has become almost “second nature” leaving plenty of conscious attention available to decide where to fly next and how to get there.

We beginners are at a great disadvantage. We consciously have to process large volumes of information one piece at a time which takes a lot of time, and we have a only a limited amount of attention available to do so, because we have yet to clue in to the essential key pieces of information. Clueing in to essential information actually helps reduce the amount

Anxiety (continued)

“...as anxiety levels increase, a person is less able to focus their attention correctly on key sources of information.”

of information but it takes practice and feedback. How does knowing what to look for reduce the amount of information? Actually, the amount remains the same but we learn what information to look for and disregard that which is irrelevant. In addition, we learn to combine information in chunks that can be processed faster. Remember when you first learned to drive a standard shift car? In a slow sequential order you turned the key, pushed in the clutch, put it in gear, slowly let up the clutch, forgot to push down on the gas and stalled the car. That was a process and each step required conscious attention. How many times did you stall the car before you finally got the hang of it and it became one uninterrupted action requiring little or no thought?

When we're novices we haven't learned yet what information is essential to the task. If on top of that we get anxious we start missing out on a whole bunch of things. Why?

The Cue-Utilization Hypothesis

In the 1950's Easterbrook proposed that when arousal increases it produces a narrowing in our attention field. To a certain level that is good, because you start to pay more attention and concentrate harder on essential sources of information, if you know what you're looking for. However, when arousal increases too much and turns into anxiety, attention can be focused too narrowly on one thing (like lining up with the centerline during the landing) to the detriment of other aspects of the performance (like failing to monitor the air-speed). This has also been termed the cue-utilization hypothesis. It suggests that as anxiety levels increase, a person is less able to focus their attention correctly on key sources of information. They may focus on only one thing, and this can be the wrong thing, or they take in all kind of irrelevant information becoming completely distracted and confused. Per-



Anxiety (continued)

“The Grob 103’s wings are longer than the runway is wide; allowing its wing to grind along the runway’s edge will structurally damage the wing.”

sonally, I learned that under stress I sometimes focus on one thing to the detriment of other important aspects of flying a glider, and on a few occasions it all became so overwhelming that I stopped flying the glider completely on final (thank goodness someone was in the back seat). I had never experienced that kind of mental state. Why might that have happened?

Spielberger might have the answer. He proposed that the level of arousal is determined by how important the task is to the individual, his general trait anxiety (is he generally a nervous person), his perception of competency and skill level (can I handle this task), and his expectation of success. In my case, I’m a relatively calm person, but landing without crashing the

glider was very, very important to me; I felt totally incompetent, and could not imagine I would succeed at this task. Therefore I yelled “you’ve got the glider”.

The good news is that anxiety, or stress, is not a characteristic of a person nor is it in the environment; it is a process of interaction between the person and “what is out there.” It is a relationship between the individual and the environment s/he is presently in and how the various factors I described above are perceived. Consequently, we can do something about our levels of anxiety to help us perform better, but more about that in Part III.

By: Harry Meeuwsen

Caring for Club Equipment

Over the past couple of years, the club has made many improvements and upgrades to club equipment, most recently with the addition of the Grob 102 to our fleet of gliders. As members of the El Paso Soaring Society, this equipment belongs to all of us. If we choose to take good care of our gliders and other equipment, they will remain in good condition. Unfortunately, our equipment is neglected all too often.

While club equipment isn’t limited only to gliders, taking care of the gliders should be our highest priority. We can improve several areas in how we care for our club’s gliders. First, we should change our mindset towards the gliders: Treat each glider as if it were your own. Actually, it is! Sec-

ond, be extremely careful not to damage the glider during takeoff or landing. Both of the Grobs are made out of fiberglass; if you allow a wing to touch the ground while the glider is in motion, it will gouge the fiberglass. The Grob 103’s wings are longer than the runway is wide; allowing its wing to grind along the runway’s edge will structurally damage the wing. Third, never leave the glider with its canopy still open. Fourth, if it’s windy, don’t get out of the glider after landing—wait for others to help secure the glider.

Finally, flying a clean glider is more enjoyable than flying a dirty one. Volunteer to clean your favorite glider! Everybody will appreciate your kindness and hard work!



A Demo Ride Story

“Then if anything happens to me,” he tells me, as the ground crew clips on the canopy over the cockpit, “we’re probably going to die.”

John Hardy is showing me how to strap on a parachute.

“Of course, we’re not going up high enough for it to do any good.”

I guess he means that at 2000 feet off the deck, the parachute might not have time to deploy. Or at least that after we realize the magnitude of whatever potential catastrophe induces us to leave the relative safety of the glider we’re about to get into it’ll be too late.

John Hardy is a glider pilot, and he’s taking me on a demonstration flight at the Horizon Airport, on the city’s east side. The one runway airport used to be the West Texas Airport. Now the El Paso Soaring Society shares the space with a dragway and a paintball field. On a Saturday afternoon, the drag way is quiet. There’s no roar of open throated V-8’s and no smell of exhaust and burning rubber, but the thunk of paintballs splattering on barricades filters through the camouflage webbing covering the chain link fence.

I tuck myself into the front seat of the little sailplane, in a cockpit about the size of a kayak. John runs me through the names and functions of the instruments, and I’m quickly lost in the

flurry of jargon. Of course, I don’t really need to know any of that. John has identical instruments and controls in the seat behind me, and he’ll be the pilot for this flight. Unless . . .

“How’s your health?” I ask him.

“It’s good,” he says. “Why do you ask?”

“In case anything happens. In case I have to land this rig.”

“Do you have any flight experience?” he asks as he stands next to the craft on the gravel apron of the runway.

“No.” My flight experience covers cocktails and crossword puzzles in the passenger sections of commercial jets.

“Then if anything happens to me,” he tells me, as the ground crew clips on the canopy over the cockpit, “we’re probably going to die.”

The first glider may have flown in around 500 A.D., with a Chinese pilot. The reports are sketchy and the critics are dubious. It is acknowledged that at around that time the Chinese used manned kites as military observation platforms, and the difference between a manned kite and a glider may have been little more than a broken kite string.

Demo Ride (continued)

“The Hueco Mountains rim the distant horizon and then tilt away as John banks the sailplane in a gentle turn.”

In more recent times, the first glider in Europe was flown in 1853. British baronet George Cayley designed the first glider, which was flown by his coachman, John Appleby. History records no reference to the discussions and negotiations that preceded Appleby's decision, but this may have been the origin of the phrase “and other duties as assigned by a supervisor.”

The Wright Brothers designed and flew gliders to study aeronautics in the years preceding their historic first powered airplane flight. And glider technology received an unintended boost after World War I, when the Treaty of Versailles prohibited the Germans from pursuing the technology of motorized aircraft. They flew sailplanes through that loophole, and even today the Germans are the leaders in sailplane technology.

Science fiction writer Arthur C. Clarke wrote “Any sufficiently advanced technology is indistinguishable from magic.” The miracle of flight is an illusion. Heavier than air craft swim through the fluid medium of the atmosphere in strict accordance with the laws of physics, as liable to gravity as Newton's apple. But it's easy to imagine the magic of these motorless aircraft. At the Horizon Airport, a vintage crop duster with the graceful lines of a John Deere tractor takes us up 2,000 feet before disconnecting the tow line and leaving us to drift down to earth. When the weather's warm, a glider pilot can ride updrafts to higher elevations. The record for elevation is over 49,000 feet, an altitude from which the curvature of the globe is

visible. Glider pilots try to mimic birds of prey as they drift in lazy circles on an upward surge of air. These updrafts can be caused by warmer surface temperatures, or the convergence of air masses, or topographical features, and veteran sailplane pilots learn to look for the indicators as they fly. Sometimes the indicator is the darker earth of fresh plowed soil, or a billowing thunderhead, or a ridgeline. And sometimes the indicator is a hawk or an eagle utilizing the updraft.

When the tow line is released, and the clattering crop duster peels away, the only sound is the air rushing through the little ventilation port in the glider's canopy. The Hueco Mountains rim the distant horizon and then tilt away as John banks the sailplane in a gentle turn. Past the wingtip the desert careens in variegated browns, with snaking trails and straightedge roads. John levels us out and the Franklins loom like distant icebergs, gray and indistinct in the haze.

“You wanna try it?” he asks me.

I take the stick, and put my feet on the pedals that control the rudders, and execute a few rudimentary turns as he instructs me, but when I straighten out, the nose drifts away from my target on the horizon, and when I turn the plane seems to pivot precariously on the wingtip. When John asks me to give him back control of the craft I'm happy to oblige.

After about twenty minutes airborne John puts the glider down smoothly on the runway and we roll to a gentle stop.

By: Richard Wright

THE
OFFICIAL NEWSLETTER
OF THE
EL PASO SOARING SOCIETY
EL PASO, TEXAS

THE DUST DEVIL TRIBUNE

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EL PASO SOARING SOCIETY

WE ARE LOCATED AT HORIZON AIRPORT, ON PELLICANO STREET JUST EAST OF LOOP 375. WE NORMALLY OPERATE ON WEEKEND AFTERNOONS, AND AT OTHER COORDINATED TIMES. PLEASE CONTACT ANY OF THE BOARD OF DIRECTORS FOR MORE INFORMATION.

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Current Club Rates as of July 1, 2006

El Paso Soaring Society Rates

Introductory Ride	\$75
Club Dues	\$40/mo.
SSA Dues	\$64/yr.
Tow	\$5 hookup fee, then \$1/100 ft.
Grob 102/103	\$15/hr.
Schweizer 2-33	\$10/hr.

White Sands Soaring Association Rates

Tow \$30 to 2,000ft., then
75¢ for each additional 100ft.

Currently, reciprocal benefits to EPSS members at the WSSA in Alamogordo are limited to aero tows. If you do not own your own glider, EPSS club gliders may be available to you with prior approval from the Board of Directors.



This picture of George Doolittle, and many of the other pictures published in this issue of the *Dust Devil Tribune* were taken by Ron Clark. Along with Harry Meeuwsen's 'Anxiety' article,

and Richard Wright's 'Demo' story, this newsletter is becoming the diverse publication that I always hoped it would be. I encourage all club members to contribute to future issues!